MAY 2018

NEPONSET WHARF

24 Ericsson Street, Boston, MA 02122

Draft Environmental Impact Report/ Draft Project Impact Report

PROPONENT

CPC Ericsson Street LLC

SUBMITTED TO

Executive Office of Energy
and Environmental Affairs
Massachusetts Environmental
Policy Act Office

The Boston Planning and
Development Agency

PREPARED BY

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IN ASSOCIATION WITH

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857.496.0425

May 4, 2018

Ref:13866.00

Matthew A. Beaton, Secretary
Executive Office of Energy and Environmental Affairs
100 Cambridge Street
Boston, MA 022114

RE: Neponset Wharf
Boston, MA

Dear Secretary Beaton:

CPC Ericsson Street, LLC, ("Proponent"), is pleased to submit the enclosed Draft Environmental Impact Report ("DEIR") [as a joint filing which also includes a Draft Project Impact Report ("DPIR") initiating review under Article 80B of the City of Boston Zoning Code] for the Neponset Wharf Project (the "Project"), in the Port Norfolk neighborhood of Boston (Dorchester), Massachusetts.

Since the filing of the ENF, the Proponent has evaluated the public comments received and concerns and views expressed by the community and agencies. As a result, the Project has been revised to respond to community concerns regarding density, traffic, and other matters. The revised Project now consists of 96 units, an over 40 percent reduction from the prior filing, and has eliminated the hotel as well as portions of the proposed retail. This change in program is anticipated to result in an over 50 percent reduction in estimated vehicle trips. In addition to the considerable reductions in program, the parking ratio has also been increased and will now include approximately 170 parking spaces for the Project.

This DEIR/DPIR presents details about the revised Project and provides an analysis of transportation, potential environmental impacts, historic resources, infrastructure needs, and other proposed components of the Project in order to inform state and city agencies about the Project and its potential impacts as well as proposed mitigation.

With the submission of this DEIR/DPIR, we respectfully request the EOEEA publish notice of availability of this joint DEIR/DPIR for public review in the **May 23rd** edition of the *Environmental Monitor*. We will also publish public notice of this submission in the Boston Herald on or before May 23rd, as required by 301 CMR 11.15(1). Based on this tentative schedule, public comments will be due by **June 22nd** and a decision will be due by **June 29th**. We look forward to working with you and your staff in your reviewing of the Project. Requests for copies of the DEIR/DPIR should be directed to Seth Lattrell at (617) 607-2973 or via email at slattrell@vhb.com.

Sincerely,

RYAN P. SILLERY, Manager

Enclosure
cc: MEPA Distribution List

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May 4, 2018

Ref:13866.00

Brian Golden, Director
Boston Planning and Development Agency
One City Hall Square, 9th Floor
Boston, MA 02201

RE: Neponset Wharf
Boston, MA

Dear Director Golden:

CPC Ericsson Street, LLC, ("Proponent"), is pleased to submit the enclosed Draft Project Impact Report ("DPIR") [as a joint filing which also includes an Draft Environmental Impact Report ("DEIR") initiating review under the Massachusetts Environmental Policy Act ("MEPA")] for the Neponset Wharf Project (the "Project"), in the Port Norfolk neighborhood of Boston (Dorchester), Massachusetts.

Since the filing of the ENF, the Proponent has evaluated the public comments received and concerns and views expressed by the community and agencies. As a result, the Project has been revised to respond to community concerns regarding density, traffic, and other matters. The revised Project now consists of 96 units, an over 40 percent reduction from the prior filing, and has eliminated the hotel as well as portions of the proposed retail. This change in program is anticipated to result in an over 50 percent reduction in estimated vehicle trips. In addition to the considerable reductions in program, the parking ratio has also been increased and will now include approximately 170 parking spaces for the Project.

This DEIR/DPIR presents details about the Project and provides an analysis of transportation, potential environmental impacts, historic resources, infrastructure needs, and other proposed components of the Project in order to inform state and city agencies about the Project and its potential impacts as well as proposed mitigation.

We look forward to working with you and your staff in your reviewing of the Project. The Proponent will publish notice of submission of the DEIR/DPIR, as required by Section 80A-2(3) coincident with this filing. Based upon this tentative schedule, public comments will be due by July 18th. Requests for copies of the DEIR/DPIR should be directed to Seth Lattrell at (617) 607-2973 or via email at slattrell@vhb.com.

Sincerely,

RYAN P. SILLERY, Manager

Enclosure

cc: Tim Czerwienski, BPDA

Neponset Wharf

Boston, Massachusetts

SUBMITTED TO **Executive Office of Energy and Environmental Affairs**
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May 2018

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1

Project Description

Introduction

CPC Ericsson Street LLC ("Proponent") respectfully submits this combined Draft Environmental Impact Report/Project Impact Report ("DEIR/DPIR") for the Neponset Wharf Project (the "Project") to the Executive Office of Energy and Environmental Affairs ("EEA") and to the Boston Redevelopment Authority ("BRA"), d/b/a the Boston Planning and Development Agency ("BPDA"). The Draft Environmental Impact Report ("DEIR") is being filed to continue the state review process, in accordance with the Massachusetts Environmental Policy Act ("MEPA"), M.G.L. c. 30, Sections 61-62I, and the regulations promulgated thereunder set forth at 301 CMR 11.00. The Draft Project Impact Report ("DPIR") is being filed to continue the Large Project Review process in accordance with Article 80B of the Boston Zoning Code (the "Code").

In response to community and agency comments, the Proponent has modified the Project since the filing of the Environmental Notification Form ("ENF") and Project Notification Form ("PNF"), on June 30, 2017. The Proponent now proposes 96 units, an over 40-percent reduction from the prior filing, and has eliminated the hotel, as well as portions of the proposed retail space. This change in program is anticipated to result in an over 50-percent reduction in estimated daily vehicle trips. In conjunction with reducing the intensity of the Project, on-site parking ratio has been increased to include approximately 170 spaces.

This chapter provides an overview of the existing site conditions, and describes the Project. This chapter also presents Project-related benefits, regulatory and planning context, and a description of community outreach efforts.

1.1 Site Context and Existing Conditions

The Port Norfolk peninsula and neighborhood has been described as "an island in the city" in prior planning studies completed by the City of Boston ("City"). It is an 114-acre peninsula approximately five miles from downtown Boston, and across the Neponset River from Quincy. Physically separated from the rest of the City by water, highways, and railways, this distinctive neighborhood exhibits a character and scale that is unique to the City. For these reasons, in prior studies the City has focused on ways to improve the underutilized parts of the peninsula while protecting its existing residential areas. As described within this DEIR/DPIR, the Project team has approached the design and planning of this Project in the same way: respectful of its unique context, and integrated into the existing urban fabric of the Port Norfolk neighborhood, so that it becomes an asset to the established community.

The Project Site encompasses approximately 7.6 acres – 3.6 acres of developed land and four acres of watersheet -- along the Neponset River and Pine Neck Creek, at the northernmost point of the Port Norfolk peninsula ("Project Site"). Refer to Figure 1.1 for the Site Location Map. The Project Site is bounded to the north by the Neponset River, to the east by an existing restaurant/function facility (Venezia), to the south and southeast by existing buildings, including the historic Putnam Nail Company buildings (now Boston Harbor Distillery), and to the west by Pine Neck Creek. The site is accessible from Ericsson Street by easements on either side to the Putnam Nail Company buildings. Refer to Figure 1.2 for Project Context.

The Project Site is currently occupied by a recreational boat dealership that operates water-dependent uses, including a 75-slip marina, and five supporting buildings for marine services, retail, and storage. The existing marina contains a mix of floating docks and pile-supported piers that are contained within a wave fence. The existing marine structures, most of which were constructed in the mid-1970's, are in poor condition and must be replaced to maintain safe use. The Project Site shoreline comprises granite seawall and dumped-stone revetment along the west and north, transitioning to a sheet-pile bulkhead on the northeast.

The majority of the Project Site is impervious, except for a small, isolated and overgrown area immediately west of the existing buildings. The paved surface covering the majority of the site is used seasonally to store boats and as parking by marina patrons. The entire Project Site was first filled and developed for industrial and commercial uses over 100 years ago, and has continued to serve water-dependent uses since that time. Refer to Figure 1.3 for Aerial Locus Plan, 1.4 for Existing Site Conditions and Figures 1.5a-b for Existing Site Photographs.

1.2 Project Description

The Project would result in approximately 240,800 square feet of floor area[1] within four new buildings, including the Boathouse and three new residential buildings, spread out across 3.6 acres of land along the Neponset River and Pine Neck Creek. The Project will provide over 50 percent of the site for public outdoor space, and significantly expand public accessibility to this unique waterfront site. The Project will include the following key components:

1. **The existing marina will be renovated** with newly reconfigured docks and piers, and maintenance dredging will be performed as necessary to maintain navigability. By bringing the existing marina up to current regulatory standards, the Project will significantly improve the site's environmental conditions.
2. **Three new residential buildings** will include 96 condominium units in all, approximately 170 structured parking spaces, and a small, 3,000-square foot neighborhood market and deli. The proposed residential units will include a mix of unit sizes, and will include permanently affordable and accessible units on-site.

[1] Gross floor area ("GFA") as defined by the Code.

3. **Existing landside storage and service facilities will be modernized and consolidated in the new Boathouse** from 71,300 square feet to 23,000 square feet, while maintaining the current, approximately 75-vessel capacity. The shift to indoor boat storage and associated stormwater management improvements will better contain dust and noise during boat maintenance and repair, minimizing both community and environmental impacts.
4. **Existing inaccessible paved land area will be replaced with approximately two acres of new landscaped outdoor space**, including a new, publicly accessible Harborwalk with benches along the length of the shoreline, a Public Pier with accommodations for recreational fishing, a flexible-use lawn, and restored salt marsh along the Project shoreline. In addition to its recreational function, the new open space will include a series of rain gardens and plantings to absorb and treat stormwater, resulting in considerable improvements to water quality as compared to existing conditions.

The following sections summarize the changes to the Project since the filing of the ENF/PNF, describe the design approach, Project components, development program, and anticipated Project schedule.

1.2.1 Project Changes since the ENF/PNF

Through ongoing discussions with the community, the size and intensity of the Project has been reduced a number of times, including reductions which occurred following completion of the technical impact analysis including transportation. Accordingly, the analyses presented in this filing assume 110 residential units as opposed to the 96 currently proposed. Therefore, the environmental analysis provides more conservative assessment of Project impacts that what is actually proposed.

In response to community input during the public review process on the ENF/PNF, the following additional changes have been incorporated by the Project:

- **Development Program:** Overall, the *proposed floor area of the Project has been reduced by 35 percent* from 307,000 square feet to 240,800 square feet through:
  - Elimination of the Hotel uses;
  - Reduction in the number of units from 170 to 96; and
  - Reduction in the area of restaurant, retail, and supporting uses space from 6,500 square feet to 3,000 square feet.
- **Pedestrian Bridge** has been eliminated from the Project.
- **Retail / Restaurant** concept has been reimagined based on community feedback to include a considerably smaller neighborhood market and deli.
- **Traffic / Vehicle Trip Generation** has been *reduced by almost 40 percent in the morning peak hour and over 50 percent in the evening peak hour* as a result of the proposed program changes.

- **Green Space:**
  - The active pedestrian space proposed in the ENF/PNF has been replaced with a less programmed design, while maintaining over 50 percent of the site as publicly accessible open space (over two acres out of 3.6 acres).
  - The impervious area has been further reduced from the ENF/PNF, from 2.8 acres to 2.1 acres, resulting in an over one-acre reduction in impervious area as compared to existing conditions. This reduction will create 63 percent pervious area within the Project Site, which will considerably enhance stormwater infiltration and associated water quality improvements.
- **Environmental:**
  - The proposed residential buildings have been pulled away from the shoreline to improve their resiliency and remove nonwater-dependent uses from former tidelands subject to Chapter 91 jurisdiction.
  - Portions of the hard shoreline structures along Pine Neck Creek will be removed and replaced with a series of native, salt-tolerant plantings, to improve habitat conditions, increase biodiversity within Pine Neck Creek, and maintain a more sustainable and resilient site landscape.
- **Sustainability:**
  - The Project Team has advanced the design of the Project to focus more tightly on creating a sustainable, climate change-resilient, and environmentally friendly development, which will shift the Project from a Certifiable level under LEED to a Silver Level.
  - The Project has thoughtfully incorporated a 100 kW rooftop solar photovoltaic ("PV") system, which will produce clean and pure energy, reducing greenhouse gas ("GHG") emissions in support of the City of Boston's Carbon Neutral 2050 GHG goal.

1.2.2 Proposed Development Program

The proposed development program is provided in Table 1-1 below.

Table 1-1 Proposed Development Program

Use/Element	Approx. Area[1]	Approx. Height[2]	Approx. Quantity
Project Site	**3.6 acres**[3]		–
Building A	**143,240 sf**	**77.5 feet**	**7 stories**
Residential/Amenity	*90,890 sf*		*52 units*
Parking[4]	*52,350 sf*		*163 spaces*
Building B	**42,440 sf**	**68 feet**	**6 stories**
Residential/Amenity	*39,440 sf*		*23 units*
Commercial	*3,000 sf*		
Building C	**35,700 sf**	**67 feet**	**6 stories**
Residential/Amenity	*31,200 sf*		*21 units*

Community Space	*1,200 sf*		
Parking	*3,300 sf*		*7 spaces*
Boathouse	**19,420 sf**	**45 feet**	**1 story**
Boat Storage	*17,100 sf*		*75 boats*
Office / Lockers	*2,320 sf*		
Overall Total Square Feet	**240,800 sf**	**96 Units** (Condominium) **170 Parking Spaces** (Vehicle) **120 Bike Storage Spaces** (98 covered)	

1 All building areas are provided as gross floor area (GFA), as defined by Article 2A of the Code.
2 Measured to the top of the last occupiable floor.
3 The overall parcel contains four acres of watersheet which is not included in this calculation of developable area. Total parcel area is 7.6 acres.
4 The Project includes approximately 55,650 square feet of structured parking, of which, approximately 29,150 square feet is located at grade, and therefore excluded from calculation of GFA in accordance by the City of Boston Zoning Code.

1.2.3 Proposed Building Design Overview

As shown in Figure 1.6, the Project consists of a mix of uses within three new residential buildings and a new boathouse. Key Project components are as follows:

Residential Building A – Located in the southwestern corner of the site, Building A proposes two levels of structured parking beneath five levels of residential space. The program for Building A is as follows:

- Approximately 52 residential units and associated amenity/lobby space, including outdoor residential amenity space above the parking podium;
- Structured parking for approximately 163 vehicles; and
- Indoor storage for approximately 52 bicycles.

Residential Building B – Located east of Building A, Building B proposes a small, one-level lobby space and a small (approximately 3,000 square-foot) neighborhood market and deli on the first floor, beneath five levels of residential space. Most of the first floor will be raised above grade to provide improved resiliency from coastal flooding. The program for Building B includes:

- Approximately 23 residential units and associated amenity/lobby space;
- Neighborhood market and deli; and
- Indoor storage for approximately 25 bicycles.

Residential Building C – Located north of Building B, Building C proposes a small, one-level building access lobby and storage space, beneath five levels of residential space. The building will contain an approximately 1,200 sf Community Space on the second level that will be available for use by residents of the peninsula, with views of the public open space and piers to the north. Building C will be raised above grade on piles, to provide greater continuity between the surrounding open spaces and improved resiliency from coastal flooding. The space beneath Building C, at grade, is designed to be open for parking, bike storage, and building access. The program for Building C includes:

- Approximately 21 residential units and associated amenity/lobby space;
- An approximately 1,200 sf Community Space on the second level, available for use by the residents of the Peninsula; and
- Indoor storage for approximately 21 bicycles.

Boathouse Building D – Also referred to as the "Boathouse", Building D is located north of Building A. The Boathouse contains storage space for approximately 75 vessels, (approximately 25 to 35 feet long) on shelves stacked three-high, and larger vessels stored on grade. Within the Boathouse it is anticipated that a specialty forklift will move boats to and from the existing berth, which will be contained within the building envelope to maximize public safety. In the summer months, larger vessels will be seasonally moved out of the Boathouse and moored in the water, while smaller vessels may be moved in and out of storage as needed. A clear floor area will be designated for repairs to boats. The building will also contain a mixed-use space containing a marina office, clubhouse, and small fishing supply store.

1.2.4 Proposed Public Realm Improvements

People entering the site from the land side will move through an arrival court, with clearly defined areas for vehicular circulation and safe pedestrian connections to all building entries. The programed portions of the public open space on site will be located along the water at points with expansive views of downtown Boston. A Harborwalk will allow pedestrians full access to the site's shoreline, culminating at a Public Pier that will support recreational fishing. Along Pine Neck Creek, the public open space is unprogrammed, instead focused on a lush landscape that supports the environmental goals of the Project, such as the restoration of salt marsh and native vegetation along the western shoreline of the site. Accessible pathways encourage the public to reach the water of Pine Neck Creek in multiple ways.

1.2.5 Proposed Marina Improvements

The existing marina will be completely renovated with new piles and piers, and will be dredged to a depth of six feet below mean low water to meet state requirements. These improvements will make the facility more resilient to storms and flooding already increasing due to climate change, while maintaining the existing 75-slip capacity. Refer to Chapter 8, *Wetlands and Waterways,* for a detailed discussion of all proposed in-water work.

1.2.6 Access, Circulation, and Loading

Primary access to the site will be a two-way access via an easement at the Ericsson Street and Port Norfolk Street intersection. An exit-only roadway from the parking garage is provided onto Ericsson Street at the intersection with Lawley Street. Loading will occur in a drop-off lane in front of the entrances to Buildings A, B, and C. Building D features a larger loading/unloading space for moving boats in and out of the water at the beginning and end of the boating season.

Refer to Figure 1.7 for Access and Circulation.

1.2.7 Project Schedule/Phasing

The Project is anticipated to be constructed in a single phase, beginning with demolition in the fall of 2018, and substantial completion expected in the spring of 2020. This single phase is planned to minimize the time for construction and potential impacts from construction to adjacent neighborhoods. Management and minimization of construction impacts is discussed in Chapter 6, *Environmental Protection*.

1.3 Summary of Public Benefits

Public benefits for the surrounding neighborhoods and the City of Boston will include, but not be limited to, the following:

Sustainability/Green Building and Climate Change Resiliency

Area Revitalization

- Revitalizes and newly opens to the public a longstanding industrial/commercial site.
- Features an attractive and efficient site plan with significant new public open space.
- Creates a new continuous Harborwalk along the shoreline, to further connect the community to the Neponset River Estuary.

LEEDv4 Silver Certifiable

- Incorporates a variety of sustainable design strategies to improve water quality and reduce urban heat island effect, among other LEEDv4 features.
- Provides a 100 kW PV solar system to reduce the development's carbon footprint and advance and support the City of Boston's Carbon Neutral 2050 GHG goal.
- Complies with the City of Boston's Article 37 of the Code.

Stormwater Management

- Will improve upon the existing environmental conditions on-site by increasing pervious area by over one acre, substantially enhancing stormwater treatment and improving water quality.
- Will improve water quality by incorporating on-site stormwater management and treatment systems, which will also reduce runoff volume, and control peak rates of runoff in comparison to existing conditions.

Resource Conservation

- Maximizes the conservation of energy and water, and minimizes impacts to regional infrastructure and water resources through sustainable design strategies.
- Reduces overall annual energy consumption by an estimated 36.3 percent over baseline, which equates to an estimated reduction of 367 tons of carbon dioxide emissions.
- Will participate in local utility incentive programs to adopt various energy conservation measures.

Climate Resilience

- Reduces vulnerability to rising sea levels and changes in intensity and frequency of storms, including raising the Project Site grade so that the key site access points are elevated over three feet above the existing grade, and that finished floor elevation for occupiable spaces of the Project are well above projected future flood conditions during the lifetime of the Project.
- Site design provides protection to the Project to maintain access and limited operational capacity in a one-percent chance storm event (100-year storm) through the year 2070.

Transportation

Trip Reduction

- Potential to capture internal trips within the neighborhood between different uses, thereby reducing vehicle trips.

Traffic and Safety Improvements

- A program of potential improvements to enhance safety and pedestrian conditions in the neighborhood, and to enhance access to William T. Morrissey Boulevard, for consideration by the community and approval by the Boston Transportation Department ("BTD").

Transportation Demand Management

- A robust Transportation Demand Management ("TDM") program to promote alternative travel modes and minimize single-occupant vehicle travel.
- Provision of secure bicycle parking in compliance with BTD's guidelines, to encourage cycling as a strong transportation mode.
- Exploration of potential shuttle services to the MBTA Red Line, as well as opportunities for water transportation to the Site.

Social and Economic Benefits

Additional Residential Opportunities

- Promotes a mixed-use neighborhood that will improve the vitality of the Project Site.

Affordable Housing

› Provides affordable housing opportunities consistent with the BPDA's Inclusionary Development Policy ("IPD").

Enhanced Recreational Opportunities

› Provides enhanced recreational boating opportunities with a strong focus on catering to the area's existing fishing community.

› Creates approximately two acres of public waterfront access and outdoor space, a major boon to shoreline improvements in the Dorchester neighborhood.

Job Creation

› Anticipated to create new permanent job opportunities associated with the marina and residential administration, as well as approximately 450 construction jobs of various trades.

1.4 Community Outreach

Community support is vital to the long-term success of the development. Since the close of the ENF/PNF comment period, a series of informal discussions and larger community meetings have been conducted to receive feedback from, and understand the desires of, the community about the Project. It is the Proponent's goal to continue these discussions through the permitting and construction of the Project to maintain an open dialogue with the neighborhood.

Furthermore, the Proponent has engaged coUrbanize to host an online platform for Project information and to solicit community feedback on the Project. See **courb.co/neponset** for additional information.

In addition to formal and informal meetings with the community and Project abutters, the Project Team has met extensively with pubic officials, including at the Boston Fire Department, Boston Water and Sewer Commission, Boston Environment Department, Boston Landmarks Commission, as well as with City Councilor Frank Baker, State Representative Dan Hunt, former Senator Linda Dorcena Forry, Mayor Walsh, and the Massachusetts Department of Environmental Protection.

1.5 Regulatory Context

This section lists the anticipated permits and approvals as well as the local planning and regulatory controls applicable to the Project.

1.5.1 Local Planning and Regulatory Controls

Article 80

The Project is subject to land use controls imposed through the City of Boston Zoning Code. Under Section 80B of the Code, Large Project Review by the BPDA is required in the Dorchester neighborhood for any new construction equal to or

greater than 50,000 square feet of GFA. The Project exceeds this threshold. The Proponent commenced Large Project Review under Article 80 by the filing of a Letter of Intent (the "LOI") with the BPDA on May 26, 2017, to indicate the Proponent's plan to file a PNF later that summer. The Proponent filed a combined ENF/PNF for the Project on June 30, 2017.

Zoning

The Proposed Project is located within the Waterfront Service ("WS") Subdistrict of Article 65's Dorchester Neighborhood District, which generally permits the proposed multi-family residential and mixed-use buildings contemplated by the project as allowed or conditional permitted uses. As currently proposed, the Project would require zoning relief for Floor Area Ratio ("FAR"), building height, side yard, and multifamily dwellings as a percentage of FAR.

Article 37

Article 37 of the Code requires that proposed projects subject to Large Project Review meet standards for certification under the U.S. Green Building Council Leadership in Energy and Environmental Design ("LEED") program. A draft LEED Checklist and a Climate Change Preparedness and Resiliency Checklist has been submitted to the Interagency Green Building Committee as part of Large Project Review. Additional details are provided in Chapter 3, *Sustainability/Green Building Design and Climate Change Resiliency*.

Article 85

Article 85 of the Code requires that existing structures that were constructed 50 or more years ago must undergo review by the Boston Landmarks Commission prior to demolition and may be subject to a demolition delay. The Proponent will apply to the Boston Landmarks Commission for review and approval prior to commencement of demolition of the existing metal clad buildings on-site.

1.5.2 Massachusetts Environmental Policy Act

The Project is subject to MEPA review because it requires the state actions described in Section 1.5.3 below, and exceeds review thresholds pursuant to:

5. **301 CMR 11.03(11)(b)** – Any Project within a designated ACEC, unless the Project consists solely of one single family dwelling.

As a result of changes to the Project, which increased the setback of nonwater-dependent buildings from the shoreline, the Project no longer exceeds any mandatory EIR threshold, or ENF thresholds related to transportation. However, in an effort to fully address community and agency concerns, this filing responds fully to the Secretary's Certificate on the ENF/PNF, and provides an EIR-level analysis of Project impacts, although it is not required.

1.5.3 Anticipated Permits/Approvals

Table 1-2 below presents a preliminary list of anticipated reviews and approvals of the Project by governmental agencies based on currently available information. It is possible that some of the listed reviews and approvals will not be required, or that additional reviews or approvals that will be required are not listed below.

Table 1-2 Anticipated Project Permits and Approvals

Agency/Department	Permit/Approval/Action
Federal	
United States Army Corps of Engineers	Federal Rivers and Harbors Act of 1899, Section 10 Permit and Clean Water Act Section 404 Permit
United States Environmental Protection Agency	NPDES Notice of Intent for Dewatering General Permit NPDES Notice of Intent for Construction General Permit
State	
Massachusetts Architectural Access Board	Variances *(if required)*
Massachusetts Coastal Zone Management Agency	Federal consistency review
Massachusetts Department of Environmental Protection, Division of Air Quality	Notice of Construction
Massachusetts Department of Environmental Protection, Division of Watershed Management	Surface Water Discharge Permit; and Groundwater Discharge Permit
Massachusetts Department of Environmental Protection, Division of Waterways	Waterways (Chapter 91) License (Water dependent license) Public Benefit Determination
Massachusetts Department of Environmental Protection, MEPA Office	MEPA review, concluding with MEPA Certificate
Massachusetts Historical Commission	State Register Review
Massachusetts Department of Conservation and Recreation	Construction Access Permit (*if required for pedestrian bridge construction*)
City	
Boston Board of Appeal	Conditional Use Permit for multifamily dwellings Dimensional relief for FAR, side yard, building height, lot coverage, side yard, and multifamily dwellings as percentage of FAR
Boston Civic Design Commission	Schematic Design Review
Boston Conservation Commission	Order of Conditions
Boston Fire Department	Approval of Fire Safety Equipment
Boston Inspectional Services Department	Demolition Permits Building Permits Parking Garage Permit / Flammable Storage License

Agency/Department	Permit/Approval/Action
Boston Landmarks Commission	Demolition Delay Determinations and review of a Project within the Port Norfolk Neighborhood Design Overlay District
Boston Parks and Recreation Commission	Construction within 100 feet of park
Boston Planning and Development Agency	Article 80 Review and Execution of Related Agreements; Design Review in coordination with recommendation received from Boston Landmarks Commission re: Port Norfolk Neighborhood Design Overlay District requirements; Section 80B-6 Certificate of Compliance
Boston Public Improvement Commission	Petition for Specific Repair License, Maintenance, and Indemnification Agreement Grant of Location (utilities)
Boston Public Safety Commission Committee on Licenses	Permit for Storage of Fuel in (Emergency Storage Tanks); Garage License
Boston Public Works Department	Street Opening Permit Curb Cut Permit (*if required*)
Boston Transportation Department	Construction Management Plan (CMP) Transportation Access Plan Agreement (TAPA)
Boston Water and Sewer Commission (BWSC)	Site Plan General Service Application Sewer Connection Permit

1.5.4 Consistency with Applicable Plans and Policies

The following sections provide a summary of local and regional plans and policies applicable to the Project Site.

Port Norfolk Planning and Zoning Policies

In 1984, the City of Boston created a new zoning mechanism called an Interim Planning Overlay District ("IPOD") to facilitate interim zoning while longer term planning and rezoning of the City was completed. In 1985, the IPOD (Article 27A) was approved. Article 27A, which created the first IPOD in Boston, imposed interim zoning and development controls for Port Norfolk. Following implementation of the IPOD, and prior to the final zoning, the City engaged in a planning process to identify recommendations for implementation of the IPOD and for future zoning efforts. The results of this effort were published by the City in 1989 through the "Port Norfolk Neighborhood Plan." The Port Norfolk Neighborhood Plan identified specific goals for the community and of future land use options. The two primary goals that emerged from this planning process include:

1. "to protect and enhance the existing residential community"; and
2. "to better utilize the waterfront, particularly for water-dependent uses."

The Project embraces these goals by providing new housing opportunities in a mixed-use, waterfront-oriented project, developed around a renovated marina. Improvements to recreational opportunity and accessibility of the waterfront will

enhance the existing residential community and support the continuation of the existing water-dependent marina uses.

In 2002, the City adopted Article 65 (Dorchester Neighborhood Zoning District), which superseded the Port Norfolk IPOD, creating the Dorchester Neighborhood Zoning District. Article 65 was developed with the extensive participation of the Dorchester Planning and Zoning Advisory Committee, civic associations, business groups, and residents.

The Project Site is located within the Port Norfolk WS Subdistrict and the Port Norfolk Neighborhood Design Overlay District ("NDOD"). NDODs protect the historic character, existing scale, and quality of the pedestrian environment of certain neighborhoods, in which development of housing is encouraged, so long as new construction preserves and complements the character of the existing housing stock and will enhance the historic quality of these neighborhoods.

Imagine Boston 2030

Imagine Boston 2030 (the "Plan") is the first citywide plan in 50 years. It aims to create a framework to preserve and enhance Boston while embracing growth to address challenges and make the City stronger and more inclusive. The Plan sets goals to preserve wisely, enhance equitability, and grow inclusively through:

- Providing quality of life in accessible neighborhoods;
- Driving inclusive economic growth;
- Promoting a healthy environment and adapting to climate change; and
- Investing in infrastructure, open space and culture.

The principles of the Project are closely aligned with the Plan's goals. The Project will promote economic growth with new housing opportunities through a sustainable and resilient development. Consistent with the Plan, the Project will provide new open space and improved recreational opportunity for the community, as well as improved waterfront access.

Metropolitan Area Planning Council ("MAPC"), MetroFuture: Making a Greater Boston

MetroFuture: Making a Greater Boston Region ("MetroFuture") is a comprehensive regional plan for the Boston metropolitan area, prepared by the MAPC. The plan provides a complete set of implementation strategies, recommendations, and action steps for regional growth and development. MetroFuture focuses on six key elements for growth and development in the region. Each of these is supported by more specific sub-goals and objectives. The Project is consistent with many of these, and directly meets the following goals:

- *Sustainable Growth: Most new growth will occur through reuse of previously developed land and buildings.*

- The Project will redevelop a previously developed site to create new housing and publicly accessible open space.

› *Housing Choices: Low-income households will be able to find affordable, adequate, conveniently located housing…and they will be able to avoid displacement.*

- The Project will establish affordable housing opportunities consistent with the BPDA's Inclusionary Development Policy.

› *Energy, Air, Water and Wildlife: The region will use progressively less energy for electricity, heating, cooling and transportation.*

- The Project Site will be designed to high standards of energy efficiency. Passive stormwater management strategies and other green infrastructure will be integrated into project design.

1.6 Project Proponent/Development Team

The following lists the key members of the development team for the Project (the "Project Team"):

Proponent	CPC Ericsson Street LLC 300 A Street Boston, MA 02210 Ryan P. Sillery rsillery@citypointcapital.com Kelly McManama kmcmanama@citypointcapital.com
Legal Counsel	Dalton & Finegold, LLP 183 State Street, 5th Floor Boston, MA 02109 Jared Eigerman jeigerman@dfllp.com
Outreach	MJR Consulting 15 Broad Street Suite 601 Boston, MA 02109 Joseph Rull joerull@mjr-consultants.com

Project Architect	RODE Architects Inc. 535 Albany Street, 405 Boston, MA 02118 Kevin Deabler kevin@rodearchitects.com Mike Bennett Mbennett@rodearchitects.com Ben Wan Ben@rodearchitects.com
Landscape Architecture	OJB 150 Stanford Street, Suite #5 Boston, MA 02114 Cody Klein cklein@ojb.com Drew Stangel dstangel@ojb.com
Permitting Consultant	VHB 99 High Street, 10th Floor Boston, MA 02110 Elizabeth Grob egrob@vhb.com Seth Lattrell slattrell@vhb.com Mitchell L. Fischman (MLF) Consulting, LLC 41 Brush Hill Road Newton, MA 02461 Mitchell Fischman mitchfischman@gmail.com
Transportation Consultant	VHB 99 High Street, 10th Floor Boston, MA 02110 David Black dblack@vhb.com
Site/Civil Engineer	VHB 99 High Street, 10th Floor Boston, MA 02110 Mark Jackson mjackson@vhb.com Mark Junghans mjunghans@vhb.com

Waterfront/Structural Engineer	Childs Engineering Corp 541 Main Street Medfield, MA 02052 David L. Porter porterd@childseng.com
Resiliency/Code Consultant	Thorton Tomasetti 51 Madison Avenue New York, NY 10010 Amy J Macdonald amacdonald@thortontomasetti.com
Land Surveyor	Otte & Dwyer Inc. Land Surveyors 59 Appleton Street Saugus, MA 01906 David A. Dwyer, Jr. ddwyer@ottedwyer.com
Geotechnical Engineer	McPhail Associates, LLC 2269 Massachusetts Avenue Cambridge, MA 02140 William Burns, LSP wb@mcphailgeo.com
Historic Preservation Consultant	VHB 101 Walnut Street Watertown, MA 02472 Maureen Cavanaugh mcavanaugh@vhb.com
Mechanical/Electrical/Plumbing Services	Cosentini Associates 101 Federal Street – Suite 600 Boston, MA 02110 Robert Leber rleber@cosentini.com Jake Derlaga jderlaga@cosentini.com
Sustainability Consultant	Soden Sustainability Consulting 19 Richardson Street Winchester, MA 01890 Colleen Ryan Soden colleen@sodensustainabilty.com

Air/Noise Consultant	VHB 101 Walnut Street Watertown, MA 02472 Heidi Richards hrichards@vhb.com Quan Tat qtat@vhb.com

1.7 Legal Information

1.7.1 Legal Judgments or Actions Pending Concerning the Project

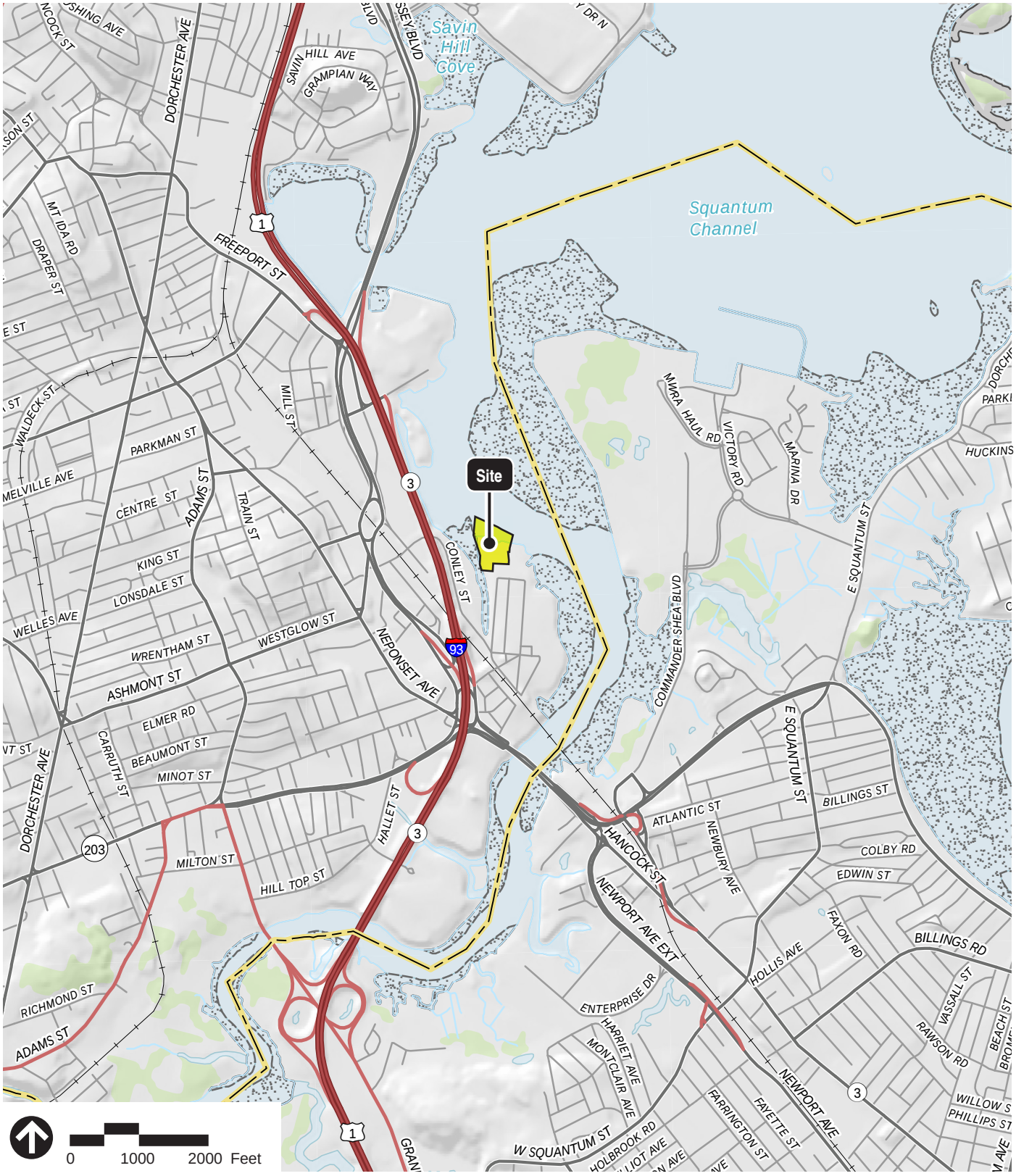
To the Proponent's knowledge, there are no legal judgments or actions pending concerning the Project.

1.7.2 History of Tax Arrears on Property Owned in Boston by the Applicant

There are no known tax arrears on property in Boston owned by the Proponent.

1.7.3 Evidence of Site Control

The Proponent, CPC Ericsson LLC, a Massachusetts limited liability company, owns fee title to the Project Site, pursuant to four quitclaim deeds granted to the Proponent by Bruno Holdings, LLC, all dated January 14, 2017, and recorded on January 27, 2017, at the Suffolk County Registry of Deeds in Book 57483, at Pages 82, 84, 87, and 90, respectively.



Source: USGS 2015 Boston South

Figure 1.1

USGS Locus Map

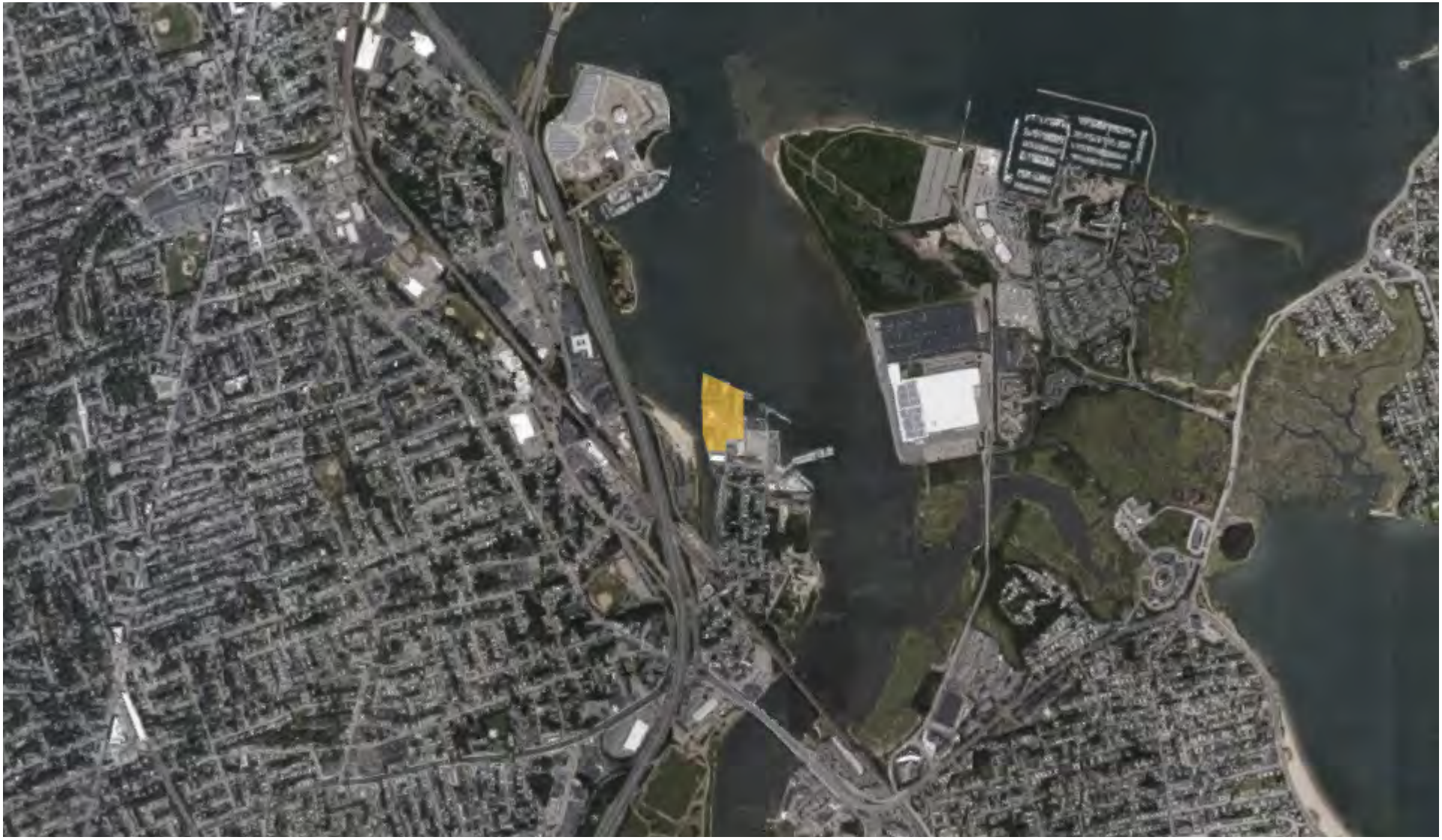
Neponset Wharf
Boston, Massachusetts

Source: ArcGIS Bing Aerial, MassGIS

Figure 1.2

Project Context

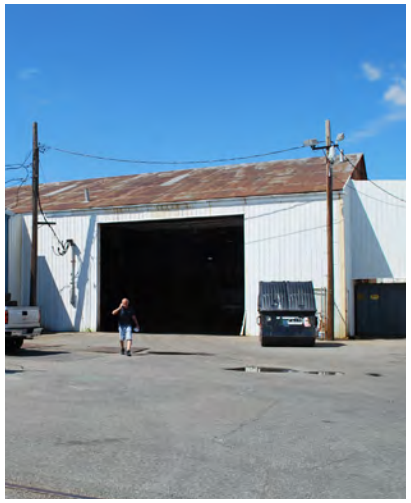
Neponset Wharf
Boston, Massachusetts



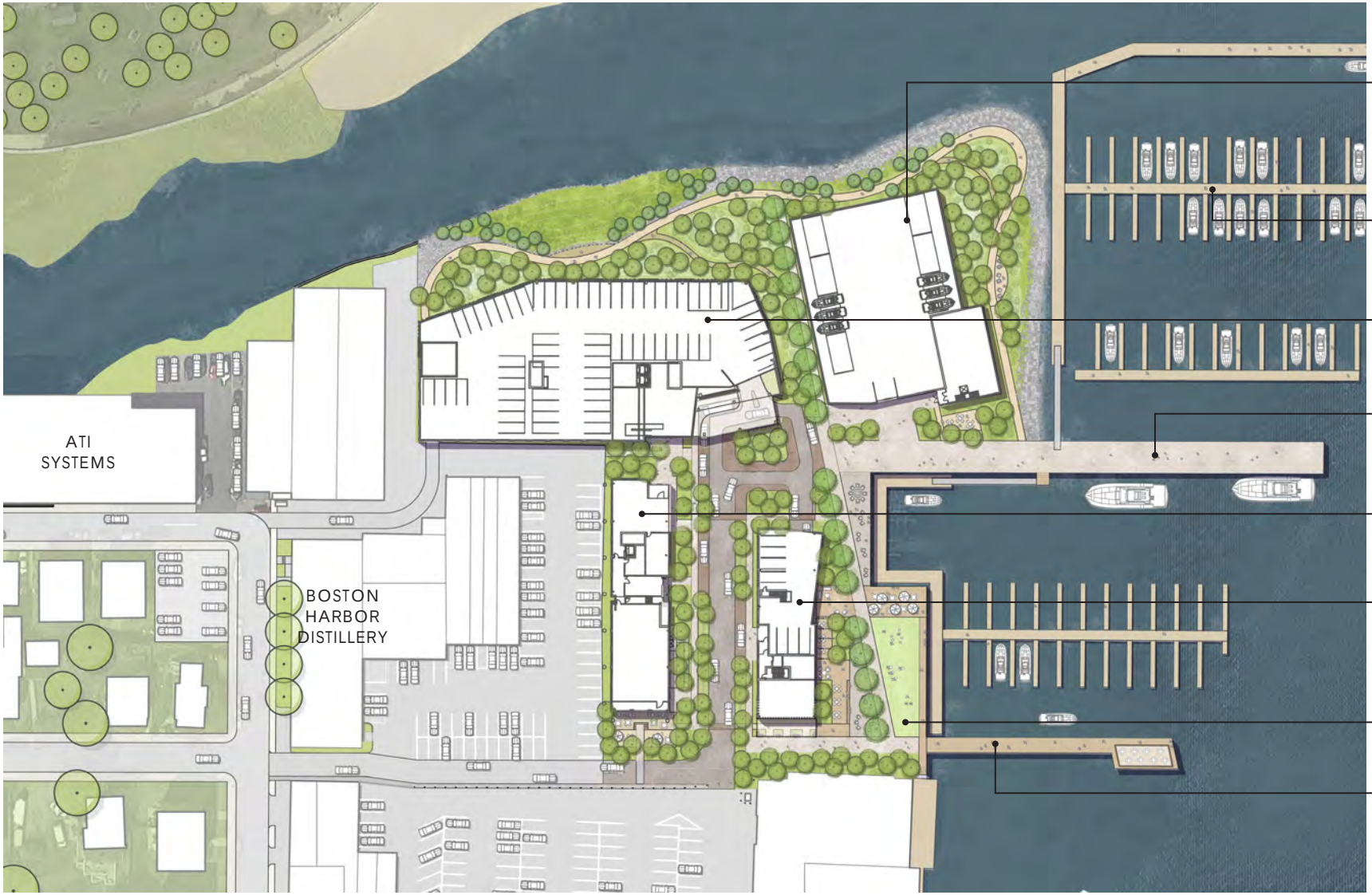
AERIAL LOCUS PLAN

EXISTING CONDITIONS

EXISTING SITE PHOTOS



EXISTING SITE PHOTOS



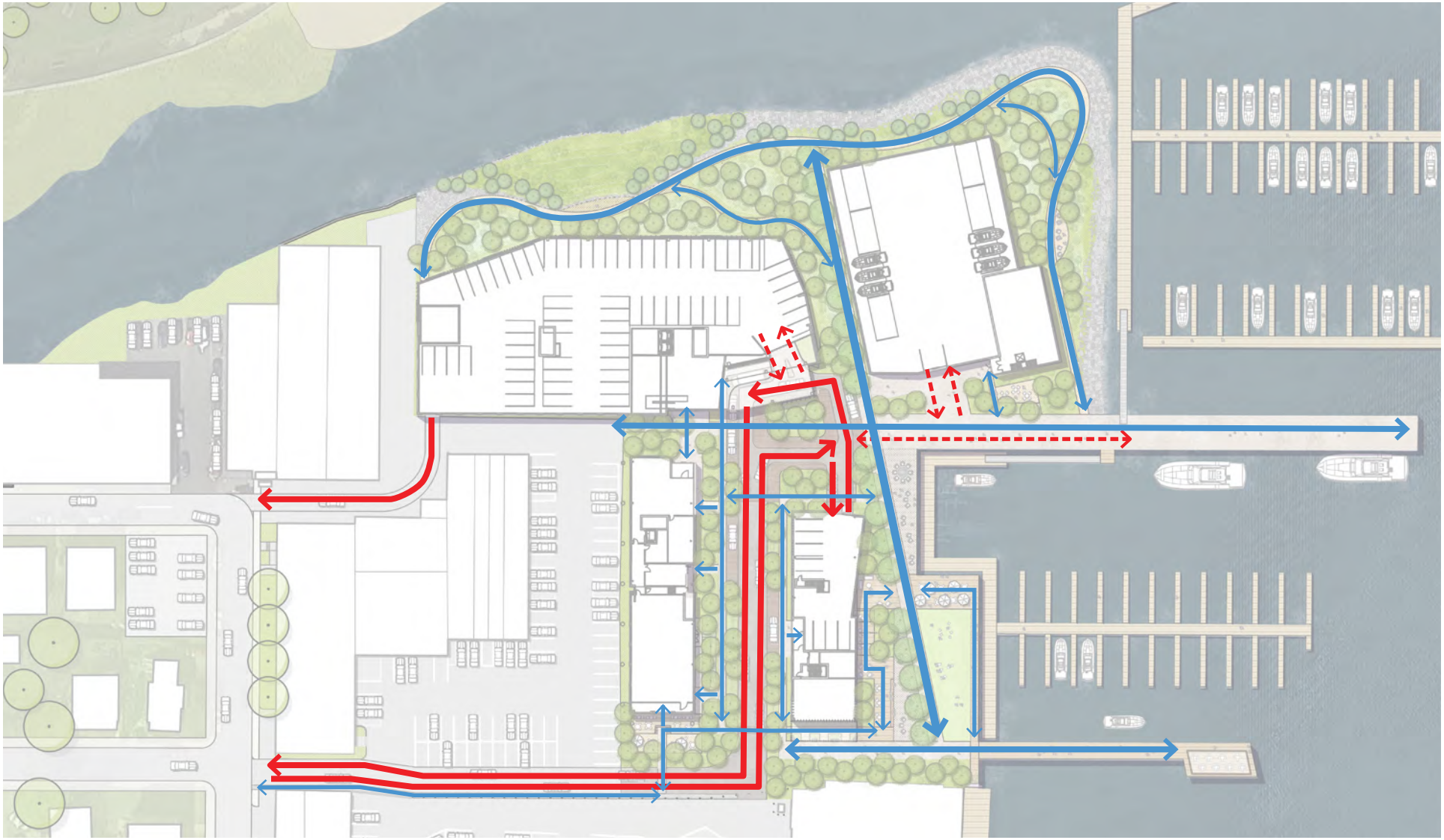
0 50 100 Feet

Green Open Space

Hardscape

Boardwalk

SITE PLAN



0 100 200 Feet

Vehicular Circulation

Pedestrian Circulation

CIRCULATION DIAGRAM

2

Alternatives Analysis

This chapter provides a summary of site development alternatives previously considered in the ENF/PNF, as well as an analysis of new alternatives requested in the Secretary's Certificate. This chapter also includes a summary of the potential new shadows expected to be cast under each alternative, as requested in the BPDA's Scoping Determination.

2.1 DEIR/DPIR Alternatives

The following Project alternatives have been considered, consistent with the ENF Certificate and the BPDA Scoping Determination:

- **No-Build Alternative** – The No-Build Alternative retains the existing conditions at the Project Site. It leaves the existing deteriorating buildings, docks, and piers in place, such that the waterfront remains inaccessible to the public, and the marina continues to fill with sediment, as described in Section 1.1, *Site Context and Existing Conditions*. The No-Build Alternative does not include any of the significant public open space and waterfront accessibility benefits associated with the Project, nor does it include the environmental benefits of improved stormwater management and reduction in impervious coverage. Refer to Figure 1.3 for Existing Site Conditions.
- **Reduced Build Alternative (Project)** – The Reduced Build Alternative consists of the Project as proposed in this filing, or Reduced Build Alternative, as described in Section 1.2, *Project Description*. In addition to a significant reduction in density as compared to the ENF/PNF Alternative, the changes in program will result in a 40- to 50-percent reduction in vehicle trips associated with the Project. Refer to Figure 1.5 for the Project Site Plan.
- **Port Norfolk Neighborhood Plan Alternative (Seafood Wholesale Alternative)** – The ENF Certificate requested that an alternative be evaluated that is consistent with the Urban Design Guidelines included in the 1988 Port Norfolk Neighborhood Plan (the "Neighborhood Plan"). As described in Section 1.5.4, *Consistency with Applicable Plans and Policies*, the Neighborhood Plan was intended to help identify the goals for future development within Port Norfolk, and to shape the future zoning controls. The plan identified three primary Urban Design Guidelines:
    - Mitigate the negative impacts that non-residential activity might have on existing housing;

- Discourage new or expanded non-water related uses on waterfront parcels; and
- Preserve the scale and quality of the existing residential area.

The results of this planning effort are reflected in the final zoning for Port Norfolk, Article 65 of the Code. Under this zoning, the site is within a Waterfront Services zoning subdistrict; therefore, allowable uses are generally consistent with the historic uses of the site for boat storage, sales, service, and maintenance (as well as utility/infrastructure, aquaculture, and marine research/training). Conditional uses on the site include character ships/historic vessels, enclosed storage, wholesaling of seafood, limited residential, and parking area for waterborne passenger transportation.

The ENF evaluated three different alternatives that were consistent with the existing zoning for the site; Marina Renovation, Cold Storage of Seafood, and Marine Retail. This analysis considered the high cost associated with the improvements and cleanup necessary to redevelop the site, and the limited revenue potential of these maritime uses. The ENF concluded that the ENF/PNF Alternative was preferred over these alternatives, as it provided substantially greater benefit to the public with reduced environmental impact.

In response to the ENF Certificate's request for an additional alternative, this analysis examines further the potential for cold storage and wholesaling of seafood on the site. The "Seafood Wholesale Alternative" considers the construction of a new commercial fish storage and wholesale processing facility on the site. This alternative would demolish the existing buildings and construct a one- to two-story, 50,000 to 75,000 square foot facility along the waterfront. The "Seafood Wholesale Alternative" would include the maintenance of the existing main piers for vessel berthing while offloading, but would remove smaller floating docks and piles. No dredging is anticipated under this alternative as no nearshore access would be anticipated.

The Seafood Wholesale Alternative is a water-dependent industrial use, and therefore, under Chapter 91, would not be required to provide the public access, site activation, or public open space provided by the Project. This alternative may also have negative community impacts related to noise, odor, and regular truck traffic. Additionally, without easy access to Logan Airport, the site is not in an optimal location to support this use. Refer to Figure 2.1 for the Seafood Wholesale Alternative.

› **ENF/PNF Alternative** – The ENF/PNF Alternative would consist of the Project, as described in Chapter 1, *Project Description,* of the ENF/PNF which included 307,000 square feet of new development within four new buildings and approximately two acres of public outdoor space. In addition, the ENF/PNF Alternative would include approximately 28,000 square feet of new Harborwalk, a public recreational fishing pier, facilities for kayak launching and storage, public restrooms, a small refreshment stand, and a marina support building which would provide bait, tackle, ice, fuel, etc. The ENF/PNF Alternative would

maintain and renovate the existing marina while maintaining it's 75-vessel capacity. Refer to Figure 2.2 for the ENF/PNF Alternative.

2.2 Qualitative and Quantitative Comparison Analysis

The sections below compare potential environmental impacts of the Project alternatives. Table 2-1 below provides a quantitative impact analysis comparing these alternatives.

Table 2-1 Comparison of Project Alternatives

Impact Category	No-Build Alternative	Seafood Wholesale Alternative	ENF/PNF Alternative	Reduced Build (Project)
Program and Building Height				
Total GFA	71,300	50,000 – 75,000	307,000	240,800
Total Building Height (ft.)	32	28	86	76
Primary Uses	Boat Service, Storage, and Sales	Seafood Storage and Wholesale	Residential, Retail, Restaurant, Hotel, Boat Storage	Residential, Neighborhood Market, Boat Storage
Waterways/Public Benefits				
Public Open Space	N/A	N/A	Yes	Yes
Public Amenities	N/A	N/A	Kayak Storage, Shore Shack, Fishing Pier, Pedestrian Bridge, Dog Park, Game Court	Fishing Pier, Community Space, Flexible Lawn Space
Land				
Impervious Surface (Acres)[1]	3.3	3.3	2.8	2.1
Water & Wastewater				
Water Use (GPD)	1,370	4,125	30,752	22,320
Wastewater Generation (GPD)	1,245	3,750	27,956	20,291
Stormwater Quality	No Improvement	Limited Improvement	Significant Improvement	Significant Improvement
Traffic				
Daily Vehicle Trips (Adjusted)	192	593	1,632	760
Parking				
Parking Spaces	N/A[1]	25 (Car) / 16 (Truck)	185	170

GFA Gross Floor Area
SF Square Feet
GPD Gallons Per Day
[1] Consists of building footprint and paved area.

[1] Although currently there is surface parking at the Project Site, the parking spaces are not lined. As a result, existing parking activity is informal and parking space capacity is un-defined. The existing surface parking will be eliminated by the Project.

2.2.1 Consistency with Neighborhood Planning

The Port Norfolk Neighborhood Plan identified specific goals for the community and of future land use options. The two primary goals that emerged from this planning process include:

1. "to protect and enhance the existing residential community", and
2. "to better utilize the waterfront, particularly for water-dependent uses."

Under the No-Build Alternative, the on-site facilities would continue to deteriorate. Without significant capital investment to repair or replace structures and restore navigability within the waterway, the marina would continue to lose capacity until it can no longer operate cost-effectively. The No-Build Alternative also fails to enhance the neighborhood as it does not provide any of the environmental, open space, and access improvements proposed by the Project. Similarly, while the Seafood Wholesale Alternative will utilize the waterfront for water-dependent uses, it would not be anticipated to provide the considerable community enhancements proposed by the Project. The Seafood Wholesale Alternative would also be likely to result in greater impacts to the community related to noise, odor and truck traffic. Additionally, the financial feasibility of this alternative is questionable.

The Reduced Build Alternative, as modified from the ENF/PNF Alternative, directly addresses these primary goals by improving the utilization of the waterfront for water-dependent uses, removing nonwater-dependent uses from the formerly tidal portions of the site, and being responsive and sensitive to comments received during the review of the ENF/PNF by the community.

The Reduced Build Alternative is also consistent with the 2008 *MetroFuture* regional plan because it will provide new housing opportunities and employment, and redevelop an underutilized urban site. In addition, this alternative helps to achieve Mayor Walsh's initiative of adding 53,000 housing units by 2030 (*Housing a Changing City: Boston 2030*).

2.2.2 Height and Massing

The No-Build Alternative would maintain existing conditions at the Project Site, and have no impact on height and massing. Similarly, the Seafood Wholesale Alternative would include a warehouse-style, low-rise building with similar massing to the existing boat storage buildings.

In response to community concerns about the density and height of the ENF/PNF Alternative, the Project has been redesigned with a substantially lower unit count, lower density, and a reduced building height. With the high cost associated with renovating the deteriorating marina, dredging to restore navigability to all berths, demolishing the degraded buildings, cleaning up the site, and the considerable open space enhancements, a certain amount of density is needed to make the redevelopment of the site financially feasible. Further reductions in building height

would require a wider footprint due to a shift in massing. This reconfiguration would reduce the amount of open space on the site and potentially limit the views from Ericsson Street to the harbor. The Reduced Build Alternative is responsive to community comments and respects the context of the Project Site and the surrounding historic buildings.

2.2.3 Land and Public Realm

The No-Build Alternative would result in no change in impervious area; however, existing pervious areas on the Project Site include compacted dirt and gravel with limited vegetation and poor infiltration capacity. It is assumed that the Seafood Wholesale Alternative would maintain a similar condition as it would not be anticipated to provide the open space improvements proposed under the ENF/PNF Alternative and the Reduced Build Alternative.

The ENF/PNF Alternative would provide a considerable reduction in impervious area, with a highly activated public realm, including a dog park, game court, pedestrian bridge to Tenean Beach, kayak storage shed, shore shack, and fishing pier. The Reduced Build Alternative would reduce impervious area even further than the ENF/PNF Alternative, but takes a more passive approach to the public realm, per the strong request by the community. Under the Reduced Build Alternative, the public realm will feature trees, native plantings, and a series of berms along the Harborwalk. The active elements of the Reduced Build Alternative would be shifted to the northeastern edge of the site, including a flexible lawn space close to the Public Pier. The pedestrian bridge to Tenean Beach has been eliminated.

2.2.4 Water, Wastewater and Stormwater

The No-Build Alternative would result in no change in water use and wastewater generation. Similarly, limited increases would be expected by the Seafood Wholesale Alternative; however, neither alternative would result in the significant water-quality improvements proposed by the ENF/PNF Alternative and the Reduced Build Alternative. The Reduced Build Alternative reduces water use and wastewater generation as compared to the ENF/PNF Alternative, but maintains significant improvements to the collection and treatment of stormwater as described further in Chapter 9, *Infrastructure*.

2.2.5 Traffic and Parking

The No-Build Alternative does not result in any new vehicle trips or need for additional parking.

The Reduced Build Alternative responds to community concerns over parking and traffic by increasing the parking ratio while reducing the projected number of trips substantially through reductions in program and elimination of higher trip-generating uses. This results in a 40- to 50-percent reduction in the total number of anticipated peak hour vehicle trips.

The Seafood Wholesale Alternative further reduces the number of trips and required parking spaces, but drastically increases the number of truck trips. As described in Chapter 5, *Transportation*, the neighborhood roadways are geometrically constrained. Increased truck traffic would be anticipated to result in a greater disruption to daily traffic flow within the neighborhood than the additional vehicle trips anticipated by the Reduced Build Alternative.

2.2.6 Greenhouse Gas Emissions/Air Quality

As discussed above, given the reduction in program and vehicle trips from the ENF/PNF Alternative to the Reduced Build Alternative, the Reduced Build Alternative is expected to result in reduced GHG and other air emissions associated with building energy usage (stationary sources) and single-occupancy vehicles (mobile sources).

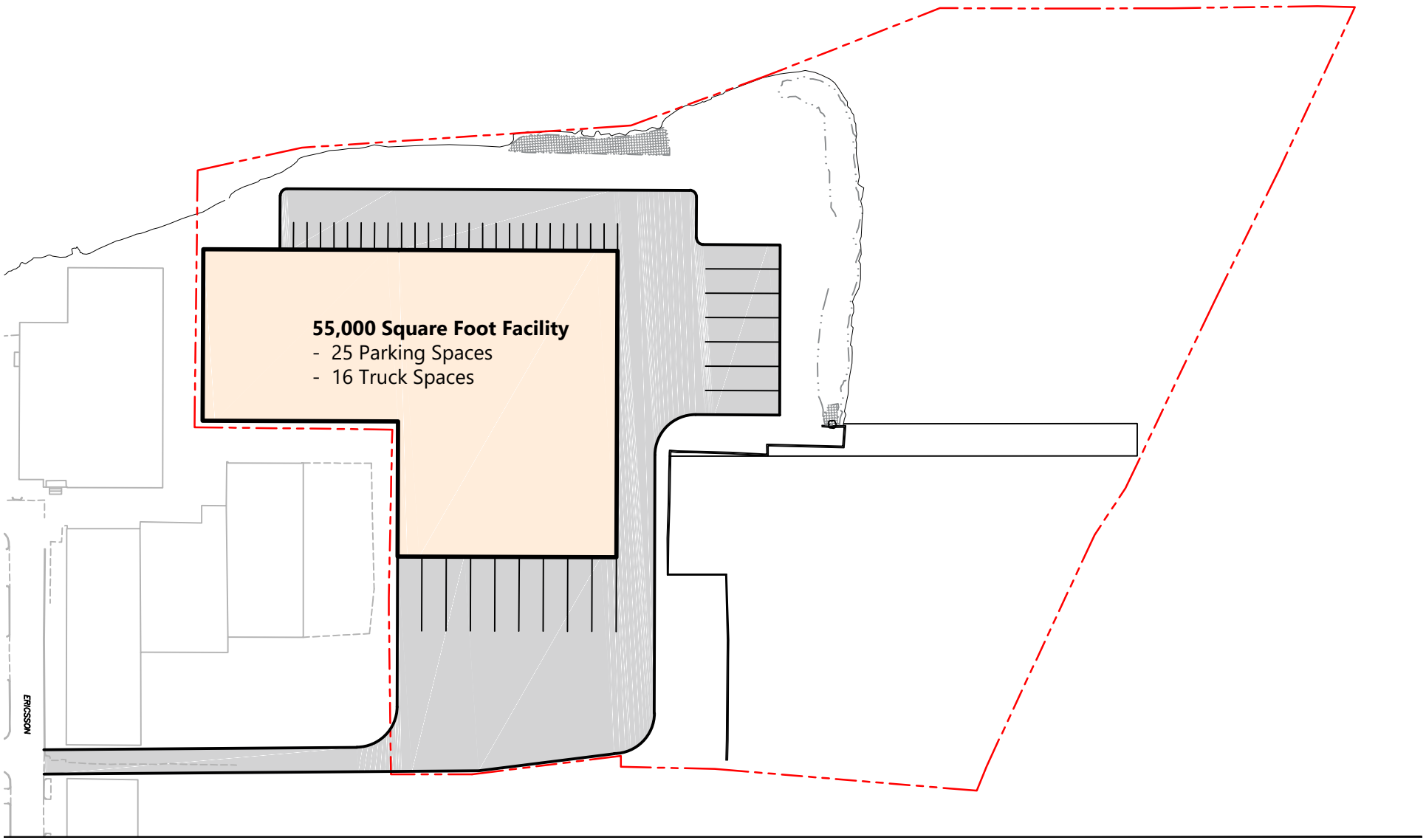
2.2.7 Shadow

Refer to Section 6.3 of Chapter 6, *Environmental Protection,* for an evaluation of shadow impacts for the Reduced Build Alternative. In comparison with the ENF/PNF Alternative, the modifications to the Reduced Build Alternative result in overall less net new shadow that would extend over public open space and waterway. The Reduced Build Alternative and ENF/PNF Alternative would both result in greater shadow impacts than the No-Build Alternative and Seafood Wholesale Alternative because of increased density and taller buildings.

2.3 Conclusion

The Reduced Build Alternative avoids or minimizes environmental impacts to a greater extent than the No-Build and Seafood Wholesale Alternatives by improving water quality through the reduction of impervious surface and improvements to stormwater treatment. The Project modifications between the ENF/PNF Alternative and the Reduced Build Alternative result in a reduced height and density, which results in fewer vehicle trips, less GHG emissions, and reduced shadow impacts. The Reduced Build Alternative will provide a modern and sustainable development that will significantly improve access to the waterfront and enhancement of existing water-dependent uses, consistent with the goals previously expressed by the community, as discussed in Section 1.5.4, Consistency with Applicable Plans and Policies. Analysis of the Reduced Build Alternative, including existing site characteristics, cost of site improvements, and mitigation requirements did not identify a practical and cost-effective alternative that would significantly reduce environmental and community impacts over the Reduced Build Alternative, while still maintaining a substantial public benefit. The Reduced Build Alternative offers substantial benefits to the public that are not provided by the No-Build or Seafood Wholesale Alternatives.

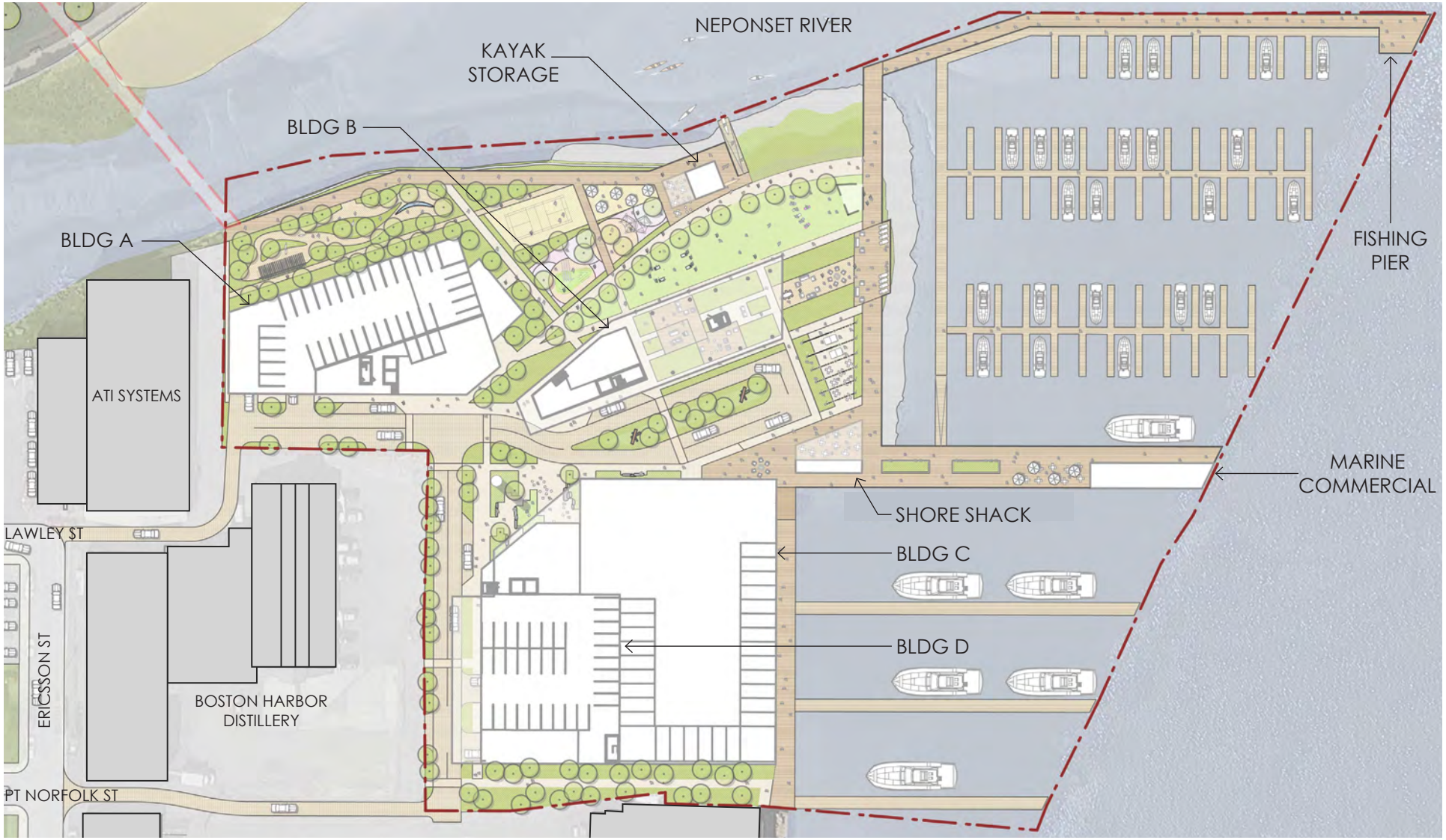
\\vhb\proj\Boston\13866.00\graphics\FIGURES\Seafood Wholesale Alternative.dwg



0 50 100 Feet

Figure 2.1
Seafood Wholesale Alternative

Neponset Wharf
Boston, Massachusetts



0 50 100 Feet

Green Open Space

Hardscape

Boardwalk

ENF/PNF ALTERNATIVE

RODE OJB LANDSCAPE ARCHITECTURE

NEPONSET WHARF, BOSTON, MA

FIGURE 2.2

3

Urban Design

This chapter describes the existing urban context of the Project Site, and discusses the planning principles and design goals for the Project. It also describes the urban design characteristics (i.e., height and massing) and public realm improvements proposed through the Project. Supporting graphics are provided, including massing diagrams, building floorplans, building sections, building elevations, and view perspectives.

3.1 Summary of Key Findings and Benefits

The Project will provide a range of public and community benefits to enrich the Port Norfolk neighborhood. Public benefits of the Project include the following:

- The Project is designed and scaled to enhance the surrounding Port Norfolk neighborhood by complementing the existing, surrounding uses.
- The Project will create a new, publicly accessible Harborwalk and pier, to encourage neighborhood use of and access to the shoreline.
- The Project will provide over 50 percent of the Project land area, or approximately two acres of the Site, as open, green space.
- The Project will support a decade-long effort to revitalize and enhance the waterfront along Dorchester's southern and eastern waterways, and rehabilitate the shoreline conditions.
- The Project will promote and enhance the existing water-dependent uses by reconfiguring the existing marina with new piers and floats, removing the existing wave fence, and constructing new, modern marina support facilities.
- The Project will introduce a comprehensive pedestrian experience through an engaging and restorative landscape design.

3.2 Neighborhood Context

The Port Norfolk neighborhood generally comprises single- and two-family residences along the interior street grid, with a mix of multi-family and commercial structures dominating the waterfront parcels. Commercial buildings immediately south of the Project Site include remnants of the area's industrial past, most notably the Putnam Nail Company building, built circa 1859. Many of these historic industrial buildings have been kept in working condition, and currently house offices, a spirits distillery, and a winery. Along the water's edge, adjacent to the site on the east is *Venezia*, a contemporary restaurant and banquet facility. To the southwest are additional industrial buildings built in the late twentieth century.

Currently, the site itself contains primarily single-story, metal-clad (many deteriorated) buildings housing a boat dealership, boat storage, and boat maintenance facility.

3.3 Planning Principles and Design Goals

The Project is being planned to improve access to the waterfront while creating a residential "village" feel with appropriately scaled buildings and mixed pedestrian and vehicular circulation through the site. The western portion of the site along Pine Neck Creek is designed with resilient landscaping along the shore, and pedestrian paths that wrap around the boathouse and connect to the Public Amenity Space. Refer to Figure 3.1 for Site Planning Context.

The Project sustains and improves boating and associated supporting uses. A significant portion of the Project Site is waterfront area, so the movement of boats and access to slips and docks is critical to the Project. A boathouse with an integrated marina club room is located at the northwestern point of the property, directly adjacent to the marina, Arrival Court, and the Working Pier.

The western portion of the site will depart from the hardscape and working areas of the rest of the site and provides green spaces, pathways, native plantings and coastal vegetation restoration areas that open to the long views of the water and city skyline. The edges are defined by a new pedestrian path facing Tenean Beach, the marina, and expansive views out to Boston Harbor. The open space design will incorporate a range of strategies to address potential flooding and sea level rise. At the tip of the open space, a protective riprap slope will mitigate tidal surges during high tides and storm events. Raised topography will help protect all site edge conditions. At site level, stormwater management and landscape treatment systems will incorporate appropriate plant selections to reduce runoff and improve water quality.

3.4 Building Design Concept and Development

The four main buildings (Buildings A, B, C, and D) of the Project derive their massing and form from the varied, existing conditions proximate to the site, including buildings of historical significance, as well as environmental considerations. Other considerations include maximizing public access to the water's edge and open spaces, highlighting harbor and skyline views, optimizing solar exposure for both residential units and public spaces, easing the arrival and circulation of vehicles, and serving the marina and boathouse facility.

The ground-floor uses within the Project Site account for sea-level rise and other aspects of climate change. All residential spaces and have been raised above the first level, well above the possible future flood elevations. The ground floor of the buildings comprise parking, building access lobbies, the neighborhood market/deli and the Boathouse. A Community Space, available for use by residents, will also be

located outside of the expected floodplain, on the second level of Building C. Refer to Figures 3.2a-e for Project floor plans.

The site plan carefully considers the existing neighborhood, and relates to the existing urban character. The buildings present a grouping of smaller facades on approach to the waterfront from the neighborhood, and the building edges are held back from view corridors and sightlines to the water. Refer to Figure 3.3 for Project Massing.

Building A

Situated closest to the neighborhood, at the end of Lawley Street, Building A is envisioned as terraced seven-story building, with a two-level parking garage and five floors of residential condominiums. A rooftop amenity space for Project residents includes a sun deck, fitness space, and potentially a pool. This amenity space overlooks the Green Open Space, Pine Neck Creek, and has the best views of Tenean Beach and the City of Boston. The Lawley Street façade is sensitive to the neighborhood, presenting a relatively small building face, broken up into a series of smaller planes to minimize massing. Building A also sits closest to the Boston Harbor Distillery (former Putnam Nail Company building).

Refer to Figure 3.4a for an elevation view of Building A.

Building B

Building B is a six-story residential building with a single story podium and five floors of residential units, positioned perpendicular and to the east of Building A. The first residential level is located one story above grade. This serves both to maintain continuity between the surrounding open spaces and as a resiliency measure for future sea level rise, as discussed in Chapter 4, *Sustainability/Green Building and Climate Change Resiliency*. A lobby, bike storage, and neighborhood market and deli will activate the ground floor of the building. Building B is the first building seen on approach to the Project via the Port Norfolk Street entrance on Ericsson Street. An outdoor seating area is envisioned to complement to the neighborhood market and deli.

Refer to Figure 3.4b for an elevation view of Building B.

Buildings C

Building C is a six-story residential building adjacent to the Arrival Court and perpendicular to Building A, and to the north of Building B. Being closest to the water's edge, the majority of the building is elevated above grade, with the first residential level one story above grade. Like Building B, this elevated design maintains continuity between the surrounding open spaces and serves as a resiliency measure for future sea level rise. A building access lobby, vehicle and bike storage, and other building storage occupy the ground floor of the building. The building will contain an approximately 1,200 sf Community Space on the second level that will be available to residents, with views of the public open space and marina. The location of the Community Space along the eastern façade of the building works to add

activity along the more public portion of the site, connecting the neighborhood market and deli with the public open space along the water's edge to the north.

Refer to Figure 3.4c for an elevation view of Building C.

Buildings D

Building D, the Boathouse, is a single-story boat storage building similar in size to the existing boat storage building, and will contain a bait shop, office space, and locker rooms for the marina users. The bait shop, office and locker rooms will be elevated for resiliency, and will comply with the requirements of the FEMA velocity zone. The building is positioned directly adjacent to the Working Pier where boats will be loaded in and out of the water to shorten the travel distance. Inside, it will accommodate storage racks for approximately 75 boats, as well as a clear space for repairs and a maintenance.

Refer to Figure 3.4d for an elevation view of Building D.

3.4.1 Height and Massing

Building A

Building A will have two floors of parking with five terraced, residential floors, above, for a total of seven floors. The parking levels will be masked by ground berms and vegetation from on the Pine Neck Creek side. The terracing minimizes the massing facing the neighborhood.

Building B

Building B will be a single-story podium with five floors of residential above for a total of six floors. It is a simple rectangular volume with a pitched roof containing openings for roof decks. The massing and overall design of the building match traditional wharf style buildings in Boston.

Building C

Building C is similar to Building B, with a single-story podium and four-and-a-half residential floors, above, for a total of five-and-a-half floors. It is a simple rectangular volume with a pitched roof containing openings for roof decks. Similar to Building B, the massing and design draw from those of the nearby buildings, and match traditional wharf style buildings in Boston. On the waterfront side of the building, the style opens up to a more residential feel that connects to the style of Building A.

Building D

Building D is a single-story boat storage building similar in size to the existing boat storage building. It will be tall enough to accommodate the storage racks for approximately 75 boats. A portion of the volume steps down to accommodate views for Building A and to lessen the impact of shadows on the proposed Public Pier open space.

Refer to Figure 3.5 for site sections.

3.4.2 Character and Exterior Materials

The Port Norfolk neighborhood features a special mix of architectural styles. Both the residential district (made up of 19th century stick-framed structures) and the 19th century industrial masonry buildings are notable for their continued use and occupation. Historically, Ericsson Street has separated the traditional residential area from the maritime-focused industrial structures. This co-existence has been present for centuries: the area north of Ericsson Street has always featured the industrial port character to which the neighborhood owes its name.

The design of the mixed-use buildings of the Project pays homage to this past with a simple combination of masonry, glass, and metal panels, with textures and colors that complement the surrounding industrial structures. Portions of the facades and smaller structures on-site utilize a mix of warmer wood materials, both to respect the nature of living spaces and to reflect a typical New England waterfront environment. The Boathouse is a more utilitarian structure made up of mostly metal panels with some form of translucent glazing. It will have large operable garage bays for moving boats into and out of the water and for access back onto the landside. These bays will activate the façade and provide the public a view into the commercial operation of the space.

Refer to Figure 3.6 for exterior materials and Figures 3.7a-f for perspective views

3.5 Open Space/Landscape Approach

In contrast to the existing site condition, which is dominated by asphalt and metal structures, the Project aims to create a sustainable, resilient and connected environment to tie into the surrounding Port Norfolk neighborhood. Key aspects of the landscape design aim to provide a seamless connection to the waterfront.

Enhancements to the landscape will inspire people to utilize the entire site and will engage the local community by creating a natural and appealing public waterfront. A new pedestrian pathway system will create an attractive shoreline that provides strong connections throughout the site. Changes in elevation made by a mix of berms, swales, and resilient coastal vegetation, combined with the indigenous trees and other vegetation, create a dynamic pedestrian experience. Cleaning up the existing water's edge will also greatly enhance the ecology of Pine Neck Creek. Additional treatments to encourage direct access to the waterfront may include overlooks, a Public Pier, flexible lawn and restorative landscape features.

Beyond the waterfront improvements, the Project will seek to provide spaces for public engagement with creative seating areas, dedicated spaces for families, and potential art installations, as well as flexible open spaces for programming and general passive recreation.

The open space will be a showcase for sustainable technology and stormwater management. Rain gardens along the Arrival Court will capture roadway runoff. Native plantings and restored coastal vegetation along the water's edge will serve

aesthetic and ecological functions, working to create an environment welcoming of both people and wildlife.

Refer to Figure 3.8 for the Project's Landscape Plan, and 3.9a-b for Section Diagrams of the proposed shoreline improvements.

0 50 100 Feet

Green Open Space

Hardscape

Boardwalk

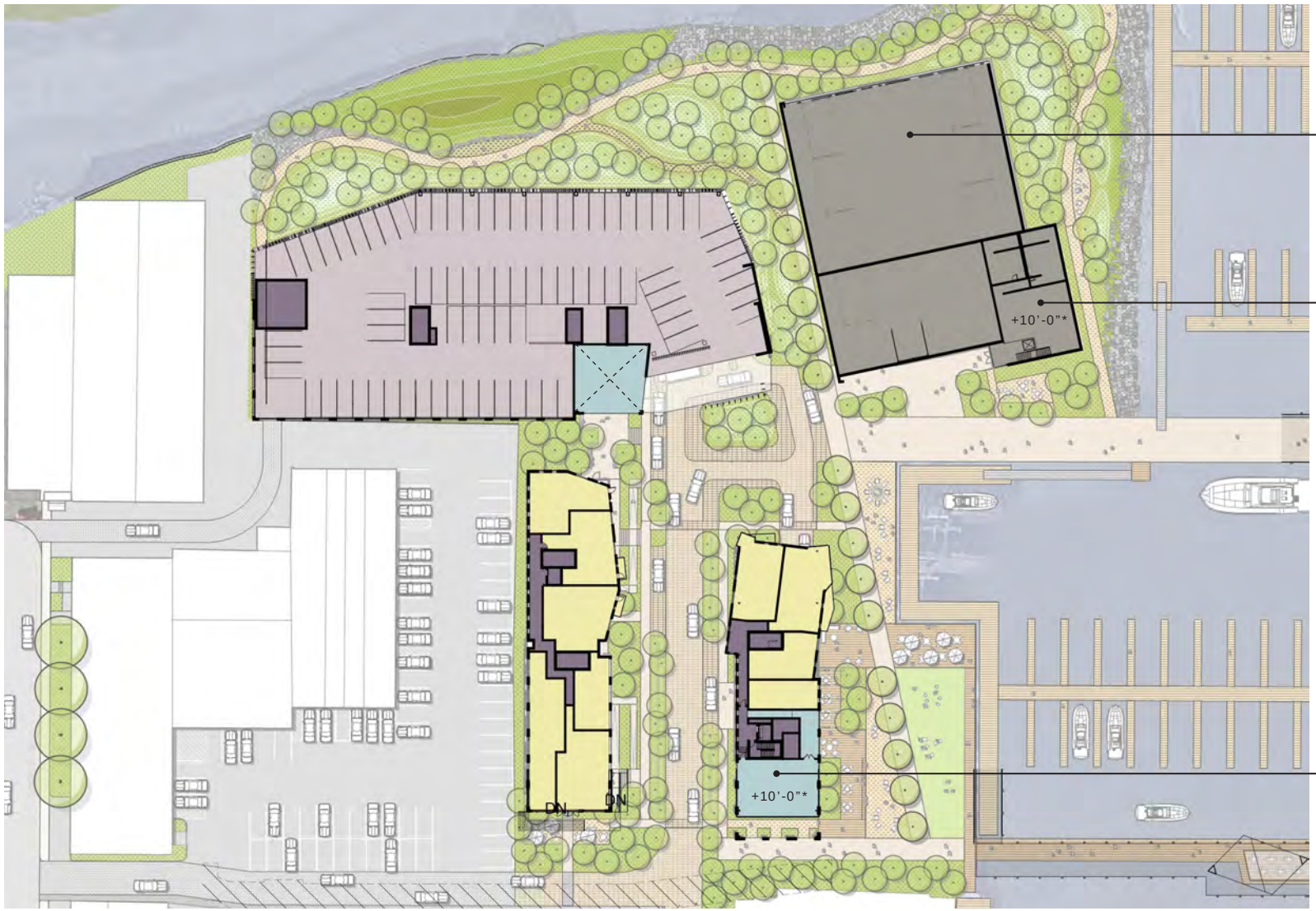
SITE PLANNING CONTEXT

0 50 100 Feet

Garage
Lobby/Amenity
Boathouse/Marina Support
Residential
Retail
Service/Mechanical
Pedestrian Building Entry
Service Entry
Vehicular Entry

FLOOR PLANS - GROUND LEVEL

*Note: certain program elements are elevated above projected flood plain elevations, see Chap. 4



0 50 100 Feet

Garage
Lobby/Amenity
Boathouse/Marina Support
Residential
Retail
Service/Mechanical

FLOOR PLANS - LEVEL 2

*Note: certain program elements are elevated above projected flood plain elevations, see Chap. 4

0 50 100 Feet

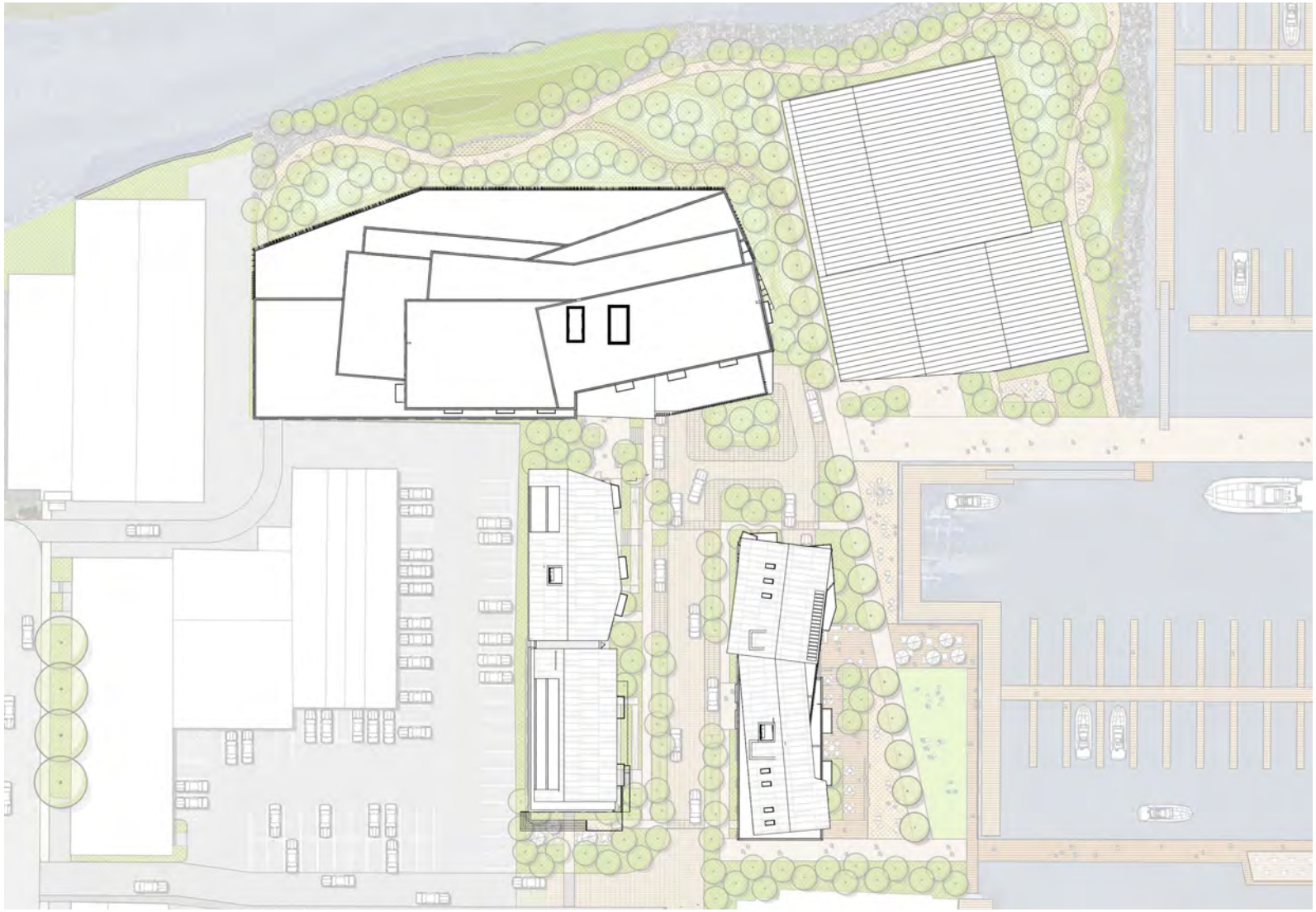
Garage
Lobby/Amenity
Boathouse/Marina Support
Residential
Retail
Service/Mechanical

FLOOR PLANS - LEVEL 3

0 50 100 Feet

Garage
Residential
Lobby/Amenity
Retail
Boathouse/Marina Support
Service/Mechanical

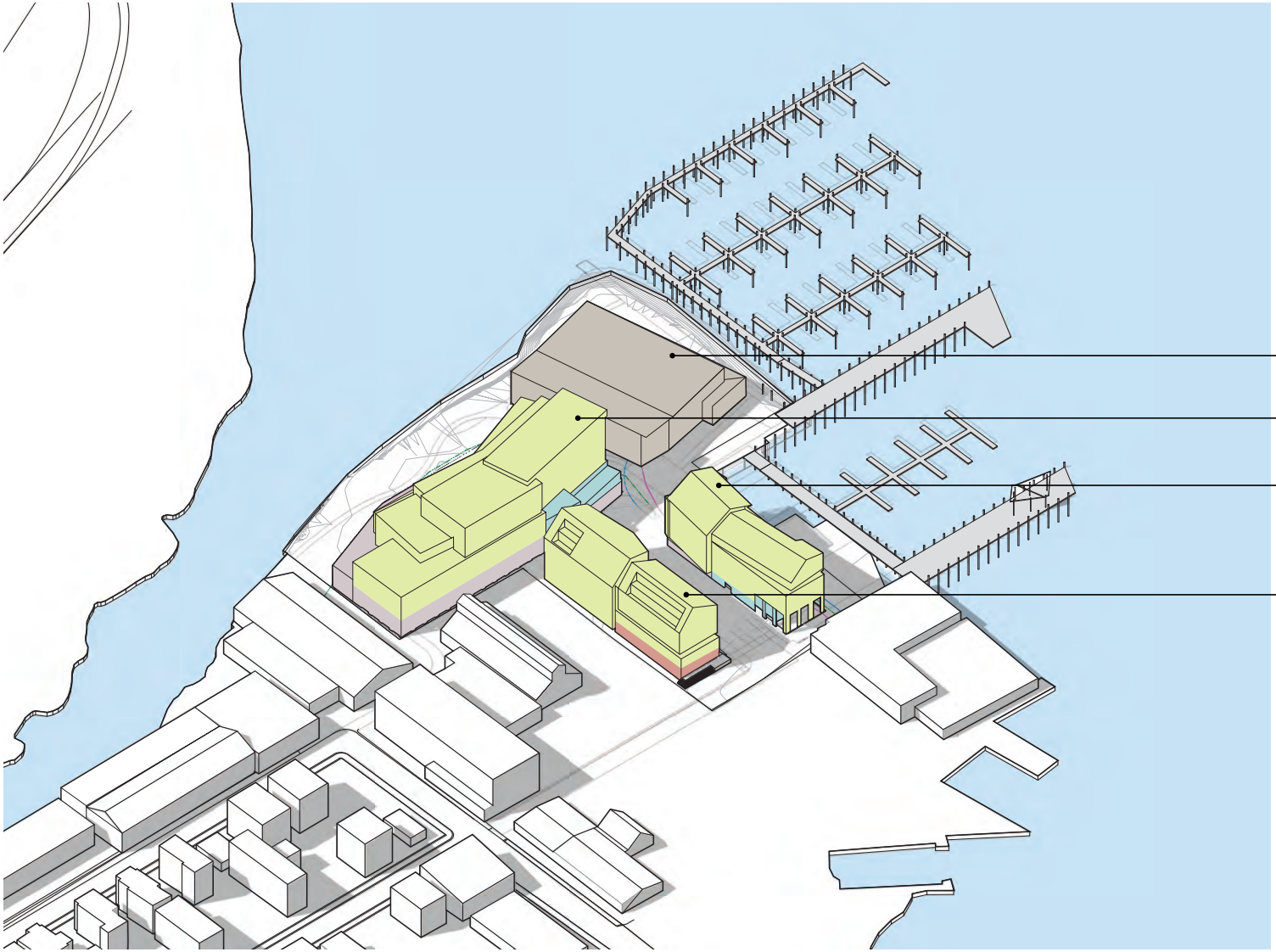
FLOOR PLANS - Typical Residential Level



0 50 100 Feet

Garage
Unit
Lobby/Amenity
Retail
Boathouse/Marina Support
Service/Mechanical

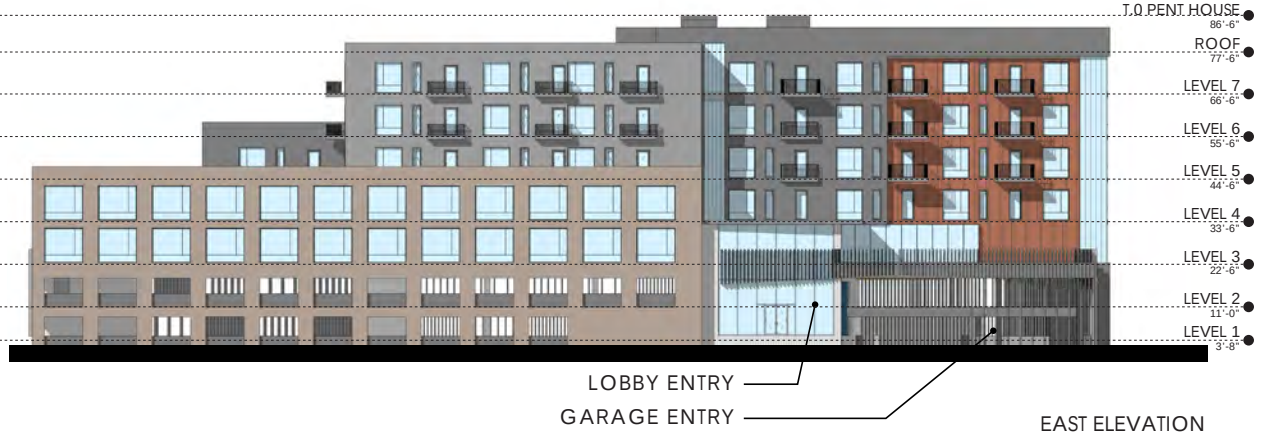
FLOOR PLANS - ROOF



PRELIMINARY PROJECT MASSING

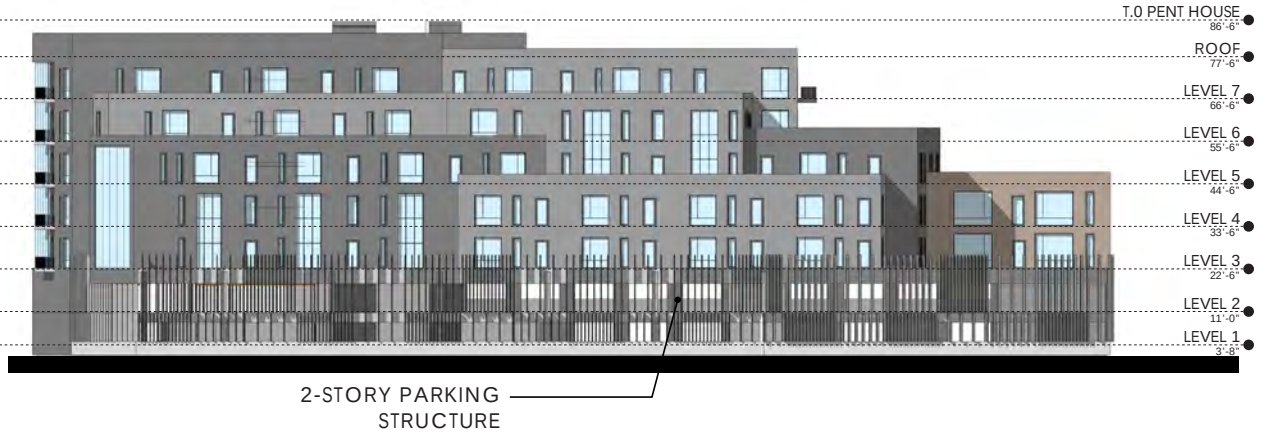
Garage
Residential
Lobby/Amenity
Retail
Boathouse/Marina Support
Service/Mechanical

NORTH ELEVATION

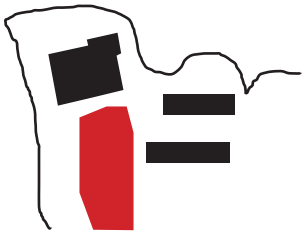


EAST ELEVATION

SOUTH ELEVATION



WEST ELEVATION



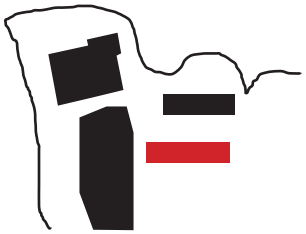
ELEVATIONS - BUILDING A

NORTH ELEVATION

EAST ELEVATION

SOUTH ELEVATION

WEST ELEVATION



ELEVATIONS - BUILDING B

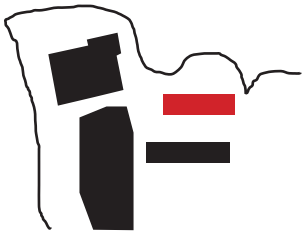
0 25 50 Feet

NORTH ELEVATION

EAST ELEVATION

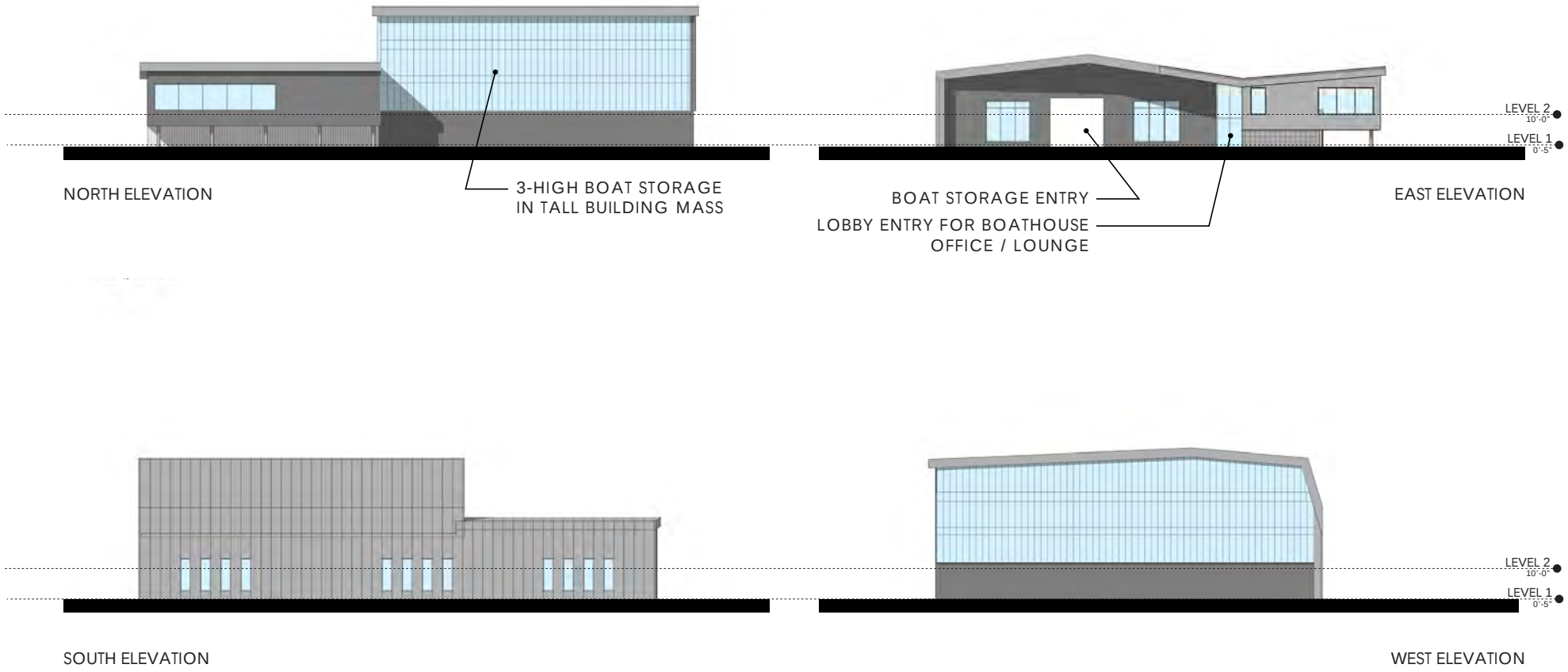
SOUTH ELEVATION

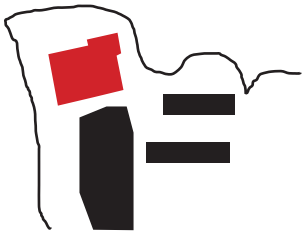
WEST ELEVATION



ELEVATIONS - BUILDING C

0 25 50 Feet



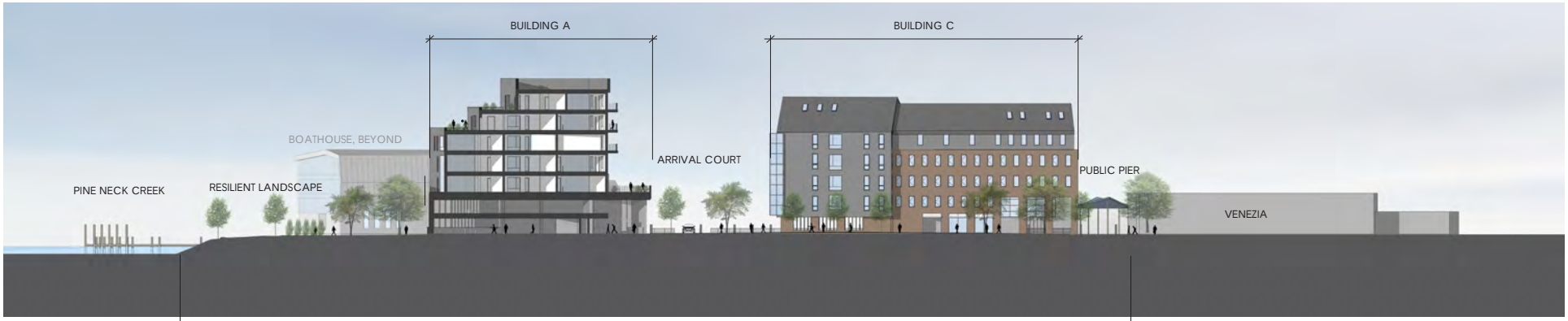


ELEVATIONS - BOATHOUSE

0 25 50 Feet

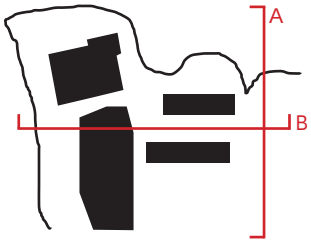
SECTION A

RESIDENTIAL DISTRICT — INDUSTRIAL WHARF DISTRICT — PROJECT SITE



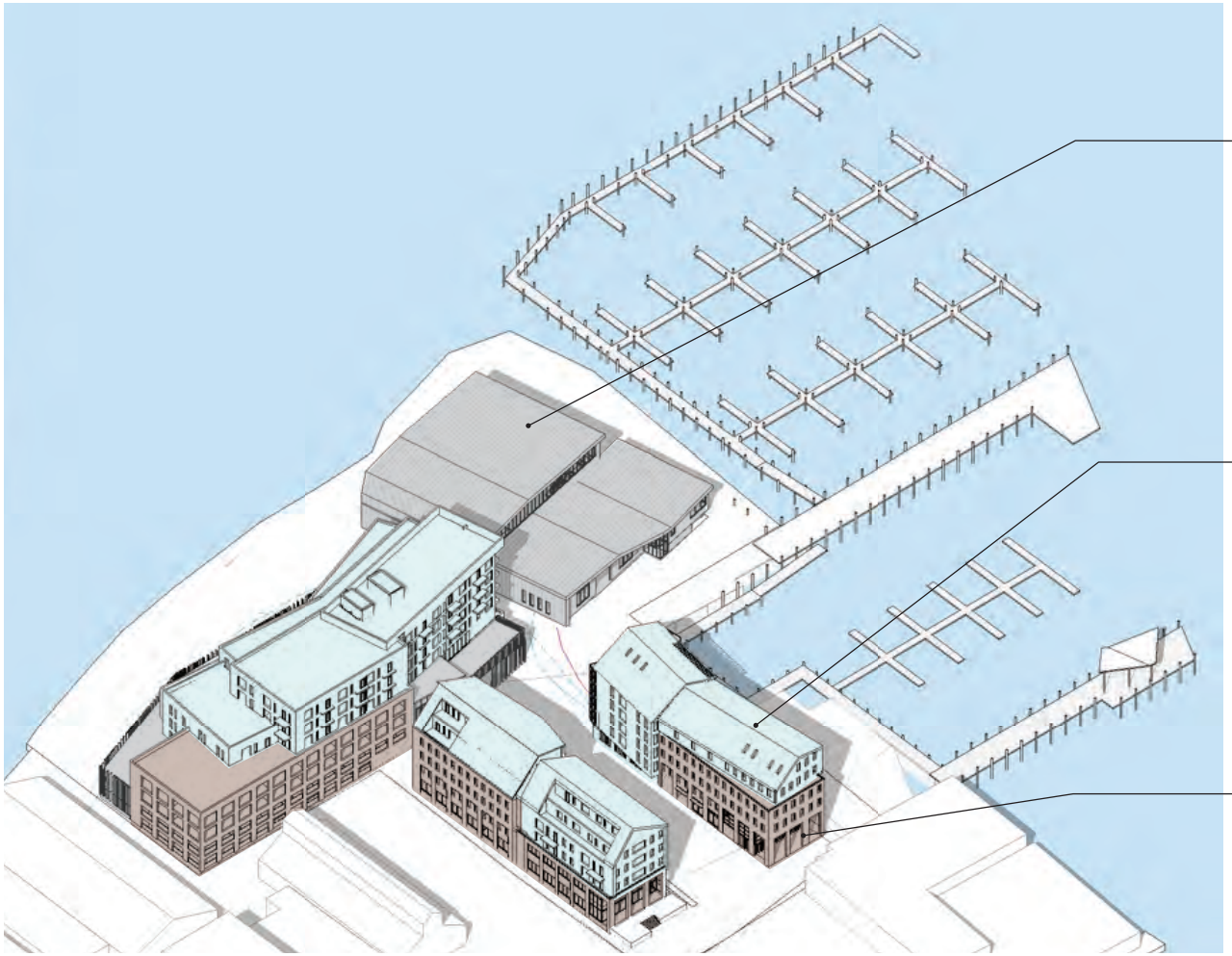
SECTION B

PROJECT SITE

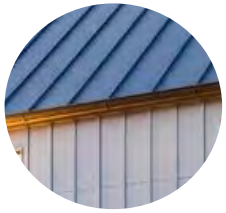


SITE SECTIONS

0 50 100 Feet

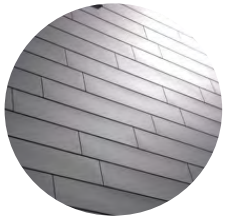


SOUTH AXON



Corrugated metal panels
& standing seam roof clad
marine use & storage

polycarbonate panels



Metal panel clads upper
residential volumes

accent colors highlight
building articulation

Masonry volumes reinforce
the industrial district

slatted wall screens
parking and adds richness
at ground plane

EXTERIOR MATERIALS

PERSPECTIVE: SITE ENTRY

PERSPECTIVE: FROM THE EAST

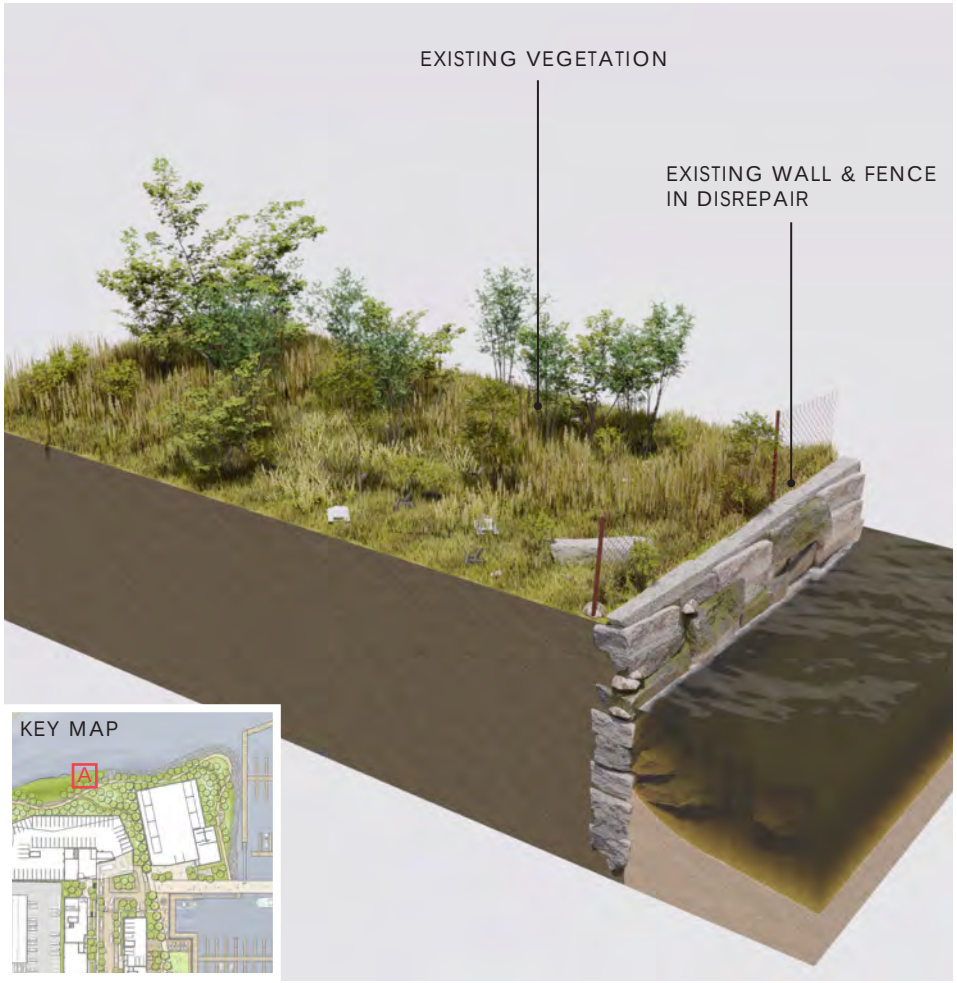
PERSPECTIVE: BUILDING APPROACH

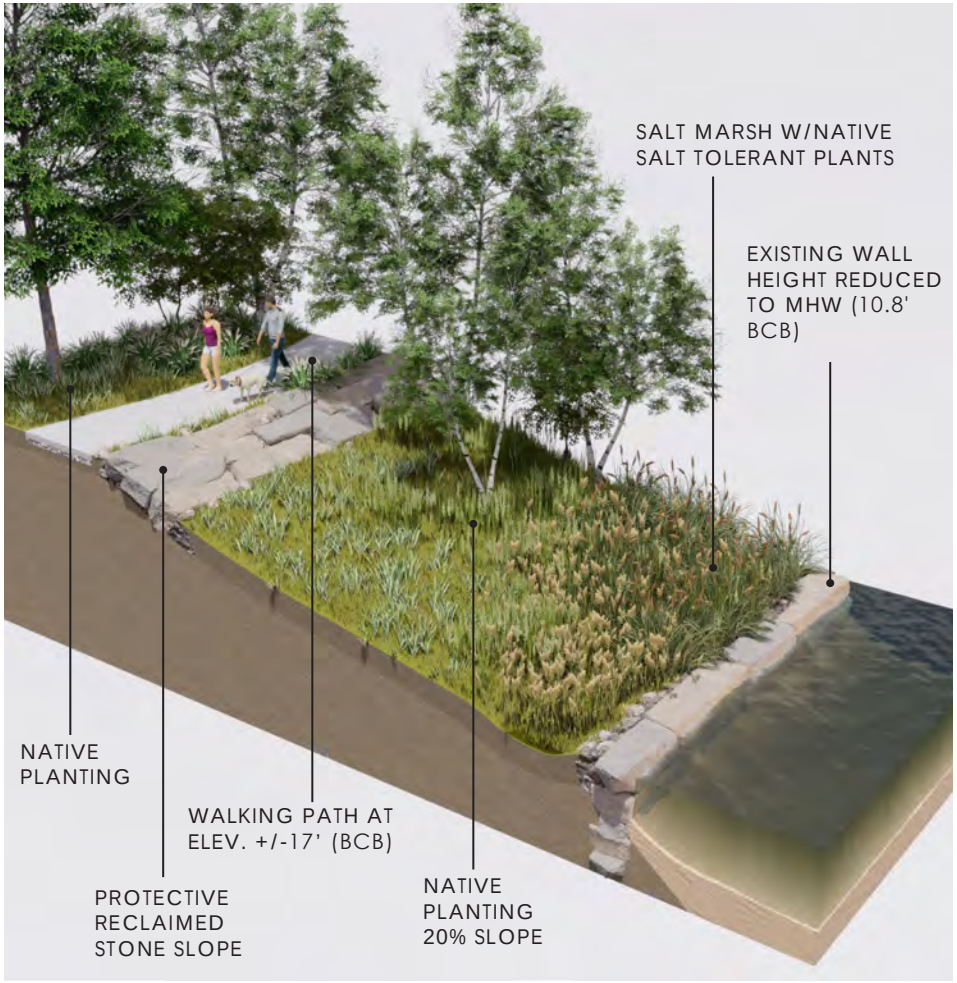
PERSPECTIVE: FROM TENEAN BEACH

PERSPECTIVE: WORKING DOCK

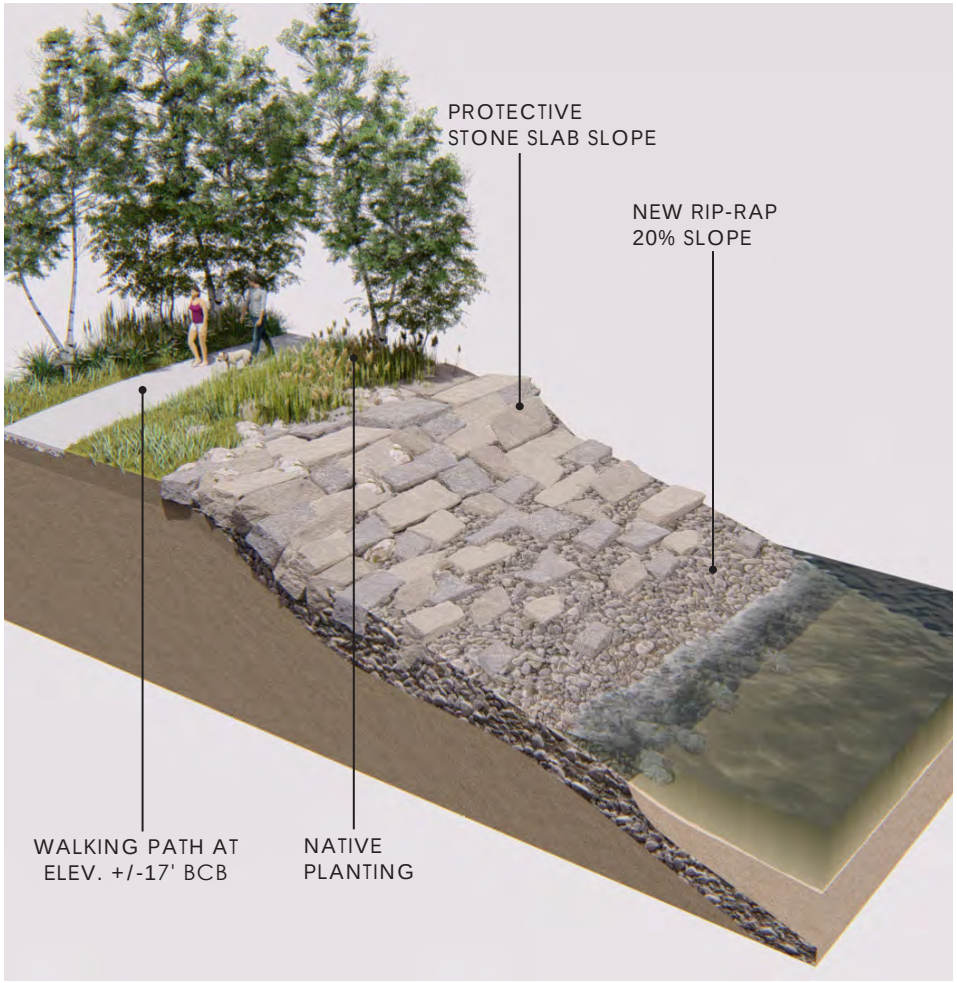
PERSPECTIVE: LAWLEY STREET

LANDSCAPE PLAN





SECTION DIAGRAM A



SECTION DIAGRAM B

4

Sustainability/Green Building Design and Climate Change Resiliency

This chapter provides preliminary information regarding the Project's sustainability/ green building, and climate change preparedness and resiliency strategies, as applicable. It identifies the proposed U.S. Green Building Council's (USGBC) Leadership in Energy and Environmental Design (LEED™) version 4 ("v4") rating system level based on early design, describes building-specific strategies for each LEED category, and explains how key credits will be achieved. It also discusses a framework for considering present and future climate conditions in project design.

In support of Boston's Greenhouse Gas ("GHG") emissions reductions goals, this chapter also presents the estimated Project energy usage and GHG emissions reductions. Refer to Chapter 7, *Greenhouse Gas Emissions Assessment* for additional detail on the Project energy model assumptions and results, as well as an evaluation of on-site clean/renewable energy opportunities and private utility company energy-efficiency assistance programs that may be available to the Project.

4.1 Summary of Key Findings and Benefits

The key findings and benefits related to sustainability/green building design and climate change preparedness include the following Project attributes:

- Intends to exceed compliance with Article 37 of the Code by designing buildings to meet LEEDv4 certifiability at the Silver level, as demonstrated by the draft LEEDv4 scorecards (See Figures 4.1a-d).
- Reuses an existing previously developed Project Site in an urban setting as opposed to an undeveloped open space.
- Considers the feasibility of clean and renewable energy sources, including an evaluation of a building-integrated photovoltaic system ("PV").
- Utilizes sustainable design strategies and exceeds the minimum building energy code requirements, thereby maximizing the conservation of energy and water, and minimizing impacts to regional infrastructure and water resources.
- Reduces vulnerability to rising sea levels and changes in intensity and frequency of storms, including raising the Project Site grade so that the key site access points are elevated over three feet above the existing grade, and

that finished floor elevation for occupiable spaces of the Project are well above projected future flood conditions during the lifetime of the Project.

- Site design provides protection to the Project to maintain access and limited operational capacity in a one-percent chance storm event through the year 2070.

4.2 Regulatory Context

The following section provides an overview of the state and local regulatory context related to energy efficiency and GHG emissions.

4.2.1 Article 37 Green Buildings

Any project that is subject to Article 80, Large Project Review, is also subject to the requirements of Article 37. Through Article 37 – Green Buildings, the City of Boston encourages major building projects to be "planned, designed, constructed, and managed to minimize adverse environmental impacts; to conserve natural resources; to promote sustainable development; and to enhance the quality of life in Boston."

Article 37 requires all projects over 50,000 gross square feet to meet LEED certification standards by either certifying the Project or demonstrating that the Project would meet the minimum requirements to achieve a LEED Certified level without registering the Project with the USGBC (LEED Certifiable). With the LEEDv4 rating system effective as of October 31, 2016, the BPDA requires initial Article 80 Large Project Review submissions to demonstrate that they will be LEED certifiable using LEEDv4.

Boston Green Building Credits

Appendix A of Article 37 lists "Boston Green Building Credits," which are credits that may be included in the calculation toward achieving a LEEDv4 certifiable project. These credits, along with prerequisites, were developed by the City and are intended to address local issues unique to development within Boston. The credits include the following categories: Modern Grid; Historic Preservation; Groundwater Recharge; and Modern Mobility.

4.2.2 BPDA Climate Change Preparedness and Resiliency Policy

In conformance with the Mayor's 2011 Climate Action Leadership Committee's recommendations, the BPDA requires projects subject to Boston Zoning Article 80 Large Project Review to complete a Resiliency Checklist to assess potential adverse impacts that might arise under future climate conditions, and any project resiliency, preparedness, and/or mitigation measures identified early in the design stage. The Resiliency Checklist is reviewed by the Interagency Green Building Committee.

4.2.3 MEPA Draft Climate Adaptation and Resiliency Policy

In September 2014, the MEPA Office issued a draft policy for addressing potential impacts associated with climate change. The policy's intent is to facilitate the consideration and assessment of risk and vulnerabilities of a project or action under foreseeable scenarios or conditions associated with climate change to identify potential mitigation measures.

4.3 Sustainability/Energy Conservation Approach

The Project is located on a previously developed site in the Port Norfolk neighborhood of the City of Boston.

To meet the requirements of Article 37, the following section describes how the Project complies with the LEED Building Design & Construction v4 criteria.

The Project will demonstrate compliance with the LEED Certifiability Requirements at a Silver level. Further study over the coming weeks and months will determine and confirm final credit achievement.

The following outlines the current point achievement for each building:

- Residential Building A - 54 Yes, 24 Maybe
- Residential Building B - 55 Yes, 19 Maybe
- Residential Building C - 55 Yes, 19 Maybe
- Boathouse Building D - 53 Yes, 22 Maybe

Overview

Sustainability informs every design decision. Enduring and efficient buildings conserve energy and preserve natural resources. The Project embraces the opportunity to positively influence the urban environment. The LEED v4 for Building Design and Construction ("BD+C") rating system tracks the sustainable features of a Project by achieving points in following categories: Location & Transportation; Sustainable Sites; Water Efficiency; Energy and Atmosphere; Materials and Resources; Indoor Environmental Quality; and Innovation and Design Process. The Proponent and Project Team are committed to an integrated design approach using the LEED BD+C v4 rating system as a guide and intend to meet certifiability requirements as stated above. This rating will meet or exceed Boston's Green Building standard.

Location and Transportation

The Location and Transportation credit category encourages development on previously developed land, minimizing a building's impact on ecosystems and waterways, regionally appropriate landscaping, and smart transportation choice.

The site has been previously developed, earning the Project points for sensitive land protection. The site is also located on a brownfield where soil or groundwater contamination has been identified, and where the local, state, or national authority

(whichever has jurisdiction) requires its remediation. The Proponent will perform remediation to the satisfaction of that authority. The neighborhood has several amenities within 0.5 miles of the Project Site, and the Project itself provides bicycle facilities and showers for the occupants of the building along with charging stations and dedicated parking spaces for low-emission vehicles.

While the site's location has access to public transit (i.e., the site is located within 0.5 miles of three bus lines), the available transit options are not within the distances required under LEED.

Sustainable Sites

The development of sustainable sites is at the core of sustainable design. Sustainable Site design provides high quality open space with active landscape elements that can both mitigate stormwater and provide shade and thermal comfort for the building occupants.

The Proponent will evaluate Low Impact Development ("LID") Strategies for the Project to promote infiltration for quality stormwater management. Additionally, the Project includes vegetation for over 30 percent of the site area, earning the Open Space credit.

As required by LEED, the Project will create and implement an erosion and sedimentation control plan for all construction activities associated with the Project. The plan will conform to the erosion and sedimentation requirements of the 2012 U.S. Environmental Protection Agency ("EPA") Construction General Permit ("CGP") or local equivalent, whichever is more stringent.

The Proponent will complete and document a site survey or assessment that will demonstrate the relationships between the site features and topics, Topography, Hydrology, Climate, Vegetation, Soils, Human use. The Project will evaluate compliance with light pollution reduction from the buildings and the site lighting.

Water Efficiency

Buildings are major users of potable water, and conservation of water preserves a natural resource while reducing the amount of energy and chemicals used for sewage treatment. The goal of the Water Efficiency credit category is to encourage smarter use of water, inside and out.

Water reduction is typically achieved through more efficient appliances, fixtures and fittings inside and water-wise landscaping outside. To satisfy the requirements of the Indoor Water Use Reduction Prerequisite and Credit, the Project will incorporate water conservation strategies that include low-flow plumbing fixtures for water closets and faucets.

The Project is targeting significant indoor water use reduction from the baseline for each building. All newly installed toilets, urinals, private lavatory faucets, kitchen sinks and showerheads that are eligible for labeling will be low-flow and have the Water Sense label.

The current snapshot of Water Use Reduction for each building is as follows;

- Residential Building A - 50% Water Use Reduction
- Residential Building B - 50% Water Use Reduction
- Residential Building C - 50% Water Use Reduction
- Marina Building D - 47% Water Use Reduction

The Project will also install permanent water meters that measure the total potable water use for the building and associated grounds in addition to water meters for two or more of the following water sub-systems, as applicable to the project:

- Irrigation;
- Indoor plumbing fixtures and fittings;
- Domestic hot water; and
- Boiler.

Metering data will be compiled into monthly and annual summaries, and the resulting whole-project water usage data will be shared with USGBC.

Energy & Atmosphere

According to the U.S. Department of Energy, buildings use 39 percent of the energy and 74 percent of the electricity produced each year in the United States. The Energy and Atmosphere credit category encourages a wide variety of energy strategies: commissioning; energy use monitoring; efficient design and construction; efficient appliances, systems and lighting; the use of renewable and clean sources of energy, generated on-site or off-site; and other innovative practices.

Fundamental Commissioning and Enhanced Commissioning will be pursued for the project. Envelope Commissioning will also be evaluated as an alternative.

A whole-building energy simulation was performed for the projects demonstrating a minimum improvement of 20 percent for new construction according to ANSI/ASHRAE/IESNA Standard 90.1–2010, Appendix G, with errata.

Preliminary results are as follows-

- Residential Building A- Energy Cost Reduction-26.9%, 11 points
- Residential Building B- Energy Cost Reduction-31.3%, 12 points
- Residential Building C- Energy Cost Reduction-31.5%, 12 points
- Marina Building D- Energy Cost Reduction-33.9%, 13 points

The Project Team will continue to analyze efficiency measures during the design process and account for the results in design decision making. The team will use energy simulation of efficiency opportunities and past energy simulation analyses for similar buildings. The Project will also prove compliance with the Massachusetts Stretch Code, an appendix to the State Building Code that requires a minimum of 10 percent improvement over ASHRAE Standard 90.1–2013.

The Project will evaluate installing new building-level energy meters, or submeters that can be aggregated to provide building-level data representing total building energy consumption (electricity, natural gas, chilled water, steam, fuel oil, propane, biomass, etc.).

The Project will also evaluate incorporating on-site clean/renewable energy production. The Proponent is committed to incorporating a minimum of 100 kW DC solar array (86.2 kW AC) using commercial-grade, 330-watt solar panels-on flat roofs at Building A and Building D. The flat roofs will provide a ballasted racking with an estimated production of 115,500 kW/Hr/Yr. The estimated cost of system turn key at this time: $2.80/watt.

As required by LEED, the Project will not use chlorofluorocarbon- ("CFC")-based refrigerants in new heating, ventilating, air-conditioning, and refrigeration systems. The Project will target the use of refrigerants used in heating, ventilating, air-conditioning, and refrigeration equipment that minimize or eliminate the emission of compounds that contribute to ozone depletion and climate change.

The Proponent will engage in a contract for 50 percent and perhaps 100 percent of the Project's energy from green power, carbon offsets, or renewable energy certificates ("RECs").

Materials & Resources

During both construction and operations, buildings generate tremendous waste and use many materials and resources. The Materials & Resources credit category encourages the selection of sustainable materials, including those that are harvested and manufactured locally, contain high-recycled content, and are rapidly renewable. It also promotes the reduction of waste through building and material reuse, construction waste management, and ongoing recycling programs.

As required by LEED, the Project will provide dedicated areas accessible to waste haulers and building occupants for the collection and storage of recyclable materials for the entire building. Collection and storage areas may be at separate locations. Recyclable materials will include mixed paper, corrugated cardboard, glass, plastics, and metals. The Proponent will also take appropriate measures for the safe collection, storage, and disposal of two of the following: batteries, mercury-containing lamps, and electronic waste.

To comply with both the prerequisite and credit requirements related to construction-waste management, the Project will develop and implement a construction and demolition waste management plan that will identifying at least five materials (both structural and nonstructural) targeted for diversion and approximate a percentage of the overall Project waste that these materials represent. The Project will divert at least 75 percent of the total construction and demolition material; diverted materials must include at least four material streams. The Project will also consider completing a life-cycle assessment.

Careful material selection will be performed for the Project. Where possible the Project hopes to integrate products that have Environmental Product Declarations

("EPD"), sourcing of raw materials and corporate sustainability reporting, and Material Ingredients disclosures.

Indoor Environmental Quality

The EPA estimates that Americans spend about 90 percent of their day indoors, where the air quality can be significantly worse than outside. The Indoor Environmental Quality credit category promotes strategies that can improve indoor air through low emitting materials selection and increased ventilation. It also promotes access to natural daylight and views.

As required by LEED, the Project will meet the minimum requirements of ASHRAE Standard 62.1–2010, Sections 4–7, Ventilation for Acceptable Indoor Air Quality (with errata), or a local equivalent, whichever is more stringent. Also, during building operations the Proponent will institute a No Smoking Policy to prohibit the use of all tobacco products inside the building and within 25 feet of the building entrance, air intakes, and operable windows.

The Project will provide enhanced indoor air quality strategies. The Project will provide entryway systems, interior cross-contamination prevention, and filtration. The Project will target low-emitting materials for all materials within the building interior (defined as everything within the waterproofing membrane). This includes requirements for product manufacturing volatile organic compound ("VOC") emissions in the indoor air and the VOC content of materials.

The Proponent will develop and implement an indoor air quality ("IAQ") management plan for the construction and preoccupancy phases of the building, meeting or exceeding all applicable recommended control measures of the Sheet Metal and Air Conditioning National Contractors Association ("SMACNA") IAQ Guidelines for Occupied Buildings under Construction, 2nd edition, 2007, ANSI/SMACNA 008–2008, Chapter 3. The Project will follow strict IAQ guidelines and protect absorptive materials stored on-site from moisture damage. The Proponent also will pursue either a building flush out or air-quality testing.

The Project will meet the criteria for the thermal comfort criteria both for controllability and the ASHRAE 55 standards.

Daylight will be evaluated for energy-efficiency opportunities and benefits for the occupants. The Project will achieve a direct line of sight to the outdoors for at least 75 percent of all regularly occupied floor area. View glazing in the contributing area will provide a clear image of the exterior, not obstructed by frits, fibers, patterned glazing, or added tints that distort color balance.

The Project will be evaluated for compliance with acoustical performance.

Innovation and Design Process

The Innovation in Design and Innovation in Operations credit categories provide additional points for projects that use new and innovative technologies, achieve performance well beyond what is required by LEED credits, or utilize green building strategies that are not specifically addressed elsewhere in LEED. This credit category

also rewards projects for including a LEED Accredited Professional on the team to ensure a holistic, integrated approach to design, construction, operations and maintenance. The following five credits are being pursued and/or evaluated for the Project:

- Innovation in Design: Education & Outreach
- Innovation in Design: Green Housekeeping
- Innovation in Design: Integrated Pest Management
- Innovation in Design: Walkable Sites
- Innovation in Design: Modern Grid

Regional Priority

Up to four points are available to projects based on location.

- Regional Priority: Indoor Water Use Reduction (yes)
- Regional Priority: High Priority Site (yes)
- Regional Priority: Optimize Energy (yes)
- Regional Priority: Renewable Energy (maybe)

4.4 Climate Change Preparedness and Resiliency

The Proponent and Project Team have taken a proactive approach to understanding the potential risks that could affect the site and the wider community in the form of shocks (e.g. earthquakes, hurricanes and extreme weather conditions) and stresses (climate change and increasing pressure on infrastructure from growing populations) over the lifetime of the development. The team is acutely aware of the risks associated with the site's coastal location and has considered these risks throughout the design process.

Building upon a deep understanding of the hazards and vulnerabilities, the following resilience characteristics, adapted from those established by the Rockefeller Foundation's 100 Resilient Cities initiative, have been incorporated into the design approach for the Project:

- Reflective – using past experience to inform future decisions
- Resourceful – recognizing alternative ways to use resources
- Inclusive – prioritizing broad consultation with the community, city and subject matter experts to develop informed and shared development decisions
- Integrated – bring together a range of distinct systems and spaces
- Robust – well-conceived, constructed and managed systems and spaces
- Redundant – spare capacity purposefully created to accommodate shocks and stresses

- Flexible – willingness, ability to adopt alternative strategies in response to changing circumstances

These resilience characteristics have been used to identify and guide opportunities for improvement across the site and positive benefits that extend beyond the site boundary.

Risk and hazard data has been analyzed across a range of levels, from leading national authorities (e.g. NOAA, FEMA and USGS) and the latest scientific research on climate change to recently developed City of Boston climate resilience standards and regulations, and detailed site-specific hazard models. The design team has taken a holistic approach to resilience to ensure that the development is an enduring asset to the community, which thrives and is adaptable in the face of known and unknown future climate challenges

4.4.1 Sea-Level Rise and Extreme Flooding

The Proponent and the design team have considered hazard analysis and future sea-level rise projections issued by local authorities through the BPDA Climate Resiliency Guidance.

Part of the Project Site is currently located within a high wave action zone, denoted by the FEMA VE zone on the FEMA Flood Insurance Rate Map. This affects the Boathouse and Building C (refer to Figure 4.2), and identifies the Base Flood Elevation ("BFE") as 20.46 ft BCB. The remainder of the site (which includes Buildings A and B) is within the FEMA AE zone which has a BFE of 17.46 to 19.46 ft BCB.

Sea-level rise is considered a real and serious risk to coastal developments. There are multiple complex and simultaneous processes causing relative sea-level change both globally and locally. As indicated in the 2016 '*Climate Change and Sea Level Rise Projections for Boston*' Boston Research Advisory Group ("BRAG") Report, "Due to the influence of regional-scale processes such as ocean dynamics and the gravitational effect of melting ice sheets, RSLR [relative sea level rise] in Boston will likely exceed the global average throughout the 21st century, regardless of which emissions trajectory is followed."

The design team takes into consideration a sea-level rise scenario of 40 inches by 2070, which is consistent with the MassDOT-FHWA Boston Harbor Flood Risk Model ("BH-FRM") included in the BDPA Climate Change Checklist Guidance document. The 40 inches of sea-level rise is a combination of the mean sea-level rise (3.2 feet above 2013 tide levels), which represents the high emissions (business as usual) scenario, plus 2.5 inches to account for local land subsidence.

4.4.2 Extreme Weather Conditions

Climate change is projected to result in increased temperatures and more frequent and intense rainfall in the northeast of the United States. The 2016 BRAG report findings on extreme precipitation and temperature include the following:

- Short-term extreme precipitation and inland (river and urban) flooding will likely increase in Boston, although the magnitude of that increase is less certain.
- Based on regional projections of snow accumulation, declines in seasonally averaged snow depth of 31-48 percent by 2100 are possible and the start to the snow season will delay progressively.
- As global warming accelerates, and urban areas continue to grow, high temperatures and extreme heat events will pose growing challenges even for historically colder cities like Boston.

Currently, the 10-Year, 24-Hour Design Storm precipitation level is 5.25 inches. In accordance with the BPDA Climate Change Checklist Guidance document, there is a significant probability that this will increase to at least 6 inches by the end of the century.

The average annual temperature is currently 46° Fahrenheit ("F"), with an average of 10 days a year that exceed 90°F. By the end of the century, the average annual temperature could be 56°F and the number of days above 90°F could rise to 90.

These are considered plausible scenarios for resiliency planning purposes. The design team has taken these projections into consideration in the selection of site design elements along with building and infrastructure design, in order to minimize the negative effects from these climatic changes and maximize future adaptability.

4.4.3 Potential Resiliency Measures

The Proponent and Project Team plan to evaluate potential design elements to mitigate the effects of climate change as the design of each Project component progresses.

Site Design Measures

The site design has taken future conditions into account as well as the potential impact of extreme events. Key resilience features include the elevation of public access spaces (vehicle access roads, pedestrian walkways and building entrances), installation of green infrastructure, and increasing the greenspace across the site, along with improving the adaptive capacity of the site to deal with changes in the climate and extreme events in the future.

The main paths, roads and entrances to the residential buildings are designed to an elevation of 21ft (refer to Figures 4.3, 4,4 and 4.5). Even considering a 40-inch sea-level rise scenario, these public access areas will be well above the high tide elevation and only flooded during extreme events. Many of the surfaces have been designed to be permeable, and therefore after floodwaters recede, the Project Site will be accessible as floodwaters will not pool on the site.

Green infrastructure, an interconnected system composed of natural and man-made open space and landscape features, has been designed to provide multifunctional

ecosystem service benefits and identified as a critical strategy for both climate change mitigation and adaptation.

Currently, the site is largely impervious and therefore runoff from rainwater that falls across the site footprint enters the neighboring waterways and stormwater systems without being filtered in any way, inadvertently allowing overland flow to transport pollutants to nearby waterways. The Proponent and the design team plan to reduce runoff and improve the site's capacity to absorb the projected increase in precipitation during more frequent extreme rainfall events and the flooding associated with an increase in sea levels and more frequent storm surge events.

Significant efforts have been put into converting large impervious surfaces on the site into multi-functional landscapes providing services such as habitat and green space, filtering runoff, wave attenuation etc. This approach dramatically increases the infiltration capacity with permeable surfaces proposed to cover approximately 45 percent of the site. Rainwater collected through the building and site stormwater systems will be distributed through the green infrastructure systems, ensuring that the site absorbs and treats all rainwater that falls across the site footprint, and therefore minimizing pressure on the neighborhood stormwater infrastructure. The proposed green infrastructure includes the installation of bioswales and stormwater planters, planting of salt tolerant, native and adaptable plants, regeneration of a salt marsh along the western boundary (refer to Figure 3.8), green roofs and permeable pavements. Vegetated features, such as the salt marsh, will help to attenuate waves, slow inland water transfer and increase infiltration. Green street principles have also been applied to the central access road on the site, providing a key link between the green infrastructure network components across the site. This will also help reduce the impact of the heat island effect, expected to worsen as the climate changes.

Multiple resilience benefits are also anticipated through development and enhancement of a nature-based buffer zone along the west side of the site which borders a tidal river (refer to Figure 3.9a). The carefully designed softscape will help to reduce the impact to adjacent areas from flooding, in addition to providing a buffer from storm surge, attenuation of waves, a nursery habitat for important fish and other species, water filtration, carbon storage, and opportunities for recreation and enjoyment. This will allow nature to absorb the water and drain quickly after flood waters have receded. Paths will be elevated, and significant planting of native, adaptive and salt tolerant plants is proposed across the site, in order to provide a nature-based solution to the frequent inundation anticipated as sea levels continue to rise.

The north side of the site is open to more intense coastal wave action than the western side, so a protective riprap slope will be maintained to attenuate waves, reduce erosion and provide protection to the area immediately south of the marina (refer to Figure 3.9b). The hybrid strategy derives benefits of wave-energy dissipation from structural practices, and derives ecosystem service benefits from nature-based practices. Both the Project Site and neighboring areas south of the site will benefit from improved resilience to climate-related hazards following completion of this development.

Building Design Measures

The key resilience approaches proposed in the building design are elevation of habitable building spaces and critical infrastructure, and designing infrastructure systems with an enhanced capacity to absorb, resist, and recover after extreme events.

None of the buildings have ground-floor residential units, so following the BPDA guidelines, the design team have identified the Sea Level Rise Design Flood Elevation (SLR-DFE) for each of the buildings as the minimum performance target in order to reduce flood risk and potential damage. The SLR-DFE has been calculated in accordance with BDPA guidance using the FEMA Base Flood Elevation for each location and then adding 40 inches for sea level rise plus 12 inches of freeboard for buildings (refer to Table 1.)

** SLR-DFE is calculated per BDPA Resiliency Guidance, using the BDPA SLR-FHA online mapping tool which notes a 19.3ft BCB SLR-BFE for the whole site, plus an additional 12 inches of freeboard.*

	FEMA Flood Zone	*FEMA Base Flood Elevation*	*COB SLR-DFE**	*Elevation of First Occupiable Level*
Boathouse	VE	+20.46ft	+20.3ft	+27.46ft
Building A	AE	+19.46ft	+20.3ft	+39.96ft
Building B	AE	+19.46ft	+20.3ft	+33.13ft
Building C	VE	+20.46ft	+20.3ft	+27.46ft

Note – All elevations are in Boston City Base (BCB) datum.

The first occupiable floor of the buildings in the FEMA VE zone (Boathouse and Building C) is set at 27.46 feet BCB and the first residential floor of the FEMA AE zone buildings (A and B) is set at 39.96 and 33.13 feet BCB (refer to Figure 4.4), respectively. At grade floors of the VE zone buildings will be wet-floodproofed and fitted out with breakaway walls. Whereas the retail space, entry lobbies and service/mechanical spaces at 21.1feet BCB in the two AE zone buildings will be dry-floodproofed to 23.79 feet BCB to provide additional resilience. Critical infrastructure for each building will be located on the second floor, in order to elevate it out of the design floodplain completely.

Areas of the VE zone buildings that are located below the selected design flood elevation have been designed using a wet-floodproofing approach, allowing water to freely flow in and out during a flooding event and will include breakaway walls that ensure the building structure remains stable in the event that waves or floating debris impacts these areas. The first floors of the AE zone buildings have been designed with at grade entrances above the selected design flood elevation.

Utility connections and plumbing systems will be designed taking into account the increased loads and flow rates projected due to extreme precipitation events. Elevators will be programmed so that the cars lock out at the second-floor level during a storm event, and this procedure will be incorporated into an extensive

emergency preparedness plan that will be implemented by the on-site facilities team to reduce the risk of damage and downtime following a significant storm event.

Additional consideration has also been given to reducing the carbon emissions of the buildings, which has led to all buildings being designed to go beyond the requirements of the energy code and incorporating solar power generation to suitable roof space that is not already proposed as a green roof. Centralized heating and cooling systems have been designed to reduce the energy requirements of the buildings.

In addition to the four discussed buildings, other structures on the site include piers and floating docks as part of the marina infrastructure. The solid piers have been designed to withstand the debris impact loads associated with the design flood elevation of 20.3 feet BCB. The floating docks will be held in place with mooring piles and pile brackets attached to the floats. This will allow the floats to rise and fall freely through the tide cycles. The mooring piles will allow the floats to rise to the anticipated maximum water level which will be experienced at the site.

LEED v4 for BD+C: New Construction and Major Renovation

Project Checklist

Project Name: Neponset Wharf - Residential A
Date: 6-Apr-18

Y	?	N			
	1		Credit	Integrative Process	1

7	2	7	**Location and Transportation**		16
			Credit	LEED for Neighborhood Development Location	16
1			Credit	Sensitive Land Protection	1
2			Credit	High Priority Site	2
2	1	2	Credit	Surrounding Density and Diverse Uses	5
		5	Credit	Access to Quality Transit	5
1			Credit	Bicycle Facilities	1
	1		Credit	Reduced Parking Footprint	1
1			Credit	Green Vehicles	1

5	0	5	**Sustainable Sites**		10
Y			Prereq	Construction Activity Pollution Prevention	Required
1			Credit	Site Assessment	1
		2	Credit	Site Development - Protect or Restore Habitat	2
1			Credit	Open Space	1
		3	Credit	Rainwater Management	3
2			Credit	Heat Island Reduction	2
1			Credit	Light Pollution Reduction	1

7	2	2	**Water Efficiency**		11
Y			Prereq	Outdoor Water Use Reduction	Required
Y			Prereq	Indoor Water Use Reduction	Required
Y			Prereq	Building-Level Water Metering	Required
	2		Credit	Outdoor Water Use Reduction	2
6			Credit	Indoor Water Use Reduction	6
		2	Credit	Cooling Tower Water Use	2
1			Credit	Water Metering	1

18	7	8	**Energy and Atmosphere**		33
Y			Prereq	Fundamental Commissioning and Verification	Required
Y			Prereq	Minimum Energy Performance	Required
Y			Prereq	Building-Level Energy Metering	Required
Y			Prereq	Fundamental Refrigerant Management	Required
4	2		Credit	Enhanced Commissioning	6
11	3	4	Credit	Optimize Energy Performance	18
		1	Credit	Advanced Energy Metering	1
		2	Credit	Demand Response	2
	2	1	Credit	Renewable Energy Production	3
1			Credit	Enhanced Refrigerant Management	1
2			Credit	Green Power and Carbon Offsets	2

2	2	9	**Materials and Resources**		13
Y			Prereq	Storage and Collection of Recyclables	Required
Y			Prereq	Construction and Demolition Waste Management Planning	Required
		5	Credit	Building Life-Cycle Impact Reduction	5
	1	1	Credit	Building Product Disclosure and Optimization - Environmental Product Declarations	2
		2	Credit	Building Product Disclosure and Optimization - Sourcing of Raw Materials	2
	1	1	Credit	Building Product Disclosure and Optimization - Material Ingredients	2
2			Credit	Construction and Demolition Waste Management	2

6	9	1	**Indoor Environmental Quality**		16
Y			Prereq	Minimum Indoor Air Quality Performance	Required
Y			Prereq	Environmental Tobacco Smoke Control	Required
2			Credit	Enhanced Indoor Air Quality Strategies	2
	2	1	Credit	Low-Emitting Materials	3
1			Credit	Construction Indoor Air Quality Management Plan	1
1	1		Credit	Indoor Air Quality Assessment	2
1			Credit	Thermal Comfort	1
	2		Credit	Interior Lighting	2
	3		Credit	Daylight	3
1			Credit	Quality Views	1
	1		Credit	Acoustic Performance	1

6	0	0	**Innovation**		6
5			Credit	Education, Green Housekeeping, Walkable Sites, Integrated Pest, Modern Grid	5
1			Credit	LEED Accredited Professional	1

3	1	0	**Regional Priority**		4
1			Credit	Regional Priority: Indoor Water Use	1
1			Credit	Regional Priority: High Priority Site	1
1			Credit	Regional Priority: Optimize Energy	1
	1		Credit	Regional Priority: Renewable	1

54	24	32	**TOTALS**	Possible Points:	110

Certified: 40 to 49 points, **Silver:** 50 to 59 points, **Gold:** 60 to 79 points, **Platinum:** 80 to 110

Source: Soden Sustainability Consulting

Figure 4.1a

LEED Checklist
Residential A

Neponset Wharf
Boston, Massachusetts

LEED v4 for BD+C: New Construction and Major Renovation

Project Checklist

Project Name: Neponset Wharf - Residential B
Date: 6-Apr-18

Y	?	N			
	1		Credit	Integrative Process	1

7	2	6	**Location and Transportation**		16
			Credit	LEED for Neighborhood Development Location	16
1			Credit	Sensitive Land Protection	1
2			Credit	High Priority Site	2
2	1	1	Credit	Surrounding Density and Diverse Uses	5
		5	Credit	Access to Quality Transit	5
1			Credit	Bicycle Facilities	1
	1		Credit	Reduced Parking Footprint	1
1			Credit	Green Vehicles	1

5	0	5	**Sustainable Sites**		10
Y			Prereq	Construction Activity Pollution Prevention	Required
1			Credit	Site Assessment	1
		2	Credit	Site Development - Protect or Restore Habitat	2
1			Credit	Open Space	1
		3	Credit	Rainwater Management	3
2			Credit	Heat Island Reduction	2
1			Credit	Light Pollution Reduction	1

7	2	2	**Water Efficiency**		11
Y			Prereq	Outdoor Water Use Reduction	Required
Y			Prereq	Indoor Water Use Reduction	Required
Y			Prereq	Building-Level Water Metering	Required
	2		Credit	Outdoor Water Use Reduction	2
6			Credit	Indoor Water Use Reduction	6
		2	Credit	Cooling Tower Water Use	2
1			Credit	Water Metering	1

18	7	8	**Energy and Atmosphere**		33
Y			Prereq	Fundamental Commissioning and Verification	Required
Y			Prereq	Minimum Energy Performance	Required
Y			Prereq	Building-Level Energy Metering	Required
Y			Prereq	Fundamental Refrigerant Management	Required
4	2		Credit	Enhanced Commissioning	6
12	2	4	Credit	Optimize Energy Performance	18
	1		Credit	Advanced Energy Metering	1
		2	Credit	Demand Response	2
	2	1	Credit	Renewable Energy Production	3
		1	Credit	Enhanced Refrigerant Management	1
2			Credit	Green Power and Carbon Offsets	2

2	2	9	**Materials and Resources**		13
Y			Prereq	Storage and Collection of Recyclables	Required
Y			Prereq	Construction and Demolition Waste Management Planning	Required
		5	Credit	Building Life-Cycle Impact Reduction	5
	1	1	Credit	Building Product Disclosure and Optimization - Environmental Product Declarations	2
		2	Credit	Building Product Disclosure and Optimization - Sourcing of Raw Materials	2
	1	1	Credit	Building Product Disclosure and Optimization - Material Ingredients	2
2			Credit	Construction and Demolition Waste Management	2

7	4	4	**Indoor Environmental Quality**		16
Y			Prereq	Minimum Indoor Air Quality Performance	Required
Y			Prereq	Environmental Tobacco Smoke Control	Required
2			Credit	Enhanced Indoor Air Quality Strategies	2
	1	1	Credit	Low-Emitting Materials	3
1			Credit	Construction Indoor Air Quality Management Plan	1
1	1		Credit	Indoor Air Quality Assessment	2
1			Credit	Thermal Comfort	1
1		1	Credit	Interior Lighting	2
	1	2	Credit	Daylight	3
1			Credit	Quality Views	1
	1		Credit	Acoustic Performance	1

6	0	0	**Innovation**		6
5			Credit	Education, Green Housekeeping, Walkable Sites, Integrated Pest, Modern Grid	5
1			Credit	LEED Accredited Professional	1

3	1	0	**Regional Priority**		4
1			Credit	Regional Priority: Indoor Water Use	1
1			Credit	Regional Priority: High Priority Site	1
1			Credit	Regional Priority: Optimize Energy	1
	1		Credit	Regional Priority: Renewable	1

55	19	34	**TOTALS**	Possible Points:	110

Certified: 40 to 49 points, **Silver:** 50 to 59 points, **Gold:** 60 to 79 points, **Platinum:** 80 to 110

Source: Soden Sustainability Consulting

Figure 4.1b

LEED Checklist
Residential B

Neponset Wharf
Boston, Massachusetts

LEED v4 for BD+C: New Construction and Major Renovation

Project Checklist

Project Name: Neponset Wharf - Residential C
Date: 6-Apr-18

Y	?	N			
	1		Credit	Integrative Process	1

7	2	6	**Location and Transportation**		16
			Credit	LEED for Neighborhood Development Location	16
1			Credit	Sensitive Land Protection	1
2			Credit	High Priority Site	2
2	1	1	Credit	Surrounding Density and Diverse Uses	5
		5	Credit	Access to Quality Transit	5
1			Credit	Bicycle Facilities	1
	1		Credit	Reduced Parking Footprint	1
1			Credit	Green Vehicles	1

5	0	5	**Sustainable Sites**		10
Y			Prereq	Construction Activity Pollution Prevention	Required
1			Credit	Site Assessment	1
		2	Credit	Site Development - Protect or Restore Habitat	2
1			Credit	Open Space	1
		3	Credit	Rainwater Management	3
2			Credit	Heat Island Reduction	2
1			Credit	Light Pollution Reduction	1

7	2	2	**Water Efficiency**		11
Y			Prereq	Outdoor Water Use Reduction	Required
Y			Prereq	Indoor Water Use Reduction	Required
Y			Prereq	Building-Level Water Metering	Required
	2		Credit	Outdoor Water Use Reduction	2
6			Credit	Indoor Water Use Reduction	6
		2	Credit	Cooling Tower Water Use	2
1			Credit	Water Metering	1

18	7	8	**Energy and Atmosphere**		33
Y			Prereq	Fundamental Commissioning and Verification	Required
Y			Prereq	Minimum Energy Performance	Required
Y			Prereq	Building-Level Energy Metering	Required
Y			Prereq	Fundamental Refrigerant Management	Required
4	2		Credit	Enhanced Commissioning	6
12	2	4	Credit	Optimize Energy Performance	18
	1		Credit	Advanced Energy Metering	1
		2	Credit	Demand Response	2
	2	1	Credit	Renewable Energy Production	3
		1	Credit	Enhanced Refrigerant Management	1
2			Credit	Green Power and Carbon Offsets	2

2	2	9	**Materials and Resources**		13
Y			Prereq	Storage and Collection of Recyclables	Required
Y			Prereq	Construction and Demolition Waste Management Planning	Required
		5	Credit	Building Life-Cycle Impact Reduction	5
	1	1	Credit	Building Product Disclosure and Optimization - Environmental Product Declarations	2
		2	Credit	Building Product Disclosure and Optimization - Sourcing of Raw Materials	2
	1	1	Credit	Building Product Disclosure and Optimization - Material Ingredients	2
2			Credit	Construction and Demolition Waste Management	2

7	4	5	**Indoor Environmental Quality**		16
Y			Prereq	Minimum Indoor Air Quality Performance	Required
Y			Prereq	Environmental Tobacco Smoke Control	Required
2			Credit	Enhanced Indoor Air Quality Strategies	2
	1	2	Credit	Low-Emitting Materials	3
1			Credit	Construction Indoor Air Quality Management Plan	1
1	1		Credit	Indoor Air Quality Assessment	2
1			Credit	Thermal Comfort	1
1		1	Credit	Interior Lighting	2
	1	2	Credit	Daylight	3
1			Credit	Quality Views	1
	1		Credit	Acoustic Performance	1

6	0	0	**Innovation**		6
5			Credit	Education, Green Housekeeping, Walkable SIte, Integrated Pest, Modern Grid	5
1			Credit	LEED Accredited Professional	1

3	1	0	**Regional Priority**		4
1			Credit	Regional Priority: Indoor Water Use	1
1			Credit	Regional Priority: High Priority Site	1
1			Credit	Regional Priority: Optimize Energy	1
	1		Credit	Regional Priority: Renewable	1

55	19	35	**TOTALS**	Possible Points:	110

Certified: 40 to 49 points, **Silver:** 50 to 59 points, **Gold:** 60 to 79 points, **Platinum:** 80 to 110

Source: Soden Sustainability Consulting

Figure 4.1c

LEED Checklist
Residential C

Neponset Wharf
Boston, Massachusetts

LEED v4 for BD+C: New Construction and Major Renovation

Project Checklist

Project Name: Neponset Wharf - Boat Storage Building D
Date: 6-Apr-18

Y	?	N			
	1		Credit	Integrative Process	1

7	3	6	**Location and Transportation**		**16**
			Credit	LEED for Neighborhood Development Location	16
1			Credit	Sensitive Land Protection	1
2			Credit	High Priority Site	2
2	2	1	Credit	Surrounding Density and Diverse Uses	5
		5	Credit	Access to Quality Transit	5
1			Credit	Bicycle Facilities	1
	1		Credit	Reduced Parking Footprint	1
1			Credit	Green Vehicles	1

5	0	5	**Sustainable Sites**		**10**
Y			Prereq	Construction Activity Pollution Prevention	Required
1			Credit	Site Assessment	1
		2	Credit	Site Development - Protect or Restore Habitat	2
1			Credit	Open Space	1
		3	Credit	Rainwater Management	3
2			Credit	Heat Island Reduction	2
1			Credit	Light Pollution Reduction	1

4	3	4	**Water Efficiency**		**11**
Y			Prereq	Outdoor Water Use Reduction	Required
Y			Prereq	Indoor Water Use Reduction	Required
Y			Prereq	Building-Level Water Metering	Required
	2		Credit	Outdoor Water Use Reduction	2
4	1	1	Credit	Indoor Water Use Reduction	6
		2	Credit	Cooling Tower Water Use	2
		1	Credit	Water Metering	1

20	7	4	**Energy and Atmosphere**		**33**
Y			Prereq	Fundamental Commissioning and Verification	Required
Y			Prereq	Minimum Energy Performance	Required
Y			Prereq	Building-Level Energy Metering	Required
Y			Prereq	Fundamental Refrigerant Management	Required
4	2		Credit	Enhanced Commissioning	6
13	2	1	Credit	Optimize Energy Performance	18
	1		Credit	Advanced Energy Metering	1
		2	Credit	Demand Response	2
	2	1	Credit	Renewable Energy Production	3
1			Credit	Enhanced Refrigerant Management	1
2			Credit	Green Power and Carbon Offsets	2

2	2	9	**Materials and Resources**		**13**
Y			Prereq	Storage and Collection of Recyclables	Required
Y			Prereq	Construction and Demolition Waste Management Planning	Required
		5	Credit	Building Life-Cycle Impact Reduction	5
	1	1	Credit	Building Product Disclosure and Optimization - Environmental Product Declarations	2
		2	Credit	Building Product Disclosure and Optimization - Sourcing of Raw Materials	2
	1	1	Credit	Building Product Disclosure and Optimization - Material Ingredients	2
2			Credit	Construction and Demolition Waste Management	2

6	5	4	**Indoor Environmental Quality**		**16**
Y			Prereq	Minimum Indoor Air Quality Performance	Required
Y			Prereq	Environmental Tobacco Smoke Control	Required
1	1		Credit	Enhanced Indoor Air Quality Strategies	2
1		1	Credit	Low-Emitting Materials	3
1			Credit	Construction Indoor Air Quality Management Plan	1
1	1		Credit	Indoor Air Quality Assessment	2
1			Credit	Thermal Comfort	1
1	1		Credit	Interior Lighting	2
	1	2	Credit	Daylight	3
		1	Credit	Quality Views	1
	1		Credit	Acoustic Performance	1

6	0	0	**Innovation**		**6**
5			Credit	Education, Green Housekeeping, Walkable Sites, Integrated Pest, Modern Grid	5
1			Credit	LEED Accredited Professional	1

3	1	0	**Regional Priority**		**4**
1			Credit	Regional Priority: Indoor Water Use	1
1			Credit	Regional Priority: High Priority Site	1
1			Credit	Regional Priority: Optimize Energy	1
	1		Credit	Regional Priority: Renewable	1

53	22	32	**TOTALS**	Possible Points:	**110**

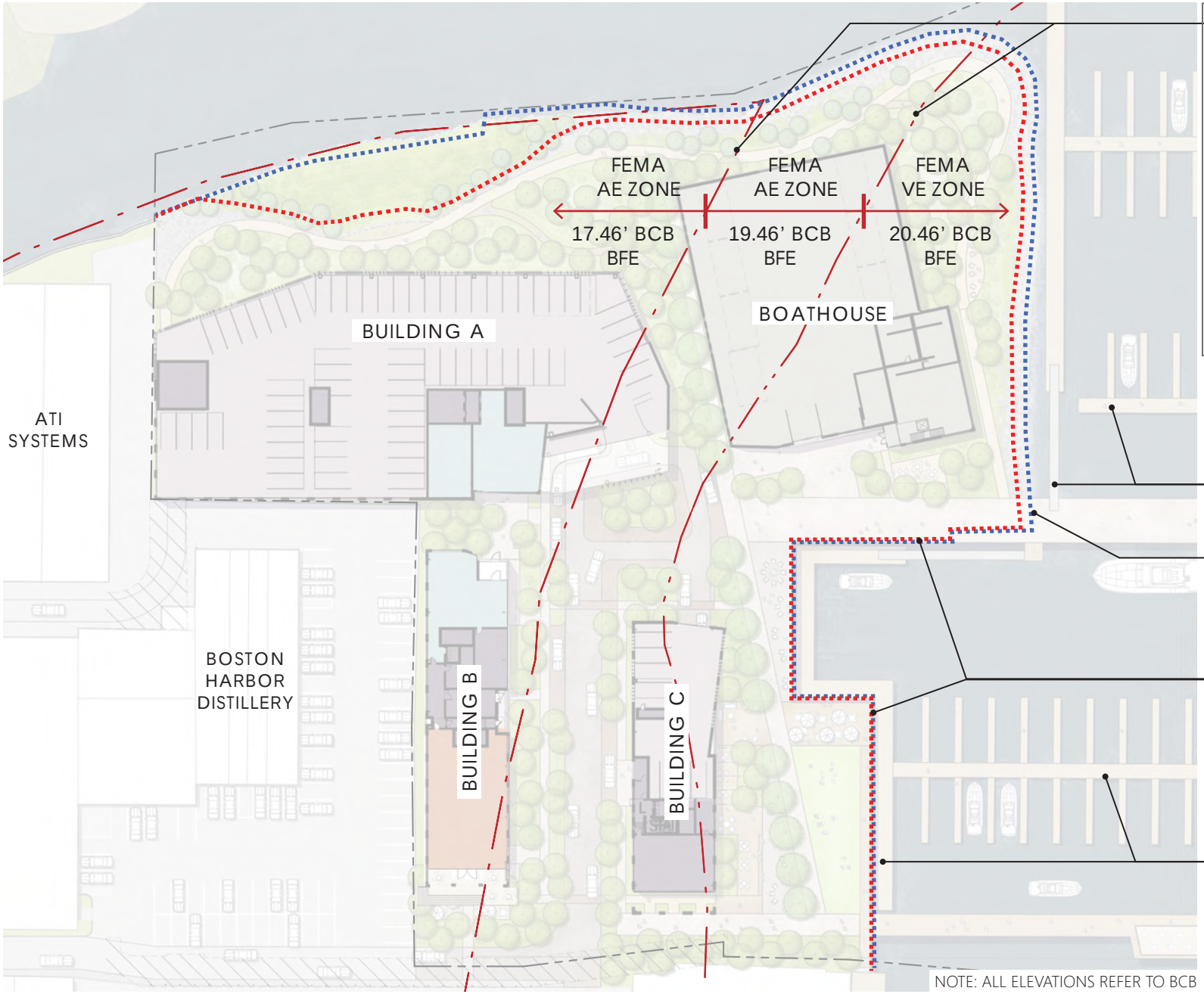
Certified: 40 to 49 points, **Silver:** 50 to 59 points, **Gold:** 60 to 79 points, **Platinum:** 80 to 110

Source: Soden Sustainability Consulting

Figure 4.1d

LEED Checklist
Boat Storage Building D

Neponset Wharf
Boston, Massachusetts



FEMA FLOOD ZONE LINES

CURRENT MEAN HIGHER HIGH-WATER LINE [MHHW] (+11.23')

MHHW + 40" OF SLR (+14.56')

CITY OF BOSTON (BPDA):
SLR-BFE = +19.30' BCB
SLR-DFE = +20.30' BCB

FLOATING PIERS

MHHW / MHHW+40" of SLR LINES SHOWN BELOW NEW COMMERCIAL WHARF

MHHW / MHHW+40" of SLR LINES AGAINST EXISTING-TO-REMAIN BULKHEAD

FLOATING PIERS

NOTE: ALL ELEVATIONS REFER TO BCB

0 40' 80'

ABBREVIATIONS:
BCB: Boston City Base Vertical Datum
BFE: Base Flood Elevation
COB: City of Boston
DFE: Design Flood Elevation
FEMA: Federal Emergency Management Agency
SLR: Sea Level Rise

RESILIENCY SITE PLAN

CITY OF BOSTON (BPDA*):
SLR-DFE = +20.30' BCB
GRADE RAISED TO +21.0' BCB AT RESIDENTIAL BUILDING LOBBIES

FEMA VE ZONE
SLR-DFE = +24.79' BCB
PROJECT VE ZONE FFE
+27.46' BCB
(finish floor)
+25.04' BCB
(bottom of structure)

FEMA AE ZONE
SLR-DFE = +23.79' BCB
PROJECT VE ZONE FFE
+21.13' BCB

Spaces Below DFE:
PARKING (Vehicle, Bicycle, Boat)
ACCESS (Lobby Egress)
STORAGE (trash, back-of-house, etc.)

Denotes area of dry flood-proofing up to +23.79' BCB

- Garage
- Lobby/Amenity
- Boathouse/Marina Support
- Unit
- Retail
- Service/Mechanical

0 40' 80'

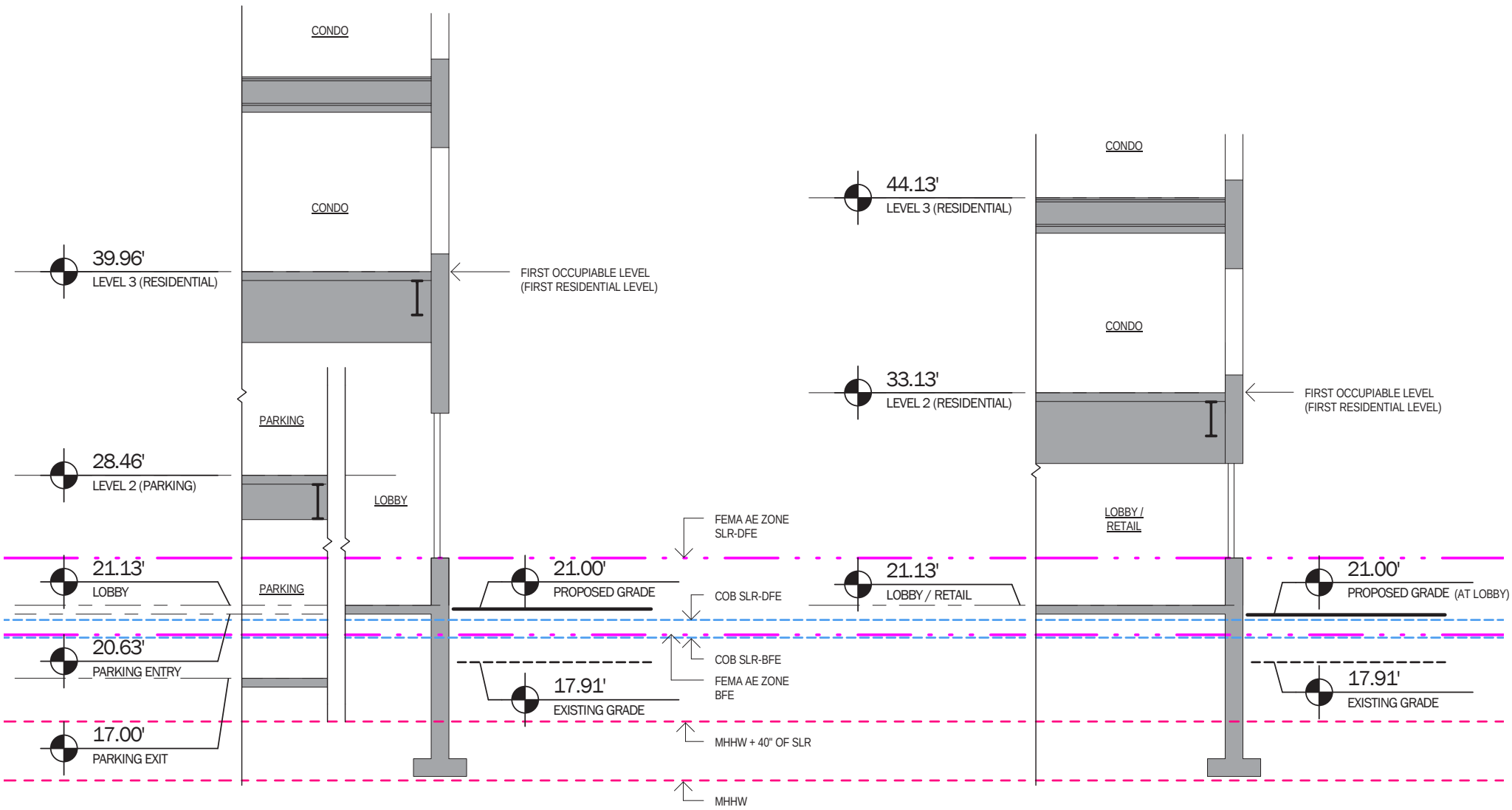
SEE FIGURE 4.2 FOR ABBREVIATIONS GLOSSARY

* Elevations obtained from Boston Planning and Development Agency (BDPA) Sea Level Rise - Flood Hazard Area online mapping tool.

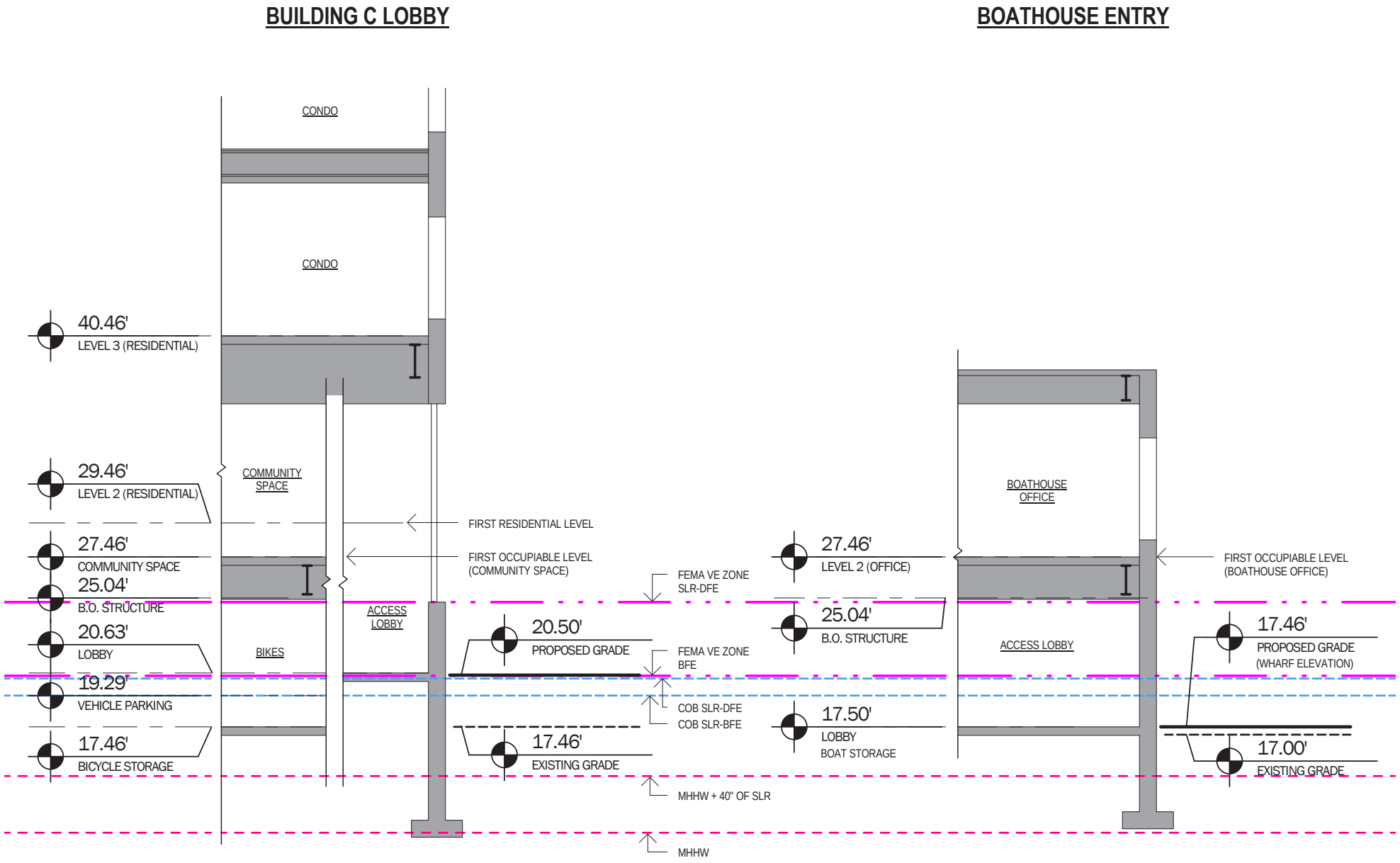
BUILDING PLAN

BUILDING A LOBBY

BUILDING B LOBBY



BUILDING SECTIONS - FEMA AE ZONE



BUILDING SECTIONS - FEMA VE ZONE

5

Transportation

This chapter presents the analysis of the transportation aspects of the Project, as described in detail in Chapter 1, *Project Description and Alternatives*. Specifically, the evaluation includes the following:

- Definition of existing transportation conditions including traffic volumes, roadway capacities, parking, transit, pedestrian and bicycle circulation, and Project Site access.
- Evaluation of the Project's potential transportation impacts.
- Identification of proposed transportation mitigation and potential improvements the Project will contribute to the Port Norfolk neighborhood to help reduce potential Project transportation impacts and improve overall accessibility to and from the area.
- A Transportation Demand Management ("TDM") plan to promote alternative modes of transportation and discourage single occupancy vehicle trips.

Supporting technical information is provided in Appendix C.

The Project includes 96 residential units (reduced from 150 units in the ENF/PNF), 3,000 SF of retail/restaurant space (reduced from 6,500 SF in the ENF/PNF) and the rehabilitation of the existing 75-berth marina, all supported by 170 on-site parking spaces. The 25-room hotel in the ENF/PNF program has also been eliminated.

At the time the transportation analysis was performed, the program included 110 residential units. *As a result, the DEIR/DPIR analysis is based on 110 units, reflecting higher Project trip generation and a more conservative analysis than what would be built*. The program is summarized in Table 5-1. As discussed in Section 2.2.5 of Chapter 2, *Alternatives Analysis*, the DEIR/DPIR program results in a substantial reduction in Project generated trips compared to the ENF/PNF.

Table 5-1 Proposed Development Program

Project Element	Size
Residential	96 units
Retail	3,000 square feet
Parking	170 spaces

The location of the Project Site in the context of the transportation network is shown in Figure 5.1. Because of the site's location at the north end of the Port Norfolk peninsula, it is somewhat isolated from the MBTA system. Therefore, as directed by BPDA/BTD, it is assumed that residential trips to the site will be primarily by car. Due

to the reduced program, trips to the Project's retail and restaurant components are not expected to be destination-oriented and so they will not attract significant vehicle trips from outside the neighborhood.

5.1 Summary of Key Findings and Benefits

The key findings of the transportation analysis presented in this chapter are as follows:

- The neighborhood streets in Port Norfolk are relatively low volume, but drivers sometime experience delay due to the width of the travel lanes being constrained by on-street parking.
- The neighborhood has poor access to William T. Morrissey Boulevard and the regional roadway network largely due to the very high traffic volumes on Morrissey Boulevard, but also because of the limited number of connections. Directional constraints for arriving and departing in certain directions lead to some long and circuitous traffic routes.
- Design of DCR's Morrissey Boulevard reconstruction project for this section of the roadway is unlikely to be complete by the future analysis year for this DEIR/DPIR (2023).
- Approximately 60 percent of motor vehicle traffic enters Port Norfolk via Neponset Circle, and 40 percent via Conley Street/Tenean Street. Traffic departing from Port Norfolk is evenly split between these two gateways.
- Access to public transportation is very limited, and bus stops are located some distance from the heart of the neighborhood at Neponset Circle, where the pedestrian accommodations and environment are very limited.
- The majority of Project-generated trips are expected to be automobile trips, although a robust TDM plan will be implemented to encourage and facilitate alternative modes to minimize such trips.
- Based on a conservative analysis, the Project is projected to generate less than 60 auto trips during the peak hours, equivalent to 1 trip every minute. When dispersed across the neighborhood streets, the additional traffic during peak hours is expected to add roughly up to one trip every two minutes on Lawley Street, up to one trip every four minutes on Port Norfolk Street, and up to one trip every three minutes on Walnut Street.
- Impacts to the neighborhood "gateway" intersection levels of service ("LOS") on Morrissey Boulevard are projected to be relatively limited, although the existing LOS E or F at the Walnut Street exit is expected to prevail with some increase in average delay.
- The Project parking plan will provide 1.5 parking spaces per residential unit, supported by 26 spaces for visitors to the Project.
- A program of potential improvements has been identified to improve safety and pedestrian conditions within the neighborhood, and to enhance connections to Morrissey Boulevard. To emphasize, these improvements are presented for

consideration by BTD and neighborhood residents, and those improvements garnering support will be required under a Transportation Access Plan Agreement with BTD.

5.2 Existing Conditions Assessment

As shown in Figure 5.1, the Project Site is located in the Port Norfolk neighborhood of Boston, which is physically cut off from the rest of Dorchester by the I-93 Southeast Expressway. The neighborhood is effectively on a peninsula that can be accessed only from Morrissey Boulevard via two roadway connections passing over or under the MBTA Red Line tracks. Redfield Street crosses over the tracks near its intersection with Woodsworth Street, but because Redfield Street is one-way into the neighborhood from Morrissey Boulevard, traffic departs from the neighborhood to Neponset Circle via Woodsworth Street and Walnut Street and Conley Street. To the north, Conley Street passes under I-93 and the Red Line tracks to connect with the northbound side of Morrissey Boulevard. There is also a connection from Conley Street via Tenean Street to Morrissey Boulevard further to the north at Freeport Street. The following sections provide details on the existing transportation infrastructure supporting the site.

5.2.1 Roadways

The Project Site is accessed off Ericsson Street which is connected through the core of the residential neighborhood to Water Street via three parallel roadways: Walnut Street, Port Norfolk Street, and Lawley Street. In turn, Water Street connects with Redfield Street and Conley Street which, as described above, provide the "gateways" to and from Morrissey Boulevard.

Morrissey Boulevard

Morrissey Boulevard is an urban arterial owned by the Department of Conservation and Recreation ("DCR"), that runs in a general north/south direction from South Boston to Neponset Circle in Dorchester. Via Neponset Circle vehicles may access Neponset Avenue, Gallivan Boulevard, and the bridge over the Neponset River to North Quincy. Morrissey Boulevard accommodates two-way traffic separated by a median, with three traffic lanes in each direction. Where the neighborhood abuts Morrissey Boulevard at Neponset Circle, a sidewalk is provided along the east side of the roadway, but at the southerly side the only crosswalks are located at the signalized intersection with North Quincy bridge.

Conley Street/Tenean Street

Conley Street/Tenean Street is local road, owned by the City of Boston, that runs in a general north/south direction from Morrissey Boulevard to Water Street. The street accommodates two-way traffic, with one lane in each direction. Just past the I-93 overpass, Conley Street/Tenean Street splits to intersect Morrissey Boulevard in two

locations. Conley Street intersects Morrissey Boulevard just south of the traffic circle, and Tenean Street intersects Morrissey Boulevard at the traffic circle. Conley Street/Tenean Street is one of the two access/egress points to the Port Norfolk Neighborhood.

Redfield Street/Woodworth Street/Walnut Street

Redfield Street/Woodworth Street/ Walnut Street are three City-owned local streets that provide the second access point to the neighborhood. Neighborhood traffic runs from Morrissey Boulevard onto Redfield Street or Walnut Street to access Water Street. To exit the neighborhood, vehicles travel over the Red Line railroad tracks and turn left onto Woodworth Street and turn right onto Walnut Street to reach Morrissey Boulevard.

Ericsson Street

Ericsson Street is a City-owned local road that runs for about 400 feet in an east/west direction from Walnut Street to Lawley Street. Ericsson Street accommodates two-way traffic but has no centerline markings. Sidewalks are provided on both sides, and there is unregulated parking (i.e. parking that is permitted in the absence of No Parking or No Stopping regulations, with no time-of-day or length-of-stay limits) on the south side of the street. Although the curb-to-curb width is 24-feet, the travel width is effectively limited to 16-feet because of parking. No crosswalks or bicycle facilities are provided.

Walnut Street

Walnut Street is a City-owned local road that runs for about 1,000 feet in a north/south direction between Ericsson Street and Water Street. Walnut Street accommodates two-way traffic but has no centerline markings separating each lane. Sidewalks are provided on both sides of the street, and there is unregulated parking on the south side. Although the curb-to-curb width is 22-feet, the travel width is effectively limited to 14-feet because of parking. No crosswalks or bicycle facilities are provided.

Port Norfolk Street

Port Norfolk Street is a City-owned local road that runs for about 1,000 feet in a north/south direction between Ericsson Street and Water Street. Port Norfolk Street accommodates one-way northbound traffic, with unregulated parking along the west side of the street. Although the curb-to-curb width is 24-feet, the travel width is effectively limited to 16-feet because of parking. Sidewalks are provided on both sides of the street. No crosswalks or bicycle facilities are provided.

Lawley Street

Lawley Street is a City-owned local road that runs for about 1,000 feet in a north/south direction between Ericsson Street and Water Street. Lawley Street accommodates two-way traffic but has no centerline markings. Sidewalks are provided on both sides, and there is unregulated parking on the east side of the street. Although the curb-to-curb width is 21-feet, the travel width is effectively limited to 13 feet because of parking. No crosswalks or bicycle facilities are provided.

Water Street

Water Street is a City-owned local road that runs for about 700 feet in an east/west direction between Lawley Street and Taylor Street. Water Street accommodates two-way traffic but has no centerline markings. Sidewalks are provided along the entire north side of the street and on the south side only between Lawley Street and Port Norfolk Street. There is unregulated parking on the north side of the street. Although the curb-to-curb width is 21 feet, the travel width is effectively limited to 13 feet because of parking. No crosswalks or bicycle facilities are provided.

5.2.2 Study Intersections

The BPDA scoping letter identified the following eleven intersections, as presented in Figure 5.2:

1. Morrissey Boulevard at Walnut Street
2. Morrissey Boulevard at Redfield Street
3. Morrissey Boulevard at Conley Street
4. Morrissey Boulevard at Tenean Street
5. Redfield Street at Woodsworth Street
6. Water Street at Lawley Street/Conley Street
7. Water Street at Port Norfolk Street
8. Water Street at Walnut Street
9. Ericsson Street at Lawley Street
10. Ericsson Street at Port Norfolk Street
11. Ericsson Street at Walnut Street

Intersections 1 through 4 on Morrissey Boulevard are characterized in this study as the "gateway" intersections for the neighborhood and the Project Site. The BPDA scoping letter calls for detailed operational and capacity analysis of these gateway intersections. Intersections 5 through 11 are characterized as lower volumes "neighborhood" intersections. The BPDA scoping letter also calls for a comparative analysis of turning movement volumes under existing and future conditions at these neighborhood locations.

5.2.3 Data Collection

Two data collection programs were performed to identify traffic patterns in and around Port Norfolk. The first was a cordon-count program carried out over two full weeks to identify daily variation in traffic volumes, and also to determine the distribution of traffic entering and exiting the neighborhood. The second program included daily (24-hour) vehicle counts on selected neighborhood streets, and vehicle, bicycle, and pedestrian counts at study intersections during the identified peak traffic periods as a basis for analyzing traffic operations and quantifying potential traffic impacts.

Cordon Count

The cordon-count program was designed to identify the variations in traffic volumes on the two gateway roadways serving Port Norfolk – Conley Street/Tenean Street just north of the DCR Driveway for Tenean Beach and Redfield Street, at the bridge over the railroad track. Seven-day Automatic Traffic Recorders ("ATRs") were placed at these locations for two periods: Saturday April 29, 2017 to Friday May 5, 2017, and Saturday June 17, 2017 to Friday June 23, 2017.

The intent of performing the data collection for two different periods was to determine if there were significant variations between a Spring and Early Summer period. The results also enabled identification of the peak day of the week for traffic activity. The other important use of the cordon counts was to identify the relative usage of the two gateways to Port Norfolk. The results of the cordon counts are summarized in Table 5-2. Full traffic count data are included in Appendix C.

Table 5-2 Existing Distribution of Traffic Volumes on Port Norfolk "Gateway" Roadways

	Inbound to Port Norfolk					Outbound from Port Norfolk				
	Conley/Tenean St.		Redfield Street		Total	Conley/Tenean St.		Redfield Street		Total
	Volume	Percent	Volume	Percent		Volume	Percent	Volume	Percent	
April-May 2017										
Total Week (Sat-Fri)	4,811	41%	6,920	59%	11,731	5,942	50.3%	5,869	49.7%	11,811
Average Day (Sat-Fri)	687	41%	989	59%	1,676	849	50.3%	838	49.7%	1,687
Average Weekday	718	41.3%	1,019	58.7%	1,736	912	52.4%	827	47.6%	1,739
June 2017										
Total Week (Sat-Fri)	5,109	40.5%	7,509	59.5%	12,618	6,148	47.9%	6,575	52.1%	12,823
Average Day (Sat-Fri)	730	40.5%	1,073	59.5%	1,803	878	47.9%	954	52.1%	1,832
Average Weekday	783	40.8%	1,138	59.2%	1,921	975	49.8%	985	50.2%	1,960

As shown in Table 5-2, traffic volumes were higher in the June compared to the April-May, likely reflecting an increase in activity due to the early summer conditions. It would be expected that traffic counts would be lower during winter months and during late summer months due to schools being out of session and many people being on vacation. The counts also indicate that daily traffic counts are slightly

higher on a weekday compared to a weekend day. Weekday traffic patterns also show higher peak periods reflecting commuter peak characteristics. Therefore, the worst conditions for traffic occur on a weekday during the morning and evening peak periods.

The distribution of traffic between the two gateway roadways is fairly consistent between weekdays and week-end days. For traffic entering the neighborhood, approximately 60 percent uses Redfield Street and approximately 40 percent use Conley Street/Tenean Street, while traffic leaving the neighborhood is evenly balanced between the two roadways with approximately 50 percent using each roadway.

Study Area Intersection Turning Movement Counts

Based on the cordon count data, the existing weekday morning peak hour was determined to occur between 7:00 AM and 9:00 AM, and the existing weekday evening peak hour was determined to occur between 4:00 PM and 6:00 PM. Turning movement vehicle, bicycle and pedestrian counts were performed during these periods on Friday June 23, 2017, from which 7:00 AM to 8:00 AM and 4:00 PM to 5:00 PM were found to be the peak one-hour periods during the morning and evening, respectively. These 2017 Existing Conditions weekday peak hour traffic volumes are presented in Figures 5.3a and 5.3b for the morning and evening peak hours, respectively.

Daily Traffic Counts

In addition to peak hour counts, 24-hour ATRs were placed on Lawley Street, Port Norfolk Street, and Walnut Street during the period or Thursday June 22, 2017 to Sunday June 25, 2017. However, the equipment on Walnut Street was disturbed during this period, so the counts were repeated for Walnut Street between Thursday July 14, 2017 to Saturday July 15, 2017. The 24-hour count data are summarized in Tables 5-3a, 5-3b and 5-3c.

Table 5-3a Daily Traffic Volumes – Lawley Street

Hour Commencing	Thursday 06/22/2017	Friday 06/23/2017	Saturday 06/24/2017	Sunday 6/25/2017
12:00 AM	10	12	7	29
1:00 AM	0	3	13	17
2:00 AM	0	6	2	6
3:00 AM	2	3	2	4
4:00 AM	4	5	2	3
5:00 AM	17	13	5	5
6:00 AM	36	32	8	4
7:00 AM	41	27	12	9
8:00 AM	50	42	17	19

9:00 AM	54	32	30	35
10:00 AM	39	38	30	40
11:00 AM	26	45	28	64
12:00 PM	77	46	35	41
1:00 PM	45	44	48	40
2:00 PM	64	57	60	43
3:00 PM	45	56	50	41
4:00 PM	65	62	47	44
5:00 PM	71	45	52	44
6:00 PM	92	46	60	50
7:00 PM	48	45	39	29
8:00 PM	54	33	45	24
9:00 PM	84	24	26	26
10:00 PM	31	29	22	13
11:00 PM	11	15	21	6
Daily Total	**966**	**760**	**661**	**636**

Table 5-3b Daily Traffic Volumes – Port Norfolk Street

Hour Commencing	Thursday 06/22/2017	Friday 06/23/2017	Saturday 06/24/2017	Sunday 6/25/2017
12:00 AM	6	6	8	11
1:00 AM	0	2	5	5
2:00 AM	1	2	2	5
3:00 AM	1	2	0	1
4:00 AM	0	1	3	3
5:00 AM	5	6	2	0
6:00 AM	12	12	1	0
7:00 AM	21	18	3	2
8:00 AM	29	19	14	10
9:00 AM	24	16	16	15
10:00 AM	21	20	15	11
11:00 AM	14	23	20	18
12:00 PM	19	30	20	16
1:00 PM	26	26	19	19
2:00 PM	18	24	17	26
3:00 PM	24	46	26	22
4:00 PM	27	19	24	8
5:00 PM	20	25	14	21
6:00 PM	28	31	18	14
7:00 PM	22	20	20	13

8:00 PM	4	21	10	9
9:00 PM	18	11	14	11
10:00 PM	7	10	11	5
11:00 PM	6	1	4	6
Daily Total	**353**	**394**	**286**	**251**

Table 5-3c Daily Traffic Volumes – Walnut Street

Hour Commencing	Thursday 7/13/2017	Friday 7/14/2017	Saturday 7/15/2017
12:00 AM	3	7	20
1:00 AM	2	4	11
2:00 AM	2	7	5
3:00 AM	3	7	2
4:00 AM	5	7	6
5:00 AM	9	7	4
6:00 AM	16	17	6
7:00 AM	21	20	19
8:00 AM	40	33	40
9:00 AM	52	37	34
10:00 AM	44	54	55
11:00 AM	71	57	61
12:00 PM	67	61	71
1:00 PM	70	85	88
2:00 PM	45	82	52
3:00 PM	39	73	70
4:00 PM	53	72	56
5:00 PM	66	60	76
6:00 PM	60	105	139
7:00 PM	59	84	86
8:00 PM	45	68	89
9:00 PM	53	57	82
10:00 PM	17	53	73
11:00 PM	6	34	68
Daily Total	**848**	**1,092**	**1,202**

The daily traffic counts confirm that the busiest traffic volumes overall occur on a weekday rather than a weekend day, and that Friday is the busiest day overall. On a Friday, Lawley Street carries 760 vehicle trips (total two-way), Port Norfolk Street carries 394 vehicle trips (one-way northbound) and Walnut Street carries 1,092 vehicle trips (total two-way). The data also show higher volumes in the evening peak

period compared to the morning peak period, with higher volumes extending into late hours on Walnut Street. This pattern likely reflects activity at *Venezia* restaurant (20 Ericsson Street).

5.2.4 Parking

Figure 5.4 presents existing on-street parking regulations within a quarter-mile (approximately five-minute walk) radius of the Project Site. The majority of on-street curbside use throughout the neighborhood is unregulated parking, i.e. where parking that is permitted in the absence of No Parking or No Stopping regulations, there are no time-of-day or length-of-stay limits.

Observations indicate that the overall width of the roadway on Lawley Street and Walnut Street, combined with on-street parking, constrain the free flow of two-way traffic. While the traffic volumes are relatively low, this results in a vehicle arriving at one end of the street sometimes needing to wait until a vehicle already coming down the street has completed its end-to-end movement, or reached an interim point where there is sufficient room to pass. This is more of a constraint due to the width of Lawley Street, but also constrains Walnut Street. The overall impact, while not a roadway capacity issue, is that some trips on these roadways are subject to delay in traversing the entire length of the street.

Many of the houses in the neighborhood have driveways accommodating varying amounts of off-street parking, and there is a small off-street parking lot at the corner of Lawley Street and Ericsson Street. Venezia restaurant, the Distillery and the Boston Winery are supported by off-street parking lots which are striped. There is no striped parking on the Project site, although there are significant areas of hard surface where parking can take place.

5.2.5 Transit Facilities and Service

The Project Site is currently served by limited public transportation due to its location at the north end of the peninsula. Further, Fields Corner and North Quincy Red Line stations are located too far away to provide subway access for Port Norfolk. The only public transit therefore is provided by MBTA bus routes 201, 202 and 210. However, the closest bus stops at Neponset Circle are more than a quarter of a mile away, and passengers using the outbound stop must navigate across or around Neponset Circle. As a result, the neighborhood experiences very poor transit access.

The MBTA Bus Routes 201, 202, and 210 are shown in Figure 5.5 in the context of the Project Site and the wider MBTA system. The bus route services are summarized in Table 5-4.

Table 5-4 Transit Service Summary

Transit Service	Origin-Destination	Major Stops	Nearest Stop to Project Site	Peak Hour Headway (minutes)	Weekday Daily Ridership[1]	Hours of Service[2]
MBTA Bus Services						
Route 201	Fields Corner of North Quincy – Fields Corner via Neponset Avenue	Neponset Circle Puritan Mall Hallet Square	Neponset Circle @ Walnut Street (Inbound Only)	15-35	1,339[a]	Weekday: 5:22 AM – 12:48 AM Saturday: 6:49 AM – 9:30 PM Sunday: 7:44 AM – 9:44 AM
Route 202	Fields Corner of North Quincy – Fields Corner via Neponset Avenue	Neponset Circle Puritan Mall Hallet Square	Neponset Circle @ Walnut Street (Inbound Only)	25-35	1,339[a]	Weekday: 5:39 AM – 6:43 PM Saturday: 6:31 AM – 6:28 PM Sunday: 6:50 AM – 4:37 PM
Route 210	Quincy Center Station – North Quincy or Fields Corner	Quincy Square North Quincy High School Hancock & Parker Schools	Neponset Circle @ Walnut Street (Inbound Only)	30	736	Weekday 5:06 AM – 1:32 AM Saturday: 5:30 AM – 1:17 AM Sunday: No Service

[1] Ridership data from MBTA Ridership and Service Statistics, Fourteenth Edition, 2014 (Blue Book)
[2] Based on the schedule provided on the MBTA website accessed February 2018
[a] Ridership for routes 201 and 202 are combined in the MBTA Blue Book

5.2.6 Bicycle Facilities

There are no roadway segments with bicycle accommodations within the study area. Similarly, there are no Hubway stations, or short- and long-term bike parking located within a quarter mile of the Project Site. However, about a quarter mile from the site, there is access to the Lower Neponset River Trail. This multi-use path runs for about 5 miles from Dorchester to Milton, MA, along the Neponset River.

Bicycle volumes were collected in coordination with the vehicle turning movement volumes and are shown in Figures 5.6a and 5.6b for the morning and evening peak hours, respectively. Although bicycle activity within the study area is very limited in volume, it is heaviest along Water Street. On Water Street, there were approximately 11 bicycles traveling westbound during the morning peak hour and 10 bicycles traveling eastbound during the evening peak hour.

5.2.7 Pedestrian Facilities

Within the Port Norfolk neighborhood, there are sidewalks provided on both sides of the street, but no crosswalks are provided. On Morrissey Boulevard, there is a sidewalk provided on the east side of the street with crosswalks across Walnut Street and Redfield Street. The sidewalk connects to a crossing at the intersection of Neponset Avenue where it connects across Neponset Circle to the southbound side of Morrissey Boulevard. The pedestrian environment in and around Neponset Circle is very poor because of the very high traffic volumes and circuitous connections.

Pedestrian volumes were collected in coordination with the vehicle turning movement volumes and are shown in Figures 5.7a and 5.7b for the morning and evening peak hours, respectively.

5.2.8 Crash Analysis

A detailed crash analysis was conducted to identify potential vehicle accident trends and/or roadway deficiencies in the traffic study area. The most current vehicle accident data for the traffic study area intersections for the latest five years were obtained from the Massachusetts Department of Transportation ("MassDOT") for the years 2011 to 2015. A summary of the study area intersections vehicle accident history is presented in Table 5-5.

The MassDOT database may not fully account for all crashes reported to the Boston Police Department ("BPD") or Boston Emergency Medical Services ("EMS").

MassDOT has six districts within Massachusetts, and the study area falls under District 6. The District 6 average crash rate, per million entering vehicles, for signalized intersections is 0.70, and the average crash rate for unsignalized intersections is 0.53. Using the data from the MassDOT database only, all of the study area intersections have a calculated crash rate that falls below the District 6 average values for signalized and unsignalized intersections.

Additionally, the study area intersections were compared to the MassDOT Highway Safety Improvement Plan ("HSIP") map of the Commonwealth's top crash locations. None of the 11 intersections in the study area are included on this map.

Crash analysis worksheets are provided in Appendix C.

Table 5-5 Crash Summary (2011-2015)

	Morrissey Blvd/ Walnut St	Morrissey Blvd/ Redfield St	Morrissey Blvd/ Conley St	Morrissey Blvd/ Tenean St	Redfield St/ Woodsworth St	Water St/Lawley St/ Conley St	Water St/ Port Norfolk St	Water St/ Walnut St	Ericsson St/ Lawley St	Ericsson St/ Port Norfolk St	Ericsson St/ Walnut St
Signalized?	No	No	Yes	No	No	No	No	No	No	No	No
MassHighway ACR	0.53	0.53	0.70	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53
MassHighway CCR	0.23	0.06	0.37	0.21	0.23	0.00	0.00	0.00	0.00	0.00	0.00
Exceeds?	No	No	No	No	No	No	No	No	No	No	No
Time of Day											
Weekday, 7:00 AM - 9:00 AM	2	1	1	2	0	0	0	0	0	0	0
Weekday, 4:00 PM - 6:00 PM	4	0	1	0	0	0	0	0	0	0	0
Saturday, 11:00 AM - 2:00 PM	1	0	0	1	0	0	0	0	0	0	0
Weekday, other time	6	2	3	1	0	0	0	0	0	0	0
Weekend, other time	2	0	2	1	1	0	0	0	0	0	0
Total	15	3	7	5	1	0	0	0	0	0	0
Pavement Conditions											
Dry	12	2	6	2	1	0	0	0	0	0	0
Wet	3	1	1	3	0	0	0	0	0	0	0
Snow/Ice/Slush	0	0	0	0	0	0	0	0	0	0	0
Unknown/Not Reported	0	0	0	0	0	0	0	0	0	0	0
Total	15	3	7	5	1	0	0	0	0	0	0
Collision Type											
Angle	3	0	4	2	0	0	0	0	0	0	0
Head On	7	0	2	0	0	0	0	0	0	0	0
Read End	0	0	0	3	0	0	0	0	0	0	0
Sideswipe, opposite direction	0	0	0	0	1	0	0	0	0	0	0
Sideswipe, same direction	4	1	0	0	0	0	0	0	0	0	0
Single Vehicle Crash	1	2	1	0	0	0	0	0	0	0	0
Total	15	3	7	5	1	0	0	0	0	0	0
Crash Severity											
Fatal Injury	0	0	0	0	0	0	0	0	0	0	0
Non-Fatal Injury	4	1	3	4	0	0	0	0	0	0	0
Property Damage Only	11	2	4	1	1	0	0	0	0	0	0
Unknown/Not Reported	0	0	0	0	0	0	0	0	0	0	0
Total	15	3	7	5	1	0	0	0	0	0	0
Non-Motorist (Bike, Pedestrian)											
Total	2	0	0	0	0	0	0	0	0	0	0

1 Average Crash Rate, per million entering vehicles by intersection type (MassDOT crash information queried February 2018 using MassDOT crash portal)
2 Calculated Crash Rate, by intersection type based on average daily traffic, average number of crashes per year, and "K" Factor ("K" Factor is the portion of annual average daily traffic occurring in an hour)

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5.3 Future Conditions Assessment

Two future conditions scenarios were evaluated for a five-year horizon (2023) to assess the potential Project-related traffic impacts, as follows:

- No-Build Conditions, without the Project, but including other background growth; and
- Build Conditions, with the Project as well as other background growth.

These future conditions are summarized in the sections below.

5.3.1 2023 No-Build

The 2023 No-Build Condition was developed to evaluate future transportation conditions in the traffic study area without consideration of the Project. In accordance with BTD Guidelines, this future analysis year represents a five-year horizon (2023) from existing conditions (2018). The No-Build Condition provides insight into future traffic conditions resulting from regional growth and traffic generated by specific planned projects that are expected to affect the local roadway network.

A background growth rate of one-quarter percent per year was applied to the 2018 Existing Condition traffic volumes to account for population growth and smaller projects that cannot be specifically identified. No planned or approved projects were found local to the study area for incorporation into the 2023 No-Build Condition. The 2023 No-Build vehicle volumes for the morning and evening peak hours are presented in Figures 5.8a and 5.8b, respectively.

Morrissey Boulevard Reconstruction

DCR is in the planning stages of a multi-phase project to reconstruct Morrissey Boulevard between Mt. Vernon Street and Neponset Circle ("DCR Project"). Morrissey Boulevard has been increasingly susceptible to coastal flooding due to high tides and intense storms. and DCR has committed to redesigning and reconstructing the arterial road to make it more climate-resilient. Another goal of the DCR Project is to make Morrissey Boulevard a more welcoming road to all users, including pedestrians and cyclists, by adding cycle tracks and pedestrian facilities where feasible.

The DCR Project will be divided into three phases, with Phase 1 including the reconstruction of the "middle segment" of Morrissey Boulevard between Bianculli Boulevard and I-93 at Freeport Street. The most recent schedule published on the DCR Project's webpage indicates that 75 percent design plans were to be presented to the public in November 2017 with the final plans to be presented in 2018.

Phases 2 and 3, which include the "north segment" between Mt. Vernon Street and Bianculli Boulevard and the "south segment" between Freeport Street and Neponset Avenue, respectively, are scheduled for after the more critical Phase 1 "middle segment" reconstruction. A timeline for these phases has not been established, and it is highly likely that the design phases will not have been completed by 2023.

Therefore, for this DEIR/DPIR analysis, the 2023 No-Build Condition does not include the possible Morrissey Boulevard Redesign for Reconstruction in the study area. It is noted that the preliminary plans include an overall reduction of a travel lane throughout the Morrissey Boulevard corridor in both travel directions and implementation of multi-use paths, cycle tracks, sidewalks, and crosswalks to better serve multi-modal users. Any such changes will need to be evaluated by DCR as and when they are developed and agreed upon. The full plans from DCR Public Meeting #3 (Tuesday, June 27, 2017) can be found in Appendix C.

5.3.2 2023 Build

As shown and described in detail in Chapter 3, *Urban Design*, the proposed site plan for the Project includes two vehicular access points. The existing driveway on Ericsson Street at the north end of Port Norfolk Street will provide two-way vehicle access. This will be supplemented by a one-way egress driveway located at the intersection of Lawley Street and Ericsson Street.

The 2023 Build Condition traffic volumes for the study area roadways were developed by estimating Project-generated vehicle traffic volumes, distributing these volumes by direction, and assigning them to the study area roadways and intersections. The traffic volumes expected to be generated by the Project were added to the 2023 No-Build Conditions traffic volumes to create the 2023 Build Conditions traffic volume networks. The following sections describe the procedures used to develop the 2023 Build Conditions traffic volume networks.

Trip Generation

Project generated trips were calculated using methodologies outlined in the Institute of Transportation Engineers ("ITE") Trip Generation 9th Edition rates. The appropriate trip generation methodology for each land use is shown in Table 5-6.

Table 5-6 Trip Generation Land Use Codes

Land Use	Program	ITE Land Use Code ("LUC")
Residential	110 Units	LUC 230 Residential Condominium/Townhouse
Retail	3,000 SF	LUC 826 Specialty Retail Center

ITE rates produce unadjusted vehicle trips for weekday daily, morning, and evening peak hours. Unadjusted daily vehicle trips are presented in Table 5-7.

Table 5-7 ITE Unadjusted Daily Vehicle Trips

	ITE Unadjusted Daily Vehicle Trips		
Land Use	**Entering**	**Exiting**	**Total**
Residential	320	320	640
Retail	66	66	132

Unadjusted vehicle trips were converted into person trips by applying the national average vehicle occupancy ("AVO") of 1.13 for residential and 1.67 for retail as presented in the 2009 National Household Travel Survey.

Mode Share

Local area mode shares were used to allocate the calculated person-trips by the different transportation modes including vehicle (drive) and other (transit/walk/bike). Since this site is isolated from nearby transit and other walking and biking destinations, for this analysis it is assumed that 95 percent of trips will be made by car, and that five percent will be made by other modes for the residential component. The retail/restaurant component (approximately 3,000 sf) will not be a destination itself, and therefore is not expected to attract any significant vehicle traffic from outside the neighborhood. However, to ensure a conservative analysis, it was assumed that 33 percent of trips to the retail/restaurant space would be vehicular and 67 percent of trips will be made by residents walking and biking to the location.

Table 5-8 Mode Shares

Mode	Residential	Retail/Restaurant
Vehicle	95%	33%
Other (Walk/Bike/Transit)	5%	67%

The mode shares shown in Table 5-8 were applied to the net-new person trips to generate the adjusted Project trips by mode.

Trip Generation Summary

New Project generated trips are shown in Table 5-9. In total, the Project is expected to generate approximately 652 daily vehicle trips (total in and out), with up to approximately 51 occurring in the morning peak hour and up to approximately 57 in the evening peak hour.

Table 5-9 Project-Generated Trips

	Vehicle			Other (Walk/Bike/Transit)		
	In	**Out**	**Total**	**In**	**Out**	**Total**
Daily						
Residential	304	304	608	18	18	36
Retail	22	22	44	74	74	148
Total Trips	326	326	652	92	92	184
AM Peak Hour						
Residential	9	38	47	1	2	3
Retail	2	2	4	6	6	12
Total Trips	11	40	51	7	8	15
PM Peak Hour						
Residential	36	18	54	2	1	3
Retail	1	2	3	4	5	9
Total Trips	37	20	57	6	6	12

Source: Trip Generation, 9th Edition, Institute of Transportation Engineers, Washington D.C. (2012).
Notes: Residential: Land Use Code (LUC) 230 – Condominiums (average rate)
Retail: Land Use Code (LUC) 826 - Specialty Retail Center (average rate).

To reemphasize, the Project's trip-generation projections are conservatively high, because they are based on 110 residential units rather than the 96 units now proposed. In addition, the residential trips are likely to be overstated because the inclusion of local retail in the Project will reduce the need for residents to make some trips in and out of the neighborhood by car.

Vehicle Trip Distribution and Assignment

As part of the analysis, the adjusted Project trips were assigned to the study area roadway network based upon the Project trip distribution. The Project trip distribution was developed based on the existing traffic patterns coming into and out of Port Norfolk, described previously in Section 5.2.3 and summarized in Table 5-2 The distribution of Project vehicle trips is shown in Figure 5.9 and summarized in Table 5-10.

Table 5-10 Project Trip Distribution

	Residential Distribution	
Primary Corridor	**In**	**Out**
To/From Conley Street/Tenean Street	41%	52%
To/From Morrissey Boulevard via Walnut Street and Redfield Street	59%	48%
Total	**100%**	**100%**

Based on this distribution, the Project's estimated vehicle trips are assigned to the two vehicle "gateways," and then to the local roadway network, all based upon current traffic patterns described previously in Section 5.2.3. The Project-generated vehicle trip networks are presented in Figures 5.10a and 5.10b for the weekday morning and evening peak hours, respectively.

The Project is expected to add between 50 to 60 new vehicle trips during the peak hours, equivalent to one trip per minute. However, Projects trips are not concentrated on one roadway – rather they are spread out over the various neighborhood streets. As shown in Figures 5.10a and 5.10b, during the morning peak hour, the Project will add approximately 35 trips (two-way) on Lawley Street, approximately four (4) trips on Port Norfolk Street and approximately 14 trips (two-way) on Walnut Street. During the evening peak hour, the Project will add approximately 25 trips (two-way) on Lawley Street, approximately 16 trips on Port Norfolk Street and approximately 18 trips (two-way) on Walnut Street. The increases due to the Project are equivalent to roughly up to one trip every two minutes on Lawley Street, up to one trip every four minutes on Port Norfolk Street, and up to one trip every three minutes on Walnut Street.

The Project-generated vehicle trips were added to the 2023 No-Build Condition traffic networks to generate the 2023 Build Condition networks, which are presented in Figures 5.11a and 5.11b for the weekday morning and evening peak hours, respectively.

5.3.3 Traffic Analysis and Intersection Operations

As previously discussed in Section 5.2.2, study intersections 1 through 4 on Morrissey Boulevard are characterized in this study as the "gateway" intersections for the neighborhood and the project site. The BPDA scoping calls for detailed operational and capacity analysis of these intersections. Intersections 5 through 11 are characterized as lower volumes "neighborhood" intersections. The BTD scoping letter calls for a comparative analysis of turning movement volumes under existing and future conditions at these locations.

'Gateway' Intersections

An intersection-capacity analysis was conducted for the 2017 Existing Conditions morning and evening peak hours to determine how well the roadway facilities serve the existing

traffic demand. Intersection operating conditions are classified by a quantified Level of Service ("LOS").

LOS is a qualitative measure of control delay at an intersection providing an index to the operational qualities of a roadway or intersection. LOS designations range from A to F, with LOS A representing the best operating conditions (up to 10-second wait time for vehicles) and LOS F representing the poorest operating conditions (greater than 50- or 80-second wait-time for vehicles). LOS D is typically considered acceptable in a downtown, urban environment, while LOS E indicates that vehicles experience significant delay and queuing, while LOS F condition suggest extremely long delays for the average driver. LOS designation is reported differently for signalized and unsignalized intersections. Longer delays at signalized intersections than at unsignalized intersections are perceived by most drivers as being acceptable.

For signalized intersections, the analysis considers the operations of each lane or lane group entering the intersection and the LOS designation is for the overall conditions at the intersection. For unsignalized intersections, however, the analysis assumes the traffic on the mainline is not affected by traffic on the side streets. The LOS is only determined for left turns from the main street and all movements from the minor street. The LOS designation is for the most critical movement, which is most often the left-turn out of the side street.

Synchro 9.0 software was used to evaluate the LOS operations at the study area intersection. This analysis is based on the 2000 Highway Capacity Manual (HCM). Table 5-11 presents the LOS delay threshold criteria as defined in the HCM.

Table 5-11 Level of Service Criteria

Level of Service	Signalized Intersection Control Delay (seconds/vehicle)	Unsignalized Intersection Control Delay (seconds/vehicle)
LOS A	0 – 10	0 – 10
LOS B	> 10 – 20	> 10 – 15
LOS C	> 20 – 35	> 15 – 25
LOS D	> 35 – 55	> 25 – 35
LOS E	> 55 – 80	> 35 – 50
LOS F	> 80	> 50

Adjustments were made to the Synchro model to include the characteristics of each intersection, including geometry, signal timings, presence of heavy vehicles, bus operations, parking activity, bicycle conflicts, and pedestrian crossings. None of the study intersection are signalized, so the DEIR/DPIR analysis is based on the HCM criteria for unsignalized intersections. Therefore, the LOS results are not for the entire intersection, but rather express the conditions for the particular approach or turning movements on the "side street" for vehicles entering the "main street."

The overall intersection LOS results for the 2017 Existing Conditions, 2023 No-Build Conditions and 2023 Build Conditions analysis for unsignalized intersections are summarized in Tables 5-12a and 5-12b for the morning and evening peak hours, respectively, showing results including V/C (Volume to Capacity) ratio, average delay (in seconds), and LOS Grade.

Table 5-12a Unsignalized Intersection Vehicle LOS Analysis - Morning Peak Hour

	2018 Existing Condition			2023 No-Build Condition			2023 Build Condition		
	v/c[1]	Delay[2]	LOS[3]	v/c	Delay	LOS	v/c	Delay	LOS
1. Morrissey Boulevard at Walnut Street	0.49	44.6	E	0.49	44.6	E	0.71	66.2	F
2. Redfield Street at Morrissey Boulevard	No conflicting movements								
3. Redfield Street at Woodworth Street	0.06	8.7	A	0.06	8.7	A	0.06	8.7	A
4. Morrissey Boulevard at Conley Street	0.23	23.0	C	0.24	23.6	C	0.30	25.1	D
5. Morrissey Boulevard at Tenean Street	0.18	25.3	D	0.18	25.8	D	0.21	26.7	D

1 volume to capacity ratio
2 delay in seconds
3 level of service

Table 5-12b Unsignalized Intersection Vehicle LOS Analysis - Evening Peak Hour

	2018 Existing Condition			2023 No-Build Condition			2023 Build Condition		
	v/c[1]	Delay[2]	LOS[3]	v/c	Delay	LOS	v/c	Delay	LOS
1. Morrissey Boulevard at Walnut Street	1.13	167.7	F	1.18	185.3	F	1.27	219.9	F
2. Redfield Street at Morrissey Boulevard	No conflicting movements								
3. Redfield Street at Woodworth Street	0.02	8.9	A	0.02	8.9	A	0.02	9.1	A
4. Morrissey Boulevard at Conley Street	0.13	11.4	B	0.14	11.5	B	0.14	11.5	B
5. Morrissey Boulevard at Tenean Street	0.18	12.1	B	0.19	12.2	B	0.19	12.2	B

1 volume to capacity ratio
2 delay in seconds
3 level of service

In the 2018 Existing Condition, during the morning peak hour, Morrissey Boulevard at Walnut Street operates at LOS E, reflecting the delays experienced by trips leaving Port Norfolk to access Morrissey Boulevard. Morrissey Boulevard at Conley Street operates at an LOS C, also

reflecting delays experienced by trips leaving Port Norfolk, while Morrissey Boulevard at Tenean Street operates at LOS D, reflecting longer delays than at Conley Street. During the evening peak hour, Morrissey Boulevard at Walnut Street operates at LOS F but both Morrissey Boulevard at Conley Street and Morrissey Boulevard at Tenean Street operate at LOS B. Conflicting movements at the Redfield Street/Woodworth Street intersection are very limited, and that intersections operates at LOS A during both peak periods.

The intersections are minimally affected by the background growth in the 2023 No-Build Condition with no changes in LOS grade and minimal increases in delay.

In the 2023 Build Condition, during the morning peak hour, delays at Morrisey Boulevard at Walnut Street are projected to increase enough to change the LOS grade from E to F. Morrissey Boulevard at Conley Street experiences a small increase in delay resulting in the LOS grade changing from C to D. Morrissey Boulevard at Tenean Street also experiences a small increase in delay, but maintains LOS D. During the evening peak hour, some increase in delay is projected at Morrisey Boulevard at Walnut Street, but there are no changes in LOS grade at any of the intersections.

'Neighborhood' Intersections

The number of vehicles passing through each 'neighborhood' intersection during the peak hours were determined for the 2018 Existing, 2023 No-Build and 2023 Build Condition traffic networks. Tables 5-13a and 5-13b present the total traffic volumes at each intersection for the three analysis conditions. These are presented graphically in Figures 5.12a and 5.12b present the impacts on traffic at each 'neighborhood' intersection during the morning and evening peak hour, respectively.

Table 5-13a 'Neighborhood' Intersection Vehicle Volumes Morning Peak Hour

	2018 Existing Condition	2023 No-Build Condition	2023 Build Condition	Change Build vs No-Build
5. Redfield Street at Woodsworth Street	95	96	120	24
6. Water Street at Lawley Street/Conley Street	105	106	141	35
7. Water Street at Port Norfolk Street	90	90	103	13
8. Water Street at Walnut Street	65	65	78	13
9. Ericsson Street at Lawley Street	30	30	63	33
10. Ericsson Street at Port Norfolk Street	45	45	95	50
11. Ericsson Street at Walnut Street	25	25	38	13

Table 5-13b 'Neighborhood' Intersection Vehicle Volumes Evening Peak Hour

	2018 Existing Condition	2023 No-Build Condition	2023 Build Condition	Change Build vs No-Build
5. Redfield Street at Woodsworth Street	210	213	244	31
6. Water Street at Lawley Street/Conley Street	140	141	171	30
7. Water Street at Port Norfolk Street	115	116	136	20
8. Water Street at Walnut Street	135	136	153	17
9. Ericsson Street at Lawley Street	45	45	69	24
10. Ericsson Street at Port Norfolk Street	50	50	107	57
11. Ericsson Street at Walnut Street	75	75	92	17

During the morning peak hour, Ericsson Street at Port Norfolk Street and Ericsson Street at Lawley Street experience the greatest increase in vehicle volume since it is the location of the future site driveways. Beyond Ericsson Street, the vehicles will spread out to reach Redfield Street and Conley Street.

During both the morning and evening peak hours, the vehicles processed through the neighborhood intersections on average grows by approximately 30 vehicles between the 2023 No-Build Condition and the 2023 Build Condition creating very minimal impacts on the neighborhood operation.

Loading, Service and Deliveries

Even with the conservative-case assumption of 110 dwelling units, the number of service and delivery vehicles are expected to be very limited for the Project. The vast majority of deliveries will be by small box trucks, vans and cars, typically including maintenance vehicles and daily deliveries by mail and FedEx etc. Many of these vehicles are already servicing the neighborhood.

Vehicular access for deliveries, trash and recycling pick-up will be via the proposed two-way drive. The turnaround at the Arrival Court near the Building A lobby has been designed to accommodate a single-motion turning radius for the vehicle and truck sizes that are expected. Trash and recycling will be stored in spaces internal to the buildings, with direct access for loading at grade. See Chapter 3, Figure 3.2.a for a ground-floor plan indicating location of access for building services.

5.4 Parking

5.4.1 Project Vehicle Parking

The existing informal (unmarked spaces) parking on the Project Site will be eliminated and replaced by 170 parking spaces located within the buildings and accessed by the main circulation drive shown in the Project site plan in Figure 1.5. The majority of these spaces will be constructed in a two-level garage in the main residential Building A, with spaces also provided at grade inside Building C. See Chapter 3, Figures 3.2.a and 3.2.b for location of the structured parking spaces.

The parking ratios and allocation of spaces is summarized in Table 5-14. The parking plan is based on the correct number of residential units now proposed, which is 96. The indicated total of 170 parking spaces will be provided.

Table 5-14 Proposed Parking Plan

Land Use	Ratio	Number of Spaces
Residential	1.5 space per unit	144 spaces
Visitor/Retail		26 spaces

5.4.2 Project Bicycle Parking

The Project will provide a variety of bicycle parking options for residents and visitors of the Project. In addition to long-term covered and secure bicycle parking for residents, short term, outdoor bicycle parking will be provided for visitors.

BTD guidelines call for a project with this intensity and mix of uses to provide 97 secure, covered spaces, and 21 outdoor short-term spaces, for a total of 120 bicycle parking spaces, which the Project will provide. Table 5-15 shows the bicycle parking ratios used for each land use. Refer to Chapter 3, Figure 3.2.a for the location of the bicycle parking spaces.

Table 5-15 Bicycle Parking Plan

Land Use	Required Bicycle Parking [1]		Provided Number of Spaces
	Ratio	Number of Spaces	
Residential – Secured/Covered	1 space per unit	96	96
Residential – Outdoor	1 space per 5 units	20	20
Retail – Secured/Covered	0.3 per 1,000 sf	1	2
Retail – Outdoor	1 per 5,000 sf	1	2
Total			120 spaces

1 Source: Boston Transportation Department, Boston Bikes: Bicycle Parking Guidelines

5.5 Transportation Demand Management (TDM)

The Proponent will implement a robust TDM plan aimed at minimizing single-occupancy vehicle ("SOV") trips and encouraging residents and visitors to use alternative modes of transportation. The following TDM measures are proposed for refinement in collaboration with BTD:

- Provide an on-site transportation coordinator that oversees parking and loading operations, and promotes the use of alternative transportation measures and carpooling.
- Provide transit information in the lobby and directions on the website to encourage the use of alternative commute modes.
- Promote carpooling, including coordination with MassDOT's MassRides program.
- Join a local Transportation Management Association ("TMA") if one is established in the area.
- Explore potential for shuttle service from the Project Site to the Fields Corner or North Quincy MBTA Stations, in collaboration with other developments such as Venezia's services currently being operated by others, or through a TMA.
- Support community in discussions with MBTA and/or DCR to improve current bus stops at Neponset Circle and their pedestrian connections to the neighborhood.
- Provide subsidies to Project residents for MBTA passes.
- Provide or subsidize Hubway or Zip-Car membership for Project residents.
- Explore opportunities for water taxi service at the Project Site or elsewhere in Port Norfolk.
- Sell parking spaces separately from condo units themselves.
- Explore opportunities to provide car-share (e.g. Zipcar, Enterprise etc.) at the Project Site.
- Provide a shared car available to all residents of the Project.
- Explore opportunity for bike-sharing (Hubway) at the Project Site.
- Provide shared bicycle(s) for use by residents of the Project.
- Provide a bicycle "Fix-It" station at the bicycle parking area.
- Provide charging stations in garage for electric or hybrid vehicles.

In addition, the Proponent will work with BTD to develop and implement a trip generation and traffic monitoring program for the Project.

5.6 Potential Off-Site Improvements

Several potential off-site improvements have been identified that could address existing transportation difficulties, preexisting the Project, as well as to mitigate the impact of additional Project traffic. They have been evaluated at a functional level, and are described here for consideration by BTD, BPDA and the community.

5.6.1 Pedestrian Improvements, Safety and Signage

While the volume of traffic on the neighborhood streets is relatively low, and the intersections do not experience a capacity problem per se, it is clear that the study intersections, and the circulation in general, is constrained by the absence of pedestrian crossings, clear intersection control, and general signage and striping. Each of the six neighborhood intersections will be considered for potential safety improvements including the following:

- Marked crosswalks at main pedestrian desire lines.
- ADA compliant wheelchair ramps.
- Clear Stop or Yield control, as appropriate, including appropriate signage and striping.
- Signage/striping to control parking near corners in order to improve fire access and improve sight-lines for pedestrians and drivers.
- Other traffic calming/"Slow Streets" measures such as staggering parking between both sides of the street.
- Wayfinding signs to the development and Venezia restaurant.
- If desired by the majority of the neighborhood residents, integration in the Dorchester resident only parking zone.

5.6.2 Lawley Street Changes

The possibility of changing the circulation on Lawley Street from two-way to one-way operation was raised by commenters, with the assumed intent of addressing its width constraints for two-way traffic, as described in Section 5.2. The logical change would be to make Lawley Street one-way southbound, which would complement one-way northbound Port Norfolk Street as a one-way pair. From a purely traffic circulation perspective, this change would address exiting width problems on Lawley Street.

However, from comments at community meetings and in written comments, some residents are opposed to this idea because it would create longer circulation paths for residential and commercial abutters. Therefore, the Proponent is not promoting this change unless there is consensus within the community and with BTD.

An alternate idea investigated by the Proponent to address the width constraints on Lawley Street would be to maintain two-way traffic but change the configuration of curb-side parking. Currently, parking is on the residential (east) side of Lawley Street only, creating a straight travel lane over its full length which is slightly too narrow for some cars to pass each other in both directions. The potential change would be to alternate parking on both sides of the street, in such a way that intermediate zones with no parking on either side are created where head-to-head traffic in both directions would be able to pass each other.

A potential on-street parking configuration is shown in Figure 5.13. The current parking is somewhat inefficient because that side of the street has numerous driveways, whereas there is a longer length of available curbside on the other side where parking is not permitted.

While some parking would be eliminated at the passing zones, preliminary analysis indicates that the existing quantity of on-street parking can be maintained, or perhaps slightly increased with this concept. The Proponent will discuss this change with BTD and is happy to explore the concept further if there is support for it in the community. This improvement would also have a traffic-calming effect by reducing speeds along Lawley Street.

To reemphasize, all of these potential improvements are identified for consideration by BTD and the community, and would be subject to refinement moving forward.

5.6.3 Improved Access to Morrissey Boulevard

Analysis shows that because the traffic volumes on Walnut Street are so small compared to the heavy regional traffic in Neponset Circle, incorporating a signal phase for Walnut Street is not warranted under the requirements set out in the Manual of Uniform Traffic Control Devices ("MUTCD"). Further, introducing a clearance phase in the signal cycle for the circle, to allow cars to exit Walnut Street, would have significant impact to the overall circle. Accordingly, DCR has been opposed to any such change. However, a minor improvement could be to stripe a "Keep Clear" box so that the exit from Walnut Street might be easier when the circle is congested.

The possibility of creating a median break on Morrisey Boulevard at Conley Street has been raised, with the intent of creating a left-turn out as a shorter route for neighborhood traffic seeking access to the south. Initial investigation indicates that this could be feasible by converting the existing flashing signal for the pedestrian crossing to fully-signalized traffic control, while retaining the protected pedestrian phase. This is an improvement needing DCR approval, but it could be put forward by BTD and the community for incorporation in DCR's improvement plans for this section of Morrissey Boulevard.

Another improvement that might benefit the exit from the neighborhood to Morrissey Boulevard, and enhance safety, would be implementation of better signage and striping at the intersection of Tenean Street at Freeport Street and Morrissey Boulevard. Currently, this location is confusing for drivers due to the complexity of conflicting turning movements which might be rationalized in this way.

5.7 Transportation Access Plan Agreement (TAPA)

The Proponent will enter into a Transportation Access Plan Agreement ("TAPA") with the BTD which will formalize and document all transportation mitigation and TDM commitments. The TAPA will assign TDM implementation to the appropriate responsible entity, be that the building owner, an employer, or tenant.

Mitigation commitments are the result of the detailed transportation analyses and identification of Project impacts, as documented in the above chapter, and specific agreements made between the Proponent and the City of Boston.

Specific mitigation measures have not been discussed with the City at this time. Upon the City's review of this transportation analysis and assessment of Project impacts, TDM

commitments will be discussed and agreed upon for the Project. A TAPA will be executed for the Project in advance of its building permit issuance.

Source: ArcGIS Bing Aerial, MassGIS

Figure 5.1

Transportation Context

Neponset Wharf
Boston, Massachusetts

Source: ArcGIS Bing Aerial, MassGIS

Figure 5.2

Study Area Intersections

Neponset Wharf
Boston, Massachusetts

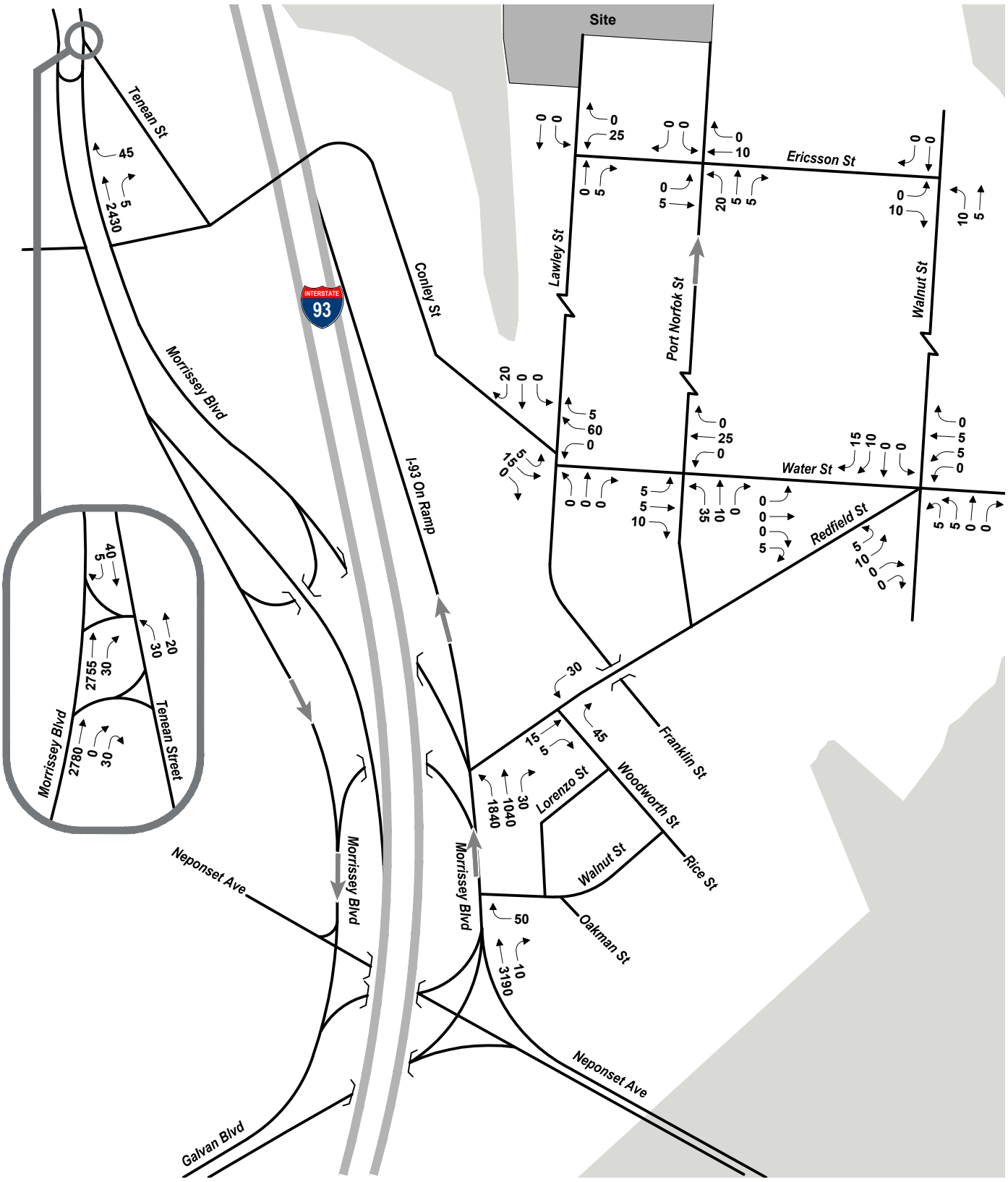


Figure 5.3a

2018 Existing Condition
Morning Peak Hour Vehicle Volumes

Not to Scale

Neponset Wharf
Boston, Massachusetts

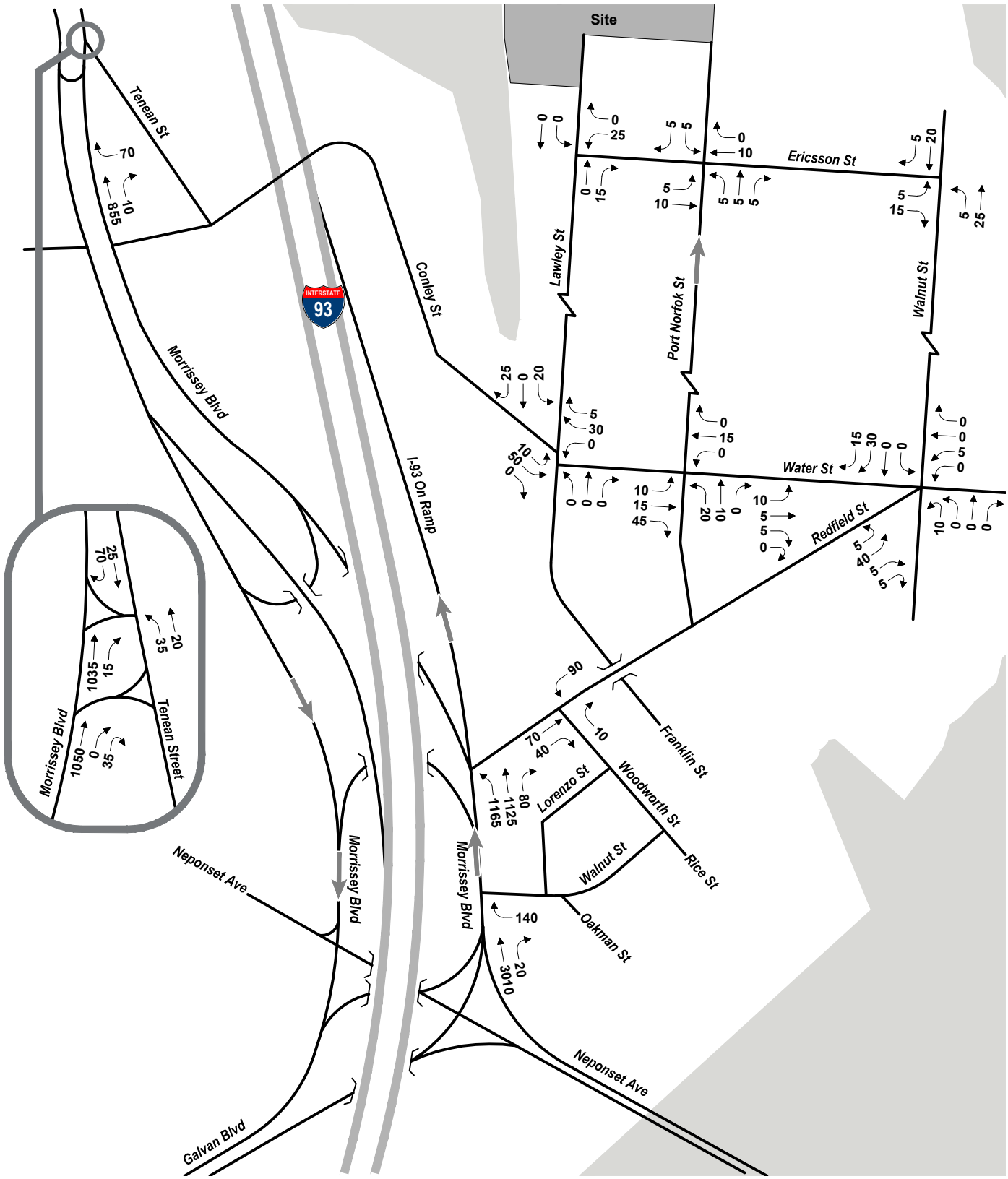
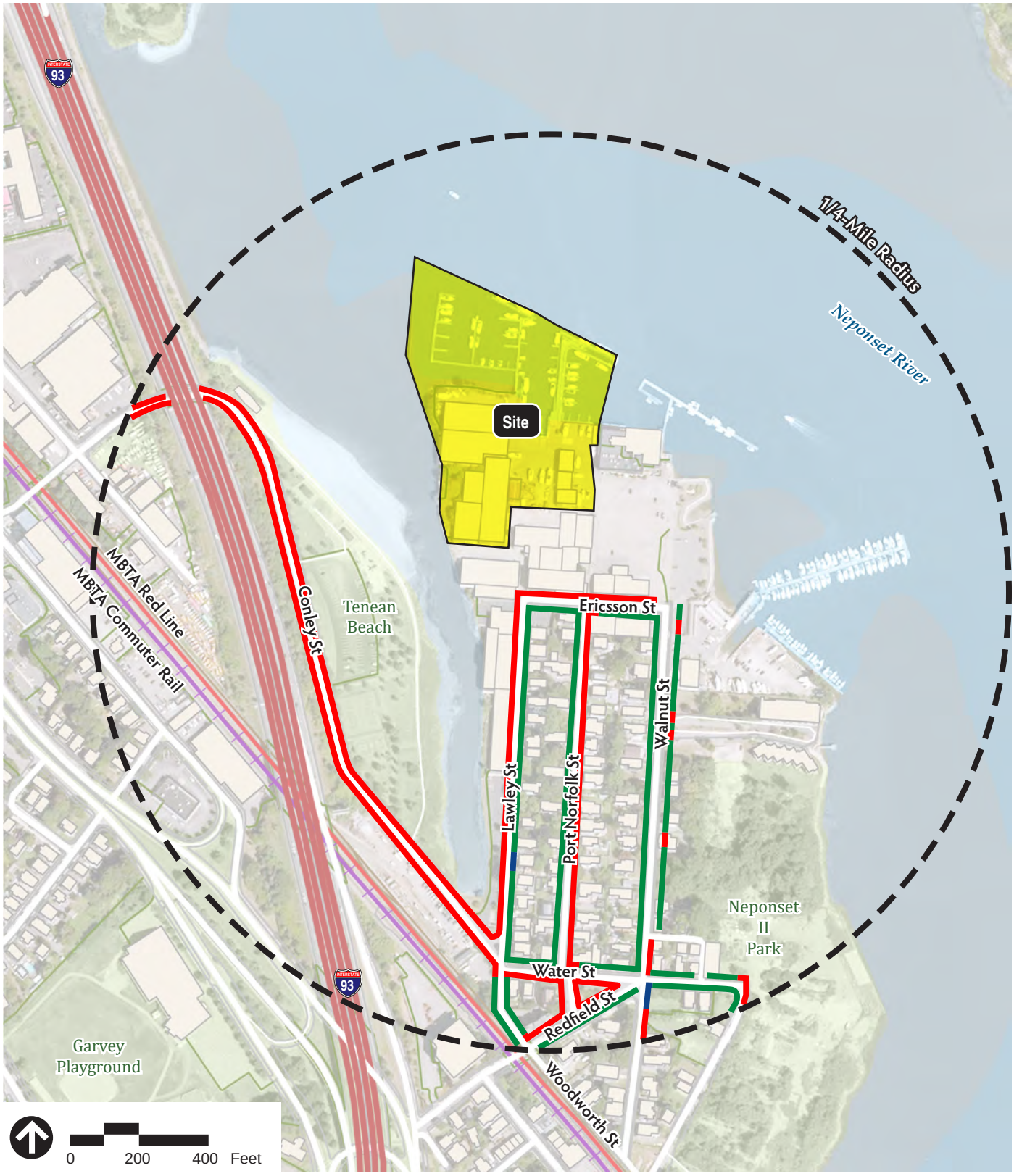


Figure 5.3b

2018 Existing Condition
Evening Peak Hour Vehicle Volumes

Neponset Wharf
Boston, Massachusetts

Not to Scale

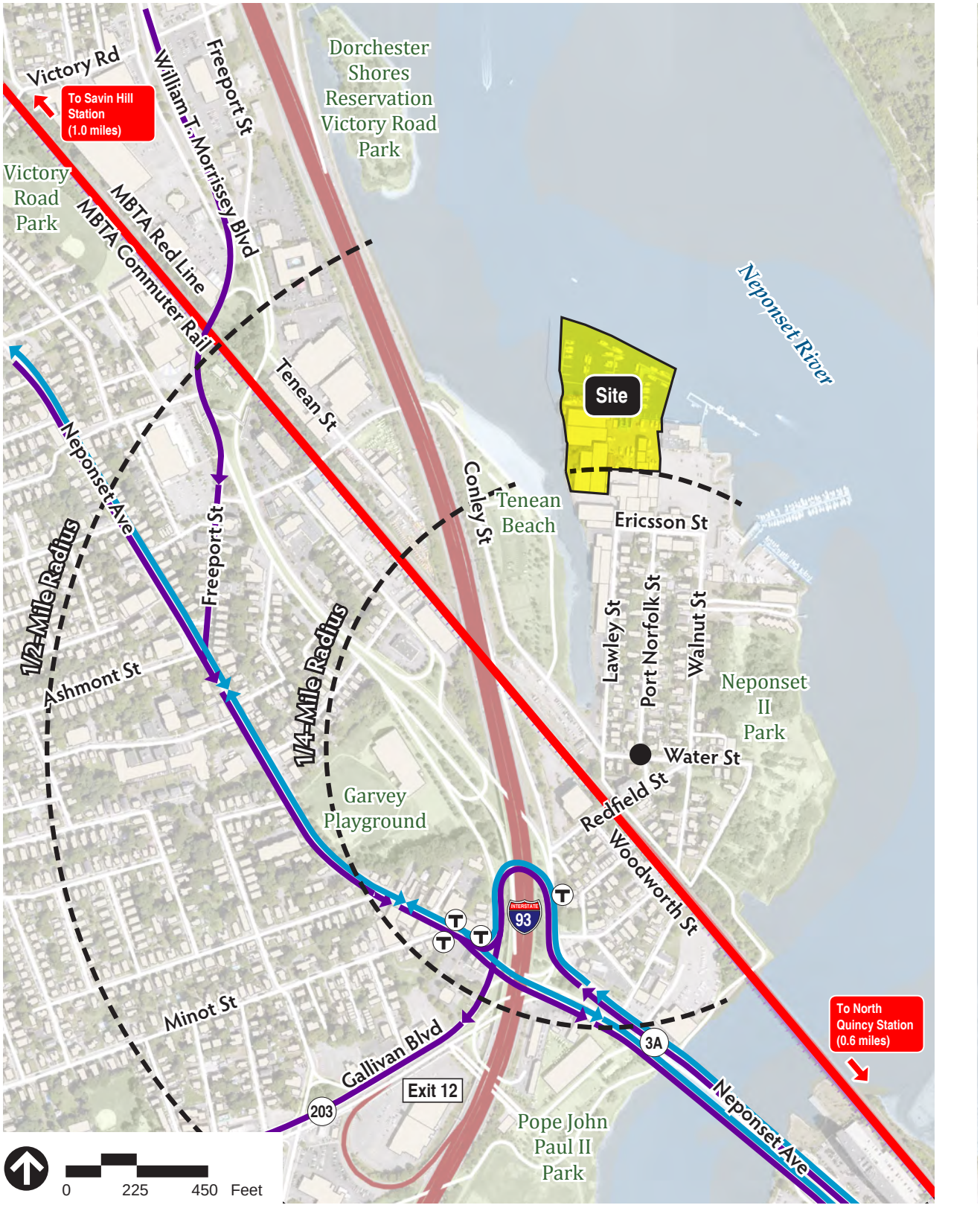


Source: ArcGIS Bing Aerial, MassGIS

No Parking
Handicapped
Unregulated
(No Parking at Driveways)

Figure 5.4
Existing Curb Regulations

Neponset Wharf
Boston, Massachusetts



Source: ArcGIS Bing Aerial, MassGIS

Red Line

Bus Route 201/202

Bus Route 210

MBTA Bus Stops

Figure 5.5

Existing Transit Service

Neponset Wharf
Boston, Massachusetts

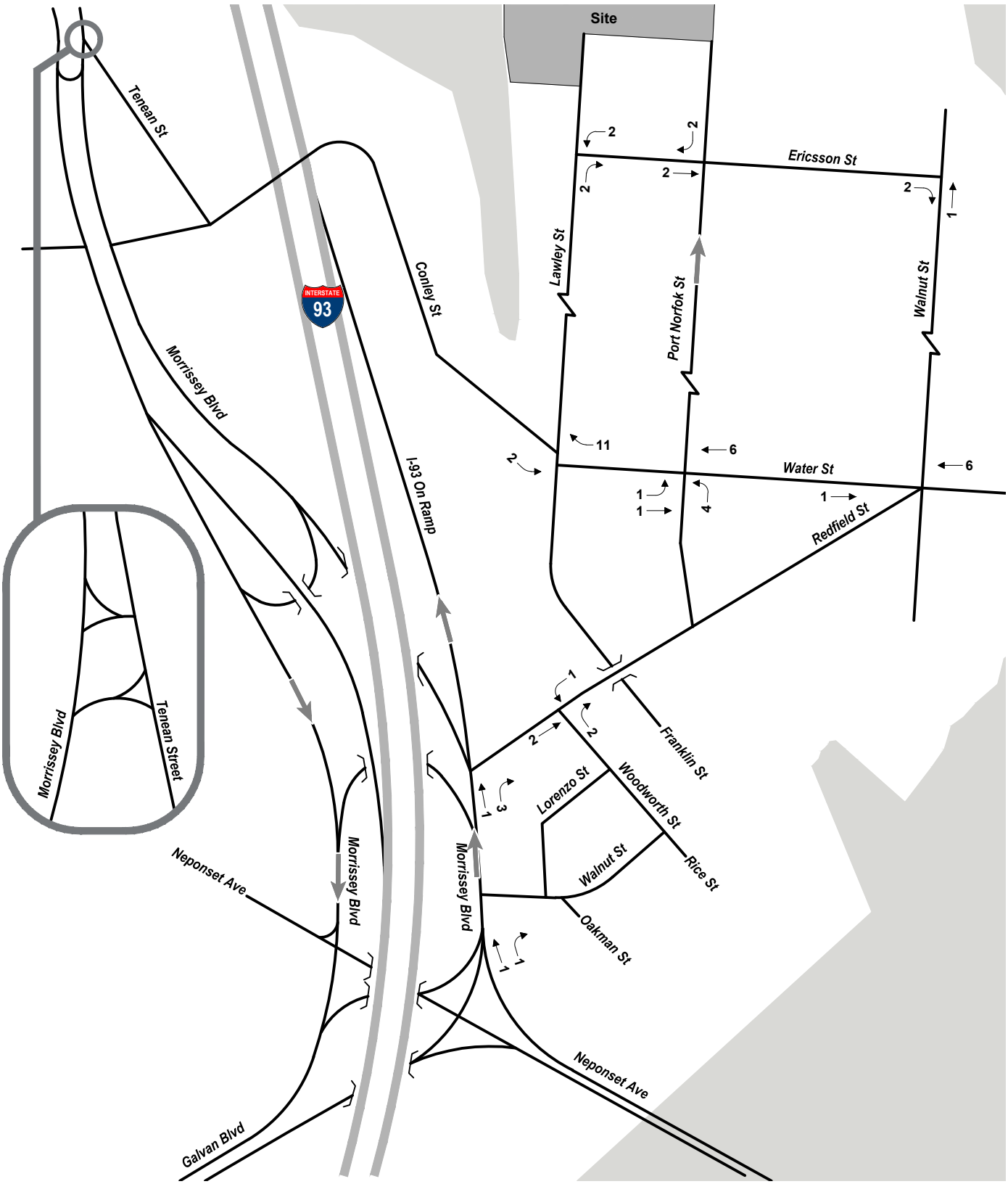


Figure 5.6a

2018 Existing Condition
Morning Peak Hour Bicycle Volumes

Neponset Wharf
Boston, Massachusetts

Not to Scale

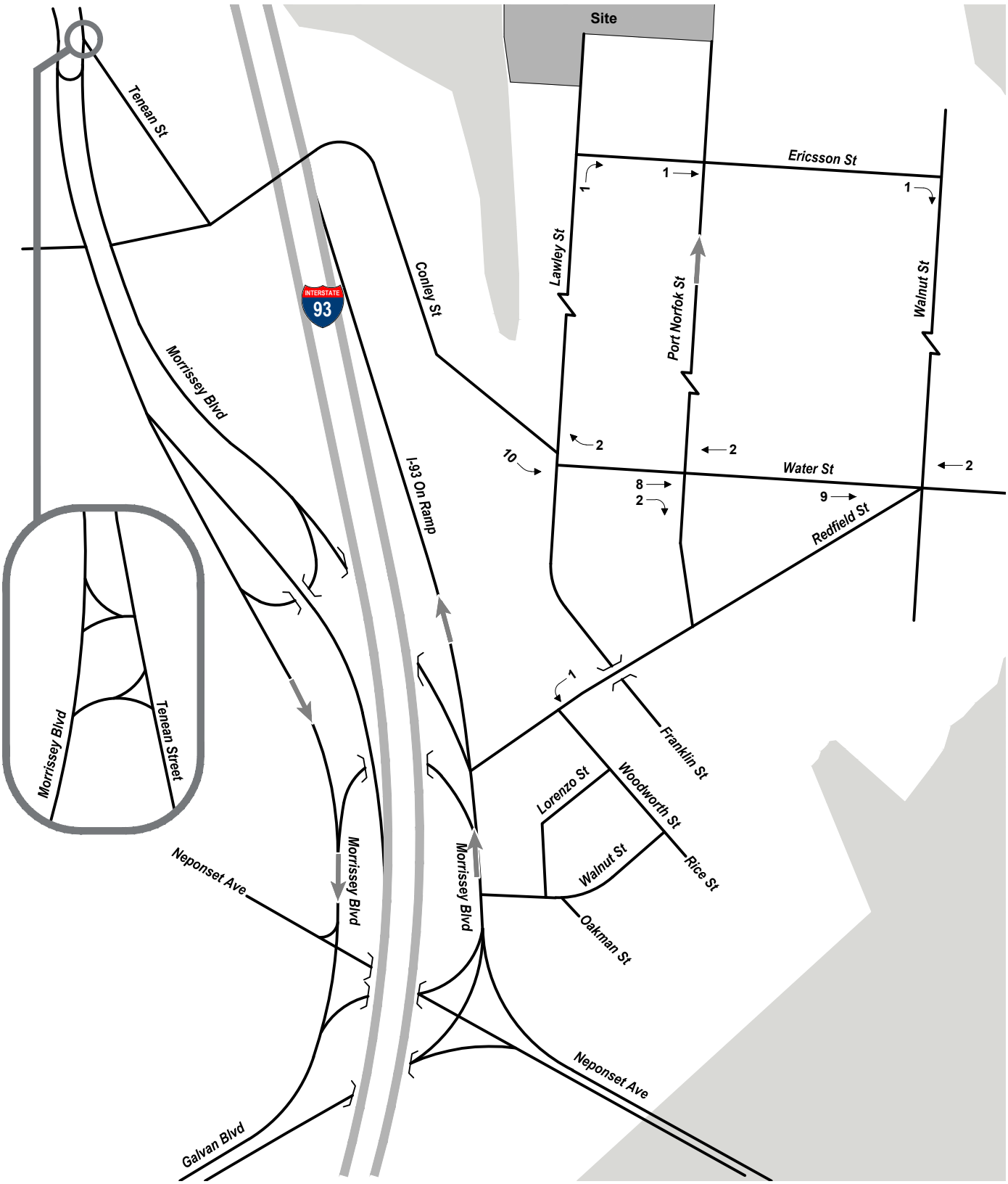


Figure 5.6b

2018 Existing Condition
Evening Peak Hour Bicycle Volumes

Not to Scale

Neponset Wharf
Boston, Massachusetts

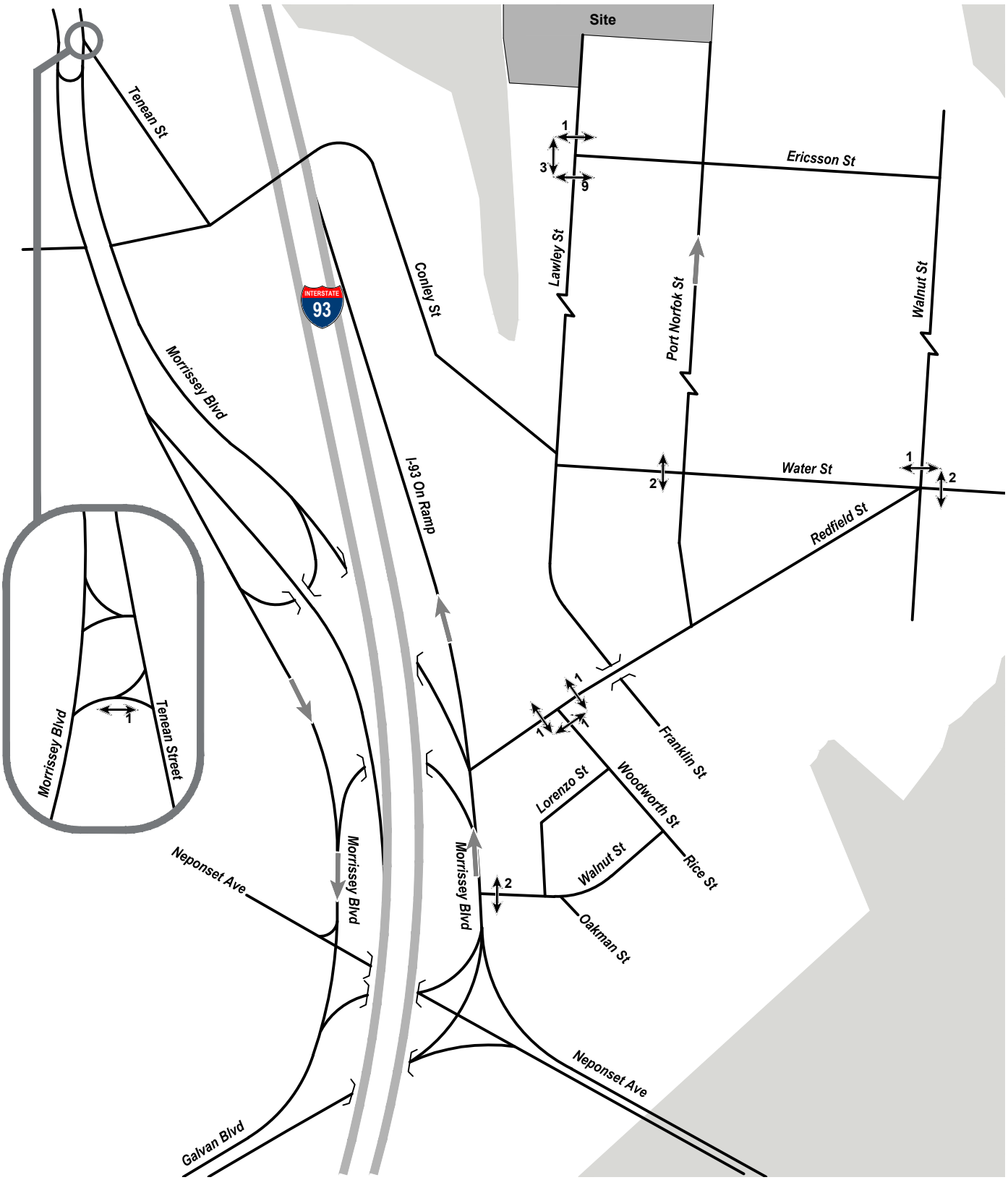


Figure 5.7a

2018 Existing Condition
Morning Peak Hour Pedestrian Volumes

Not to Scale

Neponset Wharf
Boston, Massachusetts

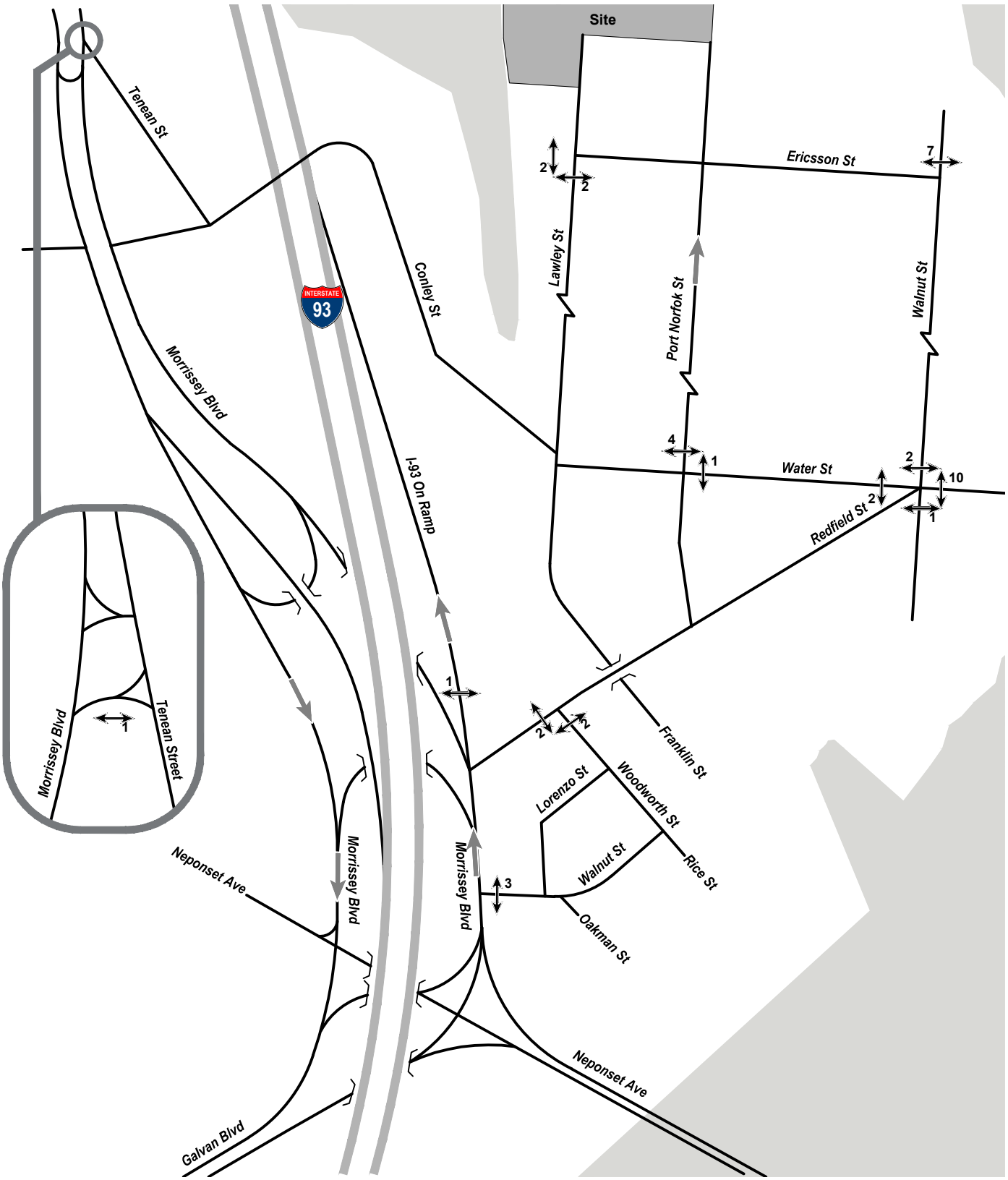


Figure 5.7b

2018 Existing Condition
Evening Peak Hour Pedestrian Volumes

Neponset Wharf
Boston, Massachusetts

Not to Scale

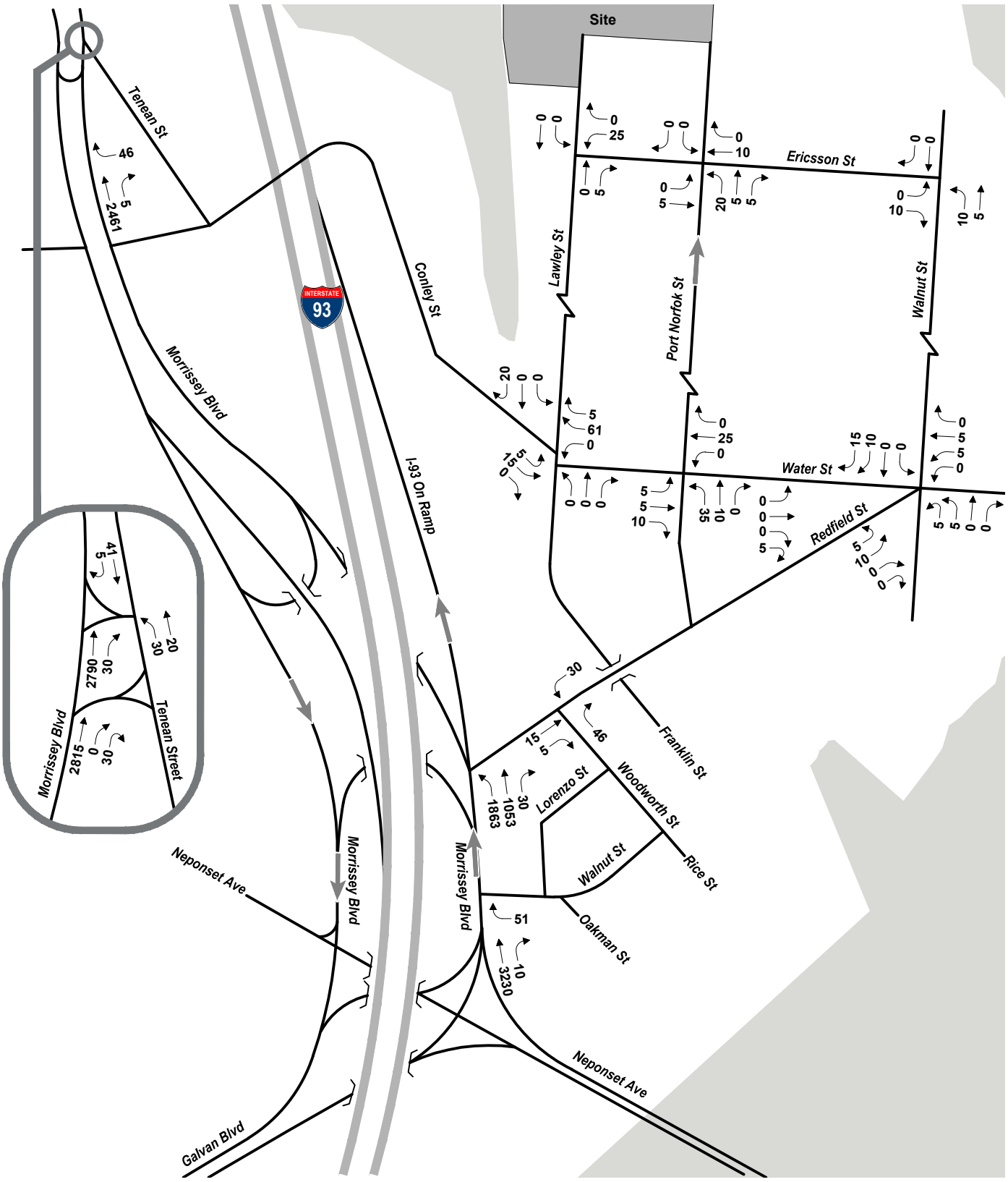


Figure 5.8a

2023 No-Build Condition
Morning Peak Hour Vehicle Volumes

Neponset Wharf
Boston, Massachusetts

Not to Scale

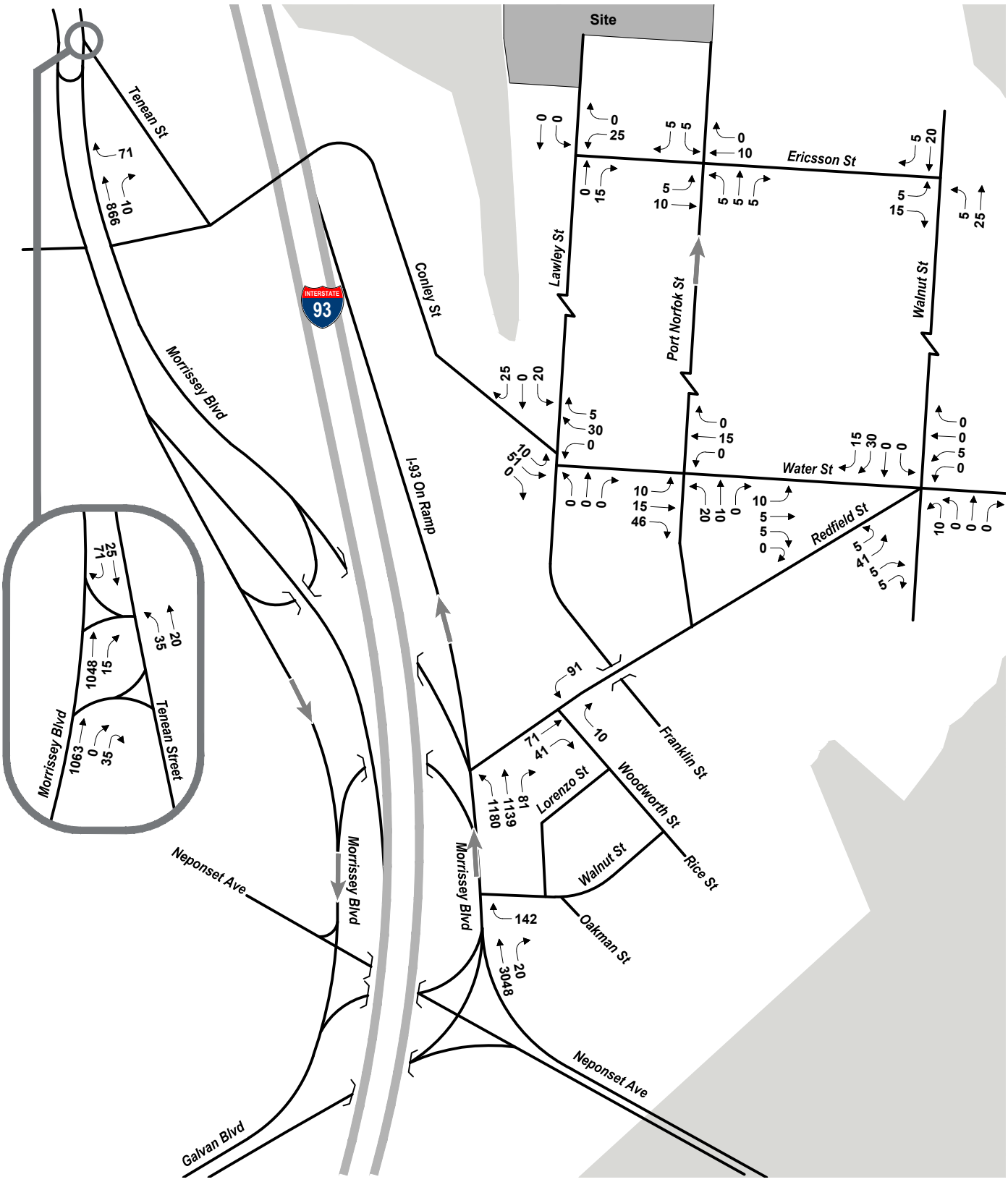


Figure 5.8b

2023 No-Build Condition
Evening Peak Hour Vehicle Volumes

Neponset Wharf
Boston, Massachusetts

Not to Scale

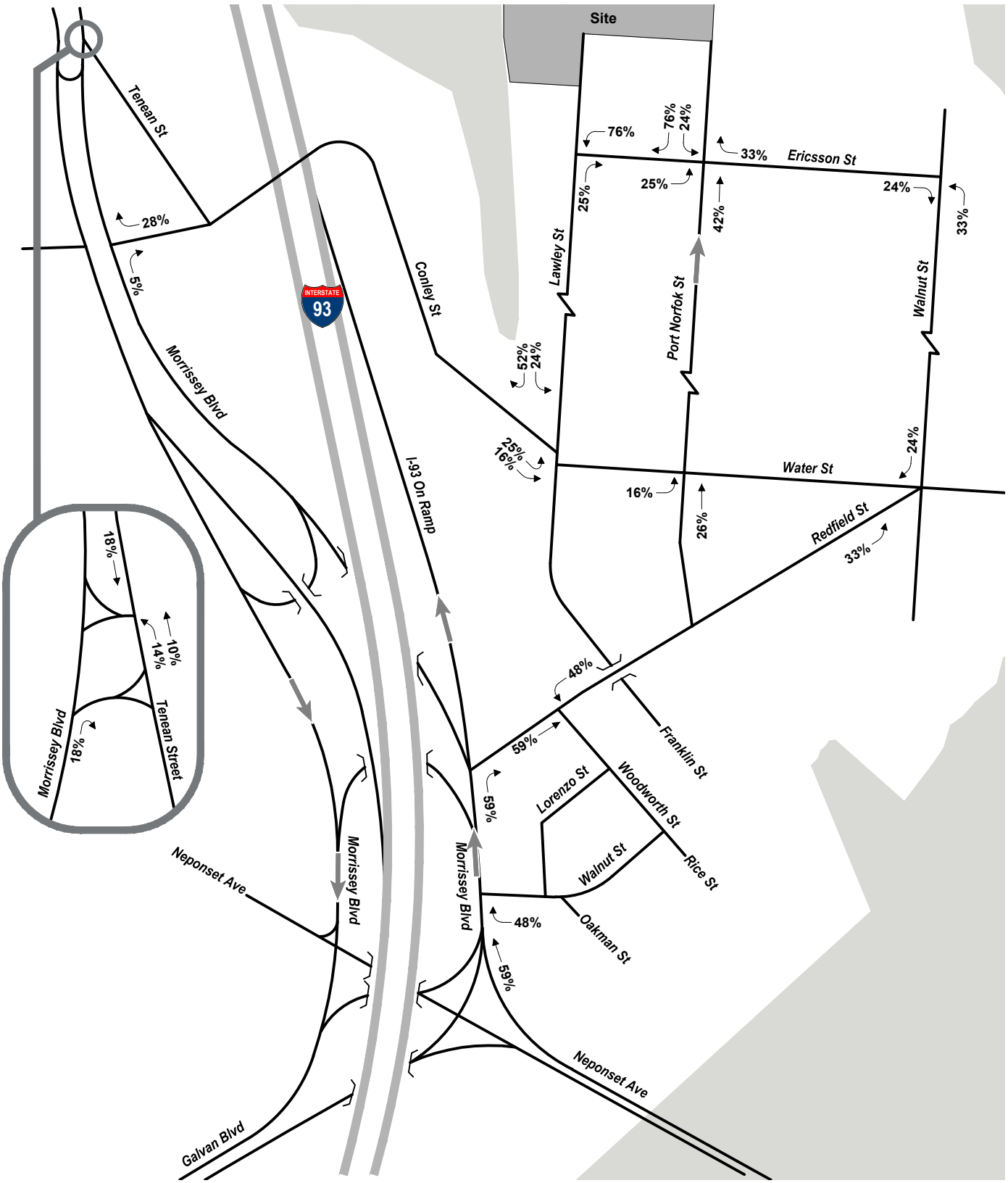


Figure 5.9
Project Trip Distribution

Not to Scale

Neponset Wharf
Boston, Massachusetts

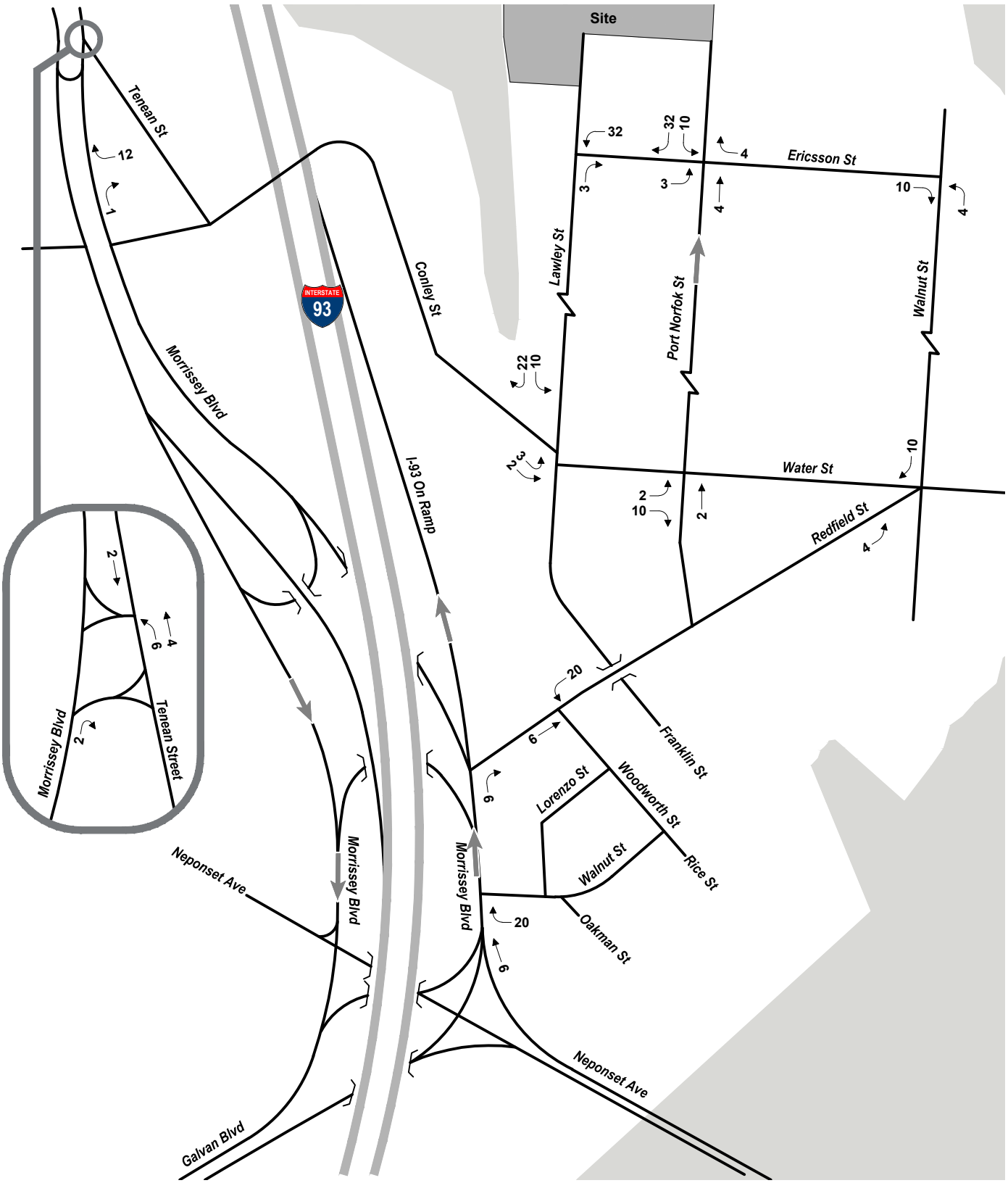


Figure 5.10a

Project Generated Trips
Morning Peak Hour Vehicle Volumes

Not to Scale

Neponset Wharf
Boston, Massachusetts

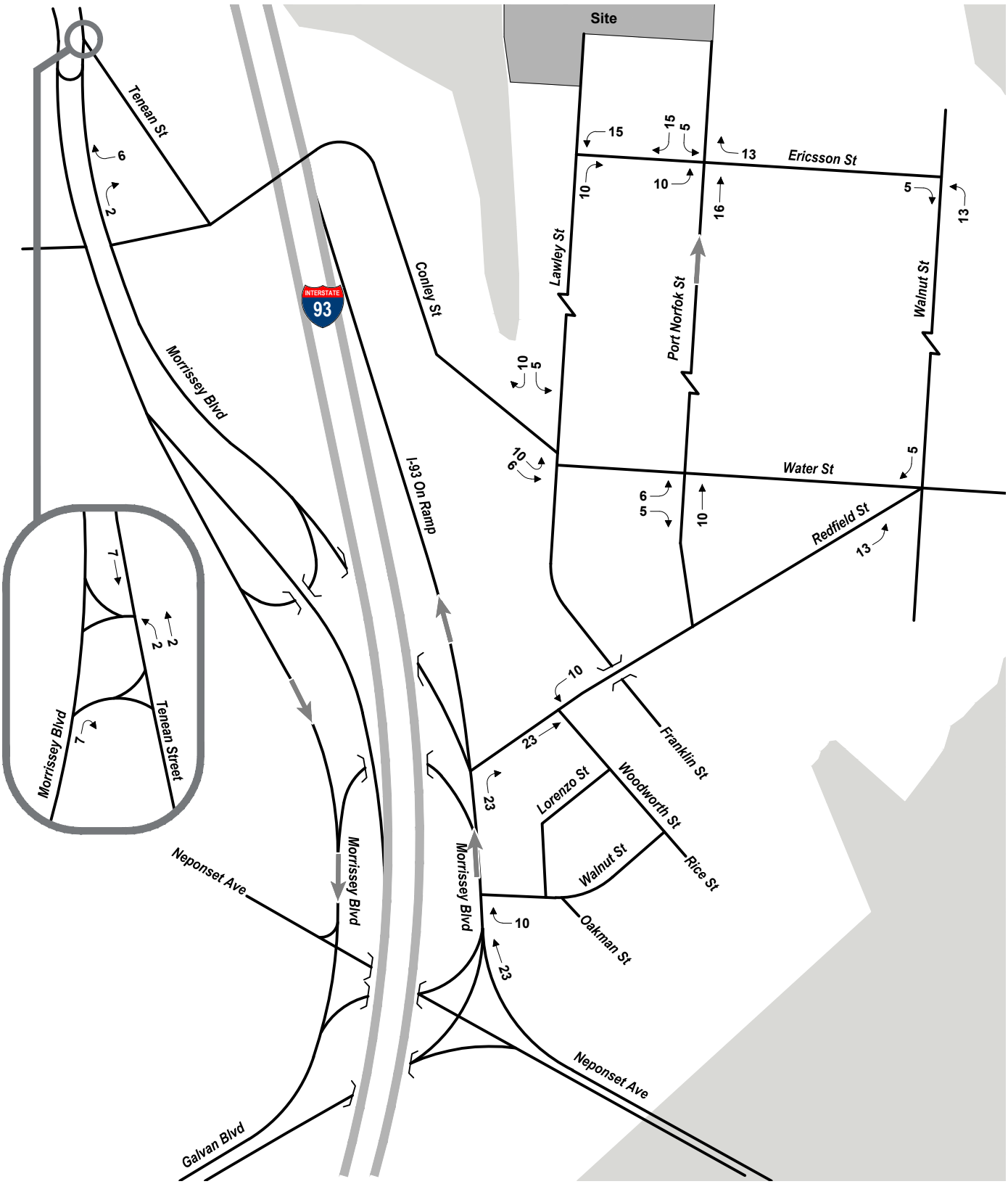


Figure 5.10b

Project Generated Trips
Evening Peak Hour Vehicle Volumes

Not to Scale

Neponset Wharf
Boston, Massachusetts

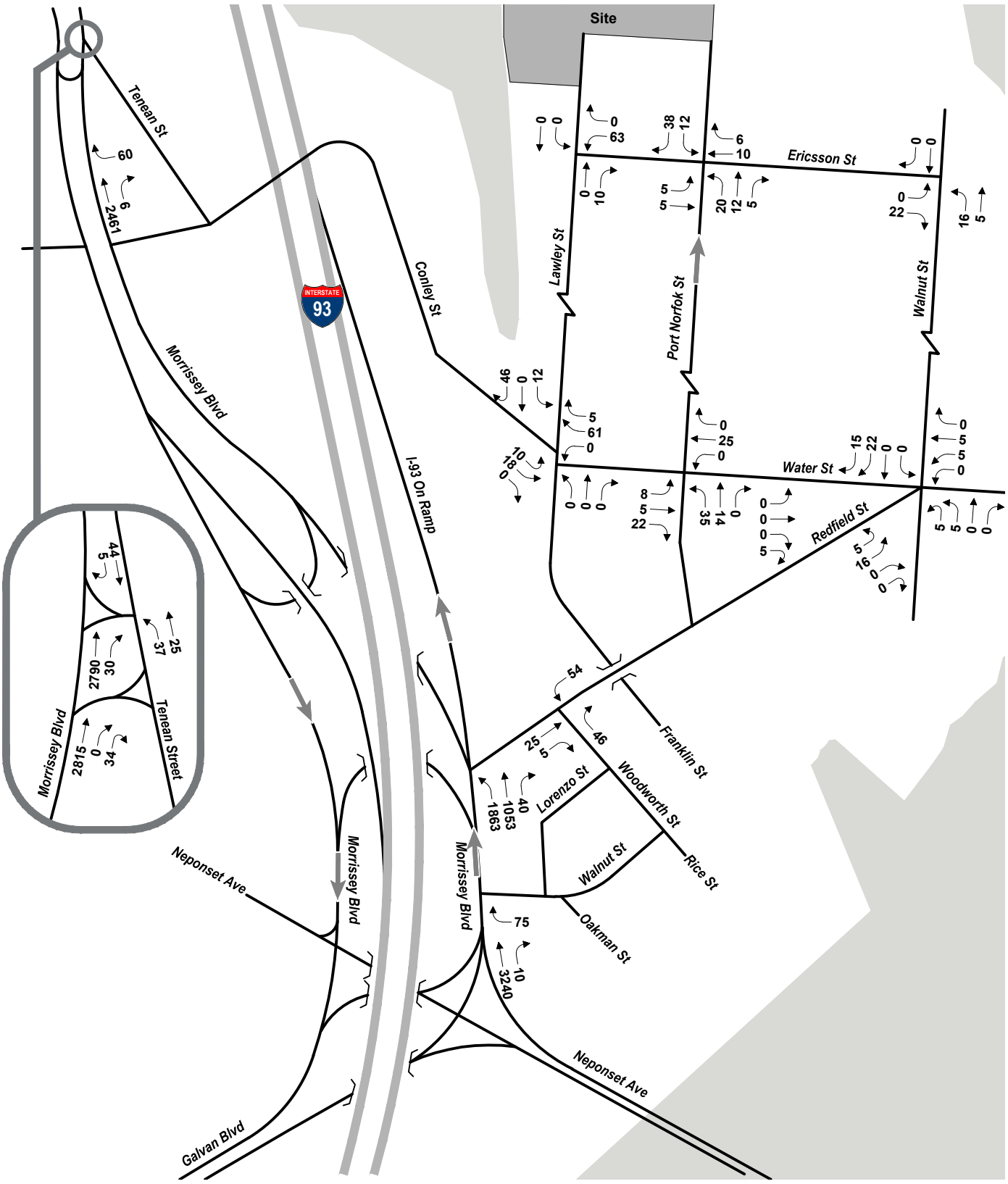


Figure 5.11a

2023 Build Condition
Morning Peak Hour Vehicle Volumes

Neponset Wharf
Boston, Massachusetts

Not to Scale

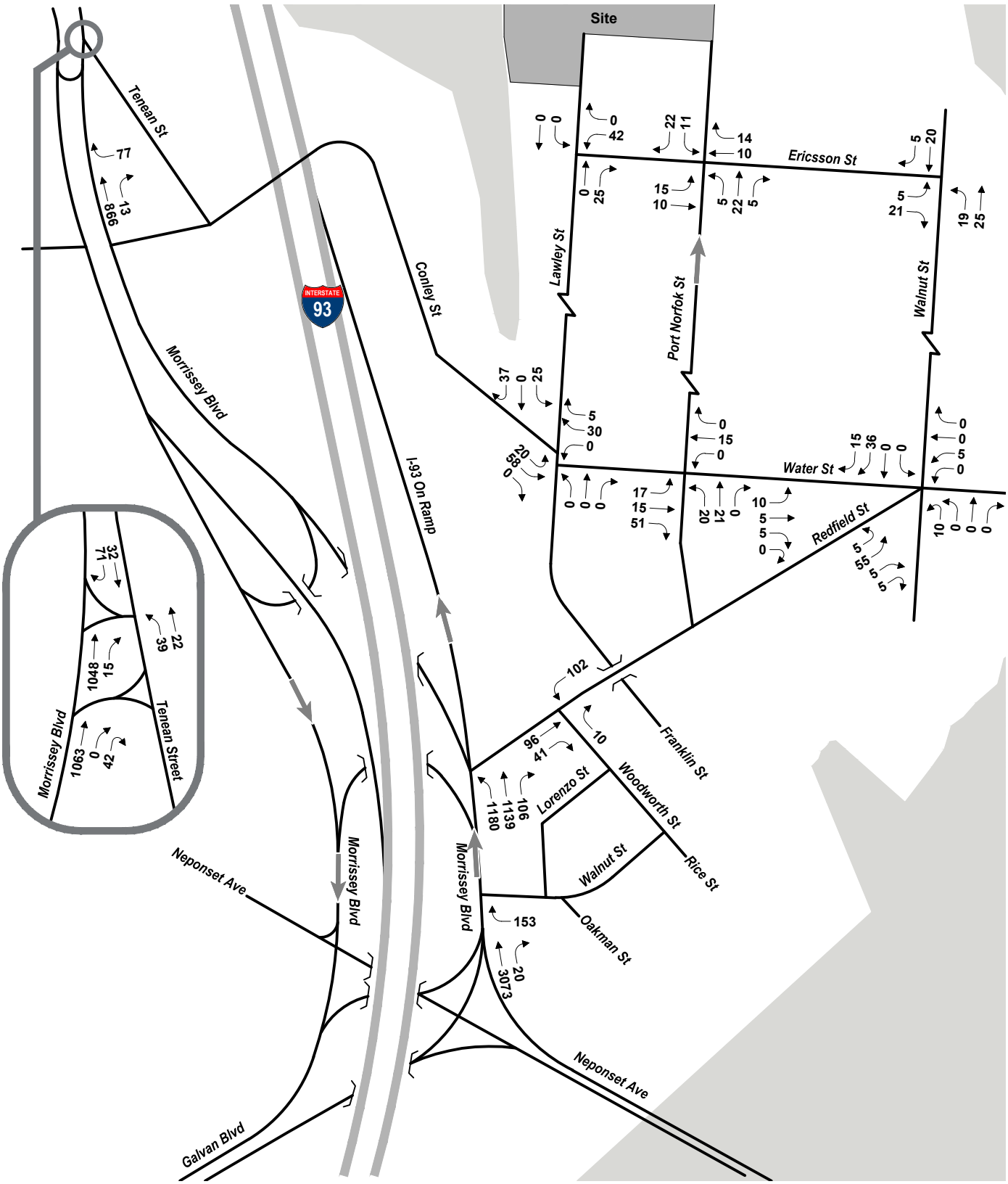


Figure 5.11b

2023 Build Condition
Evening Peak Hour Vehicle Volumes

Neponset Wharf
Boston, Massachusetts

Not to Scale

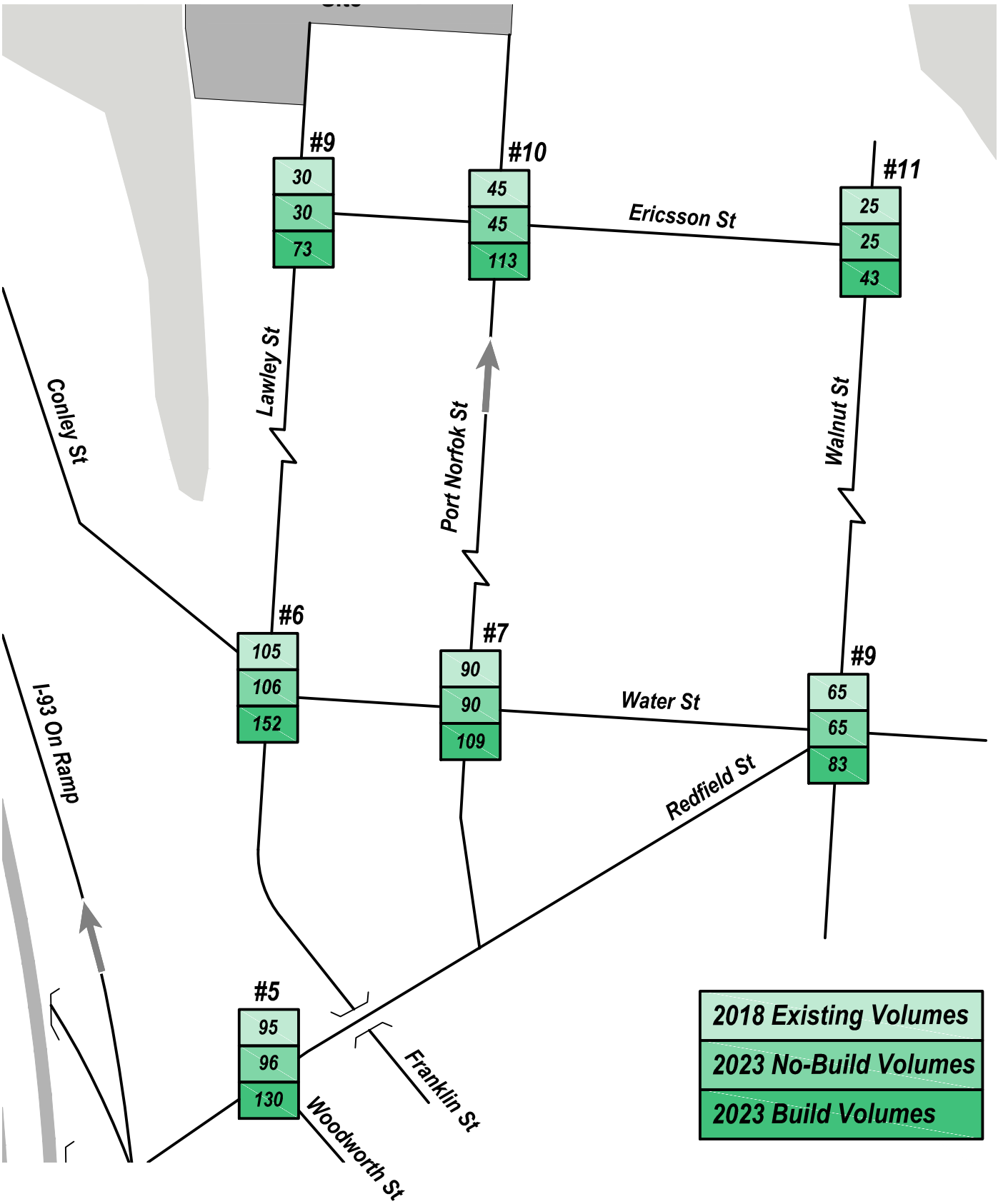


Figure 5.12a

Morning Peak Traffic Volume Comparison
Neighborhood Intersections

Neponset Wharf
Boston, Massachusetts

Not to Scale

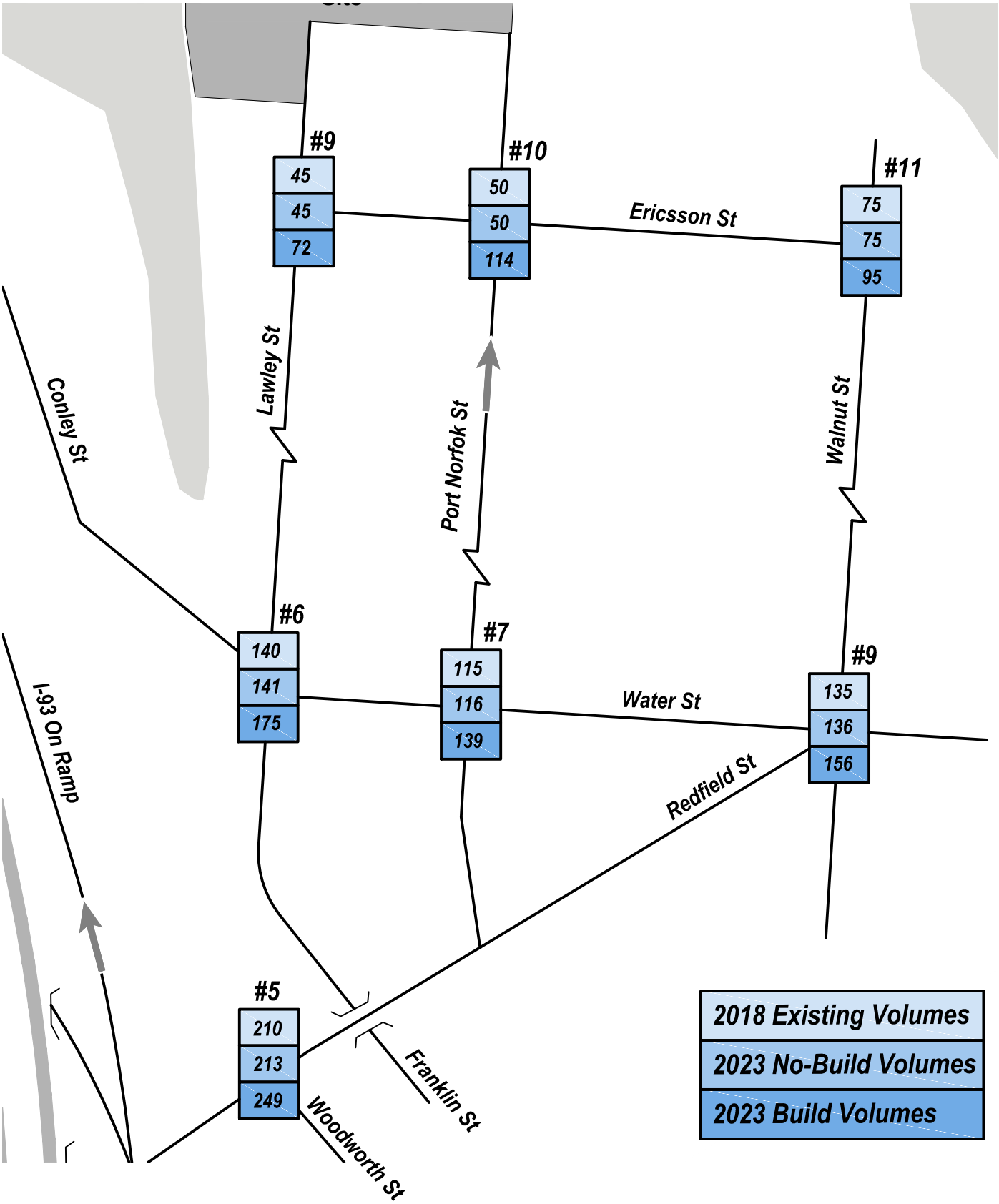


Figure 5.12b

Evening Peak Traffic Volume Comparison
Neighborhood Intersections

Neponset Wharf
Boston, Massachusetts

Not to Scale

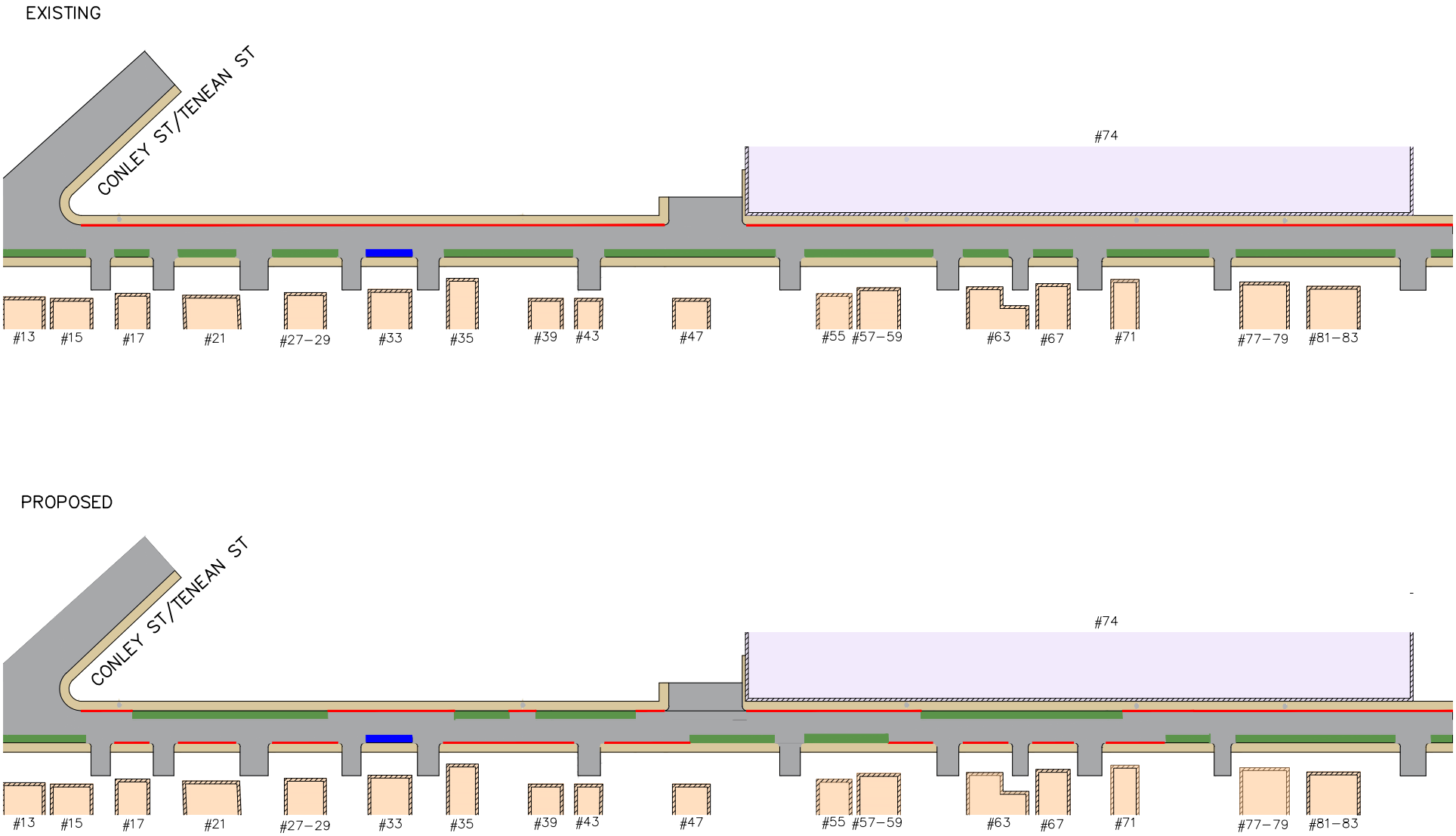


Figure 5.13
Lawley Street On-Street Parking

Neponset Wharf
Boston, Massachusetts

6

Environmental Protection

This Chapter provides information on existing environmental conditions at the Project Site and the potential environmental impacts of the Project. The following sections assess potential Project-related impacts and identify the steps that have been or will be taken to avoid, minimize, and/or mitigate adverse impacts.

In compliance with City of Boston Article 80 and State MEPA requirements, this Project will address potential environmental impacts in the following categories:

- *Pedestrian Wind*
- *Shadow*
- *Noise*
- *Air Quality*
- *Groundwater*
- *Solid and Hazardous Materials*
- *Geotechnical*
- *Construction Management*

6.1 Summary of Key Findings and Benefits

The key findings and benefits related to environmental protection include:

- **Wind** – The Project will not result in any new, unacceptable or unsafe wind conditions in and around the Project Site. Preliminary wind analysis results indicate that the majority of the Project Site will remain comfortable explore additional wind-mitigation options, including landscape treatments and building elements to ensure pedestrian comfort at the Project Site by reducing wind speed and gusts within the Project open space.
- **Shadow** – The Project will result in new shadows as a result of the replacement of existing warehouse buildings with new structures up to seven-stories; however, due to the orientation of the site and massing of the buildings, the majority of shadows fall onto the site, or onto the watersheet within the footprint of the marina. Therefore, new shadows are not anticipated to have an adverse impact on existing public spaces or resource areas.
- **Air Quality** – The air quality analysis demonstrates that the Project will conform to the National Ambient Air Quality Standards and will not have an adverse impact on local air quality.
- **Noise –** The sound levels associated with the Project's mechanical equipment will be attenuated by using mechanical enclosures and screening, and therefore will have no adverse noise impacts at nearby sensitive receptor locations.
- **Solid and Hazardous Materials** – The environmental conditions on the Site will be addressed in accordance with the Massachusetts Contingency Plan

("MCP"), as applicable. Existing solid and hazardous materials within the Site buildings will be removed and disposed of in accordance with applicable state and federal regulations.

- **Geotechnical** – The surface treatments and building footprints that cover the Site are underlain by a granular fill which is approximately 13.5 to 18.5 feet in thickness. In turn, the fill material is underlain an intermittent organic soil deposit and a deposit of natural marine sand. Additional geotechnical assessment activities will be performed to evaluate foundation design considerations for the proposed structures.
- **Groundwater** – Although the Project Site is not located within Boston's Groundwater Conservation Overlay District ("GCOD"), the Project will be designed to maintain current area groundwater levels, as if it were.
- **Construction-Period Impacts** – Construction-related impacts are temporary in nature and are typically related to truck traffic, dust, noise, solid waste and vibration. All temporary construction-related impacts associated with the Project will be minimized in coordination with the appropriate agencies.

6.2 Wind

Pursuant to Section B.1 of the BPDA Development Review Guidelines, a qualitative assessment was conducted to estimate the pedestrian wind conditions around the Project compared to the existing condition, and to provide recommendations for minimizing any potential adverse impacts.

6.2.1 Methodology

Wind flows around the Project and its surroundings were simulated using Virtualwind™, which is a proprietary software developed by RWDI for the qualitative assessment of pedestrian wind conditions.

The prevailing winds from the west-northwest, northeast and southwest were simulated for the existing Project Site and with the full build-out of the Project. The architectural model of the Project provided sufficient massing details that would affect wind flows in the area. For a conservative estimate, landscaping, which can mitigate wind impacts, was not included in the computer model.

Pedestrian Wind Comfort Criteria

The BPDA has adopted two standards for assessing the relative wind comfort of pedestrians. First, the BPDA wind design guidance criterion states that an effective gust velocity (hourly mean wind speed +1.5 times the root-mean-square wind speed) of 31 miles per hour (mph) should not be exceeded more than one percent of the time. The second set of criteria used by the BPDA to determine the acceptability of specific location is based on the work of W. H. Melbourne.[1] This set

[1] Melbourne, W.H., 1978, "Criteria for Environmental Conditions," Journal of Industrial Aerodynamics, 3 (1978) 241-249.

of criteria is used to determine the relative level of pedestrian wind comfort for activities such as sitting, standing, or walking. The criteria are expressed in terms of benchmarks for the one-hour mean wind speed exceeded one percent of the time (i.e., the 99th percentile mean wind speed) and are presented in Table 5-1.

Table 5-1 BPDA Mean Wind Criteria*

Dangerous	> 27 mph
Uncomfortable for Walking	> 19 and ≤ 27 mph
Comfortable for Walking	> 15 and ≤ 19 mph
Comfortable for Standing	> 12 and ≤ 15 mph
Comfortable for Sitting	< 12 mph

* Applicable to the hourly mean wind speed exceeded one percent of the time.

The wind climate in a typical downtown location in Boston is generally comfortable for the pedestrian use of sidewalks and thoroughfares and meets the BPDA effective gust velocity criterion. However, without any mitigation measures, this typical downtown wind climate is likely to be frequently uncomfortable for more passive activities such as sitting.

6.2.2 Pedestrian Wind Study Findings

Based on the computer model results, the Project is not anticipated to generate any unsafe wind conditions around the Project Site or nearby public spaces. Although some increased wind speeds may be experienced along exposed boardwalks, piers, and a few walkways between the existing and proposed buildings, these impacts are similar to the existing conditions and may be mitigated as needed, through landscaping and architectural barriers. Elevated wind conditions were also measured at two of the building entrances and the waterfront seating areas; a variety of mitigation measures are being explored for these areas as well, including canopies, recessed entrances, windscreens, planters, etc. Mitigation measures will be selected and evaluated as the Project design advances to ensure a comfortable and safe environment surrounding the Project Site.

Refer to Appendix D for addition detail on the pedestrian wind assessment.

6.3 Shadow

An analysis of the shading impact under the No-Build and Build Conditions is required for Boston Zoning Code Article 80, Large Project Review (Section 80B-2(c) of the Code). The shading analysis was prepared in accordance with the requirements of Section B.2. of the BPDA Development Review Guidelines.

6.3.1 Methodology

A shadow impact analysis was conducted at regular time intervals to investigate the effect that the Project will have throughout the year. A computer model of the

Project and surrounding urban area was developed. A number of days and times were analyzed, as required under Article 80. The analysis used "clear sky" solar data at Boston's Logan International Airport, meaning the assumption that no cloud cover ever occurs; therefore, providing a "worst case" scenario showing the full extent of when and where shadow could occur.

In order to represent a variety of shadow conditions at various times of the day, and times of the year, three time intervals (9:00 AM, 12:00 PM, 3:00 PM) are represented for the Vernal Equinox (March 21st, see Figure 6.1a), Summer Solstice (June 21st, see Figure 6.1b), Autumnal Equinox (September 21st, see Figure 6.1c), and Winter Solstice (December 21st, see Figure 6.1d). Per the BPDA Development Review Guidelines, 6:00 PM has been added to the June 21 and September 21 shadow studies. The study shows both existing shadows in and around the Project Site, and the shadow impact of the Project.

Table 6-1 identifies the dates and times that were analyzed in this analysis. The altitude and azimuth used for each of the below times were as determined by Appendix 6 of the BPDA Development Review Guidelines.

Table 6-1 Wind Analysis Dates/Times

Date	Time
Vernal Equinox (March 21)	9:00am, 12:00pm, 3:00pm
Summer Solstice (June 21)	9:00am, 12:00pm, 3:00pm, 6:00pm
Autumnal Equinox (September 21)	9:00am, 12:00pm, 3:00pm, 6:00pm
Winter Solstice (December 21)	9:00am, 12:00pm, 3:00pm

6.3.2 Article 80 Shadow Study Results

Vernal Equinox (March 21): *Figures 6.1a-d*

At 9:00am new shadows fall mainly within the Project Site. Much of the westerly shoreline is obscured by shadow, as well as the western edge of the public pier open space along the Project's northern shoreline. Building A has a reduced shadow impact on the western waterway compared to existing structures, while the new Boathouse has a slight increased shadow impact. No new shadows are cast on surrounding existing structures.

At 12:00pm shadows fall upon the shared drive aisle, and the lawn. A portion of new shadow cast by the Boathouse falls onto a small section of water at the north edge of the site. No new shadows are cast on surrounding existing structures.

At 3:00pm new shadows are cast by Building A onto a small portion of the surface lot of the Distillery property to the southeast, and by Buildings B & C onto a small portion of the surface lot and roof of the Venezia building to the east. The lawn falls largely into shadow, as well as the southern portions of the working pier, though both are partially in shadow under the existing conditions.

Summer Solstice (June 22): *Figures 6.2a-d*

At 9:00am shadows fall entirely within the Project Site. The shared drive aisle, Lawn, Public Pier, and working pier receive full morning sun, along with large portions of the western shoreline. No new shadows fall onto the waterway.

At 12:00pm short solstice shadows fall immediately to the north of proposed buildings, but fall short of the prominent proposed open spaces of the site, including the western shoreline, Working Pier, and Public Pier.

At 3:00pm new shadows are cast by Building A onto a small portion of the surface lot of the Distillery property to the south, and marginally to the east, by Building B onto the surface lot and by Building C onto the roof of the Venezia building. The lawn falls partly into shadow, at the space between Building C and Venezia.

At 6:00pm long shadows are cast by Building A onto the surface lot and roof of the Distillery building to the south, and by Buildings B and C onto the surface lot and roof of the Venezia building to the east. The south edge of the Public Pier falls largely into shadow, as well as the southern portions of the working pier.

Autumnal Equinox (September 21): *Figures 6.3a-d*

At 9:00am new shadows fall entirely within the Project Site. Portions of the westerly shoreline are obscured by shadow, as well as the western portions of lawn along the Project's northern shoreline. Building A has a reduced shadow impact on the western waterway compared to existing structures, while the new Boathouse has an increased shadow impact. No new shadows are cast on surrounding existing structures. Shadows from Building B fall short of Building C, allowing that building's entrance and south facade to receive full morning light.

At 12:00pm shadows fall upon the shared drive aisle, and the majority of the lawn. No new shadows are cast on surrounding existing structures.

At 3:00pm new shadows are cast by Building A onto the surface lot and a small portion of the roof of the Distillery building to the southeast, and by Buildings B and C onto a corner of the surface lot and roof of the Venezia building to the east. The lawn falls largely into shadow, as well as the southern portions of the commercial wharf.

At 6:00pm, the majority of the site is covered by shadow under the existing conditions. The increase in shadow impact is minimal, due to the long north-south orientation of the existing building massing, and the low angle of the evening equinox sun.

Winter Solstice (December 21): *Figures 6.4a-d*

At 9:00am, due to the low sun angle, new shadows are cast onto waterways and the commercial and public pier open spaces along the west and north edges of the site, by Buildings A, C and the Boathouse.

At 12:00pm shadows fall upon the shared drive aisle, and the majority of the lawn. New shadows fall onto marina waters, cast by Building C and the Boathouse. No new shadows are cast on surrounding existing structures.

At 3:00pm long shadows are cast across the site and onto marina waters to the northeast. Due to the form of existing structures on the site, some net new shadows on adjacent property are found on the surface lot and roof of the Venezia building.

Summary

New shadows introduced by this proposal fall primarily within the proposed development, and so are not significant. The Project's shadow impact on adjacent properties is limited, aided by its location at the northern end of the Port Norfolk peninsula. The building setbacks aid in minimizing the impact of new shadows on existing and proposed wetland areas. In the evening, especially in winter, shadows do impact the neighboring property at the Venezia restaurant. This is to be expected due to the close proximity of the buildings, and an increased set back was provided at Building B to mitigate the effect of these shadows. Shadow impacts are least perceptible during the winter due to the lower sun intensity, so impacts associated with these shadows are anticipated to be minimal. The Project open spaces, while optimized to favorable landscape and cityscape views, are occasionally in shadow. Breaks in the buildings' massing – particularly by a reduced Building B footprint and roofline – aid in reducing shadow impacts on circulation spaces and building entrances within the Project Site. The western shoreline is benefited by afternoon and evening sunlight during all times of the year.

6.4 Noise

This section presents the results of a noise assessment conducted for this DEIR/DPIR filing of the Project. The purpose of the noise assessment is to demonstrate that the Project would comply with the City of Boston's noise regulations and the BPDA Design Review Guidelines. Noise that would be introduced by the Project, including rooftop mechanical equipment and boat loading and unloading activities, has been assessed at existing nearby receptors according to the City's noise regulations. Because the Project would also introduce new residences to the Project Site, ambient noise levels have been evaluated according to the U.S. Department of Housing and Urban Development ("HUD") Interior Noise Goal. This section presents background on how noise is described, applicable noise criteria, analysis methodology, and the results of the impact assessment.

6.4.1 Fundamentals of Noise

Noise is defined as unwanted or excessive sound. Sound becomes unwanted when it interferes with normal activities such as sleep, communication, work, or recreation. How people perceive sound depends on several measurable physical characteristics, which include the following:

- Level - Sound level is based on the change in pressure and is related to the intensity or loudness.
- Frequency - Sounds are comprised of acoustic energy distributed over a range of frequencies. Acoustic frequencies, commonly referred to as tone or pitch, are typically measured in Hertz. Pure tones have a concentration of sound in a narrow frequency range.

Sound levels are most often measured on a logarithmic scale of decibels ("dB"). The decibel scale compresses the audible acoustic pressure levels which can vary from the threshold of hearing (zero dB) to the threshold of pain (120 dB). Because sound levels are measured in dB, the addition of two sound levels is not linear. Adding two equal sound levels creates a 3 dB increase in the overall level. Research indicates the following general relationships between sound level and human perception:

- A 3-dB increase is a doubling of acoustic energy and is the threshold of perceptibility to the average person.
- A 10-dB increase is a tenfold increase in acoustic energy but is perceived as a doubling in loudness to the average person.

The human ear does not perceive sound levels from each frequency as equally loud. To compensate for this phenomenon in perception, a frequency filter known as A-weighted [dB(A)] is used to evaluate environmental noise levels. Table 6-2 presents a list of common outdoor and indoor sound levels.

Table 6-2 Common Outdoor and Indoor Sound Levels

Outdoor Sound Levels	Sound Pressure (μPa)*		Sound Level dB(A)**	Indoor Sound Levels
	6,324,555	-	110	Rock Band at 5 m
Jet Over Flight at 300 m		-	105	
	2,000,000	-	100	Inside New York Subway Train
Gas Lawn Mower at 1 m		-	95	
	632,456	-	90	Food Blender at 1 m
Diesel Truck at 15 m		-	85	
Noisy Urban Area—Daytime	200,000	-	80	Garbage Disposal at 1 m
		-	75	Shouting at 1 m
Gas Lawn Mower at 30 m	63,246	-	70	Vacuum Cleaner at 3 m
Suburban Commercial Area		-	65	Normal Speech at 1 m
	20,000	-	60	
Quiet Urban Area—Daytime		-	55	Quiet Conversation at 1 m
	6,325	-	50	Dishwasher Next Room
Quiet Urban Area—Nighttime		-	45	
	2,000	-	40	Empty Theater or Library
Quiet Suburb—Nighttime		-	35	
	632	-	30	Quiet Bedroom at Night
Quiet Rural Area—Nighttime		-	25	Empty Concert Hall
Rustling Leaves	200	-	20	

		-	15	Broadcast and Recording Studios
	63	-	10	
		-	5	
Reference Pressure Level	20	-	0	Threshold of Hearing

Source: *Highway Noise Fundamentals*. Federal Highway Administration, September 1980.
* μPA – MicroPascals, which describe pressure. The pressure level is what sound level monitors measure.
** dB(A) – A-weighted decibels, which describe pressure logarithmically with respect to 20 μPa (the reference pressure level).

A variety of sound level descriptors can be used for environmental noise analyses. These descriptors relate to the way sound varies in level over time. The following is a list of common sound level descriptors:

- L90 is the sound level which is exceeded for 90 percent of the time over the course of a particular period. The L90 is generally considered to be representative of the ambient or background sound level.
- Leq is a single value that represents the same acoustic energy that exists over a period of time with fluctuating levels. The Leq takes into account how loud noise events are during the period, how long they last, and how many times they occur.
- Ldn is a single value that represents the same acoustic energy that exists over a 24-hour period with a 10-decibel penalty for noise generated at night (10:00 PM to 7:00 AM), due to the increased sensitivity to noise at night.

6.4.2 Noise Impact Criteria

This section describes the City of Boston and HUD noise criteria which apply to the proposed Project.

City of Boston Noise Impact Criteria

Under Chapter 40, Section 21 of the General Laws of the Commonwealth of Massachusetts and the City of Boston Code, Ordinances, Title 7, Section 50, the Air Pollution Control Commission of the City of Boston has adopted Regulations for the Control of Noise in the City of Boston. These regulations prohibit persons from creating or causing to be emitted noise that exceeds maximum limits based on the type of zoning district where the sound is received. In the context of this DEIR/DPIR filing, exceeding these noise limits would be considered an adverse impact and mitigation would be needed. Table 6-3 summarizes the City of Boston noise standards for the various types of zoning districts.

Table 6-3 City of Boston Zoning District Noise Standards, dB(A)

Land Use Zone District	Daytime (7:00 AM – 6:00 PM)	All Other Times (6:00 PM – 7:00 AM)
Residential	60	50
Residential/Industrial	65	55
Business	65	65
Industrial	70	70

Source: Regulations for the Control of Noise in the *City of Boston, Air Pollution Control Commission*.

HUD Noise Impact Criteria

The BPDA Design Review Guidelines (April 2006) indicate that residential projects may need to demonstrate conformance with HUD's Interior Noise Goal of 45 dBA (Ldn). The HUD standard[2] is intended to protect residential receptors from sound levels that cause interference with normal activities, such as sleep and conversation, HUD has determined that this interior noise goal is necessary to provide suitable living environments

The HUD noise assessment methodology evaluates noise from major transportation sources near a proposed residential development including airports (within 15 miles), railroads (within 3,000 feet), and major roadways (within 1,000 feet).

HUD has established the following site acceptability standards:

- Residential developments are considered to have "Acceptable" noise conditions if exterior ambient levels do not exceed 65 dBA (Ldn). An exterior noise level of 65 dBA is considered to meet the interior noise goal of 45 dBA if the building is constructed in a manner common to the area which will generally provide 20 decibels or more of outdoor-to-indoor sound attenuation.
- Residential developments are considered to have "Normally Unacceptable" noise conditions if the ambient noise levels are 65 to 75 dBA (Ldn). If the ambient noise level is greater than 65 dBA, but does not exceed 70 dBA, developments with noise-sensitive uses require a minimum of 5 dB additional outdoor-to-indoor sound attenuation to meet the interior noise goal. If ambient noise levels exceed 70 dBA, but do not exceed 75 dBA, a minimum of 10 decibels of additional sound attenuation is required.
- Residential developments are considered to have "Unacceptable" noise conditions if the ambient levels exceed 75 dBA (Ldn). For new construction, noise attenuation measures in these locations require additional approval from HUD.

6.4.3 Noise Assessment Methodology

The noise assessment includes the evaluation of noise generated by the Project at nearby receptor locations and noise from existing transportation sources at the proposed residential development.

Project Sources at Existing Receptors

Noise from sources introduced by the Project including rooftop mechanical equipment and service activities, including boat loading and unloading, has been evaluated at existing receptors. Ambient noise measurements have been conducted

[2] Section 51.103, The N*oise Guidebook,* U.S. Department of Housing and Urban Development, Office of Environment and Energy.

to characterize the existing conditions. Noise has been predicted from the proposed rooftop mechanical equipment based on manufacturer's reference noise emissions and Cadna-A[3] noise prediction software. The potential noise effects from boat loading and unloading has been assessed qualitatively.

Existing Transportation Sources at New Receptors

The HUD DNL calculator has been used to predict the overall existing noise level at the closest residential portion of the proposed development. In accordance with the HUD noise assessment methodology, noise from the following transportation sources has been evaluated:

- Logan International Airport (4.5 miles away);
- MBTA Commuter Rail and Red Line trains (800 feet away); and
- Interstate 93 (I-93) (575 feet away).

6.4.4 Existing Noise Conditions

The City of Boston's noise regulation is generally evaluated at the closest property line locations. The nearest residences to the Project site are approximately 200 feet or farther away, on Ericsson Street, Lawley Street, and Port Norfolk Street. Other properties in the study area are industrial and businesses, such as the Boston Harbor Distillery, Boston Winery, Venezia restaurant, Port Norfolk Yacht Club, and Sullivan and McLaughlin.

Ambient noise measurements were conducted to characterize existing conditions. Measurements were conducted using a sound level meter (Larson Davis Model 831) which meets the American National Standards Institute Type I accuracy. As shown in Figure 6.5, the measurements were conducted near sensitive receptor locations. Measurements were conducted on weekdays (April 9-10, 2018) during the day between 11:30 AM and 12:30 PM and late-night between 2:30 AM and 3:30 AM. The predominant sources of existing noise include vehicles on I-93, local roadways, mechanical equipment from nearby buildings, and temporary construction activities during the day at nearby residences.

As shown in Table 6-4, the existing Leq sound levels ranged from 59 to 65 dBA during the day and 37 to 58 dBA during the night. Background L90 sound levels ranged from 54 to 61 dBA during the day and 35 to 56 dBA during the night. These sound levels are considered typical of an urban area near an interstate highway.

[3] Computer Aided Noise Abatement (CadnaA) software version 2018, DataKustik GmbH.

Table 6-4 Existing Measured Sound Levels, dBA

	Measured L_{eq} Sound Levels		Measured L_{90} Sound Levels	
Monitoring Location	**Daytime**	**Nighttime**	**Daytime**	**Nighttime**
M1 – Project Site (West Side)	63	58	61	56
M2 – Lawley St/Ericsson St	59	49	56	44
M3 – Walnut St/Ericsson St	65[A]	37	54	35

Source: VHB, Inc.
A: Site included temporary construction noise activities.

6.4.5 Noise Assessment for Existing Receptors

Noise has been assessed from rooftop mechanical equipment and service activities including boat loading and unloading at existing receptors in the study area.

Mechanical Equipment

The mechanical equipment includes an energy recovery unit, two cooling towers and an emergency generator on Building A and multiple condensing units on Buildings B and C. Specific mechanical equipment manufacturers and models have not been selected at this point of the project development, so the noise assessment is based on noise emissions from typical equipment used for the proposed mechanical systems.

The specific locations of mechanical equipment on the roofs are currently unknown and subject to change as the design advances. Therefore, the noise assessment conservatively assumes the mechanical equipment will be located near the southern facades of the buildings which is nearest to the residential neighborhood. The mechanical equipment on Building A was located at a setback of 60 feet from the southern façade. The assessment assumes there are no sound screening walls and that all equipment would operate simultaneously at full load. Actual operating conditions of the equipment would often be at a lesser load.

Table 6-5 presents the predicted noise levels from the rooftop mechanical equipment at eleven of the closest receptor locations including residential, business, and industrial locations. Noise from the mechanical equipment would range from 44 to 49 dBA (Leq) at all locations which would be below the applicable daytime and nighttime noise limits for all receptors.

As the project design progresses, the location of the mechanical equipment will be refined and selected. The mechanical equipment will be designed to meet the City of Boston's noise criteria. Additional, mitigation measures may be considered throughout design, such as the use of quieter equipment, enclosing the mechanical equipment with a screening wall, or locating the equipment on near the northern facades of buildings away from the residential neighborhood.

Table 6-5 Noise from Rooftop Mechanical Equipment

Receptor	Location	Land Use Zone	Project Noise (dBA)	Daytime Limit (dBA)	Nighttime Limit (dBA)
R1	190-192 Walnut St	Res	48	60	50
R2	23-25 Ericsson St	Res	47	60	50
R3	17-19 Ericsson St	Res	46	60	50
R4	58 Port Norfolk St	Res	45	60	50
R5	81-83 Lawley St	Res	44	60	50
R6	56 Port Norfolk St	Res	47	60	50
R7	77-79 Lawley St	Res	46	60	50
R8	55 Port Norfolk St	Res	47	60	50
R9	6 Ericsson St	Bus	44	65	65
R10	12 R Ericsson St	Bus	49	65	65
R11	20 Ericsson St	Bus	48	65	65
R12	26 Ericsson St	Ind	49	70	70

Source: VHB
Res: Residential
Bus: Business
Ind: Industrial

Service Activities

The proposed Project would include loading and unloading boats, which are operations similar to those currently at MarineMax Russo Boston, except that the relocated boat house facility would keep most loading activities indoors. Therefore, there would be substantial sound attenuation for the loading activities and noise levels would be expected to comply with the City of Boston noise limits.

Other loading activities associated with the commercial marine operation, would be located at truck docks at the ground level of the proposed buildings. These loading dock activities will be managed so that service and loading operations do not impact traffic circulation on the adjacent local roadways. Because loading and service activities will be enclosed or shielded by the proposed buildings and operations will be managed, noise impacts to nearby sensitive receptor locations are expected to be negligible.

6.4.6 Noise Assessment for Proposed Development

The following presents the results of the noise assessment for new receptors that would be introduced by the proposed development according to HUD guidelines.

Airport

Logan International Airport is located approximately two miles east of the Project Site. Noise data from the 2015 Logan Airport Environmental Data Report[4] indicates that the Project is located outside the 65 dBA (Ldn) contour. Therefore, the Project is not reasonably expected to be impacted by noise from airport operations.

Railroad

The MBTA operates commuter rail trains and rapid transit Red Line trains on tracks that area located approximately 800 feet west of the Project site. Following HUD's guidelines, the rail operations generate an exterior noise level of 56 dBA (Ldn) at the closest proposed residential use.

Highway

I-93 is approximately 575 feet west of the Project Site. Traffic volumes representative of the roadways were obtained from the MassDOT Transportation Data Management System[5]. Based on HUD's procedures, the highway generates an exterior noise level of 71 dBA (Ldn) at the closest proposed residential use.

All Transportation Sources

The overall exterior noise level at the proposed development including airport, railroad and highway sources at the proposed Project would be 71 dBA (Ldn) which is considered to be a normally unacceptable noise environment.

Interior noise levels would be substantially lower than exterior noise conditions based on the proposed building construction. The building facades will include masonry and metal panel wall elements and energy-efficient windows and glazing. The window-to-wall area ratios will be relatively low which help to provide substantial outdoor-to-indoor sound attenuation.

To meet the HUD Interior Noise Goal of 45 dBA (Ldn), a composite window-wall sound transmission class ("STC") rating of 26 dB is needed. Based on the HUD Standard for assessing site acceptability, a composite STC of 30 dB is required to exceed standard construction methods by 10 dB when existing levels are between 70 and 75 dBA (Ldn).

Masonry and metal wall components of the facades typically have an STC rating of at least 45 dB which provides substantial sound attenuation. Although the specific window manufacturer and model have not yet been identified, almost all windows that would be suitable for the development have an STC rating of at least 30 dB. Based on the window-to-wall ratio, the composite sound attenuation of the

[4] 2015 Environmental Data Report, Massachusetts Port Authority, http://www.massport.com/logan-airport/about-logan/noise-abatement/contours.

[5] http://mhd.ms2soft.com/tcds/tsearch.asp?loc=Mhd&mod

proposed development would be 35 dB which would easily meet the HUD Interior Noise Goal. At a minimum, windows that provide an STC of 21 dB or greater will meet the HUD Interior Noise Goal and windows that provide an STC of 30 dB or greater will meet the HUD standard to provide 10 dB additional attenuation compared to standard construction.

6.4.7 Conclusion

The noise assessment has demonstrated that the proposed Project would comply with the City of Boston's noise regulations and the BPDA Design Review Guidelines including the HUD Interior Noise Goal. Ambient noise measurements have been conducted to characterize the existing conditions which include contributions from transportation sources including I-93, MBTA train operations, local roadway traffic, and nearby mechanical noise. Noise from the proposed rooftop mechanical equipment and boat loading and unloading activities, which will be enclosed, will be below the City of Boston noise regulation requirements.

As the Project design advances, the building mechanical equipment will be specified and located to comply with these criteria and the building facades will be designed and windows selected to meet the HUD Interior Noise Goal.

6.5 Air Quality

This section presents an air-quality assessment for the Project, updated from the ENF/PNF. The purpose of the air-quality assessment is to demonstrate that the Project will not result in a violation of applicable local, state, and federal air quality standards. Boston, in Suffolk County, is in attainment for all National Ambient Air Quality Standards ("NAAQS") criteria pollutants except for the 8-hour (1997 Revoked) and 1-hour (1979 Revoked) Ozone standards. The county is also in maintenance for carbon monoxide. Accordingly, the air quality analysis calculated emission inventories of the two pollutants that contribute to the violation of the Ozone NAAQS from mobile sources-VOC and NOx.

As demonstrated in Section 6.5.1, the Project will include reasonable and feasible mitigation measures to reduce volatile organic compounds ("VOCs") and nitrogen oxide ("NO_x") emissions for the Build Condition, including TDM measures. Additionally, the air-quality study includes a discussion of the Carbon Monoxide ("CO") microscale assessment per BPDA Development Review Guidelines under Section 6.5.2.

6.5.1 Mesoscale Air Quality Analysis

The mesoscale analysis evaluated the change in emissions from Project-related traffic for the Existing, No-Build, and Build Conditions. The air-quality analysis demonstrates that the Project will meet DEP air-quality criteria of including all reasonable and feasible emission reduction mitigation measures.

6.5.1.1 Background

The purpose of the mesoscale analysis is to estimate the area-wide emissions of VOC and NO_x during a typical day in the peak ozone season (summer), consistent with the requirements of the State Implementation Plan ("SIP"). The mesoscale analysis evaluates the change in VOC and NO_x emissions from the average daily traffic volumes and vehicle emission rates. To demonstrate compliance with the SIP criteria, the air-quality study must show the Project's change in daily (24-hour period) VOC and NO_x emissions.

DEP has established guidelines that define the modeling and review criteria for air-quality studies prepared pursuant to review under MEPA. These guidelines require that mesoscale analyses be prepared for proposed development projects to determine the change in Project-related ozone precursor emissions. The predominant source of ozone precursor emissions anticipated from the Project is emissions from Project-related traffic. Ozone is not directly emitted by motor vehicles, but is generated when VOC and NO_x emissions from motor vehicles, stationary sources, and area sources react in the atmosphere with sunlight and heat. Project-related ozone impacts are determined by assessing the changes in VOC and NO_x emissions of motor vehicles. DEP criteria require that proposed development projects include all reasonable and feasible emission reduction mitigation measures if the ozone emissions from the Build Condition are greater than the No-Build Condition. Massachusetts has incorporated this criterion into the SIP.

6.5.1.2 Methodology

The ozone mesoscale air quality analysis was conducted following procedures similar to the greenhouse gas mobile source analysis, presented in Section 7.4 of Chapter 7, *Greenhouse Gas Emissions Assessment*.

The mesoscale analysis evaluates the change in emissions with and without the Project, specifically, daily (24-hour period) VOC and NO_X emissions from the average daily traffic volumes and vehicle emission rates. DEP guidelines require that the air-quality study utilizes traffic and emissions data for existing and future (No-Build and Build) conditions. The traffic and emissions data are incorporated into the Environmental Protection Agency ("EPA") and MassDEP air-quality models to generate emission's estimates that demonstrate whether the Project will have air-quality impacts.

The mesoscale air-quality analysis utilizes developed traffic data (volumes, speeds, and roadway geometry) and emission factor data for Existing, No-Build, Build, and Build with Mitigation Conditions. The mesoscale study area includes all links studied by the traffic analysis. Some of the major roadways that were included in the mesoscale analysis include Morrissey Boulevard, Water Street, Lawley Street, Port Norfolk Street, Walnut Street, and Redfield St.

The mesoscale analysis calculates the changes in VOC and NO_x emissions for the existing and future conditions within the study area. The mesoscale analysis traffic and emission factor data were developed for the aforementioned conditions. These

data were incorporated into air-quality model to evaluate the changes in VOC and NO_x emissions.

Analysis Conditions

Consistent with the traffic analysis, the following conditions were analyzed: the 2018 Existing Condition; and 2023 future No-Build and Build Conditions. The analysis compares the future No-Build and Build Conditions in order to identify the anticipated changes in traffic conditions and mobile source VOC and NOx emissions as a result of the Project. Where applicable, the Existing Condition is considered for comparison purposes only.

Emission Factor Modeling

EPA's Office of Transportation and Air Quality ("OTAQ") has developed the Motor Vehicle Emission Simulator ("MOVES").[6] MOVES2014a is EPA's latest motor vehicle emissions model for state and local agencies to estimate VOCs, NOx, and other emissions from cars, trucks, buses, and motorcycles.

All the vehicle emission factors used in the mesoscale analysis were obtained using EPA's MOVES2014a emissions model. MOVES2014a calculates emission factors from motor vehicles in mass per distance format (often grams per mile) for existing and future conditions and applies these factors to Vehicle Miles Travelled ("VMT") data to obtain emissions inventories. The emissions calculated for this air-quality assessment include Tier 3 emission standards, which is an EPA program that sets new vehicle emissions standards, including lowering the sulfur content of gasoline, heavy-duty engine, and vehicle greenhouse gas regulations (2014-2018), and the second phase of light-duty vehicle GHG regulations (2017-2025). It also includes Massachusetts-specific conditions, such as the state vehicle registration age distribution and the statewide Inspection and Maintenance ("I/M") Program.[7] These stringent emissions regulation programs often result in smaller emissions inventories with the passage of time when comparing similar scenarios.

The MOVES2014a model was run at a project-level to obtain emission factors for each link of the mesoscale analysis. The model was set to calculate the emissions burden by choosing to model emissions processes that are specifically related to on-road travel. Links were created that used the appropriate speeds and grades for each roadway segment.

Traffic Data

The air-quality study used traffic data (volumes) developed for each analysis condition. The mesoscale analysis uses typical daily peak and off-peak traffic volumes for the ozone summer season. The VMT data used in the air-quality analysis were developed based on the traffic data analyzed in this DEIR/DPIR.

1 MOVES2014a (Motor Vehicles Emission Simulator), November 2016, US EPA, Office of Mobile Sources, Ann Arbor, MI.

2 T*he Stage II Vapor Recovery System* is the process of collecting gasoline vapors form vehicles as they are refueled. This requires the use of a special gasoline nozzle at the fuel pump.

6.5.1.3 Existing Mesoscale Emissions

The mesoscale analysis calculated the existing VOC and NO_x emissions for the Project inventory. These emissions, estimated to be 8.6 kilograms per day ("kg/day") of VOCs and 3.2 kg/day of NOx establish an Existing Condition to which future emissions can be compared.

6.5.1.4 Future Mesoscale Emissions

Future Project-related emission calculations are based upon changes in traffic and emission factor data. The traffic data includes traffic volumes that were used to calculate VMT on the study network. The emission factor data included emission reduction programs, shifts in vehicle populations, and other factors. Under the No-Build Condition, VOC emissions were estimated to be 8.3 kg/day and NOx emissions were estimated to be 2.4 kg/day. The 2023 VOC and NO_x emission factors are lower than the 2018 emissions due to the implementation of emission control programs, such as the Federal Motor Vehicle Emission Control Program (Tier 3), the Stage II Vapor Recovery System, and the Massachusetts Vehicle Inspection and Maintenance program.

Under the Build Condition, as presented in Table 6-6, the VOC emissions are estimated to be 8.6 kg/day and the NO_X emissions are estimated to be 2.5 kg/day. The Build Condition emissions inventory was developed by considering the effects of the Project generated trips on the No-Build network. The SIP requires that proposed projects with VOC and NO_X emissions under the Build Condition that are greater than the No-Build Condition include all reasonable and feasible emission reduction measures.

Table 6-6 Mesoscale Air Quality Analysis Results (kg/day)

Pollutant	Existing Conditions	No-Build Conditions[1]	Build Conditions	Project-Related Emissions[2]
Volatile Organic Compounds (VOCs)	8.6	8.3	8.6	0.3
Oxides of Nitrogen (NOx)	3.2	2.4	2.5	0.1

1 The future No-Build condition emission factors are lower than the Existing conditions emission factors due to the implementation of state and federal emission control programs, such as the Federal Motor Vehicle Emission Control Program (Tier 3) and the Stage II Vapor Recovery System, and the Massachusetts Inspection and Maintenance program.
2 Represents the difference in emissions between the Build and No-Build Conditions

6.5.1.5 Proposed Mitigation Measures

A transportation mitigation program has been developed to mitigate the impacts of Project-related traffic. Specifically, the traffic mitigation measures proposed by the Proponents to minimize the traffic impacts of the full build-out of the Project include multiple TDM measures.

The Proponent is committed to implementing a TDM program. A full description of the TDM program is detailed in Section 5.5 of Chapter 5, *Transportation*. Implementation of the TDM program is expected to improve air quality in the study area by promoting the use of alternative forms of transportation over the use of single-occupant motor vehicle ("SOV") trips to the Project Site. This modal shift results in lower Project-related VMT which consequentially reduces indirect Project emissions.

Previous estimates of similar TDM programs in a suburban area have ranged on the order of a two- to five-percent reduction in vehicles miles traveled ("VMT"), which is assumed to result in comparable pollutant emission savings. Since the Project is not expected to produce substantial NOx and VOC emissions, the mitigation provided by the TDM measures is similarly expected to be small.

6.5.2 Microscale Air Quality Analysis

The CAAA resulted in states being divided into attainment and non-attainment areas, with classifications based upon the severity of their air-quality problems. Air quality control regions are classified and divided into one of three categories: attainment, non-attainment, and maintenance areas, depending upon air quality data and ambient concentrations of pollutants. Attainment areas are regions where ambient concentrations of a pollutant are below the respective NAAQS; non-attainment areas are those where concentrations exceed the NAAQS. A maintenance area is an area that used to be non-attainment, but has demonstrated that the air quality has improved to attainment. After 20 years of clean air quality, maintenance areas can be re-designated to attainment.

The Project is located in the Port Norfolk neighborhood within the City of Boston, Suffolk County, Massachusetts, which under the EPA designation is a CO Maintenance area. Projects located in a CO maintenance area are required to evaluate their CO concentrations with the NAAQS, as has been done for this Project. The City of Boston is in attainment for the remainder of the criteria pollutants.

6.5.2.1 Air Quality Standards

The EPA has established the NAAQS to protect the public health. Massachusetts has adopted similar standards as those set by the EPA for CO. Table 6-7 presents the NAAQS for carbon monoxide.

Table 6-7 National Ambient Air Quality Standards

	Primary Standards		
Pollutant	**Level**	**Averaging Time**	**Form**
Carbon Monoxide	9 ppm (10 mg/m^3)	8-hour	Not to be exceeded more than once per year
	35 ppm (40 mg/m^3)	1-hour	

DEP maintains a network of air-quality monitors to measure background CO concentrations. Background concentrations are ambient pollution levels from all stationary, mobile, and area sources. Background CO concentrations are determined by choosing the maximum of the second-highest annual values from the previous three years. Looking at the air-quality monitor closest to the project site (Von Hillern) for the years 2014-2016, the CO background values are 1.7 ppm for the 1-hour averaging time and 0.9 ppm for the 8-hour averaging time. These values are much less than the 1-hour and 8-hour NAAQS. The background values are presented in Table 6-8.

Table 6-8 Air Quality Background Concentrations

	Background Concentrations		NAAQS	
Pollutant	**Level**	**Averaging Time**	**Level**	**Averaging Time**
Carbon Monoxide	0.9 ppm	8-hour	9 ppm	8-hour
	1.7 ppm	1-hour	35 ppm	1-hour

Monitoring Location: Von Hillern, Boston, MA. Years 2014-2016.

The potential CO concentrations from motor vehicle traffic related to the Project will be considered in conjunction with these background concentrations to demonstrate that the Project will comply with the NAAQS Standards.

6.5.2.2 BPDA Development Review Guidelines

The BPDA Development Review Guidelines require "a microscale analysis predicting localized carbon monoxide concentrations should be performed, including identification of any locations projected to exceed the National or Massachusetts Ambient Air Quality Standards, for projects in which:

- Project traffic would impact intersections or roadway links currently operating at LOS D, E, or F or would cause LOS to decline to D, E, or F; or
- Project traffic would increase traffic volumes on nearby roadways by 10 percent or more (unless the increase in traffic volume is less than 100 vehicles per hour); or
- The Project will generate 3,000 or more new average daily trips on roadways providing access to a single location."

6.5.2.3 Traffic Data

The air quality study uses traffic data (volumes, delays, and speeds) developed for the analysis conditions based upon the traffic analysis. The traffic study area includes the following intersections:

1. Morrissey Boulevard at Walnut Street
2. Morrissey Boulevard at Redfield Street
3. Morrissey Boulevard at Conley Street

4. Morrissey Boulevard at Tenean Street
5. Redfield Street at Woodsworth Street
6. Water Street at Lawley Street/Conley Street
7. Water Street at Port Norfolk Street
8. Water Street at Walnut Street
9. Ericsson Street at Lawley Street
10. Ericsson Street at Port Norfolk Street
11. Ericsson Street at Walnut Street

Based on the traffic study presented in Chapter 5, *Transportation*, the Project is expected to generate 51 vehicle trips in the morning peak hour and 57 vehicle trips in the evening peak hour.

6.5.2.4 Microscale Screening Analysis

An evaluation of the traffic data was conducted under the review guidelines developed by the BPDA for determination of the potential for CO impacts. It was determined that:

- The Project would not cause a decline in LOS at any intersection in the study area in both the morning and evening peak hours with the future Morrisey Boulevard redesign. Three intersections would operate at LOS D, E, or F in both the No Build and Build scenarios. However, the Project will not substantially impact the operation of these intersections as the results of the transportation analysis indicate that there will be no changes in LOS in the study area with the construction of the Project and the Morrisey Boulevard redesign.
- Project generated traffic is <u>not</u> expected to exceed 100 vehicles per hour during the peak periods. Instead, the Project is estimated to generate 51 vehicles in the morning peak hour and 57 vehicles in the evening peak hour. Therefore, it is not necessary to consider the percentage increase of traffic volumes on nearby roadways.
- The Project will generate fewer than 3,000 or more new average daily trips on the study area roadways. The Project will generate 652 weekday vehicle trips, fewer than the 3,000-vehicles-per-day threshold.

Based on the microscale screening results discussed above, it has been determined that a quantitative CO hotspot analysis is not necessary for the Project. No microscale air quality impacts are anticipated.

6.6 Groundwater

From 1995 through July 2017, a series of groundwater monitoring events were performed by environmental consultants associated with the MCP release at the Project Site. Recent gauging of monitoring wells at the Project Site has measured groundwater levels at depths ranging from 8.0 to 13 feet below ground surface.

Based upon our measured depths of groundwater, groundwater at the subject site is understood to generally flow in a southwesterly direction.

Localized trapped groundwater and/or surface water runoff may accumulate or be encountered during preparation of the foundation bearing surface after periods of heavy precipitation. If required, the off-site discharge of groundwater or accumulated surface water will be performed in accordance with the EPA NPDES permits issued to the Commonwealth of Massachusetts as well as DEP and municipal regulations pertaining to the off-site discharge of groundwater into surface water bodies.

6.7 Solid and Hazardous Waste

Approximately 12,000-gallons of gasoline and diesel are stored within double-walled steel underground storage tanks ("USTs") that are located at the northeastern portion of the Project Site. The USTs were installed in 1989 with interstitial monitoring, and are operated and maintained by the operator of the marina in accordance with 310 CMR 80.0000.

The historical usage and storage of various petroleum products have resulted in releases of petroleum hydrocarbons, petroleum related constituents and non-aqueous phase liquid ("NAPL") to soil and groundwater at the Project Site. A release of petroleum was first discovered at the site in March 1981, at which time a Notice of Responsibility was issued to Norwood Marine (a previous site owner) by the U.S. Coast Guard. Currently, these releases of petroleum products are collectively being managed under RTN 3-12654 which was assigned by DEP in 1995.

Response actions associated with RTN 3-12654 are being conducted under a Phase V Remedy Operation Status ("ROS") in accordance with Section 40.0893 of the Massachusetts Contingency Plan ("MCP"). The ROS includes provisions for the in-situ application of remedial additives as well as post remediation testing of groundwater. The most recent application of remedial additives was performed by the previous site owner in December 2015. Since the last application of remedial additives, periodic sampling and testing of groundwater and soil has been performed at the Project Site.

Based upon the collective results of assessment activities completed since 1995, the lateral extent of the RTN 3-12654 site has been determined to be limited to the northeastern portion of the Project Site. The vertical extent of the soil contamination appears to be limited to a depth between eight and 14 feet below ground surface.

Remedial actions will be implemented as part of construction of the Project. It is anticipated that these remediation activities will achieve a Condition of No Significant Risk and a Permanent Solution for the release site.

Prior to construction of the Project, additional assessment will be performed to pre-characterize in-situ soils for off-site removal, and groundwater for potential off-site discharge. In addition, the existing buildings will be assessed for the potential presence of asbestos, lead paint, or other hazardous materials. Appropriately

licensed professionals will prepare work plans to identify the means and methods for the safe removal and legal disposal or recycling of these materials, if found.

Abatement and disposal of hazardous materials (or hazardous waste) will be performed under the provisions of MGL c21 /2C, OSHA, and the MCP, by specialty contractors experienced and licensed in handling materials of this nature. The soils transported off-site will be legally disposed in accordance with the MCP and other DEP and federal regulatory requirements. Disposal of materials will be tracked via Material Shipping Records, Bills of Lading and/or other methods, as required to ensure their proper and legal disposal. If required, the off-site discharge of groundwater will be performed in accordance the EPA National Pollution Discharge Elimination System ("NPDES") permits issued to the Commonwealth as well as DEP and municipal regulations.

6.8 Geotechnical

Based upon the subsurface exploration program performed at the Project Site, the following are inferred subsurface conditions underlying the site:

- The surface treatments and building footprints that cover the Project Site are underlain by an urban fill which ranges in thickness from four to 20 feet. The urban fill generally consists of a compact to very dense, brown to black, silty sand varying to a sand and gravel with trace to some silt. In addition, varying quantities of brick, concrete, wood, organic soil, ash and cinders were encountered within the urban fill.
- The urban fill is underlain by a discontinuous organic deposit which generally varies in thickness from two to six feet. The organic deposit consists of a very soft to firm, gray to black, organic silt containing occasional fibrous peat.
- A natural marine sand deposit underlies the fill material and organic deposit at depths ranging from four to 26 feet below existing ground surface. The natural marine sand was observed to consist of a compact to very dense, brown, silty sand with some gravel varying to a gravel with some sand and trace silt. The bottom of the marine sand was encountered at approximately 99 feet below ground surface.
- The natural marine sand is underlain by a deposit of natural marine clay consisting of a stiff to very stiff yellow-gray to blue, silty clay with occasional interbedded layers of marine sand. While only encountered in one exploration performed at the Project Site, the marine clay deposit was observed to approximately 64 feet in thickness.
- Beneath the marine clay, a deposit of glacial till is present at approximately 163 feet below ground surface. The glacial till consists of a dense to very dense gray, silty sand and gravel with numerous cobbles. While only penetrated within one exploration performed at the Project Site, the glacial till was observed to be approximately six feet in thickness.

Although not yet determined, the foundation system associated with the proposed structures may include spread footings in conjunction with ground improvement or a waterproofed mat foundation.

6.9 Construction Management

The Proponent will develop a detailed evaluation of potential short-term construction-related transportation impacts including construction vehicle traffic, parking supply and demand, and pedestrian access. Detailed Construction Management Plans ("CMP") will be developed and submitted to the BTD for their approval. These plans will detail construction vehicle routing and staging.

Construction vehicles will be necessary to move construction materials to and from the Project Site. Every effort will be made to reduce the noise, control fugitive dust and minimize other disturbances associated with construction traffic. Truck staging and laydown areas for the Project will be carefully planned. The need for street occupancy (lane closures) along roadways adjacent to the Project Site is not known at this time, but will seek to be minimized.

During the construction period, pedestrian activity adjacent to the site may be impacted by sidewalk closures. A variety of measures will be considered and implemented to protect the safety of pedestrians. Temporary fencing and walkways, appropriate lighting, and new directional and informational signage to direct pedestrians around the construction sites will be provided. After construction is complete, finished pedestrian sidewalks will be permanently reconstructed to meet ADA standards around the new facilities. Any damage as a result of construction vehicles or otherwise will be repaired per City standards.

6.9.1 Air Quality

No adverse air quality impacts from the construction of the Project are anticipated. Fugitive dust mitigation measures may include, as necessary:

- Wet suppression to minimize the generation of dust from excavation operations and on-site vehicle traffic, with provisions for any runoff control;
- Spraying any piles of excavation materials with soil cement or calcium chloride overnight and on weekends, and securely covering long-term material stock piles;
- Compacting of the soil or the use of gravel to stabilize the Site access points;
- Washing vehicle wheels before leaving the Project Site, as necessary, with provisions for runoff control;
- Periodic cleaning of paved streets near the entrances to the Project Site to minimize vehicle mud/dirt carryout;
- Installing fencing around the perimeter of the Project Site to assist in containing wind-blown dust;
- Requiring that trucks hauling excavated material from the Project Site install secure covers over their loads; and,

› Encouraging the construction contractors for the Project to implement the Massachusetts Diesel Retrofit Program control measures for heavy-duty diesel equipment.

6.9.2 Noise

The construction of the Project will be performed in a manner that complies with the DEP and City of Boston noise regulations. To ensure compliance with these regulations during construction, the Proponents, to the extent practicable, will seek to incorporate into the general construction contract the following mitigation measures:

› Limited vehicle idling to five minutes;

› Limited construction vehicle warm-up to ten minutes;

› Insuring construction vehicles have ambient leveling sensors on the back up alarms, and

› Limiting construction to the hours allowable by City of Boston regulations.

6.9.3 Traffic

To minimize impacts to abutters and the local community, the Proponent will consider all available measures, including information on construction activities, specific construction mitigation measures, and construction materials access and staging area plans. Barricades, walkways, lighting and signage will be used to ensure public safety throughout the construction period.

6.9.4 Odor

Odor issues are not anticipated due to the lack of organic soils on the Project Site; however, if such soils are encountered, the Project Team will undertake appropriate mitigation measures to control the odor associated with their removal, such as:

› Cut and cover utility trenches whenever possible;

› Protection of excavated materials with plastic sheathing to encapsulate odors; and

› Removal of excavated materials from the Site in a covered vehicle on a frequent basis.

6.9.5 Rodents

The City of Boston has declared that the infestation of rodents in the city as a serious problem. To control this infestation, the City enforces the requirements established under the Massachusetts State Sanitary Code, Chapter 211, 105 CMR 410.550 and the State Building Code, Section 108.6. Policy Number 87-4 (City of Boston) established that preparation of a program for the extermination of rodents shall be required for issuance of permits for demolition, excavation, foundation, and basement rehabilitation. The Proponent will prepare and adhere to

a rodent-control program prior to demolition and on a regular basis throughout the duration of construction.

6.9.6 Construction Staging – Public Safety

Prior to the beginning of construction, the Construction Manager will produce a Site-Specific Safety Plan to be reviewed and approved by the City as well as all other agencies impacted in conjunction with the CMP.

The entire perimeter of the construction site will be protected with a construction fence with debris net on top of concrete barriers to separate the construction activities and general public. Vehicular gates will be provided for construction traffic in alignment with the flow of traffic on perimeter roads to allow safe entrance and exiting for construction vehicles. Sidewalks around the Project Site perimeter will be maintained during construction, and overhead protection will be utilized in areas where the new construction is in close proximity to the general public.

Post-construction during building operations, trash and solid waste removal will be handled by building management. A service contract with a professional pest control firm will be maintained to address rodent/pest control during the operational phase of the Project, as needed. In addition, no open top dumpsters will be allowed as an additional precaution to deter infestation.

SHADOW STUDY COMPOSITE

VERNAL EQUINOX - 9 AM

Net New Shadows

Existing Shadows

SHADOW STUDY COMPOSITE

VERNAL EQUINOX - 12 PM

Net New Shadows

Existing Shadows

SHADOW STUDY COMPOSITE

VERNAL EQUINOX - 3 PM

Net New Shadows

Existing Shadows

SHADOW STUDY COMPOSITE

SUMMER SOLSTICE - 9 AM

Net New Shadows

Existing Shadows

SHADOW STUDY COMPOSITE

SUMMER SOLSTICE - 12 PM

Net New Shadows

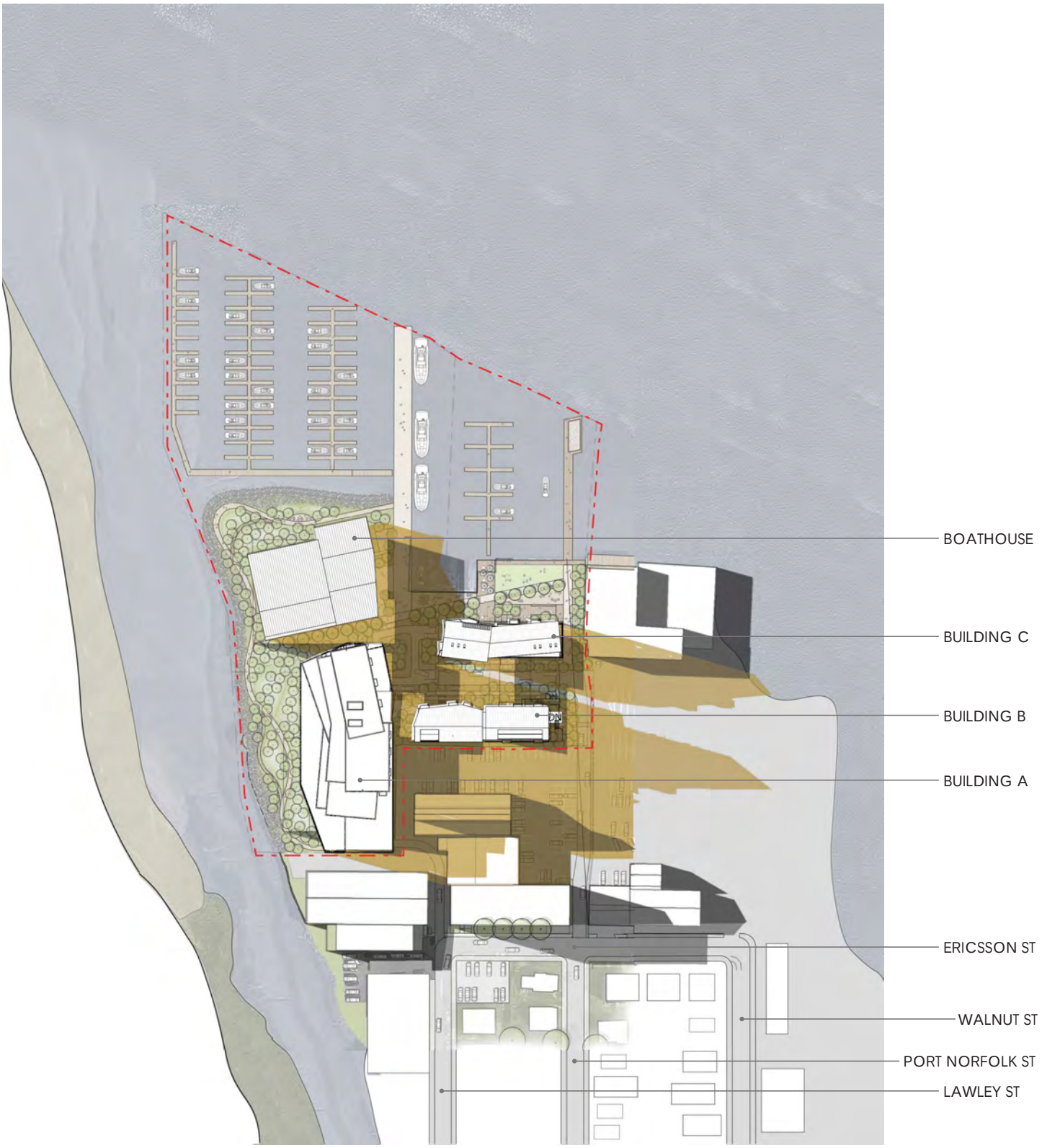
Existing Shadows

SHADOW STUDY COMPOSITE

SUMMER SOLSTICE - 3 PM

Net New Shadows

Existing Shadows



SHADOW STUDY COMPOSITE

SUMMER SOLSTICE - 6 PM

Net New Shadows

Existing Shadows

SHADOW STUDY COMPOSITE

AUTUMNAL EQUINOX - 9 AM

Net New Shadows

Existing Shadows

SHADOW STUDY COMPOSITE

AUTUMNAL EQUINOX - 12 PM

Net New Shadows

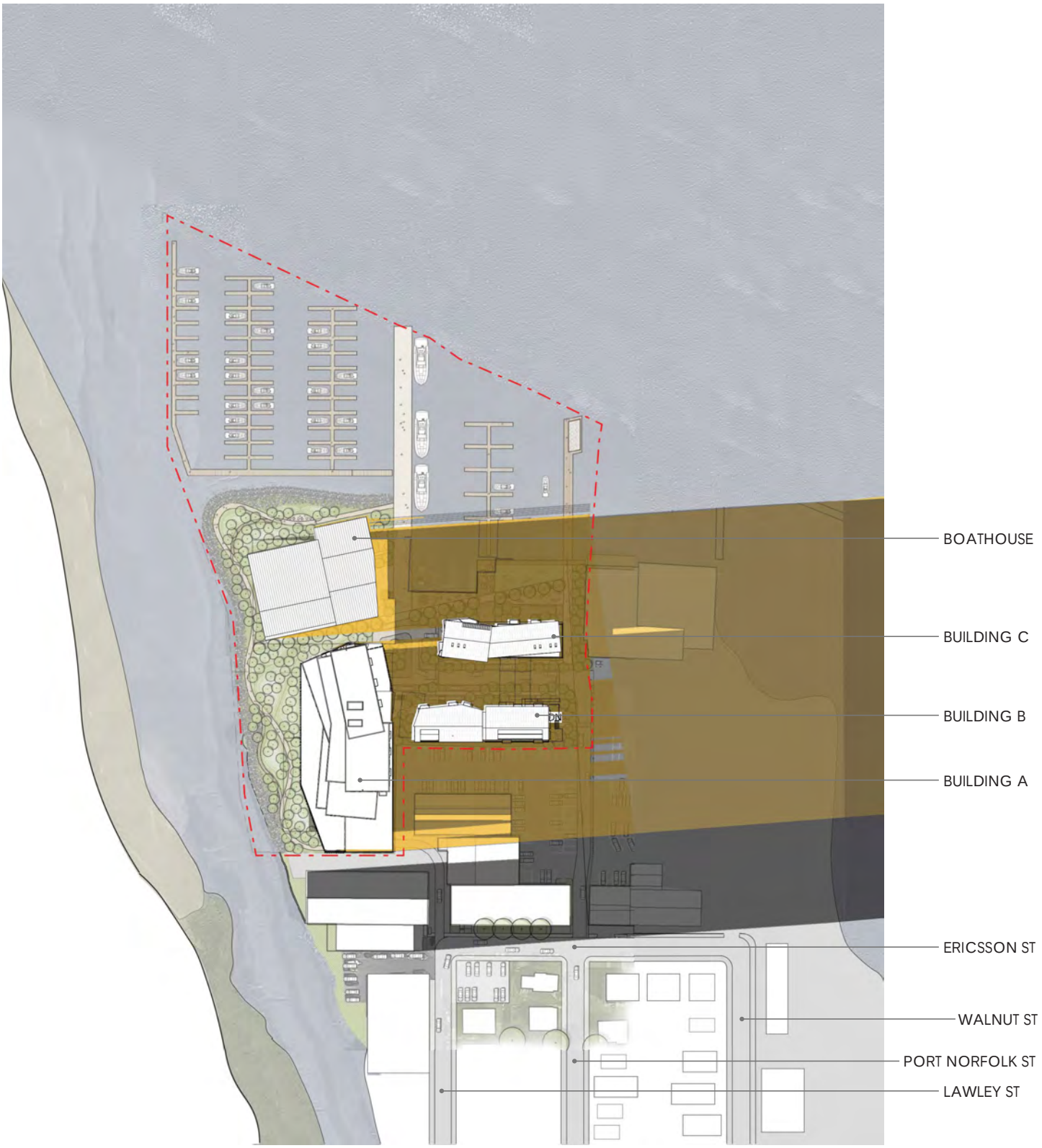
Existing Shadows

SHADOW STUDY COMPOSITE

AUTUMNAL EQUINOX - 3 PM

Net New Shadows

Existing Shadows

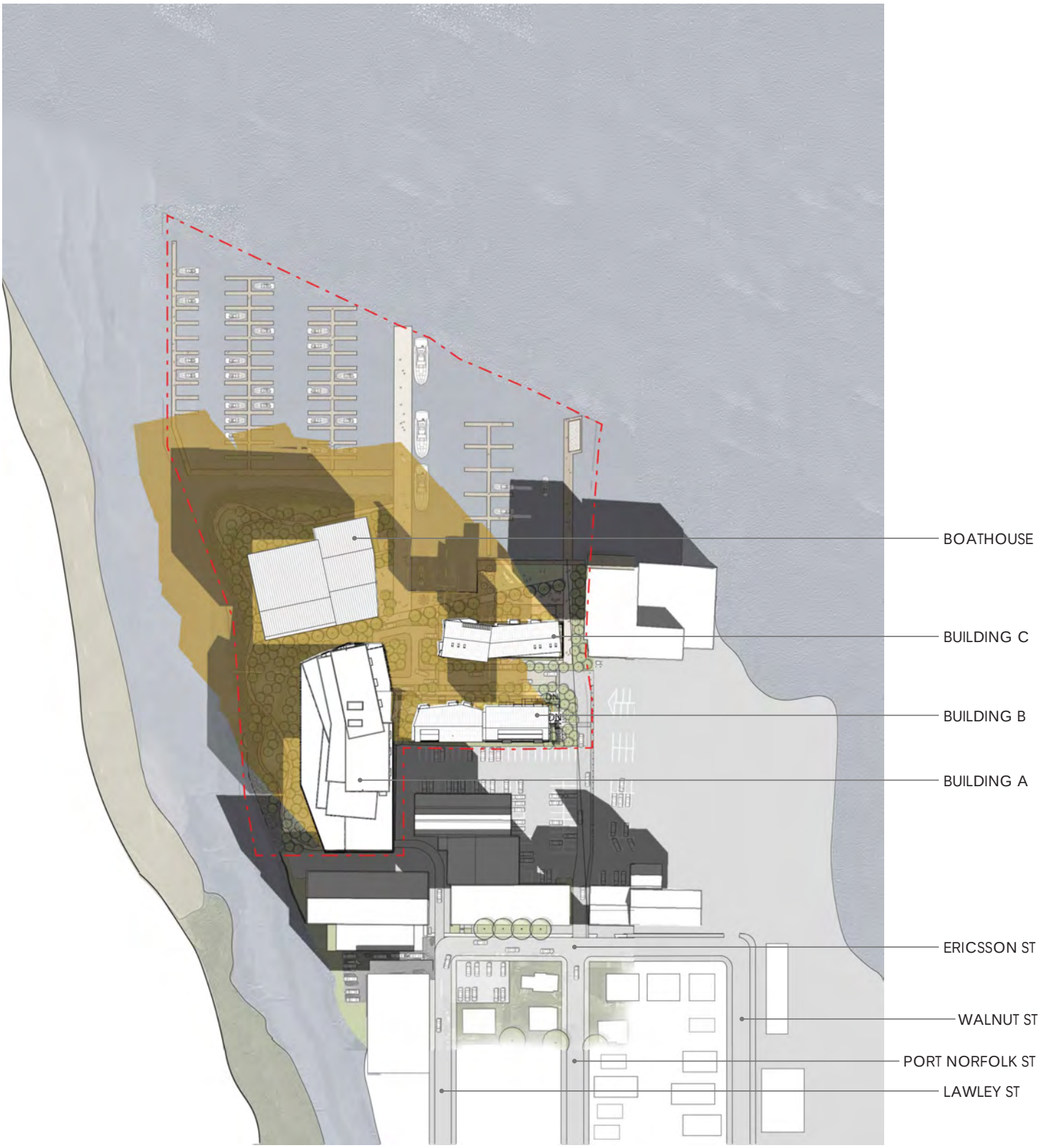


SHADOW STUDY COMPOSITE

AUTUMNAL EQUINOX - 6 PM

Net New Shadows

Existing Shadows

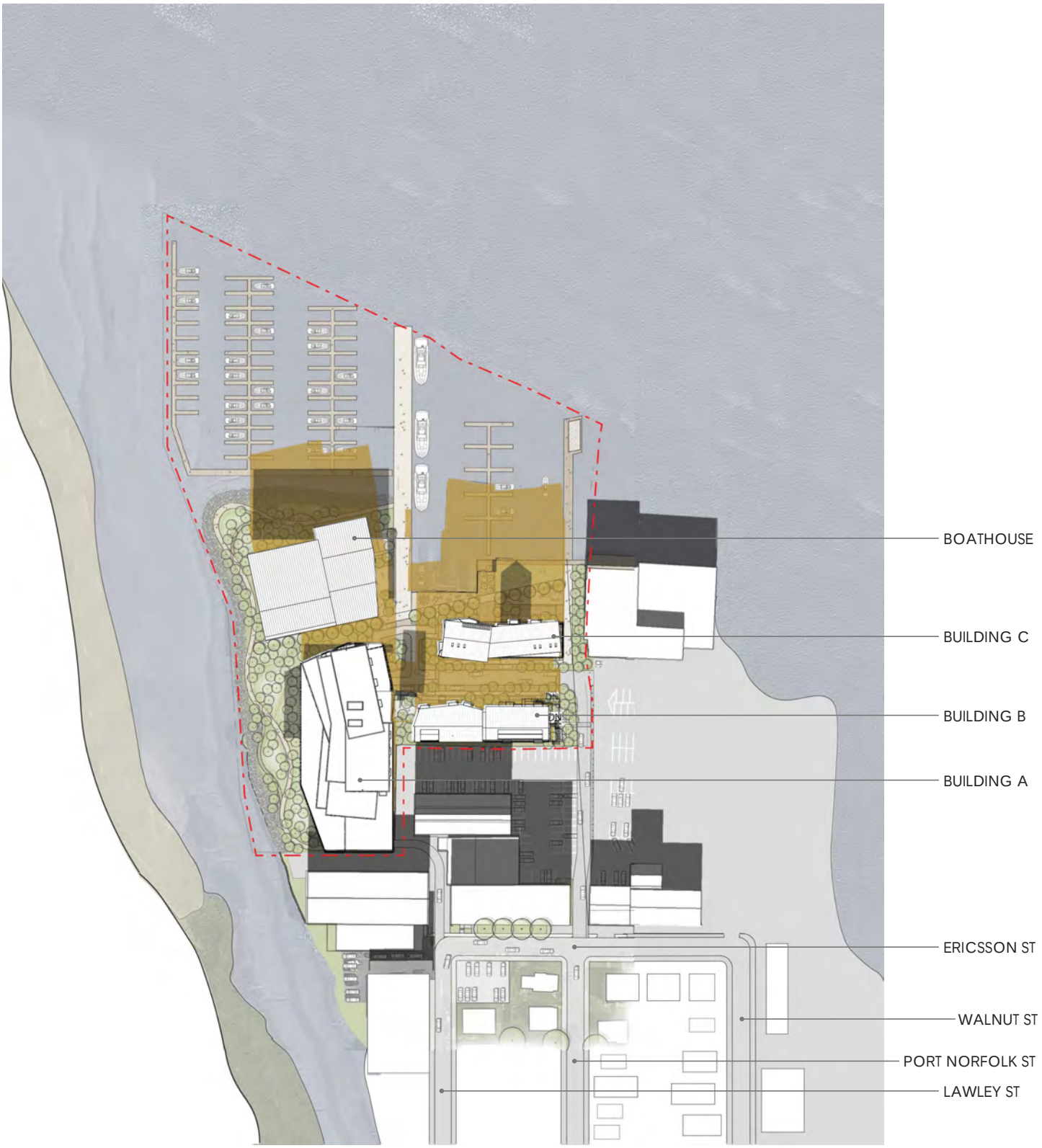


SHADOW STUDY COMPOSITE

WINTER SOLSTICE - 9 AM

Net New Shadows

Existing Shadows



SHADOW STUDY COMPOSITE

WINTER SOLSTICE - 12 PM

Net New Shadows

Existing Shadows

SHADOW STUDY COMPOSITE

WINTER SOLSTICE - 3 PM

Net New Shadows

Existing Shadows

\\vhb\proj\Boston\13866.00\tech\Noise\GIS\Noise_Monitoring_Locations.mxd

Source: MassGIS

M# Monitoring Locations

Figure 6.5

Noise Monitoring Locations

Neponset Wharf
Boston, Massachusetts

7

Greenhouse Gas Emissions Assessment

This chapter provides an overview of the local and state regulatory context related to sustainable design and presents the results of the Greenhouse Gas ("GHG") emissions assessment, in accordance with the MEPA Greenhouse Gas Emissions Policy and Protocol (the "MEPA GHG Policy").[1] The Proponent is committed to incorporating key aspects of sustainability and high-performance building design, as it is the Proponent's intent to operate the Project in a sustainable manner.

7.1 Summary of Key Findings and Benefits

The key findings related to sustainable, high-performance design and GHG emissions include:

- Based on the preliminary design parameters assumed in the Design Case, the Project would achieve an energy savings of 36.3 percent when compared to the Base Case (defined below). This would result in a GHG emissions reduction of 32.3 percent (366.5 tons per year).
- The Design Case (defined below) Energy Use Intensity ("EUIs") of the Project components are generally less than the EUIs for the prototype buildings in the US Department of Energy ("DOE") study. This would indicate that the Project is expected to perform better than prototype buildings of similar use.
- A variety of clean and renewable energy sources were analyzed including solar panels, transpired solar collectors, wind, and cogeneration in the form of combined heat and power ("CHP"). Based on the energy and payback analysis, solar panels are the most cost-effective potential strategy.
- A variety of additional energy saving measures are proposed and being considered as part of the Project including: building commissioning, energy tracking and monitoring, plug load reductions, green tenant guidelines, and solid/construction & demolition ("C&D") waste reduction strategies.
- The Project-related mobile source CO_2 emissions are projected to be reduced by two tons per year with the implementation of the proposed TDM program.

[1] MEPA Greenhouse Gas Policy and Protocol, Executive Office of Energy and Environmental Affairs, effective November 1, 2007 (revised version effective May 5, 2010).

7.2 Regulatory Context

7.2.1 MEPA Greenhouse Gas Policy and Protocol

The MEPA GHG Policy which requires project proponents to identify and describe the feasible measures to minimize both mobile and stationary source GHG emissions generated by their proposed projects. Mobile sources include vehicles traveling to and from a project, while stationary sources include on-site boilers, heaters, and/or internal combustion engines (direct sources), as well as the consumption of energy in the form of electricity (indirect sources). Greenhouse gases include several air pollutants, such as carbon dioxide ("CO_2"), methane, hydrofluorocarbons, and perfluorocarbons. The MEPA GHG Policy calls for the evaluation of CO_2 emissions for a land development project because CO_2 is the predominant man-made contributor to global warming. This evaluation makes use of the terms CO_2 and GHG interchangeably.

The MEPA GHG Policy states that all projects undergoing MEPA review requiring the submission of an EIR must quantify the project's GHG emissions, and identify measures to avoid, minimize, or mitigate such emissions. In addition to quantifying project-related GHG emissions, the MEPA GHG Policy requires proponents to quantify the effectiveness of proposed improvements in terms of energy savings, and, therefore, potential emissions reductions. The goal of the MEPA GHG Policy is to identify and implement measures to minimize or reduce the total GHG emissions anticipated to be generated by that respective project.

7.2.2 Stretch Energy Code

As part of the Green Communities Act of 2008, Massachusetts developed an optional building code, known as the "Stretch Energy Code," that gives cities and towns the ability to choose stronger energy performance in buildings than otherwise required under the state building code. Codified by the Board of Building Regulations and Standards as 780 CMR Appendix 115.AA of the 8th edition Massachusetts Building Code, the Stretch Energy Code is an appendix to the Massachusetts building code, based on further amendments to the International Energy Conservation Code ("IECC"). The Stretch Energy Code increases the energy efficiency code requirements for new construction and major residential renovations or additions in municipalities that adopt it. The Stretch Energy Code applies to both residential and commercial buildings and, specifically, to new commercial buildings over 5,000 square feet in size, including multi-family residential buildings over three stories. The City of Boston adopted the Stretch Energy Code, which became mandatory on July 1, 2011.

Effective January 1, 2017, the Stretch Energy Code requires a 10-percent greater energy efficiency compared to the state's energy code (the "Base Code"). This DEIR/DPIR assesses the energy performance of the Project using the Stretch Energy Code requirements in effect as of January 1, 2017 in order to demonstrate the Project can meet such requirements.

7.3 Stationary Source GHG Emissions Assessment

In support of Boston's GHG reduction goals, the Proponent has evaluated and incorporated strategies to minimize energy consumption associated with the Project through building energy modeling based on conceptual design as well as considered clean/renewable energy sources. Also, the Proponent is planning to engage utility providers to better understand available alternative/cleaner energy sources and grants/rebates.

7.3.1 Methodology

To provide for energy efficiency and reduced stationary source GHG emissions, the Proponent has evaluated the following key planning and design criteria:

- Methods to reduce overall energy demand through appropriate design and sizing of systems; and
- Methods to improve building envelope materials.

Each Project component was modeled with the proposed building geometry, HVAC system type, occupancy schedule, and ventilation rates.

Direct stationary source CO_2 emissions include those emissions from the facility itself, such as boilers, heaters, and internal combustion engines. Indirect stationary source CO_2 emissions are derived from the consumption of electricity, heat, or cooling from off-site sources, such as electrical utility or district heating and cooling systems. The direct and indirect stationary source CO_2 emissions from the proposed building sources are calculated through an energy analysis procedure that combines eQuest[2] models based on assumptions for the Project's building elements, such as (but not limited to) the specific type of use(s) and users of the buildings, building configuration and architecture type, building envelope (walls/windows), interior fit-out (where known), and HVAC equipment efficiency ratings with Excel spreadsheets for post-processing of emission conversion factors.

The GHG mitigation and energy conservation measures can be divided into the buildings' construction materials, architecture, and the heating and cooling processes. The following presents the specific proposed building improvements (and their correlating energy modeling parameters for reference, where applicable) that are assumed to be included as part of the Project for the purpose of this analysis. The specific proposed improvements will likely be subject to design modifications as necessary to achieve the GHG emissions reduction based on the final building program and tenants and design.

Energy Model and Analysis Conditions

The energy analysis is used to estimate the amount of annual energy consumption by simulating a year of building operations based on typical yearly weather and user

[2] "eQuest, the Quick Energy Simulation Tool" Copyright © 1998-2009 James J. Hirsch.

inputs. The analysis modeled each of the four buildings (A through D) proposed by the Project as they are currently designed. The exact makeup and equipment of each building is subject to change as the Project's design progresses.

The model estimates each buildings' electricity and gas usage based on building design and system assumptions using Appendix G of ASHRAE 90.1-2013. The amount of consumed energy is then converted into the amount of CO_2 emitted using the standardized conversion factors. CO_2 emissions were quantified for (1) the Base Case corresponding to the minimum requirements of ASHRAE 90.1-2013 and (2) the Design Case, which includes all energy saving measures that were deemed to be reasonable and feasible. The stationary source assessment calculated CO_2 emissions for the following build conditions:

- Build Condition with MA Building Code (the "Base Case") - The Project assuming typical construction materials and building equipment/systems that meet the minimum requirements of the base code. This baseline is established by the energy code as being defined by ASHRAE 90.1–2013.
- Build Condition with Energy Conservation Measures (the "Design Case") - The Project assuming building design and system improvements that meet the MEPA GHG Policy.

7.3.2 Future Stationary Source GHG Emissions Measures

The Project includes the construction of four buildings with three use types. The uses included in the energy assessment for the DEIR/DPIR include residential, retail, and boat storage. The approach to and results of the building energy model for the Project buildings is presented below. The noteworthy improvements for the base representative building are presented in the table and sections below. While specific improvements may be subject to design modification as design progresses, the Proponent is committed to achieving the stationary-source GHG emissions-reduction targets estimated herein for the final building program and design.

Table 7-1 provides a summary of the proposed building improvements assumed for the four Project components. Key energy savings features across all buildings include improved roof and wall insulations, low window-to-wall ratios at residential buildings and energy efficient windows and glazing. Since the ENF/PNF filing, the window-to-wall ratios have been reduced, providing substantially improved energy performance. Mechanical equipment at the Project Components are also designed to be better than code. Corridor and Retail spaces will use similar equipment to the base code but with better efficiencies. Residential spaces will also improve upon the base code by installing Water Source Heat Pumps ("WSHP") at Building A and Direct Expansion ("DX") units with "combi" boilers at Buildings B and C.

Table 7-1 Project Key Model Assumptions

Building Component	Base Case[1]	Design Case
Square Footage/Usage		
Modeled Square Footage	Building A: 151,000 sf; Building B: 47,500 sf; Building C: 43,500 sf; Building D: 19,000 sf	
Space Description	Buildings A-C: Residential; Building D: Boathouse/Retail	
Temperature Setpoints	Cooling: 75F / Heating: 70F	
Building Exterior Envelope (Construction Assemblies)		
Roof Assembly	R-30 continuous insulation (U-0.032)	R-35 continuous insulation (U-0.028)
Wall Assembly	R-13 + R-10 continuous insulation (metal stud) (U-0.055)	R-20 continuous insulation (U-0.044)
Wall-to-Wall Ratio	Building A: 31.5%, Buildings B-C: 31.1%; Building D: 6%	Building A: 31.5%, Buildings B-C: 31.1%; Building D: 6%
Windows and Glazing	U-0.42 (fixed); U-0.50 (operable)	U-0.36 (assembly, all)
Solar Heat Gain Coefficient	0.40 (both)	0.32 (all)
HVAC Systems and Controls		
HVAC System	Corridor: DX RTU with Gas-Fired Furnace and heat recovery (50% Eff.) Residential: PTAC - DX with hot water coil Retail: Air Cooled Packaged VAV w/ Hot Water Coils	Corridor: DX RTU with Gas-Fired Furnace and heat recovery (75% Eff.) Residential: WSHP (Building A); DX w/combi boilers (Building B/C); DX (Building D) with ERVs at Residential Retail: Air Cooled Packaged VAV w/ Hot Water Coils
Cooling Efficiency	Corridor: 10.8 EER Residential: 9.3 EER Retail: 12.2 EER	Corridor: 12 EER Residential: 15 EER (Building A); 12 EER (Building B, C, D) Retail: 13 EER
Heating Efficiency	Corridor: 80% Et Gas Fired Furnace Residential: 82% Ec Boiler Retail: 82% Ec Boiler	Corridor: 80% Et Gas Fired Furnace Residential: 95% Ec Boiler Retail: 95% Ec Boiler
Service Hot Water		
DHW System Type	80% Et Boiler	95% Et Boiler (combi/central system)
Lighting		
Sensors	Vacancy sensors in common spaces; Dimming Panels	Vacancy sensors in common spaces; Dimming Panels
LPD (W/SF)	0.51 x 90% = 0.46 W/SF (Residential) 0.66 x 90% = 0.594 W/SF (Corridor) 0.69 x 90% = 0.621 W/SF (Stairwell) 1.44 W/SF (Retail) 0.19 x 90% = 0.171 W/SF (Parking) 0.42 W/SF (Mechanical)	0.41 W/SF (Residential) 0.45 W/SF (Corridor) 0.60 W/SF (Stairwell) 1.44 W/SF (Retail) 0.095 W/SF (Parking) 0.32 (Mechanical)
Miscellaneous		
Equipment	Standard Equipment	Standard Equipment
Elevators	Regenerative Drive	Regenerative Drive

1 Based case represents ASHRAE 90.1-2013 conditions.

DHW = Domestic Hot Water

Building A

Building A is a seven-level residential building at the southwestern corner of the site. The building is anticipated to include 52 residential units and is the largest residential building of the Project. As the largest building, it has been designed with increased focus on energy conservation measures, including water source heat pumps with increased heating efficiency.

The total estimated annual electricity and natural gas consumption, and associated emissions for Building A are presented in Table 7-2. Under the Base Case, the CO_2 emissions are estimated to be 593.6 tons per year ("tpy"). With the currently proposed building design and system improvements, the estimated energy use reduction for the building is 39.8 percent, which equates to a 33.3 percent reduction in stationary source CO_2 emissions when compared to the Base Case. The stationary source CO_2 emissions percent reduction for the building under the Design condition was quantified as follows: 197.8/593.6 = 0.333 x 100 = 33.3 percent.

$$\textit{Reduction \%} = \frac{\textit{Emissions Reductions Due to Project Improvements (End Use Savings)}}{\textit{Project-Generated Emissions (Base Case Emissions)}}$$

This methodology is applied consistently to the remaining buildings to determine the percent reduction of stationary source emissions.

Table 7-2 Building A Stationary Source CO_2 Emissions

	Energy Consumption			CO_2 Emissions		
	Electricity (MWh/yr)	**Natural Gas (MMBtu/yr)**	**Total (MMBtu/yr)**	**Electricity (tons/yr)[1]**	**Natural Gas (tons/yr)**	**Total (tons/yr)**
Base Case	773.4	5,454	8,091	274.5	319.1	593.6
Design Case	712.0	2,446	4,873	252.8	143.1	395.8
End-Use Savings	61.4	3,008	3,217	21.8	176.0	197.8
Percent Savings			**39.8%**			**33.3%**

tons/yr = short tons per year

Building B

Building B is located east of Building A and will contain five levels of residential space. The building is designed with approximately 20 residential units. Building B will employee direct expansion units with "combi" boilers to condition spaces and provide hot water.

The total estimated annual electricity use and natural gas consumption, and associated emissions for Building B are presented in Table 7-3. Under the Base Case, the CO_2 emissions are estimated to be 245.5 tpy. With the currently proposed building design and system improvements, the estimated energy use reduction for the building is approximately 31.6 percent, which equates to a 30.5 percent reduction (74.9 tpy) in stationary source CO_2 emissions when compared to the Base Case.

Table 7-3 Building B Stationary Source CO_2 Emissions

	Energy Consumption			CO_2 Emissions		
	Electricity (MWh/yr)	**Natural Gas (MMBtu/yr)**	**Total (MMBtu/yr)**	**Electricity (tons/yr)[1]**	**Natural Gas (tons/yr)**	**Total (tons/yr)**
Base Case	386.5	1,850	3,168	137.2	108.2	245.5
Design Case	281.7	1,206	2,166	100.0	70.6	170.5
End-Use Savings	104.9	644	1,002	37.2	37.7	74.9
Percent Savings			**31.6%**			**30.5%**

tons/yr = short tons per year

Building C

Building C is located north of Building B and will contain five levels of residential space. The building is designed with approximately 20 residential units. Building B will employee Direct Expansion ("DX") units with "combi" boilers to condition spaces and provide hot water.

The total estimated annual electricity use and natural gas consumption, and associated emissions for Building C are presented in Table 7-4. Under the Base Case, the CO_2 emissions are estimated to be 234.6 tpy. With the currently proposed building design and system improvements, the estimated energy use reduction for the building is approximately 32.0 percent, which equates to a 30.9 percent reduction (72.4 tpy) in stationary source CO_2 emissions when compared to the Base Case.

Table 7-4 Building C Stationary Source CO_2 Emissions

	Energy Consumption			CO_2 Emissions		
	Electricity (MWh/yr)	**Natural Gas (MMBtu/yr)**	**Total (MMBtu/yr)**	**Electricity (tons/yr)[1]**	**Natural Gas (tons/yr)**	**Total (tons/yr)**
Base Case	366.2	1,788	3,037	130.0	104.6	234.6
Design Case	266.4	1,156	2,064	94.6	67.6	162.2
End-Use Savings	99.8	633	973	35.4	37.0	72.4
Percent Savings			**32.0%**			**30.9%**

tons/yr = short tons per year

Building D

Building D is located north of Building A and is referred to as the "Boathouse." The building will contain unconditioned storage space for approximately 75 vessels and small retail space, likely for fishing supplies. The retail space will be conditioned by an air cooled packaged variable air volume ("VAV") unit with hot-water coils.

The total estimated annual electricity use and natural gas consumption, and associated emissions for Building D are presented in Table 7-5. Under the Base Case, the CO_2 emissions are estimated to be 61.4 tpy. With the currently proposed building design and system improvements, the estimated energy use reduction for

the building is approximately 36.0 percent, which equates to a 34.8 percent reduction (21.4 tpy) in stationary source CO_2 emissions when compared to the Base Case.

Table 7-5 Building D Stationary Source CO_2 Emissions

	Energy Consumption			CO_2 Emissions		
	Electricity (MWh/yr)	Natural Gas (MMBtu/yr)	Total (MMBtu/yr)	Electricity (tons/yr)[1]	Natural Gas (tons/yr)	Total (tons/yr)
Base Case	158.0	90.4	629	56.1	5.3	61.4
Design Case	105.9	41.4	402	37.6	2.4	40.0
End-Use Savings	52.2	49.0	227	18.5	2.9	21.4
Percent Savings			**36.0%**			**34.8%**

tons/yr = short tons per year

Overall Project Emissions (Full Build)

The total estimated annual electricity use, natural gas consumption, and associated emissions for the Project (all buildings combined, or full build out) are presented in Table 7-6. Under the Base Case, the CO_2 emissions for the Project are estimated to be 1,135.1 tpy. With the currently proposed building design and system improvements, the estimated CO_2 emissions are 768.6 tpy which is a savings of 366.5 tpy. The equivalent estimated energy use reduction for the Project is approximately 36.3 percent, which equates to an approximately 32.3 percent overall reduction in stationary source CO_2 emissions when compared to the Base Case. The reduction in stationary source energy is consistent with the energy conservation design goals of the Proponent.

Table 7-6 Stationary Source CO_2 Emissions for the Overall Project (Full Build)

Building Name[1]	Energy Consumption (MMBtu/yr)			CO_2 Emissions (tons/yr)		
	Base Case	Design Case	Percent Savings	Base Case	Design Case	Percent Reduction
Building A	8,091	4,873	39.8%	593.6	395.8	33.3%
Building B	3,168	2,166	31.6%	245.5	170.5	30.5%
Building C	3,037	2,064	32.0%	234.6	162.2	30.9%
Building D	629	402	36.0%	61.4	40.0	34.8%
Total	**14,925**	**9,506**	**36.3%**	**1,135.1**	**768.6**	**32.3%**

1 Building name corresponds to Figure 1.5.

tons/yr = short tons per year

7.3.3 Energy Use Intensity

EUI is a tool used to provide a common basis of comparison for energy use for various building uses. It is the total amount of energy used at a project over a one-year period, divided by the square footage of that building and represents the energy consumed by a building relative to its size. Based on a recent DOE research report, the median EUIs for prototype buildings in Climate Zone 5A are 54.1 kBtu/sf-

yr for high-rise apartment buildings and 49.8 kBtu/sf-yr for mid-rise apartment buildings under ASHRAE 90.1-2013.[3] Based on square footage, Building A is most similar to the high-rise apartment building while Buildings B and C are most similar to the mid-rise apartment building. The benchmark EUI for Building D is based on an unconditioned storage facility, the closest available proxy[4]. Table 7-7 provides the as-modeled EUI for each prototype building modeled for the Project under the Base and Design Cases.

Table 7-7 Energy Use Intensity (kBtu/sf-yr)

Project Component	Modeled Area (sf)	EUI (kBtu/sf-yr)		Percent Improvement	Prototype Benchmark EUIs[2,3]
		Base Case[1]	Design Case		
Building A	151,000	53.6	32.3	39.8%	54.1
Building B	47,500	66.7	45.6	31.6%	49.8
Building C	43,500	69.8	47.4	32.0%	49.8
Building D	19,000	33.1	21.2	36.0%	19.8

1 The Base Case represents current Base Energy Code ASHRAE 90.1-2013 standards.

2 "Cost-Effectiveness of the ASHRAE Standard 90.1-2013 for the State of Massachusetts". *US Department of Energy*. December 2015.

3 "US Energy Use Intensity by Property Type" Energy Star Portfolio Manager. Technical Reference. March 2016.

The EUIs of the Project components generally fall around the benchmark values provided by the prototype buildings in the DOE study and Energy Star study. Building A's Base Case EUI closely mirrors the prototype benchmark as the model inputs were similar. With the proposed energy conservation measures, Building A's Design Case EUI greatly improves upon the benchmark value.

Buildings B and C Base Case EUIs are slightly higher than the prototype's EUI, as the aspect ratio of these buildings are larger than the prototype's inputs. However, with the proposed improvement measures the Design Case EUIs of these two buildings fall below the Prototype EUI.

Building D has slightly higher Base Case and Design Case EUIs than the benchmark EUI for a storage facility. This is due to the small conditioned retail space of Building D which uses more energy that the prototype. However, in the Design Case, Building D manages to improve upon the baseline condition energy consumption by 36 percent.

The Prototype Benchmark EUIs are for theoretical buildings with designs that do not exactly reflect the Project they are being compared against. As such, differences between the modeled EUIs and the Benchmarks are expected. In all components, the Design Case EUIs represent significant improvement over the Base Case EUIs, which demonstrates the Proponent's commitment to constructing a green project.

[3] "Cost-Effectiveness of the ASHRAE Standard 90.1-2013 for the State of Massachusetts." *US Department of Energy*. December 2015.

[4] "US Energy Use Intensity by Property Type" Energy Star Portfolio Manager. Technical Reference. March 2016.

7.3.4 Other Beneficial Stationary Source GHG Emissions Measures

Other beneficial measures are intended to be incorporated into the Project's design which cannot be incorporated into the energy modeling due to modeling limitations. These measures are described below.

Building Commissioning

Building commissioning will be conducted prior to and during occupancy to ensure the building systems are operating efficiently and as designed. This quality-control process optimizes the energy performance of the building, reduces maintenance cost, and extends the lifespan of the building systems. Facilities staff will be trained to properly operate the building systems, with special consideration for new technologies. The period between audits will depend upon energy performance.

The Proponent will conduct an enhanced commissioning process during the construction process, including functional testing of all major lighting and HVAC systems. Once they are occupied, the Proponent will benchmark the performance of the buildings against the performance of other buildings in its portfolio and national/local averages after the buildings are placed in service and stabilized. If underperformance is identified, the Proponent will audit major lighting and HVAC systems and address deficiencies.

Energy Tracking and Monitoring

The Proponent has an internal program for tracking building energy use over time, that will be implemented to insure appropriate building performance. The Proponent will implement a Measurement and Verification ("M&V") plan that will utilize the base building energy management system to monitor operation of equipment or systems. The buildings will include a monitored electronic metering network in the base building design that is capable of being expanded to accommodate and document future tenant sub-metering. Additionally, the retail tenant shall be metered either via a check meter or utility meter, depending on the utility.

The Proponent supports the City's Climate Action Plan, will comply with the Building Energy Use Disclosure Ordinance, and will report whole-building energy use for the required components of the Project.

Plug Load Reduction

The Proponent commits to encouraging the use of ENERGY STAR™ appliances and equipment where available and reasonably practicable. The building energy model does not take credit for reduced plug loads as the eQUEST model conducted for the Design Case did not account for energy conservation measures related to plug-in equipment. The use of ENERGY STAR™ appliances and equipment has proven to result in a reduction in overall energy use and, therefore, a reduction in stationary

source CO_2 emissions for the Project.[5] A 10-percent reduction was applied to the total annual electrical output of the Miscellaneous[6] category derived from the eQUEST model. By applying the 10-percent reduction to account for ENERGY STAR™ appliances and equipment, the total annual Miscellaneous electricity would be reduced from 420 MWh to 378 MWh which is equivalent to a difference of 15 tons of CO_2 emissions. This results in an overall stationary source CO_2 emissions reduction of 33.6 percent for the Project and overall energy reduction of 37.3 percent compared to the baseline code.

Green Tenant Guidelines

The Proponent is considering providing Green Tenant Guidelines for residential tenants which would provide information on utilizing the sustainable design features of the building and the individual units to their fullest potential. These could include information on how to use the heating and cooling systems, ways to conserve energy and water, plug load controls, waste reduction and recycling, green cleaning guidelines and products, non-automotive transportation and cycling options and identification of amenities within walking or biking distance.

Solid/C&D Waste Reduction and potential GHG reductions

Recycling and reuse programs will be developed and implemented by all construction contractors to reduce the amount of waste that is sent to landfills throughout construction. Prior to the start of construction, the construction management team will prepare and submit a Construction Waste Management Plan ("CWMP") which will be implemented on Site. The Project will target a minimum diversion rate of 75 percent of C&D waste.

Storage of collected recyclables will be accommodated in designated recycling areas of the Project. A contracted waste management company will collect the recyclables on a regular basis. The Project is targeting 100 percent of paper, corrugated cardboard, glass, plastic and metal to be recycled during operations. Information on recyclable materials and the recycling program will be distributed to residential tenants and will include strategies to reduce waste through recycling and reuse programs.

Passive House

Passive House is a rigorous, voluntary standard for energy efficiency in a building, reducing its ecological footprint. It results in ultra-low energy buildings that require little energy for space heating or cooling. Passive House is a design process that is integrated with architectural design that focuses on achieving very low energy use for heating and cooling buildings by implementing design solutions such as

[5] Compared to standard office equipment and home appliances (non-ENERGY STAR rated), ENERGY START-qualified products use 30 to 75 percent less electricity according to the ENERGY STAR website: <https://www.energystar.gov/index.cfm?c=ofc_equip.pr_office_equipment>

[6] The Miscellaneous category is one of the categories eQUEST breaks electrical use into and the most applicable to plug-in loads.

optimized orientation and shading, superinsulation, passive solar gains, air-tight envelope, elimination of thermal bridges and efficient HVAC. The program is relatively new in the United States but has been expanding across Europe.

There are no prescriptive insulation requirements for Passive House certification, however, in order to meet the strict energy use requirements, a highly insulated envelope is essential. The insulation has to be continuous and connection details free of thermal bridges. Achieving Passive House certification requires the design to meet stringent airtightness standards (n50: 0.6 ACH @ 50Pa). Performance must be verified through blower door testing of the entire building after construction.

The Proponent has studied the potential to make Building B a passive house including increasing envelope insulation and reducing HVAC capacities to meet the requirements of the design standard. Table 7-8 highlights the changes made to the energy model inputs to reflect a passive house building. Increased envelope insulation, the use of VRF system and reduce lighting power densities are primary energy conversation measures employed to reduce energy load in Building B.

Table 7-8 Building B Passive House Key Model Assumptions

Building Component	Base Case[1]	Passive House Case
Square Footage/Usage		
Temperature Setpoints	Cooling: 75F / Heating: 70F	Cooling: 77F / Heating: 68F
Building Exterior Envelope (Construction Assemblies)		
Roof Assembly	R-30 continuous insulation (U-0.032)	R-60 continuous insulation (U-0.016)
Wall Assembly	R-13 + R-10 continuous insulation (metal stud) (U-0.055)	R-40 continuous insulation (U-0.023)
Wall-to-Wall Ratio	Buildings B: 31%	Buildings B: 31%
Windows and Glazing	U-0.42 (fixed); U-0.50 (operable)	Triple Glazing U-0.25 (Building B, assembly)
Solar Heat Gain Coefficient	0.40 (both)	0.20 (all)
HVAC Systems and Controls		
HVAC System	Corridor: DX RTU with Gas-Fired Furnace and heat recovery (50% Eff.) Residential: PTAC - DX with hot water coil Retail: Air Cooled Packaged VAV w/ Hot Water Coils	Corridor: DX RTU with Gas-Fired Furnace and heat recovery (75% Eff.) Residential: VRF (Building B) with ERVs Retail: Air Cooled Packaged VAV w/ Hot Water Coils
Cooling Efficiency	Corridor: 10.8 EER Residential: 9.3 EER Retail: 12.2 EER	Corridor: 12 EER Residential: 14.1 EER (Building B) Retail: 13 EER
Heating Efficiency	Corridor: 80% Et Gas Fired Furnace Residential: 82% Ec Boiler Retail: 82% Ec Boiler	Corridor: 80% Et Gas Fired Furnace Residential: 4.2 COP (Building B) Retail: 95% Ec Boiler
Service Hot Water		
DHW System Type	80% Et Boiler	95% Et Boiler (central system)

Building Component	Base Case[1]	Passive House Case
Lighting		
Sensors	Vacancy sensors in common spaces; Dimming Panels	Vacancy sensors in common spaces; Dimming Panels
LPD (W/SF)	0.51 x 90% = 0.46 W/SF (Residential)	0.30 W/SF (Residential)
	0.66 x 90% = 0.594 W/SF (Corridor)	0.45 W/SF (Corridor)
	0.69 x 90% = 0.621 W/SF (Stairwell)	0.60 W/SF (Stairwell)
	1.44 W/SF (Retail)	1.44 W/SF (Retail)
	0.19 x 90% = 0.171 W/SF (Parking)	0.095 W/SF (Parking)
	0.42 W/SF (Mechanical)	0.32 (Mechanical)
Miscellaneous		
Equipment	Standard Equipment	Standard Equipment
Elevators	Regenerative Drive	Regenerative Drive

1 Based case represents ASHRAE 90.1-2013 conditions.

DHW = Domestic Hot Water

Energy modeling was conducted with the outlined inputs to estimate the annual energy consumption of the Project with the Passive House building. The resulting energy consumption and GHG emissions of Building B is presented in Table 7-9. With the Passive Design features implemented, the building is estimated to reduce energy consumption by 66 percent compared to the base case. This is approximately double the energy percent savings of the proposed design. GHG emissions would be reduced by 59.2 percent, saving 145.4 tons per year compared to the base case.

Table 7-9 Building B with Passive House Stationary Source CO_2 Emissions

	Energy Consumption			CO_2 Emissions		
	Electricity (MWh/yr)	**Natural Gas (MMBtu/yr)**	**Total (MMBtu/yr)**	**Electricity (tons/yr)[1]**	**Natural Gas (tons/yr)**	**Total (tons/yr)**
Base Case	386.5	1,850	3,168	137.2	108.2	245.5
Passive Case	237.9	266	1,077	84.5	15.6	100.0
End-Use Savings	148.6	1,584	2,091	52.8	92.7	145.4
Percent Savings			**66.0%**			**59.2%**

tons/yr = short tons per year

Given the potential energy consumption savings associated with the passive design of Building B, the Proponent has studied the increased costs associated with implementing the additional energy conservation measures required to produce such results. Detailed information on the incremental costs associated with specific envelope and HVAC materials under the Baseline, Proposed, and Passive design scenarios are presented in Appendix F. A summary of the results of the cost analysis are presented in Table 7-10. The inclusion of the passive house energy conservation measures will result in incremental costs that are 28 percent higher than the proposed design and 43 percent higher than the baseline building.

Since these will be condo units sold by the Proponent, the lifetime payback of the more efficient building will not benefit the Project. As the initial costs are

substantially higher than for the Proposed Design and the measures will not payback timely, a passive house will not be pursued.

Table 7-10 Passive House Incremental Costs

Category	Baseline Case (ASHRAE 90.1-2013, App. G)	Proposed Design	Proposed Design with Passive House Building B
HVAC	$45/sf	$50/sf	$60/sf
Exterior Envelope (Walls, Roof, Insulation)	$82.50/sf	$97.50/sf	$133.50/sf
Windows/Glazing	$130/sf	$140/sf	$175/sf
Total	**$257.50/sf**	**$287.50/sf**	**$368.50/sf**

7.3.5 Clean and Renewable Energy Analysis

A variety of clean and renewable energy sources were analyzed including solar panels, transpired solar collectors, wind, and cogeneration in the form of CHP. Based on the energy and payback analysis, photovoltaic panels are the most cost-effective potential strategy. While not included in the base design assumptions of the preliminary energy models, these systems will continue to be evaluated as the Project design advances. In other words, the base design is able to achieve the proposed energy savings and GHG reductions shown here without these systems included in the preliminary energy models.

Solar Photovoltaic Panels

There are many long-term benefits to photovoltaic panels beyond reduced electric demand during times of production, or demand-shaving when combined with battery storage. Solar energy provides an inexhaustible and important independent energy source. The extensive roof and site area, as well as open space by the Neponset River, enables significant solar energy production. As such, the Proponent engaged a third-party solar provider to analyze on-site solar power generation. Based on the preliminary design and massing of the buildings, a feasible solar array has been developed for the Project.

The Proponent is committed to incorporating a minimum of 100 kW DC solar array (86.2 kW AC) using commercial grade 330-watt solar panels, subject to the final design of the buildings. The total area required for the installment is estimated at 15,000 sf. Assuming a panel efficiency of 19 percent, the flat roofs will provide a ballasted racking with an estimated production of 115,500 kW/Hr/Yr. This corresponds to offset of 41 tons per year of GHG. The estimated cost of system turn key at this time: $2.80/watt. Independent of the final solar array design to be installed, the Project rooftops with available space will be designed to be "solar ready" with the appropriate structural capacity and electrical infrastructure for future potential PV systems.

Combined Heat and Power

CHP provides a unique opportunity to reduce electric demand and provide useful heating at the same time. Residential buildings are conducive to the domestic hot water and thermal patterns that are required to maximize return on investment for CHP. Based on the Project's network connection and constant base load, a unit sized at 75 kW would be anticipated to serve Building A, whereas Buildings B and C could accommodate the smallest commercial unit available at 35 kW. These base loads include, but are not limited to, lighting in corridors and stairwells, supply and exhaust fans for ventilation, and compressors to temper make up air. Thermal energy produced by the system, that is lower temperature heat, would be utilized to offset the residential domestic hot water load.

In the CHP scenarios, the condensing domestic hot water heaters and "combi" boilers are supplemented with a CHP system that can provide the entire domestic hot water load. Selecting the right sizing is critical for an effective CHP operation to utilize all the waste heat and make the system financially feasible. For this analysis, Buildings B and C were considered similar for the purposes of this study. Building D was excluded because there is not a substantial thermal load. Units with 55-percent thermal efficiency and 33-percent electric production efficiency were studied. Utility costs and maintenance were included in the payback analysis.

The analysis of the CHP systems is presented in Appendix F, including the estimated GHG savings. If CHP systems were implemented at Buildings A and B, the payback is expected to be 17 years for both systems including available incentives. In total, the three CHP systems would be expected to produce a combined 352 MWh per year of electricity and 2,178 MMBtu per year of Annual Heat Recovery. However, the CHPs would consume 3,961 MMBtu per year of natural gas for their operation. When netting the energy savings against the energy consumption of the CHPs, the total GHG reduction across the project would be 21 tons per year.

It is important to also note that the "combi" boiler system that is the basis for Buildings B and C is not conducive to cogeneration. A shared water source heat pump loop for all the residential and hotel buildings could reduce payback to 11 years. To further determine the feasibility of CHP systems, the network capabilities would need to be confirmed. Eversource has previously placed minimum threshold limits on other network locations. This would affect the available operational hours of CHP systems. The shared thermal recovery in a central water source heat pump option could also be problematic in terms of lease and utility structure. As there is only one cogeneration unit provided, it would not be feasible to eliminate or downsize equipment as there is no redundancy.

Wind

Port Norfolk is situated near the waterfront, which could enable the use of small-scale, vertical-axis wind turbines. These units would not need to be oriented towards the prevailing winds. The feasibility of generating electricity from wind sources was assessed and rejected for the following reasons:

› There are competing programs for the roof area – mechanical equipment, vegetated roofs, and amenities are all planned.

› The prevailing wind speed in Boston is too low for cost-effective electricity generation.

› In addition, small-scale, vertical-axis wind turbines provide insignificant electricity generation relative to total building demand.

Transpired Solar Collectors

The current design of Neponset Wharf includes the Boathouse with south facing walls. A potential design feature could include passive solar heating on the southern exposure that could be interlocked with the ventilation system. This would enable a low-energy alternative to fossil-fuel heating of the space during the winter months, when solar energy could offset the space-tempering requirements. Additionally, available roof area could be utilized to offset ventilation loads through the implementation of transpired solar collectors. The feasibility of using solar energy to preheat ventilation air was assessed and rejected for the following reasons:

› The Project includes energy-recovery wheels to preheat outside air entering Building A. The energy-recovery wheels capture thermal energy, both sensible and latent, from building exhaust that would otherwise be wasted.

› Since the residential units in Building B and C are naturally ventilated with operable windows, the installation of solar collectors would not be a cost-effective solution.

7.3.6 Energy Efficiency Assistance

The Proponent is aware that the Project's electrical and natural gas service providers may offer technical assistance and incentives for implementing energy efficiency measures. By working with these utilities throughout the design process, the Proponent will evaluate additional energy conservation strategies and, therefore, additional energy savings and associated GHG emissions reductions may be achieved.

Furthermore, the Proponent is committed to meeting the applicable requirements of the City of Boston Building Energy Reporting and Disclosure Ordinance, Section 7-2.2 of the Boston Ordinances, once the Project is in operation.

7.4 Mobile Source GHG Emissions Assessment

Mobile source GHG emissions are based upon the traffic volumes, the distance vehicles travel and GHG emission rates. The mobile-source emissions are calculated by performing a mesoscale analysis to evaluate the changes in CO_2 emissions for the existing and future conditions within the traffic study area. The GHG mobile source analysis estimates the area-wide CO_2 emissions from vehicle traffic for a period of one year. Mobile-source emissions were calculated by performing an annual GHG emissions mesoscale analysis to evaluate the estimated change in CO_2 emissions for the existing and future conditions within the study area.

7.4.1 Analysis Conditions

Consistent with the traffic analysis, the following conditions were analyzed: the 2018 Existing Condition; and 2023 future No-Build, Build, and Build with Mitigation Conditions. The analysis compares the future No-Build, Build, and Build with Mitigation Conditions in order to identify the anticipated changes in traffic conditions and mobile source GHG emissions as a result of the Project. Where applicable, the Existing Condition is considered for comparison purposes only.

7.4.2 Mobile Source Emission Rates and Inventories

EPA's Office of Transportation and Air Quality ("OTAQ") has developed the Motor Vehicle Emission Simulator ("MOVES")[7]. MOVES2014a is EPA's latest motor vehicle emissions model for state and local agencies to estimate GHG and other emissions from cars, trucks, buses, and motorcycles.

All the vehicle emissions used in mobile source GHG analysis were obtained using EPA's MOVES2014a emissions model. MOVES2014a calculates emission factors from motor vehicles in a mass per distance format (often grams per mile) for existing and future conditions and applies these factors to Vehicle Miles Travelled ("VMT") data to obtain emissions inventories. The emissions calculated for this air quality assessment include Tier 3 emission standards, which is an EPA program that sets new vehicle emissions standards, including lowering the sulfur content of gasoline, heavy-duty engine and vehicle greenhouse gas regulations (2014-2018), and the second phase of light-duty vehicle GHG regulations (2017-2025). It also includes Massachusetts-specific conditions, such as the state vehicle registration age distribution and the statewide Inspection and Maintenance ("I/M") Program.[8] These stringent emissions regulation programs often result in smaller emissions inventories with the passage of time when comparing similar scenarios. Input data for the model was obtained from DEP and used Project-specific developed inputs where appropriate.

The MOVES2014a model was run at a project-level to obtain emission factors for each link of the mesoscale analysis. The model was set to calculate the emissions burden by choosing to model emissions processes that are specifically related to vehicles in the study area. Links were created that used the appropriate speeds and grades for each roadway segment.

7.4.3 Traffic Data

The air quality study used traffic data (volumes, delays, and speeds) developed for each analysis condition. The mesoscale analysis for CO_2 emissions considered a yearly traffic volume developed from weekday periods. The vehicle-miles-traveled

7 MOVES2014a (Motor Vehicles Emission Simulator), December 2015, US EPA, Office of Mobile Sources, Ann Arbor, MI.

8 The Stage II Vapor Recovery System is the process of collecting gasoline vapors form vehicles as they are refueled. This requires the use of a special gasoline nozzle at the fuel pump.

("VMT") data used in the air quality analysis were developed based on the traffic data analyzed in this report (*Chapter 5 –Transportation)*.

7.4.4 Existing Mobile Source CO_2 Emissions

Table 7-10 presents CO_2 emissions from mobile sources under all conditions. The calculation of Existing Conditions mobile source emissions provides a base for which future years are evaluated. The mobile source analysis calculated the existing CO_2 emissions from the major roadways in the study area. These CO_2 emissions, estimated to be 2,329 tpy, establish a baseline to which future emissions can be compared. Results are presented in short tons (2,000 lbs.) per year.

7.4.5 Future Mobile Source CO_2 Emissions

Future Project-related mobile source CO_2 emissions calculations are based upon changes in traffic and emission's factor data. The traffic data includes traffic volumes, vehicle miles traveled and roadway operations. The emission factor data includes emission reduction programs and years of analysis.

The 2023 CO_2 emission factors are lower than the 2018 emissions due to the implementation of emission control programs, such as the Federal Motor Vehicle Emission Control Program (Tier 3), the Stage II Vapor Recovery System, and the Massachusetts Vehicle inspection and Maintenance program.

The mobile source analysis estimated the future study area CO_2 emissions due to the changes in traffic and emission data. Under the No-Build Condition, CO_2 emissions were estimated to be 2,098 tpy. Under the Build Condition, the CO_2 emissions were estimated to be 2,198 tpy.

The total Project-related mobile source GHG emissions are 100 tpy, as presented in Table 7-11. The 100 tpy increase in CO_2 emission represents a 5 percent increase in CO_2 emissions for the mesoscale study area for future 2023 conditions.

Table 7-11 Mobile Source CO_2 Emissions Analysis Results (tpy)

Pollutant	2018 Existing Conditions	2023 No-Build Conditions	2023 Build Conditions	Project-related CO_2 Emissions[1]
Greenhouse Gas (CO_2)	2,329	2,098	2,198	100

1 Represents the difference in CO_2 emissions between the Build and No-Build Conditions.

7.4.6 Proposed Mitigation Measures

The mobile source GHG assessment calculated the GHG emissions for Project-related mobile sources. A transportation mitigation program has been developed to mitigate the impacts of Project-related traffic. Specifically, the traffic mitigation measures proposed by the Proponents to minimize the traffic impacts of the full build-out of the Project include multiple TDM measures.

The Proponent is committed to implementing a TDM program. A full description of the TDM program is detailed in Section 5.5 of Chapter 5, *Transportation*. Implementation of the TDM program is expected to improve air quality in the study area by promoting the use of alternative forms of transportation over the use of single-occupancy vehicle ("SOV") trips to the Project Site. This modal shift results in lower Project-related VMT which consequentially reduces indirect Project emissions.

Although not easily modeled, previous estimates of similar TDM programs in an urban area have ranged on the order of two percent reduction in vehicle miles travelled from the Project generated trips. Assuming a similar relationship to GHG emissions, this would correlate to an approximately two (2) tons of CO_2 per year reduction in mobile source GHG based on estimated Project emissions. This results in a final Project-related CO_2 emission of 98 tpy. These savings are shown in Table 7-12.

Table 7-12 Mobile Source CO_2 Emissions Mitigation Analysis Results (tpy)

Pollutant	Project-Related CO_2 Emissions[1]	Estimated Reductions Due to TDM Measures[2]	Resulting Project-Related CO_2 Emissions
Greenhouse Gas (CO_2)	100	2	98

1 Represents the difference in CO_2 emissions between the 2023 Build and No-Build Conditions
2 Mitigation from TDM Measures estimated as 2 percent of unmitigated Project-related emissions.

8

Wetlands and Waterways

Introduction

This chapter describes the proposed work in wetland resource areas, the proposed improvements to water quality and waterway access, and the Project's compliance with the Massachusetts Public Waterfront Act (MGL Chapter 91), Water Quality Certification regulations, Massachusetts Office of Coastal Zone Management Policies, and the Massachusetts Wetlands Protection Act (MGL c. 131 § 40).

8.1 Summary of Key Findings and Benefits

Key findings and benefits of the Project related to wetlands and waterways include:

- Activates the waterfront by enhancing water-dependent uses, and creating recreational opportunities for boaters and fishermen.
- Provides substantial public benefits and protects Public Trust rights inherent in filled tidelands by significantly enhancing public access to and use of the Project Site.
- Enhances water quality through structural Best Management Practices, reductions in impervious surface, and incorporation of restorative landscape features.
- Protects and is respectful of the Project Site's location within the Neponset River Estuary Area of Critical Environmental Concern ("ACEC").
- Improves public connections to the natural environment, within the context of an existing developed area, in a manner that is consistent with the Neponset River Estuary ACEC Resource Management Plan ("RMP").
- Provides a new Harborwalk with unimpeded public access along the Project Site shoreline.
- Improves biodiversity through the creation of new habitat and restoration of natural shoreline elements.
- Improves water flow, natural sediment transport, and site-lines though the removal of the existing wave fence.

8.2 Description of In-Water Work

Consistent with the ACEC RMP goals of preserving existing water-dependent uses, the Project will rebuild the existing marina and fixed piers to restore capacity and access to the marina. In its current condition, the marina is heavily infilled with sediment, and the existing timber structures are heavily degraded. Consequently, the marina is not operating to its intended capacity and has reached the end of its useful life.

The proposed improvements described below will restore the function of the marina and provide a clean, modern, and environmentally conscious marina for future generations.

- **Shoreline Improvements** – The Project will improve approximately 730 linear feet of shoreline. It is anticipated that the existing bulkhead along the northern shoreline would be repaired and maintained, and would not require substantial reconstruction. The proposed shoreline work will provide environmental improvements by stabilizing areas of prior erosion and will provide resilience to future sea-level rise.

  The Proponent has evaluated alternatives for soft and living shorelines that balance the need for stability and erosion control with environmental and sustainability benefits. The resultant design, as described in Chapter 3, *Urban Design,* lowers the elevation of the existing seawall elevation along the western edge of the site to mean high water and provides native, salt-tolerant plantings that can accept periodic inundation. The design will provide a natural and adaptable shoreline which will benefit estuary health and increase biodiversity along the shoreline.

  The remaining riprap shoreline will be cleaned and repaired, by removing existing debris and replacing it with a new layer of riprap, strengthening and stabilizing the shoreline.

- **Wave Fence Removal** – The design and function of the wave fence has been studied by the Project's marine structural engineer, who determined that a similar level of waver attenuation could be achieved by the proposed floating docks. Replacing the wave fence with floating docks has the additional benefits of improving visibility from the shoreline, and allowing the area to return to its natural tidal flow, which should reduce the need for frequent future dredging.

  Removal of the wave fence is not anticipated to have any adverse impact on surrounding shoreline erosion. Given that the longest fetch to the adjacent Tenean Beach is from the north, the wave fence has little impact on this direction. If the wave direction shifts to the northeast the waves must travel over shallow mud flats that would cause any significant waves to break before they reach the beach. The shoreline of the Project Site will not be

impacted because it is protected by riprap and will be improved by the Project.

- **Marina Replacement** – The existing marina will be replaced with approximately 134 steel-pipe piles, 8,856 square feet of new piers, and 24,305 square feet of floating docks. In total, the new marina will accommodate up to 75 vessels.
- **Dredging** – The Project proposes approximately 128,150 square feet of dredging to a depth of approximately six feet below mean low water ("MLW") to ensure sufficient draft for vessel navigation through even extreme low tides. This work includes the removal of approximately 24,219 cubic yards of infill material. The disposal of this material will be coordinated with DEP and the Army Corps of Engineers following suitability testing.

  Refer to Appendix G for detailed dredge plans.

Respecting the unique environmental context of the Neponset River ACEC, the proposed work will be performed in a manner to avoid potential impacts to the waterway and adjacent resources. All silt-producing work will be performed inside a debris boom with a bottom-weighted siltation curtain to avoid the migration of sediments outside of the work area. The work will be done in close coordination with local, state, and federal regulatory bodies to ensure impacts to adjacent resources are minimized to the extent feasible. Additional efforts to minimize impacts to resources areas include restricting silt-producing work during fish-migration periods, turbidity monitoring, or employing operational controls on dredge equipment.

8.3 Regulatory Context

This section discusses the wetlands and waterways approvals required for the Project, as well as the planning and regulatory controls applicable to the Project.

8.3.1 Neponset Estuary ACEC and Resource Management Plan

The ACEC regulations direct state environmental agencies to preserve, protect, and enhance natural and cultural resources within ACEC's through their own programs and regulations. ACEC's are identified and nominated at a local level, and are reviewed and designated by the EEA. One tool that helps communities identify and prioritize local concerns in the ACEC is a Resource Management Plan ("RMP"). RMP's serve to outline the management and implementation of ACEC programs and specific state environmental regulations. Similar to the Municipal Harbor Planning process, RMP's allow communities to tailor the implementation of certain regulations to achieve specific community goals. The EEA Secretary oversees and approves the implementation of the RMP to ensure that the plan is consistent with goals of the ACEC program. A copy of the RMP is included in Appendix G

The Neponset River Estuary was designated as an ACEC in 1995, and it is recognized for its critical importance of preserving and managing a significant estuarine ecosystem within a heavily urbanized area. The Project Site is in the lower Neponset River Estuary, which is identified as that portion of the ACEC most suitable for the continuation of water-dependent recreational uses. The RMP acknowledges and specifically endorses expansion/improvement of existing facilities and maintenance dredging activities that allow for the continued use of those spaces. Refer to Figure 8.1 for ACEC Context.

As presented in Sections 8.3.2 to 8.3.5, the Project will be constructed in compliance with the goals and objectives of the ACEC program, as implemented by the RMP and enforced by state and local regulations.

8.3.2 Massachusetts Public Waterfront Act (Chapter 91)

The Massachusetts Public Waterfront Act, MGL Chapter 91, as implemented by DEP through the Waterways Regulations (310 CMR 9.00) (together, "Chapter 91"), regulates activities in filled and flowed tidelands within the Commonwealth, and is intended to protect and promote public use of the waterfront. The limit of Chapter 91 jurisdiction is defined by the oldest, most credible map depicting the mean high-water mark prior to placement of fill. This presumed historic shoreline is used to define the historic high-water mark and the limits of Chapter 91 jurisdiction at the Project Site. According to GIS data compiled through the DEP/CZM Chapter 91 Historic Shoreline Mapping project, historic mean high water for the Project Site was determined based on the U.S. Coast Survey of the Inner Harbor, surveyed in 1847, 1894, and 1895 (see Figure 8.2 and 8.3). The Project Site was filled and developed under the authorizations included in Table 8-1 below.

Table 8-1 Chapter 91 License History

Year	License Number	Agency	Proponent	Description
1879	466	Board of Harbor and Land Commissioners	Putnam Nail Company	Construct a pile-supported wharf
1885	900	Board of Harbor and Land Commissioners	Putnam Nail Company	Construct wharves and embankments
1911	3550	Board of Harbor and Land Commissioners	George Lawley and Son Corporation	Build and manage pile piers and marine railways, and to dredge, on Neponset River (m*issing license plan*)
1943	2572	Department of Public Works	George Lawley and Son Corporation	Construct a temporary locker building on its Pier No. 1 in Pine Neck Creek
1969	5604	Department of Public Works	Yacht Leasing Corporation	Maintain structures and dredge in the Neponset River

1976	98	Department of Environmental Quality Engineering	Yacht Leasing Corporation	Application to place riprap, solid fill, maintain piles, pier, floats and fill in the Neponset River
1999	7938	DEP	T.R.E., Inc.	Remove a granite block seawall and fill, reconstruct an existing seawall and to construct and maintain a riprap slope and public viewing platform
2002	9374	DEP	Thomas Real Estate, Inc.	Construct and maintain a steel bulkhead in/over the Neponset River

A portion of the Project Site is located seaward of the historic mean high water, and is therefore within Chapter 91 jurisdiction. The Project Site is not separated from the watersheet by a public way and is therefore not considered to be landlocked. The Proponent will obtain a new license under Chapter 91 for construction of the portions of the Project within Chapter 91 jurisdiction, the rehabilitation of the marina, and the Project's open space improvements. Project compliance with Chapter 91 regulations is discussed in detail in Section 8.4, *Chapter 91 Licensing Review and Compliance*.

8.3.3 Water Quality Certificate

The Massachusetts 401 Water Quality Certificate Program was established to meet the Commonwealth's obligations to enforce Section 401 of the Federal Clean Water Act (33 U.S.C. 1341) and is implemented by DEP under the regulations at 314 CMR 9.00. These regulations require the Commonwealth to certify that proposed discharges of dredged or fill material, dredging and dredged material disposal in waters of the United States comply with the applicable Surface Water Quality Standards and other applicable state law.

Major Dredge Project Certification will be required for the Project because restoring the marina to a navigable depth will require dredging of more than 5,000 cubic yards of material. The Proponent will prepare and submit a detailed application for Water Quality Certification that demonstrates that the Project will meet all applicable regulatory criteria and performance standards.

Section 8.4, *Chapter 91 Licensing Review and Compliance*, provides a consistency review for the Project with respect to the DEP Water Quality Program.

8.3.4 Coastal Zone Management

The Project is subject to the Massachusetts Coastal Zone Management Plan's Federal Consistency Review, established under the regulations at 301 CMR 21.07, because it is geographically located in the Massachusetts Coastal Zone and requires a federal permit issued by the United States Army Corps of Engineers ("USACE"). The regulations require the Proponent to demonstrate, and the Massachusetts Office of Coastal Zone Management Program to certify, that projects subject to such review are consistent with the regulatory policies and management principles listed in 301

CMR 21.98. Section 8.5.1 provides a consistency review for the Project with respect to the Massachusetts Office of Coastal Zone Management ("CZM") policies and management principles.

8.3.5 Wetlands Protection Act

As depicted on Figure 8.4, resource mapping identifies state-regulated wetland resource areas within the Project Site, including Land Subject to Coastal Storm Flowage, Coastal Bank, Land Under Ocean, Riverfront Area, and Tidal Flat associated with the Neponset River. The prior ENF/PNF filing delineated wetlands areas based on State GIS information. Resource area delineations have since been advanced and are now calculated based on field survey data. These resources are subject to the jurisdiction of the Wetlands Protection Act ("WPA"). Work within these areas requires the filing of a Notice of Intent with the Boston Conservation Commission and the issuance of an Order of Conditions which protects the identified public interest of the WPA:

- Protection of public and private water supply;
- Protection of groundwater supply;
- Flood control;
- Storm damage prevention;
- Protection of land containing shellfish;
- Protection of fisheries; and
- Protection of wildlife habitat.

Existing Wetlands Resources

Based on review of the existing conditions survey, the following resource areas have been identified on or adjacent to the Project Site:

- **Land Subject to Coastal Storm Flowage ("LSCSF")** – As defined in §10.04, LSCSF means "land subject to any inundation caused by coastal storms up to and include that caused by the 100-year storm, surge of record, whichever is greater."
- **Coastal Bank** – As defined in §10.30(2), a coastal bank means "…seaward face or side of any elevated platform, other than coastal dune, whichever lies at the landward edge of the coastal beach, land subject to tidal action or other wetland."
- **Land Under the Ocean** – As defined in §10.25(2), is (in part), "land extending from the mean low water line seaward to the boundary of the municipality's jurisdiction and includes land under estuaries."
- **Riverfront Area** – As defined at §10.58(2)(a), a Riverfront Area is the area of land between a river's mean annual high-water line and a parallel line measured (25 feet in Boston) horizontally. The Riverfront Area may include or overlap other

resource areas or their buffer zones. The riverfront area does not have a buffer zone.

- **Tidal Flat** – As defined at §10.58(2), includes "any nearly level part of a coastal beach which usually extends from the mean low water line landward to the more steeply sloping face of the coastal beach or which may be separated from the beach by land under the ocean."

Refer to Figure 8.4 for wetland resource areas.

8.4 Chapter 91 Licensing Review and Compliance

The following sections present the Chapter 91 jurisdictional framework and review of the compatibility of the Project with the Chapter 91 regulations.

8.4.1 Water Dependency

The Project has been modified since the filing of the ENF/PNF to pull all residential buildings out of Chapter 91 jurisdiction, thus eliminating any nonwater-dependent uses from filled or flowed tidelands. Refer to Figure 8.5 for Chapter 91 Jurisdiction relative to the proposed buildings. As a water-dependent license application, the Project is not subject to the standards for conservation of the capacity to provide for water-dependent uses at §9.51, the standards for utilization of the shoreline for water-dependent purposes at §9.52, or the standards for activation of Commonwealth Tidelands at §9.53. While the Project is not required to meet these standards, the proposed open space and public realm activation discussed in Chapter 3, *Urban Design*, exceed the requirements which would apply to a nonwater-dependent project.

8.4.2 Private and Commonwealth Tidelands

The Chapter 91 regulations at §9.02 consider tidelands to be "Private Tidelands" if they are held by a private person and lie landward of the historic mean low water mark. The Project Site is held by Proponent, a private entity, and as shown on Figure 8.3, lies entirely landward of the historic mean low water mark; therefore, the tidelands on the Project Site are categorized as Private Tidelands.

8.4.3 Categorical Restrictions on Fill, Structures, and Dredging in an ACEC

The Project Site is subject to certain categorical restrictions based on its location within an ACEC. Pursuant to §9.32(1)(e) and §9.32(2)(d), the regulations prohibit the placement of new fill in ACEC waters and place increased limits on new structures within ACECs. In an ACEC, new, privately owned structures for water-dependent use below the high-water mark, such as private docks or piers, are only eligible for a

license provided that such structures are consistent with an ACEC RMP adopted by the municipality and approved by the EEA Secretary. Likewise, improvement (new) dredging is prohibited within an ACEC except for the sole purpose of fisheries and wildlife enhancement.

As described in Section 8.3.1, the RMP specifically endorses the expansion and improvement of existing waterfront facilities, and acknowledges the historic dredging that has occurred on the Project Site. Evidence that the historic dredging qualifies as maintenance dredging is discussed in greater detail below.

Maintenance Dredging

As defined in §9.02, maintenance dredging means dredging in accordance with a license or permit in any previously authorized dredged area that does not extend beyond the originally dredged depth width or length. Based on review of the Project Site's license history and historic aerial photographs, it is understood that the dredging of the existing marina was originally authorized in 1911 through Harbor and Land Commissioners ("H&L") License No. 3550. The plan for this license is missing from DEP records; however, the limits of the previously dredged area are confirmed through the RMP, as shown in Figure 8.6.

The RMP identifies the proposed dredging footprint as an area of "previously authorized dredging." The RMP, which was issued in March of 1996, acknowledges that dredge permits could not be located for some areas, but supports the continuation and expansion of the existing water-dependent use. The authorized dredge area for the Project Site is identified in as No. 13, and referred to as Thomas Marine (Formerly Norwood Marine). The RMP was approved by the EEA Secretary on May 5, 1996, and includes a finding that "the specific recommendations regarding Chapter 91 issues, namely the licensing and construction of private structures pursuant to the Waterways Regulations, are based upon sound environmental resource planning and management, and balance public and private needs and sensitive resources of the ACEC."

The extent of dredging authorized under H&L License No. 3550 is further reinforced by the 1938 aerial photograph, taken at low tide, provided in Figure 8.7. Prior to dredging, the nearshore areas of the Project Site were predominately tidal flats as noted on 1885 H&L License No. 900. By comparing this image to the historic plans, it is evident that the entire boat basin was dredged to accommodate the needs of the boatyard.

Utilizing the best available information, the depths and extents of dredging have been established to match the assumed historic limits. The proposed dredge depth of six (6) feet below mean low water is consistent with DEP's policy of providing a minimum of two (2) feet of clearance below the propeller of vessels. The uses of the former Lawley Shipyard would be expected to require at least that depth for the larger deep-draft vessels constructed during that time period.

8.5 Water Quality Certification

Water Quality Certification will be required for the Project because it will require dredging of more than 100 cubic yards of material. Key criteria for the evaluation of Water Quality Certification include: no practicable alternative that would have less adverse impact on the aquatic ecosystem; and confirmation that appropriate steps will be taken to avoid and minimize adverse impacts to "Land Under Ocean" and the intertidal zone. Consistency with these criteria is detailed below.

No Practicable Alternative

The proposed dredging is necessary to restore navigability and maintain the Project Site as a functional marina. The footprint of the proposed dredging is limited to previously dredged area as discussed in Section 8.4.3. Without dredging, the marina cannot function, and will not meet local planning or RMP goals of maintaining water-dependent uses on the site.

Avoidance and Minimization

Impacts to Land Under Ocean and the intertidal zone will be minimized through implementation of Best Management Practices ("BMP's") which will be coordinated with the applicable state and federal agencies during applicable DEP, USACE, and Conservation Commission regulatory reviews. These avoidance and minimization measures may include time-of-year restrictions, use of bottom-weighted silt curtains, and turbidity monitoring during in-water work.

8.6 Wetlands Protection Act

The proposed work will occur within the Riverfront Area, Land Subject to Coastal Storm Flowage, 100-foot Buffer Zone to Coastal Bank, LSCSF, Tidal Flat and Land Under Ocean. As noted below, the WPA does not prescribe performance standards for LSCSF.

Because the Project Site is located within an ACEC, all performance standards for coastal resources are raised to "no adverse effect" in the interests of the WPA except for maintenance dredging for navigational purposes of Land Under Ocean.

Riverfront Area

The WPA regulations at 310 CMR 10.58 establish a 25-foot Riverfront Area ("RA") associated with the Neponset River. The Neponset River is a tidal river, so the RA is measured horizontally from MHW, rather than from the top of the riverbank (310 CMR 10.58(2)(a)(2)(c)). The present MHW shoreline is located at elevation 4.33' NAVD88. The Project Site contains approximately 29,600 square feet of RA, all of it previously developed paved surfaces. The portion of the Project that will be located within the RA include water-dependent facilities to support the use of the marina

and public open space. All work within RA will be performed in compliance with the applicable performance standards. There is no buffer zone associated with the RA.

Land Subject to Coastal Storm Flowage

The Federal Emergency Management Agency's ("FEMA''s) most recent Flood Insurance Rate Map ("FIRM") for the City of Boston indicates that the Site contains areas identified as both Flood Hazard Areas ("A" zones) and Coastal High Hazard Areas ("V" zones). These areas are subject to flooding at elevations 11 to 13 feet, and 14 feet NAVD88 during the one percent annual chance flood, respectively. Because the flood waters would extend from the tidal waters of the Neponset River, this area is regulated as LSCSF. The WPA does not prescribe any performance standards for LSCSF.

100-foot Buffer Zone to Coastal Bank

The WPA regulations under §10.02(2)(b) establish a 100-foot Buffer Zone from the limits of Coastal Bank. Work within the 100-foot Buffer Zone to Coastal Bank will require compliance with the performance standards enumerated within §10.30. The proposed work within the buffer zone will not result in any short-term construction-related or long-term operational impacts to the protected resource area, Coastal Bank, or any additional down gradient resource area.

Land Under the Ocean

Land Under the Ocean exists within the Neponset River seaward of the mean low-water line. Land Under the Ocean consists of unconsolidated sediments, rocky material, and debris found within the regularly submerged portion of the Neponset River. According to data maintained by MassGIS Online Data Viewer (OLIVER), the Project Site does not contain any mapped eelgrass beds. There are areas mapped as suitable for soft-shell clams to the west of the Project Site, but shellfish growing is prohibited. Land Under Ocean does not have a 100-foot Buffer Zone. Work proposed within Land Under Ocean will be completed in compliance with the applicable performance standards.

Tidal Flat

Tidal Flats exist immediately west of the Project Site, and consist of shallow flats along Pine Neck Creek. No work is anticipated within Tidal Flats; however, if work is required it will be completed in compliance with the applicable performance standards.

Impacts to wetlands and waterways resource areas associated with the proposed work are summarized in Table 8-2 below.

Table 8-2 Impacts to Wetlands Resource Areas

Resource	Existing	Proposed	Change
Coastal Bank	759 LF	759 LF	0 LF
Land Under Ocean	98,605 SF	124,951 SF	(26,346 SF)
Tidal Flat	46,025 SF	19,571 SF	+26,454 SF
Land Containing Shellfish	15,870 SF	14,852 SF	(1,018 SF)

8.6.1 Massachusetts Stormwater Standards

Projects that fall under the jurisdiction of the WPA must comply with the Massachusetts Stormwater Management Standards (310 CMR 10.05(6)). The Stormwater Management Standards define the requirements for proper stormwater management for new and redeveloped sites in Massachusetts. The stormwater management designs for all components of the Project will be refined and analyzed in the final design and permitting process to demonstrate full compliance with the Massachusetts Stormwater Management Standards. Table 8-3 illustrates the Project's compliance with the ten Stormwater Standards.

Table 8-3 Compliance with MA Stormwater Standards[1]

Standard		Compliance Level Achieved
Standard 1:	No New Untreated Discharges or Erosion to Wetlands	The Proposed Project will comply with this Standard. There will be no new untreated stormwater discharges into waters of the Commonwealth, or erosion of adjacent wetlands. Stormwater from the Site will be collected and treated in accordance with the DEP Stormwater Management Standards and stormwater outfalls will be stabilized to prevent erosion.
Standard 2:	Peak Rate Attenuation	Standard 2 does not apply to coastal waters; however, the existing discharge rate will decrease as a result of the improvements associated with the Project. The Project is significantly increasing the pervious area and collecting run-off through infiltration systems which will reduce the pre-development peak discharge rates.
Standard 3:	Groundwater Recharge	The Project will prevent the loss of annual recharge to groundwater by incorporating groundwater recharge techniques. The Proponent will install surface and subsurface infiltration systems to meet BWSC infiltration requirements. Infiltration is the largest component of reducing the rate of stormwater discharge, and will greatly promote annual recharge relative to the existing Project Site conditions, which is a mostly impervious.
Standard 4:	Water Quality Treatment	The Project will remove 80 percent of the annual load of total suspended solids by the implementation of BMPs. These include minimizing Project Site impervious areas, incorporating nonstructural stormwater treatment (including vegetated stormwater storage), and minimizing the need for fertilizers by using native, durable species, as well as structural stormwater BMPs like deep sump and hooded catch basins, and proprietary structures (water quality units). Source control and pollution prevention measures, such as vacuum cleaning, street sweeping, proper snow management, and stabilization of eroded surfaces, are included in the Long-Term Pollution Prevention Plan and Operation and Maintenance Plan.

Standard 5:	Land Uses with Higher Potential Pollutant Loads	The Project Site will be occupied by buildings and open spaces not associated with land uses with higher potential pollutant loads. The proposed parking garage will drain via a gas/oil separator to the sanitary sewer system.
Standard 6:	Critical Areas	Full compliance would be achieved. The Project does not discharge untreated stormwater into a sensitive resource area.
Standard 7:	Redevelopment Standards	The Project is redevelopment. The Project will comply with Stormwater Management Standards 1 through 6, to the maximum extent practicable, and all other requirements of the Stormwater Management Standards; thereby the Project will materially improve upon existing conditions.
Standard 8:	Construction Period Pollution Prevention and Erosion and Sedimentation Controls	Full compliance would be achieved. The Project will obtain coverage under the National Pollution Discharge Elimination System ("NPDES") Construction General Permit. A Stormwater Pollution Prevention Plan ("SWPPP") will be prepared and implemented, including erosion and sediment controls, temporary and permanent stormwater management measures, waste management and disposal, spill prevention and response, etc.
Standard 9:	Operation and Maintenance Plan	Full compliance would be achieved. A post-construction Operation and Maintenance ("O&M") Plan will be prepared and implemented to ensure that stormwater management systems function as designed. The plan will be reviewed by BWSC.
Standard 10:	Prohibition of Illicit Discharges	Full compliance would be achieved. There will be no illicit discharges to the stormwater management system associated with the Project. All proposed discharges will be reviewed by BWSC to ensure consistency with this standard.

1 310 CMR 10.05(6)

8.7 Coastal Zone Management (CZM) Policies

The Project Site is located within the Massachusetts Coastal Zone and, as the Project will be a non-water dependent project, must be consistent with the regulatory policies established by CZM under the federally approved Massachusetts Coastal Zone Program.[1]

Table 8-4 lists the CZM policies which are applicable to the Project, and assesses the consistency of the Project with those policies.

Table 8-4 Consistency with Applicable Massachusetts Coastal Zone Management Policies

CZM Policy	Summary of Policy	Summary of Consistency Statement
Coastal Hazard Policy # 1	Preserve, protect, restore, and enhance the beneficial functions of storm damage prevention and flood control provided by natural coastal landforms.	The policy does not apply. The Project Site is currently developed and does not contain natural coastal landforms.
Coastal Hazards Policy # 2	Ensure that construction in water bodies and contiguous land areas will minimize interference with water circulation and sediment transport.	The Project is not anticipated to have an adverse impact on water circulation. The adjacent bank consists of a man-made bulkhead and does not serve as a sediment source.
Coastal Hazards Policy # 3	Ensure that state and federally funded public works projects would be safe from flood and erosion-related damage.	The policy does not apply. The Project is not a state or federally funded public works project.

1 Massachusetts Office of Coastal Zone Management Policy Guide, Executive Office of Energy and Environmental Affairs, October 2011.

CZM Policy	Summary of Policy	Summary of Consistency Statement
Coastal Hazards Policy #4	Prioritize acquisition of hazardous coastal areas that have high conservation and/or recreation values.	The Project includes development within a V Zone, and as such will comply with applicable building code standards. The Project will substantially improve recreational opportunity on the Project Site.
Energy Policy # 1	For coastally dependent energy facilities, assess siting in alternative coastal locations.	This policy does not apply. The Project is not an energy facility.
Energy Policy # 2	Encourage energy conservation and use of renewable sources.	The Project will incorporate energy conservation measures and include assessment of renewable energy potential to the extent practicable as presented in Chapter 4, *Sustainability/Green Building and Climate Change Resiliency*.
Growth Management Policy #1	Encourage sustainable development that is consistent with state, regional, and local plans.	The Project will incorporate sustainable design elements, and is consistent with regional, state, and local plans. Project sustainability is discussed further in Chapter 4, *Sustainability/Green Building and Climate Change Resiliency*.
Growth Management Policy #2	Ensure that state and federally funded infrastructure projects serve developed urban areas.	The policy does not apply. The Project is not a state- or federally funded infrastructure project.
Growth Management Policy #3	Encourage revitalization and enhancement of existing development in the coastal zone.	The Project will revitalize and activate the Project Site on a year-round basis.
Habitat Policy # 1	Protect coastal, estuarine, and marine habitats to preserve wildlife habitats.	The Project will obtain an Order of Conditions from the Boston Conservation Commission.
Habitat Policy # 2	Advance the restoration of degraded or former habitats in coastal areas.	This policy does not apply.
Ocean Resources Policy # 1	Support the development of sustainable aquaculture, both for commercial and enhancement (public shellfish stocking) purposes.	This policy does not apply. Shellfish growing is prohibited in the surrounding resource areas.
Ocean Resources Policy # 2	The extraction of oil, natural gas, or marine minerals (other than sand and gravel) in or affecting the coastal zone must protect marine resources, marine water quality, fisheries, and navigational, recreational and other uses.	This policy does not apply, no extraction of oil natural gas, or marine minerals is proposed.
Ocean Resources Policy # 3	Accommodate offshore sand and gravel extraction needs in areas and in ways that will not adversely affect marine resources, navigation, or shoreline areas.	This policy does not apply, no extraction of sand and gravel is proposed outside of maintenance dredging.
Ports and Harbors Policy # 1	Ensure that dredging and disposal of dredged material minimize adverse effects on water quality, physical processes, marine productivity, and public health and take full advantage of opportunities for beneficial re-use.	Anticipated maintenance dredging will require a Water Quality Certification from DEP and will be coordinated closely with state and federal agencies to ensure impacts to marine resources are minimized to the extent feasible.
Ports and Harbors Policy # 2	Obtain the widest possible public benefit from channel dredging and ensure that Designated Port Areas and developed harbors are given highest priority in the allocation of resources.	Dredging is proposed within an existing developed marina and will serve to improve navigation for the public use of facilities enhanced by the Project.
Ports and Harbors Policy # 3	Preserve and enhance the capacity of Designated Port Areas to accommodate water-dependent industrial uses.	This policy does not apply; the Project is not within a Designated Port Area.

CZM Policy	Summary of Policy	Summary of Consistency Statement
Ports and Harbors Policy # 4	For development on tidelands and other coastal waterways, preserve and enhance the immediate waterfront for vessel-related activities that require sufficient space and suitable facilities along the water's edge for operational purposes.	The Project will enhance an existing recreational boating marina.
Ports and Harbors Policy # 5	Encourage, through technical and financial assistance, expansion of water-dependent uses in Designated Port Areas and developed harbors, re-development of urban waterfronts, and expansion of physical and visual access.	The Project is not within a Designated Port Area, but it will enhance an existing recreational boating marina and improve public access to the Site.
Protected Areas Policy # 1	Preserve, restore, and enhance coastal Areas of Critical Environmental Concern, which are complexes of natural and cultural resources of regional or statewide significance.	The Project endeavors to preserve the unique resources of the Neponset River Estuary ACEC as described in this Chapter.
Protected Areas Policy # 2	Protect state designated scenic rivers in the coastal zone.	The Project Site is not within a designated scenic river.
Protected Areas Policy # 3	Ensure that proposed developments in or near designated or registered historic places respect the preservation intent of the designation and that potential adverse effects are minimized.	Refer to Chapter 10, *Historic Resources,* for a detailed evaluation of the Project's approach to enhancing the existing historic resources.
Public Access Policy # 1	Ensure that development would promote general public use and enjoyment of water front.	The Project will create new recreational opportunities through the enhancement of filled tidelands by providing new pedestrian oriented open space and public accommodations.
Public Access Policy # 2	Improve public access to coastal recreational facilities; facilitate multiple uses; minimize adverse impacts of developments.	The Project proposes significant improvements to public open space and pedestrian accessibility. The proposed development will support a mix of uses and will minimize impacts.
Public Access Policy # 3	Expand coastal recreational facilities and develop new public areas for recreational activities.	The Project will enhance an existing recreational marina and will include public access in the form of open space and public pedestrian access ways along the waterfront open space.
Water Quality Policy # 1	Ensure that point-source discharges do not comprise water quality standards.	No point-source discharges are associated with the proposed improvements. An improved stormwater management system will be designed and constructed for the Project Site which meets federal stormwater management standards and is compliant with both the DEP Stormwater Management Policy and BWSC requirements.
Water Quality Policy # 2	Implement nonpoint source pollution controls to promote the attainment of water quality standards and protect designated uses and other interests.	Potential nonpoint discharge is limited to stormwater runoff. Stormwater at the Project Site will be collected and treated in appropriate stormwater management structures designed in accordance with federal stormwater management standards, DEP Stormwater Management Policy and BWSC requirements.
Water Quality Policy # 3	Ensure that subsurface waste discharges conform to applicable standards.	The policy does not apply as the Project does not propose subsurface waste discharges.

8.7.1 Public Benefit Determination

That part of the Project which occurs on filled tidelands is subject to the 2007 statute "*An Act Relative to Licensing Requirements for Certain Tidelands*" (2007 Mass. Acts Ch. 168, sec 8). The act requires the EEA Secretary to consider the following when making a Public Benefit Determination:

- Purpose and effect of the development;
- The impact on abutters and the surrounding community;
- Enhancement of the property;
- Benefits to the public trust rights in tidelands or other associated rights;
- Community activities on the development site;
- Environmental protection and preservation;
- Public health and safety; and
- General welfare.

The following sections describe how the Project provides appropriate public benefits and is adequately protective of the Public Trust rights inherent in tidelands.

Purpose and Effect of the Development

The overall purpose of the Project is to rehabilitate an existing marina and associated upland service buildings into a new mixed-use development.

The Project will provide substantial direct and indirect public benefits, including the provision of access and recreational opportunities for the public on previously inaccessible tidelands, the remediation of Project Site contamination, new housing opportunities, and considerable improvements to the public realm.

Impact on Abutters and Community

The Project will result in a substantial net benefit to the community by advancing the goals of the Imagine Boston 2030 plan and converting an underutilized waterfront development area into a new neighborhood asset.

The Proponent is working closely with abutting landowners and members of the community to ensure impacts are minimized to the extent feasible. Potential traffic impacts of the Project will be mitigated through the TDM measures discussed in Chapter 5, *Transportation*. Construction impacts will be addressed through the development of a CMP, as discussed in Chapter 6*, Environmental Protection*.

Enhancement of the Property

The Project will enhance the Project Site by converting an underutilized, industrial waterfront property and deteriorating buildings into a vibrant, mixed-use marina development with new interior and exterior public spaces.

Benefits to the Public Trust Rights in Tidelands or Other Associated Rights

As described above, the Project will include numerous direct public benefits related to tidelands, including improving public access to the shoreline, providing new public open space, and substantial public amenities.

Community Activities on the Site

The Project will result in a substantial net improvement to community activity at the Project Site by providing new open space, improved accessibility throughout the Site, and new public amenities such as kayak rental facilities.

Environmental Protection/Preservation

The Proponent is committed to redeveloping the Project Site in accordance with all applicable local, state, and federal environmental protection regulations. Table 1-2 in Chapter 1, *Project Description*, provides a list of the regulatory approvals anticipated to be required.

Public Health and Safety

The Project will promote public health and safety through implementing a Site design that provides a safe and universally accessible facility from all directions. Improvements include landscape and appropriate lighting and signage to provide a safe, well-lit environment for visitors and employees on a 24/7 basis.

General Welfare

The Project will protect the general welfare by replacing underutilized buildings with a modern pedestrian scale mixed use Project. The Project will comply with all applicable local, state, and federal environmental protection standards.

Protection of Groundwater

As described in Section 6.6, *Groundwater*, of Chapter 6, *Environmental Protection,* the Project protects groundwater levels at the Project Site. If required, the off-site discharge of groundwater or accumulated surface water will be performed in accordance with the EPA NPDES permits issued to the Commonwealth of Massachusetts, as well as DEP and municipal regulations pertaining to the off-site discharge of groundwater into surface water bodies.

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Source: MassGIS, VHB

Site Area
Parcel Boundary
Neponset River Estuary ACEC
Previously Authorized Dredging

Note: As identified in Figure 11(c) of the ACEC Resource Management Plan

Figure 8.1

Neponset Wharf
Neponset River Estuary ACEC

Dorchester, Massachusetts

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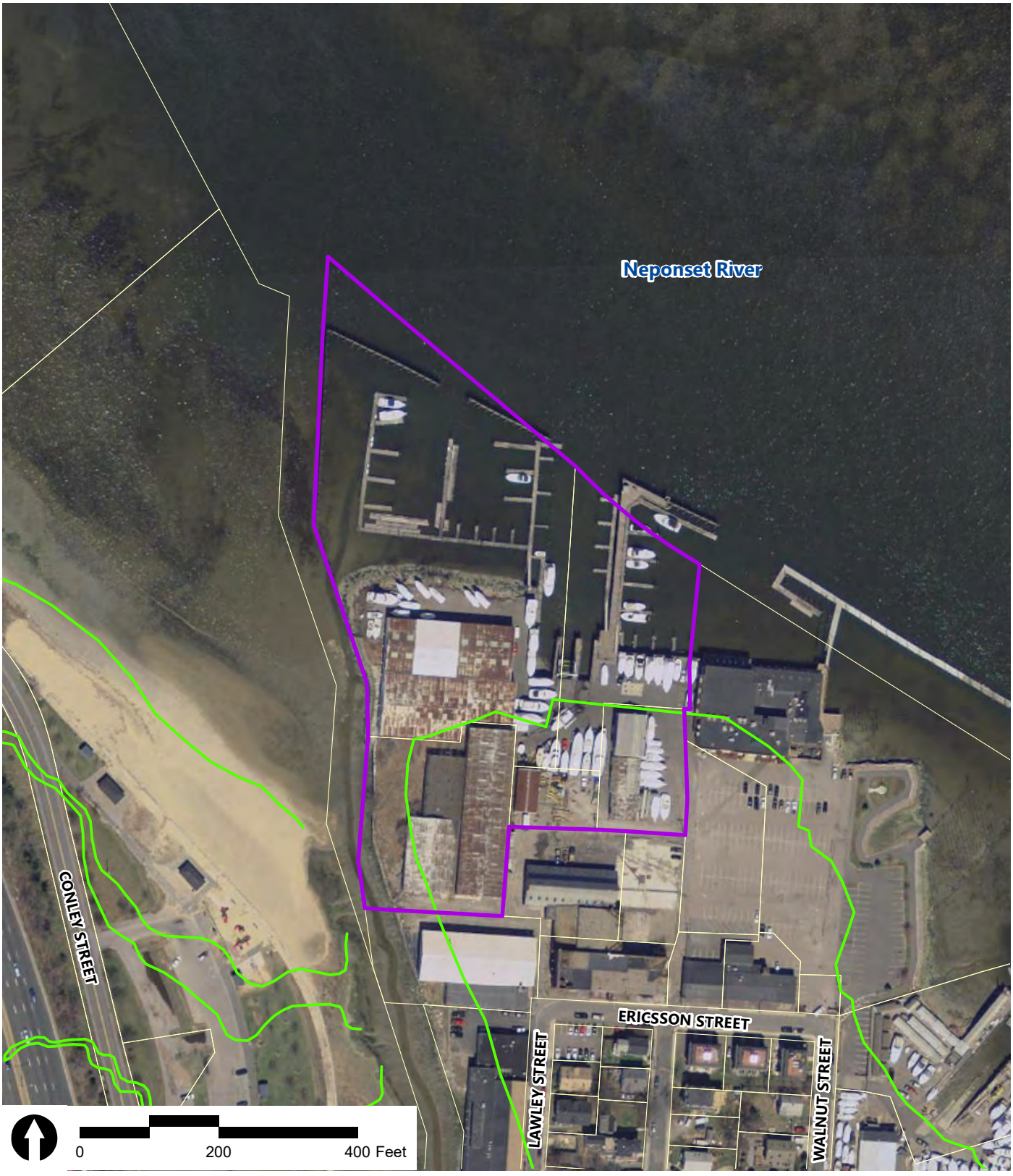


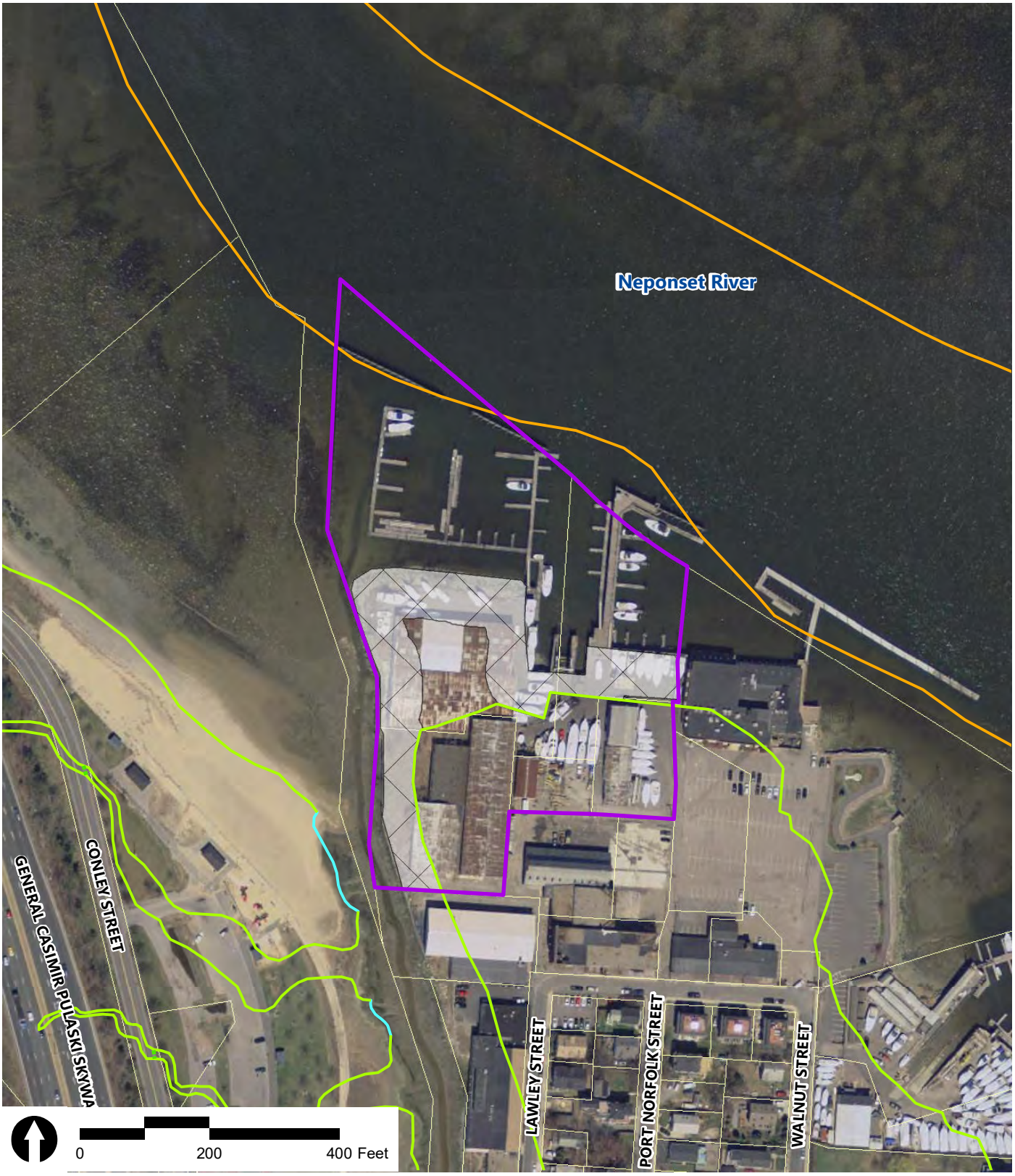
Source: MassGIS, VHB

Site Area
Parcel Boundary
Historic Mean High Water

Figure 8.2

Neponset Wharf
Historic Coastal Survey 1847, 1894 and 1895 HMHW

Dorchester, Massachusetts



Source: MassGIS, VHB

- Site Area
- Parcel Boundary
- Water-Dependent Use Zone
- Historic High Water
- Contemporary High Water
- Historic Mean Low Water

Figure 8.3
Neponset Wharf
Historic Coastal Survey
1893 HMLW
Dorchester, Massachusetts

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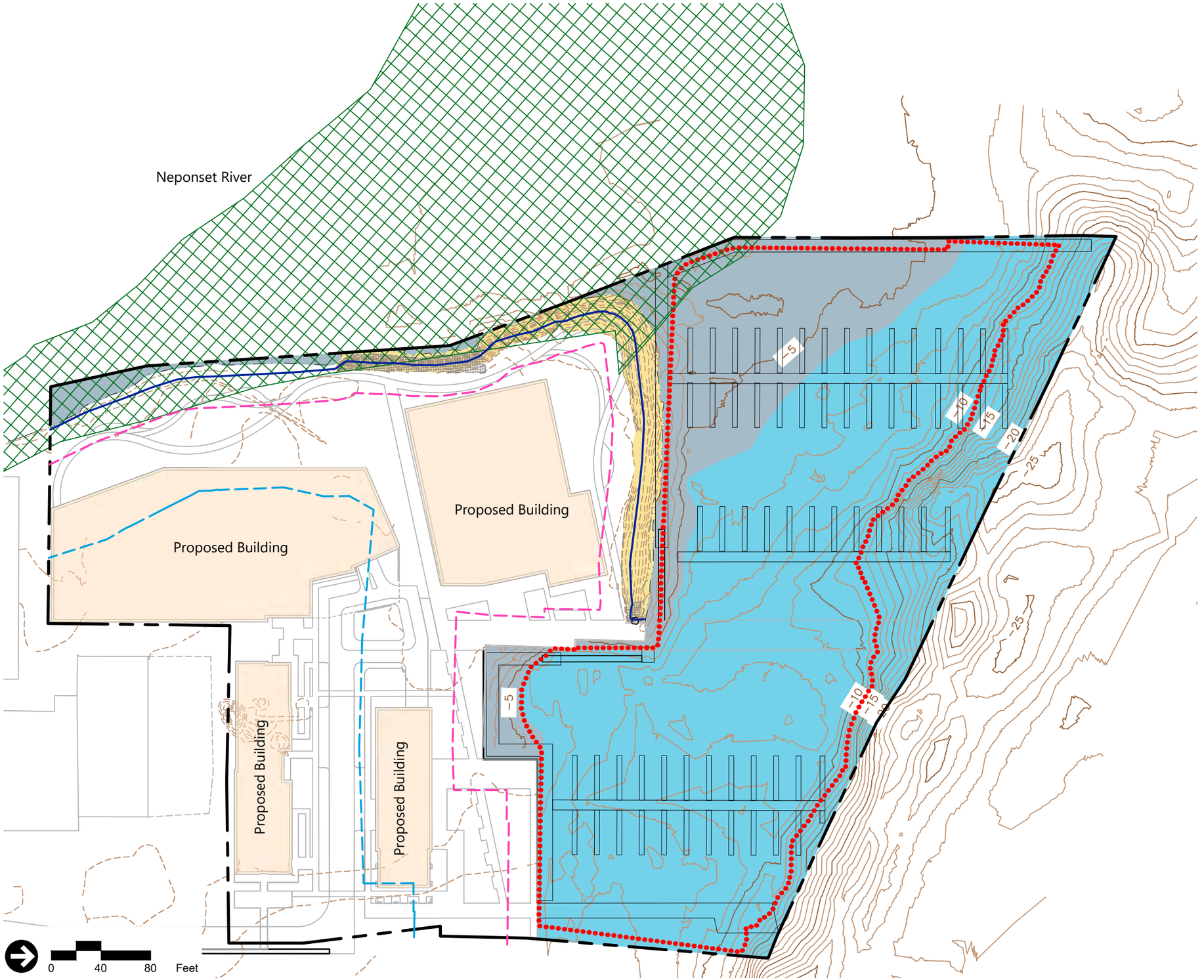

Coastal Bank (MHW)

Limit of Dredging (to -12')

25-Foot Riverfront Area

100-Foot Coastal Bank Buffer

Tidal Flat
(-5.16' to Bottom of Bank)

Land Under Ocean
(-5.16' seaward)

Shellfish Suitability Area

Existing Rip Rap/Slope

Note: All elevations shown in NAVD88
Entire Site within LSCSF

vhb

Figure 8.4
Wetland Resource Areas

Neponset Wharf
Boston, Massachusetts

0 50 100 Feet

CHAPTER 91 JURISDICTION

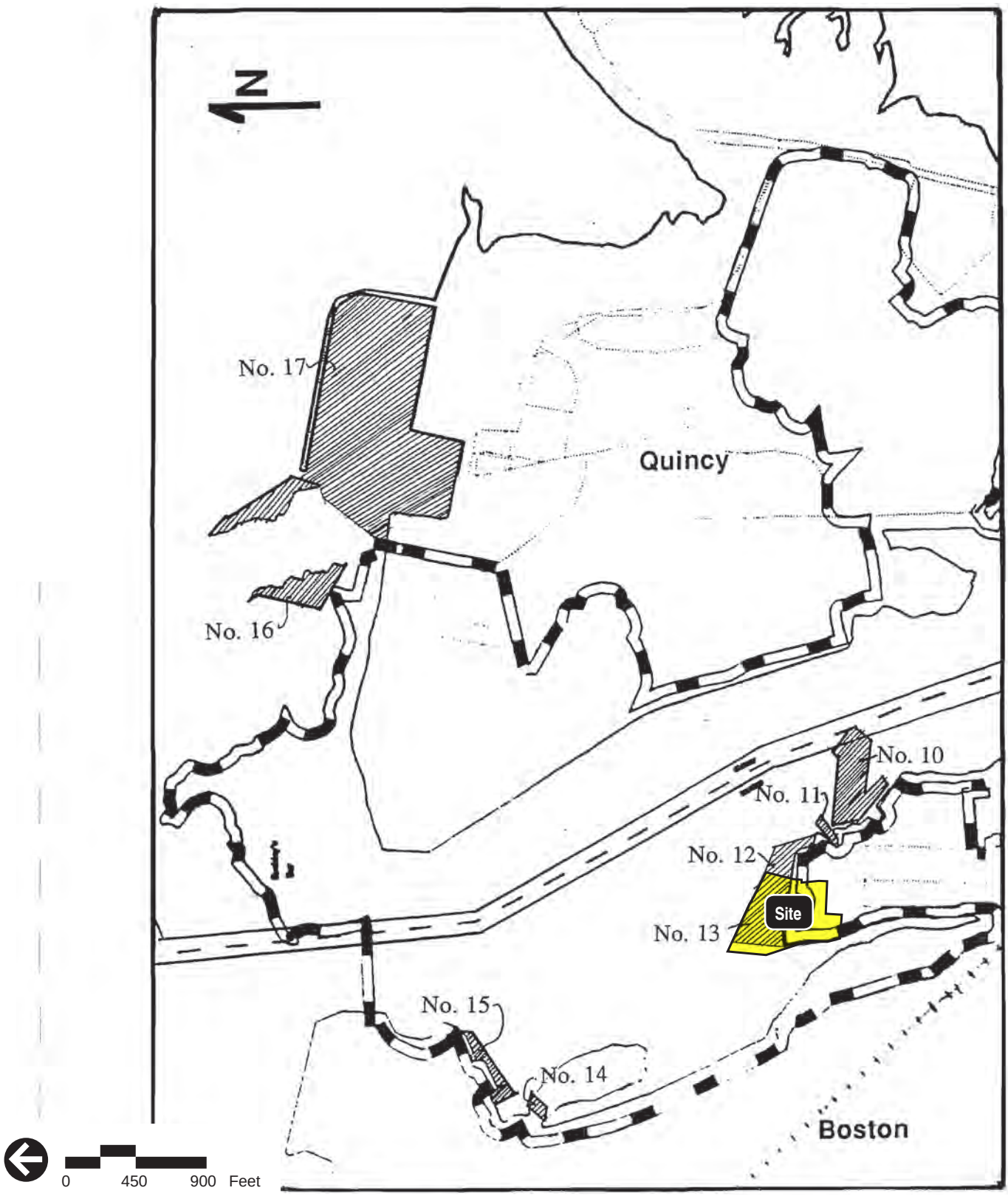

Figure 8.6

RMP Previously Authorized Dredging

Neponset Wharf
Boston, Massachusetts

0 125 250 Feet

Figure 8.7
1938 Aerial

Neponset Wharf
Boston, Massachusetts

9

Infrastructure

This chapter describes the infrastructure systems that will support the Project. The following utilities are evaluated: stormwater management, wastewater, domestic water and fire protection, natural gas, electricity and telecommunications. Chapter 4, *Sustainability/Green Building Design and Climate Change Resiliency,* discusses energy and water conservation measures being considered as part of the Project.

9.1 Summary of Key Findings and Benefits

The key impact assessment findings related to infrastructure systems include:

- Utility infrastructure systems are available at the site frontage and it is anticipated that they will support the demand associated with the development and operation of the Project.
- On-site drainage generally flows untreated towards the Neponset River via overland flow and Boston Water and Sewer Commission ("BWSC") owned and maintained drainage infrastructure in Ericsson Street abutting the Project Site.
- The Project Site is currently serviced by BWSC for domestic and fire protection water and sanitary sewage conveyance.

Key Project-related mitigation and/or benefits associated with the infrastructure systems include:

- The Project will not introduce additional peak flows, pollutants, or sediments that would potentially impact the Neponset River Estuary.
- The Project will improve the quality and quantity of site stormwater runoff compared to existing conditions by collecting and infiltrating one inch of rainfall over all impervious areas through a series of rain gardens and infiltration systems. The proposed stormwater management will significantly improve the quality of water discharged into the Neponset River.
- The proposed stormwater management systems will comply with the DEP Stormwater Management Policy and Standards, as described in Chapter 8, *Wetlands and Waterways*.

In order to reduce overall water usage for the Project, the Proponents will install low flow and low-consumption plumbing fixtures, in compliance with Article 37 of the Boston Zoning Code.

9.2 Regulatory Context

The following discusses the regulatory framework of utility connection reviews and standards. A complete list of the anticipated state and local permits associated with Project-related infrastructure is included in Chapter 1, *Project Description*. For the Project:

- BWSC approval will be required for all water, sewer and stormwater systems.
- The Boston Fire Department will review the Project with respect to fire protection measures such as siamese connections, hydrants, and standpipes.
- Design of the Project Site access, hydrant locations, and energy systems (gas and electric) will also be coordinated with the respective system owners.
- Where new utility connections are needed and existing connections are to be capped, the excavation will be authorized by the Boston Public Works Department ("BPWD") through the street opening permit process, as required.

All improvements and connections to BWSC infrastructure will be reviewed by BWSC as part of the BWSC site plan review process. This process includes a comprehensive design review of the proposed service connections, assessment of system demands and capacity, and establishment of service accounts.

9.3 Stormwater Management

Stormwater management controls will be established in compliance with the BWSC standards. The Project is expected to improve stormwater runoff quality and reduce peak flows by increasing landscaping and pervious areas, and through the use of treatment and infiltration facilities.

9.3.1 Existing Drainage Conditions

Record information shows on-site drainage generally flows untreated towards the Neponset River. Ericsson Street contains BWSC owned drainage infrastructure adjacent to the Project Site, however little existing. There is limited infrastructure within the site, and portions of the site run-off travel overland and discharge directly into the Neponset River (existing drainage areas 1 and 3). The remaining portions of the site travel both overland and through site catch basins into Ericsson Street to a BWSC owned 18-inch and 15-inch drain (existing drainage area 2). Run-off ultimately flows to the Neponset River through outfall SDO091. Figure 9.2a shows the existing drainage facilities serving the Project Site.

9.3.2 Proposed Drainage Conditions

Figure 9.2b presents the proposed drainage plan for the Project. Construction of the Project will incorporate stormwater management and treatment systems that will improve water quality, reduce runoff volume and control peak rates of runoff in comparison to existing conditions. The Project will provide a series of below grade infiltration systems and rain garden(s), sized for one-inch over the impervious area,

that retains site runoff while providing treatment and peak flow mitigation, in accordance with BWSC and stormwater standards. Overflow from these systems will discharge through a new outfall to the Neponset River. Additionally, to better ensure improved water quality from the Project, a "Don't Dump, Drains to Neponset River" casting will be installed at all new catch basins, area drains, and trench drains.

Stormwater runoff calculations will be done for existing and proposed conditions during the BWSC permitting process for the two-, ten-, 25- and 100-year storm events. During construction, measures will be implemented to minimize water quality impacts and avoid impacts to abutters.

Refer to Chapter 8, *Wetlands and Waterways,* for a description of the Project's compliance with the 2008 DEP Stormwater Management Policy and Standards.

9.3.3 Compliance with BWSC Standards and Groundwater Conservation Overlay District ("GCOD")

All improvements and connections to BWSC infrastructure will be reviewed by BWSC as part of the Site Plan Review process. This process includes a comprehensive design review of the proposed service connections, assessment of system demands and capacity, and establishment of service accounts for water, sewer, and stormwater systems.

The Project Site is not within the Groundwater Conservation Overlay District.

9.4 Sanitary Sewage

The following sections describe the sanitary sewer infrastructure around the Project Site and describe how this infrastructure will service the Project.

9.4.1 Existing Sewer System

BWSC owns and maintains the sanitary sewer lines in the vicinity of the Project Site. These include the 12-inch sewer line which runs down Ericsson, Port Norfolk and Walnut Street as shown in Figure 9.1a. The existing site currently generates approximately 1,245 gallons per day of wastewater.

9.4.2 Proposed Sewage Flow and Connection

Generation rates from the Massachusetts State Environmental Code (Title 5) were used to estimate the Project's sewage generation rates. Table 9-1 below presents the estimated sanitary sewage flow for the Project.

Table 9-1 Estimated Sanitary Sewage Flow

Proposed Occupancy	Quantity	Sewage Generation (GPD)
Residential: 110 GPD/Bedroom	175 Beds *(Assumed mix)*	19,250
Marketplace: 97 GPD/1000 SF	3000 SF	291
Marina: 10 GPD/Slip	75 Slips	750
Total Proposed		20,291
Total Existing		1,245
Net New Total		**19,046**

1 Based on DEP 310 CMR 15.203 flow calculation factors
2 GPD=Gallons per day
3 SF=Square Feet
4 Marketplace assumed same generation factor as supermarket
5 Assumed unit mix based on 10% (3 bedrooms), 55% (2 bedrooms), and 35% (1bedroom/studio)

The Project will generate an estimated 20,291 gallons per day of new sewage generation (19,046gallons per day of net new sewage generation). The Project plans to maintain the existing 12-inch sewer line in Ericsson Street with a new connection servicing the site. The exact location and size of the connections to the building will be determined as the design progresses. The Project will have a covered/enclosed parking garage and a loading dock. A gas/oil separator will treat the drainage from these vehicular areas before discharging to BWSC infrastructure. Grease traps will treat wastewater generated from commercial kitchens. Detail on both items will be included in the BWSC Site Plan Review.

All connections will be coordinated with BWSC to ensure the city's sewer system has sufficient capacity to support the Project.

9.4.3 Inflow and Infiltration (I/I) Mitigation

Since the Project is expected to generate net new wastewater flows of approximately 19,046 gallons per day, certain regulatory thresholds are triggered. The BWSC requires that new developments generating greater than 15,000 gallons per day of net new wastewater flow provide mitigation to offset clean flow inflow and infiltration ("I/I") present in the collection system. I/I is the component of flows in sanitary sewer systems that does not come from wastewater generated by building. I/I includes groundwater infiltration from leaking/broken sewer infrastructure, as well as stormwater connections from roof leaders and drainage infrastructure. Following DEP and BWSC policy, projects that generate flows more than the 15,000-gallon threshold are responsible for mitigating I/I at a ratio of 4:1 relative to the net-new wastewater generated. This will result in a significant mitigation payment for the Project. The Proponent is committed to working with BWSC to define the appropriate I/I mitigation.

9.5 Domestic Water and Fire Protection

The following sections describe the domestic water infrastructure around the Project Site and how this infrastructure will service the Project.

9.5.1 Existing Water Supply System

There is currently a six-inch main loop within the site that connects, in one location, to a 12-inch Ductile Iron Cement Lined water main in Ericsson Street. The existing buildings have a domestic water and fire protection service connection to the existing six-inch main. There is an existing fire hydrant at the end of Lawley Street and the middle of Ericsson Street. Refer to Figure 9.1a for the existing water distribution system.

9.5.2 Proposed Water Demand and Connection

New domestic water services and fire service laterals for the Project are anticipated to connect to the maintained six-inch main within the site. The exact location and size of proposed water connections will be determined as the design progresses, but are planned to be redundant six-inch domestic water and six-inch fire protection connections.

Domestic water demand is based on estimated sewage generation with an added factor of ten percent for consumption, system losses, and other use. Based upon sewage generation rates outlined in the DEP Sewer Connection and Extension Regulations, 310 CMR 15.203.f, the Project will require approximately 22,320 gallons per day. However, appropriate low-flow and low-consumption plumbing fixtures will be installed in all residential units to achieve a reduction in water usage of 45 to 50 percent over the baseline in compliance with Article 37 of the Boston Zoning Code (as LEEDv4 "certifiable"), as discussed in Chapter 4, *Sustainability/Green Building Design and Climate Change Resiliency*. The Proponent will continue to consider and evaluate methods to conserve water as building design evolves.

New water connections will be designed in accordance with BWSC design standards and requirements. Water services to new buildings will be metered in accordance with BWSC's Site Plan Requirements and Site Review Process. The review includes, but is not limited to, sizing of domestic water and fire protection services, calculation of meter sizing, sizing and location of booster pumps (if required, by MEP Engineer), backflow prevention design, and location of hydrants and Siamese connections conform to BWSC and BFD requirements. The Proponent will provide for the meter connection to the BWSC's automatic meter reading system. Fire protection connections on the Project Site will also need approval of the BFD.

9.6 Other Utilities

The following sections describe other utility infrastructure (natural gas, electrical, telephone and telecommunications) around the Project Site and describe how this infrastructure will service the Project.

9.6.1 Natural Gas Service

National Grid owns and operates the gas mains and services in the vicinity of the Project Site. The survey, provided by Otte and Dwyer, indicates underground power facilities in Ericsson Street along the access point to the Project Site. The Project plans to connect to this main to service the site.

The estimated natural gas demand load for the Project is 11,650 CFH. The Proponents will work with National Grid to confirm that local infrastructure has adequate system capacity as design progresses. Refer to Figure 9.1a for all existing gas services.

9.6.2 Electrical Service

Eversource owns and operates the electric facilities in the vicinity of the Project Site. The survey, provided by Otte and Dwyer, indicates underground power facilities in Ericsson Street along the frontage of the Project Site. The estimated peak electrical demand load for the Project is 1,250 kW. As the design of the Project progresses, the Proponent's electrical engineer and civil engineer will coordinate with Eversource on future configurations of the power system and connections.

Energy conservation measures will be an integral part of the Project-related infrastructure design. The buildings will employ energy-efficient and water-conservation features for mechanical, electrical, architectural, and structural systems, assemblies, and materials, where feasible and reasonable.

9.6.3 Telephone Service

Verizon owns and operates the telephone facilities and services in the vicinity of the Project Site. The survey, provided by Otte and Dwyer, indicates that there is an active conduit and manhole located in Ericsson Street where the existing buildings are currently being serviced. Given the existing infrastructure, telephone for the Project Site could be provided from Ericsson Street as the Project plans to extend telephone systems to service the proposed buildings. The configuration of the proposed service will be developed with Verizon as the design progresses.

9.6.4 Telecommunication Service

Comcast owns and operates the telecommunications facilities and services in the vicinity of the Project Site. The survey, provided by Otte and Dwyer, indicates that there is active conduit and manhole in Ericsson Street. Telecommunications for the Project Site could be provided from Ericsson Street as the Project plans to extend

the telecommunications line to service the proposed buildings. The configuration of the proposed service will be developed with Comcast as the design progresses.

9.6.5 Protection of Utilities

Existing public and private infrastructure located within the public right-of-way will be protected during construction. The installation of proposed utilities within the public way will be constructed in accordance with BWSC, Boston Public Works Department, the Dig-Safe Program, and governing utility company requirements. All necessary permits will be obtained before the commencement of work. Specific methods for constructing proposed utilities where they are near, or connect with, existing water, sewer, and drain facilities are subject to review by the BWSC as part of its Site Plan Review process.

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Figure 9.1A
Existing Utilities

Neponset Wharf
Boston, Massachusetts

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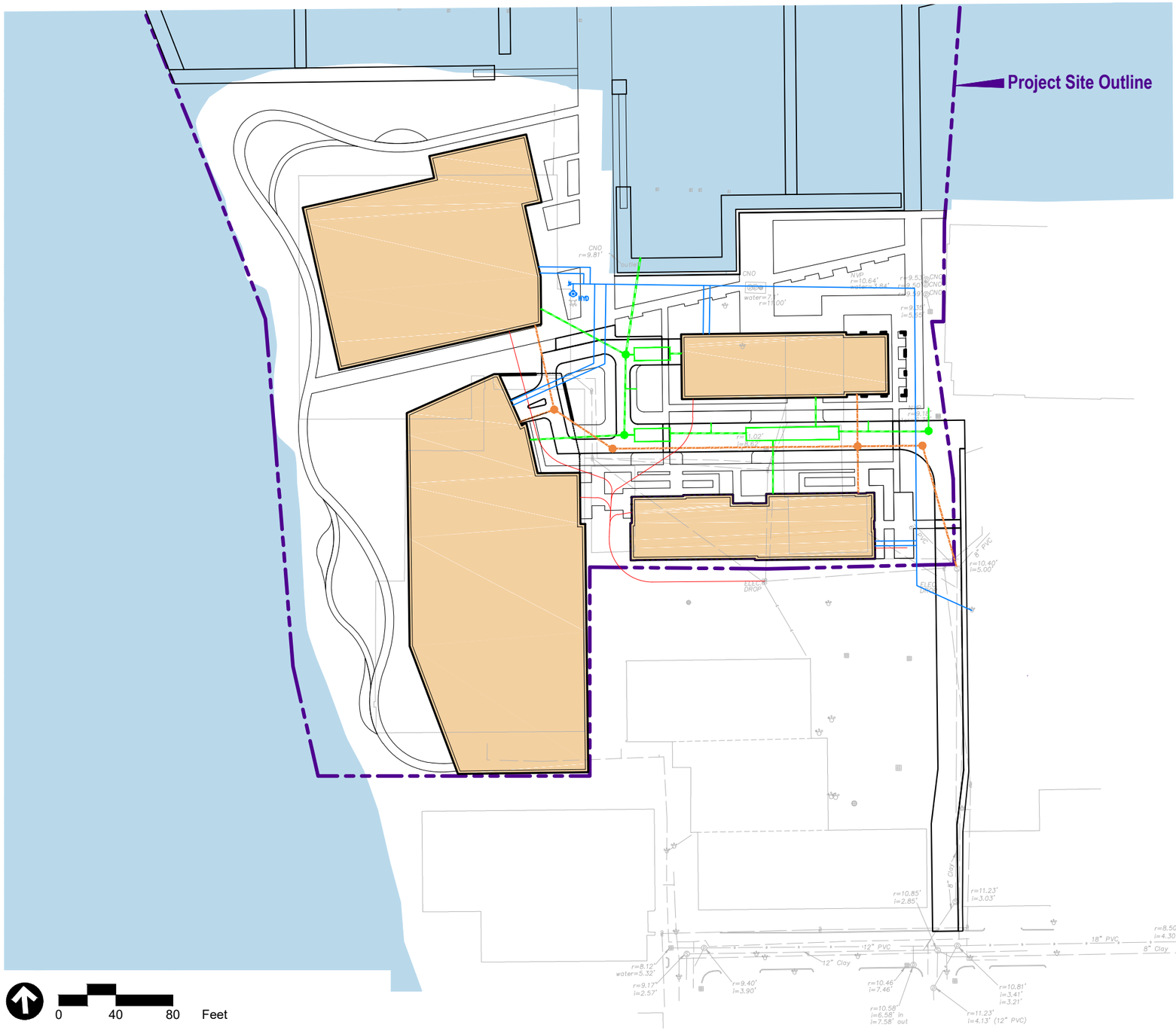
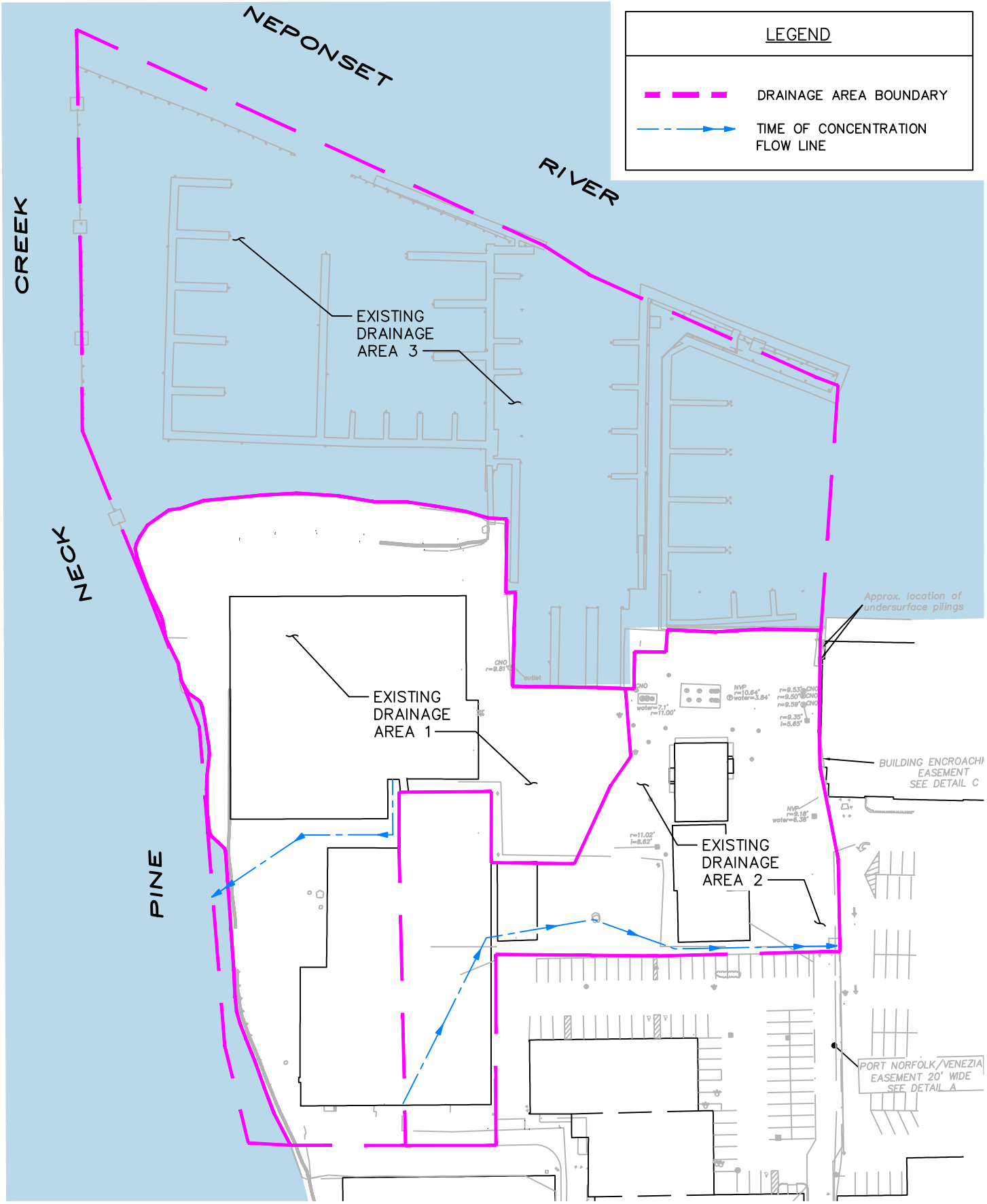


Figure 9.1B
Proposed Utilities

Neponset Wharf
Boston, Massachusetts



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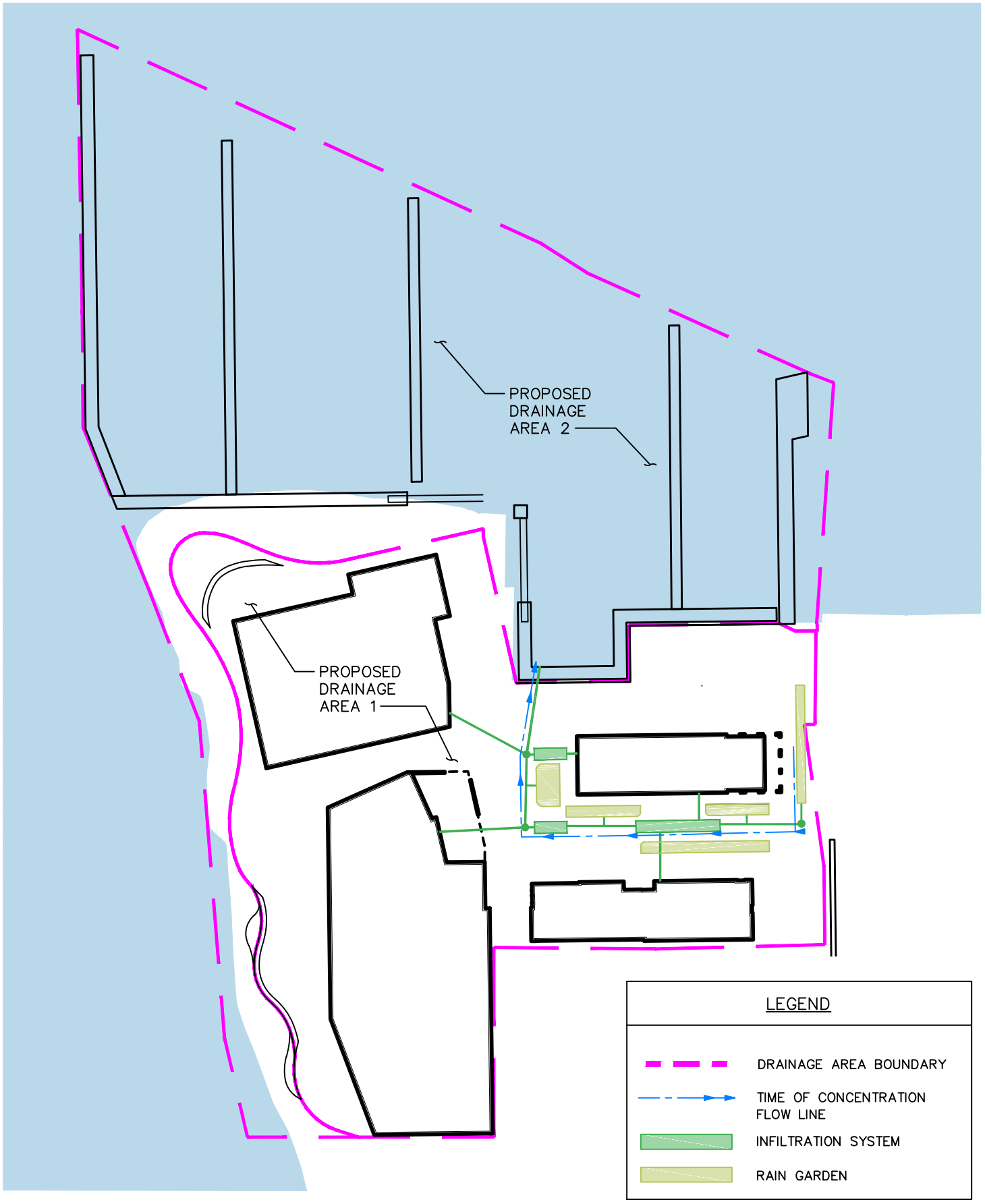
Existing Drainage Conditions
Neponset Wharf
Boston, MA

Figure 9.2A

April 3, 2018



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Proposed Drainage Conditions
Neponset Wharf
Boston, MA

Figure 9.2B

April 3, 2018

10

Historic Resources

This chapter identifies properties located within and in the vicinity of the Project Site that are listed in the National and State Registers of Historic Places, and/or are included in the Inventory of Historic and Archaeological Assets of the Commonwealth ("Inventory").

10.1 Summary of Key Findings

- The Project Site is located within the Port Norfolk Area, which is included in the Inventory.
- The Project Site is located within the boundaries of the Port Norfolk Neighborhood Design Overlay District, as defined in Article 65 (Dorchester Neighborhood District) of the Boston Zoning Code.
- The Project Site includes marine storage, service, and retail buildings constructed ca. 1955-1962; however, there are no historic resources within the Project Site itself.
- There are 11 historic resources located within a ¼-mile radius of the Project Site.

10.2 Regulatory Context

10.2.1 Massachusetts Historical Commission

The Massachusetts Historical Commission ("MHC") has review authority over projects requiring state or federal funding, licensing, permitting, and/or approvals. The purpose is to evaluate potential direct or indirect impacts to properties listed or eligible for listing in the National and State Registers of Historic Places, in compliance with State Register Review requirements (M.G. L. Chapter 9, Sections 27-27c, as amended by Chapter 254 of the Acts of 1988) and Section 106 of the National Historic Preservation Act of 1966 (if necessary). MHC review of the Project was initiated through submittal of the ENF/PNF.

10.2.2 Boston Landmarks Commission

The Boston Landmarks Commission ("BLC") will coordinate its review of the Project with the BPDA in accordance with the BPDA Article 80B, Large Project Review process, in association with the Boston Environment Department.

The Project Site is located within the boundaries of the Port Norfolk Neighborhood Design Overlay District and subject to review by the BLC in accordance with Article

65 of the Boston Zoning Code (Dorchester Neighborhood District). The BLC will review the application to determine the Project's consistency with the design guidelines for new construction set forth in the article, specific to the site plan, design and architecture, and landscape, and provide its recommendations to the BPDA.

The buildings on the site are over 50-years old and subject to Article 85 of the Boston Zoning Code (Demolition Delay). An Article 85 application will be submitted to the BLC before they are razed. The Inspectional Services Department may not issue any demolition permit relating to a building that is more than 50 years of age, unless, among other things, it has received a notice issued by the BLC that no demolition delay is required or that the 90-day demolition delay has expired.

10.3 Historic Resources

A review of the MHC Massachusetts Cultural Resource Information System ("MACRIS") database was undertaken to identify previously recorded, above-ground and archaeological resources, located on or within a one-quarter mile radius of the Project Site.

10.3.1 Historic Resources within One-Quarter-Mile Radius of the Project Site

The Project Site is located in the northwest corner of the Port Norfolk area, which is included in the Inventory; however, there are no historic, contributing buildings or structures within the Project Site itself. The area surrounding the Project Site has been thoroughly documented by historic resource surveys, resulting in several inventoried historic resources which are all located within the Port Norfolk area boundaries. Figure 10.1 depicts the location of the properties and proximity to the Project Site, which are summarized in Table 10-1.

Table 10-1 Historic Resources in the Vicinity of the Project Site

No.	Resource Name	Location	MHC Inventory No.	Designation
A	Port Norfolk Area	Bounded by Neponset Avenue, Lawley Street, and the Neponset River	BOS.DX	INV RNRE
B	Lawley Street Area	13–84 Lawley Street	BOS.GE	INV
C	Port Norfolk Street Area	1–58 Port Norfolk Street	BOS.HD	INV
D	Walnut Street Area	118–188 Walnut Street	BOS.HX	INV
1	Putnam Nail Company – Lawley, George Shipyard/Seymour's Ice Cream Plant	12 Ericsson Street	BOS.5978	INV

No.	Resource Name	Location	MHC Inventory No.	Designation
2	Putnam Nail Company – Lawley, George Shipyard	No # Ericsson Street	BOS.6648	INV
3	Whitmarsh, William W. House	52 Port Norfolk Street	BOS.6178	INV
4	Mason, Lewis House	166 Walnut Street	BOS.6357	INV
5	Bartlett, William F. House	146 Walnut Street	BOS.6356	INV
6	Hannum, James House	134 Walnut Street	BOS.6355	INV
7	House	33 Lawley Street	BOS.6036	INV

RNRE Recommended Eligible for National Register listing by a Consultant

INV Listed in Inventory of Historic and Archaeological Assets of the Commonwealth, no current designation

Port Norfolk Area (MHC No. BOS.DX)

The Port Norfolk area, originally called Pine Neck, attracted mariners and fisherman in the 17th and 18th centuries, and the area remained pasture land into the 19th century. In 1844, the Old Colony Railroad expanded into Dorchester, which opened Port Norfolk to residential and commercial development, but also bisected the area. This led to expansion of industrial and commercial interests along the Neponset River, north of the present Neponset Avenue and at the northernmost point of the peninsula. In 1860, the General Isaac Putnam Nail Company was established in Neponset to manufacture horseshoe nails. It was located on Ericsson Street at Port Norfolk by 1869, where it operated through the early 20th century. The George Lawley and Son Shipyard built pleasure yachts on the Site between 1910 and 1945. The property was later occupied by a commercial marina and Seymour's Ice Cream; the marina still operates at the Site. The marine storage buildings on the site date to ca. 1955-1962.

Three residential streets, Walnut, Lawley, and Port Norfolk Streets, were laid out within Port Norfolk in the mid-nineteenth century by architect Luther Briggs and remain relatively intact.

The Port Norfolk area was surveyed 1995 and recommended eligible for listing in the National Register of Historic Places under Criteria A and C for its industrial history and its architecture.

10.3.2 Archaeological Resources

No previously identified archaeological resources are located within the Project Site, and no impacts to significant archaeological resources are anticipated as a result of the Project.

10.4 Potential Impacts to Historic Resources

10.4.1 Building Design/Public Realm

As described in Chapter 3, *Urban Design*, the Port Norfolk neighborhood generally comprises single- and two-family, 19th-century wood framed residences along the interior street grid, and a mix of multi-family and 19th and 20th-century commercial structures at the waterfront. The Project Site is occupied by primarily single-story, metal-clad mid-20th-century buildings housing marine interests. Along the water's edge, adjacent to the site to the east is a contemporary restaurant and banquet facility, and to the southwest are additional industrial buildings built in the late 20th century. Historic buildings in the vicinity include the former Putnam Nail Company complex, immediately south/southeast of the Project Site. Constructed ca. 1880, the building complex currently houses offices, a distillery, and a winery.

Project Site planning and proposed building designs have derived from the varied, existing conditions proximate to the site, including buildings of historical significance, as well as prescribed by environmental regulations and constraints. Other design considerations include maximizing public access to the water's edge and open spaces, highlighting harbor and skyline views, optimizing solar exposure for both residential units and public spaces, easing the arrival and circulation of vehicles, and serving the marina and boathouse facility.

Four buildings are proposed on the site, as described in Chapter 1, *Project Description*: Building A, a seven-story building with two stories of parking and five stories of residences; Building B, a six-story building with one story of commercial development and five stories of residences; Building C, a six-story residential building; and Building D, a one-story boat storage building.

Building materials include a simple combination of masonry, glass, and metal panels, with textures and colors that complement the surrounding industrial structures. Portions of the façades and smaller structures on site utilize a combination of warmer wood materials, to reflect a typical New England waterfront environment.

Building A, the building closest to the Port Norfolk neighborhood at the end of Lawley Street, is proposed as a terraced, seven-story building. The Lawley Street façade has been designed to be sensitive to the neighborhood, presenting a relatively small building face, broken up into a series of smaller planes to minimize massing.

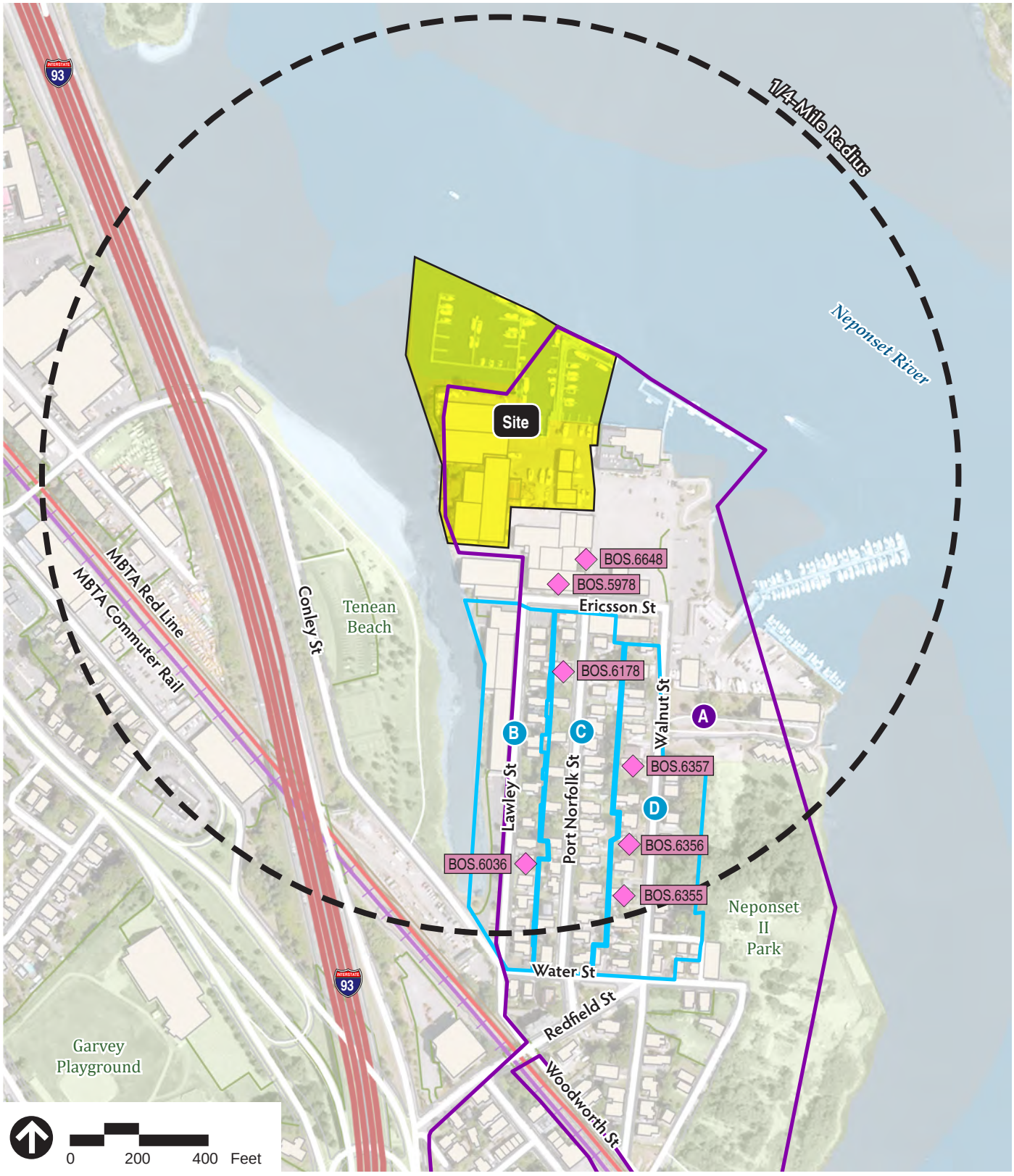
The remaining three buildings, Buildings B, C, and D, are sited to the north and northeast of Building A and will have minimal visual impacts on the Port Norfolk neighborhood.

10.4.2 Shadows

A shadow analysis was undertaken to analyze net new Project shadow impact on the surrounding neighborhood. As described in Section 6.3 of Chapter 6, *Environmental Protection*, new shadows introduced by the Project fall primarily within the Project Site. The Project's shadow impact on adjacent properties is limited, aided by its location at the northern end of the Port Norfolk peninsula. New shadows on historic properties are limited to the Summer Solstice (June 22) at 6:00 pm when long shadows cast by Building A fall onto a portion of the roof of the Putnam Nail Factory building to the southeast; and on the Autumnal Equinox (September 21) at 3:00 pm when new shadows are cast by Building A onto a small portion of the roof of the former Putnam Nail Factory building to the northeast.

10.4.3 Wind

A qualitative assessment was conducted to estimate the pedestrian wind conditions around the Project compared to the existing condition, and to provide recommendations for minimizing any potential adverse impacts. As described in Section 6.2 of Chapter 6, *Environmental Protection*, the Project is not anticipated to generate any unsafe wind conditions around the Project Site, at nearby public spaces, or within the adjacent Port Norfolk Neighborhood area.



Source: ArcGIS Bing Aerial, MassGIS

Historic Resources in the Vicinity of the Project Site

- A Port Norfolk
- B Lawley Street 13-84
- C Port Norfolk Street 1-58
- D Walnut Street 118-188

Figure 10.1

Historic Resources

Neponset Wharf
Boston, Massachusetts

11

Draft Section 61 Findings

11.1 Introduction

As required by 301 CMR 11.07(6)(k) of MEPA, this chapter provides draft Section 61 Findings for each agency action to be taken on the Project.

MGL Chapter 30, Section 61, requires that "[a]ll authorities of the Commonwealth … review, evaluate, and determine the impact on the natural environment of all works, projects or activities conducted by them and … use all practicable means and measures to minimize [their] damage to the Environment. … Any determination made by an agency of the commonwealth shall include a finding describing the environmental impact, if any, of the project and a finding that all feasible measures have been taken to avoid or minimize said impact." The finding required by Section 61 "shall be limited to those matters which are within the scope of the environmental impact report, if any, required … [on a project]." MGL Chapter 30, Section 62A.

In relation to MEPA review, the only state permit anticipated for the Project is a Chapter 91 license from DEP's Waterways Regulation Program. Proposed Section 61 findings for DEP are provided below to assist the department in meeting its obligations. The Proponent will be responsible for implementing all of the mitigation measures. Costs have not yet been determined independently because most are considered to be part of the overall Project design.

In accordance with the MEPA GHG Policy, the Proponent is committed to providing a self-certification to the MEPA Office signed by an appropriate professional (e.g., engineer, architect, transportation planner, general contractor), following completion of construction, to demonstrate that the stationary-source GHG emissions have been mitigated. A draft commitment letter for this self-certification submission is provided below.

11.2 DEP Waterways Regulatory Program Chapter 91 License

Only part of the Project Site is located within the jurisdiction of the DEP Waterways Regulatory Program. The relevant portion of the Project is consistent with Chapter 91 regulations as a water-dependent use in filled and flowed tidelands within an Area of Critical Environmental Concern. The Project will replace an existing marina and underutilized buildings and result in an activated, pedestrian oriented waterfront. Key benefits of the Project relative to tidelands are summarized below.

- The Project provides substantial public benefits and is protective of the Public Trust rights inherent in filled tidelands by significantly enhancing public access to and use of the Project Site.
- The Project will not adversely impact any wetland resource areas.
- The Project will maintain water-dependent use of the waterfront.
- Within Chapter 91 jurisdiction, the Project will provide over 1.4 acres of new square feet of outdoor public space, including an inviting Harborwalk, green space, and amenities.
- The Project will provide a new community pier with amenities for recreational fishermen.

The Project will reactivate the underutilized waterfront property and create a distinct new public space along Boston Harbor and the Neponset River, along with a new active marina for recreational boating. The Final Environmental Impact Report and Chapter 91 License will include additional details for site landscaping and open space programming that incorporate feedback from the community engagement process.

Findings

The DEP hereby finds that all practicable means and measures will be taken to avoid or minimize adverse impacts to the environment as a result of the Project. DEP will include appropriate conditions in the Chapter 91 license to ensure implementation of the mitigation measures described herein.

Date	Commissioner

11.3 Stationary Source GHG Emissions Self-Certification

DRAFT ONLY

May 4, 2018

Secretary Matthew A. Beaton
Executive Office of Energy & Environmental Affairs
100 Cambridge Street, Suite 900
Boston, MA 02114

ATTN: Deirdre Buckley, Director, MEPA Office

Re: Letter of Commitment for Stationary Source Greenhouse Gas Emissions Self-Certification
Neponset Wharf
Boston (Port Norfolk), MA (EEA No. 15728)

Dear Secretary Beaton and Director Buckley:

On behalf of the CPC Ericsson Street, LLC, VHB has prepared a summary of the estimated reduction in overall energy use and stationary source Greenhouse Gas ("GHG") emissions for the Neponset Wharf Project in the Port Norfolk neighborhood Boston (the "Project").

In accordance with the current MEPA Greenhouse Gas Emissions Policy and Protocol (the "GHG Policy") dated May 2010, the stationary source GHG assessment was provided to the MEPA Office as part of the joint Draft Environmental Impact Report and Draft Project Impact Report (the "DEIR/DPIR") filed on May 4, 2018. The design case assumed building design and system improvements that would result in energy reductions, in accordance with the GHG Policy.

The energy conservation measures proposed for the full build-out of the Project are estimated to reduce the overall energy use by 36.3 percent resulting in a 32.3 percent reduction in stationary source CO_2 emissions when compared to the baseline case. The following table presents the estimated energy savings and CO_2 emissions reductions for each Project Component.

	Energy Consumption (kBtu)			CO_2 Emissions (tons/yr)[1]		
Project Component	**Base Case[2]**	**Design Case**	**Percent Savings**	**Base Case[2]**	**Design Case**	**Percent Reduction**
Building A	8,091	4,873	39.8%	593.6	395.8	33.3%
Building B	3,168	2,166	31.6%	245.5	170.5	30.5%
Building C	3,037	2,064	32.0%	234.6	162.2	30.9%
Building D	629	402	36.0%	61.4	40.0	34.8%
Total	**14,925**	**9,506**	**36.3%**	**1,135.1**	**768.6**	**32.3%**

1 tons/yr = short tons per year
2 The Base Case represents current Base Energy Code ASHRAE 90.1-2013 standards.

The building energy model results/energy savings and estimated stationary-source GHG emissions reductions are preliminary, as none of the proposed buildings have progressed past a conceptual level of design. Following completion of construction of each element, the Proponent will submit a self-certification to the MEPA Office, signed by an appropriate professional, which identifies the as-built energy conservation measures and documents the stationary source GHG emissions reductions from the baseline case.

If you have any questions, please contact me at (617) 607-2973 or via e mail at slattrell@vhb.com.

Very truly yours,

VHB

Seth Lattrell
Environmental Planner

12

Response to ENF Comments

This chapter presents responses to the MEPA Certificate on the ENF and all public comments received on the ENF. Copies of the ENF Certificate and each comment letter received during the public review period of the ENF are included in Appendix H. Each letter is assigned a number, as listed in Table 12-1. Where appropriate, reference is made to corresponding section of the DEIR/DPIR. The BPDA Scoping Determination and comments on the PNF are presented in Appendix I and addressed in Chapter 13, *Response to PNF Comments*.

Table 12-1 List of ENF Comment Letters

Letter No.	Commenter	Affiliation	Date Received
ENF Comments			
C	Secretary Matthew Beaton	Executive Office of Energy and Environmental Affairs/MEPA Office	August 25, 2017
1	John D. Viola	Massachusetts Department of Environmental Protection	August 1, 2017
2	Paul F. Ormond	Massachusetts Department of Energy Resources	August 16, 2017
3	Leo Roy	Massachusetts Department of Conservation and Recreation	August 15, 2017
4	Bruce Carlisle	Office of Coastal Zone Management	August 15, 2017
5	Victor T. Mastone	Massachusetts Board of Underwater Archaeological Resources	July 20, 2017
6	David E. Pierce	Massachusetts Division of Marine Fisheries	August 18, 2017
7	Richard McGuiness	Boston Planning & Development Agency	August 15, 2017
8	John P. Sullivan	Boston Water and Sewer Commission	August 10, 2017
9	Wendy Landman	WalkBoston	August 10, 2017
10	Kerry Snyder	Neponset River Watershed Association	August 15, 2017
11	John J. Lyons	Port Norfolk Civic Association	August 15, 2017

12	Jill Valdez Horwood	Boston Harbor Now	August 15, 2017
13	Deanna Moran	Conservation Law Foundation	August 15, 2017
14	Emy Thomas	Resident	August 14, 2017
15	Jason Berry	Resident	August 14, 2017
16	Maria Lyons	Resident	August 13, 2017
17	Paul Nutting	Resident	n/a
18	Ellen Spring	Resident	August 14, 2017
19	W. John Rudicus	Sullivan & McLaughlin	August 9, 2017
20	Boguslaw Bialek	Resident	August 9, 2017
21	Daniel Roche	Resident	August 15, 2017
22	Edward Roche	Resident	August 11, 2017
23	Helen O'Connor	Resident	August 9, 2017
24	Jolanta Bialek	Resident	August 9, 2017
25	Frank Kodzis	Resident	July 30, 2017
26	Freda Manning	Resident	n/a
27	Joseph P. McDermott	Resident	n/a
28	Naomi Frye	Resident	August 9, 2017
29	S.T. Nolan	Resident	August 9, 2017
30	Shari Winick	Resident	August 9, 2017
31	Susan Roche	Resident	August 14, 2017

ENF Certificate

Comment C.1

The DEIR should include plans and a detailed description of existing conditions, including site topography, soil conditions, and infrastructure. It should describe the project and identify any changes to the project since the filing of the ENF. It should include updated site plans for existing and post-development conditions at a legible scale. The plans should depict existing and proposed conditions for all project elements, including the marina, dredging area, footbridge, and on-shore development. Plans should be provided at a legible scale and clearly identify buildings, public areas, impervious areas, and boundaries of tidelands, the ACEC and wetlands resource areas, including floodplains. The DEIR should provide plans detailing wetlands impacts, pedestrian and bicycle accommodations, roadway improvements, and stormwater and utility infrastructure.

Response

Refer to Chapter 1, *Project Description,* for existing conditions, summary of Project changes, and additional details of the Project, Chapter 5, *Transportation*, for pedestrian and bicycle accommodations and roadway improvements, Chapter 8, *Wetlands and Waterways* for additional information on tidelands, ACEC and wetlands resource areas, and floodplain, and Chapter 9, *Infrastructure,* for stormwater and utility information. Associated plans and graphics are included at the end of each chapter.

Comment C.2

The DEIR should identify and describe State, federal and local permitting and review requirements associated with the project and provide an update on the status of each of these pending actions. It should include a description and analysis of applicable statutory and regulatory standards and requirements, and a discussion of the project's consistency with those standards.

Response

Refer to Table 1-2 of Chapter 1, *Project Description*, for an updated list of required State, federal and local permits and approvals. A more detailed breakdown of applicable regulatory standards and Project consistency with wetland and waterways regulations is provided in Chapter 8*, Wetlands and Waterways*.

Comment C.3

Some commenters suggested that the Proponent has acquired or will acquire other properties in the area for subsequent development. The DEIR should disclose any future phases of the project and identify the associated impacts. It should describe likely phasing scenarios, and discuss how mitigation measures will be implemented in the phasing scenarios to ensure that project impacts are appropriately mitigated as development proceeds.

Response

The Proponent does not own or have any immediate plans to acquire other properties in the area for future development.

Comment C.4

The DEIR should respond to all comments received on the ENF. I received comments from state and City agencies, environmental advocacy groups, and residents of Port Norfolk. Comments from agencies have requested a significant amount of information that must be provided in the DEIR to determine whether the project will meet regulatory standards, including additional information about existing conditions, a more detailed description of the project and its impacts, and a more robust consideration of mitigation. While generally receptive to some redevelopment of the site, Port Norfolk residents expressed concern that the scale of the project is incompatible with the predominately residential character of the area and that it would strain the area's infrastructure. Of particular concern, is the. potential impact of over 1,500 new adt on the limited roadway network serving the site. Residents also offered detailed comments about the project's impacts on wetlands and water quality, the effect of the design and scale of the project on waterfront accessibility by the public, contaminated soils and sediments, and the visual impacts associated with the proposed height and orientation of the buildings. I urge the Proponent to carefully consider all comments while developing additional alternatives and I refining the project design.

Response

The Proponent has carefully considered all comments on the Project and has modified the Project to respond to these concerns. Direct responses to all comments on the ENF are provided in this Chapter.

Comment C.5

The DEIR should provide an expanded alternatives analysis. It should review a Reduced Build alternative that includes redevelopment of the site at a lower density. The DEIR should include at least one alternative that is consistent with the urban design guidelines included in the 1988 Port Norfolk Neighborhood Plan. If the Proponent has

obtained rights to develop additional land in Port Norfolk, the analysis should also include an alternative that encompasses all of the land under or the potentially under control of the Proponent.

The DEIR should provide a detailed comparison of the alternatives, including detailed descriptions and plans of each alternative. It should compare the environmental impacts of each alternative, quantitatively to the extent practicable, with respect to trip generation, traffic operations, pedestrian and bicycle access, water use, wastewater generation, impervious area, tidelands, wetlands resource areas and GHG emissions.

Response

Refer to Chapter 2, *Alternatives Analysis.*

Comment C.6

The DEIR should describe any measures that the Proponent will undertake to avoid impacts to parking supply for Tenean Beach.

Response

The pedestrian connection to Tenean Beach has been eliminated by the Project, as such, no impact to Tenean Beach parking supply is anticipated.

Comment C.7

The ENF did not provide calculations, plans, or other information to document that the project will comply with the c. 91 standards. A portion of Building C/D, which contains the boat storage facility and residential units, will be located within the WDUZ. It is not clear to what extent Buildings C and D are distinct from one another. Buildings containing nonwater-dependent uses are prohibited from the WDUZ. The DEIR should describe the design of these buildings and address how they comply with the WDUZ prohibition. The DEIR should clearly show all buildings and uses within tidelands and quantify ground floor uses on filled tidelands. The DEIR should include an overlay of c. 91 regulatory zones, including the landward limit of filled tidelands, the WDUZ, 100-ft setback from the shoreline, and building height limits on proposed conditions plans. It should document compliance with the c. 91 open space standard, provide detailed designs of the public waterfront open space and other publicly-accessible exterior areas and facilities, and identify exterior areas that will be reserved for private use. The DEIR should describe how design of interior Facilities of Public Accommodation and exterior public open space will be coordinated to provide meaningful and desirable use of the site by the public. The DEIR should document pre- and post-development views of the water from public streets. It should provide the additional information requested in the comment letter from the MassDEP Waterways Regulation Program.

Response

Refer to Chapter 8, *Wetlands and Waterways*. Since filing the ENF/PNF the proposed residential buildings have been pulled back out of tidelands. With all nonwater-dependent uses outside of Chapter 91 jurisdiction, the Project is now water-dependent for the purposes of Chapter 91 review. As such, provisions of open space, facilities of Public Accommodation, and WDUZ no longer apply.

Comment C.8

The DEIR should detail the area to be dredged, the proposed dredge depth, and resource areas impacted by dredging, including Land Containing Shellfish. The DEIR should additional documentation that the proposed dredging can be considered to be maintenance dredging.

Response

Refer to Section 8.4.3 of Chapter 8, *Wetlands and Waterways*, for additional information on the proposed dredging, along with additional documentation that the dredging is maintenance dredging.

Comment C.9

The DEIR should provide an updated analysis of the project's public benefits and how it will address the PBD regulatory criteria.

Response

Refer to Section 8.7.1 of Chapter 8, *Wetlands and Waterways*.

Comment C.10

The DEIR should include a map delineating all resource areas in relation to the project elements. It should describe and quantify impacts to each wetland resource area and identify measures to minimize and mitigate resource area impacts. The DEIR should describe existing and proposed conditions in relation to existing floodplain elevations and projected elevations due to sea level rise. It should include plans and cross-sections showing topography, fill, all buildings and structures, and first floor elevations.

Response

Refer to Figure 8.4 for Wetland Resource Areas. Impacts to wetland resources are detailed in Section 8.2 of Chapter 8, *Wetlands and Waterways*. For details regarding the existing floodplain elevations and projected elevations due to sea level rise, refer to Section 4.4 of Chapter 4, *Sustainability/Green Building Design and Climate Change Resiliency*.

Comment C.11

The DEIR should provide plans and analysis to document that the proposed structures will meet the Massachusetts State Building Code, 8th Edition requirements for new construction within the floodplain. According to CZM and DCR, buildings located in more than one flood zone must be designed to meet the standards for the more restrictive zone. The plans and architectural renderings included in the ENF suggest that the building designs may not meet the Building Code requirement that the lowest horizontal member of the lowest floor be elevated two feet above the BFE.

Response

The redesign of the development incorporates the requirements for construction within the floodplain, including the minimum required "bottom of lowest horizontal member" elevation above the BFE. Refer to Figure 4.4 for first floor elevations, and Section 4.4 of Chapter 4, *Sustainability/Green Building Design and Climate Change Resiliency*.

Comment C.12

The Proponent will remove the existing wave fence. The DEIR should document whether any new structure will be necessary to dissipate wave energy to protect the marina and landside portion of the site. It should describe the proposed structure and document potential direct impacts or indirect impacts caused by dissipating or redirecting waves.

Response

No new structure is proposed to replace the pile fence. The design and function of the wave fence has been studied by the Project's marine structural engineer, and it was determined that a similar level of wave attenuation could be achieved by the proposed floating docks. Replacing the wave fence with floating docks has additional benefits in that it improves visibility from the shoreline and allows the area to return to its natural tidal flow which should reduce the need for frequent future dredging.

Removal of the wave fence is not anticipated to have any adverse impact on surrounding shoreline erosion. Given that the longest fetch to the adjacent Tenean Beach is from the north, the wave fence has little impact on this direction. If the wave direction shifts to the northeast the waves must travel over shallow mud flats which would cause any significant waves to break before they reach the beach. The shoreline of the Project Site will not be impacted as it is protected by riprap and will be improved by the Project. The existing riprap slope will be "cleaned up" by removing existing debris and replacing it with a new layer of riprap, strengthening and stabilizing the shoreline.

Comment C.13

The DEIR should provide a more detailed description of the proposed stormwater management system, including supporting documentation, calculations and data to demonstrate that it will comply with the SMS and BWSC standards, type and location of Best Management Practices (BMPs), plans showing the locations of system components and connections to the BWSC system, and ultimate discharge points. The DEIR should evaluate the feasibility of incorporating Low Impact Design (LID) features in the overall design of the site.

Response

Refer to Section 9.3.2 in Chapter 9, *Infrastructure,* and Figure 9.2b for a discussion of proposed stormwater management, including BMPs and LID features throughout the site.

Comment C.14

The DEIR should include a traffic study prepared consistent with the EEA/Massachusetts Department of Transportation (MassDOT) Transportation Impact Assessment (TIA) Guidelines issued in March 2014 and the City of Boston's requirements for traffic studies. It should identify the study area used for the analysis; describe both existing and proposed roadway, pedestrian, and bicycle conditions; public transit capacity and infrastructure; roadway and intersection volumes; safety issues; and capacity analyses for the weekday morning and evening peak hours. At a minimum, the TIA study area should include the intersections of Walnut Street at Neponset Circle, Redfield Street at Neponset Circle, Morrissey Boulevard at Conley Street, and Morrissey Boulevard at Tenean Street. The DEIR should include a detailed description of existing and proposed site access and internal circulation roadways. The TIA should provide this analysis for Existing, No Build, Build, and Build with mitigation scenarios. Future conditions should be based on the seven-year planning increments suggested by the TIA Guidelines. Background growth in traffic should be determined based on trips to be generated by other nearby planned or approved projects using ITE trip rates, and an annual growth factor, which should be determined based on historical trends in the area. This factor should be incorporated into Future Build and No-Build conditions presented in the TIA.

Response

Refer to Chapter 5, *Transportation*, for a complete traffic study for the Project.

Comment C.15

According to DCR, plans to reconstruct Morrissey Boulevard are at the 25 percent design stage. The Morrissey Boulevard project will improve flood control, street lighting, and pedestrian and bicycle access and safety. The design includes significant

changes to Neponset Circle, the intersections of Morrissey Boulevard at Tenean Street and Morrissey Boulevard at Conley Street. The DEIR should identify and describe the planned Morrissey Boulevard reconstruction and how it may affect the project's transportation options. It should also identify the project's potential impact on the DCR project. Future conditions analyzed in the TIA should include the proposed configuration of Morrissey Boulevard.

Response

Refer to Section 5.3.1 of Chapter 5, *Transportation.*

Comment C.16

The DEIR should provide a trip distribution for the project, an analysis of vehicle crash data for study area intersections, and traffic signal warrants at any intersection where signalization may be proposed. The TIA should include a tabular summary of the results of the intersection operations analysis, including volume-to-capacity ratios (V /C) and average delays. The level-of-service (LOS) for each lane group/turning movement should be clearly indicated for each condition. The DEIR should calculate crash rates for each study area intersection using local and MassDOT data covering the most recent five-year period. Any proposed roadway improvements, including bicycle/pedestrian facilities, that are recommended to mitigate traffic impacts should be consistent with Complete Streets design guidelines contained in the MassDOT Project Development and Design Guide.

Response

Refer to Chapter 5, *Transportation.*

Comment C.17

It should clearly identify any mitigation measures that will be necessary to minimize impacts to the local road network, including improvements to bicycle and pedestrian facilities, public transportation services, and roadway improvements. The DEIR should evaluate the feasibility of providing or expanding safe pedestrian and bicycle facilities on area roadways and describe improvements that will be necessary to encourage non-vehicular trips to and from the site. The DEIR should describe the project's anticipated transportation impacts and identify appropriate mitigation measures for locations where the project would likely have an impact on traffic operations. The Proponent should indicate a clear commitment to implement proposed mitigation measures and describe the timing of their implementation.

Response

Refer to Chapter 5, *Transportation.*

Comment C.18

The ENF included a commitment to implement TDM measures to reduce single-occupancy vehicle (SOV) trips to and from the site, but did not list any proposed measures. The DEIR should include a comprehensive TDM program that will provide incentives for using alternative transportation and discourage SOV trips. The TDM program should evaluate all feasible measures to reduce trip generation associated with the project. The TDM program should be based on specific measures that have been successful in reducing trip generation for similar projects. The Proponent should consult with the City of Boston, MassDOT, MassRIDES and local Transportation Management Associations (TMA) to discuss specific measures that have been successful in reducing trip generation for similar projects in Boston. The DEIR should report on feasibility of establishing new shuttle service. The TDM plan should seek to maximize the use of pedestrian and bicycle facilities, offer incentives for using public transportation and local transportation and shuttle services, and encourage the use of low-emissions vehicles. The DEIR should review the potential for pedestrian and bicycle improvements to area roadways to promote non-vehicular access to the site. The DEIR should include an outline of a Transportation Monitoring Program designed to evaluate the transportation-related assumptions made in the DEIR, the adequacy of mitigation measures, and the effectiveness of the TDM program.

Response

Refer to Section 5.5 of Chapter 5, *Transportation*.

Comment C.19

The project will include 185 parking spaces. The projected parking supply was determined by calculating 1.4 spaces per retail unit (l 1 spaces), 1.0 spaces per residential unit (150 spaces), and 0.5 spaces per hotel room (24 spaces). The Proponent should consult with DCR regarding parking and the DEIR should provide a detailed analysis of parking supply and demand, discuss how the amount of parking proposed in the ENF compares to the parking need and supply for several comparable facilities and to zoning requirements, and provide a parking management program. The TIA should evaluate the potential for space sharing at the project site.

Response

Refer to Section 5.4 of Chapter 5, *Transportation* and Response to Comment C.6.

Comment C.20

In the DEIR, the Proponent should review any additional design features that may provide resiliency and support adaptation under future climate scenarios. At a minimum, the Proponent should consider adopting measures such as elevating the ground level of the site, onsite renewable energy generation, high albedo roofing

material, water-tight conduits, additional green space and pervious pavement. The DEIR should provide additional information on how the tidal garden will be designed to increase the resiliency of the site.

Response

Multiple resilience benefits are anticipated through development and enhancement of the shoreline, including the natural buffer along the western edge of the site. The carefully designed softscape will help to reduce the impacts from floods, provide some buffering from storm surge and waves, provide habitat, water filtration, carbon storage, and opportunities for recreation and enjoyment. Paths are being elevated and significant planting of native, salt tolerant plants is proposed, in order to provide a nature-based solution to the frequent inundation anticipated as sea levels continue to rise.

Refer to Chapter 4, *Sustainability/Green Building Design and Climate Change Resiliency,* for proposed sustainability and resiliency measures.

Comment C.21

The DEIR should include a full evaluation of sustainable design elements for the buildings and exterior site areas, including measures identified in the LEED rating system.

Response

Refer to Section 4.3 of Chapter 4, *Sustainability/Green Building Design and Climate Change Resiliency,* for a description of the Project's sustainable design elements and draft LEED Scorecards.

Comment C.22

The DEIR should provide a GHG analysis consistent with the EEA GHG Policy. It should calculate and compare GHG emissions from: 1) a Base Case corresponding to the current Massachusetts Building Code and 2) a Preferred Alternative that achieves greater reductions in energy use and GHG emissions than required by the Building Code. According to the ENF, the project will target a 15 percent reduction in energy use compared to the baseline Building Code. The GHG analysis should not be constrained by an energy reduction target, and should clearly demonstrate consistency with the objectives of MEPA review, one of which is to document the means by which Damage to the Environment can be avoided, minimized and mitigated to the maximum extent feasible. The Proponent should identify the model used to analyze GHG emissions, clearly state modeling assumptions, explicitly note which GHG reduction measures have been modeled, and identify whether certain building design or operational GHG reduction measures will be mandated by the Proponent to future occupants or merely encouraged for adoption and implementation. The DEIR should include the modeling printout for each alternative and emission tables that compare

base case emissions in tons per year (tpy) with the Preferred Alternative showing the anticipated reduction in tpy and percentage by emissions source (both direct and indirect). Other tables and graphs may also be included to convey the GHG emissions and potential reductions associated with various mitigation measures as necessary. The DEIR should provide the information and formatted tables requested in the Department of Energy Resources' (DOER) comment letter.

Response

Refer to Chapter 7, *Greenhouse Gas Emissions Assessment,* for a detailed description of the Project's GHG analysis.

Comment C.23

The DEIR should present an evaluation of mitigation measures identified in the GHG Policy Appendix. In particular, the feasibility of each of the mitigation measures outlined below should be assessed for each of the major project elements, and if feasible, GHG emissions reduction potential associated with major mitigation elements should be evaluated to assess the relative benefits of each measure. The DEIR should explain, in reasonable detail, why certain measures, which could provide significant GHG reductions, were not selected - either because it is not applicable to the project or is considered technically or financially infeasible.

Response

Refer to Chapter 7, *Greenhouse Gas Emissions Assessment,* for a detailed description of the Project's GHG analysis.

Comment C.24

The DEIR should analyze the potential for on-site energy generation by rooftop solar PV and Combined Heat and Power (CHP) systems and document the expected energy savings and reduction in GHG emissions from each generating technology. According to the ENF, the Proponent will also evaluate the use of wind turbine generators, transpired solar collectors and solar thermal. The analysis of potential on-site energy generation should address DOER's comments.

The solar feasibility' analysis should consider solar PV for both a first-party and a third-party ownership structure. The analysis should:

- *Estimate available roof area (excluding areas dedicated for mechanical equipment) or ground space for solar panel installation;*
- *State the assumed panel efficiency;*
- *Estimate electrical output of the potential system; and*
- *Estimate and compare annual GHG reductions to use of natural gas.*

The analysis should include a narrative and data to support the Proponent's adoption (or dismissal) of solar PV systems as a feasible measure to avoid, minimize or mitigate project-related GHG emissions and Damage to the Environment. If solar PV is not feasible at this time, the Proponent should commit to constructing the buildings with "solar-ready" roofs.

Response

Refer to Chapter 7, *Greenhouse Gas Emissions Assessment,* for an analysis of on-site energy generation, including PV systems. The Project is currently pursuing the incorporation of a 100-kW solar PV system.

Comment C.25

The GHG analysis should include an evaluation of potential GHG emissions from mobile emissions sources. The DEIR should follow the guidance provided in the GHG Policy for Indirect Emissions from Transportation to determine mobile emissions for Existing Conditions, Build Conditions, and Build Conditions with Mitigation. The Proponent should thoroughly explore means to improve traffic operations and minimize overall single occupancy vehicle trips. Improvements in traffic operations that minimize idling time can minimize overall project-related mobile source emissions. The DEIR should also review measures to promote the use of low-emissions vehicles, including installing EV charging stations and providing designated parking spaces for these vehicles. The Build with Mitigation model should incorporate roadway improvements, TDM measures, and any other transportation mitigation to be implemented by the Proponent.

Response

Refer to Section 7.4 of Chapter 7, *Greenhouse Gas Emissions Assessment.*

Comment C.26

The DEIR should include a commitment to provide a self-certification to the MEPA Office at the completion of the project. It should be signed by an appropriate professional (e.g. engineer, architect, transportation planner, general contractor) indicating that all of the GHG mitigation measures, or equivalent measures that are designed to collectively achieve identified reductions in stationary source GHG emission and transportation-related measures, have been incorporated into the project.

Response

Refer to Section 11.3 of Chapter 11, Draft Section 61 Findings.

Comment C.27

The DEIR should describe any additional assessment and/or treatment of the MCP release that will facilitate regulatory closure under the MCP. It should describe any additional assessment of soils, sediment and groundwater that will be conducted prior to construction and potential measures to remove, treat and/or dispose of contaminated material. It should address any implications to land uses.

Response

Refer to Section 6.7 of Chapter 6*, Environmental Protection*.

Comment C.28

The DEIR should indicate whether the project will require a discharge permit from the MWRA's Toxic Reduction and Control (TRAC) Department for a laundry facility at the proposed hotel.

Response

The proposed hotel has been eliminated from the Project program.

Comment C.29

The DEIR should include updated water use. and wastewater generation estimates. It should evaluate the capacity of the existing BWSC water supply system under average and peak flow conditions. The DEIR should include information and plans describing the existing and proposed water and wastewater systems on site and in the BWSC system. The DEIR should describe the location and size of infrastructure, connections to the BWSC water and sewer systems, and the path and ultimate disposal of wastewater from the site. The DEIR should identify and describe water conservation measures that will be incorporated into design and operations. At a minimum, the DEIR should review the feasibility of installing low-flow fixtures and using rainwater or gray water for irrigation and other purposes.

Response

The Project Team has met with the BWSC and confirmed that the sewer lines in the Port Norfolk neighborhood can handle the proposed increase in sewage generation.

Refer to Section 9.4.2 in Chapter 9, *Infrastructure,* for additional information on the proposed infrastructure and water conservation measures.

Comment C.30

The DEIR should characterize the solid waste expected to be generated by the project. In 2014, Massachusetts banned the disposal of commercial organic wastes by businesses and institutions that generate a ton or more of organic materials per week.

Business subject to the ban must use composting, conversion (such as anaerobic digestion), recycling or reuse of organic waste. The DEIR should indicate whether any proposed uses may be subject to the waste ban and how it may dispose of its organic waste.

Response

It is not anticipated that future tenants would be subject to the organic waste ban, however if they are, they will be required to comply with this ban.

Comment C.31

The DEIR should describe measures to reduce and recycle organic and other wastes through waste diversion and recycling programs. As noted by MassDEP, incorporating the design, infrastructure, and contractual components of the project's solid waste facilities at this stage will help ensure the success of future waste reduction and recycling efforts. The Proponent should refer to MassDEP's comment letter for additional information and links to web sites providing technical assistance.

Response

The Project will provide dedicated areas accessible to waste haulers and building occupants for the collection and storage of recyclable materials for the entire building. Collection and storage areas may be separate locations. Recyclable materials will include mixed paper, corrugated cardboard, glass, plastics, and metals. The Project will also take appropriate measures for the safe collection, storage, and disposal of two of the following: batteries, mercury-containing lamps, and electronic waste.

To comply with both the prerequisite and credit requirements related to construction waste management, the Project will develop and implement a construction and demolition waste management plan that will identifying at least five materials (both structural and nonstructural) targeted for diversion and approximate a percentage of the overall Project waste that these materials represent. The Project will divert at least 75 percent of the total construction and demolition material; diverted materials must include at least four material streams.

Comment C.32

The DEIR should provide drafts of the Construction Management Plan (CMP) and Transportation Access Plan Agreement (TAPA). It should identify the schedule for construction of various elements and phases. It should identify construction-period impacts and mitigation relative to noise, air quality, water quality, and traffic, including pedestrians and bicyclists. The DEIR should document any contaminated soil or groundwater regulated under the MCP and describe construction-period remediation and mitigation measures if necessary. The DEIR should confirm that the project will require its construction contractors to use Ultra Low Sulfur Diesel fuel, and

discuss the use of after-engine emissions controls, such as oxidation catalysts or diesel particulate filters. More information regarding construction-period diesel emission mitigation may be found on MassDEP's web site at: http://www.mass.gov/dep/air/diesel/conretro.pdf.

Response

Refer to Section 6.9 of Chapter 6, *Environmental Protection*, for a draft Construction Management Plan, and Section 5.7 regarding the Transportation Access Plan Agreement.

The Project will comply with the requirements of the Clean Construction Equipment Initiative to the extent reasonably practicable, including retrofitting diesel construction vehicles with new exhaust scrubbers, or utilizing vehicles that use alternative fuels, such as ultra-low-sulfur diesel fuel to reduce emissions during temporary construction activities. In addition, the Commonwealth of Massachusetts anti-idling law will be enforced during the construction phase of the Project with the installation of on-site anti-idling signage.

Comment C.33

The DEIR should provide more information regarding the project's generation, handling, recycling, and disposal of construction and demolition debris (C&D) and identify measures to reduce solid waste generated by the project.

Response

The Project Construction Manager will implement a waste management plan to divert Project-related construction waste material from landfills through recycling and salvaging where practicable. The majority of structures to be demolished consist of metal and concrete. Existing metal and concrete will be processed and reused on-site, or recycled by the contractor. Any construction waste will be handled in a manner consistent with all applicable local, state, and federal regulations.

Comment C.34

The DEIR should describe potential construction period dewatering requirements, discuss how dewatering will be conducted in a manner consistent with MWRA, MassDEP and/or BWSC regulations/guidelines, and identify any necessary permits. The DEIR should describe appropriate erosion and sedimentation control BMPs. I encourage the Proponent to adopt erosion and sedimentation controls consistent with a Stormwater Pollution Prevention Plan (SWPPP) prepared in accordance with the NPDES Construction General Permit requirements.

Response

A Stormwater Pollution Prevention Plan will be submitted as part of the BWSC site plan review package.

Comment C.35

The DEIR should include a separate chapter summarizing proposed mitigation measures. This chapter should also include draft Section 61 Findings for each permit to be issued by State Agencies. The DEIR should contain clear commitments to implement these mitigation measures, estimate the individual costs of each proposed measure, identify the parties responsible for implementation, and a schedule for implementation. The DEIR should clearly indicate which mitigation measures will be constructed or implemented based upon project phasing, either tying mitigation commitments to overall project square footage/phase or environmental impact thresholds, to ensure that measures are in place to mitigate the anticipated impact associated with each development phase.

Response

Chapter 11, *Section 61 Findings*, provides updated project Mitigation and Section 61 Findings.

Comment C.36

The DEIR should contain a copy of this Certificate and a copy of each comment letter received. In order to ensure that the issues raised by commenters are addressed, the DEIR should include direct responses to comments to the extent that they are within MEPA jurisdiction.

Response

Copies of all comment letters and direct responses are provided in this Chapter.

Comment C.37

The Proponent should circulate the DEIR to those parties who commented on the ENF, to any State Agencies from which the Proponent will seek permits or approvals, and to any parties specified in section 11.16 of the MEPA regulations.

Response

The DEIR distribution list is provided in Appendix A.

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Letter 1: Massachusetts Department of Environmental Protection

Comment 1.1

The ENF indicates that the proposed project will generate increased wastewater flows of 29,382 gallons per day (gpd). MassDEP regulations at 314 CMR 12.04(2)(d) require sewer authorities with permitted combined sewer overflows, including the Boston Water & Sewer Commission (BWSC), to require removal of four gallons of infiltration and inflow (I/I) for each gallon of new wastewater flow generated for any new connection to their system where greater than 15,000 gallons per day of new wastewater flows will be generated. Accordingly, the proponent should meet with staff from BWSC to ensure that this mitigation requirement is met.

Response

The Proponent has and will continue to meet and coordinate with BWSC staff. Refer to Chapter 9, *Infrastructure,* for updated wastewater calculations.

Comment 1.2

MassDEP has reviewed the history of site operations to determine the types of contamination that may be present, and compared these to release conditions investigated and reported to date at the site, to determine if the nature and extent of contamination was sufficiently evaluated. Although the ENF/PNF states that "Prior to construction, additional assessment will be performed to pre-characterize in-situ soils for off-site removal, and groundwater for potential off-site discharge, these plans have not yet been submitted. Based on historical site use, the supplemental environmental investigation plans should include the following elements:

- *Historical site uses could have released heavy metals to surface and subsurface soils. Boat building and storage facilities often contain soils contaminated with copper, zinc, lead, mercury, cadmium, and tributyl tin. The site was permitted for use as a foundry and for metal melting including cobalt and nickel. Despite the likelihood of metals contamination at the site, surface soils and subsurface soils down to a depth of 6 feet have not been evaluated for the presence of metals contamination. The development plan for the property contains 2 acres of landscaped outdoor space. The potential presence of heavy metals contamination in soils on site, and associated environmental and human health risks, must be thoroughly evaluated.*
- *The property includes 4 acres of water sheet that encompasses the dock area. The assessment must include an evaluation surface water and sediment in this area to determine if it is part of the disposal site. An evaluation of "Local*

Conditions" must also be completed to determine if any contamination that may be identified within the dock area is either consistent with conditions in the general area or is required to be remediated as part of the disposal site.

› *As part of the renovation of the existing marina the ENF/PNF indicates that maintenance dredging will be performed. Based on historical site uses and the known presence of polychlorinated biphenyls (PCBs) in the sediments of the Neponset River Estuary, any dredged sediments should be evaluated for metals and PCBs as part of sediment characterization and management.*

Response

As part of an environmental due diligence assessment that was completed prior to the acquisition of the property, a total of four composite samples of shallow fill material (zero to five feet below ground surface) were obtained from across the Project Site and analyzed for total metals (antimony, arsenic, beryllium, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, thallium, and zinc). With the exception of one sample, the results of the laboratory testing did not identify Reportable Concentrations of total metals. A sample of shallow fill material that was obtained from near the southeastern corner of the Project Site exhibited Reportable Concentrations of the arsenic, copper, and zinc. The impacted soil was removed off-site by the previous owner in accordance with the Limited Removal Action provisions contained in Section 40.0318 of the Massachusetts Contingency Plan ("MCP").

Prior to construction, additional testing will be performed to pre-characterize shallow fill material for off-site removal in anticipation of the proposed scope of construction. Additional testing will also be performed on existing soils that may remain in place after construction. Utilizing the results of this soil testing, a Risk Characterization will be prepared to evaluate risks to current and future human receptors (i,e workers, nearby residents and future site occupants) that may be exposed to levels of metals once the fill material is uncovered and/or excavated as well as those that may remain at the site after construction. The results of the testing will also be utilized to prepare an environmental monitoring plan and establish action levels for dust particulates in ambient air as well as a remediation plan to mitigate future risk to metals in shallow fill material.

All dredged sediments will be evaluated for metals and PCBs through a sampling and testing plan which will be coordinated with DEP and the USACE.

Comment 1.3

In addition, MassDEP has reviewed the development plans in relation to the access the project provides for people to fish and kayak within the Neponset River Estuary. The development plans should include the following considerations:

› *The ENF/PNF indicates that the development will include a public fishing pier, and facilities for kayak launching and storage. Studies completed by the*

United States Geologic Survey from 2002 through 2006 identified PCBs in salt water fish within the Neponset River Estuary, but at that time they were not found at levels that presented a risk to human health. The inclusion of a fishing pier to encourage fishing in this area should be re-evaluated. In addition, it is unclear as to the extent to which the kayak launch will require people to have direct contact with sediments. The presence of contaminated sediments in the area to be used for the kayak launch and fishing should be assessed and a risk characterization should be completed for these receptors and site uses.

Response

The kayak launch has been removed from the Project. The Proponent will continue to work with DMF through the permitting and design process to understand potential risks associated with harvesting fish from this area and strategies to mitigate those risks through signage.

Comment 1.4

The project proponent is advised that excavating, removing and/or disposing of contaminated soil, pumping of contaminated groundwater, or working in contaminated media must be done under the provisions of MGL c.21E (and, potentially, c.21C) and all other applicable federal, state, and local laws, regulations, and bylaws. If permits and approvals under these provisions are not obtained beforehand, considerable delays in the project can occur. The project proponent cannot manage contaminated media without prior submittal of appropriate plans to MassDEP, which describe the proposed contaminated soil and groundwater handling and disposal approach, as well as health and safety precautions. If contamination at the site is known or suspected, the appropriate tests should be conducted well in advance of the start of construction and professional environmental consulting services should be readily available to provide technical guidance to facilitate any necessary permits. If dewatering activities are to occur at a site with contaminated groundwater, or in proximity to contaminated groundwater where dewatering can draw in the contamination, a plan must be in place to properly manage the groundwater and ensure site conditions are not exacerbated by these activities. Dust and/or vapor monitoring and controls are often necessary for large-scale projects in contaminated areas. The need to conduct real-time air monitoring for contaminated dust and to implement dust suppression must be determined prior to excavation of soils, especially those contaminated with compounds such as metals and PCBs. An evaluation of contaminant concentrations in soil should be completed to determine the concentration of contaminated dust that could pose a risk to health of on-site workers and nearby human receptors. If this dust concentration, or action level, is reached during excavation, dust suppression should be implemented as needed, or earthwork should be halted. A Licensed Site Professional (LSP) must be employed or

engaged to manage, supervise or actually perform the necessary response actions at the site.

Response

The Proponent has engaged an LSP to supervise the proposed work.

Comment 1.5

If capping of contaminated soil is needed to achieve a level of No Significant Risk, MassDEP recommends the following capping design criteria. In unpaved areas, a minimum of three feet of clean soil should be placed over the contaminated soil. This protective layer of clean soil should be separated from the underlying contaminated soil by a geotextile or combination of materials, which will provide both a brightly colored visual marker and a permeable fabric to separate the clean soil from the contaminated soil. In paved areas, a minimum one-foot cap consisting of clean soil, road base and the pavement layer should be placed over the contaminated soil. Similar to unpaved areas, the contaminated soil should be separated from the clean soil or road base using a visual marker and geotextile. In such cases, an Activity and Use Limitation (AUL), prepared in accordance with 310 CMR 40.1012 would be necessary to identify the maintenance requirements of the cap. It should also be noted that a cap constructed as a Release Abatement Measure will not be considered a Permanent Solution until a Phase III completed in accordance with 310 CMR 40.0850 demonstrates the lack of a feasible alternative, as required by 310 CMR 40.0442(4).

Response

Prior to construction, additional testing will be performed to further assess soils that may remain in place upon the completion of construction. The results of this soil testing will be utilized to prepare a Risk Characterization to evaluate exposure risks associated with future unrestricted use of the Project Site. The Risk Characterization will determine if capping of the existing fill material and implementation of an AUL is necessary to achieve and maintain a Condition of No Significant Risk at the Project Site. The Risk Characterization will also evaluate Background pursuant to the applicable DEP guidance prepared for historical fill material and fill material containing coal ash and cinders.

Comment 1.6

Parties constructing and/or renovating buildings in contaminated areas should consider whether chemical or petroleum vapors in subsurface soils and/or groundwater could impact the indoor air quality of the buildings. All relevant site data, such as contaminant concentrations in soil and groundwater, depth to groundwater, and soil gas concentrations should be evaluated to determine the potential for indoor air impacts to existing or proposed building structures. Particular attention should be paid to the vapor intrusion pathway for sites with elevated levels of chlorinated volatile

organic compounds such as tetrachloroethylene (PCE) and trichloroethylene (TCE). MassDEP has additional information about the vapor intrusion pathway on its website at http://www.mass.gov/eea/agencies/massdep/cleanup/regulations/vapor-intrusion-and-indoor-air-contamination-waste-sites.html.

Response

The planned redevelopment of the Project Site includes the construction of multi-story residential structures over a podium slab. The podium slab will be underlain by an open air parking garage and associated lobbies. The presence of an open air parking garage will eliminate the potential for vapor intrusion into a majority of the overlying occupied spaces. A vapor mitigation system will be installed beneath the lobbies and other potential spaces that may occupy the lowest level of each building. Furthermore, the elevator pits associated with each building will be sealed with a vapor barrier.

Comment 1.7

Construction activities conducted at a disposal site shall not prevent or impede the implementation of likely assessment or remedial response actions at the site. Construction of structures at a contaminated site may be conducted as a Release Abatement Measure if assessment and remedial activities prescribed at 310 CMR 40.0442(3) are completed within and adjacent to the footprint of the proposed structure prior to or concurrent with the construction activities. Excavation of contaminated soils to construct clean utility corridors should be conducted for all new utility installations.

Response

A MCP release site (RTN 3-12654) occupies the northeastern portion of the Project Site and therefore any construction activities which are performed within the limits of the release site are considered Remedial Action. A Release Abatement Measure Plan will be prepared and implemented in accordance with 310 CMR 40.0442(3) of the MCP and DEP Policy #WSC-00-425 "Construction of Buildings in Contaminated Areas" to address the requirements for construction of structures within the release site.

Comment 1.8

An Activity and Use Limitation (AUL) is a legal document that is recorded or registered at the appropriate Registry of Deeds and identifies site conditions that are the basis for maintaining a condition of No Significant Risk at a property where contamination remains after a cleanup. The AUL identifies permitted and allowable site uses and activities that may occur at a property while maintaining No Significant Risk. The AUL also identifies restricted uses and activities, which could result in the exposure of people at or near the disposal site to remaining contamination if such activities were

to occur. The project proponent is advised that in cases where proposed activities would not be consistent with a level of No Significant Risk and/or an existing AUL, additional cleanup and the amendment or termination of the initial AUL and implementation of a revised AUL would be necessary before the proposed activities could occur.

Response

The Proponent understand these requirements and will take the suggested action if necessary.

Comment 1.9

MassDEP encourages the project proponent to make a significant commitment to C&D recycling activities as a sustainable measure for the project, consistent with comparable projects that have undergone MEPA reviews. In addition, the proponent is advised that demolition activities must comply with both Solid Waste and Air Pollution Control regulations, pursuant to M.G.L. Chapter 40, Section 54, which provides:

"Every city or town shall require, as a condition of issuing a building permit or license for the demolition, renovation, rehabilitation or other alteration of a building or structure, that the debris resulting from such demolition, renovation, rehabilitation or alteration be disposed of in a properly licensed solid waste disposal facility, as defined by Section one hundred and fifty A of Chapter one hundred and eleven. Any such permit or license shall indicate the location of the facility at which the debris is to be disposed. If for any reason, the debris will not be disposed as indicated, the permittee or licensee shall notify the issuing authority as to the location where the debris will be disposed. The issuing authority shall amend the permit or license to so indicate."

For the purposes of implementing the requirements of M.G.L. Chapter 40, Section 54, MassDEP considers an asphalt, brick, and concrete (ABC) rubble processing or recycling facility, (pursuant to the provisions of Section (3) under 310 CMR 16.05, the Site Assignment regulations for solid waste management facilities), to be conditionally exempt from the site assignment requirements, if the ABC rubble at such facilities is separated from other solid waste materials at the point of generation. In accordance with 310 CMR 16.05(3), ABC can be crushed on-site with a 30-day notification to MassDEP. However, the asphalt is limited to weathered bituminous concrete, (no roofing asphalt), and the brick and concrete must be uncoated or not impregnated with materials such as roofing epoxy. If the brick and concrete are not clean, the material is defined as construction and demolition (C&D) waste and requires either a Beneficial Use Determination (BUD) or a Site Assignment and permit before it can be crushed.

Pursuant to the requirements of 310 CMR 7.02 of the Air Pollution Control regulations, if the ABC crushing activities are projected to result in the emission of one ton or more of particulate matter to the ambient air per year, and/or if the crushing equipment employs a diesel oil fired engine with an energy input capacity of three million or

more British thermal units per hour for either mechanical or electrical power which will remain on-site for twelve or more months, then a plan application must be submitted to MassDEP for written approval prior to installation and operation of the crushing equipment.

Asbestos removal notification on permit form BWP AQ04 (ANF 001) and building demolition notification on permit form BWP AQ06 must be submitted to MassDEP at least 10 working days prior to initiating work. If any asbestos-containing materials will need to be abated through non-traditional abatement methods, the proponent must apply for and obtain approval from MassDEP, through Application BWP AQ36 - Application for Non-Traditional Asbestos Abatement Work Practice Approval. Except for vinyl asbestos tile (VAT) and asphaltic-asbestos felt and shingles, the disposal of asbestos containing materials within the Commonwealth must be at a facility specifically approved by MassDEP, (310 CMR 19.061). No asbestos containing material including VAT, and/or asphaltic-asbestos felts or shingles may be disposed at a facility operating as a recycling facility, (310 CMR 16.05). In addition, if the demolition project contain asbestos, the project proponent is advised that asbestos and asbestos-containing waste material are a special waste as defined in the Solid Waste Management regulations, (310 CMR 19.061). The disposal of the asbestos containing materials outside the jurisdictional boundaries of the Commonwealth must comply with all the applicable laws and regulations of the state receiving the material.

The demolition activity also must conform to current Massachusetts Air Pollution Control regulations governing nuisance conditions at 310 CMR 7.01, 7.09 and 7.10. As such, the proponent should propose measures to prevent and minimize dust, noise, and odor nuisance conditions, which may occur during the demolition. Again, MassDEP must be notified in writing, at least 10 days in advance of removing any asbestos, and at least 10 days prior to any demolition work. The removal of asbestos from the buildings must adhere to the special safeguards defined in the Air Pollution Control regulations, (310 CMR 7.15 (2)).

Response

The Project Construction Manager will implement a waste management plan to divert Project-related construction waste material from landfills through recycling and salvaging where practicable. Any construction waste will be handled in a manner consistent with all applicable local, state, and federal regulations.

Comment 1.10

By incorporating recycling and source reduction into the design, the proponent has the opportunity to join a national movement toward sustainable design. Sustainable design was endorsed in 1993 by the American Institute of Architects with the signing of its Declaration of Interdependence for a Sustainable Future. The project proponent may be aware of organizations that provide additional information and technical assistance, including Reuse Marketplace (http://www.reusemarketplace.org/), USEPA's

WasteWise Program (www.epa.gov/wastewise/), and MassRecycle (http://www.massrecycle.org/). The listed organizations and programs are notable for offering valuable and effective waste reduction and recycling assistance, web-based resources, case studies, and tools for C&D projects.

Response

Thank you for this suggestion. The Proponent will utilize these resources to explore opportunities for waste reduction and recycling assistance.

Letter 2: Massachusetts Department of Energy Resources

Comment 2.1

Investigate Passive design for the residential portion of the development. Passive design methods are available here: http://www.phius.org/home-page. Multifamily specific information is available here: http://multifamily.phius.org/. An extensive study on financial and feasibility of Passive multifamily is available here: http://www.fxfowle.com/projects/182/feasibility-study-to-implement-the-passivhaus-standard-on-tall- residential-buildings/. See right for examples of Passive multifamily projects, including both low rise and high rise examples.

Response

Chapter 7, Section 7.3 discusses the evaluation of Passive design elements for the proposed buildings and considers the cost of these measures against their effectiveness in reducing energy consumption.

When evaluating Passive cost feasibility (and cost evaluations, in general), we recommend netting additional envelope costs against reduced HVAC costs. With Passive, usually HVAC systems can be downsized as a result of improving envelope. The above report estimates this approach yields a 2 to 3% cost add on a net basis. The Second and Delaware project (upper picture on right) reportedly costs $4/sf less to construct than conventional construction on a net basis

Response

Chapter 7, Section 7.3 discusses the evaluation of Passive design elements for the proposed buildings and considers the cost of these measures against their effectiveness in reducing energy consumption

Comment 2.3

In addition, we recommend further cost netting against potential financial benefits derived from the following sources, which can also reduce first costs:

- *Mass Save performance incentive for residential new construction for high rise and low rise: http://www.masssave.com/en/residential/building-a-house/offers/rnc-multi-family-high-rise. and http://www.masssave.com/en/residential/building-a-house/offers/rnc-performance-path*
- *Massachusetts Clean Energy Center incentives for heat pumps and VRF: http://www.masscec.com/installer-resources-air-source-heat-pumps*

- *Alternative Energy Credits for heat pumps and VRF: http://www.mass.gov/eea/energy-utilities-clean-tech/renewable-energy/renewable-thermal/renewable-heating-and-cooling-alternative-portfolio-std.html*

Response

Chapter 7, Section 7.3 discusses the evaluation of Passive design elements for the proposed buildings and considers the cost of these measures against their effectiveness in reducing energy consumption

Comment 2.4

Using PHIUS methods, we estimate an EUI of 12 kBtu/sy-yr for the residential portion of the development. The DOER is available to review Passive findings in advance of the next submission.

Response

Chapter 7, Section 7.3 discusses the evaluation of Passive design elements for the proposed buildings and considers the cost of these measures against their effectiveness in reducing energy consumption

Comment 2.5

Having more fenestration than Building Code thresholds necessarily results in trading off other efficiency improvements, resulting in reduced GHG benefits, increased operating costs, and reduced resiliency than would otherwise occur. We recommend that fenestration be maintained within code-thresholds (Table G3.1.1-1).

If the proponent chooses to continue to evaluate an option that exceeds these thresholds, we recommend submitting the following energy model scenario results:

- *Code building with Code-threshold window-to-wall ratio*
- *Code building, with planned window-to-wall ratio*
- *Planned building with Code-threshold window-to-wall ratio*
- *Planned building with planned window-to-wall ratio*

The above scenarios will help reveal the extent to which other efficiency measures are being traded-off by exceeding fenestration thresholds.

Response

Chapter 7, Section 7.3 presents the results of the energy modeling of the Project. The Project is currently being designed to avoid envelope code trade-offs.

Comment 2.6

Section C406.1 of the building code specifies that 2 out of a list of 6 measures be included in a code building. The proponent should clarify which 2 measures are being chosen, and incorporate those values into their "baseline case" model.

Response

The Proponent is proposing reduced lighting power density in accordance with Section C406.3 and enhanced lighting controls in accordance with Section C406.4 to comply with this requirement.

Comment 2.7

A table similar to the example below should be included

Response

Chapter 7, Section 7.3 includes a table similar to the requested table.

Comment 2.8

A description of the proposed building envelope assembly: report both component R-values and whole assembly U-factor. Utilize the pre-calculated relationships between R-Value and U-factor contained in Appendix A in the code. Distinguish between non-continuous and continuous insulation.

Response

Chapter 7, Section 7.3 includes the R-Value and U-Factors in the table of model inputs.

Comment 2.9

A description of the building energy simulation model and procedures utilized.

Response

Chapter 7, Section 7.3 includes a summary of the energy model and procedures used in the analysis.

Comment 2.10

A detailed and complete table of modeling inputs showing the item and the input value for both the base and as-designed scenarios. The area of the building should be included.

Response

Chapter 7, Section 7.3 includes a summary of the energy modeling inputs in a tabularized format.

Comment 2.11

The output of the model showing the monthly and annual energy consumption by major end use system.

Response

The output of the model showing the monthly and annual energy consumption by major end use system is presented in Appendix F.

Comment 2.12

Baseline (e.g. Code) energy use intensity and proposed mitigated building energy use intensity.

Response

Chapter 7, Section 7.3 includes energy use intensities under the baseline and proposed scenarios for each component. These values are compared to prototypical energy use intensities consistent with local climate.

Comment 2.13

Project modeling files are to be submitted to the DOER with the submittal on a flash drive or may be transmitted via electronic file transfer to paul.ormond@state.ma.us.

Response

Project modeling files will be submitted to DOER subsequent to the DEIR/DPIR filing.

Comment 2.14

Separate "side calcs" may be required for non-building energy consuming site improvements which are not included in the building energy modeling software (e.g. parking lot lighting).

Response

Any required "side calculations" will be available for DOER review subsequent to the DEIR/DPIR filing with modeling files.

Comment 2.15

Estimate area of roof potentially usable for solar development (e.g. 'Usable Roof Area" (URA)). Estimate resulting power production and associated GHG reduction if all this URA was utilized.

Response

Chapter 7, Section 7.3 reviews the feasibility of solar photovoltaic systems and the associated parameters used in the analysis.

Comment 2.16

A description of the proposed project building usage and size, including a site plan and elevation views, should be included.

Response

Refer to Chapter 1, *Project Description*.

Comment 2.17

Provide a summary of discussions with MassSave.

Response

Chapter 7, Section 7.3 provides a summary of the Project Team's discussions with local utilities at the time of DEIR/DPIR filing.

Comment 2.18

We recommend cross-examining produced model results' total and individual end uses with representative, prototype buildings developed by Pacific Northwest National Labs/Department of Energy found here:

- *https://www.energycodes.gov/sites/default/files/documents/BECP_901_2013_Progress_Indicator_0_0.pdf*
- *http://www.energycodes.gov/sites/default/files/documents/2013EndUseTables.zip*
- *https://www.energycodes.gov/commercial-energy-cost-savings-analysis*

Response

Chapter 7, Section 7.3 includes energy use intensities under the baseline and proposed scenarios for each component. These values are compared to prototypical energy use intensities consistent with local climate.

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Letter 3: Massachusetts Department of Conservation and Recreation

Comment 3.1

The EENF states that the proposed pedestrian bridge connecting the Site to Tenean Beach, if permitted and constructed, would be transferred to DCR. DCR will accept ownership of the proposed bridge given the following conditions: the Proponent constructs and agrees to maintain the bridge, agrees to relocate and improve the Tenean Beach playground, constructs and maintains publicly accessible restrooms. In the case that the Proponent does not accept these conditions and still chooses to include the bridge in the proposal, a permanent easement on DCR property will be required. DCR notes that a Construction and Access Permit will be required for any construction activities on DCR property, regardless of the ultimate ownership of a pedestrian bridge or other elements related to the Project.

Response

Based on input received from the community during the review of the ENF/PNF, the pedestrian bridge over Pine Neck Creek has been eliminated from the Project design.

Comment 3.2

In its EIR, DCR requests that the Proponent state how it would meet the Article 97 Land Disposition Policy, in the event the Proponent retains ownership of the pedestrian bridge.

Response

Refer to response to Comment 3.1. The pedestrian bridge has been removed from the Project.

Comment 3.3

DCR notes the potential, if the pedestrian bridge is constructed, for depletion of available parking spaces at the DCR lot at Tenean Beach, if the 185 spaces provided on the Project site are not adequate for the intended residential, hotel I restaurant and recreation purposes. DCR requests that the Proponent, in its EIR, demonstrate how it will provide adequate parking on-site to prevent depletion of available public parking at Tenean Beach.

Response

Refer to response to Comment 3.1. The pedestrian bridge has been removed from the Project.

Comment 3.4

DCR notes that its beaches along this stretch of waterfront periodically encounter water quality issues. DCR requests that in its EIR, the Proponent evaluate the impact of its development program on water quality within the Tenean Beach area, by comparing pre- and post-development conditions and demonstrating compliance with the Massachusetts Stormwater Policy. DCR requests that in its EIR the Proponent map stormwater catchment areas, identify potential infiltration methods and structural improvements to stormwater infrastructure, and potential operation and maintenance plans including street sweeping.

Response

Refer to Section 9.3.2 of Chapter 9, *Infrastructure,* and Figure 9.2b.

Comment 3.5

Architectural elevations and project renderings in the EENF suggest that the free-of-obstruction requirement is not met by this proposal for buildings B and C-D. Also, proposed uses for those buildings in Section 2.3 of the EENF do not appear consistent with uses allowed under the Building Code for enclosed space below the base flood elevation in V zones.

Response

The redesigned development takes into account the free-of-obstruction requirement and makes a much stronger connection to the waterfront. All areas with-in the FEMA V zone conform to the building code requirements for enclosed space below the base flood elevation. Refer to Chapter 3, *Urban Design* and Chapter 4, *Sustainability/Green Building Design and Climate Change Resiliency* for additional information.

Comment 3.6

DCR recommends that the Proponent coordinate with the Department during the design phase of the Morrissey Boulevard project.

Response

The Proponent looks forward to coordinating with the Department during the design phase of the Morrissey Boulevard Project.

Letter 4: Massachusetts Office of Coastal Zone Management

Comment 4.1

The ENF indicates that portions of the project site lie within the 100-year floodplain (A Zone elevations 11, 12, and 13 ft NAVD88 and Velocity Zone elevation 14 ft NAVD88). However, the ENF does not provide information regarding how the proposed project will intersect with these flood zones. The EIR should include figures depicting plan view and cross sections through the site which show the exiting topography, any proposed fill, proposed building program (including permanent and seasonal structures, marina with piers, pedestrian bridge and recreational space), and proposed finish floor, with respect to existing MHW, the FEMA Base Flood Elevations (A and V) in NAVD88, and storm and sea level rise elevations. Additionally, the ENF does not provide detailed information regarding how climate change impacts including increased sea levels, storm intensity and frequency, and precipitation have been incorporated into the project design. The EIR should provide detailed information describing how the proposed project has been designed for projected sea levels for the area. It is important to consider these potential impacts over the life of the proposed development. The proponent should describe and use the anticipated lifespan of the proposed project as the basis for incorporating the projected increases in precipitation, coastal flooding, and storm events into the project design. The EIR should also include details on building design and other measures to avoid and mitigate risks from inundation and storm damage. The EIR should also include an analysis of wave energy for the proposed project under existing and future conditions. If a structure such as a wave fence is required to dissipate wave energy for the proposed marina, or additional shore protection is needed due to the removal of the wave fence, impacts to adjacent areas, including resources such as Tenean Beach and salt marsh resources, should be fully evaluated.

Response

Refer to Chapter 4, *Sustainability/Green Building Design and Climate Change Resiliency* for additional information on the Project's resiliency approach.

Refer to response to Comment C.12 for wave fence removal.

Comment 4.2

Prior to filing the EIR, the proponent should consult with the Massachusetts Department of Conservation and Recreation's Flood Hazard Management Program regarding the proximity of the proposed project to the various flood zones and State Building Code requirements.

Response

The proponent has reviewed the implications of the flood zones and associated Building Code requirements and incorporated them into the redesign of the development.

Comment 4.3

The EIR should evaluate how the proposed development will affect the ability of the floodplain to provide storm damage protection and flood control interests under the Massachusetts Wetlands Protection Act (WPA). The physical characteristics of the floodplain, such as topography, permeability, and vegetation are critical for determining how effective an area is in slowing down moving water and in protecting areas within and landward of these zones from storm damage and flooding. Areas of vegetated cover and pervious areas provide surfaces that can detail, absorb, slow or evaporate waters. Impervious surfaces, fill and solid structures may have the effect of channeling flood waters, which increases their velocity. Although there are no specific performance standards for this coastal resource area, it is a protected resource area and as part of the plan to redevelop this site, the EIR should evaluate alternative designs for the proposed project which will improve the ability of the floodplain to provide storm damage protection and flood control to landward areas. The EIR should also include a description of how the flow of water across the site will be changed by the proposed project, particularly as it relates to adjacent development and infrastructure.

Response

The site is largely impermeable and therefore run off from rainwater that falls across the site footprint enters the neighboring waterways and stormwater systems without being filtered in anyway, thus allowing it to transport pollutants with it. In order to reduce run off and improve the site's capacity to absorb the projected increase in precipitation during more frequent extreme rainfall events and the flooding associated with an increase in sea levels and more frequent storm surge events, the design will significantly increase the percentage of permeable surfaces, add further vegetation cover, and will include bio swales along with other green infrastructure.

Rainwater collected through the building and site stormwater systems will be distributed through green infrastructure systems ensuring that the site absorbs and treats rainwater.

The west side of the site borders a tidal river and has been designed with a softscape approach in mind, enhancing the natural features through natural shoreline solutions, bio swales and increased native planting to allow nature to absorb the water and drain quickly after flood waters have receded. This is also designed to attenuate wave action, providing additional protection for areas located behind this landscaped area. Strom water systems have been designed with the higher flows associated with climate change in mind.

Refer to Chapter 3, *Urban Design* and Chapter 4, *Sustainability/Green Building Design and Climate Change Resiliency* for additional detail on the proposed methods of mitigating the effects of stormwater within the floodplain, landward areas and adjacent infrastructure.

Comment 4.4

As previously noted the project site includes areas of filled tidelands as well as flowed tidelands. As such, the project will need to comply with the regulatory standards of MassDEP's Waterways regulations. Additional information relating to work in areas within jurisdiction should be provided in the DEIR as outlined below.

- *Detailed plan showing the existing (licensed) and proposed marina footprint*
- *Detailed plan showing the layout of the proposed marina (location, size and number of slips, piers, floats)*
- *Documentation relating to the previously licensed marina and location within the Neponset River Estuary Area of Critical Environmental Concern*
- *Discussion of proposed dredge area and depth and how this relates to the existing licensed dredge footprint*

Response

Refer to Chapter 8, *Wetlands and Waterways*.

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Letter 5: Massachusetts Board of Underwater Archaeological Resources

Comment 5.1

The Board has conducted a preliminary review of its files and secondary literature sources to identify known and potential submerged cultural resources in the proposed project area. No record of any underwater archaeological resources was found. Based on the results of this review, the Board expects that this project is unlikely to impact submerged cultural resources.

However, should heretofore-unknown submerged cultural resources be encountered during the course of the project, the Board expects that the project's sponsor will take steps to limit adverse affects and notify the Board, as well as other appropriate agencies, immediately in accordance with the Board's Policy Guidance for the Discovery of Unanticipated Archaeological Resources.

Response

The Proponent will take all necessary steps to limit adverse effects and will notify the Board and other appropriate agencies if previously unknown cultural resources are encountered.

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Letter 6: Massachusetts Division of Marine Fisheries

Comment 6.1

DMF requests information on the proposed dredging and alternatives plans with details on project impacts to wetland resource areas, including plans to minimize impacts to Land Under the Ocean, Coastal Beach, Tidal Flat and Land Containing Shellfish. We would also like to discuss the details of the fishing pier with the applicant. DMF public access staff are available to discuss the pier design and can provide helpful recommendations that address area needs.

Response

Refer to Chapter 8, *Wetlands and Waterways*, for additional details on the proposed dredging and anticipated wetlands impacts. The Project Team spoke with DMF public access staff regarding pier design and will continue to coordinate with DMF through permitting and design of the Project.

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Letter 7: Boston Planning & Development Agency

Comment 7.1

Because of its impacts, the Project is required to file both a Draft Environmental Impact Report (DEIR) and Draft Project Impact Report (DPIR). The DEIR/DPIR should include additional information on the elevations of the landscaped open spaces and how these areas may function as both recreational space and a flood protection system not only for the Project, but also for the Port Norfolk neighborhood; more details on the proposed Tidal Garden; clarifications on the marina components, including heights of pilings, accessibility, and the functionality of the new wave/wind attenuator, especially as compared to the existing one; and an exploration of the feasibility of water transportation from the Project site. We strongly encourage the Proponent to identify and pursue additional measures to achieve a higher LEED rating. Finally, a Resiliency Checklist for each structure, instead of one for the entire Project, is required by the BPDA.

Response

Refer to Chapter 3, *Urban Design,* for a description of the Project's landscape design, and Chapter 4, *Sustainability/Green Building Design and Climate Change Resiliency,* for additional information on the Project's LEED rating. The Climate Resiliency Checklist is provided in Appendix B for each structure.

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Letter 8: Boston Water and Sewer Commission

Comment 8.1

Prior to demolition of any buildings, all water, sewer and storm drain connections to the buildings must be cut and capped at the main pipe in accordance with the Commission's requirements. The proponent must then complete a Termination Verification Approval Form for a Demolition Permit, available from the Commission and submit the completed form to the City of Boston's Inspectional Services Department before a demolition permit will be issued.

Response

The project will obtain the necessary permits through the Commission prior to cutting and capping any utility services. Proper approvals and permits through ISD will be obtained before demolition of any buildings begin.

Comment 8.2

All new or relocated water mains, sewers and storm drains must be designed and constructed at CPC Ericsson Street LLC's expense. They must be designed and constructed in conformance with the Commission's design standards, Water Distribution System and Sewer Use Regulations, and Requirements for Site Plans. To assure compliance with the Commission's requirements, the proponent must submit a site plan and a General Service Application to the Commission's Engineering Customer Service Department for review and approval when the design of the new water and wastewater systems and the proposed service connections to those systems are 50 percent complete. The site plan should include the locations of new, relocated and existing water mains, sewers and drains which serve the site, proposed service connections as well as water meter locations.

Response

Refer to Section 9.2 of Chapter 9, *Infrastructure*.

Comment 8.3

The Department of Environmental Protection (DEP), in cooperation with the Massachusetts Water Resources Authority and its member communities, is implementing a coordinated approach to flow control in the MWRA regional wastewater system, particularly the removal of extraneous clean water (e.g., infiltration/in flow (I/I)) in the system. In April of 2014, the Massachusetts DEP promulgated new regulations regarding wastewater. The Commission has a National Pollutant Discharge Elimination System (NPDES) Permit for its combined sewer

overflows and is subject to these new regulations [314 CMR 12.00, section 12.04(2)(d)]. This section requires all new sewer connections with design flows exceeding 15,000 gpd to mitigate the impacts of the development by removing four gallons of infiltration and inflow (I/l) for each new gallon of wastewater flow. In this regard, any new connection or expansion of an existing connection that exceeds 15,000 gallons per day of wastewater shall assist in the I/I reduction effort to ensure that the additional wastewater flows are offset by the removal of I/I. Currently, a minimum ratio of 4:1 for I/I removal to new wastewater flow added is used. The Commission supports the policy, and will require proponent to develop a consistent inflow reduction plan. The 4:1 requirement should be addressed at least 90 days prior to activation of water service and will be based on the estimated sewage generation provided on the project site plan.

Response

Refer to Section 9.4 of Chapter 9, *Infrastructure*.

Comment 8.4

The design of the project should comply with the City of Boston's Complete Streets Initiative, which requires incorporation of "green infrastructure" into street designs. Green infrastructure includes greenscapes, such as trees, shrubs, grasses and other landscape plantings, as well as rain gardens and vegetative swales, infiltration basins, and paving materials and permeable surfaces. The proponent must develop a maintenance plan for the proposed green infrastructure. For more information on the Complete Streets Initiative see the City's website at http://bostoncompletestreets.org/

Response

Refer to Chapter 3, Urban Design for additional detail on the Project's compliance with the City of Boston's Complete Street Initiative.

Comment 8.5

CPC Ericsson Street LLC should be aware that the US Environmental Protection Agency issued the Remediation General Permit (RGP) for Groundwater Remediation, Contaminated Construction Dewatering, and Miscellaneous Surface Water Discharges. If groundwater contaminated with petroleum products, for example, is encountered, CPC Ericsson Street LLC will be required to apply for a RGP to cover these discharges.

Response

The Proponent is advised. If contaminated groundwater is identified, they will apply for an RGP as required.

Comment 8.6

It is CPC Ericsson Street LLC's responsibility to evaluate the capacity of the water, sewer and storm drain systems serving the project site to determine if the systems are adequate to meet future project demands. With the site plan, CPC Ericsson Street LLC must include a detailed capacity analysis for the water, sewer and storm drain systems serving the project site, as well as an analysis of the impacts the proposed project will have on the Commission's water, sewer and storm drainage systems.

Response

Refer to response to Comment C.29.

Comment 8.7

CPC Ericsson Street LLC must provide separate estimates of peak and continuous maximum water demand for residential, commercial, industrial, irrigation of landscaped areas, and air-conditioning make-up water for the project with the site plan. Estimates should be based on full -site build-out of the proposed project. CPC Ericsson Street LLC should also provide the methodology used to estimate water demand for the proposed project.

Response

Refer to Section 9.5.2 of Chapter 9, *Infrastructure*.

Comment 8.8

CPC Ericsson Street LLC should explore opportunities for implementing water conservation measures in addition to those required by the State Plumbing Code. In particular, CPC Ericsson Street LLC should consider outdoor landscaping which requires minimal use of water to maintain. If CPC Ericsson Street LLC plans to install in-ground sprinkler systems, the Commission recommends that timers, soil moisture indicators and rainfall sensors be installed. The use of sensor-operated faucets and toilets in common areas of buildings should be considered.

Response

The system will be a fully automated and include the appropriate sustainable sensors to mechanically limit the amount of irrigation needed. In addition, the use of native and adaptive plant species will greatly reduce the amount of irrigation required.

Comment 8.9

CPC Ericsson Street LLC is required to obtain a Hydrant Permit for use of any hydrant during the construction phase of this project. The water used from the hydrant must be

metered. CPC Ericsson Street LLC should contact the Commission's Meter Department for information on and to obtain a Hydrant Permit.

Response

The Project Team will engage the Commission's Meter Department when the design of the Project is more developed.

Comment 8.10

If water service is to be provided to the proposed docks in the marina, CPC Ericsson Street LLC will be required to install cross connection control devises on the water service. CPC Ericsson Street LLC will also be required to install approved backflow prevention dev ices on the water services for fire protection, vehicle wash, mechanical and any irrigation systems. CPC Ericsson Street LLC is advised to consult with Mr. James Florentino, Manager of Engineering Code Enforcement, with regards to backflow prevention.

Response

The Project Team will consult with Engineering Code Enforcement regarding backflow prevention when the design of the Project is more developed.

Comment 8.11

The Commission is utilizing a Fixed Radio Meter Reading System to obtain water meter readings. For new water meters, the Commission will provide a Meter Transmitter Unit (MTU) and connect the device to the meter. For information regarding the installation of MTUs, CPC Ericsson Street LLC: should contact the Commission's Meter Department.

Response

If additional information is required, the Project Team will contact the Commission's Meter Department.

Comment 8.12

In conjunction with the Site Plan and the General Service Application CPC Ericsson Street LLC will be required to submit a Stormwater Pollution Prevention Plan. The plan must:

- *Identify specific best management measures for control ling erosion and preventing the discharge of sediment, contaminated stormwater or construction debris to the Commission's drainage system when construction is underway.*

- *Include a site map which shows, at a minimum, existing drainage patterns and areas used for storage or treatment of contaminated soils, groundwater or stormwater, and the location of major control structures or treatment structures to be utilized during the construction.*
- *Specifically identify how the project will comply with the Department of Environmental Protection's Performance Standards for Stormwater Management both during construction and after construction is complete.*

Response

The Project Team will submit a Stormwater Pollution Prevention Plan as part of the BWSC Site Plan submission package.

Comment 8.13

Developers of projects involving disturbances of land of one acre or more will be required to obtain an NPDES General Permit for Construction from the Environmental Protection Agency and the Massachusetts Department of Environmental Protection. CPC Ericsson Street LLC is responsible for determining if such a permit is required and for obtaining the permit. If such a permit is required, it is required that a copy of the permit and any pollution prevention plan prepared pursuant to the permit be provided to the Commission's Engineering Services Department, prior to the commencement of construction. The pollution prevention plan submitted pursuant to a NPDES Permit may be submitted in place of the pollution prevention plan required by the Commission provided the Plan addresses the same components identified in item 1 above.

Response

The Project will obtain a NPDES General Permit and will provide a copy of the permit and pollution prevention plan with the Commission's Engineering Services Department.

Comment 8.14

The Commission encourages CPC Ericsson Street LLC to explore additional opportunities for protecting stormwater quality on site by minimizing sanding and the use of deicing chemicals, pesticides, and fertilizers.

Response

The Project Team will explore the additional opportunities.

Comment 8.15

The discharge of dewatering drainage to a sanitary sewer is prohibited by the Commission. CPC Ericsson Street LLC is advised that the discharge of any dewatering drainage to the storm drainage system requires a Drainage Discharge Perm it from the Commission. If the dewatering drainage is contaminated with petroleum products, CPC Ericsson Street LLC will be required to obtain a Remediation General Permit from the Environmental Protection Agency (EPA) for the discharge.

Response

See response to Comment 8.5.

Comment 8.16

CPC Ericsson Street LLC must fully investigate methods for retaining stormwater on-site before the Commission will consider a request to discharge stormwater to the Commission's system. The site plan should indicate how storm drainage from roof drains will be handled and the feasibility of retaining their stormwater discharge on-site. Under no circumstances will storm water be allowed to discharge to a sanitary sewer.

Response

Refer to Section 9.3.2 of Chapter 9, *Infrastructure*.

Comment 8.17

The Massachusetts Department of Environmental Protection (MassDEP) established Stormwater Management Standards. The standards address water quality, water quantity and recharge. In addition to Commission standards, CPC Ericsson Street LLC will be required to meet MassDEP Stormwater Management Standards.

Response

Refer to Section 9.3.3 of Chapter 9, *Infrastructure*.

Comment 8.18

If pump-out stations are to be constructed for the new slips, the wastewater from the pump-out station must be discharged to a sanitary sewer. CPC Ericsson Street LLC is advised to consult with Mr. Phil Larocque, Site Plan Engineer, with regard to connecting the pump-out station to a sanitary sewer.

Response

The Project Team will consult with Mr. Phil Larocque as the design develops.

Comment 8.19

Sanitary sewage must be kept separate from stormwater and separate sanitary sewer and storm drain service connections must be provided. The Commission requires that existing stormwater and sanitary sewer service connections, which are to be re-used by the proposed project, be dye tested to confirm they are connected to the appropriate system.

Response

Refer to Section 9.3.2 and Section 9.4.2 of Chapter 9, *Infrastructure*.

Comment 8.20

The Commission requests that CPC Ericsson Street LLC install a permanent casting stating "Don't Dump: Drains to Boston Harbor" next to any catch basin created or modified as part of this project. CPC Ericsson Street LLC should contact the Commission's Operations Division for information regarding the purchase of the castings.

Response

Refer to Section 9.3.2 of Chapter 9, *Infrastructure*.

Comment 8.21

If a cafeteria or food service facility is built as part of this project, grease traps will be required in accordance with the Commission's Sewer Use Regulations. CPC Ericsson Street LLC is advised to consult with the Commission's Operations Department with regards to grease traps.

Response

Refer to Section 9.4.2 of Chapter 9, *Infrastructure*.

Comment 8.22

The enclosed floors of a parking garage must drain through oil separators into the sewer system in accordance with the Commission's Sewer Use Regulations. The Commission's Requirements for Site Plans, available by contacting the Engineering Services Department, include requirements for separators.

Response

Refer to Section 9.4.2 of Chapter 9, *Infrastructure*.

Comment 8.23

The Commission requires installation of particle separators on all new parking lots greater than 7 ,500 square feet in size. If it is determined that it is not possible to infiltrate all of the runoff from the new parking lot, the Commission will require the installation of a particle separator or a standard Type 5 catch basin with an outlet tee for the parking lot. Specifications for particle separators arc provided in the Commission's requirements for Site Plans.

Response

Refer to Section 9.3 of Chapter 9, *Infrastructure*.

Letter 9: WalkBoston

Comment 9.1

<u>High proportion and number of motor vehicle trips:</u> Given poor transit access and limited street connectivity to the Port Norfolk neighborhood and the proposed Neponset Wharf site, the proponent estimates that only five percent of trips generated by the project will be bicycle and walking trips. The remaining 95 percent of project-generated trips will be in motor vehicles, for a total of 1,440 new vehicular trips on an average weekday. To accommodate this traffic, the proponent has proposed 185 parking spaces on the project site. We are concerned that the number of trips and the number of parking spaces do not seem to be aligned, as these figures would suggest nearly eight trips per day per parking space. This suggests a need to more fully explore appropriate transportation options for the development of this site.

In addition, the increased volume of motor vehicles this project would generate in Port Norfolk will increase risks to people walking and biking on the neighborhood's narrow streets and sidewalks. The project proponent has stated their intention to develop a TDM plan for the project in the forthcoming Draft Environmental Impact Report (DEIR). This plan should include a full accounting of how proposed TDM measures would reduce the overall number of motor vehicle trips and increase the overall percentage of trips using walking, biking and transit modes.

Response

Refer to Section 5.3.2 of Chapter 5, *Transportation* for analysis of trip generation for the reduced scale of the Project, and Section 5.4 regarding parking supply for the current Project program. Refer to Section 5.5 for details of TDM.

Comment 9.2

<u>Neighborhood access and pedestrian safety:</u> Redfield Street, Tenean Street/Conley Street, and Woodworth Street/Walnut Street are the primary routes for motor vehicles to enter and exit the Port Norfolk neighborhood. The proposed project will significantly increase the number of motor vehicles traveling these streets, so the proponent should explore ways to implement traffic calming and pedestrian safety measures along these streets as mitigation. Given that much of this increased traffic will come from Neponset Circle/Morrissey Boulevard, the intersections of Redfield, Walnut, Conley and Tenean Streets at these locations should also be assessed for safety improvements in coordination with the Department of Conservation and Recreation (DCR).

Response

Refer to Section 5.3 of Chapter 5, *Transportation* for updated Project trip assignment to roadway network for the reduced Project program and Section 5.6 for description of potential operational and safety improvements.

Comment 9.3

Site access and pedestrian safety: The project site abuts Ericsson Street, with a one-way entry to the site to be aligned with Port Norfolk Street and a one-way exit from the site to be aligned with Lawley Street. The proposed project will significantly increase the number of motor vehicles traveling these streets as well, so the proponent should also explore ways to implement traffic calming and pedestrian safety measures along these streets as further mitigation.

The proponent should also clarify how pedestrians will safely enter and exit the project site at Port Norfolk and Lawley Streets. The current site access/egress points at these locations lack sidewalks and are relatively narrow for motor vehicles even in the absence of sidewalks. These access/egress points also abut existing buildings, so while the proponent "envision[s] multiple accessible sidewalks along the entry points into the site," it is unclear where the space for safe pedestrian accommodations will actually come from. Increasing the number of motor vehicles traveling through this area will pose additional safety risks to pedestrians, so the proponent should explore plans for mitigation here as well.

Response

Refer to Section 5.3 of Chapter 5, *Transportation* for updated Project trip assignment to roadway network and to Chapter 1 for description of pedestrian accommodations for the Project site plan.

Letter 10: Neponset River Watershed Association

Comment 10.1

Among the goals of the Neponset Estuary ACEC RMP is to protect and improve water quality conditions in order to meet, or where possible exceed, state water quality standards. Additional goals include restoring fisheries and wildlife habitat (including shellfish beds), supporting biological diversity, and encouraging appropriate land and water uses that benefit the public and are compatible with sound resource protection and management. Notwithstanding these laudable goals, the Neponset Estuary does not yet meet required water quality standards for its fishable/swimmable classification. The RMP identifies "inadequately designed and constructed stormwater measures" and inappropriate development as causes of the poor water quality and threats to the resources of the ACEC and to public health and safety. Thus, any development or redevelopment within the estuary must be conducted carefully and must implement best management practices to improve water quality.

The proponent's ENF/PNF lacks sufficient detail to determine whether the project will adequately protect and improve the estuary.

Response

Refer to Chapter 8, *Wetlands and Waterways*, for additional detail on proposed measures to protect and improve water quality conditions in the ACEC. Additional detail on the proposed stormwater management systems are discussed in Chapter 9, *Infrastructure*.

Comment 10.2

The scope of the project presented in the ENF/PNF may not accurately describe the Proponent's plans to redevelop in the area, and, therefore, may not take into account the most effective mitigation measures and public access features.

At the outset, NepRWA and the Port Norfolk residents would like to know how the property under consideration relates to the ownership and potential future development of adjoining properties. The Boston Globe reported earlier this year that the Proponent has secured the rights to purchase other property adjoining (or at least in the same vicinity) as the instant property in order to develop them in the future as "a sequel of sorts to the current project." 301 CMR 11.01(2)(c) requires a Proponent to consider the entirety of a project, and prohibits a Proponent from segmenting a project to curtail MEPA review. Since there appear to be property rights and plans to redevelop more than the parcel under consideration in the current ENF/PNF, a legitimate concern is that the project may have been segmented, which significantly affects consideration of the environmental and community impacts of the project as a whole,

as well as potential alternatives and mitigation that should be considered. The approved scope of the instant proposal may well be replicated on other parcels, amplifying the effect on the existing neighborhood. Thus, the Proponent should detail their future plans for adjoining properties to ensure a complete review.

Response

See response to Comment C.3. The Proponent does not own or have plans to develop any adjacent properties.

Comment 10.3

A major source of water pollution in the estuary is stormwater runoff, and the Project must implement the most effective BMPs for this particular site.

The Massachusetts Stormwater Handbook establishes that where the Massachusetts Department of Environmental Protection (DEP) has issued a Total Maximum Daily Load (TMDL) for a pollutant other than Total Suspended Solids (TSS), the Proponent must propose stormwater BMPs consistent with the TMDL. The Commonwealth has issued TMDLs for the Neponset River requiring the reduction of fecal coliform and e. coli6 (a major source of which is stormwater runoff in the estuary). In addition, the project's proximity to a public swimming beach makes efforts to reduce bacteria in stormwater runoff even more imperative. The Proponent must detail in the DEIR/DPIR the specific BMPs that will be included in the project, how they are consistent with the TMDL and how they will improve existing stormwater runoff conditions. Moreover, given the ACEC RMP aims to improve water quality in the estuary, the DEIR/DPIR should include a detailed evaluation of potential stormwater BMPs at the site that would fully meet the Massachusetts stormwater standards by treating the first inch of runoff from the site, consistent with the TMDL and good practice regarding nutrient removal.

Response

Refer to Section 9.3 of Chapter 9, *Infrastructure*.

Comment 10.4

We recommend that at least the first inch of runoff from all impervious surfaces (including pavement, walkways and rooftops) on the site should be treated using one of the following practices:

- *Surface or subsurface infiltration practices including porous pavement (subject to verification that soils on the site are not contaminated);*
- *Low impact development techniques including bio-retention and tree filter boxes;*
- *Surface or subsurface filtration practices such as sand filters; or*

- *Measures that retain and/or evaporate water from the site to reduce the frequency and volume of polluted stormwater runoff leaving the site, including, but not limited to, green roofs and on-site rain water capture and irrigation/grey water reuse.*

Response

Refer to Section 9.3.2 of Chapter 9, *Infrastructure,* and Figure 9.2b.

Comment 10.5

Additionally, the DEIR/DPIR should detail efforts to minimize stormwater pollutants on site. Specifically, the Proponent should detail:

- *The configuration of commercial dumpsters kept on site for residential buildings, hotel, restaurant and other structures which ideally should be kept indoors or under roof cover;*
- *How waste from the proposed dog park will be regularly cleared to prevent runoff contamination; and*
- *Measures that will be undertaken to educate residents and maintenance/operations staff about the problem of stormwater pollution and appropriate O&M procedures.*

Response

Refer to response to Comment 8.12 and Chapter 9, *Infrastructure*.

Comment 10.6

The Proponent should clarify plans to manage pollution associated with marina use.

The DEIR/DPIR should include detailed examination of pollution control measures that will be implemented in the marina. Specifically, the Proponent should:

- *Commit to provide a holding tank pump out facility which is accessible to both slip owners and the public;*
- *Detail measures to prevent pollution from boat maintenance (preferably by keeping these activities under cover); and*
- *Describe other measures that will be used to minimize the impact of marina activities, such as a program that will be used to educate slip owners and operation and maintenance staff about pollution prevention practices.*

Response

While specific elements related to management of the marina are still under consideration, the marina will, at a minimum, be managed and operated consistent

with CZM's *Massachusetts Clean Marina Guide*. As suggested, the marina will include a pump out facility to marina members and the public, as well as educational programming provided by the marina operator on pollution prevention practices for marina users and staff. Detailed pollution prevention measures will be developed as design advances, but the intent is that major repairs and dust-producing maintenance activities would occur in the covered boathouse.

Comment 10.7

The Proponent should describe the plan to achieve maximum water conservation through both indoor and outdoor water uses.

The Proponent has indicated the project will use low-flow plumbing fixtures for water closets and faucets, including EPA WaterSense labeled fixtures for all toilets, urinals, faucets, and showerheads. We would urge the Proponent go beyond compliance with the relatively weak WaterSense standards and specify toilets that comply with the MaP Premium standard, urinals that use 0.25 GPF or less, lavatory faucets that use 1.0 GPM and showerheads that use 1.5 GPM. The Proponent should also ensure that all laundry equipment used in the project has a water factor of 4.0 or less. A variety of readily available products meet these criteria at prices comparable to conventional fixtures.

Response

Our preliminary calculations assume the following percent-reduction per building. All fixtures will be Water Sense. We will also select equipment and appliances that have the energy star label which also factors in water use reduction.

- Residential Building A- 50% Water Use Reduction
- Residential Building B- 50% Water Use Reduction
- Residential Building C- 50% Water Use Reduction
- Boathouse Building D- 47% Water Use Reduction

Comment 10.8

The Proponent has indicated that the landscaping and open space areas will not require irrigation, but rather will rely on native and adaptive plant species. The DEIR/DPIR should explore this in more detail.

Response

Refer to response to Comment 8.8. Due to Project changes which reduced open space programming and increased the level off passive area and vegetation, irrigation will be required to ensure the planting thrives. The Project will continue to rely on native and adaptive plan species.

Comment 10.9

The Proponent must ensure meaningful access to the shoreline.

The ENF/PNF describes enhancements to public access, including a Harborwalk, kayak rentals/boat storage and new open space. The DEIR/DPIR should further detail plans to ensure meaningful access by the public—including affordability of access to recreational opportunities. The Proponent should explore offering free kayak/canoe storage, and other no-cost public amenities to ensure the proposed access truly is meaningful. Furthermore, will members of the public be able to launch their own canoes and kayaks and/or utilize fishing pier and the dog park? The DEIR/DPIR should clarify which areas of the proposed open space would be open to the public and discuss what provision is being made for parking to ensure that the public has the ability to access the waterfront in practice. The Proponent should also clarify installation of signage, clearly delineating publicly accessible areas and permitted activities.

Response

In response to community input on the ENF/PNF, the kayak rental facility has been removed from the Project and the approach to open space has shifted to accommodate more passive uses on-site. It is currently envisioned that visitors to the Project can park in the proposed parking garage at no cost, or in surface parking spaces. The proposed open spaces and Public Pier will remain entirely available to the public. Refer to Chapter 3, Urban Design.

Comment 10.10

The DEIR/DPIR should also explore alternative approaches to the design of the open space and public access facilities. One long standing need in the Neponset River and adjoining communities to the north and south is for a publicly accessible boat ramp for trailer access. Additional scenarios to be considered for the open space would be alternative layouts that would accommodate a more naturalized shoreline over a larger portion of the site (see discussion of living shoreline below) that would enhance both habitat value and aesthetics of the existing armored shoreline, and structuring pervious spaces at the outer edges, closest to the water. Additionally, continuous access (along a boardwalk or other path) along the shoreline should clearly be laid out.

Response

Refer to Chapter 3, *Urban Design* and Chapter 4, *Sustainability/Green Building Design and Climate Change Resiliency* for additional information on the proposed shoreline conditions. Along the Pine Neck Creek, the Project is proposing a naturalized approach and will provide continuous accessible access for all.

A trailer boat access ramp has been considered and determined not suitable for the site, primarily due to site access, increased traffic through the neighborhood, and environmental impacts associated with construction of a new ramp.

Comment 10.11

Finally, the DEIR/DPIR should further describe the proposed use of the commercial space which is shown at the end of the wharf, and how this space relates to requirements regarding facilities of public accommodation.

Response

As discussed in Chapter 1, *Project Description* the commercial space on the wharf has moved to be within the proposed Boathouse, Building D. This facility we be open to the public and will primarily be for bait, tackle, and boating supplies.

Comment 10.12

The proponent should explore and detail potential pedestrian access from the project site to Tenean Beach.

The ENF/PNF identifies the potential for a pedestrian bridge over Pine Neck Creek to Tenean Beach, creating access between the beach and finished project. At a conceptual level, any measure to increase pedestrian and/or bicycle routes is appealing, however, the ENF/PNF lacks sufficient detail to meaningfully evaluate this proposal. The DEIR/DPIR should include a detailed analysis of such a bridge, including where the abutments would be located at the beach, and the impact on wildlife habitat, water quality, etc. Additionally, as discussed further below, the neighborhood has legitimate concerns about the adequacy of the proposed parking given limited access to transit options and therefore the Proponent should examine anticipated effects on public parking and beach access should the beach parking lot become an accessory lot to the finished project site and its amenities.

Response

Refer to response to Comment 3.1. The pedestrian bridge has been removed from the Project.

Comment 10.13

The proponent should explore and detail issues around improvement dredging.

Plans provided in the ENF/PNF appear to indicate that the proposed piers and marina will extend slightly farther west and north that the existing marina and the area highlighted as representing previous dredging. The DEIR/DPIR should further describe issues around maintenance vs. improvement dredging as well as sediment contamination in the context of proposed dredging.

Response

Refer to response to Comment C.8. Additional detail on the proposed maintenance dredging is provided in Section 8.4.3 of Chapter 8, *Wetlands and Waterways*.

Comment 10.14

The Proponent should better detail the project's climate change resiliency and explore alternatives to open space and shoreline engineering.

The Proponent has gone to great lengths to describe the project as implementing strategies to make it resilient to rising sea levels and extreme weather events, but the ENF/PNF lacks sufficient detail to evaluate the adequacy of those strategies. For example, while the Proponent describes elevating occupiable spaces, it does not identify the current elevation of the site, and how potentially large grade changes will affect the sites relationship with the water. Additional considerations should include, examination of whether the site will become an island during large storms and whether emergency egress will be maintained, as well as the ability of sewer and drain infrastructure. The ENF/PNF should therefore include existing and proposed grading plans, showing proposed facilities, Wetlands Act and Chapter 91 jurisdiction and tidal and flood elevations. Flood elevations should be shown for the neighborhood as a whole. Finally, the DEIR/DPIR should describe in more detail the strategies the Proponent plans to employ to ensure the project complies with the city's Climate Change Resiliency and Preparedness Policy, beyond measures designed to accommodate rising sea levels.

Response

Refer to Chapter 4, *Sustainability/Green Building Design and Climate Change Resiliency* for additional detail on the Projects climate change resiliency strategy.

Comment 10.15

The Proponent should also examine alternatives to shoreline design. At present, the shoreline of the site comprises a seawall, dumped-stone revetment, and sheet-pile bulkhead. The project proposal anticipates a park-like open space area close to the western and northern shoreline while maintaining the seawall. The Proponents acknowledge a goal of fitting with the "decades-long planning and open space development" efforts of both the city and state; efforts which include rehabilitating "waterfront edges and bringing back the natural environment that existed before industrial development blocked public access." The Proponent should explore alternatives to the current proposal that include engineering techniques to create a living shoreline, which may better serve climate resiliency and estuary health. Such techniques are currently being considered and implemented in other local development projects.

Response

As suggested, the Project has evaluated alternatives for soft and living shorelines which balance the need for stability and erosion control with environmental and sustainability benefits. The resultant design, as described in Chapter 3, *Urban Design,* lowers the elevation of the existing seawall elevation along the western edge of the site to mean high water and provides native salt tolerant plantings which can accept periodic inundation. The design will provide a natural and adaptable shoreline which will benefit estuary health and increase biodiversity along the shoreline.

Refer to Chapter 4, *Sustainability/Green Building Design and Climate Change Resiliency, f*or additional detail.

Comment 10.16

While the Proponent assures the state and city through the ENF/PNF that the project will result in a "substantial net benefit to the community" and that they have worked closely with the community to ensure this, it is unclear that they have actually done so in a meaningful way. The DEIR/DPIR must closely examine and detail the impact of the project on the safety and quality of life of the abutting neighborhood, including the project's impact on traffic, access to the waterfront, increased noise, and residents' enjoyment of the water and skyline.

During the MEPA site visit, it was evident that many in the community do not believe the Proponent has actually listened to their concerns about the scale and scope of the project, its effect on future development of adjoining parcels, and its impact on the character of the neighborhood. In particular, there exist legitimate concerns that given the lack of convenient transit access and presumed affluence of most of the residential occupants, the project anticipates inadequate parking, which will overflow to the neighborhood (or Tenean Beach, should a pedestrian walkway be constructed over Pine Neck Creek). Community members have expressed concerns about increased water usage, and sewage generation given existing sewer capacity problems in the area in the form of past sanitary sewer overflows into homes. Traffic flow to and from the site via narrow neighborhood streets is another concern, as are those regarding the visual and neighborhood character impact of developing such tall buildings in proximity to a cohesive neighborhood of low rise buildings, using a pallet of materials that bears no seeming relationship to buildings in the existing neighborhood. All of these neighborhood concerns seem particularly relevant in light of the potential segmentation of this project from redevelopment of the adjoining property as mentioned above.

The Proponent should consider additional efforts to work with the community to explore alternatives to both the project and mitigation efforts, including underground parking (which could also lessen building height concerns), access to public transportation (to reduce traffic), improvements to existing infrastructure, a reduction in the size of proposed structures, efforts to use materials that better fit with the character of the neighborhood, and amenities community members actually need or

desire. The DEIR/DPIR must further detail the steps the Proponent has taken and will take to ensure the project fits with the growth of the community.

Response

As discussed in Chapter 1, *Project Description,* the Proponent has worked closely with the community over the past year to mold the Project to better fit the scale and character of the community. The Proponent looks forward to continuing this dialogue with the community throughout the future permitting and construction of the Project.

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Letter 11: Port Norfolk Civic Association

Comment 11.1

The ENF states that the inclusion of a hotel and 4000 square foot restaurant will "complement the water-dependent facilities by adding vitality and activity to this prominent location where the Neponset River meets Boston Harbor". The theme of facilitating intense activity is completely contrary to the purpose of an ACEC designation "where unique clusters of natural and human resource values exist and which are worthy of a high level of concern and protection". The proposed project will have the effect of adversely affecting the character and quality of life in the isolated residential peninsula, and the nature and size of the proposed uses will adversely affect the surrounding ACEC.

Response

As described in Chapter 1, *Project Description*, the Project has been modified considerably since the filing of the ENF/PNF to respond to community concerns. Through these modifications and continued dialogue with community members, the Proponent believes that the current Project will enhance quality of life in Port Norfolk and maintain the neighborhoods unique scale and character.

Measures to avoid and minimize impacts to the ACEC are discussed in Chapter 8, *Wetlands and Waterways*. Through best management practices and close coordination with federal, state and local agencies, the proposed construction is not anticipated to result in permanent adverse environmental impacts. As a result of the proposed stormwater management improvements and modern marina management, the Project hopes to create a net environmental benefit on the surrounding ACEC as compared to the existing condition.

Comment 11.2

The projected traffic will far exceed capacity, which is a problem identified in the neighborhood for over 30 years, with no realistic solution.

Response

Refer to Section 5.3 for updated project trip generation for the reduced Project program and evaluation of potential impacts to capacity. Also refer to Section 5.5 for proposed Transportation Demand Management program and Section 5.6 for potential roadway improvements.

Comment 11.3

The existing sewer system is primarily comprised of lines installed prior to 1900, and multiple homes have had problems with backups and lateral line collapse. The projection in the ENF states that sewer flow in the neighborhood in the neighborhood will increase generation by more than 20 times the current flow. The means of increasing capacity, the cost, and the burden during proposed construction are not addressed.

Response

Refer to response to Comment C.29.

Comment 11.4

The neighborhood presently has its share of licensed establishments, including Venezia Restaurant, Venezia Function Facility, the Boston Winery, and the Boston Harbor Distillery. Venezia voluntarily closes earlier than allowed by their licenses, reflecting the nature of their events and the clientele. The Distillery was supported by the neighborhood, despite the forbidden use, at the request of the Bruno Family, owners of the site. The proviso was that the lease included restrictions on the lease to avoid conducting a business which would generate transient traffic, and the license closing hour is 11:00 pm, which is the earliest permitted under Massachusetts law. The use for such facilities is forbidden under current zoning. In order to avoid possible future conflict over more intensive uses, the neighborhood cannot agree to allow new licensed establishments to be included in the project.

Response

The restaurant program has been removed from the development, and there is no longer a plan for an establishment requiring a liquor license.

Comment 11.5

The proposal for dredging of the marina site must be evaluated in light of the fact that it has not been maintained for a number of years. The adjacent Pine Neck Creek is remembered as a popular location for swimming. It is presently silted to a level which leaves little water even at high tide. The effect of the proposed removal of the wave fence and dredging on water circulation and silt and sand movement on Pine Neck Creek and Tenean Beach are not addressed.

Response

Refer to Chapter 8, *Wetlands and Waterways*. Dredging and removal of the wave fence will improve water flow and sediment transport in the immediate Project are; however, the limited wave action experienced in this area will continue to be mitigated by the presence of the new float system. These improvements, in addition

to the considerable improvements to stormwater management, reductions in impervious area, and restorative shoreline treatment, are anticipated to improve water quality at Tenean Beach.

While the depth of water at the beach is not likely to be improved by the Project, the increased water flow through the marina will slow the rate at which siltation is occurring in the area.

Refer to response to Comment C.12 for additional information regarding the removal of the wave fence.

Comment 11.6

The true intentions about the scale and possible phasing of the project must be addressed, in light of media reports that a subsequent phase may be anticipated.

Response

See response to Comment C.3. The Proponent does not own or have plans to develop any adjacent properties.

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Letter 12: Boston Harbor Now

Comment 12.1

We ask that the DEIR address the following items related to the proposed dredging:

- *The relevancy of a 100+ year old dredging license and the existing ACEC Resource Management Plan*
- *Whether the proposed dredging is for improvement or maintenance purposes*
- *Impacts to marine habitat and resource areas resulting from the proposed dredging activities.*

Section 1.1.1 and Figure 8.1 of the ENF address the ACEC designation. As presented in the ENF, the project will "embrace" the heightened ACEC performance standards. We are glad to see the proponent's acknowledgement and commitment to complying with the ACEC standard. The DEIR should include additional details to address compliance and how the project proposes to meet or exceed expectations.

Response

Refer to Chapter 8, *Wetlands and Waterways*, for information on the Project's compliance with applicable wetlands regulations. Additional detail on the proposed maintenance dredging is provided in Section 8.4.3 of Chapter 8, *Wetlands and Waterways*.

Comment 12.2

The ENF proposal includes several renderings of proposed public access to the project site (Figures 2.7-2.9). The DEIR should clearly distinguish areas of the wharf and open green space that are open to the public from those that are reserved for private use. The Public Realm improvements will play an important role in ensuring the open space areas are fully activated and create a welcoming waterfront experience for residents, neighbors, and visitors. Part of the success includes maintaining adequate signage at appropriate locations to advise the public of its access rights and disclose access-related regulations.

The DEIR should also include details of the proposed watersheet and water's edge activation as an integral part of the transient public's experience of the overall project site. The proponent should consider programming and public amenities that will encourage the public's use and enjoyment of the waterfront on a year-round basis.

We note that during the MEPA site visit, the community expressed concern over some of the proposed public amenities. Specifically, the kayak storage area, dog park, and pedestrian bridge to Tenean Beach. We encourage the proponent to work with the

local community to develop a public realm improvement plan that includes amenities that fit within the character of this area of the waterfront and adjacent neighborhood.

Response

Refer to Chapter 3, *Urban Design* for information on the Project's efforts to address the community concerns and realign the open space programming while activating the water's edge for public access and engagement. All open space will be accessible to the public. Signage and wayfinding will be provided to encourage a welcoming and engaging space.

Comment 12.3

We are strongly in favor a detailed traffic analysis of existing traffic concerns in Port Norfolk and adjacent areas as part of the DEIR. Without the proper improvements, additional daily trips will put pressure on an already strained system. Section 5.3 of the ENF includes a summary of daily trips anticipated for the project. The summary includes vehicular trips generated by condominium, hotel, and retail/restaurant users. The DEIR transportation analysis should also include trips generated by the general public's use of the new landscaped outdoor spaces.

Despite its waterfront location, the mitigation efforts described in Section 5.7 might be best focused on land-based transportation accommodations that 1) serve a wider group of riders over a greater geographic area and is 2) a more cost-effective option than a water taxi.

Response

Refer to Chapter 5, *Transportation*.

Comment 12.4

We ask that best practices be implemented to minimize construction impacts to the nearby community. Depending on the anticipated construction activities, increased traffic is likely both in size and frequency of vehicles entering and leaving the area. We expect that delivery of construction materials will also affect the number of trucks traveling through the surrounding community. In addition to providing a construction management plan, we ask that the proponent consider a comprehensive traffic plan to minimize traffic flow interference from construction activities (e.g. advanced public notice of road closures, alternate routes, and shifting operations affecting traffic to off-peak hours).

Response

Refer to Chapter 5, *Transportation*, for a detailed analysis of Project transportation impacts and associated mitigation. Refer to Section 6.9 of Chapter 6, *Environmental Protection*, for a draft Construction Management Plan. The Construction

Management Plan will continue to be developed in close coordination with BTD to ensure that associated impacts on the community are minimized to the extent feasible.

Comment 12.5

As presented in ENF, possible measures to address future flooding on the site include elevating the ground floor and moving critical infrastructure above the floodplain. However, Page 7 of the BPDA Climate Checklist indicates that specific flood protection measures have not been considered for the site.

As part of its resiliency strategy, the waterfront portion of Building B will be raised on pilings – resembling a building on stilts and a design more typical of beach homes. The space underneath the pilings will open up view corridors and create a covered terrace that is accessible to the public. This is a building typology that is new to Boston Harbor. We applaud the proponent for incorporating this innovative design in their project proposal.

We look forward to reviewing the DEIR and additional details of the proponent's climate resiliency strategy to limit storm damage, minimize wave action, and protect inland resource areas.

Response

For additional detail on the Project's climate resiliency strategy, please refer to Chapter 4, *Sustainability/Green Building Design and Climate Change Resiliency*.

Comment 12.6

Over a dozen members of the Port Norfolk community attended the July 24, 2017, MEPA site visit. Although the community expressed concerns about the proposed development, many expressed a willingness to consider a smaller scale redevelopment project that benefits the community and improves the existing conditions of the site. To ensure the community is heard throughout the planning process, we encourage the proponent to consider additional ways to engage interested neighbors and stakeholders as the project moves forward.

Response

See response to Comment 10.16.

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Letter 13: Conservation Law Foundation

Comment 13.1

We request that the proponent provide a breakdown of the amount of Chapter 91-defined open space so that it can be assessed for compliance with the standards contained in 310 CMR 9.53 (b)(1). We also request that the proponent clearly distinguish between "open space" and "public outdoor space"/ "public realm" in their subsequent filings.

Response

The Project has been modified so that nonwater-dependent uses are no longer located within tidelands. As such, the standards at 310 CMR 9.53 do not apply.

Comment 13.2

We are particularly concerned about the categorization of the shore shack as open space because it is a food/beverage service establishment. Not only should the shore shack be excluded from the open space calculation, it should be removed from the water-dependent use zone ("WDUZ"). There is ample room to locate the shore shack outside of the WDUZ and still adequately serve the public. The shore shack does not squarely fit into the definition of a water-dependent use under the regulations and more closely fits the restaurant category. 310 CMR 9.12 (f) states, "restaurants and other food/beverage service establishments are not considered water-dependent uses." Chapter 91 does not allow for nonwater-dependent structures to be located within the WDUZ. While the shore shack may serve a public purpose, it would set a dangerous precedent that could open the door for other developers to locate similar food/beverage facilities in the WDUZ.

We request that the proponent relocating the shore shack outside of the WDUZ and provide a map of the WDUZ overlaid with the proposed development and uses. Currently, only a stand-alone map of the WDUZ is provided.

Response

What was previously the Shore Shack has been removed from the WDUZ. It has been replaced by a small neighborhood market and deli to be located in Building B, outside of tidelands.

Comment 13.3

Generally, we are encouraged by the diversity of uses proposed for the public realm. In particular, a continuous harborwalk would be a tremendous asset to this area.

However, we are concerned that the uses requiring a greater amount of hardscape and impervious surface are located around the outer edges of the site closest to the shoreline. We are also concerned that some of these uses, namely the dog park, will exacerbate existing pollution concerns by being located so close to surface waters. The current configuration is a missed opportunity to leverage green space for the purpose of flood protection and pollution control. By configuring the public realm in a way that prioritizes the location of green spaces along the outer edges, the proponent can more effectively buffer the site from flood waters and promote stormwater capture while also providing direct public access to the water. Public access to the water could be further enhanced through consideration of natural shoreline features. We request that the proponent assess the viability of features like living shorelines as an alternative to a structured shoreline. We understand that the location of the site in a velocity zone may create limitations but encourage the proponent to look to other developments that have recently prioritized natural features including the Clippership Wharf project in East Boston and the Wynn Casino project in Everett.

Response

Refer to response to Comment 10.10 for more information regarding the proposed shoreline conditions. The dog park has been removed from the Project and the open space program has adjusted to maximize a landscape buffer along the shoreline.

Comment 13.4

We are very interested in the idea of incorporating a tidal garden into the site design and request that the proponent provide more information on its design and function. We are also interested in the rationale for the tidal garden's location and have some concern that if located in the proposed area it could cut off continuous harborwalk access. Figure 2.9 of the proponent's ENF depicts pedestrian access on the harborwalk and demonstrates the missing link caused by the location of the tidal garden. We encourage the proponent to consider ways they can make the continuity of the harborwalk clear to visitors as well as ways to make the tidal garden an interactive space that provides the opportunity for the public to have close and direct contact with the shoreline and water.

Response

Refer to response to Comment 10.10 for more information regarding the proposed shoreline conditions. The tidal garden location has shifted to encourage a more interactive experience for the public. The revised shoreline treatment will lower the seawall elevation on the western edge of the site to improve connectivity between the site and the waterfront, while maintaining a stable and resilient shoreline.

Comment 13.5

Finally, we are supportive of the proponent's use of water-dependent facilities to encourage water-related activities on the site. The fishing pier is certainly a positive component to this project. However, because the proponent will be advertising this location as a fish pier and enabling fishing in this area, they should be required to post signage that alerts users to safety concerns and fish advisories. We encourage the proponent to work closely with the Department of Health on the appropriate signage.

Response

The Project team is coordinating with the Division of Marine Fisheries to incorporate appropriate signage specific to area fisheries concerns.

Comment 13.6

We request that the proponent provide more detail on the rationale for characterizing Buildings C and D as separate structures. We also request that for purposes of regulatory compliance/consistency and climate resiliency the proponent consider increasing the setback of Building C/D from the shoreline and outside of the WDUZ.

Response

Buildings C and D have been modified. Building C has been setback further from the shoreline and outside of the WDUZ.

Comment 13.7

CLF would like to echo the concerns of the community about accessibility to this site. Public transportation to this area is currently very limited and as such is unlikely to be a primary mode of transportation for visitors. We request that the proponent provide a more detailed analysis of the traffic implications associated with this project as well as how the proponent will encourage public access to the site given the existing transportation constraints.

First, it is unclear whether the proponent will be providing public parking spaces for use by the general public accessing this site and if so, how many. The proponent has also indicated they are considering a pedestrian connection between their site and Tenean Beach. While we are not necessarily opposed to this connection, the proponent should consider how it may affect the availability of parking for beach-goers if the beach is used as overflow parking for the site and propose ways to mitigate the issue.

Second, site users will have to travel through a densely populated neighborhood to access this site, generating many more daily trips than the area is accustomed to. The proponent should consider the viability of water transportation as an alternative mode of transportation for the site to help alleviate the number of vehicle trips. By providing appropriate water transportation infrastructure, the proponent could make this site

more accessible, reduce landside traffic and congestion issues, and promote active public use of the watersheet.

Response

Refer to Chapter 5, *Transportation* for a comprehensive transportation analysis and potential impacts, including Section 5.5 for the proposed Transportation Demand Management plan and Section 5.6 for potential roadway and safety improvements. Also please note that the potential bridge connection to Tenean Beach has been eliminated from the Project.

Comment 13.8

We request that the proponent clarify the process by which they will be approved to complete the dredging and provide details on the proposed dredging including the scope and scale of the project compared to the existing conditions and an explanation of how it meets the Department's definition of maintenance dredging versus improvement dredging.

It is also worth noting that dredging on this site was allegedly authorized in 1911, well before the Neponset River Estuary was designated as an ACEC in 1995. This makes it all the more important that the proposed dredging is consistent with DEP's definition of maintenance dredging versus improvement dredging, which may not have been an explicit concern at the time the dredging was allegedly authorized. The proponent states that the Resource Management Plan ("RMP") for the ACEC acknowledges and endorses maintenance dredging activities but does not provide details on whether the RMP includes specific standards for maintenance dredging.

Response

Refer to response to Comment C.8. Additional detail on the proposed maintenance dredging is provided in Section 8.4.3 of Chapter 8, *Wetlands and Waterways*.

Comment 13.9

We appreciate the proponent's recognition of climate change as an important consideration in the redevelopment of this site. In particular, we applaud the proponent for the creative design of "Building B", which is proposed to be constructed on pilings for sea level rise and resiliency purposes. However, we request that the proponent provide more detail on how climate change considerations will be woven into the decision-making for all aspects of the site including the public realm and critical infrastructure systems. For example, the proponent acknowledges that stormwater infrastructure should be designed to accommodate the expected increases in precipitation intensity but it is not clear whether the proponent has done so or plans to do so. The proponent has also proposed to remove the existing wave attenuator without much discussion of the implications of that decision. Similarly, the proponent

has provided very little detail on the design and function of the tidal garden, which they state is a resiliency measure.

The proponent has discussed the proposed design elevation for the various buildings proposed on the site but has not addressed whether the site itself will be raised. The ENF states, "raised topography will help protect all site edge conditions", but no further details are provided. We request that the proponent more thoroughly analyze and describe how they will account for future climate impacts in the design and management of the site and how their on-site measures may or may not fit into broader climate resiliency plans for the surrounding area. This is especially important considering the location of the site in a floodplain and a velocity zone.

Response

The development has been designed to current Building Code standards for construction in a flood plain, in particular the requirements for FEMA zones A and V. Refer to Section 4.4 of Chapter 4, *Sustainability/Green Building Design and Climate Change Resiliency*, for additional detail regarding the projects resiliency strategy and code compliance.

The wave attenuator is being removed and replaced with a modern float system which is capable of withstanding the limited wave action within this protected area. As discussed in the response to Comment C.12, the existing wave fence system is not necessary and inhibits natural water circulation through the marina, exacerbating siltation issues.

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Letter 14: Emy Thomas

Comment 14.1

The intersection at Walnut and Water Streets is a major concern. Cars, vans and trucks park right to the corner obstructing view for cars exiting Walnut St. at that intersection and bicyclists. The bicyclists don't stop in either direction and speed by. It is a bicycle accident waiting to happen. Need more signs such as "STOP" and "NO PARKING HERE TO CORNER" (this sign would also be helpful at Walnut St. and Neponset Circle where exiting is not easy under the best circumstances). Also I am concerned about the DCR plans for Morrissey Blvd. which would further limit our entering and leaving the Port.

Response

Please refer to Section 5.6 of Chapter 5, *Transportation* for description of potential improvements at neighborhood intersections and Section 5.6.3 for discussion of DCR's plans for Morrissey Boulevard.

Comment 14.2

A pedestrian bridge to Tenean sounds nice, but I understand there would be environmental issues and parking at the beach would take spots away from the beachgoers, at least during the day. Plus the parking area frequently is flooded.

Response

Refer to response to Comment 3.1. The pedestrian bridge has been removed from the Project.

Comment 14.3

I'd love to see a T stop at Tenean/Neponset and/or a ferry to Boston from the marina, but then again that might bring more traffic into the site and parking issues. The Old Colony railway used to have a Neponset stop and a Harrison Square stop (near where Wholesalers is now).

Response

While the neighborhood physically abuts MBTA right-of-way, it is very unlikely that the MBTA would consider providing a new stop at this location in light of the limited demand by the neighborhood and the potential impact to exiting rail services. If a stop was designed to serve an increased catchment, it would undoubtedly attract associated traffic and parking in the neighborhood.

Comment 14.4

Entering and exiting Walnut St., one most often needs to pull over or wait for an oncoming car to pull over in order to get down the street. I don't even enter the street if a car is coming and a car is parked right to the corner. The same happens on Woodworth St.

Response

Refer to Section 5.6 of Chapter 5, *Transportation* for potential improvements on neighborhood streets.

Comment 14.5

I understand water/sewage infrastructure is maxed out, Tenean is the most contaminated beach due to infrastructure and Victory Park Dog Park. So no Dog Park here, please.

Response

The dog park has been eliminated from the Project.

Comment 14.6

Restaurant and hotel not needed. Hotel with shuttle and enough restaurants local. What about a swimming pool instead of restaurant for the residents and community?

Response

The hotel and restaurant are no longer being considered as part of this development. Access to the waterfront for neighborhood residents has been improved as well.

Comment 14.7

A pier to walk out on would be nice (a public viewing area with benches and signage), but what kind of fishing is there? Perhaps a couple of vending machines and restroom could be included in building where boats are proposed to be stored for the mariners. Don't need kayak storage, tide too low half the time for launching and there are other places to do that.

Response

The Public Pier is anticipated to include benches and signage, as well as accommodations for fishermen. The exact specifics of the fishing accommodations are being coordinated with the Division of Marine Fisheries. The kayak storage and launch area is no longer being considered as part of the development.

Comment 14.8

I would like to see historical signage along the Harborwalk/greenspaces around the perimeter of project. Maybe the signage wouldn't be ruined the way some were at the John Paul Park.

Response

Historic signage is being considered as one of the many ways to connect this development with the rich history of the Port Norfolk community.

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Letter 15: Jason Berry

Comment 15.1

The application indicates the project includes maintenance dredging and improvement dredging is not anticipated (Wetlands, Waterways and Tidelands Section > Part III, G Does the Project Include Dredging). I believe more attention should be given to the dredging license, the extent of dredging and the distinction between improvement and maintenance. The possibility of any improvement dredging in a prohibited ACEC area should not exist.

Response

Refer to response to Comment C.8. Additional detail on the proposed maintenance dredging is provided in Section 8.4.3 of Chapter 8, *Wetlands and Waterways*.

Comment 15.2

The application indicates it is in an intertidal area and as such is required to evaluate approaches and practical steps for avoidance when possible and minimization if avoidance is not possible. The project in its current form aggressively expands the scope of the marina. There is a functioning marina currently on the site. The most practical approach for avoidance/minimization would be to keep marina operations consistent with the current scale which can be accomplished without dredging.

Response

As described in greater detail in Chapter 8, *Wetlands and Waterways*, the existing marina is not functioning at its designed capacity and is at the end of its useable life. The existing marina has silted in considerably (six feet or more in some areas) and existing structures are degraded. The proposed marina work will restore the marina and maintain water-dependent use of the shoreline, as recommended by the RMP.

Comment 15.3

The application indicates that is does not impact "Other resource areas (i.e. shellfish beds)" despite the fact that "substantial soft-shell clam beds are located at the mouth of the river" [reference 1]. I believe this answer should be revised.

Response

Refer to Chapter 8, *Wetlands and Waterways*. The Project will impact a small area of habitat (1,018 square feet) of area that is considered to be suitable habitat for soft-

shell clams. Impacts to this area will be mitigated, as necessary, in coordination with the Division of Marine Fisheries once the exact limits of dredging are confirmed.

Comment 15.4

The Neponset River Watershed suffers from "Legacy toxins (i.e., PCB-laced soil and groundwater from a former industrial property leaches toxins into the river)" [reference 2]. The application provides no physical and chemical data of the sediment and answers "no" to all sediment characterization questions. I believe these items should be required given the legacy toxins in the watershed.

Response

Sediment characterization will be advanced in coordination with the Army Corps of Engineers and DEP as design of the Project advances. A suitability determination for dredge material disposal will be required in coordination with future dredge approvals.

Comment 15.5

The size of the proposed structures will have an adverse effect on the surrounding ecosystem and will decrease the quality of the Tenean beach experience.

The height will add shade to Pine Neck Creek and Tenean Beach. The shaded area will change water temperatures impacting wide life and vegetation. The size of the structures will impact an area heavily populated with birds.

The increased height will make the beach less desirable for visitors given the reduced sunlight, obstructed views and decreased ocean breezes.

Response

As shown in Figures 6.1a-c, 6.2a-d, 6.3a-d, 6.4a-c, shadow impacts on vegetated areas of Pine Neck Creek and Tenean Beach are minimal and passing, and as such, are not anticipated to impact water temperatures, wildlife, or vegetation.

Refer to Chapter 3, *Urban Design*, for additional information on viewshed impacts. The buildings are not anticipated to have any impact on ocean breezes due to the porosity of the buildings, and the nature of wind travel. Additionally, the building height will not adversely impact bird populations. As a residential building with an industrial design, there are no large areas of highly reflective glass or extreme lighting that would interfere with bird migrations.

Comment 15.6

The project calls for the removal of the in-water Tenean beach wave fence. Increased wave action from the removal of the fence could cause erosion issues at Tenean Beach and should be studied.

Response

Refer to response to Comment C.12.

Comment 15.7

The proposed foot bridge between the site and Tenean beach will be placed over Pine Neck Creek. The creek ecosystem has improved over the years and will be set back by this unnecessary structure.

Response

Refer to response to Comment 3.1. The pedestrian bridge has been removed from the Project.

Comment 15.8

The following issues are of significant concern, have environment impact and should be considered as part of the MEPA application:

Density – neighborhood can't handle proposed density

Traffic – neighborhood can't handle increased traffic

Sewage – already problematic sewage system can't handle increase

Construction – neighborhood has old infrastructure, can't handle construction

Design – incompatible with Port Norfolk neighborhood.

Response

Refer to Chapter 5, *Transportation*, for detail on the proposed impacts of the density on the neighborhood traffic, Chapter 3, *Urban Design*, for a description of the Project's compatibility with the existing neighborhood, Chapter 9, *Infrastructure,* for sewer impacts, and Chapter 6, *Environmental Protection*, for construction impacts.

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Letter 16: Maria Lyons

Comment 16.1

Project will overwhelm the Port Norfolk Neighborhood and Dorchester Waterfront. Port Norfolk peninsula is all at one level, 2-3 stories. 86 ft. high project will stick up like a sore thumb, negatively changing the Dorchester Waterfront views and character drastically. 150 condos and 25 room hotel will double population of entire Port Norfolk neighborhood. Restaurant, 75 boat marina and other planned structures will changes character from quiet seaside neighborhood to an overhyped destination. There will be nothing to stop them from filing for liquor and entertainment licenses after project is built. The end of the Port Norfolk Peninsular, already is vibrant enough with a large restaurant, 4 function rooms, and 4 bars. Doubling the existing population will strain infrastructure and utilities. Proposed projects will harm Neponset River Area of Critical Environmental Concern (ACEC).

Response

Refer to Chapter 1, *Project Description,* for a summary of Project changes, which include a considerable reduction in density and modification of the proposed uses.

Comment 16.2

Large box designs of steel are incompatible with historic Port Norfolk Neighborhood homes and buildings and natural ACEC area. Any reflective surfaces across from Tenean Beach will reflect sunlight into the eyes of the public trying to enjoy beach.

Response

The rich history of the Port Norfolk Neighborhood has been strongly considered in the redesign of the development. Reflective surfaces and their impact on Tenean Beach will be minimized when possible.

Comment 16.3

1,500 cars a day through small neighborhood streets unacceptable, only way in and out is through Morrissey Boulevard, already difficult to access. Plan only providing 185 parking spots. 150+75+25+Restaurant+visitors+workers does not add up to 185. The plan does not add in cars from marina, 75 boats, or visitors. 1,500 cars a day in and out will add air pollution and increase pollutants in runoff from area, negating the increase in permeable areas reducing runoff.

Response

Refer to Chapter 5, *Transportation* for a comprehensive transportation analysis including updated traffic generation and parking ratios for the reduced Project program, and potential improvements to enhance access to and from Morrissey Boulevard.

Comment 16.4

Plan only addresses sky dome from Erikson Street. Two 86ft high buildings and other massive buildings, will block view of sky dome and ocean from Tenean Beach, Rte. 93, Dorchester Neighborhoods, Venezia Harborwalk and block ocean breeze onto Tenean Beach. The beautiful views of sunrises and sunsets across the end of the Port Norfolk Peninsula will be blocked. Large buildings will block birds moving back and forth to feed and nest between Squantum point Park and Pine Neck Creek and Migratory Birds. Project will add shade to Pine Neck Creek and Tenean Beach, changing temperature of water, impacting wildlife and enjoyment by humans.

Response

Skydome impacts were assessed based on City of Boston guidelines for analysis. Refer to response to Comment 15.5.

Comment 16.5

1,245 to 27,956 Gallons/day increase to an old, already problematic sewer system will cause more backup into homes. Most of Port Norfolk is a flat sea level peninsula, hampering flow.

Response

The Project Team has met with John Sullivan and Mike Nelson of the BWSC to discuss the Project's impacts to the existing infrastructure. John Sullivan confirmed that the sewer lines in the Port Norfolk neighborhood can handle the proposed increase in sewage generation and stated in an email to the team on March 9, 2018, that the BWSC is currently designing the replacement of water and sewer mains in the neighborhood and plans to award a contract for construction in August/September 2018. John Sullivan also requested that any resident undergoing issues with their sewer service to please reach out to the BWSC.

Comment 16.6

They have not found a previous dredging permit. What will be maintenance - what will be improvement? How determination be made if no permit record is found? Port Norfolk Yacht Club members believe it has been approximately 30 years since last dredging. Much of the site has refilled with PCB contaminated mud up to the level of land in Pine Neck Creek. The surrounding area is now an ACEC and has changed back into a natural area considerably. The developer should be required to start a new

dredging licensing procedure to ensure safety of the area. Resuming large amount of dredging in a now ACEC area will impact the adjoining shellfish beds at Bucky's Bar (off of Squantum Point Park), mudflats, marshes, Tenean Beach and the wildlife that feeds and nests there by covering them with mud and releasing PCBs into the water. Deep dredging across from Tenean Beach could cause erosion of beach, creek, and harm marsh by changing current patterns and wave actions. There is no completely safe way to dredge contaminated mud. More boats means more pollution such as from oil, gasoline, wastes leaks. Presently there is only about 15-20 boats on site.

Response

Refer to Chapter 8, *Wetlands and Waterways,* for additional detail on the proposed maintenance dredging and associated impacts of the proposed in-water work.

Comment 16.7

Increased wave action could cause erosion of Tenean Beach. Professional evaluation of existing conditions and modeling of proposed changes must be required.

Response

Refer to response to Comment C.12.

Comment 16.8

Building a bridge across Pine Neck Creek will destroy marshes at Pine Neck Creek, ACEC, and would facilitate the use of Tenean Beach parking as ancillary parking for a private development. Visitors to Neponset Wharf, marina, restaurant patrons will take up spaces of public beach goers, and compete with neighborhood residents for insufficient parking on the peninsula. The scenic view from the end of Pine Neck Creek to downtown Boston, is also a popular artists' spot that would be blocked by a bridge.

Response

Refer to response to Comment 3.1. The pedestrian bridge has been removed from the Project.

Comment 16.9

The developer's report on open space and view is misleading. They say they are providing 2 acres of open space but much of public open space is unusable, under buildings or alongside buildings. It is not clear if they are also counting streets and sidewalks. The best view, next to Venezia, is reserved for private use. The plan is for a flat roof boat storage building. This could easily be changed into an inappropriate, private, loud, open air bar/ entertainment spot after it is built. The offered public view is of the Xway and LNG tank. 40% of Port Norfolk already is open space and they would be destroying the public view from Tenean Beach, Rte. 93 and Dorchester. A

small additional space and questionable view does not justify the harmful impacts of this project.

Response

The open space has been increased, particularly in the area next to Venezia where the Public Pier and public lawn have been designed right on the waterfront. The building and landscape design have been modified to maximize views and minimize the perceived massing of the Project. Refer to Chapter 3, *Urban Design*, for additional detail on proposed open space breakdown.

Comment 16.10

Noise and vibrations due to construction of a large project and trucks will impact neighborhood and ACEC wildlife. There is a substantial threat that construction could cause damage to historic homes and buildings, old streets and water and sewer pipes, especially since much of Port Norfolk is on filled land, know to increase impact.

Noise will scare away birds in ACEC, nesting and feeding near site.

Response

The construction of the Project will be performed in a manner that complies with the DEP and City of Boston noise regulations. To ensure compliance with these regulations during construction, the Proponent, to the extent practicable, will seek to incorporate into the general construction contract the following mitigation measures:

- Limited vehicle idling to five minutes;
- Limited construction vehicle warm-up to ten minutes;
- Limiting construction to the hours allowable by City of Boston regulations; and
- Insuring construction vehicles have ambient leveling sensors on the back up alarms.

Noise and vibration will be further minimized by the following:

- Use of H piles rather than concrete piles for upland construction.
- Predrilling soils prior to pile driving.
- Sequence of pile driving, starting closer to existing structures then moving away so that new piles act as a noise shield.
- All work to take place during day time hours for sound control.

Comment 16.11

The offered public amenities are redundant in the area, inappropriate for area, or harmful to ACEC and neighborhood, and will increase traffic even more. Do not justify negative impacts regarding Chapter 91 Laws, Wetlands Act, neighborhood or ACEC.

Kayak launch – Will launch into a mudflat area, no water large parts of each day with tides. Public will have to pay for kayak storage. A more useful and appropriate Kayak launch already exist in nearby Neponset 2 Park.

Fishing - Fish in Neponset River have high levels of PCBs, should not be eaten. Fishing Pier already exists next to Joseph Finnegan Port Norfolk Park. Fishing gear, lines, and hooks could entangle birds and children, wash up on Beach and marshes.

Beach Sand area - Tenean Beach is right across Pine Neck Creek from project. If they remove seawall the project site will easily flood.

Playground and courts – Large playground, basketball and tennis courts at Tenean Beach.

Dog Park – Adding a dog park beside Tenean beach will increase bacteria level at Tenean Beach beyond the unacceptable current levels. This should not be allowed.

Response

Refer to Section 1.2 of Chapter 1, *Project Description,* for updates to the Project since the filing of the ENF/PNF. Apart from the Public Pier (fishing pier), the referenced uses have been eliminated from the Project. The Project team is coordinating with the Division of Marine Fisheries to understand potential risks for consuming fish in this area and to develop strategies to minimize those risks.

Comment 16.12

There are concerns about fire safety. Entrances into and through Port Norfolk are difficult. Entrances into this site are narrow and multi- angled. Will large fire equipment be able to reach all sides of the buildings proposed on the site? Will there be water pressure capable to reach 86ft high?

Response

The Project Team met with the Boston Fire Chief and they do not have any access issues to the neighborhood. The Project Team will work with the Boston Fire Department to review access within the site as the design develops.

Comment 16.13

Project ignores Dorchester Port Norfolk Neighborhood Waterfront Service District Zoning- max height 35FT, no hotel, no restaurant - Allowing this project will set a bad precedent for entire Dorchester Waterfront. Many years ago, Dorchester lost its waterfront when the train tracks and Rte. 93 were built. The DCR has been working for many years to restore the Dorchester Waterfront. With the designation of the Neponset River ACEC and the creations of parks, they have been quite successful.

This project would be the beginning of creating a wall of condos between Dorchester and its waterfront. The Dorchester Waterfront Zoning Code and the BRA Plan for Port

Norfolk is meant to protect Dorchester from projects such as the Neponset Wharf. Project needs to be cut down. They should be offering a much smaller project in size, height and density.

Response

The Project has been reduced in size, scale, and density [no hotel, not restaurant, less units] and proposes an improved connection to the waterfront for the neighborhood.

Comment 16.14

The designation of an area as an ACEC raises it to the highest standards of protection from any project in or around it. The ACEC mandate for all private and public agencies is to "Do No Harm". The Neponset Wharf sits directly in the Neponset River ACEC.

In the Neponset River ACEC the designation is working. Much of the area is returning to the natural marshes, mudflats, shellfish, and buffer zones needed for the health of the Boston Harbor and the ocean wildlife. Some of the bird observations from this summer have included egrets, great blue herons, night herons, bitterns, cormorants, swans, swallows, red wing blackbirds, and various ducks, gulls and sandpipers.

Response

Refer to response to Comment 11.1.

Letter 17: Paul Nutting

Comment 17.1

The Port suffers from a serious lack of public transportation access, thereby creating a car-centric development whose access will overwhelm the 2 narrow entrance streets with those seeking to drive to the end of the peninsula. Those street, while two-way, cannot function as a true 2-way due to on-street parking, which necessitates opposing vehicles, pull to the side to allow passage. It already is a "game of chicken."

Response

Refer to Section 5.5 of Chapter 5, *Transportation* for description of potential TDM strategies to minimize reliance on auto travel, and Section 5.6 for potential improvement to neighborhood streets, including potential improvements on Lawley Street to address the constrained width for two-way traffic.

Comment 17.2

Furthermore, this site is within the Neponset ACEC. This designation was assigned well before the current owner purchased his option on the site, and stringent compliance measures need to be taken to ensure the viability of this estuarial resource; not allow its degradation.

During the construction of Finnegan Park, DCR's consultants determined that the PCB's and other hazardous chemicals washed downstream the Neponset from various sources, were likely to be released into the estuary were they to remove the decrepit piling field on the river flats adjacent to the park. My assumption is that any dredging performed as part of the nearby marina rehab would produce the same negative results in the ACEC. As you know, case law has confirmed that wherever the chemicals lay now, they belong to the property owner, and it is up to them to seek redress from whoever deposited them there. But in no way should these be released into this sensitive fish nursery. Additionally, is a waterborne fueling facility with the possibility (in fact, probability) of fuel releases into the water something we want to risk in this estuary given the acreage that DCR has accumulated to help protect the river from runoff pollution?

Response

Refer to Chapter 8, *Wetlands and Waterways*, for additional information regarding protections to the surrounding ACEC. All silt-producing work will be contained within a siltation curtain to avoid turbidity impacts. The fueling facility has been relocated closer to the shoreline and will be operated consistent with applicable environmental regulations to avoid, minimize, and mitigate for any releases into the

water. The marina will be managed and operated consistent with CZM's *Massachusetts Clean Marina Guide*. As such, the Project is anticipated to improve environmental conditions compared to the existing marina.

Comment 17.3

The proposal to construct a boardwalk across the mouth of Pine Neck Creek serves no one except the developers with extra parking for their overdeveloped site at Tenean, and a way for its tenants to access a swimmable beach. This is short sighted and should be scrapped in favor of a plan that provides a walkway either on the land or a cantilevered boardwalk to their property boundary to the south; where for now it would terminate.

Response

Refer to response to Comment 3.1. The pedestrian bridge has been removed from the Project.

Comment 17.4

As with virtually everywhere else the current Harborwalk and Neponset River Greenway is sited, the goal on the Port should be to "harborwalk" its full circumference. This project takes a short-cut across the marsh. The two property owners between this site and the Harborwalk on Conley St. have for some reason been exempted to provide CH91 public access. Given that one of these owners, SuliMac has a temporary easement across DCR property in the vicinity of Conley St, all of the property owners should be working toward the goal of full public access to the waterfront resource.

Response

The Proponent hopes to help work towards this goal through the proposed public access network.

Letter 18: Ellen Spring

Comment 18.1

Based on the Boston Waterfront Decision, a set of waterfront planning principles and urban design guidelines were born and these particularly, the view corridors and visual access should be adhered to. Buildings should not block the view of the water and skyline as currently proposed. Setbacks from water and piers, the ability for implementation of ascending setbacks to minimize shadows needs to be incorporated.

Response

The redesign development adheres to all waterfront setbacks [including the ascending setbacks] to minimize the impacts of shadows. The development has gone to great lengths to preserve and enhance view corridors in/of the surrounding area.

Comment 18.2

Height limits are compromised by FEMA flood regulations. However uses for the floors with the flood zone limits could still yield revenues by educating residents and others about the history of the area or gallery space for local artists as well as interpretive signage along the harbor walk.

Response

A neighborhood gallery space that conforms with the FEMA flood regulations is being considered as part of the redesigned development.

Comment 18.3

There needs to be some comprise between commercial interests and regulatory review. Street level activity is lacking. I am somewhat skeptical about the survival of the trees depicted in the ENF. Testing of the sediments in the open space parcel needs to be studied. Finally the suggested dog park is not compatible with the ACEC designation and should be dropped.

Response

Refer to Chapter 3, *Urban Design* for additional detail on the projects goal to meet the Boston Complete Street Initiative. Soils tests will be conducted on the existing soil conditions that will determine the appropriate soil amendments needed for proper tree growth. The dog park has been removed from the Project.

Comment 18.4

The architectural character for the buildings is not compatible with the surrounding residential uses. Perhaps it is the desire of the proponents to create a contemporary look to a historical waterfront services district. It doesn't really come off well. There needs to be some more compatible segue into the project that meet urban design guidelines.

Response

The architectural character of the surrounding uses has been carefully considered in the redesign of the development to create a project that is more compatible with the neighborhood.

Comment 18.5

Building B needs to eliminate the wall effect on the upper floors to open up the view corridor. In addition the restaurant should have outdoor dining as a measure to ameliorate the impact of accommodations of private tenancy.

Response

The development has been redesigned and no longer includes a restaurant. Building B has been reconfigured.

Comment 18.6

The Wetlands Protection Act and Chapter 91 regulations set stricter standards for coastal ACECs. "No adverse impacts" to any coastal wetlands from any activities within the ACEC. Only limited projects are allowed to alter bordering wetlands vegetation. The waterfront regulations prohibit improvement dredging except for the sole purpose of fisheries and wildlife. Chapter 91 restricts the opportunities for new privately owned structures. This proposal does not adequately respect the RMP already in place. Intensive use of vehicles and operations tips air quality.

Response

Refer to Chapter 8, *Wetlands and Waterways*.

Comment 18.7

The Chapter 91 licenses have not been held to the same standards in on the Dorchester waterfront as in say "Seaport district". I am asking that the standards of review be on equal footing, notable examples include the dilapidated overlook which was conditioned by Chapter 91. There has never been any maintenance, it is unsafe and uninviting. It is incumbent upon all state agencies reviewing the project to achieve the "restoration and enhancement of the resources of the ACEC.

Response

The Proponent hopes to support this goal through a modern and well-maintained waterfront development.

Comment 18.8

Understandably time has passed and the waterfront regulations have been revised and become more interconnected but that does not compromise ACEC standards as in the ENF. These standards need to be turned around so that the ACEC is the first bar, not the last as it seemed to be in the ENF. The ACEC designation requires a higher standard of analysis of the resource preservation which is not mentioned in the ENF. The proponents have essentially cherry picked the words that describe the ACEC goals; neglecting the language of "preserve, restore, and manage" in regard to the project. I am concerned that regulatory review may rescind the ACEC designation.

Response

Refer to Section 8.3 of Chapter 8, *Wetlands and Waterways*.

Comment 18.9

I would like to bring the reader to the principals of the RMP, Water Quality; condition of Pine Neck Creek whose water quality is the lowest in Boston Harbor due fecal coliform counts dissolved oxygen levels and nutrient enrichment. This location does not meet class B standards. The development needs to cooperate in helping at to restore and reduce the presence of these known problems that are a threat to public health as it lessens the use of Tenean beach.

Response

Refer to Chapter 8, *Wetlands and Waterways*.

Comment 18.10

The RMP is a boundary based document. The ENF is selective in helping people understand the 100 foot buffer zones which could easily become 1300 foot boundaries from the water's edge so that line/boundary ought to be drawn out and adhered to. Filled and flowed tidelands need to be mapped in the next iteration particularly on Pine Neck Creek. Also the language in the ACEC section of the ENF needs to be compatible with the mapping. There isn't any description why "mean low water" and" historic high water lines" are significant.

Response

Refer to Chapter 8, *Wetlands and Waterways*. These boundary lines relate to specific Chapter 91 regulatory criteria. The historic high-water line is the limit of Chapter 91 jurisdiction.

Comment 18.11

It is much more difficult to do anything meaningful about water quality on the Neponset river side of the peninsula project; the contaminated sediments have ruined some of the most productive clam beds, Buckley's bar, without some long term cleanup plan for the PCB's residing in the sediments. Unless and until there is a concentrated effort to remove the sediments behind the two dams in Upper River trying to clean the lower estuary is not sustainable. Attention to Pine Neck Creek become the most doable and restores a proper public purpose to the ACEC.

Wetland restoration and banking program needs to perform a full analysis for the edges along Pine Neck Creek and those areas that would be considered coastal bank. It will determine opportunities to diversify plant species to attract fin fish for feeding and potential increase fish spawning in the creek. Also an assessment of the sediment and soils for potential contaminants in filled areas and to identify point and non-point sources of pollution as part of the DEIR. There will be continuous and cumulative impacts associated with non -point source pollution and water quality on the natural resources. Beach erosion is a perennial problem with the dredging and marina uses we need to balance the project's impact on the natural resources not further degrade the value of estuarine functions.

Response

As described in Chapter 8, *Wetlands and Waterways*, the Project features considerable improvements to water quality and site environmental conditions. Through these improvements, the Project endeavors to enhance the existing environmental conditions around the site. Sediment characterization will be advanced during future regulatory review. Refer to response to Comment C.12 regarding potential impacts associated with removal of the wave fence.

Comment 18.12

It seems to me that the open space parcel is key to the development. We know the 50% ratio is important but for the developers to tout it as special is misleading. The walking paths and circulation through the parcel should be clearer about linking various parts of the harbor walk at the edges of their property. How this development links areas where the harbor walk would go a long way in achieving a proper public purpose.

I do not think for a moment that the open space parcel presented in the ENF is anything other than guise for the next phase of project. Over time, permitting can

change and probably will change the configuration of buildings on the parcels. Even though the proponents say this is a one phase project the placement of the buildings on the rest of the parcels dictate that open space parcel, is easily removed and turned into another building. That may happen anyway, but I am not about to make it easier for the proponents to meet their goals at the expense of restoring the habitat value in Pine Neck Creek.

Response

The 50 percent ratio is specific to the Chapter 91 criteria for nonwater-dependent Projects. As a result of changes to the site plan, this no longer applies to the Project, however the Project will continue to provide well more than 50 percent open space. The Proponent has no intention in developing any of the proposed open space.

Comment 18.13

The development as proposed doubles the number of residential units in the neighborhood all going to the 3.6 acres. The residential streets can't handle the 1500 anticipated vehicles particularly for first responders. The one way access to and from the development is a central problem. More attention needs to be placed on more access on the public streets that enter and leave the development so that the enormous increase of traffic is more easily absorbed by the development itself. For instance an additional lane on Walnut and Lawley streets. This will help alleviate some of the burden on abutters. In addition any transportation demand strategies need to include vigorous pursuit of ferry service and should include a movement for an additional redline station at Port Norfolk. With better connections to the MBTA, bicycling from the project to transportation services could be really feasible.

Response

Refer to Chapter 5, *Transportation* for a comprehensive transportation analysis including up-dated traffic generation and potential improvements to neighborhood streets and potential TDM strategies to reduce reliance on auto travel.

Comment 18.14

The ENF does not give satisfactory description of the local transportation network particularly the Redfield Street and Woodworth St. access points. No mention of the community health center or fire station was included in the ENF even though they are located across Morrissey Blvd. These are important institutions to the neighborhood and represent long standing connections to Neponset Circle.

Response

Please refer to Section 5.2 of Chapter 5, *Transportation* for a detailed description of transportation infrastructure and connections with Morrissey Boulevard, and Section 5.6 for potential improvement to neighborhood streets,

Comment 18.15

With the planned improvements on Morrissey Boulevard this development needs to be prepared to coordinate with that project. And incorporate those intersections in the traffic study.

Response

Refer to Section 5.3.1 of Chapter 5, *Transportation* for a discussion of DCR's plans for reconstruction of Morrissey Boulevard.

Comment 18.16

Parking spaces need to be provided for zip cars and limited parking for trailer parking for the water dependent uses like kayaking and other small water craft needs to be accounted for. The siting of new water dependent use the kayak storage although welcomed would be unusable at low tide. General parking for the project is unsustainable given the local street infrastructure. A shuttle service seems an advancement to the project. These elements of transportation demand service should not be considered as amenities; they are essential.

Response

Refer to Section 5.4 of Chapter 5, *Transportation* for a discussion of the parking plan for the reduced Project program, which includes the elimination of the kayaking accommodations. Refer to Section 5.5 for a description of potential Transportation Demand Management strategies.

Comment 18.17

Economic development should be limited expansion. Not previously authorized or historically used zoning is not recommended within the estuary.

Response

The comment is unclear. The Project is sized to the scale necessary to offset the considerable costs of the proposed public benefits and environmental enhancements necessary to maintain an active waterfront.

Comment 18.18

The Neponset River Greenway council has been working to extend the bike path. Our attention has been concentrated on the missing links in Mattapan which has been recently achieved. Our focus is shifting to connecting along the water to Victory Road Park and the Gas tank parcel. This project needs to offer bicycles and pedestrian connections beside the potential of a bridge across pine neck creek which seems to provide accessory parking for the project and may impact natural resources in Pine

Neck Creek. Here is another example of the lack of contextual setting for the project. The proponents should review the Dorchester Coast Greenway Master Plan and advance those goals.

Response

The potential bridge connection across Pine Neck Creek has been eliminated from the Project.

Comment 18.19

Without the dredging permit it is not possible to discern the difference between maintenance dredging and improvement dredging. The ACEC designation was not in place when the last dredging occurred. This might be remedied by requesting a search of the historic chapter 91 license and historic mapping this should be included in additional information under the scope.

The utility or impact to salt marsh restoration of the fence in the marina must be assessed. It's another visible sign of privatizing the waterfront treatment across from Tenean beach and is of primary importance. In this vein there are no photos of this view in the ENF another deficiency in the filings. It should be included in the DEIR.

Response

Refer to Chapter 8, *Wetlands and Waterways,* for additional detail on the proposed maintenance dredging and associated impacts of the proposed in-water work.

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Letter 19: W. John Rudicus

Comment 19.1

I have a great concern about transportation and traffic issues within the Port. As a major taxpayer and employer in Port Norfolk these things will be a huge detriment to my ability to operate my business in Port Norfolk. Please see below. In addition, I would be a huge opponent to any discussion of making Lawley Street a one way street.

Response

Refer to Chapter 5, *Transportation* for a detailed analysis of transportation and traffic within the Port and its connections to Morrissey Boulevard. Section 5.6.2 presents potential improvements to Lawley Street, including a discussion of potential one-way traffic operation.

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Letter 20: Boguslaw Bialek

Comment 20.1

The project will overwhelm the Port Norfolk Neighborhood & Dorchester waterfront & change character of quiet seaside neighborhood to overhyped destination. Will also double existing population, straining infrastructure & utilities. It will harm Neponset River area of Critical Environmental Concern (ACEC).

Response

Refer to Chapter 1, *Project Description,* for a summary of Project changes, which include a considerable reduction in density and modification of the proposed uses. Impacts to the ACEC are assessed in Chapter 8, *Wetlands and Waterways*.

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Letter 21: Daniel Roche

Comment 21.1

The extensive traffic condition in the traffic analysis study area must consider the continuous traffic overflows, backups and delaying lanes and ramps on and off from the Expressway Southbound, the Expressway Northbound, along with the daily traffic flow north and southbound over the Neponset river bridge into Neponset circle. These conditions need to be factored into any traffic analysis of the development site and conditions included into the mix to determine capacity of intersections and streets from traffic daily moving out of the Port Norfolk intersections of Conley, Walnut, Taylor and Tenean Streets into and out of Morrissey Blvd and all intersections. This traffic survey can not be accurate without considering these factors.

Response

Refer to Chapter 5, *Transportation* for a comprehensive transportation analysis including up-dated traffic generation and potential improvements to neighborhood streets.

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Letter 22: Edward Roche

Comment 22.1

To encourage new development which is architecturally compatible with the Predominant residential building types existing on the peninsula.

Response

The updated design scheme is heavily influenced by the rich history of the port and the Lawley Shipyard in particular. The team found site plans and neighborhood plans from various times during the 19th and 20th centuries to find connections worth preserving and celebrating in a contemporary development.

Comment 22.2

To maintain the predominant height and massing of the existing residential areas

Response

The Project takes cues from and is compatible with the surrounding buildings at the end of the peninsula.

Comment 22.3

To encourage new development which is compatible with existing residential area and opens and maintains view corridors to the water

Response

The Project has been conceived of in a way that is compatible with the residential area and the adjacent buildings as well. View corridors to the water have been maintained and enhanced.

Comment 22.4

To encourage the design of phased developments to minimize impacts on existing residential development; and minimizing negative impacts.

Response

Refer to Section 6.9 of Chapter 6, *Environmental Protection*, for a draft Construction Management Plan.

Comment 22.5

To promote compatible uses, without increasing peak hour traffic delays and effects on Transportation and Parking

Response

The proposed uses have been modified since the prior ENF/PNF filing, resulting in a considerable reduction in trips.

Comment 22.6

To discourage large, paved parking lots in new developments and encourage covered parking on landscaped parking areas; and to minimize the impact of heavy traffic on adjacent residential streets.

Response

Refer to Chapter 1, *Project Description,* for a description of the Project site plan which eliminates existing paved parking areas on the site with enhanced landscaping and parking located in garages within the buildings. As discussed in Section 5.3.3, very limited numbers of large trucks are expected to support the project.

Comment 22.7

Insuring that any new development is compatible with existing historic structures placing height limits along with waterfront parcel zoning:

Establishes a floor area ratio of 1.0 and a height limit of 35 feet.

Promotes water-dependent services uses.

Replaces portions of the Waterfront Industrial district

Conditionally permits uses that are not water-dependent, including residential, if restricted to 25% of the allowable FAR and 35% of the lot area and other conditions of use and factors.

Response

The Project has been carefully considered to be compatible with the existing historic structures, replaces portions of the waterfront industrial district, and promotes water dependent uses as well. The Proponent is not party to the establishment of FAR and other zoning restrictions.

Comment 22.8

The Port Norfolk sewer system was constructed in 1850. Nothing much has changed with this since an upgrade of water lines in 2004 and to our knowledge it remains a combined CSO system with continuing problems

This needs to be recognized and inspected in that this problem is perhaps contributing to water quality affecting the use of Tenean beach. Over time because of lack of maintenance and being the lowest point in the BWSewer system; deposits within the pipes reduce the undersized capacity further.

Consequently, the combined sewer overflows negatively affect the water quality surrounding Port Norfolk. In addition, the storm drains at Tenean Beach negatively affects that bathing area in the ACEC

The antiquated Sewer system occasionally results in surcharging. The conditions Would be expensive to correct, but modification is to be required to allow additional large scale development.

Response

Refer to response to Comment 16.5.

Comment 22.9

The new designs, should in the writer's opinion be woven into this existing residential fabric and not treated as an isolated element as is presently shown.

The development should be modelled on the existing character of the neighborhood and from waterfront neighborhood community's waterfronts elsewhere in Boston and New England. New buildings should be sensitive to traditional building forms, views long and short, vistas, scale, heights, massing, and materials and relate to the waterfront and narrow local street patterns.

The PNCA residents' concerns focus on preserving the historic residential character and architectonics of the Dorchester waterfront and on better utilizing the waterfront for water dependent and public uses. The density of the existing housing is high use and will be impacted heavily by the proposed high density uses: case in point, based on a preliminary analysis of plan that effectively doubles the # of residences on the peninsula with no upgrading of the in and out daily access, street capacity and utility infrastructure not including additional traffic of the proposed and existing restaurants and expansion of the marina.

Response

See responses to Comments 22.1-22.4.

Comment 22.10

The new plan should not wall itself off from the neighborhood further isolating the community from the waterfront.

The proponent would add 3 new buildings of 8 stories in a presently compatible site of all structures; further visual connections back to residential neighborhood need to be made sincerely; presently and proposed effectively walls off the neighborhood visually and physically with barriers and the incompatible new structures clashing with the scale and character of the existing port neighborhood.

Also, the following impact problems need to be considered:

The Southeast expressways retaining walls and constant drones and hello traffic are an unwelcome neighbor and a wall!

The MBTA red line and commuter tracks divide our neighborhood and present another wall of nuisance noise etc.

The current and historical route of airplane traffic that flies directly over in flight path to Logan airport.

Response

The updated design increases access to the waterfront for the neighborhood, reduces the overall height of the buildings, invites the community in, and makes sincere connections to the neighborhood.

Comment 22.11

The development team may consider hosting a charrette with the Port Norfolk Civic Committee to assist in creating a proponent / civic assn. vision to encourage and mitigate the proposed development in the neighborhood.

It is suggested that the proponent may engage an independent experienced design team with proven expertise in historic preservation in waterfront building and site design to conduct this charrette: as the current site and buildings plans appear to be driven and dictated by the proponents attempt to meet Ch. 91 compliance With proposed non-zoning nor water dependent non-compliant buildings in the water dependent zone.

There needs to be a balance between profit driven enterprise and impacts on existing resident's property rights and general overwhelming negative environmental impacts. The results of the Charrette may uncover a viable plan that may not please all, but may be agreeable to most.!

Hopefully, this process may lead to come to a design that is fluidly compatible with defining how new elements and structures not conflict with this historic neighborhood!

Response

The Proponent greatly appreciates the input it has received from the community to date and will continue to engage with the community throughout the review and construction of the Project process.

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Letter 23: Helen O'Connor

Comment 23.1

I oppose the idea of taking away the Pier of Boston, the size and use of Port Norfolk Neighborhood and there is only 1 way in and out. More traffic and parking. Sewage to an old sewer system, also cause erosion of Tenean Beach. Bridge will destroy Pine Neck Creek. Also view.

Response

Refer to response to Comment 15.8 regarding traffic, parking, and density. The pedestrian bridge has been removed from the Project.

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Letter 24: Jolanta Bialek

Comment 24.1

Project will overwhelm the Port Norfolk Neighborhood and Dorchester Waterfront. Changes character of quiet seaside neighborhood to overhyped destination. Doubles existing population, straining infrastructure and utilities.

Response

Refer to response to Comment 15.8.

Comment 24.2

Sewage Issue – 1,245 to 27,956 gallons/day increase to an old, already problematic sewer system will cause more backup into homes.

Response

Refer to response to Comment 16.5.

Comment 24.3

Traffic Issue – 1,500 cars a day through small neighborhood is unacceptable. The only way in & out is through Morrissey Boulevard which is already to access. The Proposed Project provides only 185 parking spots for 150 units, average family uses 2 cars = 300+ parking spots needed.

Response

Refer to response to Comment 6.13.

Comment 24.4

Noise & vibrations due to construction & trucks will impact neighborhood & ACEC wildlife.

Response

Refer to response to Comment 16.10 regarding vibration. A draft Construction Management Plan is provided in Chapter 6, *Environmental Protection*.

Comment 24.5

The project design is incompatible with historic Port Norfolk Neighborhood homes & building & natural ACEC area.

Response

See responses to Comments 22.1-22.3.

Letter 25: Frank Kodzis

Comment 25.1

First; The traffic generated by this project is clearly a major obstacle, not only for the egress from the property into the neighborhood but the environmental impact of water run off into the bay from the excess vehicles on the small property. A solution is to limit the amount of cars onto the property. I highly recommend that your agency request from the developer a separate independent traffic engineer to review all traffic plans submitted by the developer. This would ensure the confidence of the neighborhood in accurate data. A development of this scale should automatically require a third party study.

Response

Refer to Chapter 5, *Transportation* for a comprehensive analysis of traffic and transportation aspects of the reduced Project program.

Comment 25.2

Second; The history of this parcel of land dates back to the early 19th century where it was used as a nail manufacture and boat building. Both industries used hazardous material to produce their product. It has been used as a boat yard repair service going back as far as I can remember for 60 years. This service also produces hazardous waste. At the very minimum your agency should require sampling of the soil in all parts of the parcel. Not requiring this would be considered a serious fault. The new Finnagan park that was just open on the south side of Port Norfolk had this requirement. It would be imperative that the developers are held to the same standard.

Response

McPhail

Since the 1950's, the Project Site has been primarily utilized as a marina for recreational boats and yachts. However, prior to this time period, the subject site was utilized as a shipyard and a nail manufacturer, the operations of which included coal gas manufacturing. The storage and use of petroleum products have been documented at the subject site since the mid-1800's. The historical usage and storage of various petroleum products have resulted in releases of petroleum hydrocarbons, petroleum related constituents and non-aqueous phase liquid (NAPL) to soil and groundwater at the subject site. A release of petroleum was first discovered at the site in March 1981, at which time a Notice of Responsibility was issued to Norwood Marine (a previous site owner) by the U.S. Coast Guard. Currently, these releases of petroleum products are collectively being managed

under RTN 3-12654 which was assigned by the Massachusetts Department of Environmental Protection (DEP) in 1995. The area affected by RTN 3-12654 occupies the northeastern portion of the Project Site.

Response actions associated with RTN 3-12654 are being conducted under the Phase V Remedy Operation Status (ROS) provisions of the MCP. Response actions that have been performed under the Phase V ROS include the biannual analysis of groundwater within the area of the release site as well as the injection of potassium permanganate as deemed necessary. However, the most recent injection of potassium permanganate was performed by the previous owner in July 2015.

Based upon the results of soil and groundwater testing that have been obtained over the past 20 years, the release is not considered to be migrating from the northeastern portion of the Project Site. In addition, contaminated soil is located at depths ranging from eight to 14 feet below ground surface which generally corresponds to the surface of groundwater. As a result, the potential for human exposure to contamination is not considered to currently exist at the release site.

Remedial actions will be implemented as part of construction of the Project. It is anticipated that these remediation activities will achieve a Condition of No Significant Risk and a Permanent Solution for the release site. The remediation will be performed under a Release Abatement Measure Plan that will be prepared and implemented in accordance with 310 CMR 40.0442(3) of the MCP and DEP Policy #WSC-00-425 "Construction of Buildings in Contaminated Areas" to address the requirements for construction of structures within the release site.

Prior to construction, additional testing will be performed to pre-characterize shallow fill material for off-site removal in anticipation of the proposed scope of construction. Additional testing will also be performed on existing soils that may remain in place after construction. Utilizing the results of this soil testing, a Risk Characterization will be prepared to evaluate risks to current and future human receptors (i,e workers, nearby residents and future site occupants) that may be exposed to levels of metals once the fill material is uncovered and/or excavated as well as those that may remain at the site after construction.

Letter 26: Freda Manning

Comment 26.1

Traffic and Parking: This project almost doubles our population of Port Norfolk. The impact on traffic would be unbearable. As a peninsula, we have only two ways to exit. Almost every street in the neighborhood except at the diamond is one way traffic at peak travel times. Walnut St., Redfield St., Lawley St., Rice St., Woodworth St., and Lorenzo St. two cars cannot pass each other at peak times and one must pull over in the hard to find spaces on the side of the rode. Often on Woodworth hill one should remain at top or bottom of hill if another car is on the street because with all the parked cars there is no space to pull over.

To exit out by the beach is going to become more difficult with the changes being made with the suggested Morrisey Blvd. project and the loss of turn around across from Phillips Candy house. We will no longer have quick access to the Expressway heading South. Going North the traffic on the future two lane Morrisey Blvd. during school season will back up to the beach.

Response

Refer to Section 5.3.2 of Chapter 5, *Transportation* for details of updated trip generation for the reduced Project program and Section 5.6 for discussion of potential improvements to neighborhood streets and connections to Morrissey Boulevard.

Comment 26.2

With the traffic comes the problems of parking. The project is asking for way too many units and not enough parking spaces. The overflow would then park on our already too congested streets. We do not want to be another South Boston driving around to find a parking space. Our section of Walnut St., the middle section, every night has 2-3 cars parked illegally on the sidewalks. How will emergency vehicles be able to get by. This has been a problem before this project was even in the picture.

Response

Refer to Section 5.3.2 of Chapter 5, *Transportation* for updated trip generation for the reduce Project program and Section 5.4 for updated parking ratios. Potential improvements to neighborhood streets are presented in Section 5.6, including potential signage and striping to control parking near corners in order to improve fire access and improved sight-lines for pedestrians and drivers. The Proponent has net with the Boston Fire Department to discuss emergency access.

Comment 26.3

During construction, the large vehicles bringing product in and out is also concerning. Any car wishing to use the street would have to wait for the vehicle to go the by.

Response

Refer to Section 5.6 of Chapter 5, *Transportation* for discussion of potential improvements to neighborhood streets including potential changes to Lawley Street to address the constraints in its width.

Comment 26.4

Water and Sewer: As one of the oldest sections of Dorchester we have great concerns if the infrastructure can support a project of this size.

Response

Refer to response to Comment 16.5

Comment 26.5

Building and Construction: We are on the water and with all the construction the worry of a rodent problem is disconcerting.

Response

Refer to Section 6.9 of Chapter 6. *Environmental Protection,* for a draft Construction Management Plan. The Project will meet all requirements established under the State Sanity Code, Chapter 211, 105 CMR 410.550 and the State Building Code, Section 108.6, and City of Boston Policy Number 87-4. The Proponent will prepare and adhere to a rodent control program prior to demolition and on a regular basis throughout the duration of construction.

Comment 26.6

Hotel: More traffic! More parking issues. With two hotels within two city blocks from Tenean Beach and one just over the bridge at the other end of the Port is it necessary?

Response

The hotel has been eliminated from the Project.

Comment 26.7

Height: In our area, most of buildings are residential. The maximum height is four floors and they are rare most are only two. The buildings suggested do not conform to the neighborhood aesthetics.

Response

A great deal of effort has gone into redesigning the development to adjust building heights and be more respectful of the neighborhood. Proposed building heights have been reduced and building massing has been arranged to reduce visibility from the neighborhood.

Comment 26.8

*Green Space * Optional Projects: We have plenty of open space with Finnegan Park, Tenean Beach, playground, tennis courts and basketball courts and kayak launch at the Granite Ave end of park. This will only cause more traffic for our streets. Hotels, restaurants, active marina will make it a destination place for people outside of Port Norfolk and no parking for them again causing them to be parking on our congested streets.*

Response

The Hotel and Restaurant have been removed from the development and the parking ratio has increased since the original filing.

Comment 26.9

I have noticed an increase of birds in the last decade or so with the cleaner water. Will the height of the building influence migrating birds?

These buildings will also block the city view.

Response

Refer to response to Comment 15.5.

The redesigned development has been laid out in a way that maintains and reinforces many view corridors and provides much better access to the waterfront.

Comment 26.10

Dredging and Marina: Our neighborhood has had many environmental issues over the decades and we don't want more. Dredging will bring out the PCB's which will impact local fish and wildlife.

Response

Refer to Chapter 8, *Wetlands and Waterways,* for additional detail on the proposed maintenance dredging and associated impacts of the proposed in-water work.

Comment 26.11

Foot & Bike Path Bridge: I loved this idea originally but it would just become a distant parking lot for the residents and visitors of the new development.

Response

Based on input received from the community during the review of the ENF/PNF, the pedestrian bridge over Pine Neck Creek has been eliminated from the Project design.

Letter 27: Joseph P. McDermott

Comment 27.1

The existing infrastructure of Port Norfolk, particularly the antiquated sewerage system and the existing narrow streets are barely capable of handling the today's demand of use. Some of my neighbors are currently experiencing sewerage backups. "The Project", as now proposed, would nearly double the number of residential units in Port Norfolk. Could existing sewerage backups turn into future raw sewerage spillage into Dorchester Bay/Tenean Beach? I would rather not take that gamble. "The Project", as now proposed, would potentially more than double the number of vehicles in out of Port Norfolk.

Response

Refer to response to Comment 16.5.

Comment 27.2

The peninsula of Port Norfolk, according to neighbors who know more than me, is part of an ACEC. "The Project", as now proposed, will further encroach on the area of critical environmental concern, and would create more potential environmental concerns, such as raw sewerage spills previously mentioned; the scale of "The Project", as now proposed, because of its height and massing, would affect the surrounding areas, including Tenean Beach and Pine Creek.

Response

Refer to Chapter 8, *Wetlands and Waterways*.

Comment 27.3

"The Project", as now proposed, in my opinion, is insensitive to the history of Port Norfolk. The scale and massing of the project does not fit into the fabric and history of Port Norfolk.

Response

The redesigned develop takes many ques from the history of Port Norfolk and the buildings have been scaled to fit into the fabric of the immediate surroundings.

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Letter 28: Naomi Frye

Comment 28.1

The impact these buildings/structures will have on the neighborhood will not benefit the current residents of Port Norfolk. The traffic is already a nightmare on the weekends!

Response

Refer to Chapter 5, *Transportation* which includes a comprehensive traffic analysis of potential Project impacts and possible improvements.

Comment 28.2

From the beach perspective this will hurt the current structure of this tiny quaint beach, ruining any views and causing more pollution. We do NOT NEED this.

Response

The buildings on the West part of the site (nearest to Tenean Beach) are in approximately the same location at the existing buildings. The massing of the buildings have been designed to minimize their impact on the views from the beach.

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Letter 29: S.T. Nolan

Comment 29.1

**Comment not legible* [but understand there is concern with 1,500 cars per day]*

Response

Refer to Section 5.3.2 of Chapter 5, *Transportation* for details of revised trip generation for the reduced Project program.

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Letter 30: Edward Roche

Comment 30.1

An already problematic sewer system will cause more backup into homes.

Response

Refer to response to Comment 16.5.

Comment 30.2

The traffic is bad enough this project will create more traffic only way in and out is through Morrisey Boulevard which is already difficult to access not enough parking.

Response

Refer to Section 5.6 of Chapter 5, *Transportation* which presents potential improvements to address these existing issues.

Comment 30.3

Also, the project will overwhelm the Port Norfolk Neighborhood & Dorchester Waterfront.

Response

The Project endeavors to minimize impacts on the neighborhood to the extent feasible and enhance the area through considerable public benefits and environmental improvements.

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Letter 31: Edward Roche

Comment 31.1

Construction: How will the developers handle construction equipment? During each meeting, I have asked that question, without receiving an answer. Port Norfolk is comprised of three very narrow streets, which can be challenging to enter and egress on a good day let alone a day with snow or heavy traffic from the Venezia Restaurant, adjacent to the property in question. We really can't face bulldozers and dump trucks every time we try to go to work in morning. A question that has been asked several times is in regard to first responders. What will happen when fire, police or ambulances are called during the construction process?

Response

Refer to Section 6.9 of Chapter 6, *Environmental Protection* for details of the Construction Management Plan for the Project.

Comment 31.2

Overall design of the project: The overall design of the property is completely out of context with the neighborhood. The buildings have nothing to do with the overall architecture of the neighborhood and appears to have been designed by someone who has never seen Port Norfolk and quite frankly, does not care about the aesthetics of the neighborhood. We do not need a dog park, and we do not need a playground. This should not be a destination with the traffic that comes with that. We have those at Tenean Beach; honestly those so called amenities were meant as appeasements for the neighborhood. While I am not an architect, I do understand the importance of a cohesive neighborhood in relation to architecture. If the project in question were redesigned in to more appropriately fit into the neighborhood it would be welcomed.

Response

The development has been redesigned and considers much of the feedback from the community. Much of the "destination" program has been eliminated from the program including the hotel, restaurant, kayak storage, and dog park. The architecture of the development is heavily inspired by the rich history of the port.

Comment 31.3

Traffic: I understand this issue has been raised several times. But I would like to reiterate that concern. Currently, we have an overabundance of traffic in the neighborhood, especially on the weekends. I would like to express my deep concern about the excessive speed in which non-residents travel down these already jammed,

narrow streets. We have young children exiting Finnegan Park and drivers speeding down Walnut Street appear to have little regard for the safety of children or other residents of Port Norfolk. With that in mind, having an addition of a 25-room hotel, 150 new townhomes is extremely troubling and overwhelming. Marinas and Hotels are 24/7 businesses, our neighborhood cannot possibly accommodate that kind of traffic. You can see the effects of hotel traffic in downtown Boston, what kind of effect will that have on a small neighborhood with only three narrow streets?

Response

Refer to Section 5.6 of Chapter 5, *Transportation* which presents potential improvements to address these existing issues.

13

Response to PNF Comments

This chapter presents responses to the BPDA Scoping of Determination on the PNF, as well as all public comments received on the PNF. Copies of the Scoping of Determination, and each comment letter received during the public review period of the PNF are included in Appendix I. These letters are addressed in Section 13.1. Each letter is assigned a number, as listed in Table 13-1. Where appropriate, reference is made to corresponding section of the DEIR/DPIR.

The MEPA ENF Certificate and comments on the ENF are presented in Appendix H and addressed in Chapter 12, *Response to ENF Comments*.

Table 13-1 List of PNF Comment Letters

Letter No.	Commenter	Affiliation	Date Received
ENF Comments			
SD		Boston Planning & Development Agency	January 12, 2018
1	John P. Sullivan	Boston Water and Sewer Commission	August 10, 2017
2	John Dalzell	Interagency Green Building Committee	January 11, 2018
3	Kerry Snyder	Neponset River Watershed Association	August 15, 2017
4	Jill Valdez Horwood	Boston Harbor Now	October 1, 2017
5	Neponset Greenway Council	Neponset River Greenway	September 22, 2017
6	Wendy Landman	WalkBoston	September 29, 2017
7	Frank Kodzis	Residents of Port Norfolk	September 25, 2017
8	Stephen G. White	Port Norfolk Yacht Club	September 28, 2017
9	John J. Lyons	Port Norfolk Civic Association	October 4, 2017
10	Jason Berry	Resident	October 1, 2017
11	Maria Lyons	Resident	September 19, 2017
12	Stewart Roach	Norwood Yacht Sales	n/a
13	J. Edward Roche	Resident	September 29, 2017

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BPDA Scoping Determination

Comment SD.1

Development Team

(1) Names

(a) Proponent (including description of development entity and type of corporation, and the principals thereof)

(b) Attorney

(c) Project consultants and architect(s)

(2) Business address, telephone number, FAX number and e-mail, where available for each

(3) Designated contact person for each

Response

Refer to Section 1.6 of Chapter 1, *Project Description*.

Comment SD.2

Legal Information

(1) Legal judgements or actions pending concerning the Proposed Project

(2) History of tax arrears on property owned in Boston by Applicant

(3) Evidence of site control over project area, including current ownership and purchase options, if any, for all parcels in the Proposed Project, all restrictive covenants and contractual restrictions affecting the Proponent's right or ability to accomplish the Proposed Project, and the nature of the agreements for securing parcels not owned by the Applicant.

(4) Nature and extent of any and all public easements into, through, or surrounding the site.

Response

Refer to Section 1.7 of Chapter 1, *Project Description*.

Comment SD.3

Project Area

a. An area map identifying the location of the Proposed Project

b. Description of metes and bounds of project area or certified survey of the project area.

c. Current zoning

Response

Refer to Figure 1.1 for site locus, Appendix C for metes and bounds, and Section 1.5.1 of Chapter 1, *Project Description*, for current zoning.

Comment SD.4

The DPIR shall contain a full description of the Proposed Project and its components, including its size, physical characteristics, development schedule, costs, and proposed uses. This section of the DPIR shall also present analysis of the development context of the Proposed Project. Appropriate site and building plans to clearly illustrate the Proposed Project shall be required.

Response

Refer to Chapter 1, *Project Description*.

Comment SD.5

A description of alternatives to the Proposed Project that were considered shall be presented and primary differences among the alternatives, particularly as they may affect environmental and traffic/transportation conditions, shall be discussed.

Response

Refer to Chapter 2, *Alternatives Analysis*.

Comment SD.6

a. Anticipated employment levels including the following:

(1) Estimated number of construction jobs

(2) Estimated number of permanent jobs

b. Current and/or future activities and programs which benefit the host neighborhood, adjacent neighborhoods of Boston and the city at large, such as; child care programs, scholarships, internships, elderly services, education and job training programs, public realm/infrastructure improvements, grant programs, etc.

c. Other public benefits, if any, to be provided.

Response

Refer to Section 1.3 of Chapter 1, *Project Description*.

Comment SD.7

A list of meetings held and proposed with interested parties, including public agencies, abutters, elected officials, businesses, and community groups.

Response

Refer to Section 1.4 of Chapter 1, *Project Description*.

Comment SD.8

Names and addresses of project area owners, abutters, and any community or business groups which, in the opinion of the applicant, may be substantially interested in or affected by the Proposed Project.

Response

The Port Norfolk community is a small, close-knit, and unique neighborhood with a distinct character and a rich history. All area owners, abutters, and community/businesses groups have an interest in this Project, and the Proponent will continue their ongoing effort to engage and listen to the entire community.

Comment SD.9

An updated listing of all anticipated permits or approvals required from other municipal, state or federal agencies, including a proposed application schedule shall be included in the DPIR.

Response

Refer to Section 1.5.3 of Chapter 1, *Project Description*.

Comment SD.10

A statement on the applicability of the Massachusetts Environmental Policy Act ("MEPA") should be provided. If the Proposed Project is subject to MEPA, all required documentation should be provided to the BPDA, including, but not limited to, a copy of the Environmental Notification Form, decisions of the Secretary of Environmental Affairs, and the proposed schedule for coordination with BPDA procedures.

Response

This submission is a joint filing with MEPA and the BPDA, as was the initial ENF/PNF filing.

Comment SD.11

In addition to the information required to meet the specifications of Section 80B-3 and Section 80B-4 of the Code, the Proponent must also refer to the BTD "Transportation Access Plan Guidelines" in preparing its studies.

The Proponent must address the comments outlined by the BPDA's Transportation, Urban Design and Planning Departments, included in Appendix A.

Proposed transportation network and infrastructure improvements/mitigation in the impacted area should also be listed and explained in this component.

Response

Refer to Chapter 5, *Transportation.*

Comment SD.12

The DPIR must address the comments of the BPDA Climate Change and Environmental Planning Department, included in Appendix A and must include the most up to date documents required by the Article 37/ Interagency Green Building Committee ("IGBC").

The DPIR should include the most up to date Article 37 Interagency Green Building Committee ("IGBC") documentation.

Response

Refer to Chapter 3, *Sustainability/Green Building and Climate Change Resiliency*.

Comment SD.13

In addition to the information required to meet the specifications of Section 80B-3 and Section 80B-4 of the Code, the Proponent must address the comments outlined by the BPDA's Transportation, Urban Design and Planning Departments, included in Appendix A.

Response

Refer to Comments SD.18-SD.49 and the corresponding responses below.

Comment SD.14

An infrastructure impact analysis must be performed. The Proponent should continue to work with the City of Boston Public Works Department ("PWD"), Boston Water and Sewer Commission ("BWSC"), and the Boston Groundwater Trust ("BGWT") (if applicable) on infrastructure impacts.

The standard scope for infrastructure analysis is outlined in the comment letter submitted by John P. Sullivan, Chief Engineer and Operations Officer, BWSC, submitted to the BPDA on June 30, 2017, included in Appendix A.

Any proposed or anticipated infrastructure improvements/mitigation in and around the Project Site should also be listed and explained in this component.

Response

The Project Team met with John Sullivan and Mike Nelson of the Boston Water and Sewer Commission ("BWSC") to discuss the Project's impacts to the existing infrastructure. John Sullivan confirmed that the sewer lines in the Port Norfolk neighborhood can handle the proposed increase in sewage generation and stated in an email to the team on March 9, 2018, that the BWSC is currently designing the replacement of water and sewer mains in the neighborhood and plans to award a contract for construction in August/September 2018. John Sullivan also requested that any resident undergoing issues with their sewer service to please reach out to the BWSC.

Comment SD.15

The Proponent will be responsible for preparing and publishing in one or more newspapers of general circulation in the City of Boston a public notice of the submission of the DPIR to the BPDA as required by Section 80A-2. This notice shall be published within five (5) days of the receipt of the DPIR by the BPDA. Therefore, public comments shall be transmitted to the BPDA within seventy five (75) days of the publication of the notice. A draft of the public notice must be submitted to the BPDA for review prior to publication.

Response

The Proponent will comply with these requirements.

Comment SD.16

The Proposed Project must comply with the Mayor's Executive Order regarding the Inclusionary Development Policy ("IDP") executed on December 10, 2015 ("IDP"). The DPIR should include the approximate number of IDP or income restricted units to be created, the incomes of the households, and the anticipated unit mix.

Response

The Project will comply with IDP requirements for affordable housing opportunities, as applicable.

Comment SD.17

As part of the DPIR, the Proponent must include an up to date and completed Article 80 Accessibility Checklist for the Proposed Project. An Accessibility Checklist is attached as Appendix D.

Response

Refer to Appendix B for an updated and completed Accessibility Checklist.

Comment SD.18

The proposed uses under consideration are mostly compatible with the existing neighborhood fabric but the proponent should consider how to best scale the residential uses so that they respect the existing residential fabric and unique architectural character of Port Norfolk. In addition, the proponent should consider whether the hotel uses are truly compatible with the neighborhood. The proponent should explore ways for the supportive retail, entertainment, and marina uses to be more of a neighborhood asset.

Response

The updated design no longer includes a hotel in the development and the buildings have been redesigned to better reflect the character of Port Norfolk.

Comment SD.19

The project site itself presents a unique opportunity for the open space of the site to not only be a considerable recreational amenity but also a strategy to strengthen the climate resiliency of the neighborhood. The proponent should also be sure to design the open space so that it strengthens the relationship of the project and neighborhood to the waterfront.

Response

The updated design has pulled the buildings away from the water's edge and strengthens the port's connection to the waterfront. Much consideration has been given to the resiliency of this site. Refer to Section 4.4 of Chapter 4, *Sustainability/Green Building Design and Climate Change Resiliency*.

Comment SD.20

It is imperative that the Proponent continues to actively engage the community and consider the larger planning and development impacts to the neighborhood.

Response

The Proponent will continue to actively engage the community and consider the larger planning and development impacts to the neighborhood.

Comment SD.21

Peak hour analysis of the "gateway" intersections on Morrissey Boulevard is needed, including the following:

- *Walnut Street at Morrissey Boulevard*
- *Redfield Street at Morrissey Boulevard*
- *Redfield Street at Woodworth Street*
- *Freeport Street at Morrissey Boulevard*
- *Tenean Street at Morrissey Boulevard*

The analysis should reflect the distribution of trips in and out of the neighborhood based on existing traffic counts, and should include both existing and future conditions both with and without the proposed project.

Response

Refer to Sections 5.4 and 5.5of Chapter 5, *Transportation* for existing counts and future traffic volumes, respectively.

Comment SD.22

Additionally, analysis should focus on evaluation of actual traffic and pedestrian operations on the neighborhood streets and intersections and identify potential improvements, informed by actual traffic volumes. Peak period data collection for this evaluation should include the following intersections:

- *Lawley Street at Water Street*
- *Lawley Street at Ericsson Street*
- *Port Norfolk Street at Water Street*
- *Port Norfolk Street at Ericsson Street*
- *Walnut Street at Water Street*
- *Walnut Street at Ericsson Street*

Daily ATR counts should also be collected for Lawley Street, Port Norfolk Street and Walnut Street to understand the patterns of use in providing access for the neighborhood and for the "wharf" areas north of Ericsson Street.

Response

Refer to Sections 5.4 and 5.5of Chapter 5, *Transportation* for existing counts and future traffic volumes, respectively.

Comment SD.23

Finally, potential improvements should be explored, including, but not be limited to, the following:

- *Intersection control and potential signalization*
- *Potential circulation changes*
- *Pedestrian improvements*
- *Striping and signage*
- *"Slow Street" improvements*
- *Parking management*
- *Car sharing and bike-share*
- *Transit enhancement opportunities*
- *TDM strategies*

Response

Refer to Section 5.6 of Chapter 5, *Transportation* for discussion of potential improvements for discussion with BTD and the community.

Comment SD.24

The proponent should consider access changes to minimize impacts on local streets. Could the Lawley Street access drive be one-way in and the Port Norfolk access drive be one way out? This would create a "circuit breaker" condition at Port Norfolk Street which is the street with the most existing residences.

Alternatively, could the Lawley Street access drive be a 2-way "shared street" condition that would allow for eliminating an internal site connection to the Port Norfolk Street access drive? With the existing Venezia Restaurant traffic primarily on Walnut Street, accommodating the new traffic generated from the project on Lawley Street would better balance network volumes among the three streets.

Regardless, the proponent should explore, design, and implement approved potential "Slow Streets" type interventions for existing streets to calm traffic and improve safety.

Response

Separate entry and exit driveways are not feasible due to the need to accommodate deliveries and emergency vehicles on the site, and the constraints of connecting the driveways within the site for larger vehicles.

Due to the width restrictions of the site driveway at the end of Lawley Street, two-way site access at this location is not feasible.

Refer to Figures 5.10a and 5.10b for the assignment of Project trips to neighborhood streets, and Figures 5.12a and 5.12b for a comparison of existing and future volumes on these streets.

Refer to Section 5.6 of Chapter 5, *Transportation* for a description of potential improvements to neighborhood streets which include traffic calming and safety improvements to be developed in collaboration with BTD and the Community.

Comment SD.25

Committing to more local small-scale commercial uses that only serve the site and immediate neighborhood would help to limit new trips from outside the neighborhood.

Response

The Project program has been reduced to include only limited retail space that will not be a destination attracting vehicle trips.

Comment SD.26

As discussed with the proponent, a publicly accessible shuttle service to the Red Line should be explored with the community. Several potential partners in addition to Venezia include Neponset Landing in Quincy (for service to North Quincy Station) and the hotels and associated businesses on Freeport/Tenean Streets. The proponent should analyze the feasibility of water transportation to and from the site.

Response

As discussed in Section 5.5 of Chapter 5, *Transportation*, the Transportation Demand Management plan includes commitment for the Proponent to work with other stakeholders to explore shuttle opportunities.

Comment SD.27

Car share (e.g. Zipcar) options on site should be evaluated. These vehicles should be available to tenants, hotel guests, and employees. Adequate space should also be provided on site for transportation network companies such as Lyft/Uber.

Response

Refer to Section 5.5 of Chapter 5, *Transportation* for a description of the Transportation Demand Management plan which includes potential car-share strategies.

Comment SD.28

At the August hearing, while the Commission was receptive of the project as a whole they had a number of concerns. They questioned the massing strategies employed. Combining the boat storage and housing uses into a single structure (Building C & D),

for example, creates a large structure that is out of scale with the surrounding context. Building A, with its parking deck projecting out beyond the housing above, also creates a larger footprint that doesn't relate to the rest of the development in the area. The Building that was well received was Building B. This building has a single use, a clear footprint, and is of a scale that better integrates with its surrounding buildings. There were some questions about the programing which might be contributing to the scale of the buildings.

Response

The massing and use of the buildings have been simplified, each building has its own use, and the massing of the buildings has been redesigned to better match the surrounding buildings.

Comment SD.29

The site plan had several comments. The commission was interested in the approach to the site and sought more information on this. They did recognize the neighborhood issue of the traffic and the path of travel to the site. There was some discussion on the balance of open space and building footprint. Other areas that need further study were views (corridors, looking from and into the site, etc.)

Response

The balance between open space and building footprint and views has been strongly considered in the redesign of the development. Refer to Chapter 1, *Project Description*, for a summary of the changes which have been implemented to address some of the comments received from the community.

Comment SD.30

Resiliency was the last topic discussed and the Commission was looking for more info on this.

Response

The developments resiliency strategy has been developed further and more information has been provided. Refer to Section 4.4.3 of Chapter 4, *Sustainability/Green Buildings and Climate Change Resiliency*.

Comment SD.31

The DPIR should explore options that include single-use buildings with narrower footprints that have a scale that better conforms to the area.

Response

The Project has been modified to include single use buildings with narrower footprints that have a scale that better conforms to the area.

Comment SD.32

The program should be reevaluated and revised to be less of a destination but be more supportive of the existing neighborhood.

Response

Refer to Table 1-1 in Chapter 1, *Project Description*, for an updated program table which reduces the level of destination programming. The open space has also been revised to include a more passive landscape design.

Comment SD.33

Finally, the DPIR should include a revised site plan that balances building footprints with open space and takes into consideration the approach to the site, view into and from the site, view corridors, etc.

Response

Refer to Figure 1.4 in Chapter 1, *Project Description*, for an updated site plan. The update plan balances building footprints with open space and takes into consideration and improves the approach to the site for development residents as well as neighborhood residents. The views to Boston and the water have been expanded and improved upon.

Comment SD.34

The top of water elevation for such an event in the Port Norfolk district would be approximately 19.7 feet Boston City Base (BCB). The proponent has indicated that they will establish a finish floor elevation of 21-feet BCB in FEMA AE Zones and 25-feet BCB in the FEMA VE zone. The checklist freeboard elevations of 20.7 and 21.7 BCB are within the general range of what is proposed. The proponent should also explore extending site elevations to those datum, as over time the coastal storm inundation elevation will become more frequent high-tide elevation with sea level rise.

Response

Refer to Section 4.4 of Chapter 4, *Sustainability/Green Building Design and Climate Change Resiliency*. The Project endeavors to balance site resiliency and connection to the waterfront, while maintaining the ability to remain adaptable for future conditions.

Comment SD.35

Marina infrastructure should be designed to meet or exceed the 25-feet elevation in the FEMA Velocity Zone to ensure docks and ramps can withstand storm surge. If the wave attenuator is maintained around the marina those elevation datum should also be considered.

Response

The marina mooring piles will be designed to allow the floats to travel through the full water level range which will be experienced at the site consistent with Boston's suggested resiliency levels. The float access ramps will be designed for the full range of vertical movement which may occur during the water level changes. The fixed piers will be designed for anticipated submergence during major storm events.

Comment SD.36

The project will also be subject to the state's Chapter 91 Waterways Regulations. It is our understanding the project will conform with the non-water dependent dimensional and use standards of the regulations. New publicly accessible open space areas must be designed to read intuitively to the surrounding community as public, not private, open space, including view corridors to the water and access to waterside ramps and docks.

Response

Refer to Section 8.4 of Chapter 8, *Wetlands and Waterways*. The Project has been modified so that nonwater-dependent uses are no longer located within tidelands. Although the standards at 310 CMR 9.53 no longer apply, the Project open space will be designed to read intuitively as public with view corridors to the water. Portions of the waterside structures, including the Community Pier, will be accessible to the public; however, like most marinas, floating docks will be restricted to marina members and guests for security and safety purposes.

Comment SD.37

A public touch-and-go dock that can serve as a water taxi pick up and drop off location should also be included as part of the project along with other public amenities along the waterfront to facilitate public use including seating, fish cleaning areas, wayfinding signage, lighting, and observation areas.

Response

Seating, wayfinding signage, lighting, and observation areas will be included as part of the Project. Fish cleaning stations and bait cutting stations are being considered, but are dependent upon further coordination with DEP and the Division of Marine Fisheries. The Working Pier can be utilized by the public for touch-and-go water taxi

pick up and drop off, however, given the distance to Boston and easterly exposure, it is not anticipated that this will be a heavily utilized mode of travel.

Comment SD.38

Facilities of Public Accommodation should address local resident interests and needs and those of water dependent uses.

Response

The Project has been modified so that nonwater-dependent uses are no longer located within tidelands. While the standards at 310 CMR 9.53 no longer apply, the Project Team has modified the public uses based on input from local resident.

Comment SD.39

All in-water work, marina rehabilitation and management should be consistent with the Neponset River Estuary Area of Critical Environmental Concern Resource Management Plan. Project stormwater management infrastructure and plant species included in the landscape plan should also be responsive and sensitive to the ACEC designation and any related performance standards.

Response

Refer to Section 8.3 of Chapter 8, *Wetlands and Waterways.*

Comment SD.40

The PNF indicates that the project will use the LEED v4 BD&C New Construction rating system. Additionally, the project team should commit to:

1. Achieving a minimum green building outcome of LEED Silver and striving to achieve LEED Gold for all buildings.

2. Reducing carbon impacts by improving the performance of the all buildings with a prioritization on passive building strategies.

3. Installing solar PV on all buildings.

The IGBC accepts the rating system selection and green building commitments.

Response

All buildings are tracking in the mid silver range for LEED v4 BD&C New Construction. We are tracking a series of study credits that depending on project impact and cost may be able to get us into the Gold threshold. Among these measures are a full PV analysis for the site. Careful orientation and envelope design are a big part of our energy reduction strategy as reflected in our current energy performance.

The following outlines the current point achievement for each building.

- Residential Building A- 54 Yes, 24 Maybe
- Residential Building B- 55 Yes, 19 Maybe
- Residential Building C- 55 Yes, 19 Maybe
- Marina Building D- 53 Yes, 22 Maybe

Comment SD.41

The PNF indicates the project team's awareness of utility and state-funded energy efficiency and clean/renewable energy programs. Please engage the utilities as soon as possible and provide information on any energy efficiency assistance and support that might be afforded to the project.

Response

We plan to take advantage of the many incentives provided by the MASS Save Program. We will be working with ICF international to identify all opportunities for energy efficiency.

Comment SD.42

The PNF includes the parameters for a whole building energy model. To maximize benefits of building energy modeling, Preliminary Energy Modeling should be included in the schematic planning and design phases. Please provide a Preliminary Energy Model and information on how energy modeling will be integrated into the preliminary, schematic, design development, and construction document phases of project planning.

Response

Chapter 7, Section 7.3 discusses the inputs and results of the preliminary energy modeling conducted for the Project.

Comment SD.43

In support of Boston's Carbon Neutral 2050 GHG goal, please include the following strategies for reducing GHG emissions:

1. Prioritize passive strategies such as improved building envelope performance by increasing building envelope air tightness and insulation.

2. Ensure active building systems are appropriately sized for improved passive performance and cost savings are fully captured.

3. Continue to assess the feasibility of CHP. Please provide system information. Additionally the project team should analyze opportunities for on-site battery

energy storage systems for reducing peak electrical loads and providing secure energy services for occupants.

4. Please provide solar PV system(s) location, size, and output information along with any related analysis.

Response

Chapter 7, Section 7.3 reviews the feasibility of clean and renewable energy systems for the Project. Additionally, the potential for the incorporation of passive design strategies is assessed.

Comment SD.44

The Proponent has stated the Proposed Project will have a maximum height of approximately 86 feet, thus the Proponent shall not be required to conduct a quantitative (wind tunnel) analysis but, shall be required to conduct a qualitative analysis of the pedestrian level winds (PLW) conditions. The analysis shall include public and other areas of pedestrian use, including entrances to adjacent buildings, sidewalks, and pedestrian walkways adjacent to and in the vicinity of the Proposed Project, and existing and proposed open spaces in the vicinity of the Proposed Project.

For areas where wind speeds are projected to exceed acceptable levels, measures to reduce wind speeds and to mitigate potential adverse impacts shall be identified.

Response

Refer to Section 6.2 of Chapter 6, *Environmental Protection.*

Comment SD.45

A shadow analysis shall be required for existing and build conditions for the hours 9:00 a.m., 12:00 noon, and 3:00 p.m. for the vernal equinox, summer solstice, autumnal equinox, and winter solstice and for 6:00 p.m. during the summer and autumn. It should be noted that due to time differences (daylight savings vs. standard), the autumnal equinox shadows would not be the same as the vernal equinox shadows and therefore separate shadow studies are required for the vernal and autumnal equinoxes.

Particular attention shall be given to existing or proposed public open spaces, plazas, park areas, sidewalks, pedestrian areas and walkways, adjacent to, and in the vicinity of the Proposed Project. Design or other mitigation measures to minimize or avoid any adverse shadow impact must be identified.

The above shadow analysis shall be required for any alternative to be studied in accordance with Scoping Determination as well as the preferred development option.

Response

Refer to Figures 6.1a-c, 6.2a-d, 6.3a-d, 6.4a-c and Section 6.3 of Chapter 6, *Environmental Protection,* for an analysis of Project-generated shadow.

Comment SD.46

The Proponent shall be required to conduct a noise assessment to analyze the potential noise impacts that may occur during construction and as well as during the subsequent occupancy/operation of the Proposed Project. The noise assessment shall include monitoring of the existing sound levels as well as calculations of future sound levels associated with the Proposed Project's mechanical equipment including, but not limited to exhaust fans, cooling towers and emergency generators. Additionally, an evaluation of the study area shall identify sensitive receptor locations, locations with outdoor activities, which may be sensitive to noise associated with the Proposed Project.

The Proponent shall be required to demonstrate that the Proposed Project complies with all applicable City of Boston, Massachusetts and Federal (including Housing and Urban Development noise standards) regulations and guidelines.

Response

Refer to Section 6.4 of Chapter 6, *Environmental Protection*, for a quantitative analysis of Project noise and demonstration of compliance with the applicable regulations.

Comment SD.47

An evaluation of potential solar glare impact on streets, public spaces shall not be required at this time, as the Proponent has stated that the building materials will include brick, painted brick, concrete, stone, wood, metal, tile, fiber cement clapboards and panels, glass, and metal canopies, and not a facade of reflective coated glass or other highly reflective materials.

Response

The materials selection for the Project continues to assume no highly reflective materials.

Comment SD.48

The Proposed Project is subject to review under the May 5, 2010 Massachusetts Environmental Protection Agency (MEPA) Greenhouse Gas (GHG) Policy. As such the Proponent shall be required to quantify carbon dioxide (CO2) emissions and identify measures to avoid, minimize or mitigate such emissions. The analysis shall quantify the direct and indirect CO2 emissions of the Proposed Project's energy use (stationary sources) and transportation-related emissions (mobile sources). Direct emissions

include on-site stationary sources and indirect emissions result from the consumption of energy, such as electricity, that is generated off-site by burning of fossil fuels, and from emissions from vehicles used by employees, vendors, customers and others.

Response

Chapter 7 quantifies GHG emissions in accordance with the MEPA GHG Policy for both stationary and mobile sources.

Comment SD.49

The Proponent has stated that a release of oil and/or hazardous materials regulated under the M.G.L. chapter 21E, the Massachusetts Contingency Plan (MCP) has occurred at the Proposed Project site. The Proponent has further stated that the 1995 release (Release Tracking Number 3-12654) is associated with a former underground storage tank (UST) containing fuel, in particular petroleum hydrocarbons, petroleum-related constituents and non-aqueous phase liquid (NAPL). The Proponent has stated that groundwater testing results indicate that the contaminants of concern (those associated with the release) fall below the applicable MCP risk characterization standards. However, the Proponent shall be required to provide a comprehensive description of any additional assessment and/or treatment of the MCP release that has been deemed necessary to facilitate an MCP regulatory closure. Additionally, the Proponent shall be required to provide a comprehensive description of any additional assessments of the soil, sediment and groundwater, anticipated to be conducted prior to construction as well as measures designed to remove, treat and/or dispose of contaminated material.

Response

Based upon the collective results of assessment activities completed since 1995, the lateral extent of the RTN 3-12654 site has been determined to be limited to the northeastern portion of the Project Site. The vertical extent of the soil contamination appears to be limited to a depth between 8 and 14 feet below ground surface.

Prior to construction, additional testing will be performed to pre-characterize shallow fill material for off-site removal in anticipation of the proposed scope of construction. Additional testing will also be performed on existing soils that may remain in place after construction. Utilizing the results of this soil testing, a Risk Characterization will be prepared to evaluate risks to current and future human receptors (i,e workers, nearby residents and future site occupants) that may be exposed to levels of metals once the fill material is uncovered and/or excavated as well as those that may remain at the site after construction. The results of the testing will also be utilized to prepare an environmental monitoring plan and establish action levels for dust particulates in ambient air as well as a remediation plan to mitigate future risk to metals in shallow fill material.

Remedial actions will be implemented as part of construction of the Project. A Release Abatement Measure Plan will be prepared and implemented in accordance

with 310 CMR 40.0442(3) of the MCP and DEP Policy #WSC-00-425 "Construction of Buildings in Contaminated Areas" to address the requirements for construction of structures within the release site. The Release Abatement Measure Plan will include provisions for the excavation, management and off-site removal of contaminated soil as well as the pumping and treatment of groundwater during construction. The Release Abatement Measure Plan will also include the above referenced Risk Characterization and an Environmental Monitoring Plan to ensure that the surrounding public is not affected by site contamination during construction.

Letter 1: Boston Water and Sewer Commission

Comment 1.1

Prior to demolition of any buildings, all water, sewer and storm drain connections to the buildings must be cut and capped at the main pipe in accordance with the Commission's requirements. The proponent must then complete a Termination Verification Approval Form for a Demolition Permit, available from the Commission and submit the completed form to the City of Boston's Inspectional Services Department before a demolition permit will be issued.

Response

The project will obtain the necessary permits through the Commission prior to cutting and capping any utility services. Proper approvals and permits through ISD will be obtained before demolition of any buildings begin.

Comment 1.2

All new or relocated water mains, sewers and storm drains must be designed and constructed at CPC Ericsson Street LLC' s expense. They must be designed and constructed in conformance with the Commission's design standards, Water Distribution System and Sewer Use Regulations, and Requirements for Site Plans. To assure compliance with the Commission's requirements, the proponent must submit a site plan and a General Service Application to the Commission's Engineering Customer Service Department for review and approval when the design of the new water and wastewater systems and the proposed service connections to those systems are 50 percent complete. The site plan should include the locations of new, relocated and existing water mains, sewers and drains which serve the site, proposed service connections as well as water meter locations.

Response

Refer to Section 9.2 of Chapter 9, *Infrastructure*.

Comment 1.3

The Department of Environmental Protection (DEP), in cooperation with the Massachusetts Water Resources Authority and its member communities, is implementing a coordinated approach to flow control in the MWRA regional wastewater system, particularly the removal of extraneous clean water (e.g., infiltration/inflow (I/I)) in the system. In April of 2014, the Massachusetts DEP promulgated new regulations regarding wastewater. The Commission has a National Pollutant Discharge Elimination System (NPDES) Permit for its combined sewer overflows and is subject to these new regulations [314 CMR 12.00, section 12.04(2)(d)].

This section requires all new sewer connections with design flows exceeding 15,000 gpd to mitigate the impacts of the development by removing four gallons of infiltration and inflow (I/I) for each new gallon of wastewater flow. In this regard, any new connection or expansion of an existing connection that exceeds 15,000 gallons per day of wastewater shall assist in the I/I reduction effort to ensure that the additional wastewater flows are offset by the removal of I/I. Currently, a minimum ratio of 4:1 for III removal to new wastewater flow added is used. The Commission supports the policy, and will require proponent to develop a consistent inflow reduction plan. The 4:1 requirement should be addressed at least 90 days prior to activation of water service and will be based on the estimated sewage generation provided on the project site plan.

Response

Refer to Section 9.4 of Chapter 9, *Infrastructure*.

Comment 1.4

The design of the project should comply with the City of Boston's Complete Streets Initiative, which requires incorporation of "green infrastructure" into street designs. Green infrastructure includes greenscapes, such as trees, shrubs, grasses and other landscape plantings, as well as rain gardens and vegetative swales, infiltration basins, and paving materials and permeable surfaces. The proponent must develop a maintenance plan for the proposed green infrastructure. For more information on the Complete Streets Initiative see the City's website at http://bostoncompletestreets.org/

Response

Refer to Chapter 3, Urban Design for additional detail on the Project's compliance with the City of Boston's Complete Street Initiative.

Comment 1.5

CPC Ericsson Street LLC should be aware that the US Environmental Protection Agency issued the Remediation General Permit (RGP) for Groundwater Remediation, Contaminated Construction Dewatering, and Miscellaneous Surface Water Discharges. If groundwater contaminated with petroleum products, for example, is encountered, CPC Ericsson Street LLC will be required to apply for a RGP to cover these discharges.

Response

The Proponent is advised. If contaminated groundwater is identified, they will apply for an RGP as required.

Comment 1.6

It is CPC Ericsson Street LLC' s responsibility to evaluate the capacity of the water, sewer and storm drain systems serving the project site to determine if the systems are

adequate to meet future project demands. With the site plan, CPC Ericsson Street LLC must include a detailed capacity analysis for the water, sewer and storm drain systems serving the project site, as well as an analysis of the impacts the proposed project will have on the Commission's water, sewer and storm drainage systems.

Response

Refer to response to Comment SD.14.

Comment 1.7

CPC Ericsson Street LLC must provide separate estimates of peak and continuous maximum water demand for residential, commercial, industrial, irrigation of landscaped areas, and air-conditioning make-up water for the project with the site plan. Estimates should be based on full-site build-out of the proposed project. CPC Ericsson Street LLC should also provide the methodology used to estimate water demand for the proposed project.

Response

Refer to Section 9.5.2 of Chapter 9, *Infrastructure*.

Comment 1.8

CPC Ericsson Street LLC should explore opportunities for implementing water conservation measures in addition to those required by the State Plumbing Code. In particular, CPC Ericsson Street LLC should consider outdoor landscaping which requires minimal use of water to maintain. If CPC Ericsson Street LLC plans to install in-ground sprinkler systems, the Commission recommends that timers, soil moisture indicators and rainfall sensors be installed. The use of sensor-operated faucets and toilets in common areas of buildings should be considered.

Response

The system will be a fully automated and include the appropriate sustainable sensors to mechanically limit the amount of irrigation needed. In addition, the use of native and adaptive plant species will greatly reduce the amount of irrigation required.

Comment 1.9

CPC Ericsson Street LLC is required to obtain a Hydrant Permit for use of any hydrant during the construction phase of this project. The water used from the hydrant must be metered. CPC Ericsson Street LLC should contact the Commission's Meter Department for information on and to obtain a Hydrant Permit.

Response

The Project Team will engage the Commission's Meter Department when the design of the Project is more developed.

Comment 1.10

If water service is to be provided to the proposed docks in the marina, CPC Ericsson Street LLC will be required to install cross connection control devises on the water service. CPC Ericsson Street LLC will also be required to install approved backflow prevention devices on the water services for fire protection, vehicle wash, mechanical and any irrigation systems. CPC Ericsson Street LLC is advised to consult with Mr. James Florentino, Manager of Engineering Code Enforcement, with regards to backflow prevention.

Response

The Project Team will consult with Engineering Code Enforcement regarding backflow prevention when the design of the Project is more developed.

Comment 1.11

The Commission is utilizing a Fixed Radio Meter Reading System to obtain water meter readings. For new water meters, the Commission will provide a Meter Transmitter Unit (MTU) and connect the device to the meter. For information regarding the installation of MTUs, CPC Ericsson Street LLC should contact the Commission's Meter Department.

Response

If additional information is required, the Project Team will contact the Commission's Meter Department.

Comment 1.12

In conjunction with the Site Plan and the General Service Application CPC Ericsson Street LLC will be required to submit a Stormwater Pollution Prevention Plan. The plan must:

- *Identify specific best management measures for controlling erosion and preventing the discharge of sediment, contaminated stormwater or construction debris to the Commission's drainage system when construction is underway.*
- *Include a site map which shows, at a minimum, existing drainage patterns and areas used for storage or treatment of contaminated soils, groundwater or stormwater, and the location of major control structures or treatment structures to be utilized during the construction.*

› *Specifically identify how the project will comply with the Department of Environmental Protection's Performance Standards for Stormwater Management both during construction and after construction is complete.*

Response

The Project Team will submit a Stormwater Pollution Prevention Plan as part of the BWSC Site Plan submission package.

Comment 1.13

Developers of projects involving disturbances of land of one acre or more will be required to obtain an NPDES General Permit for Construction from the Environmental Protection Agency and the Massachusetts Department of Environmental Protection. CPC Ericsson Street LLC is responsible for determining if such a permit is required and for obtaining the permit. If such a permit is required, it is required that a copy of the permit and any pollution prevention plan prepared pursuant to the permit be provided to the Commission's Engineering Services Department, prior to the commencement of construction. The pollution prevention plan submitted pursuant to a NPDES Permit may be submitted in place of the pollution prevention plan required by the Commission provided the Plan addresses the same components identified in item 1 above.

Response

The Project will obtain a NPDES General Permit and will provide a copy of the permit and pollution prevention plan with the Commission's Engineering Services Department.

Comment 1.14

The Commission encourages CPC Ericsson Street LLC to explore additional opportunities for protecting stormwater quality on site by minimizing sanding and the use of deicing chemicals, pesticides, and fertilizers.

Response

The Project Team will explore the additional opportunities.

Comment 1.15

The discharge of dewatering drainage to a sanitary sewer is prohibited by the Commission. CPC Ericsson Street LLC is advised that the discharge of any dewatering drainage to the storm drainage system requires a Drainage Discharge Permit from the

Commission. If the dewatering drainage is contaminated with petroleum products, CPC Ericsson Street LLC will be required to obtain a Remediation General Permit from the Environmental Protection Agency (EPA) for the discharge.

Response

See response to Comment 1.5.

Comment 1.16

CPC Ericsson Street LLC must fully investigate methods for retaining stormwater on-site before the Commission will consider a request to discharge stormwater to the Commission's system. The site plan should indicate how storm drainage from roof drains will be handled and the feasibility of retaining their storm water discharge on-site. Under no circumstances will stormwater be allowed to discharge to a sanitary sewer.

Response

Refer to Section 9.3.2 of Chapter 9, *Infrastructure*.

Comment 1.17

The Massachusetts Department of Environmental Protection (MassDEP) established Stormwater Management Standards. The standards address water quality, water quantity and recharge. In addition to Commission standards, CPC Ericsson Street LLC will be required to meet MassDEP Stormwater Management Standards.

Response

Refer to Section 9.3.3 of Chapter 9, *Infrastructure*.

Comment 1.18

If pump-out stations are to be constructed for the new slips, the wastewater from the pump-out station must be discharged to a sanitary sewer. CPC Ericsson Street LLC is advised to consult with Mr. Phil Larocque, Site Plan Engineer, with regard to connecting the pump-out station to a sanitary sewer.

Response

The Project Team will consult with Mr. Phil Larocque as the design develops.

Comment 1.19

Sanitary sewage must be kept separate from stormwater and separate sanitary sewer and storm drain service connections must be provided. The Commission requires that existing stormwater and sanitary sewer service connections, which are to be re-used by the proposed project, be dye tested to confirm they are connected to the appropriate system.

Response

Refer to Section 9.3.2 and Section 9.4.2 of Chapter 9, *Infrastructure*.

Comment 1.20

The Commission requests that CPC Ericsson Street LLC install a permanent casting stating "Don't Dump: Drains to Boston Harbor" next to any catch basin created or modified as part of this project. CPC Ericsson Street LLC should contact the Commission's Operations Division for information regarding the purchase of the castings.

Response

Refer to Section 9.3.2 of Chapter 9, *Infrastructure*.

Comment 1.21

If a cafeteria or food service facility is built as part of this project, grease traps will be required in accordance with the Commission's Sewer Use Regulations. CPC Ericsson Street LLC is advised to consult with the Commission's Operations Department with regards to grease traps.

Response

Refer to Section 9.4.2 of Chapter 9, *Infrastructure*.

Comment 1.22

The enclosed floors of a parking garage must drain through oil separators into the sewer system in accordance with the Commission's Sewer Use Regulations. The Commission's Requirements for Site Plans, available by contacting the Engineering Services Department, include requirements for separators.

Response

Refer to Section 9.4.2 of Chapter 9, *Infrastructure*.

Comment 1.23

The Commission requires installation of particle separators on all new parking lots greater than 7 ,500 square feet in size. If it is determined that it is not possible to infiltrate all of the runoff from the new parking lot, the Commission will require the installation of a particle separator or a standard Type 5 catch basin with an outlet tee for the parking lot. Specifications for particle separators are provided in the Commission's requirements for Site Plans.

Response

Refer to Section 9.3 of Chapter 9, *Infrastructure*.

Letter 2: Interagency Green Building Committee

Comment 2.1

The PNF indicates that the project will use the LEED v4 BD&C New Construction rating system. Additionally, the project team has committed to:

1. Achieving a minimum green building outcome of LEED Silver and striving to achieve LEED Gold for all buildings.

2. Reducing carbon impacts by improving the performance of the all buildings with a prioritization on passive building strategies.

3. Installing solar PV on all buildings.

Response

Refer to response to Comment SD.40.

Comment 2.2

The PNF indicates the project team's awareness of utility and state-funded energy efficiency and clean/renewable energy programs; please engage the utilities as soon as possible. Please provide information on any energy efficiency assistance and support that might be afforded to the project.

Response

We plan to take advantage of the many incentives provided by the MASS Save Program. We will be working with ICF international to identify all opportunities for energy efficiency.

Comment 2.3

The PNF includes the parameters for a whole building energy model but no actual model. Please provide a Preliminary Energy Model and information on how energy modeling will be integrated into the preliminary, schematic, design development, and construction document phases of project planning.

Response

Chapter 7, Section 7.3 discusses the inputs and results of the preliminary energy modeling conducted for the Project.

Comment 2.4

In support of Boston's Carbon Neutral 2050 GHG goal, please include the following strategies for reducing GHG emissions:

- *Prioritize passive strategies such as improved building envelope performance by increasing building envelope air tightness and insulation.*
- *Ensure active building systems are appropriately sized for improved passive performance and cost savings are fully captured.*
- *Continue to assess the feasibility of CHP. Please provide system information. Additionally the project team should analyze opportunities for on-site battery energy storage systems for reducing peak electrical loads and providing secure energy services for occupants.*
- *Please provide solar PV system(s) location, size, and output information along with any related analysis.*
- *Review and ensure compliance with Boston's Bicycle Parking Guidelines.*

Response

Chapter 7, Section 7.3 reviews the feasibility of clean and renewable energy systems for the Project. Additionally, the potential for the incorporation of passive design strategies is assessed.

Comment 2.5

Consider utilizing LEED for Campus to document compliance of common prerequisites and credits. The Design Green Building Report can be common for all three buildings provided building unique conditions are identified and a LEED Checklist is provided for each building. If the projects ends up being phased beyond one year or if there are substantive program or design revisions, the project team should provide an updated Article 37 filing to support the concurrent green building, climate change resiliency, and urban design review of each building.

Response

We will be submitting assuming all the site credits, irrigation credits and some material credits are pursuing the LEED Campus Path. Individual checklists, energy models along with the relevant individual building calculations will be submitted for each project.

Comment 2.6

Please check the Article 37 Green Building and Climate Resiliency Guidelines page for updated information. In order to demonstrate compliance with Zoning Article 37, the following documents must be submitted to your BPDA Project Manager and the IGBC for review and approval:

- *Design / Building Permit Green Building Report, including an update LEED Checklist, final building energy model, and supporting information as need to demonstrate how each prerequisite and credit will be achieved.*
- *An Excel (.xls) version of the updated LEED Checklist.*

- *Updated Climate Change Checklist (please note that new Climate Change Checklist was approved in October 2017 and should be used for your next filing).*
- *Signed Design Affidavit.*

Response

The Project Team will provide a Building Permit Green Building Report, and updated LEED Checklist, final building energy model, and supporting information as needed to demonstrate how each prerequisite and credit will be achieved. We will also provide and Updated Climate Change Checklist and Signed Design Affidavit.

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Letter 3: Neponset River Watershed Association

Comment 3.1

Among the goals of the Neponset Estuary ACEC RMP is to protect and improve water quality conditions in order to meet, or where possible exceed, state water quality standards. Additional goals include restoring fisheries and wildlife habitat (including shellfish beds), supporting biological diversity, and encouraging appropriate land and water uses that benefit the public and are compatible with sound resource protection and management. Notwithstanding these laudable goals, the Neponset Estuary does not yet meet required water quality standards for its fishable/swimmable classification. The RMP identifies "inadequately designed and constructed stormwater measures" and inappropriate development as causes of the poor water quality and threats to the resources of the ACEC and to public health and safety. Thus, any development or redevelopment within the estuary must be conducted carefully and must implement best management practices to improve water quality.

The proponent's ENF/PNF lacks sufficient detail to determine whether the project will adequately protect and improve the estuary.

Response

Refer to Chapter 8, *Wetlands and Waterways*, for additional detail on proposed measures to protect and improve water quality conditions in the ACEC.

Comment 3.2

The scope of the project presented in the ENF/PNF may not accurately describe the Proponent's plans to redevelop in the area, and, therefore, may not take into account the most effective mitigation measures and public access features.

At the outset, NepRWA and the Port Norfolk residents would like to know how the property under consideration relates to the ownership and potential future development of adjoining properties. The Boston Globe reported earlier this year that the Proponent has secured the rights to purchase other property adjoining (or at least in the same vicinity) as the instant property in order to develop them in the future as "a sequel of sorts to the current project."4 301 CMR 11.01(2)(c) requires a Proponent to consider the entirety of a project, and prohibits a Proponent from segmenting a project to curtail MEPA review. Since there appear to be property rights and plans to redevelop more than the parcel under consideration in the current ENF/PNF, a legitimate concern is that the project may have been segmented, which significantly affects consideration of the environmental and community impacts of the project as a whole, as well as potential alternatives and mitigation that should be considered. The approved scope of the instant proposal may well be replicated on other parcels,

amplifying the effect on the existing neighborhood. Thus, the Proponent should detail their future plans for adjoining properties to ensure a complete review.

Response

The Proponent does not own or have plans to develop any adjacent properties.

Comment 3.3

A major source of water pollution in the estuary is stormwater runoff. and the Project must implement the most effective BMPs for this particular site.

The Massachusetts Stormwater Handbook establishes that where the Massachusetts Department of Environmental Protection (DEP) has issued a Total Maximum Daily Load (TMDL) for a pollutant other than Total Suspended Solids (TSS), the Proponent must propose stormwater BMPs consistent with the TMDL. The Commonwealth has issued TMDLs for the Neponset River requiring the reduction of fecal coliform and e. coli (a major source of which is stormwater runoff in the estuary). In addition, the project's proximity to a public swimming beach makes efforts to reduce bacteria in stormwater runoff even more imperative. The Proponent must detail in the DEIR/ DPIR the specific BMPs that will be included in the project, how they are consistent with the TMDL and how they will improve existing stormwater runoff conditions. Moreover, given the ACEC RMP aims to improve water quality in the estuary, the DEIR/ DPIR should include a detailed evaluation of potential stormwater BMPs at the site that would fully meet the Massachusetts stormwater standards by treating the first inch of runoff from the site, consistent with the TMDL and good practice regarding nutrient removal.

Response

Refer to Section 9.3 of Chapter 9, *Infrastructure,* for details on Project stormwater management.

Comment 3.4

We recommend that at least the first inch of runoff from all impervious surfaces (including pavement, walkways and rooftops) on the site should be treated using one of the following practices:

- *Surface or subsurface infiltration practices including porous pavement (subject to verification that soils on the site are not contaminated);*
- *Low impact development techniques including bio-retention and tree filter boxes;*
- *Surface or subsurface filtration practices such as sand filters; or*
- *Measures that retain and/ or evaporate water from the site to reduce the frequency and volume of polluted stormwater runoff leaving the site,*

including, but not limited to, green roofs and on-site rain water capture and irrigation/grey water reuse.

Response

Refer to Section 9.3.2 of Chapter 9, *Infrastructure*.

Comment 3.5

Additionally, the DEIR/DPIR should detail efforts to minimize stormwater pollutants on site. Specifically, the Proponent should detail:

- *The configuration of commercial dumpsters kept on site for residential buildings, hotel, restaurant and other structures which ideally should be kept indoors or under roof cover;*
- *How waste from the proposed dog park will be regularly cleared to prevent runoff contamination; and*
- *Measures that will be undertaken to educate residents and maintenance/ operations staff about the problem of stormwater pollution and appropriate O&M procedures.*

Response

A Stormwater Pollution Prevention Plan will be submitted to BWSC through their site plan approval process as the design develops.

Comment 3.6

The Proponent should clarify plans to manage pollution associated with marina use.

The DEIR/DPIR should include detailed examination of pollution control measures that will be implemented in the marina. Specifically, the Proponent should:

- *Commit to provide a holding tank pump out facility which is accessible to both slip owners and the public;*
- *Detail measures to prevent pollution from boat maintenance (preferably by keeping these activities under cover); and*
- *Describe other measures that will be used to minimize the impact of marina activities, such as a program that will be used to educate slip owners and operation and maintenance staff about pollution prevention practices.*

Response

While specific elements related to management of the marina are still under consideration, the marina will, at a minimum, be managed and operated consistent with CZM's *Massachusetts Clean Marina Guide*. As suggested, the marina will include a pump out facility to marina members and the public, as well as educational programming provided by the marina operator on pollution prevention practices for

marina users and staff. Detailed pollution prevention measures will be developed as design advances, but the intent is that major repairs and dust-producing maintenance activities would occur in the covered boathouse.

Comment 3.7

The Proponent should describe the plan to achieve maximum water conservation through both indoor and outdoor water uses.

The Proponent has indicated the project will use low-flow plumbing fixtures for water closets and faucets, including EPA WaterSense labeled fixtures for all toilets, urinals, faucets, and showerheads. We would urge the Proponent go beyond compliance with the relatively weak WaterSense standards and specify toilets that comply with the MaP Premium standard, urinals that use 0.25 GPF or less, lavatory faucets that use 1.0 GPM and showerheads that use 1.5 GPM. The Proponent should also ensure that all laundry equipment used in the project has a water factor of 4.0 or less. A variety of readily available products meet these criteria at prices comparable to conventional fixtures.

Response

Our preliminary calculations assume the following percent-reduction per building. All fixtures will be Water Sense. We will also select equipment and appliances that have the energy star label which also factors in water use reduction.

- Residential Building A- 50% Water Use Reduction
- Residential Building B- 50% Water Use Reduction
- Residential Building C- 50% Water Use Reduction
- Boathouse Building D- 47% Water Use Reduction

Comment 3.8

The Proponent has indicated that the landscaping and open space areas will not require irrigation, but rather will rely on native and adaptive plant species. The DEIR/DPIR should explore this in more detail.

Response

Due to Project changes which reduced open space programming and increased the level off passive area and vegetation, irrigation will be required to ensure the planting thrives. The system will be a fully automated and include the appropriate sustainable sensors to mechanically limit the amount of irrigation needed. In addition, the use of native and adaptive plant species will greatly reduce the amount of irrigation required.

Comment 3.9

The Proponent must ensure meaningful access to the shoreline.

The ENF/PNF describes enhancements to public access, including a Harborwalk, kayak rentals/boat storage and new open space. The DEIR/DPIR should further detail plans to ensure meaningful access by the public- including affordability of access to recreational opportunities. The Proponent should explore offering free kayak/ canoe storage, and other no-cost public amenities to ensure the proposed access truly is meaningful. Furthermore, will members of the public be able to launch their own canoes and kayaks and/ or utilize fishing pier and the dog park? The DEIR/DPIR should clarify which areas of the proposed open space would be open to the public and discuss what provision is being made for parking to ensure that the public has the ability to access the waterfront in practice. The Proponent should also clarify installation of signage, clearly delineating publicly accessible areas and permitted activities.

Response

In response to community input on the ENF/PNF, the kayak rental facility has been removed from the Project and the approach to open space has shifted to accommodate more passive uses on-site. It is currently envisioned that visitors to the Project can park in the proposed parking garage at no cost, or in surface parking spaces. The proposed open spaces and Public Pier will remain entirely available to the public. Refer to Chapter 3, Urban Design.

Comment 3.10

The DEIR/DPIR should also explore alternative approaches to the design of the open space and public access facilities. One long standing need in the Neponset River and adjoining communities to the north and south is for a publicly accessible boat ramp for trailer access. Additional scenarios to be considered for the open space would be alternative layouts that would accommodate a more naturalized shoreline over a larger portion of the site (see discussion of living shoreline below) that would enhance both habitat value and aesthetics of the existing armored shoreline, and structuring pervious spaces at the outer edges, closest to the water. Additionally, continuous access (along a boardwalk or other path) along the shoreline should clearly be laid out.

Response

Refer to Chapter 3, *Urban Design* and Chapter 4, *Sustainability/Green Building Design and Climate Change Resiliency* for additional information on the proposed shoreline conditions. Along the Pine Neck Creek, the Project is proposing a naturalized approach and will provide continuous accessible access for all.

A trailer boat access ramp has been considered and determined not suitable for the site, primarily due to site access, increased traffic through the neighborhood, and environmental impacts associated with construction of a new ramp.

Comment 3.11

Finally the DEIR/ DPIR should further describe the proposed use of the commercial space which is shown at the end of the wharf, and how this space relates to requirements regarding facilities of public accommodation.

Response

As discussed in Chapter 1, *Project Description* the commercial space on the wharf has moved to be within the proposed Boathouse, Building D. This facility we be open to the public and will primarily be for bait, tackle, and boating supplies.

Comment 3.12

The proponent should explore and detail potential pedestrian access from the project site to Tenean Beach.

The ENF/ PNF identifies the potential for a pedestrian bridge over Pine Neck Creek to Tenean Beach, creating access between the beach and finished project. At a conceptual level, any measure to increase pedestrian and/ or bicycle routes is appealing, however, the ENF/ PNF lacks sufficient detail to meaningfully evaluate this proposal. The DEIR/DPIR should include a detailed analysis of such a bridge, including where the abutments would be located at the beach, and the impact on wildlife habitat, water quality, etc. Additionally, as discussed further below, the neighborhood has legitimate concerns about the adequacy of the proposed parking given limited access to transit options and therefore the Proponent should examine anticipated effects on public parking and beach access should the beach parking lot become an accessory lot to the finished project site and its amenities.

Response

Based on input received from the community during the review of the ENF/PNF, the pedestrian bridge over Pine Neck Creek has been eliminated from the Project design.

Comment 3.13

The proponent should explore and detail issues around improvement dredging.

Plans provided in the ENF /PNF appear to indicate that the proposed piers and marina will extend slightly farther west and north that the existing marina and the area highlighted as representing previous dredging. The DEIR/ DPIR should further describe issues around maintenance vs. improvement dredging as well as sediment contamination in the context of proposed dredging.

Response

Additional detail on the proposed maintenance dredging is provided in Section 8.4.3 of Chapter 8, *Wetlands and Waterways*.

Comment 3.14

The Proponent has gone to great lengths to describe the project as implementing strategies to make it resilient to rising sea levels and extreme weather events, but the ENF /PNF lacks sufficient detail to evaluate the adequacy of those strategies. For example, while the Proponent describes elevating occupiable spaces, it does not identify the current elevation of the site, and how potentially large grade changes will affect the sites relationship with the water. Additional considerations should include, examination of whether the site will become an island during large storms and whether emergency egress will be maintained, as well as the ability of sewer and drain infrastructure. The ENF /PNF should therefore include existing and proposed grading plans, showing proposed facilities, Wetlands Act and Chapter 91 jurisdiction and tidal and flood elevations. Flood elevations should be shown for the neighborhood as a whole. Finally, the DEIR/DPIR should describe in more detail the strategies the Proponent plans to employ to ensure the project complies with the city's Climate Change Resiliency and Preparedness Policy, beyond measures designed to accommodate rising sea levels.

Response

Refer to Chapter 4, *Sustainability/Green Building Design and Climate Change Resiliency* for additional detail on the Projects climate change resiliency strategy.

Comment 3.15

The Proponent should also examine alternatives to shoreline design. At present, the shoreline of the site comprises a seawall, dumped-stone revetment, and sheet-pile bulkhead. The project proposal anticipates a park-like open space area close to the western and northern shoreline while maintaining the seawall. The Proponents acknowledge a goal of fitting with the "decades-long planning and open space development" efforts of both the city and state; efforts which include rehabilitating "waterfront edges and bringing back the natural environment that existed before industrial development blocked public access." The Proponent should explore alternatives to the current proposal that include engineering techniques to create a living shoreline, which may better serve climate resiliency and estuary health. Such techniques are currently being considered and implemented in other local development projects.

Response

As suggested, the Project has evaluated alternatives for soft and living shorelines which balance the need for stability and erosion control with environmental and sustainability benefits. The resultant design, as described in Chapter 3, *Urban Design*, lowers the elevation of the existing seawall elevation along the western edge of the site to mean high water and provides native salt tolerant plantings which can accept periodic inundation. The design will provide a natural and adaptable shoreline which will benefit estuary health and increase biodiversity along the shoreline.

Refer to Chapter 4, *Sustainability/Green Building Design and Climate Change Resiliency, f*or additional detail.

Comment 3.16

While the Proponent assures the state and city through the ENF /PNF that the project will result in a "substantial net benefit to the community" and that they have worked closely with the community to ensure this, it is unclear that they have actually done so in a meaningful way. The DEIR/DPIR must closely examine and detail the impact of the project on the safety and quality of life of the abutting neighborhood, including the project's impact on traffic, access to the waterfront, increased noise, and residents' enjoyment of the water and skyline.

During the MEPA site visit, it was evident that many in the community do not believe the Proponent has actually listened to their concerns about the scale and scope of the project, its effect on future development of adjoining parcels, and its impact on the character of the neighborhood. In particular, there exist legitimate concerns that given the lack of convenient transit access and presumed affluence of most of the residential occupants, the project anticipates inadequate parking, which will overflow to the neighborhood (or Tenean Beach, should a pedestrian walkway be constructed over Pine Neck Creek). Community members have expressed concerns about increased water usage, and sewage generation given existing sewer capacity problems in the area in the form of past sanitary sewer overflows into homes. Traffic flow to and from the site via narrow neighborhood streets is another concern, as are those regarding the visual and neighborhood character impact of developing such tall buildings in proximity to a cohesive neighborhood of low rise buildings, using a pallet of materials that bears no seeming relationship to buildings in the existing neighborhood. All of these neighborhood concerns seem particularly relevant in light of the potential segmentation of this project from redevelopment of the adjoining property as mentioned above.

The Proponent should consider additional efforts to work with the community to explore alternatives to both the project and mitigation efforts, including underground parking (which could also lessen building height concerns), access to public transportation (to reduce traffic), improvements to existing infrastructure, a reduction in the size of proposed structures, efforts to use materials that better fit with the character of the neighborhood, and amenities community members actually need or desire. The DEIR/DPIR must further detail the steps the Proponent has taken and will take to ensure the project fits with the growth of the community.

Response

As discussed in Chapter 1, *Project Description,* the Proponent has worked closely with the community over the past year to mold the Project to better fit the scale and character of the community. The Proponent looks forward to continuing this dialogue with the community throughout the future permitting and construction of the Project.

Letter 4: Boston Harbor Now

Comment 4.1

We ask that the proponent address the following items related to the proposed dredging:

- *The relevancy of a 100+ year old dredging license and the existing ACEC Resource Management Plan*
- *Whether the proposed dredging is for improvement or maintenance purposes*
- *Impacts to marine habitat and resource areas resulting from the proposed dredging activities.*

Figure 8.1 of the PNF address the ACEC designation. As presented, the project will "embrace" the heightened ACEC performance standards. We are glad to see the proponent's acknowledgement and commitment to complying with the ACEC standard. The proponent should provide additional details to address compliance and how the project proposes to meet or exceed this obligation.

Response

Refer to Chapter 8, *Wetlands and Waterways*, for information on the Project's compliance with applicable wetlands regulations. Additional detail on the proposed maintenance dredging is provided in Section 8.4.3 of Chapter 8, *Wetlands and Waterways*.

Comment 4.2

The PNF proposal includes several renderings of proposed public access to the project site (Figures 2.7-2.9). The proponent should clearly distinguish areas of the wharf and open green space that are open to the public from those that are reserved for private use. The Public Realm improvements will play an important role in ensuring the open space areas are fully activated and create a welcoming waterfront experience for residents, neighbors, and visitors. Part of the success includes maintaining adequate signage at appropriate locations to advise the public of its access rights and disclose access-related regulations.

The project filing should also include details of the proposed watersheet and water's edge activation as an integral part of the transient public's experience of the overall project site. The proponent should consider programming and public amenities that will encourage the public's use and enjoyment of the waterfront on a year-round basis.

We note that during the MEPA site visit, the community expressed concern over some of the proposed public amenities. Specifically, the kayak storage area, dog park, and pedestrian bridge to Tenean Beach. We encourage the proponent to work with the

local community to develop a public realm improvement plan that includes amenities that fit within the character of this area of the waterfront and adjacent neighborhood.

Response

Refer to Chapter 3, *Urban Design* for information on the Project's efforts to address the community concerns and realign the open space programming while activating the water's edge for public access and engagement. All open space will be accessible to the public. Signage and wayfinding will be provided to encourage a welcoming and engaging space.

Comment 4.3

We are strongly in favor a detailed traffic analysis of existing traffic concerns in Port Norfolk and adjacent areas as part of the proposed project filing. Without the proper improvements, additional daily trips will put pressure on an already strained system. Section 5.3 of the PNF includes a summary of daily trips anticipated for the project. The summary includes vehicular trips generated by condominium, hotel, and retail/restaurant users. The DEIR transportation analysis should also include trips generated by the general public's use of the new landscaped outdoor spaces.

Despite its waterfront location, the mitigation efforts described in Section 5.7 might be best focused on land-based transportation accommodations that 1) serve a wider group of riders over a greater geographic area and is 2) a more cost-effective option than a water taxi.

Response

Refer to Chapter 5, *Transportation*.

Comment 4.4

We ask that best practices be implemented to minimize construction impacts to the nearby community. Depending on the anticipated construction activities, increased traffic is likely both in size and frequency of vehicles entering and leaving the area. We expect that delivery of construction materials will also affect the number of trucks traveling through the surrounding community. In addition to providing a construction management plan, we ask that the proponent consider a comprehensive traffic plan to minimize traffic flow interference from construction activities (e.g. advanced public notice of road closures, alternate routes, and shifting operations affecting traffic to off-peak hours).

Response

Refer to Section 6.9 in Chapter 6, *Environmental Protection.*

Comment 4.5

As presented in PNF, possible measures to address future flooding on the site include elevating the ground floor and moving critical infrastructure above the floodplain. However, Page 7 of the BPDA Climate Checklist indicates that specific flood protection measures have not been considered for the site.

As part of its resiliency strategy, the waterfront portion of Building B will be raised on pilings – resembling a building on stilts and a design more typical of beach homes. The space underneath the pilings will open up view corridors and create a covered terrace that is accessible to the public. This is a building typology that is new to Boston Harbor. We applaud the proponent for incorporating this innovative design in their project proposal.

We look forward to reviewing additional details of the proponent's climate resiliency strategy to limit storm damage, minimize wave action, and protect inland resource areas.

Response

For additional detail on the Project's climate resiliency strategy, please refer to Chapter 4, *Sustainability/Green Building Design and Climate Change Resiliency*.

Comment 4.6

Over a dozen members of the Port Norfolk community attended the July 24, 2017, MEPA site visit. Although the community expressed concerns about the proposed development, many expressed a willingness to consider a smaller scale redevelopment project that benefits the community and improves the existing conditions of the site. To ensure the community is heard throughout the planning process, we encourage the proponent to consider additional ways to engage interested neighbors and stakeholders as the project moves forward.

Response

See response to Comment 3.16.

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Letter 5: Neponset River Greenway

Comment 5.1

View of project from Neponset Greenway and Tenean Beach - Project will overwhelm the Dorchester Waterfront. Port Norfolk peninsula is all at one level, 2-3 stories. 86 ft. high project will stick up like a sore thumb, negatively changing the Dorchester Waterfront views and character drastically.

Response

The Project has been redesigned to fit in better with the existing nearby buildings, including a reduction in overall height. The buildings have also been moved back from the water's edge, creating better public access and views.

Comment 5.2

Design – Large box designs of steel are incompatible with the natural ACEC area. Any reflective surfaces across from Tenean Beach will reflect sunlight into the eyes of the public trying to enjoy beach.

Response

The redesign of the development fits in architecturally with the existing nearby buildings, both in design and materials. The materials on the Tenean beach side are not intended to be reflective, so the only opportunity for minimal reflection on the beach will be a few windows just before sunset during the summer months.

Comment 5.3

Traffic- The Neponset Greenway crosses through the Port Norfolk Neighborhood from Joseph Finnegan Park to Tenean Beach. 1,500 cars a day through small neighborhood streets will make unsafe conditions for walkers and cyclists. 1,500 cars a day in and out will add air pollution and increase pollutants in runoff from area, negating the increase in permeable areas reducing runoff.

Response

Refer to Section 5.3.2 of Chapter 5, *Transportation* for a revised trip generation analysis for the reduced Project program, and Section 5.6 for potential neighborhood improvements.

Comment 5.4

Height, Sky Dome, and Shade – Plan only addresses sky dome from Erikson Street. Two 86ft high buildings and other massive buildings, will block view of sky dome and ocean from Neponset Greenway, Tenean Beach, Rte. 93, Dorchester Neighborhoods, Venezia Harborwalk and block ocean breeze onto Tenean Beach. The beautiful views of sunrises and sunsets across the end of the Port Norfolk Peninsula will be blocked. Large buildings will block birds moving back and forth to feed and nest between Squantum point Park and Pine Neck Creek and Migratory Birds. Project will add shade to Pine Neck Creek and Tenean Beach, changing temperature of water, impacting wildlife and enjoyment by humans.

Response

Refer to Chapter 3, *Urban Design*, for additional information on viewshed impacts. The building height will not adversely impact bird populations. As a residential building with an industrial design, there are no large areas of highly reflective glass or extreme lighting that would interfere with bird migrations. Skydome impacts were assessed based on City of Boston guidelines for analysis.

Comment 5.5

Dredging and Larger Marina - They have not found a previous dredging permit. How will maintenance / improvement dredging be determined? Much of the site has refilled with PCB contaminated mud up to the level of land in Pine Neck Creek. The surrounding area is now an ACEC and has changed back into a natural area considerably. Resuming large amount of dredging in a now ACEC area will impact the adjoining shellfish beds at Bucky's Bar (off of Squantum Point Park), mudflats, marshes, Tenean Beach and the wildlife that feeds and nests there by covering them with mud and releasing PCBs into the water. Deep dredging across from Tenean Beach could cause erosion of beach, creek, and harm marsh by changing current patterns and wave actions. There is no completely safe way to dredge contaminated mud. More boats means more pollution such as from oil, gasoline, wastes leaks. Presently there is only about 15-20 boats on site. Another issue not addressed by the Plan, is where will the hazardous waste contaminated mud be deposited after it is dredged from the area? You cannot just dump it in the ocean somewhere else.

Response

Refer to Chapter 8, *Wetlands and Waterways,* for additional detail on the proposed maintenance dredging and associated impacts of the proposed in-water work.

Comment 5.6

Fence Removal in water across from Tenean Beach – Increased wave action could cause erosion of Tenean

Response

The design and function of the wave fence has been studied by the Project's marine structural engineer, and it was determined that a similar level of waver attenuation could be achieved by the proposed floating docks. Replacing the wave fence with floating docks has additional benefits in that it improves visibility from the shoreline and allows the area to return to its natural tidal flow which should reduce the need for frequent future dredging.

Removal of the wave fence is not anticipated to have any adverse impact on surrounding shoreline erosion. Given that the longest fetch to the adjacent Tenean Beach is from the north, the wave fence has little impact on this direction. If the wave direction shifts to the northeast the waves must travel over shallow mud flats which would cause any significant waves to break before they reach the beach. The shoreline of the Project Site will not be impacted as it is protected by riprap and will be improved by the Project. The existing riprap slope will be "cleaned up" by removing existing debris and replacing it with a new layer of riprap, strengthening and stabilizing the shoreline.

Comment 5.7

Bridge – Building a bridge across Pine Neck Creek will destroy marshes at Pine Neck Creek, ACEC, and would facilitate the use of Tenean Beach parking as ancillary parking for a private development. The scenic view from the end of Pine Neck Creek, along the Neponset Greenway, to downtown Boston, is also a popular artists' spot that would be blocked by a bridge. A preferred alternative would be a complete Harborwalk from Venezia to Tenean Beach around the Port Norfolk peninsular including the AIG and Sullivan McLaughlin properties.

Response

Refer to response to Comment 3.12. The pedestrian bridge has been removed from the Project.

Comment 5.8

Open space - The developer's report on open space is misleading. They say they are providing 2 acres of open space but much of public open space is unusable, under buildings or alongside buildings. It is not clear if they are also counting streets and sidewalks. A small additional space does not justify the harmful impacts of this project.

Response

Refer to Chapter 3, *Urban Design*, for a more thorough examination of open space as well as clear representation/description of useable open space.

Comment 5.9

Construction – Noise and vibrations due to construction of a large project and trucks will impact ACEC wildlife. Noise will scare away birds in ACEC, nesting and feeding next to site, in marshes, mudflats and shellfish beds.

Response

The construction of the Project will be performed in a manner that complies with the DEP and City of Boston noise regulations. To ensure compliance with these regulations during construction, the Proponent, to the extent practicable, will seek to incorporate into the general construction contract the following mitigation measures:

- Limited vehicle idling to five minutes;
- Limited construction vehicle warm-up to ten minutes;
- Limiting construction to the hours allowable by City of Boston regulations; and
- Insuring construction vehicles have ambient leveling sensors on the back up alarms.

Noise and vibration will be further minimized by the following:

- Use of H piles rather than concrete piles for upland construction.
- Predrilling soils prior to pile driving.
- Sequence of pile driving, starting closer to existing structures then moving away so that new piles act as a noise shield.
- All work to take place during day time hours for sound control.

Comment 5.10

Public Amenities – The offered public amenities are redundant in the area, inappropriate for area, or harmful to ACEC, and will increase traffic even more. Do not justify negative impacts regarding Chapter 91 Laws, Wetlands Act, neighborhood or ACEC. Kayak launch, fishing pier, beach, playground, courts already exist in the neighboring area. There are tidal and contamination issues. Adding a dog park beside Tenean beach will increase bacteria level at Tenean Beach beyond the already unacceptable levels. This should not be allowed.

Response

Refer to Section 1.2 of Chapter 1, *Project Description,* for updates to the Project since the filing of the ENF/PNF. Apart from the Public Pier (fishing pier), the referenced uses have been eliminated from the Project. The Project team is coordinating with the Division of Marine Fisheries to understand potential risks for consuming fish in this area and to develop strategies to minimize those risks.

Letter 6: WalkBoston

Comment 6.1

High proportion and number of motor vehicle trips: Given poor transit access and limited street connectivity to the Port Norfolk neighborhood and the proposed Neponset Wharf site, the proponent estimates that only five percent of trips generated by the project will be bicycle and walking trips. The remaining 95 percent of project-generated trips will be in motor vehicles, for a total of 1,440 new vehicular trips on an average weekday. To accommodate this traffic, the proponent has proposed 185 parking spaces on the project site. We are concerned that the number of trips and the number of parking spaces do not seem to be aligned, as these figures would suggest nearly eight trips per day per parking space. This suggests a need to more fully explore appropriate transportation options for the development of this site.

In addition, the increased volume of motor vehicles this project would generate in Port Norfolk will increase risks to people walking and biking on the neighborhood's narrow streets and sidewalks. The project proponent has stated their intention to develop a TDM plan for the project in the forthcoming Draft Environmental Impact Report (DEIR). This plan should include a full accounting of how proposed TDM measures would reduce the overall number of motor vehicle trips and increase the overall percentage of trips using walking, biking and transit modes.

Response

Refer to Section 5.3.2 of Chapter 5, *Transportation* for analysis of trip generation for the reduced scale of the Project, and Section 5.4 regarding parking supply for the current Project program. Refer to Section 5.5 for details of TDM.

Comment 6.2

Neighborhood access and pedestrian safety: Redfield Street, Tenean Street/Conley Street, and Woodworth Street/Walnut Street are the primary routes for motor vehicles to enter and exit the Port Norfolk neighborhood. The proposed project will significantly increase the number of motor vehicles traveling these streets, so the proponent should explore ways to implement traffic calming and pedestrian safety measures along these streets as mitigation. Given that much of this increased traffic will come from Neponset Circle/Morrissey Boulevard, the intersections of Redfield, Walnut, Conley and Tenean Streets at these locations should also be assessed for safety improvements in coordination with the Department of Conservation and Recreation (DCR).

Response

Refer to Section 5.3.2 of Chapter 5, *Transportation* for updated project trip assignment to roadway network for the reduced Project program and Section 5.6 for description of potential operational and safety improvements.

Comment 6.3

Site access and pedestrian safety: The project site abuts Ericsson Street, with a one-way entry to the site to be aligned with Port Norfolk Street and a one-way exit from the site to be aligned with Lawley Street. The proposed project will significantly increase the number of motor vehicles traveling these streets as well, so the proponent should also explore ways to implement traffic calming and pedestrian safety measures along these streets as further mitigation.

The proponent should also clarify how pedestrians will safely enter and exit the project site at Port Norfolk and Lawley Streets. The current site access/egress points at these locations lack sidewalks and are relatively narrow for motor vehicles even in the absence of sidewalks. These access/egress points also abut existing buildings, so while the proponent "envision[s] multiple accessible sidewalks along the entry points into the site," it is unclear where the space for safe pedestrian accommodations will actually come from. Increasing the number of motor vehicles traveling through this area will pose additional safety risks to pedestrians, so the proponent should explore plans for mitigation here as well.

Response

Refer to Section 5.3.2 of Chapter 5, *Transportation* for updated project trip assignment to roadway network and to Chapter 2 for description of pedestrian accommodations for the Project site plan.

Letter 7: Residents of Port Norfolk Community

Comment 7.1

The local and state zoning codes/laws for the site will be exceeded. In 1990 a comprehensive re-zoning study was done; Interim Planning Overlay District (IPOD). The proposed development violates nearly every zoning code/law. Two eight story high-rise buildings, a 35 ft. limit is set by the zoning, the nearest structure of this size is 5 miles away, not only is un-acceptable to the character of the neighborhood, it will impede views of the water and light. A hotel is not allowed and is uncharacteristic of the neighborhood. Restaurant & Bars, light manufacturing and water related industry is only allowed. Too many condo units for the size of the project. Port Norfolk currently has 185 homes in the entire area. The developer is proposing 175 units in less than 10% of the area of Port Norfolk.

Response

The overall height and density of the development has been reduced, the hotel has been eliminated and the restaurant has been eliminated. The buildings have been redesigned in a way that is more compatible with the existing port area.

Comment 7.2

Traffic: It is estimated by the developer that 1750 additional vehicles will be generated by the project. A complete study has yet to be submitted. The current study was done over the summer months when many of the residents were away on vacation. A yearlong study needs to be a true complete calculation. This should also be back up by an independent study. A study done in 1985 for a previous development gave the neighborhood an "F" FAILURE for street traffic mitigation. It is a family neighborhood with many children crossing and sometimes playing near the street. Although it is a major concern now for their safety any increase in traffic levels of residential streets is a serious safety threat. Port Norfolk is unique with limited traffic flow. There are three streets within the neighborhood that allow traffic to and from the developer's project. Only two streets to exit onto the major roads. The streets are narrow in width with parking on one side, thus not allowing no more than one vehicle to transverse the street. With vehicles traveling in both directions, one vehicle must wait until the other vehicle passes before proceeding through. In the winter the conditions are extremely worse when snow piles occupy the pull in areas. The additional concern back by a Life Safety Specialist for Emergency Response is the impediment of emergency vehicles to access the streets, delaying response times. This is critical component for the safety of the residents. Residents in Port Norfolk have died because of this delayed response. The developer does not address how these concerns will be alleviated. Re-routing traffic patterns of current street designs should not be allowed by the developer. It is the position of the neighborhood the developer should have taken this into account

before purchasing the land or developing the project. The failure of the developer to recognize the hazards impose on the neighborhood should not be the problem of the residents. The developer had a choice before purchasing the property. The Morrissey Blvd. and Neponset Circle exit from Port Norfolk is still another major obstacle. Neponset Circle cannot be easily exited in the rush hour traffic and it poses a serious accident potential. Vehicles are currently backed up on Walnut Street waiting for a chance to exit into the circle. With additional 1750 vehicles it will be impossible to exit. The other choice would be Tenean Street on to Morrissey Blvd. Morrissey Blvd. is slated for reconstruction reducing the lanes from three to two. The same condition would occur here as well. There is no public transportation in the Port Norfolk section, thus all transportation will be done by vehicles.

Response

A comprehensive traffic and transportation analysis is presented in Chapter 5, *Transportation* based on the reduced Project program.

Comment 7.3

Water and Sewer: The sewer system in the area is old and under duress. It can barely support the current use now and many times fail. Back up into homes frequently happen. The plumber's representative for the local Boston union stated at a community meeting the sewer system currently in place will not support this project of this size. The Boston Water Commission stated its concerns in a document to MEPA.

Response

Refer to response to Comment SD.14.

Comment 7.4

Noise Pollution; The increase of traffic, delivery trucks at all times of the day, hotel business 24 hours, restaurant traffic, marina traffic, 175 condo units times two vehicles per family minimum plus guest vehicles all contribute to the noise pollution on the access streets to the development. The residents on the access streets should not suffer the adverse effects that they did not create.

Response

Refer to Section 6.4 of Chapter 6, *Environmental Protection,* for an analysis of anticipated future noise, and Section 6.9 for a draft of the Construction Management Plan which strives to limit construction period noise impacts.

Comment 7.5

Construction Planning. No plan was presented to the community to mitigate the construction impact on the community. Port Norfolk streets and sidewalks are sinking. What impact will constructions vehicles and construction building have on this

problem? Will the developer be responsible for the additional compromise of the streets and sidewalks? Will bonds be issued to cover the cost to residential damage caused by the massive building construction? This should be put forth as part of the project presentation not as an afterthought.

Response

A draft Construction Management Plan is provided in Section 6.9 of Chapter 6, *Environmental Protection*. This work will be closely coordinated with the City to minimize impacts to the community. Construction management details will continue to evolve as the Project advances through design and review.

Comment 7.6

Environment Impact: This site was heavily used during the late 1800's and early l 900's as an industrial and ship building site. These industries produced hazardous waste and toxins. As with the development of the new Finnegan Park that just open it was discovered to have hazardous soil. The developers at minimum should have a study done of the entire soil area as a presentation application to the community and the Boston Planning and Development Authority. This should include the water front access and tide lands. As in the MEP A release report the developer had not provided information/study on the effects on waterfront vegetation and wildlife infringement. The state and city has spent millions of dollars to improve the quality of the water and bring back natural scenic growth to the waterfront. The size of the project has left too many questions unanswered, as to the volume of run off from vehicles parked on site and traveling. This should include marina use and storage of watercraft.

Response

As a result of the historical usage and storage of various petroleum products have resulted in releases of petroleum hydrocarbons, petroleum related constituents and non-aqueous phase liquid ("NAPL") to soil and groundwater at the subject site. A release of petroleum was first discovered at the site in March 1981, at which time a Notice of Responsibility was issued to Norwood Marine (a previous site owner) by the U.S. Coast Guard. Currently, these releases of petroleum products are collectively being managed under RTN 3-12654 which was assigned by DEP in 1995. The area affected by RTN 3-12654 occupies the northeastern portion of the Project Site.

Based upon the results of soil and groundwater testing that has been obtained over the past 20 years, the release is not considered to be migrating from the northeastern portion of the Project Site. In addition, contaminated soil is located at depths ranging from 8 to 14 feet below ground surface which generally corresponds to the surface of groundwater.

As part of an environmental due diligence assessment that was completed prior to acquisition of the property, samples of shallow fill material (0 to 5 feet below ground

surface) were obtained from across the project site and analyzed for the presence of metals and PCBs.

Prior to construction, additional testing will be performed to pre-characterize shallow fill material for off-site removal in anticipation of the proposed scope of construction. Additional testing will also be performed on existing soils that may remain in place after construction. Utilizing the results of this soil testing, a Risk Characterization will be prepared to evaluate risks to current and future human receptors (i,e workers, nearby residents and future site occupants) that may be exposed to levels of metals once the fill material is uncovered and/or excavated as well as those that may remain at the site after construction.

Letter 8: Port Norfolk Yacht Club

Comment 8.1

Estuaries are breeding grounds for species of migrating fish and are an important habit of a diverse number of wildlife that rely on the marshland. Increased boat traffic and increased automobile traffic will greatly impact all native life forms (human, avian and aquatic) There already exist concerns by other government agencies and organizations regarding the Neponset River. I.e. MWRA, The Army Corps of Engineers, The Neponset Greenway Counsel and the Neponset River Watershed Association.

Response

Refer to Chapter 8, *Wetlands and Waterways*, for additional detail on proposed measures to protect and improve water quality conditions in the ACEC. Additional detail on the proposed stormwater management systems are discussed in Chapter 9, *Infrastructure*.

Comment 8.2

A project of this magnitude will have a tremendous effect on this neighborhood. increased traffic will be caused by both construction and personal vehicles. Once this project is finished this traffic problem will continue to exist, due to the increased number of residents in the apartments, condo and hotel, and with improved public access.

Response

The comprehensive traffic analysis presented in Chapter 5, *Transportation* based on trip generation for the reduced Project program.

Refer to Section 6.9 of Chapter 6, *Environmental Protection* for information on construction management.

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Letter 9: Port Norfolk Civic Association

Comment 9.1

The Port Norfolk neighborhood is in fact a small isolated peninsula, physically separated from the mainland, by Pine Neck Creek, the Southeast Expressway/Route 93, the 1v1BT A Braintree Redline, Commuter Rail, Morrissey Boulevard, and Neponset Circle. The neighborhood reflects a distinctive street plan "more or less in place by 1859", as noted in the Zoning Code Article 65, Section 65-32. Following the Civil War, and the annexation of Dorchester by the City of Boston in 1870, housing development fairly rapidly filled the core of the neighborhood, while water-dependent industrial uses occupied most of the shoreline. The majority of structures within the neighborhood were completed in the 19th Century, and the only open space within the neighborhood core is in the form of side yards, as the original planners had envisioned. The proposed design does not in any way reflect the distinct character of the neighborhood.

Response

The redesign of the development has been heavily inspired by the rich architectural history of the area at the end of the Port Norfolk Neighborhood. Original plans of the Lawley Shipyard were use as inspiration for the size and spacing of the buildings, and the architecture of the development is inspired by traditional Boston wharf areas.

Comment 9.2

The PNF states that the proposed project will "complement the water-dependent uses by adding vitality and activity to this prominent location where the Neponset River meets Boston Harbor". In reality, the project proposal would add a number of residential units which would approximately double the number of housing units in the entire neighborhood, on a lot representing less than 10% of the land area. The proposed residential development, together with a proposed hotel, restaurant and "amenities", will generate substantial new traffic, much of which will be transient, all of which must access the property using three existing narrow streets on the peninsula. The subject property is within an Area of Critical Environmental Concern (ACEC), and is within the Waterfront Service Subdistrict (WS) pursuant to Article 65 of the Zoning Code (the "Code"). The hotel and restaurant uses are forbidden under the Code in the WS Subdistrict, because they represent inappropriate uses of waterfront land, which supports significant economic activity, and which is in critically limited supply within the City. The residential use is conditional in the WS Subdistrict, on the same theory of inappropriate use, and the Code provides specific limitations with respect to FAR and lot coverage, in the unlikely event that the proponents can meet the general conditions required for approval.

Response

To address community concerns about the size of the Project, the Proponent has eliminated the hotel and the restaurant, and considerably reduced the density of the Project. Details of the impacts of the Project on the neighborhood and measures to mitigate those impacts are the intent of this DEIR/DPIR.

Comment 9.3

The entire project, with the exception of the existing marina (to the extent that it has been legally constructed and maintained), is inappropriate within the ACEC. For over 30 years elected officials, community members, MDC/DCR and other state agencies have worked together to reclaim the Dorchester waterfront, and restore the natural environment. Millions of dollars in public funds have been expended to create and improve the Neponset Shores Reservation. The construction of a "destination" "upscale" entertainment-oriented facility in the middle of the Neponset River Estuary is contrary to the principles of the ACEC legislation, and would negatively impact the adjacent public resource, including the estuary, Pine Neck Creek, and Tenean Beach, with respect to views and shading. The direct effects of the proposed active uses, on the surrounding ACEC would create unacceptable levels of noise, light and disruption, which cannot be mitigated.

Response

The Project respects the unique ecological value of the Neponset River Estuary, and as such, has endeavored to improve upon existing conditions on the Project Site. This includes considerable enhancements to water quality and stormwater management, reductions in impervious surface, and restoration of more natural conditions along the shoreline. The Project has been modified since the ENF/PNF filing and no longer proposes "entertainment-oriented."

For additional information on the ACEC context and compliance, refer to Section 8.3 of Chapter 8, *Wetlands and Waterways*.

Comment 9.4

The uses and the proposed scale of the project are completely inappropriate for the site and the neighborhood.

The introduction of a "boutique" hotel will negatively change the character of the neighborhood. Notwithstanding the assertions that the purpose of the hotel is to serve the marina, the structure would be available throughout the year with 24 hour operations by necessity. A hotel of any size will potentially generate transient traffic at all times of day, which is inconsistent with a residential community, and not presently generated by existing commercial uses in the neighborhood. There are presently three operating hotels located within 1 mile of the site. A hotel is not integral to the operation of a marina, and is not remotely water-dependent.

The proposal includes a 4000 sq. ft. restaurant. Directly adjacent to the site there are four licensed facilities, including Venezia Restaurant, Venezia function facility, Boston Winery, and Boston Harbor Distillery. The neighborhood should not be burdened with an additional licensed facility, which will intensify the-atmosphere of an entertainment district, at the end of a primarily residential peninsula. In addition, the intensification of activity is inappropriate within the ACEC.

Response

As suggested by the community, the hotel and restaurant have been eliminated from the Project.

Comment 9.5

The height, massing, architectural style, and materials are in conflict with the existing unique 19th Century neighborhood. The project design fails to reflect the consistent theme found in the 1988 Port Norfolk Plan, the Port Norfolk IPOD, or the current Article 65, adopted in 2002.

Response

The redesign for the development is heavily inspired by the rich history of the buildings at the end of Port Norfolk and the old Lawley Shipyard. Their architectural character fits in with the surroundings, and the overall height has been reduced.

Comment 9.6

The PNF states that the proposed project complies with and exceeds all applicable Code requirements. Meeting or exceeding Code requirements with respect to Sustainability is admirable. The detrimental effects of traffic, density, and inappropriate uses, will affect the character and quality of life in the neighborhood to such an extent that the human cost outweighs any intangible benefit resulting from mere compliance with building, zoning or energy codes.

Response

Refer to Section 1.2 of Chapter 1, *Project Description,* for updates to the Project since the filing of the ENF/PNF. The density of the Project and associated traffic impacts, have been significantly reduced.

Comment 9.7

The effect on Daylight appears to be measured solely from the Ericsson Street viewpoint. The most significantly affected views will be from Tenean Beach, from the Harborwalk adjacent to Venezia Restaurant, and from the river itself.

Response

The daylight analysis was performed in accordance with City of Boston Guidelines. The balance between open space and building footprint and views has been strongly considered in the redesign of the development.

Comment 9.8

The noise analysis states that the proposed operations will not generate noise in violation of the City of Boston noise standards. The introduction of new activities will generate noise which is inconsistent with the ACEC, and which will negatively affect the immediately adjacent residential community.

Response

Refer to Section 6.4 of Chapter 6, *Environmental Protection,* for an updated noise analysis. The residential and marina uses on-site are not anticipated to generate significant noise.

Comment 9.9

The impact of construction of the proposed project is dismissed as "temporary" and to be "minimized" through a construction management plan. The timeline projects a two year construction phase, during which delivery of all materials and labor will be required to pass through three narrow residential streets. The impact and proposed management plan should be evaluated and disclosed now.

Response

Refer to Section 6.9 of Chapter 6, *Environmental Protection*, for a draft Construction Management Plan.

Comment 9.10

The narrow streets within Port Norfolk reflect the fact that they were laid out long before the invention of motor vehicles. The present traffic and parking issues have been identified and discussed for over 30 years, with no realistic solution ever proposed. There is no rapid transit MBTA service within one mile of the neighborhood. MBT A service is limited to a bus at Neponset Circle, connecting to Fields Comer and North Quincy. The realistic choice for most residents is travel by personal motor vehicle. All traffic entering and exiting Port Norfolk must cross Morrissey Boulevard, either passing through Neponset Circle, or the Conley/Tenean Street exits. During peak travel periods Neponset Circle is frequently gridlocked with Expressway onramp, Gallivan Boulevard, and Quincy bridge traffic converging. The alternative exit is either gridlocked or filled with speeding commuters. The projection of 1,500 daily additional trips out of the neighborhood will exacerbate the problem, and affect regional traffic including Cedar Grove, Neponset, Lower Mills, Mattapan, Milton, and Quincy. In addition to moving traffic, the supply of parking in the neighborhood has reached

capacity. In this instance the argument is not merely theoretical. Unlike other Boston neighborhoods, which somehow manage to absorb additional vehicles, this peninsula has no available surrounding streets. The addition of substantial new residential units, and new commercial uses, will render a difficult situation beyond repair, and will affect every part of the neighborhood. The proposed redevelopment of the marina alone will result in a strain on traffic and parking capacity. The failure to adequately plan for parking and traffic in the Seaport and South Boston districts in the last 20 years has adversely affected the quality of life and created public safety issues. Port Norfolk exceeded traffic capacity years ago, as evidenced by both public (BRA) and private traffic studies. This critical issue alone should preclude consideration of the proposed project, and direct planning to alternative permitted uses.

Response

A comprehensive analysis of existing and future transportation issues and potential impacts is presented in Chapter 5, *Transportation*. Section 5.5 presents a Transportation Demand Management (TDM) which includes potential strategies to minimize reliance on auto travel, and Section 5.6 presents potential improvements to neighborhood streets and connections to Morrissey Boulevard.

Comment 9.11

The PNF concludes by stating that the specific site "does not include any properties" [of historic significance], "and will have no direct impacts on historic resources". The same section of the PNF states that the entire Port Norfolk Area has been Recommended Eligible for National Register Listing. The two immediately adjacent commercial buildings and three entire streets leading to the site are listed in the Inventory of Archaeological Assets of the Commonwealth.

Response

Refer to Chapter 10, *Historic Resources*, for an updated analysis of historic resources, including an assessment of impacts.

Comment 9.12

The creation of a "vibrant destination" for waterfront revelry may be appropriate in some circles for the Inner Harbor, but it is preposterous to suggest that it is sensitive to the adjacent Port Norfolk neighborhood. The scale is far beyond a reasonable reflection of the existing neighborhood. The proposed uses are either forbidden or discouraged and limited under the Code, which has remained consistent through multiple changes during a 30 year period. The architectural style is completely in conflict with the adjacent district and the immediately adjacent structures.

Response

The size and scale of the Project has been reduced based on feedback from the neighborhood residents. The hotel and restaurant components have been eliminated,

and the only remaining retail area is a small space intended to service the local neighborhood.

Comment 9.13

The PNF simply states that there is an expectation that existing utility capacity will accommodate the proposed project.

The deficiencies in the sewer system in the neighborhood have been well-documented for over 30 years, and were extensively discussed in the 1988 Port Norfolk Neighborhood Plan. Certain issues have been addressed, but the existing main sewer lines were installed in 1890, and are known to have insufficient pitch. The PNF estimates net new total sewage flow in excess of 29,000 gallons per day. An analysis of the effect of the proposed increase on the system must be conducted and a realistic proposal for handling capacity developed. The only path for sewer flow is the same three peninsula streets which carry the vehicular traffic. Multiple dwellings throughout the neighborhood have had laterals replaced in recent years, including this year. Walnut Street has extensive cracks between sewer manholes, and obvious settling of the roadway from the sidewalk curbs.

The PNF defers to utility providers with respect to all other utilities. The broadband capacity should be determined as well as the effect of potentially doubling internet traffic. The gas regulator system at Doucette Square was replaced in August 2017, after years of complaints from residents about the odor of gas. The addition of new overhead lines for electricity, telephone and cable/internet would have substantial negative aesthetic impact, and alternatives must be evaluated.

Response

Refer to response to Comment SD.14.

Comment 9.14

From an environmental perspective, the project uses and scale are incompatible with the ACEC designation. The features presented as "public amenities" are also unnecessary and incompatible with the ACEC, including a dog park, and shore shack. The kayak launch will generate transient traffic, and for a significant period of time each day launching at this location is impossible due to tidal flow. The cumulative value of so-called amenities is calculated to understate the primary objective of the project, which is to construct a private residential enclave in an ACEC and WS Zoning District.

Response

Refer to Section 1.2 of Chapter 1, *Project Description,* for updates to the Project since the filing of the ENF/PNF. The dog park, shore shack, and kayak launch have been eliminated from the Project based on feedback from the community.

Comment 9.15

The placement of the boathouse usurps the best view of the harbor for the private owners, and closes an area which has been open even when the site was used by the Lawley Shipyard for an active shipbuilding business.

Response

The redesign for the Project has located the boathouse in a similar location to the existing Russo Marine boathouse. All buildings have been moved inland from the water's edge to preserve and enhance the best views of the water.

Comment 9.16

The proposed project is not intended to create housing which is affordable by any standard.

Response

Refer to response to Comment SD.16.

Comment 9.17

If built as proposed, it would irrevocably change the character of the Port Norfolk community, and would detract from the quality of life. The traffic generated would further complicate traffic issues in the entire Neponset area and beyond. It would also adversely affect the surrounding environment, which has been nurtured over decades for the enjoyment of all citizens of the Commonwealth. The process of Imagine Boston 2030 identified locations throughout the City which are appropriate for housing development. Port Norfolk is excluded from that list because it has presently insurmountable issues with infrastructure which are impossible to resolve in the foreseeable future.

Response

The comprehensive transportation analysis presented in Chapter 5, *Transportation* is based on the revised trip generation for the reduced Project program.

Comment 9.18

We believe that in this instance the comprehensive project submitted under Article 80 may actually be employed to circumvent effective review of the component parts. The proponents promote a project which represents an accumulation of smaller projects, which would individually be rejected out of hand.

Response

Analysis of the complete project allows for an assessment of cumulative effect. This is BPDA's expectation for projects of this scale and a regulatory requirement of the state to prevent segmentation of impacts.

Letter 10: Jason Berry

Comment 10.1

The project is too large and aggressive for the neighborhood. It has too many units, the buildings are too big and there are too many different uses being proposed (residential, hotel, restaurant, marina storage & service, reconfigured docks, new fishing pier, bait shop, kayak facilities, public restrooms). It would overwhelm all aspects of the neighborhood and cause irreparable damage. The Port Norfolk neighborhood is a small peninsula with access, infrastructure and size limitations. A smaller, more focused project is better suited to the neighborhood.

Response

Refer to Chapter 1, *Project Description,* for a summary of Project changes, which include a considerable reduction in density and modification of the proposed uses.

Comment 10.2

The project is in the on the Neponset River Estuary, an Area of Critical Environment Concern (ACEC). From CMR 12.00 - "ACECs are those areas within the Commonwealth where unique clusters of natural and human resource values exist and which are worthy of a high level of concern and protection." The project in its current form is at odds with the intent of the ACEC provisions.

Response

Refer to response to Comment 9.3.

Comment 10.3

The project plan claims it involves maintenance dredging and improvement dredging is not anticipated. I believe more attention should be given to the dredging license, the extent of dredging and the distinction between improvement and maintenance. The possibility of any improvement dredging in a prohibited ACEC area should not exist.

Response

Additional detail on the proposed maintenance dredging is provided in Section 8.4.3 of Chapter 8, *Wetlands and Waterways*.

Comment 10.4

The project is in an intertidal area and as such is required to evaluate approaches and practical steps for avoidance when possible and minimization if avoidance is not

possible. The project in its current form aggressively expands the scope of the marina. There is a functioning marina currently on the site. The most practical approach for avoidance/minimization would be to keep marina operations consistent with the current scale which can be accomplished without dredging.

Response

As described in greater detail in Chapter 8, *Wetlands and Waterways*, the existing marina is not functioning at its designed capacity and is at the end of its useable life. The existing marina has silted in considerably (six feet or more in some areas) and existing structures are degraded. The proposed marina work will restore the marina and maintain water-dependent use of the shoreline, as recommended by the RMP.

Comment 10.5

Dredging would impact the "substantial soft-shell clam beds are located at the mouth of the river" [reference 1]. The Neponset River Watershed suffers from "Legacy toxins (i.e., PCB-laced soil and groundwater from a former industrial property leaches toxins into the river)" [reference 2].

Response

Refer to Chapter 8, *Wetlands and Waterways*. The Project is not anticipated to impact soft-shell clam beds. Clam beds are located outside of the proposed marina improvements.

Comment 10.6

The size of the proposed structures will have an adverse effect on the surrounding ecosystem and will decrease the quality of the Tenean beach experience. The height will add shade to Pine Neck Creek and Tenean Beach. The shaded area will change water temperatures impacting wide life and vegetation. The size of the structures will impact an area heavily populated with birds.

Response

As shown in Figures 6.1a-c, 6.2a-d, 6.3a-d, 6.4a-c, shadow impacts on vegetated areas of Pine Neck Creek and Tenean Beach are minimal and passing, and as such, are not anticipated to impact water temperatures, wildlife, or vegetation.

Refer to Chapter 3, *Urban Design*, for additional information on viewshed impacts. The buildings are not anticipated to have any impact on ocean breezes due to the porosity of the buildings, and the nature of wind travel. Additionally, the building height will not adversely impact bird populations. As a residential building with an industrial design, there are no large areas of highly reflective glass or extreme lighting that would interfere with bird migrations.

Comment 10.7

The project calls for the removal of the in-water Tenean beach wave fence. Increased wave action from the removal of the fence could cause erosion issues at Tenean Beach and should be studied. The fence removal should be evaluated consistent with dredging given it will disturb the ocean floor. Removing the wave fence creates an unnecessary risk in an ACEC.

Response

Refer to response to Comment 5.6.

Comment 10.8

The project calls for the reconfiguration of existing with docks with the addition of a new boardwalk/fishing pier. This work should be evaluated consistent with dredging given it will disturb the ocean floor. Reconfiguring docks and adding new in water structures creates an unnecessary risk in an ACEC.

Response

Refer to Section 8.5 of Chapter 8, *Wetlands and Waterways,* the marina will be reconfigured within the footprint of previous disturbance.

Comment 10.9

The proposed pedestrian foot bridge between the site and Tenean beach will be placed over Pine Neck Creek. The creek ecosystem has improved over the years and will be set back by this structure. This work should be evaluated consistent with dredging given it will disturb the ocean floor. Adding a new pedestrian foot bridge creates an unnecessary risk in an ACEC.

Response

Refer to response to Comment 3.12. The pedestrian bridge has been removed from the Project.

Comment 10.10

Concerns have been expressed about the developer's future plans for adjacent parcels which would have a significant impact on the current project proposal. The developer should be required to respond in writing to any statements made in the press regarding other parcels in the neighborhood. The developer should be required to produce any letters of intent, purchase & sale agreements or other documents relating to other parcels in the neighborhood.

Response

The Proponent does not own or have any immediate plans to acquire other properties in the area for subsequent development.

Comment 10.11

Any traffic plan must take into account existing rate of growth in traffic.

Response

Traffic growth is incorporated in the traffic analysis presented in Chapter 5, *Transportation*.

Comment 10.12

The traffic generated by the proposed project should attempt to remain consistent with the traffic patterns of the existing business on the lot, the MarineMax Russo Boston. The project should benchmark any proposed traffic changes against the current traffic patterns of the existing business.

Response

The traffic analysis presented in Chapter 5, *Transportation* is grounded on detailed existing information from extensive traffic counts.

Comment 10.13

The height, design and style is not consistent with the neighborhood. Port Norfolk is a small seaside neighborhood with a lot of history that the project should embrace. I personally think the Boston Harbor Distillery is an excellent example of a design style that fits the neighborhood. The developer is applying a design consistent with current projects in the South Boston Seaport area that are not appropriate for this neighborhood.

Response

The architecture of the redesigned development draws its inspiration from the rich history of the buildings at the tip of the peninsula. The shape and massing of Buildings B and C are directly inspired by the brick structures adjacent to the site, including the Boston Harbor Distillery.

Comment 10.14

The height of the proposed structures should use the existing structures on the lot and in the neighborhood as a reference point. The increased height will make the beach less desirable for visitors given the reduced sunlight, obstructed views and decreased ocean breezes.

Response

The overall height of the Project has been reduced, and the Tenean Beach side of Building A has been designed to step back away from the shore to ease the visual impact on the beach. Shadows studies indicate that the development will only block early morning sun and in the worst case (during Winter) shadows will be off Tenean Beach by 8am.

Comment 10.15

More work needs to be done to ensure that these passageways have the capacity to provide streets and safe sidewalks to the project. The limited access and size of the project also create emergency access concerns that need to be addressed.

Response

Refer to Section 5.6 of Chapter 5, *Transportation* for a discussion of potential improvements to neighborhood streets.

Comment 10.16

Recent events in Boston and other areas of the country have raised concerns regarding the fire safety of wood-framed "Type 3-A" construction. If the project plans on using this construction technique the safety impact needs to be addressed.

Response

If Type 3-A construction is utilized, temporary fire protection will be employed during construction to ensure full fire protection coverage throughout construction. Fire extinguishers will be located every 50 feet throughout the building, and the site will be monitored 24/7 through video monitoring and live personnel.

Comment 10.17

The new Joseph Finnegan Park and continually expanding Neponset bike trail are sending more pedestrians and cyclists down Water Street to the intersection at Water, Lawley and Conley Street. The current safety and function of that area for pedestrians and cyclists needs to be remedied before any projects move forward.

Response

Refer to Section 5.6 of Chapter 5, *Transportation* for a discussion of potential improvements to neighborhood streets.

Comment 10.18

The street in front of 55 Lawley Street is prone to flooding. During high tide events water comes up from through the street drains. Many residents in the area have existing sewer issues.

Response

Refer to Section 9.3 of Chapter 9, *Infrastructure.* Regarding existing infrastructure plans.

Comment 10.19

Parts of the neighborhood are constructed on fill. The existing buildings are old and structures are prone to vibrations. This project will overwhelm the existing infrastructure in the neighborhood and damage existing structures.

Response

Vibration will be further minimized by the following:

- Use of H piles rather than concrete piles for upland construction.
- Predrilling soils prior to pile driving.

Impacts to adjacent structures are not anticipated and will be carefully monitored during the construction process.

Comment 10.20

Because of the small streets and tight corners the neighborhood already experiences issues with larger trucks being unable to maneuver. The project plan should not rely on bringing construction materials and equipment by truck down Lawley, Port Norfolk and Walnut Streets.

Response

Refer to Section 6.9 of Chapter 6, *Environmental Protection.*

Letter 11: Maria Lyons

Comment 11.1

Size, Scope and Use - Project will overwhelm the Port Norfolk Neighborhood and Dorchester Waterfront. Port Norfolk peninsula is all at one level, 2-3 stories and trees. An 86 ft. high project will stick up like a sore thumb, negatively changing the Dorchester Waterfront views from the hills of Dorchester and from the water looking in. If you ride around U Mass, Boston, and look towards Port Norfolk and Neponset you will see a few small building but mostly a neighborhood of trees, wildlife and the beautiful Blue Hills in the background. Travelling along Rte. 93 in the Port Norfolk area offers the best views of Dorchester Bay and Boston Harbor along this highway. A massive building project in Port Norfolk will destroy these unique, historic views. The project will destroy the character of the Port Norfolk Neighborhood. 150 condos and 25 room hotel will double population of entire Port Norfolk neighborhood. Restaurant, 75 boat marina, retail and other planned structures will change the character from quiet seaside neighborhood to an overhyped destination. The developers themselves stated that they wanted to make this a huge destination at the very first meeting with Port Norfolk neighbors. There will be nothing to stop them from filing for liquor and entertainment licenses after project is built. The end of the Port Norfolk Peninsula, already is vibrant enough with a large restaurant, 4 function rooms, and 4 bars. We already are negatively affected by the amount of incoming traffic, speeding in our streets and patrons who been drinking exiting. Doubling the existing population will strain infrastructure and utilities. Proposed projects will harm Neponset River Area of Critical Environmental Concern (ACEC) during construction and after.

Response

The Project has been redesigned to fit in better with the existing nearby buildings, including a reduction in overall height. The buildings have also been moved back from the water's edge, creating better public access and views. The hotel and restaurant program have been eliminated, and the residential units have been significantly reduced. The proponent no longer wishes to make this a destination, but instead a sensible residential development with public access to the waterfront and a renovated marina.

Comment 11.2

Design – Large box designs of steel are incompatible with historic Port Norfolk Neighborhood homes and buildings and natural ACEC area. Any reflective surfaces across from Tenean Beach will reflect the afternoon sunlight directly into the eyes of the public trying to enjoy beach. We are not a Downtown Seaport Waterfront. We are a small neighborhood within a critical environment. Port Norfolk is a very special place and needs to have special considerations by the BPDA. The Boston Design

Commission has directed City Point Planners to listen to the neighborhood and to respect the story of Port Norfolk.

Response

The redesign of the development fits in architecturally with the existing nearby buildings, both in design and materials. The materials on the Tenean beach side are not intended to be reflective, so the only opportunity for minimal reflection on the beach will be a few windows just before sunset during the summer months.

Comment 11.3

Traffic and Parking- Port Norfolk is a small peninsula. Adding 1,500 cars a day through small neighborhood streets is unacceptable, only way in and out is through Morrissey Boulevard, already difficult to access. There is no plan offered because there is no possible solution. Ideas such as ride sharing in a rich condo development and ferries in a shallow river are not reasonable. Plan only providing 185 parking spots. 150+75+25+Restaurant+visitors+workers does not add up to 185. The plan does not add in cars from marina, 75 boats, or visitors. The overflow parking from the site will compete for already scarce, neighborhood spaces with the local residents. 1,500 cars a day in and out will add air pollution to the area.

Response

Refer to Chapter 5, *Transportation* for a comprehensive transportation analysis including up-dated traffic generation and parking ratios for the reduced Project program, and potential improvements to enhance access to and from Morrissey Boulevard.

Comment 11.4

Height, Sky Dome, and Shade – Plan only addresses sky dome from Erikson Street. Two 86ft high buildings and other massive buildings, will block view of sky dome and ocean from Tenean Beach, Rte. 93, Dorchester Neighborhoods, Venezia Harborwalk and block ocean breeze onto Tenean Beach and into the neighborhood. The beautiful views of sunrises and sunsets across the end of the Port Norfolk Peninsula will be blocked. A visit to Marina Bay shows the results of blocking the sun and sky. With the addition of their most recent building project, the public boardwalk is now in shade by mid-afternoon and the view of the sunset is gone. Large buildings in Port Norfolk will block birds moving back and forth to feed and nest between Squantum point Park and Pine Neck Creek and flights by Migratory Birds. Project will add shade to Pine Neck Creek and Tenean Beach, changing temperature of water, impacting wildlife and enjoyment by humans. The residents of Port Norfolk witness the wildlife and birds all the time and respect the ACEC. The developers do not.

Response

Skydome impacts were assessed based on City of Boston guidelines for analysis. As shown in Figures 6.1a – 6.4c, shadow impacts on vegetated areas of Pine Neck Creek and Tenean Beach are minimal and passing, and as such, are not anticipated to impact water temperatures, wildlife, or vegetation.

Refer to Chapter 3, *Urban Design*, for additional information on viewshed impacts. The buildings are not anticipated to have any impact on ocean breezes due to the porosity of the buildings, and the nature of wind travel. Additionally, the building height will not adversely impact bird populations. As a residential building with an industrial design, there are no large areas of highly reflective glass or extreme lighting that would interfere with bird migrations.

Comment 11.5

Sewage – A 1,245 to 27,956 Gallons/day increase to an old, already problematic sewer system will cause more backup into homes. Most of Port Norfolk is a flat sea level peninsula, hampering flow. Who will pay for clean-up, new sewer system and individual hookups to homes if current system breaks down?

Response

Refer to response to Comment SD.14.

Comment 11.6

Dredging and Larger Marina - They have not found a previous dredging permit. What will be maintenance - what will be improvement? How will determination be made if no permit record is found? Improvement dredging in an ACEC is forbidden. Port Norfolk Yacht Club members believe it has been approximately 30 years since last dredging. Much of the site has refilled with PCB contaminated mud up to the level of land in Pine Neck Creek. The surrounding area is now an ACEC and has changed back into a natural area considerably. This need to be taken into consideration. Resuming large amount of dredging in a now ACEC area will impact the adjoining shellfish beds at Buckley's Bar (off of Squantum Point Park), mudflats, marshes, Tenean Beach, Victory Road Park and the wildlife that feeds and nests there by covering them with mud and releasing PCBs into the water. There is no completely safe way to dredge contaminated mud. Deep dredging across from Tenean Beach could cause erosion of beach, creek, and harm marsh by changing current patterns and wave actions. More boats means more pollution such as from oil, gasoline, wastes leaks. Presently there is only about 15-20 boats on site. New private wharfs in an ACEC are forbidden. Are the proposed wharfs considered replacement or improvement? Plan seems to be proposing much larger docks than those that are currently at the site.

Response

Refer to Sections 8.5 and 8.6 of Chapter 8, *Wetlands and Waterways*.

Comment 11.7

Fence Removal from dock in water across from Tenean Beach – Removing the fence could cause increased wave action that could cause erosion of Tenean Beach. Professional evaluation of existing conditions and modeling of proposed changes must be required.

Response

Refer to response to Comment 5.6.

Comment 11.8

Runoff from Property – The Plan states that runoff will be reduced due to more of the site being unpaved. The Plan does not take into account that adding cars, trucks, boats and dogs to the site will increase the pollutants in the runoff water into an ACEC area. Also, the Planers have no knowledge of the weather conditions in the area. When there is a heavy storm in Port Norfolk, the wind is most often coming from the Northeast. The precipitation, rain or snow, comes sideways down our streets, not straight down to the ground. Large building along the edge of Port Norfolk will catch the rain and snow and build up at the site. This will increase the runoff from the site.

Response

Refer to Section 9.3.2 of Chapter 9, *Infrastructure,* and response to Comment 3.5.

Comment 11.9

Bridge – Building a bridge across Pine Neck Creek will destroy marshes at Pine Neck Creek, ACEC, and would facilitate the use of Tenean Beach parking as ancillary parking for a private development. Visitors to Neponset Wharf, marina, restaurant patrons will take up spaces of the public using the beach, playground, courts and Neponset Greenway. The scenic view from the end of Pine Neck Creek, along the Neponset Greenway Trail, to downtown Boston, is also a popular artists' spot that would be blocked by a bridge. The bridge to Tenean would cut off only a minute of travel around Pine Neck Creek. Not worth the environmental problems it will cause. A better plan would have the Harborwalk extend all the way from Venezia to Tenean along the edge of the waterfront.

Response

Refer to response to Comment 3.12. The pedestrian bridge has been removed from the Project.

Comment 11.10

Biking and Walking– The Plan seems to be proposing the idea that the project will somehow promote the use of bicycles and walking in the area. The Neponset

Greenway Trail goes through the neighborhood via Taylor, to Water, to Conley Street. It connects Joseph Finnegan Park to Tenean Beach. Adding 1,500 cars a day will make riding through the area considerably more dangerous, especially at the ends of the streets going down to the project along Water Street. Walking in and out of the site will be through narrow openings where there is little or no room for sidewalks causing unsafe walking conditions.

Response

Refer to Section 5.3.2 of Chapter 5, *Transportation* for a revised analysis of trip generation based on the reduced Project program. Section 5.5 presents a Transportation Demand Management program which includes strategies to encourage alternative mode of transportation. Section 5.6 describes potential improvements to neighborhood streets, including pedestrian and safety improvements.

Comment 11.11

Open space, Public view - The developer's report on open space and view is misleading. They say they are providing 2 acres of open space but much of public open space is unusable, under buildings or alongside buildings. It is not clear if they are also counting streets and sidewalks. 40% of Port Norfolk already is open space. We value open space, but the open space offered is questionable and does not compensate for the height and size of the buildings that will diminish the quality of the open space we already have. The best view, next to Venezia, is reserved for private use. The plan is for a flat roof boat storage building, attached to a non-water dependent use building. This could easily be changed into an inappropriate, private, loud, open air bar/ entertainment spot after it is built. The music from an open air bar in Marina Bay used to travel into Port Norfolk, Neponset and all the way over to South Boston, disturbing residents and wildlife. The offered public view is of the Xway and LNG tank and they would be destroying the public view from Tenean Beach, Rte. 93, Dorchester Hills, Victory Road Park and Dorchester Bay. A small additional space and degraded view does not justify the harmful impacts of this project. Their Plan, construed to obtain a Chap 91 license is disingenuous.

Response

The open space has been increased, particularly in the area next to Venezia where the Public Pier and public lawn have been designed right on the waterfront. The building and landscape design have been modified to maximize views and minimize the perceived massing of the Project. Refer to Chapter 3, *Urban Design*, for additional detail on proposed open space breakdown.

Comment 11.12

Construction – Noise and vibrations due to construction of a large project and trucks going by will impact neighborhood and ACEC wildlife. Will pile drivers be needed?

There is a substantial threat that construction could cause damage to historic homes and buildings, old streets that are sinking, and water and sewer pipes especially since much of Port Norfolk is on filled land, known to increase impact of vibrations. Noise will scare away birds in ACEC, nesting and feeding near site. Noise will disturb neighbors in Port Norfolk and Neponset.

Response

Refer to response to Comment 5.9.

Comment 11.13

Hazardous Wastes - The Plan states that they have found hazardous wastes on the site but it does not elaborate sufficiently on where, amount or type. Will they be removing hazardous wastes? If so what is the procedure and how will they protect the ACEC environment and the neighborhood from contamination. Have they tested entire site for Hazardous wastes?

Response

The plan does not state that hazardous wastes were identified at the site. However, a release of oil, which is related to historical site uses, were identified in soil and groundwater at the northeastern portion of the project site. Periodic sampling and testing of groundwater and soil has been performed at the project site since 1995. Based upon the results of soil and groundwater testing, the release of oil is not considered to be migrating from the northeastern portion of the Project Site. In addition, contaminated soil is located at depths ranging from 8 to 14 feet below ground surface which generally corresponds to the surface of groundwater. As a result, the potential for human exposure to contamination and associated risks to the ACEC is not considered to currently exist at the release site.

Remedial actions will be implemented as part of construction of the Project. It is anticipated that these remediation activities will achieve a Condition of No Significant Risk and a Permanent Solution for the release site. The remediation will be performed under a Release Abatement Measure Plan that will be prepared and implemented in accordance with 310 CMR 40.0442(3) of the MCP and DEP Policy #WSC-00-425 "Construction of Buildings in Contaminated Areas" to address the requirements for construction of structures within the release site.

Prior to construction, additional testing will be performed to pre-characterize fill material for off-site removal in anticipation of the proposed scope of construction. Additional testing will also be performed on existing soils that may remain in place after construction. Utilizing the results of this soil testing, a Risk Characterization will be prepared to evaluate risks to current and future human and ecological receptors (i,e workers, nearby residents and future site occupants) that may be exposed to levels of oil and/or hazardous constituents once the fill material is uncovered and/or excavated as well as those that may remain at the site after construction.

Comment 11.14

Public Amenities – The offered public amenities are redundant in the area, inappropriate for area, or harmful to ACEC and neighborhood, and will increase traffic even more with no parking. They are being offered to obtain licenses with no thought of need or workability. Do not justify negative impacts regarding Chapter 91 Laws, Wetlands Act, neighborhood zoning or ACEC. Neighborhood and greater Dorchester does not need them!

- *Kayak launch – Will launch into a mudflat area, no water large parts of each day with tides. Public will have to pay for kayak storage. A more useful and appropriate Kayak launch already exist in nearby Neponset 2 Park.*
- *Fishing - Fish in Neponset River have high levels of PCBs, should not be eaten. Fishing Pier already exists next to Joseph Finnegan Port Norfolk Park. Fishing gear, lines, and hooks could entangle birds and children, wash up on Beach and marshes.*
- *Beach Sand area - Tenean Beach is right across Pine Neck Creek from project. If they remove seawall to create a beach the project site will easily flood.*
- *Playground and courts – Large playground, basketball and tennis courts are at Tenean Beach.*
- *Dog Park – Adding a dog park beside Tenean beach will increase bacteria level at Tenean Beach beyond the unacceptable current levels. This should not be allowed.*

Response

Refer to Section 1.2 of Chapter 1, *Project Description,* for updates to the Project since the filing of the ENF/PNF. Apart from the Public Pier (fishing pier), the referenced uses have been eliminated from the Project. The Project team is coordinating with the Division of Marine Fisheries to understand potential risks for consuming fish in this area and to develop strategies to minimize those risks.

Comment 11.15

Fire Safety- There are concerns about fire safety. Entrances into and through Port Norfolk are already difficult. Entrances into this site are narrow and multi- angled. Will large fire equipment be able to reach all sides of the buildings proposed on the site? How many fire Vehicles can even fit down the streets of Port Norfolk and into the site. If the parking lots at Venezia, the Winery and the Boston Distillery are filled and overflowing, the usual case, the situation becomes even more dangerous.

Response

The Proponent has met with the Boston Fire Department to discuss the importance of emergency access for the Project and the neighborhood as a whole.

Comment 11.16

Waterfront Development/Marina- The Neponset Wharf Plan proposes to retain the marina at the site. However, they only seem to be providing for docking and storage. This site is one of the few sites left in Boston Harbor where there is a full marina capable of boat sales, service and repairs. It is not an underutilized property. The unused space is necessary to move large boats. Large buildings on the site will hamper the movement of boats in and out of the water, diminishing the use of the property as a working marina. A full working marina should be preserved.

Response

The Project will maintain and improve upon the existing marina, while maintaining an approximately 75-vessel capacity. The shift to indoor boat storage and associated stormwater management improvements will provide containment for dust and noise during boat maintenance and repair, minimizing both community and environmental impacts. Refer to Section 1.2 of Chapter 1, *Project Description,* for additional details.

Comment 11.17

Boston Zoning Code and Port Norfolk BRA Report– Project ignores Dorchester Port Norfolk Neighborhood Waterfront Service District Zoning- max height 35FT, no hotel, no restaurant, no retail. Housing is conditional but refers back to Port Norfolk Neighborhood Zoning which is 5,000 sq. ft. lots, single family. The BRA and the Port Norfolk Neighborhood worked together for many years to develop the Port Norfolk Plan and Zoning. Nothing has changed, they should not be ignored. Allowing this project will set a bad precedent for entire Dorchester Waterfront. Many years ago, Dorchester lost its waterfront when the train tracks and Rte. 93 were built. The DCR has been working for many years to restore the Dorchester Waterfront. With the designation of the Neponset River ACEC and the creations of parks, they have been quite successful. This project would be the beginning of creating a wall of condos between Dorchester and its waterfront. The Dorchester Waterfront Zoning Code and the BRA Plan for Port Norfolk is meant to protect Dorchester from projects such as the Neponset Wharf. Project needs to be cut down. They should be offering a much smaller project in size, height and density or none at all, and keep it a complete working marina. No hotel, restaurant or retail allowed.

Response

The Project has been redesigned and no longer includes a hotel or a restaurant. The only remaining retail space is for a small neighborhood focused business (market, café/deli, etc). The residential unit count has been significantly reduced, and the overall size and massing of the Project have been reduced.

Comment 11.18

Plan is inconsistent with ACEC Management Plan- The Neponset Wharf Plan states that it is consistent with the Management Plan for the Neponset River ACEC. They have taken one idea, that the site remain a waterfront use area. They ignore the rest of the Management Plan. There is no proposal in the ACEC for building large buildings, excessive dredging or oversized wharfs. All Massachusetts Wetlands and River Acts need to be respected to the highest level. Harming wetlands by contamination, covering with mud, changing flow and tidal patterns, possible erosion, noise, shading, blocking of bird flight paths is not respecting these laws. The ACEC Management Plan also states that if there is a proposal at the site, that it should be consistent with the Local Zoning and character of the neighborhood. Clearly this plan does not abide by these directives. The very idea of this project goes against the spirit and intent of the ACEC designation.

Response

Measures to avoid and minimize impacts to the ACEC are discussed in Chapter 8, *Wetlands and Waterways*. Through best management practices and close coordination with federal, state and local agencies, the proposed construction is not anticipated to result in permanent adverse environmental impacts. As a result of the proposed stormwater management improvements and modern marina management, the Project hopes to create a net environmental benefit on the surrounding ACEC as compared to the existing condition.

Comment 11.19

Plan is inconsistent with Imagine Boston 2030 – The Neponset Wharf Plan states that its proposal is consistent with the Imagine Boston 2030 Plan. First of all, the Imagine Boston 2030 Plan is not a legal document. It is a vision that some people have for the city. The Imagine Boston 2030 Plan has no mention of the Port Norfolk neighborhood. We are not designated as an area for future, possible development. We are not a Transit-Oriented Neighborhood. In fact we have very poor public service, an infrequent bus line that brings you backwards to the T, not towards Boston. The imagine Boston 2030 states that any development be consistent and respectful of the character of the neighborhood in which it is proposed. We are not a downtown waterfront. The Neponset Wharf Project will be a drastic, negative change to the look and quality of life within the Port Norfolk Neighborhood and detrimental to the ACEC and to the Dorchester Waterfront.

Response

Although the Project cannot satisfy all goals of the Boston, the Project is consistent with the overarching goals for economic development and protection of natural resources. Consistency with neighborhood character has been carefully contemplated through the design of the Project and continued coordination with the community.

Comment 11.20

Economic Injustice – Tenean Beach is the Poor Man's Beach. It would not be right if rich people get to sit in their condos and enjoy their view while the public at Tenean Beach, Dorchester neighborhoods and travelers on Rte. 93 have to look at 86ft high monstrous buildings. The quality of the experience when using Tenean Beach, the Neponset Greenway, Victory Road Park, and Dorchester Bay will be diminished.

Response

The overall height of the development has been reduced and the architecture of the building closest to Tenean Beach is stepped back to provided visual relief. Additionally, the waterfront paths are accessible to the public and will offer great views.

Comment 11.21

Environmental Injustice - The designation of an area as an ACEC raises it to the highest standards of protection from any project in or around it. The ACEC mandate for all private and public agencies is to "Do No Harm". The Neponset Wharf sits directly in the Neponset River ACEC. The BPDA needs to recognize the uniqueness of the area and its high need for protection.

In the Neponset River ACEC the designation is working. Much of the area is returning to the natural marshes, mudflats, shellfish, and buffer zones needed for the health of the Boston Harbor and the ocean wildlife. Some of the bird observations from this summer have included egrets, great blue herons, night herons, bitterns, cormorants, swans, swallows, red wing blackbirds, and various ducks, gulls and sandpipers. This should not be jeopardized! The area must be protected for the sake of the environment and its wildlife and for the children of Dorchester to experience and learn about valuable estuary ecology. The quality of our existing parks and recreation areas should not be diminished.

Response

As described in Chapter 1, *Project Description*, the Project has been modified considerably since the filing of the ENF/PNF to respond to community concerns. Through these modifications and continued dialogue with community members, the Proponent believes that the current Project will enhance quality of life in Port Norfolk and maintain the neighborhoods unique scale and character.

Measures to avoid and minimize impacts to the ACEC are discussed in Chapter 8, *Wetlands and Waterways*. Through best management practices and close coordination with federal, state and local agencies, the proposed construction is not anticipated to result in permanent adverse environmental impacts. As a result of the proposed stormwater management improvements and modern marina management, the Project hopes to create a net environmental benefit on the surrounding ACEC as compared to the existing condition.

Letter 12: Norwood Yacht Sales

Comment 12.1

The reason I am here tonight is to voice my objection to the re-zoning of another property that currently is zoned for marine use. The property has been a boat yard since the late 1800's, first as the Lawley Shipyard; then Victor Tracy; then Norwood Marine; and now Marine Max. Currently, the Boston Police and Environmental Police boats get hauled and serviced here. I fear that under the proposed development, the boats here will simply be "eye candy" to the condo owners, and that the developers will have no concern as to where the boats will get stored or serviced in the future.

Response

The Project will maintain and improve upon the existing marina, while maintaining an approximately 75-vessel capacity. The shift to indoor boat storage and associated stormwater management improvements will provide containment for dust and noise during boat maintenance and repair, minimizing both community and environmental impacts. Refer to Section 1.2 of Chapter 1, *Project Description,* for additional details.

Comment 12.2

Over the years we all have watched marinas such as The Hingham Shipyard, Admiral's Hill Marina, Boston Yacht Sales once on the Neponset River on Hilltop Street, disappear. Now a car dealer parks cars at the Old Quincy ship yard. Due to the new condo development at Marina Bay, it has lost storage for 150 boats, as well as parking and convenient access to the marina. It looks like the ship yard at East Boston Pier Marina will be the next to fall. In the Boston area there are becoming increasingly fewer and fewer places to haul and store a boat. One can't even launch a small sail or power boat, or easily park their vehicle, anywhere on the water front.

Response

Refer to response to Comment 12.1 above and Section 1.2 of Chapter 1, *Project Description*.

Comment 12.3

Boats in Boston are owned not only by the wealthy. In fact, the majority of boats owners in Boston are low to middle class workers who have made a few bucks and can afford their dream of owning a boat and escaping to the water. In the long run, developments like the one proposed put upward pressure on the cost of owning a boat and also limit access to the water.

Response

The existing marine is deteriorating and in need of considerable investment. These improvements will result in a modern, efficient, and environmentally friendly marina. The implied connection between these improvements and the overall cost of boat ownership is unclear.

Comment 12.4

I hope the City does not allow this project to go through. If it does however, my question is will the City recognize that there needs to be some land set aside, designated for marine use that provides not only dockage, but also significant space and sufficient hoist capability for servicing boats in the area.

Response

See response to Comment 12.3.

Comment 12.5

In conclusion, there are fewer and boat yards and marinas in the Boston area that have the ability to haul and service boats. Once an area designated for water dependent usage - like the site of the proposed development - is destroyed, it is gone for good. Furthermore, considering the recent hurricane tragedies in other parts of the country along the water, the City needs to consider and identify places to haul pleasure and commercial boats in case of an emergency.

Response

See response to Comment 12.3.

Letter 13: J. Edward Roche

Comment 13.1

1.That the BPDA and the city of Boston related departments recognize the need for a full-blown comprehensive plan for Port Norfolk / Neponset like the BPDAs efforts at Glovers Corner Dorchester and past planning efforts at Charlestown navy yard. The plan boundaries may extend say ¼ mile on the compass from the common at Port Norfolk again designed by the brilliant planners of the 1840s.

2. Though the 1990 BRA plan for the port was a very good start by the BRA in the rezoning that occurred throughout Dorchester, the people involved in this effort, including the writer, at that time did not understand the underlying brilliant master plan of the peninsula, right under our noses buried in the portals of the past of Norfolk county.

3. The Reason /The most important consideration in the creation of new planning guidelines or an IPOD are that there are a number of remaining significant parcels of land throughout the Ports ocean and river sides that are in flux by an apparent development shell game with unknown but publicly stated options for additional development after this phase is built, hence the overwhelming need for review of these additional parcels , the peninsula cannot be further picked off parcel by parcel According to the whims of the market place.

We will not allow the commercial and residential historic architectonics of the waterside port to be overrun with unsympathetic non-water dependent development that is incompatible with the residential context partner.

Response

The architecture of the redesigned development draws its inspiration from the rich history of the buildings at the tip of the peninsula. The shape and massing of Buildings B and C are directly inspired by the brick structures adjacent to the site.

Comment 13.2

Note that all infrastructure, street widths, sewers, water etal in Port Norfolk were developed in and around 1830 to 1870, no improvements or increase in capacity over 175 years of use and are in poor condition (see planning report.) This is a major consideration that must be recognized and addressed in a project of this type and scale

Response

Refer to response to Comment SD.14.

Comment 13.3

The development parcel is in a Waterfront services zone: as such uses in this zone are to be water dependent uses, the only use proposed that is water dependent is the Marina.

Response

The development is proposing a renovated marina and a new boathouse as water dependent uses, and an allowed conditional-use on the site for residential units.

Comment 13.4

What is lacking in the proposed development plan is the proponent's ignorance and lack of understanding this historic connection between the site and the neighborhood as exhibited in the original illustrated plan. The proposed development has totally disregarded the BRA plan, zoning, and basic planning principles. Shamefully, there has been no effort to weave this project into the existing residential neighborhood context either by intent or ignorance. Do better.

Response

The redesigned development is inspired in-part by the immediate historical context of the buildings at the tip of the peninsula. The hotel and the restaurant, have been eliminated from the program. The only retail space remaining is a small space intended to service the local community. The only other use in the development is the residential units, which also have been significantly reduced in number.

Comment 13.5

There is a traffic study in Exhibit A that defines the current traffic capacity of the 3 streets of port Norfolk walnut, port Norfolk and Lawley that access Port Norfolk including Morrissey Blvd interchanges. In summary, the current traffic capacity rating of these streets and Neponset circle as of 1990 were rated as "F" (failure). Nothing has changed other than the generation of more cars and less capacity to handle them

Response

The Proponent is not aware of this traffic study. Nonetheless, a traffic analysis of current and future traffic conditions is presented in Chapter 5, which also includes potential improvements including connections to Morrissey Boulevard.

Comment 13.6

The proposed traffic count of this development states that 1500 new trips will be generated from the project. And does not consider future developments of the site along with new occupancies that have taken place since 2000.

Response

Section 5.3.2 of Chapter 5, *Transportation* presents a revised trip generation based on the reduced Project program. The traffic analysis is grounded on 2017/2018 traffic data.

Comment 13.7

It is critically important to note the DCR has a traffic improvement plan under design that will REDUCE Morrissey Blvd traffic lanes from 3 to 2 North /Southbound. Lanes with numerous changes to turning lanes, a nonsensical plan to create a 2-way traffic flow at the Neponset circle that will further distress traffic flows.

The health factor considerations of the traffic backups and traffic idling times which are already severe during rush hour a will be further exacerbated by reduced capacity of this major connector and its impact on Port Norfolk streets is currently not being considered by DCR and proponents of this project.

Response

DCR's Morrissey Boulevard reconstruction project is discussed in Section 5.2.1.

Comment 13.8

Recently a new multi acre park, with direct pedestrian connections to Harbor Park and downtown was opened in port Norfolk in June of 2016. The pedestrian friendly park is fully accessible without any barriers to the waterfront, the downside is that the popular park has generated extensive new auto traffic to surrounding streets as no provisions for park parking were made in the design of the new park. This feature needs to be factored in by the development team, DCR and MEPA.

Response

The comprehensive traffic analysis presented in Chapter 5, *Transportation* is based on traffic data collected in 2017/2018, which would include any activity associated with the park.

Comment 13.9

Currently, emergency vehicles approach on Walnut, and can cut across the restaurant lot to access the marina. If the next project includes building on the existing restaurant lot, the only means of fighting a fire on the peninsulas marina / proposed housing site may be the fire boat, which takes time to arrive and may be limited by tides. a permanent easement which would keep an emergency lane open with any future development.

This should literally send the designers back to the drawing board. This is not pure speculation. Articles in the newspapers and other websites have stated that the developer has "rights" to develop the restaurant property. The present owner will only

acknowledge that the proponents only plan to develop and manage his section of marina.

These facts further demand the need for a comprehensive planning effort that accounts for these Numerous impediments to responsible development.

Response

The Proponent does not own or have plans to develop any adjacent properties.

Comment 13.10

Simplistically stated based on the existing zoning residential development would be capped at 44 new residential units. however, with caps demanded under chapter 91, 25% of the available area is allowed yielding 11 new units of housing.

Response

The Project will require relief from the existing zoning, like most large developments in the City of Boston. The Code is structured this way to ensure individual review of large developments.

Comment 13.11

Our suspicion is that the current proposal under review is Phase 1 of an unknown number of ND future developments

Developer future Options need to be taken into consideration and the peninsula be planned holistically not piecemeal parcel by parcel! PNCA Has requested that the BPDA explain how the review process can be considered valid and Complete, when the ultimate objective may be to complete a project which is thrice the Size of the current proposal. In the alternative, we need a definitive statement of the long term

Intentions of all the parties involved. Though restaurant ownership cannot be compelled to Release the right to develop their property., there is a limit to what can be built in total without Creating chaotic conditions for the peninsula.

There is a limit to the scale of development that the peninsula infrastructure can handle, we can work with the development team to find the Balance.

Response

The Proponent does not own or have plans to develop any adjacent properties.

Comment 13.12

Any lot(s) within a GPOD is subject to the provision of the Article and Code applicable to the sub district within which it is located and to the provisions of Article 29 (Greenbelt Protection Overlay District). Projects within said gpod are subject to review by City of Boston Parks Commission and others.

Response

The Proponent does not believe the Project is located within the GPOD.

Comment 13.13

That said nothing much has changed with this since an upgrade of water lines in 2004 and to our knowledge it remains a combined CSO system with continuing problems. It needs to be recognized and inspected in that this problem is perhaps contributing to water quality affecting the use of Tenean beach. Over time because of lack of maintenance and being the lowest point in the Boston Sewer system deposits within the pipes reduce the undersized capacity further.

Response

Refer to response to Comment SD.14.

Comment 13.14

For major projects in the area BWSC requires developers to separate the sanitary and storm water sewer systems, no indication from the ENF that this is proposed.

Response

Refer to Chapter 9, *Infrastructure*.

Comment 13.15

The combined sewer system in Port Norfolk does not meet Contemporary standards for storm and wastewater systems. Consequently, the combined sewer overflows negatively affect the water quality surrounding Port Norfolk. In addition, the storm drains a Tenean Beach negatively affects that bathing area. The antiquated Sewer system occasionally results in surcharging. The conditions Would be expensive to correct but modification could be required To allow for additional large-scale development.

Response

Refer to response to Comment SD.14.

Comment 13.16

Larger development projects could be required to separate portions of the sanitary and storm water sewer system. Such separation will lessen the impact of new construction in the area and assist in the overall goal of cleaning up the Harbor.

Response

Refer to response to Comment SD.14 and Section 9.4.3 of Chapter 9, *Infrastructure*.

Comment 13.17

Existing sewer system - Lawley St. has seen numerous instances of failure and probably will need to be replaced soon, the impact of a development of this scale on the existing utility and roadway systems is unknown and needs to be assessed and inspected.

Response

Refer to response to Comment SD.14.

Comment 13.18

The ports architecture and scale has been recognized by the City of Boston Landmarks Commission as to be designated an architectural conservation district to make sure that future developments continue to be woven into this successful fabric by design, this is incorporated into the zoning guidelines which the proponent has completely ignored.

Response

See response to Comment 13.4.

Comment 13.19

Much of the Port Norfolk housing stock was built prior to 1860 and Displays an interesting range of 19th century style. The Boston Landmarks Commission Survey, conducted in 1978, recommended that Port Norfolk be designated as an Architectural Conservation District.

Interestingly and telling of the Cities lack of understanding of the history of the planned neighborhood encompassing the residential and industrial components linked together.

Irrespective of such designation, recognition of the neighborhood's architectural heritage should guide adjacent development. Protection and enhancement of the existing housing stock are highly desirable, as in maintenance of the predominant height and density. Of the waterside buildings.

Response

See response to Comment 13.4.

Comment 13.20

The development team needs to express their understanding of accepting the long-standing BRA Plan and make a statement on their vision and commitment to the plans and the community objectives in truly making buildings that will be a beautiful addition to Dorchester's /Boston waterfront and respect the history of the milieu

dating back to 1600s as sites of the establishment of the nation's first commercial / residential waterfront planning area

Response

The development team is committed to making a Project that is a beautiful addition to the Dorchester waterfront and is respectful of the rich architectural history of the Port Norfolk peninsula.

Comment 13.21

Suggestion on design approaches that are more compatible with the fabric of the neighborhood. As such future developments should be modelled on the existing character of the neighborhood and from waterfront communities elsewhere in new England and layout of the original waterside development. New buildings should be sensitive to traditional building forms, heights, massing's and relate to the waterfront and recognize constraints of original narrow local street patterns.

Response

The redesigned development strives to be more compatible with the exiting fabric of the immediate surroundings and other waterfront communities in New England. The architectural character of the buildings is inspired by the adjacent structures and takes cues from traditional working wharf buildings.

Comment 13.22

The PNCA residents' concerns focus on preserving the historic residential character and architectonics of the community and on better utilizing the waterfront for water dependent and public uses. ; the density of the existing housing is relatively low and could be impacted heavily by high density future uses

Response

The architectural character of the redesigned development is heavily inspired by the history of the Port Norfolk peninsula, and in particular the Lawley Shipyard at the tip. The number of residential units has been reduced as well as the elimination of the hotel to more closely align with the density of the peninsula.

Comment 13.23

the proponent would add 3 new buildings of 8 stories in a presently compatible site of all structures, all heights under 40' by effectively walling off the neighborhood visually and physically with barriers and the incomprehensible new structures clashing with the scale, mass, height and precedent architectural character of the port neighborhood.

Response

The redesign of the development reduces the overall height of the buildings and redistributes the reduced massing that fits into the fabric of the tip of the port. The buildings have been pulled back from the water's edge to maintain and enhance the public access to the waterfront views. There is limited visibility of the development from the neighborhood over the existing buildings along Ericsson St.

Comment 13.24

We are Suggesting a neighborhood / development team design charrette to solicit ideas from residents. The development architect should engage an experienced architectural colleague with expertise in historic preservation in Boston / Dorchester context to lead this charrette. It is hopeful that this effort will lead to a workable plan that addresses the myriad of challenges the limitations of the peninsula present. and hopefully to come to a design that is fluidly compatible with defining how the design of new elements and structures to not conflict with this historic neighborhood, the present plan seriously conflicts with this objective.

Response

The development team has and will continue to solicit ideas from the community through a variety of venues to ensure many voices can be heard.

13.1 Public Comments

As noted in the introduction to this chapter, letters submitted by members of the public are listed below[1]. Copies of these letters are provided in Appendix I for reference.

Freda Manning	James Manning	Steven Tankle
Daniel Roche	Stephen White	Beliza Veras-Moriarty
Karen Russo	Marion Bok	Edward McCarthy
JoAnn Innello	Ben Tankle	Stewart Roach
Jeanne DuBois	Bruce Tankle	Christopher Schill
Barbara Heiss	Debra Frederico	Linda Korman Frank Kodzis
Charles Harrington	Geoffrey R. Bok	Bernadette Griffin
Lauren E. Maloney	Joseph P. McDermott	Christine Cummings
Peter Folger	Michael Korman	Donna R. Bishop
Susan Roche e Lan	Patricia Keenan	Robert Goodwill

Because many of the letters expressed a similar array of concerns global responses to these letters are provided by topic below. The public comments and concerns fall into the following key categories:

1. Environmental;
2. Resiliency;
3. Wind comfort;
4. Traffic and Parking;
5. Urban Design;
6. Infrastructure;
7. Construction;
8. Emergency Services;
9. Property Ownership;
10. Neighborhood Planning Context;
11. Housing Needs; and
12. Preservation of Maritime Use.

The responses below aim to address each key community issue and refer to specific sections of the DEIR/DPIR for further information.

[1] In addition to the commenters listed here, several letters were received with illegible signatures. Those comments are also responded to below.

Environmental

For a detailed assessment of environmental impacts, refer to Chapter 5, *Environmental Protection*, and Chapter 8, *Wetlands and Waterways*.

Resiliency

Refer to Chapter 4, *Sustainability/Green Buildings and Climate Change Resiliency,* for a detailed description of the Project's resiliency approach.

Scale and Density

The development team has made reductions in the program to help alleviate concerns about the scale and density of the project. In particular, a significant number of residential units have been eliminated, equal to about 26,000 sf. Additionally, the entire twenty-five (25) room hotel has been eliminated from the program, equal to about 10,000 sf. The restaurant has been removed from the program, equal to about 4,000 sf.

The buildings themselves have been redesigned in a way that reduces their overall size. Building A is terraced and subdivided to soften its edges and minimize the amount of shadows. The overall maximum height has been reduced by a floor. Buildings B and C are sized according to the heights of adjacent buildings. Building D is similar in scale to the existing boathouse.

Traffic and Parking

Refer to Chapter 5, *Transportation*, for a comprehensive analysis of Project impacts and potential improvements and mitigation.

Urban Design

The design of the Project has been carefully considered to respect the existing neighborhood, as well as create a "village feel" for new residents. The space between the buildings makes for a comfortable walk through the site, and is also respectful of the water's edge.

Infrastructure

The Project Team met with John Sullivan and Mike Nelson of the Boston Water and Sewer Commission (BWSC) to discuss the project's impacts to the existing infrastructure. John Sullivan confirmed that the sewer lines in the Port Norfolk neighborhood can handle the proposed increase in sewage generation and stated in an email to the team on March 9, 2018, that the BWSC is currently designing the replacement of water and sewer mains in the neighborhood and plans to award a contract for construction in August/September 2018. John Sullivan also requested that any resident undergoing issues with their sewer service to please reach out to the BWSC.

Refer to Chapter 9, *Infrastructure*, for additional information.

Construction

Refer to Section 6.9 of Chapter 6, *Environmental Protection*, for a draft Construction Management Plan.

Emergency Services

The Project Team has met with Fire Department staff to discuss the existing constraints on emergency access within the neighborhood. The Fire Department confirmed that access challenges to the neighborhood, much like every neighborhood in the City, are typically the product of illegal parking, and that they don't have any major concerns with access to the site. However, in recognition of these concerns from the neighborhood, the Proponent will work with the City to encourage a neighborhood signage and striping plan that more clearly delineates parking and travel areas to discourage illegal parking.

Property Ownership

The Proponent does not own or have any immediate plans to acquire other properties in the area for subsequent development.

Neighborhood Planning Context

The updated design scheme is heavily influenced by the rich history of the port and the Lawley Shipyard in particular. The team found site plans and neighborhood plans from various times during the 19th and 20th centuries to find connections worth preserving and celebrating in a contemporary development.

Housing Needs

This Project is planned to accommodate the city requirements for affordable housing. The development team does not feel this project would lead to gentrification of the neighborhood.

Preservation of Maritime Use

The Project will not result in a reduction in maritime use on the site. On the contrary, the Project's substantial investment into the marina will restore the deteriorating facility to its original design capacity.

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Appendix A: MEPA Distribution List

Appendix A: MEPA Distribution List

Federal

US Army Corps of Engineers
New England District
Regulatory Division
696 Virginia Road
Concord, MA 01742

Commonwealth of Massachusetts

Secretary Matthew A. Beaton
Executive Office of Energy and
Environmental Affairs
Attn: MEPA Office
100 Cambridge Street, Suite 900
Boston, MA 02114

Deputy Commissioner Gary Moran
Department of Environmental Protection
One Winter Street
Boston, MA 02108

Ben Lynch, Program Chief
Department of Environmental Protection,
Waterways Program
One Winter Street
Boston, MA 02108

DEP/Northeast Regional Office
Attn: MEPA Coordinator
205B Lowell Street
Wilmington, MA 01887

Senator Linda Dorcena Forry
24 Beacon Street, Room 410
Boston, MA 02133

Massachusetts Department of
Transportation
Public/Private Development Unit
ATTN: Lionel Lucien
10 Park Plaza
Boston, MA 02116

Massachusetts Department of
Transportation – District #6
Attn: MEPA Coordinator
185 Kneeland Street
Boston, MA 02111

Massachusetts Historical Commission
The MA Archives Building
220 Morrissey Boulevard
Boston, MA 02125

Metropolitan Area Planning Council
60 Temple Place, 6th Floor
Boston, MA 02111

Massachusetts Water Resource Authority
Attn: MEPA Coordinator
Charlestown Navy Yard
100 First Avenue, Building 39
Boston, MA 02129

Coastal Zone Management
Attn: Project Review Coordinator
251 Causeway Street, Suite 800
Boston, MA 02114

Department of Energy Resources
Attn: MEPA Coordinator
100 Cambridge Street, 10th Floor
Boston, MA 02114

Department of Conservation and Recreation
Attn: MEPA Coordinator
251 Causeway St. Suite 600
Boston MA 02114

Massachusetts Bay Transportation Authority
Attn: MEPA Coordinator
10 Park Plaza, 6th Fl.
Boston, MA 02116-3966

Division of Marine Fisheries
Attn: David E. Pierce
251 Causeway Street, Suite 400
Boston, MA 02114

Representative Daniel Hunt
24 Beacon Street, Room 155
Boston, MA 02133

Board of Underwater Archaeological Resources
Attn: Victor T. Mastone
251 Causeway Street, Suite 800
Boston, MA 02114-2136

City of Boston

Boston Planning & Development Agency
Attn: Brian P. Golden, Director
One City Hall Square, 9th Floor
Boston, MA 02201

Boston Planning & Development Agency
Attn: Richard McGuinness
One City Hall Square, 9th Floor
Boston, MA 02201

Office of Environment, Energy & Open Space
Attn: Austin Blackmon, Chief
One City Hall Square, Room 709
Boston, MA 02201

Chief of Economic Development
John Barros
One City Hall Square, 9th Floor
Boston, MA 02201

Boston City Council
One City Hall Square, 5th Floor
Boston, MA 02201

Boston Transportation Department
One City Hall Square, 7th Floor
Boston, MA 02201

Boston Department of Public Works
1 City Hall Square, Room 714
Boston, MA 02201

Boston Conservation Commission
One City Hall Square, Room 709
Boston, MA 02201

Boston Landmarks Commission
One City Hall Square, Room 709
Boston, MA 02201

Boston Public Health Commission
Attn: Monica Valdes Lupi
1010 Massachusetts Avenue
Boston, MA 02118

Boston Water and Sewer Commission
Attn: MEPA Reviewer
980 Harrison Avenue
Boston, MA 02119

Councilor Frank Baker
One City Hall Square, Suite 550
Boston, MA 02201

Boston Public Library
Fields Corner
1520 Dorchester Ave
Dorchester, MA 02122

Boston Public Library
Adams Street Branch
690 Adams St.
Dorchester, MA 02122

Other Interested Parties

Boston Harbor Now
Attn: Jill Valdes Horwood
15 State Street, Suite 1100
Boston, Massachusetts 02109

Conservation Law Foundation
Attn: Deanna Moran
62 Summer Street
Boston, MA 02110

Save the Harbor / Save the Bay
212 Northern Ave, Room 304
Boston, MA 02210

Port Norfolk Civic Association
Attn: John Lyons
176 Walnut Street
Boston, MA 02122

Neponset River Watershed Association
Attn: Kerry Snyder
2173 Washington Street
Canton, MA 02021

WalkBoston
Attn: Wendy Landman
45 School Street
Boston, MA 02108

Impact Advisory Group (IAG) Members:

John Lyons
Ed Roche
Jennifer Maloney McCarthy
Kathy Mahoney
John Rudicus
Ben Tankle
Mary McCarthy
Jason Berry
Maria Lyons

Residents:

Emy Thomas
Paul Nutting
Ellen Spring
Boguslaw Bialek
Daniel Roche
Helen O'Connor
Jolanta Bialek
Frank Kodzis
Freda Manning
Joseph McDermott
Naomi Frye
Freda Nolan
Shari Winick
Susan Roche

Appendix B: BPDA Checklists

boston planning & development agency

Climate Resiliency Checklist – Building A

NOTE: Project filings should be prepared and submitted using the online Climate Resiliency Checklist.

A.1 - Project Information

Project Name:	**Neponset Wharf**			
Project Address:	**24 Ericsson Street, Boston, MA 02127**			
Project Address Additional:	**N/A**			
Filing Type (*select*)	*Initial (PNF, EPNF, NPC or **other substantial filing**)* *Design / Building Permit (prior to final design approval), or* *Construction / Certificate of Occupancy (post construction completion)*			
Filing Contact	**Seth Lattrell**	**VHB**	**SLattrell@VHB.com**	**617-607-2973**
Is MEPA approval required	***Yes**/no*		*Date*	

A.3 - Project Team

Owner / Developer:	**CPC Ericsson Street LLC**
Architect:	**RODE**
Engineer:	**Cosentini**
Sustainability / LEED:	**Soden Sustainability Consulting /Thorton Tomasetti**
Permitting:	**VHB/MLF Consulting**
Construction Management:	**Gilbane**

A.3 - Project Description and Design Conditions

List the principal Building Uses:	**Residential,** **Accessory parking, Lobby, Amenity, Storage & Mechanical / Utility space**
List the First Floor Uses:	**Vehicular and Bicycle parking; Access lobby, storage / trash**
List any Critical Site Infrastructure and or Building Uses:	**The building houses parking for all site structures. Mechanical and utility infrastructure serve only Building A, and are lifted above the design flood elevation.**

Site and Building:

Site Area:	***3.64 Acres (land area)***	Building Area:	***143,200 SF***
Building Height:	***77.5 Ft***	Building Height:	***7 Stories***
Existing Site Elevation – Low:	***Sea Level***	Existing Site Elevation – High:	***18.3 Ft BCB***
Proposed Site Elevation – Low:	***Sea Level***	Proposed Site Elevation – High:	***21.0 Ft BCB***
Proposed First Floor Elevation:	***Access Lobby, trash room, bicycle storage:*** ***+21.13' BCB*** ***Parking Entry:*** ***+20.63' BCB*** ***Parking Exit:*** ***+17.00' BCB***	Below grade levels:	***None***

Article 37 Green Building:

LEED Version - Rating System :	**LEED v4 for BD+C**	LEED Certification:	*Yes / **No***
Proposed LEED rating:	***Silver***	Proposed LEED point score:	***54** Pts.*

Building Envelope

When reporting R values, differentiate between R discontinuous and R continuous. For example, use "R13" to show R13 discontinuous and use R10c.i. to show R10 continuous. When reporting U value, report total assembly U value including supports and structural elements.

Roof:	***R-35 c.i.***	Exposed Floor:	***R-35***
Foundation Wall:	***7.5 c.i.***	Slab Edge (at or below grade):	***7.5 c.i.***

Vertical Above-grade Assemblies (%'s are of total vertical area and together should total 100%):

Area of Opaque Curtain Wall & Spandrel Assembly:	*0 (%)*	Wall & Spandrel Assembly Value:	***U-0.044***
Area of Framed & Insulated / Standard Wall:	*68.5 %*	Wall Value	***R-20 c.i.***
Area of Vision Window:	*31.5 %*	Window Glazing Assembly Value:	***U-0.36***
		Window Glazing SHGC:	***0.32 (SHGC)***
Area of Doors:	*1%*	Door Assembly Value:	***U-0.77 (U)***

Energy Loads and Performance

For this filing – describe how energy loads & performance were determined	*Whole Building Energy Model*		
Annual Electric:	*712,002 (kWh)*	Peak Electric:	*400 (kW)*
Annual Heating:	*2,446 (MMbtu/hr)*	Peak Heating:	*3.0 (MMbtu)*
Annual Cooling:	*250,000 (Tons/hr)*	Peak Cooling:	*400 (Tons)*
Energy Use - Below ASHRAE 90.1 - 2013:	*22.5%*	Have the local utilities reviewed the building energy performance?:	*Yes / no*
Energy Use - Below Mass. Code:	*22.5%*	Energy Use Intensity:	*32 (kBtu/SF)*

Back-up / Emergency Power System

Electrical Generation Output:	*175 (kW)*	Number of Power Units:	1
System Type:	*Standby (kW)*	Fuel Source:	Diesel

Emergency and Critical System Loads (in the event of a service interruption)

Electric:	*0 (kW)*	Heating:	*0 (MMbtu/hr)*
		Cooling:	*0 (Tons/hr)*

B – Greenhouse Gas Reduction and Net Zero / Net Positive Carbon Building Performance

Reducing GHG emissions is critical to avoiding more extreme climate change conditions. To achieve the City's goal of carbon neutrality by 2050 new buildings performance will need to progressively improve to net carbon zero and positive.

B.1 – GHG Emissions - Design Conditions

For this Filing - Annual Building GHG Emissions: *395.8 Tons*

For this filing - describe how building energy performance has been integrated into project planning, design, and engineering and any supporting analysis or modeling:

The Project Team will continue to analyze efficiency measures during the design process and account for the results in design decision making. The team will use energy simulation of efficiency opportunities, past energy simulation analyses for similar buildings. The Project will also prove compliance with the Stretch Code which requires a minimum of 10 percent improvement over ASHRAE Standard 90.1–2013.

Describe building specific passive energy efficiency measures including orientation, massing, envelop, and systems:

The thermal envelope will be designed to exceed the prescriptive requirements in order to reduce solar gains and reduce heat loss. Proper envelope detailing will ensure the mechanical equipment is properly sized for the expected loads.
Roof insulation was evaluated to perform at R-35, or 7 inches of rigid insulation for all space types. Both the roof and floor targets exceed the baseline of R-30.
Wall insulation will be applied continuously to reduce thermal bridging from material penetrations or high conductivity materials. Additional interior stud back up will enable batt insulation to supplement the exterior cladding. In this iteration of the energy model, R-20 continuous insulation was applied throughout the project.

The proposed glazing percentage of 31.5% (Building A) and 31.1% (Building B and C) does not exceed the code baseline of 40%. And reduces solar gain from the baseline value of 0.40

Describe building specific active energy efficiency measures including equipment, controls, fixtures, and systems:

All mechanical systems will be selected to exceed the minimum efficiency requirements of ASHRAE 90.1-2013 Section 6. Heat recovery will be employed wherever possible to reduce the energy required to condition the ventilation air. In addition, all domestic hot water fixtures can be specified to be at least 20% below the LEED baseline flowrates. Ventilation will be provided through in unit energy recovery ventilators equipped with 72% efficient heat recovery media that preheat the entering outdoor air with exhaust.

All common and amenity spaces will be designed to include daylight photocell sensors wherever possible. Vacancy sensors will automatically shut off lighting to spaces.

Describe building specific load reduction strategies including on-site renewable, clean, and energy storage systems:

The Project will incorporate a minimum of 100KW of solar for the project. Central systems are being evaluated where appropriate.

Describe any area or district scale emission reduction strategies including renewable energy, central energy plants, distributed energy systems, and smart grid infrastructure:

The Project will incorporate a minimum of 100KW of solar for the project. Once the design progresses we will be investigating increasing the size of the system.

Describe any energy efficiency assistance or support provided or to be provided to the project:

The Project intends to participate in local utility incentive programs to evaluate the cost benefit of various energy conservation measures and maximize building energy performance.

B.2 - GHG Reduction - Adaptation Strategies

Describe how the building and its systems will evolve to further reduce GHG emissions and achieve annual carbon net zero and net positive performance (e.g. added efficiency measures, renewable energy, energy storage, etc.) and the timeline for meeting that goal (by 2050):

A strategy to reduce GHG emissions associated with the buildings could include additional solar PV plus battery storage.

C - Extreme Heat Events

Annual average temperature in Boston increased by about 2˚F in the past hundred years and will continue to rise due to climate change. By the end of the century, the average annual temperature could be 56° (compared to 46° now) and the number of days above 90° (currently about 10 a year) could rise to 90.

C.1 – Extreme Heat - Design Conditions

Temperature Range - Low:	*7 Deg.*	Temperature Range - High:	*87 Deg.*
Annual Heating Degree Days:	5,641	Annual Cooling Degree Days	2,897

What Extreme Heat Event characteristics will be / have been used for project planning

Days - Above 90°:	*9*	Days – Above 100°:	*0*
Number of Heatwaves / Year:	*10*	Average Duration of Heatwave (Days):	*3*

Describe all building and site measures to reduce heat-island effect at the site and in the surrounding area:

Porous paving material, green roofs, expansive landscaped areas with shade trees and shrubs, non-reflective glazing will be part of the project to reduce heat-island effect.

C.2 - Extreme Heat – Adaptation Strategies

Describe how the building and its systems will be adapted to efficiently manage future higher average temperatures, higher extreme temperatures, additional annual heatwaves, and longer heatwaves:

The building envelope has been designed with more insulation than the baseline prescribed by the building code and the development team has selected heating and cooling systems that perform above minimum standards. Future adaptation strategies will be considered as building technology advances.

Describe all mechanical and non-mechanical strategies that will support building functionality and use during extended interruptions of utility services and infrastructure including proposed and future adaptations:

In the event of a long term utility interruption, temporary on-site generators will be evaluated if necessary. Interruptions in utility services initiated by the city should be accompanied by a strategy generated by the city.

D - Extreme Precipitation Events

From 1958 to 2010, there was a 70 percent increase in the amount of precipitation that fell on the days with the heaviest precipitation. Currently, the 10-Year, 24-Hour Design Storm precipitation level is 5.25". There is a significant probability that this will increase to at least 6" by the end of the century. Additionally, fewer, larger storms are likely to be accompanied by more frequent droughts.

D.1 – Extreme Precipitation - Design Conditions

10 Year, 24 Hour Design Storm: *6 In.*

Describe all building and site measures for reducing storm water run-off:

The open space will be a showcase for sustainable technology and stormwater management. Rain gardens along the Arrival Court and drive aisle will capture roadway runoff, keeping drive aisles clear of standing water. Native plantings and restored coastal vegetation along the water's edge will serve aesthetic and ecological functions, working to create an environment welcoming of both people and wildlife. Drive aisle and pedestrian materials will be made of pervious materials, with an additional acre of vegetated open space. As integrated with the site's resiliency design, natural grades will be created to protect the building footprints, and encourage rainwater runoff to rejoin the abutting natural waterways. On Building A, the roof level of the garage will be planted with vegetation intended to slow the introduction of rainwater back into the city system.

D.2 - Extreme Precipitation - Adaptation Strategies

Describe how site and building systems will be adapted to efficiently accommodate future more significant rain events (e.g. rainwater harvesting, on-site storm water retention, bio swales, green roofs):

The site is currently largely impervious and therefore runoff from rainwater that falls across the site footprint enters the neighboring waterways and stormwater systems without being filtered in any way, inadvertently allowing overland flow to transport pollutants to nearby waterways. The Proponent and the design team plan to reduce runoff and improve the site's capacity to absorb the projected increase in precipitation during more frequent extreme rainfall events and the flooding associated with an increase in sea levels and more frequent storm surge events.

Significant efforts have been put into converting large impervious surfaces on the site (currently covering approximately 94 percent of the site) into multi-functional landscapes providing services such as habitat and green space, filtering runoff, wave attenuation etc. This approach dramatically increases the infiltration capacity with permeable surfaces proposed to cover approximately 41 percent of the site. Rainwater collected through the building and site stormwater systems will be distributed through the green infrastructure systems, ensuring that the site absorbs and treats all rainwater that falls across the site footprint, and therefore minimizing pressure on the neighborhood stormwater infrastructure. The proposed green infrastructure includes the installation of bioswales and stormwater

planters, planting of salt tolerant, native and adaptable plants, regeneration of a salt marsh along the western boundary (refer to Figure 3.8), green roofs and permeable pavements. Vegetated features, such as the salt marsh, will help to attenuate waves, slow inland water transfer and increase infiltration. Green street principles have also been applied to the central access road on the site, providing a key link between the green infrastructure network components across the site. This will also help reduce the impact of the heat island effect, expected to worsen as the climate changes.

E – Sea Level Rise and Storms

Under any plausible greenhouse gas emissions scenario, sea levels in Boston will continue to rise throughout the century. This will increase the number of buildings in Boston susceptible to coastal flooding and the likely frequency of flooding for those already in the floodplain.

Is any portion of the site in a FEMA SFHA?	*Yes*	What Zone:	**AE**
		Current FEMA SFHA Zone Base Flood Elevation:	***19.46** Ft BCB*

Is any portion of the site in a BPDA Sea Level Rise - Flood Hazard Area? Use the online BPDA SLR-FHA Mapping Tool to assess the susceptibility of the project site.	*Yes*

If you answered YES to either of the above questions, please complete the following questions.
Otherwise you have completed the questionnaire; thank you!

E.1 – Sea Level Rise and Storms – Design Conditions

Proposed projects should identify immediate and future adaptation strategies for managing the flooding scenario represented on the BPDA Sea Level Rise - Flood Hazard Area (SLR-FHA) map, which depicts a modeled 1% annual chance coastal flood event with 40 inches of sea level rise (SLR). Use the online BPDA SLR-FHA Mapping Tool to identify the highest Sea Level Rise - Base Flood Elevation for the site. The Sea Level Rise - Design Flood Elevation is determined by adding either 24" of freeboard for critical facilities and infrastructure and any ground floor residential units OR 12" of freeboard for other buildings and uses.

Sea Level Rise - Base Flood Elevation:	*19.3 Ft BCB*		
Sea Level Rise - Design Flood Elevation:	*20.3 Ft BCB*	First Floor Elevation:	**Access Lobby: 21.13' BCB First Residential Level: 39.96' BCB**
Site Elevations at Building:	***21.0 Ft BCB at lobby entrance***	Accessible Route Elevation:	***21.0 Ft BCB***

Describe site design strategies for adapting to sea level rise including building access during flood events, elevated site areas, hard and soft barriers, wave / velocity breaks, storm water systems, utility services, etc.:

Project proposes to raise grade up to +21' BCB at the residential lobby and service entrances, to keep building access above the City of Boston's SLR-DFE.

Describe how the proposed Building Design Flood Elevation will be achieved including dry / wet flood proofing, critical systems protection, utility service protection, temporary flood barriers, waste and drain water back flow prevention, etc.:

The residential access lobby will be dry flood-proofed to +23.79' BCB. Temporary flood barriers will be brought in to place at building entry doors in advance of extreme weather events, to protect dry flood-proofed areas.

The parking area will slope along with the natural grade, and be wet flood-proofed to allow surge waters to free flow through the structure.
Critical mechanical systems will be located in spaces above the SLR-DFE, to maintain building operation in the event of high flood waters. The first residential level is located at +39.96' BCB.

Describe how occupants might shelter in place during a flooding event including any emergency power, water, and waste water provisions and the expected availability of any such measures:

Occupants are encouraged to evacuate if a major flooding event is expected. If they choose to remain, we recommend they follow FEMA recommendations for sheltering in place available at www.ready.gov/shelter

Describe any strategies that would support rapid recovery after a weather event:

All critical interior components and building entry lobbies have been raised above the DFE or dry flood-proofed up to the DFE with rapidly deployable flood barriers at the doorways. This will prevent flooding in these areas and reduce the amount of repair that will be needed after a major weather event. Wet flood proofed areas like the parking areas will require cleaning, debris removal, and replacement of break-away walls as necessary. Elevator cabs would be locked down to an upper floor to prevent damage and any flood waters in the shaft would be pumped out.

E.2 – Sea Level Rise and Storms – Adaptation Strategies

Describe future site design and or infrastructure adaptation strategies for responding to sea level rise including future elevating of site areas and access routes, barriers, wave / velocity breaks, storm water systems, utility services, etc.:

The site design has taken future conditions into account as well as the potential impact of extreme events. Key resilience features include the elevation of public access spaces (vehicle access roads, pedestrian walkways and building entrances), installation of green infrastructure, and increasing the greenspace across the site, along with improving the adaptive capacity of the site to deal with changes in the climate and extreme events in the future.

The main paths, roads and entrances to the residential buildings are designed to an elevation of 21ft (refer to Figures 4.3, 4,4 and 4.5). Even considering a 40-inch sea level rise scenario, these public access areas will be well above the high tide elevation and only flooded during extreme events. The surfaces have been designed to be permeable, and therefore after floodwaters recede, the Project Site will be accessible as floodwaters will not pool on the site.
Green infrastructure, an interconnected system composed of natural and man-made open space and landscape features, has been designed to provide multifunctional ecosystem service benefits and identified as a critical strategy for both climate change mitigation and adaptation.

Multiple resilience benefits are also anticipated through development and enhancement of a nature-based buffer zone along the west side of the site which borders a tidal river (refer to Figure 3.9a). The carefully designed softscape will help to reduce the impact to adjacent areas from flooding, in addition to providing a buffer from storm surge, attenuation of waves, a nursery habitat for important fish and other species, water filtration, carbon storage, and opportunities for recreation and enjoyment. This will allow nature to absorb the water and drain

quickly after flood waters have receded. Paths will be elevated and significant planting of native, adaptive and salt tolerant plants is proposed across the site, in order to provide a nature-based solution to the frequent inundation anticipated as sea levels continue to rise.

The North side of the site is open to more intense coastal wave action than the western side, so a protective riprap slope has been designed to attenuate waves, reduce erosion and provide additional protection to the area immediately south of the marina (refer to Figure 3.1). The hybrid strategy derives benefits of wave energy dissipation from structural practices and derives ecosystem service benefits from nature-based practices. Both the Project Site and neighboring areas south of the site will benefit from improved resilience to climate related hazards following completion of this development.

Describe future building adaptation strategies for raising the Sea Level Rise Design Flood Elevation and further protecting critical systems, including permanent and temporary measures:

The key resilience approaches proposed in the building design are elevation of habitable building spaces and critical infrastructure, and designing infrastructure systems with an enhanced capacity to absorb, resist and recover after extreme events.

None of the buildings have ground floor residential units, so following the BPDA guidelines, the design team have identified the Sea Level Rise Design Flood Elevation (SLR-DFE) for each of the buildings as the minimum performance target in order to reduce flood risk and potential damage. The SLR-DFE has been calculated in accordance with BDPA guidance using the FEMA Base Flood Elevation for each location and then adding 40 inches for sea level rise plus 12 inches of freeboard for buildings (refer to Table 1).

	FEMA Flood Zone	Base Flood Elevation	SLR-DFE*	Elevation of First Occupiable Level
Building A	AE	+19.46ft	+20.3ft	+39.96ft

* SLR-DFE is calculated per BDPA resiliency checklist guidance document, using the BDPA SLR-FHA online mapping tool which notes a 19.3ft BCB SLR-BFE for the whole site.
Note – All elevations are in Boston City Base (BCB) datum.

The first occupiable floor of the buildings in the FEMA VE zone (Boathouse and Building C) is set at 27.46 ft BCB and the first residential floor of the FEMA AE zone buildings (A and B) is set at 39.96 and 33.13 ft BCB (refer to Figure 4.4) respectively. At grade floors of the VE zone buildings will be wet floodproofed and fit out with breakway walls. Whereas the retail space, entry lobbys and service/mechanical spaces at 21.1ft BCB in the two AE zone buildings will be dry floodproofed to 23.79ft BCB to provide additional resilience. Critical infrastructure for each building will be located on the second floor, in order to elevate it out of the design floodplain completely.

Areas of the VE zone buildings that are located below the selected design flood elevation have been designed using a wet floodproofing approach, allowing water to freely flow in and out during a flooding event and will include breakaway walls that ensure the building structure remains stable in the event that waves or floating debris impacts these areas. The first floors of the AE zone buildings have been designed with at grade entrances above the selected design flood elevation.

Utility connections and plumbing systems will be designed taking into account the increased loads and flow rates projected due to extreme precipitation events. Elevators will be programmed so that the cars lock out at the second floor level during a storm event and this procedure will be incorporated into an extensive emergency preparedness plan that will be implemented by the on-site facilities team to reduce the risk of damage and downtime following a significant storm event.

A pdf and word version of the Climate Resiliency Checklist is provided for informational use and off-line preparation of a project submission. NOTE: Project filings should be prepared and submitted using the online Climate Resiliency Checklist.

For questions or comments about this checklist or Climate Change best practices, please contact:
John.Dalzell@boston.gov

boston planning & development agency

Climate Resiliency Checklist – Building B

NOTE: Project filings should be prepared and submitted using the online Climate Resiliency Checklist.

A.1 - Project Information

Project Name:	**Neponset Wharf**			
Project Address:	**24 Ericsson Street, Boston, MA 02127**			
Project Address Additional:	**N/A**			
Filing Type (*select*)	*Initial (PNF, EPNF, NPC or **other substantial filing**)* *Design / Building Permit (prior to final design approval), or* *Construction / Certificate of Occupancy (post construction completion)*			
Filing Contact	**Seth Lattrell**	**VHB**	**SLattrell@VHB.com**	**617-607-2973**
Is MEPA approval required	***Yes**/no*		*Date*	

A.3 - Project Team

Owner / Developer:	**CPC Ericsson Street LLC**
Architect:	**RODE**
Engineer:	**Cosentini**
Sustainability / LEED:	**Soden Sustainability Consulting /Thorton Tomasetti**
Permitting:	**VHB/MLF Consulting**
Construction Management:	**Gilbane**

A.3 - Project Description and Design Conditions

List the principal Building Uses:	**Residential,** **Accessory parking, Lobby, Amenity, Storage & Mechanical / Utility space** **Retail Market & Deli on level 1**
List the First Floor Uses:	**Market; Bicycle parking; Access lobby, storage / trash**
List any Critical Site Infrastructure and or Building Uses:	**Mechanical and utility infrastructure serve only Building B, and are lifted above the design flood elevation.**

Site and Building:

Site Area:	***3.64 Acres (land area)***	Building Area:	***42,400 SF***
Building Height:	***68 Ft***	Building Height:	***6 Stories***
Existing Site Elevation – Low:	***Sea Level***	Existing Site Elevation – High:	***18.3 Ft BCB***
Proposed Site Elevation – Low:	***Sea Level***	Proposed Site Elevation – High:	***21.0 Ft BCB***
Proposed First Floor Elevation:	***Access Lobby, trash & storage, retail: +21.13' BCB***	Below grade levels:	***None***

Article 37 Green Building:

LEED Version - Rating System :	**LEED v4 for BD+C**	LEED Certification:	*Yes / **No***
Proposed LEED rating:	***Silver***	Proposed LEED point score:	***55** Pts.*

Building Envelope

When reporting R values, differentiate between R discontinuous and R continuous. For example, use "R13" to show R13 discontinuous and use R10c.i. to show R10 continuous. When reporting U value, report total assembly U value including supports and structural elements.

Roof:	***R-35 c.i.** (R)*	Exposed Floor:	***R-35** (R)*
Foundation Wall:	***7.5 c.i.** (R)*	Slab Edge (at or below grade):	***7.5 c.i.** (R)*

Vertical Above-grade Assemblies (%'s are of total vertical area and together should total 100%):

Area of Opaque Curtain Wall & Spandrel Assembly:	*0 (%)*	Wall & Spandrel Assembly Value:	***U-0.044***
Area of Framed & Insulated / Standard Wall:	*68.9 %*	Wall Value	***R-20 c.i.***
Area of Vision Window:	*31.1 %*	Window Glazing Assembly Value:	***U-0.36***
		Window Glazing SHGC:	***0.32 (SHGC)***
Area of Doors:	*1 %*	Door Assembly Value:	***U-0.77 (U)***

Energy Loads and Performance

For this filing – describe how energy loads & performance were determined	*Whole Building Energy Model*		
Annual Electric:	*281,685 (kWh)*	Peak Electric:	*100 (kW)*
Annual Heating:	*1,206 (MMbtu/hr)*	Peak Heating:	*0.8 (MMbtu)*
Annual Cooling:	*80,000 (Tons/hr)*	Peak Cooling:	*120 (Tons)*
Energy Use - Below ASHRAE 90.1 - 2013:	*21 %*	Have the local utilities reviewed the building energy performance?:	*Yes / no*
Energy Use - Below Mass. Code:	*21 %*	Energy Use Intensity:	*48 (kBtu/SF)*

Back-up / Emergency Power System

Electrical Generation Output:	*NA (kW)*	Number of Power Units:	NA
System Type:	*NA (kW)*	Fuel Source:	NA

Emergency and Critical System Loads (in the event of a service interruption)

Electric:	*0 (kW)*	Heating:	*0 (MMbtu/hr)*
		Cooling:	*0 (Tons/hr)*

B – Greenhouse Gas Reduction and Net Zero / Net Positive Carbon Building Performance

Reducing GHG emissions is critical to avoiding more extreme climate change conditions. To achieve the City's goal of carbon neutrality by 2050 new buildings performance will need to progressively improve to net carbon zero and positive.

B.1 – GHG Emissions - Design Conditions

For this Filing - Annual Building GHG Emissions: *170.5 Tons*

For this filing - describe how building energy performance has been integrated into project planning, design, and engineering and any supporting analysis or modeling:

The Project Team will continue to analyze efficiency measures during the design process and account for the results in design decision making. The team will use energy simulation of efficiency opportunities, past energy simulation analyses for similar buildings. The Project will also prove compliance with the Stretch Code which requires a minimum of 10 percent improvement over ASHRAE Standard 90.1–2013.

Describe building specific passive energy efficiency measures including orientation, massing, envelop, and systems:

The thermal envelope will be designed to exceed the prescriptive requirements in order to reduce solar gains and reduce heat loss. Proper envelope detailing will ensure the mechanical equipment is properly sized for the expected loads.
Roof insulation was evaluated to perform at R-35, or 7 inches of rigid insulation for all space types. Both the roof and floor targets exceed the baseline of R-30.
Wall insulation will be applied continuously to reduce thermal bridging from material penetrations or high conductivity materials. Additional interior stud back up will enable batt insulation to supplement the exterior cladding. In this iteration of the energy model, R-20 continuous insulation was applied throughout the project.

The proposed glazing percentage of 31.5% (Building A) and 31.1% (Building B and C) does not exceed the code baseline of 40%. And reduces solar gain from the baseline value of 0.40

Describe building specific active energy efficiency measures including equipment, controls, fixtures, and systems:

All mechanical systems will be selected to exceed the minimum efficiency requirements of ASHRAE 90.1-2013 Section 6. Heat recovery will be employed wherever possible to reduce the energy required to condition the ventilation air. In addition, all domestic hot water fixtures can be specified to be at least 20% below the LEED baseline flowrates. Ventilation will be provided through in unit energy recovery ventilators equipped with 72% efficient heat recovery media that preheat the entering outdoor air with exhaust.

All common and amenity spaces will be designed to include daylight photocell sensors wherever possible. Vacancy sensors will automatically shut off lighting to spaces.

Describe building specific load reduction strategies including on-site renewable, clean, and energy storage systems:

The Project will incorporate a minimum of 100 KW of solar for the project. Central systems are being evaluated where appropriate.

Describe any area or district scale emission reduction strategies including renewable energy, central energy plants, distributed energy systems, and smart grid infrastructure:

The Project will incorporate a minimum of 100KW of solar for the project. Once the design progresses we will be investigating increasing the size of the system.

Describe any energy efficiency assistance or support provided or to be provided to the project:

The Project intends to participate in local utility incentive programs to evaluate the cost benefit of various energy conservation measures and maximize building energy performance.

B.2 - GHG Reduction - Adaptation Strategies

Describe how the building and its systems will evolve to further reduce GHG emissions and achieve annual carbon net zero and net positive performance (e.g. added efficiency measures, renewable energy, energy storage, etc.) and the timeline for meeting that goal (by 2050):

A strategy to reduce GHG emissions associated with the buildings could include additional solar PV plus battery storage.

C - Extreme Heat Events

Annual average temperature in Boston increased by about 2˚F in the past hundred years and will continue to rise due to climate change. By the end of the century, the average annual temperature could be 56° (compared to 46° now) and the number of days above 90° (currently about 10 a year) could rise to 90.

C.1 – Extreme Heat - Design Conditions

Temperature Range - Low:	*7 Deg.*	Temperature Range - High:	*87 Deg.*
Annual Heating Degree Days:	5,641	Annual Cooling Degree Days	2,897

What Extreme Heat Event characteristics will be / have been used for project planning

Days - Above 90°:	*9*	Days – Above 100°:	*0*
Number of Heatwaves / Year:	*10*	Average Duration of Heatwave (Days):	*3*

Describe all building and site measures to reduce heat-island effect at the site and in the surrounding area:

Porous paving material, green roofs, expansive landscaped areas with shade trees and shrubs, non-reflective glazing will be part of the project to reduce heat-island effect.

C.2 - Extreme Heat – Adaptation Strategies

Describe how the building and its systems will be adapted to efficiently manage future higher average temperatures, higher extreme temperatures, additional annual heatwaves, and longer heatwaves:

The building envelope has been designed with more insulation than the baseline prescribed by the building code and the development team has selected heating and cooling systems that perform above minimum standards. Future adaptation strategies will be considered as building technology advances.

Describe all mechanical and non-mechanical strategies that will support building functionality and use during extended interruptions of utility services and infrastructure including proposed and future adaptations:

In the event of a long term utility interruption, temporary on-site generators will be evaluated if necessary. Interruptions in utility services initiated by the city should be accompanied by a strategy generated by the city.

D - Extreme Precipitation Events

From 1958 to 2010, there was a 70 percent increase in the amount of precipitation that fell on the days with the heaviest precipitation. Currently, the 10-Year, 24-Hour Design Storm precipitation level is 5.25". There is a significant probability that this will increase to at least 6" by the end of the century. Additionally, fewer, larger storms are likely to be accompanied by more frequent droughts.

D.1 – Extreme Precipitation - Design Conditions

10 Year, 24 Hour Design Storm: *6 in.*

Describe all building and site measures for reducing storm water run-off:

The open space will be a showcase for sustainable technology and stormwater management. Rain gardens along the Arrival Court and drive aisle will capture roadway runoff, keeping drive aisles clear of standing water. Native plantings and restored coastal vegetation along the water's edge will serve aesthetic and ecological functions, working to create an environment welcoming of both people and wildlife. Drive aisle and pedestrian materials will be made of pervious materials, with an additional acre of vegetated open space. As integrated with the site's resiliency design, natural grades will be created to protect the building footprints, and encourage rainwater runoff to rejoin the abutting natural waterways. On Building A, the roof level of the garage will be planted with vegetation intended to slow the introduction of rainwater back into the city system.

D.2 - Extreme Precipitation - Adaptation Strategies

Describe how site and building systems will be adapted to efficiently accommodate future more significant rain events (e.g. rainwater harvesting, on-site storm water retention, bio swales, green roofs):

The site is currently largely impervious and therefore runoff from rainwater that falls across the site footprint enters the neighboring waterways and stormwater systems without being filtered in any way, inadvertently allowing overland flow to transport pollutants to nearby waterways. The Proponent and the design team plan to reduce runoff and improve the site's capacity to absorb the projected increase in precipitation during more frequent extreme rainfall events and the flooding associated with an increase in sea levels and more frequent storm surge events.

Significant efforts have been put into converting large impervious surfaces on the site (currently covering approximately 94 percent of the site) into multi-functional landscapes providing services such as habitat and green space, filtering runoff, wave attenuation etc. This approach dramatically increases the infiltration capacity with permeable surfaces proposed to cover approximately 41 percent of the site. Rainwater collected through the building and site stormwater systems will be distributed through the green infrastructure systems, ensuring that the site absorbs and treats all rainwater that falls across the site footprint, and therefore minimizing pressure on the neighborhood stormwater infrastructure. The proposed green infrastructure includes the installation of bioswales and stormwater planters, planting of salt tolerant, native and adaptable plants, regeneration of a salt marsh along the western boundary (refer to Figure 3.8), green roofs and

permeable pavements. Vegetated features, such as the salt marsh, will help to attenuate waves, slow inland water transfer and increase infiltration. Green street principles have also been applied to the central access road on the site, providing a key link between the green infrastructure network components across the site. This will also help reduce the impact of the heat island effect, expected to worsen as the climate changes.

E – Sea Level Rise and Storms

Under any plausible greenhouse gas emissions scenario, sea levels in Boston will continue to rise throughout the century. This will increase the number of buildings in Boston susceptible to coastal flooding and the likely frequency of flooding for those already in the floodplain.

Is any portion of the site in a FEMA SFHA?	*Yes*	What Zone:	**AE**
		Current FEMA SFHA Zone Base Flood Elevation:	*19.46 Ft BCB*

Is any portion of the site in a BPDA Sea Level Rise - Flood Hazard Area? Use the online BPDA SLR-FHA Mapping Tool to assess the susceptibility of the project site.	*Yes*

If you answered YES to either of the above questions, please complete the following questions.
Otherwise you have completed the questionnaire; thank you!

E.1 – Sea Level Rise and Storms – Design Conditions

Proposed projects should identify immediate and future adaptation strategies for managing the flooding scenario represented on the BPDA Sea Level Rise - Flood Hazard Area (SLR-FHA) map, which depicts a modeled 1% annual chance coastal flood event with 40 inches of sea level rise (SLR). Use the online BPDA SLR-FHA Mapping Tool to identify the highest Sea Level Rise - Base Flood Elevation for the site. The Sea Level Rise - Design Flood Elevation is determined by adding either 24" of freeboard for critical facilities and infrastructure and any ground floor residential units OR 12" of freeboard for other buildings and uses.

Sea Level Rise - Base Flood Elevation:	*19.3 Ft BCB*		
Sea Level Rise - Design Flood Elevation:	*20.3 Ft BCB*	First Floor Elevation:	*21.13' BCB*
Site Elevations at Building:	***Residential Lobby:*** *21.0' BCB* ***Retail:*** *17.5' BCB*	Accessible Route Elevation:	***Residential Entry:*** *21.0 Ft BCB* ***Retail Entry:*** *17.5' to 21' BCB (ramp)*

Describe site design strategies for adapting to sea level rise including building access during flood events, elevated site areas, hard and soft barriers, wave / velocity breaks, storm water systems, utility services, etc.:

Project proposes to raise grade up to +21' BCB at the residential lobby and service entrances, to keep building access above the City of Boston's SLR-DFE.

Describe how the proposed Building Design Flood Elevation will be achieved including dry / wet flood proofing, critical systems protection, utility service protection, temporary flood barriers, waste and drain water back flow prevention, etc.:

The residential access lobby will be dry flood-proofed to +23.79' BCB. Temporary flood barriers will be brought in to place at building entry doors in advance of extreme weather events, to protect dry flood-proofed areas.

The parking area will slope along with the natural grade, and be wet flood-proofed to allow surge waters to free flow through the structure.
Critical mechanical systems will be located in spaces above the SLR-DFE, to maintain building operation in the event of high flood waters. The first residential level is located at +39.96' BCB.

Describe how occupants might shelter in place during a flooding event including any emergency power, water, and waste water provisions and the expected availability of any such measures:

Occupants are encouraged to evacuate if a major flooding event is expected. If they choose to remain, we recommend they follow FEMA recommendations for sheltering in place available at www.ready.gov/shelter

Describe any strategies that would support rapid recovery after a weather event:

All critical interior components and building entry lobbies have been raised above the DFE or dry flood-proofed up to the DFE with rapidly deployable flood barriers at the doorways. This will prevent flooding in these areas and reduce the amount of repair that will be needed after a major weather event. Wet flood proofed areas like the parking areas will require cleaning, debris removal, and replacement of break-away walls as necessary. Elevator cabs would be locked down to an upper floor to prevent damage and any flood waters in the shaft would be pumped out.

E.2 – Sea Level Rise and Storms – Adaptation Strategies

Describe future site design and or infrastructure adaptation strategies for responding to sea level rise including future elevating of site areas and access routes, barriers, wave / velocity breaks, storm water systems, utility services, etc.:

The site design has taken future conditions into account as well as the potential impact of extreme events. Key resilience features include the elevation of public access spaces (vehicle access roads, pedestrian walkways and building entrances), installation of green infrastructure, and increasing the greenspace across the site, along with improving the adaptive capacity of the site to deal with changes in the climate and extreme events in the future.
The main paths, roads and entrances to the residential buildings are designed to an elevation of 21ft (refer to Figures 4.3, 4,4 and 4.5). Even considering a 40-inch sea level rise scenario, these public access areas will be well above the high tide elevation and only flooded during extreme events. The surfaces have been designed to be permeable, and therefore after floodwaters recede, the Project Site will be accessible as floodwaters will not pool on the site.
Green infrastructure, an interconnected system composed of natural and man-made open space and landscape features, has been designed to provide multifunctional ecosystem service benefits and identified as a critical strategy for both climate change mitigation and adaptation.
Multiple resilience benefits are also anticipated through development and enhancement of a nature-based buffer zone along the west side of the site which borders a tidal river (refer to Figure 3.9a). The carefully designed softscape will help to reduce the impact to adjacent areas from flooding, in addition to providing a buffer from storm surge, attenuation of waves, a nursery habitat for important fish and other species, water filtration, carbon storage, and opportunities for recreation and enjoyment. This will allow nature to absorb the water and drain quickly after flood waters have receded. Paths will be elevated and significant planting of native, adaptive and salt tolerant plants is proposed across the site, in order to provide a nature-based solution to the frequent inundation anticipated as sea levels continue to rise.

The North side of the site is open to more intense coastal wave action than the western side, so a protective riprap slope has been designed to attenuate waves, reduce erosion and provide additional protection to the area immediately south of the marina (refer to Figure 3.1). The hybrid strategy derives benefits of wave energy dissipation from structural practices and derives ecosystem service benefits from nature-based practices. Both the Project Site and neighboring areas south of the site will benefit from improved resilience to climate related hazards following completion of this development.

Describe future building adaptation strategies for raising the Sea Level Rise Design Flood Elevation and further protecting critical systems, including permanent and temporary measures:

The key resilience approaches proposed in the building design are elevation of habitable building spaces and critical infrastructure, and designing infrastructure systems with an enhanced capacity to absorb, resist and recover after extreme events.

None of the buildings have ground floor residential units, so following the BPDA guidelines, the design team have identified the Sea Level Rise Design Flood Elevation (SLR-DFE) for each of the buildings as the minimum performance target in order to reduce flood risk and potential damage. The SLR-DFE has been calculated in accordance with BDPA guidance using the FEMA Base Flood Elevation for each location and then adding 40 inches for sea level rise plus 12 inches of freeboard for buildings (refer to Table 1).

	FEMA Flood Zone	Base Flood Elevation	SLR-DFE*	Elevation of First Occupiable Level
Building B	**AE**	**+19.46ft**	**+20.3ft**	**+33.13ft**

* SLR-DFE is calculated per BDPA resiliency checklist guidance document, using the BDPA SLR-FHA online mapping tool which notes a 19.3ft BCB SLR-BFE for the whole site.
Note – All elevations are in Boston City Base (BCB) datum.

The first occupiable floor of the buildings in the FEMA VE zone (Boathouse and Building C) is set at 27.46 ft BCB and the first residential floor of the FEMA AE zone buildings (A and B) is set at 39.96 and 33.13 ft BCB (refer to Figure 4.4) respectively. At grade floors of the VE zone buildings will be wet floodproofed and fit out with breakway walls. Whereas the retail space, entry lobbys and service/mechanical spaces at 21.1ft BCB in the two AE zone buildings will be dry floodproofed to 23.79ft BCB to provide additional resilience. Critical infrastructure for each building will be located on the second floor, in order to elevate it out of the design floodplain completely.

Areas of the VE zone buildings that are located below the selected design flood elevation have been designed using a wet floodproofing approach, allowing water to freely flow in and out during a flooding event and will include breakaway walls that ensure the building structure remains stable in the event that waves or floating debris impacts these areas. The first floors of the AE zone buildings have been designed with at grade entrances above the selected design flood elevation.

Utility connections and plumbing systems will be designed taking into account the increased loads and flow rates projected due to extreme precipitation events. Elevators will be programmed so that the cars lock out at the second floor level during a storm event and this procedure will be incorporated into an extensive

emergency preparedness plan that will be implemented by the on-site facilities team to reduce the risk of damage and downtime following a significant storm event.

A pdf and word version of the Climate Resiliency Checklist is provided for informational use and off-line preparation of a project submission. NOTE: Project filings should be prepared and submitted using the online Climate Resiliency Checklist.

For questions or comments about this checklist or Climate Change best practices, please contact: John.Dalzell@boston.gov

boston planning & development agency

Climate Resiliency Checklist – Building C

NOTE: Project filings should be prepared and submitted using the online Climate Resiliency Checklist.

A.1 - Project Information

Project Name:	**Neponset Wharf**			
Project Address:	**24 Ericsson Street, Boston, MA 02127**			
Project Address Additional:	**N/A**			
Filing Type (*select*)	*Initial (PNF, EPNF, NPC or **other substantial filing**)* *Design / Building Permit (prior to final design approval), or* *Construction / Certificate of Occupancy (post construction completion)*			
Filing Contact	**Seth Lattrell**	**VHB**	**SLattrell@VHB.com**	**617-607-2973**
Is MEPA approval required	***Yes**/no*		*Date*	

A.3 - Project Team

Owner / Developer:	**CPC Ericsson Street LLC**
Architect:	**RODE**
Engineer:	**Cosentini**
Sustainability / LEED:	**Soden Sustainability Consulting /Thorton Tomasetti**
Permitting:	**VHB/MLF Consulting**
Construction Management:	**Gilbane**

A.3 - Project Description and Design Conditions

List the principal Building Uses:	**Residential,** **Accessory parking, Lobby, Amenity, Storage & Mechanical / Utility space** **Community Space on level 2**
List the First Floor Uses:	**Vehicular and Bicycle parking; Access lobby, storage / trash**
List any Critical Site Infrastructure and or Building Uses:	**Mechanical and utility infrastructure serve only Building C, and are lifted above the design flood elevation.**

Site and Building:

Site Area:	***3.64 Acres (land area)***	Building Area:	***35,700 SF***
Building Height:	***67 Ft***	Building Height:	***6 Stories***
Existing Site Elevation – Low:	***Sea Level***	Existing Site Elevation – High:	***18.3 Ft BCB***
Proposed Site Elevation – Low:	***Sea Level***	Proposed Site Elevation – High:	***21.0 Ft BCB***
Proposed First Floor Elevation:	***Access Lobby, trash room, +20.63' BCB*** ***Parking Entry: +19.29' BCB*** ***Bicycle Storage: +17.46' BCB***	Below grade levels:	***None***

Article 37 Green Building:

LEED Version - Rating System :	**LEED v4 for BD+C**	LEED Certification:	*Yes / **No***
Proposed LEED rating:	***Silver***	Proposed LEED point score:	***55** Pts.*

Building Envelope

When reporting R values, differentiate between R discontinuous and R continuous. For example, use "R13" to show R13 discontinuous and use R10c.i. to show R10 continuous. When reporting U value, report total assembly U value including supports and structural elements.

Roof:	***R-35 c.i.** (R)*	Exposed Floor:	***R-35** (R)*
Foundation Wall:	***7.5 c.i.** (R)*	Slab Edge (at or below grade):	***7.5 c.i.** (R)*

Vertical Above-grade Assemblies (%'s are of total vertical area and together should total 100%):

Area of Opaque Curtain Wall & Spandrel Assembly:	*0 (%)*	Wall & Spandrel Assembly Value:	***U-0.36***
Area of Framed & Insulated / Standard Wall:	*68.9 %*	Wall Value	***R-20 c.i.***
Area of Vision Window:	*31.1 %*	Window Glazing Assembly Value:	***U-0.36***
		Window Glazing SHGC:	***0.32 (SHGC)***
Area of Doors:	*1 %*	Door Assembly Value:	***U-0.77 (U)***

Energy Loads and Performance

For this filing – describe how energy loads & performance were determined	*Whole Building Energy Model*		
Annual Electric:	*266,418 (kWh)*	Peak Electric:	*100 (kW)*
Annual Heating:	*1,156 (MMbtu/hr)*	Peak Heating:	*0.8 (MMbtu)*
Annual Cooling:	*75,000 (Tons/hr)*	Peak Cooling:	*110 (Tons)*
Energy Use - Below ASHRAE 90.1 - 2013:	*22 %*	Have the local utilities reviewed the building energy performance?:	*Yes / no*
Energy Use - Below Mass. Code:	*22 %*	Energy Use Intensity:	*46 (kBtu/SF)*

Back-up / Emergency Power System

Electrical Generation Output:	*NA (kW)*	Number of Power Units:	NA
System Type:	*NA (kW)*	Fuel Source:	NA

Emergency and Critical System Loads (in the event of a service interruption)

Electric:	*0 (kW)*	Heating:	*0 (MMbtu/hr)*
		Cooling:	*0 (Tons/hr)*

B – Greenhouse Gas Reduction and Net Zero / Net Positive Carbon Building Performance

Reducing GHG emissions is critical to avoiding more extreme climate change conditions. To achieve the City's goal of carbon neutrality by 2050 new buildings performance will need to progressively improve to net carbon zero and positive.

B.1 – GHG Emissions - Design Conditions

For this Filing - Annual Building GHG Emissions: *162.2 Tons*

For this filing - describe how building energy performance has been integrated into project planning, design, and engineering and any supporting analysis or modeling:

The Project Team will continue to analyze efficiency measures during the design process and account for the results in design decision making. The team will use energy simulation of efficiency opportunities, past energy simulation analyses for similar buildings. The Project will also prove compliance with the Stretch Code which requires a minimum of 10 percent improvement over ASHRAE Standard 90.1–2013.

Describe building specific passive energy efficiency measures including orientation, massing, envelop, and systems:

The thermal envelope will be designed to exceed the prescriptive requirements in order to reduce solar gains and reduce heat loss. Proper envelope detailing will ensure the mechanical equipment is properly sized for the expected loads.
Roof insulation was evaluated to perform at R-35, or 7 inches of rigid insulation for all space types. Both the roof and floor targets exceed the baseline of R-30.
Wall insulation will be applied continuously to reduce thermal bridging from material penetrations or high conductivity materials. Additional interior stud back up will enable batt insulation to supplement the exterior cladding. In this iteration of the energy model, R-20 continuous insulation was applied throughout the project.

The proposed glazing percentage of 31.5% (Building A) and 31.1% (Building B and C) does not exceed the code baseline of 40%. And reduces solar gain from the baseline value of 0.40

Describe building specific active energy efficiency measures including equipment, controls, fixtures, and systems:

All mechanical systems will be selected to exceed the minimum efficiency requirements of ASHRAE 90.1-2013 Section 6. Heat recovery will be employed wherever possible to reduce the energy required to condition the ventilation air. In addition, all domestic hot water fixtures can be specified to be at least 20% below the LEED baseline flowrates. Ventilation will be provided through in unit energy recovery ventilators equipped with 72% efficient heat recovery media that preheat the entering outdoor air with exhaust.

All common and amenity spaces will be designed to include daylight photocell sensors wherever possible. Vacancy sensors will automatically shut off lighting to spaces.

Describe building specific load reduction strategies including on-site renewable, clean, and energy storage systems:

The Project will incorporate a minimum of 100KW of solar for the project. Central systems are being evaluated where appropriate.

Describe any area or district scale emission reduction strategies including renewable energy, central energy plants, distributed energy systems, and smart grid infrastructure:

The Project will incorporate a minimum of 100KW of solar for the project. Once the design progresses we will be investigating increasing the size of the system.

Describe any energy efficiency assistance or support provided or to be provided to the project:

The Project intends to participate in local utility incentive programs to evaluate the cost benefit of various energy conservation measures and maximize building energy performance.

B.2 - GHG Reduction - Adaptation Strategies

Describe how the building and its systems will evolve to further reduce GHG emissions and achieve annual carbon net zero and net positive performance (e.g. added efficiency measures, renewable energy, energy storage, etc.) and the timeline for meeting that goal (by 2050):

A strategy to reduce GHG emissions associated with the buildings could include additional solar PV plus battery storage.

C - Extreme Heat Events

Annual average temperature in Boston increased by about 2˚F in the past hundred years and will continue to rise due to climate change. By the end of the century, the average annual temperature could be 56° (compared to 46° now) and the number of days above 90° (currently about 10 a year) could rise to 90.

C.1 – Extreme Heat - Design Conditions

Temperature Range - Low:	*7 Deg.*	Temperature Range - High:	*87 Deg.*
Annual Heating Degree Days:	5,641	Annual Cooling Degree Days	2,897

What Extreme Heat Event characteristics will be / have been used for project planning

Days - Above 90°:	*9*	Days – Above 100°:	*0*
Number of Heatwaves / Year:	*10*	Average Duration of Heatwave (Days):	*3*

Describe all building and site measures to reduce heat-island effect at the site and in the surrounding area:

Porous paving material, green roofs, expansive landscaped areas with shade trees and shrubs, non-reflective glazing will be part of the project to reduce heat-island effect.

C.2 - Extreme Heat – Adaptation Strategies

Describe how the building and its systems will be adapted to efficiently manage future higher average temperatures, higher extreme temperatures, additional annual heatwaves, and longer heatwaves:

The building envelope has been designed with more insulation than the baseline prescribed by the building code and the development team has selected heating and cooling systems that perform above minimum standards. Future adaptation strategies will be considered as building technology advances.

Describe all mechanical and non-mechanical strategies that will support building functionality and use during extended interruptions of utility services and infrastructure including proposed and future adaptations:

In the event of a long term utility interruption, temporary on-site generators will be evaluated if necessary. Interruptions in utility services initiated by the city should be accompanied by a strategy generated by the city.

D - Extreme Precipitation Events From 1958 to 2010, there was a 70 percent increase in the amount of precipitation that fell on the days with the heaviest precipitation. Currently, the 10-Year, 24-Hour Design Storm precipitation level is 5.25". There is a significant probability that this will increase to at least 6" by the end of the century. Additionally, fewer, larger storms are likely to be accompanied by more frequent droughts.

D.1 – Extreme Precipitation - Design Conditions

10 Year, 24 Hour Design Storm: *6 in.*

Describe all building and site measures for reducing storm water run-off:

The open space will be a showcase for sustainable technology and stormwater management. Rain gardens along the Arrival Court and drive aisle will capture roadway runoff, keeping drive aisles clear of standing water. Native plantings and restored coastal vegetation along the water's edge will serve aesthetic and ecological functions, working to create an environment welcoming of both people and wildlife. Drive aisle and pedestrian materials will be made of pervious materials, with an additional acre of vegetated open space. As integrated with the site's resiliency design, natural grades will be created to protect the building footprints, and encourage rainwater runoff to rejoin the abutting natural waterways. On Building A, the roof level of the garage will be planted with vegetation intended to slow the introduction of rainwater back into the city system.

D.2 - Extreme Precipitation - Adaptation Strategies

Describe how site and building systems will be adapted to efficiently accommodate future more significant rain events (e.g. rainwater harvesting, on-site storm water retention, bio swales, green roofs):

The site is currently largely impervious and therefore runoff from rainwater that falls across the site footprint enters the neighboring waterways and stormwater systems without being filtered in any way, inadvertently allowing overland flow to transport pollutants to nearby waterways. The Proponent and the design team plan to reduce runoff and improve the site's capacity to absorb the projected increase in precipitation during more frequent extreme rainfall events and the flooding associated with an increase in sea levels and more frequent storm surge events.

Significant efforts have been put into converting large impervious surfaces on the site (currently covering approximately 94 percent of the site) into multi-functional landscapes providing services such as habitat and green space, filtering runoff, wave attenuation etc. This approach dramatically increases the infiltration capacity with permeable surfaces proposed to cover approximately 41 percent of the site. Rainwater collected through the building and site stormwater systems will be distributed through the green infrastructure systems, ensuring that the site absorbs and treats all rainwater that falls across the site footprint, and therefore minimizing pressure on the neighborhood stormwater infrastructure. The proposed green infrastructure includes the installation of bioswales and stormwater planters, planting of salt tolerant, native and adaptable plants, regeneration of a salt marsh along the western boundary (refer to Figure 3.8), green roofs and permeable pavements. Vegetated features, such as the salt marsh, will help to

	attenuate waves, slow inland water transfer and increase infiltration. Green street principles have also been applied to the central access road on the site, providing a key link between the green infrastructure network components across the site. This will also help reduce the impact of the heat island effect, expected to worsen as the climate changes.

E – Sea Level Rise and Storms

Under any plausible greenhouse gas emissions scenario, sea levels in Boston will continue to rise throughout the century. This will increase the number of buildings in Boston susceptible to coastal flooding and the likely frequency of flooding for those already in the floodplain.

Is any portion of the site in a FEMA SFHA?	*Yes*	What Zone:	**VE**
		Current FEMA SFHA Zone Base Flood Elevation:	*20.46 BCB*
Is any portion of the site in a BPDA Sea Level Rise - Flood Hazard Area? Use the online BPDA SLR-FHA Mapping Tool to assess the susceptibility of the project site.	*Yes*		

If you answered YES to either of the above questions, please complete the following questions.
Otherwise you have completed the questionnaire; thank you!

E.1 – Sea Level Rise and Storms – Design Conditions

Proposed projects should identify immediate and future adaptation strategies for managing the flooding scenario represented on the BPDA Sea Level Rise - Flood Hazard Area (SLR-FHA) map, which depicts a modeled 1% annual chance coastal flood event with 40 inches of sea level rise (SLR). Use the online BPDA SLR-FHA Mapping Tool to identify the highest Sea Level Rise - Base Flood Elevation for the site. The Sea Level Rise - Design Flood Elevation is determined by adding either 24" of freeboard for critical facilities and infrastructure and any ground floor residential units OR 12" of freeboard for other buildings and uses.

Sea Level Rise - Base Flood Elevation:	*19.3 Ft BCB*		
Sea Level Rise - Design Flood Elevation:	*20.3 Ft BCB*	First Floor Elevation:	**Access Lobby:** 20.63' BCB **First Occupiable Level:** 27.46' BCB **First Residential Level:** 29.46' BCB
Site Elevations at Building:	*Residential Access Lobby:* 20.5' BCB *Parking Access:* 19.2' BCB *Bike Storage:* 17.5' BCB	Accessible Route Elevation:	*20.5 Ft BCB*

Describe site design strategies for adapting to sea level rise including building access during flood events, elevated site areas, hard and soft barriers, wave / velocity breaks, storm water systems, utility services, etc.:

Project proposes to raise grade up to +21' BCB at the residential lobby and service entrances, to keep building access above the City of Boston's SLR-DFE.

Describe how the proposed Building Design Flood Elevation will be achieved including dry / wet flood proofing, critical systems protection, utility service protection, temporary flood barriers, waste and drain water back flow prevention, etc.:

The residential access lobby will be dry flood-proofed to +23.79' BCB. Temporary flood barriers will be brought in to place at building entry doors in advance of extreme weather events, to protect dry flood-proofed areas.

The parking area will slope along with the natural grade, and be wet flood-proofed to allow surge waters to free flow through the structure.
Critical mechanical systems will be located in spaces above the SLR-DFE, to maintain building operation in the event of high flood waters. The first residential level is located at +39.96' BCB.

Describe how occupants might shelter in place during a flooding event including any emergency power, water, and waste water provisions and the expected availability of any such measures:

Occupants are encouraged to evacuate if a major flooding event is expected. If they choose to remain, we recommend they follow FEMA recommendations for sheltering in place available at www.ready.gov/shelter

Describe any strategies that would support rapid recovery after a weather event:

All critical interior components and building entry lobbies have been raised above the DFE or dry flood-proofed up to the DFE with rapidly deployable flood barriers at the doorways. This will prevent flooding in these areas and reduce the amount of repair that will be needed after a major weather event. Wet flood proofed areas like the parking areas will require cleaning, debris removal, and replacement of break-away walls as necessary. Elevator cabs would be locked down to an upper floor to prevent damage and any flood waters in the shaft would be pumped out.

E.2 – Sea Level Rise and Storms – Adaptation Strategies

Describe future site design and or infrastructure adaptation strategies for responding to sea level rise including future elevating of site areas and access routes, barriers, wave / velocity breaks, storm water systems, utility services, etc.:

The site design has taken future conditions into account as well as the potential impact of extreme events. Key resilience features include the elevation of public access spaces (vehicle access roads, pedestrian walkways and building entrances), installation of green infrastructure, and increasing the greenspace across the site, along with improving the adaptive capacity of the site to deal with changes in the climate and extreme events in the future.

The main paths, roads and entrances to the residential buildings are designed to an elevation of 21ft (refer to Figures 4.3, 4,4 and 4.5). Even considering a 40-inch sea level rise scenario, these public access areas will be well above the high tide elevation and only flooded during extreme events. The surfaces have been designed to be permeable, and therefore after floodwaters recede, the Project Site will be accessible as floodwaters will not pool on the site.
Green infrastructure, an interconnected system composed of natural and man-made open space and landscape features, has been designed to provide multifunctional ecosystem service benefits and identified as a critical strategy for both climate change mitigation and adaptation.

Multiple resilience benefits are also anticipated through development and enhancement of a nature-based buffer zone along the west side of the site which borders a tidal river (refer to Figure 3.9a). The carefully designed softscape will help to reduce the impact to adjacent areas from flooding, in addition to providing

a buffer from storm surge, attenuation of waves, a nursery habitat for important fish and other species, water filtration, carbon storage, and opportunities for recreation and enjoyment. This will allow nature to absorb the water and drain quickly after flood waters have receded. Paths will be elevated and significant planting of native, adaptive and salt tolerant plants is proposed across the site, in order to provide a nature-based solution to the frequent inundation anticipated as sea levels continue to rise.

The North side of the site is open to more intense coastal wave action than the western side, so a protective riprap slope has been designed to attenuate waves, reduce erosion and provide additional protection to the area immediately south of the marina (refer to Figure 3.1). The hybrid strategy derives benefits of wave energy dissipation from structural practices and derives ecosystem service benefits from nature-based practices. Both the Project Site and neighboring areas south of the site will benefit from improved resilience to climate related hazards following completion of this development.

Describe future building adaptation strategies for raising the Sea Level Rise Design Flood Elevation and further protecting critical systems, including permanent and temporary measures:

The key resilience approaches proposed in the building design are elevation of habitable building spaces and critical infrastructure, and designing infrastructure systems with an enhanced capacity to absorb, resist and recover after extreme events.

None of the buildings have ground floor residential units, so following the BPDA guidelines, the design team have identified the Sea Level Rise Design Flood Elevation (SLR-DFE) for each of the buildings as the minimum performance target in order to reduce flood risk and potential damage. The SLR-DFE has been calculated in accordance with BDPA guidance using the FEMA Base Flood Elevation for each location and then adding 40 inches for sea level rise plus 12 inches of freeboard for buildings (refer to Table 1).

	FEMA Flood Zone	Base Flood Elevation	SLR-DFE*	Elevation of First Occupiable Level
Building C	**VE**	**+20.46ft**	**+20.3ft**	**+27.46ft**

* SLR-DFE is calculated per BDPA resiliency checklist guidance document, using the BDPA SLR-FHA online mapping tool which notes a 19.3ft BCB SLR-BFE for the whole site.
Note – All elevations are in Boston City Base (BCB) datum.

The first occupiable floor of the buildings in the FEMA VE zone (Boathouse and Building C) is set at 27.46 ft BCB and the first residential floor of the FEMA AE zone buildings (A and B) is set at 39.96 and 33.13 ft BCB (refer to Figure 4.4) respectively. At grade floors of the VE zone buildings will be wet floodproofed and fit out with breakway walls. Whereas the retail space, entry lobbys and service/mechanical spaces at 21.1ft BCB in the two AE zone buildings will be dry floodproofed to 23.79ft BCB to provide additional resilience. Critical infrastructure for each building will be located on the second floor, in order to elevate it out of the design floodplain completely.

Areas of the VE zone buildings that are located below the selected design flood elevation have been designed using a wet floodproofing approach, allowing water to freely flow in and out during a flooding event and will include breakaway walls that ensure the building structure remains stable in the event that waves or

floating debris impacts these areas. The first floors of the AE zone buildings have been designed with at grade entrances above the selected design flood elevation.

Utility connections and plumbing systems will be designed taking into account the increased loads and flow rates projected due to extreme precipitation events. Elevators will be programmed so that the cars lock out at the second floor level during a storm event and this procedure will be incorporated into an extensive emergency preparedness plan that will be implemented by the on-site facilities team to reduce the risk of damage and downtime following a significant storm event.

A pdf and word version of the Climate Resiliency Checklist is provided for informational use and off-line preparation of a project submission. NOTE: Project filings should be prepared and submitted using the online Climate Resiliency Checklist.

For questions or comments about this checklist or Climate Change best practices, please contact: John.Dalzell@boston.gov

boston planning & development agency

Climate Resiliency Checklist – Building D

NOTE: Project filings should be prepared and submitted using the online Climate Resiliency Checklist.

A.1 - Project Information

Project Name:	**Neponset Wharf**			
Project Address:	**24 Ericsson Street, Boston, MA 02127**			
Project Address Additional:	**N/A**			
Filing Type (*select*)	*Initial (PNF, EPNF, NPC or **other substantial filing**)* *Design / Building Permit (prior to final design approval), or* *Construction / Certificate of Occupancy (post construction completion)*			
Filing Contact	**Seth Lattrell**	**VHB**	**SLattrell@VHB.com**	**617-607-2973**
Is MEPA approval required	***Yes**/no*		*Date*	

A.3 - Project Team

Owner / Developer:	**CPC Ericsson Street LLC**
Architect:	**RODE**
Engineer:	**Cosentini**
Sustainability / LEED:	**Soden Sustainability Consulting /Thorton Tomasetti**
Permitting:	**VHB/MLF Consulting**
Construction Management:	**Gilbane**

A.3 - Project Description and Design Conditions

List the principal Building Uses:	**Boat Storage and marina offices**
List the First Floor Uses:	**Boat Storage and maintenance**
List any Critical Site Infrastructure and or Building Uses:	**None**

Site and Building:

Site Area:	***3.64 Acres (land area)***	Building Area:	***19,400 SF***
Building Height:	***45 Ft***	Building Height:	***2 Stories***
Existing Site Elevation – Low:	***Sea Level***	Existing Site Elevation – High:	***18.3 Ft BCB***
Proposed Site Elevation – Low:	***Sea Level***	Proposed Site Elevation – High:	***21.0 Ft BCB***
Proposed First Floor Elevation:	***Access Lobby, trash room, +17.46' BCB*** ***Office: +27.46' BCB***	Below grade levels:	***None***

Article 37 Green Building:

LEED Version - Rating System :	**LEED v4 for BD+C**	LEED Certification:	*Yes / **No***
Proposed LEED rating:	***Silver***	Proposed LEED point score:	***53** Pts.*

Building Envelope

When reporting R values, differentiate between R discontinuous and R continuous. For example, use "R13" to show R13 discontinuous and use R10c.i. to show R10 continuous. When reporting U value, report total assembly U value including supports and structural elements.

Roof:	*35 c.i. (R)*	Exposed Floor:	*R-35 c.i. (R)*
Foundation Wall:	*NA (R)*	Slab Edge (at or below grade):	*7.5 c.i. (R)*

Vertical Above-grade Assemblies (%'s are of total vertical area and together should total 100%):

Area of Opaque Curtain Wall & Spandrel Assembly:	*0(%)*	Wall & Spandrel Assembly Value:	*0.044 (U)*
Area of Framed & Insulated / Standard Wall:	*94 (%)*	Wall Value	*20 c.i. (R)*
Area of Vision Window:	*6 %*	Window Glazing Assembly Value:	*U-0.36 (U)*
		Window Glazing SHGC:	*0.32 (SHGC)*
Area of Doors:	*0.5%*	Door Assembly Value:	*U-0.77 (U)*

Energy Loads and Performance

For this filing – describe how energy loads & performance were determined	*Whole Building Energy Model*		
Annual Electric:	*105,878 (kWh)*	Peak Electric:	*30(kW)*
Annual Heating:	*0.4 (MMbtu/hr)*	Peak Heating:	*0.15 (MMbtu)*
Annual Cooling:	*6,000 (Tons/hr)*	Peak Cooling:	*10 (Tons)*
Energy Use - Below ASHRAE 90.1 - 2013:	*32%*	Have the local utilities reviewed the building energy performance?:	*<u>Yes</u> / no*
Energy Use - Below Mass. Code:	*32%*	Energy Use Intensity:	*20 (kBtu/SF)*

Back-up / Emergency Power System

Electrical Generation Output:	*NA (kW)*	Number of Power Units:	NA
System Type:	*NA (kW)*	Fuel Source:	NA

Emergency and Critical System Loads (in the event of a service interruption)

Electric:	*0 (kW)*	Heating:	*0 (MMbtu/hr)*
		Cooling:	*0 (Tons/hr)*

B – Greenhouse Gas Reduction and Net Zero / Net Positive Carbon Building Performance

Reducing GHG emissions is critical to avoiding more extreme climate change conditions. To achieve the City's goal of carbon neutrality by 2050 new buildings performance will need to progressively improve to net carbon zero and positive.

B.1 – GHG Emissions - Design Conditions

For this Filing - Annual Building GHG Emissions: *40 Tons*

For this filing - describe how building energy performance has been integrated into project planning, design, and engineering and any supporting analysis or modeling:

The Project Team will continue to analyze efficiency measures during the design process and account for the results in design decision making. The team will use energy simulation of efficiency opportunities, past energy simulation analyses for similar buildings. The Project will also prove compliance with the Stretch Code which requires a minimum of 10 percent improvement over ASHRAE Standard 90.1–2013.

Describe building specific passive energy efficiency measures including orientation, massing, envelop, and systems:

The thermal envelope will be designed to exceed the prescriptive requirements in order to reduce solar gains and reduce heat loss. Proper envelope detailing will ensure the mechanical equipment is properly sized for the expected loads.
Roof insulation was evaluated to perform at R-35, or 7 inches of rigid insulation for all space types. Both the roof and floor targets exceed the baseline of R-30.
Wall insulation will be applied continuously to reduce thermal bridging from material penetrations or high conductivity materials. Additional interior stud back up will enable batt insulation to supplement the exterior cladding. In this iteration of the energy model, R-20 continuous insulation was applied throughout the project.

The proposed glazing percentage of 31.5% (Building A) and 31.1% (Building B and C) does not exceed the code baseline of 40%. And reduces solar gain from the baseline value of 0.40

Describe building specific active energy efficiency measures including equipment, controls, fixtures, and systems:

All mechanical systems will be selected to exceed the minimum efficiency requirements of ASHRAE 90.1-2013 Section 6. Heat recovery will be employed wherever possible to reduce the energy required to condition the ventilation air. In addition, all domestic hot water fixtures can be specified to be at least 20% below the LEED baseline flowrates. Ventilation will be provided through in unit energy recovery ventilators equipped with 72% efficient heat recovery media that preheat the entering outdoor air with exhaust.

All common and amenity spaces will be designed to include daylight photocell sensors wherever possible. Vacancy sensors will automatically shut off lighting to spaces.

Describe building specific load reduction strategies including on-site renewable, clean, and energy storage systems:

The Project will incorporate a minimum of 100KW of solar for the project. Central systems are being evaluated where appropriate.

Describe any area or district scale emission reduction strategies including renewable energy, central energy plants, distributed energy systems, and smart grid infrastructure:

The Project will incorporate a minimum of 100KW of solar for the project. Once the design progresses we will be investigating increasing the size of the system.

Describe any energy efficiency assistance or support provided or to be provided to the project:

The Project intends to participate in local utility incentive programs to evaluate the cost benefit of various energy conservation measures and maximize building energy performance.

B.2 - GHG Reduction - Adaptation Strategies

Describe how the building and its systems will evolve to further reduce GHG emissions and achieve annual carbon net zero and net positive performance (e.g. added efficiency measures, renewable energy, energy storage, etc.) and the timeline for meeting that goal (by 2050):

A strategy to reduce GHG emissions associated with the buildings could include additional solar PV plus battery storage.

C - Extreme Heat Events

Annual average temperature in Boston increased by about 2˚F in the past hundred years and will continue to rise due to climate change. By the end of the century, the average annual temperature could be 56° (compared to 46° now) and the number of days above 90° (currently about 10 a year) could rise to 90.

C.1 – Extreme Heat - Design Conditions

Temperature Range - Low:	*7 Deg.*	Temperature Range - High:	*87 Deg.*
Annual Heating Degree Days:	5,641	Annual Cooling Degree Days	2,897

What Extreme Heat Event characteristics will be / have been used for project planning

Days - Above 90°:	*9*	Days – Above 100°:	*0*
Number of Heatwaves / Year:	*10*	Average Duration of Heatwave (Days):	*3*

Describe all building and site measures to reduce heat-island effect at the site and in the surrounding area:

Porous paving material, green roofs, expansive landscaped areas with shade trees and shrubs, non-reflective glazing will be part of the project to reduce heat-island effect.

C.2 - Extreme Heat – Adaptation Strategies

Describe how the building and its systems will be adapted to efficiently manage future higher average temperatures, higher extreme temperatures, additional annual heatwaves, and longer heatwaves:

The building envelope has been designed with more insulation than the baseline prescribed by the building code and the development team has selected heating and cooling systems that perform above minimum standards. Future adaptation strategies will be considered as building technology advances.

Describe all mechanical and non-mechanical strategies that will support building functionality and use during extended interruptions of utility services and infrastructure including proposed and future adaptations:

In the event of a long term utility interruption, temporary on-site generators will be evaluated if necessary. Interruptions in utility services initiated by the city should be accompanied by a strategy generated by the city.

D - Extreme Precipitation Events

From 1958 to 2010, there was a 70 percent increase in the amount of precipitation that fell on the days with the heaviest precipitation. Currently, the 10-Year, 24-Hour Design Storm precipitation level is 5.25". There is a significant probability that this will increase to at least 6" by the end of the century. Additionally, fewer, larger storms are likely to be accompanied by more frequent droughts.

D.1 – Extreme Precipitation - Design Conditions

10 Year, 24 Hour Design Storm: *6 In.*

Describe all building and site measures for reducing storm water run-off:

The open space will be a showcase for sustainable technology and stormwater management. Rain gardens along the Arrival Court and drive aisle will capture roadway runoff, keeping drive aisles clear of standing water. Native plantings and restored coastal vegetation along the water's edge will serve aesthetic and ecological functions, working to create an environment welcoming of both people and wildlife. Drive aisle and pedestrian materials will be made of pervious materials, with an additional acre of vegetated open space. As integrated with the site's resiliency design, natural grades will be created to protect the building footprints, and encourage rainwater runoff to rejoin the abutting natural waterways. On Building A, the roof level of the garage will be planted with vegetation intended to slow the introduction of rainwater back into the city system.

D.2 - Extreme Precipitation - Adaptation Strategies

Describe how site and building systems will be adapted to efficiently accommodate future more significant rain events (e.g. rainwater harvesting, on-site storm water retention, bio swales, green roofs):

The site is currently largely impervious and therefore runoff from rainwater that falls across the site footprint enters the neighboring waterways and stormwater systems without being filtered in any way, inadvertently allowing overland flow to transport pollutants to nearby waterways. The Proponent and the design team plan to reduce runoff and improve the site's capacity to absorb the projected increase in precipitation during more frequent extreme rainfall events and the flooding associated with an increase in sea levels and more frequent storm surge events.

Significant efforts have been put into converting large impervious surfaces on the site (currently covering approximately 94 percent of the site) into multi-functional landscapes providing services such as habitat and green space, filtering runoff, wave attenuation etc. This approach dramatically increases the infiltration capacity with permeable surfaces proposed to cover approximately 41 percent of the site. Rainwater collected through the building and site stormwater systems will be distributed through the green infrastructure systems, ensuring that the site absorbs and treats all rainwater that falls across the site footprint, and therefore minimizing pressure on the neighborhood stormwater infrastructure. The proposed green infrastructure includes the installation of bioswales and stormwater planters, planting of salt tolerant, native and adaptable plants, regeneration of a salt marsh along the western boundary (refer to Figure 3.8), green roofs and

permeable pavements. Vegetated features, such as the salt marsh, will help to attenuate waves, slow inland water transfer and increase infiltration. Green street principles have also been applied to the central access road on the site, providing a key link between the green infrastructure network components across the site. This will also help reduce the impact of the heat island effect, expected to worsen as the climate changes.

E – Sea Level Rise and Storms

Under any plausible greenhouse gas emissions scenario, sea levels in Boston will continue to rise throughout the century. This will increase the number of buildings in Boston susceptible to coastal flooding and the likely frequency of flooding for those already in the floodplain.

Is any portion of the site in a FEMA SFHA?	*Yes*	What Zone:	VE
		Current FEMA SFHA Zone Base Flood Elevation:	*20.46 Ft BCB*

Is any portion of the site in a BPDA Sea Level Rise - Flood Hazard Area? Use the online BPDA SLR-FHA Mapping Tool to assess the susceptibility of the project site.	*Yes*

If you answered YES to either of the above questions, please complete the following questions.
Otherwise you have completed the questionnaire; thank you!

E.1 – Sea Level Rise and Storms – Design Conditions

Proposed projects should identify immediate and future adaptation strategies for managing the flooding scenario represented on the BPDA Sea Level Rise - Flood Hazard Area (SLR-FHA) map, which depicts a modeled 1% annual chance coastal flood event with 40 inches of sea level rise (SLR). Use the online BPDA SLR-FHA Mapping Tool to identify the highest Sea Level Rise - Base Flood Elevation for the site. The Sea Level Rise - Design Flood Elevation is determined by adding either 24" of freeboard for critical facilities and infrastructure and any ground floor residential units OR 12" of freeboard for other buildings and uses.

Sea Level Rise - Base Flood Elevation:	***19.3*** *Ft BCB*		
Sea Level Rise - Design Flood Elevation:	***20.3*** *Ft BCB*	First Floor Elevation:	**Access Lobby / Boat Storage: 17.46' BCB Office: 27.46' BCB**
Site Elevations at Building:	***17.46 Ft BCB at lobby entrance***	Accessible Route Elevation:	***17.46*** *Ft BCB*

Describe site design strategies for adapting to sea level rise including building access during flood events, elevated site areas, hard and soft barriers, wave / velocity breaks, storm water systems, utility services, etc.:

Project proposes to raise grade up to +21' BCB at the residential lobby and service entrances, to keep building access above the City of Boston's SLR-DFE.

Describe how the proposed Building Design Flood Elevation will be achieved including dry / wet flood proofing, critical systems protection, utility service protection, temporary flood barriers, waste and drain water back flow prevention, etc.:

The residential access lobby will be dry flood-proofed to +23.79' BCB. Temporary flood barriers will be brought in to place at building entry doors in advance of extreme weather events, to protect dry flood-proofed areas.

The parking area will slope along with the natural grade, and be wet flood-proofed to allow surge waters to free flow through the structure.
Critical mechanical systems will be located in spaces above the SLR-DFE, to maintain building operation in the event of high flood waters. The first residential level is located at +39.96' BCB.

Describe how occupants might shelter in place during a flooding event including any emergency power, water, and waste water provisions and the expected availability of any such measures:

Occupants are encouraged to evacuate if a major flooding event is expected. If they choose to remain, we recommend they follow FEMA recommendations for sheltering in place available at www.ready.gov/shelter

Describe any strategies that would support rapid recovery after a weather event:

All critical interior components and building entry lobbies have been raised above the DFE or dry flood-proofed up to the DFE with rapidly deployable flood barriers at the doorways. This will prevent flooding in these areas and reduce the amount of repair that will be needed after a major weather event. Wet flood proofed areas like the parking areas will require cleaning, debris removal, and replacement of break-away walls as necessary. Elevator cabs would be locked down to an upper floor to prevent damage and any flood waters in the shaft would be pumped out.

E.2 – Sea Level Rise and Storms – Adaptation Strategies

Describe future site design and or infrastructure adaptation strategies for responding to sea level rise including future elevating of site areas and access routes, barriers, wave / velocity breaks, storm water systems, utility services, etc.:

The site design has taken future conditions into account as well as the potential impact of extreme events. Key resilience features include the elevation of public access spaces (vehicle access roads, pedestrian walkways and building entrances), installation of green infrastructure, and increasing the greenspace across the site, along with improving the adaptive capacity of the site to deal with changes in the climate and extreme events in the future.

The main paths, roads and entrances to the residential buildings are designed to an elevation of 21ft (refer to Figures 4.3, 4,4 and 4.5). Even considering a 40-inch sea level rise scenario, these public access areas will be well above the high tide elevation and only flooded during extreme events. The surfaces have been designed to be permeable, and therefore after floodwaters recede, the Project Site will be accessible as floodwaters will not pool on the site.
Green infrastructure, an interconnected system composed of natural and man-made open space and landscape features, has been designed to provide multifunctional ecosystem service benefits and identified as a critical strategy for both climate change mitigation and adaptation.

Multiple resilience benefits are also anticipated through development and enhancement of a nature-based buffer zone along the west side of the site which borders a tidal river (refer to Figure 3.9a). The carefully designed softscape will help to reduce the impact to adjacent areas from flooding, in addition to providing a buffer from storm surge, attenuation of waves, a nursery habitat for important fish and other species, water filtration, carbon storage, and opportunities for recreation and enjoyment. This will allow nature to absorb the water and drain quickly after flood waters have receded. Paths will be elevated and significant planting of native, adaptive and salt tolerant plants is proposed across the site, in

order to provide a nature-based solution to the frequent inundation anticipated as sea levels continue to rise.

The North side of the site is open to more intense coastal wave action than the western side, so a protective riprap slope has been designed to attenuate waves, reduce erosion and provide additional protection to the area immediately south of the marina (refer to Figure 3.1). The hybrid strategy derives benefits of wave energy dissipation from structural practices and derives ecosystem service benefits from nature-based practices. Both the Project Site and neighboring areas south of the site will benefit from improved resilience to climate related hazards following completion of this development.

Describe future building adaptation strategies for raising the Sea Level Rise Design Flood Elevation and further protecting critical systems, including permanent and temporary measures:

The key resilience approaches proposed in the building design are elevation of habitable building spaces and critical infrastructure, and designing infrastructure systems with an enhanced capacity to absorb, resist and recover after extreme events.

None of the buildings have ground floor residential units, so following the BPDA guidelines, the design team have identified the Sea Level Rise Design Flood Elevation (SLR-DFE) for each of the buildings as the minimum performance target in order to reduce flood risk and potential damage. The SLR-DFE has been calculated in accordance with BDPA guidance using the FEMA Base Flood Elevation for each location and then adding 40 inches for sea level rise plus 12 inches of freeboard for buildings (refer to Table 1).

	FEMA Flood Zone	Base Flood Elevation	SLR-DFE*	Elevation of First Occupiable Level
Boathouse	**VE**	**+20.46ft**	**+20.3ft**	**+27.46ft**

* SLR-DFE is calculated per BDPA resiliency checklist guidance document, using the BDPA SLR-FHA online mapping tool which notes a 19.3ft BCB SLR-BFE for the whole site.
Note – All elevations are in Boston City Base (BCB) datum.

The first occupiable floor of the buildings in the FEMA VE zone (Boathouse and Building C) is set at 27.46 ft BCB and the first residential floor of the FEMA AE zone buildings (A and B) is set at 39.96 and 33.13 ft BCB (refer to Figure 4.4) respectively. At grade floors of the VE zone buildings will be wet floodproofed and fit out with breakway walls. Whereas the retail space, entry lobbys and service/mechanical spaces at 21.1ft BCB in the two AE zone buildings will be dry floodproofed to 23.79ft BCB to provide additional resilience. Critical infrastructure for each building will be located on the second floor, in order to elevate it out of the design floodplain completely.

Areas of the VE zone buildings that are located below the selected design flood elevation have been designed using a wet floodproofing approach, allowing water to freely flow in and out during a flooding event and will include breakaway walls that ensure the building structure remains stable in the event that waves or floating debris impacts these areas. The first floors of the AE zone buildings have been designed with at grade entrances above the selected design flood elevation.

Utility connections and plumbing systems will be designed taking into account the increased loads and flow rates projected due to extreme precipitation events. Elevators will be programmed so that the cars lock out at the second floor level

during a storm event and this procedure will be incorporated into an extensive emergency preparedness plan that will be implemented by the on-site facilities team to reduce the risk of damage and downtime following a significant storm event.

A pdf and word version of the Climate Resiliency Checklist is provided for informational use and off-line preparation of a project submission. NOTE: Project filings should be prepared and submitted using the online Climate Resiliency Checklist.

For questions or comments about this checklist or Climate Change best practices, please contact: John.Dalzell@boston.gov

Article 80 – Accessibility Checklist

A requirement of the Boston Planning & Development Agency (BPDA)
Article 80 Development Review Process

The Mayor's Commission for Persons with Disabilities strives to reduce architectural, procedural, attitudinal, and communication barriers that affect persons with disabilities in the City of Boston. In 2009, a Disability Advisory Board was appointed by the Mayor to work alongside the Commission in creating universal access throughout the city's built environment. The Disability Advisory Board is made up of 13 volunteer Boston residents with disabilities who have been tasked with representing the accessibility needs of their neighborhoods and increasing inclusion of people with disabilities.

In conformance with this directive, the BDPA has instituted this Accessibility Checklist as a tool to encourage developers to begin thinking about access and inclusion at the beginning of development projects, and strive to go beyond meeting only minimum MAAB / ADAAG compliance requirements. Instead, our goal is for developers to create ideal design for accessibility which will ensure that the built environment provides equitable experiences for all people, regardless of their abilities. As such, any project subject to Boston Zoning Article 80 Small or Large Project Review, including Institutional Master Plan modifications and updates, must complete this Accessibility Checklist thoroughly to provide specific detail about accessibility and inclusion, including descriptions, diagrams, and data.

For more information on compliance requirements, advancing best practices, and learning about progressive approaches to expand accessibility throughout Boston's built environment. Proponents are highly encouraged to meet with Commission staff, prior to filing.

Accessibility Analysis Information Sources:

1. Americans with Disabilities Act – 2010 ADA Standards for Accessible Design
   http://www.ada.gov/2010ADAstandards_index.htm
2. Massachusetts Architectural Access Board 521 CMR
   http://www.mass.gov/eopss/consumer-prot-and-bus-lic/license-type/aab/aab-rules-and-regulations-pdf.html
3. Massachusetts State Building Code 780 CMR
   http://www.mass.gov/eopss/consumer-prot-and-bus-lic/license-type/csl/building-codebbrs.html
4. Massachusetts Office of Disability – Disabled Parking Regulations
   http://www.mass.gov/anf/docs/mod/hp-parking-regulations-summary-mod.pdf
5. MBTA Fixed Route Accessible Transit Stations
   http://www.mbta.com/riding_the_t/accessible_services/
6. City of Boston – Complete Street Guidelines
   http://bostoncompletestreets.org/
7. City of Boston – Mayor's Commission for Persons with Disabilities Advisory Board
   www.boston.gov/disability
8. City of Boston – Public Works Sidewalk Reconstruction Policy
   http://www.cityofboston.gov/images_documents/sidewalk%20policy%200114_tcm3-41668.pdf
9. City of Boston – Public Improvement Commission Sidewalk Café Policy
   http://www.cityofboston.gov/images_documents/Sidewalk_cafes_tcm3-1845.pdf

Glossary of Terms:

1. ***Accessible Route*** – A continuous and unobstructed path of travel that meets or exceeds the dimensional and inclusionary requirements set forth by MAAB 521 CMR: Section 20
2. ***Accessible Group 2 Units*** – Residential units with additional floor space that meet or exceed the dimensional and inclusionary requirements set forth by MAAB 521 CMR: Section 9.4
3. ***Accessible Guestrooms*** – Guestrooms with additional floor space, that meet or exceed the dimensional and inclusionary requirements set forth by MAAB 521 CMR: Section 8.4
4. ***Inclusionary Development Policy (IDP)*** – Program run by the BPDA that preserves access to affordable housing opportunities, in the City. For more information visit: http://www.bostonplans.org/housing/overview
5. ***Public Improvement Commission (PIC)*** – The regulatory body in charge of managing the public right of way. For more information visit: https://www.boston.gov/pic
6. ***Visitability*** – A place's ability to be accessed and visited by persons with disabilities that cause functional limitations; where architectural barriers do not inhibit access to entrances/doors and bathrooms.

Article 80 | ACCESSIBILTY CHECKLIST

1. Project Information:

If this is a multi-phased or multi-building project, fill out a separate Checklist for each phase/building.

Project Name:	**Neponset Wharf**
Primary Project Address:	**24 Ericsson Street, Boston, MA 02127**
Total Number of Phases/Buildings:	**1 phase / 4 buildings**
Primary Contact (Name / Title / Company / Email / Phone):	**Ryan Sillery / Manager / CPC Ericsson Street LLC** **RSillery@citypointcapital.com / (857) 496 - 0425**
Owner / Developer:	**CPC Ericsson Street LLC**
Architect:	**RODE**
Civil Engineer:	**Cosentini**
Landscape Architect:	**OJB**
Permitting:	**VHB / MLF Consulting**
Construction Management:	**Gilbane**

At what stage is the project at time of this questionnaire? Select below:

	PNF / Expanded PNF Submitted	**Draft** / Final **Project Impact Report Submitted**	BPDA Board Approved
	BPDA Design Approved	Under Construction	Construction Completed:

Do you anticipate filing for any variances with the Massachusetts Architectural Access Board (MAAB)? ***If yes,*** identify and explain.	**Yes. There are proposed to be two-story units at the top level of the residential buildings A, B, and C. The Proponent proposes to provide a fully-functioning unit with full compliance at the accessible entry level, and provide space allowance for the potential future installation of a lift to access the second level of the unit.**

2. Building Classification and Description:

This section identifies preliminary construction information about the project including size and uses.

What are the dimensions of the project?

Site Area:	***3.6 acres (land area)***	Building Area:	***240,800 GSF***

Building Height:	***Building A: 77.5'*** ***Building B: 68'*** ***Building C: 67'*** ***Boathouse: 48'***	Number of Stories:	***Building A: 7*** ***Building B: 6*** ***Building C: 6*** ***Boathouse: 2***	
First Floor Elevation:	***Resi. Lobby Entry:*** ***A: 21.13'*** ***B: 21.13'*** ***C: 20.63*** ***Boathouse.: 17.46'***	Is there below grade space:	***No***	
What is the Construction Type? (Select most appropriate type)				
	Wood Frame (Building A, B, C above podium)	Masonry	**Steel Frame** (Boathouse)	**Concrete** (Building A, B, C podium)
What are the principal building uses? (IBC definitions are below – select all appropriate that apply)				
	Residential – One - Three Unit	**Residential - Multi-unit, Four +**	Institutional	Educational
	Business	Mercantile	Factory	Hospitality
	Laboratory / Medical	**Storage, Utility and Other**		
List street-level uses of the building:	***Building A: parking, residential lobby, residential storage*** ***Building B: retail market & deli, residential lobby, residential storage*** ***Building C: parking, residential lobby, residential storage, entry vestibule for Community Room (Community Room is raised to satisfy FEMA flood zone requirements)*** ***Boathouse: boat storage; entry vestibule for marina offices (offices are raised to satisfy FEMA flood zone requirements)***			

3. Assessment of Existing Infrastructure for Accessibility:

This section explores the proximity to accessible transit lines and institutions, such as (but not limited to) hospitals, elderly & disabled housing, and general neighborhood resources. Identify how the area surrounding the development is accessible for people with mobility impairments and analyze the existing condition of the accessible routes through sidewalk and pedestrian ramp reports.

Provide a description of the neighborhood where this development is located and its identifying	**The Project is located on the northern point of the Port Norfolk Peninsula on a site currently occupied by Marine Max Russo powerboat dealership and storage. There are adjacent commercial structures, and a residential neighborhood to the south. The Project is bounded by the Neponset River to the north and west, the Distillery Property at 12 Ericsson Street to the south, and the Venezia restaurant at 20-26 Ericsson Street to the east. Access to the**

topographical characteristics:	Public Way Ericsson Street is via perpetual easement over the Distillery Property. The Project Site has served industrial and marine commercial uses for over a century.
List the surrounding accessible MBTA transit lines and their proximity to development site: commuter rail / subway stations, bus stops:	There are no MBTA Transit lines in the immediate vicinity of the Project Site. The nearest MBTA bus stop is Route 201,202, & 210 at Neponset Circle and Walnut St which is 0.5 miles from the Project Site. The nearest MBTA T stop is Ashmont/Peabody Sq which is 2 miles from the project site.
List the surrounding institutions: hospitals, public housing, elderly and disabled housing developments, educational facilities, others:	The Project is located in proximity to the following institutions: - UMASS Boston (2.5 miles) - Neighborhood House Charter School (1.3 miles) - Richard J Murphy Public School (1.2 miles) - Thomas J Kenny Public School (1.5 miles) - Housing Opportunities Unlimited (.6 miles) - Carney Hospital (2.2 miles) - Seven Hills Foundation (.3 miles)
List the surrounding government buildings: libraries, community centers, recreational facilities, and other related facilities:	The following public use facilities are within proximity of the Project Site: - Boston Bowl (.9 miles) - Devine Rink/Garvey Playground (1.4 miles) - Super Stop & Shop (1.1 miles) - Lambert's Rainbow Fruit (2.0 miles) - Tenean Beach (.5 miles) - Neponset River Reservation (2.2 miles) - Pope John Paul II Park (2.0 miles) - Dorchester Shores Reservation Victory Island (1.2 miles) - Shaffer Park (.25 miles) - Adams St Branch Boston Public Library (1.8 miles) - Leahy Holloran Community Center (1.2 miles) - Boston Housing Authority (1.8 miles) - Boston Police Superior Officers Federation (.9 miles)
4. Surrounding Site Conditions – Existing: *This section identifies current condition of the sidewalks and pedestrian ramps at the development site.*	
Is the development site within a historic district? ***If yes,*** identify which district:	The Project is located within the Port Norfolk historic area which was recommended for eligibility for listing in the National Register for its industrial history and architecture in 1995.
Are there sidewalks and pedestrian ramps existing at the development site? ***If yes***, list the existing sidewalk and	No

pedestrian ramp dimensions, slopes, materials, and physical condition at the development site:	
Are the sidewalks and pedestrian ramps existing-to-remain? ***If yes,*** have they been verified as ADA / MAAB compliant (with yellow composite detectable warning surfaces, cast in concrete)? ***If yes,*** provide description and photos:	N/A
5. Surrounding Site Conditions – Proposed *This section identifies the proposed condition of the walkways and pedestrian ramps around the development site. Sidewalk width contributes to the degree of comfort walking along a street. Narrow sidewalks do not support lively pedestrian activity, and may create dangerous conditions that force people to walk in the street. Wider sidewalks allow people to walk side by side and pass each other comfortably walking alone, walking in pairs, or using a wheelchair.*	
Are the proposed sidewalks consistent with the Boston Complete Street Guidelines? ***If yes***, choose which Street Type was applied: Downtown Commercial, Downtown Mixed-use, Neighborhood Main, Connector, Residential, Industrial, Shared Street, Parkway, or Boulevard.	<u>Site Entry & Access Drive</u> (at Ericsson St, easement over Distillery Property): No <u>Internal Drive Aisle:</u> Yes, Neighborhood Residential
What are the total dimensions and slopes of the proposed sidewalks? List the widths of the	<u>Site Entry & Access Drive</u> (at Ericsson St, over easement, east to west) 22’ overall width (to face of existing masonry projection at Winery building) +/- 3.6’ pedestrian zone, at existing building 4’ minimum, along existing parking lot 18’ vehicular drive (two-way)

proposed zones: Frontage, Pedestrian and Furnishing Zone:	<u>Internal Drive Aisle</u> (between Building B & C, south to north): 67.2' overall width typical Frontage (at building B): 16.5' landscape, location of ramp route Sidewalk: 5' standard side Greenspace/Furnishing Zone + Curb: 8.5', used occasionally for vehicular drop-off, see diagrams Street Width: 20.0' (two-way) Greenspace/Furnishing Zone + Curb: 8.5', used occasionally for vehicular drop-off, see diagrams Sidewalk: 5' standard side Frontage Zone (at building B): 3.7' typical All sidewalk slopes will be less than 2% cross slope.
List the proposed materials for each Zone. Will the proposed materials be on private property or will the proposed materials be on the City of Boston pedestrian right-of-way?	Unit pavers and concrete on private property.
Will sidewalk cafes or other furnishings be programmed for the pedestrian right-of-way? ***If yes,*** what are the proposed dimensions of the sidewalk café or furnishings and what will the remaining right-of-way clearance be?	N/A
If the pedestrian right-of-way is on private property, will the proponent seek a pedestrian easement with the Public Improvement Commission (PIC)?	Undetermined at this time, but not anticipated
Will any portion of the Project be going through the PIC? ***If yes,*** identify PIC	N/A

actions and provide details.	
6. Accessible Parking: *See Massachusetts Architectural Access Board Rules and Regulations 521 CMR Section 23.00 regarding accessible parking requirement counts and the Massachusetts Office of Disability – Disabled Parking Regulations*.	
What is the total number of parking spaces provided at the development site? Will these be in a parking lot or garage?	**170 parking spaces total:** - **163 in Building A parking garage (74 at grade and 88 at level 2)** - **7 at grade in Building C**
What is the total number of accessible spaces provided at the development site? How many of these are "Van Accessible" spaces with an 8 foot access aisle?	**7 accessible spaces provided:** - **1 accessible space in Building C** - **6 accessible spaces in Building A at grade, including 1 van space**
Will any on-street accessible parking spaces be required? ***If yes,*** has the proponent contacted the Commission for Persons with Disabilities regarding this need?	**No on-street parking is required**
Where is the accessible visitor parking located?	**Visitor parking spaces will be located in the parking garage of Building A, counted among the 6 allocated spaces, see above.**
Has a drop-off area been identified? ***If yes,*** will it be accessible?	**Yes, see Figure B.1 for drop-off / loading location per building. All drop-off areas will be accessible.**

7. Circulation and Accessible Routes: *The primary objective in designing smooth and continuous paths of travel is to create universal access to entryways and common spaces, which accommodates persons of all abilities and allows for visitability with neighbors.*	
Describe accessibility at each entryway: Example: Flush Condition, Stairs, Ramp, Lift or Elevator:	**Building A: Flush exterior condition.** **Building B: Flush exterior condition.** **Building C: landscape ramps up from street level to elevator access lobby, lobby provides access to elevator up to community room and residential floors** **Boathouse: boat storage level is at grade; at-grade vestibule provides access to elevator/lift up to boathouse offices.**
Are the accessible entrances and standard entrance integrated? ***If yes,*** *describe.* ***If no,*** what is the reason?	**Yes. Exterior grade is proposed to be raised to address issues of resiliency, and permits a flush or short ramp condition to the first floors of the residential buildings. There are no separate accessible entrances.**
If project is subject to Large Project Review/Institutional Master Plan, describe the accessible routes way-finding / signage package.	**Site wayfinding and signage package is yet to be designed.**
8. Accessible Units (Group 2) and Guestrooms: (If applicable) *In order to facilitate access to housing and hospitality, this section addresses the number of accessible units that are proposed for the development site that remove barriers to housing and hotel rooms.*	
What is the total number of proposed housing units or hotel rooms for the development?	**96 total dwelling units:** **Building A: 52 dwelling units** **Building B: 23 dwelling units** **Building C: 21 dwelling units**
If a residential development, how many units are for sale? How many are for rent? What is the breakdown of market value units vs. IDP (Inclusionary Development Policy) units?	**All units are for sale (condo). Total IDP units is not yet determined; proponent will fully comply with City of Boston IDP requirements.**
If a residential development, how many accessible Group 2 units are being proposed?	**Five (5) units are proposed to meet Group 2 MAAB requirements:** - **One (1) each in buildings B & C** - **Three (3) in building A**
If a residential development, how many accessible Group 2 units will also be IDP units? ***If none***, describe reason.	**Not yet determined**
If a hospitality development, how many accessible units will feature a wheel-in shower? Will accessible equipment be provided as well? ***If yes,*** provide amount and location of equipment.	**N/A**

Do standard units have architectural barriers that would prevent entry or use of common space for persons with mobility impairments? Example: stairs / thresholds at entry, step to balcony, others. ***If yes,*** provide reason.	All common spaces and building circulation spaces will provide a fully compliant accessible route. Standard units may have Balconies or a second-level internal to the unit. All balconies will be designed to provide or be capable of providing an accessible threshold. Units with a second level will provide a fully compliant MAAB unit on the entry level, with space for potential installation of a lift to access the second level.
Are there interior elevators, ramps or lifts located in the development for access around architectural barriers and/or to separate floors? ***If yes,*** describe:	Ramps are required (see section 7, above) to provide an accessible route from street level up to certain lobby spaces. All four buildings will have internal elevators, to provide accessible circulation to all levels.
9. Community Impact: *Accessibility and inclusion extend past required compliance with building codes. Providing an overall scheme that allows full and equal participation of persons with disabilities makes the development an asset to the surrounding community.*	
Is this project providing any funding or improvements to the surrounding neighborhood? Examples: adding extra street trees, building or refurbishing a local park, or supporting other community-based initiatives?	Undetermined
What inclusion elements does this development provide for persons with disabilities in common social and open spaces? Example: Indoor seating and TVs in common rooms; outdoor seating and barbeque grills in yard. Will all of these spaces and features provide accessibility?	Outdoor amenities have yet to be fully designed; however, all elements will incorporate universal accessibility and access. Indoor resident amenity spaces have yet to be fully designed; however all components will incorporate accessible elements compliant with MAAB regulations.
Are any restrooms planned in common public spaces? ***If yes,*** will any be single-stall, ADA compliant and designated as "Family"/ "Companion" restrooms? ***If no***, explain why not.	The amenity space in Building A will only be open to tenants of the Project, and will have ADA compliant restrooms. The retail space in Building B is to be delivered as a 'shell' space for fit-out by a future tenant. This future tenant will be required to comply with MAAB requirements during the city review process. The Community Room in Building C will have restrooms as required by the Code, including ADA compliant stalls for each gender. The Proponent is open to exploring "Family" / "Companion" restrooms as design progresses. The Boathouse will have locker facilities and fully compliant ADA stalls.

Has the proponent reviewed the proposed plan with the City of Boston Disability Commissioner or with their Architectural Access staff? ***If yes,*** did they approve? ***If no,*** what were their comments?	**The Project has not yet been presented to the City of Boston Mayor's Commission for Persons with Disabilities Advisory board. The Project Team will meet with the Board as the Project design advances and is fully committed to delivering a Project that is MAAB compliant.**
Has the proponent presented the proposed plan to the Disability Advisory Board at one of their monthly meetings? Did the Advisory Board vote to support this project? ***If no,*** what recommendations did the Advisory Board give to make this project more accessible?	**The Project has not yet been reviewed by the Advisory Board.**

10. Attachments

Include a list of all documents you are submitting with this Checklist. This may include drawings, diagrams, photos, or any other material that describes the accessible and inclusive elements of this project.

See diagrams B-1.1 – B-1.4, attached.

Provide a diagram of the accessible routes to and from the accessible parking lot/garage and drop-off areas to the development entry locations, including route distances.
Provide a diagram of the accessible route connections through the site, including distances.
Provide a diagram the accessible route to any roof decks or outdoor courtyard space? (if applicable)
Provide a plan and diagram of the accessible Group 2 units, including locations and route from accessible entry.
Provide any additional drawings, diagrams, photos, or any other material that describes the inclusive and accessible elements of this project.

This completes the Article 80 Accessibility Checklist required for your project. Prior to and during the review process, Commission staff are able to provide technical assistance and design review, in order to help achieve ideal accessibility and to ensure that all buildings, sidewalks, parks, and open spaces are usable and welcoming to Boston's diverse residents and visitors, including those with physical, sensory, and other disabilities.

For questions or comments about this checklist, or for more information on best practices for improving accessibility and inclusion, visit www.boston.gov/disability, or our office:

The Mayor's Commission for Persons with Disabilities
1 City Hall Square, Room 967,
Boston MA 02201.

Architectural Access staff can be reached at:

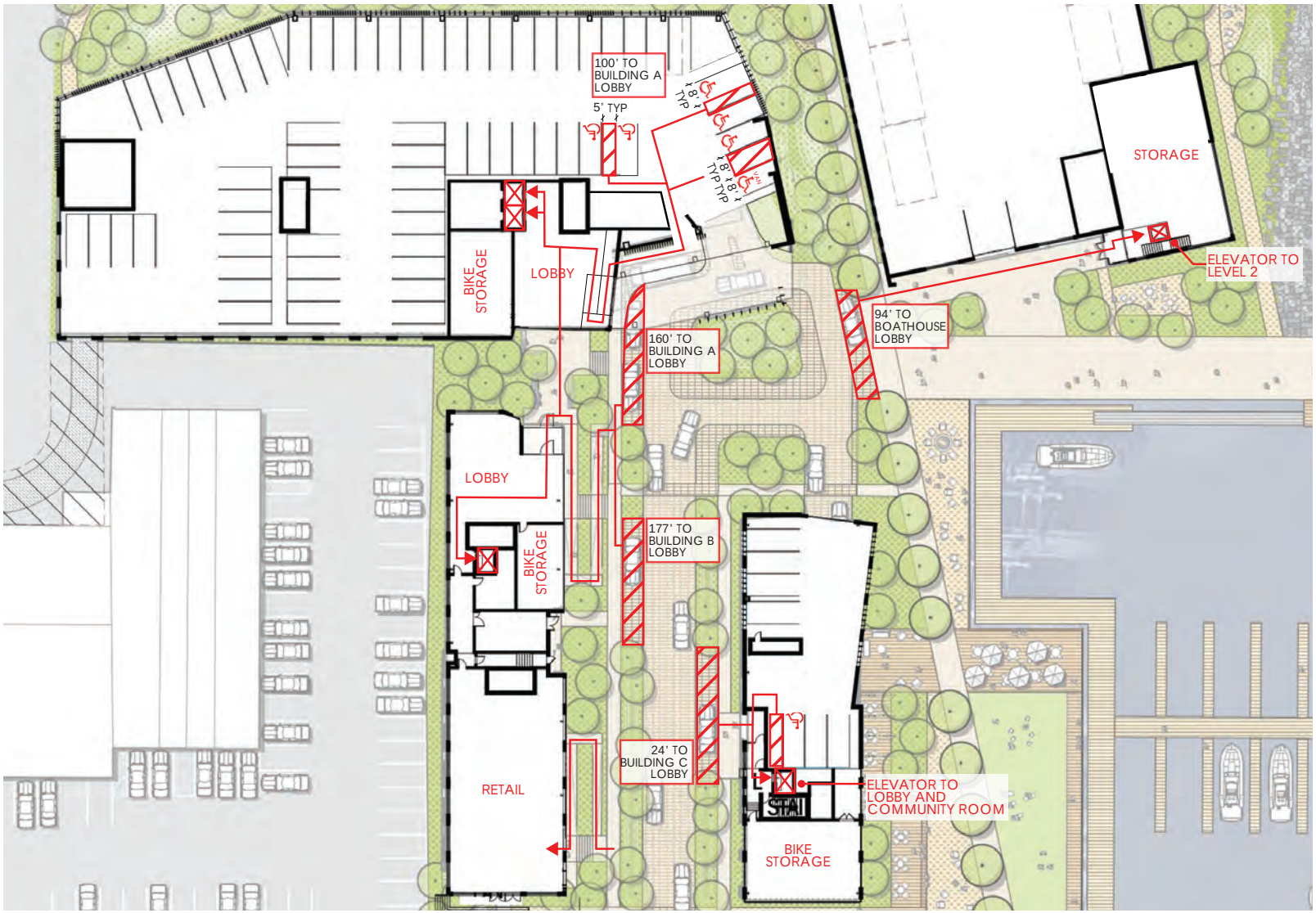
accessibility@boston.gov | patricia.mendez@boston.gov | sarah.leung@boston.gov | 617-635-3682

ACCESSIBILITY PLAN: SITE CIRCULATION

Accessible Parking Space/Residential Dwelling Unit

Accessible Route & Building Entry

Accessible Drop-Off & Loading Zone



ACCESSIBILITY PLAN: GROUND LEVEL

Accessible Parking Space/Residential Dwelling Unit

Accessible Route & Building Entry

Accessible Drop-Off & Loading Zone

0 20 40 Feet

Walkways - <5% / 2% max cross slope

Terrace/Landings - 2-3% Slope

Stairs

Building Entry/Egress

ACCESSIBILITY DIAGRAM - SIDEWALK GRADING

ACCESSIBILITY PLAN: LEVEL 2

Accessible Parking Space/Residential Dwelling Unit

Accessible Route & Building Entry

Accessible Drop-Off & Loading Zone

ACCESSIBILITY PLAN: LEVEL 3

Accessible Parking Space/Residential Dwelling Unit

Accessible Route & Building Entry

Accessible Drop-Off & Loading Zone

Appendix C: Site Survey Plan

Note: **Materials are provided on the enclosed CD-ROM. Hard Copies available upon request.**

EXHIBIT "A" FROM COMMITMENT FOR TITLE INSURANCE ISSUED BY COMMONWEALTH LAND TITLE INSURANCE, CASE NO. C23298, EFFECTIVE AUGUST 26, 2016 (Parcel I–IV), SEPTEMBER 25, 2016 (Parcel J&M), OCTOBER 12, 2016 (Parcel K)

Parcel I

The land with the buildings thereon situated in Boston (Dorchester), Massachusetts and shown as Parcel H on a plan entitled "Plan of Land in Dorchester, Massachusetts" dated April 28, 1947, (the "1947 Plan") made by Everett M. Brooks Company, C.E., Newtonville, Massachusetts and recorded with Suffolk County Registry of Deeds in Book 6333, Page 377 and containing 22,880 square feet, more or less, according to said plan.

Parcel II

A certain parcel of land situated in that part of Boston called Dorchester, Massachusetts, shown as Parcel C–1 on a plan entitled "Plan of Land in Boston (Dorchester) Mass." dated January 31, 1962, Scale 1 inch = 50 feet, made by Everett M. Brooks Co., Civil Engineers and recorded with said Deeds in Book 7624, Page 3 (the "1962 Plan") and containing 197,695 square feet more or less, according to said plan.

Parcel III

A certain parcel of land with the buildings thereon situated in that part of Boston, Suffolk County, Massachusetts, called Dorchester and shown as Parcel C–2 on a plan entitled "Plan of Land in Boston (Dorchester) Mass." Dated January 31, 1962, Scale: 1 inch = 50 feet, made by Everett M. Brooks Co., Civil Engineers and recorded with said Deeds in Book 7624, Page 3 (the "1962 Plan") and containing 64,175 square feet, more or less, according to said plan.

Parcel IV

A certain parcel of land with the buildings thereon situated in that part of Boston called Dorchester, Massachusetts, known and numbered Six Ericsson Street, rear, shown as Parcel C–3 on a plan entitled "Plan of Land in Boston (Dorchester), Massachusetts dated November 2, 1977, made by Everett M. Brooks Company, Civil Engineers, and recorded with said Deeds in Book 9005, Page 36 (the "1977 Plan") and containing 55, 730 square feet, more or less, according to said plan.

Said parcels have the benefit of the following appurtenant rights:

Together with the right to use a strip of land twenty (20) feet wide, extending from the granted premises easterly and southerly to Ericsson Street and shown as a "Way" on a plan entitled "Plan of Land in Dorchester, Mass." dated January 21, 1947, made by Everett M. Brooks Company and recorded with said Deeds in Book 6317, Page 485 (the "January 1947 Plan") for all purposes which streets and ways are commonly used in the City of Boston.

Together with the right to use the streets and ways as shown on the 1946 Plan, 1947 Plan, 1962 Plan, 1977 Plan and January 1947 Plan for all purposes for which streets and ways are commonly used in the City of Boston.

Together with the right to use a certain 8 foot wide right of way over Parcel H and Parcel C–2, as shown on the above referenced 1962 Plan, running along the south and west boundaries of said Parcel H and along the south boundary of said Parcel C–2, being the same right of way conveyed by Yacht Leasing Corporation in the Dorshay Realty Corp., by Deed dated February 5, 1962 and recorded with Suffolk County Registry of Deeds in Book 7624, Page 14.

Together with the right to use, in common with others thereto entitled, the 16 foot wide way adjacent to Parcel H and Parcel L running to Ericsson Street as shown on the above referenced January 1947 Plan, for all purposes for which rights of way are commonly used in the City of Boston.

Together with the benefit, in common with others entitled thereto, of all rights of way shown on plan entitled "Plan of Land in Dorchester District, Boston, Massachusetts owned by George Lawley and Son" dated March 6, 1946, (the "1946 Plan") made by Whitman and Howard, C.E. and recorded with said Deeds in Book 6222, Page 26.

Together with, and subject to, all other rights and easements of record insofar as in force and applicable, but not intending to revive any of the same hereby, including such rights as may exist appurtenant to the premises pursuant to Chapter 91 of the General Law of Massachusetts.

Parcel J

That parcel shown as Parcel J on "Plan of Land in Dorchester, Mass., July 3, 1947, Everett M. Brooks, Co., Civil Engs." recorded with said Deeds, Book 6349, Page 566, and bounded and described as follows:

NORTHERLY	to a spike, sixteen and 85/100 (16.85) feet; thence running
WESTERLY	to a spike, fifty–nine and 51/100 (59.51) feet; thence running
NORTHERLY	to a spike, two hundred and fifteen and 90/100 (215.90) feet; thence running
EASTERLY	by Parcel C as shown on said plan to a spike, one hundred twenty–three and 91/100 (123.91) feet; thence running
SOUTHERLY	by Parcel H on said plan to a spike, seventy–nine and 86/100 (79.86) feet; thence running
EASTERLY	again by Parcel H to a spike, thirty–nine and 98/100 (39.98) feet; thence running
SOUTHERLY	by Parcel H to a spike, one hundred fifty–one and 06/100 (151.06) feet; thence running
WESTERLY	one hundred six and 62/100 (106.62) feet to a point of beginning.

Parcel K

That parcel shown as Parcel K on "Plan of Land in Dorchester, Mass., September 17, 1947, Everett M. Brooks Co., Civil Engrs." recorded with said Deeds at Book 6383, Page 464, and Bounded and described as follows:

SOUTHERLY	by Ericsson Street, one hundred eighty–eight and 12/100 (188.12) feet;
WESTERLY	by a line running through the middle of a way, ninety–one and 61/100 (91.61) feet;
NORTHERLY	by Parcel J on said plan and by land now or formerly of the grant to, one hundred ninety–four and 31/100 (194.31) feet;
EASTERLY	by two lines running through a way, twenty–three and 71/100 (23.71) feet and sixty–seven and 15/100 (67.15) feet to the point of beginning.

Parcel M

That parcel shown as Parcel M on a plan entitled "Plan of Land in Dorchester, Mass., Everett M. Brooks Co., Civil Engineers", dated October 27, 1947 and recorded with said Deeds, Book 6395, Page 415, and bounded and described as follows:

Beginning at a point ninety and 86/100 (90.86) feet north of the northerly line of Ericsson Street and at a point near the middle of a way as shown on said plan;

Thence running westerly by Parcel K as shown on said last mentioned plan eighty–seven and 69/100 (87.69) feet;

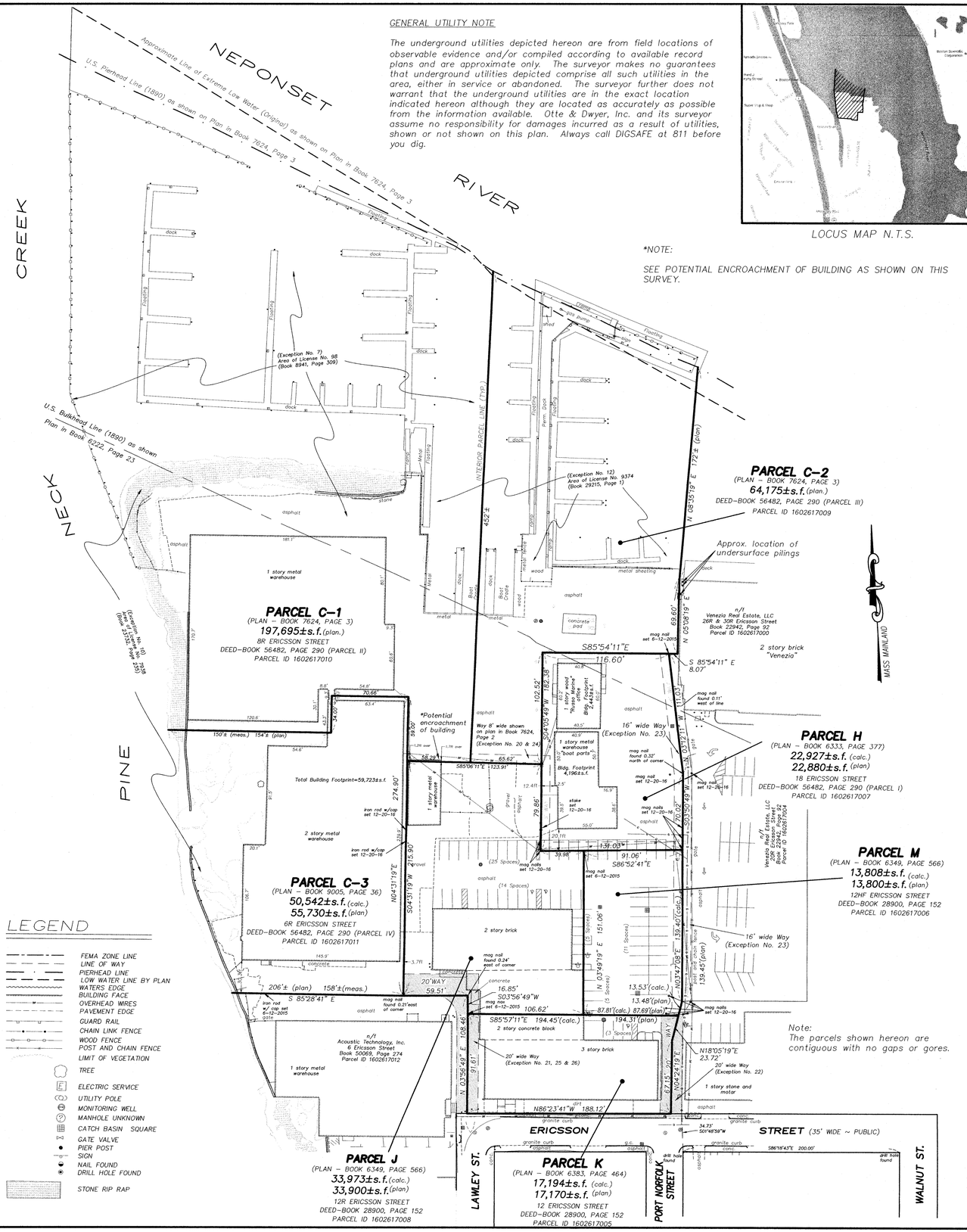
Thence running northerly by Parcel J on said plan one hundred fifty–one and 06/100 (151.06) feet;

Thence running easterly by Parcel H on said plan to a point neat the middle of the way hereinbefore referred to ninety–one and 06/100 (91.06) feet;

Thence running southerly through the middle of said way one hundred thirty–nine and 45/100 (139.45) feet;

Thence running southwesterly through said way thirteen and 48/100 (13.48) feet to the point of beginning.

The land surveyed is the same land described in the CLTIC Commitment for Title Insurance Case No. C23298 with an effective date of August 26, 2016; September 25, 2016; and October 12, 2016.



LOCUS MAP N.T.S.

GENERAL UTILITY NOTE

The underground utilities depicted hereon are from field locations of observable evidence and/or compiled according to available record plans and are approximate only. The surveyor makes no guarantees that underground utilities depicted comprise all such utilities in the area, either in service or abandoned. The surveyor further does not warrant that the underground utilities are in the exact location indicated hereon although they are located as accurately as possible from the information available. Otte & Dwyer, Inc. and its surveyor assume no responsibility for damages incurred as a result of utilities, shown or not shown on this plan. Always call DIGSAFE at 811 before you dig.

*NOTE:

SEE POTENTIAL ENCROACHMENT OF BUILDING AS SHOWN ON THIS SURVEY.

LEGEND

- FEMA ZONE LINE
- LINE OF WAY
- PIERHEAD LINE
- LOW WATER LINE BY PLAN
- WATERS EDGE
- BUILDING FACE
- OVERHEAD WIRES
- PAVEMENT EDGE
- GUARD RAIL
- CHAIN LINK FENCE
- WOOD FENCE
- POST AND CHAIN FENCE
- LIMIT OF VEGETATION
- TREE
- ELECTRIC SERVICE
- UTILITY POLE
- MONITORING WELL
- MANHOLE UNKNOWN
- CATCH BASIN SQUARE
- GATE VALVE
- PIER POST
- SIGN
- NAIL FOUND
- DRILL HOLE FOUND
- STONE RIP RAP

GENERAL NOTES

OWNER OF RECORD: BRUNO HOLDINGS, LLC, A MASSACHUSETTS LIMITED LIABILITY COMPANY

DEED REFERENCE: BOOK 56482, PAGE 290 (PARCELS I – IV)

OWNER OF RECORD: PORT NORFOLK DEVELOPMENT LLC, A MASSACHUSETTS LIMITED LIABILITY COMPANY

DEED REFERENCE: BOOK 28900, PAGE 152 (PARCELS J, K, & M)

The Parcel shown on this survey lies within a Zone "AE" & "VE", as described on the Flood Insurance Rate Map No. 25025C0091J, dated March 16, 2016, in which the property is located.

To CPC Ericsson Street LLC; MountainOne Bank, its successors and/or assigns and to Commonwealth Land Title Insurance Company:

This is to certify that this map or plat and the survey on which it is based were made in accordance with the 2016 "Minimum Standard Detail Requirements for ALTA/NSPS Land Title Surveys", jointly established and adopted by ALTA and NSPS, and includes Items 2, 3, 4, 6(a), 7(a)(b1), 8, 9, 13 & 21 of Table A thereof. The field work was completed on December 20, 2016.

11/23/17

Name David A. Dwyer Jr., PLS
Licensed Land Surveyor No. 46707
ddwyer@ottedwyer.com

SCHEDULE B – SECTION 2 COMMITMENT FOR TITLE INSURANCE ISSUED BY COMMONWEALTH LAND TITLE INSURANCE COMPANY CASE No. C23298 EFFECTIVE AUGUST 26, 2016 (Parcel I–IV) SEPTEMBER 25, 2016 (Parcel J&M) OCTOBER 12, 2016 (Parcel K)

With regard to exceptions 1–6. Our certification is limited to only matters observed on the ground or of record.

No. 7 Dept. of Environmental Quality Engineering License recorded at Book 8941, Page 309. See area of License No. 98 as noted on this survey.
No. 8 Order of Conditions recorded at Book 9425, Page 280. Not a survey matter.
No. 9 Order of Conditions recorded at Book 9446, Page 37. Not a survey matter.
No. 10 Department of Environmental Protection License recorded at Book 23732, Page 235. See area of License No. 7938 as noted on this survey.
No. 11 Order of Conditions recorded in Book 27923, Page 315. Not a survey matter.
No. 12 Department of Environmental Protection License recorded in Book 29215, Page 1. See area of License No. 9374 as noted on this survey.
No. 13 Order for installation of sidewalks on Lawley St. recorded in Book 10912, Page 162. Not a survey matter.
No. 14 – No. 18 Not survey matters
No. 19 The surveyor was not supplied with copies of License #466 or # 900.
No. 20 Right of Way shown on plan recorded in Book 7624, Page 2. See Way 8' wide as shown on this survey.
No. 21 20' wide way running from Ericsson St to Parcel J shown on plans recorded in Book 6222, Page 23; Book 6349, Page 566; Book 6383, Page 464 & Book 9005, Page 36. See 20' wide Way as shown on this survey.
No. 22 20' wide way running from Ericsson St to Parcel M shown on plans recorded in Book 6222, Page 23 & Book 6383, Page 464. See 20' wide Way as shown on this survey.
No. 23 16' wide way running along the Easterly bound of Parcel M shown on plans recorded in Book 6333, Page 377; Book 6395, Page 415 & Book 7060, Page 96. See 16' wide Way as shown on this survey.
No. 24 8' wide Way running along the Northerly bound of Parcel M and the Easterly and Northerly bounds of Parcel J shown on plan recorded in Book 7624, Page 2 (see Exception No. 20).
No. 25 20' wide Way on the Westerly bound, 10' of which is located within Parcel K running Northerly from Ericsson Street and shown on plans recorded in Book 6222, Page 23; Book 6333, Page 377; Book 6349, Page 566; Book 6395, Page 415; Book 6383, Page 464; Book 7060, Page 96 & Book 9005, Page 36 (see Exception No. 21).
No. 26 20' wide Way on the Easterly bound, 10' of which is located within Parcel K running Northerly from Ericsson Street and shown on plans recorded in Book 6222, Page 23; Book 6333, Page 377; Book 6349, Page 566; Book 6395, Page 415; Book 6383, Page 464; Book 7060, Page 96 & Book 9005, Page 36 (see Exception No. 21).

ALTA/NSPS LAND TITLE SURVEY

6R, 8R & 18 ERICSSON STREET BOSTON, MASS. 02122

PREPARED FOR

CPC ERICSSON STREET LLC

BY

OTTE & DWYER, INC.

LAND SURVEYORS

WWW.OTTEDWYER.COM

59 APPLETON STREET
P.O. BOX 982
SCALE: 1"=50'

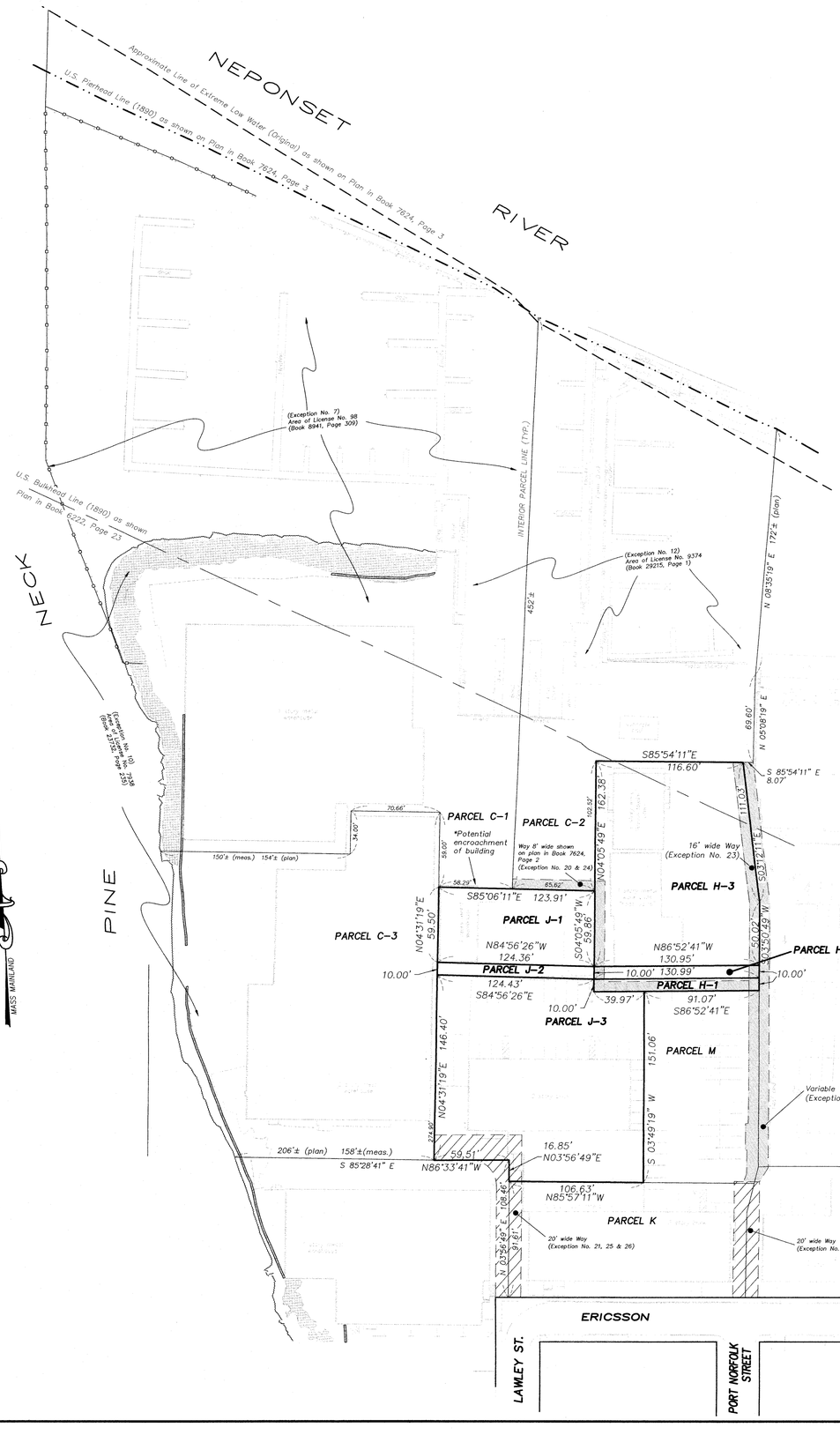
SAUGUS, MA 01906
(781)233–8155
JANUARY 23, 2017

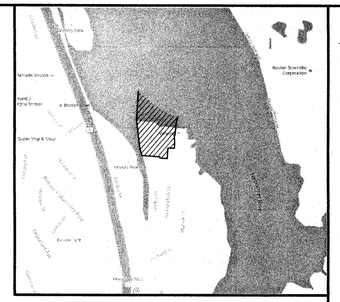
COMMONWEALTH OF MASSACHUSETTS DAVID A. DWYER JR. No. 46707 11/29/17 REGISTERED PROFESSIONAL LAND SURVEYOR

0' 50' 100' 150'
SCALE

SHEET 1 OF 2

JN. 12064





LOCUS MAP N.T.S.

NOTE:
THE PURPOSE OF THIS SHEET IS TO ILLUSTRATE THE RELATIONSHIP OF PLOTTABLE TITLE EXCEPTIONS TO THE PROPOSED LOTS AS SHOWN ON "PLAN OF LAND 6R, 8R & 18 ERICSSON STREET BOSTON, MASS. 02122" PREPARED FOR BRUNO HOLDINGS, LLC BY OTTE & DWYER, INC. LAND SURVEYORS DATED JANUARY 5, 2017, TO BE RECORDED.

GENERAL NOTES

OWNER OF RECORD: BRUNO HOLDINGS, LLC, A MASSACHUSETTS LIMITED LIABILITY COMPANY

DEED REFERENCE: BOOK 56482, PAGE 290 (PARCELS I – IV)

OWNER OF RECORD: PORT NORFOLK DEVELOPMENT LLC, A MASSACHUSETTS LIMITED LIABILITY COMPANY

DEED REFERENCE: BOOK 28900, PAGE 152 (PARCELS J, K, & M)

The Parcel shown on this survey lies within a Zone "AE" & "VE", as described on the Flood Insurance Rate Map No. 25025C0091J, dated March 16, 2016, in which the property is located.

SCHEDULE B – SECTION 2 COMMITMENT FOR TITLE INSURANCE ISSUED BY COMMONWEALTH LAND TITLE INSURANCE COMPANY CASE No. C23298 EFFECTIVE AUGUST 26, 2016 (Parcel I–IV) SEPTEMBER 25, 2016 (Parcel J&M) OCTOBER 12, 2016 (Parcel K)

With regard to exceptions 1–6. Our certification is limited to only matters observed on the ground or of record.

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ALTA/NSPS LAND TITLE SURVEY

6R, 8R & 18 ERICSSON STREET BOSTON, MASS. 02122

PREPARED FOR

BRUNO HOLDINGS, LLC

BY

OTTE & DWYER, INC.
LAND SURVEYORS
WWW.OTTEDWYER.COM
59 APPLETON STREET SAUGUS, MA 01906
P.O. BOX 982 (781)233-8155

SCALE: 1"=50' JANUARY 23, 2017

COMMONWEALTH OF MASSACHUSETTS DAVID A. DWYER JR No. 46707 REGISTERED PROFESSIONAL LAND SURVEYOR

0' 50' 100' 150'
SCALE

SHEET 2 OF 2 JN. 12064

Appendix D: Transportation Supporting Documentation

Note: **Materials are provided on the enclosed CD-ROM. Hard Copies available upon request.**

Neponset Wharf

Technical Appendix

Traffic Counts
Crash Rate Reports
Morrissey Boulevard Redesign for Reconstruction Presentation – DCR Public Meeting #3
Synchro Results

Traffic Counts

PRECISION DATA INDUSTRIES, LLC
Office: 508.875.0100 Fax: 508.875.0118
Email: datarequests@pdillc.com

Traffic Counts with Precision

Client:	Engineer:	Site Code:	Date:	PDI Job Number:	City, State:
VHB	A. Santiago		Sat 4/29 thru Fri 5/5/17	175617	Boston, MA

PRECISION
D A T A
INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Tenean Street
north of Sullivan & McLaughlin Driveway
City, State: Boston, MA
Client: VHB/ A. Santiago
SB

175617 A Class
Site Code: 13866.00

Start Time	Cars	Medium Heavy	Large Heavy											Total
04/29/1														
7	13	0	0	0	0	0	0	0	0	0	0	0	0	13
01:00	9	0	0	0	0	0	0	0	0	0	0	0	0	9
02:00	7	1	0	0	0	0	0	0	0	0	0	0	0	8
03:00	3	0	0	0	0	0	0	0	0	0	0	0	0	3
04:00	1	0	0	0	0	0	0	0	0	0	0	0	0	1
05:00	3	0	0	0	0	0	0	0	0	0	0	0	0	3
06:00	10	0	0	0	0	0	0	0	0	0	0	0	0	10
07:00	23	0	0	0	0	0	0	0	0	0	0	0	0	23
08:00	17	1	0	0	0	0	0	0	0	0	0	0	0	18
09:00	28	0	0	0	0	0	0	0	0	0	0	0	0	28
10:00	52	0	1	0	0	0	0	0	0	0	0	0	0	53
11:00	43	1	0	0	0	0	0	0	0	0	0	0	0	44
12 PM	56	0	0	0	0	0	0	0	0	0	0	0	0	56
13:00	49	0	0	0	0	0	0	0	0	0	0	0	0	49
14:00	49	0	0	0	0	0	0	0	0	0	0	0	0	49
15:00	62	0	0	0	0	0	0	0	0	0	0	0	0	62
16:00	56	0	0	0	0	0	0	0	0	0	0	0	0	56
17:00	56	1	0	0	0	0	0	0	0	0	0	0	0	57
18:00	52	0	0	0	0	0	0	0	0	0	0	0	0	52
19:00	42	0	0	0	0	0	0	0	0	0	0	0	0	42
20:00	33	0	0	0	0	0	0	0	0	0	0	0	0	33
21:00	29	1	0	0	0	0	0	0	0	0	0	0	0	30
22:00	19	0	0	0	0	0	0	0	0	0	0	0	0	19
23:00	22	0	0	0	0	0	0	0	0	0	0	0	0	22
Total	734	5	1	0	0	0	0	0	0	0	0	0	0	740
Percent	99.2%	0.7%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	10:00	02:00	10:00											10:00
Vol.	52	1	1											53
PM Peak	15:00	17:00												15:00
Vol.	62	1												62

PRECISION
D A T A
INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Tenean Street
north of Sullivan & McLaughlin Driveway
City, State: Boston, MA
Client: VHB/ A. Santiago
SB

175617 A Class
Site Code: 13866.00

Start Time	Cars	Medium Heavy	Large Heavy											Total
04/30/1														
7	10	1	0	0	0	0	0	0	0	0	0	0	0	11
01:00	11	0	0	0	0	0	0	0	0	0	0	0	0	11
02:00	6	0	0	0	0	0	0	0	0	0	0	0	0	6
03:00	6	0	0	0	0	0	0	0	0	0	0	0	0	6
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	3	0	0	0	0	0	0	0	0	0	0	0	0	3
06:00	3	0	0	0	0	0	0	0	0	0	0	0	0	3
07:00	7	0	0	0	0	0	0	0	0	0	0	0	0	7
08:00	12	0	0	0	0	0	0	0	0	0	0	0	0	12
09:00	16	0	0	0	0	0	0	0	0	0	0	0	0	16
10:00	37	0	1	0	0	0	0	0	0	0	0	0	0	38
11:00	43	0	0	0	0	0	0	0	0	0	0	0	0	43
12 PM	52	0	0	0	0	0	0	0	0	0	0	0	0	52
13:00	37	0	0	0	0	0	0	0	0	0	0	0	0	37
14:00	37	0	0	0	0	0	0	0	0	0	0	0	0	37
15:00	39	0	0	0	0	0	0	0	0	0	0	0	0	39
16:00	22	0	0	0	0	0	0	0	0	0	0	0	0	22
17:00	39	0	0	0	0	0	0	0	0	0	0	0	0	39
18:00	27	0	0	0	0	0	0	0	0	0	0	0	0	27
19:00	25	0	0	0	0	0	0	0	0	0	0	0	0	25
20:00	17	0	0	0	0	0	0	0	0	0	0	0	0	17
21:00	11	0	0	0	0	0	0	0	0	0	0	0	0	11
22:00	7	5	0	0	0	0	0	0	0	0	0	0	0	12
23:00	9	0	0	0	0	0	0	0	0	0	0	0	0	9
Total	476	6	1	0	0	0	0	0	0	0	0	0	0	483
Percent	98.6%	1.2%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	11:00	00:00	10:00											11:00
Vol.	43	1	1											43
PM Peak	12:00	22:00												12:00
Vol.	52	5												52

PRECISION
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46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
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Tenean Street
north of Sullivan & McLaughlin Driveway
City, State: Boston, MA
Client: VHB/ A. Santiago
SB

175617 A Class
Site Code: 13866.00

Start Time	Cars	Medium Heavy	Large Heavy											Total
05/01/1														
7	3	0	0	0	0	0	0	0	0	0	0	0	0	3
01:00	7	0	0	0	0	0	0	0	0	0	0	0	0	7
02:00	5	0	0	0	0	0	0	0	0	0	0	0	0	5
03:00	3	1	0	0	0	0	0	0	0	0	0	0	0	4
04:00	6	0	0	0	0	0	0	0	0	0	0	0	0	6
05:00	10	3	0	0	0	0	0	0	0	0	0	0	0	13
06:00	29	4	0	0	0	0	0	0	0	0	0	0	0	33
07:00	25	4	0	0	0	0	0	0	0	0	0	0	0	29
08:00	23	3	0	0	0	0	0	0	0	0	0	0	0	26
09:00	28	5	0	0	0	0	0	0	0	0	0	0	0	33
10:00	29	2	0	0	0	0	0	0	0	0	0	0	0	31
11:00	41	3	0	0	0	0	0	0	0	0	0	0	0	44
12 PM	55	2	0	0	0	0	0	0	0	0	0	0	0	57
13:00	56	4	0	0	0	0	0	0	0	0	0	0	0	60
14:00	62	0	0	0	0	0	0	0	0	0	0	0	0	62
15:00	54	1	0	0	0	0	0	0	0	0	0	0	0	55
16:00	53	2	0	0	0	0	0	0	0	0	0	0	0	55
17:00	43	0	0	0	0	0	0	0	0	0	0	0	0	43
18:00	38	1	0	0	0	0	0	0	0	0	0	0	0	39
19:00	30	0	0	0	0	0	0	0	0	0	0	0	0	30
20:00	26	0	0	0	0	0	0	0	0	0	0	0	0	26
21:00	14	0	0	0	0	0	0	0	0	0	0	0	0	14
22:00	13	3	0	0	0	0	0	0	0	0	0	0	0	16
23:00	6	0	0	0	0	0	0	0	0	0	0	0	0	6
Total	659	38	0	0	0	0	0	0	0	0	0	0	0	697
Percent	94.5%	5.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	11:00	09:00												11:00
Vol.	41	5												44
PM Peak	14:00	13:00												14:00
Vol.	62	4												62

PRECISION
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05/02/1														
7	7	1	0	0	0	0	0	0	0	0	0	0	0	8
01:00	3	0	0	0	0	0	0	0	0	0	0	0	0	3
02:00	1	0	0	0	0	0	0	0	0	0	0	0	0	1
03:00	2	0	0	0	0	0	0	0	0	0	0	0	0	2
04:00	3	0	0	0	0	0	0	0	0	0	0	0	0	3
05:00	10	1	0	0	0	0	0	0	0	0	0	0	0	11
06:00	24	1	0	0	0	0	0	0	0	0	0	0	0	25
07:00	26	0	0	0	0	0	0	0	0	0	0	0	0	26
08:00	32	0	0	0	0	0	0	0	0	0	0	0	0	32
09:00	28	4	0	0	0	0	0	0	0	0	0	0	0	32
10:00	33	1	0	0	0	0	0	0	0	0	0	0	0	34
11:00	36	1	0	0	0	0	0	0	0	0	0	0	0	37
12 PM	58	4	0	0	0	0	0	0	0	0	0	0	0	62
13:00	46	0	0	0	0	0	0	0	0	0	0	0	0	46
14:00	52	0	0	0	0	0	0	0	0	0	0	0	0	52
15:00	52	1	0	0	0	0	0	0	0	0	0	0	0	53
16:00	49	0	0	0	0	0	0	0	0	0	0	0	0	49
17:00	45	0	0	0	0	0	0	0	0	0	0	0	0	45
18:00	40	0	0	0	0	0	0	0	0	0	0	0	0	40
19:00	40	0	0	0	0	0	0	0	0	0	0	0	0	40
20:00	27	0	0	0	0	0	0	0	0	0	0	0	0	27
21:00	17	0	0	0	0	0	0	0	0	0	0	0	0	17
22:00	17	2	0	0	0	0	0	0	0	0	0	0	0	19
23:00	11	0	0	0	0	0	0	0	0	0	0	0	0	11
Total	659	16	0	0	0	0	0	0	0	0	0	0	0	675
Percent	97.6%	2.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	11:00	09:00												11:00
Vol.	36	4												37
PM Peak	12:00	12:00												12:00
Vol.	58	4												62

PRECISION
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Tenean Street
north of Sullivan & McLaughlin Driveway
City, State: Boston, MA
Client: VHB/ A. Santiago
SB

175617 A Class
Site Code: 13866.00

Start Time	Cars	Medium Heavy	Large Heavy											Total
05/03/1														
7	9	1	0	0	0	0	0	0	0	0	0	0	0	10
01:00	2	0	0	0	0	0	0	0	0	0	0	0	0	2
02:00	1	0	0	0	0	0	0	0	0	0	0	0	0	1
03:00	2	0	0	0	0	0	0	0	0	0	0	0	0	2
04:00	2	2	0	0	0	0	0	0	0	0	0	0	0	4
05:00	10	0	0	0	0	0	0	0	0	0	0	0	0	10
06:00	24	3	0	0	0	0	0	0	0	0	0	0	0	27
07:00	28	1	0	0	0	0	0	0	0	0	0	0	0	29
08:00	33	3	0	0	0	0	0	0	0	0	0	0	0	36
09:00	36	2	0	0	0	0	0	0	0	0	0	0	0	38
10:00	35	1	0	0	0	0	0	0	0	0	0	0	0	36
11:00	35	2	0	0	0	0	0	0	0	0	0	0	0	37
12 PM	55	3	0	0	0	0	0	0	0	0	0	0	0	58
13:00	50	3	1	0	0	0	0	0	0	0	0	0	0	54
14:00	47	2	0	0	0	0	0	0	0	0	0	0	0	49
15:00	49	1	0	0	0	0	0	0	0	0	0	0	0	50
16:00	41	2	1	0	0	0	0	0	0	0	0	0	0	44
17:00	62	0	0	0	0	0	0	0	0	0	0	0	0	62
18:00	43	0	0	0	0	0	0	0	0	0	0	0	0	43
19:00	42	1	0	0	0	0	0	0	0	0	0	0	0	43
20:00	27	0	0	0	0	0	0	0	0	0	0	0	0	27
21:00	19	0	0	0	0	0	0	0	0	0	0	0	0	19
22:00	13	4	0	0	0	0	0	0	0	0	0	0	0	17
23:00	7	0	0	0	0	0	0	0	0	0	0	0	0	7
Total	672	31	2	0	0	0	0	0	0	0	0	0	0	705
Percent	95.3%	4.4%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	09:00	06:00												09:00
Vol.	36	3												38
PM Peak	17:00	22:00	13:00											17:00
Vol.	62	4	1											62

PRECISION
D A T A
INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Tenean Street
north of Sullivan & McLaughlin Driveway
City, State: Boston, MA
Client: VHB/ A. Santiago
SB

175617 A Class
Site Code: 13866.00

Start Time	Cars	Medium Heavy	Large Heavy											Total
05/04/1														
7	7	1	0	0	0	0	0	0	0	0	0	0	0	8
01:00	6	0	0	0	0	0	0	0	0	0	0	0	0	6
02:00	3	0	0	0	0	0	0	0	0	0	0	0	0	3
03:00	4	0	0	0	0	0	0	0	0	0	0	0	0	4
04:00	5	1	0	0	0	0	0	0	0	0	0	0	0	6
05:00	12	1	0	0	0	0	0	0	0	0	0	0	0	13
06:00	32	5	0	0	0	0	0	0	0	0	0	0	0	37
07:00	25	3	0	0	0	0	0	0	0	0	0	0	0	28
08:00	35	2	0	0	0	0	0	0	0	0	0	0	0	37
09:00	21	4	0	0	0	0	0	0	0	0	0	0	0	25
10:00	41	3	1	0	0	0	0	0	0	0	0	0	0	45
11:00	42	4	0	0	0	0	0	0	0	0	0	0	0	46
12 PM	44	2	0	0	0	0	0	0	0	0	0	0	0	46
13:00	48	0	1	0	0	0	0	0	0	0	0	0	0	49
14:00	40	1	0	0	0	0	0	0	0	0	0	0	0	41
15:00	68	1	0	0	0	0	0	0	0	0	0	0	0	69
16:00	58	0	0	0	0	0	0	0	0	0	0	0	0	58
17:00	67	0	0	0	0	0	0	0	0	0	0	0	0	67
18:00	43	0	0	0	0	0	0	0	0	0	0	0	0	43
19:00	48	1	0	0	0	0	0	0	0	0	0	0	0	49
20:00	28	0	0	0	0	0	0	0	0	0	0	0	0	28
21:00	20	0	0	0	0	0	0	0	0	0	0	0	0	20
22:00	17	2	0	0	0	0	0	0	0	0	0	0	0	19
23:00	17	1	0	0	0	0	0	0	0	0	0	0	0	18
Total	731	32	2	0	0	0	0	0	0	0	0	0	0	765
Percent	95.6%	4.2%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	11:00	06:00	10:00											11:00
Vol.	42	5	1											46
PM Peak	15:00	12:00	13:00											15:00
Vol.	68	2	1											69

PRECISION
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Tenean Street
north of Sullivan & McLaughlin Driveway
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SB

175617 A Class
Site Code: 13866.00

Start Time	Cars	Medium Heavy	Large Heavy											Total
05/05/1														
7	8	1	0	0	0	0	0	0	0	0	0	0	0	9
01:00	7	0	0	0	0	0	0	0	0	0	0	0	0	7
02:00	5	0	0	0	0	0	0	0	0	0	0	0	0	5
03:00	3	0	0	0	0	0	0	0	0	0	0	0	0	3
04:00	3	1	0	0	0	0	0	0	0	0	0	0	0	4
05:00	9	0	0	0	0	0	0	0	0	0	0	0	0	9
06:00	24	5	0	0	0	0	0	0	0	0	0	0	0	29
07:00	26	1	0	0	0	0	0	0	0	0	0	0	0	27
08:00	30	2	0	0	0	0	0	0	0	0	0	0	0	32
09:00	42	3	0	0	0	0	0	0	0	0	0	0	0	45
10:00	27	1	0	0	0	0	0	0	0	0	0	0	0	28
11:00	56	1	1	0	0	0	0	0	0	0	0	0	0	58
12 PM	52	4	0	0	0	0	0	0	0	0	0	0	0	56
13:00	38	4	1	0	0	0	0	0	0	0	0	0	0	43
14:00	53	1	0	0	0	0	0	0	0	0	0	0	0	54
15:00	55	5	0	0	0	0	0	0	0	0	0	0	0	60
16:00	51	2	0	0	0	0	0	0	0	0	0	0	0	53
17:00	69	0	0	0	0	0	0	0	0	0	0	0	0	69
18:00	40	1	1	0	0	0	0	0	0	0	0	0	0	42
19:00	23	0	0	0	0	0	0	0	0	0	0	0	0	23
20:00	32	0	0	0	0	0	0	0	0	0	0	0	0	32
21:00	24	0	0	0	0	0	0	0	0	0	0	0	0	24
22:00	25	0	0	0	0	0	0	0	0	0	0	0	0	25
23:00	15	0	0	0	0	0	0	0	0	0	0	0	0	15
Total	717	32	3	0	0	0	0	0	0	0	0	0	0	752
Percent	95.3%	4.3%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	11:00	06:00	11:00											11:00
Vol.	56	5	1											58
PM Peak	17:00	15:00	13:00											17:00
Vol.	69	5	1											69

PRECISION
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north of Sullivan & McLaughlin Driveway
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175617 A Class
Site Code: 13866.00

Start Time	Cars	Medium Heavy	Large Heavy											Total
04/29/1														
7	31	0	0	0	0	0	0	0	0	0	0	0	0	31
01:00	8	0	0	0	0	0	0	0	0	0	0	0	0	8
02:00	5	0	0	0	0	0	0	0	0	0	0	0	0	5
03:00	3	0	0	0	0	0	0	0	0	0	0	0	0	3
04:00	2	1	0	0	0	0	0	0	0	0	0	0	0	3
05:00	12	1	0	0	0	0	0	0	0	0	0	0	0	13
06:00	16	0	0	0	0	0	0	0	0	0	0	0	0	16
07:00	31	1	0	0	0	0	0	0	0	0	0	0	0	32
08:00	28	0	0	0	0	0	0	0	0	0	0	0	0	28
09:00	50	0	0	0	0	0	0	0	0	0	0	0	0	50
10:00	54	2	0	0	0	0	0	0	0	0	0	0	0	56
11:00	47	0	0	0	0	0	0	0	0	0	0	0	0	47
12 PM	55	2	0	0	0	0	0	0	0	0	0	0	0	57
13:00	60	0	0	0	0	0	0	0	0	0	0	0	0	60
14:00	49	1	0	0	0	0	0	0	0	0	0	0	0	50
15:00	45	0	0	0	0	0	0	0	0	0	0	0	0	45
16:00	44	2	0	0	0	0	0	0	0	0	0	0	0	46
17:00	42	0	0	0	0	0	0	0	0	0	0	0	0	42
18:00	42	1	0	0	0	0	0	0	0	0	0	0	0	43
19:00	36	0	0	0	0	0	0	0	0	0	0	0	0	36
20:00	34	0	0	0	0	0	0	0	0	0	0	0	0	34
21:00	28	1	0	0	0	0	0	0	0	0	0	0	0	29
22:00	30	0	0	0	0	0	0	0	0	0	0	0	0	30
23:00	12	0	0	0	0	0	0	0	0	0	0	0	0	12
Total	764	12	0	0	0	0	0	0	0	0	0	0	0	776
Percent	98.5%	1.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	10:00	10:00												10:00
Vol.	54	2												56
PM Peak	13:00	12:00												13:00
Vol.	60	2												60

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Start Time	Cars	Medium Heavy	Large Heavy											Total
04/30/1														
7	12	0	0	0	0	0	0	0	0	0	0	0	0	12
01:00	10	1	0	0	0	0	0	0	0	0	0	0	0	11
02:00	5	0	0	0	0	0	0	0	0	0	0	0	0	5
03:00	6	1	0	0	0	0	0	0	0	0	0	0	0	7
04:00	2	0	0	0	0	0	0	0	0	0	0	0	0	2
05:00	3	0	0	0	0	0	0	0	0	0	0	0	0	3
06:00	5	0	0	0	0	0	0	0	0	0	0	0	0	5
07:00	14	0	0	0	0	0	0	0	0	0	0	0	0	14
08:00	19	0	0	0	0	0	0	0	0	0	0	0	0	19
09:00	36	1	0	0	0	0	0	0	0	0	0	0	0	37
10:00	44	0	1	0	0	0	0	0	0	0	0	0	0	45
11:00	53	2	0	0	0	0	0	0	0	0	0	0	0	55
12 PM	64	0	0	0	0	0	0	0	0	0	0	0	0	64
13:00	43	0	0	0	0	0	0	0	0	0	0	0	0	43
14:00	53	0	0	0	0	0	0	0	0	0	0	0	0	53
15:00	44	0	0	0	0	0	0	0	0	0	0	0	0	44
16:00	24	1	0	0	0	0	0	0	0	0	0	0	0	25
17:00	43	0	0	0	0	0	0	0	0	0	0	0	0	43
18:00	40	0	0	0	0	0	0	0	0	0	0	0	0	40
19:00	27	0	0	0	0	0	0	0	0	0	0	0	0	27
20:00	26	0	0	0	0	0	0	0	0	0	0	0	0	26
21:00	10	0	0	0	0	0	0	0	0	0	0	0	0	10
22:00	5	2	0	0	0	0	0	0	0	0	0	0	0	7
23:00	9	0	0	0	0	0	0	0	0	0	0	0	0	9
Total	597	8	1	0	0	0	0	0	0	0	0	0	0	606
Percent	98.5%	1.3%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	11:00	11:00	10:00											11:00
Vol.	53	2	1											55
PM Peak	12:00	22:00												12:00
Vol.	64	2												64

PRECISION
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Tenean Street
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175617 A Class
Site Code: 13866.00

Start Time	Cars	Medium Heavy	Large Heavy											Total
05/01/1														
7	2	0	0	0	0	0	0	0	0	0	0	0	0	2
01:00	2	0	0	0	0	0	0	0	0	0	0	0	0	2
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	7	0	0	0	0	0	0	0	0	0	0	0	0	7
04:00	5	3	0	0	0	0	0	0	0	0	0	0	0	8
05:00	23	1	1	0	0	0	0	0	0	0	0	0	0	25
06:00	70	3	0	0	0	0	0	0	0	0	0	0	0	73
07:00	82	3	0	0	0	0	0	0	0	0	0	0	0	85
08:00	65	6	0	0	0	0	0	0	0	0	0	0	0	71
09:00	48	7	0	0	0	0	0	0	0	0	0	0	0	55
10:00	45	3	0	0	0	0	0	0	0	0	0	0	0	48
11:00	50	2	0	0	0	0	0	0	0	0	0	0	0	52
12 PM	58	4	0	0	0	0	0	0	0	0	0	0	0	62
13:00	44	1	0	0	0	0	0	0	0	0	0	0	0	45
14:00	61	0	0	0	0	0	0	0	0	0	0	0	0	61
15:00	53	3	0	0	0	0	0	0	0	0	0	0	0	56
16:00	60	1	0	0	0	0	0	0	0	0	0	0	0	61
17:00	52	0	0	0	0	0	0	0	0	0	0	0	0	52
18:00	41	0	0	0	0	0	0	0	0	0	0	0	0	41
19:00	31	0	0	0	0	0	0	0	0	0	0	0	0	31
20:00	12	0	0	0	0	0	0	0	0	0	0	0	0	12
21:00	11	0	0	0	0	0	0	0	0	0	0	0	0	11
22:00	8	0	0	0	0	0	0	0	0	0	0	0	0	8
23:00	10	0	0	0	0	0	0	0	0	0	0	0	0	10
Total	840	37	1	0	0	0	0	0	0	0	0	0	0	878
Percent	95.7%	4.2%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	07:00	09:00	05:00											07:00
Vol.	82	7	1											85
PM Peak	14:00	12:00												12:00
Vol.	61	4												62

PRECISION
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Tenean Street
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175617 A Class
Site Code: 13866.00

Start Time	Cars	Medium Heavy	Large Heavy											Total
05/02/1														
7	4	1	0	0	0	0	0	0	0	0	0	0	0	5
01:00	1	0	0	0	0	0	0	0	0	0	0	0	0	1
02:00	1	0	0	0	0	0	0	0	0	0	0	0	0	1
03:00	2	0	0	0	0	0	0	0	0	0	0	0	0	2
04:00	5	4	0	0	0	0	0	0	0	0	0	0	0	9
05:00	19	0	1	0	0	0	0	0	0	0	0	0	0	20
06:00	64	1	0	0	0	0	0	0	0	0	0	0	0	65
07:00	96	0	0	0	0	0	0	0	0	0	0	0	0	96
08:00	72	2	0	0	0	0	0	0	0	0	0	0	0	74
09:00	35	4	0	0	0	0	0	0	0	0	0	0	0	39
10:00	51	3	1	0	0	0	0	0	0	0	0	0	0	55
11:00	40	0	2	0	0	0	0	0	0	0	0	0	0	42
12 PM	51	0	0	0	0	0	0	0	0	0	0	0	0	51
13:00	43	3	0	0	0	0	0	0	0	0	0	0	0	46
14:00	45	2	0	0	0	0	0	0	0	0	0	0	0	47
15:00	61	3	0	0	0	0	0	0	0	0	0	0	0	64
16:00	74	0	0	0	0	0	0	0	0	0	0	0	0	74
17:00	49	0	0	0	0	0	0	0	0	0	0	0	0	49
18:00	40	0	0	0	0	0	0	0	0	0	0	0	0	40
19:00	31	0	0	0	0	0	0	0	0	0	0	0	0	31
20:00	20	0	0	0	0	0	0	0	0	0	0	0	0	20
21:00	13	0	0	0	0	0	0	0	0	0	0	0	0	13
22:00	14	0	0	0	0	0	0	0	0	0	0	0	0	14
23:00	10	0	0	0	0	0	0	0	0	0	0	0	0	10
Total	841	23	4	0	0	0	0	0	0	0	0	0	0	868
Percent	96.9%	2.6%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	07:00	04:00	11:00											07:00
Vol.	96	4	2											96
PM Peak	16:00	13:00												16:00
Vol.	74	3												74

PRECISION
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NB

175617 A Class
Site Code: 13866.00

Start Time	Cars	Medium Heavy	Large Heavy											Total
05/03/1														
7	4	0	0	0	0	0	0	0	0	0	0	0	0	4
01:00	2	0	0	0	0	0	0	0	0	0	0	0	0	2
02:00	1	0	0	0	0	0	0	0	0	0	0	0	0	1
03:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
04:00	7	2	0	0	0	0	0	0	0	0	0	0	0	9
05:00	25	0	0	0	0	0	0	0	0	0	0	0	0	25
06:00	50	1	0	0	0	0	0	0	0	0	0	0	0	51
07:00	94	4	0	0	0	0	0	0	0	0	0	0	0	98
08:00	77	5	0	0	0	0	0	0	0	0	0	0	0	82
09:00	51	6	0	0	0	0	0	0	0	0	0	0	0	57
10:00	55	0	0	0	0	0	0	0	0	0	0	0	0	55
11:00	47	2	0	0	0	0	0	0	0	0	0	0	0	49
12 PM	54	0	0	0	0	0	0	0	0	0	0	0	0	54
13:00	71	3	1	0	0	0	0	0	0	0	0	0	0	75
14:00	41	2	0	0	0	0	0	0	0	0	0	0	0	43
15:00	51	1	0	0	0	0	0	0	0	0	0	0	0	52
16:00	65	2	0	0	0	0	0	0	0	0	0	0	0	67
17:00	53	1	0	0	0	0	0	0	0	0	0	0	0	54
18:00	40	1	0	0	0	0	0	0	0	0	0	0	0	41
19:00	39	0	0	0	0	0	0	0	0	0	0	0	0	39
20:00	27	0	0	0	0	0	0	0	0	0	0	0	0	27
21:00	19	0	0	0	0	0	0	0	0	0	0	0	0	19
22:00	13	1	0	0	0	0	0	0	0	0	0	0	0	14
23:00	11	0	0	0	0	0	0	0	0	0	0	0	0	11
Total	897	33	1	0	0	0	0	0	0	0	0	0	0	931
Percent	96.3%	3.5%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	07:00	09:00												07:00
Vol.	94	6												98
PM Peak	13:00	13:00	13:00											13:00
Vol.	71	3	1											75

PRECISION
D A T A
INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Tenean Street
north of Sullivan & McLaughlin Driveway
City, State: Boston, MA
Client: VHB/ A. Santiago
NB

175617 A Class
Site Code: 13866.00

Start Time	Cars	Medium Heavy	Large Heavy											Total
05/04/1														
7	4	0	0	0	0	0	0	0	0	0	0	0	0	4
01:00	7	0	0	0	0	0	0	0	0	0	0	0	0	7
02:00	1	0	0	0	0	0	0	0	0	0	0	0	0	1
03:00	6	1	0	0	0	0	0	0	0	0	0	0	0	7
04:00	8	2	0	0	0	0	0	0	0	0	0	0	0	10
05:00	26	1	0	0	0	0	0	0	0	0	0	0	0	27
06:00	68	1	0	0	0	0	0	0	0	0	0	0	0	69
07:00	102	6	0	0	0	0	0	0	0	0	0	0	0	108
08:00	70	5	0	0	0	0	0	0	0	0	0	0	0	75
09:00	63	4	1	0	0	0	0	0	0	0	0	0	0	68
10:00	51	5	0	0	0	0	0	0	0	0	0	0	0	56
11:00	48	4	0	0	0	0	0	0	0	0	0	0	0	52
12 PM	51	1	0	0	0	0	0	0	0	0	0	0	0	52
13:00	45	1	0	0	0	0	0	0	0	0	0	0	0	46
14:00	50	3	0	0	0	0	0	0	0	0	0	0	0	53
15:00	69	3	0	0	0	0	0	0	0	0	0	0	0	72
16:00	78	1	0	0	0	0	0	0	0	0	0	0	0	79
17:00	54	0	0	0	0	0	0	0	0	0	0	0	0	54
18:00	29	0	0	0	0	0	0	0	0	0	0	0	0	29
19:00	41	0	0	0	0	0	0	0	0	0	0	0	0	41
20:00	37	0	0	0	0	0	0	0	0	0	0	0	0	37
21:00	18	0	0	0	0	0	0	0	0	0	0	0	0	18
22:00	15	0	0	0	0	0	0	0	0	0	0	0	0	15
23:00	10	0	0	0	0	0	0	0	0	0	0	0	0	10
Total	951	38	1	0	0	0	0	0	0	0	0	0	0	990
Percent	96.1%	3.8%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	07:00	07:00	09:00											07:00
Vol.	102	6	1											108
PM Peak	16:00	14:00												16:00
Vol.	78	3												79

PRECISION
D A T A
INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
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Tenean Street
north of Sullivan & McLaughlin Driveway
City, State: Boston, MA
Client: VHB/ A. Santiago
NB

175617 A Class
Site Code: 13866.00

Start Time	Cars	Medium Heavy	Large Heavy											Total
05/05/1														
7	4	0	0	0	0	0	0	0	0	0	0	0	0	4
01:00	1	0	0	0	0	0	0	0	0	0	0	0	0	1
02:00	4	0	0	0	0	0	0	0	0	0	0	0	0	4
03:00	5	2	0	0	0	0	0	0	0	0	0	0	0	7
04:00	3	0	0	0	0	0	0	0	0	0	0	0	0	3
05:00	25	0	1	0	0	0	0	0	0	0	0	0	0	26
06:00	57	4	0	0	0	0	0	0	0	0	0	0	0	61
07:00	85	3	0	0	0	0	0	0	0	0	0	0	0	88
08:00	67	5	0	0	0	0	0	0	0	0	0	0	0	72
09:00	41	5	0	0	0	0	0	0	0	0	0	0	0	46
10:00	43	5	0	0	0	0	0	0	0	0	0	0	0	48
11:00	54	2	0	0	0	0	0	0	0	0	0	0	0	56
12 PM	57	4	0	0	0	0	0	0	0	0	0	0	0	61
13:00	37	5	0	0	0	0	0	0	0	0	0	0	0	42
14:00	39	2	0	0	0	0	0	0	0	0	0	0	0	41
15:00	65	4	0	0	0	0	0	0	0	0	0	0	0	69
16:00	57	1	0	0	0	0	0	0	0	0	0	0	0	58
17:00	47	0	0	0	0	0	0	0	0	0	0	0	0	47
18:00	24	0	1	0	0	0	0	0	0	0	0	0	0	25
19:00	33	0	0	0	0	0	0	0	0	0	0	0	0	33
20:00	42	0	0	0	0	0	0	0	0	0	0	0	0	42
21:00	26	0	0	0	0	0	0	0	0	0	0	0	0	26
22:00	38	0	0	0	0	0	0	0	0	0	0	0	0	38
23:00	16	0	0	0	0	0	0	0	0	0	0	0	0	16
Total	870	42	2	0	0	0	0	0	0	0	0	0	0	914
Percent	95.2%	4.6%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	07:00	08:00	05:00											07:00
Vol.	85	5	1											88
PM Peak	15:00	13:00	18:00											15:00
Vol.	65	5	1											69

PRECISION
D A T A
INDUSTRIES, LLC
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Tenean Street
north of Sullivan & McLaughlin Driveway
City, State: Boston, MA
Client: VHB/ A. Santiago

175617 A Volume
Site Code: 13866.00

Start	SB				NB				Combined				4/29/2017 Sat
Time	A.M.		P.M.		A.M.		P.M.		A.M.		P.M.		
12:00	3		14		16		21		19		35		
12:15	7		16		9		14		16		30		
12:30	3		11		2		12		5		23		
12:45	0	13	15	56	4	31	10	57	4	44	25	113	
01:00	2		9		2		10		4		19		
01:15	0		16		0		18		0		34		
01:30	2		15		4		14		6		29		
01:45	5	9	9	49	2	8	18	60	7	17	27	109	
02:00	2		11		1		18		3		29		
02:15	2		12		1		9		3		21		
02:30	2		12		2		10		4		22		
02:45	2	8	14	49	1	5	13	50	3	13	27	99	
03:00	0		10		0		7		0		17		
03:15	3		14		0		8		3		22		
03:30	0		18		1		14		1		32		
03:45	0	3	20	62	2	3	16	45	2	6	36	107	
04:00	1		17		0		15		1		32		
04:15	0		12		1		10		1		22		
04:30	0		15		2		4		2		19		
04:45	0	1	12	56	0	3	17	46	0	4	29	102	
05:00	1		25		0		6		1		31		
05:15	0		11		2		19		2		30		
05:30	2		8		6		12		8		20		
05:45	0	3	13	57	5	13	5	42	5	16	18	99	
06:00	1		17		5		7		6		24		
06:15	2		11		3		14		5		25		
06:30	1		14		4		10		5		24		
06:45	6	10	10	52	4	16	12	43	10	26	22	95	
07:00	5		14		7		12		12		26		
07:15	3		10		6		7		9		17		
07:30	4		12		6		8		10		20		
07:45	11	23	6	42	13	32	9	36	24	55	15	78	
08:00	4		5		6		5		10		10		
08:15	1		9		4		8		5		17		
08:30	6		10		15		14		21		24		
08:45	7	18	9	33	3	28	7	34	10	46	16	67	
09:00	3		12		12		4		15		16		
09:15	7		7		12		9		19		16		
09:30	8		5		16		5		24		10		
09:45	10	28	6	30	10	50	11	29	20	78	17	59	
10:00	11		4		11		9		22		13		
10:15	11		6		15		11		26		17		
10:30	12		2		14		5		26		7		
10:45	19	53	7	19	16	56	5	30	35	109	12	49	
11:00	14		4		8		2		22		6		
11:15	8		6		16		4		24		10		
11:30	12		9		8		5		20		14		
11:45	10	44	3	22	15	47	1	12	25	91	4	34	
Total	213		527		292		484		505		1011		
Percent	42.2%		52.1%		57.8%		47.9%						
Day Total		740				776				1516			
Peak	10:15	-	03:15	-	10:00	-	01:15	-	10:00	-	03:15	-	-	-
Vol.	56	-	69	-	56	-	68	-	109	-	122	-	-	-
P.H.F.	0.737		0.863		0.875		0.944		0.779		0.847			

PRECISION D A T A INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
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Tenean Street
north of Sullivan & McLaughlin Driveway
City, State: Boston, MA
Client: VHB/ A. Santiago

175617 A Volume
Site Code: 13866.00

Start	SB				NB				Combined				4/30/2017 Sun
Time	A.M.		P.M.		A.M.		P.M.		A.M.		P.M.		
12:00	4		9		2		17		6		26		
12:15	2		14		3		14		5		28		
12:30	3		16		4		16		7		32		
12:45	2	11	13	52	3	12	17	64	5	23	30	116	
01:00	5		12		4		10		9		22		
01:15	1		3		1		6		2		9		
01:30	4		7		1		15		5		22		
01:45	1	11	15	37	5	11	12	43	6	22	27	80	
02:00	1		9		1		15		2		24		
02:15	3		11		1		6		4		17		
02:30	1		8		3		13		4		21		
02:45	1	6	9	37	0	5	19	53	1	11	28	90	
03:00	3		16		1		14		4		30		
03:15	2		10		1		10		3		20		
03:30	1		6		3		11		4		17		
03:45	0	6	7	39	2	7	9	44	2	13	16	83	
04:00	0		10		0		6		0		16		
04:15	0		3		0		6		0		9		
04:30	0		3		1		5		1		8		
04:45	0	0	6	22	1	2	8	25	1	2	14	47	
05:00	0		14		0		17		0		31		
05:15	1		7		1		10		2		17		
05:30	1		9		1		9		2		18		
05:45	1	3	9	39	1	3	7	43	2	6	16	82	
06:00	0		6		1		7		1		13		
06:15	0		5		1		8		1		13		
06:30	1		12		1		18		2		30		
06:45	2	3	4	27	2	5	7	40	4	8	11	67	
07:00	2		10		2		7		4		17		
07:15	2		0		4		6		6		6		
07:30	2		8		0		4		2		12		
07:45	1	7	7	25	8	14	10	27	9	21	17	52	
08:00	2		6		6		6		8		12		
08:15	3		5		3		8		6		13		
08:30	1		3		7		9		8		12		
08:45	6	12	3	17	3	19	3	26	9	31	6	43	
09:00	5		5		10		4		15		9		
09:15	4		3		6		0		10		3		
09:30	3		3		10		3		13		6		
09:45	4	16	0	11	11	37	3	10	15	53	3	21	
10:00	8		3		4		2		12		5		
10:15	9		3		13		3		22		6		
10:30	13		3		13		2		26		5		
10:45	8	38	3	12	15	45	0	7	23	83	3	19	
11:00	17		2		13		3		30		5		
11:15	6		2		13		2		19		4		
11:30	7		3		16		3		23		6		
11:45	13	43	2	9	13	55	1	9	26	98	3	18	
Total	156		327		215		391		371		718		
Percent	42.0%		45.5%		58.0%		54.5%						
Day Total		483				606				1089			
Peak	10:15	-	00:15	-	10:45	-	12:00	-	10:15	-	12:00	-	-	-
Vol.	47	-	55	-	57	-	64	-	101	-	116	-	-	-
P.H.F.	0.691		0.859		0.891		0.941		0.842		0.906			

PRECISION
D A T A
INDUSTRIES, LLC
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Tenean Street
north of Sullivan & McLaughlin Driveway
City, State: Boston, MA
Client: VHB/ A. Santiago

175617 A Volume
Site Code: 13866.00

Start	SB				NB				Combined				5/1/2017
Time	A.M.		P.M.		A.M.		P.M.		A.M.		P.M.		Mon
12:00	3		10		0		22		3		32		
12:15	0		12		0		11		0		23		
12:30	0		12		1		20		1		32		
12:45	0	3	23	57	1	2	9	62	1	5	32	119	
01:00	4		9		0		14		4		23		
01:15	2		8		0		14		2		22		
01:30	0		19		1		8		1		27		
01:45	1	7	24	60	1	2	9	45	2	9	33	105	
02:00	1		13		0		17		1		30		
02:15	1		13		0		18		1		31		
02:30	1		21		0		11		1		32		
02:45	2	5	15	62	0	0	15	61	2	5	30	123	
03:00	0		10		1		14		1		24		
03:15	1		14		1		13		2		27		
03:30	3		9		4		15		7		24		
03:45	0	4	22	55	1	7	14	56	1	11	36	111	
04:00	1		16		1		19		2		35		
04:15	1		4		3		12		4		16		
04:30	2		20		2		16		4		36		
04:45	2	6	15	55	2	8	14	61	4	14	29	116	
05:00	4		14		2		16		6		30		
05:15	2		8		4		11		6		19		
05:30	4		12		8		11		12		23		
05:45	3	13	9	43	11	25	14	52	14	38	23	95	
06:00	10		10		16		10		26		20		
06:15	10		10		17		9		27		19		
06:30	9		11		17		13		26		24		
06:45	4	33	8	39	23	73	9	41	27	106	17	80	
07:00	8		9		28		5		36		14		
07:15	5		3		18		9		23		12		
07:30	5		8		24		12		29		20		
07:45	11	29	10	30	15	85	5	31	26	114	15	61	
08:00	11		6		19		6		30		12		
08:15	4		10		19		1		23		11		
08:30	5		8		11		4		16		12		
08:45	6	26	2	26	22	71	1	12	28	97	3	38	
09:00	8		2		19		3		27		5		
09:15	4		4		13		3		17		7		
09:30	8		5		8		3		16		8		
09:45	13	33	3	14	15	55	2	11	28	88	5	25	
10:00	7		5		10		2		17		7		
10:15	7		3		13		2		20		5		
10:30	8		4		15		2		23		6		
10:45	9	31	4	16	10	48	2	8	19	79	6	24	
11:00	9		1		18		1		27		2		
11:15	11		2		12		6		23		8		
11:30	16		1		15		1		31		2		
11:45	8	44	2	6	7	52	2	10	15	96	4	16	
Total	234		463		428		450		662		913		
Percent	35.3%		50.7%		64.7%		49.3%						
Day Total		697				878				1575			
Peak	10:45	-	01:45	-	06:45	-	12:00	-	06:15	-	01:45	-	-	-
Vol.	45	-	71	-	93	-	62	-	116	-	126	-	-	-
P.H.F.	0.703		0.740		0.830		0.705		0.806		0.955			

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Tenean Street
north of Sullivan & McLaughlin Driveway
City, State: Boston, MA
Client: VHB/ A. Santiago

175617 A Volume
Site Code: 13866.00

Start	SB				NB				Combined				5/2/2017
Time	A.M.		P.M.		A.M.		P.M.		A.M.		P.M.		Tue
12:00	3		17		1		18		4		35		
12:15	1		10		1		13		2		23		
12:30	3		16		2		12		5		28		
12:45	1	8	19	62	1	5	8	51	2	13	27	113	
01:00	2		17		0		12		2		29		
01:15	0		7		0		10		0		17		
01:30	1		11		0		10		1		21		
01:45	0	3	11	46	1	1	14	46	1	4	25	92	
02:00	0		10		0		10		0		20		
02:15	0		10		1		10		1		20		
02:30	1		15		0		11		1		26		
02:45	0	1	17	52	0	1	16	47	0	2	33	99	
03:00	0		15		0		16		0		31		
03:15	0		12		0		11		0		23		
03:30	1		12		0		12		1		24		
03:45	1	2	14	53	2	2	25	64	3	4	39	117	
04:00	1		19		5		24		6		43		
04:15	0		15		0		18		0		33		
04:30	0		3		2		15		2		18		
04:45	2	3	12	49	2	9	17	74	4	12	29	123	
05:00	1		12		2		20		3		32		
05:15	3		9		6		7		9		16		
05:30	3		15		10		10		13		25		
05:45	4	11	9	45	2	20	12	49	6	31	21	94	
06:00	4		12		10		9		14		21		
06:15	10		9		17		12		27		21		
06:30	7		7		19		10		26		17		
06:45	4	25	12	40	19	65	9	40	23	90	21	80	
07:00	5		12		23		16		28		28		
07:15	7		9		24		6		31		15		
07:30	5		9		32		4		37		13		
07:45	9	26	10	40	17	96	5	31	26	122	15	71	
08:00	8		7		30		8		38		15		
08:15	10		4		11		5		21		9		
08:30	8		8		15		3		23		11		
08:45	6	32	8	27	18	74	4	20	24	106	12	47	
09:00	9		4		7		6		16		10		
09:15	5		8		11		3		16		11		
09:30	7		4		16		3		23		7		
09:45	11	32	1	17	5	39	1	13	16	71	2	30	
10:00	9		4		12		2		21		6		
10:15	10		5		15		5		25		10		
10:30	9		6		16		4		25		10		
10:45	6	34	4	19	12	55	3	14	18	89	7	33	
11:00	11		1		6		2		17		3		
11:15	5		1		12		5		17		6		
11:30	13		3		12		2		25		5		
11:45	8	37	6	11	12	42	1	10	20	79	7	21	
Total	214		461		409		459		623		920		
Percent	34.3%		50.1%		65.7%		49.9%						
Day Total		675				868				1543			
Peak	09:45	-	12:00	-	07:15	-	03:45	-	07:15	-	03:30	-	-	-
Vol.	39	-	62	-	103	-	82	-	132	-	139	-	-	-
P.H.F.	0.886		0.816		0.805		0.820		0.868		0.808			

PRECISION
D A T A
INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Tenean Street
north of Sullivan & McLaughlin Driveway
City, State: Boston, MA
Client: VHB/ A. Santiago

175617 A Volume
Site Code: 13866.00

Start	SB				NB				Combined				5/3/2017
Time	A.M.		P.M.		A.M.		P.M.		A.M.		P.M.		Wed
12:00	3		11		1		20		4		31		
12:15	3		17		1		11		4		28		
12:30	2		16		0		13		2		29		
12:45	2	10	14	58	2	4	10	54	4	14	24	112	
01:00	1		20		0		12		1		32		
01:15	1		12		1		21		2		33		
01:30	0		11		1		16		1		27		
01:45	0	2	11	54	0	2	26	75	0	4	37	129	
02:00	1		9		0		12		1		21		
02:15	0		16		0		12		0		28		
02:30	0		12		0		7		0		19		
02:45	0	1	12	49	1	1	12	43	1	2	24	92	
03:00	1		14		0		12		1		26		
03:15	0		16		0		17		0		33		
03:30	1		9		2		13		3		22		
03:45	0	2	11	50	0	2	10	52	0	4	21	102	
04:00	0		10		1		19		1		29		
04:15	0		13		0		19		0		32		
04:30	0		6		2		18		2		24		
04:45	4	4	15	44	6	9	11	67	10	13	26	111	
05:00	2		18		1		16		3		34		
05:15	1		11		3		14		4		25		
05:30	5		14		7		12		12		26		
05:45	2	10	19	62	14	25	12	54	16	35	31	116	
06:00	4		15		11		8		15		23		
06:15	6		15		8		14		14		29		
06:30	10		6		15		11		25		17		
06:45	7	27	7	43	17	51	8	41	24	78	15	84	
07:00	8		9		25		8		33		17		
07:15	8		8		20		7		28		15		
07:30	7		11		30		8		37		19		
07:45	6	29	15	43	23	98	16	39	29	127	31	82	
08:00	15		8		26		6		41		14		
08:15	10		9		20		12		30		21		
08:30	3		9		17		7		20		16		
08:45	8	36	1	27	19	82	2	27	27	118	3	54	
09:00	10		6		23		7		33		13		
09:15	10		5		10		3		20		8		
09:30	7		5		12		6		19		11		
09:45	11	38	3	19	12	57	3	19	23	95	6	38	
10:00	9		3		22		2		31		5		
10:15	6		5		16		3		22		8		
10:30	9		0		10		6		19		6		
10:45	12	36	9	17	7	55	3	14	19	91	12	31	
11:00	8		2		13		5		21		7		
11:15	7		2		7		5		14		7		
11:30	8		2		16		1		24		3		
11:45	14	37	1	7	13	49	0	11	27	86	1	18	
Total	232		473		435		496		667		969		
Percent	34.8%		48.8%		65.2%		51.2%						
Day Total		705				931				1636			
Peak	07:30	-	00:15	-	07:15	-	01:00	-	07:30	-	01:00	-	-	-
Vol.	38	-	67	-	99	-	75	-	137	-	129	-	-	-
P.H.F.	0.633		0.838		0.825		0.721		0.835		0.872			

PRECISION D A T A INDUSTRIES, LLC
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Tenean Street
north of Sullivan & McLaughlin Driveway
City, State: Boston, MA
Client: VHB/ A. Santiago

175617 A Volume
Site Code: 13866.00

Start	SB				NB				Combined				5/4/2017
Time	A.M.		P.M.		A.M.		P.M.		A.M.		P.M.		Thu
12:00	1		10		1		21		2		31		
12:15	4		16		1		11		5		27		
12:30	0		7		1		7		1		14		
12:45	3	8	13	46	1	4	13	52	4	12	26	98	
01:00	2		10		1		7		3		17		
01:15	1		11		1		5		2		16		
01:30	2		11		2		18		4		29		
01:45	1	6	17	49	3	7	16	46	4	13	33	95	
02:00	2		8		0		15		2		23		
02:15	0		9		1		16		1		25		
02:30	0		15		0		11		0		26		
02:45	1	3	9	41	0	1	11	53	1	4	20	94	
03:00	1		14		3		20		4		34		
03:15	0		22		2		16		2		38		
03:30	1		14		0		11		1		25		
03:45	2	4	19	69	2	7	25	72	4	11	44	141	
04:00	0		13		1		24		1		37		
04:15	1		10		4		15		5		25		
04:30	3		17		3		15		6		32		
04:45	2	6	18	58	2	10	25	79	4	16	43	137	
05:00	3		12		1		16		4		28		
05:15	3		19		5		19		8		38		
05:30	4		18		8		11		12		29		
05:45	3	13	18	67	13	27	8	54	16	40	26	121	
06:00	9		12		15		9		24		21		
06:15	11		13		13		6		24		19		
06:30	7		7		23		4		30		11		
06:45	10	37	11	43	18	69	10	29	28	106	21	72	
07:00	6		8		24		8		30		16		
07:15	6		17		26		10		32		27		
07:30	9		10		34		9		43		19		
07:45	7	28	14	49	24	108	14	41	31	136	28	90	
08:00	7		6		20		9		27		15		
08:15	10		6		23		8		33		14		
08:30	12		10		16		12		28		22		
08:45	8	37	6	28	16	75	8	37	24	112	14	65	
09:00	5		8		20		9		25		17		
09:15	8		3		13		1		21		4		
09:30	7		6		17		6		24		12		
09:45	5	25	3	20	18	68	2	18	23	93	5	38	
10:00	11		5		17		6		28		11		
10:15	8		4		8		4		16		8		
10:30	11		7		16		3		27		10		
10:45	15	45	3	19	15	56	2	15	30	101	5	34	
11:00	13		6		18		1		31		7		
11:15	11		8		9		5		20		13		
11:30	9		3		12		2		21		5		
11:45	13	46	1	18	13	52	2	10	26	98	3	28	
Total	258		507		484		506		742		1013		
Percent	34.8%		50.0%		65.2%		50.0%						
Day Total		765				990				1755			
Peak	10:30	-	03:00	-	07:00	-	03:45	-	07:00	-	03:15	-	-	-
Vol.	50	-	69	-	108	-	79	-	136	-	144	-	-	-
P.H.F.	0.833		0.784		0.794		0.790		0.791		0.818			

PRECISION D A T A INDUSTRIES, LLC
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Tenean Street
north of Sullivan & McLaughlin Driveway
City, State: Boston, MA
Client: VHB/ A. Santiago

175617 A Volume
Site Code: 13866.00

Start	SB				NB				Combined				5/5/2017
Time	A.M.		P.M.		A.M.		P.M.		A.M.		P.M.		Fri
12:00	3		14		1		16		4		30		
12:15	1		13		1		14		2		27		
12:30	2		14		2		18		4		32		
12:45	3	9	15	56	0	4	13	61	3	13	28	117	
01:00	1		14		1		9		2		23		
01:15	3		13		0		15		3		28		
01:30	3		8		0		8		3		16		
01:45	0	7	8	43	0	1	10	42	0	8	18	85	
02:00	0		15		1		7		1		22		
02:15	3		10		1		13		4		23		
02:30	1		13		1		8		2		21		
02:45	1	5	16	54	1	4	13	41	2	9	29	95	
03:00	2		15		1		19		3		34		
03:15	0		20		1		15		1		35		
03:30	0		14		3		23		3		37		
03:45	1	3	11	60	2	7	12	69	3	10	23	129	
04:00	0		13		1		15		1		28		
04:15	0		15		0		16		0		31		
04:30	2		9		0		15		2		24		
04:45	2	4	16	53	2	3	12	58	4	7	28	111	
05:00	3		23		2		17		5		40		
05:15	3		14		8		10		11		24		
05:30	3		13		10		11		13		24		
05:45	0	9	19	69	6	26	9	47	6	35	28	116	
06:00	6		12		15		3		21		15		
06:15	10		13		15		4		25		17		
06:30	10		10		19		7		29		17		
06:45	3	29	7	42	12	61	11	25	15	90	18	67	
07:00	3		7		21		11		24		18		
07:15	3		3		19		6		22		9		
07:30	10		4		26		8		36		12		
07:45	11	27	9	23	22	88	8	33	33	115	17	56	
08:00	11		11		24		15		35		26		
08:15	8		9		21		17		29		26		
08:30	7		5		14		4		21		9		
08:45	6	32	7	32	13	72	6	42	19	104	13	74	
09:00	10		6		18		6		28		12		
09:15	14		10		11		6		25		16		
09:30	13		6		9		4		22		10		
09:45	8	45	2	24	8	46	10	26	16	91	12	50	
10:00	9		6		9		21		18		27		
10:15	7		8		14		5		21		13		
10:30	8		5		10		7		18		12		
10:45	4	28	6	25	15	48	5	38	19	76	11	63	
11:00	15		3		13		5		28		8		
11:15	16		4		18		5		34		9		
11:30	10		4		16		4		26		8		
11:45	17	58	4	15	9	56	2	16	26	114	6	31	
Total	256		496		416		498		672		994		
Percent	38.1%		49.9%		61.9%		50.1%						
Day Total		752				914				1666			
Peak	11:00	-	05:00	-	07:30	-	02:45	-	07:30	-	02:45	-	-	-
Vol.	58	-	69	-	93	-	70	-	133	-	135	-	-	-
P.H.F.	0.853		0.750		0.894		0.761		0.924		0.912			

PRECISION
D A T A
INDUSTRIES, LLC
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Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Redfield Street
east of Woodworth Street
City, State: Boston, MA
Client: VHB/ A. Santiago
WB

175617 B Class
Site Code: 13866.00

Start Time	Cars	Medium Heavy	Large Heavy											Total
04/29/1														
7	39	0	0	0	0	0	0	0	0	0	0	0	0	39
01:00	17	0	0	0	0	0	0	0	0	0	0	0	0	17
02:00	10	0	0	0	0	0	0	0	0	0	0	0	0	10
03:00	4	1	0	0	0	0	0	0	0	0	0	0	0	5
04:00	1	1	0	0	0	0	0	0	0	0	0	0	0	2
05:00	7	0	0	0	0	0	0	0	0	0	0	0	0	7
06:00	15	0	0	0	0	0	0	0	0	0	0	0	0	15
07:00	21	0	0	0	0	0	0	0	0	0	0	0	0	21
08:00	26	0	0	0	0	0	0	0	0	0	0	0	0	26
09:00	42	0	0	0	0	0	0	0	0	0	0	0	0	42
10:00	41	0	0	0	0	0	0	0	0	0	0	0	0	41
11:00	54	2	0	0	0	0	0	0	0	0	0	0	0	56
12 PM	55	0	0	0	0	0	0	0	0	0	0	0	0	55
13:00	51	1	0	0	0	0	0	0	0	0	0	0	0	52
14:00	58	2	0	0	0	0	0	0	0	0	0	0	0	60
15:00	63	0	0	0	0	0	0	0	0	0	0	0	0	63
16:00	53	0	0	0	0	0	0	0	0	0	0	0	0	53
17:00	62	1	0	0	0	0	0	0	0	0	0	0	0	63
18:00	48	1	0	0	0	0	0	0	0	0	0	0	0	49
19:00	64	0	0	0	0	0	0	0	0	0	0	0	0	64
20:00	61	0	0	0	0	0	0	0	0	0	0	0	0	61
21:00	81	1	0	0	0	0	0	0	0	0	0	0	0	82
22:00	90	0	0	0	0	0	0	0	0	0	0	0	0	90
23:00	76	0	0	0	0	0	0	0	0	0	0	0	0	76
Total	1039	10	0	0	0	0	0	0	0	0	0	0	0	1049
Percent	99.0%	1.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	11:00	11:00												11:00
Vol.	54	2												56
PM Peak	22:00	14:00												22:00
Vol.	90	2												90

PRECISION
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Redfield Street
east of Woodworth Street
City, State: Boston, MA
Client: VHB/ A. Santiago
WB

175617 B Class
Site Code: 13866.00

Start Time	Cars	Medium Heavy	Large Heavy											Total
04/30/1														
7	31	1	0	0	0	0	0	0	0	0	0	0	0	32
01:00	18	0	0	0	0	0	0	0	0	0	0	0	0	18
02:00	8	0	0	0	0	0	0	0	0	0	0	0	0	8
03:00	7	0	0	0	0	0	0	0	0	0	0	0	0	7
04:00	2	0	0	0	0	0	0	0	0	0	0	0	0	2
05:00	4	0	0	0	0	0	0	0	0	0	0	0	0	4
06:00	3	0	0	0	0	0	0	0	0	0	0	0	0	3
07:00	13	0	0	0	0	0	0	0	0	0	0	0	0	13
08:00	22	0	0	0	0	0	0	0	0	0	0	0	0	22
09:00	26	0	0	0	0	0	0	0	0	0	0	0	0	26
10:00	48	0	0	0	0	0	0	0	0	0	0	0	0	48
11:00	27	1	0	0	0	0	0	0	0	0	0	0	0	28
12 PM	55	0	0	0	0	0	0	0	0	0	0	0	0	55
13:00	56	0	0	0	0	0	0	0	0	0	0	0	0	56
14:00	60	0	0	0	0	0	0	0	0	0	0	0	0	60
15:00	53	0	0	0	0	0	0	0	0	0	0	0	0	53
16:00	37	0	0	0	0	0	0	0	0	0	0	0	0	37
17:00	35	0	0	0	0	0	0	0	0	0	0	0	0	35
18:00	43	0	0	0	0	0	0	0	0	0	0	0	0	43
19:00	40	0	0	0	0	0	0	0	0	0	0	0	0	40
20:00	50	0	0	0	0	0	0	0	0	0	0	0	0	50
21:00	14	0	0	0	0	0	0	0	0	0	0	0	0	14
22:00	12	3	0	0	0	0	0	0	0	0	0	0	0	15
23:00	15	0	0	0	0	0	0	0	0	0	0	0	0	15
Total	679	5	0	0	0	0	0	0	0	0	0	0	0	684
Percent	99.3%	0.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	10:00	00:00												10:00
Vol.	48	1												48
PM Peak	14:00	22:00												14:00
Vol.	60	3												60

PRECISION
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Redfield Street
east of Woodworth Street
City, State: Boston, MA
Client: VHB/ A. Santiago
WB

175617 B Class
Site Code: 13866.00

Start Time	Cars	Medium Heavy	Large Heavy											Total
05/01/1														
7	3	0	0	0	0	0	0	0	0	0	0	0	0	3
01:00	4	0	0	0	0	0	0	0	0	0	0	0	0	4
02:00	4	0	0	0	0	0	0	0	0	0	0	0	0	4
03:00	1	0	0	0	0	0	0	0	0	0	0	0	0	1
04:00	9	0	0	0	0	0	0	0	0	0	0	0	0	9
05:00	13	2	0	0	0	0	0	0	0	0	0	0	0	15
06:00	19	1	0	0	0	0	0	0	0	0	0	0	0	20
07:00	29	3	0	0	0	0	0	0	0	0	0	0	0	32
08:00	28	2	0	0	0	0	0	0	0	0	0	0	0	30
09:00	21	3	0	0	0	0	0	0	0	0	0	0	0	24
10:00	23	1	1	0	0	0	0	0	0	0	0	0	0	25
11:00	38	5	0	0	0	0	0	0	0	0	0	0	0	43
12 PM	55	3	0	0	0	0	0	0	0	0	0	0	0	58
13:00	65	2	0	0	0	0	0	0	0	0	0	0	0	67
14:00	57	2	0	0	0	0	0	0	0	0	0	0	0	59
15:00	46	2	0	0	0	0	0	0	0	0	0	0	0	48
16:00	64	5	0	0	0	0	0	0	0	0	0	0	0	69
17:00	47	0	0	0	0	0	0	0	0	0	0	0	0	47
18:00	49	1	0	0	0	0	0	0	0	0	0	0	0	50
19:00	34	0	0	0	0	0	0	0	0	0	0	0	0	34
20:00	24	0	0	0	0	0	0	0	0	0	0	0	0	24
21:00	43	0	0	0	0	0	0	0	0	0	0	0	0	43
22:00	13	3	0	0	0	0	0	0	0	0	0	0	0	16
23:00	10	0	0	0	0	0	0	0	0	0	0	0	0	10
Total	699	35	1	0	0	0	0	0	0	0	0	0	0	735
Percent	95.1%	4.8%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	11:00	11:00	10:00											11:00
Vol.	38	5	1											43
PM Peak	13:00	16:00												16:00
Vol.	65	5												69

PRECISION
D A T A
INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Redfield Street
east of Woodworth Street
City, State: Boston, MA
Client: VHB/ A. Santiago
WB

175617 B Class
Site Code: 13866.00

Start Time	Cars	Medium Heavy	Large Heavy											Total
05/02/1														
7	4	1	0	0	0	0	0	0	0	0	0	0	0	5
01:00	5	0	0	0	0	0	0	0	0	0	0	0	0	5
02:00	3	0	0	0	0	0	0	0	0	0	0	0	0	3
03:00	3	0	0	0	0	0	0	0	0	0	0	0	0	3
04:00	5	1	0	0	0	0	0	0	0	0	0	0	0	6
05:00	13	1	0	0	0	0	0	0	0	0	0	0	0	14
06:00	18	0	0	0	0	0	0	0	0	0	0	0	0	18
07:00	30	2	0	0	0	0	0	0	0	0	0	0	0	32
08:00	31	1	0	0	0	0	0	0	0	0	0	0	0	32
09:00	21	2	0	0	0	0	0	0	0	0	0	0	0	23
10:00	31	2	0	0	0	0	0	0	0	0	0	0	0	33
11:00	39	5	0	0	0	0	0	0	0	0	0	0	0	44
12 PM	35	4	0	0	0	0	0	0	0	0	0	0	0	39
13:00	61	5	0	0	0	0	0	0	0	0	0	0	0	66
14:00	51	2	0	0	0	0	0	0	0	0	0	0	0	53
15:00	54	2	0	0	0	0	0	0	0	0	0	0	0	56
16:00	62	2	0	0	0	0	0	0	0	0	0	0	0	64
17:00	50	0	0	0	0	0	0	0	0	0	0	0	0	50
18:00	48	1	0	0	0	0	0	0	0	0	0	0	0	49
19:00	37	0	0	0	0	0	0	0	0	0	0	0	0	37
20:00	28	0	0	0	0	0	0	0	0	0	0	0	0	28
21:00	18	0	0	0	0	0	0	0	0	0	0	0	0	18
22:00	16	2	0	0	0	0	0	0	0	0	0	0	0	18
23:00	12	0	0	0	0	0	0	0	0	0	0	0	0	12
Total	675	33	0	0	0	0	0	0	0	0	0	0	0	708
Percent	95.3%	4.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	11:00	11:00												11:00
Vol.	39	5												44
PM Peak	16:00	13:00												13:00
Vol.	62	5												66

PRECISION
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Redfield Street
east of Woodworth Street
City, State: Boston, MA
Client: VHB/ A. Santiago
WB

175617 B Class
Site Code: 13866.00

Start Time	Cars	Medium Heavy	Large Heavy											Total
05/03/1														
7	9	1	0	0	0	0	0	0	0	0	0	0	0	10
01:00	3	0	0	0	0	0	0	0	0	0	0	0	0	3
02:00	2	0	0	0	0	0	0	0	0	0	0	0	0	2
03:00	1	1	0	0	0	0	0	0	0	0	0	0	0	2
04:00	9	0	0	0	0	0	0	0	0	0	0	0	0	9
05:00	12	1	0	0	0	0	0	0	0	0	0	0	0	13
06:00	26	3	0	0	0	0	0	0	0	0	0	0	0	29
07:00	26	1	0	0	0	0	0	0	0	0	0	0	0	27
08:00	32	2	0	0	0	0	0	0	0	0	0	0	0	34
09:00	41	2	0	0	0	0	0	0	0	0	0	0	0	43
10:00	37	1	0	0	0	0	0	0	0	0	0	0	0	38
11:00	34	4	0	0	0	0	0	0	0	0	0	0	0	38
12 PM	52	2	0	0	0	0	0	0	0	0	0	0	0	54
13:00	58	2	0	0	0	0	0	0	0	0	0	0	0	60
14:00	63	7	0	0	0	0	0	0	0	0	0	0	0	70
15:00	57	5	0	0	0	0	0	0	0	0	0	0	0	62
16:00	61	3	1	0	0	0	0	0	0	0	0	0	0	65
17:00	78	1	1	0	0	0	0	0	0	0	0	0	0	80
18:00	34	0	0	0	0	0	0	0	0	0	0	0	0	34
19:00	43	0	0	0	0	0	0	0	0	0	0	0	0	43
20:00	37	0	0	0	0	0	0	0	0	0	0	0	0	37
21:00	29	1	0	0	0	0	0	0	0	0	0	0	0	30
22:00	24	2	0	0	0	0	0	0	0	0	0	0	0	26
23:00	8	0	0	0	0	0	0	0	0	0	0	0	0	8
Total	776	39	2	0	0	0	0	0	0	0	0	0	0	817
Percent	95.0%	4.8%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	09:00	11:00												09:00
Vol.	41	4												43
PM Peak	17:00	14:00	16:00											17:00
Vol.	78	7	1											80

PRECISION
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Redfield Street
east of Woodworth Street
City, State: Boston, MA
Client: VHB/ A. Santiago
WB

175617 B Class
Site Code: 13866.00

Start Time	Cars	Medium Heavy	Large Heavy											Total
05/04/1														
7	7	1	0	0	0	0	0	0	0	0	0	0	0	8
01:00	4	1	0	0	0	0	0	0	0	0	0	0	0	5
02:00	3	0	0	0	0	0	0	0	0	0	0	0	0	3
03:00	7	1	0	0	0	0	0	0	0	0	0	0	0	8
04:00	5	0	0	0	0	0	0	0	0	0	0	0	0	5
05:00	18	1	0	0	0	0	0	0	0	0	0	0	0	19
06:00	25	4	0	0	0	0	0	0	0	0	0	0	0	29
07:00	35	2	0	0	0	0	0	0	0	0	0	0	0	37
08:00	29	5	0	0	0	0	0	0	0	0	0	0	0	34
09:00	25	3	0	0	0	0	0	0	0	0	0	0	0	28
10:00	39	3	0	0	0	0	0	0	0	0	0	0	0	42
11:00	59	6	0	0	0	0	0	0	0	0	0	0	0	65
12 PM	51	4	0	0	0	0	0	0	0	0	0	0	0	55
13:00	69	5	1	0	0	0	0	0	0	0	0	0	0	75
14:00	57	3	1	0	0	0	0	0	0	0	0	0	0	61
15:00	55	1	0	0	0	0	0	0	0	0	0	0	0	56
16:00	75	1	0	0	0	0	0	0	0	0	0	0	0	76
17:00	77	1	0	0	0	0	0	0	0	0	0	0	0	78
18:00	55	2	0	0	0	0	0	0	0	0	0	0	0	57
19:00	79	2	0	0	0	0	0	0	0	0	0	0	0	81
20:00	82	0	0	0	0	0	0	0	0	0	0	0	0	82
21:00	37	0	0	0	0	0	0	0	0	0	0	0	0	37
22:00	27	1	0	0	0	0	0	0	0	0	0	0	0	28
23:00	16	2	0	0	0	0	0	0	0	0	0	0	0	18
Total	936	49	2	0	0	0	0	0	0	0	0	0	0	987
Percent	94.8%	5.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	11:00	11:00												11:00
Vol.	59	6												65
PM Peak	20:00	13:00	13:00											20:00
Vol.	82	5	1											82

PRECISION
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Redfield Street
east of Woodworth Street
City, State: Boston, MA
Client: VHB/ A. Santiago
WB

175617 B Class
Site Code: 13866.00

Start Time	Cars	Medium Heavy	Large Heavy											Total
05/05/1														
7	5	1	0	0	0	0	0	0	0	0	0	0	0	6
01:00	5	0	0	0	0	0	0	0	0	0	0	0	0	5
02:00	3	0	0	0	0	0	0	0	0	0	0	0	0	3
03:00	5	1	0	0	0	0	0	0	0	0	0	0	0	6
04:00	4	0	0	0	0	0	0	0	0	0	0	0	0	4
05:00	12	1	0	0	0	0	0	0	0	0	0	0	0	13
06:00	25	4	0	0	0	0	0	0	0	0	0	0	0	29
07:00	27	1	0	0	0	0	0	0	0	0	0	0	0	28
08:00	23	3	0	0	0	0	0	0	0	0	0	0	0	26
09:00	39	3	0	0	0	0	0	0	0	0	0	0	0	42
10:00	38	3	0	0	0	0	0	0	0	0	0	0	0	41
11:00	45	1	1	0	0	0	0	0	0	0	0	0	0	47
12 PM	51	5	0	0	0	0	0	0	0	0	0	0	0	56
13:00	56	5	1	0	0	0	0	0	0	0	0	0	0	62
14:00	53	3	1	0	0	0	0	0	0	0	0	0	0	57
15:00	53	4	0	0	0	0	0	0	0	0	0	0	0	57
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	444	35	3	0	0	0	0	0	0	0	0	0	0	482
Percent	92.1%	7.3%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	11:00	06:00	11:00											11:00
Vol.	45	4	1											47
PM Peak	13:00	12:00	13:00											13:00
Vol.	56	5	1											62

PRECISION
D A T A
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Redfield Street
east of Woodworth Street
City, State: Boston, MA
Client: VHB/ A. Santiago
EB

175617 B Class
Site Code: 13866.00

Start Time	Cars	Medium Heavy	Large Heavy											Total
04/29/1														
7	24	0	0	0	0	0	0	0	0	0	0	0	0	24
01:00	15	0	0	0	0	0	0	0	0	0	0	0	0	15
02:00	10	0	0	0	0	0	0	0	0	0	0	0	0	10
03:00	5	0	0	0	0	0	0	0	0	0	0	0	0	5
04:00	2	2	1	0	0	0	0	0	0	0	0	0	0	5
05:00	7	1	0	0	0	0	0	0	0	0	0	0	0	8
06:00	9	0	0	0	0	0	0	0	0	0	0	0	0	9
07:00	31	0	0	0	0	0	0	0	0	0	0	0	0	31
08:00	29	0	0	0	0	0	0	0	0	0	0	0	0	29
09:00	49	1	0	0	0	0	0	0	0	0	0	0	0	50
10:00	60	0	1	0	0	0	0	0	0	0	0	0	0	61
11:00	69	2	0	0	0	0	0	0	0	0	0	0	0	71
12 PM	52	1	0	0	0	0	0	0	0	0	0	0	0	53
13:00	75	1	0	0	0	0	0	0	0	0	0	0	0	76
14:00	49	1	0	0	0	0	0	0	0	0	0	0	0	50
15:00	61	0	0	0	0	0	0	0	0	0	0	0	0	61
16:00	62	0	0	0	0	0	0	0	0	0	0	0	0	62
17:00	81	0	0	0	0	0	0	0	0	0	0	0	0	81
18:00	142	1	0	0	0	0	0	0	0	0	0	0	0	143
19:00	67	0	0	0	0	0	0	0	0	0	0	0	0	67
20:00	50	0	0	0	0	0	0	0	0	0	0	0	0	50
21:00	43	1	0	0	0	0	0	0	0	0	0	0	0	44
22:00	33	0	0	0	0	0	0	0	0	0	0	0	0	33
23:00	27	0	0	0	0	0	0	0	0	0	0	0	0	27
Total	1052	11	2	0	0	0	0	0	0	0	0	0	0	1065
Percent	98.8%	1.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	11:00	04:00	04:00											11:00
Vol.	69	2	1											71
PM Peak	18:00	12:00												18:00
Vol.	142	1												143

PRECISION
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Redfield Street
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EB

175617 B Class
Site Code: 13866.00

Start Time	Cars	Medium Heavy	Large Heavy											Total
04/30/1														
7	15	0	0	0	0	0	0	0	0	0	0	0	0	15
01:00	12	0	0	0	0	0	0	0	0	0	0	0	0	12
02:00	5	0	0	0	0	0	0	0	0	0	0	0	0	5
03:00	8	0	0	0	0	0	0	0	0	0	0	0	0	8
04:00	3	0	0	0	0	0	0	0	0	0	0	0	0	3
05:00	5	0	0	0	0	0	0	0	0	0	0	0	0	5
06:00	6	0	0	0	0	0	0	0	0	0	0	0	0	6
07:00	14	0	0	0	0	0	0	0	0	0	0	0	0	14
08:00	16	0	0	0	0	0	0	0	0	0	0	0	0	16
09:00	28	1	0	0	0	0	0	0	0	0	0	0	0	29
10:00	68	1	0	0	0	0	0	0	0	0	0	0	0	69
11:00	65	0	0	0	0	0	0	0	0	0	0	0	0	65
12 PM	77	0	0	0	0	0	0	0	0	0	0	0	0	77
13:00	49	0	0	0	0	0	0	0	0	0	0	0	0	49
14:00	65	0	0	0	0	0	0	0	0	0	0	0	0	65
15:00	62	0	0	0	0	0	0	0	0	0	0	0	0	62
16:00	45	1	0	0	0	0	0	0	0	0	0	0	0	46
17:00	51	0	0	0	0	0	0	0	0	0	0	0	0	51
18:00	52	0	0	0	0	0	0	0	0	0	0	0	0	52
19:00	34	0	0	0	0	0	0	0	0	0	0	0	0	34
20:00	32	0	0	0	0	0	0	0	0	0	0	0	0	32
21:00	20	0	0	0	0	0	0	0	0	0	0	0	0	20
22:00	15	0	0	0	0	0	0	0	0	0	0	0	0	15
23:00	12	0	0	0	0	0	0	0	0	0	0	0	0	12
Total	759	3	0	0	0	0	0	0	0	0	0	0	0	762
Percent	99.6%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	10:00	09:00												10:00
Vol.	68	1												69
PM Peak	12:00	16:00												12:00
Vol.	77	1												77

PRECISION
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Redfield Street
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EB

175617 B Class
Site Code: 13866.00

Start Time	Cars	Medium Heavy	Large Heavy											Total
05/01/1														
7	6	0	0	0	0	0	0	0	0	0	0	0	0	6
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	2	0	0	0	0	0	0	0	0	0	0	0	0	2
03:00	3	0	0	0	0	0	0	0	0	0	0	0	0	3
04:00	6	4	0	0	0	0	0	0	0	0	0	0	0	10
05:00	28	1	0	0	0	0	0	0	0	0	0	0	0	29
06:00	62	1	0	0	0	0	0	0	0	0	0	0	0	63
07:00	69	3	0	0	0	0	0	0	0	0	0	0	0	72
08:00	56	7	0	0	0	0	0	0	0	0	0	0	0	63
09:00	44	5	1	0	0	0	0	0	0	0	0	0	0	50
10:00	52	5	0	0	0	0	0	0	0	0	0	0	0	57
11:00	41	2	0	0	0	0	0	0	0	0	0	0	0	43
12 PM	69	1	0	0	0	0	0	0	0	0	0	0	0	70
13:00	52	2	0	0	0	0	0	0	0	0	0	0	0	54
14:00	52	4	0	0	0	0	0	0	0	0	0	0	0	56
15:00	45	1	0	0	0	0	0	0	0	0	0	0	0	46
16:00	53	4	0	0	0	0	0	0	0	0	0	0	0	57
17:00	51	0	0	0	0	0	0	0	0	0	0	0	0	51
18:00	55	1	0	0	0	0	0	0	0	0	0	0	0	56
19:00	40	0	0	0	0	0	0	0	0	0	0	0	0	40
20:00	18	0	0	0	0	0	0	0	0	0	0	0	0	18
21:00	24	0	0	0	0	0	0	0	0	0	0	0	0	24
22:00	19	0	0	0	0	0	0	0	0	0	0	0	0	19
23:00	13	0	0	0	0	0	0	0	0	0	0	0	0	13
Total	860	41	1	0	0	0	0	0	0	0	0	0	0	902
Percent	95.3%	4.5%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	07:00	08:00	09:00											07:00
Vol.	69	7	1											72
PM Peak	12:00	14:00												12:00
Vol.	69	4												70

PRECISION
D A T A
INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Redfield Street
east of Woodworth Street
City, State: Boston, MA
Client: VHB/ A. Santiago
EB

175617 B Class
Site Code: 13866.00

Start Time	Cars	Medium Heavy	Large Heavy											Total
05/02/1														
7	5	1	0	0	0	0	0	0	0	0	0	0	0	6
01:00	6	0	0	0	0	0	0	0	0	0	0	0	0	6
02:00	1	0	0	0	0	0	0	0	0	0	0	0	0	1
03:00	5	0	0	0	0	0	0	0	0	0	0	0	0	5
04:00	5	4	0	0	0	0	0	0	0	0	0	0	0	9
05:00	23	0	1	0	0	0	0	0	0	0	0	0	0	24
06:00	44	1	0	0	0	0	0	0	0	0	0	0	0	45
07:00	63	2	0	0	0	0	0	0	0	0	0	0	0	65
08:00	61	5	0	0	0	0	0	0	0	0	0	0	0	66
09:00	51	4	0	0	0	0	0	0	0	0	0	0	0	55
10:00	53	5	0	0	0	0	0	0	0	0	0	0	0	58
11:00	37	3	1	0	0	0	0	0	0	0	0	0	0	41
12 PM	66	2	0	0	0	0	0	0	0	0	0	0	0	68
13:00	55	4	0	0	0	0	0	0	0	0	0	0	0	59
14:00	40	4	0	0	0	0	0	0	0	0	0	0	0	44
15:00	51	5	0	0	0	0	0	0	0	0	0	0	0	56
16:00	73	3	0	0	0	0	0	0	0	0	0	0	0	76
17:00	52	0	0	0	0	0	0	0	0	0	0	0	0	52
18:00	57	0	0	0	0	0	0	0	0	0	0	0	0	57
19:00	34	0	0	0	0	0	0	0	0	0	0	0	0	34
20:00	27	0	0	0	0	0	0	0	0	0	0	0	0	27
21:00	21	0	0	0	0	0	0	0	0	0	0	0	0	21
22:00	17	0	0	0	0	0	0	0	0	0	0	0	0	17
23:00	13	0	0	0	0	0	0	0	0	0	0	0	0	13
Total	860	43	2	0	0	0	0	0	0	0	0	0	0	905
Percent	95.0%	4.8%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	07:00	08:00	05:00											08:00
Vol.	63	5	1											66
PM Peak	16:00	15:00												16:00
Vol.	73	5												76

PRECISION
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Redfield Street
east of Woodworth Street
City, State: Boston, MA
Client: VHB/ A. Santiago
EB

175617 B Class
Site Code: 13866.00

Start Time	Cars	Medium Heavy	Large Heavy											Total
05/03/1														
7	4	0	0	0	0	0	0	0	0	0	0	0	0	4
01:00	5	0	0	0	0	0	0	0	0	0	0	0	0	5
02:00	6	0	0	0	0	0	0	0	0	0	0	0	0	6
03:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
04:00	7	1	0	0	0	0	0	0	0	0	0	0	0	8
05:00	32	0	0	0	0	0	0	0	0	0	0	0	0	32
06:00	49	1	0	0	0	0	0	0	0	0	0	0	0	50
07:00	70	4	0	0	0	0	0	0	0	0	0	0	0	74
08:00	69	5	1	0	0	0	0	0	0	0	0	0	0	75
09:00	62	5	0	0	0	0	0	0	0	0	0	0	0	67
10:00	51	0	0	0	0	0	0	0	0	0	0	0	0	51
11:00	54	3	0	0	0	0	0	0	0	0	0	0	0	57
12 PM	69	3	0	0	0	0	0	0	0	0	0	0	0	72
13:00	59	4	2	0	0	0	0	0	0	0	0	0	0	65
14:00	52	4	0	0	0	0	0	0	0	0	0	0	0	56
15:00	50	4	0	0	0	0	0	0	0	0	0	0	0	54
16:00	69	4	1	0	0	0	0	0	0	0	0	0	0	74
17:00	64	1	0	0	0	0	0	0	0	0	0	0	0	65
18:00	65	1	0	0	0	0	0	0	0	0	0	0	0	66
19:00	55	0	0	0	0	0	0	0	0	0	0	0	0	55
20:00	33	0	0	0	0	0	0	0	0	0	0	0	0	33
21:00	31	0	0	0	0	0	0	0	0	0	0	0	0	31
22:00	30	0	0	0	0	0	0	0	0	0	0	0	0	30
23:00	18	0	0	0	0	0	0	0	0	0	0	0	0	18
Total	1004	43	4	0	0	0	0	0	0	0	0	0	0	1051
Percent	95.5%	4.1%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	07:00	08:00	08:00											08:00
Vol.	70	5	1											75
PM Peak	12:00	13:00	13:00											16:00
Vol.	69	4	2											74

PRECISION
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Redfield Street
east of Woodworth Street
City, State: Boston, MA
Client: VHB/ A. Santiago
EB

175617 B Class
Site Code: 13866.00

Start Time	Cars	Medium Heavy	Large Heavy											Total
05/04/1														
7	10	0	0	0	0	0	0	0	0	0	0	0	0	10
01:00	6	1	0	0	0	0	0	0	0	0	0	0	0	7
02:00	2	0	0	0	0	0	0	0	0	0	0	0	0	2
03:00	5	2	0	0	0	0	0	0	0	0	0	0	0	7
04:00	8	1	0	0	0	0	0	0	0	0	0	0	0	9
05:00	26	1	0	0	0	0	0	0	0	0	0	0	0	27
06:00	54	3	0	0	0	0	0	0	0	0	0	0	0	57
07:00	75	8	0	0	0	0	0	0	0	0	0	0	0	83
08:00	63	6	0	0	0	0	0	0	0	0	0	0	0	69
09:00	57	5	1	0	0	0	0	0	0	0	0	0	0	63
10:00	78	5	0	0	0	0	0	0	0	0	0	0	0	83
11:00	84	4	2	0	0	0	0	0	0	0	0	0	0	90
12 PM	57	2	0	0	0	0	0	0	0	0	0	0	0	59
13:00	70	5	0	0	0	0	0	0	0	0	0	0	0	75
14:00	59	3	1	0	0	0	0	0	0	0	0	0	0	63
15:00	67	3	0	0	0	0	0	0	0	0	0	0	0	70
16:00	89	3	0	0	0	0	0	0	0	0	0	0	0	92
17:00	108	0	0	0	0	0	0	0	0	0	0	0	0	108
18:00	78	2	0	0	0	0	0	0	0	0	0	0	0	80
19:00	39	1	0	0	0	0	0	0	0	0	0	0	0	40
20:00	44	0	0	0	0	0	0	0	0	0	0	0	0	44
21:00	30	0	0	0	0	0	0	0	0	0	0	0	0	30
22:00	14	0	0	0	0	0	0	0	0	0	0	0	0	14
23:00	16	1	0	0	0	0	0	0	0	0	0	0	0	17
Total	1139	56	4	0	0	0	0	0	0	0	0	0	0	1199
Percent	95.0%	4.7%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	11:00	07:00	11:00											11:00
Vol.	84	8	2											90
PM Peak	17:00	13:00	14:00											17:00
Vol.	108	5	1											108

PRECISION
D A T A
INDUSTRIES, LLC
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Redfield Street
east of Woodworth Street
City, State: Boston, MA
Client: VHB/ A. Santiago
EB

175617 B Class
Site Code: 13866.00

Start Time	Cars	Medium Heavy	Large Heavy											Total
05/05/1														
7	8	0	0	0	0	0	0	0	0	0	0	0	0	8
01:00	1	0	0	0	0	0	0	0	0	0	0	0	0	1
02:00	4	0	0	0	0	0	0	0	0	0	0	0	0	4
03:00	4	3	0	0	0	0	0	0	0	0	0	0	0	7
04:00	2	0	0	0	0	0	0	0	0	0	0	0	0	2
05:00	28	0	1	0	0	0	0	0	0	0	0	0	0	29
06:00	52	2	0	0	0	0	0	0	0	0	0	0	0	54
07:00	70	4	0	0	0	0	0	0	0	0	0	0	0	74
08:00	55	7	0	0	0	0	0	0	0	0	0	0	0	62
09:00	42	6	0	0	0	0	0	0	0	0	0	0	0	48
10:00	55	4	0	0	0	0	0	0	0	0	0	0	0	59
11:00	50	3	0	0	0	0	0	0	0	0	0	0	0	53
12 PM	61	5	0	0	0	0	0	0	0	0	0	0	0	66
13:00	38	4	0	0	0	0	0	0	0	0	0	0	0	42
14:00	48	5	1	0	0	0	0	0	0	0	0	0	0	54
15:00	57	3	0	0	0	0	0	0	0	0	0	0	0	60
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	575	46	2	0	0	0	0	0	0	0	0	0	0	623
Percent	92.3%	7.4%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	07:00	08:00	05:00											07:00
Vol.	70	7	1											74
PM Peak	12:00	12:00	14:00											12:00
Vol.	61	5	1											66

Redfield Street
east of Woodworth Street
City, State: Boston, MA
Client: VHB/ A. Santiago

PRECISION
D A T A
INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
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175617 B Volume
Site Code: 13866.00

Start	WB				EB				Combined				4/29/2017 Sat
Time	A.M.		P.M.		A.M.		P.M.		A.M.		P.M.		
12:00	8		12		12		14		20		26		
12:15	25		20		4		15		29		35		
12:30	4		13		3		11		7		24		
12:45	2	39	10	55	5	24	13	53	7	63	23	108	
01:00	4		11		3		20		7		31		
01:15	4		9		6		21		10		30		
01:30	5		15		0		18		5		33		
01:45	4	17	17	52	6	15	17	76	10	32	34	128	
02:00	3		19		4		16		7		35		
02:15	4		15		2		8		6		23		
02:30	0		11		3		13		3		24		
02:45	3	10	15	60	1	10	13	50	4	20	28	110	
03:00	2		13		2		12		4		25		
03:15	1		15		1		21		2		36		
03:30	2		18		0		8		2		26		
03:45	0	5	17	63	2	5	20	61	2	10	37	124	
04:00	0		16		0		15		0		31		
04:15	1		14		3		15		4		29		
04:30	1		16		0		18		1		34		
04:45	0	2	7	53	2	5	14	62	2	7	21	115	
05:00	3		18		1		22		4		40		
05:15	0		15		3		17		3		32		
05:30	1		10		3		24		4		34		
05:45	3	7	20	63	1	8	18	81	4	15	38	144	
06:00	3		15		2		23		5		38		
06:15	2		12		0		48		2		60		
06:30	4		12		5		59		9		71		
06:45	6	15	10	49	2	9	13	143	8	24	23	192	
07:00	6		15		4		21		10		36		
07:15	3		18		8		19		11		37		
07:30	6		16		7		15		13		31		
07:45	6	21	15	64	12	31	12	67	18	52	27	131	
08:00	6		14		4		11		10		25		
08:15	7		18		7		13		14		31		
08:30	5		15		9		15		14		30		
08:45	8	26	14	61	9	29	11	50	17	55	25	111	
09:00	12		13		15		13		27		26		
09:15	6		15		12		10		18		25		
09:30	15		24		17		14		32		38		
09:45	9	42	30	82	6	50	7	44	15	92	37	126	
10:00	6		29		14		8		20		37		
10:15	18		25		15		11		33		36		
10:30	9		14		17		6		26		20		
10:45	8	41	22	90	15	61	8	33	23	102	30	123	
11:00	10		20		16		10		26		30		
11:15	21		18		25		8		46		26		
11:30	9		26		9		6		18		32		
11:45	16	56	12	76	21	71	3	27	37	127	15	103	
Total	281		768		318		747		599		1515		
Percent	46.9%		50.7%		53.1%		49.3%						
Day Total		1049				1065				2114			
Peak	11:00	-	09:30	-	10:30	-	05:45	-	11:00	-	05:45	-	-	-
Vol.	56	-	108	-	73	-	148	-	127	-	207	-	-	-
P.H.F.	0.667		0.900		0.730		0.627		0.690		0.729			

PRECISION
D A T A
INDUSTRIES, LLC
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Redfield Street
east of Woodworth Street
City, State: Boston, MA
Client: VHB/ A. Santiago

175617 B Volume
Site Code: 13866.00

Start	WB				EB				Combined				4/30/2017 Sun
Time	A.M.		P.M.		A.M.		P.M.		A.M.		P.M.		
12:00	10		11		5		14		15		25		
12:15	11		10		4		24		15		34		
12:30	8		18		3		20		11		38		
12:45	3	32	16	55	3	15	19	77	6	47	35	132	
01:00	6		8		5		12		11		20		
01:15	3		8		1		12		4		20		
01:30	6		19		2		10		8		29		
01:45	3	18	21	56	4	12	15	49	7	30	36	105	
02:00	4		20		2		17		6		37		
02:15	2		16		1		14		3		30		
02:30	1		10		1		19		2		29		
02:45	1	8	14	60	1	5	15	65	2	13	29	125	
03:00	3		16		3		19		6		35		
03:15	1		13		2		13		3		26		
03:30	3		13		2		15		5		28		
03:45	0	7	11	53	1	8	15	62	1	15	26	115	
04:00	0		11		1		15		1		26		
04:15	0		7		0		13		0		20		
04:30	1		7		1		8		2		15		
04:45	1	2	12	37	1	3	10	46	2	5	22	83	
05:00	1		9		3		13		4		22		
05:15	0		7		2		12		2		19		
05:30	2		4		0		9		2		13		
05:45	1	4	15	35	0	5	17	51	1	9	32	86	
06:00	0		11		1		5		1		16		
06:15	0		8		0		18		0		26		
06:30	1		17		3		18		4		35		
06:45	2	3	7	43	2	6	11	52	4	9	18	95	
07:00	4		4		1		10		5		14		
07:15	2		13		2		8		4		21		
07:30	2		7		3		7		5		14		
07:45	5	13	16	40	8	14	9	34	13	27	25	74	
08:00	2		17		3		13		5		30		
08:15	6		7		3		10		9		17		
08:30	4		20		8		7		12		27		
08:45	10	22	6	50	2	16	2	32	12	38	8	82	
09:00	5		5		6		4		11		9		
09:15	7		2		9		7		16		9		
09:30	6		4		6		6		12		10		
09:45	8	26	3	14	8	29	3	20	16	55	6	34	
10:00	7		5		11		6		18		11		
10:15	9		3		18		3		27		6		
10:30	11		4		20		4		31		8		
10:45	21	48	3	15	20	69	2	15	41	117	5	30	
11:00	6		3		25		4		31		7		
11:15	10		5		9		4		19		9		
11:30	8		4		13		3		21		7		
11:45	4	28	3	15	18	65	1	12	22	93	4	27	
Total	211		473		247		515		458		988		
Percent	46.1%		47.9%		53.9%		52.1%						
Day Total		684				762				1446			
Peak	10:00	-	01:30	-	10:15	-	12:00	-	10:15	-	12:00	-	-	-
Vol.	48	-	76	-	83	-	77	-	130	-	132	-	-	-
P.H.F.	0.571		0.905		0.830		0.802		0.793		0.868			

PRECISION
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Redfield Street
east of Woodworth Street
City, State: Boston, MA
Client: VHB/ A. Santiago

175617 B Volume
Site Code: 13866.00

Start	WB				EB				Combined				5/1/2017
Time	A.M.		P.M.		A.M.		P.M.		A.M.		P.M.		Mon
12:00	3		16		2		18		5		34		
12:15	0		16		3		16		3		32		
12:30	0		9		0		20		0		29		
12:45	0	3	17	58	1	6	16	70	1	9	33	128	
01:00	3		15		0		16		3		31		
01:15	0		13		0		16		0		29		
01:30	0		19		0		9		0		28		
01:45	1	4	20	67	0	0	13	54	1	4	33	121	
02:00	1		15		1		16		2		31		
02:15	2		20		1		12		3		32		
02:30	0		11		0		10		0		21		
02:45	1	4	13	59	0	2	18	56	1	6	31	115	
03:00	0		10		1		8		1		18		
03:15	0		15		2		12		2		27		
03:30	1		9		0		14		1		23		
03:45	0	1	14	48	0	3	12	46	0	4	26	94	
04:00	2		24		4		18		6		42		
04:15	1		11		3		16		4		27		
04:30	3		20		2		14		5		34		
04:45	3	9	14	69	1	10	9	57	4	19	23	126	
05:00	6		20		3		14		9		34		
05:15	2		14		5		14		7		28		
05:30	3		6		3		16		6		22		
05:45	4	15	7	47	18	29	7	51	22	44	14	98	
06:00	7		12		14		15		21		27		
06:15	7		12		8		13		15		25		
06:30	4		18		15		11		19		29		
06:45	2	20	8	50	26	63	17	56	28	83	25	106	
07:00	8		7		31		11		39		18		
07:15	6		7		11		11		17		18		
07:30	14		8		15		11		29		19		
07:45	4	32	12	34	15	72	7	40	19	104	19	74	
08:00	8		6		9		6		17		12		
08:15	14		3		19		2		33		5		
08:30	3		6		14		8		17		14		
08:45	5	30	9	24	21	63	2	18	26	93	11	42	
09:00	5		6		13		4		18		10		
09:15	6		19		8		9		14		28		
09:30	9		9		15		6		24		15		
09:45	4	24	9	43	14	50	5	24	18	74	14	67	
10:00	3		4		7		5		10		9		
10:15	10		4		13		5		23		9		
10:30	4		6		12		8		16		14		
10:45	8	25	2	16	25	57	1	19	33	82	3	35	
11:00	5		3		13		2		18		5		
11:15	10		4		8		6		18		10		
11:30	13		1		12		2		25		3		
11:45	15	43	2	10	10	43	3	13	25	86	5	23	
Total	210		525		398		504		608		1029		
Percent	34.5%		51.0%		65.5%		49.0%						
Day Total		735				902				1637			
Peak	11:00	-	01:30	-	06:30	-	12:00	-	06:45	-	03:45	-	-	-
Vol.	43	-	74	-	83	-	70	-	113	-	129	-	-	-
P.H.F.	0.717		0.925		0.669		0.875		0.724		0.768			

PRECISION
D A T A
INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Redfield Street
east of Woodworth Street
City, State: Boston, MA
Client: VHB/ A. Santiago

175617 B Volume
Site Code: 13866.00

Start	WB				EB				Combined				5/2/2017
Time	A.M.		P.M.		A.M.		P.M.		A.M.		P.M.		Tue
12:00	1		7		1		19		2		26		
12:15	1		8		1		17		2		25		
12:30	3		11		3		9		6		20		
12:45	0	5	13	39	1	6	23	68	1	11	36	107	
01:00	3		17		3		23		6		40		
01:15	2		10		2		12		4		22		
01:30	0		17		1		12		1		29		
01:45	0	5	22	66	0	6	12	59	0	11	34	125	
02:00	0		7		0		7		0		14		
02:15	0		18		0		9		0		27		
02:30	2		5		1		14		3		19		
02:45	1	3	23	53	0	1	14	44	1	4	37	97	
03:00	0		19		1		13		1		32		
03:15	0		15		1		14		1		29		
03:30	2		5		1		10		3		15		
03:45	1	3	17	56	2	5	19	56	3	8	36	112	
04:00	1		17		6		15		7		32		
04:15	0		11		0		23		0		34		
04:30	2		16		0		22		2		38		
04:45	3	6	20	64	3	9	16	76	6	15	36	140	
05:00	5		16		4		14		9		30		
05:15	2		15		4		11		6		26		
05:30	1		8		5		8		6		16		
05:45	6	14	11	50	11	24	19	52	17	38	30	102	
06:00	3		14		7		14		10		28		
06:15	7		16		12		17		19		33		
06:30	4		12		11		16		15		28		
06:45	4	18	7	49	15	45	10	57	19	63	17	106	
07:00	5		12		19		12		24		24		
07:15	7		6		16		10		23		16		
07:30	14		5		15		7		29		12		
07:45	6	32	14	37	15	65	5	34	21	97	19	71	
08:00	4		8		15		4		19		12		
08:15	8		9		17		3		25		12		
08:30	10		6		20		8		30		14		
08:45	10	32	5	28	14	66	12	27	24	98	17	55	
09:00	6		6		14		7		20		13		
09:15	6		1		12		5		18		6		
09:30	7		5		17		3		24		8		
09:45	4	23	6	18	12	55	6	21	16	78	12	39	
10:00	10		7		16		5		26		12		
10:15	8		3		12		6		20		9		
10:30	9		6		19		1		28		7		
10:45	6	33	2	18	11	58	5	17	17	91	7	35	
11:00	8		2		8		3		16		5		
11:15	11		4		8		4		19		8		
11:30	14		3		10		5		24		8		
11:45	11	44	3	12	15	41	1	13	26	85	4	25	
Total	218		490		381		524		599		1014		
Percent	36.4%		48.3%		63.6%		51.7%						
Day Total		708				905				1613			
Peak	11:00	-	04:30	-	07:45	-	03:45	-	08:15	-	03:45	-	-	-
Vol.	44	-	67	-	67	-	79	-	99	-	140	-	-	-
P.H.F.	0.786		0.728		0.838		0.859		0.825		0.875			

PRECISION
D A T A
INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Redfield Street
east of Woodworth Street
City, State: Boston, MA
Client: VHB/ A. Santiago

175617 B Volume
Site Code: 13866.00

Start	WB				EB				Combined				5/3/2017
Time	A.M.		P.M.		A.M.		P.M.		A.M.		P.M.		Wed
12:00	0		8		0		21		0		29		
12:15	4		13		1		17		5		30		
12:30	4		15		2		18		6		33		
12:45	2	10	18	54	1	4	16	72	3	14	34	126	
01:00	0		19		2		17		2		36		
01:15	3		18		2		17		5		35		
01:30	0		7		0		18		0		25		
01:45	0	3	16	60	1	5	13	65	1	8	29	125	
02:00	1		22		1		15		2		37		
02:15	1		15		1		8		2		23		
02:30	0		13		0		17		0		30		
02:45	0	2	20	70	4	6	16	56	4	8	36	126	
03:00	1		19		0		17		1		36		
03:15	0		13		1		12		1		25		
03:30	0		19		2		16		2		35		
03:45	1	2	11	62	0	3	9	54	1	5	20	116	
04:00	2		18		1		22		3		40		
04:15	1		10		0		23		1		33		
04:30	2		16		2		14		4		30		
04:45	4	9	21	65	5	8	15	74	9	17	36	139	
05:00	4		19		2		16		6		35		
05:15	3		16		4		17		7		33		
05:30	3		26		8		13		11		39		
05:45	3	13	19	80	18	32	19	65	21	45	38	145	
06:00	5		8		11		22		16		30		
06:15	8		8		9		23		17		31		
06:30	10		10		15		11		25		21		
06:45	6	29	8	34	15	50	10	66	21	79	18	100	
07:00	4		11		25		11		29		22		
07:15	7		9		13		17		20		26		
07:30	12		11		20		14		32		25		
07:45	4	27	12	43	16	74	13	55	20	101	25	98	
08:00	9		12		17		6		26		18		
08:15	11		5		23		12		34		17		
08:30	5		13		15		6		20		19		
08:45	9	34	7	37	20	75	9	33	29	109	16	70	
09:00	7		11		19		10		26		21		
09:15	12		6		9		7		21		13		
09:30	10		5		19		6		29		11		
09:45	14	43	8	30	20	67	8	31	34	110	16	61	
10:00	13		11		22		8		35		19		
10:15	7		3		12		6		19		9		
10:30	6		4		8		9		14		13		
10:45	12	38	8	26	9	51	7	30	21	89	15	56	
11:00	8		2		18		6		26		8		
11:15	10		1		12		6		22		7		
11:30	9		3		13		4		22		7		
11:45	11	38	2	8	14	57	2	18	25	95	4	26	
Total	248		569		432		619		680		1188		
Percent	36.5%		47.9%		63.5%		52.1%						
Day Total		817				1051				1868			
Peak	09:15	-	04:45	-	08:15	-	05:30	-	09:15	-	05:00	-	-	-
Vol.	49	-	82	-	77	-	77	-	119	-	145	-	-	-
P.H.F.	0.875		0.788		0.837		0.837		0.850		0.929			

PRECISION
D A T A
INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Redfield Street
east of Woodworth Street
City, State: Boston, MA
Client: VHB/ A. Santiago

175617 B Volume
Site Code: 13866.00

Start	WB				EB				Combined				5/4/2017
Time	A.M.		P.M.		A.M.		P.M.		A.M.		P.M.		Thu
12:00	2		9		3		20		5		29		
12:15	5		12		1		14		6		26		
12:30	0		22		2		8		2		30		
12:45	1	8	12	55	4	10	17	59	5	18	29	114	
01:00	2		11		0		19		2		30		
01:15	1		20		1		13		2		33		
01:30	1		17		4		26		5		43		
01:45	1	5	27	75	2	7	17	75	3	12	44	150	
02:00	0		16		1		19		1		35		
02:15	1		15		1		13		2		28		
02:30	1		14		0		19		1		33		
02:45	1	3	16	61	0	2	12	63	1	5	28	124	
03:00	2		15		2		13		4		28		
03:15	0		13		2		12		2		25		
03:30	3		20		0		17		3		37		
03:45	3	8	8	56	3	7	28	70	6	15	36	126	
04:00	0		18		0		22		0		40		
04:15	0		16		5		26		5		42		
04:30	2		27		2		23		4		50		
04:45	3	5	15	76	2	9	21	92	5	14	36	168	
05:00	7		27		2		24		9		51		
05:15	2		21		3		35		5		56		
05:30	5		17		11		33		16		50		
05:45	5	19	13	78	11	27	16	108	16	46	29	186	
06:00	13		14		13		25		26		39		
06:15	6		20		12		19		18		39		
06:30	5		9		13		17		18		26		
06:45	5	29	14	57	19	57	19	80	24	86	33	137	
07:00	10		15		21		11		31		26		
07:15	8		15		29		8		37		23		
07:30	11		19		22		12		33		31		
07:45	8	37	32	81	11	83	9	40	19	120	41	121	
08:00	7		31		21		11		28		42		
08:15	8		24		21		12		29		36		
08:30	12		20		14		11		26		31		
08:45	7	34	7	82	13	69	10	44	20	103	17	126	
09:00	3		9		16		10		19		19		
09:15	9		14		12		7		21		21		
09:30	6		6		19		9		25		15		
09:45	10	28	8	37	16	63	4	30	26	91	12	67	
10:00	8		8		22		4		30		12		
10:15	8		9		21		6		29		15		
10:30	9		7		17		2		26		9		
10:45	17	42	4	28	23	83	2	14	40	125	6	42	
11:00	16		8		28		6		44		14		
11:15	11		3		15		4		26		7		
11:30	19		5		26		6		45		11		
11:45	19	65	2	18	21	90	1	17	40	155	3	35	
Total	283		704		507		692		790		1396		
Percent	35.8%		50.4%		64.2%		49.6%						
Day Total		987				1199				2186			
Peak	11:00	-	07:45	-	10:45	-	04:45	-	10:45	-	04:30	-	-	-
Vol.	65	-	107	-	92	-	113	-	155	-	193	-	-	-
P.H.F.	0.855		0.836		0.793		0.807		0.861		0.862			

PRECISION
D A T A
INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Redfield Street
east of Woodworth Street
City, State: Boston, MA
Client: VHB/ A. Santiago

175617 B Volume
Site Code: 13866.00

Start	WB				EB				Combined				5/5/2017
Time	A.M.		P.M.		A.M.		P.M.		A.M.		P.M.		Fri
12:00	2		18		3		15		5		33		
12:15	0		15		1		13		1		28		
12:30	1		10		2		21		3		31		
12:45	3	6	13	56	2	8	17	66	5	14	30	122	
01:00	1		14		1		9		2		23		
01:15	2		19		0		18		2		37		
01:30	2		15		0		5		2		20		
01:45	0	5	14	62	0	1	10	42	0	6	24	104	
02:00	1		15		4		12		5		27		
02:15	2		16		0		12		2		28		
02:30	0		12		0		13		0		25		
02:45	0	3	14	57	0	4	17	54	0	7	31	111	
03:00	1		17		1		19		2		36		
03:15	1		18		1		9		2		27		
03:30	2		16		3		19		5		35		
03:45	2	6	6	57	2	7	13	60	4	13	19	117	
04:00	0		0		0		0		0		0		
04:15	0		0		1		0		1		0		
04:30	2		0		0		0		2		0		
04:45	2	4	0	0	1	2	0	0	3	6	0	0	
05:00	3		0		3		0		6		0		
05:15	5		0		4		0		9		0		
05:30	3		0		11		0		14		0		
05:45	2	13	0	0	11	29	0	0	13	42	0	0	
06:00	5		0		16		0		21		0		
06:15	14		0		15		0		29		0		
06:30	4		0		13		0		17		0		
06:45	6	29	0	0	10	54	0	0	16	83	0	0	
07:00	8		0		23		0		31		0		
07:15	5		0		19		0		24		0		
07:30	12		0		15		0		27		0		
07:45	3	28	0	0	17	74	0	0	20	102	0	0	
08:00	5		0		19		0		24		0		
08:15	4		0		17		0		21		0		
08:30	9		0		14		0		23		0		
08:45	8	26	0	0	12	62	0	0	20	88	0	0	
09:00	9		0		9		0		18		0		
09:15	9		0		10		0		19		0		
09:30	11		0		16		0		27		0		
09:45	13	42	0	0	13	48	0	0	26	90	0	0	
10:00	10		0		12		0		22		0		
10:15	7		0		10		0		17		0		
10:30	9		0		14		0		23		0		
10:45	15	41	0	0	23	59	0	0	38	100	0	0	
11:00	13		0		15		0		28		0		
11:15	11		0		13		0		24		0		
11:30	13		0		9		0		22		0		
11:45	10	47	0	0	16	53	0	0	26	100	0	0	
Total	250		232		401		222		651		454		
Percent	38.4%		51.1%		61.6%		48.9%						
Day Total		482				623				1105			
Peak	10:45	-	02:45	-	07:00	-	12:00	-	10:30	-	02:45	-	-	-
Vol.	52	-	65	-	74	-	66	-	113	-	129	-	-	-
P.H.F.	0.867		0.903		0.804		0.786		0.743		0.872			

Lawley Street
north of Water Street
City, State: Dorchester, MA
Client: VHB/ A. Santiago

PRECISION
D A T A
INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

175750 A Volume
Site Code: 13866.00

Start	06/22/17		06/23/17		06/24/17		06/25/17		06/26/17		06/27/17		06/28/17		Week Average	
Time	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB
12:00 AM	2	8	4	8	1	6	4	25	*	*	*	*	*	*	3	12
01:00	0	0	0	3	7	6	7	10	*	*	*	*	*	*	4	5
02:00	0	0	1	5	2	0	1	5	*	*	*	*	*	*	1	2
03:00	1	1	1	2	1	1	2	2	*	*	*	*	*	*	1	2
04:00	2	2	2	3	1	1	0	3	*	*	*	*	*	*	1	2
05:00	4	13	3	10	0	5	1	4	*	*	*	*	*	*	2	8
06:00	12	24	10	22	3	5	2	2	*	*	*	*	*	*	7	13
07:00	14	27	9	18	3	9	2	7	*	*	*	*	*	*	7	15
08:00	**18**	32	**14**	28	5	12	6	13	*	*	*	*	*	*	11	21
09:00	16	**38**	10	22	**13**	17	10	25	*	*	*	*	*	*	12	26
10:00	10	29	7	31	5	**25**	15	25	*	*	*	*	*	*	9	**28**
11:00	9	17	11	**34**	12	16	**28**	**36**	*	*	*	*	*	*	**15**	26
12:00 PM	31	46	15	31	14	21	**15**	26	*	*	*	*	*	*	19	31
01:00	19	26	19	25	17	31	10	30	*	*	*	*	*	*	16	28
02:00	17	47	**25**	32	26	34	12	31	*	*	*	*	*	*	20	36
03:00	18	27	22	34	24	26	9	32	*	*	*	*	*	*	18	30
04:00	19	46	17	**45**	12	**35**	14	30	*	*	*	*	*	*	16	**39**
05:00	31	40	17	28	**29**	23	13	31	*	*	*	*	*	*	22	30
06:00	**49**	43	21	25	27	33	14	**36**	*	*	*	*	*	*	**28**	34
07:00	13	35	9	36	10	29	7	22	*	*	*	*	*	*	10	30
08:00	16	38	6	27	12	33	4	20	*	*	*	*	*	*	10	30
09:00	17	**67**	4	20	12	14	9	17	*	*	*	*	*	*	10	30
10:00	8	23	6	23	1	21	3	10	*	*	*	*	*	*	4	19
11:00	3	8	1	14	8	13	2	4	*	*	*	*	*	*	4	10
Total	329	637	234	526	245	416	190	446	0	0	0	0	0	0	250	507
Day	966		760		661		636		0		0		0		757	
AM Peak	08:00	09:00	08:00	11:00	09:00	10:00	11:00	11:00	-	-	-	-	-	-	11:00	10:00
Vol.	18	38	14	34	13	25	28	36	-	-	-	-	-	-	15	28
PM Peak	18:00	21:00	14:00	16:00	17:00	16:00	12:00	18:00	-	-	-	-	-	-	18:00	16:00
Vol.	49	67	25	45	29	35	15	36	-	-	-	-	-	-	28	39

Lawley Street
north of Water Street
City, State: Dorchester, MA
Client: VHB/ A. Santiago

PRECISION
D A T A
INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

175750 A Volume
Site Code: 13866.00

Start	SB				NB				Combined				06/22/17
Time	A.M.		P.M.		A.M.		P.M.		A.M.		P.M.		Thu
12:00	0		9		1		17		1		26		
12:15	0		9		3		10		3		19		
12:30	1		8		0		13		1		21		
12:45	1	2	5	31	4	8	6	46	5	10	11	77	
01:00	0		5		0		8		0		13		
01:15	0		4		0		10		0		14		
01:30	0		6		0		1		0		7		
01:45	0	0	4	19	0	0	7	26	0	0	11	45	
02:00	0		2		0		17		0		19		
02:15	0		2		0		9		0		11		
02:30	0		9		0		9		0		18		
02:45	0	0	4	17	0	0	12	47	0	0	16	64	
03:00	0		4		0		9		0		13		
03:15	0		3		1		7		1		10		
03:30	0		6		0		6		0		12		
03:45	1	1	5	18	0	1	5	27	1	2	10	45	
04:00	0		3		0		13		0		16		
04:15	0		4		0		15		0		19		
04:30	0		6		0		14		0		20		
04:45	2	2	6	19	2	2	4	46	4	4	10	65	
05:00	1		6		4		17		5		23		
05:15	1		12		3		7		4		19		
05:30	0		7		3		10		3		17		
05:45	2	4	6	31	3	13	6	40	5	17	12	71	
06:00	5		14		6		14		11		28		
06:15	2		14		6		13		8		27		
06:30	2		14		6		4		8		18		
06:45	3	12	7	49	6	24	12	43	9	36	19	92	
07:00	3		4		5		9		8		13		
07:15	5		5		7		7		12		12		
07:30	2		2		6		10		8		12		
07:45	4	14	2	13	9	27	9	35	13	41	11	48	
08:00	8		3		7		9		15		12		
08:15	4		3		9		6		13		9		
08:30	4		4		8		11		12		15		
08:45	2	18	6	16	8	32	12	38	10	50	18	54	
09:00	3		5		10		24		13		29		
09:15	3		4		12		22		15		26		
09:30	7		2		6		9		13		11		
09:45	3	16	6	17	10	38	12	67	13	54	18	84	
10:00	3		1		3		9		6		10		
10:15	2		4		6		4		8		8		
10:30	2		1		12		7		14		8		
10:45	3	10	2	8	8	29	3	23	11	39	5	31	
11:00	1		0		4		4		5		4		
11:15	3		0		2		3		5		3		
11:30	2		2		2		1		4		3		
11:45	3	9	1	3	9	17	0	8	12	26	1	11	
Total	88		241		191		446		279		687		
Percent	31.5%		35.1%		68.5%		64.9%						
Day Total		329				637				966			
Peak	07:45	-	06:00	-	08:30	-	08:30	-	09:00	-	06:00	-	-	-
Vol.	20	-	49	-	38	-	69	-	54	-	92	-	-	-
P.H.F.	0.625		0.875		0.792		0.719		0.900		0.821			

Lawley Street
north of Water Street
City, State: Dorchester, MA
Client: VHB/ A. Santiago

PRECISION
D A T A
INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

175750 A Volume
Site Code: 13866.00

Start	SB				NB				Combined				06/23/17
Time	A.M.		P.M.		A.M.		P.M.		A.M.		P.M.		Fri
12:00	2		8		2		15		4		23		
12:15	2		2		0		8		2		10		
12:30	0		2		3		3		3		5		
12:45	0	4	3	15	3	8	5	31	3	12	8	46	
01:00	0		3		2		9		2		12		
01:15	0		8		1		7		1		15		
01:30	0		2		0		3		0		5		
01:45	0	0	6	19	0	3	6	25	0	3	12	44	
02:00	0		11		2		4		2		15		
02:15	0		7		0		8		0		15		
02:30	0		3		1		6		1		9		
02:45	1	1	4	25	2	5	14	32	3	6	18	57	
03:00	0		5		1		8		1		13		
03:15	0		6		1		9		1		15		
03:30	1		6		0		12		1		18		
03:45	0	1	5	22	0	2	5	34	0	3	10	56	
04:00	1		3		0		16		1		19		
04:15	0		2		1		6		1		8		
04:30	1		4		1		11		2		15		
04:45	0	2	8	17	1	3	12	45	1	5	20	62	
05:00	1		4		1		8		2		12		
05:15	0		4		3		3		3		7		
05:30	1		3		4		7		5		10		
05:45	1	3	6	17	2	10	10	28	3	13	16	45	
06:00	1		4		2		7		3		11		
06:15	2		6		6		7		8		13		
06:30	2		7		4		5		6		12		
06:45	5	10	4	21	10	22	6	25	15	32	10	46	
07:00	2		1		5		9		7		10		
07:15	0		3		3		9		3		12		
07:30	4		3		4		10		8		13		
07:45	3	9	2	9	6	18	8	36	9	27	10	45	
08:00	9		3		8		3		17		6		
08:15	1		1		5		8		6		9		
08:30	1		0		9		6		10		6		
08:45	3	14	2	6	6	28	10	27	9	42	12	33	
09:00	2		0		8		2		10		2		
09:15	1		1		5		2		6		3		
09:30	4		2		8		7		12		9		
09:45	3	10	1	4	1	22	9	20	4	32	10	24	
10:00	1		1		4		10		5		11		
10:15	2		1		6		7		8		8		
10:30	1		2		6		4		7		6		
10:45	3	7	2	6	15	31	2	23	18	38	4	29	
11:00	3		1		5		4		8		5		
11:15	1		0		10		4		11		4		
11:30	2		0		7		2		9		2		
11:45	5	11	0	1	12	34	4	14	17	45	4	15	
Total	72		162		186		340		258		502		
Percent	27.9%		32.3%		72.1%		67.7%						
Day Total		234				526				760			
Peak	07:30	-	01:15	-	10:45	-	04:00	-	10:45	-	02:45	-	-	-
Vol.	17	-	27	-	37	-	45	-	46	-	64	-	-	-
P.H.F.	0.472		0.614		0.617		0.703		0.639		0.889			

Lawley Street
north of Water Street
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PRECISION
D A T A
INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

175750 A Volume
Site Code: 13866.00

Start	SB				NB				Combined				06/24/17
Time	A.M.		P.M.		A.M.		P.M.		A.M.		P.M.		Sat
12:00	0		4		1		3		1		7		
12:15	0		3		0		9		0		12		
12:30	1		4		3		8		4		12		
12:45	0	1	3	14	2	6	1	21	2	7	4	35	
01:00	2		5		1		8		3		13		
01:15	2		5		0		9		2		14		
01:30	2		4		1		8		3		12		
01:45	1	7	3	17	4	6	6	31	5	13	9	48	
02:00	1		6		0		6		1		12		
02:15	0		8		0		10		0		18		
02:30	0		3		0		10		0		13		
02:45	1	2	9	26	0	0	8	34	1	2	17	60	
03:00	0		11		0		13		0		24		
03:15	1		5		0		5		1		10		
03:30	0		5		0		2		0		7		
03:45	0	1	3	24	1	1	6	26	1	2	9	50	
04:00	0		1		0		5		0		6		
04:15	0		2		0		9		0		11		
04:30	1		6		0		8		1		14		
04:45	0	1	3	12	1	1	13	35	1	2	16	47	
05:00	0		8		2		9		2		17		
05:15	0		7		1		4		1		11		
05:30	0		6		0		7		0		13		
05:45	0	0	8	29	2	5	3	23	2	5	11	52	
06:00	2		7		2		13		4		20		
06:15	1		9		0		6		1		15		
06:30	0		7		1		5		1		12		
06:45	0	3	4	27	2	5	9	33	2	8	13	60	
07:00	0		6		3		8		3		14		
07:15	0		3		1		11		1		14		
07:30	1		1		2		8		3		9		
07:45	2	3	0	10	3	9	2	29	5	12	2	39	
08:00	3		4		1		11		4		15		
08:15	0		4		4		12		4		16		
08:30	1		0		3		5		4		5		
08:45	1	5	4	12	4	12	5	33	5	17	9	45	
09:00	1		3		4		3		5		6		
09:15	4		4		3		4		7		8		
09:30	1		4		5		5		6		9		
09:45	7	13	1	12	5	17	2	14	12	30	3	26	
10:00	0		0		11		5		11		5		
10:15	0		0		5		8		5		8		
10:30	1		1		1		4		2		5		
10:45	4	5	0	1	8	25	4	21	12	30	4	22	
11:00	8		2		2		3		10		5		
11:15	3		1		5		3		8		4		
11:30	0		2		6		2		6		4		
11:45	1	12	3	8	3	16	5	13	4	28	8	21	
Total	53		192		103		313		156		505		
Percent	34.0%		38.0%		66.0%		62.0%						
Day Total		245				416				661			
Peak	10:30	-	02:15	-	09:30	-	02:15	-	09:15	-	02:15	-	- -
Vol.	16	-	31	-	26	-	41	-	36	-	72	-	- -
P.H.F.	0.500		0.705		0.591		0.788		0.750		0.750		

Lawley Street
north of Water Street
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PRECISION
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INDUSTRIES, LLC
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Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

175750 A Volume
Site Code: 13866.00

Start	SB				NB				Combined				06/25/17
Time	A.M.		P.M.		A.M.		P.M.		A.M.		P.M.		Sun
12:00	2		4		12		4		14		8		
12:15	1		2		6		6		7		8		
12:30	1		3		5		6		6		9		
12:45	0	4	6	15	2	25	10	26	2	29	16	41	
01:00	5		4		5		6		10		10		
01:15	0		1		0		8		0		9		
01:30	1		2		2		10		3		12		
01:45	1	7	3	10	3	10	6	30	4	17	9	40	
02:00	0		4		1		11		1		15		
02:15	0		5		1		7		1		12		
02:30	1		0		2		6		3		6		
02:45	0	1	3	12	1	5	7	31	1	6	10	43	
03:00	1		1		0		10		1		11		
03:15	0		3		1		7		1		10		
03:30	0		1		1		9		1		10		
03:45	1	2	4	9	0	2	6	32	1	4	10	41	
04:00	0		3		0		7		0		10		
04:15	0		4		1		10		1		14		
04:30	0		2		1		7		1		9		
04:45	0	0	5	14	1	3	6	30	1	3	11	44	
05:00	0		5		1		9		1		14		
05:15	1		5		1		4		2		9		
05:30	0		1		0		9		0		10		
05:45	0	1	2	13	2	4	9	31	2	5	11	44	
06:00	0		5		0		15		0		20		
06:15	0		5		0		8		0		13		
06:30	0		3		1		6		1		9		
06:45	2	2	1	14	1	2	7	36	3	4	8	50	
07:00	0		3		0		4		0		7		
07:15	1		1		2		10		3		11		
07:30	1		2		1		4		2		6		
07:45	0	2	1	7	4	7	4	22	4	9	5	29	
08:00	1		1		5		9		6		10		
08:15	2		1		3		6		5		7		
08:30	1		1		2		4		3		5		
08:45	2	6	1	4	3	13	1	20	5	19	2	24	
09:00	2		0		2		5		4		5		
09:15	5		3		8		5		13		8		
09:30	2		4		8		2		10		6		
09:45	1	10	2	9	7	25	5	17	8	35	7	26	
10:00	4		1		6		3		10		4		
10:15	2		0		8		2		10		2		
10:30	4		0		6		3		10		3		
10:45	5	15	2	3	5	25	2	10	10	40	4	13	
11:00	4		0		11		0		15		0		
11:15	9		2		11		1		20		3		
11:30	7		0		7		3		14		3		
11:45	8	28	0	2	7	36	0	4	15	64	0	6	
Total	78		112		157		289		235		401		
Percent	33.2%		27.9%		66.8%		72.1%						
Day Total		190				446				636			
Peak	11:00	-	04:30	-	11:00	-	05:30	-	11:00	-	05:30	-	- -
Vol.	28	-	17	-	36	-	41	-	64	-	54	-	- -
P.H.F.	0.778		0.850		0.818		0.683		0.800		0.675		

PRECISION
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Lawley Street
north of Water Street
City, State: Dorchester, MA
Client: VHB/ A. Santiago

175750 A Class
Site Code: 13866.00

SB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
06/22/1														
7	0	2	0	0	0	0	0	0	0	0	0	0	0	2
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
04:00	0	0	0	0	2	0	0	0	0	0	0	0	0	2
05:00	0	1	3	0	0	0	0	0	0	0	0	0	0	4
06:00	0	10	1	0	0	1	0	0	0	0	0	0	0	12
07:00	0	6	8	0	0	0	0	0	0	0	0	0	0	14
08:00	0	16	1	0	1	0	0	0	0	0	0	0	0	18
09:00	0	14	2	0	0	0	0	0	0	0	0	0	0	16
10:00	1	6	2	0	0	0	0	1	0	0	0	0	0	10
11:00	0	5	2	0	2	0	0	0	0	0	0	0	0	9
12 PM	0	22	6	0	3	0	0	0	0	0	0	0	0	31
13:00	0	14	4	0	1	0	0	0	0	0	0	0	0	19
14:00	3	10	1	0	3	0	0	0	0	0	0	0	0	17
15:00	1	13	3	0	1	0	0	0	0	0	0	0	0	18
16:00	0	15	3	0	0	1	0	0	0	0	0	0	0	19
17:00	0	29	2	0	0	0	0	0	0	0	0	0	0	31
18:00	2	45	2	0	0	0	0	0	0	0	0	0	0	49
19:00	0	12	1	0	0	0	0	0	0	0	0	0	0	13
20:00	0	13	3	0	0	0	0	0	0	0	0	0	0	16
21:00	1	15	1	0	0	0	0	0	0	0	0	0	0	17
22:00	1	7	0	0	0	0	0	0	0	0	0	0	0	8
23:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
Total	9	259	45	0	13	2	0	1	0	0	0	0	0	329
Percent	2.7%	78.7%	13.7%	0.0%	4.0%	0.6%	0.0%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	10:00	08:00	07:00		04:00	06:00		10:00						08:00
Vol.	1	16	8		2	1		1						18
PM Peak	14:00	18:00	12:00		12:00	16:00								18:00
Vol.	3	45	6		3	1								49

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175750 A Class
Site Code: 13866.00

SB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
06/23/1														
7	0	4	0	0	0	0	0	0	0	0	0	0	0	4
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
03:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
04:00	0	0	1	0	0	1	0	0	0	0	0	0	0	2
05:00	0	1	1	0	1	0	0	0	0	0	0	0	0	3
06:00	1	8	1	0	0	0	0	0	0	0	0	0	0	10
07:00	0	7	2	0	0	0	0	0	0	0	0	0	0	9
08:00	0	11	2	0	0	1	0	0	0	0	0	0	0	14
09:00	0	9	1	0	0	0	0	0	0	0	0	0	0	10
10:00	0	4	2	0	1	0	0	0	0	0	0	0	0	7
11:00	0	9	1	0	1	0	0	0	0	0	0	0	0	11
12 PM	0	11	2	0	2	0	0	0	0	0	0	0	0	15
13:00	0	15	2	0	2	0	0	0	0	0	0	0	0	19
14:00	0	14	6	0	5	0	0	0	0	0	0	0	0	25
15:00	0	17	3	0	2	0	0	0	0	0	0	0	0	22
16:00	0	13	4	0	0	0	0	0	0	0	0	0	0	17
17:00	1	14	2	0	0	0	0	0	0	0	0	0	0	17
18:00	1	19	1	0	0	0	0	0	0	0	0	0	0	21
19:00	0	9	0	0	0	0	0	0	0	0	0	0	0	9
20:00	0	5	1	0	0	0	0	0	0	0	0	0	0	6
21:00	0	4	0	0	0	0	0	0	0	0	0	0	0	4
22:00	0	5	1	0	0	0	0	0	0	0	0	0	0	6
23:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Total	3	182	33	0	14	2	0	0	0	0	0	0	0	234
Percent	1.3%	77.8%	14.1%	0.0%	6.0%	0.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	06:00	08:00	07:00		05:00	04:00								08:00
Vol.	1	11	2		1	1								14
PM Peak	17:00	18:00	14:00		14:00									14:00
Vol.	1	19	6		5									25

PRECISION
D A T A
INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Lawley Street
north of Water Street
City, State: Dorchester, MA
Client: VHB/ A. Santiago

175750 A Class
Site Code: 13866.00

SB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
06/24/1														
7	0	1	0	0	0	0	0	0	0	0	0	0	0	1
01:00	0	6	1	0	0	0	0	0	0	0	0	0	0	7
02:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
03:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
04:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
07:00	0	0	2	0	1	0	0	0	0	0	0	0	0	3
08:00	0	4	1	0	0	0	0	0	0	0	0	0	0	5
09:00	0	10	3	0	0	0	0	0	0	0	0	0	0	13
10:00	0	2	2	0	1	0	0	0	0	0	0	0	0	5
11:00	0	9	2	0	1	0	0	0	0	0	0	0	0	12
12 PM	0	11	1	0	2	0	0	0	0	0	0	0	0	14
13:00	1	13	2	0	1	0	0	0	0	0	0	0	0	17
14:00	0	22	4	0	0	0	0	0	0	0	0	0	0	26
15:00	0	22	1	0	1	0	0	0	0	0	0	0	0	24
16:00	0	9	2	0	1	0	0	0	0	0	0	0	0	12
17:00	0	27	2	0	0	0	0	0	0	0	0	0	0	29
18:00	0	26	1	0	0	0	0	0	0	0	0	0	0	27
19:00	0	10	0	0	0	0	0	0	0	0	0	0	0	10
20:00	0	11	0	0	1	0	0	0	0	0	0	0	0	12
21:00	0	10	2	0	0	0	0	0	0	0	0	0	0	12
22:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
23:00	0	8	0	0	0	0	0	0	0	0	0	0	0	8
Total	1	209	26	0	9	0	0	0	0	0	0	0	0	245
Percent	0.4%	85.3%	10.6%	0.0%	3.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak		09:00	09:00		07:00									09:00
Vol.		10	3		1									13
PM Peak	13:00	17:00	14:00		12:00									17:00
Vol.	1	27	4		2									29

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SB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
06/25/1														
7	0	4	0	0	0	0	0	0	0	0	0	0	0	4
01:00	0	7	0	0	0	0	0	0	0	0	0	0	0	7
02:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
03:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
06:00	0	1	1	0	0	0	0	0	0	0	0	0	0	2
07:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
08:00	0	6	0	0	0	0	0	0	0	0	0	0	0	6
09:00	0	9	1	0	0	0	0	0	0	0	0	0	0	10
10:00	0	12	3	0	0	0	0	0	0	0	0	0	0	15
11:00	0	23	5	0	0	0	0	0	0	0	0	0	0	28
12 PM	0	14	1	0	0	0	0	0	0	0	0	0	0	15
13:00	0	8	2	0	0	0	0	0	0	0	0	0	0	10
14:00	0	10	2	0	0	0	0	0	0	0	0	0	0	12
15:00	0	7	2	0	0	0	0	0	0	0	0	0	0	9
16:00	0	13	1	0	0	0	0	0	0	0	0	0	0	14
17:00	0	11	2	0	0	0	0	0	0	0	0	0	0	13
18:00	0	13	1	0	0	0	0	0	0	0	0	0	0	14
19:00	0	7	0	0	0	0	0	0	0	0	0	0	0	7
20:00	0	3	1	0	0	0	0	0	0	0	0	0	0	4
21:00	0	8	1	0	0	0	0	0	0	0	0	0	0	9
22:00	1	2	0	0	0	0	0	0	0	0	0	0	0	3
23:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
Total	1	166	23	0	0	0	0	0	0	0	0	0	0	190
Percent	0.5%	87.4%	12.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak		11:00	11:00											11:00
Vol.		23	5											28
PM Peak	22:00	12:00	13:00											12:00
Vol.	1	14	2											15

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175750 A Class
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NB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
06/22/1														
7	0	8	0	0	0	0	0	0	0	0	0	0	0	8
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
04:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
05:00	0	9	2	0	2	0	0	0	0	0	0	0	0	13
06:00	1	19	3	0	0	1	0	0	0	0	0	0	0	24
07:00	0	21	5	0	1	0	0	0	0	0	0	0	0	27
08:00	1	22	6	0	3	0	0	0	0	0	0	0	0	32
09:00	2	26	6	0	4	0	0	0	0	0	0	0	0	38
10:00	3	18	7	1	0	0	0	0	0	0	0	0	0	29
11:00	2	10	2	0	3	0	0	0	0	0	0	0	0	17
12 PM	2	27	12	1	3	0	0	1	0	0	0	0	0	46
13:00	0	17	7	0	2	0	0	0	0	0	0	0	0	26
14:00	2	28	14	1	2	0	0	0	0	0	0	0	0	47
15:00	0	15	8	0	3	0	0	1	0	0	0	0	0	27
16:00	0	35	10	0	1	0	0	0	0	0	0	0	0	46
17:00	0	27	8	0	5	0	0	0	0	0	0	0	0	40
18:00	2	36	5	0	0	0	0	0	0	0	0	0	0	43
19:00	1	23	8	0	3	0	0	0	0	0	0	0	0	35
20:00	0	32	6	0	0	0	0	0	0	0	0	0	0	38
21:00	0	54	12	0	1	0	0	0	0	0	0	0	0	67
22:00	0	18	4	0	1	0	0	0	0	0	0	0	0	23
23:00	0	6	2	0	0	0	0	0	0	0	0	0	0	8
Total	16	454	127	3	34	1	0	2	0	0	0	0	0	637
Percent	2.5%	71.3%	19.9%	0.5%	5.3%	0.2%	0.0%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	10:00	09:00	10:00	10:00	09:00	06:00								09:00
Vol.	3	26	7	1	4	1								38
PM Peak	12:00	21:00	14:00	12:00	17:00			12:00						21:00
Vol.	2	54	14	1	5			1						67

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Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
06/23/1														
7	0	6	1	0	1	0	0	0	0	0	0	0	0	8
01:00	0	1	2	0	0	0	0	0	0	0	0	0	0	3
02:00	0	5	0	0	0	0	0	0	0	0	0	0	0	5
03:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
04:00	0	2	0	0	0	1	0	0	0	0	0	0	0	3
05:00	0	7	1	0	2	0	0	0	0	0	0	0	0	10
06:00	0	17	5	0	0	0	0	0	0	0	0	0	0	22
07:00	0	15	3	0	0	0	0	0	0	0	0	0	0	18
08:00	0	16	9	0	3	0	0	0	0	0	0	0	0	28
09:00	2	12	3	0	5	0	0	0	0	0	0	0	0	22
10:00	0	18	7	0	6	0	0	0	0	0	0	0	0	31
11:00	0	28	3	0	3	0	0	0	0	0	0	0	0	34
12 PM	0	20	7	0	4	0	0	0	0	0	0	0	0	31
13:00	1	11	10	0	3	0	0	0	0	0	0	0	0	25
14:00	1	19	4	0	8	0	0	0	0	0	0	0	0	32
15:00	0	20	10	0	4	0	0	0	0	0	0	0	0	34
16:00	0	32	10	0	3	0	0	0	0	0	0	0	0	45
17:00	1	18	7	0	2	0	0	0	0	0	0	0	0	28
18:00	1	23	1	0	0	0	0	0	0	0	0	0	0	25
19:00	1	29	5	0	1	0	0	0	0	0	0	0	0	36
20:00	0	21	4	0	2	0	0	0	0	0	0	0	0	27
21:00	1	16	3	0	0	0	0	0	0	0	0	0	0	20
22:00	0	21	2	0	0	0	0	0	0	0	0	0	0	23
23:00	0	10	4	0	0	0	0	0	0	0	0	0	0	14
Total	8	369	101	0	47	1	0	0	0	0	0	0	0	526
Percent	1.5%	70.2%	19.2%	0.0%	8.9%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	09:00	11:00	08:00		10:00	04:00								11:00
Vol.	2	28	9		6	1								34
PM Peak	13:00	16:00	13:00		14:00									16:00
Vol.	1	32	10		8									45

PRECISION
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Lawley Street
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175750 A Class
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NB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
06/24/1														
7	0	5	0	0	1	0	0	0	0	0	0	0	0	6
01:00	0	6	0	0	0	0	0	0	0	0	0	0	0	6
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
04:00	0	0	0	0	0	1	0	0	0	0	0	0	0	1
05:00	0	3	0	0	2	0	0	0	0	0	0	0	0	5
06:00	0	4	1	0	0	0	0	0	0	0	0	0	0	5
07:00	0	6	3	0	0	0	0	0	0	0	0	0	0	9
08:00	1	7	0	0	4	0	0	0	0	0	0	0	0	12
09:00	0	12	5	0	0	0	0	0	0	0	0	0	0	17
10:00	0	14	7	0	4	0	0	0	0	0	0	0	0	25
11:00	0	13	2	0	1	0	0	0	0	0	0	0	0	16
12 PM	0	18	2	0	1	0	0	0	0	0	0	0	0	21
13:00	1	24	6	0	0	0	0	0	0	0	0	0	0	31
14:00	1	23	9	0	1	0	0	0	0	0	0	0	0	34
15:00	3	17	3	0	2	0	0	1	0	0	0	0	0	26
16:00	0	28	5	0	2	0	0	0	0	0	0	0	0	35
17:00	0	21	2	0	0	0	0	0	0	0	0	0	0	23
18:00	0	29	2	0	2	0	0	0	0	0	0	0	0	33
19:00	1	22	3	0	3	0	0	0	0	0	0	0	0	29
20:00	0	27	5	0	1	0	0	0	0	0	0	0	0	33
21:00	1	13	0	0	0	0	0	0	0	0	0	0	0	14
22:00	0	17	1	0	3	0	0	0	0	0	0	0	0	21
23:00	0	10	3	0	0	0	0	0	0	0	0	0	0	13
Total	8	320	59	0	27	1	0	1	0	0	0	0	0	416
Percent	1.9%	76.9%	14.2%	0.0%	6.5%	0.2%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	08:00	10:00	10:00		08:00	04:00								10:00
Vol.	1	14	7		4	1								25
PM Peak	15:00	18:00	14:00		19:00			15:00						16:00
Vol.	3	29	9		3			1						35

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Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
06/25/1														
7	0	23	2	0	0	0	0	0	0	0	0	0	0	25
01:00	0	8	2	0	0	0	0	0	0	0	0	0	0	10
02:00	0	5	0	0	0	0	0	0	0	0	0	0	0	5
03:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
04:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
05:00	0	3	1	0	0	0	0	0	0	0	0	0	0	4
06:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
07:00	0	3	4	0	0	0	0	0	0	0	0	0	0	7
08:00	0	12	1	0	0	0	0	0	0	0	0	0	0	13
09:00	3	18	2	0	2	0	0	0	0	0	0	0	0	25
10:00	1	19	4	0	1	0	0	0	0	0	0	0	0	25
11:00	3	25	6	0	2	0	0	0	0	0	0	0	0	36
12 PM	1	21	4	0	0	0	0	0	0	0	0	0	0	26
13:00	4	21	5	0	0	0	0	0	0	0	0	0	0	30
14:00	1	25	5	0	0	0	0	0	0	0	0	0	0	31
15:00	0	29	2	0	1	0	0	0	0	0	0	0	0	32
16:00	2	24	3	0	1	0	0	0	0	0	0	0	0	30
17:00	0	23	8	0	0	0	0	0	0	0	0	0	0	31
18:00	1	25	8	0	2	0	0	0	0	0	0	0	0	36
19:00	1	15	5	0	1	0	0	0	0	0	0	0	0	22
20:00	0	17	3	0	0	0	0	0	0	0	0	0	0	20
21:00	0	15	2	0	0	0	0	0	0	0	0	0	0	17
22:00	0	9	1	0	0	0	0	0	0	0	0	0	0	10
23:00	0	4	0	0	0	0	0	0	0	0	0	0	0	4
Total	17	351	68	0	10	0	0	0	0	0	0	0	0	446
Percent	3.8%	78.7%	15.2%	0.0%	2.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	09:00	11:00	11:00		09:00									11:00
Vol.	3	25	6		2									36
PM Peak	13:00	15:00	17:00		18:00									18:00
Vol.	4	29	8		2									36

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Site Code: 13866.00

SB

Start Time	1 14	15 19	20 24	25 29	30 34	35 39	40 44	45 49	50 54	55 59	60 64	65 69	70 9999	Total	85th % ile	Ave Speed
06/22/ 17	0	0	2	0	0	0	0	0	0	0	0	0	0	2	23	22
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
03:00	0	0	0	0	**1**	0	0	0	0	0	0	0	0	1	33	32
04:00	0	0	1	1	0	0	0	0	0	0	0	0	0	2	27	25
05:00	0	1	1	2	0	0	0	0	0	0	0	0	0	4	27	23
06:00	0	2	8	2	0	0	0	0	0	0	0	0	0	12	24	22
07:00	2	5	4	3	0	0	0	0	0	0	0	0	0	14	25	19
08:00	1	**6**	**10**	1	0	0	0	0	0	0	0	0	0	**18**	23	20
09:00	**5**	1	4	**5**	1	0	0	0	0	0	0	0	0	16	27	19
10:00	3	2	4	1	0	0	0	0	0	0	0	0	0	10	23	17
11:00	2	2	5	0	0	0	0	0	0	0	0	0	0	9	22	18
12 PM	0	8	**19**	3	1	0	0	0	0	0	0	0	0	31	23	22
13:00	1	5	10	3	0	0	0	0	0	0	0	0	0	19	24	21
14:00	**2**	2	10	3	0	0	0	0	0	0	0	0	0	17	24	21
15:00	1	4	10	3	0	0	0	0	0	0	0	0	0	18	24	21
16:00	1	2	10	6	0	0	0	0	0	0	0	0	0	19	26	22
17:00	2	**9**	9	10	1	0	0	0	0	0	0	0	0	31	27	22
18:00	2	9	18	**15**	**5**	0	0	0	0	0	0	0	0	**49**	28	23
19:00	0	3	4	4	2	0	0	0	0	0	0	0	0	13	29	24
20:00	0	7	5	3	1	0	0	0	0	0	0	0	0	16	26	21
21:00	2	5	10	0	0	0	0	0	0	0	0	0	0	17	22	19
22:00	0	2	4	1	1	0	0	0	0	0	0	0	0	8	27	23
23:00	0	1	1	1	0	0	0	0	0	0	0	0	0	3	26	22
Total	24	76	149	67	13	0	0	0	0	0	0	0	0	329		
%	7.3%	23.1%	45.3%	20.4%	4.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	09:00	08:00	08:00	09:00	03:00									08:00		
Vol.	5	6	10	5	1									18		
PM Peak	14:00	17:00	12:00	18:00	18:00									18:00		
Vol.	2	9	19	15	5									49		

Stats

15th Percentile :	15 MPH
50th Percentile :	21 MPH
85th Percentile :	26 MPH
95th Percentile :	28 MPH
Mean Speed(Average) :	21 MPH
10 MPH Pace Speed :	15-24 MPH
Number in Pace :	225
Percent in Pace :	68.4%
Number of Vehicles > 25 MPH :	67
Percent of Vehicles > 25 MPH :	20.2%

PRECISION
D A T A
INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Lawley Street
north of Water Street
City, State: Dorchester, MA
Client: VHB/ A. Santiago

175750 A Speed
Site Code: 13866.00

SB

Start Time	1 14	15 19	20 24	25 29	30 34	35 39	40 44	45 49	50 54	55 59	60 64	65 69	70 9999	Total	85th % ile	Ave Speed
06/23/ 17	0	0	1	1	**2**	0	0	0	0	0	0	0	0	4	32	28
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
02:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1	18	17
03:00	0	0	1	0	0	0	0	0	0	0	0	0	0	1	23	22
04:00	0	0	1	1	0	0	0	0	0	0	0	0	0	2	27	25
05:00	0	0	3	0	0	0	0	0	0	0	0	0	0	3	23	22
06:00	**2**	2	3	**3**	0	0	0	0	0	0	0	0	0	10	26	20
07:00	1	0	**6**	2	0	0	0	0	0	0	0	0	0	9	25	22
08:00	2	**4**	6	1	1	0	0	0	0	0	0	0	0	**14**	23	20
09:00	0	2	4	3	1	0	0	0	0	0	0	0	0	10	28	24
10:00	2	1	2	2	0	0	0	0	0	0	0	0	0	7	26	19
11:00	0	2	5	3	1	0	0	0	0	0	0	0	0	11	27	23
12 PM	**3**	3	5	4	0	0	0	0	0	0	0	0	0	15	26	19
13:00	3	3	6	7	0	0	0	0	0	0	0	0	0	19	26	21
14:00	2	2	11	**8**	2	0	0	0	0	0	0	0	0	**25**	27	23
15:00	1	**6**	5	8	2	0	0	0	0	0	0	0	0	22	28	23
16:00	1	3	6	4	**3**	0	0	0	0	0	0	0	0	17	29	23
17:00	1	3	8	4	1	0	0	0	0	0	0	0	0	17	27	22
18:00	1	5	**13**	2	0	0	0	0	0	0	0	0	0	21	23	21
19:00	0	1	4	3	1	0	0	0	0	0	0	0	0	9	28	24
20:00	1	1	1	3	0	0	0	0	0	0	0	0	0	6	27	21
21:00	1	1	1	0	1	0	0	0	0	0	0	0	0	4	31	20
22:00	0	1	1	3	1	0	0	0	0	0	0	0	0	6	29	25
23:00	0	0	0	1	0	0	0	0	0	0	0	0	0	1	28	27
Total	21	41	93	63	16	0	0	0	0	0	0	0	0	234		
%	9.0%	17.5%	39.7%	26.9%	6.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	06:00	08:00	07:00	06:00	00:00									08:00		
Vol.	2	4	6	3	2									14		
PM Peak	12:00	15:00	18:00	14:00	16:00									14:00		
Vol.	3	6	13	8	3									25		

Stats

15th Percentile :	15 MPH
50th Percentile :	21 MPH
85th Percentile :	27 MPH
95th Percentile :	30 MPH
Mean Speed(Average) :	22 MPH
10 MPH Pace Speed :	20-29 MPH
Number in Pace :	156
Percent in Pace :	66.7%
Number of Vehicles > 25 MPH :	66
Percent of Vehicles > 25 MPH :	28.4%

PRECISION
D A T A
INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
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Lawley Street
north of Water Street
City, State: Dorchester, MA
Client: VHB/ A. Santiago

175750 A Speed
Site Code: 13866.00

SB

Start Time	1 14	15 19	20 24	25 29	30 34	35 39	40 44	45 49	50 54	55 59	60 64	65 69	70 9999	Total	85th % ile	Ave Speed
06/24/ 17	0	1	0	0	0	0	0	0	0	0	0	0	0	1	18	17
01:00	0	0	4	**3**	0	0	0	0	0	0	0	0	0	7	27	24
02:00	0	0	0	2	0	0	0	0	0	0	0	0	0	2	28	27
03:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1	18	17
04:00	0	0	1	0	0	0	0	0	0	0	0	0	0	1	23	22
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
06:00	0	2	0	1	0	0	0	0	0	0	0	0	0	3	26	20
07:00	0	1	1	1	0	0	0	0	0	0	0	0	0	3	26	22
08:00	0	**3**	1	1	0	0	0	0	0	0	0	0	0	5	25	20
09:00	0	2	**7**	3	**1**	0	0	0	0	0	0	0	0	**13**	27	23
10:00	0	1	3	0	1	0	0	0	0	0	0	0	0	5	30	23
11:00	**2**	0	6	3	1	0	0	0	0	0	0	0	0	12	27	22
12 PM	1	1	9	2	0	**1**	0	0	0	0	0	0	0	14	26	22
13:00	0	6	4	7	0	0	0	0	0	0	0	0	0	17	27	22
14:00	0	**7**	**10**	9	0	0	0	0	0	0	0	0	0	26	26	22
15:00	1	4	7	11	0	1	0	0	0	0	0	0	0	24	27	23
16:00	0	4	3	5	0	0	0	0	0	0	0	0	0	12	27	22
17:00	1	4	9	**12**	**3**	0	0	0	0	0	0	0	0	**29**	28	24
18:00	**5**	7	8	5	2	0	0	0	0	0	0	0	0	27	26	20
19:00	0	2	5	2	0	0	0	**1**	0	0	0	0	0	10	27	25
20:00	1	3	6	2	0	0	0	0	0	0	0	0	0	12	24	20
21:00	0	5	4	2	1	0	0	0	0	0	0	0	0	12	26	22
22:00	0	0	0	1	0	0	0	0	0	0	0	0	0	1	28	27
23:00	0	2	1	4	1	0	0	0	0	0	0	0	0	8	28	24
Total	11	56	89	76	10	2	0	1	0	0	0	0	0	245		
%	4.5%	22.9%	36.3%	31.0%	4.1%	0.8%	0.0%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	11:00	08:00	09:00	01:00	09:00									09:00		
Vol.	2	3	7	3	1									13		
PM Peak	18:00	14:00	14:00	17:00	17:00	12:00		19:00						17:00		
Vol.	5	7	10	12	3	1		1						29		

Stats

15th Percentile :	16 MPH
50th Percentile :	22 MPH
85th Percentile :	27 MPH
95th Percentile :	29 MPH
Mean Speed(Average) :	22 MPH
10 MPH Pace Speed :	20-29 MPH
Number in Pace :	165
Percent in Pace :	67.3%
Number of Vehicles > 25 MPH :	74
Percent of Vehicles > 25 MPH :	30.1%

PRECISION
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175750 A Speed
Site Code: 13866.00

SB

Start Time	1 14	15 19	20 24	25 29	30 34	35 39	40 44	45 49	50 54	55 59	60 64	65 69	70 9999	Total	85th % ile	Ave Speed
06/25/ 17	0	2	2	0	0	0	0	0	0	0	0	0	0	4	22	20
01:00	0	0	5	2	0	0	0	0	0	0	0	0	0	7	26	23
02:00	0	0	0	1	0	0	0	0	0	0	0	0	0	1	28	27
03:00	0	0	1	1	0	0	0	0	0	0	0	0	0	2	27	25
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
05:00	0	0	1	0	0	0	0	0	0	0	0	0	0	1	23	22
06:00	0	0	2	0	0	0	0	0	0	0	0	0	0	2	23	22
07:00	0	0	0	1	1	0	0	0	0	0	0	0	0	2	32	30
08:00	0	1	1	4	0	0	0	0	0	0	0	0	0	6	27	24
09:00	0	**3**	5	2	0	0	0	0	0	0	0	0	0	10	25	22
10:00	0	0	**12**	2	0	**1**	0	0	0	0	0	0	0	15	25	24
11:00	0	1	11	**12**	**3**	1	0	0	0	0	0	0	0	**28**	28	26
12 PM	0	2	6	**6**	1	0	0	0	0	0	0	0	0	**15**	27	24
13:00	1	0	4	5	0	0	0	0	0	0	0	0	0	10	27	23
14:00	0	**3**	5	3	1	0	0	0	0	0	0	0	0	12	27	23
15:00	**3**	2	3	1	0	0	0	0	0	0	0	0	0	9	23	17
16:00	0	1	6	6	0	**1**	0	0	0	0	0	0	0	14	28	25
17:00	1	1	6	3	**2**	0	0	0	0	0	0	0	0	13	29	23
18:00	0	2	**7**	5	0	0	0	0	0	0	0	0	0	14	26	23
19:00	0	1	3	3	0	0	0	0	0	0	0	0	0	7	27	23
20:00	0	1	1	1	1	0	0	0	0	0	0	0	0	4	31	24
21:00	0	0	5	4	0	0	0	0	0	0	0	0	0	9	27	24
22:00	0	2	1	0	0	0	0	0	0	0	0	0	0	3	21	19
23:00	0	0	0	2	0	0	0	0	0	0	0	0	0	2	28	27
Total	5	22	87	64	9	3	0	0	0	0	0	0	0	190		
%	2.6%	11.6%	45.8%	33.7%	4.7%	1.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak		09:00	10:00	11:00	11:00	10:00								11:00		
Vol.		3	12	12	3	1								28		
PM Peak	15:00	14:00	18:00	12:00	17:00	16:00								12:00		
Vol.	3	3	7	6	2	1								15		

Stats

15th Percentile :	19 MPH
50th Percentile :	22 MPH
85th Percentile :	27 MPH
95th Percentile :	30 MPH
Mean Speed(Average) :	23 MPH
10 MPH Pace Speed :	20-29 MPH
Number in Pace :	151
Percent in Pace :	79.5%
Number of Vehicles > 25 MPH :	63
Percent of Vehicles > 25 MPH :	33.3%

PRECISION
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175750 A Speed
Site Code: 13866.00

NB

Start Time	1 14	15 19	20 24	25 29	30 34	35 39	40 44	45 49	50 54	55 59	60 64	65 69	70 9999	Total	85th % ile	Ave Speed
06/22/ 17	0	2	3	1	2	0	0	0	0	0	0	0	0	8	31	24
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
03:00	0	0	1	0	0	0	0	0	0	0	0	0	0	1	23	22
04:00	0	0	1	1	0	0	0	0	0	0	0	0	0	2	27	25
05:00	0	1	5	7	0	0	0	0	0	0	0	0	0	13	27	24
06:00	1	1	9	11	2	0	0	0	0	0	0	0	0	24	28	24
07:00	1	6	4	**13**	3	0	0	0	0	0	0	0	0	27	28	24
08:00	**5**	5	8	8	**6**	0	0	0	0	0	0	0	0	32	30	22
09:00	2	**10**	**16**	5	4	**1**	0	0	0	0	0	0	0	**38**	28	22
10:00	4	3	9	10	3	0	0	0	0	0	0	0	0	29	28	22
11:00	5	2	5	3	2	0	0	0	0	0	0	0	0	17	28	19
12 PM	3	13	25	5	0	0	0	0	0	0	0	0	0	46	23	20
13:00	2	5	12	6	1	0	0	0	0	0	0	0	0	26	26	21
14:00	**5**	12	13	**14**	3	0	0	0	0	0	0	0	0	47	27	21
15:00	3	6	6	9	3	0	0	0	0	0	0	0	0	27	28	22
16:00	1	6	25	12	2	0	0	0	0	0	0	0	0	46	26	23
17:00	3	11	17	7	1	**1**	0	0	0	0	0	0	0	40	26	21
18:00	2	7	17	11	**6**	0	0	0	0	0	0	0	0	43	28	23
19:00	1	10	18	5	1	0	0	0	0	0	0	0	0	35	24	21
20:00	0	**15**	11	9	3	0	0	0	0	0	0	0	0	38	27	22
21:00	3	14	**36**	14	0	0	0	0	0	0	0	0	0	**67**	25	21
22:00	0	4	10	8	0	0	**1**	0	0	0	0	0	0	23	27	24
23:00	0	1	6	1	0	0	0	0	0	0	0	0	0	8	23	22
Total	41	134	257	160	42	2	1	0	0	0	0	0	0	637		
%	6.4%	21.0%	40.3%	25.1%	6.6%	0.3%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	08:00	09:00	09:00	07:00	08:00	09:00								09:00		
Vol.	5	10	16	13	6	1								38		
PM Peak	14:00	20:00	21:00	14:00	18:00	17:00	22:00							21:00		
Vol.	5	15	36	14	6	1	1							67		

Stats

15th Percentile :	16 MPH
50th Percentile :	21 MPH
85th Percentile :	27 MPH
95th Percentile :	30 MPH
Mean Speed(Average) :	22 MPH
10 MPH Pace Speed :	20-29 MPH
Number in Pace :	417
Percent in Pace :	65.5%
Number of Vehicles > 25 MPH :	173
Percent of Vehicles > 25 MPH :	27.2%

PRECISION
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175750 A Speed
Site Code: 13866.00

NB

Start Time	1 14	15 19	20 24	25 29	30 34	35 39	40 44	45 49	50 54	55 59	60 64	65 69	70 9999	Total	85th % ile	Ave Speed
06/23/ 17	0	2	2	2	2	0	0	0	0	0	0	0	0	8	31	24
01:00	0	0	2	1	0	0	0	0	0	0	0	0	0	3	26	24
02:00	0	2	2	1	0	0	0	0	0	0	0	0	0	5	25	21
03:00	0	0	1	1	0	0	0	0	0	0	0	0	0	2	27	25
04:00	0	0	1	2	0	0	0	0	0	0	0	0	0	3	27	25
05:00	2	0	6	1	1	0	0	0	0	0	0	0	0	10	26	21
06:00	0	3	10	6	**3**	0	0	0	0	0	0	0	0	22	28	24
07:00	1	2	4	11	0	0	0	0	0	0	0	0	0	18	27	24
08:00	1	5	6	**13**	2	**1**	0	0	0	0	0	0	0	28	28	24
09:00	**4**	3	6	6	3	0	0	0	0	0	0	0	0	22	28	21
10:00	0	2	**14**	12	2	1	0	0	0	0	0	0	0	31	28	25
11:00	0	**7**	11	13	3	0	0	0	0	0	0	0	0	**34**	28	24
12 PM	1	4	14	11	1	0	0	0	0	0	0	0	0	31	27	23
13:00	**4**	4	11	5	0	**1**	0	0	0	0	0	0	0	25	26	20
14:00	4	**9**	11	3	4	1	0	0	0	0	0	0	0	32	29	21
15:00	0	6	13	12	2	1	0	0	0	0	0	0	0	34	28	24
16:00	1	6	**16**	**15**	**6**	1	0	0	0	0	0	0	0	**45**	29	24
17:00	3	4	8	6	6	0	**1**	0	0	0	0	0	0	28	31	24
18:00	1	6	12	5	1	0	0	0	0	0	0	0	0	25	26	22
19:00	2	5	11	15	2	1	0	0	0	0	0	0	0	36	28	24
20:00	1	9	10	6	1	0	0	0	0	0	0	0	0	27	26	21
21:00	1	4	10	5	0	0	0	0	0	0	0	0	0	20	26	22
22:00	1	3	10	7	1	1	0	0	0	0	0	0	0	23	27	23
23:00	1	4	5	4	0	0	0	0	0	0	0	0	0	14	26	21
Total	28	90	196	163	40	8	1	0	0	0	0	0	0	526		
%	5.3%	17.1%	37.3%	31.0%	7.6%	1.5%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	09:00	11:00	10:00	08:00	06:00	08:00								11:00		
Vol.	4	7	14	13	3	1								34		
PM Peak	13:00	14:00	16:00	16:00	16:00	13:00	17:00							16:00		
Vol.	4	9	16	15	6	1	1							45		

Stats

15th Percentile :	16 MPH
50th Percentile :	22 MPH
85th Percentile :	28 MPH
95th Percentile :	31 MPH
Mean Speed(Average) :	23 MPH
10 MPH Pace Speed :	20-29 MPH
Number in Pace :	359
Percent in Pace :	68.3%
Number of Vehicles > 25 MPH :	179
Percent of Vehicles > 25 MPH :	34.1%

PRECISION
D A T A
INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Lawley Street
north of Water Street
City, State: Dorchester, MA
Client: VHB/ A. Santiago

175750 A Speed
Site Code: 13866.00

NB

Start Time	1 14	15 19	20 24	25 29	30 34	35 39	40 44	45 49	50 54	55 59	60 64	65 69	70 9999	Total	85th % ile	Ave Speed
06/24/ 17	0	**3**	2	1	0	0	0	0	0	0	0	0	0	6	24	20
01:00	0	3	2	1	0	0	0	0	0	0	0	0	0	6	24	20
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
03:00	0	0	1	0	0	0	0	0	0	0	0	0	0	1	23	22
04:00	0	0	1	0	0	0	0	0	0	0	0	0	0	1	23	22
05:00	0	1	3	1	0	0	0	0	0	0	0	0	0	5	25	22
06:00	0	1	2	2	0	0	0	0	0	0	0	0	0	5	27	23
07:00	0	0	5	3	1	0	0	0	0	0	0	0	0	9	28	25
08:00	**2**	1	4	4	0	0	0	**1**	0	0	0	0	0	12	27	23
09:00	1	2	6	6	2	0	0	0	0	0	0	0	0	17	28	24
10:00	1	1	**9**	**10**	**3**	**1**	0	0	0	0	0	0	0	**25**	29	25
11:00	1	1	8	6	0	0	0	0	0	0	0	0	0	16	27	23
12 PM	0	3	9	6	2	**1**	0	0	0	0	0	0	0	21	28	24
13:00	1	8	13	7	2	0	0	0	0	0	0	0	0	31	27	22
14:00	3	3	14	**12**	2	0	0	0	0	0	0	0	0	34	27	23
15:00	**4**	7	8	5	2	0	0	0	0	0	0	0	0	26	27	20
16:00	1	5	**17**	9	**3**	0	0	0	0	0	0	0	0	**35**	27	23
17:00	0	6	10	7	0	0	0	0	0	0	0	0	0	23	26	22
18:00	3	8	8	11	2	1	0	0	0	0	0	0	0	33	28	22
19:00	2	6	12	7	1	0	**1**	0	0	0	0	0	0	29	27	22
20:00	2	**10**	15	5	1	0	0	0	0	0	0	0	0	33	25	21
21:00	0	6	4	3	1	0	0	0	0	0	0	0	0	14	27	22
22:00	0	1	8	12	0	0	0	0	0	0	0	0	0	21	27	25
23:00	1	3	6	1	2	0	0	0	0	0	0	0	0	13	29	22
Total	22	79	167	119	24	3	1	1	0	0	0	0	0	416		
%	5.3%	19.0%	40.1%	28.6%	5.8%	0.7%	0.2%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	08:00	00:00	10:00	10:00	10:00	10:00		08:00						10:00		
Vol.	2	3	9	10	3	1		1						25		
PM Peak	15:00	20:00	16:00	14:00	16:00	12:00	19:00							16:00		
Vol.	4	10	17	12	3	1	1							35		

Stats

15th Percentile :	16 MPH
50th Percentile :	22 MPH
85th Percentile :	27 MPH
95th Percentile :	30 MPH
Mean Speed(Average) :	23 MPH
10 MPH Pace Speed :	20-29 MPH
Number in Pace :	286
Percent in Pace :	68.8%
Number of Vehicles > 25 MPH :	124
Percent of Vehicles > 25 MPH :	29.9%

PRECISION
D A T A
INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
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Lawley Street
north of Water Street
City, State: Dorchester, MA
Client: VHB/ A. Santiago

175750 A Speed
Site Code: 13866.00

NB

Start Time	1 14	15 19	20 24	25 29	30 34	35 39	40 44	45 49	50 54	55 59	60 64	65 69	70 9999	Total	85th % ile	Ave Speed
06/25/ 17	**3**	6	9	7	0	0	0	0	0	0	0	0	0	25	26	20
01:00	2	2	0	4	1	**1**	0	0	0	0	0	0	0	10	31	23
02:00	1	0	2	2	0	0	0	0	0	0	0	0	0	5	27	21
03:00	0	0	1	1	0	0	0	0	0	0	0	0	0	2	27	25
04:00	0	0	2	0	1	0	0	0	0	0	0	0	0	3	31	25
05:00	0	1	3	0	0	0	0	0	0	0	0	0	0	4	23	21
06:00	0	0	0	2	0	0	0	0	0	0	0	0	0	2	28	27
07:00	1	0	0	5	1	0	0	0	0	0	0	0	0	7	28	25
08:00	0	1	7	4	1	0	0	0	0	0	0	0	0	13	27	24
09:00	2	3	8	**10**	2	0	0	0	0	0	0	0	0	25	28	23
10:00	1	2	11	6	**5**	0	0	0	0	0	0	0	0	25	30	24
11:00	2	**8**	**14**	9	3	0	0	0	0	0	0	0	0	**36**	27	22
12 PM	2	3	10	10	1	0	0	0	0	0	0	0	0	26	27	23
13:00	**6**	5	11	4	3	**1**	0	0	0	0	0	0	0	30	28	20
14:00	3	3	12	10	3	0	0	0	0	0	0	0	0	31	28	23
15:00	0	4	**16**	**12**	0	0	0	0	0	0	0	0	0	32	27	23
16:00	2	2	13	10	2	0	**1**	0	0	0	0	0	0	30	28	24
17:00	1	4	10	10	**6**	0	0	0	0	0	0	0	0	31	30	24
18:00	0	**6**	14	10	6	0	0	0	0	0	0	0	0	**36**	29	24
19:00	2	3	9	3	3	1	0	**1**	0	0	0	0	0	22	31	24
20:00	2	4	6	8	0	0	0	0	0	0	0	0	0	20	27	22
21:00	0	1	6	10	0	0	0	0	0	0	0	0	0	17	27	25
22:00	0	1	4	4	1	0	0	0	0	0	0	0	0	10	28	24
23:00	0	2	1	1	0	0	0	0	0	0	0	0	0	4	26	21
Total	30	61	169	142	39	3	1	1	0	0	0	0	0	446		
%	6.7%	13.7%	37.9%	31.8%	8.7%	0.7%	0.2%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	00:00	11:00	11:00	09:00	10:00	01:00								11:00		
Vol.	3	8	14	10	5	1								36		
PM Peak	13:00	18:00	15:00	15:00	17:00	13:00	16:00	19:00						18:00		
Vol.	6	6	16	12	6	1	1	1						36		

Stats

15th Percentile :	17 MPH
50th Percentile :	22 MPH
85th Percentile :	28 MPH
95th Percentile :	31 MPH
Mean Speed(Average) :	23 MPH
10 MPH Pace Speed :	20-29 MPH
Number in Pace :	311
Percent in Pace :	69.7%
Number of Vehicles > 25 MPH :	158
Percent of Vehicles > 25 MPH :	35.3%

Port Norfolk Street
north of Water Street
City, State: Dorchester, MA
Client: VHB/ A. Santiago

PRECISION
D A T A
INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

175750 B Volume
Site Code: 13866.00

Start	06/22/17		Fri		Sat		Sun		Mon		Tue		Wed		Average Day	
Time	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00	4	0	1	12	2	4	5	3	*	*	*	*	*	*	3	5
12:15	1	7	1	8	3	3	1	8	*	*	*	*	*	*	2	6
12:30	0	4	2	3	0	8	4	4	*	*	*	*	*	*	2	5
12:45	1	8	2	7	3	5	1	1	*	*	*	*	*	*	2	5
01:00	0	8	1	7	3	4	3	5	*	*	*	*	*	*	2	6
01:15	0	7	0	6	0	6	0	2	*	*	*	*	*	*	0	5
01:30	0	5	1	8	1	6	2	**7**	*	*	*	*	*	*	1	6
01:45	0	6	0	5	1	3	0	**5**	*	*	*	*	*	*	0	5
02:00	0	7	1	7	1	3	2	**8**	*	*	*	*	*	*	1	6
02:15	1	7	0	4	1	3	1	**9**	*	*	*	*	*	*	1	6
02:30	0	1	0	5	0	7	2	3	*	*	*	*	*	*	0	4
02:45	0	3	1	8	0	4	0	6	*	*	*	*	*	*	0	5
03:00	0	4	2	**12**	0	6	0	7	*	*	*	*	*	*	0	**7**
03:15	1	8	0	**12**	0	3	0	11	*	*	*	*	*	*	0	**8**
03:30	0	3	0	**13**	0	**9**	1	1	*	*	*	*	*	*	0	**6**
03:45	0	**9**	0	**9**	0	**8**	0	3	*	*	*	*	*	*	0	**7**
04:00	0	**7**	0	4	0	**7**	2	2	*	*	*	*	*	*	0	5
04:15	0	**6**	1	2	1	**9**	0	2	*	*	*	*	*	*	0	5
04:30	0	**13**	0	8	1	3	1	2	*	*	*	*	*	*	0	6
04:45	0	1	0	5	1	5	0	2	*	*	*	*	*	*	0	3
05:00	1	6	0	4	1	2	0	7	*	*	*	*	*	*	0	5
05:15	1	3	1	3	0	5	0	4	*	*	*	*	*	*	0	4
05:30	1	5	1	10	1	2	0	5	*	*	*	*	*	*	1	6
05:45	2	6	4	8	0	5	0	5	*	*	*	*	*	*	2	6
06:00	4	5	3	13	1	4	0	3	*	*	*	*	*	*	2	6
06:15	4	5	6	5	0	2	0	7	*	*	*	*	*	*	2	5
06:30	2	8	0	6	0	5	0	2	*	*	*	*	*	*	0	5
06:45	2	10	3	7	0	7	0	2	*	*	*	*	*	*	1	6
07:00	3	7	5	5	1	10	0	1	*	*	*	*	*	*	2	6
07:15	7	9	4	4	0	1	0	3	*	*	*	*	*	*	3	4
07:30	5	2	3	5	1	5	0	6	*	*	*	*	*	*	2	4
07:45	6	4	6	6	1	4	2	3	*	*	*	*	*	*	4	4
08:00	**9**	2	5	5	2	4	2	3	*	*	*	*	*	*	4	4
08:15	**7**	0	3	8	5	4	2	2	*	*	*	*	*	*	4	4
08:30	**6**	1	3	3	4	1	2	1	*	*	*	*	*	*	**4**	2
08:45	**7**	1	8	5	3	1	4	3	*	*	*	*	*	*	**6**	2
09:00	8	1	4	6	4	3	1	2	*	*	*	*	*	*	**4**	3
09:15	8	5	6	3	5	2	7	3	*	*	*	*	*	*	**6**	3
09:30	4	5	2	1	4	3	1	1	*	*	*	*	*	*	3	2
09:45	4	7	4	1	3	6	6	5	*	*	*	*	*	*	4	5
10:00	4	2	4	4	4	2	3	2	*	*	*	*	*	*	4	2
10:15	6	1	3	3	5	3	3	0	*	*	*	*	*	*	4	2
10:30	4	2	**5**	2	2	1	2	2	*	*	*	*	*	*	3	2
10:45	7	2	**8**	1	4	5	3	1	*	*	*	*	*	*	6	2
11:00	3	4	**6**	1	**4**	2	**6**	1	*	*	*	*	*	*	5	2
11:15	3	1	**7**	1	**7**	1	**4**	0	*	*	*	*	*	*	5	1
11:30	3	1	5	1	**4**	0	**3**	2	*	*	*	*	*	*	4	1
11:45	5	0	5	1	**5**	1	**5**	3	*	*	*	*	*	*	5	1
Total	134	219	127	267	89	197	81	170	0	0	0	0	0	0	104	210
Day Total		353		394		286		251		0		0		0		314
% Splits	38.0 %	62.0 %	32.2 %	67.8 %	31.1 %	68.9 %	32.3 %	67.7 %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	33.1 %	66.9%
Peak	08:00	03:45	10:30	03:00	11:00	03:30	11:00	01:30	-	-	-	-	-	-	08:30	03:00
Vol.	29	35	26	46	20	33	18	29	-	-	-	-	-	-	20	28
P.H.F.	0.806	0.673	0.813	0.885	0.714	0.917	0.750	0.806							0.833	0.875

Port Norfolk Street
north of Water Street
City, State: Dorchester, MA
Client: VHB/ A. Santiago

PRECISION
D A T A
INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

175750 B Volume
Site Code: 13866.00

Start Time	A.M.	NB	P.M.												
														Thu 06/22/17	
12:00	4		0												
12:15	1		7												
12:30	0		4												
12:45	1	6	8	19											
01:00	0		8												
01:15	0		7												
01:30	0		5												
01:45	0	0	6	26											
02:00	0		7												
02:15	1		7												
02:30	0		1												
02:45	0	1	3	18											
03:00	0		4												
03:15	1		8												
03:30	0		3												
03:45	0	1	9	24											
04:00	0		7												
04:15	0		6												
04:30	0		13												
04:45	0	0	1	27											
05:00	1		6												
05:15	1		3												
05:30	1		5												
05:45	2	5	6	20											
06:00	4		5												
06:15	4		5												
06:30	2		8												
06:45	2	12	10	28											
07:00	3		7												
07:15	7		9												
07:30	5		2												
07:45	6	21	4	22											
08:00	9		2												
08:15	7		0												
08:30	6		1												
08:45	7	29	1	4											
09:00	8		1												
09:15	8		5												
09:30	4		5												
09:45	4	24	7	18											
10:00	4		2												
10:15	6		1												
10:30	4		2												
10:45	7	21	2	7											
11:00	3		4												
11:15	3		1												
11:30	3		1												
11:45	5	14	0	6											
Total	134		219												
Percent			100.0 %		0.0%		0.0%								
Day Total		353													
Peak	08:00	-	03:45	-	-	-	-	-	-	-	-	-	-	-	-
Vol.	29	-	35	-	-	-	-	-	-	-	-	-	-	-	-
P.H.F.	0.806		0.673												

Port Norfolk Street
north of Water Street
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175750 B Volume
Site Code: 13866.00

Start Time	A.M.	NB	P.M.												
														Fri 06/23/17	
12:00	1		12												
12:15	1		8												
12:30	2		3												
12:45	2	6	7	30											
01:00	1		7												
01:15	0		6												
01:30	1		8												
01:45	0	2	5	26											
02:00	1		7												
02:15	0		4												
02:30	0		5												
02:45	1	2	8	24											
03:00	2		12												
03:15	0		12												
03:30	0		13												
03:45	0	2	9	46											
04:00	0		4												
04:15	1		2												
04:30	0		8												
04:45	0	1	5	19											
05:00	0		4												
05:15	1		3												
05:30	1		10												
05:45	4	6	8	25											
06:00	3		13												
06:15	6		5												
06:30	0		6												
06:45	3	12	7	31											
07:00	5		5												
07:15	4		4												
07:30	3		5												
07:45	6	18	6	20											
08:00	5		5												
08:15	3		8												
08:30	3		3												
08:45	8	19	5	21											
09:00	4		6												
09:15	6		3												
09:30	2		1												
09:45	4	16	1	11											
10:00	4		4												
10:15	3		3												
10:30	5		2												
10:45	8	20	1	10											
11:00	6		1												
11:15	7		1												
11:30	5		1												
11:45	5	23	1	4											
Total	127		267												
Percent			100.0 %		0.0%		0.0%								
Day Total		394													
Peak	10:30	-	03:00	-	-	-	-	-	-	-	-	-	-	-	-
Vol.	26	-	46	-	-	-	-	-	-	-	-	-	-	-	-
P.H.F.	0.813		0.885												

Port Norfolk Street
north of Water Street
City, State: Dorchester, MA
Client: VHB/ A. Santiago

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175750 B Volume
Site Code: 13866.00

Start Time	A.M.	NB	P.M.												
														Sat 06/24/17	
12:00	2		4												
12:15	3		3												
12:30	0		8												
12:45	3	8	5	20											
01:00	3		4												
01:15	0		6												
01:30	1		6												
01:45	1	5	3	19											
02:00	1		3												
02:15	1		3												
02:30	0		7												
02:45	0	2	4	17											
03:00	0		6												
03:15	0		3												
03:30	0		9												
03:45	0	0	8	26											
04:00	0		7												
04:15	1		9												
04:30	1		3												
04:45	1	3	5	24											
05:00	1		2												
05:15	0		5												
05:30	1		2												
05:45	0	2	5	14											
06:00	1		4												
06:15	0		2												
06:30	0		5												
06:45	0	1	7	18											
07:00	1		10												
07:15	0		1												
07:30	1		5												
07:45	1	3	4	20											
08:00	2		4												
08:15	5		4												
08:30	4		1												
08:45	3	14	1	10											
09:00	4		3												
09:15	5		2												
09:30	4		3												
09:45	3	16	6	14											
10:00	4		2												
10:15	5		3												
10:30	2		1												
10:45	4	15	5	11											
11:00	4		2												
11:15	7		1												
11:30	4		0												
11:45	5	20	1	4											
Total	89		197												
Percent			100.0 %		0.0%		0.0%								
Day Total		286													
Peak	11:00	-	03:30	-	-	-	-	-	-	-	-	-	-	-	-
Vol.	20	-	33	-	-	-	-	-	-	-	-	-	-	-	-
P.H.F.	0.714		0.917												

Port Norfolk Street
north of Water Street
City, State: Dorchester, MA
Client: VHB/ A. Santiago

PRECISION
D A T A
INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

175750 B Volume
Site Code: 13866.00

Start Time	A.M.	NB	P.M.												
															Sun 06/25/17
12:00	5		3												
12:15	1		8												
12:30	4		4												
12:45	1	11	1	16											
01:00	3		5												
01:15	0		2												
01:30	2		7												
01:45	0	5	5	19											
02:00	2		8												
02:15	1		9												
02:30	2		3												
02:45	0	5	6	26											
03:00	0		7												
03:15	0		11												
03:30	1		1												
03:45	0	1	3	22											
04:00	2		2												
04:15	0		2												
04:30	1		2												
04:45	0	3	2	8											
05:00	0		7												
05:15	0		4												
05:30	0		5												
05:45	0	0	5	21											
06:00	0		3												
06:15	0		7												
06:30	0		2												
06:45	0	0	2	14											
07:00	0		1												
07:15	0		3												
07:30	0		6												
07:45	2	2	3	13											
08:00	2		3												
08:15	2		2												
08:30	2		1												
08:45	4	10	3	9											
09:00	1		2												
09:15	7		3												
09:30	1		1												
09:45	6	15	5	11											
10:00	3		2												
10:15	3		0												
10:30	2		2												
10:45	3	11	1	5											
11:00	6		1												
11:15	4		0												
11:30	3		2												
11:45	5	18	3	6											
Total	81		170												
Percent			100.0 %		0.0%		0.0%								
Day Total		251													
Peak	11:00	-	01:30	-	-	-	-	-	-	-	-	-	-	-	-
Vol.	18	-	29	-	-	-	-	-	-	-	-	-	-	-	-
P.H.F.	0.750		0.806												

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Port Norfolk Street
north of Water Street
City, State: Dorchester, MA
Client: VHB/ A. Santiago

175750 B Class
Site Code: 13866.00

NB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
06/22/1														
7	0	6	0	0	0	0	0	0	0	0	0	0	0	6
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
03:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	1	3	0	1	0	0	0	0	0	0	0	0	5
06:00	1	6	4	0	1	0	0	0	0	0	0	0	0	12
07:00	0	16	5	0	0	0	0	0	0	0	0	0	0	21
08:00	0	19	7	0	3	0	0	0	0	0	0	0	0	29
09:00	0	17	4	0	3	0	0	0	0	0	0	0	0	24
10:00	2	15	3	0	1	0	0	0	0	0	0	0	0	21
11:00	0	10	1	0	3	0	0	0	0	0	0	0	0	14
12 PM	0	15	3	1	0	0	0	0	0	0	0	0	0	19
13:00	3	18	3	0	1	1	0	0	0	0	0	0	0	26
14:00	0	12	3	0	3	0	0	0	0	0	0	0	0	18
15:00	0	18	4	0	2	0	0	0	0	0	0	0	0	24
16:00	0	20	7	0	0	0	0	0	0	0	0	0	0	27
17:00	0	15	3	0	2	0	0	0	0	0	0	0	0	20
18:00	1	24	3	0	0	0	0	0	0	0	0	0	0	28
19:00	1	18	2	0	1	0	0	0	0	0	0	0	0	22
20:00	0	3	1	0	0	0	0	0	0	0	0	0	0	4
21:00	0	15	3	0	0	0	0	0	0	0	0	0	0	18
22:00	0	6	1	0	0	0	0	0	0	0	0	0	0	7
23:00	0	6	0	0	0	0	0	0	0	0	0	0	0	6
Total	8	262	60	1	21	1	0	0	0	0	0	0	0	353
Percent	2.3%	74.2%	17.0%	0.3%	5.9%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	10:00	08:00	08:00		08:00									08:00
Vol.	2	19	7		3									29
PM Peak	13:00	18:00	16:00	12:00	14:00	13:00								18:00
Vol.	3	24	7	1	3	1								28

PRECISION
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Port Norfolk Street
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175750 B Class
Site Code: 13866.00

NB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
06/23/1														
7	0	6	0	0	0	0	0	0	0	0	0	0	0	6
01:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
02:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
03:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
04:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
05:00	0	3	1	0	2	0	0	0	0	0	0	0	0	6
06:00	0	5	6	0	1	0	0	0	0	0	0	0	0	12
07:00	0	14	2	0	2	0	0	0	0	0	0	0	0	18
08:00	0	12	4	0	3	0	0	0	0	0	0	0	0	19
09:00	1	11	0	0	4	0	0	0	0	0	0	0	0	16
10:00	0	12	7	0	1	0	0	0	0	0	0	0	0	20
11:00	1	18	3	0	1	0	0	0	0	0	0	0	0	23
12 PM	0	19	6	0	5	0	0	0	0	0	0	0	0	30
13:00	3	18	5	0	0	0	0	0	0	0	0	0	0	26
14:00	0	19	4	0	1	0	0	0	0	0	0	0	0	24
15:00	1	38	6	0	0	1	0	0	0	0	0	0	0	46
16:00	0	9	6	0	4	0	0	0	0	0	0	0	0	19
17:00	0	20	5	0	0	0	0	0	0	0	0	0	0	25
18:00	1	26	4	0	0	0	0	0	0	0	0	0	0	31
19:00	0	16	3	0	1	0	0	0	0	0	0	0	0	20
20:00	0	18	3	0	0	0	0	0	0	0	0	0	0	21
21:00	0	9	2	0	0	0	0	0	0	0	0	0	0	11
22:00	0	7	3	0	0	0	0	0	0	0	0	0	0	10
23:00	0	3	1	0	0	0	0	0	0	0	0	0	0	4
Total	7	290	71	0	25	1	0	0	0	0	0	0	0	394
Percent	1.8%	73.6%	18.0%	0.0%	6.3%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	09:00	11:00	10:00		09:00									11:00
Vol.	1	18	7		4									23
PM Peak	13:00	15:00	12:00		12:00	15:00								15:00
Vol.	3	38	6		5	1								46

PRECISION
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Port Norfolk Street
north of Water Street
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Client: VHB/ A. Santiago

175750 B Class
Site Code: 13866.00

NB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
06/24/1														
7	0	8	0	0	0	0	0	0	0	0	0	0	0	8
01:00	0	4	1	0	0	0	0	0	0	0	0	0	0	5
02:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	1	1	0	0	1	0	0	0	0	0	0	0	3
05:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
06:00	0	0	0	0	1	0	0	0	0	0	0	0	0	1
07:00	0	2	1	0	0	0	0	0	0	0	0	0	0	3
08:00	0	12	2	0	0	0	0	0	0	0	0	0	0	14
09:00	0	14	2	0	0	0	0	0	0	0	0	0	0	16
10:00	0	10	5	0	0	0	0	0	0	0	0	0	0	15
11:00	0	15	5	0	0	0	0	0	0	0	0	0	0	20
12 PM	1	17	2	0	0	0	0	0	0	0	0	0	0	20
13:00	0	13	5	0	1	0	0	0	0	0	0	0	0	19
14:00	0	12	5	0	0	0	0	0	0	0	0	0	0	17
15:00	2	22	1	0	1	0	0	0	0	0	0	0	0	26
16:00	0	19	5	0	0	0	0	0	0	0	0	0	0	24
17:00	0	12	2	0	0	0	0	0	0	0	0	0	0	14
18:00	0	16	2	0	0	0	0	0	0	0	0	0	0	18
19:00	0	15	5	0	0	0	0	0	0	0	0	0	0	20
20:00	0	9	1	0	0	0	0	0	0	0	0	0	0	10
21:00	0	12	2	0	0	0	0	0	0	0	0	0	0	14
22:00	0	8	2	0	0	1	0	0	0	0	0	0	0	11
23:00	0	4	0	0	0	0	0	0	0	0	0	0	0	4
Total	3	229	49	0	3	2	0	0	0	0	0	0	0	286
Percent	1.0%	80.1%	17.1%	0.0%	1.0%	0.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak		11:00	10:00		06:00	04:00								11:00
Vol.		15	5		1	1								20
PM Peak	15:00	15:00	13:00		13:00	22:00								15:00
Vol.	2	22	5		1	1								26

PRECISION
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Port Norfolk Street
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175750 B Class
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NB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
06/25/1														
7	0	8	3	0	0	0	0	0	0	0	0	0	0	11
01:00	0	4	1	0	0	0	0	0	0	0	0	0	0	5
02:00	0	5	0	0	0	0	0	0	0	0	0	0	0	5
03:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
04:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00	0	1	1	0	0	0	0	0	0	0	0	0	0	2
08:00	0	9	1	0	0	0	0	0	0	0	0	0	0	10
09:00	0	13	1	0	1	0	0	0	0	0	0	0	0	15
10:00	1	7	2	0	1	0	0	0	0	0	0	0	0	11
11:00	0	16	2	0	0	0	0	0	0	0	0	0	0	18
12 PM	0	13	2	0	1	0	0	0	0	0	0	0	0	16
13:00	0	15	4	0	0	0	0	0	0	0	0	0	0	19
14:00	0	20	6	0	0	0	0	0	0	0	0	0	0	26
15:00	2	17	3	0	0	0	0	0	0	0	0	0	0	22
16:00	0	7	1	0	0	0	0	0	0	0	0	0	0	8
17:00	0	18	3	0	0	0	0	0	0	0	0	0	0	21
18:00	0	10	4	0	0	0	0	0	0	0	0	0	0	14
19:00	0	12	1	0	0	0	0	0	0	0	0	0	0	13
20:00	0	9	0	0	0	0	0	0	0	0	0	0	0	9
21:00	0	11	0	0	0	0	0	0	0	0	0	0	0	11
22:00	0	5	0	0	0	0	0	0	0	0	0	0	0	5
23:00	0	5	1	0	0	0	0	0	0	0	0	0	0	6
Total	3	209	36	0	3	0	0	0	0	0	0	0	0	251
Percent	1.2%	83.3%	14.3%	0.0%	1.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	10:00	11:00	00:00		09:00									11:00
Vol.	1	16	3		1									18
PM Peak	15:00	14:00	14:00		12:00									14:00
Vol.	2	20	6		1									26

PRECISION
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175750 B Speed
Site Code: 13866.00

NB

Start Time	1 14	15 19	20 24	25 29	30 34	35 39	40 44	45 49	50 54	55 59	60 64	65 69	70 9999	Total	85th % ile	Ave Speed
06/22/ 17	2	0	2	2	0	0	0	0	0	0	0	0	0	6	26	19
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
02:00	0	0	0	1	0	0	0	0	0	0	0	0	0	1	28	27
03:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1	18	17
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
05:00	0	1	0	4	0	0	0	0	0	0	0	0	0	5	28	25
06:00	1	3	3	4	1	0	0	0	0	0	0	0	0	12	27	22
07:00	2	7	10	2	0	0	0	0	0	0	0	0	0	21	23	19
08:00	**6**	7	**13**	3	0	0	0	0	0	0	0	0	0	**29**	23	18
09:00	1	**8**	8	**5**	**2**	0	0	0	0	0	0	0	0	24	27	22
10:00	2	5	9	5	0	0	0	0	0	0	0	0	0	21	25	21
11:00	1	3	6	4	0	0	0	0	0	0	0	0	0	14	26	21
12 PM	4	5	8	2	0	0	0	0	0	0	0	0	0	19	23	18
13:00	4	7	**14**	1	0	0	0	0	0	0	0	0	0	26	22	19
14:00	3	5	7	3	0	0	0	0	0	0	0	0	0	18	24	19
15:00	2	5	12	5	0	0	0	0	0	0	0	0	0	24	25	21
16:00	3	**9**	12	3	0	0	0	0	0	0	0	0	0	27	23	19
17:00	2	8	8	2	0	0	0	0	0	0	0	0	0	20	23	19
18:00	3	8	10	**7**	0	0	0	0	0	0	0	0	0	**28**	25	20
19:00	**5**	3	10	3	**1**	0	0	0	0	0	0	0	0	22	25	19
20:00	1	2	1	0	0	0	0	0	0	0	0	0	0	4	21	16
21:00	5	3	8	1	1	0	0	0	0	0	0	0	0	18	23	18
22:00	0	3	1	3	0	0	0	0	0	0	0	0	0	7	27	22
23:00	0	4	1	0	1	0	0	0	0	0	0	0	0	6	29	20
Total	47	97	143	60	6	0	0	0	0	0	0	0	0	353		
%	13.3%	27.5%	40.5%	17.0%	1.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	08:00	09:00	08:00	09:00	09:00									08:00		
Vol.	6	8	13	5	2									29		
PM Peak	19:00	16:00	13:00	18:00	19:00									18:00		
Vol.	5	9	14	7	1									28		

Stats

15th Percentile :	14 MPH
50th Percentile :	20 MPH
85th Percentile :	25 MPH
95th Percentile :	28 MPH
Mean Speed(Average) :	20 MPH
10 MPH Pace Speed :	15-24 MPH
Number in Pace :	240
Percent in Pace :	68.0%
Number of Vehicles > 25 MPH :	54
Percent of Vehicles > 25 MPH :	15.3%

PRECISION
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175750 B Speed
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NB

Start Time	1 14	15 19	20 24	25 29	30 34	35 39	40 44	45 49	50 54	55 59	60 64	65 69	70 9999	Total	85th % ile	Ave Speed
06/23/ 17	0	0	2	3	1	0	0	0	0	0	0	0	0	6	29	26
01:00	0	1	0	1	0	0	0	0	0	0	0	0	0	2	27	22
02:00	0	1	1	0	0	0	0	0	0	0	0	0	0	2	22	20
03:00	0	0	0	2	0	0	0	0	0	0	0	0	0	2	28	27
04:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1	18	17
05:00	1	0	2	2	0	**1**	0	0	0	0	0	0	0	6	34	24
06:00	3	1	6	1	1	0	0	0	0	0	0	0	0	12	24	19
07:00	0	**9**	5	4	0	0	0	0	0	0	0	0	0	18	25	21
08:00	2	2	8	**6**	1	0	0	0	0	0	0	0	0	19	27	22
09:00	1	6	7	2	0	0	0	0	0	0	0	0	0	16	23	20
10:00	**5**	8	6	1	0	0	0	0	0	0	0	0	0	20	22	17
11:00	1	4	**13**	3	**2**	0	0	0	0	0	0	0	0	**23**	26	22
12 PM	4	**14**	10	2	0	0	0	0	0	0	0	0	0	30	22	18
13:00	**7**	6	10	3	0	0	0	0	0	0	0	0	0	26	23	18
14:00	3	3	18	0	0	0	0	0	0	0	0	0	0	24	23	20
15:00	7	10	**28**	1	0	0	0	0	0	0	0	0	0	**46**	22	19
16:00	3	7	8	1	0	0	0	0	0	0	0	0	0	19	22	18
17:00	2	6	14	3	0	0	0	0	0	0	0	0	0	25	23	20
18:00	1	8	18	**4**	0	0	0	0	0	0	0	0	0	31	23	21
19:00	2	7	7	4	0	0	0	0	0	0	0	0	0	20	25	20
20:00	3	1	16	0	**1**	0	0	0	0	0	0	0	0	21	23	20
21:00	2	4	4	1	0	0	0	0	0	0	0	0	0	11	23	18
22:00	0	5	3	2	0	0	0	0	0	0	0	0	0	10	25	21
23:00	0	1	2	1	0	0	0	0	0	0	0	0	0	4	26	22
Total	47	105	188	47	6	1	0	0	0	0	0	0	0	394		
%	11.9%	26.6%	47.7%	11.9%	1.5%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	10:00	07:00	11:00	08:00	11:00	05:00								11:00		
Vol.	5	9	13	6	2	1								23		
PM Peak	13:00	12:00	15:00	18:00	20:00									15:00		
Vol.	7	14	28	4	1									46		

Stats

15th Percentile :	14 MPH
50th Percentile :	20 MPH
85th Percentile :	23 MPH
95th Percentile :	27 MPH
Mean Speed(Average) :	20 MPH
10 MPH Pace Speed :	15-24 MPH
Number in Pace :	293
Percent in Pace :	74.4%
Number of Vehicles > 25 MPH :	45
Percent of Vehicles > 25 MPH :	11.3%

PRECISION
D A T A
INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Port Norfolk Street
north of Water Street
City, State: Dorchester, MA
Client: VHB/ A. Santiago

175750 B Speed
Site Code: 13866.00

NB

Start Time	1 14	15 19	20 24	25 29	30 34	35 39	40 44	45 49	50 54	55 59	60 64	65 69	70 9999	Total	85th % ile	Ave Speed
06/24/ 17	0	3	3	1	**1**	0	0	0	0	0	0	0	0	8	28	22
01:00	1	1	3	0	0	0	0	0	0	0	0	0	0	5	22	18
02:00	0	0	1	1	0	0	0	0	0	0	0	0	0	2	27	25
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
04:00	1	0	2	0	0	0	0	0	0	0	0	0	0	3	22	17
05:00	0	1	0	0	1	0	0	0	0	0	0	0	0	2	32	25
06:00	0	0	1	0	0	0	0	0	0	0	0	0	0	1	23	22
07:00	0	2	1	0	0	0	0	0	0	0	0	0	0	3	21	19
08:00	0	5	5	**3**	1	0	0	0	0	0	0	0	0	14	27	22
09:00	0	6	**8**	2	0	0	0	0	0	0	0	0	0	16	23	21
10:00	**2**	6	5	2	0	0	0	0	0	0	0	0	0	15	23	19
11:00	2	**8**	8	2	0	0	0	0	0	0	0	0	0	**20**	23	19
12 PM	2	7	4	**6**	0	**1**	0	0	0	0	0	0	0	20	27	21
13:00	3	5	9	2	0	0	0	0	0	0	0	0	0	19	23	19
14:00	2	3	7	5	0	0	0	0	0	0	0	0	0	17	26	21
15:00	**4**	6	**16**	0	0	0	0	0	0	0	0	0	0	**26**	22	19
16:00	2	**10**	9	1	**2**	0	0	0	0	0	0	0	0	24	23	20
17:00	2	3	5	4	0	0	0	0	0	0	0	0	0	14	26	20
18:00	2	8	7	1	0	0	0	0	0	0	0	0	0	18	22	18
19:00	2	8	9	1	0	0	0	0	0	0	0	0	0	20	22	19
20:00	3	3	2	1	1	0	0	0	0	0	0	0	0	10	26	18
21:00	1	4	8	1	0	0	0	0	0	0	0	0	0	14	23	20
22:00	3	1	6	0	1	0	0	0	0	0	0	0	0	11	23	18
23:00	0	1	1	2	0	0	0	0	0	0	0	0	0	4	27	23
Total	32	91	120	35	7	1	0	0	0	0	0	0	0	286		
%	11.2%	31.8%	42.0%	12.2%	2.4%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	10:00	11:00	09:00	08:00	00:00									11:00		
Vol.	2	8	8	3	1									20		
PM Peak	15:00	16:00	15:00	12:00	16:00	12:00								15:00		
Vol.	4	10	16	6	2	1								26		

Stats

15th Percentile :	14 MPH
50th Percentile :	19 MPH
85th Percentile :	24 MPH
95th Percentile :	28 MPH
Mean Speed(Average) :	20 MPH
10 MPH Pace Speed :	15-24 MPH
Number in Pace :	211
Percent in Pace :	73.8%
Number of Vehicles > 25 MPH :	36
Percent of Vehicles > 25 MPH :	12.6%

PRECISION
D A T A
INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
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Port Norfolk Street
north of Water Street
City, State: Dorchester, MA
Client: VHB/ A. Santiago

175750 B Speed
Site Code: 13866.00

NB

Start Time	1 14	15 19	20 24	25 29	30 34	35 39	40 44	45 49	50 54	55 59	60 64	65 69	70 9999	Total	85th % ile	Ave Speed
06/25/ 17	2	2	5	2	0	0	0	0	0	0	0	0	0	11	24	19
01:00	0	3	1	1	0	0	0	0	0	0	0	0	0	5	25	20
02:00	0	2	3	0	0	0	0	0	0	0	0	0	0	5	22	20
03:00	1	0	0	0	0	0	0	0	0	0	0	0	0	1	11	8
04:00	2	0	1	0	0	0	0	0	0	0	0	0	0	3	21	12
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
06:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
07:00	1	0	0	1	0	0	0	0	0	0	0	0	0	2	27	17
08:00	1	4	3	2	0	0	0	0	0	0	0	0	0	10	25	20
09:00	0	4	6	**5**	0	0	0	0	0	0	0	0	0	15	26	22
10:00	2	**6**	2	1	0	0	0	0	0	0	0	0	0	11	22	17
11:00	**3**	2	**11**	1	0	**1**	0	0	0	0	0	0	0	**18**	23	20
12 PM	1	4	9	2	0	0	0	0	0	0	0	0	0	16	23	20
13:00	1	8	6	3	1	0	0	0	0	0	0	0	0	19	25	20
14:00	4	**11**	4	**6**	1	0	0	0	0	0	0	0	0	**26**	26	19
15:00	**5**	2	**12**	3	0	0	0	0	0	0	0	0	0	22	23	19
16:00	0	3	3	2	0	0	0	0	0	0	0	0	0	8	26	21
17:00	2	5	6	5	**3**	0	0	0	0	0	0	0	0	21	28	22
18:00	3	4	4	3	0	0	0	0	0	0	0	0	0	14	25	19
19:00	0	4	4	5	0	0	0	0	0	0	0	0	0	13	27	22
20:00	2	0	5	2	0	0	0	0	0	0	0	0	0	9	25	20
21:00	0	6	3	2	0	0	0	0	0	0	0	0	0	11	24	20
22:00	0	2	2	0	1	0	0	0	0	0	0	0	0	5	30	22
23:00	1	2	2	1	0	0	0	0	0	0	0	0	0	6	24	19
Total	31	74	92	47	6	1	0	0	0	0	0	0	0	251		
%	12.4%	29.5%	36.7%	18.7%	2.4%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	11:00	10:00	11:00	09:00		11:00								11:00		
Vol.	3	6	11	5		1								18		
PM Peak	15:00	14:00	15:00	14:00	17:00									14:00		
Vol.	5	11	12	6	3									26		

Stats

15th Percentile :	14 MPH
50th Percentile :	20 MPH
85th Percentile :	25 MPH
95th Percentile :	28 MPH
Mean Speed(Average) :	20 MPH
10 MPH Pace Speed :	15-24 MPH
Number in Pace :	166
Percent in Pace :	66.1%
Number of Vehicles > 25 MPH :	45
Percent of Vehicles > 25 MPH :	17.8%

Redfield Street
east of Woodworth Street
City, State: Dorchester, MA
Client: VHB/ A. Santiago

PRECISION
D A T A
INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

175750 D Volume
Site Code: 13866.00

Start	06/17/17		06/18/17		06/19/17		06/20/17		06/21/17		06/22/17		06/23/17		Week Average	
Time	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
12:00 AM	10	17	13	29	7	4	9	12	6	8	9	6	14	15	10	13
01:00	5	5	12	16	3	4	2	1	5	4	2	6	4	4	5	6
02:00	6	6	4	4	6	3	4	5	1	0	2	1	6	5	4	3
03:00	4	7	7	8	2	1	3	4	5	6	3	3	1	3	4	5
04:00	3	4	6	4	7	4	8	6	7	5	6	4	9	6	7	5
05:00	10	10	3	8	32	12	28	13	29	14	30	17	36	12	24	12
06:00	23	11	10	5	57	21	45	20	57	24	65	24	48	24	44	18
07:00	35	17	10	12	**67**	27	67	33	76	30	**77**	30	60	28	56	25
08:00	33	24	22	33	59	35	74	36	50	32	56	32	45	46	48	34
09:00	42	31	36	38	62	**46**	**81**	**43**	**79**	31	61	44	54	38	59	39
10:00	48	30	49	26	55	35	75	33	60	**42**	68	48	**63**	**59**	60	39
11:00	**56**	**50**	**70**	**51**	60	38	68	32	72	40	65	**56**	58	58	**64**	**46**
12:00 PM	51	55	58	54	**75**	52	89	59	**93**	66	91	73	61	46	74	58
01:00	55	45	47	57	64	58	55	59	71	59	60	59	61	59	59	57
02:00	64	54	46	49	61	73	53	51	78	73	62	60	78	67	63	61
03:00	62	71	48	34	54	59	74	65	62	68	72	71	89	62	66	61
04:00	74	70	**78**	38	46	**78**	86	**99**	71	**98**	98	62	81	**91**	76	77
05:00	**103**	48	74	54	57	61	60	68	79	73	**178**	74	97	50	93	61
06:00	66	54	73	65	54	40	**98**	46	88	50	163	71	**114**	54	**94**	54
07:00	66	57	41	**73**	57	54	79	54	56	63	71	69	72	55	63	61
08:00	57	56	40	58	33	38	31	63	45	60	49	148	54	65	44	70
09:00	42	74	34	53	31	25	35	65	37	59	37	**180**	32	91	35	**78**
10:00	47	**79**	22	27	20	22	13	30	25	27	24	65	28	73	26	46
11:00	38	64	14	17	13	4	14	19	18	14	22	19	22	34	20	24
Total	1000	939	817	813	982	794	1151	916	1170	946	1371	1222	1187	1045	1098	953
Day	1939		1630		1776		2067		2116		2593		2232		2051	
AM Peak	11:00	11:00	11:00	11:00	07:00	09:00	09:00	09:00	09:00	10:00	07:00	11:00	10:00	10:00	11:00	11:00
Vol.	56	50	70	51	67	46	81	43	79	42	77	56	63	59	64	46
PM Peak	17:00	22:00	16:00	19:00	12:00	16:00	18:00	16:00	12:00	16:00	17:00	21:00	18:00	16:00	18:00	21:00
Vol.	103	79	78	73	75	78	98	99	93	98	178	180	114	91	94	78

Redfield Street
east of Woodworth Street
City, State: Dorchester, MA
Client: VHB/ A. Santiago

PRECISION
D A T A
INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

175750 D Volume
Site Code: 13866.00

Start	EB				WB				Combined				06/17/17
Time	A.M.		P.M.		A.M.		P.M.		A.M.		P.M.		Sat
12:00	3		16		9		15		12		31		
12:15	3		11		2		16		5		27		
12:30	0		13		5		11		5		24		
12:45	4	10	11	51	1	17	13	55	5	27	24	106	
01:00	3		6		4		7		7		13		
01:15	0		13		0		11		0		24		
01:30	2		16		0		12		2		28		
01:45	0	5	20	55	1	5	15	45	1	10	35	100	
02:00	3		11		1		13		4		24		
02:15	2		16		2		13		4		29		
02:30	0		21		0		14		0		35		
02:45	1	6	16	64	3	6	14	54	4	12	30	118	
03:00	1		18		1		21		2		39		
03:15	1		15		2		18		3		33		
03:30	2		13		1		17		3		30		
03:45	0	4	16	62	3	7	15	71	3	11	31	133	
04:00	0		9		0		23		0		32		
04:15	1		15		1		16		2		31		
04:30	1		17		2		7		3		24		
04:45	1	3	33	74	1	4	24	70	2	7	57	144	
05:00	3		38		4		11		7		49		
05:15	1		23		2		10		3		33		
05:30	3		24		1		10		4		34		
05:45	3	10	18	103	3	10	17	48	6	20	35	151	
06:00	4		16		4		16		8		32		
06:15	8		18		2		13		10		31		
06:30	5		13		4		11		9		24		
06:45	6	23	19	66	1	11	14	54	7	34	33	120	
07:00	8		12		4		15		12		27		
07:15	3		20		6		16		9		36		
07:30	11		21		3		14		14		35		
07:45	13	35	13	66	4	17	12	57	17	52	25	123	
08:00	9		16		7		14		16		30		
08:15	11		8		5		22		16		30		
08:30	6		19		7		9		13		28		
08:45	7	33	14	57	5	24	11	56	12	57	25	113	
09:00	12		16		9		14		21		30		
09:15	10		11		4		31		14		42		
09:30	6		8		7		17		13		25		
09:45	14	42	7	42	11	31	12	74	25	73	19	116	
10:00	18		19		11		24		29		43		
10:15	9		10		6		28		15		38		
10:30	7		6		6		16		13		22		
10:45	14	48	12	47	7	30	11	79	21	78	23	126	
11:00	14		11		12		21		26		32		
11:15	11		12		15		14		26		26		
11:30	18		11		10		19		28		30		
11:45	13	56	4	38	13	50	10	64	26	106	14	102	
Total	275		725		212		727		487		1452		
Percent	56.5%		49.9%		43.5%		50.1%						
Day Total		1000				939				1939			
Peak	10:45	-	04:45	-	11:00	-	09:15	-	11:00	-	04:45	-	-	-
Vol.	57	-	118	-	50	-	84	-	106	-	173	-	-	-
P.H.F.	0.792		0.776		0.833		0.677		0.946		0.759			

Redfield Street
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175750 D Volume
Site Code: 13866.00

Start	EB				WB				Combined				06/18/17
Time	A.M.		P.M.		A.M.		P.M.		A.M.		P.M.		Sun
12:00	3		15		5		8		8		23		
12:15	4		13		12		12		16		25		
12:30	3		13		5		15		8		28		
12:45	3	13	17	58	7	29	19	54	10	42	36	112	
01:00	3		10		3		13		6		23		
01:15	4		17		4		8		8		25		
01:30	2		8		4		26		6		34		
01:45	3	12	12	47	5	16	10	57	8	28	22	104	
02:00	1		10		3		11		4		21		
02:15	0		13		0		18		0		31		
02:30	2		7		0		11		2		18		
02:45	1	4	16	46	1	4	9	49	2	8	25	95	
03:00	3		12		4		10		7		22		
03:15	1		9		1		4		2		13		
03:30	1		10		2		8		3		18		
03:45	2	7	17	48	1	8	12	34	3	15	29	82	
04:00	1		12		1		11		2		23		
04:15	3		29		2		9		5		38		
04:30	1		17		1		7		2		24		
04:45	1	6	20	78	0	4	11	38	1	10	31	116	
05:00	1		20		0		12		1		32		
05:15	0		23		2		18		2		41		
05:30	0		18		4		14		4		32		
05:45	2	3	13	74	2	8	10	54	4	11	23	128	
06:00	0		25		2		20		2		45		
06:15	3		16		2		6		5		22		
06:30	2		19		0		10		2		29		
06:45	5	10	13	73	1	5	29	65	6	15	42	138	
07:00	3		11		4		22		7		33		
07:15	1		12		2		17		3		29		
07:30	2		11		2		21		4		32		
07:45	4	10	7	41	4	12	13	73	8	22	20	114	
08:00	3		15		3		11		6		26		
08:15	5		6		8		14		13		20		
08:30	6		14		5		17		11		31		
08:45	8	22	5	40	17	33	16	58	25	55	21	98	
09:00	7		6		7		23		14		29		
09:15	8		14		12		6		20		20		
09:30	12		6		11		14		23		20		
09:45	9	36	8	34	8	38	10	53	17	74	18	87	
10:00	14		10		8		7		22		17		
10:15	10		5		4		7		14		12		
10:30	9		5		4		5		13		10		
10:45	16	49	2	22	10	26	8	27	26	75	10	49	
11:00	15		6		12		9		27		15		
11:15	15		4		10		3		25		7		
11:30	16		3		14		4		30		7		
11:45	24	70	1	14	15	51	1	17	39	121	2	31	
Total	242		575		234		579		476		1154		
Percent	50.8%		49.8%		49.2%		50.2%						
Day Total		817				813				1630			
Peak	11:00	-	04:15	-	11:00	-	06:45	-	11:00	-	05:15	-	-	-
Vol.	70	-	86	-	51	-	89	-	121	-	141	-	-	-
P.H.F.	0.729		0.741		0.850		0.767		0.776		0.783			

Redfield Street
east of Woodworth Street
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175750 D Volume
Site Code: 13866.00

Start	EB				WB				Combined				06/19/17
Time	A.M.		P.M.		A.M.		P.M.		A.M.		P.M.		Mon
12:00	1		18		1		11		2		29		
12:15	0		25		1		18		1		43		
12:30	4		11		0		16		4		27		
12:45	2	7	21	75	2	4	7	52	4	11	28	127	
01:00	0		18		1		12		1		30		
01:15	2		14		0		19		2		33		
01:30	0		19		2		19		2		38		
01:45	1	3	13	64	1	4	8	58	2	7	21	122	
02:00	1		15		1		22		2		37		
02:15	2		15		0		15		2		30		
02:30	1		13		2		19		3		32		
02:45	2	6	18	61	0	3	17	73	2	9	35	134	
03:00	1		18		0		18		1		36		
03:15	0		13		0		18		0		31		
03:30	1		12		0		17		1		29		
03:45	0	2	11	54	1	1	6	59	1	3	17	113	
04:00	3		13		1		30		4		43		
04:15	1		13		2		19		3		32		
04:30	0		12		0		15		0		27		
04:45	3	7	8	46	1	4	14	78	4	11	22	124	
05:00	3		10		6		13		9		23		
05:15	5		18		2		15		7		33		
05:30	8		12		3		15		11		27		
05:45	16	32	17	57	1	12	18	61	17	44	35	118	
06:00	11		19		5		14		16		33		
06:15	12		17		6		7		18		24		
06:30	13		5		6		10		19		15		
06:45	21	57	13	54	4	21	9	40	25	78	22	94	
07:00	21		19		4		11		25		30		
07:15	20		10		8		13		28		23		
07:30	12		16		11		21		23		37		
07:45	14	67	12	57	4	27	9	54	18	94	21	111	
08:00	18		10		7		14		25		24		
08:15	13		4		6		5		19		9		
08:30	11		5		13		10		24		15		
08:45	17	59	14	33	9	35	9	38	26	94	23	71	
09:00	20		7		11		9		31		16		
09:15	14		11		10		6		24		17		
09:30	7		5		8		6		15		11		
09:45	21	62	8	31	17	46	4	25	38	108	12	56	
10:00	16		6		12		10		28		16		
10:15	17		6		10		8		27		14		
10:30	8		3		4		2		12		5		
10:45	14	55	5	20	9	35	2	22	23	90	7	42	
11:00	10		1		9		1		19		2		
11:15	13		5		11		0		24		5		
11:30	16		2		9		3		25		5		
11:45	21	60	5	13	9	38	0	4	30	98	5	17	
Total	417		565		230		564		647		1129		
Percent	64.5%		50.0%		35.5%		50.0%						
Day Total		982				794				1776			
Peak	06:30	-	12:00	-	09:15	-	04:00	-	09:00	-	02:00	-	-	-
Vol.	75	-	75	-	47	-	78	-	108	-	134	-	-	-
P.H.F.	0.893		0.750		0.691		0.650		0.711		0.882			

Redfield Street
east of Woodworth Street
City, State: Dorchester, MA
Client: VHB/ A. Santiago

PRECISION
D A T A
INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

175750 D Volume
Site Code: 13866.00

Start	EB				WB				Combined				06/20/17
Time	A.M.		P.M.		A.M.		P.M.		A.M.		P.M.		Tue
12:00	4		17		3		12		7		29		
12:15	2		26		2		10		4		36		
12:30	1		18		6		18		7		36		
12:45	2	9	28	89	1	12	19	59	3	21	47	148	
01:00	1		14		0		14		1		28		
01:15	0		14		0		19		0		33		
01:30	1		14		1		11		2		25		
01:45	0	2	13	55	0	1	15	59	0	3	28	114	
02:00	1		14		0		16		1		30		
02:15	1		12		2		14		3		26		
02:30	0		16		1		9		1		25		
02:45	2	4	11	53	2	5	12	51	4	9	23	104	
03:00	0		14		1		18		1		32		
03:15	0		16		3		13		3		29		
03:30	2		18		0		13		2		31		
03:45	1	3	26	74	0	4	21	65	1	7	47	139	
04:00	3		21		2		29		5		50		
04:15	1		21		1		22		2		43		
04:30	1		18		2		17		3		35		
04:45	3	8	26	86	1	6	31	99	4	14	57	185	
05:00	1		8		5		19		6		27		
05:15	5		20		0		19		5		39		
05:30	7		17		1		9		8		26		
05:45	15	28	15	60	7	13	21	68	22	41	36	128	
06:00	9		25		5		11		14		36		
06:15	9		24		3		11		12		35		
06:30	10		25		6		4		16		29		
06:45	17	45	24	98	6	20	20	46	23	65	44	144	
07:00	21		22		9		13		30		35		
07:15	25		21		7		12		32		33		
07:30	13		21		7		15		20		36		
07:45	8	67	15	79	10	33	14	54	18	100	29	133	
08:00	22		8		5		14		27		22		
08:15	15		6		6		15		21		21		
08:30	19		9		10		8		29		17		
08:45	18	74	8	31	15	36	26	63	33	110	34	94	
09:00	20		9		11		15		31		24		
09:15	19		9		12		18		31		27		
09:30	19		9		10		13		29		22		
09:45	23	81	8	35	10	43	19	65	33	124	27	100	
10:00	20		4		8		9		28		13		
10:15	18		4		9		6		27		10		
10:30	21		4		9		7		30		11		
10:45	16	75	1	13	7	33	8	30	23	108	9	43	
11:00	16		7		3		7		19		14		
11:15	13		5		11		6		24		11		
11:30	13		0		12		2		25		2		
11:45	26	68	2	14	6	32	4	19	32	100	6	33	
Total	464		687		238		678		702		1365		
Percent	66.1%		50.3%		33.9%		49.7%						
Day Total		1151				916				2067			
Peak	09:45	-	06:00	-	08:30	-	04:00	-	08:30	-	04:00	-	-	-
Vol.	82	-	98	-	48	-	99	-	124	-	185	-	-	-
P.H.F.	0.891		0.875		0.800		0.798		0.939		0.811			

Redfield Street
east of Woodworth Street
City, State: Dorchester, MA
Client: VHB/ A. Santiago

PRECISION
D A T A
INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

175750 D Volume
Site Code: 13866.00

Start	EB				WB				Combined				06/21/17
Time	A.M.		P.M.		A.M.		P.M.		A.M.		P.M.		Wed
12:00	0		27		0		15		0		42		
12:15	1		25		1		13		2		38		
12:30	4		26		5		26		9		52		
12:45	1	6	15	93	2	8	12	66	3	14	27	159	
01:00	1		18		1		16		2		34		
01:15	3		17		2		11		5		28		
01:30	0		23		1		15		1		38		
01:45	1	5	13	71	0	4	17	59	1	9	30	130	
02:00	1		23		0		20		1		43		
02:15	0		20		0		14		0		34		
02:30	0		19		0		28		0		47		
02:45	0	1	16	78	0	0	11	73	0	1	27	151	
03:00	2		15		2		17		4		32		
03:15	0		11		1		10		1		21		
03:30	1		19		0		17		1		36		
03:45	2	5	17	62	3	6	24	68	5	11	41	130	
04:00	2		25		2		30		4		55		
04:15	1		24		0		21		1		45		
04:30	1		9		2		22		3		31		
04:45	3	7	13	71	1	5	25	98	4	12	38	169	
05:00	2		18		6		21		8		39		
05:15	5		22		2		24		7		46		
05:30	11		13		3		13		14		26		
05:45	11	29	26	79	3	14	15	73	14	43	41	152	
06:00	8		20		9		12		17		32		
06:15	12		18		5		16		17		34		
06:30	13		24		3		10		16		34		
06:45	24	57	26	88	7	24	12	50	31	81	38	138	
07:00	23		25		8		15		31		40		
07:15	21		13		7		18		28		31		
07:30	11		8		9		19		20		27		
07:45	21	76	10	56	6	30	11	63	27	106	21	119	
08:00	13		14		5		16		18		30		
08:15	13		14		4		11		17		25		
08:30	9		8		19		18		28		26		
08:45	15	50	9	45	4	32	15	60	19	82	24	105	
09:00	18		16		4		17		22		33		
09:15	21		10		13		16		34		26		
09:30	22		4		8		11		30		15		
09:45	18	79	7	37	6	31	15	59	24	110	22	96	
10:00	13		6		7		14		20		20		
10:15	15		10		6		7		21		17		
10:30	18		4		15		4		33		8		
10:45	14	60	5	25	14	42	2	27	28	102	7	52	
11:00	8		6		11		3		19		9		
11:15	11		4		9		6		20		10		
11:30	24		5		8		3		32		8		
11:45	29	72	3	18	12	40	2	14	41	112	5	32	
Total	447		723		236		710		683		1433		
Percent	65.4%		50.5%		34.6%		49.5%						
Day Total		1170				946				2116			
Peak	06:30	-	12:00	-	10:30	-	04:00	-	11:00	-	03:30	-	-	-
Vol.	81	-	93	-	49	-	98	-	112	-	177	-	-	-
P.H.F.	0.844		0.861		0.817		0.817		0.683		0.805			

Redfield Street
east of Woodworth Street
City, State: Dorchester, MA
Client: VHB/ A. Santiago

PRECISION
D A T A
INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

175750 D Volume
Site Code: 13866.00

Start	EB				WB				Combined				06/22/17
Time	A.M.		P.M.		A.M.		P.M.		A.M.		P.M.		Thu
12:00	3		24		2		21		5		45		
12:15	1		19		1		22		2		41		
12:30	0		24		0		13		0		37		
12:45	5	9	24	91	3	6	17	73	8	15	41	164	
01:00	0		12		4		14		4		26		
01:15	1		21		0		21		1		42		
01:30	0		18		1		10		1		28		
01:45	1	2	9	60	1	6	14	59	2	8	23	119	
02:00	0		16		0		13		0		29		
02:15	0		11		0		16		0		27		
02:30	0		16		1		20		1		36		
02:45	2	2	19	62	0	1	11	60	2	3	30	122	
03:00	0		20		0		20		0		40		
03:15	1		14		1		13		2		27		
03:30	1		21		0		17		1		38		
03:45	1	3	17	72	2	3	21	71	3	6	38	143	
04:00	0		22		0		16		0		38		
04:15	0		21		1		23		1		44		
04:30	2		26		2		12		4		38		
04:45	4	6	29	98	1	4	11	62	5	10	40	160	
05:00	6		41		7		19		13		60		
05:15	3		50		1		19		4		69		
05:30	9		38		3		19		12		57		
05:45	12	30	49	178	6	17	17	74	18	47	66	252	
06:00	13		41		3		21		16		62		
06:15	12		56		6		14		18		70		
06:30	15		31		8		17		23		48		
06:45	25	65	35	163	7	24	19	71	32	89	54	234	
07:00	28		24		7		19		35		43		
07:15	16		14		9		15		25		29		
07:30	19		17		5		13		24		30		
07:45	14	77	16	71	9	30	22	69	23	107	38	140	
08:00	13		6		8		13		21		19		
08:15	15		18		9		19		24		37		
08:30	13		10		9		53		22		63		
08:45	15	56	15	49	6	32	63	148	21	88	78	197	
09:00	20		12		8		72		28		84		
09:15	12		14		13		56		25		70		
09:30	17		5		8		28		25		33		
09:45	12	61	6	37	15	44	24	180	27	105	30	217	
10:00	18		8		7		22		25		30		
10:15	15		1		5		18		20		19		
10:30	17		6		21		14		38		20		
10:45	18	68	9	24	15	48	11	65	33	116	20	89	
11:00	23		9		15		9		38		18		
11:15	14		7		17		5		31		12		
11:30	13		3		14		3		27		6		
11:45	15	65	3	22	10	56	2	19	25	121	5	41	
Total	444		927		271		951		715		1878		
Percent	62.1%		49.4%		37.9%		50.6%						
Day Total		1371				1222				2593			
Peak	06:45	-	05:30	-	10:30	-	08:30	-	10:30	-	08:30	-	-	-
Vol.	88	-	184	-	68	-	244	-	140	-	295	-	-	-
P.H.F.	0.786		0.821		0.810		0.847		0.921		0.878			

Redfield Street
east of Woodworth Street
City, State: Dorchester, MA
Client: VHB/ A. Santiago

PRECISION
D A T A
INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

175750 D Volume
Site Code: 13866.00

Start	EB				WB				Combined				06/23/17
Time	A.M.		P.M.		A.M.		P.M.		A.M.		P.M.		Fri
12:00	3		19		3		10		6		29		
12:15	3		11		6		17		9		28		
12:30	3		13		2		8		5		21		
12:45	5	14	18	61	4	15	11	46	9	29	29	107	
01:00	0		19		2		21		2		40		
01:15	2		13		0		12		2		25		
01:30	1		11		1		8		2		19		
01:45	1	4	18	61	1	4	18	59	2	8	36	120	
02:00	0		22		1		11		1		33		
02:15	2		22		0		14		2		36		
02:30	3		17		2		22		5		39		
02:45	1	6	17	78	2	5	20	67	3	11	37	145	
03:00	0		19		0		18		0		37		
03:15	0		18		1		14		1		32		
03:30	1		19		0		11		1		30		
03:45	0	1	33	89	2	3	19	62	2	4	52	151	
04:00	1		33		1		26		2		59		
04:15	2		11		2		9		4		20		
04:30	2		23		1		27		3		50		
04:45	4	9	14	81	2	6	29	91	6	15	43	172	
05:00	3		19		5		10		8		29		
05:15	4		21		1		16		5		37		
05:30	10		24		4		12		14		36		
05:45	19	36	33	97	2	12	12	50	21	48	45	147	
06:00	13		26		6		10		19		36		
06:15	5		35		8		12		13		47		
06:30	14		28		6		20		20		48		
06:45	16	48	25	114	4	24	12	54	20	72	37	168	
07:00	12		22		6		16		18		38		
07:15	17		16		4		14		21		30		
07:30	21		18		8		9		29		27		
07:45	10	60	16	72	10	28	16	55	20	88	32	127	
08:00	11		16		14		18		25		34		
08:15	9		11		10		14		19		25		
08:30	12		15		10		20		22		35		
08:45	13	45	12	54	12	46	13	65	25	91	25	119	
09:00	13		9		14		16		27		25		
09:15	9		9		6		26		15		35		
09:30	18		8		4		32		22		40		
09:45	14	54	6	32	14	38	17	91	28	92	23	123	
10:00	15		9		13		36		28		45		
10:15	16		10		10		13		26		23		
10:30	14		4		19		15		33		19		
10:45	18	63	5	28	17	59	9	73	35	122	14	101	
11:00	12		5		11		6		23		11		
11:15	11		10		11		11		22		21		
11:30	10		4		9		11		19		15		
11:45	25	58	3	22	27	58	6	34	52	116	9	56	
Total	398		789		298		747		696		1536		
Percent	57.2%		51.4%		42.8%		48.6%						
Day Total		1187				1045				2232			
Peak	06:45	-	05:45	-	10:00	-	09:15	-	10:00	-	03:45	-	-	-
Vol.	66	-	122	-	59	-	111	-	122	-	181	-	-	-
P.H.F.	0.786		0.871		0.776		0.771		0.871		0.767			

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Redfield Street
east of Woodworth Street
City, State: Dorchester, MA
Client: VHB/ A. Santiago

175750 D Class
Site Code: 13866.00

EB

Start Time	Cars	Medium Heavy	Large Heavy											Total
06/17/1														
7	10	0	0	0	0	0	0	0	0	0	0	0	0	10
01:00	5	0	0	0	0	0	0	0	0	0	0	0	0	5
02:00	6	0	0	0	0	0	0	0	0	0	0	0	0	6
03:00	4	0	0	0	0	0	0	0	0	0	0	0	0	4
04:00	2	1	0	0	0	0	0	0	0	0	0	0	0	3
05:00	9	1	0	0	0	0	0	0	0	0	0	0	0	10
06:00	23	0	0	0	0	0	0	0	0	0	0	0	0	23
07:00	34	1	0	0	0	0	0	0	0	0	0	0	0	35
08:00	33	0	0	0	0	0	0	0	0	0	0	0	0	33
09:00	38	3	1	0	0	0	0	0	0	0	0	0	0	42
10:00	48	0	0	0	0	0	0	0	0	0	0	0	0	48
11:00	55	1	0	0	0	0	0	0	0	0	0	0	0	56
12 PM	50	1	0	0	0	0	0	0	0	0	0	0	0	51
13:00	53	2	0	0	0	0	0	0	0	0	0	0	0	55
14:00	64	0	0	0	0	0	0	0	0	0	0	0	0	64
15:00	62	0	0	0	0	0	0	0	0	0	0	0	0	62
16:00	71	3	0	0	0	0	0	0	0	0	0	0	0	74
17:00	103	0	0	0	0	0	0	0	0	0	0	0	0	103
18:00	66	0	0	0	0	0	0	0	0	0	0	0	0	66
19:00	66	0	0	0	0	0	0	0	0	0	0	0	0	66
20:00	56	1	0	0	0	0	0	0	0	0	0	0	0	57
21:00	42	0	0	0	0	0	0	0	0	0	0	0	0	42
22:00	47	0	0	0	0	0	0	0	0	0	0	0	0	47
23:00	37	1	0	0	0	0	0	0	0	0	0	0	0	38
Total	984	15	1	0	0	0	0	0	0	0	0	0	0	1000
Percent	98.4%	1.5%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	11:00	09:00	09:00											11:00
Vol.	55	3	1											56
PM Peak	17:00	16:00												17:00
Vol.	103	3												103

PRECISION
D A T A
INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Redfield Street
east of Woodworth Street
City, State: Dorchester, MA
Client: VHB/ A. Santiago

175750 D Class
Site Code: 13866.00

EB

Start Time	Cars	Medium Heavy	Large Heavy											Total
06/18/1														
7	13	0	0	0	0	0	0	0	0	0	0	0	0	13
01:00	12	0	0	0	0	0	0	0	0	0	0	0	0	12
02:00	4	0	0	0	0	0	0	0	0	0	0	0	0	4
03:00	7	0	0	0	0	0	0	0	0	0	0	0	0	7
04:00	6	0	0	0	0	0	0	0	0	0	0	0	0	6
05:00	3	0	0	0	0	0	0	0	0	0	0	0	0	3
06:00	10	0	0	0	0	0	0	0	0	0	0	0	0	10
07:00	10	0	0	0	0	0	0	0	0	0	0	0	0	10
08:00	22	0	0	0	0	0	0	0	0	0	0	0	0	22
09:00	36	0	0	0	0	0	0	0	0	0	0	0	0	36
10:00	49	0	0	0	0	0	0	0	0	0	0	0	0	49
11:00	69	1	0	0	0	0	0	0	0	0	0	0	0	70
12 PM	58	0	0	0	0	0	0	0	0	0	0	0	0	58
13:00	47	0	0	0	0	0	0	0	0	0	0	0	0	47
14:00	46	0	0	0	0	0	0	0	0	0	0	0	0	46
15:00	48	0	0	0	0	0	0	0	0	0	0	0	0	48
16:00	78	0	0	0	0	0	0	0	0	0	0	0	0	78
17:00	74	0	0	0	0	0	0	0	0	0	0	0	0	74
18:00	70	3	0	0	0	0	0	0	0	0	0	0	0	73
19:00	41	0	0	0	0	0	0	0	0	0	0	0	0	41
20:00	40	0	0	0	0	0	0	0	0	0	0	0	0	40
21:00	34	0	0	0	0	0	0	0	0	0	0	0	0	34
22:00	21	1	0	0	0	0	0	0	0	0	0	0	0	22
23:00	14	0	0	0	0	0	0	0	0	0	0	0	0	14
Total	812	5	0	0	0	0	0	0	0	0	0	0	0	817
Percent	99.4%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	11:00	11:00												11:00
Vol.	69	1												70
PM Peak	16:00	18:00												16:00
Vol.	78	3												78

PRECISION
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Redfield Street
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175750 D Class
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EB

Start Time	Cars	Medium Heavy	Large Heavy											Total
06/19/1														
7	7	0	0	0	0	0	0	0	0	0	0	0	0	7
01:00	3	0	0	0	0	0	0	0	0	0	0	0	0	3
02:00	6	0	0	0	0	0	0	0	0	0	0	0	0	6
03:00	2	0	0	0	0	0	0	0	0	0	0	0	0	2
04:00	7	0	0	0	0	0	0	0	0	0	0	0	0	7
05:00	32	0	0	0	0	0	0	0	0	0	0	0	0	32
06:00	54	3	0	0	0	0	0	0	0	0	0	0	0	57
07:00	62	5	0	0	0	0	0	0	0	0	0	0	0	67
08:00	57	2	0	0	0	0	0	0	0	0	0	0	0	59
09:00	58	4	0	0	0	0	0	0	0	0	0	0	0	62
10:00	49	6	0	0	0	0	0	0	0	0	0	0	0	55
11:00	55	5	0	0	0	0	0	0	0	0	0	0	0	60
12 PM	68	6	1	0	0	0	0	0	0	0	0	0	0	75
13:00	58	6	0	0	0	0	0	0	0	0	0	0	0	64
14:00	53	8	0	0	0	0	0	0	0	0	0	0	0	61
15:00	52	2	0	0	0	0	0	0	0	0	0	0	0	54
16:00	44	2	0	0	0	0	0	0	0	0	0	0	0	46
17:00	56	1	0	0	0	0	0	0	0	0	0	0	0	57
18:00	54	0	0	0	0	0	0	0	0	0	0	0	0	54
19:00	57	0	0	0	0	0	0	0	0	0	0	0	0	57
20:00	32	1	0	0	0	0	0	0	0	0	0	0	0	33
21:00	31	0	0	0	0	0	0	0	0	0	0	0	0	31
22:00	20	0	0	0	0	0	0	0	0	0	0	0	0	20
23:00	13	0	0	0	0	0	0	0	0	0	0	0	0	13
Total	930	51	1	0	0	0	0	0	0	0	0	0	0	982
Percent	94.7%	5.2%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	07:00	10:00												07:00
Vol.	62	6												67
PM Peak	12:00	14:00	12:00											12:00
Vol.	68	8	1											75

PRECISION
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Redfield Street
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175750 D Class
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EB

Start Time	Cars	Medium Heavy	Large Heavy											Total
06/20/1														
7	9	0	0	0	0	0	0	0	0	0	0	0	0	9
01:00	2	0	0	0	0	0	0	0	0	0	0	0	0	2
02:00	4	0	0	0	0	0	0	0	0	0	0	0	0	4
03:00	2	1	0	0	0	0	0	0	0	0	0	0	0	3
04:00	7	1	0	0	0	0	0	0	0	0	0	0	0	8
05:00	28	0	0	0	0	0	0	0	0	0	0	0	0	28
06:00	43	2	0	0	0	0	0	0	0	0	0	0	0	45
07:00	64	3	0	0	0	0	0	0	0	0	0	0	0	67
08:00	69	5	0	0	0	0	0	0	0	0	0	0	0	74
09:00	74	7	0	0	0	0	0	0	0	0	0	0	0	81
10:00	64	11	0	0	0	0	0	0	0	0	0	0	0	75
11:00	61	7	0	0	0	0	0	0	0	0	0	0	0	68
12 PM	83	5	1	0	0	0	0	0	0	0	0	0	0	89
13:00	52	3	0	0	0	0	0	0	0	0	0	0	0	55
14:00	42	11	0	0	0	0	0	0	0	0	0	0	0	53
15:00	72	1	1	0	0	0	0	0	0	0	0	0	0	74
16:00	84	2	0	0	0	0	0	0	0	0	0	0	0	86
17:00	59	1	0	0	0	0	0	0	0	0	0	0	0	60
18:00	98	0	0	0	0	0	0	0	0	0	0	0	0	98
19:00	79	0	0	0	0	0	0	0	0	0	0	0	0	79
20:00	31	0	0	0	0	0	0	0	0	0	0	0	0	31
21:00	35	0	0	0	0	0	0	0	0	0	0	0	0	35
22:00	13	0	0	0	0	0	0	0	0	0	0	0	0	13
23:00	13	1	0	0	0	0	0	0	0	0	0	0	0	14
Total	1088	61	2	0	0	0	0	0	0	0	0	0	0	1151
Percent	94.5%	5.3%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	09:00	10:00												09:00
Vol.	74	11												81
PM Peak	18:00	14:00	12:00											18:00
Vol.	98	11	1											98

PRECISION
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175750 D Class
Site Code: 13866.00

EB

Start Time	Cars	Medium Heavy	Large Heavy											Total
06/21/1														
7	5	1	0	0	0	0	0	0	0	0	0	0	0	6
01:00	5	0	0	0	0	0	0	0	0	0	0	0	0	5
02:00	1	0	0	0	0	0	0	0	0	0	0	0	0	1
03:00	4	1	0	0	0	0	0	0	0	0	0	0	0	5
04:00	7	0	0	0	0	0	0	0	0	0	0	0	0	7
05:00	28	1	0	0	0	0	0	0	0	0	0	0	0	29
06:00	54	3	0	0	0	0	0	0	0	0	0	0	0	57
07:00	73	3	0	0	0	0	0	0	0	0	0	0	0	76
08:00	48	2	0	0	0	0	0	0	0	0	0	0	0	50
09:00	73	5	1	0	0	0	0	0	0	0	0	0	0	79
10:00	48	12	0	0	0	0	0	0	0	0	0	0	0	60
11:00	64	8	0	0	0	0	0	0	0	0	0	0	0	72
12 PM	86	7	0	0	0	0	0	0	0	0	0	0	0	93
13:00	67	4	0	0	0	0	0	0	0	0	0	0	0	71
14:00	67	11	0	0	0	0	0	0	0	0	0	0	0	78
15:00	60	2	0	0	0	0	0	0	0	0	0	0	0	62
16:00	70	1	0	0	0	0	0	0	0	0	0	0	0	71
17:00	77	2	0	0	0	0	0	0	0	0	0	0	0	79
18:00	85	3	0	0	0	0	0	0	0	0	0	0	0	88
19:00	55	1	0	0	0	0	0	0	0	0	0	0	0	56
20:00	45	0	0	0	0	0	0	0	0	0	0	0	0	45
21:00	37	0	0	0	0	0	0	0	0	0	0	0	0	37
22:00	25	0	0	0	0	0	0	0	0	0	0	0	0	25
23:00	18	0	0	0	0	0	0	0	0	0	0	0	0	18
Total	1102	67	1	0	0	0	0	0	0	0	0	0	0	1170
Percent	94.2%	5.7%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	07:00	10:00	09:00											09:00
Vol.	73	12	1											79
PM Peak	12:00	14:00												12:00
Vol.	86	11												93

PRECISION
D A T A
INDUSTRIES, LLC
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Redfield Street
east of Woodworth Street
City, State: Dorchester, MA
Client: VHB/ A. Santiago

175750 D Class
Site Code: 13866.00

EB

Start Time	Cars	Medium Heavy	Large Heavy											Total
06/22/1														
7	8	1	0	0	0	0	0	0	0	0	0	0	0	9
01:00	2	0	0	0	0	0	0	0	0	0	0	0	0	2
02:00	2	0	0	0	0	0	0	0	0	0	0	0	0	2
03:00	2	1	0	0	0	0	0	0	0	0	0	0	0	3
04:00	6	0	0	0	0	0	0	0	0	0	0	0	0	6
05:00	28	2	0	0	0	0	0	0	0	0	0	0	0	30
06:00	63	2	0	0	0	0	0	0	0	0	0	0	0	65
07:00	75	2	0	0	0	0	0	0	0	0	0	0	0	77
08:00	54	2	0	0	0	0	0	0	0	0	0	0	0	56
09:00	56	5	0	0	0	0	0	0	0	0	0	0	0	61
10:00	61	7	0	0	0	0	0	0	0	0	0	0	0	68
11:00	63	2	0	0	0	0	0	0	0	0	0	0	0	65
12 PM	83	8	0	0	0	0	0	0	0	0	0	0	0	91
13:00	59	1	0	0	0	0	0	0	0	0	0	0	0	60
14:00	59	2	1	0	0	0	0	0	0	0	0	0	0	62
15:00	69	3	0	0	0	0	0	0	0	0	0	0	0	72
16:00	94	3	1	0	0	0	0	0	0	0	0	0	0	98
17:00	177	1	0	0	0	0	0	0	0	0	0	0	0	178
18:00	162	1	0	0	0	0	0	0	0	0	0	0	0	163
19:00	69	2	0	0	0	0	0	0	0	0	0	0	0	71
20:00	48	1	0	0	0	0	0	0	0	0	0	0	0	49
21:00	37	0	0	0	0	0	0	0	0	0	0	0	0	37
22:00	23	1	0	0	0	0	0	0	0	0	0	0	0	24
23:00	22	0	0	0	0	0	0	0	0	0	0	0	0	22
Total	1322	47	2	0	0	0	0	0	0	0	0	0	0	1371
Percent	96.4%	3.4%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	07:00	10:00												07:00
Vol.	75	7												77
PM Peak	17:00	12:00	14:00											17:00
Vol.	177	8	1											178

PRECISION
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Redfield Street
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175750 D Class
Site Code: 13866.00

EB

Start Time	Cars	Medium Heavy	Large Heavy											Total
06/23/1														
7	14	0	0	0	0	0	0	0	0	0	0	0	0	14
01:00	4	0	0	0	0	0	0	0	0	0	0	0	0	4
02:00	5	0	1	0	0	0	0	0	0	0	0	0	0	6
03:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
04:00	8	1	0	0	0	0	0	0	0	0	0	0	0	9
05:00	36	0	0	0	0	0	0	0	0	0	0	0	0	36
06:00	45	3	0	0	0	0	0	0	0	0	0	0	0	48
07:00	59	1	0	0	0	0	0	0	0	0	0	0	0	60
08:00	43	2	0	0	0	0	0	0	0	0	0	0	0	45
09:00	51	3	0	0	0	0	0	0	0	0	0	0	0	54
10:00	54	9	0	0	0	0	0	0	0	0	0	0	0	63
11:00	53	5	0	0	0	0	0	0	0	0	0	0	0	58
12 PM	59	2	0	0	0	0	0	0	0	0	0	0	0	61
13:00	55	6	0	0	0	0	0	0	0	0	0	0	0	61
14:00	75	3	0	0	0	0	0	0	0	0	0	0	0	78
15:00	87	2	0	0	0	0	0	0	0	0	0	0	0	89
16:00	80	1	0	0	0	0	0	0	0	0	0	0	0	81
17:00	96	1	0	0	0	0	0	0	0	0	0	0	0	97
18:00	114	0	0	0	0	0	0	0	0	0	0	0	0	114
19:00	71	1	0	0	0	0	0	0	0	0	0	0	0	72
20:00	54	0	0	0	0	0	0	0	0	0	0	0	0	54
21:00	32	0	0	0	0	0	0	0	0	0	0	0	0	32
22:00	28	0	0	0	0	0	0	0	0	0	0	0	0	28
23:00	21	1	0	0	0	0	0	0	0	0	0	0	0	22
Total	1144	42	1	0	0	0	0	0	0	0	0	0	0	1187
Percent	96.4%	3.5%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	07:00	10:00	02:00											10:00
Vol.	59	9	1											63
PM Peak	18:00	13:00												18:00
Vol.	114	6												114

PRECISION
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Redfield Street
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175750 D Class
Site Code: 13866.00

WB

Start Time	Cars	Medium Heavy	Large Heavy											Total
06/17/1														
7	17	0	0	0	0	0	0	0	0	0	0	0	0	17
01:00	5	0	0	0	0	0	0	0	0	0	0	0	0	5
02:00	6	0	0	0	0	0	0	0	0	0	0	0	0	6
03:00	7	0	0	0	0	0	0	0	0	0	0	0	0	7
04:00	4	0	0	0	0	0	0	0	0	0	0	0	0	4
05:00	8	2	0	0	0	0	0	0	0	0	0	0	0	10
06:00	11	0	0	0	0	0	0	0	0	0	0	0	0	11
07:00	16	1	0	0	0	0	0	0	0	0	0	0	0	17
08:00	24	0	0	0	0	0	0	0	0	0	0	0	0	24
09:00	31	0	0	0	0	0	0	0	0	0	0	0	0	31
10:00	30	0	0	0	0	0	0	0	0	0	0	0	0	30
11:00	48	2	0	0	0	0	0	0	0	0	0	0	0	50
12 PM	53	2	0	0	0	0	0	0	0	0	0	0	0	55
13:00	45	0	0	0	0	0	0	0	0	0	0	0	0	45
14:00	53	1	0	0	0	0	0	0	0	0	0	0	0	54
15:00	71	0	0	0	0	0	0	0	0	0	0	0	0	71
16:00	69	1	0	0	0	0	0	0	0	0	0	0	0	70
17:00	48	0	0	0	0	0	0	0	0	0	0	0	0	48
18:00	52	2	0	0	0	0	0	0	0	0	0	0	0	54
19:00	57	0	0	0	0	0	0	0	0	0	0	0	0	57
20:00	56	0	0	0	0	0	0	0	0	0	0	0	0	56
21:00	74	0	0	0	0	0	0	0	0	0	0	0	0	74
22:00	79	0	0	0	0	0	0	0	0	0	0	0	0	79
23:00	63	1	0	0	0	0	0	0	0	0	0	0	0	64
Total	927	12	0	0	0	0	0	0	0	0	0	0	0	939
Percent	98.7%	1.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	11:00	05:00												11:00
Vol.	48	2												50
PM Peak	22:00	12:00												22:00
Vol.	79	2												79

PRECISION
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WB

Start Time	Cars	Medium Heavy	Large Heavy											Total
06/18/1														
7	29	0	0	0	0	0	0	0	0	0	0	0	0	29
01:00	16	0	0	0	0	0	0	0	0	0	0	0	0	16
02:00	4	0	0	0	0	0	0	0	0	0	0	0	0	4
03:00	8	0	0	0	0	0	0	0	0	0	0	0	0	8
04:00	4	0	0	0	0	0	0	0	0	0	0	0	0	4
05:00	8	0	0	0	0	0	0	0	0	0	0	0	0	8
06:00	5	0	0	0	0	0	0	0	0	0	0	0	0	5
07:00	12	0	0	0	0	0	0	0	0	0	0	0	0	12
08:00	33	0	0	0	0	0	0	0	0	0	0	0	0	33
09:00	38	0	0	0	0	0	0	0	0	0	0	0	0	38
10:00	26	0	0	0	0	0	0	0	0	0	0	0	0	26
11:00	50	1	0	0	0	0	0	0	0	0	0	0	0	51
12 PM	53	1	0	0	0	0	0	0	0	0	0	0	0	54
13:00	56	1	0	0	0	0	0	0	0	0	0	0	0	57
14:00	49	0	0	0	0	0	0	0	0	0	0	0	0	49
15:00	34	0	0	0	0	0	0	0	0	0	0	0	0	34
16:00	37	1	0	0	0	0	0	0	0	0	0	0	0	38
17:00	54	0	0	0	0	0	0	0	0	0	0	0	0	54
18:00	65	0	0	0	0	0	0	0	0	0	0	0	0	65
19:00	72	1	0	0	0	0	0	0	0	0	0	0	0	73
20:00	58	0	0	0	0	0	0	0	0	0	0	0	0	58
21:00	52	1	0	0	0	0	0	0	0	0	0	0	0	53
22:00	26	1	0	0	0	0	0	0	0	0	0	0	0	27
23:00	17	0	0	0	0	0	0	0	0	0	0	0	0	17
Total	806	7	0	0	0	0	0	0	0	0	0	0	0	813
Percent	99.1%	0.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	11:00	11:00												11:00
Vol.	50	1												51
PM Peak	19:00	12:00												19:00
Vol.	72	1												73

PRECISION
D A T A
INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Redfield Street
east of Woodworth Street
City, State: Dorchester, MA
Client: VHB/ A. Santiago

175750 D Class
Site Code: 13866.00

WB

Start Time	Cars	Medium Heavy	Large Heavy											Total
06/19/1														
7	4	0	0	0	0	0	0	0	0	0	0	0	0	4
01:00	4	0	0	0	0	0	0	0	0	0	0	0	0	4
02:00	3	0	0	0	0	0	0	0	0	0	0	0	0	3
03:00	1	0	0	0	0	0	0	0	0	0	0	0	0	1
04:00	4	0	0	0	0	0	0	0	0	0	0	0	0	4
05:00	12	0	0	0	0	0	0	0	0	0	0	0	0	12
06:00	19	2	0	0	0	0	0	0	0	0	0	0	0	21
07:00	25	2	0	0	0	0	0	0	0	0	0	0	0	27
08:00	30	5	0	0	0	0	0	0	0	0	0	0	0	35
09:00	45	1	0	0	0	0	0	0	0	0	0	0	0	46
10:00	35	0	0	0	0	0	0	0	0	0	0	0	0	35
11:00	36	2	0	0	0	0	0	0	0	0	0	0	0	38
12 PM	42	10	0	0	0	0	0	0	0	0	0	0	0	52
13:00	53	4	1	0	0	0	0	0	0	0	0	0	0	58
14:00	67	6	0	0	0	0	0	0	0	0	0	0	0	73
15:00	58	1	0	0	0	0	0	0	0	0	0	0	0	59
16:00	69	9	0	0	0	0	0	0	0	0	0	0	0	78
17:00	61	0	0	0	0	0	0	0	0	0	0	0	0	61
18:00	40	0	0	0	0	0	0	0	0	0	0	0	0	40
19:00	53	1	0	0	0	0	0	0	0	0	0	0	0	54
20:00	38	0	0	0	0	0	0	0	0	0	0	0	0	38
21:00	25	0	0	0	0	0	0	0	0	0	0	0	0	25
22:00	22	0	0	0	0	0	0	0	0	0	0	0	0	22
23:00	4	0	0	0	0	0	0	0	0	0	0	0	0	4
Total	750	43	1	0	0	0	0	0	0	0	0	0	0	794
Percent	94.5%	5.4%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	09:00	08:00												09:00
Vol.	45	5												46
PM Peak	16:00	12:00	13:00											16:00
Vol.	69	10	1											78

PRECISION
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Redfield Street
east of Woodworth Street
City, State: Dorchester, MA
Client: VHB/ A. Santiago

175750 D Class
Site Code: 13866.00

WB

Start Time	Cars	Medium Heavy	Large Heavy											Total
06/20/1														
7	11	1	0	0	0	0	0	0	0	0	0	0	0	12
01:00	1	0	0	0	0	0	0	0	0	0	0	0	0	1
02:00	5	0	0	0	0	0	0	0	0	0	0	0	0	5
03:00	4	0	0	0	0	0	0	0	0	0	0	0	0	4
04:00	5	0	1	0	0	0	0	0	0	0	0	0	0	6
05:00	13	0	0	0	0	0	0	0	0	0	0	0	0	13
06:00	19	1	0	0	0	0	0	0	0	0	0	0	0	20
07:00	32	1	0	0	0	0	0	0	0	0	0	0	0	33
08:00	33	3	0	0	0	0	0	0	0	0	0	0	0	36
09:00	40	3	0	0	0	0	0	0	0	0	0	0	0	43
10:00	27	6	0	0	0	0	0	0	0	0	0	0	0	33
11:00	30	2	0	0	0	0	0	0	0	0	0	0	0	32
12 PM	48	11	0	0	0	0	0	0	0	0	0	0	0	59
13:00	56	3	0	0	0	0	0	0	0	0	0	0	0	59
14:00	45	6	0	0	0	0	0	0	0	0	0	0	0	51
15:00	56	9	0	0	0	0	0	0	0	0	0	0	0	65
16:00	93	5	1	0	0	0	0	0	0	0	0	0	0	99
17:00	66	2	0	0	0	0	0	0	0	0	0	0	0	68
18:00	44	2	0	0	0	0	0	0	0	0	0	0	0	46
19:00	54	0	0	0	0	0	0	0	0	0	0	0	0	54
20:00	63	0	0	0	0	0	0	0	0	0	0	0	0	63
21:00	65	0	0	0	0	0	0	0	0	0	0	0	0	65
22:00	30	0	0	0	0	0	0	0	0	0	0	0	0	30
23:00	18	1	0	0	0	0	0	0	0	0	0	0	0	19
Total	858	56	2	0	0	0	0	0	0	0	0	0	0	916
Percent	93.7%	6.1%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	09:00	10:00	04:00											09:00
Vol.	40	6	1											43
PM Peak	16:00	12:00	16:00											16:00
Vol.	93	11	1											99

PRECISION
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Redfield Street
east of Woodworth Street
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175750 D Class
Site Code: 13866.00

WB

Start Time	Cars	Medium Heavy	Large Heavy											Total
06/21/1														
7	8	0	0	0	0	0	0	0	0	0	0	0	0	8
01:00	4	0	0	0	0	0	0	0	0	0	0	0	0	4
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	5	1	0	0	0	0	0	0	0	0	0	0	0	6
04:00	5	0	0	0	0	0	0	0	0	0	0	0	0	5
05:00	13	1	0	0	0	0	0	0	0	0	0	0	0	14
06:00	24	0	0	0	0	0	0	0	0	0	0	0	0	24
07:00	27	3	0	0	0	0	0	0	0	0	0	0	0	30
08:00	28	4	0	0	0	0	0	0	0	0	0	0	0	32
09:00	30	1	0	0	0	0	0	0	0	0	0	0	0	31
10:00	40	2	0	0	0	0	0	0	0	0	0	0	0	42
11:00	34	5	1	0	0	0	0	0	0	0	0	0	0	40
12 PM	48	18	0	0	0	0	0	0	0	0	0	0	0	66
13:00	55	4	0	0	0	0	0	0	0	0	0	0	0	59
14:00	68	5	0	0	0	0	0	0	0	0	0	0	0	73
15:00	66	2	0	0	0	0	0	0	0	0	0	0	0	68
16:00	88	10	0	0	0	0	0	0	0	0	0	0	0	98
17:00	72	1	0	0	0	0	0	0	0	0	0	0	0	73
18:00	50	0	0	0	0	0	0	0	0	0	0	0	0	50
19:00	62	1	0	0	0	0	0	0	0	0	0	0	0	63
20:00	60	0	0	0	0	0	0	0	0	0	0	0	0	60
21:00	56	3	0	0	0	0	0	0	0	0	0	0	0	59
22:00	27	0	0	0	0	0	0	0	0	0	0	0	0	27
23:00	14	0	0	0	0	0	0	0	0	0	0	0	0	14
Total	884	61	1	0	0	0	0	0	0	0	0	0	0	946
Percent	93.4%	6.4%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	10:00	11:00	11:00											10:00
Vol.	40	5	1											42
PM Peak	16:00	12:00												16:00
Vol.	88	18												98

PRECISION
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Redfield Street
east of Woodworth Street
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175750 D Class
Site Code: 13866.00

WB

Start Time	Cars	Medium Heavy	Large Heavy											Total
06/22/1														
7	5	1	0	0	0	0	0	0	0	0	0	0	0	6
01:00	5	1	0	0	0	0	0	0	0	0	0	0	0	6
02:00	1	0	0	0	0	0	0	0	0	0	0	0	0	1
03:00	2	1	0	0	0	0	0	0	0	0	0	0	0	3
04:00	4	0	0	0	0	0	0	0	0	0	0	0	0	4
05:00	14	3	0	0	0	0	0	0	0	0	0	0	0	17
06:00	23	1	0	0	0	0	0	0	0	0	0	0	0	24
07:00	29	1	0	0	0	0	0	0	0	0	0	0	0	30
08:00	31	1	0	0	0	0	0	0	0	0	0	0	0	32
09:00	41	3	0	0	0	0	0	0	0	0	0	0	0	44
10:00	42	6	0	0	0	0	0	0	0	0	0	0	0	48
11:00	54	2	0	0	0	0	0	0	0	0	0	0	0	56
12 PM	69	4	0	0	0	0	0	0	0	0	0	0	0	73
13:00	55	4	0	0	0	0	0	0	0	0	0	0	0	59
14:00	53	7	0	0	0	0	0	0	0	0	0	0	0	60
15:00	67	3	1	0	0	0	0	0	0	0	0	0	0	71
16:00	58	4	0	0	0	0	0	0	0	0	0	0	0	62
17:00	72	2	0	0	0	0	0	0	0	0	0	0	0	74
18:00	71	0	0	0	0	0	0	0	0	0	0	0	0	71
19:00	68	1	0	0	0	0	0	0	0	0	0	0	0	69
20:00	148	0	0	0	0	0	0	0	0	0	0	0	0	148
21:00	180	0	0	0	0	0	0	0	0	0	0	0	0	180
22:00	65	0	0	0	0	0	0	0	0	0	0	0	0	65
23:00	19	0	0	0	0	0	0	0	0	0	0	0	0	19
Total	1176	45	1	0	0	0	0	0	0	0	0	0	0	1222
Percent	96.2%	3.7%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	11:00	10:00												11:00
Vol.	54	6												56
PM Peak	21:00	14:00	15:00											21:00
Vol.	180	7	1											180

PRECISION
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Redfield Street
east of Woodworth Street
City, State: Dorchester, MA
Client: VHB/ A. Santiago

175750 D Class
Site Code: 13866.00

WB

Start Time	Cars	Medium Heavy	Large Heavy											Total
06/23/1														
7	14	1	0	0	0	0	0	0	0	0	0	0	0	15
01:00	4	0	0	0	0	0	0	0	0	0	0	0	0	4
02:00	5	0	0	0	0	0	0	0	0	0	0	0	0	5
03:00	2	1	0	0	0	0	0	0	0	0	0	0	0	3
04:00	5	1	0	0	0	0	0	0	0	0	0	0	0	6
05:00	11	1	0	0	0	0	0	0	0	0	0	0	0	12
06:00	20	4	0	0	0	0	0	0	0	0	0	0	0	24
07:00	27	1	0	0	0	0	0	0	0	0	0	0	0	28
08:00	42	3	1	0	0	0	0	0	0	0	0	0	0	46
09:00	35	3	0	0	0	0	0	0	0	0	0	0	0	38
10:00	53	6	0	0	0	0	0	0	0	0	0	0	0	59
11:00	52	6	0	0	0	0	0	0	0	0	0	0	0	58
12 PM	42	4	0	0	0	0	0	0	0	0	0	0	0	46
13:00	57	2	0	0	0	0	0	0	0	0	0	0	0	59
14:00	60	7	0	0	0	0	0	0	0	0	0	0	0	67
15:00	59	3	0	0	0	0	0	0	0	0	0	0	0	62
16:00	89	2	0	0	0	0	0	0	0	0	0	0	0	91
17:00	49	1	0	0	0	0	0	0	0	0	0	0	0	50
18:00	54	0	0	0	0	0	0	0	0	0	0	0	0	54
19:00	55	0	0	0	0	0	0	0	0	0	0	0	0	55
20:00	65	0	0	0	0	0	0	0	0	0	0	0	0	65
21:00	91	0	0	0	0	0	0	0	0	0	0	0	0	91
22:00	73	0	0	0	0	0	0	0	0	0	0	0	0	73
23:00	33	1	0	0	0	0	0	0	0	0	0	0	0	34
Total	997	47	1	0	0	0	0	0	0	0	0	0	0	1045
Percent	95.4%	4.5%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	10:00	10:00	08:00											10:00
Vol.	53	6	1											59
PM Peak	21:00	14:00												16:00
Vol.	91	7												91

Conley Street west of
Sullivan and McLaughlin Driveway
City, State: Dorchester, MA
Client: VHB/ A. Santiago

PRECISION
D A T A
INDUSTRIES, LLC
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175750 E Volume
Site Code: 13866.00

Start	06/17/17		06/18/17		06/19/17		06/20/17		06/21/17		06/22/17		06/23/17		Week Average	
Time	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
12:00 AM	7	8	10	16	5	4	10	1	10	7	7	11	19	11	10	8
01:00	9	5	7	6	6	3	2	5	6	5	8	2	3	6	6	5
02:00	5	3	9	8	5	4	4	5	3	2	3	2	2	4	4	4
03:00	2	3	7	3	3	5	6	4	8	4	6	5	4	3	5	4
04:00	3	4	1	1	3	6	1	5	6	10	4	6	5	9	3	6
05:00	4	18	2	5	10	27	15	32	15	30	15	37	7	34	10	26
06:00	6	13	6	14	20	69	31	64	27	59	22	64	34	64	21	50
07:00	14	31	13	14	26	**89**	33	**87**	21	**85**	39	**78**	22	**71**	24	**65**
08:00	19	25	15	17	37	64	**41**	83	33	60	36	72	39	61	31	55
09:00	24	**41**	32	28	**42**	42	24	63	**41**	66	**52**	74	42	44	37	51
10:00	25	36	**38**	41	32	52	34	49	32	51	38	60	46	53	35	49
11:00	**49**	37	37	**51**	41	53	37	49	35	70	39	51	**49**	59	**41**	53
12:00 PM	53	30	**54**	**47**	55	**68**	56	66	59	**87**	85	65	54	61	59	**61**
01:00	51	44	43	47	**61**	53	38	42	**66**	50	51	47	59	42	53	46
02:00	41	41	32	38	52	57	56	54	56	59	52	66	**64**	62	50	54
03:00	52	**54**	30	38	46	51	60	62	55	57	61	50	50	**76**	51	55
04:00	66	39	24	26	51	54	41	**72**	53	57	43	**78**	53	63	47	56
05:00	**71**	49	28	37	53	58	**77**	66	50	56	**92**	58	59	45	**61**	53
06:00	37	53	38	38	47	36	46	44	56	47	84	53	51	51	51	46
07:00	21	29	43	29	41	25	41	38	43	43	52	44	34	44	39	36
08:00	29	28	31	38	22	26	37	43	35	33	40	46	35	29	33	35
09:00	26	41	14	17	20	19	21	34	30	20	38	56	33	25	26	30
10:00	20	39	9	9	16	9	22	15	11	17	30	25	20	33	18	21
11:00	21	21	16	13	9	8	17	12	10	10	12	11	14	19	14	13
Total	655	692	539	581	703	882	750	995	761	985	909	1061	798	969	729	882
Day	1347		1120		1585		1745		1746		1970		1767		1611	
AM Peak	11:00	09:00	10:00	11:00	09:00	07:00	08:00	07:00	09:00	07:00	09:00	07:00	11:00	07:00	11:00	07:00
Vol.	49	41	38	51	42	89	41	87	41	85	52	78	49	71	41	65
PM Peak	17:00	15:00	12:00	12:00	13:00	12:00	17:00	16:00	13:00	12:00	17:00	16:00	14:00	15:00	17:00	12:00
Vol.	71	54	54	47	61	68	77	72	66	87	92	78	64	76	61	61

Conley Street west of
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175750 E Volume
Site Code: 13866.00

Start	EB				WB				Combined				06/17/17
Time	A.M.		P.M.		A.M.		P.M.		A.M.		P.M.		Sat
12:00	2		15		3		8		5		23		
12:15	2		14		1		10		3		24		
12:30	1		9		1		3		2		12		
12:45	2	7	15	53	3	8	9	30	5	15	24	83	
01:00	2		10		1		12		3		22		
01:15	2		9		1		8		3		17		
01:30	3		18		2		15		5		33		
01:45	2	9	14	51	1	5	9	44	3	14	23	95	
02:00	1		8		1		8		2		16		
02:15	0		11		2		10		2		21		
02:30	1		9		0		9		1		18		
02:45	3	5	13	41	0	3	14	41	3	8	27	82	
03:00	0		14		1		19		1		33		
03:15	2		16		1		13		3		29		
03:30	0		11		1		14		1		25		
03:45	0	2	11	52	0	3	8	54	0	5	19	106	
04:00	0		17		0		13		0		30		
04:15	0		16		1		8		1		24		
04:30	2		16		1		13		3		29		
04:45	1	3	17	66	2	4	5	39	3	7	22	105	
05:00	0		23		6		9		6		32		
05:15	1		17		6		16		7		33		
05:30	1		15		2		11		3		26		
05:45	2	4	16	71	4	18	13	49	6	22	29	120	
06:00	1		10		1		17		2		27		
06:15	1		7		3		11		4		18		
06:30	4		9		5		15		9		24		
06:45	0	6	11	37	4	13	10	53	4	19	21	90	
07:00	3		7		6		10		9		17		
07:15	5		8		5		8		10		16		
07:30	3		4		10		7		13		11		
07:45	3	14	2	21	10	31	4	29	13	45	6	50	
08:00	5		11		5		6		10		17		
08:15	1		11		7		10		8		21		
08:30	7		1		5		4		12		5		
08:45	6	19	6	29	8	25	8	28	14	44	14	57	
09:00	5		8		10		11		15		19		
09:15	7		6		7		12		14		18		
09:30	7		6		14		11		21		17		
09:45	5	24	6	26	10	41	7	41	15	65	13	67	
10:00	6		4		9		10		15		14		
10:15	6		3		6		11		12		14		
10:30	2		8		13		6		15		14		
10:45	11	25	5	20	8	36	12	39	19	61	17	59	
11:00	8		5		7		4		15		9		
11:15	11		5		12		9		23		14		
11:30	12		6		11		6		23		12		
11:45	18	49	5	21	7	37	2	21	25	86	7	42	
Total	167		488		224		468		391		956		
Percent	42.7%		51.0%		57.3%		49.0%						
Day Total		655				692				1347			
Peak	11:00	-	04:30	-	09:00	-	02:45	-	11:00	-	05:00	-	-	-
Vol.	49	-	73	-	41	-	60	-	86	-	120	-	-	-
P.H.F.	0.681		0.793		0.732		0.789		0.860		0.909			

Conley Street west of
Sullivan and McLaughlin Driveway
City, State: Dorchester, MA
Client: VHB/ A. Santiago

PRECISION
D A T A
INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

175750 E Volume
Site Code: 13866.00

Start	EB				WB				Combined				06/18/17
Time	A.M.		P.M.		A.M.		P.M.		A.M.		P.M.		Sun
12:00	3		20		2		15		5		35		
12:15	2		6		6		14		8		20		
12:30	1		12		6		11		7		23		
12:45	4	10	16	54	2	16	7	47	6	26	23	101	
01:00	0		12		0		10		0		22		
01:15	3		9		4		16		7		25		
01:30	3		13		1		11		4		24		
01:45	1	7	9	43	1	6	10	47	2	13	19	90	
02:00	5		4		5		7		10		11		
02:15	2		9		1		11		3		20		
02:30	1		11		2		11		3		22		
02:45	1	9	8	32	0	8	9	38	1	17	17	70	
03:00	2		6		2		7		4		13		
03:15	1		4		0		12		1		16		
03:30	4		6		1		6		5		12		
03:45	0	7	14	30	0	3	13	38	0	10	27	68	
04:00	0		9		0		9		0		18		
04:15	1		7		1		6		2		13		
04:30	0		6		0		7		0		13		
04:45	0	1	2	24	0	1	4	26	0	2	6	50	
05:00	0		7		0		9		0		16		
05:15	0		6		3		9		3		15		
05:30	1		6		1		9		2		15		
05:45	1	2	9	28	1	5	10	37	2	7	19	65	
06:00	1		11		0		12		1		23		
06:15	1		9		2		6		3		15		
06:30	0		8		4		9		4		17		
06:45	4	6	10	38	8	14	11	38	12	20	21	76	
07:00	3		11		4		4		7		15		
07:15	5		12		4		12		9		24		
07:30	2		4		1		11		3		15		
07:45	3	13	16	43	5	14	2	29	8	27	18	72	
08:00	3		8		2		8		5		16		
08:15	1		7		4		10		5		17		
08:30	4		6		7		11		11		17		
08:45	7	15	10	31	4	17	9	38	11	32	19	69	
09:00	7		3		9		4		16		7		
09:15	5		7		8		5		13		12		
09:30	10		1		4		2		14		3		
09:45	10	32	3	14	7	28	6	17	17	60	9	31	
10:00	11		3		10		5		21		8		
10:15	11		4		11		1		22		5		
10:30	3		0		9		0		12		0		
10:45	13	38	2	9	11	41	3	9	24	79	5	18	
11:00	16		7		11		4		27		11		
11:15	3		3		13		5		16		8		
11:30	8		3		14		4		22		7		
11:45	10	37	3	16	13	51	0	13	23	88	3	29	
Total	177		362		204		377		381		739		
Percent	46.5%		49.0%		53.5%		51.0%						
Day Total		539				581				1120			
Peak	10:15	-	12:00	-	11:00	-	12:00	-	10:45	-	12:00	-	-	-
Vol.	43	-	54	-	51	-	47	-	89	-	101	-	-	-
P.H.F.	0.672		0.675		0.911		0.783		0.824		0.721			

Conley Street west of
Sullivan and McLaughlin Driveway
City, State: Dorchester, MA
Client: VHB/ A. Santiago

PRECISION
D A T A
INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

175750 E Volume
Site Code: 13866.00

Start	EB				WB				Combined				06/19/17
Time	A.M.		P.M.		A.M.		P.M.		A.M.		P.M.		Mon
12:00	1		13		2		26		3		39		
12:15	1		16		0		12		1		28		
12:30	2		14		1		10		3		24		
12:45	1	5	12	55	1	4	20	68	2	9	32	123	
01:00	3		17		0		9		3		26		
01:15	1		14		2		14		3		28		
01:30	1		19		0		16		1		35		
01:45	1	6	11	61	1	3	14	53	2	9	25	114	
02:00	1		14		2		15		3		29		
02:15	0		10		1		14		1		24		
02:30	2		16		0		11		2		27		
02:45	2	5	12	52	1	4	17	57	3	9	29	109	
03:00	0		7		0		9		0		16		
03:15	1		15		3		9		4		24		
03:30	2		14		1		18		3		32		
03:45	0	3	10	46	1	5	15	51	1	8	25	97	
04:00	1		13		1		17		2		30		
04:15	0		10		2		13		2		23		
04:30	2		15		2		12		4		27		
04:45	0	3	13	51	1	6	12	54	1	9	25	105	
05:00	2		14		4		12		6		26		
05:15	2		8		3		14		5		22		
05:30	1		17		10		17		11		34		
05:45	5	10	14	53	10	27	15	58	15	37	29	111	
06:00	4		16		8		14		12		30		
06:15	4		11		18		9		22		20		
06:30	7		9		19		7		26		16		
06:45	5	20	11	47	24	69	6	36	29	89	17	83	
07:00	5		11		21		5		26		16		
07:15	11		8		23		7		34		15		
07:30	6		10		20		5		26		15		
07:45	4	26	12	41	25	89	8	25	29	115	20	66	
08:00	15		6		17		10		32		16		
08:15	1		5		18		3		19		8		
08:30	15		7		14		6		29		13		
08:45	6	37	4	22	15	64	7	26	21	101	11	48	
09:00	12		4		15		5		27		9		
09:15	8		6		9		7		17		13		
09:30	5		4		6		2		11		6		
09:45	17	42	6	20	12	42	5	19	29	84	11	39	
10:00	9		6		11		4		20		10		
10:15	8		4		14		1		22		5		
10:30	7		3		13		3		20		6		
10:45	8	32	3	16	14	52	1	9	22	84	4	25	
11:00	11		2		13		0		24		2		
11:15	11		4		13		5		24		9		
11:30	13		2		15		0		28		2		
11:45	6	41	1	9	12	53	3	8	18	94	4	17	
Total	230		473		418		464		648		937		
Percent	35.5%		50.5%		64.5%		49.5%						
Day Total		703				882				1585			
Peak	10:45	-	00:45	-	07:00	-	12:00	-	07:15	-	12:00	-	-	-
Vol.	43	-	62	-	89	-	68	-	121	-	123	-	-	-
P.H.F.	0.632		0.816		0.890		0.654		0.890		0.788			

Conley Street west of
Sullivan and McLaughlin Driveway
City, State: Dorchester, MA
Client: VHB/ A. Santiago

PRECISION
D A T A
INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

175750 E Volume
Site Code: 13866.00

Start	EB				WB				Combined				06/20/17
Time	A.M.		P.M.		A.M.		P.M.		A.M.		P.M.		Tue
12:00	2		13		0		18		2		31		
12:15	0		8		0		23		0		31		
12:30	5		14		0		9		5		23		
12:45	3	10	21	56	1	1	16	66	4	11	37	122	
01:00	1		14		4		7		5		21		
01:15	0		9		1		15		1		24		
01:30	1		6		0		14		1		20		
01:45	0	2	9	38	0	5	6	42	0	7	15	80	
02:00	0		12		2		19		2		31		
02:15	3		17		0		7		3		24		
02:30	1		15		0		15		1		30		
02:45	0	4	12	56	3	5	13	54	3	9	25	110	
03:00	3		12		0		15		3		27		
03:15	2		19		0		13		2		32		
03:30	1		13		2		18		3		31		
03:45	0	6	16	60	2	4	16	62	2	10	32	122	
04:00	0		7		1		19		1		26		
04:15	0		8		1		18		1		26		
04:30	0		10		2		12		2		22		
04:45	1	1	16	41	1	5	23	72	2	6	39	113	
05:00	5		15		2		20		7		35		
05:15	4		23		7		20		11		43		
05:30	0		22		12		14		12		36		
05:45	6	15	17	77	11	32	12	66	17	47	29	143	
06:00	6		18		8		13		14		31		
06:15	7		10		14		13		21		23		
06:30	7		9		17		10		24		19		
06:45	11	31	9	46	25	64	8	44	36	95	17	90	
07:00	6		9		23		8		29		17		
07:15	12		10		25		11		37		21		
07:30	3		8		20		15		23		23		
07:45	12	33	14	41	19	87	4	38	31	120	18	79	
08:00	10		7		26		16		36		23		
08:15	10		13		20		13		30		26		
08:30	7		7		20		9		27		16		
08:45	14	41	10	37	17	83	5	43	31	124	15	80	
09:00	8		5		16		10		24		15		
09:15	8		7		15		12		23		19		
09:30	3		3		14		7		17		10		
09:45	5	24	6	21	18	63	5	34	23	87	11	55	
10:00	7		7		13		6		20		13		
10:15	13		5		9		4		22		9		
10:30	9		5		17		3		26		8		
10:45	5	34	5	22	10	49	2	15	15	83	7	37	
11:00	6		5		10		1		16		6		
11:15	16		6		11		7		27		13		
11:30	11		5		16		2		27		7		
11:45	4	37	1	17	12	49	2	12	16	86	3	29	
Total	238		512		447		548		685		1060		
Percent	34.7%		48.3%		65.3%		51.7%						
Day Total		750				995				1745			
Peak	08:00	-	05:15	-	06:45	-	04:45	-	07:15	-	04:45	-	-	-
Vol.	41	-	80	-	93	-	77	-	127	-	153	-	-	-
P.H.F.	0.732		0.870		0.930		0.837		0.858		0.890			

Conley Street west of
Sullivan and McLaughlin Driveway
City, State: Dorchester, MA
Client: VHB/ A. Santiago

PRECISION
D A T A
INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

175750 E Volume
Site Code: 13866.00

Start	EB				WB				Combined				06/21/17
Time	A.M.		P.M.		A.M.		P.M.		A.M.		P.M.		Wed
12:00	3		12		0		35		3		47		
12:15	2		19		1		27		3		46		
12:30	1		16		4		12		5		28		
12:45	4	10	12	59	2	7	13	87	6	17	25	146	
01:00	1		15		1		15		2		30		
01:15	3		17		3		12		6		29		
01:30	2		13		0		10		2		23		
01:45	0	6	21	66	1	5	13	50	1	11	34	116	
02:00	0		13		1		15		1		28		
02:15	0		12		1		15		1		27		
02:30	0		21		0		18		0		39		
02:45	3	3	10	56	0	2	11	59	3	5	21	115	
03:00	2		13		1		12		3		25		
03:15	1		14		1		11		2		25		
03:30	3		14		0		16		3		30		
03:45	2	8	14	55	2	4	18	57	4	12	32	112	
04:00	1		16		3		15		4		31		
04:15	1		11		3		21		4		32		
04:30	2		10		1		12		3		22		
04:45	2	6	16	53	3	10	9	57	5	16	25	110	
05:00	5		13		4		14		9		27		
05:15	3		14		7		16		10		30		
05:30	3		10		10		9		13		19		
05:45	4	15	13	50	9	30	17	56	13	45	30	106	
06:00	6		18		12		19		18		37		
06:15	7		9		9		8		16		17		
06:30	6		17		23		15		29		32		
06:45	8	27	12	56	15	59	5	47	23	86	17	103	
07:00	2		14		23		12		25		26		
07:15	6		12		22		13		28		25		
07:30	4		10		19		9		23		19		
07:45	9	21	7	43	21	85	9	43	30	106	16	86	
08:00	21		15		21		8		42		23		
08:15	4		8		16		4		20		12		
08:30	5		8		11		18		16		26		
08:45	3	33	4	35	12	60	3	33	15	93	7	68	
09:00	15		9		18		7		33		16		
09:15	6		7		15		6		21		13		
09:30	6		6		20		0		26		6		
09:45	14	41	8	30	13	66	7	20	27	107	15	50	
10:00	6		4		9		8		15		12		
10:15	6		2		17		1		23		3		
10:30	9		2		14		5		23		7		
10:45	11	32	3	11	11	51	3	17	22	83	6	28	
11:00	9		1		14		3		23		4		
11:15	9		3		14		4		23		7		
11:30	9		4		21		2		30		6		
11:45	8	35	2	10	21	70	1	10	29	105	3	20	
Total	237		524		449		536		686		1060		
Percent	34.5%		49.4%		65.5%		50.6%						
Day Total		761				985				1746			
Peak	09:00	-	01:45	-	07:00	-	12:00	-	07:15	-	12:00	-	-	-
Vol.	41	-	67	-	85	-	87	-	123	-	146	-	-	-
P.H.F.	0.488		0.798		0.924		0.621		0.732		0.777			

Conley Street west of
Sullivan and McLaughlin Driveway
City, State: Dorchester, MA
Client: VHB/ A. Santiago

PRECISION
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INDUSTRIES, LLC
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Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

175750 E Volume
Site Code: 13866.00

Start	EB				WB				Combined				06/22/17
Time	A.M.		P.M.		A.M.		P.M.		A.M.		P.M.		Thu
12:00	1		25		2		18		3		43		
12:15	0		27		3		19		3		46		
12:30	3		15		0		16		3		31		
12:45	3	7	18	85	6	11	12	65	9	18	30	150	
01:00	4		15		0		14		4		29		
01:15	0		16		1		12		1		28		
01:30	2		10		0		13		2		23		
01:45	2	8	10	51	1	2	8	47	3	10	18	98	
02:00	1		5		1		18		2		23		
02:15	0		13		0		10		0		23		
02:30	2		16		0		18		2		34		
02:45	0	3	18	52	1	2	20	66	1	5	38	118	
03:00	1		14		1		16		2		30		
03:15	0		16		1		11		1		27		
03:30	2		13		1		9		3		22		
03:45	3	6	18	61	2	5	14	50	5	11	32	111	
04:00	0		9		1		24		1		33		
04:15	1		15		0		17		1		32		
04:30	1		8		1		17		2		25		
04:45	2	4	11	43	4	6	20	78	6	10	31	121	
05:00	5		24		6		18		11		42		
05:15	4		26		11		21		15		47		
05:30	4		21		10		12		14		33		
05:45	2	15	21	92	10	37	7	58	12	52	28	150	
06:00	5		25		14		16		19		41		
06:15	7		21		16		14		23		35		
06:30	5		26		19		10		24		36		
06:45	5	22	12	84	15	64	13	53	20	86	25	137	
07:00	10		14		22		11		32		25		
07:15	9		14		20		10		29		24		
07:30	9		12		17		9		26		21		
07:45	11	39	12	52	19	78	14	44	30	117	26	96	
08:00	12		10		20		9		32		19		
08:15	8		8		17		8		25		16		
08:30	9		6		25		16		34		22		
08:45	7	36	16	40	10	72	13	46	17	108	29	86	
09:00	10		13		21		23		31		36		
09:15	13		12		17		16		30		28		
09:30	13		4		17		9		30		13		
09:45	16	52	9	38	19	74	8	56	35	126	17	94	
10:00	7		8		12		6		19		14		
10:15	12		7		23		5		35		12		
10:30	8		5		14		6		22		11		
10:45	11	38	10	30	11	60	8	25	22	98	18	55	
11:00	10		1		20		4		30		5		
11:15	12		3		7		6		19		9		
11:30	7		4		10		1		17		5		
11:45	10	39	4	12	14	51	0	11	24	90	4	23	
Total	269		640		462		599		731		1239		
Percent	36.8%		51.7%		63.2%		48.3%						
Day Total		909				1061				1970			
Peak	09:00	-	05:15	-	07:45	-	04:00	-	09:00	-	04:45	-	-	-
Vol.	52	-	93	-	81	-	78	-	126	-	153	-	-	-
P.H.F.	0.813		0.894		0.810		0.813		0.900		0.814			

Conley Street west of
Sullivan and McLaughlin Driveway
City, State: Dorchester, MA
Client: VHB/ A. Santiago

PRECISION
D A T A
INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

175750 E Volume
Site Code: 13866.00

Start	EB				WB				Combined				06/23/17
Time	A.M.		P.M.		A.M.		P.M.		A.M.		P.M.		Fri
12:00	4		14		3		26		7		40		
12:15	6		15		2		14		8		29		
12:30	5		14		2		9		7		23		
12:45	4	19	11	54	4	11	12	61	8	30	23	115	
01:00	0		16		2		9		2		25		
01:15	0		12		1		7		1		19		
01:30	1		10		0		9		1		19		
01:45	2	3	21	59	3	6	17	42	5	9	38	101	
02:00	1		14		0		11		1		25		
02:15	0		14		1		18		1		32		
02:30	0		18		2		16		2		34		
02:45	1	2	18	64	1	4	17	62	2	6	35	126	
03:00	1		15		3		18		4		33		
03:15	2		12		0		24		2		36		
03:30	1		12		0		20		1		32		
03:45	0	4	11	50	0	3	14	76	0	7	25	126	
04:00	2		10		3		21		5		31		
04:15	0		9		0		14		0		23		
04:30	1		18		3		18		4		36		
04:45	2	5	16	53	3	9	10	63	5	14	26	116	
05:00	1		12		4		17		5		29		
05:15	2		7		11		5		13		12		
05:30	2		15		7		10		9		25		
05:45	2	7	25	59	12	34	13	45	14	41	38	104	
06:00	9		9		10		16		19		25		
06:15	8		14		18		14		26		28		
06:30	9		17		18		10		27		27		
06:45	8	34	11	51	18	64	11	51	26	98	22	102	
07:00	7		8		21		11		28		19		
07:15	2		8		16		14		18		22		
07:30	5		6		21		9		26		15		
07:45	8	22	12	34	13	71	10	44	21	93	22	78	
08:00	15		13		23		10		38		23		
08:15	7		4		13		4		20		8		
08:30	5		11		13		8		18		19		
08:45	12	39	7	35	12	61	7	29	24	100	14	64	
09:00	7		6		11		4		18		10		
09:15	9		9		10		5		19		14		
09:30	8		8		13		6		21		14		
09:45	18	42	10	33	10	44	10	25	28	86	20	58	
10:00	9		6		10		17		19		23		
10:15	9		4		11		4		20		8		
10:30	13		5		13		5		26		10		
10:45	15	46	5	20	19	53	7	33	34	99	12	53	
11:00	10		4		14		8		24		12		
11:15	11		5		11		5		22		10		
11:30	11		0		13		4		24		4		
11:45	17	49	5	14	21	59	2	19	38	108	7	33	
Total	272		526		419		550		691		1076		
Percent	39.4%		48.9%		60.6%		51.1%						
Day Total		798				969				1767			
Peak	09:45	-	01:45	-	06:45	-	02:45	-	11:00	-	02:30	-	-	-
Vol.	49	-	67	-	76	-	79	-	108	-	138	-	-	-
P.H.F.	0.681		0.798		0.905		0.823		0.711		0.958			

PRECISION
D A T A
INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Conley Street west of
Sullivan and McLaughlin Driveway
City, State: Dorchester, MA
Client: VHB/ A. Santiago

175750 E Class
Site Code: 13866.00

EB

Start Time	Cars	Medium Heavy	Large Heavy											Total
06/17/1														
7	7	0	0	0	0	0	0	0	0	0	0	0	0	7
01:00	9	0	0	0	0	0	0	0	0	0	0	0	0	9
02:00	5	0	0	0	0	0	0	0	0	0	0	0	0	5
03:00	2	0	0	0	0	0	0	0	0	0	0	0	0	2
04:00	3	0	0	0	0	0	0	0	0	0	0	0	0	3
05:00	3	1	0	0	0	0	0	0	0	0	0	0	0	4
06:00	6	0	0	0	0	0	0	0	0	0	0	0	0	6
07:00	14	0	0	0	0	0	0	0	0	0	0	0	0	14
08:00	19	0	0	0	0	0	0	0	0	0	0	0	0	19
09:00	24	0	0	0	0	0	0	0	0	0	0	0	0	24
10:00	24	1	0	0	0	0	0	0	0	0	0	0	0	25
11:00	49	0	0	0	0	0	0	0	0	0	0	0	0	49
12 PM	51	2	0	0	0	0	0	0	0	0	0	0	0	53
13:00	51	0	0	0	0	0	0	0	0	0	0	0	0	51
14:00	40	1	0	0	0	0	0	0	0	0	0	0	0	41
15:00	52	0	0	0	0	0	0	0	0	0	0	0	0	52
16:00	65	1	0	0	0	0	0	0	0	0	0	0	0	66
17:00	69	2	0	0	0	0	0	0	0	0	0	0	0	71
18:00	36	1	0	0	0	0	0	0	0	0	0	0	0	37
19:00	20	1	0	0	0	0	0	0	0	0	0	0	0	21
20:00	28	1	0	0	0	0	0	0	0	0	0	0	0	29
21:00	26	0	0	0	0	0	0	0	0	0	0	0	0	26
22:00	19	1	0	0	0	0	0	0	0	0	0	0	0	20
23:00	21	0	0	0	0	0	0	0	0	0	0	0	0	21
Total	643	12	0	0	0	0	0	0	0	0	0	0	0	655
Percent	98.2%	1.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	11:00	05:00												11:00
Vol.	49	1												49
PM Peak	17:00	12:00												17:00
Vol.	69	2												71

PRECISION
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Conley Street west of
Sullivan and McLaughlin Driveway
City, State: Dorchester, MA
Client: VHB/ A. Santiago

175750 E Class
Site Code: 13866.00

EB

Start Time	Cars	Medium Heavy	Large Heavy											Total
06/18/1														
7	10	0	0	0	0	0	0	0	0	0	0	0	0	10
01:00	7	0	0	0	0	0	0	0	0	0	0	0	0	7
02:00	9	0	0	0	0	0	0	0	0	0	0	0	0	9
03:00	7	0	0	0	0	0	0	0	0	0	0	0	0	7
04:00	1	0	0	0	0	0	0	0	0	0	0	0	0	1
05:00	2	0	0	0	0	0	0	0	0	0	0	0	0	2
06:00	6	0	0	0	0	0	0	0	0	0	0	0	0	6
07:00	13	0	0	0	0	0	0	0	0	0	0	0	0	13
08:00	15	0	0	0	0	0	0	0	0	0	0	0	0	15
09:00	32	0	0	0	0	0	0	0	0	0	0	0	0	32
10:00	38	0	0	0	0	0	0	0	0	0	0	0	0	38
11:00	37	0	0	0	0	0	0	0	0	0	0	0	0	37
12 PM	52	2	0	0	0	0	0	0	0	0	0	0	0	54
13:00	42	1	0	0	0	0	0	0	0	0	0	0	0	43
14:00	32	0	0	0	0	0	0	0	0	0	0	0	0	32
15:00	30	0	0	0	0	0	0	0	0	0	0	0	0	30
16:00	23	1	0	0	0	0	0	0	0	0	0	0	0	24
17:00	28	0	0	0	0	0	0	0	0	0	0	0	0	28
18:00	38	0	0	0	0	0	0	0	0	0	0	0	0	38
19:00	43	0	0	0	0	0	0	0	0	0	0	0	0	43
20:00	31	0	0	0	0	0	0	0	0	0	0	0	0	31
21:00	14	0	0	0	0	0	0	0	0	0	0	0	0	14
22:00	9	0	0	0	0	0	0	0	0	0	0	0	0	9
23:00	16	0	0	0	0	0	0	0	0	0	0	0	0	16
Total	535	4	0	0	0	0	0	0	0	0	0	0	0	539
Percent	99.3%	0.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	10:00													10:00
Vol.	38													38
PM Peak	12:00	12:00												12:00
Vol.	52	2												54

PRECISION
D A T A
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Conley Street west of
Sullivan and McLaughlin Driveway
City, State: Dorchester, MA
Client: VHB/ A. Santiago

175750 E Class
Site Code: 13866.00

EB

Start Time	Cars	Medium Heavy	Large Heavy											Total
06/19/1														
7	5	0	0	0	0	0	0	0	0	0	0	0	0	5
01:00	6	0	0	0	0	0	0	0	0	0	0	0	0	6
02:00	5	0	0	0	0	0	0	0	0	0	0	0	0	5
03:00	2	1	0	0	0	0	0	0	0	0	0	0	0	3
04:00	2	1	0	0	0	0	0	0	0	0	0	0	0	3
05:00	10	0	0	0	0	0	0	0	0	0	0	0	0	10
06:00	18	2	0	0	0	0	0	0	0	0	0	0	0	20
07:00	26	0	0	0	0	0	0	0	0	0	0	0	0	26
08:00	35	2	0	0	0	0	0	0	0	0	0	0	0	37
09:00	38	4	0	0	0	0	0	0	0	0	0	0	0	42
10:00	29	3	0	0	0	0	0	0	0	0	0	0	0	32
11:00	37	4	0	0	0	0	0	0	0	0	0	0	0	41
12 PM	53	2	0	0	0	0	0	0	0	0	0	0	0	55
13:00	60	1	0	0	0	0	0	0	0	0	0	0	0	61
14:00	47	4	1	0	0	0	0	0	0	0	0	0	0	52
15:00	45	1	0	0	0	0	0	0	0	0	0	0	0	46
16:00	50	1	0	0	0	0	0	0	0	0	0	0	0	51
17:00	53	0	0	0	0	0	0	0	0	0	0	0	0	53
18:00	47	0	0	0	0	0	0	0	0	0	0	0	0	47
19:00	41	0	0	0	0	0	0	0	0	0	0	0	0	41
20:00	22	0	0	0	0	0	0	0	0	0	0	0	0	22
21:00	20	0	0	0	0	0	0	0	0	0	0	0	0	20
22:00	16	0	0	0	0	0	0	0	0	0	0	0	0	16
23:00	9	0	0	0	0	0	0	0	0	0	0	0	0	9
Total	676	26	1	0	0	0	0	0	0	0	0	0	0	703
Percent	96.2%	3.7%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	09:00	09:00												09:00
Vol.	38	4												42
PM Peak	13:00	14:00	14:00											13:00
Vol.	60	4	1											61

PRECISION
D A T A
INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Conley Street west of
Sullivan and McLaughlin Driveway
City, State: Dorchester, MA
Client: VHB/ A. Santiago

175750 E Class
Site Code: 13866.00

EB

Start Time	Cars	Medium Heavy	Large Heavy											Total
06/20/1														
7	9	1	0	0	0	0	0	0	0	0	0	0	0	10
01:00	2	0	0	0	0	0	0	0	0	0	0	0	0	2
02:00	4	0	0	0	0	0	0	0	0	0	0	0	0	4
03:00	6	0	0	0	0	0	0	0	0	0	0	0	0	6
04:00	1	0	0	0	0	0	0	0	0	0	0	0	0	1
05:00	14	1	0	0	0	0	0	0	0	0	0	0	0	15
06:00	29	2	0	0	0	0	0	0	0	0	0	0	0	31
07:00	32	1	0	0	0	0	0	0	0	0	0	0	0	33
08:00	41	0	0	0	0	0	0	0	0	0	0	0	0	41
09:00	22	2	0	0	0	0	0	0	0	0	0	0	0	24
10:00	32	1	1	0	0	0	0	0	0	0	0	0	0	34
11:00	37	0	0	0	0	0	0	0	0	0	0	0	0	37
12 PM	55	1	0	0	0	0	0	0	0	0	0	0	0	56
13:00	36	2	0	0	0	0	0	0	0	0	0	0	0	38
14:00	52	3	1	0	0	0	0	0	0	0	0	0	0	56
15:00	58	2	0	0	0	0	0	0	0	0	0	0	0	60
16:00	39	2	0	0	0	0	0	0	0	0	0	0	0	41
17:00	76	1	0	0	0	0	0	0	0	0	0	0	0	77
18:00	46	0	0	0	0	0	0	0	0	0	0	0	0	46
19:00	41	0	0	0	0	0	0	0	0	0	0	0	0	41
20:00	37	0	0	0	0	0	0	0	0	0	0	0	0	37
21:00	21	0	0	0	0	0	0	0	0	0	0	0	0	21
22:00	22	0	0	0	0	0	0	0	0	0	0	0	0	22
23:00	17	0	0	0	0	0	0	0	0	0	0	0	0	17
Total	729	19	2	0	0	0	0	0	0	0	0	0	0	750
Percent	97.2%	2.5%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	08:00	06:00	10:00											08:00
Vol.	41	2	1											41
PM Peak	17:00	14:00	14:00											17:00
Vol.	76	3	1											77

PRECISION
D A T A
INDUSTRIES, LLC
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Conley Street west of
Sullivan and McLaughlin Driveway
City, State: Dorchester, MA
Client: VHB/ A. Santiago

175750 E Class
Site Code: 13866.00

EB

Start Time	Cars	Medium Heavy	Large Heavy											Total
06/21/1														
7	10	0	0	0	0	0	0	0	0	0	0	0	0	10
01:00	6	0	0	0	0	0	0	0	0	0	0	0	0	6
02:00	3	0	0	0	0	0	0	0	0	0	0	0	0	3
03:00	7	1	0	0	0	0	0	0	0	0	0	0	0	8
04:00	6	0	0	0	0	0	0	0	0	0	0	0	0	6
05:00	14	1	0	0	0	0	0	0	0	0	0	0	0	15
06:00	25	2	0	0	0	0	0	0	0	0	0	0	0	27
07:00	21	0	0	0	0	0	0	0	0	0	0	0	0	21
08:00	32	1	0	0	0	0	0	0	0	0	0	0	0	33
09:00	38	3	0	0	0	0	0	0	0	0	0	0	0	41
10:00	31	1	0	0	0	0	0	0	0	0	0	0	0	32
11:00	30	4	1	0	0	0	0	0	0	0	0	0	0	35
12 PM	53	6	0	0	0	0	0	0	0	0	0	0	0	59
13:00	65	1	0	0	0	0	0	0	0	0	0	0	0	66
14:00	53	3	0	0	0	0	0	0	0	0	0	0	0	56
15:00	54	1	0	0	0	0	0	0	0	0	0	0	0	55
16:00	52	1	0	0	0	0	0	0	0	0	0	0	0	53
17:00	50	0	0	0	0	0	0	0	0	0	0	0	0	50
18:00	56	0	0	0	0	0	0	0	0	0	0	0	0	56
19:00	42	1	0	0	0	0	0	0	0	0	0	0	0	43
20:00	35	0	0	0	0	0	0	0	0	0	0	0	0	35
21:00	29	1	0	0	0	0	0	0	0	0	0	0	0	30
22:00	11	0	0	0	0	0	0	0	0	0	0	0	0	11
23:00	10	0	0	0	0	0	0	0	0	0	0	0	0	10
Total	733	27	1	0	0	0	0	0	0	0	0	0	0	761
Percent	96.3%	3.5%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	09:00	11:00	11:00											09:00
Vol.	38	4	1											41
PM Peak	13:00	12:00												13:00
Vol.	65	6												66

PRECISION
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Conley Street west of
Sullivan and McLaughlin Driveway
City, State: Dorchester, MA
Client: VHB/ A. Santiago

175750 E Class
Site Code: 13866.00

EB

Start Time	Cars	Medium Heavy	Large Heavy											Total
06/22/1														
7	6	1	0	0	0	0	0	0	0	0	0	0	0	7
01:00	7	1	0	0	0	0	0	0	0	0	0	0	0	8
02:00	3	0	0	0	0	0	0	0	0	0	0	0	0	3
03:00	5	1	0	0	0	0	0	0	0	0	0	0	0	6
04:00	4	0	0	0	0	0	0	0	0	0	0	0	0	4
05:00	13	2	0	0	0	0	0	0	0	0	0	0	0	15
06:00	21	1	0	0	0	0	0	0	0	0	0	0	0	22
07:00	39	0	0	0	0	0	0	0	0	0	0	0	0	39
08:00	36	0	0	0	0	0	0	0	0	0	0	0	0	36
09:00	49	3	0	0	0	0	0	0	0	0	0	0	0	52
10:00	36	2	0	0	0	0	0	0	0	0	0	0	0	38
11:00	35	4	0	0	0	0	0	0	0	0	0	0	0	39
12 PM	79	6	0	0	0	0	0	0	0	0	0	0	0	85
13:00	51	0	0	0	0	0	0	0	0	0	0	0	0	51
14:00	49	3	0	0	0	0	0	0	0	0	0	0	0	52
15:00	56	4	1	0	0	0	0	0	0	0	0	0	0	61
16:00	43	0	0	0	0	0	0	0	0	0	0	0	0	43
17:00	92	0	0	0	0	0	0	0	0	0	0	0	0	92
18:00	84	0	0	0	0	0	0	0	0	0	0	0	0	84
19:00	52	0	0	0	0	0	0	0	0	0	0	0	0	52
20:00	40	0	0	0	0	0	0	0	0	0	0	0	0	40
21:00	38	0	0	0	0	0	0	0	0	0	0	0	0	38
22:00	30	0	0	0	0	0	0	0	0	0	0	0	0	30
23:00	12	0	0	0	0	0	0	0	0	0	0	0	0	12
Total	880	28	1	0	0	0	0	0	0	0	0	0	0	909
Percent	96.8%	3.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	09:00	11:00												09:00
Vol.	49	4												52
PM Peak	17:00	12:00	15:00											17:00
Vol.	92	6	1											92

PRECISION
D A T A
INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Conley Street west of
Sullivan and McLaughlin Driveway
City, State: Dorchester, MA
Client: VHB/ A. Santiago

175750 E Class
Site Code: 13866.00

EB

Start Time	Cars	Medium Heavy	Large Heavy											Total
06/23/1														
7	18	1	0	0	0	0	0	0	0	0	0	0	0	19
01:00	3	0	0	0	0	0	0	0	0	0	0	0	0	3
02:00	2	0	0	0	0	0	0	0	0	0	0	0	0	2
03:00	4	0	0	0	0	0	0	0	0	0	0	0	0	4
04:00	2	3	0	0	0	0	0	0	0	0	0	0	0	5
05:00	7	0	0	0	0	0	0	0	0	0	0	0	0	7
06:00	31	3	0	0	0	0	0	0	0	0	0	0	0	34
07:00	21	0	1	0	0	0	0	0	0	0	0	0	0	22
08:00	37	1	1	0	0	0	0	0	0	0	0	0	0	39
09:00	38	4	0	0	0	0	0	0	0	0	0	0	0	42
10:00	38	8	0	0	0	0	0	0	0	0	0	0	0	46
11:00	47	2	0	0	0	0	0	0	0	0	0	0	0	49
12 PM	49	5	0	0	0	0	0	0	0	0	0	0	0	54
13:00	52	7	0	0	0	0	0	0	0	0	0	0	0	59
14:00	55	3	6	0	0	0	0	0	0	0	0	0	0	64
15:00	47	2	1	0	0	0	0	0	0	0	0	0	0	50
16:00	51	2	0	0	0	0	0	0	0	0	0	0	0	53
17:00	59	0	0	0	0	0	0	0	0	0	0	0	0	59
18:00	51	0	0	0	0	0	0	0	0	0	0	0	0	51
19:00	34	0	0	0	0	0	0	0	0	0	0	0	0	34
20:00	35	0	0	0	0	0	0	0	0	0	0	0	0	35
21:00	33	0	0	0	0	0	0	0	0	0	0	0	0	33
22:00	20	0	0	0	0	0	0	0	0	0	0	0	0	20
23:00	14	0	0	0	0	0	0	0	0	0	0	0	0	14
Total	748	41	9	0	0	0	0	0	0	0	0	0	0	798
Percent	93.7%	5.1%	1.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	11:00	10:00	07:00											11:00
Vol.	47	8	1											49
PM Peak	17:00	13:00	14:00											14:00
Vol.	59	7	6											64

PRECISION
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Conley Street west of
Sullivan and McLaughlin Driveway
City, State: Dorchester, MA
Client: VHB/ A. Santiago

175750 E Class
Site Code: 13866.00

WB

Start Time	Cars	Medium Heavy	Large Heavy											Total
06/17/1														
7	8	0	0	0	0	0	0	0	0	0	0	0	0	8
01:00	5	0	0	0	0	0	0	0	0	0	0	0	0	5
02:00	3	0	0	0	0	0	0	0	0	0	0	0	0	3
03:00	3	0	0	0	0	0	0	0	0	0	0	0	0	3
04:00	3	1	0	0	0	0	0	0	0	0	0	0	0	4
05:00	18	0	0	0	0	0	0	0	0	0	0	0	0	18
06:00	13	0	0	0	0	0	0	0	0	0	0	0	0	13
07:00	31	0	0	0	0	0	0	0	0	0	0	0	0	31
08:00	25	0	0	0	0	0	0	0	0	0	0	0	0	25
09:00	40	0	1	0	0	0	0	0	0	0	0	0	0	41
10:00	35	1	0	0	0	0	0	0	0	0	0	0	0	36
11:00	36	1	0	0	0	0	0	0	0	0	0	0	0	37
12 PM	29	1	0	0	0	0	0	0	0	0	0	0	0	30
13:00	44	0	0	0	0	0	0	0	0	0	0	0	0	44
14:00	39	2	0	0	0	0	0	0	0	0	0	0	0	41
15:00	53	1	0	0	0	0	0	0	0	0	0	0	0	54
16:00	39	0	0	0	0	0	0	0	0	0	0	0	0	39
17:00	49	0	0	0	0	0	0	0	0	0	0	0	0	49
18:00	52	1	0	0	0	0	0	0	0	0	0	0	0	53
19:00	29	0	0	0	0	0	0	0	0	0	0	0	0	29
20:00	28	0	0	0	0	0	0	0	0	0	0	0	0	28
21:00	41	0	0	0	0	0	0	0	0	0	0	0	0	41
22:00	38	1	0	0	0	0	0	0	0	0	0	0	0	39
23:00	19	2	0	0	0	0	0	0	0	0	0	0	0	21
Total	680	11	1	0	0	0	0	0	0	0	0	0	0	692
Percent	98.3%	1.6%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	09:00	04:00	09:00											09:00
Vol.	40	1	1											41
PM Peak	15:00	14:00												15:00
Vol.	53	2												54

PRECISION
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Conley Street west of
Sullivan and McLaughlin Driveway
City, State: Dorchester, MA
Client: VHB/ A. Santiago

175750 E Class
Site Code: 13866.00

WB

Start Time	Cars	Medium Heavy	Large Heavy											Total
06/18/1														
7	16	0	0	0	0	0	0	0	0	0	0	0	0	16
01:00	6	0	0	0	0	0	0	0	0	0	0	0	0	6
02:00	8	0	0	0	0	0	0	0	0	0	0	0	0	8
03:00	3	0	0	0	0	0	0	0	0	0	0	0	0	3
04:00	1	0	0	0	0	0	0	0	0	0	0	0	0	1
05:00	5	0	0	0	0	0	0	0	0	0	0	0	0	5
06:00	14	0	0	0	0	0	0	0	0	0	0	0	0	14
07:00	14	0	0	0	0	0	0	0	0	0	0	0	0	14
08:00	17	0	0	0	0	0	0	0	0	0	0	0	0	17
09:00	28	0	0	0	0	0	0	0	0	0	0	0	0	28
10:00	41	0	0	0	0	0	0	0	0	0	0	0	0	41
11:00	51	0	0	0	0	0	0	0	0	0	0	0	0	51
12 PM	47	0	0	0	0	0	0	0	0	0	0	0	0	47
13:00	47	0	0	0	0	0	0	0	0	0	0	0	0	47
14:00	38	0	0	0	0	0	0	0	0	0	0	0	0	38
15:00	38	0	0	0	0	0	0	0	0	0	0	0	0	38
16:00	26	0	0	0	0	0	0	0	0	0	0	0	0	26
17:00	37	0	0	0	0	0	0	0	0	0	0	0	0	37
18:00	36	2	0	0	0	0	0	0	0	0	0	0	0	38
19:00	29	0	0	0	0	0	0	0	0	0	0	0	0	29
20:00	38	0	0	0	0	0	0	0	0	0	0	0	0	38
21:00	17	0	0	0	0	0	0	0	0	0	0	0	0	17
22:00	9	0	0	0	0	0	0	0	0	0	0	0	0	9
23:00	13	0	0	0	0	0	0	0	0	0	0	0	0	13
Total	579	2	0	0	0	0	0	0	0	0	0	0	0	581
Percent	99.7%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	11:00													11:00
Vol.	51													51
PM Peak	12:00	18:00												12:00
Vol.	47	2												47

PRECISION
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Conley Street west of
Sullivan and McLaughlin Driveway
City, State: Dorchester, MA
Client: VHB/ A. Santiago

175750 E Class
Site Code: 13866.00

WB

Start Time	Cars	Medium Heavy	Large Heavy											Total
06/19/1														
7	4	0	0	0	0	0	0	0	0	0	0	0	0	4
01:00	3	0	0	0	0	0	0	0	0	0	0	0	0	3
02:00	4	0	0	0	0	0	0	0	0	0	0	0	0	4
03:00	5	0	0	0	0	0	0	0	0	0	0	0	0	5
04:00	6	0	0	0	0	0	0	0	0	0	0	0	0	6
05:00	24	3	0	0	0	0	0	0	0	0	0	0	0	27
06:00	68	1	0	0	0	0	0	0	0	0	0	0	0	69
07:00	87	2	0	0	0	0	0	0	0	0	0	0	0	89
08:00	61	3	0	0	0	0	0	0	0	0	0	0	0	64
09:00	37	5	0	0	0	0	0	0	0	0	0	0	0	42
10:00	51	1	0	0	0	0	0	0	0	0	0	0	0	52
11:00	47	6	0	0	0	0	0	0	0	0	0	0	0	53
12 PM	63	5	0	0	0	0	0	0	0	0	0	0	0	68
13:00	51	2	0	0	0	0	0	0	0	0	0	0	0	53
14:00	53	4	0	0	0	0	0	0	0	0	0	0	0	57
15:00	49	2	0	0	0	0	0	0	0	0	0	0	0	51
16:00	54	0	0	0	0	0	0	0	0	0	0	0	0	54
17:00	58	0	0	0	0	0	0	0	0	0	0	0	0	58
18:00	36	0	0	0	0	0	0	0	0	0	0	0	0	36
19:00	25	0	0	0	0	0	0	0	0	0	0	0	0	25
20:00	25	1	0	0	0	0	0	0	0	0	0	0	0	26
21:00	19	0	0	0	0	0	0	0	0	0	0	0	0	19
22:00	9	0	0	0	0	0	0	0	0	0	0	0	0	9
23:00	8	0	0	0	0	0	0	0	0	0	0	0	0	8
Total	847	35	0	0	0	0	0	0	0	0	0	0	0	882
Percent	96.0%	4.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	07:00	11:00												07:00
Vol.	87	6												89
PM Peak	12:00	12:00												12:00
Vol.	63	5												68

PRECISION
D A T A
INDUSTRIES, LLC
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Conley Street west of
Sullivan and McLaughlin Driveway
City, State: Dorchester, MA
Client: VHB/ A. Santiago

175750 E Class
Site Code: 13866.00

WB

Start Time	Cars	Medium Heavy	Large Heavy											Total
06/20/1														
7	1	0	0	0	0	0	0	0	0	0	0	0	0	1
01:00	5	0	0	0	0	0	0	0	0	0	0	0	0	5
02:00	5	0	0	0	0	0	0	0	0	0	0	0	0	5
03:00	3	1	0	0	0	0	0	0	0	0	0	0	0	4
04:00	5	0	0	0	0	0	0	0	0	0	0	0	0	5
05:00	32	0	0	0	0	0	0	0	0	0	0	0	0	32
06:00	62	2	0	0	0	0	0	0	0	0	0	0	0	64
07:00	83	4	0	0	0	0	0	0	0	0	0	0	0	87
08:00	81	2	0	0	0	0	0	0	0	0	0	0	0	83
09:00	56	7	0	0	0	0	0	0	0	0	0	0	0	63
10:00	48	1	0	0	0	0	0	0	0	0	0	0	0	49
11:00	48	1	0	0	0	0	0	0	0	0	0	0	0	49
12 PM	63	1	2	0	0	0	0	0	0	0	0	0	0	66
13:00	41	1	0	0	0	0	0	0	0	0	0	0	0	42
14:00	49	5	0	0	0	0	0	0	0	0	0	0	0	54
15:00	60	1	1	0	0	0	0	0	0	0	0	0	0	62
16:00	71	1	0	0	0	0	0	0	0	0	0	0	0	72
17:00	66	0	0	0	0	0	0	0	0	0	0	0	0	66
18:00	44	0	0	0	0	0	0	0	0	0	0	0	0	44
19:00	38	0	0	0	0	0	0	0	0	0	0	0	0	38
20:00	43	0	0	0	0	0	0	0	0	0	0	0	0	43
21:00	34	0	0	0	0	0	0	0	0	0	0	0	0	34
22:00	15	0	0	0	0	0	0	0	0	0	0	0	0	15
23:00	12	0	0	0	0	0	0	0	0	0	0	0	0	12
Total	965	27	3	0	0	0	0	0	0	0	0	0	0	995
Percent	97.0%	2.7%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	07:00	09:00												07:00
Vol.	83	7												87
PM Peak	16:00	14:00	12:00											16:00
Vol.	71	5	2											72

PRECISION
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Conley Street west of
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175750 E Class
Site Code: 13866.00

WB

Start Time	Cars	Medium Heavy	Large Heavy											Total
06/21/1														
7	6	1	0	0	0	0	0	0	0	0	0	0	0	7
01:00	5	0	0	0	0	0	0	0	0	0	0	0	0	5
02:00	2	0	0	0	0	0	0	0	0	0	0	0	0	2
03:00	3	1	0	0	0	0	0	0	0	0	0	0	0	4
04:00	10	0	0	0	0	0	0	0	0	0	0	0	0	10
05:00	29	1	0	0	0	0	0	0	0	0	0	0	0	30
06:00	56	3	0	0	0	0	0	0	0	0	0	0	0	59
07:00	84	1	0	0	0	0	0	0	0	0	0	0	0	85
08:00	58	2	0	0	0	0	0	0	0	0	0	0	0	60
09:00	60	6	0	0	0	0	0	0	0	0	0	0	0	66
10:00	49	2	0	0	0	0	0	0	0	0	0	0	0	51
11:00	66	4	0	0	0	0	0	0	0	0	0	0	0	70
12 PM	82	5	0	0	0	0	0	0	0	0	0	0	0	87
13:00	48	2	0	0	0	0	0	0	0	0	0	0	0	50
14:00	54	5	0	0	0	0	0	0	0	0	0	0	0	59
15:00	56	1	0	0	0	0	0	0	0	0	0	0	0	57
16:00	57	0	0	0	0	0	0	0	0	0	0	0	0	57
17:00	56	0	0	0	0	0	0	0	0	0	0	0	0	56
18:00	47	0	0	0	0	0	0	0	0	0	0	0	0	47
19:00	43	0	0	0	0	0	0	0	0	0	0	0	0	43
20:00	33	0	0	0	0	0	0	0	0	0	0	0	0	33
21:00	20	0	0	0	0	0	0	0	0	0	0	0	0	20
22:00	17	0	0	0	0	0	0	0	0	0	0	0	0	17
23:00	10	0	0	0	0	0	0	0	0	0	0	0	0	10
Total	951	34	0	0	0	0	0	0	0	0	0	0	0	985
Percent	96.5%	3.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	07:00	09:00												07:00
Vol.	84	6												85
PM Peak	12:00	12:00												12:00
Vol.	82	5												87

PRECISION
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Conley Street west of
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City, State: Dorchester, MA
Client: VHB/ A. Santiago

175750 E Class
Site Code: 13866.00

WB

Start Time	Cars	Medium Heavy	Large Heavy											Total
06/22/1														
7	10	1	0	0	0	0	0	0	0	0	0	0	0	11
01:00	2	0	0	0	0	0	0	0	0	0	0	0	0	2
02:00	1	1	0	0	0	0	0	0	0	0	0	0	0	2
03:00	5	0	0	0	0	0	0	0	0	0	0	0	0	5
04:00	6	0	0	0	0	0	0	0	0	0	0	0	0	6
05:00	34	3	0	0	0	0	0	0	0	0	0	0	0	37
06:00	61	3	0	0	0	0	0	0	0	0	0	0	0	64
07:00	78	0	0	0	0	0	0	0	0	0	0	0	0	78
08:00	71	1	0	0	0	0	0	0	0	0	0	0	0	72
09:00	70	3	1	0	0	0	0	0	0	0	0	0	0	74
10:00	56	4	0	0	0	0	0	0	0	0	0	0	0	60
11:00	50	1	0	0	0	0	0	0	0	0	0	0	0	51
12 PM	63	2	0	0	0	0	0	0	0	0	0	0	0	65
13:00	45	2	0	0	0	0	0	0	0	0	0	0	0	47
14:00	61	4	1	0	0	0	0	0	0	0	0	0	0	66
15:00	49	1	0	0	0	0	0	0	0	0	0	0	0	50
16:00	76	2	0	0	0	0	0	0	0	0	0	0	0	78
17:00	57	1	0	0	0	0	0	0	0	0	0	0	0	58
18:00	52	1	0	0	0	0	0	0	0	0	0	0	0	53
19:00	44	0	0	0	0	0	0	0	0	0	0	0	0	44
20:00	46	0	0	0	0	0	0	0	0	0	0	0	0	46
21:00	56	0	0	0	0	0	0	0	0	0	0	0	0	56
22:00	25	0	0	0	0	0	0	0	0	0	0	0	0	25
23:00	11	0	0	0	0	0	0	0	0	0	0	0	0	11
Total	1029	30	2	0	0	0	0	0	0	0	0	0	0	1061
Percent	97.0%	2.8%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	07:00	10:00	09:00											07:00
Vol.	78	4	1											78
PM Peak	16:00	14:00	14:00											16:00
Vol.	76	4	1											78

PRECISION
D A T A
INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Conley Street west of
Sullivan and McLaughlin Driveway
City, State: Dorchester, MA
Client: VHB/ A. Santiago

175750 E Class
Site Code: 13866.00

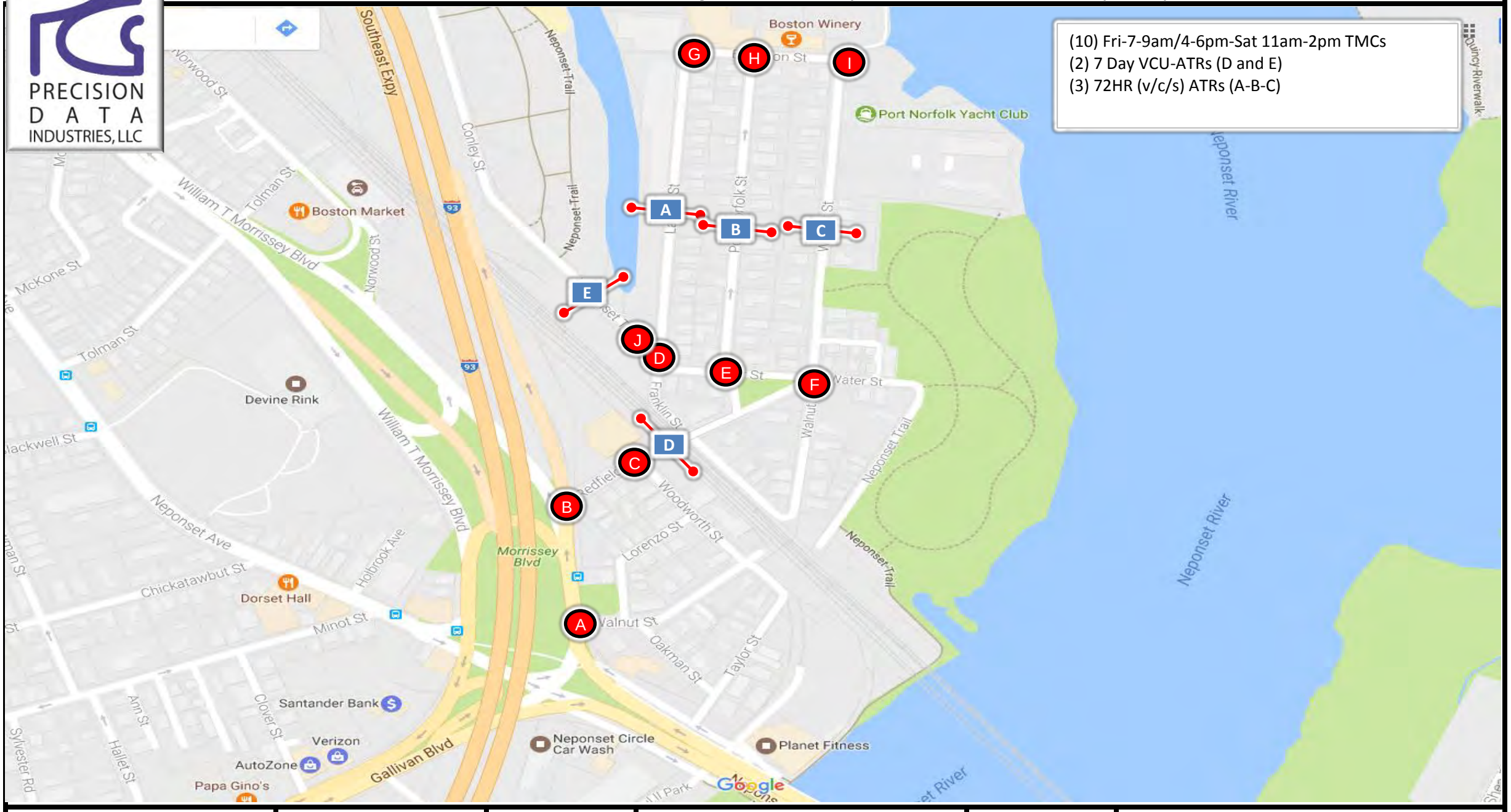
WB

Start Time	Cars	Medium Heavy	Large Heavy											Total
06/23/1														
7	11	0	0	0	0	0	0	0	0	0	0	0	0	11
01:00	6	0	0	0	0	0	0	0	0	0	0	0	0	6
02:00	3	0	1	0	0	0	0	0	0	0	0	0	0	4
03:00	3	0	0	0	0	0	0	0	0	0	0	0	0	3
04:00	7	2	0	0	0	0	0	0	0	0	0	0	0	9
05:00	34	0	0	0	0	0	0	0	0	0	0	0	0	34
06:00	63	1	0	0	0	0	0	0	0	0	0	0	0	64
07:00	70	1	0	0	0	0	0	0	0	0	0	0	0	71
08:00	59	2	0	0	0	0	0	0	0	0	0	0	0	61
09:00	42	2	0	0	0	0	0	0	0	0	0	0	0	44
10:00	48	5	0	0	0	0	0	0	0	0	0	0	0	53
11:00	54	5	0	0	0	0	0	0	0	0	0	0	0	59
12 PM	59	2	0	0	0	0	0	0	0	0	0	0	0	61
13:00	39	3	0	0	0	0	0	0	0	0	0	0	0	42
14:00	56	5	1	0	0	0	0	0	0	0	0	0	0	62
15:00	68	6	2	0	0	0	0	0	0	0	0	0	0	76
16:00	61	2	0	0	0	0	0	0	0	0	0	0	0	63
17:00	45	0	0	0	0	0	0	0	0	0	0	0	0	45
18:00	51	0	0	0	0	0	0	0	0	0	0	0	0	51
19:00	44	0	0	0	0	0	0	0	0	0	0	0	0	44
20:00	29	0	0	0	0	0	0	0	0	0	0	0	0	29
21:00	25	0	0	0	0	0	0	0	0	0	0	0	0	25
22:00	33	0	0	0	0	0	0	0	0	0	0	0	0	33
23:00	19	0	0	0	0	0	0	0	0	0	0	0	0	19
Total	929	36	4	0	0	0	0	0	0	0	0	0	0	969
Percent	95.9%	3.7%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	07:00	10:00	02:00											07:00
Vol.	70	5	1											71
PM Peak	15:00	15:00	15:00											15:00
Vol.	68	6	2											76

PRECISION DATA INDUSTRIES, LLC

Location Map: 175750 Dorchester (Port Norfolk)

Precision Data Industries, LLC 46 Morton Street, Framingham, MA 01702 ph: 508-875-0100 email: datarequests@pdillc.com



Client:	Engineer:	Site Code:	Date:	PDI Job #	City, State:
VHB	A. Santiago	13866.00	Fri 6/17 thru Sat 6/24/2017	175750	Dorchester (Port Norfolk)

PDI File #: **175750 A**
Location: **N: Morrissey Boulevard S: Morrissey Boulevard**
Location: **E: Walnut Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class:

Cars, Heavy Vehicles, and Buses (Combined)

	Morrissey Boulevard				Walnut Street				Morrissey Boulevard				
	North				East				South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
7:00 AM	0	0	0	0	9	0	0	9	1	841	0	842	851
7:15 AM	0	0	0	0	10	0	0	10	3	808	0	811	821
7:30 AM	0	0	0	0	11	0	0	11	5	784	0	789	800
7:45 AM	0	0	0	0	22	0	0	22	3	758	0	761	783
Total	0	0	0	0	52	0	0	52	12	3191	0	3203	3255
8:00 AM	0	0	0	0	21	0	0	21	1	761	0	762	783
8:15 AM	0	0	0	0	15	0	0	15	3	788	0	791	806
8:30 AM	0	0	0	0	22	0	0	22	5	732	0	737	759
8:45 AM	0	0	0	0	20	0	0	20	8	716	0	724	744
Total	0	0	0	0	78	0	0	78	17	2997	0	3014	3092
Grand Total	0	0	0	0	130	0	0	130	29	6188	0	6217	6347
Approach %	0.0	0.0	0.0		100.0	0.0	0.0		0.5	99.5	0.0		
Total %	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.5	97.5	0.0	98.0	
Exiting Leg Total				6318				29				0	6347
Cars	0	0	0	0	123	0	0	123	29	6046	0	6075	6198
% Cars	0.0	0.0	0.0	0.0	94.6	0.0	0.0	94.6	100.0	97.7	0.0	97.7	97.7
Exiting Leg Total				6169				29				0	6198
Heavy Vehicles	0	0	0	0	3	0	0	3	0	103	0	103	106
% Heavy Vehicles	0.0	0.0	0.0	0.0	2.3	0.0	0.0	2.3	0.0	1.7	0.0	1.7	1.7
Exiting Leg Total				106				0				0	106
Buses	0	0	0	0	4	0	0	4	0	39	0	39	43
% Buses	0.0	0.0	0.0	0.0	3.1	0.0	0.0	3.1	0.0	0.6	0.0	0.6	0.7
Exiting Leg Total				43				0				0	43

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Morrissey Boulevard				Walnut Street				Morrissey Boulevard				
	North				East				South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
7:00 AM	0	0	0	0	9	0	0	9	1	841	0	842	851
7:15 AM	0	0	0	0	10	0	0	10	3	808	0	811	821
7:30 AM	0	0	0	0	11	0	0	11	5	784	0	789	800
7:45 AM	0	0	0	0	22	0	0	22	3	758	0	761	783
Total Volume	0	0	0	0	52	0	0	52	12	3191	0	3203	3255
% Approach Total	0.0	0.0	0.0		100.0	0.0	0.0		0.4	99.6	0.0		
PHF	0.000	0.000	0.000	0.000	0.591	0.000	0.000	0.591	0.600	0.949	0.000	0.951	0.956
Cars	0	0	0	0	50	0	0	50	12	3119	0	3131	3181
Cars %	0.0	0.0	0.0	0.0	96.2	0.0	0.0	96.2	100.0	97.7	0.0	97.8	97.7
Heavy Vehicles	0	0	0	0	0	0	0	0	0	54	0	54	54
Heavy Vehicles %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.7	0.0	1.7	1.7
Buses	0	0	0	0	2	0	0	2	0	18	0	18	20
Buses %	0.0	0.0	0.0	0.0	3.8	0.0	0.0	3.8	0.0	0.6	0.0	0.6	0.6
Cars Enter Leg	0	0	0	0	50	0	0	50	12	3119	0	3131	3181
Heavy Enter Leg	0	0	0	0	0	0	0	0	0	54	0	54	54
Bus Enter Leg	0	0	0	0	2	0	0	2	0	18	0	18	20
Total Entering Leg	0	0	0	0	52	0	0	52	12	3191	0	3203	3255
Cars Exiting Leg				3169				12				0	3181
Heavy Exiting Leg				54				0				0	54
Buses Exiting Leg				20				0				0	20
Total Exiting Leg				3243				12				0	3255

PDI File #: **175750 A**
Location: **N: Morrissey Boulevard S: Morrissey Boulevard**
Location: **E: Walnut Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Cars**

	Morrissey Boulevard				Walnut Street				Morrissey Boulevard				
	North				East				South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
7:00 AM	0	0	0	0	9	0	0	9	1	822	0	823	832
7:15 AM	0	0	0	0	10	0	0	10	3	793	0	796	806
7:30 AM	0	0	0	0	10	0	0	10	5	767	0	772	782
7:45 AM	0	0	0	0	21	0	0	21	3	737	0	740	761
Total	0	0	0	0	50	0	0	50	12	3119	0	3131	3181
8:00 AM	0	0	0	0	19	0	0	19	1	742	0	743	762
8:15 AM	0	0	0	0	15	0	0	15	3	771	0	774	789
8:30 AM	0	0	0	0	20	0	0	20	5	718	0	723	743
8:45 AM	0	0	0	0	19	0	0	19	8	696	0	704	723
Total	0	0	0	0	73	0	0	73	17	2927	0	2944	3017
Grand Total	0	0	0	0	123	0	0	123	29	6046	0	6075	6198
Approach %	0.0	0.0	0.0		100.0	0.0	0.0		0.5	99.5	0.0		
Total %	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.5	97.5	0.0	98.0	
Exiting Leg Total				6169				29				0	6198

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Morrissey Boulevard				Walnut Street				Morrissey Boulevard				
	North				East				South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
7:00 AM	0	0	0	0	9	0	0	9	1	822	0	823	832
7:15 AM	0	0	0	0	10	0	0	10	3	793	0	796	806
7:30 AM	0	0	0	0	10	0	0	10	5	767	0	772	782
7:45 AM	0	0	0	0	21	0	0	21	3	737	0	740	761
Total Volume	0	0	0	0	50	0	0	50	12	3119	0	3131	3181
% Approach Total	0.0	0.0	0.0		100.0	0.0	0.0		0.4	99.6	0.0		
PHF	0.000	0.000	0.000	0.000	0.595	0.000	0.000	0.595	0.600	0.949	0.000	0.951	0.956
Entering Leg	0	0	0	0	50	0	0	50	12	3119	0	3131	3181
Exiting Leg				3169				12				0	3181
Total				3169				62				3131	6362

PDI File #: **175750 A**
Location: **N: Morrissey Boulevard S: Morrissey Boulevard**
Location: **E: Walnut Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class:

Heavy Vehicles

	Morrissey Boulevard				Walnut Street				Morrissey Boulevard				
	North				East				South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	14	0	14	14
7:15 AM	0	0	0	0	0	0	0	0	0	12	0	12	12
7:30 AM	0	0	0	0	0	0	0	0	0	16	0	16	16
7:45 AM	0	0	0	0	0	0	0	0	0	12	0	12	12
Total	0	0	0	0	0	0	0	0	0	54	0	54	54
8:00 AM	0	0	0	0	2	0	0	2	0	12	0	12	14
8:15 AM	0	0	0	0	0	0	0	0	0	12	0	12	12
8:30 AM	0	0	0	0	1	0	0	1	0	9	0	9	10
8:45 AM	0	0	0	0	0	0	0	0	0	16	0	16	16
Total	0	0	0	0	3	0	0	3	0	49	0	49	52
Grand Total	0	0	0	0	3	0	0	3	0	103	0	103	106
Approach %	0.0	0.0	0.0		100.0	0.0	0.0		0.0	100.0	0.0		
Total %	0.0	0.0	0.0	0.0	2.8	0.0	0.0	2.8	0.0	97.2	0.0	97.2	
Exiting Leg Total				106				0				0	106

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Morrissey Boulevard				Walnut Street				Morrissey Boulevard				
	North				East				South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	14	0	14	14
7:15 AM	0	0	0	0	0	0	0	0	0	12	0	12	12
7:30 AM	0	0	0	0	0	0	0	0	0	16	0	16	16
7:45 AM	0	0	0	0	0	0	0	0	0	12	0	12	12
Total Volume	0	0	0	0	0	0	0	0	0	54	0	54	54
% Approach Total	0.0	0.0	0.0		0.0	0.0	0.0		0.0	100.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.844	0.000	0.844	0.844
Entering Leg	0	0	0	0	0	0	0	0	0	54	0	54	54
Exiting Leg				54				0				0	54
Total				54				0				54	108

PDI File #: **175750 A**
Location: **N: Morrissey Boulevard S: Morrissey Boulevard**
Location: **E: Walnut Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Buses**

	Morrissey Boulevard				Walnut Street				Morrissey Boulevard				
	North				East				South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	5	0	5	5
7:15 AM	0	0	0	0	0	0	0	0	0	3	0	3	3
7:30 AM	0	0	0	0	1	0	0	1	0	1	0	1	2
7:45 AM	0	0	0	0	1	0	0	1	0	9	0	9	10
Total	0	0	0	0	2	0	0	2	0	18	0	18	20
8:00 AM	0	0	0	0	0	0	0	0	0	7	0	7	7
8:15 AM	0	0	0	0	0	0	0	0	0	5	0	5	5
8:30 AM	0	0	0	0	1	0	0	1	0	5	0	5	6
8:45 AM	0	0	0	0	1	0	0	1	0	4	0	4	5
Total	0	0	0	0	2	0	0	2	0	21	0	21	23
Grand Total	0	0	0	0	4	0	0	4	0	39	0	39	43
Approach %	0.0	0.0	0.0		100.0	0.0	0.0		0.0	100.0	0.0		
Total %	0.0	0.0	0.0	0.0	9.3	0.0	0.0	9.3	0.0	90.7	0.0	90.7	
Exiting Leg Total				43				0				0	43

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:45 AM	Morrissey Boulevard				Walnut Street				Morrissey Boulevard				
	North				East				South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
7:45 AM	0	0	0	0	1	0	0	1	0	9	0	9	10
8:00 AM	0	0	0	0	0	0	0	0	0	7	0	7	7
8:15 AM	0	0	0	0	0	0	0	0	0	5	0	5	5
8:30 AM	0	0	0	0	1	0	0	1	0	5	0	5	6
Total Volume	0	0	0	0	2	0	0	2	0	26	0	26	28
% Approach Total	0.0	0.0	0.0		100.0	0.0	0.0		0.0	100.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.500	0.000	0.722	0.000	0.722	0.700
Entering Leg	0	0	0	0	2	0	0	2	0	26	0	26	28
Exiting Leg				28				0				0	28
Total				28				2				26	56

PDI File #: **175750 A**
Location: **N: Morrissey Boulevard S: Morrissey Boulevard**
Location: **E: Walnut Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Bicycles (on Roadway and Crosswalks)

	Morrissey Boulevard						Walnut Street						Morrissey Boulevard						
	North						East						South						
	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	U-Turn	CW-WB	CW-EB	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
Total	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	2	2
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	2
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	2
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	1	3	0	0	0	4	4
Approach %	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		25.0	75.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25.0	75.0	0.0	0.0	0.0	100.0	
Exiting Leg Total						3						1						0	4

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:45 AM	Morrissey Boulevard						Walnut Street						Morrissey Boulevard						
	North						East						South						
	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	U-Turn	CW-WB	CW-EB	Total	Total
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	2
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	3	3
% Approach Total	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		33.3	66.7	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.250	0.000	0.000	0.000	0.375	0.375
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	3	3
Exiting Leg						2						1						0	3
Total						2						1						3	6

PDI File #: **175750 A**
Location: **N: Morrissey Boulevard S: Morrissey Boulevard**
Location: **E: Walnut Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Pedestrians

	Morrissey Boulevard						Walnut Street						Morrissey Boulevard						
	North						East						South						
	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	U-Turn	CW-WB	CW-EB	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1
7:30 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	0	0	0	2
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1
Grand Total	0	0	0	0	0	0	0	0	0	2	1	3	0	0	0	0	0	0	3
Approach %	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	66.7	33.3		0.0	0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	66.7	33.3	100.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total						0						3						0	3

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Morrissey Boulevard						Walnut Street						Morrissey Boulevard						
	North						East						South						
	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	U-Turn	CW-WB	CW-EB	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1
7:30 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	0	0	0	2
% Approach Total	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	50.0	50.0		0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.250	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.500
Entering Leg	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	0	0	0	2
Exiting Leg						0						2						0	2
Total						0						4						0	4

PDI File #: **175750 AA**
Location: **N: Morrissey Boulevard S: Morrissey Boulevard**
Location: **E: Walnut Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Cars, Heavy Vehicles, and Buses (Combined)**

	Morrissey Boulevard				Walnut Street				Morrissey Boulevard				
	North				East				South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
4:00 PM	0	0	0	0	34	0	0	34	7	851	0	858	892
4:15 PM	0	0	0	0	21	0	0	21	7	740	0	747	768
4:30 PM	0	0	0	0	39	0	0	39	5	755	0	760	799
4:45 PM	0	0	0	0	46	0	0	46	3	665	0	668	714
Total	0	0	0	0	140	0	0	140	22	3011	0	3033	3173
5:00 PM	0	0	0	0	28	0	0	28	7	751	0	758	786
5:15 PM	0	0	0	0	25	0	0	25	8	707	0	715	740
5:30 PM	0	0	0	0	16	0	0	16	12	706	0	718	734
5:45 PM	0	0	0	0	17	0	0	17	11	658	0	669	686
Total	0	0	0	0	86	0	0	86	38	2822	0	2860	2946
Grand Total	0	0	0	0	226	0	0	226	60	5833	0	5893	6119
Approach %	0.0	0.0	0.0		100.0	0.0	0.0		1.0	99.0	0.0		
Total %	0.0	0.0	0.0	0.0	3.7	0.0	0.0	3.7	1.0	95.3	0.0	96.3	
Exiting Leg Total				6059				60				0	6119
Cars	0	0	0	0	221	0	0	221	59	5752	0	5811	6032
% Cars	0.0	0.0	0.0	0.0	97.8	0.0	0.0	97.8	98.3	98.6	0.0	98.6	98.6
Exiting Leg Total				5973				59				0	6032
Heavy Vehicles	0	0	0	0	3	0	0	3	1	45	0	46	49
% Heavy Vehicles	0.0	0.0	0.0	0.0	1.3	0.0	0.0	1.3	1.7	0.8	0.0	0.8	0.8
Exiting Leg Total				48				1				0	49
Buses	0	0	0	0	2	0	0	2	0	36	0	36	38
% Buses	0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.9	0.0	0.6	0.0	0.6	0.6
Exiting Leg Total				38				0				0	38

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Morrissey Boulevard				Walnut Street				Morrissey Boulevard				
	North				East				South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
4:00 PM	0	0	0	0	34	0	0	34	7	851	0	858	892
4:15 PM	0	0	0	0	21	0	0	21	7	740	0	747	768
4:30 PM	0	0	0	0	39	0	0	39	5	755	0	760	799
4:45 PM	0	0	0	0	46	0	0	46	3	665	0	668	714
Total Volume	0	0	0	0	140	0	0	140	22	3011	0	3033	3173
% Approach Total	0.0	0.0	0.0		100.0	0.0	0.0		0.7	99.3	0.0		
PHF	0.000	0.000	0.000	0.000	0.761	0.000	0.000	0.761	0.786	0.885	0.000	0.884	0.889
Cars	0	0	0	0	136	0	0	136	22	2965	0	2987	3123
Cars %	0.0	0.0	0.0	0.0	97.1	0.0	0.0	97.1	100.0	98.5	0.0	98.5	98.4
Heavy Vehicles	0	0	0	0	2	0	0	2	0	27	0	27	29
Heavy Vehicles %	0.0	0.0	0.0	0.0	1.4	0.0	0.0	1.4	0.0	0.9	0.0	0.9	0.9
Buses	0	0	0	0	2	0	0	2	0	19	0	19	21
Buses %	0.0	0.0	0.0	0.0	1.4	0.0	0.0	1.4	0.0	0.6	0.0	0.6	0.7
Cars Enter Leg	0	0	0	0	136	0	0	136	22	2965	0	2987	3123
Heavy Enter Leg	0	0	0	0	2	0	0	2	0	27	0	27	29
Bus Enter Leg	0	0	0	0	2	0	0	2	0	19	0	19	21
Total Entering Leg	0	0	0	0	140	0	0	140	22	3011	0	3033	3173
Cars Exiting Leg				3101				22				0	3123
Heavy Exiting Leg				29				0				0	29
Buses Exiting Leg				21				0				0	21
Total Exiting Leg				3151				22				0	3173

PDI File #: **175750 AA**
Location: **N: Morrissey Boulevard S: Morrissey Boulevard**
Location: **E: Walnut Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars

	Morrissey Boulevard				Walnut Street				Morrissey Boulevard				
	North				East				South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
4:00 PM	0	0	0	0	32	0	0	32	7	836	0	843	875
4:15 PM	0	0	0	0	21	0	0	21	7	727	0	734	755
4:30 PM	0	0	0	0	38	0	0	38	5	747	0	752	790
4:45 PM	0	0	0	0	45	0	0	45	3	655	0	658	703
Total	0	0	0	0	136	0	0	136	22	2965	0	2987	3123
5:00 PM	0	0	0	0	28	0	0	28	7	745	0	752	780
5:15 PM	0	0	0	0	24	0	0	24	7	697	0	704	728
5:30 PM	0	0	0	0	16	0	0	16	12	701	0	713	729
5:45 PM	0	0	0	0	17	0	0	17	11	644	0	655	672
Total	0	0	0	0	85	0	0	85	37	2787	0	2824	2909
Grand Total	0	0	0	0	221	0	0	221	59	5752	0	5811	6032
Approach %	0.0	0.0	0.0		100.0	0.0	0.0		1.0	99.0	0.0		
Total %	0.0	0.0	0.0	0.0	3.7	0.0	0.0	3.7	1.0	95.4	0.0	96.3	
Exiting Leg Total				5973				59				0	6032

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Morrissey Boulevard				Walnut Street				Morrissey Boulevard				
	North				East				South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
4:00 PM	0	0	0	0	32	0	0	32	7	836	0	843	875
4:15 PM	0	0	0	0	21	0	0	21	7	727	0	734	755
4:30 PM	0	0	0	0	38	0	0	38	5	747	0	752	790
4:45 PM	0	0	0	0	45	0	0	45	3	655	0	658	703
Total Volume	0	0	0	0	136	0	0	136	22	2965	0	2987	3123
% Approach Total	0.0	0.0	0.0		100.0	0.0	0.0		0.7	99.3	0.0		
PHF	0.000	0.000	0.000	0.000	0.756	0.000	0.000	0.756	0.786	0.887	0.000	0.886	0.892
Entering Leg	0	0	0	0	136	0	0	136	22	2965	0	2987	3123
Exiting Leg				3101				22				0	3123
Total				3101				158				2987	6246

PDI File #: **175750 AA**
Location: **N: Morrissey Boulevard S: Morrissey Boulevard**
Location: **E: Walnut Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Heavy Vehicles

	Morrissey Boulevard				Walnut Street				Morrissey Boulevard				
	North				East				South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
4:00 PM	0	0	0	0	1	0	0	1	0	7	0	7	8
4:15 PM	0	0	0	0	0	0	0	0	0	9	0	9	9
4:30 PM	0	0	0	0	1	0	0	1	0	5	0	5	6
4:45 PM	0	0	0	0	0	0	0	0	0	6	0	6	6
Total	0	0	0	0	2	0	0	2	0	27	0	27	29
5:00 PM	0	0	0	0	0	0	0	0	0	4	0	4	4
5:15 PM	0	0	0	0	1	0	0	1	1	5	0	6	7
5:30 PM	0	0	0	0	0	0	0	0	0	3	0	3	3
5:45 PM	0	0	0	0	0	0	0	0	0	6	0	6	6
Total	0	0	0	0	1	0	0	1	1	18	0	19	20
Grand Total	0	0	0	0	3	0	0	3	1	45	0	46	49
Approach %	0.0	0.0	0.0		100.0	0.0	0.0		2.2	97.8	0.0		
Total %	0.0	0.0	0.0	0.0	6.1	0.0	0.0	6.1	2.0	91.8	0.0	93.9	
Exiting Leg Total				48				1				0	49

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Morrissey Boulevard				Walnut Street				Morrissey Boulevard				
	North				East				South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
4:00 PM	0	0	0	0	1	0	0	1	0	7	0	7	8
4:15 PM	0	0	0	0	0	0	0	0	0	9	0	9	9
4:30 PM	0	0	0	0	1	0	0	1	0	5	0	5	6
4:45 PM	0	0	0	0	0	0	0	0	0	6	0	6	6
Total Volume	0	0	0	0	2	0	0	2	0	27	0	27	29
% Approach Total	0.0	0.0	0.0		100.0	0.0	0.0		0.0	100.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.500	0.000	0.750	0.000	0.750	0.806
Entering Leg	0	0	0	0	2	0	0	2	0	27	0	27	29
Exiting Leg				29				0				0	29
Total				29				2				27	58

PDI File #: **175750 AA**
Location: **N: Morrissey Boulevard S: Morrissey Boulevard**
Location: **E: Walnut Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Buses

	Morrissey Boulevard				Walnut Street				Morrissey Boulevard				
	North				East				South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
4:00 PM	0	0	0	0	1	0	0	1	0	8	0	8	9
4:15 PM	0	0	0	0	0	0	0	0	0	4	0	4	4
4:30 PM	0	0	0	0	0	0	0	0	0	3	0	3	3
4:45 PM	0	0	0	0	1	0	0	1	0	4	0	4	5
Total	0	0	0	0	2	0	0	2	0	19	0	19	21
5:00 PM	0	0	0	0	0	0	0	0	0	2	0	2	2
5:15 PM	0	0	0	0	0	0	0	0	0	5	0	5	5
5:30 PM	0	0	0	0	0	0	0	0	0	2	0	2	2
5:45 PM	0	0	0	0	0	0	0	0	0	8	0	8	8
Total	0	0	0	0	0	0	0	0	0	17	0	17	17
Grand Total	0	0	0	0	2	0	0	2	0	36	0	36	38
Approach %	0.0	0.0	0.0		100.0	0.0	0.0		0.0	100.0	0.0		
Total %	0.0	0.0	0.0	0.0	5.3	0.0	0.0	5.3	0.0	94.7	0.0	94.7	
Exiting Leg Total				38				0				0	38

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Morrissey Boulevard				Walnut Street				Morrissey Boulevard				
	North				East				South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
4:00 PM	0	0	0	0	1	0	0	1	0	8	0	8	9
4:15 PM	0	0	0	0	0	0	0	0	0	4	0	4	4
4:30 PM	0	0	0	0	0	0	0	0	0	3	0	3	3
4:45 PM	0	0	0	0	1	0	0	1	0	4	0	4	5
Total Volume	0	0	0	0	2	0	0	2	0	19	0	19	21
% Approach Total	0.0	0.0	0.0		100.0	0.0	0.0		0.0	100.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.500	0.000	0.594	0.000	0.594	0.583
Entering Leg	0	0	0	0	2	0	0	2	0	19	0	19	21
Exiting Leg				21				0				0	21
Total				21				2				19	42

PDI File #: **175750 AA**
Location: **N: Morrissey Boulevard S: Morrissey Boulevard**
Location: **E: Walnut Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Bicycles (on Roadway and Crosswalks)

	Morrissey Boulevard						Walnut Street						Morrissey Boulevard						
	North						East						South						
	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	U-Turn	CW-WB	CW-EB	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0	0	0	1	2
Grand Total	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0	0	0	1	2
Approach %	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	100.0		0.0	100.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0	50.0	0.0	50.0	0.0	0.0	0.0	50.0	
Exiting Leg Total						1						1						0	2

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Morrissey Boulevard						Walnut Street						Morrissey Boulevard						
	North						East						South						
	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	U-Turn	CW-WB	CW-EB	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg						0						0						0	0
Total						0						0						0	0

PDI File #: **175750 AA**
Location: **N: Morrissey Boulevard S: Morrissey Boulevard**
Location: **E: Walnut Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Pedestrians

	Morrissey Boulevard						Walnut Street						Morrissey Boulevard						
	North						East						South						
	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	U-Turn	CW-WB	CW-EB	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	0	0	0	3
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	1	3	4	0	0	0	0	0	0	4
5:45 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	0	2	4	6	0	0	0	0	0	0	6
Grand Total	0	0	0	0	0	0	0	0	0	5	4	9	0	0	0	0	0	0	9
Approach %	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	55.6	44.4		0.0	0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	55.6	44.4	100.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total						0						9						0	9

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

5:00 PM	Morrissey Boulevard						Walnut Street						Morrissey Boulevard						
	North						East						South						
	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	U-Turn	CW-WB	CW-EB	Total	Total
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	1	3	4	0	0	0	0	0	0	4
5:45 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1
Total Volume	0	0	0	0	0	0	0	0	0	2	4	6	0	0	0	0	0	0	6
% Approach Total	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	33.3	66.7		0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.333	0.375	0.000	0.000	0.000	0.000	0.000	0.000	0.375
Entering Leg	0	0	0	0	0	0	0	0	0	2	4	6	0	0	0	0	0	0	6
Exiting Leg						0						6						0	6
Total						0						12						0	12

PDI File #: **175750 AAA**
Location: **N: Morrissey Boulevard S: Morrissey Boulevard**
Location: **E: Walnut Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Saturday, June 24, 2017**
Start Time: **11:00 AM**
End Time: **2:00 PM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class:

Cars, Heavy Vehicles, and Buses (Combined)

	Morrissey Boulevard				Walnut Street				Morrissey Boulevard				
	North				East				South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
11:00 AM	0	0	0	0	18	0	0	18	6	703	0	709	727
11:15 AM	0	0	0	0	20	0	0	20	6	686	0	692	712
11:30 AM	0	0	0	0	20	0	0	20	8	756	0	764	784
11:45 AM	0	0	0	0	22	0	0	22	5	712	0	717	739
Total	0	0	0	0	80	0	0	80	25	2857	0	2882	2962
12:00 PM	0	0	0	0	16	0	0	16	6	728	0	734	750
12:15 PM	0	0	0	0	25	0	0	25	10	723	0	733	758
12:30 PM	0	0	0	0	20	0	0	20	3	746	0	749	769
12:45 PM	0	0	0	0	16	0	0	16	5	709	0	714	730
Total	0	0	0	0	77	0	0	77	24	2906	0	2930	3007
1:00 PM	0	0	0	0	24	0	0	24	6	706	0	712	736
1:15 PM	0	0	0	0	24	0	0	24	2	726	0	728	752
1:30 PM	0	0	0	0	20	0	0	20	5	807	0	812	832
1:45 PM	0	0	0	0	23	0	0	23	2	833	0	835	858
Total	0	0	0	0	91	0	0	91	15	3072	0	3087	3178
Grand Total	0	0	0	0	248	0	0	248	64	8835	0	8899	9147
Approach %	0.0	0.0	0.0		100.0	0.0	0.0		0.7	99.3	0.0		
Total %	0.0	0.0	0.0	0.0	2.7	0.0	0.0	2.7	0.7	96.6	0.0	97.3	
Exiting Leg Total				9083				64				0	9147
Cars	0	0	0	0	243	0	0	243	61	8704	0	8765	9008
% Cars	0.0	0.0	0.0	0.0	98.0	0.0	0.0	98.0	95.3	98.5	0.0	98.5	98.5
Exiting Leg Total				8947				61				0	9008
Heavy Vehicles	0	0	0	0	3	0	0	3	2	103	0	105	108
% Heavy Vehicles	0.0	0.0	0.0	0.0	1.2	0.0	0.0	1.2	3.1	1.2	0.0	1.2	1.2
Exiting Leg Total				106				2				0	108
Buses	0	0	0	0	2	0	0	2	1	28	0	29	31
% Buses	0.0	0.0	0.0	0.0	0.8	0.0	0.0	0.8	1.6	0.3	0.0	0.3	0.3
Exiting Leg Total				30				1				0	31

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

1:00 PM	Morrissey Boulevard				Walnut Street				Morrissey Boulevard				
	North				East				South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
1:00 PM	0	0	0	0	24	0	0	24	6	706	0	712	736
1:15 PM	0	0	0	0	24	0	0	24	2	726	0	728	752
1:30 PM	0	0	0	0	20	0	0	20	5	807	0	812	832
1:45 PM	0	0	0	0	23	0	0	23	2	833	0	835	858
Total Volume	0	0	0	0	91	0	0	91	15	3072	0	3087	3178
% Approach Total	0.0	0.0	0.0		100.0	0.0	0.0		0.5	99.5	0.0		
PHF	0.000	0.000	0.000	0.000	0.948	0.000	0.000	0.948	0.625	0.922	0.000	0.924	0.926
Cars	0	0	0	0	90	0	0	90	14	3020	0	3034	3124
Cars %	0.0	0.0	0.0	0.0	98.9	0.0	0.0	98.9	93.3	98.3	0.0	98.3	98.3
Heavy Vehicles	0	0	0	0	1	0	0	1	1	41	0	42	43
Heavy Vehicles %	0.0	0.0	0.0	0.0	1.1	0.0	0.0	1.1	6.7	1.3	0.0	1.4	1.4
Buses	0	0	0	0	0	0	0	0	0	11	0	11	11
Buses %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.4	0.3
Cars Enter Leg	0	0	0	0	90	0	0	90	14	3020	0	3034	3124
Heavy Enter Leg	0	0	0	0	1	0	0	1	1	41	0	42	43
Bus Enter Leg	0	0	0	0	0	0	0	0	0	11	0	11	11
Total Entering Leg	0	0	0	0	91	0	0	91	15	3072	0	3087	3178
Cars Exiting Leg				3110				14				0	3124
Heavy Exiting Leg				42				1				0	43
Buses Exiting Leg				11				0				0	11
Total Exiting Leg				3163				15				0	3178

PDI File #: **175750 AAA**
Location: **N: Morrissey Boulevard S: Morrissey Boulevard**
Location: **E: Walnut Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Saturday, June 24, 2017**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars

	Morrissey Boulevard				Walnut Street				Morrissey Boulevard				
	North				East				South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
11:00 AM	0	0	0	0	17	0	0	17	6	689	0	695	712
11:15 AM	0	0	0	0	20	0	0	20	6	677	0	683	703
11:30 AM	0	0	0	0	19	0	0	19	8	749	0	757	776
11:45 AM	0	0	0	0	21	0	0	21	4	702	0	706	727
Total	0	0	0	0	77	0	0	77	24	2817	0	2841	2918
12:00 PM	0	0	0	0	16	0	0	16	6	713	0	719	735
12:15 PM	0	0	0	0	25	0	0	25	9	717	0	726	751
12:30 PM	0	0	0	0	19	0	0	19	3	736	0	739	758
12:45 PM	0	0	0	0	16	0	0	16	5	701	0	706	722
Total	0	0	0	0	76	0	0	76	23	2867	0	2890	2966
1:00 PM	0	0	0	0	23	0	0	23	5	688	0	693	716
1:15 PM	0	0	0	0	24	0	0	24	2	715	0	717	741
1:30 PM	0	0	0	0	20	0	0	20	5	791	0	796	816
1:45 PM	0	0	0	0	23	0	0	23	2	826	0	828	851
Total	0	0	0	0	90	0	0	90	14	3020	0	3034	3124
Grand Total	0	0	0	0	243	0	0	243	61	8704	0	8765	9008
Approach %	0.0	0.0	0.0		100.0	0.0	0.0		0.7	99.3	0.0		
Total %	0.0	0.0	0.0	0.0	2.7	0.0	0.0	2.7	0.7	96.6	0.0	97.3	
Exiting Leg Total				8947				61				0	9008

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

1:00 PM	Morrissey Boulevard				Walnut Street				Morrissey Boulevard				
	North				East				South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
1:00 PM	0	0	0	0	23	0	0	23	5	688	0	693	716
1:15 PM	0	0	0	0	24	0	0	24	2	715	0	717	741
1:30 PM	0	0	0	0	20	0	0	20	5	791	0	796	816
1:45 PM	0	0	0	0	23	0	0	23	2	826	0	828	851
Total Volume	0	0	0	0	90	0	0	90	14	3020	0	3034	3124
% Approach Total	0.0	0.0	0.0		100.0	0.0	0.0		0.5	99.5	0.0		
PHF	0.000	0.000	0.000	0.000	0.938	0.000	0.000	0.938	0.700	0.914	0.000	0.916	0.918
Entering Leg	0	0	0	0	90	0	0	90	14	3020	0	3034	3124
Exiting Leg				3110				14				0	3124
Total				3110				104				3034	6248

PDI File #: **175750 AAA**
Location: **N: Morrissey Boulevard S: Morrissey Boulevard**
Location: **E: Walnut Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Saturday, June 24, 2017**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Heavy Vehicles

	Morrissey Boulevard				Walnut Street				Morrissey Boulevard				
	North				East				South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	11	0	11	11
11:15 AM	0	0	0	0	0	0	0	0	0	8	0	8	8
11:30 AM	0	0	0	0	1	0	0	1	0	6	0	6	7
11:45 AM	0	0	0	0	1	0	0	1	1	6	0	7	8
Total	0	0	0	0	2	0	0	2	1	31	0	32	34
12:00 PM	0	0	0	0	0	0	0	0	0	14	0	14	14
12:15 PM	0	0	0	0	0	0	0	0	0	4	0	4	4
12:30 PM	0	0	0	0	0	0	0	0	0	7	0	7	7
12:45 PM	0	0	0	0	0	0	0	0	0	6	0	6	6
Total	0	0	0	0	0	0	0	0	0	31	0	31	31
1:00 PM	0	0	0	0	1	0	0	1	1	16	0	17	18
1:15 PM	0	0	0	0	0	0	0	0	0	8	0	8	8
1:30 PM	0	0	0	0	0	0	0	0	0	10	0	10	10
1:45 PM	0	0	0	0	0	0	0	0	0	7	0	7	7
Total	0	0	0	0	1	0	0	1	1	41	0	42	43
Grand Total	0	0	0	0	3	0	0	3	2	103	0	105	108
Approach %	0.0	0.0	0.0		100.0	0.0	0.0		1.9	98.1	0.0		
Total %	0.0	0.0	0.0	0.0	2.8	0.0	0.0	2.8	1.9	95.4	0.0	97.2	
Exiting Leg Total				106				2				0	108

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

1:00 PM	Morrissey Boulevard				Walnut Street				Morrissey Boulevard				
	North				East				South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
1:00 PM	0	0	0	0	1	0	0	1	1	16	0	17	18
1:15 PM	0	0	0	0	0	0	0	0	0	8	0	8	8
1:30 PM	0	0	0	0	0	0	0	0	0	10	0	10	10
1:45 PM	0	0	0	0	0	0	0	0	0	7	0	7	7
Total Volume	0	0	0	0	1	0	0	1	1	41	0	42	43
% Approach Total	0.0	0.0	0.0		100.0	0.0	0.0		2.4	97.6	0.0		
PHF	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.250	0.250	0.641	0.000	0.618	0.597
Entering Leg	0	0	0	0	1	0	0	1	1	41	0	42	43
Exiting Leg				42				1				0	43
Total				42				2				42	86

PDI File #: **175750 AAA**
Location: **N: Morrissey Boulevard S: Morrissey Boulevard**
Location: **E: Walnut Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Saturday, June 24, 2017**
Start Time: **11:00 AM**
End Time: **2:00 PM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class:

Buses

	Morrissey Boulevard				Walnut Street				Morrissey Boulevard				
	North				East				South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
11:00 AM	0	0	0	0	1	0	0	1	0	3	0	3	4
11:15 AM	0	0	0	0	0	0	0	0	0	1	0	1	1
11:30 AM	0	0	0	0	0	0	0	0	0	1	0	1	1
11:45 AM	0	0	0	0	0	0	0	0	0	4	0	4	4
Total	0	0	0	0	1	0	0	1	0	9	0	9	10
12:00 PM	0	0	0	0	0	0	0	0	0	1	0	1	1
12:15 PM	0	0	0	0	0	0	0	0	1	2	0	3	3
12:30 PM	0	0	0	0	1	0	0	1	0	3	0	3	4
12:45 PM	0	0	0	0	0	0	0	0	0	2	0	2	2
Total	0	0	0	0	1	0	0	1	1	8	0	9	10
1:00 PM	0	0	0	0	0	0	0	0	0	2	0	2	2
1:15 PM	0	0	0	0	0	0	0	0	0	3	0	3	3
1:30 PM	0	0	0	0	0	0	0	0	0	6	0	6	6
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	11	0	11	11
Grand Total	0	0	0	0	2	0	0	2	1	28	0	29	31
Approach %	0.0	0.0	0.0		100.0	0.0	0.0		3.4	96.6	0.0		
Total %	0.0	0.0	0.0	0.0	6.5	0.0	0.0	6.5	3.2	90.3	0.0	93.5	
Exiting Leg Total				30				1				0	31

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

12:45 PM	Morrissey Boulevard				Walnut Street				Morrissey Boulevard				
	North				East				South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
12:45 PM	0	0	0	0	0	0	0	0	0	2	0	2	2
1:00 PM	0	0	0	0	0	0	0	0	0	2	0	2	2
1:15 PM	0	0	0	0	0	0	0	0	0	3	0	3	3
1:30 PM	0	0	0	0	0	0	0	0	0	6	0	6	6
Total Volume	0	0	0	0	0	0	0	0	0	13	0	13	13
% Approach Total	0.0	0.0	0.0		0.0	0.0	0.0		0.0	100.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.542	0.000	0.542	0.542
Entering Leg	0	0	0	0	0	0	0	0	0	13	0	13	13
Exiting Leg				13				0				0	13
Total				13				0				13	26

PDI File #: **175750 AAA**
Location: **N: Morrissey Boulevard S: Morrissey Boulevard**
Location: **E: Walnut Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Saturday, June 24, 2017**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Bicycles (on Roadway and Crosswalks)

	Morrissey Boulevard						Walnut Street						Morrissey Boulevard						
	North						East						South						
	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	U-Turn	CW-WB	CW-EB	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1
Approach %	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	100.0	0.0		0.0	0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total						0						1						0	1

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

11:00 AM	Morrissey Boulevard						Walnut Street						Morrissey Boulevard						
	North						East						South						
	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	U-Turn	CW-WB	CW-EB	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1
Total Volume	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1
% Approach Total	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	100.0	0.0		0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.250
Entering Leg	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1
Exiting Leg						0						1						0	1
Total						0						2						0	2

PDI File #: **175750 AAA**
Location: **N: Morrissey Boulevard S: Morrissey Boulevard**
Location: **E: Walnut Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Saturday, June 24, 2017**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Pedestrians

	Morrissey Boulevard						Walnut Street						Morrissey Boulevard						
	North						East						South						
	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	U-Turn	CW-WB	CW-EB	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
1:15 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	1	1	0	0	0	1	0	1	0	0	0	0	0	0	2
Grand Total	0	0	0	0	1	1	0	0	0	1	0	1	0	0	0	0	0	0	2
Approach %	0.0	0.0	0.0	0.0	100.0		0.0	0.0	0.0	100.0	0.0		0.0	0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	50.0	50.0	0.0	0.0	0.0	50.0	0.0	50.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total						1						1						0	2

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

12:30 PM	Morrissey Boulevard						Walnut Street						Morrissey Boulevard						
	North						East						South						
	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	U-Turn	CW-WB	CW-EB	Total	Total
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
1:15 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1
Total Volume	0	0	0	0	1	1	0	0	0	1	0	1	0	0	0	0	0	0	2
% Approach Total	0.0	0.0	0.0	0.0	100.0		0.0	0.0	0.0	100.0	0.0		0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.250	0.250	0.000	0.000	0.000	0.250	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.500
Entering Leg	0	0	0	0	1	1	0	0	0	1	0	1	0	0	0	0	0	0	2
Exiting Leg						1						1						0	2
Total						2						2						0	4

PDI File #: **175750 B**
Location: **N: I-93 NB Onramp S: Morrissey Boulevard**
Location: **E: Redfield Street W: Morrissey Boulevard**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars, Heavy Vehicles, and Buses (Combined)

	I-93 NB Onramp					Redfield Street					Morrissey Boulevard					Morrissey Boulevard					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	11	272	478	0	761	0	0	0	0	0	761
7:15 AM	0	0	0	0	0	0	0	0	0	0	4	241	484	0	729	0	0	0	0	0	729
7:30 AM	0	0	0	0	0	0	0	0	0	0	5	262	456	0	723	0	0	0	0	0	723
7:45 AM	0	0	0	0	0	0	0	0	0	0	11	266	420	0	697	0	0	0	0	0	697
Total	0	0	0	0	0	0	0	0	0	0	31	1041	1838	0	2910	0	0	0	0	0	2910
8:00 AM	0	0	0	0	0	0	0	0	0	0	9	302	407	0	718	0	0	0	0	0	718
8:15 AM	0	0	0	0	0	0	0	0	0	0	10	335	386	0	731	0	0	0	0	0	731
8:30 AM	0	0	0	0	0	0	0	0	0	0	12	277	374	0	663	0	0	0	0	0	663
8:45 AM	0	0	0	0	0	0	0	0	0	0	13	274	341	0	628	0	0	0	0	0	628
Total	0	0	0	0	0	0	0	0	0	0	44	1188	1508	0	2740	0	0	0	0	0	2740
Grand Total	0	0	0	0	0	0	0	0	0	0	75	2229	3346	0	5650	0	0	0	0	0	5650
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		1.3	39.5	59.2	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	39.5	59.2	0.0	100.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					2229					75					0					3346	5650
Cars	0	0	0	0	0	0	0	0	0	0	68	2163	3313	0	5544	0	0	0	0	0	5544
% Cars	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	90.7	97.0	99.0	0.0	98.1	0.0	0.0	0.0	0.0	0.0	98.1
Exiting Leg Total					2163					68					0					3313	5544
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	1	53	15	0	69	0	0	0	0	0	69
% Heavy Vehicles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	2.4	0.4	0.0	1.2	0.0	0.0	0.0	0.0	0.0	1.2
Exiting Leg Total					53					1					0					15	69
Buses	0	0	0	0	0	0	0	0	0	0	6	13	18	0	37	0	0	0	0	0	37
% Buses	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.0	0.6	0.5	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.7
Exiting Leg Total					13					6					0					18	37

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	I-93 NB Onramp					Redfield Street					Morrissey Boulevard					Morrissey Boulevard					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	11	272	478	0	761	0	0	0	0	0	761
7:15 AM	0	0	0	0	0	0	0	0	0	0	4	241	484	0	729	0	0	0	0	0	729
7:30 AM	0	0	0	0	0	0	0	0	0	0	5	262	456	0	723	0	0	0	0	0	723
7:45 AM	0	0	0	0	0	0	0	0	0	0	11	266	420	0	697	0	0	0	0	0	697
Total Volume	0	0	0	0	0	0	0	0	0	0	31	1041	1838	0	2910	0	0	0	0	0	2910
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		1.1	35.8	63.2	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.705	0.957	0.949	0.000	0.956	0.000	0.000	0.000	0.000	0.000	0.956
Cars	0	0	0	0	0	0	0	0	0	0	29	1012	1822	0	2863	0	0	0	0	0	2863
Cars %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	93.5	97.2	99.1	0.0	98.4	0.0	0.0	0.0	0.0	0.0	98.4
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	23	11	0	34	0	0	0	0	0	34
Heavy Vehicles %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.2	0.6	0.0	1.2	0.0	0.0	0.0	0.0	0.0	1.2
Buses	0	0	0	0	0	0	0	0	0	0	2	6	5	0	13	0	0	0	0	0	13
Buses %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.5	0.6	0.3	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.4
Cars Enter Leg	0	0	0	0	0	0	0	0	0	0	29	1012	1822	0	2863	0	0	0	0	0	2863
Heavy Enter Leg	0	0	0	0	0	0	0	0	0	0	0	23	11	0	34	0	0	0	0	0	34
Bus Enter Leg	0	0	0	0	0	0	0	0	0	0	2	6	5	0	13	0	0	0	0	0	13
Total Entering Leg	0	0	0	0	0	0	0	0	0	0	31	1041	1838	0	2910	0	0	0	0	0	2910
Cars Exiting Leg					1012					29					0					1822	2863
Heavy Exiting Leg					23					0					0					11	34
Buses Exiting Leg					6					2					0					5	13
Total Exiting Leg					1041					31					0					1838	2910

PDI File #: **175750 B**
Location: **N: I-93 NB Onramp S: Morrissey Boulevard**
Location: **E: Redfield Street W: Morrissey Boulevard**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class:

Cars

	I-93 NB Onramp					Redfield Street					Morrissey Boulevard					Morrissey Boulevard					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	11	266	474	0	751	0	0	0	0	0	751
7:15 AM	0	0	0	0	0	0	0	0	0	0	3	234	480	0	717	0	0	0	0	0	717
7:30 AM	0	0	0	0	0	0	0	0	0	0	5	256	449	0	710	0	0	0	0	0	710
7:45 AM	0	0	0	0	0	0	0	0	0	0	10	256	419	0	685	0	0	0	0	0	685
Total	0	0	0	0	0	0	0	0	0	0	29	1012	1822	0	2863	0	0	0	0	0	2863
8:00 AM	0	0	0	0	0	0	0	0	0	0	9	291	400	0	700	0	0	0	0	0	700
8:15 AM	0	0	0	0	0	0	0	0	0	0	9	328	381	0	718	0	0	0	0	0	718
8:30 AM	0	0	0	0	0	0	0	0	0	0	11	267	372	0	650	0	0	0	0	0	650
8:45 AM	0	0	0	0	0	0	0	0	0	0	10	265	338	0	613	0	0	0	0	0	613
Total	0	0	0	0	0	0	0	0	0	0	39	1151	1491	0	2681	0	0	0	0	0	2681
Grand Total	0	0	0	0	0	0	0	0	0	0	68	2163	3313	0	5544	0	0	0	0	0	5544
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		1.2	39.0	59.8	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	39.0	59.8	0.0	100.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					2163					68					0					3313	5544

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	I-93 NB Onramp					Redfield Street					Morrissey Boulevard					Morrissey Boulevard					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	11	266	474	0	751	0	0	0	0	0	751
7:15 AM	0	0	0	0	0	0	0	0	0	0	3	234	480	0	717	0	0	0	0	0	717
7:30 AM	0	0	0	0	0	0	0	0	0	0	5	256	449	0	710	0	0	0	0	0	710
7:45 AM	0	0	0	0	0	0	0	0	0	0	10	256	419	0	685	0	0	0	0	0	685
Total Volume	0	0	0	0	0	0	0	0	0	0	29	1012	1822	0	2863	0	0	0	0	0	2863
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		1.0	35.3	63.6	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.659	0.951	0.949	0.000	0.953	0.000	0.000	0.000	0.000	0.000	0.953
Entering Leg	0	0	0	0	0	0	0	0	0	0	29	1012	1822	0	2863	0	0	0	0	0	2863
Exiting Leg					1012					29					0					1822	2863
Total					1012					29					2863					1822	5726

PDI File #: **175750 B**
Location: **N: I-93 NB Onramp S: Morrissey Boulevard**
Location: **E: Redfield Street W: Morrissey Boulevard**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class:

Heavy Vehicles

	I-93 NB Onramp					Redfield Street					Morrissey Boulevard					Morrissey Boulevard					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	4	2	0	6	0	0	0	0	0	6
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	7	3	0	10	0	0	0	0	0	10
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	6	6	0	12	0	0	0	0	0	12
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	6
Total	0	0	0	0	0	0	0	0	0	0	0	23	11	0	34	0	0	0	0	0	34
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	8	1	0	9	0	0	0	0	0	9
8:15 AM	0	0	0	0	0	0	0	0	0	0	1	7	1	0	9	0	0	0	0	0	9
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	7	1	0	8	0	0	0	0	0	8
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	8	1	0	9	0	0	0	0	0	9
Total	0	0	0	0	0	0	0	0	0	0	1	30	4	0	35	0	0	0	0	0	35
Grand Total	0	0	0	0	0	0	0	0	0	0	1	53	15	0	69	0	0	0	0	0	69
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		1.4	76.8	21.7	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	76.8	21.7	0.0	100.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					53					1					0					15	69

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:15 AM	I-93 NB Onramp					Redfield Street					Morrissey Boulevard					Morrissey Boulevard					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	7	3	0	10	0	0	0	0	0	10
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	6	6	0	12	0	0	0	0	0	12
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	6
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	8	1	0	9	0	0	0	0	0	9
Total Volume	0	0	0	0	0	0	0	0	0	0	0	27	10	0	37	0	0	0	0	0	37
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	73.0	27.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.844	0.417	0.000	0.771	0.000	0.000	0.000	0.000	0.000	0.771
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	27	10	0	37	0	0	0	0	0	37
Exiting Leg					27					0					0					10	37
Total					27					0					37					10	74

PDI File #: **175750 B**
Location: **N: I-93 NB Onramp S: Morrissey Boulevard**
Location: **E: Redfield Street W: Morrissey Boulevard**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Buses

	I-93 NB Onramp					Redfield Street					Morrissey Boulevard					Morrissey Boulevard					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	2	2	0	4	0	0	0	0	0	4
7:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	2	0	0	0	0	0	2
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
7:45 AM	0	0	0	0	0	0	0	0	0	0	1	4	1	0	6	0	0	0	0	0	6
Total	0	0	0	0	0	0	0	0	0	0	2	6	5	0	13	0	0	0	0	0	13
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	3	6	0	9	0	0	0	0	0	9
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4	0	0	0	0	0	4
8:30 AM	0	0	0	0	0	0	0	0	0	0	1	3	1	0	5	0	0	0	0	0	5
8:45 AM	0	0	0	0	0	0	0	0	0	0	3	1	2	0	6	0	0	0	0	0	6
Total	0	0	0	0	0	0	0	0	0	0	4	7	13	0	24	0	0	0	0	0	24
Grand Total	0	0	0	0	0	0	0	0	0	0	6	13	18	0	37	0	0	0	0	0	37
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		16.2	35.1	48.6	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.2	35.1	48.6	0.0	100.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					13					6					0					18	37

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:45 AM	I-93 NB Onramp					Redfield Street					Morrissey Boulevard					Morrissey Boulevard					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:45 AM	0	0	0	0	0	0	0	0	0	0	1	4	1	0	6	0	0	0	0	0	6
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	3	6	0	9	0	0	0	0	0	9
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4	0	0	0	0	0	4
8:30 AM	0	0	0	0	0	0	0	0	0	0	1	3	1	0	5	0	0	0	0	0	5
Total Volume	0	0	0	0	0	0	0	0	0	0	2	10	12	0	24	0	0	0	0	0	24
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		8.3	41.7	50.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.625	0.500	0.000	0.667	0.000	0.000	0.000	0.000	0.000	0.667
Entering Leg	0	0	0	0	0	0	0	0	0	0	2	10	12	0	24	0	0	0	0	0	24
Exiting Leg					10					2					0					12	24
Total					10					2					24					12	48

PDI File #: **175750 B**
Location: **N: I-93 NB Onramp S: Morrissey Boulevard**
Location: **E: Redfield Street W: Morrissey Boulevard**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Bicycles (on Roadway and Crosswalks)

	I-93 NB Onramp							Redfield Street							Morrissey Boulevard							Morrissey Boulevard							
	North							East							South							West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	1	0	1	1	3	0	1	0	0	0	0	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0	5
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	1
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	1	0	1	1	3	0	1	0	0	0	0	1	1	1	0	0	0	0	2	0	0	0	0	0	0	0	6
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	2	0	0	0	0	0	0	0	2
Grand Total	0	0	1	0	1	1	3	0	1	0	0	0	0	1	2	1	1	0	0	0	4	0	0	0	0	0	0	0	8
Approach %	0.0	0.0	33.3	0.0	33.3	33.3		0.0	100.0	0.0	0.0	0.0	0.0		50.0	25.0	25.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
Total %	0.0	0.0	12.5	0.0	12.5	12.5	37.5	0.0	12.5	0.0	0.0	0.0	0.0	12.5	25.0	12.5	12.5	0.0	0.0	0.0	50.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total							3							3							0							2	8

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	I-93 NB Onramp							Redfield Street							Morrissey Boulevard							Morrissey Boulevard							
	North							East							South							West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	1	0	1	1	3	0	1	0	0	0	0	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0	5
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	1
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	1	0	1	1	3	0	1	0	0	0	0	1	1	1	0	0	0	0	2	0	0	0	0	0	0	0	6
% Approach Total	0.0	0.0	33.3	0.0	33.3	33.3		0.0	100.0	0.0	0.0	0.0	0.0		50.0	50.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.250	0.000	0.250	0.250	0.250	0.000	0.250	0.000	0.000	0.000	0.000	0.250	0.250	0.250	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.300
Entering Leg	0	0	1	0	1	1	3	0	1	0	0	0	0	1	1	1	0	0	0	0	2	0	0	0	0	0	0	0	6
Exiting Leg							3							2							0							1	6
Total							6							3							2							1	12

PDI File #: **175750 B**
Location: **N: I-93 NB Onramp S: Morrissey Boulevard**
Location: **E: Redfield Street W: Morrissey Boulevard**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Pedestrians

	I-93 NB Onramp							Redfield Street							Morrissey Boulevard							Morrissey Boulevard							
	North							East							South							West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Grand Total	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Approach %	0.0	0.0	0.0	0.0	100.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	100.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total							1							0							0							0	1

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:30 AM	I-93 NB Onramp							Redfield Street							Morrissey Boulevard							Morrissey Boulevard							
	North							East							South							West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Volume	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
% Approach Total	0.0	0.0	0.0	0.0	100.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.250	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250
Entering Leg	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Exiting Leg							1							0							0							0	1
Total							2							0							0							0	2

PDI File #: **175750 BB**
Location: **N: I-93 NB Onramp S: Morrissey Boulevard**
Location: **E: Redfield Street W: Morrissey Boulevard**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars, Heavy Vehicles, and Buses (Combined)

	I-93 NB Onramp					Redfield Street					Morrissey Boulevard					Morrissey Boulevard					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	30	299	352	0	681	0	0	0	0	0	681
4:15 PM	0	0	0	0	0	0	0	0	0	0	9	265	307	0	581	0	0	0	0	0	581
4:30 PM	0	0	0	0	0	0	0	0	0	0	24	298	262	0	584	0	0	0	0	0	584
4:45 PM	0	0	0	0	0	0	0	0	0	0	15	265	243	0	523	0	0	0	0	0	523
Total	0	0	0	0	0	0	0	0	0	0	78	1127	1164	0	2369	0	0	0	0	0	2369
5:00 PM	0	0	0	0	0	0	0	0	0	0	15	303	253	0	571	0	0	0	0	0	571
5:15 PM	0	0	0	0	0	0	0	0	0	0	22	292	208	0	522	0	0	0	0	0	522
5:30 PM	0	0	0	0	0	0	0	0	0	0	26	301	190	0	517	0	0	0	0	0	517
5:45 PM	0	0	0	0	0	0	0	0	0	0	27	311	170	0	508	0	0	0	0	0	508
Total	0	0	0	0	0	0	0	0	0	0	90	1207	821	0	2118	0	0	0	0	0	2118
Grand Total	0	0	0	0	0	0	0	0	0	0	168	2334	1985	0	4487	0	0	0	0	0	4487
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		3.7	52.0	44.2	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.7	52.0	44.2	0.0	100.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					2334					168					0					1985	4487
Cars	0	0	0	0	0	0	0	0	0	0	162	2293	1965	0	4420	0	0	0	0	0	4420
% Cars	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	96.4	98.2	99.0	0.0	98.5	0.0	0.0	0.0	0.0	0.0	98.5
Exiting Leg Total					2293					162					0					1965	4420
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	4	30	7	0	41	0	0	0	0	0	41
% Heavy Vehicles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.4	1.3	0.4	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.9
Exiting Leg Total					30					4					0					7	41
Buses	0	0	0	0	0	0	0	0	0	0	2	11	13	0	26	0	0	0	0	0	26
% Buses	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.5	0.7	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.6
Exiting Leg Total					11					2					0					13	26

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	I-93 NB Onramp					Redfield Street					Morrissey Boulevard					Morrissey Boulevard					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	30	299	352	0	681	0	0	0	0	0	681
4:15 PM	0	0	0	0	0	0	0	0	0	0	9	265	307	0	581	0	0	0	0	0	581
4:30 PM	0	0	0	0	0	0	0	0	0	0	24	298	262	0	584	0	0	0	0	0	584
4:45 PM	0	0	0	0	0	0	0	0	0	0	15	265	243	0	523	0	0	0	0	0	523
Total Volume	0	0	0	0	0	0	0	0	0	0	78	1127	1164	0	2369	0	0	0	0	0	2369
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		3.3	47.6	49.1	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.650	0.942	0.827	0.000	0.870	0.000	0.000	0.000	0.000	0.000	0.870
Cars	0	0	0	0	0	0	0	0	0	0	73	1102	1152	0	2327	0	0	0	0	0	2327
Cars %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	93.6	97.8	99.0	0.0	98.2	0.0	0.0	0.0	0.0	0.0	98.2
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	3	19	4	0	26	0	0	0	0	0	26
Heavy Vehicles %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.8	1.7	0.3	0.0	1.1	0.0	0.0	0.0	0.0	0.0	1.1
Buses	0	0	0	0	0	0	0	0	0	0	2	6	8	0	16	0	0	0	0	0	16
Buses %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6	0.5	0.7	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.7
Cars Enter Leg	0	0	0	0	0	0	0	0	0	0	73	1102	1152	0	2327	0	0	0	0	0	2327
Heavy Enter Leg	0	0	0	0	0	0	0	0	0	0	3	19	4	0	26	0	0	0	0	0	26
Bus Enter Leg	0	0	0	0	0	0	0	0	0	0	2	6	8	0	16	0	0	0	0	0	16
Total Entering Leg	0	0	0	0	0	0	0	0	0	0	78	1127	1164	0	2369	0	0	0	0	0	2369
Cars Exiting Leg					1102					73					0					1152	2327
Heavy Exiting Leg					19					3					0					4	26
Buses Exiting Leg					6					2					0					8	16
Total Exiting Leg					1127					78					0					1164	2369

PDI File #: **175750 BB**
Location: **N: I-93 NB Onramp S: Morrissey Boulevard**
Location: **E: Redfield Street W: Morrissey Boulevard**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars

	I-93 NB Onramp					Redfield Street					Morrissey Boulevard					Morrissey Boulevard					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	29	291	349	0	669	0	0	0	0	0	669
4:15 PM	0	0	0	0	0	0	0	0	0	0	7	259	303	0	569	0	0	0	0	0	569
4:30 PM	0	0	0	0	0	0	0	0	0	0	24	291	260	0	575	0	0	0	0	0	575
4:45 PM	0	0	0	0	0	0	0	0	0	0	13	261	240	0	514	0	0	0	0	0	514
Total	0	0	0	0	0	0	0	0	0	0	73	1102	1152	0	2327	0	0	0	0	0	2327
5:00 PM	0	0	0	0	0	0	0	0	0	0	15	300	252	0	567	0	0	0	0	0	567
5:15 PM	0	0	0	0	0	0	0	0	0	0	22	284	206	0	512	0	0	0	0	0	512
5:30 PM	0	0	0	0	0	0	0	0	0	0	26	300	190	0	516	0	0	0	0	0	516
5:45 PM	0	0	0	0	0	0	0	0	0	0	26	307	165	0	498	0	0	0	0	0	498
Total	0	0	0	0	0	0	0	0	0	0	89	1191	813	0	2093	0	0	0	0	0	2093
Grand Total	0	0	0	0	0	0	0	0	0	0	162	2293	1965	0	4420	0	0	0	0	0	4420
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		3.7	51.9	44.5	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.7	51.9	44.5	0.0	100.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					2293					162					0					1965	4420

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	I-93 NB Onramp					Redfield Street					Morrissey Boulevard					Morrissey Boulevard					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	29	291	349	0	669	0	0	0	0	0	669
4:15 PM	0	0	0	0	0	0	0	0	0	0	7	259	303	0	569	0	0	0	0	0	569
4:30 PM	0	0	0	0	0	0	0	0	0	0	24	291	260	0	575	0	0	0	0	0	575
4:45 PM	0	0	0	0	0	0	0	0	0	0	13	261	240	0	514	0	0	0	0	0	514
Total Volume	0	0	0	0	0	0	0	0	0	0	73	1102	1152	0	2327	0	0	0	0	0	2327
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		3.1	47.4	49.5	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.629	0.947	0.825	0.000	0.870	0.000	0.000	0.000	0.000	0.000	0.870
Entering Leg	0	0	0	0	0	0	0	0	0	0	73	1102	1152	0	2327	0	0	0	0	0	2327
Exiting Leg					1102					73					0					1152	2327
Total					1102					73					2327					1152	4654

PDI File #: **175750 BB**
Location: **N: I-93 NB Onramp S: Morrissey Boulevard**
Location: **E: Redfield Street W: Morrissey Boulevard**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Heavy Vehicles

	I-93 NB Onramp					Redfield Street					Morrissey Boulevard					Morrissey Boulevard					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	5	1	0	6	0	0	0	0	0	6
4:15 PM	0	0	0	0	0	0	0	0	0	0	2	6	1	0	9	0	0	0	0	0	9
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	5
4:45 PM	0	0	0	0	0	0	0	0	0	0	1	3	2	0	6	0	0	0	0	0	6
Total	0	0	0	0	0	0	0	0	0	0	3	19	4	0	26	0	0	0	0	0	26
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	3
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	7
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	3	0	4	0	0	0	0	0	4
Total	0	0	0	0	0	0	0	0	0	0	1	11	3	0	15	0	0	0	0	0	15
Grand Total	0	0	0	0	0	0	0	0	0	0	4	30	7	0	41	0	0	0	0	0	41
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		9.8	73.2	17.1	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.8	73.2	17.1	0.0	100.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					30					4					0					7	41

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	I-93 NB Onramp					Redfield Street					Morrissey Boulevard					Morrissey Boulevard					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	5	1	0	6	0	0	0	0	0	6
4:15 PM	0	0	0	0	0	0	0	0	0	0	2	6	1	0	9	0	0	0	0	0	9
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	5
4:45 PM	0	0	0	0	0	0	0	0	0	0	1	3	2	0	6	0	0	0	0	0	6
Total Volume	0	0	0	0	0	0	0	0	0	0	3	19	4	0	26	0	0	0	0	0	26
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		11.5	73.1	15.4	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.375	0.792	0.500	0.000	0.722	0.000	0.000	0.000	0.000	0.000	0.722
Entering Leg	0	0	0	0	0	0	0	0	0	0	3	19	4	0	26	0	0	0	0	0	26
Exiting Leg					19					3					0					4	26
Total					19					3					26					4	52

PDI File #: **175750 BB**
Location: **N: I-93 NB Onramp S: Morrissey Boulevard**
Location: **E: Redfield Street W: Morrissey Boulevard**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class:

Buses

	I-93 NB Onramp					Redfield Street					Morrissey Boulevard					Morrissey Boulevard					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	1	3	2	0	6	0	0	0	0	0	6
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	0	0	3
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	2	2	0	4	0	0	0	0	0	4
4:45 PM	0	0	0	0	0	0	0	0	0	0	1	1	1	0	3	0	0	0	0	0	3
Total	0	0	0	0	0	0	0	0	0	0	2	6	8	0	16	0	0	0	0	0	16
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	2	0	3	0	0	0	0	0	3
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	4	2	0	6	0	0	0	0	0	6
Total	0	0	0	0	0	0	0	0	0	0	0	5	5	0	10	0	0	0	0	0	10
Grand Total	0	0	0	0	0	0	0	0	0	0	2	11	13	0	26	0	0	0	0	0	26
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		7.7	42.3	50.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.7	42.3	50.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					11					2					0					13	26

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	I-93 NB Onramp					Redfield Street					Morrissey Boulevard					Morrissey Boulevard					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	1	3	2	0	6	0	0	0	0	0	6
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	0	0	3
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	2	2	0	4	0	0	0	0	0	4
4:45 PM	0	0	0	0	0	0	0	0	0	0	1	1	1	0	3	0	0	0	0	0	3
Total Volume	0	0	0	0	0	0	0	0	0	0	2	6	8	0	16	0	0	0	0	0	16
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		12.5	37.5	50.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.500	0.667	0.000	0.667	0.000	0.000	0.000	0.000	0.000	0.667
Entering Leg	0	0	0	0	0	0	0	0	0	0	2	6	8	0	16	0	0	0	0	0	16
Exiting Leg					6					2					0					8	16
Total					6					2					16					8	32

PDI File #: **175750 BB**
Location: **N: I-93 NB Onramp S: Morrissey Boulevard**
Location: **E: Redfield Street W: Morrissey Boulevard**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class:

Bicycles (on Roadway and Crosswalks)

	I-93 NB Onramp							Redfield Street							Morrissey Boulevard							Morrissey Boulevard							
	North							East							South							West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total							0							0							0							0	0

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	I-93 NB Onramp							Redfield Street							Morrissey Boulevard							Morrissey Boulevard							
	North							East							South							West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg							0							0							0							0	0
Total							0							0							0							0	0

PDI File #: **175750 BB**
Location: **N: I-93 NB Onramp S: Morrissey Boulevard**
Location: **E: Redfield Street W: Morrissey Boulevard**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Pedestrians

	I-93 NB Onramp							Redfield Street							Morrissey Boulevard							Morrissey Boulevard							
	North							East							South							West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	1	0	1	0	0	0	0	1	1	2	0	0	0	0	1	0	1	0	0	0	0	0	0	0	4
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	1
Total	0	0	0	0	1	0	1	0	0	0	0	1	1	2	0	0	0	0	2	0	2	0	0	0	0	0	0	0	5
Grand Total	0	0	0	0	2	0	2	0	0	0	0	1	1	2	0	0	0	0	2	0	2	0	0	0	0	0	0	0	6
Approach %	0.0	0.0	0.0	0.0	100.0	0.0		0.0	0.0	0.0	0.0	50.0	50.0		0.0	0.0	0.0	0.0	100.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	33.3	0.0	33.3	0.0	0.0	0.0	0.0	16.7	16.7	33.3	0.0	0.0	0.0	0.0	33.3	0.0	33.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total							2							2							2							0	6

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:15 PM	I-93 NB Onramp							Redfield Street							Morrissey Boulevard							Morrissey Boulevard							
	North							East							South							West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	1	0	1	0	0	0	0	1	1	2	0	0	0	0	1	0	1	0	0	0	0	0	0	0	4
Total Volume	0	0	0	0	2	0	2	0	0	0	0	1	1	2	0	0	0	0	1	0	1	0	0	0	0	0	0	0	5
% Approach Total	0.0	0.0	0.0	0.0	100.0	0.0		0.0	0.0	0.0	0.0	50.0	50.0		0.0	0.0	0.0	0.0	100.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.500	0.000	0.500	0.000	0.000	0.000	0.000	0.250	0.250	0.250	0.000	0.000	0.000	0.000	0.250	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.313
Entering Leg	0	0	0	0	2	0	2	0	0	0	0	1	1	2	0	0	0	0	1	0	1	0	0	0	0	0	0	0	5
Exiting Leg							2							2							1							0	5
Total							4							4							2							0	10

PDI File #: **175750 BBB**
Location: **N: I-93 NB Onramp S: Morrissey Boulevard**
Location: **E: Redfield Street W: Morrissey Boulevard**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Saturday, June 24, 2017**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars, Heavy Vehicles, and Buses (Combined)

	I-93 NB Onramp					Redfield Street					Morrissey Boulevard					Morrissey Boulevard					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	13	276	275	0	564	0	0	0	0	0	564
11:15 AM	0	0	0	0	0	0	0	0	0	0	11	289	248	0	548	0	0	0	0	0	548
11:30 AM	0	0	0	0	0	0	0	0	0	0	11	319	287	0	617	0	0	0	0	0	617
11:45 AM	0	0	0	0	0	0	0	0	0	0	8	302	248	0	558	0	0	0	0	0	558
Total	0	0	0	0	0	0	0	0	0	0	43	1186	1058	0	2287	0	0	0	0	0	2287
12:00 PM	0	0	0	0	0	0	0	0	0	0	9	295	257	0	561	0	0	0	0	0	561
12:15 PM	0	0	0	0	0	0	0	0	0	0	10	290	298	0	598	0	0	0	0	0	598
12:30 PM	0	0	0	0	0	0	0	0	0	0	11	355	232	0	598	0	0	0	0	0	598
12:45 PM	0	0	0	0	0	0	1	0	0	1	9	358	189	0	556	0	0	0	0	0	557
Total	0	0	0	0	0	0	1	0	0	1	39	1298	976	0	2313	0	0	0	0	0	2314
1:00 PM	0	0	0	0	0	0	0	0	0	0	10	394	178	0	582	0	0	0	0	0	582
1:15 PM	0	0	0	0	0	0	0	0	0	0	8	416	174	0	598	0	0	0	0	0	598
1:30 PM	0	0	0	0	0	0	0	0	0	0	12	406	228	0	646	0	0	0	0	0	646
1:45 PM	0	0	0	0	0	0	0	0	0	0	14	318	333	0	665	0	0	0	0	0	665
Total	0	0	0	0	0	0	0	0	0	0	44	1534	913	0	2491	0	0	0	0	0	2491
Grand Total	0	0	0	0	0	0	1	0	0	1	126	4018	2947	0	7091	0	0	0	0	0	7092
Approach %	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		1.8	56.7	41.6	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.8	56.7	41.6	0.0	100.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					4018					126					0					2948	7092
Cars	0	0	0	0	0	0	1	0	0	1	123	3941	2932	0	6996	0	0	0	0	0	6997
% Cars	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0	97.6	98.1	99.5	0.0	98.7	0.0	0.0	0.0	0.0	0.0	98.7
Exiting Leg Total					3941					123					0					2933	6997
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	3	64	12	0	79	0	0	0	0	0	79
% Heavy Vehicles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.4	1.6	0.4	0.0	1.1	0.0	0.0	0.0	0.0	0.0	1.1
Exiting Leg Total					64					3					0					12	79
Buses	0	0	0	0	0	0	0	0	0	0	0	13	3	0	16	0	0	0	0	0	16
% Buses	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.1	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.2
Exiting Leg Total					13					0					0					3	16

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

1:00 PM	I-93 NB Onramp					Redfield Street					Morrissey Boulevard					Morrissey Boulevard					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
1:00 PM	0	0	0	0	0	0	0	0	0	0	10	394	178	0	582	0	0	0	0	0	582
1:15 PM	0	0	0	0	0	0	0	0	0	0	8	416	174	0	598	0	0	0	0	0	598
1:30 PM	0	0	0	0	0	0	0	0	0	0	12	406	228	0	646	0	0	0	0	0	646
1:45 PM	0	0	0	0	0	0	0	0	0	0	14	318	333	0	665	0	0	0	0	0	665
Total Volume	0	0	0	0	0	0	0	0	0	0	44	1534	913	0	2491	0	0	0	0	0	2491
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		1.8	61.6	36.7	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.786	0.922	0.685	0.000	0.936	0.000	0.000	0.000	0.000	0.000	0.936
Cars	0	0	0	0	0	0	0	0	0	0	44	1504	907	0	2455	0	0	0	0	0	2455
Cars %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	98.0	99.3	0.0	98.6	0.0	0.0	0.0	0.0	0.0	98.6
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	25	6	0	31	0	0	0	0	0	31
Heavy Vehicles %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	0.7	0.0	1.2	0.0	0.0	0.0	0.0	0.0	1.2
Buses	0	0	0	0	0	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	5
Buses %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.2
Cars Enter Leg	0	0	0	0	0	0	0	0	0	0	44	1504	907	0	2455	0	0	0	0	0	2455
Heavy Enter Leg	0	0	0	0	0	0	0	0	0	0	0	25	6	0	31	0	0	0	0	0	31
Bus Enter Leg	0	0	0	0	0	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	5
Total Entering Leg	0	0	0	0	0	0	0	0	0	0	44	1534	913	0	2491	0	0	0	0	0	2491
Cars Exiting Leg					1504					44					0					907	2455
Heavy Exiting Leg					25					0					0					6	31
Buses Exiting Leg					5					0					0					0	5
Total Exiting Leg					1534					44					0					913	2491

PDI File #: **175750 BBB**
Location: **N: I-93 NB Onramp S: Morrissey Boulevard**
Location: **E: Redfield Street W: Morrissey Boulevard**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Saturday, June 24, 2017**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars

	I-93 NB Onramp					Redfield Street					Morrissey Boulevard					Morrissey Boulevard					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	13	268	275	0	556	0	0	0	0	0	556
11:15 AM	0	0	0	0	0	0	0	0	0	0	10	284	247	0	541	0	0	0	0	0	541
11:30 AM	0	0	0	0	0	0	0	0	0	0	10	315	285	0	610	0	0	0	0	0	610
11:45 AM	0	0	0	0	0	0	0	0	0	0	8	296	248	0	552	0	0	0	0	0	552
Total	0	0	0	0	0	0	0	0	0	0	41	1163	1055	0	2259	0	0	0	0	0	2259
12:00 PM	0	0	0	0	0	0	0	0	0	0	9	288	255	0	552	0	0	0	0	0	552
12:15 PM	0	0	0	0	0	0	0	0	0	0	10	285	296	0	591	0	0	0	0	0	591
12:30 PM	0	0	0	0	0	0	0	0	0	0	11	348	231	0	590	0	0	0	0	0	590
12:45 PM	0	0	0	0	0	0	1	0	0	1	8	353	188	0	549	0	0	0	0	0	550
Total	0	0	0	0	0	0	1	0	0	1	38	1274	970	0	2282	0	0	0	0	0	2283
1:00 PM	0	0	0	0	0	0	0	0	0	0	10	384	177	0	571	0	0	0	0	0	571
1:15 PM	0	0	0	0	0	0	0	0	0	0	8	409	172	0	589	0	0	0	0	0	589
1:30 PM	0	0	0	0	0	0	0	0	0	0	12	399	225	0	636	0	0	0	0	0	636
1:45 PM	0	0	0	0	0	0	0	0	0	0	14	312	333	0	659	0	0	0	0	0	659
Total	0	0	0	0	0	0	0	0	0	0	44	1504	907	0	2455	0	0	0	0	0	2455
Grand Total	0	0	0	0	0	0	1	0	0	1	123	3941	2932	0	6996	0	0	0	0	0	6997
Approach %	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		1.8	56.3	41.9	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.8	56.3	41.9	0.0	100.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					3941					123					0					2933	6997

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

1:00 PM	I-93 NB Onramp					Redfield Street					Morrissey Boulevard					Morrissey Boulevard					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
1:00 PM	0	0	0	0	0	0	0	0	0	0	10	384	177	0	571	0	0	0	0	0	571
1:15 PM	0	0	0	0	0	0	0	0	0	0	8	409	172	0	589	0	0	0	0	0	589
1:30 PM	0	0	0	0	0	0	0	0	0	0	12	399	225	0	636	0	0	0	0	0	636
1:45 PM	0	0	0	0	0	0	0	0	0	0	14	312	333	0	659	0	0	0	0	0	659
Total Volume	0	0	0	0	0	0	0	0	0	0	44	1504	907	0	2455	0	0	0	0	0	2455
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		1.8	61.3	36.9	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.786	0.919	0.681	0.000	0.931	0.000	0.000	0.000	0.000	0.000	0.931
Entering Leg	0	0	0	0	0	0	0	0	0	0	44	1504	907	0	2455	0	0	0	0	0	2455
Exiting Leg					1504					44					0					907	2455
Total					1504					44					2455					907	4910

PDI File #: **175750 BBB**
Location: **N: I-93 NB Onramp S: Morrissey Boulevard**
Location: **E: Redfield Street W: Morrissey Boulevard**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Saturday, June 24, 2017**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Heavy Vehicles

	I-93 NB Onramp					Redfield Street					Morrissey Boulevard					Morrissey Boulevard					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	7
11:15 AM	0	0	0	0	0	0	0	0	0	0	1	5	1	0	7	0	0	0	0	0	7
11:30 AM	0	0	0	0	0	0	0	0	0	0	1	4	1	0	6	0	0	0	0	0	6
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	4
Total	0	0	0	0	0	0	0	0	0	0	2	20	2	0	24	0	0	0	0	0	24
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	6	2	0	8	0	0	0	0	0	8
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	4	1	0	5	0	0	0	0	0	5
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	5
12:45 PM	0	0	0	0	0	0	0	0	0	0	1	4	1	0	6	0	0	0	0	0	6
Total	0	0	0	0	0	0	0	0	0	0	1	19	4	0	24	0	0	0	0	0	24
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	8	1	0	9	0	0	0	0	0	9
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	5	2	0	7	0	0	0	0	0	7
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	6	3	0	9	0	0	0	0	0	9
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	6
Total	0	0	0	0	0	0	0	0	0	0	0	25	6	0	31	0	0	0	0	0	31
Grand Total	0	0	0	0	0	0	0	0	0	0	3	64	12	0	79	0	0	0	0	0	79
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		3.8	81.0	15.2	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.8	81.0	15.2	0.0	100.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					64					3					0					12	79

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

12:45 PM	I-93 NB Onramp					Redfield Street					Morrissey Boulevard					Morrissey Boulevard					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
12:45 PM	0	0	0	0	0	0	0	0	0	0	1	4	1	0	6	0	0	0	0	0	6
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	8	1	0	9	0	0	0	0	0	9
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	5	2	0	7	0	0	0	0	0	7
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	6	3	0	9	0	0	0	0	0	9
Total Volume	0	0	0	0	0	0	0	0	0	0	1	23	7	0	31	0	0	0	0	0	31
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		3.2	74.2	22.6	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.719	0.583	0.000	0.861	0.000	0.000	0.000	0.000	0.000	0.861
Entering Leg	0	0	0	0	0	0	0	0	0	0	1	23	7	0	31	0	0	0	0	0	31
Exiting Leg					23					1					0					7	31
Total					23					1					31					7	62

PDI File #: **175750 BBB**
Location: **N: I-93 NB Onramp S: Morrissey Boulevard**
Location: **E: Redfield Street W: Morrissey Boulevard**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Saturday, June 24, 2017**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Buses

	I-93 NB Onramp					Redfield Street					Morrissey Boulevard					Morrissey Boulevard					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2
Total	0	0	0	0	0	0	0	0	0	0	0	3	1	0	4	0	0	0	0	0	4
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	2
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	2	1	0	3	0	0	0	0	0	3
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	0	0	0	5	2	0	7	0	0	0	0	0	7
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	5
Grand Total	0	0	0	0	0	0	0	0	0	0	0	13	3	0	16	0	0	0	0	0	16
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	81.3	18.8	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	81.3	18.8	0.0	100.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					13					0					0					3	16

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

11:45 AM	I-93 NB Onramp					Redfield Street					Morrissey Boulevard					Morrissey Boulevard					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	2
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	2	1	0	3	0	0	0	0	0	3
Total Volume	0	0	0	0	0	0	0	0	0	0	0	6	2	0	8	0	0	0	0	0	8
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	75.0	25.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.750	0.500	0.000	0.667	0.000	0.000	0.000	0.000	0.000	0.667
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	6	2	0	8	0	0	0	0	0	8
Exiting Leg					6					0					0					2	8
Total					6					0					8					2	16

PDI File #: **175750 BBB**
Location: **N: I-93 NB Onramp S: Morrissey Boulevard**
Location: **E: Redfield Street W: Morrissey Boulevard**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Saturday, June 24, 2017**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Bicycles (on Roadway and Crosswalks)

	I-93 NB Onramp							Redfield Street							Morrissey Boulevard							Morrissey Boulevard							
	North							East							South							West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	1	1	0	1	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
11:45 AM	0	0	0	0	1	0	1	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Total	0	0	0	0	1	1	2	0	1	0	0	1	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	1	0	1	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1	3
Total	0	0	0	0	2	0	2	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1	4
Grand Total	0	0	0	0	3	1	4	0	1	0	0	2	1	4	0	0	0	0	0	0	0	0	1	0	0	0	0	1	9
Approach %	0.0	0.0	0.0	0.0	75.0	25.0		0.0	25.0	0.0	0.0	50.0	25.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	33.3	11.1	44.4	0.0	11.1	0.0	0.0	22.2	11.1	44.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.1	0.0	0.0	0.0	0.0	11.1	
Exiting Leg Total							4							4							0							1	9

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

11:00 AM	I-93 NB Onramp							Redfield Street							Morrissey Boulevard							Morrissey Boulevard							
	North							East							South							West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	1	1	0	1	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
11:45 AM	0	0	0	0	1	0	1	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Total Volume	0	0	0	0	1	1	2	0	1	0	0	1	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
% Approach Total	0.0	0.0	0.0	0.0	50.0	50.0		0.0	33.3	0.0	0.0	33.3	33.3		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.250	0.250	0.500	0.000	0.250	0.000	0.000	0.250	0.250	0.375	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.417
Entering Leg	0	0	0	0	1	1	2	0	1	0	0	1	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
Exiting Leg							2							2							0							1	5
Total							4							5							0							1	10

PDI File #: **175750 BBB**
Location: **N: I-93 NB Onramp S: Morrissey Boulevard**
Location: **E: Redfield Street W: Morrissey Boulevard**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Saturday, June 24, 2017**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Pedestrians

	I-93 NB Onramp							Redfield Street							Morrissey Boulevard							Morrissey Boulevard							
	North							East							South							West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Approach %	0.0	0.0	0.0	0.0	100.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	100.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total							1							0							0							0	1

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

11:45 AM	I-93 NB Onramp							Redfield Street							Morrissey Boulevard							Morrissey Boulevard							
	North							East							South							West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg							0							0							0							0	0
Total							0							0							0							0	0

PDI File #: **175750 C**
Location: **S: Woodworth Street**
Location: **E: Redfield Street W: Redfield Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars, Heavy Vehicles, and Buses (Combined)

	Redfield Street				Woodworth Street				Redfield Street				
	East				South				West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
7:00 AM	0	6	0	6	8	0	0	8	0	5	0	5	19
7:15 AM	0	4	0	4	14	0	0	14	0	3	0	3	21
7:30 AM	0	8	0	8	16	0	0	16	3	7	0	10	34
7:45 AM	0	10	0	10	8	1	0	9	2	1	0	3	22
Total	0	28	0	28	46	1	0	47	5	16	0	21	96
8:00 AM	1	13	0	14	5	0	0	5	3	6	0	9	28
8:15 AM	0	10	0	10	1	0	0	1	1	8	0	9	20
8:30 AM	0	10	0	10	7	0	0	7	2	7	0	9	26
8:45 AM	0	11	0	11	3	0	0	3	2	9	0	11	25
Total	1	44	0	45	16	0	0	16	8	30	0	38	99
Grand Total	1	72	0	73	62	1	0	63	13	46	0	59	195
Approach %	1.4	98.6	0.0		98.4	1.6	0.0		22.0	78.0	0.0		
Total %	0.5	36.9	0.0	37.4	31.8	0.5	0.0	32.3	6.7	23.6	0.0	30.3	
Exiting Leg Total				108				85				2	195
Cars	0	68	0	68	61	1	0	62	8	43	0	51	181
% Cars	0.0	94.4	0.0	93.2	98.4	100.0	0.0	98.4	61.5	93.5	0.0	86.4	92.8
Exiting Leg Total				104				76				1	181
Heavy Vehicles	1	3	0	4	0	0	0	0	2	1	0	3	7
% Heavy Vehicles	100.0	4.2	0.0	5.5	0.0	0.0	0.0	0.0	15.4	2.2	0.0	5.1	3.6
Exiting Leg Total				1				5				1	7
Buses	0	1	0	1	1	0	0	1	3	2	0	5	7
% Buses	0.0	1.4	0.0	1.4	1.6	0.0	0.0	1.6	23.1	4.3	0.0	8.5	3.6
Exiting Leg Total				3				4				0	7

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:15 AM	Redfield Street				Woodworth Street				Redfield Street				
	East				South				West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
7:15 AM	0	4	0	4	14	0	0	14	0	3	0	3	21
7:30 AM	0	8	0	8	16	0	0	16	3	7	0	10	34
7:45 AM	0	10	0	10	8	1	0	9	2	1	0	3	22
8:00 AM	1	13	0	14	5	0	0	5	3	6	0	9	28
Total Volume	1	35	0	36	43	1	0	44	8	17	0	25	105
% Approach Total	2.8	97.2	0.0		97.7	2.3	0.0		32.0	68.0	0.0		
PHF	0.250	0.673	0.000	0.643	0.672	0.250	0.000	0.688	0.667	0.607	0.000	0.625	0.772
Cars	0	33	0	33	43	1	0	44	6	16	0	22	99
Cars %	0.0	94.3	0.0	91.7	100.0	100.0	0.0	100.0	75.0	94.1	0.0	88.0	94.3
Heavy Vehicles	1	1	0	2	0	0	0	0	1	0	0	1	3
Heavy Vehicles %	100.0	2.9	0.0	5.6	0.0	0.0	0.0	0.0	12.5	0.0	0.0	4.0	2.9
Buses	0	1	0	1	0	0	0	0	1	1	0	2	3
Buses %	0.0	2.9	0.0	2.8	0.0	0.0	0.0	0.0	12.5	5.9	0.0	8.0	2.9
Cars Enter Leg	0	33	0	33	43	1	0	44	6	16	0	22	99
Heavy Enter Leg	1	1	0	2	0	0	0	0	1	0	0	1	3
Bus Enter Leg	0	1	0	1	0	0	0	0	1	1	0	2	3
Total Entering Leg	1	35	0	36	43	1	0	44	8	17	0	25	105
Cars Exiting Leg				59				39				1	99
Heavy Exiting Leg				0				2				1	3
Buses Exiting Leg				1				2				0	3
Total Exiting Leg				60				43				2	105

PDI File #: **175750 C**
Location: **S: Woodworth Street**
Location: **E: Redfield Street W: Redfield Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars

	Redfield Street				Woodworth Street				Redfield Street				
	East				South				West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
7:00 AM	0	6	0	6	8	0	0	8	0	5	0	5	19
7:15 AM	0	4	0	4	14	0	0	14	0	3	0	3	21
7:30 AM	0	7	0	7	16	0	0	16	3	6	0	9	32
7:45 AM	0	10	0	10	8	1	0	9	1	1	0	2	21
Total	0	27	0	27	46	1	0	47	4	15	0	19	93
8:00 AM	0	12	0	12	5	0	0	5	2	6	0	8	25
8:15 AM	0	10	0	10	1	0	0	1	1	7	0	8	19
8:30 AM	0	9	0	9	6	0	0	6	1	7	0	8	23
8:45 AM	0	10	0	10	3	0	0	3	0	8	0	8	21
Total	0	41	0	41	15	0	0	15	4	28	0	32	88
Grand Total	0	68	0	68	61	1	0	62	8	43	0	51	181
Approach %	0.0	100.0	0.0		98.4	1.6	0.0		15.7	84.3	0.0		
Total %	0.0	37.6	0.0	37.6	33.7	0.6	0.0	34.3	4.4	23.8	0.0	28.2	
Exiting Leg Total				104				76				1	181

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:15 AM	Redfield Street				Woodworth Street				Redfield Street				
	East				South				West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
7:15 AM	0	4	0	4	14	0	0	14	0	3	0	3	21
7:30 AM	0	7	0	7	16	0	0	16	3	6	0	9	32
7:45 AM	0	10	0	10	8	1	0	9	1	1	0	2	21
8:00 AM	0	12	0	12	5	0	0	5	2	6	0	8	25
Total Volume	0	33	0	33	43	1	0	44	6	16	0	22	99
% Approach Total	0.0	100.0	0.0		97.7	2.3	0.0		27.3	72.7	0.0		
PHF	0.000	0.688	0.000	0.688	0.672	0.250	0.000	0.688	0.500	0.667	0.000	0.611	0.773
Entering Leg	0	33	0	33	43	1	0	44	6	16	0	22	99
Exiting Leg				59				39				1	99
Total				92				83				23	198

PDI File #: **175750 C**
Location: **S: Woodworth Street**
Location: **E: Redfield Street W: Redfield Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Heavy Vehicles

	Redfield Street				Woodworth Street				Redfield Street				
	East				South				West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	1	1	0	2	0	0	0	0	1	0	0	1	3
8:15 AM	0	0	0	0	0	0	0	0	0	1	0	1	1
8:30 AM	0	1	0	1	0	0	0	0	0	0	0	0	1
8:45 AM	0	1	0	1	0	0	0	0	1	0	0	1	2
Total	1	3	0	4	0	0	0	0	2	1	0	3	7
Grand Total	1	3	0	4	0	0	0	0	2	1	0	3	7
Approach %	25.0	75.0	0.0		0.0	0.0	0.0		66.7	33.3	0.0		
Total %	14.3	42.9	0.0	57.1	0.0	0.0	0.0	0.0	28.6	14.3	0.0	42.9	
Exiting Leg Total				1				5				1	7

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Redfield Street				Woodworth Street				Redfield Street				
	East				South				West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
8:00 AM	1	1	0	2	0	0	0	0	1	0	0	1	3
8:15 AM	0	0	0	0	0	0	0	0	0	1	0	1	1
8:30 AM	0	1	0	1	0	0	0	0	0	0	0	0	1
8:45 AM	0	1	0	1	0	0	0	0	1	0	0	1	2
Total Volume	1	3	0	4	0	0	0	0	2	1	0	3	7
% Approach Total	25.0	75.0	0.0		0.0	0.0	0.0		66.7	33.3	0.0		
PHF	0.250	0.750	0.000	0.500	0.000	0.000	0.000	0.000	0.500	0.250	0.000	0.750	0.583
Entering Leg	1	3	0	4	0	0	0	0	2	1	0	3	7
Exiting Leg				1				5				1	7
Total				5				5				4	14

PDI File #: **175750 C**
Location: **S: Woodworth Street**
Location: **E: Redfield Street W: Redfield Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Buses**

	Redfield Street				Woodworth Street				Redfield Street				
	East				South				West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	1	0	1	0	0	0	0	0	1	0	1	2
7:45 AM	0	0	0	0	0	0	0	0	1	0	0	1	1
Total	0	1	0	1	0	0	0	0	1	1	0	2	3
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	1	0	0	1	1	0	0	1	2
8:45 AM	0	0	0	0	0	0	0	0	1	1	0	2	2
Total	0	0	0	0	1	0	0	1	2	1	0	3	4
Grand Total	0	1	0	1	1	0	0	1	3	2	0	5	7
Approach %	0.0	100.0	0.0		100.0	0.0	0.0		60.0	40.0	0.0		
Total %	0.0	14.3	0.0	14.3	14.3	0.0	0.0	14.3	42.9	28.6	0.0	71.4	
Exiting Leg Total				3				4				0	7

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Redfield Street				Woodworth Street				Redfield Street				
	East				South				West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	1	0	0	1	1	0	0	1	2
8:45 AM	0	0	0	0	0	0	0	0	1	1	0	2	2
Total Volume	0	0	0	0	1	0	0	1	2	1	0	3	4
% Approach Total	0.0	0.0	0.0		100.0	0.0	0.0		66.7	33.3	0.0		
PHF	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.250	0.500	0.250	0.000	0.375	0.500
Entering Leg	0	0	0	0	1	0	0	1	2	1	0	3	4
Exiting Leg				2				2				0	4
Total				2				3				3	8

PDI File #: **175750 C**
Location: **S: Woodworth Street**
Location: **E: Redfield Street W: Redfield Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Bicycles (on Roadway and Crosswalks)

	Redfield Street						Woodworth Street						Redfield Street						
	East						South						West						
	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	0	0	1	0	0	0	0	1	0	1	0	0	0	1	2
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
7:30 AM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
7:45 AM	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1
Total	0	1	0	0	0	1	2	0	0	0	0	2	0	2	0	0	0	2	5
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	3
Grand Total	0	1	0	0	0	1	2	0	0	0	0	2	0	5	0	0	0	5	8
Approach %	0.0	100.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0		
Total %	0.0	12.5	0.0	0.0	0.0	12.5	25.0	0.0	0.0	0.0	0.0	25.0	0.0	62.5	0.0	0.0	0.0	62.5	
Exiting Leg Total						7						1						0	8

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Redfield Street						Woodworth Street						Redfield Street						
	East						South						West						
	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	0	0	1	0	0	0	0	1	0	1	0	0	0	1	2
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
7:30 AM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
7:45 AM	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1
Total Volume	0	1	0	0	0	1	2	0	0	0	0	2	0	2	0	0	0	2	5
% Approach Total	0.0	100.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0		
PHF	0.000	0.250	0.000	0.000	0.000	0.250	0.500	0.000	0.000	0.000	0.000	0.500	0.000	0.500	0.000	0.000	0.000	0.500	0.625
Entering Leg	0	1	0	0	0	1	2	0	0	0	0	2	0	2	0	0	0	2	5
Exiting Leg						4						1						0	5
Total						5						3						2	10

PDI File #: **175750 C**
Location: **S: Woodworth Street**
Location: **E: Redfield Street W: Redfield Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Pedestrians

	Redfield Street						Woodworth Street						Redfield Street						
	East						South						West						
	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	1	0	1	2
7:30 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	1	1	0	0	0	1	0	1	0	0	0	1	0	1	3
8:00 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	1	0	1	2
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
8:45 AM	0	0	0	0	0	0	0	0	0	4	1	5	0	0	0	0	0	0	5
Total	0	0	0	0	0	0	0	0	0	6	1	7	0	0	0	2	0	2	9
Grand Total	0	0	0	0	1	1	0	0	0	7	1	8	0	0	0	3	0	3	12
Approach %	0.0	0.0	0.0	0.0	100.0		0.0	0.0	0.0	87.5	12.5		0.0	0.0	0.0	100.0	0.0		
Total %	0.0	0.0	0.0	0.0	8.3	8.3	0.0	0.0	0.0	58.3	8.3	66.7	0.0	0.0	0.0	25.0	0.0	25.0	
Exiting Leg Total						1						8						3	12

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Redfield Street						Woodworth Street						Redfield Street						
	East						South						West						
	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	U-Turn	CW-NB	CW-SB	Total	Total
8:00 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	1	0	1	2
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
8:45 AM	0	0	0	0	0	0	0	0	0	4	1	5	0	0	0	0	0	0	5
Total Volume	0	0	0	0	0	0	0	0	0	6	1	7	0	0	0	2	0	2	9
% Approach Total	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	85.7	14.3		0.0	0.0	0.0	100.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.375	0.250	0.350	0.000	0.000	0.000	0.500	0.000	0.500	0.450
Entering Leg	0	0	0	0	0	0	0	0	0	6	1	7	0	0	0	2	0	2	9
Exiting Leg						0						7						2	9
Total						0						14						4	18

PDI File #: **175750 CC**
Location: **S: Woodworth Street**
Location: **E: Redfield Street W: Redfield Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars, Heavy Vehicles, and Buses (Combined)

	Redfield Street				Woodworth Street				Redfield Street				
	East				South				West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
4:00 PM	0	25	1	26	4	0	0	4	7	29	0	36	66
4:15 PM	0	10	0	10	2	0	0	2	7	8	0	15	27
4:30 PM	0	26	0	26	2	0	0	2	9	21	0	30	58
4:45 PM	1	27	1	29	2	0	0	2	17	10	0	27	58
Total	1	88	2	91	10	0	0	10	40	68	0	108	209
5:00 PM	0	10	0	10	4	0	0	4	5	17	0	22	36
5:15 PM	0	16	0	16	2	0	0	2	4	19	0	23	41
5:30 PM	0	12	0	12	2	0	0	2	3	23	0	26	40
5:45 PM	1	11	0	12	6	0	0	6	1	24	0	25	43
Total	1	49	0	50	14	0	0	14	13	83	0	96	160
Grand Total	2	137	2	141	24	0	0	24	53	151	0	204	369
Approach %	1.4	97.2	1.4		100.0	0.0	0.0		26.0	74.0	0.0		
Total %	0.5	37.1	0.5	38.2	6.5	0.0	0.0	6.5	14.4	40.9	0.0	55.3	
Exiting Leg Total				177				190				2	369
Cars	2	135	2	139	24	0	0	24	50	148	0	198	361
% Cars	100.0	98.5	100.0	98.6	100.0	0.0	0.0	100.0	94.3	98.0	0.0	97.1	97.8
Exiting Leg Total				174				185				2	361
Heavy Vehicles	0	1	0	1	0	0	0	0	1	3	0	4	5
% Heavy Vehicles	0.0	0.7	0.0	0.7	0.0	0.0	0.0	0.0	1.9	2.0	0.0	2.0	1.4
Exiting Leg Total				3				2				0	5
Buses	0	1	0	1	0	0	0	0	2	0	0	2	3
% Buses	0.0	0.7	0.0	0.7	0.0	0.0	0.0	0.0	3.8	0.0	0.0	1.0	0.8
Exiting Leg Total				0				3				0	3

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Redfield Street				Woodworth Street				Redfield Street				
	East				South				West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
4:00 PM	0	25	1	26	4	0	0	4	7	29	0	36	66
4:15 PM	0	10	0	10	2	0	0	2	7	8	0	15	27
4:30 PM	0	26	0	26	2	0	0	2	9	21	0	30	58
4:45 PM	1	27	1	29	2	0	0	2	17	10	0	27	58
Total Volume	1	88	2	91	10	0	0	10	40	68	0	108	209
% Approach Total	1.1	96.7	2.2		100.0	0.0	0.0		37.0	63.0	0.0		
PHF	0.250	0.815	0.500	0.784	0.625	0.000	0.000	0.625	0.588	0.586	0.000	0.750	0.792
Cars	1	86	2	89	10	0	0	10	37	65	0	102	201
Cars %	100.0	97.7	100.0	97.8	100.0	0.0	0.0	100.0	92.5	95.6	0.0	94.4	96.2
Heavy Vehicles	0	1	0	1	0	0	0	0	1	3	0	4	5
Heavy Vehicles %	0.0	1.1	0.0	1.1	0.0	0.0	0.0	0.0	2.5	4.4	0.0	3.7	2.4
Buses	0	1	0	1	0	0	0	0	2	0	0	2	3
Buses %	0.0	1.1	0.0	1.1	0.0	0.0	0.0	0.0	5.0	0.0	0.0	1.9	1.4
Cars Enter Leg	1	86	2	89	10	0	0	10	37	65	0	102	201
Heavy Enter Leg	0	1	0	1	0	0	0	0	1	3	0	4	5
Bus Enter Leg	0	1	0	1	0	0	0	0	2	0	0	2	3
Total Entering Leg	1	88	2	91	10	0	0	10	40	68	0	108	209
Cars Exiting Leg				77				123				1	201
Heavy Exiting Leg				3				2				0	5
Buses Exiting Leg				0				3				0	3
Total Exiting Leg				80				128				1	209

PDI File #: **175750 CC**
Location: **S: Woodworth Street**
Location: **E: Redfield Street W: Redfield Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars

	Redfield Street				Woodworth Street				Redfield Street				
	East				South				West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
4:00 PM	0	24	1	25	4	0	0	4	6	29	0	35	64
4:15 PM	0	9	0	9	2	0	0	2	7	7	0	14	25
4:30 PM	0	26	0	26	2	0	0	2	8	20	0	28	56
4:45 PM	1	27	1	29	2	0	0	2	16	9	0	25	56
Total	1	86	2	89	10	0	0	10	37	65	0	102	201
5:00 PM	0	10	0	10	4	0	0	4	5	17	0	22	36
5:15 PM	0	16	0	16	2	0	0	2	4	19	0	23	41
5:30 PM	0	12	0	12	2	0	0	2	3	23	0	26	40
5:45 PM	1	11	0	12	6	0	0	6	1	24	0	25	43
Total	1	49	0	50	14	0	0	14	13	83	0	96	160
Grand Total	2	135	2	139	24	0	0	24	50	148	0	198	361
Approach %	1.4	97.1	1.4		100.0	0.0	0.0		25.3	74.7	0.0		
Total %	0.6	37.4	0.6	38.5	6.6	0.0	0.0	6.6	13.9	41.0	0.0	54.8	
Exiting Leg Total				174				185				2	361

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Redfield Street				Woodworth Street				Redfield Street				
	East				South				West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
4:00 PM	0	24	1	25	4	0	0	4	6	29	0	35	64
4:15 PM	0	9	0	9	2	0	0	2	7	7	0	14	25
4:30 PM	0	26	0	26	2	0	0	2	8	20	0	28	56
4:45 PM	1	27	1	29	2	0	0	2	16	9	0	25	56
Total Volume	1	86	2	89	10	0	0	10	37	65	0	102	201
% Approach Total	1.1	96.6	2.2		100.0	0.0	0.0		36.3	63.7	0.0		
PHF	0.250	0.796	0.500	0.767	0.625	0.000	0.000	0.625	0.578	0.560	0.000	0.729	0.785
Entering Leg	1	86	2	89	10	0	0	10	37	65	0	102	201
Exiting Leg				77				123				1	201
Total				166				133				103	402

PDI File #: **175750 CC**
Location: **S: Woodworth Street**
Location: **E: Redfield Street W: Redfield Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Heavy Vehicles

	Redfield Street				Woodworth Street				Redfield Street				
	East				South				West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
4:00 PM	0	1	0	1	0	0	0	0	0	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	0	0	1	0	1	1
4:30 PM	0	0	0	0	0	0	0	0	1	1	0	2	2
4:45 PM	0	0	0	0	0	0	0	0	0	1	0	1	1
Total	0	1	0	1	0	0	0	0	1	3	0	4	5
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	1	0	1	0	0	0	0	1	3	0	4	5
Approach %	0.0	100.0	0.0		0.0	0.0	0.0		25.0	75.0	0.0		
Total %	0.0	20.0	0.0	20.0	0.0	0.0	0.0	0.0	20.0	60.0	0.0	80.0	
Exiting Leg Total				3				2				0	5

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Redfield Street				Woodworth Street				Redfield Street				
	East				South				West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
4:00 PM	0	1	0	1	0	0	0	0	0	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	0	0	1	0	1	1
4:30 PM	0	0	0	0	0	0	0	0	1	1	0	2	2
4:45 PM	0	0	0	0	0	0	0	0	0	1	0	1	1
Total Volume	0	1	0	1	0	0	0	0	1	3	0	4	5
% Approach Total	0.0	100.0	0.0		0.0	0.0	0.0		25.0	75.0	0.0		
PHF	0.000	0.250	0.000	0.250	0.000	0.000	0.000	0.000	0.250	0.750	0.000	0.500	0.625
Entering Leg	0	1	0	1	0	0	0	0	1	3	0	4	5
Exiting Leg				3				2				0	5
Total				4				2				4	10

PDI File #: **175750 CC**
Location: **S: Woodworth Street**
Location: **E: Redfield Street W: Redfield Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Buses

	Redfield Street				Woodworth Street				Redfield Street				
	East				South				West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	1	0	0	1	1
4:15 PM	0	1	0	1	0	0	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	1	0	0	1	1
Total	0	1	0	1	0	0	0	0	2	0	0	2	3
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	1	0	1	0	0	0	0	2	0	0	2	3
Approach %	0.0	100.0	0.0		0.0	0.0	0.0		100.0	0.0	0.0		
Total %	0.0	33.3	0.0	33.3	0.0	0.0	0.0	0.0	66.7	0.0	0.0	66.7	
Exiting Leg Total				0				3				0	3

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Redfield Street				Woodworth Street				Redfield Street				
	East				South				West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	1	0	0	1	1
4:15 PM	0	1	0	1	0	0	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	1	0	0	1	1
Total Volume	0	1	0	1	0	0	0	0	2	0	0	2	3
% Approach Total	0.0	100.0	0.0		0.0	0.0	0.0		100.0	0.0	0.0		
PHF	0.000	0.250	0.000	0.250	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.500	0.750
Entering Leg	0	1	0	1	0	0	0	0	2	0	0	2	3
Exiting Leg				0				3				0	3
Total				1				3				2	6

PDI File #: **175750 CC**
Location: **S: Woodworth Street**
Location: **E: Redfield Street W: Redfield Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Bicycles (on Roadway and Crosswalks)

	Redfield Street						Woodworth Street						Redfield Street						
	East						South						West						
	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	2	2	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	4
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	2	2	0	0	0	4	0	0	0	0	0	0	0	1	0	0	0	1	5
Grand Total	2	3	0	0	0	5	0	0	0	0	0	0	0	1	0	0	0	1	6
Approach %	40.0	60.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0		
Total %	33.3	50.0	0.0	0.0	0.0	83.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.7	0.0	0.0	0.0	16.7	
Exiting Leg Total						1						3						2	6

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Redfield Street						Woodworth Street						Redfield Street						
	East						South						West						
	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
% Approach Total	0.0	100.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.250	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250
Entering Leg	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Exiting Leg						0						1						0	1
Total						1						1						0	2

PDI File #: **175750 CC**
Location: **S: Woodworth Street**
Location: **E: Redfield Street W: Redfield Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Pedestrians

	Redfield Street						Woodworth Street						Redfield Street						
	East						South						West						
	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	2
Total	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	1	1	2	4
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1	1	2
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
Total	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	2	2	3
Grand Total	0	0	0	0	0	0	0	0	0	1	2	3	0	0	0	1	3	4	7
Approach %	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	33.3	66.7		0.0	0.0	0.0	25.0	75.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.3	28.6	42.9	0.0	0.0	0.0	14.3	42.9	57.1	
Exiting Leg Total						0						3						4	7

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Redfield Street						Woodworth Street						Redfield Street						
	East						South						West						
	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	2
Total Volume	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	1	1	2	4
% Approach Total	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	50.0	50.0		0.0	0.0	0.0	50.0	50.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.250	0.500	0.000	0.000	0.000	0.250	0.250	0.250	0.500
Entering Leg	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	1	1	2	4
Exiting Leg						0						2						2	4
Total						0						4						4	8

PDI File #: **175750 CCC**
Location: **S: Woodworth Street**
Location: **E: Redfield Street W: Redfield Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Saturday, June 24, 2017**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars, Heavy Vehicles, and Buses (Combined)

	Redfield Street				Woodworth Street				Redfield Street				
	East				South				West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
11:00 AM	0	11	0	11	7	0	1	8	0	12	0	12	31
11:15 AM	0	7	0	7	3	0	0	3	1	12	0	13	23
11:30 AM	1	11	0	12	4	0	0	4	1	10	0	11	27
11:45 AM	0	14	0	14	3	0	0	3	0	8	0	8	25
Total	1	43	0	44	17	0	1	18	2	42	0	44	106
12:00 PM	1	8	0	9	2	0	0	2	0	10	0	10	21
12:15 PM	0	12	0	12	3	0	0	3	1	10	0	11	26
12:30 PM	0	12	1	13	1	0	0	1	1	10	0	11	25
12:45 PM	1	10	0	11	3	0	0	3	2	9	0	11	25
Total	2	42	1	45	9	0	0	9	4	39	0	43	97
1:00 PM	0	16	0	16	5	0	1	6	0	9	0	9	31
1:15 PM	0	14	1	15	5	0	0	5	0	8	0	8	28
1:30 PM	0	10	0	10	3	0	1	4	1	10	0	11	25
1:45 PM	1	13	0	14	7	0	0	7	2	13	0	15	36
Total	1	53	1	55	20	0	2	22	3	40	0	43	120
Grand Total	4	138	2	144	46	0	3	49	9	121	0	130	323
Approach %	2.8	95.8	1.4		93.9	0.0	6.1		6.9	93.1	0.0		
Total %	1.2	42.7	0.6	44.6	14.2	0.0	0.9	15.2	2.8	37.5	0.0	40.2	
Exiting Leg Total				169				150				4	323
Cars	4	133	2	139	44	0	3	47	9	116	0	125	311
% Cars	100.0	96.4	100.0	96.5	95.7	0.0	100.0	95.9	100.0	95.9	0.0	96.2	96.3
Exiting Leg Total				162				145				4	311
Heavy Vehicles	0	4	0	4	2	0	0	2	0	4	0	4	10
% Heavy Vehicles	0.0	2.9	0.0	2.8	4.3	0.0	0.0	4.1	0.0	3.3	0.0	3.1	3.1
Exiting Leg Total				6				4				0	10
Buses	0	1	0	1	0	0	0	0	0	1	0	1	2
% Buses	0.0	0.7	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.8	0.6
Exiting Leg Total				1				1				0	2

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

1:00 PM	Redfield Street				Woodworth Street				Redfield Street				
	East				South				West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
1:00 PM	0	16	0	16	5	0	1	6	0	9	0	9	31
1:15 PM	0	14	1	15	5	0	0	5	0	8	0	8	28
1:30 PM	0	10	0	10	3	0	1	4	1	10	0	11	25
1:45 PM	1	13	0	14	7	0	0	7	2	13	0	15	36
Total Volume	1	53	1	55	20	0	2	22	3	40	0	43	120
% Approach Total	1.8	96.4	1.8		90.9	0.0	9.1		7.0	93.0	0.0		
PHF	0.250	0.828	0.250	0.859	0.714	0.000	0.500	0.786	0.375	0.769	0.000	0.717	0.833
Cars	1	52	1	54	19	0	2	21	3	40	0	43	118
Cars %	100.0	98.1	100.0	98.2	95.0	0.0	100.0	95.5	100.0	100.0	0.0	100.0	98.3
Heavy Vehicles	0	1	0	1	1	0	0	1	0	0	0	0	2
Heavy Vehicles %	0.0	1.9	0.0	1.8	5.0	0.0	0.0	4.5	0.0	0.0	0.0	0.0	1.7
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0
Buses %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cars Enter Leg	1	52	1	54	19	0	2	21	3	40	0	43	118
Heavy Enter Leg	0	1	0	1	1	0	0	1	0	0	0	0	2
Bus Enter Leg	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Entering Leg	1	53	1	55	20	0	2	22	3	40	0	43	120
Cars Exiting Leg				60				57				1	118
Heavy Exiting Leg				1				1				0	2
Buses Exiting Leg				0				0				0	0
Total Exiting Leg				61				58				1	120

PDI File #: **175750 CCC**
Location: **S: Woodworth Street**
Location: **E: Redfield Street W: Redfield Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Saturday, June 24, 2017**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars

	Redfield Street				Woodworth Street				Redfield Street				
	East				South				West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
11:00 AM	0	9	0	9	7	0	1	8	0	11	0	11	28
11:15 AM	0	7	0	7	3	0	0	3	1	11	0	12	22
11:30 AM	1	10	0	11	4	0	0	4	1	9	0	10	25
11:45 AM	0	13	0	13	2	0	0	2	0	8	0	8	23
Total	1	39	0	40	16	0	1	17	2	39	0	41	98
12:00 PM	1	8	0	9	2	0	0	2	0	10	0	10	21
12:15 PM	0	12	0	12	3	0	0	3	1	10	0	11	26
12:30 PM	0	12	1	13	1	0	0	1	1	10	0	11	25
12:45 PM	1	10	0	11	3	0	0	3	2	7	0	9	23
Total	2	42	1	45	9	0	0	9	4	37	0	41	95
1:00 PM	0	15	0	15	4	0	1	5	0	9	0	9	29
1:15 PM	0	14	1	15	5	0	0	5	0	8	0	8	28
1:30 PM	0	10	0	10	3	0	1	4	1	10	0	11	25
1:45 PM	1	13	0	14	7	0	0	7	2	13	0	15	36
Total	1	52	1	54	19	0	2	21	3	40	0	43	118
Grand Total	4	133	2	139	44	0	3	47	9	116	0	125	311
Approach %	2.9	95.7	1.4		93.6	0.0	6.4		7.2	92.8	0.0		
Total %	1.3	42.8	0.6	44.7	14.1	0.0	1.0	15.1	2.9	37.3	0.0	40.2	
Exiting Leg Total				162				145				4	311

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

1:00 PM	Redfield Street				Woodworth Street				Redfield Street				
	East				South				West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
1:00 PM	0	15	0	15	4	0	1	5	0	9	0	9	29
1:15 PM	0	14	1	15	5	0	0	5	0	8	0	8	28
1:30 PM	0	10	0	10	3	0	1	4	1	10	0	11	25
1:45 PM	1	13	0	14	7	0	0	7	2	13	0	15	36
Total Volume	1	52	1	54	19	0	2	21	3	40	0	43	118
% Approach Total	1.9	96.3	1.9		90.5	0.0	9.5		7.0	93.0	0.0		
PHF	0.250	0.867	0.250	0.900	0.679	0.000	0.500	0.750	0.375	0.769	0.000	0.717	0.819
Entering Leg	1	52	1	54	19	0	2	21	3	40	0	43	118
Exiting Leg				60				57				1	118
Total				114				78				44	236

PDI File #: **175750 CCC**
Location: **S: Woodworth Street**
Location: **E: Redfield Street W: Redfield Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Saturday, June 24, 2017**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Heavy Vehicles

	Redfield Street				Woodworth Street				Redfield Street				
	East				South				West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
11:00 AM	0	1	0	1	0	0	0	0	0	0	0	0	1
11:15 AM	0	0	0	0	0	0	0	0	0	1	0	1	1
11:30 AM	0	1	0	1	0	0	0	0	0	1	0	1	2
11:45 AM	0	1	0	1	1	0	0	1	0	0	0	0	2
Total	0	3	0	3	1	0	0	1	0	2	0	2	6
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	2	0	2	2
Total	0	0	0	0	0	0	0	0	0	2	0	2	2
1:00 PM	0	1	0	1	1	0	0	1	0	0	0	0	2
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	1	1	0	0	1	0	0	0	0	2
Grand Total	0	4	0	4	2	0	0	2	0	4	0	4	10
Approach %	0.0	100.0	0.0		100.0	0.0	0.0		0.0	100.0	0.0		
Total %	0.0	40.0	0.0	40.0	20.0	0.0	0.0	20.0	0.0	40.0	0.0	40.0	
Exiting Leg Total				6				4				0	10

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

11:00 AM	Redfield Street				Woodworth Street				Redfield Street				
	East				South				West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
11:00 AM	0	1	0	1	0	0	0	0	0	0	0	0	1
11:15 AM	0	0	0	0	0	0	0	0	0	1	0	1	1
11:30 AM	0	1	0	1	0	0	0	0	0	1	0	1	2
11:45 AM	0	1	0	1	1	0	0	1	0	0	0	0	2
Total Volume	0	3	0	3	1	0	0	1	0	2	0	2	6
% Approach Total	0.0	100.0	0.0		100.0	0.0	0.0		0.0	100.0	0.0		
PHF	0.000	0.750	0.000	0.750	0.250	0.000	0.000	0.250	0.000	0.500	0.000	0.500	0.750
Entering Leg	0	3	0	3	1	0	0	1	0	2	0	2	6
Exiting Leg				3				3				0	6
Total				6				4				2	12

PDI File #: **175750 CCC**
Location: **S: Woodworth Street**
Location: **E: Redfield Street W: Redfield Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Saturday, June 24, 2017**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Buses

	Redfield Street				Woodworth Street				Redfield Street				
	East				South				West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
11:00 AM	0	1	0	1	0	0	0	0	0	1	0	1	2
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	1	0	0	0	0	0	1	0	1	2
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	1	0	1	0	0	0	0	0	1	0	1	2
Approach %	0.0	100.0	0.0		0.0	0.0	0.0		0.0	100.0	0.0		
Total %	0.0	50.0	0.0	50.0	0.0	0.0	0.0	0.0	0.0	50.0	0.0	50.0	
Exiting Leg Total				1				1				0	2

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

11:00 AM	Redfield Street				Woodworth Street				Redfield Street				
	East				South				West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
11:00 AM	0	1	0	1	0	0	0	0	0	1	0	1	2
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	0	1	0	0	0	0	0	1	0	1	2
% Approach Total	0.0	100.0	0.0		0.0	0.0	0.0		0.0	100.0	0.0		
PHF	0.000	0.250	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.250	0.250
Entering Leg	0	1	0	1	0	0	0	0	0	1	0	1	2
Exiting Leg				1				1				0	2
Total				2				1				1	4

PDI File #: **175750 CCC**
Location: **S: Woodworth Street**
Location: **E: Redfield Street W: Redfield Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Saturday, June 24, 2017**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Bicycles (on Roadway and Crosswalks)

	Redfield Street						Woodworth Street						Redfield Street						
	East						South						West						
	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	U-Turn	CW-NB	CW-SB	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
1:45 PM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
Grand Total	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
Approach %	0.0	100.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
Total %	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total						0						2						0	2

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

1:00 PM	Redfield Street						Woodworth Street						Redfield Street						
	East						South						West						
	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	U-Turn	CW-NB	CW-SB	Total	Total
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
1:45 PM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Volume	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
% Approach Total	0.0	100.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.500	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500
Entering Leg	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
Exiting Leg						0						2						0	2
Total						2						2						0	4

PDI File #: **175750 CCC**
Location: **S: Woodworth Street**
Location: **E: Redfield Street W: Redfield Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Saturday, June 24, 2017**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Pedestrians

	Redfield Street						Woodworth Street						Redfield Street						
	East						South						West						
	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	U-Turn	CW-NB	CW-SB	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
12:45 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	1	0	1	3
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	3	1	4	0	0	0	0	0	0	4
1:30 PM	0	0	0	0	1	1	0	0	0	0	1	1	0	0	0	0	0	0	2
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	1	1	0	0	0	3	2	5	0	0	0	0	0	0	6
Grand Total	0	0	0	0	1	1	0	0	0	4	4	8	0	0	0	1	0	1	10
Approach %	0.0	0.0	0.0	0.0	100.0		0.0	0.0	0.0	50.0	50.0		0.0	0.0	0.0	100.0	0.0		
Total %	0.0	0.0	0.0	0.0	10.0	10.0	0.0	0.0	0.0	40.0	40.0	80.0	0.0	0.0	0.0	10.0	0.0	10.0	
Exiting Leg Total						1						8						1	10

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

12:45 PM	Redfield Street						Woodworth Street						Redfield Street						
	East						South						West						
	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	U-Turn	CW-NB	CW-SB	Total	Total
12:45 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	3	1	4	0	0	0	0	0	0	4
1:30 PM	0	0	0	0	1	1	0	0	0	0	1	1	0	0	0	0	0	0	2
Total Volume	0	0	0	0	1	1	0	0	0	3	3	6	0	0	0	0	0	0	7
% Approach Total	0.0	0.0	0.0	0.0	100.0		0.0	0.0	0.0	50.0	50.0		0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.250	0.250	0.000	0.000	0.000	0.250	0.750	0.375	0.000	0.000	0.000	0.000	0.000	0.000	0.438
Entering Leg	0	0	0	0	1	1	0	0	0	3	3	6	0	0	0	0	0	0	7
Exiting Leg						1						6						0	7
Total						2						12						0	14

PDI File #: **175750 D**
Location: **N: Lawley Street S: Franklin Street**
Location: **E: Water Street W: Conley Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars, Heavy Vehicles, and Buses (Combined)

	Lawley Street					Water Street					Franklin Street					Conley Street					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	6	0	0	0	6	0	19	0	0	19	0	0	0	0	0	0	5	0	0	5	30
7:15 AM	2	0	1	0	3	1	14	0	0	15	0	0	0	0	0	0	1	0	0	1	19
7:30 AM	4	0	0	0	4	1	18	0	0	19	0	0	0	0	0	0	3	2	0	5	28
7:45 AM	7	0	1	0	8	1	8	0	0	9	0	0	0	0	0	0	4	3	0	7	24
Total	19	0	2	0	21	3	59	0	0	62	0	0	0	0	0	0	13	5	0	18	101
8:00 AM	5	0	2	0	7	1	12	0	0	13	0	0	0	0	0	0	6	6	1	13	33
8:15 AM	5	0	2	0	7	0	5	0	0	5	0	0	2	0	2	2	5	0	0	7	21
8:30 AM	7	0	3	0	10	1	7	0	0	8	1	0	0	0	1	0	4	0	0	4	23
8:45 AM	5	0	1	0	6	2	7	0	0	9	0	0	0	0	0	0	10	2	0	12	27
Total	22	0	8	0	30	4	31	0	0	35	1	0	2	0	3	2	25	8	1	36	104
Grand Total	41	0	10	0	51	7	90	0	0	97	1	0	2	0	3	2	38	13	1	54	205
Approach %	80.4	0.0	19.6	0.0		7.2	92.8	0.0	0.0		33.3	0.0	66.7	0.0		3.7	70.4	24.1	1.9		
Total %	20.0	0.0	4.9	0.0	24.9	3.4	43.9	0.0	0.0	47.3	0.5	0.0	1.0	0.0	1.5	1.0	18.5	6.3	0.5	26.3	
Exiting Leg Total					20					49					2					134	205
Cars	41	0	10	0	51	7	89	0	0	96	1	0	2	0	3	2	35	12	1	50	200
% Cars	100.0	0.0	100.0	0.0	100.0	100.0	98.9	0.0	0.0	99.0	100.0	0.0	100.0	0.0	100.0	100.0	92.1	92.3	100.0	92.6	97.6
Exiting Leg Total					19					46					2					133	200
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1	0	4	4
% Heavy Vehicles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.9	7.7	0.0	7.4	2.0
Exiting Leg Total					1					3					0					0	4
Buses	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
% Buses	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5
Exiting Leg Total					0					0					0					1	1

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:30 AM	Lawley Street					Water Street					Franklin Street					Conley Street					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:30 AM	4	0	0	0	4	1	18	0	0	19	0	0	0	0	0	0	3	2	0	5	28
7:45 AM	7	0	1	0	8	1	8	0	0	9	0	0	0	0	0	0	4	3	0	7	24
8:00 AM	5	0	2	0	7	1	12	0	0	13	0	0	0	0	0	0	6	6	1	13	33
8:15 AM	5	0	2	0	7	0	5	0	0	5	0	0	2	0	2	2	5	0	0	7	21
Total Volume	21	0	5	0	26	3	43	0	0	46	0	0	2	0	2	2	18	11	1	32	106
% Approach Total	80.8	0.0	19.2	0.0		6.5	93.5	0.0	0.0		0.0	0.0	100.0	0.0		6.3	56.3	34.4	3.1		
PHF	0.750	0.000	0.625	0.000	0.813	0.750	0.597	0.000	0.000	0.605	0.000	0.000	0.250	0.000	0.250	0.250	0.750	0.458	0.250	0.615	0.803
Cars	21	0	5	0	26	3	43	0	0	46	0	0	2	0	2	2	17	10	1	30	104
Cars %	100.0	0.0	100.0	0.0	100.0	100.0	100.0	0.0	0.0	100.0	0.0	0.0	100.0	0.0	100.0	100.0	94.4	90.9	100.0	93.8	98.1
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	2
Heavy Vehicles %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.6	9.1	0.0	6.3	1.9
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Buses %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cars Enter Leg	21	0	5	0	26	3	43	0	0	46	0	0	2	0	2	2	17	10	1	30	104
Heavy Enter Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	2
Bus Enter Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Entering Leg	21	0	5	0	26	3	43	0	0	46	0	0	2	0	2	2	18	11	1	32	106
Cars Exiting Leg					13					22					2					67	104
Heavy Exiting Leg					1					1					0					0	2
Buses Exiting Leg					0					0					0					0	0
Total Exiting Leg					14					23					2					67	106

PDI File #: **175750 D**
Location: **N: Lawley Street S: Franklin Street**
Location: **E: Water Street W: Conley Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars

	Lawley Street (North)					Water Street (East)					Franklin Street (South)					Conley Street (West)					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	6	0	0	0	6	0	19	0	0	19	0	0	0	0	0	0	5	0	0	5	30
7:15 AM	2	0	1	0	3	1	14	0	0	15	0	0	0	0	0	0	1	0	0	1	19
7:30 AM	4	0	0	0	4	1	18	0	0	19	0	0	0	0	0	0	3	2	0	5	28
7:45 AM	7	0	1	0	8	1	8	0	0	9	0	0	0	0	0	0	4	2	0	6	23
Total	19	0	2	0	21	3	59	0	0	62	0	0	0	0	0	0	13	4	0	17	100
8:00 AM	5	0	2	0	7	1	12	0	0	13	0	0	0	0	0	0	5	6	1	12	32
8:15 AM	5	0	2	0	7	0	5	0	0	5	0	0	2	0	2	2	5	0	0	7	21
8:30 AM	7	0	3	0	10	1	6	0	0	7	1	0	0	0	1	0	4	0	0	4	22
8:45 AM	5	0	1	0	6	2	7	0	0	9	0	0	0	0	0	0	8	2	0	10	25
Total	22	0	8	0	30	4	30	0	0	34	1	0	2	0	3	2	22	8	1	33	100
Grand Total	41	0	10	0	51	7	89	0	0	96	1	0	2	0	3	2	35	12	1	50	200
Approach %	80.4	0.0	19.6	0.0		7.3	92.7	0.0	0.0		33.3	0.0	66.7	0.0		4.0	70.0	24.0	2.0		
Total %	20.5	0.0	5.0	0.0	25.5	3.5	44.5	0.0	0.0	48.0	0.5	0.0	1.0	0.0	1.5	1.0	17.5	6.0	0.5	25.0	
Exiting Leg Total					19					46					2					133	200

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:30 AM	Lawley Street (North)					Water Street (East)					Franklin Street (South)					Conley Street (West)					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:30 AM	4	0	0	0	4	1	18	0	0	19	0	0	0	0	0	0	3	2	0	5	28
7:45 AM	7	0	1	0	8	1	8	0	0	9	0	0	0	0	0	0	4	2	0	6	23
8:00 AM	5	0	2	0	7	1	12	0	0	13	0	0	0	0	0	0	5	6	1	12	32
8:15 AM	5	0	2	0	7	0	5	0	0	5	0	0	2	0	2	2	5	0	0	7	21
Total Volume	21	0	5	0	26	3	43	0	0	46	0	0	2	0	2	2	17	10	1	30	104
% Approach Total	80.8	0.0	19.2	0.0		6.5	93.5	0.0	0.0		0.0	0.0	100.0	0.0		6.7	56.7	33.3	3.3		
PHF	0.750	0.000	0.625	0.000	0.813	0.750	0.597	0.000	0.000	0.605	0.000	0.000	0.250	0.000	0.250	0.250	0.850	0.417	0.250	0.625	0.813
Entering Leg	21	0	5	0	26	3	43	0	0	46	0	0	2	0	2	2	17	10	1	30	104
Exiting Leg					13					22					2					67	104
Total					39					68					4					97	208

PDI File #: **175750 D**
Location: **N: Lawley Street S: Franklin Street**
Location: **E: Water Street W: Conley Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Heavy Vehicles

	Lawley Street (North)					Water Street (East)					Franklin Street (South)					Conley Street (West)					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	3
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1	0	4	4
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	75.0	25.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	75.0	25.0	0.0	100.0	
Exiting Leg Total					1					3					0					0	4

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Lawley Street (North)					Water Street (East)					Franklin Street (South)					Conley Street (West)					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	3
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.375	0.000	0.000	0.375	0.375
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	3
Exiting Leg					0					3					0					0	3
Total					0					3					0					3	6

PDI File #: **175750 D**
Location: **N: Lawley Street S: Franklin Street**
Location: **E: Water Street W: Conley Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Buses

	Lawley Street (North)					Water Street (East)					Franklin Street (South)					Conley Street (West)					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Grand Total	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Approach %	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					0					0					0					1	1

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:45 AM	Lawley Street (North)					Water Street (East)					Franklin Street (South)					Conley Street (West)					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total Volume	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
% Approach Total	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250
Entering Leg	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Exiting Leg					0					0					0					1	1
Total					0					1					0					1	2

PDI File #: **175750 D**
Location: **N: Lawley Street S: Franklin Street**
Location: **E: Water Street W: Conley Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class:

Bicycles (on Roadway and Crosswalks)

	Lawley Street (North)							Water Street (East)							Franklin Street (South)							Conley Street (West)							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	4	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
7:15 AM	0	0	0	0	0	0	0	0	4	0	0	0	0	4	0	0	0	0	0	0	0	0	1	0	0	0	0	1	5
7:30 AM	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	1	0	0	0	0	1	3
7:45 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	11	0	0	0	0	11	0	0	0	0	0	0	0	0	2	0	0	0	0	2	13
8:00 AM	0	0	0	0	0	0	0	0	4	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
8:15 AM	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
8:30 AM	0	0	0	0	0	0	0	0	3	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
8:45 AM	0	0	0	0	0	0	0	0	5	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
Total	0	0	0	0	0	0	0	0	14	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14
Grand Total	0	0	0	0	0	0	0	0	25	0	0	0	0	25	0	0	0	0	0	0	0	0	2	0	0	0	0	2	27
Approach %	0.0	0.0	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	92.6	0.0	0.0	0.0	0.0	92.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.4	0.0	0.0	0.0	0.0	7.4	
Exiting Leg Total							0							2							0							25	27

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Lawley Street (North)							Water Street (East)							Franklin Street (South)							Conley Street (West)							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
8:00 AM	0	0	0	0	0	0	0	0	4	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
8:15 AM	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
8:30 AM	0	0	0	0	0	0	0	0	3	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
8:45 AM	0	0	0	0	0	0	0	0	5	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
Total Volume	0	0	0	0	0	0	0	0	14	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.700	0.000	0.000	0.000	0.000	0.700	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.700
Entering Leg	0	0	0	0	0	0	0	0	14	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14
Exiting Leg							0							0							0							14	14
Total							0							14							0							14	28

PDI File #: **175750 D**
Location: **N: Lawley Street S: Franklin Street**
Location: **E: Water Street W: Conley Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class:

Pedestrians

	Lawley Street (North)							Water Street (East)							Franklin Street (South)							Conley Street (West)							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Grand Total	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Approach %	0.0	0.0	0.0	0.0	0.0	100.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total							1							0							0							0	1

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:15 AM	Lawley Street (North)							Water Street (East)							Franklin Street (South)							Conley Street (West)							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Volume	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
% Approach Total	0.0	0.0	0.0	0.0	0.0	100.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.250	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250
Entering Leg	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Exiting Leg							1							0							0							0	1
Total							2							0							0							0	2

PDI File #: **175750 DD**
Location: **N: Lawley Street S: Franklin Street**
Location: **E: Water Street W: Conley Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars, Heavy Vehicles, and Buses (Combined)

	Lawley Street					Water Street					Franklin Street					Conley Street					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	6	0	10	0	16	2	7	0	0	9	1	0	1	0	2	0	11	1	0	12	39
4:15 PM	6	0	2	0	8	0	7	0	0	7	1	0	1	0	2	0	8	1	0	9	26
4:30 PM	8	0	4	0	12	2	10	0	0	12	0	0	0	0	0	0	17	5	0	22	46
4:45 PM	5	0	5	0	10	3	5	0	0	8	0	1	0	0	1	0	12	5	0	17	36
Total	25	0	21	0	46	7	29	0	0	36	2	1	2	0	5	0	48	12	0	60	147
5:00 PM	6	0	2	0	8	0	9	0	0	9	0	0	1	0	1	0	7	4	0	11	29
5:15 PM	3	0	2	0	5	2	2	0	0	4	0	0	0	0	0	0	9	0	0	9	18
5:30 PM	3	0	2	0	5	1	6	0	0	7	0	0	0	0	0	0	11	4	0	15	27
5:45 PM	6	0	4	0	10	4	6	0	0	10	0	0	0	0	0	1	14	5	0	20	40
Total	18	0	10	0	28	7	23	0	0	30	0	0	1	0	1	1	41	13	0	55	114
Grand Total	43	0	31	0	74	14	52	0	0	66	2	1	3	0	6	1	89	25	0	115	261
Approach %	58.1	0.0	41.9	0.0		21.2	78.8	0.0	0.0		33.3	16.7	50.0	0.0		0.9	77.4	21.7	0.0		
Total %	16.5	0.0	11.9	0.0	28.4	5.4	19.9	0.0	0.0	25.3	0.8	0.4	1.1	0.0	2.3	0.4	34.1	9.6	0.0	44.1	
Exiting Leg Total					40					122					1					98	261
Cars	43	0	31	0	74	14	51	0	0	65	2	1	3	0	6	1	87	25	0	113	258
% Cars	100.0	0.0	100.0	0.0	100.0	100.0	98.1	0.0	0.0	98.5	100.0	100.0	100.0	0.0	100.0	100.0	97.8	100.0	0.0	98.3	98.9
Exiting Leg Total					40					120					1					97	258
Heavy Vehicles	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
% Heavy Vehicles	0.0	0.0	0.0	0.0	0.0	0.0	1.9	0.0	0.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0	0.0	0.9	0.8
Exiting Leg Total					0					1					0					1	2
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
% Buses	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0	0.0	0.9	0.4
Exiting Leg Total					0					1					0					0	1

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Lawley Street					Water Street					Franklin Street					Conley Street					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	6	0	10	0	16	2	7	0	0	9	1	0	1	0	2	0	11	1	0	12	39
4:15 PM	6	0	2	0	8	0	7	0	0	7	1	0	1	0	2	0	8	1	0	9	26
4:30 PM	8	0	4	0	12	2	10	0	0	12	0	0	0	0	0	0	17	5	0	22	46
4:45 PM	5	0	5	0	10	3	5	0	0	8	0	1	0	0	1	0	12	5	0	17	36
Total Volume	25	0	21	0	46	7	29	0	0	36	2	1	2	0	5	0	48	12	0	60	147
% Approach Total	54.3	0.0	45.7	0.0		19.4	80.6	0.0	0.0		40.0	20.0	40.0	0.0		0.0	80.0	20.0	0.0		
PHF	0.781	0.000	0.525	0.000	0.719	0.583	0.725	0.000	0.000	0.750	0.500	0.250	0.500	0.000	0.625	0.000	0.706	0.600	0.000	0.682	0.799
Cars	25	0	21	0	46	7	28	0	0	35	2	1	2	0	5	0	46	12	0	58	144
Cars %	100.0	0.0	100.0	0.0	100.0	100.0	96.6	0.0	0.0	97.2	100.0	100.0	100.0	0.0	100.0	0.0	95.8	100.0	0.0	96.7	98.0
Heavy Vehicles	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
Heavy Vehicles %	0.0	0.0	0.0	0.0	0.0	0.0	3.4	0.0	0.0	2.8	0.0	0.0	0.0	0.0	0.0	0.0	2.1	0.0	0.0	1.7	1.4
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
Buses %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	0.0	0.0	1.7	0.7
Cars Enter Leg	25	0	21	0	46	7	28	0	0	35	2	1	2	0	5	0	46	12	0	58	144
Heavy Enter Leg	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
Bus Enter Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
Total Entering Leg	25	0	21	0	46	7	29	0	0	36	2	1	2	0	5	0	48	12	0	60	147
Cars Exiting Leg					20					69					0					55	144
Heavy Exiting Leg					0					1					0					1	2
Buses Exiting Leg					0					1					0					0	1
Total Exiting Leg					20					71					0					56	147

PDI File #: **175750 DD**
Location: **N: Lawley Street S: Franklin Street**
Location: **E: Water Street W: Conley Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars

	Lawley Street					Water Street					Franklin Street					Conley Street					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	6	0	10	0	16	2	7	0	0	9	1	0	1	0	2	0	11	1	0	12	39
4:15 PM	6	0	2	0	8	0	7	0	0	7	1	0	1	0	2	0	7	1	0	8	25
4:30 PM	8	0	4	0	12	2	9	0	0	11	0	0	0	0	0	0	16	5	0	21	44
4:45 PM	5	0	5	0	10	3	5	0	0	8	0	1	0	0	1	0	12	5	0	17	36
Total	25	0	21	0	46	7	28	0	0	35	2	1	2	0	5	0	46	12	0	58	144
5:00 PM	6	0	2	0	8	0	9	0	0	9	0	0	1	0	1	0	7	4	0	11	29
5:15 PM	3	0	2	0	5	2	2	0	0	4	0	0	0	0	0	0	9	0	0	9	18
5:30 PM	3	0	2	0	5	1	6	0	0	7	0	0	0	0	0	0	11	4	0	15	27
5:45 PM	6	0	4	0	10	4	6	0	0	10	0	0	0	0	0	1	14	5	0	20	40
Total	18	0	10	0	28	7	23	0	0	30	0	0	1	0	1	1	41	13	0	55	114
Grand Total	43	0	31	0	74	14	51	0	0	65	2	1	3	0	6	1	87	25	0	113	258
Approach %	58.1	0.0	41.9	0.0		21.5	78.5	0.0	0.0		33.3	16.7	50.0	0.0		0.9	77.0	22.1	0.0		
Total %	16.7	0.0	12.0	0.0	28.7	5.4	19.8	0.0	0.0	25.2	0.8	0.4	1.2	0.0	2.3	0.4	33.7	9.7	0.0	43.8	
Exiting Leg Total					40					120					1					97	258

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Lawley Street					Water Street					Franklin Street					Conley Street					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	6	0	10	0	16	2	7	0	0	9	1	0	1	0	2	0	11	1	0	12	39
4:15 PM	6	0	2	0	8	0	7	0	0	7	1	0	1	0	2	0	7	1	0	8	25
4:30 PM	8	0	4	0	12	2	9	0	0	11	0	0	0	0	0	0	16	5	0	21	44
4:45 PM	5	0	5	0	10	3	5	0	0	8	0	1	0	0	1	0	12	5	0	17	36
Total Volume	25	0	21	0	46	7	28	0	0	35	2	1	2	0	5	0	46	12	0	58	144
% Approach Total	54.3	0.0	45.7	0.0		20.0	80.0	0.0	0.0		40.0	20.0	40.0	0.0		0.0	79.3	20.7	0.0		
PHF	0.781	0.000	0.525	0.000	0.719	0.583	0.778	0.000	0.000	0.795	0.500	0.250	0.500	0.000	0.625	0.000	0.719	0.600	0.000	0.690	0.818
Entering Leg	25	0	21	0	46	7	28	0	0	35	2	1	2	0	5	0	46	12	0	58	144
Exiting Leg					20					69					0					55	144
Total					66					104					5					113	288

PDI File #: **175750 DD**
Location: **N: Lawley Street S: Franklin Street**
Location: **E: Water Street W: Conley Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Heavy Vehicles

	Lawley Street (North)					Water Street (East)					Franklin Street (South)					Conley Street (West)					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
Approach %	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	50.0	0.0	0.0	50.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0	0.0	0.0	50.0	
Exiting Leg Total					0					1					0					1	2

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Lawley Street (North)					Water Street (East)					Franklin Street (South)					Conley Street (West)					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
% Approach Total	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.250	0.250
Entering Leg	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
Exiting Leg					0					1					0					1	2
Total					0					2					0					2	4

PDI File #: **175750 DD**
Location: **N: Lawley Street S: Franklin Street**
Location: **E: Water Street W: Conley Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Buses

	Lawley Street (North)					Water Street (East)					Franklin Street (South)					Conley Street (West)					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0	
Exiting Leg Total					0					1					0					0	1

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Lawley Street (North)					Water Street (East)					Franklin Street (South)					Conley Street (West)					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.250	0.250
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
Exiting Leg					0					1					0					0	1
Total					0					1					0					1	2

PDI File #: **175750 DD**
Location: **N: Lawley Street S: Franklin Street**
Location: **E: Water Street W: Conley Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Bicycles (on Roadway and Crosswalks)

	Lawley Street (North)							Water Street (East)							Franklin Street (South)							Conley Street (West)							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	2
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
4:45 PM	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	5	0	1	0	0	6	8
Total	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	9	0	1	0	0	10	12
5:00 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1	2
5:15 PM	0	0	1	0	0	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	7	0	0	0	0	7	9
5:30 PM	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	0	0	8	9
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
Total	1	0	1	0	0	0	2	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	17	0	0	0	0	17	21
Grand Total	1	0	1	0	0	0	2	0	4	0	0	0	0	4	0	0	0	0	0	0	0	0	26	0	1	0	0	27	33
Approach %	50.0	0.0	50.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	96.3	0.0	3.7	0.0	0.0		
Total %	3.0	0.0	3.0	0.0	0.0	0.0	6.1	0.0	12.1	0.0	0.0	0.0	0.0	12.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	78.8	0.0	3.0	0.0	0.0	81.8	
Exiting Leg Total							0							27							0							6	33

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:45 PM	Lawley Street (North)							Water Street (East)							Franklin Street (South)							Conley Street (West)							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:45 PM	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	5	0	1	0	0	6	8
5:00 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1	2
5:15 PM	0	0	1	0	0	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	7	0	0	0	0	7	9
5:30 PM	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	0	0	8	9
Total Volume	1	0	1	0	0	0	2	0	4	0	0	0	0	4	0	0	0	0	0	0	0	0	21	0	1	0	0	22	28
% Approach Total	50.0	0.0	50.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	95.5	0.0	4.5	0.0	0.0		
PHF	0.250	0.000	0.250	0.000	0.000	0.000	0.500	0.000	0.500	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.656	0.000	0.250	0.000	0.000	0.688	0.778
Entering Leg	1	0	1	0	0	0	2	0	4	0	0	0	0	4	0	0	0	0	0	0	0	0	21	0	1	0	0	22	28
Exiting Leg							0							22							0							6	28
Total							2							26							0							28	56

PDI File #: **175750 DD**
Location: **N: Lawley Street S: Franklin Street**
Location: **E: Water Street W: Conley Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class:

Pedestrians

	Lawley Street (North)							Water Street (East)							Franklin Street (South)							Conley Street (West)							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	2	0	2	5
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	1	1	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	3	3	0	0	0	0	1	0	1	0	0	0	0	1	0	1	0	0	0	0	2	0	2	7
Grand Total	0	0	0	0	0	3	3	0	0	0	0	1	0	1	0	0	0	0	1	0	1	0	0	0	0	2	0	2	7
Approach %	0.0	0.0	0.0	0.0	0.0	100.0		0.0	0.0	0.0	0.0	100.0	0.0		0.0	0.0	0.0	0.0	100.0	0.0		0.0	0.0	0.0	0.0	100.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	42.9	42.9	0.0	0.0	0.0	0.0	14.3	0.0	14.3	0.0	0.0	0.0	0.0	14.3	0.0	14.3	0.0	0.0	0.0	0.0	28.6	0.0	28.6	
Exiting Leg Total							3							1							1							2	7

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:45 PM	Lawley Street (North)							Water Street (East)							Franklin Street (South)							Conley Street (West)							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	2	0	2	5
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	1	1	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Total Volume	0	0	0	0	0	3	3	0	0	0	0	1	0	1	0	0	0	0	1	0	1	0	0	0	0	2	0	2	7
% Approach Total	0.0	0.0	0.0	0.0	0.0	100.0		0.0	0.0	0.0	0.0	100.0	0.0		0.0	0.0	0.0	0.0	100.0	0.0		0.0	0.0	0.0	0.0	100.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.375	0.375	0.000	0.000	0.000	0.000	0.250	0.000	0.250	0.000	0.000	0.000	0.000	0.250	0.000	0.250	0.000	0.000	0.000	0.000	0.250	0.000	0.250	0.350
Entering Leg	0	0	0	0	0	3	3	0	0	0	0	1	0	1	0	0	0	0	1	0	1	0	0	0	0	2	0	2	7
Exiting Leg							3							1							1							2	7
Total							6							2							2							4	14

PDI File #: **175750 DDD**
Location: **N: Lawley Street S: Franklin Street**
Location: **E: Water Street W: Conley Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Saturday, June 24, 2017**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars, Heavy Vehicles, and Buses (Combined)

	Lawley Street (North)					Water Street (East)					Franklin Street (South)					Conley Street (West)					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	3	0	0	0	3	3	4	1	0	8	0	0	0	0	0	0	2	5	0	7	18
11:15 AM	6	1	1	0	8	1	8	0	0	9	1	0	0	0	1	0	4	3	0	7	25
11:30 AM	2	0	0	0	2	0	1	0	0	1	0	0	0	0	0	0	7	1	0	8	11
11:45 AM	4	0	1	0	5	1	4	0	0	5	0	0	2	0	2	1	10	2	0	13	25
Total	15	1	2	0	18	5	17	1	0	23	1	0	2	0	3	1	23	11	0	35	79
12:00 PM	2	0	3	0	5	1	10	0	0	11	0	0	0	0	0	0	5	2	0	7	23
12:15 PM	12	0	2	0	14	1	3	0	0	4	0	0	1	0	1	0	7	5	0	12	31
12:30 PM	3	0	1	0	4	1	4	0	0	5	1	0	0	0	1	0	11	3	0	14	24
12:45 PM	3	0	0	0	3	1	5	0	0	6	0	0	0	0	0	0	7	4	0	11	20
Total	20	0	6	0	26	4	22	0	0	26	1	0	1	0	2	0	30	14	0	44	98
1:00 PM	9	0	3	0	12	0	6	0	0	6	0	0	0	0	0	0	8	8	0	16	34
1:15 PM	6	0	1	0	7	2	3	0	0	5	0	0	0	0	0	1	9	2	0	12	24
1:30 PM	4	0	2	0	6	1	7	0	0	8	0	0	0	0	0	0	7	4	0	11	25
1:45 PM	6	0	2	0	8	0	9	0	0	9	0	0	2	0	2	1	7	2	0	10	29
Total	25	0	8	0	33	3	25	0	0	28	0	0	2	0	2	2	31	16	0	49	112
Grand Total	60	1	16	0	77	12	64	1	0	77	2	0	5	0	7	3	84	41	0	128	289
Approach %	77.9	1.3	20.8	0.0		15.6	83.1	1.3	0.0		28.6	0.0	71.4	0.0		2.3	65.6	32.0	0.0		
Total %	20.8	0.3	5.5	0.0	26.6	4.2	22.1	0.3	0.0	26.6	0.7	0.0	1.7	0.0	2.4	1.0	29.1	14.2	0.0	44.3	
Exiting Leg Total					53					102					5					129	289
Cars	60	1	16	0	77	11	64	1	0	76	2	0	5	0	7	3	84	40	0	127	287
% Cars	100.0	100.0	100.0	0.0	100.0	91.7	100.0	100.0	0.0	98.7	100.0	0.0	100.0	0.0	100.0	100.0	100.0	97.6	0.0	99.2	99.3
Exiting Leg Total					51					102					5					129	287
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
% Heavy Vehicles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.4	0.0	0.8	0.3
Exiting Leg Total					1					0					0					0	1
Buses	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
% Buses	0.0	0.0	0.0	0.0	0.0	8.3	0.0	0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
Exiting Leg Total					1					0					0					0	1

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

1:00 PM	Lawley Street (North)					Water Street (East)					Franklin Street (South)					Conley Street (West)					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
1:00 PM	9	0	3	0	12	0	6	0	0	6	0	0	0	0	0	0	8	8	0	16	34
1:15 PM	6	0	1	0	7	2	3	0	0	5	0	0	0	0	0	1	9	2	0	12	24
1:30 PM	4	0	2	0	6	1	7	0	0	8	0	0	0	0	0	0	7	4	0	11	25
1:45 PM	6	0	2	0	8	0	9	0	0	9	0	0	2	0	2	1	7	2	0	10	29
Total Volume	25	0	8	0	33	3	25	0	0	28	0	0	2	0	2	2	31	16	0	49	112
% Approach Total	75.8	0.0	24.2	0.0		10.7	89.3	0.0	0.0		0.0	0.0	100.0	0.0		4.1	63.3	32.7	0.0		
PHF	0.694	0.000	0.667	0.000	0.688	0.375	0.694	0.000	0.000	0.778	0.000	0.000	0.250	0.000	0.250	0.500	0.861	0.500	0.000	0.766	0.824
Cars	25	0	8	0	33	3	25	0	0	28	0	0	2	0	2	2	31	16	0	49	112
Cars %	100.0	0.0	100.0	0.0	100.0	100.0	100.0	0.0	0.0	100.0	0.0	0.0	100.0	0.0	100.0	100.0	100.0	100.0	0.0	100.0	100.0
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Heavy Vehicles %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Buses %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cars Enter Leg	25	0	8	0	33	3	25	0	0	28	0	0	2	0	2	2	31	16	0	49	112
Heavy Enter Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bus Enter Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Entering Leg	25	0	8	0	33	3	25	0	0	28	0	0	2	0	2	2	31	16	0	49	112
Cars Exiting Leg					19					39					2					52	112
Heavy Exiting Leg					0					0					0					0	0
Buses Exiting Leg					0					0					0					0	0
Total Exiting Leg					19					39					2					52	112

PDI File #: **175750 DDD**
Location: **N: Lawley Street S: Franklin Street**
Location: **E: Water Street W: Conley Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Saturday, June 24, 2017**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars

	Lawley Street (North)					Water Street (East)					Franklin Street (South)					Conley Street (West)					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	3	0	0	0	3	2	4	1	0	7	0	0	0	0	0	0	2	5	0	7	17
11:15 AM	6	1	1	0	8	1	8	0	0	9	1	0	0	0	1	0	4	3	0	7	25
11:30 AM	2	0	0	0	2	0	1	0	0	1	0	0	0	0	0	0	7	1	0	8	11
11:45 AM	4	0	1	0	5	1	4	0	0	5	0	0	2	0	2	1	10	2	0	13	25
Total	15	1	2	0	18	4	17	1	0	22	1	0	2	0	3	1	23	11	0	35	78
12:00 PM	2	0	3	0	5	1	10	0	0	11	0	0	0	0	0	0	5	1	0	6	22
12:15 PM	12	0	2	0	14	1	3	0	0	4	0	0	1	0	1	0	7	5	0	12	31
12:30 PM	3	0	1	0	4	1	4	0	0	5	1	0	0	0	1	0	11	3	0	14	24
12:45 PM	3	0	0	0	3	1	5	0	0	6	0	0	0	0	0	0	7	4	0	11	20
Total	20	0	6	0	26	4	22	0	0	26	1	0	1	0	2	0	30	13	0	43	97
1:00 PM	9	0	3	0	12	0	6	0	0	6	0	0	0	0	0	0	8	8	0	16	34
1:15 PM	6	0	1	0	7	2	3	0	0	5	0	0	0	0	0	1	9	2	0	12	24
1:30 PM	4	0	2	0	6	1	7	0	0	8	0	0	0	0	0	0	7	4	0	11	25
1:45 PM	6	0	2	0	8	0	9	0	0	9	0	0	2	0	2	1	7	2	0	10	29
Total	25	0	8	0	33	3	25	0	0	28	0	0	2	0	2	2	31	16	0	49	112
Grand Total	60	1	16	0	77	11	64	1	0	76	2	0	5	0	7	3	84	40	0	127	287
Approach %	77.9	1.3	20.8	0.0		14.5	84.2	1.3	0.0		28.6	0.0	71.4	0.0		2.4	66.1	31.5	0.0		
Total %	20.9	0.3	5.6	0.0	26.8	3.8	22.3	0.3	0.0	26.5	0.7	0.0	1.7	0.0	2.4	1.0	29.3	13.9	0.0	44.3	
Exiting Leg Total					51					102					5					129	287

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

1:00 PM	Lawley Street (North)					Water Street (East)					Franklin Street (South)					Conley Street (West)					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
1:00 PM	9	0	3	0	12	0	6	0	0	6	0	0	0	0	0	0	8	8	0	16	34
1:15 PM	6	0	1	0	7	2	3	0	0	5	0	0	0	0	0	1	9	2	0	12	24
1:30 PM	4	0	2	0	6	1	7	0	0	8	0	0	0	0	0	0	7	4	0	11	25
1:45 PM	6	0	2	0	8	0	9	0	0	9	0	0	2	0	2	1	7	2	0	10	29
Total Volume	25	0	8	0	33	3	25	0	0	28	0	0	2	0	2	2	31	16	0	49	112
% Approach Total	75.8	0.0	24.2	0.0		10.7	89.3	0.0	0.0		0.0	0.0	100.0	0.0		4.1	63.3	32.7	0.0		
PHF	0.694	0.000	0.667	0.000	0.688	0.375	0.694	0.000	0.000	0.778	0.000	0.000	0.250	0.000	0.250	0.500	0.861	0.500	0.000	0.766	0.824
Entering Leg	25	0	8	0	33	3	25	0	0	28	0	0	2	0	2	2	31	16	0	49	112
Exiting Leg					19					39					2					52	112
Total					52					67					4					101	224

PDI File #: **175750 DDD**
Location: **N: Lawley Street S: Franklin Street**
Location: **E: Water Street W: Conley Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Saturday, June 24, 2017**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Heavy Vehicles

	Lawley Street (North)					Water Street (East)					Franklin Street (South)					Conley Street (West)					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	100.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	100.0	
Exiting Leg Total					1					0					0					0	1

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

11:15 AM	Lawley Street (North)					Water Street (East)					Franklin Street (South)					Conley Street (West)					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	100.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.250	0.250
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
Exiting Leg					1					0					0					0	1
Total					1					0					0					1	2

PDI File #: **175750 DDD**
Location: **N: Lawley Street S: Franklin Street**
Location: **E: Water Street W: Conley Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Saturday, June 24, 2017**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Buses

	Lawley Street (North)					Water Street (East)					Franklin Street (South)					Conley Street (West)					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Approach %	0.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					1					0					0					0	1

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

11:00 AM	Lawley Street (North)					Water Street (East)					Franklin Street (South)					Conley Street (West)					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
% Approach Total	0.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250
Entering Leg	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Exiting Leg					1					0					0					0	1
Total					1					1					0					0	2

PDI File #: **175750 DDD**
Location: **N: Lawley Street S: Franklin Street**
Location: **E: Water Street W: Conley Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Saturday, June 24, 2017**
Start Time: **11:00 AM**
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Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Bicycles (on Roadway and Crosswalks)

	Lawley Street (North)							Water Street (East)							Franklin Street (South)							Conley Street (West)							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1	2
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	2	2
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	2	2
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
1:15 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
1:45 PM	2	0	0	0	0	0	2	0	3	0	0	0	0	3	0	0	0	0	0	0	0	0	1	1	0	0	0	2	7
Total	2	0	0	0	0	0	2	0	4	0	0	0	0	4	0	0	0	0	0	0	0	0	3	1	0	0	0	4	10
Grand Total	2	0	0	0	0	0	2	0	5	0	0	0	0	5	0	0	0	0	0	0	0	0	5	1	0	0	1	7	14
Approach %	100.0	0.0	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	71.4	14.3	0.0	0.0	14.3		
Total %	14.3	0.0	0.0	0.0	0.0	0.0	14.3	0.0	35.7	0.0	0.0	0.0	0.0	35.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.7	7.1	0.0	0.0	7.1	50.0	
Exiting Leg Total							1							5							0							8	14

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

1:00 PM	Lawley Street (North)							Water Street (East)							Franklin Street (South)							Conley Street (West)							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
1:15 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
1:45 PM	2	0	0	0	0	0	2	0	3	0	0	0	0	3	0	0	0	0	0	0	0	0	1	1	0	0	0	2	7
Total Volume	2	0	0	0	0	0	2	0	4	0	0	0	0	4	0	0	0	0	0	0	0	0	3	1	0	0	0	4	10
% Approach Total	100.0	0.0	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	75.0	25.0	0.0	0.0	0.0		
PHF	0.250	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.333	0.000	0.000	0.000	0.000	0.333	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.750	0.250	0.000	0.000	0.000	0.500	0.357
Entering Leg	2	0	0	0	0	0	2	0	4	0	0	0	0	4	0	0	0	0	0	0	0	0	3	1	0	0	0	4	10
Exiting Leg							1							3							0							6	10
Total							3							7							0							10	20

PDI File #: **175750 DDD**
Location: **N: Lawley Street S: Franklin Street**
Location: **E: Water Street W: Conley Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Saturday, June 24, 2017**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Pedestrians

	Lawley Street (North)							Water Street (East)							Franklin Street (South)							Conley Street (West)							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	1	2	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	5
12:45 PM	0	0	0	0	2	3	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	8
Total	0	0	0	0	3	5	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	5	13
1:00 PM	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	2	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Grand Total	0	0	0	0	5	6	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	5	16
Approach %	0.0	0.0	0.0	0.0	45.5	54.5		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	100.0	0.0		
Total %	0.0	0.0	0.0	0.0	31.3	37.5	68.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	31.3	0.0	31.3	
Exiting Leg Total							11							0							0							5	16

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

12:15 PM	Lawley Street (North)							Water Street (East)							Franklin Street (South)							Conley Street (West)							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	1	2	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	5
12:45 PM	0	0	0	0	2	3	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	8
1:00 PM	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Total Volume	0	0	0	0	5	5	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	5	15
% Approach Total	0.0	0.0	0.0	0.0	50.0	50.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	100.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.625	0.417	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.417	0.000	0.417	0.469
Entering Leg	0	0	0	0	5	5	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	5	15
Exiting Leg							10							0							0							5	15
Total							20							0							0							10	30

PDI File #: **175750 E**
Location: **N: Port Norfolk Street S: Doucette Square**
Location: **E: Water Street W: Water Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars, Heavy Vehicles, and Buses (Combined)

	Port Norfolk Street					Water Street					Doucette Square					Water Street					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	1	10	0	0	11	0	3	8	0	11	3	1	1	0	5	27
7:15 AM	0	0	0	0	0	0	6	0	0	6	0	1	8	0	9	2	0	1	0	3	18
7:30 AM	0	0	0	0	0	0	5	0	0	5	0	3	13	0	16	2	1	0	0	3	24
7:45 AM	0	1	0	0	1	0	4	1	0	5	0	4	5	0	9	2	1	2	0	5	20
Total	0	1	0	0	1	1	25	1	0	27	0	11	34	0	45	9	3	4	0	16	89
8:00 AM	0	0	0	0	0	0	8	0	0	8	0	4	6	0	10	6	3	0	0	9	27
8:15 AM	0	0	0	0	0	0	2	0	0	2	0	1	3	0	4	3	2	2	0	7	13
8:30 AM	0	0	0	0	0	0	3	0	0	3	0	5	5	0	10	4	2	0	0	6	19
8:45 AM	0	1	0	0	1	1	4	0	0	5	0	2	4	0	6	7	2	2	0	11	23
Total	0	1	0	0	1	1	17	0	0	18	0	12	18	0	30	20	9	4	0	33	82
Grand Total	0	2	0	0	2	2	42	1	0	45	0	23	52	0	75	29	12	8	0	49	171
Approach %	0.0	100.0	0.0	0.0		4.4	93.3	2.2	0.0		0.0	30.7	69.3	0.0		59.2	24.5	16.3	0.0		
Total %	0.0	1.2	0.0	0.0	1.2	1.2	24.6	0.6	0.0	26.3	0.0	13.5	30.4	0.0	43.9	17.0	7.0	4.7	0.0	28.7	
Exiting Leg Total					33					12					32					94	171
Cars	0	2	0	0	2	2	42	1	0	45	0	23	51	0	74	27	12	8	0	47	168
% Cars	0.0	100.0	0.0	0.0	100.0	100.0	100.0	100.0	0.0	100.0	0.0	100.0	98.1	0.0	98.7	93.1	100.0	100.0	0.0	95.9	98.2
Exiting Leg Total					33					12					30					93	168
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	2
% Heavy Vehicles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.9	0.0	0.0	0.0	4.1	1.2
Exiting Leg Total					0					0					2					0	2
Buses	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
% Buses	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9	0.0	1.3	0.0	0.0	0.0	0.0	0.0	0.6
Exiting Leg Total					0					0					0					1	1

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Port Norfolk Street					Water Street					Doucette Square					Water Street					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	1	10	0	0	11	0	3	8	0	11	3	1	1	0	5	27
7:15 AM	0	0	0	0	0	0	6	0	0	6	0	1	8	0	9	2	0	1	0	3	18
7:30 AM	0	0	0	0	0	0	5	0	0	5	0	3	13	0	16	2	1	0	0	3	24
7:45 AM	0	1	0	0	1	0	4	1	0	5	0	4	5	0	9	2	1	2	0	5	20
Total Volume	0	1	0	0	1	1	25	1	0	27	0	11	34	0	45	9	3	4	0	16	89
% Approach Total	0.0	100.0	0.0	0.0		3.7	92.6	3.7	0.0		0.0	24.4	75.6	0.0		56.3	18.8	25.0	0.0		
PHF	0.000	0.250	0.000	0.000	0.250	0.250	0.625	0.250	0.000	0.614	0.000	0.688	0.654	0.000	0.703	0.750	0.750	0.500	0.000	0.800	0.824
Cars	0	1	0	0	1	1	25	1	0	27	0	11	34	0	45	9	3	4	0	16	89
Cars %	0.0	100.0	0.0	0.0	100.0	100.0	100.0	100.0	0.0	100.0	0.0	100.0	100.0	0.0	100.0	100.0	100.0	100.0	0.0	100.0	100.0
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Heavy Vehicles %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Buses %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cars Enter Leg	0	1	0	0	1	1	25	1	0	27	0	11	34	0	45	9	3	4	0	16	89
Heavy Enter Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bus Enter Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Entering Leg	0	1	0	0	1	1	25	1	0	27	0	11	34	0	45	9	3	4	0	16	89
Cars Exiting Leg					16					3					11					59	89
Heavy Exiting Leg					0					0					0					0	0
Buses Exiting Leg					0					0					0					0	0
Total Exiting Leg					16					3					11					59	89

PDI File #: **175750 E**
Location: **N: Port Norfolk Street S: Doucette Square**
Location: **E: Water Street W: Water Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars

	Port Norfolk Street					Water Street					Doucette Square					Water Street					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	1	10	0	0	11	0	3	8	0	11	3	1	1	0	5	27
7:15 AM	0	0	0	0	0	0	6	0	0	6	0	1	8	0	9	2	0	1	0	3	18
7:30 AM	0	0	0	0	0	0	5	0	0	5	0	3	13	0	16	2	1	0	0	3	24
7:45 AM	0	1	0	0	1	0	4	1	0	5	0	4	5	0	9	2	1	2	0	5	20
Total	0	1	0	0	1	1	25	1	0	27	0	11	34	0	45	9	3	4	0	16	89
8:00 AM	0	0	0	0	0	0	8	0	0	8	0	4	6	0	10	5	3	0	0	8	26
8:15 AM	0	0	0	0	0	0	2	0	0	2	0	1	3	0	4	3	2	2	0	7	13
8:30 AM	0	0	0	0	0	0	3	0	0	3	0	5	4	0	9	4	2	0	0	6	18
8:45 AM	0	1	0	0	1	1	4	0	0	5	0	2	4	0	6	6	2	2	0	10	22
Total	0	1	0	0	1	1	17	0	0	18	0	12	17	0	29	18	9	4	0	31	79
Grand Total	0	2	0	0	2	2	42	1	0	45	0	23	51	0	74	27	12	8	0	47	168
Approach %	0.0	100.0	0.0	0.0		4.4	93.3	2.2	0.0		0.0	31.1	68.9	0.0		57.4	25.5	17.0	0.0		
Total %	0.0	1.2	0.0	0.0	1.2	1.2	25.0	0.6	0.0	26.8	0.0	13.7	30.4	0.0	44.0	16.1	7.1	4.8	0.0	28.0	
Exiting Leg Total					33					12					30					93	168

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Port Norfolk Street					Water Street					Doucette Square					Water Street					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	1	10	0	0	11	0	3	8	0	11	3	1	1	0	5	27
7:15 AM	0	0	0	0	0	0	6	0	0	6	0	1	8	0	9	2	0	1	0	3	18
7:30 AM	0	0	0	0	0	0	5	0	0	5	0	3	13	0	16	2	1	0	0	3	24
7:45 AM	0	1	0	0	1	0	4	1	0	5	0	4	5	0	9	2	1	2	0	5	20
Total Volume	0	1	0	0	1	1	25	1	0	27	0	11	34	0	45	9	3	4	0	16	89
% Approach Total	0.0	100.0	0.0	0.0		3.7	92.6	3.7	0.0		0.0	24.4	75.6	0.0		56.3	18.8	25.0	0.0		
PHF	0.000	0.250	0.000	0.000	0.250	0.250	0.625	0.250	0.000	0.614	0.000	0.688	0.654	0.000	0.703	0.750	0.750	0.500	0.000	0.800	0.824
Entering Leg	0	1	0	0	1	1	25	1	0	27	0	11	34	0	45	9	3	4	0	16	89
Exiting Leg					16					3					11					59	89
Total					17					30					56					75	178

PDI File #: **175750 E**
Location: **N: Port Norfolk Street S: Doucette Square**
Location: **E: Water Street W: Water Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class:

Heavy Vehicles

	Port Norfolk Street					Water Street					Doucette Square					Water Street					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	2
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	2
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	
Exiting Leg Total					0					0					2					0	2

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Port Norfolk Street					Water Street					Doucette Square					Water Street					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	2
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.500	0.500
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	2
Exiting Leg					0					0					2					0	2
Total					0					0					2					2	4

PDI File #: **175750 E**
Location: **N: Port Norfolk Street S: Doucette Square**
Location: **E: Water Street W: Water Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Buses

	Port Norfolk Street					Water Street					Doucette Square					Water Street					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	100.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					0					0					0					1	1

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:45 AM	Port Norfolk Street					Water Street					Doucette Square					Water Street					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	100.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.250
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
Exiting Leg					0					0					0					1	1
Total					0					0					1					1	2

PDI File #: **175750 E**
Location: **N: Port Norfolk Street S: Doucette Square**
Location: **E: Water Street W: Water Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Bicycles (on Roadway and Crosswalks)

	Port Norfolk Street							Water Street							Doucette Square							Water Street							
	North							East							South							West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	2	0	0	0	2	0	0	0	0	0	0	0	3
7:15 AM	0	0	0	0	0	0	0	0	4	0	0	0	0	4	0	0	1	0	0	0	1	0	1	0	0	0	0	1	6
7:30 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	1	2
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	6	0	0	0	0	6	0	0	4	0	0	0	4	1	1	0	0	0	0	2	12
8:00 AM	0	0	0	0	0	0	0	0	4	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
8:15 AM	0	0	1	0	0	0	1	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
8:30 AM	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	1	0	0	0	1	0	0	0	0	0	0	0	3
8:45 AM	0	0	0	0	0	0	0	0	4	0	0	0	0	4	0	0	1	0	0	0	1	0	0	0	0	0	0	0	5
Total	0	0	1	0	0	0	1	0	12	0	0	0	0	12	0	0	2	0	0	0	2	0	0	0	0	0	0	0	15
Grand Total	0	0	1	0	0	0	1	0	18	0	0	0	0	18	0	0	6	0	0	0	6	1	1	0	0	0	0	2	27
Approach %	0.0	0.0	100.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0	0.0		0.0	0.0	100.0	0.0	0.0	0.0		50.0	50.0	0.0	0.0	0.0	0.0		
Total %	0.0	0.0	3.7	0.0	0.0	0.0	3.7	0.0	66.7	0.0	0.0	0.0	0.0	66.7	0.0	0.0	22.2	0.0	0.0	0.0	22.2	3.7	3.7	0.0	0.0	0.0	0.0	7.4	
Exiting Leg Total							0							2							1							24	27

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Port Norfolk Street							Water Street							Doucette Square							Water Street							
	North							East							South							West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
8:00 AM	0	0	0	0	0	0	0	0	4	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
8:15 AM	0	0	1	0	0	0	1	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
8:30 AM	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	1	0	0	0	1	0	0	0	0	0	0	0	3
8:45 AM	0	0	0	0	0	0	0	0	4	0	0	0	0	4	0	0	1	0	0	0	1	0	0	0	0	0	0	0	5
Total Volume	0	0	1	0	0	0	1	0	12	0	0	0	0	12	0	0	2	0	0	0	2	0	0	0	0	0	0	0	15
% Approach Total	0.0	0.0	100.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0	0.0		0.0	0.0	100.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.250	0.000	0.000	0.000	0.250	0.000	0.750	0.000	0.000	0.000	0.000	0.750	0.000	0.000	0.500	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.750
Entering Leg	0	0	1	0	0	0	1	0	12	0	0	0	0	12	0	0	2	0	0	0	2	0	0	0	0	0	0	0	15
Exiting Leg							0							1							0							14	15
Total							1							13							2							14	30

PDI File #: **175750 E**
Location: **N: Port Norfolk Street S: Doucette Square**
Location: **E: Water Street W: Water Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Pedestrians

	Port Norfolk Street							Water Street							Doucette Square							Water Street							
	North							East							South							West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	2
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:45 AM	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	1	2	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Grand Total	0	0	0	0	1	2	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	5
Approach %	0.0	0.0	0.0	0.0	33.3	66.7		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	50.0	50.0		
Total %	0.0	0.0	0.0	0.0	20.0	40.0	60.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.0	20.0	40.0	
Exiting Leg Total							3							0							0							2	5

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:45 AM	Port Norfolk Street							Water Street							Doucette Square							Water Street							
	North							East							South							West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Volume	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	3
% Approach Total	0.0	0.0	0.0	0.0	0.0	100.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	100.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.500	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.250	0.750
Entering Leg	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	3
Exiting Leg							2							0							0							1	3
Total							4							0							0							2	6

PDI File #: **175750 EE**
Location: **N: Port Norfolk Street S: Doucette Square**
Location: **E: Water Street W: Water Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars, Heavy Vehicles, and Buses (Combined)

	Port Norfolk Street					Water Street					Doucette Square					Water Street					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	4	0	0	4	0	4	7	0	11	16	4	0	0	20	35
4:15 PM	0	0	0	0	0	1	4	0	0	5	0	3	4	0	7	5	3	3	0	11	23
4:30 PM	1	0	0	0	1	0	4	0	0	4	0	1	6	0	7	13	5	3	0	21	33
4:45 PM	0	0	0	0	0	0	4	1	0	5	0	2	3	0	5	11	5	2	0	18	28
Total	1	0	0	0	1	1	16	1	0	18	0	10	20	0	30	45	17	8	0	70	119
5:00 PM	0	1	0	0	1	0	2	0	0	2	0	3	8	0	11	4	4	0	0	8	22
5:15 PM	0	0	0	0	0	0	1	0	0	1	0	8	3	0	11	8	1	1	0	10	22
5:30 PM	0	0	0	0	0	1	3	0	0	4	0	5	5	0	10	7	5	1	0	13	27
5:45 PM	0	0	0	0	0	0	4	0	0	4	0	7	5	0	12	6	8	3	0	17	33
Total	0	1	0	0	1	1	10	0	0	11	0	23	21	0	44	25	18	5	0	48	104
Grand Total	1	1	0	0	2	2	26	1	0	29	0	33	41	0	74	70	35	13	0	118	223
Approach %	50.0	50.0	0.0	0.0		6.9	89.7	3.4	0.0		0.0	44.6	55.4	0.0		59.3	29.7	11.0	0.0		
Total %	0.4	0.4	0.0	0.0	0.9	0.9	11.7	0.4	0.0	13.0	0.0	14.8	18.4	0.0	33.2	31.4	15.7	5.8	0.0	52.9	
Exiting Leg Total					48					35					72					68	223
Cars	1	1	0	0	2	2	26	1	0	29	0	31	40	0	71	69	35	13	0	117	219
% Cars	100.0	100.0	0.0	0.0	100.0	100.0	100.0	100.0	0.0	100.0	0.0	93.9	97.6	0.0	95.9	98.6	100.0	100.0	0.0	99.2	98.2
Exiting Leg Total					46					35					71					67	219
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	2	1	0	3	0	0	0	0	0	3
% Heavy Vehicles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.1	2.4	0.0	4.1	0.0	0.0	0.0	0.0	0.0	1.3
Exiting Leg Total					2					0					0					1	3
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
% Buses	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	0.0	0.0	0.0	0.8	0.4
Exiting Leg Total					0					0					1					0	1

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Port Norfolk Street					Water Street					Doucette Square					Water Street					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	4	0	0	4	0	4	7	0	11	16	4	0	0	20	35
4:15 PM	0	0	0	0	0	1	4	0	0	5	0	3	4	0	7	5	3	3	0	11	23
4:30 PM	1	0	0	0	1	0	4	0	0	4	0	1	6	0	7	13	5	3	0	21	33
4:45 PM	0	0	0	0	0	0	4	1	0	5	0	2	3	0	5	11	5	2	0	18	28
Total Volume	1	0	0	0	1	1	16	1	0	18	0	10	20	0	30	45	17	8	0	70	119
% Approach Total	100.0	0.0	0.0	0.0		5.6	88.9	5.6	0.0		0.0	33.3	66.7	0.0		64.3	24.3	11.4	0.0		
PHF	0.250	0.000	0.000	0.000	0.250	0.250	1.000	0.250	0.000	0.900	0.000	0.625	0.714	0.000	0.682	0.703	0.850	0.667	0.000	0.833	0.850
Cars	1	0	0	0	1	1	16	1	0	18	0	9	19	0	28	44	17	8	0	69	116
Cars %	100.0	0.0	0.0	0.0	100.0	100.0	100.0	100.0	0.0	100.0	0.0	90.0	95.0	0.0	93.3	97.8	100.0	100.0	0.0	98.6	97.5
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	2
Heavy Vehicles %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	5.0	0.0	6.7	0.0	0.0	0.0	0.0	0.0	1.7
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
Buses %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.2	0.0	0.0	0.0	1.4	0.8
Cars Enter Leg	1	0	0	0	1	1	16	1	0	18	0	9	19	0	28	44	17	8	0	69	116
Heavy Enter Leg	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	2
Bus Enter Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
Total Entering Leg	1	0	0	0	1	1	16	1	0	18	0	10	20	0	30	45	17	8	0	70	119
Cars Exiting Leg					18					17					45					36	116
Heavy Exiting Leg					1					0					0					1	2
Buses Exiting Leg					0					0					1					0	1
Total Exiting Leg					19					17					46					37	119

PDI File #: **175750 EE**
Location: **N: Port Norfolk Street S: Doucette Square**
Location: **E: Water Street W: Water Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars

	Port Norfolk Street					Water Street					Doucette Square					Water Street					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	4	0	0	4	0	4	7	0	11	16	4	0	0	20	35
4:15 PM	0	0	0	0	0	1	4	0	0	5	0	3	3	0	6	4	3	3	0	10	21
4:30 PM	1	0	0	0	1	0	4	0	0	4	0	1	6	0	7	13	5	3	0	21	33
4:45 PM	0	0	0	0	0	0	4	1	0	5	0	1	3	0	4	11	5	2	0	18	27
Total	1	0	0	0	1	1	16	1	0	18	0	9	19	0	28	44	17	8	0	69	116
5:00 PM	0	1	0	0	1	0	2	0	0	2	0	3	8	0	11	4	4	0	0	8	22
5:15 PM	0	0	0	0	0	0	1	0	0	1	0	8	3	0	11	8	1	1	0	10	22
5:30 PM	0	0	0	0	0	1	3	0	0	4	0	5	5	0	10	7	5	1	0	13	27
5:45 PM	0	0	0	0	0	0	4	0	0	4	0	6	5	0	11	6	8	3	0	17	32
Total	0	1	0	0	1	1	10	0	0	11	0	22	21	0	43	25	18	5	0	48	103
Grand Total	1	1	0	0	2	2	26	1	0	29	0	31	40	0	71	69	35	13	0	117	219
Approach %	50.0	50.0	0.0	0.0		6.9	89.7	3.4	0.0		0.0	43.7	56.3	0.0		59.0	29.9	11.1	0.0		
Total %	0.5	0.5	0.0	0.0	0.9	0.9	11.9	0.5	0.0	13.2	0.0	14.2	18.3	0.0	32.4	31.5	16.0	5.9	0.0	53.4	
Exiting Leg Total					46					35					71					67	219

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Port Norfolk Street					Water Street					Doucette Square					Water Street					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	4	0	0	4	0	4	7	0	11	16	4	0	0	20	35
4:15 PM	0	0	0	0	0	1	4	0	0	5	0	3	3	0	6	4	3	3	0	10	21
4:30 PM	1	0	0	0	1	0	4	0	0	4	0	1	6	0	7	13	5	3	0	21	33
4:45 PM	0	0	0	0	0	0	4	1	0	5	0	1	3	0	4	11	5	2	0	18	27
Total Volume	1	0	0	0	1	1	16	1	0	18	0	9	19	0	28	44	17	8	0	69	116
% Approach Total	100.0	0.0	0.0	0.0		5.6	88.9	5.6	0.0		0.0	32.1	67.9	0.0		63.8	24.6	11.6	0.0		
PHF	0.250	0.000	0.000	0.000	0.250	0.250	1.000	0.250	0.000	0.900	0.000	0.563	0.679	0.000	0.636	0.688	0.850	0.667	0.000	0.821	0.829
Entering Leg	1	0	0	0	1	1	16	1	0	18	0	9	19	0	28	44	17	8	0	69	116
Exiting Leg					18					17					45					36	116
Total					19					35					73					105	232

PDI File #: **175750 EE**
Location: **N: Port Norfolk Street S: Doucette Square**
Location: **E: Water Street W: Water Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Heavy Vehicles

	Port Norfolk Street					Water Street					Doucette Square					Water Street					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	2
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
Grand Total	0	0	0	0	0	0	0	0	0	0	0	2	1	0	3	0	0	0	0	0	3
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	66.7	33.3	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	66.7	33.3	0.0	100.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					2					0					0					1	3

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Port Norfolk Street					Water Street					Doucette Square					Water Street					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
Total Volume	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	2
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	50.0	50.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.250	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.500
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	2
Exiting Leg					1					0					0					1	2
Total					1					0					2					1	4

PDI File #: **175750 EE**
Location: **N: Port Norfolk Street S: Doucette Square**
Location: **E: Water Street W: Water Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Buses

	Port Norfolk Street					Water Street					Doucette Square					Water Street					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	
Exiting Leg Total					0					0					1					0	1

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Port Norfolk Street					Water Street					Doucette Square					Water Street					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.250	0.250
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
Exiting Leg					0					0					1					0	1
Total					0					0					1					1	2

PDI File #: **175750 EE**
Location: **N: Port Norfolk Street S: Doucette Square**
Location: **E: Water Street W: Water Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Bicycles (on Roadway and Crosswalks)

	Port Norfolk Street							Water Street							Doucette Square							Water Street							
	North							East							South							West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	2	2
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	2
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
4:45 PM	0	0	0	0	1	0	1	0	2	0	0	0	0	2	0	0	0	0	0	0	0	1	3	0	0	0	0	4	7
Total	0	0	0	0	1	0	1	0	2	0	0	0	0	2	0	0	0	0	0	0	0	2	7	0	0	0	0	9	12
5:00 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1	2
5:15 PM	0	0	0	0	0	0	0	1	1	0	0	0	0	2	0	0	0	0	0	0	0	4	2	1	0	0	0	7	9
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	0	0	8	8
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
Total	0	0	0	0	0	0	0	1	2	0	0	0	0	3	0	0	0	0	0	0	0	4	12	1	0	0	0	17	20
Grand Total	0	0	0	0	1	0	1	1	4	0	0	0	0	5	0	0	0	0	0	0	0	6	19	1	0	0	0	26	32
Approach %	0.0	0.0	0.0	0.0	100.0	0.0		20.0	80.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		23.1	73.1	3.8	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	3.1	0.0	3.1	3.1	12.5	0.0	0.0	0.0	0.0	15.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	18.8	59.4	3.1	0.0	0.0	0.0	81.3	
Exiting Leg Total							3							19							6							4	32

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:45 PM	Port Norfolk Street							Water Street							Doucette Square							Water Street							
	North							East							South							West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:45 PM	0	0	0	0	1	0	1	0	2	0	0	0	0	2	0	0	0	0	0	0	0	1	3	0	0	0	0	4	7
5:00 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1	2
5:15 PM	0	0	0	0	0	0	0	1	1	0	0	0	0	2	0	0	0	0	0	0	0	4	2	1	0	0	0	7	9
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	0	0	8	8
Total Volume	0	0	0	0	1	0	1	1	4	0	0	0	0	5	0	0	0	0	0	0	0	5	14	1	0	0	0	20	26
% Approach Total	0.0	0.0	0.0	0.0	100.0	0.0		20.0	80.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		25.0	70.0	5.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.250	0.000	0.250	0.250	0.500	0.000	0.000	0.000	0.000	0.625	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.313	0.438	0.250	0.000	0.000	0.000	0.625	0.722
Entering Leg	0	0	0	0	1	0	1	1	4	0	0	0	0	5	0	0	0	0	0	0	0	5	14	1	0	0	0	20	26
Exiting Leg							3							14							5							4	26
Total							4							19							5							24	52

PDI File #: **175750 EE**
Location: **N: Port Norfolk Street S: Doucette Square**
Location: **E: Water Street W: Water Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Pedestrians

	Port Norfolk Street							Water Street							Doucette Square							Water Street							
	North							East							South							West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	2	0	2	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Total	0	0	0	0	3	1	4	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
5:15 PM	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:30 PM	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:45 PM	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	2	3	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	6
Grand Total	0	0	0	0	5	4	9	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	11
Approach %	0.0	0.0	0.0	0.0	55.6	44.4		0.0	0.0	0.0	0.0	100.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	100.0		
Total %	0.0	0.0	0.0	0.0	45.5	36.4	81.8	0.0	0.0	0.0	0.0	9.1	0.0	9.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.1	9.1	
Exiting Leg Total							9							1							0							1	11

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:45 PM	Port Norfolk Street							Water Street							Doucette Square							Water Street							
	North							East							South							West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:45 PM	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
5:15 PM	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:30 PM	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Total Volume	0	0	0	0	2	4	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	7
% Approach Total	0.0	0.0	0.0	0.0	33.3	66.7		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	100.0		
PHF	0.000	0.000	0.000	0.000	0.500	0.500	0.750	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.250	0.875
Entering Leg	0	0	0	0	2	4	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	7
Exiting Leg							6							0							0							1	7
Total							12							0							0							2	14

PDI File #: **175750 EEE**
Location: **N: Port Norfolk Street S: Doucette Square**
Location: **E: Water Street W: Water Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Saturday, June 24, 2017**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars, Heavy Vehicles, and Buses (Combined)

	Port Norfolk Street					Water Street					Doucette Square					Water Street					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	0	0	0	0	0	2	3	0	0	5	0	3	5	0	8	2	1	0	0	3	16
11:15 AM	0	0	0	0	0	0	5	0	0	5	0	1	4	0	5	4	0	2	0	6	16
11:30 AM	0	0	0	0	0	1	2	0	0	3	0	2	1	0	3	2	3	2	0	7	13
11:45 AM	0	0	0	0	0	0	3	0	0	3	0	4	1	0	5	5	4	2	0	11	19
Total	0	0	0	0	0	3	13	0	0	16	0	10	11	0	21	13	8	6	0	27	64
12:00 PM	1	0	0	0	1	0	6	0	0	6	0	2	3	0	5	5	3	1	0	9	21
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	5	3	0	8	4	3	1	1	9	17
12:30 PM	0	0	0	0	0	0	2	0	0	2	0	1	3	0	4	5	3	3	0	11	17
12:45 PM	0	0	0	0	0	0	2	0	0	2	0	2	4	0	6	2	2	3	0	7	15
Total	1	0	0	0	1	0	10	0	0	10	0	10	13	0	23	16	11	8	1	36	70
1:00 PM	0	0	0	0	0	0	3	0	0	3	1	3	3	0	7	8	3	3	0	14	24
1:15 PM	0	0	0	0	0	0	1	0	0	1	0	3	4	0	7	4	4	1	0	9	17
1:30 PM	0	0	0	0	0	0	6	0	0	6	0	1	2	0	3	3	5	2	0	10	19
1:45 PM	0	0	0	0	0	0	3	0	0	3	0	1	7	0	8	4	3	2	0	9	20
Total	0	0	0	0	0	0	13	0	0	13	1	8	16	0	25	19	15	8	0	42	80
Grand Total	1	0	0	0	1	3	36	0	0	39	1	28	40	0	69	48	34	22	1	105	214
Approach %	100.0	0.0	0.0	0.0		7.7	92.3	0.0	0.0		1.4	40.6	58.0	0.0		45.7	32.4	21.0	1.0		
Total %	0.5	0.0	0.0	0.0	0.5	1.4	16.8	0.0	0.0	18.2	0.5	13.1	18.7	0.0	32.2	22.4	15.9	10.3	0.5	49.1	
Exiting Leg Total					53					35					48					78	214
Cars	1	0	0	0	1	3	36	0	0	39	1	28	39	0	68	48	34	22	1	105	213
% Cars	100.0	0.0	0.0	0.0	100.0	100.0	100.0	0.0	0.0	100.0	100.0	100.0	97.5	0.0	98.6	100.0	100.0	100.0	100.0	100.0	99.5
Exiting Leg Total					53					35					48					77	213
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Heavy Vehicles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Exiting Leg Total					0					0					0					0	0
Buses	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
% Buses	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5	0.0	1.4	0.0	0.0	0.0	0.0	0.0	0.5
Exiting Leg Total					0					0					0					1	1

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

1:00 PM	Port Norfolk Street					Water Street					Doucette Square					Water Street					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
1:00 PM	0	0	0	0	0	0	3	0	0	3	1	3	3	0	7	8	3	3	0	14	24
1:15 PM	0	0	0	0	0	0	1	0	0	1	0	3	4	0	7	4	4	1	0	9	17
1:30 PM	0	0	0	0	0	0	6	0	0	6	0	1	2	0	3	3	5	2	0	10	19
1:45 PM	0	0	0	0	0	0	3	0	0	3	0	1	7	0	8	4	3	2	0	9	20
Total Volume	0	0	0	0	0	0	13	0	0	13	1	8	16	0	25	19	15	8	0	42	80
% Approach Total	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		4.0	32.0	64.0	0.0		45.2	35.7	19.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.542	0.000	0.000	0.542	0.250	0.667	0.571	0.000	0.781	0.594	0.750	0.667	0.000	0.750	0.833
Cars	0	0	0	0	0	0	13	0	0	13	1	8	16	0	25	19	15	8	0	42	80
Cars %	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0	100.0	100.0	100.0	0.0	100.0	100.0	100.0	100.0	0.0	100.0	100.0
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Heavy Vehicles %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Buses %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cars Enter Leg	0	0	0	0	0	0	13	0	0	13	1	8	16	0	25	19	15	8	0	42	80
Heavy Enter Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bus Enter Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Entering Leg	0	0	0	0	0	0	13	0	0	13	1	8	16	0	25	19	15	8	0	42	80
Cars Exiting Leg					16					16					19					29	80
Heavy Exiting Leg					0					0					0					0	0
Buses Exiting Leg					0					0					0					0	0
Total Exiting Leg					16					16					19					29	80

PDI File #: **175750 EEE**
Location: **N: Port Norfolk Street S: Doucette Square**
Location: **E: Water Street W: Water Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Saturday, June 24, 2017**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars

	Port Norfolk Street					Water Street					Doucette Square					Water Street					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	0	0	0	0	0	2	3	0	0	5	0	3	4	0	7	2	1	0	0	3	15
11:15 AM	0	0	0	0	0	0	5	0	0	5	0	1	4	0	5	4	0	2	0	6	16
11:30 AM	0	0	0	0	0	1	2	0	0	3	0	2	1	0	3	2	3	2	0	7	13
11:45 AM	0	0	0	0	0	0	3	0	0	3	0	4	1	0	5	5	4	2	0	11	19
Total	0	0	0	0	0	3	13	0	0	16	0	10	10	0	20	13	8	6	0	27	63
12:00 PM	1	0	0	0	1	0	6	0	0	6	0	2	3	0	5	5	3	1	0	9	21
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	5	3	0	8	4	3	1	1	9	17
12:30 PM	0	0	0	0	0	0	2	0	0	2	0	1	3	0	4	5	3	3	0	11	17
12:45 PM	0	0	0	0	0	0	2	0	0	2	0	2	4	0	6	2	2	3	0	7	15
Total	1	0	0	0	1	0	10	0	0	10	0	10	13	0	23	16	11	8	1	36	70
1:00 PM	0	0	0	0	0	0	3	0	0	3	1	3	3	0	7	8	3	3	0	14	24
1:15 PM	0	0	0	0	0	0	1	0	0	1	0	3	4	0	7	4	4	1	0	9	17
1:30 PM	0	0	0	0	0	0	6	0	0	6	0	1	2	0	3	3	5	2	0	10	19
1:45 PM	0	0	0	0	0	0	3	0	0	3	0	1	7	0	8	4	3	2	0	9	20
Total	0	0	0	0	0	0	13	0	0	13	1	8	16	0	25	19	15	8	0	42	80
Grand Total	1	0	0	0	1	3	36	0	0	39	1	28	39	0	68	48	34	22	1	105	213
Approach %	100.0	0.0	0.0	0.0		7.7	92.3	0.0	0.0		1.5	41.2	57.4	0.0		45.7	32.4	21.0	1.0		
Total %	0.5	0.0	0.0	0.0	0.5	1.4	16.9	0.0	0.0	18.3	0.5	13.1	18.3	0.0	31.9	22.5	16.0	10.3	0.5	49.3	
Exiting Leg Total					53					35					48					77	213

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

1:00 PM	Port Norfolk Street					Water Street					Doucette Square					Water Street					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
1:00 PM	0	0	0	0	0	0	3	0	0	3	1	3	3	0	7	8	3	3	0	14	24
1:15 PM	0	0	0	0	0	0	1	0	0	1	0	3	4	0	7	4	4	1	0	9	17
1:30 PM	0	0	0	0	0	0	6	0	0	6	0	1	2	0	3	3	5	2	0	10	19
1:45 PM	0	0	0	0	0	0	3	0	0	3	0	1	7	0	8	4	3	2	0	9	20
Total Volume	0	0	0	0	0	0	13	0	0	13	1	8	16	0	25	19	15	8	0	42	80
% Approach Total	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		4.0	32.0	64.0	0.0		45.2	35.7	19.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.542	0.000	0.000	0.542	0.250	0.667	0.571	0.000	0.781	0.594	0.750	0.667	0.000	0.750	0.833
Entering Leg	0	0	0	0	0	0	13	0	0	13	1	8	16	0	25	19	15	8	0	42	80
Exiting Leg					16					16					19					29	80
Total					16					29					44					71	160

PDI File #: **175750 EEE**
Location: **N: Port Norfolk Street S: Doucette Square**
Location: **E: Water Street W: Water Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Saturday, June 24, 2017**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Heavy Vehicles

	Port Norfolk Street					Water Street					Doucette Square					Water Street					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					0					0					0					0	0

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

11:00 AM	Port Norfolk Street					Water Street					Doucette Square					Water Street					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg					0					0					0					0	0
Total					0					0					0					0	0

PDI File #: **175750 EEE**
Location: **N: Port Norfolk Street S: Doucette Square**
Location: **E: Water Street W: Water Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Saturday, June 24, 2017**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Buses

	Port Norfolk Street					Water Street					Doucette Square					Water Street					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	100.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					0					0					0					1	1

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

11:00 AM	Port Norfolk Street					Water Street					Doucette Square					Water Street					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	100.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.250
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
Exiting Leg					0					0					0					1	1
Total					0					0					1					1	2

PDI File #: **175750 EEE**
Location: **N: Port Norfolk Street S: Doucette Square**
Location: **E: Water Street W: Water Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Saturday, June 24, 2017**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Bicycles (on Roadway and Crosswalks)

	Port Norfolk Street							Water Street							Doucette Square							Water Street							
	North							East							South							West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1	2
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	1	0	0	0	0	1	2
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
1:15 PM	0	0	2	0	0	0	2	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
1:45 PM	0	0	0	0	0	0	0	0	3	0	0	0	0	3	0	0	0	0	0	0	0	0	1	0	0	0	0	1	4
Total	0	0	2	0	0	0	2	0	4	0	0	0	0	4	0	0	0	0	0	0	0	0	3	0	0	0	0	3	9
Grand Total	0	0	2	0	0	0	2	0	5	0	0	0	0	5	0	0	1	0	0	0	1	0	5	0	0	0	0	5	13
Approach %	0.0	0.0	100.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0	0.0		0.0	0.0	100.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0	0.0		
Total %	0.0	0.0	15.4	0.0	0.0	0.0	15.4	0.0	38.5	0.0	0.0	0.0	0.0	38.5	0.0	0.0	7.7	0.0	0.0	0.0	7.7	0.0	38.5	0.0	0.0	0.0	0.0	38.5	
Exiting Leg Total							0							7							0							6	13

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

1:00 PM	Port Norfolk Street							Water Street							Doucette Square							Water Street							
	North							East							South							West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
1:15 PM	0	0	2	0	0	0	2	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
1:45 PM	0	0	0	0	0	0	0	0	3	0	0	0	0	3	0	0	0	0	0	0	0	0	1	0	0	0	0	1	4
Total Volume	0	0	2	0	0	0	2	0	4	0	0	0	0	4	0	0	0	0	0	0	0	0	3	0	0	0	0	3	9
% Approach Total	0.0	0.0	100.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.250	0.000	0.000	0.000	0.250	0.000	0.333	0.000	0.000	0.000	0.000	0.333	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.750	0.000	0.000	0.000	0.000	0.750	0.563
Entering Leg	0	0	2	0	0	0	2	0	4	0	0	0	0	4	0	0	0	0	0	0	0	0	3	0	0	0	0	3	9
Exiting Leg							0							5							0							4	9
Total							2							9							0							7	18

PDI File #: **175750 EEE**
Location: **N: Port Norfolk Street S: Doucette Square**
Location: **E: Water Street W: Water Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Saturday, June 24, 2017**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Pedestrians

	Port Norfolk Street							Water Street							Doucette Square							Water Street							
	North							East							South							West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
11:00 AM	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
12:00 PM	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
12:15 PM	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
12:30 PM	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
12:45 PM	0	0	0	0	2	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Total	0	0	0	0	3	4	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
1:00 PM	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
1:45 PM	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2
Total	0	0	0	0	2	3	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	6
Grand Total	0	0	0	0	6	8	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	15
Approach %	0.0	0.0	0.0	0.0	42.9	57.1		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	100.0	0.0		
Total %	0.0	0.0	0.0	0.0	40.0	53.3	93.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.7	0.0	6.7	
Exiting Leg Total							14							0							0							1	15

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

12:15 PM	Port Norfolk Street							Water Street							Doucette Square							Water Street							
	North							East							South							West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
12:15 PM	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
12:30 PM	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
12:45 PM	0	0	0	0	2	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
1:00 PM	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Total Volume	0	0	0	0	4	4	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
% Approach Total	0.0	0.0	0.0	0.0	50.0	50.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.500	1.000	0.667	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.667
Entering Leg	0	0	0	0	4	4	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
Exiting Leg							8							0							0							0	8
Total							16							0							0							0	16

PDI File #: **175750 F**
Location: **N: Walnut Street S: Walnut Street**
Location: **E: Water Street W: Water Street SW: Redfield Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars, Heavy Vehicles, and Buses (Combined)

	Walnut Street						Water Street						Walnut Street						Redfield Street						Water Street						
	North						East						South						Southwest						West						
	Right	Bear Righ	Thru	Left	U-Turn	Total	Right	Thru	Bear Left	Left	U-Turn	Total	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Righ	Bear Righ	Bear Left	Hard Left	U-Turn	Total	Hard Righ	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	6	3	0	0	0	9	0	2	0	0	0	2	0	0	2	0	0	2	0	0	2	0	0	2	0	1	0	0	0	1	16
7:15 AM	4	0	0	0	0	4	0	0	0	0	0	0	0	0	1	2	0	3	1	0	6	0	0	7	2	0	0	0	0	2	16
7:30 AM	4	4	0	0	0	8	0	1	0	0	0	1	0	0	2	0	0	2	0	1	2	2	0	5	0	1	0	0	0	1	17
7:45 AM	2	2	0	0	0	4	0	1	3	0	0	4	0	0	1	1	0	2	1	0	1	1	0	3	2	0	0	0	0	2	15
Total	16	9	0	0	0	25	0	4	3	0	0	7	0	0	6	3	0	9	2	1	11	3	0	17	4	2	0	0	0	6	64
8:00 AM	4	7	0	0	0	11	0	2	1	0	0	3	0	0	2	1	0	3	1	0	0	0	0	1	0	1	0	1	0	2	20
8:15 AM	1	2	0	0	0	3	0	0	2	0	0	2	0	0	1	0	0	1	1	1	2	1	0	5	0	0	0	2	0	2	13
8:30 AM	2	3	0	1	0	6	0	1	1	0	0	2	0	0	1	0	0	1	2	1	1	0	0	4	0	0	0	2	0	2	15
8:45 AM	2	3	0	0	0	5	0	0	1	0	0	1	0	1	0	1	0	2	0	0	3	3	0	6	0	0	1	1	0	2	16
Total	9	15	0	1	0	25	0	3	5	0	0	8	0	1	4	2	0	7	4	2	6	4	0	16	0	1	1	6	0	8	64
Grand Total	25	24	0	1	0	50	0	7	8	0	0	15	0	1	10	5	0	16	6	3	17	7	0	33	4	3	1	6	0	14	128
Approach %	50.0	48.0	0.0	2.0	0.0		0.0	46.7	53.3	0.0	0.0		0.0	6.3	62.5	31.3	0.0		18.2	9.1	51.5	21.2	0.0		28.6	21.4	7.1	42.9	0.0		
Total %	19.5	18.8	0.0	0.8	0.0	39.1	0.0	5.5	6.3	0.0	0.0	11.7	0.0	0.8	7.8	3.9	0.0	12.5	4.7	2.3	13.3	5.5	0.0	25.8	3.1	2.3	0.8	4.7	0.0	10.9	
Exiting Leg Total						24						5						9						41						49	128
Cars	25	22	0	1	0	48	0	7	8	0	0	15	0	1	10	5	0	16	5	3	16	6	0	30	4	3	1	6	0	14	123
% Cars	100.0	91.7	0.0	100.0	0.0	96.0	0.0	100.0	100.0	0.0	0.0	100.0	0.0	100.0	100.0	100.0	0.0	100.0	83.3	100.0	94.1	85.7	0.0	90.9	100.0	100.0	100.0	100.0	0.0	100.0	96.1
Exiting Leg Total						23						5						8						39						48	123
Heavy Vehicles	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	2	0	0	0	0	0	0	4
% Heavy Vehicles	0.0	8.3	0.0	0.0	0.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.7	0.0	5.9	0.0	0.0	6.1	0.0	0.0	0.0	0.0	0.0	0.0	3.1
Exiting Leg Total						1						0						1						2						0	4
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1
% Buses	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.3	0.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8
Exiting Leg Total						0						0						0						0						1	1

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:15 AM	Walnut Street						Water Street						Walnut Street						Redfield Street						Water Street						
	North						East						South						Southwest						West						
	Right	Bear Righ	Thru	Left	U-Turn	Total	Right	Thru	Bear Left	Left	U-Turn	Total	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Righ	Bear Righ	Bear Left	Hard Left	U-Turn	Total	Hard Righ	Right	Thru	Left	U-Turn	Total	Total
7:15 AM	4	0	0	0	0	4	0	0	0	0	0	0	0	0	1	2	0	3	1	0	6	0	0	7	2	0	0	0	0	2	16
7:30 AM	4	4	0	0	0	8	0	1	0	0	0	1	0	0	2	0	0	2	0	1	2	2	0	5	0	1	0	0	0	1	17
7:45 AM	2	2	0	0	0	4	0	1	3	0	0	4	0	0	1	1	0	2	1	0	1	1	0	3	2	0	0	0	0	2	15
8:00 AM	4	7	0	0	0	11	0	2	1	0	0	3	0	0	2	1	0	3	1	0	0	0	0	1	0	1	0	1	0	2	20
Total Volume	14	13	0	0	0	27	0	4	4	0	0	8	0	0	6	4	0	10	3	1	9	3	0	16	4	2	0	1	0	7	68
% Approach Total	51.9	48.1	0.0	0.0	0.0		0.0	50.0	50.0	0.0	0.0		0.0	0.0	60.0	40.0	0.0		18.8	6.3	56.3	18.8	0.0		57.1	28.6	0.0	14.3	0.0		
PHF	0.875	0.464	0.000	0.000	0.000	0.614	0.000	0.500	0.333	0.000	0.000	0.500	0.000	0.000	0.750	0.500	0.000	0.833	0.750	0.250	0.375	0.375	0.000	0.571	0.500	0.500	0.000	0.250	0.000	0.875	0.850
Cars	14	12	0	0	0	26	0	4	4	0	0	8	0	0	6	4	0	10	3	1	8	2	0	14	4	2	0	1	0	7	65
Cars %	100.0	92.3	0.0	0.0	0.0	96.3	0.0	100.0	100.0	0.0	0.0	100.0	0.0	0.0	100.0	100.0	0.0	100.0	100.0	100.0	88.9	66.7	0.0	87.5	100.0	100.0	0.0	100.0	0.0	100.0	95.6
Heavy Vehicles	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2
Heavy Vehicles %	0.0	7.7	0.0	0.0	0.0	3.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.1	0.0	0.0	6.3	0.0	0.0	0.0	0.0	0.0	0.0	2.9
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1

PDI File #: **175750 F**
Location: **N: Walnut Street S: Walnut Street**
Location: **E: Water Street W: Water Street SW: Redfield Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars, Heavy Vehicles, and Buses (Combined)

	Walnut Street						Water Street						Walnut Street						Redfield Street						Water Street						
	North						East						South						Southwest						West						
	Right	Bear Righ	Thru	Left	U-Turn	Total	Right	Thru	Bear Left	Left	U-Turn	Total	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Righ	Bear Righ	Bear Left	Hard Left	U-Turn	Total	Hard Righ	Right	Thru	Left	U-Turn	Total	Total
Buses %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	33.3	0.0	6.3	0.0	0.0	0.0	0.0	0.0	0.0	1.5
Cars Enter Leg	14	12	0	0	0	26	0	4	4	0	0	8	0	0	6	4	0	10	3	1	8	2	0	14	4	2	0	1	0	7	65
Heavy Enter Leg	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2
Bus Enter Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1
Total Entering Leg	14	13	0	0	0	27	0	4	4	0	0	8	0	0	6	4	0	10	3	1	9	3	0	16	4	2	0	1	0	7	68
Cars Exiting Leg						9						1						5						24						26	65
Heavy Exiting Leg						1						0						0						1						0	2
Buses Exiting Leg						0						0						0						0						1	1
Total Exiting Leg						10						1						5						25						27	68

PDI File #: **175750 F**
Location: **N: Walnut Street S: Walnut Street**
Location: **E: Water Street W: Water Street SW: Redfield Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Cars**

	Walnut Street						Water Street						Walnut Street						Redfield Street						Water Street						
	North						East						South						Southwest						West						
	Right	Bear Righ	Thru	Left	U-Turn	Total	Right	Thru	Bear Left	Left	U-Turn	Total	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Righ	Bear Righ	Bear Left	Hard Left	U-Turn	Total	Hard Righ	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	6	3	0	0	0	9	0	2	0	0	0	2	0	0	2	0	0	2	0	0	2	0	0	2	0	1	0	0	0	1	16
7:15 AM	4	0	0	0	0	4	0	0	0	0	0	0	0	0	1	2	0	3	1	0	5	0	0	6	2	0	0	0	0	2	15
7:30 AM	4	4	0	0	0	8	0	1	0	0	0	1	0	0	2	0	0	2	0	1	2	1	0	4	0	1	0	0	0	1	16
7:45 AM	2	2	0	0	0	4	0	1	3	0	0	4	0	0	1	1	0	2	1	0	1	1	0	3	2	0	0	0	0	2	15
Total	16	9	0	0	0	25	0	4	3	0	0	7	0	0	6	3	0	9	2	1	10	2	0	15	4	2	0	0	0	6	62
8:00 AM	4	6	0	0	0	10	0	2	1	0	0	3	0	0	2	1	0	3	1	0	0	0	0	1	0	1	0	1	0	2	19
8:15 AM	1	2	0	0	0	3	0	0	2	0	0	2	0	0	1	0	0	1	0	1	2	1	0	4	0	0	0	2	0	2	12
8:30 AM	2	2	0	1	0	5	0	1	1	0	0	2	0	0	1	0	0	1	2	1	1	0	0	4	0	0	0	2	0	2	14
8:45 AM	2	3	0	0	0	5	0	0	1	0	0	1	0	1	0	1	0	2	0	0	3	3	0	6	0	0	1	1	0	2	16
Total	9	13	0	1	0	23	0	3	5	0	0	8	0	1	4	2	0	7	3	2	6	4	0	15	0	1	1	6	0	8	61
Grand Total	25	22	0	1	0	48	0	7	8	0	0	15	0	1	10	5	0	16	5	3	16	6	0	30	4	3	1	6	0	14	123
Approach %	52.1	45.8	0.0	2.1	0.0		0.0	46.7	53.3	0.0	0.0		0.0	6.3	62.5	31.3	0.0		16.7	10.0	53.3	20.0	0.0		28.6	21.4	7.1	42.9	0.0		
Total %	20.3	17.9	0.0	0.8	0.0	39.0	0.0	5.7	6.5	0.0	0.0	12.2	0.0	0.8	8.1	4.1	0.0	13.0	4.1	2.4	13.0	4.9	0.0	24.4	3.3	2.4	0.8	4.9	0.0	11.4	
Exiting Leg Total						23						5						8						39						48	123

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:15 AM	Walnut Street						Water Street						Walnut Street						Redfield Street						Water Street						
	North						East						South						Southwest						West						
	Right	Bear Righ	Thru	Left	U-Turn	Total	Right	Thru	Bear Left	Left	U-Turn	Total	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Righ	Bear Righ	Bear Left	Hard Left	U-Turn	Total	Hard Righ	Right	Thru	Left	U-Turn	Total	Total
7:15 AM	4	0	0	0	0	4	0	0	0	0	0	0	0	0	1	2	0	3	1	0	5	0	0	6	2	0	0	0	0	2	15
7:30 AM	4	4	0	0	0	8	0	1	0	0	0	1	0	0	2	0	0	2	0	1	2	1	0	4	0	1	0	0	0	1	16
7:45 AM	2	2	0	0	0	4	0	1	3	0	0	4	0	0	1	1	0	2	1	0	1	1	0	3	2	0	0	0	0	2	15
8:00 AM	4	6	0	0	0	10	0	2	1	0	0	3	0	0	2	1	0	3	1	0	0	0	0	1	0	1	0	1	0	2	19
Total Volume	14	12	0	0	0	26	0	4	4	0	0	8	0	0	6	4	0	10	3	1	8	2	0	14	4	2	0	1	0	7	65
% Approach Total	53.8	46.2	0.0	0.0	0.0		0.0	50.0	50.0	0.0	0.0		0.0	0.0	60.0	40.0	0.0		21.4	7.1	57.1	14.3	0.0		57.1	28.6	0.0	14.3	0.0		
PHF	0.875	0.500	0.000	0.000	0.000	0.650	0.000	0.500	0.333	0.000	0.000	0.500	0.000	0.000	0.750	0.500	0.000	0.833	0.750	0.250	0.400	0.500	0.000	0.583	0.500	0.500	0.000	0.250	0.000	0.875	0.855
Entering Leg	14	12	0	0	0	26	0	4	4	0	0	8	0	0	6	4	0	10	3	1	8	2	0	14	4	2	0	1	0	7	65
Exiting Leg						9						1						5						24						26	65
Total						35						9						15						38						33	130

PDI File #: **175750 F**
Location: **N: Walnut Street S: Walnut Street**
Location: **E: Water Street W: Water Street SW: Redfield Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Heavy Vehicles**

	Walnut Street						Water Street						Walnut Street						Redfield Street						Water Street						
	North						East						South						Southwest						West						
	Right	Bear Righ	Thru	Left	U-Turn	Total	Right	Thru	Bear Left	Left	U-Turn	Total	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Righ	Bear Righ	Bear Left	Hard Left	U-Turn	Total	Hard Righ	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1
8:00 AM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1
8:30 AM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	3
Grand Total	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	2	0	0	0	0	0	0	4
Approach %	0.0	100.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		50.0	0.0	50.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
Total %	0.0	50.0	0.0	0.0	0.0	50.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25.0	0.0	25.0	0.0	0.0	50.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total						1						0						1						2						0	4

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:45 AM	Walnut Street						Water Street						Walnut Street						Redfield Street						Water Street						
	North						East						South						Southwest						West						
	Right	Bear Righ	Thru	Left	U-Turn	Total	Right	Thru	Bear Left	Left	U-Turn	Total	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Righ	Bear Righ	Bear Left	Hard Left	U-Turn	Total	Hard Righ	Right	Thru	Left	U-Turn	Total	Total
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1
8:30 AM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Volume	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	3
% Approach Total	0.0	100.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.500	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.750
Entering Leg	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	3
Exiting Leg						0						0						1						2						0	3
Total						2						0						1						3						0	6

PDI File #: **175750 F**
Location: **N: Walnut Street S: Walnut Street**
Location: **E: Water Street W: Water Street SW: Redfield Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Buses**

	Walnut Street						Water Street						Walnut Street						Redfield Street						Water Street						
	North						East						South						Southwest						West						
	Right	Bear Righ	Thru	Left	U-Turn	Total	Right	Thru	Bear Left	Left	U-Turn	Total	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Righ	Bear Righ	Bear Left	Hard Left	U-Turn	Total	Hard Righ	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1
Approach %	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	100.0	0.0		0.0	0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total						0						0						0						0						1	1

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Walnut Street						Water Street						Walnut Street						Redfield Street						Water Street						
	North						East						South						Southwest						West						
	Right	Bear Righ	Thru	Left	U-Turn	Total	Right	Thru	Bear Left	Left	U-Turn	Total	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Righ	Bear Righ	Bear Left	Hard Left	U-Turn	Total	Hard Righ	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1
% Approach Total	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	100.0	0.0		0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.250
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1
Exiting Leg						0						0						0						0						1	1
Total						0						0						0						1						1	2

PDI File #: **175750 F**
Location: **N: Walnut Street S: Walnut Street**
Location: **E: Water Street W: Water Street SW: Redfield Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Bicycles (on Roadway and Crosswalks)

	Walnut Street								Water Street								Walnut Street								Redfield Street								Water Street								
	North								East								South								Southwest								West								
	Right	Bear Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Bear Left	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	Hard Left	U-Turn	CW-WB	CW-EB	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	CW-NWB	CW-SEB	Total	Hard Right	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:15 AM	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	5
7:30 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	7
8:00 AM	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
8:15 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
8:30 AM	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
8:45 AM	0	0	0	0	0	0	0	0	1	4	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
Total	0	0	0	0	0	0	1	1	1	11	0	0	0	0	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13
Grand Total	0	0	0	0	0	0	1	1	1	17	0	0	0	0	0	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	20
Approach %	0.0	0.0	0.0	0.0	0.0	0.0	100.0		5.6	94.4	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	100.0	0.0	0.0	0.0	0.0	
Total %	0.0	0.0	0.0	0.0	0.0	0.0	5.0	5.0	5.0	85.0	0.0	0.0	0.0	0.0	0.0	90.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0	0.0	0.0	0.0	0.0	5.0	
Exiting Leg Total								2								1								0								0								17	20

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Walnut Street								Water Street								Walnut Street								Redfield Street								Water Street								
	North								East								South								Southwest								West								
	Right	Bear Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Bear Left	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	Hard Left	U-Turn	CW-WB	CW-EB	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	CW-NWB	CW-SEB	Total	Hard Right	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
8:00 AM	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
8:15 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
8:30 AM	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
8:45 AM	0	0	0	0	0	0	0	0	1	4	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
Total Volume	0	0	0	0	0	0	1	1	1	11	0	0	0	0	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	100.0		8.3	91.7	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.250	0.250	0.688	0.000	0.000	0.000	0.000	0.000	0.600	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.650
Entering Leg	0	0	0	0	0	0	1	1	1	11	0	0	0	0	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13
Exiting Leg								2								0								0								0								11	13
Total								3								12								0								0								11	26

PDI File #: **175750 F**
Location: **N: Walnut Street S: Walnut Street**
Location: **E: Water Street W: Water Street SW: Redfield Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Pedestrians

	Walnut Street								Water Street								Walnut Street								Redfield Street								Water Street								
	North								East								South								Southwest								West								
	Right	Bear Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Bear Left	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	Hard Left	U-Turn	CW-WB	CW-EB	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	CW-NW	CW-SE	Total	Hard Right	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	1	1	0	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	1	1	0	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
8:00 AM	0	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
8:15 AM	0	0	0	0	0	2	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
8:30 AM	0	0	0	0	0	2	4	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
8:45 AM	0	0	0	0	0	1	2	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Total	0	0	0	0	0	6	8	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14
Grand Total	0	0	0	0	0	6	9	15	0	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17
Approach %	0.0	0.0	0.0	0.0	0.0	40.0	60.0		0.0	0.0	0.0	0.0	0.0	50.0	50.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	35.3	52.9	88.2	0.0	0.0	0.0	0.0	0.0	5.9	5.9	11.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total								15								2								0								0								0	17

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Walnut Street								Water Street								Walnut Street								Redfield Street								Water Street								
	North								East								South								Southwest								West								
	Right	Bear Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Bear Left	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	Hard Left	U-Turn	CW-WB	CW-EB	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	CW-NW	CW-SE	Total	Hard Right	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
8:00 AM	0	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
8:15 AM	0	0	0	0	0	2	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
8:30 AM	0	0	0	0	0	2	4	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
8:45 AM	0	0	0	0	0	1	2	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Total Volume	0	0	0	0	0	6	8	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14
% Approach Total	0.0	0.0	0.0	0.0	0.0	42.9	57.1		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.750	0.500	0.583	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.583
Entering Leg	0	0	0	0	0	6	8	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14
Exiting Leg								14								0								0								0								0	14
Total								28								0								0								0								0	28

PDI File #: **175750 FF**
Location: **N: Walnut Street S: Walnut Street**
Location: **E: Water Street W: Water Street SW: Redfield Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars, Heavy Vehicles, and Buses (Combined)

	Walnut Street						Water Street						Walnut Street						Redfield Street						Water Street						
	North						East						South						Southwest						West						
	Right	Bear Righ	Thru	Left	U-Turn	Total	Right	Thru	Bear Left	Left	U-Turn	Total	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Righ	Bear Righ	Bear Left	Hard Left	U-Turn	Total	Hard Righ	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	3	6	0	0	0	9	0	0	0	0	0	0	0	0	0	2	0	2	1	1	18	1	0	21	0	1	0	4	0	5	37
4:15 PM	2	4	0	0	0	6	0	1	0	1	0	2	0	0	2	2	0	4	0	1	2	0	0	3	0	1	1	1	0	3	18
4:30 PM	3	9	0	0	0	12	0	0	2	0	0	2	0	0	0	1	0	1	3	1	12	0	0	16	0	1	0	3	0	4	35
4:45 PM	5	10	2	1	1	19	0	1	3	0	0	4	0	0	0	3	0	3	0	1	6	2	0	9	1	1	2	2	0	6	41
Total	13	29	2	1	1	46	0	2	5	1	0	8	0	0	2	8	0	10	4	4	38	3	0	49	1	4	3	10	0	18	131
5:00 PM	1	5	0	0	0	6	0	0	1	0	0	1	0	0	0	0	0	0	3	2	5	0	0	10	0	0	0	4	0	4	21
5:15 PM	1	7	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	1	0	10	1	1	0	0	0	2	20
5:30 PM	3	2	0	1	0	6	0	0	0	0	0	0	0	0	0	0	0	0	1	0	9	1	0	11	1	1	0	2	0	4	21
5:45 PM	0	5	0	0	0	5	0	0	0	0	0	0	0	0	3	0	0	3	0	0	18	1	0	19	1	2	3	4	0	10	37
Total	5	19	0	1	0	25	0	0	1	0	0	1	0	0	3	0	0	3	4	2	41	3	0	50	3	4	3	10	0	20	99
Grand Total	18	48	2	2	1	71	0	2	6	1	0	9	0	0	5	8	0	13	8	6	79	6	0	99	4	8	6	20	0	38	230
Approach %	25.4	67.6	2.8	2.8	1.4		0.0	22.2	66.7	11.1	0.0		0.0	0.0	38.5	61.5	0.0		8.1	6.1	79.8	6.1	0.0		10.5	21.1	15.8	52.6	0.0		
Total %	7.8	20.9	0.9	0.9	0.4	30.9	0.0	0.9	2.6	0.4	0.0	3.9	0.0	0.0	2.2	3.5	0.0	5.7	3.5	2.6	34.3	2.6	0.0	43.0	1.7	3.5	2.6	8.7	0.0	16.5	
Exiting Leg Total						100						14						19						66						31	230
Cars	18	47	2	2	1	70	0	2	5	1	0	8	0	0	5	7	0	12	8	6	79	6	0	99	4	8	6	20	0	38	227
% Cars	100.0	97.9	100.0	100.0	100.0	98.6	0.0	100.0	83.3	100.0	0.0	88.9	0.0	0.0	100.0	87.5	0.0	92.3	100.0	100.0	100.0	100.0	0.0	100.0	100.0	100.0	100.0	100.0	0.0	100.0	98.7
Exiting Leg Total						100						14						19						63						31	227
Heavy Vehicles	0	1	0	0	0	1	0	0	1	0	0	1	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	3
% Heavy Vehicles	0.0	2.1	0.0	0.0	0.0	1.4	0.0	0.0	16.7	0.0	0.0	11.1	0.0	0.0	0.0	12.5	0.0	7.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3
Exiting Leg Total						0						0						0						3						0	3
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Buses	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Exiting Leg Total						0						0						0						0						0	0

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Walnut Street						Water Street						Walnut Street						Redfield Street						Water Street						
	North						East						South						Southwest						West						
	Right	Bear Righ	Thru	Left	U-Turn	Total	Right	Thru	Bear Left	Left	U-Turn	Total	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Righ	Bear Righ	Bear Left	Hard Left	U-Turn	Total	Hard Righ	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	3	6	0	0	0	9	0	0	0	0	0	0	0	0	0	2	0	2	1	1	18	1	0	21	0	1	0	4	0	5	37
4:15 PM	2	4	0	0	0	6	0	1	0	1	0	2	0	0	2	2	0	4	0	1	2	0	0	3	0	1	1	1	0	3	18
4:30 PM	3	9	0	0	0	12	0	0	2	0	0	2	0	0	0	1	0	1	3	1	12	0	0	16	0	1	0	3	0	4	35
4:45 PM	5	10	2	1	1	19	0	1	3	0	0	4	0	0	0	3	0	3	0	1	6	2	0	9	1	1	2	2	0	6	41
Total Volume	13	29	2	1	1	46	0	2	5	1	0	8	0	0	2	8	0	10	4	4	38	3	0	49	1	4	3	10	0	18	131
% Approach Total	28.3	63.0	4.3	2.2	2.2		0.0	25.0	62.5	12.5	0.0		0.0	0.0	20.0	80.0	0.0		8.2	8.2	77.6	6.1	0.0		5.6	22.2	16.7	55.6	0.0		
PHF	0.650	0.725	0.250	0.250	0.250	0.605	0.000	0.500	0.417	0.250	0.000	0.500	0.000	0.000	0.250	0.667	0.000	0.625	0.333	1.000	0.528	0.375	0.000	0.583	0.250	1.000	0.375	0.625	0.000	0.750	0.799
Cars	13	29	2	1	1	46	0	2	4	1	0	7	0	0	2	7	0	9	4	4	38	3	0	49	1	4	3	10	0	18	129
Cars %	100.0	100.0	100.0	100.0	100.0	100.0	0.0	100.0	80.0	100.0	0.0	87.5	0.0	0.0	100.0	87.5	0.0	90.0	100.0	100.0	100.0	100.0	0.0	100.0	100.0	100.0	100.0	100.0	0.0	100.0	98.5
Heavy Vehicles	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2
Heavy Vehicles %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.0	0.0	0.0	12.5	0.0	0.0	0.0	12.5	0.0	10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

PDI File #: **175750 FF**
Location: **N: Walnut Street S: Walnut Street**
Location: **E: Water Street W: Water Street SW: Redfield Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars, Heavy Vehicles, and Buses (Combined)

	Walnut Street						Water Street						Walnut Street						Redfield Street						Water Street						
	North						East						South						Southwest						West						
	Right	Bear Righ	Thru	Left	U-Turn	Total	Right	Thru	Bear Left	Left	U-Turn	Total	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Righ	Bear Righ	Bear Left	Hard Left	U-Turn	Total	Hard Righ	Right	Thru	Left	U-Turn	Total	Total
Buses %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cars Enter Leg	13	29	2	1	1	46	0	2	4	1	0	7	0	0	2	7	0	9	4	4	38	3	0	49	1	4	3	10	0	18	129
Heavy Enter Leg	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2
Bus Enter Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Entering Leg	13	29	2	1	1	46	0	2	5	1	0	8	0	0	2	8	0	10	4	4	38	3	0	49	1	4	3	10	0	18	131
Cars Exiting Leg						49						8						11						41						20	129
Heavy Exiting Leg						0						0						0						2						0	2
Buses Exiting Leg						0						0						0						0						0	0
Total Exiting Leg						49						8						11						43						20	131

PDI File #: **175750 FF**
Location: **N: Walnut Street S: Walnut Street**
Location: **E: Water Street W: Water Street SW: Redfield Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Cars**

	Walnut Street						Water Street						Walnut Street						Redfield Street						Water Street						
	North						East						South						Southwest						West						
	Right	Bear Righ	Thru	Left	U-Turn	Total	Right	Thru	Bear Left	Left	U-Turn	Total	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Righ	Bear Righ	Bear Left	Hard Left	U-Turn	Total	Hard Righ	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	3	6	0	0	0	9	0	0	0	0	0	0	0	0	0	1	0	1	1	1	18	1	0	21	0	1	0	4	0	5	36
4:15 PM	2	4	0	0	0	6	0	1	0	1	0	2	0	0	2	2	0	4	0	1	2	0	0	3	0	1	1	1	0	3	18
4:30 PM	3	9	0	0	0	12	0	0	2	0	0	2	0	0	0	1	0	1	3	1	12	0	0	16	0	1	0	3	0	4	35
4:45 PM	5	10	2	1	1	19	0	1	2	0	0	3	0	0	0	3	0	3	0	1	6	2	0	9	1	1	2	2	0	6	40
Total	13	29	2	1	1	46	0	2	4	1	0	7	0	0	2	7	0	9	4	4	38	3	0	49	1	4	3	10	0	18	129
5:00 PM	1	4	0	0	0	5	0	0	1	0	0	1	0	0	0	0	0	0	3	2	5	0	0	10	0	0	0	4	0	4	20
5:15 PM	1	7	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	1	0	10	1	1	0	0	0	2	20
5:30 PM	3	2	0	1	0	6	0	0	0	0	0	0	0	0	0	0	0	0	1	0	9	1	0	11	1	1	0	2	0	4	21
5:45 PM	0	5	0	0	0	5	0	0	0	0	0	0	0	0	3	0	0	3	0	0	18	1	0	19	1	2	3	4	0	10	37
Total	5	18	0	1	0	24	0	0	1	0	0	1	0	0	3	0	0	3	4	2	41	3	0	50	3	4	3	10	0	20	98
Grand Total	18	47	2	2	1	70	0	2	5	1	0	8	0	0	5	7	0	12	8	6	79	6	0	99	4	8	6	20	0	38	227
Approach %	25.7	67.1	2.9	2.9	1.4		0.0	25.0	62.5	12.5	0.0		0.0	0.0	41.7	58.3	0.0		8.1	6.1	79.8	6.1	0.0		10.5	21.1	15.8	52.6	0.0		
Total %	7.9	20.7	0.9	0.9	0.4	30.8	0.0	0.9	2.2	0.4	0.0	3.5	0.0	0.0	2.2	3.1	0.0	5.3	3.5	2.6	34.8	2.6	0.0	43.6	1.8	3.5	2.6	8.8	0.0	16.7	
Exiting Leg Total						100						14						19						63						31	227

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Walnut Street						Water Street						Walnut Street						Redfield Street						Water Street						
	North						East						South						Southwest						West						
	Right	Bear Righ	Thru	Left	U-Turn	Total	Right	Thru	Bear Left	Left	U-Turn	Total	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Righ	Bear Righ	Bear Left	Hard Left	U-Turn	Total	Hard Righ	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	3	6	0	0	0	9	0	0	0	0	0	0	0	0	0	1	0	1	1	1	18	1	0	21	0	1	0	4	0	5	36
4:15 PM	2	4	0	0	0	6	0	1	0	1	0	2	0	0	2	2	0	4	0	1	2	0	0	3	0	1	1	1	0	3	18
4:30 PM	3	9	0	0	0	12	0	0	2	0	0	2	0	0	0	1	0	1	3	1	12	0	0	16	0	1	0	3	0	4	35
4:45 PM	5	10	2	1	1	19	0	1	2	0	0	3	0	0	0	3	0	3	0	1	6	2	0	9	1	1	2	2	0	6	40
Total Volume	13	29	2	1	1	46	0	2	4	1	0	7	0	0	2	7	0	9	4	4	38	3	0	49	1	4	3	10	0	18	129
% Approach Total	28.3	63.0	4.3	2.2	2.2		0.0	28.6	57.1	14.3	0.0		0.0	0.0	22.2	77.8	0.0		8.2	8.2	77.6	6.1	0.0		5.6	22.2	16.7	55.6	0.0		
PHF	0.650	0.725	0.250	0.250	0.250	0.605	0.000	0.500	0.500	0.250	0.000	0.583	0.000	0.000	0.250	0.583	0.000	0.563	0.333	1.000	0.528	0.375	0.000	0.583	0.250	1.000	0.375	0.625	0.000	0.750	0.806
Entering Leg	13	29	2	1	1	46	0	2	4	1	0	7	0	0	2	7	0	9	4	4	38	3	0	49	1	4	3	10	0	18	129
Exiting Leg						49						8						11						41						20	129
Total						95						15						20						90						38	258

PDI File #: **175750 FF**
Location: **N: Walnut Street S: Walnut Street**
Location: **E: Water Street W: Water Street SW: Redfield Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class:

Heavy Vehicles

	Walnut Street						Water Street						Walnut Street						Redfield Street						Water Street						
	North						East						South						Southwest						West						
	Right	Bear Righ	Thru	Left	U-Turn	Total	Right	Thru	Bear Left	Left	U-Turn	Total	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Righ	Bear Righ	Bear Left	Hard Left	U-Turn	Total	Hard Righ	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2
5:00 PM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Grand Total	0	1	0	0	0	1	0	0	1	0	0	1	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	3
Approach %	0.0	100.0	0.0	0.0	0.0		0.0	0.0	100.0	0.0	0.0		0.0	0.0	0.0	100.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
Total %	0.0	33.3	0.0	0.0	0.0	33.3	0.0	0.0	33.3	0.0	0.0	33.3	0.0	0.0	0.0	33.3	0.0	33.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total						0						0						0						3						0	3

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Walnut Street						Water Street						Walnut Street						Redfield Street						Water Street						
	North						East						South						Southwest						West						
	Right	Bear Righ	Thru	Left	U-Turn	Total	Right	Thru	Bear Left	Left	U-Turn	Total	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Righ	Bear Righ	Bear Left	Hard Left	U-Turn	Total	Hard Righ	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Volume	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2
% Approach Total	0.0	0.0	0.0	0.0	0.0		0.0	0.0	100.0	0.0	0.0		0.0	0.0	0.0	100.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.250	0.000	0.000	0.000	0.250	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500
Entering Leg	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2
Exiting Leg						0						0						0						2						0	2
Total						0						1						1						2						0	4

PDI File #: **175750 FF**
Location: **N: Walnut Street S: Walnut Street**
Location: **E: Water Street W: Water Street SW: Redfield Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
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Buses

	Walnut Street						Water Street						Walnut Street						Redfield Street						Water Street						
	North						East						South						Southwest						West						
	Right	Bear Righ	Thru	Left	U-Turn	Total	Right	Thru	Bear Left	Left	U-Turn	Total	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Righ	Bear Righ	Bear Left	Hard Left	U-Turn	Total	Hard Righ	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total						0						0						0						0						0	0

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Walnut Street						Water Street						Walnut Street						Redfield Street						Water Street						
	North						East						South						Southwest						West						
	Right	Bear Righ	Thru	Left	U-Turn	Total	Right	Thru	Bear Left	Left	U-Turn	Total	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Righ	Bear Righ	Bear Left	Hard Left	U-Turn	Total	Hard Righ	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg						0						0						0						0						0	0
Total						0						0						0						0						0	0

PDI File #: **175750 FF**
Location: **N: Walnut Street S: Walnut Street**
Location: **E: Water Street W: Water Street SW: Redfield Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Bicycles (on Roadway and Crosswalks)

	Walnut Street								Water Street								Walnut Street								Redfield Street								Water Street								
	North								East								South								Southwest								West								
	Right	Bear Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Bear Left	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	Hard Left	U-Turn	CW-WB	CW-EB	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	CW-NWB	CW-SEB	Total	Hard Right	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	2
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
4:45 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	5	7
Total	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	0	0	0	0	9	11
5:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:15 PM	0	0	0	1	0	0	0	1	0	2	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	5
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	8	0	0	0	0	8	9
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	1	0	0	0	1	0	3	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	10	0	0	0	0	10	15
Grand Total	0	0	0	1	0	0	0	1	0	5	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	19	0	0	0	0	19	26
Approach %	0.0	0.0	0.0	100.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	100.0	0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	3.8	0.0	0.0	0.0	3.8	0.0	19.2	0.0	0.0	0.0	0.0	0.0	19.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.8	0.0	0.0	0.0	0.0	0.0	3.8	0.0	0.0	73.1	0.0	0.0	0.0	0.0	73.1	
Exiting Leg Total								0								21								0								0								5	26

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:45 PM	Walnut Street								Water Street								Walnut Street								Redfield Street								Water Street								
	North								East								South								Southwest								West								
	Right	Bear Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Bear Left	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	Hard Left	U-Turn	CW-WB	CW-EB	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	CW-NWB	CW-SEB	Total	Hard Right	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:45 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	5	7
5:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:15 PM	0	0	0	1	0	0	0	1	0	2	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	5
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	8	0	0	0	0	8	9
Total Volume	0	0	0	1	0	0	0	1	0	5	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	15	0	0	0	0	15	22
% Approach Total	0.0	0.0	0.0	100.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	100.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.250	0.000	0.625	0.000	0.000	0.000	0.000	0.000	0.625	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.469	0.000	0.000	0.000	0.000	0.469	0.611
Entering Leg	0	0	0	1	0	0	0	1	0	5	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	15	0	0	0	0	15	22
Exiting Leg								0								17								0								0								5	22
Total								1								22								0								1								20	44

PDI File #: **175750 FF**
Location: **N: Walnut Street S: Walnut Street**
Location: **E: Water Street W: Water Street SW: Redfield Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Pedestrians

	Walnut Street								Water Street								Walnut Street								Redfield Street								Water Street								
	North								East								South								Southwest								West								
	Right	Bear Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Bear Left	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	Hard Left	U-Turn	CW-WB	CW-EB	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	CW-NWB	CW-SEB	Total	Hard Right	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
4:15 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	3	4	7	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2	2
4:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	2	0	2	0	0	0	0	0	4	6	10	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2	15
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:30 PM	0	0	0	0	0	0	1	1	0	0	0	0	0	2	1	3	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
5:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2	2
Total	0	0	0	0	0	1	3	4	0	0	0	0	0	2	2	4	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	10
Grand Total	0	0	0	0	0	3	3	6	0	0	0	0	0	6	8	14	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	3	25
Approach %	0.0	0.0	0.0	0.0	0.0	50.0	50.0		0.0	0.0	0.0	0.0	0.0	42.9	57.1		0.0	0.0	0.0	0.0	0.0	0.0	100.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	100.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	12.0	12.0	24.0	0.0	0.0	0.0	0.0	0.0	24.0	32.0	56.0	0.0	0.0	0.0	0.0	0.0	0.0	8.0	8.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.0	0.0	12.0		
Exiting Leg Total								6								14								2								0								3	25

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Walnut Street								Water Street								Walnut Street								Redfield Street								Water Street								
	North								East								South								Southwest								West								
	Right	Bear Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Bear Left	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	Hard Left	U-Turn	CW-WB	CW-EB	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	CW-NWB	CW-SEB	Total	Hard Right	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
4:15 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	3	4	7	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2	2
4:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Volume	0	0	0	0	0	2	0	2	0	0	0	0	0	4	6	10	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2	15
% Approach Total	0.0	0.0	0.0	0.0	0.0	100.0	0.0		0.0	0.0	0.0	0.0	0.0	40.0	60.0		0.0	0.0	0.0	0.0	0.0	0.0	100.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	100.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.333	0.375	0.357	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.250	0.417	
Entering Leg	0	0	0	0	0	2	0	2	0	0	0	0	0	4	6	10	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	15	
Exiting Leg								2								10								1								0								2	15	
Total								4								20								2								0								4	30	

PDI File #: **175750 FFF**
Location: **N: Walnut Street S: Walnut Street**
Location: **E: Water Street W: Water Street SW: Redfield Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Saturday, June 24, 2017**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars, Heavy Vehicles, and Buses (Combined)

	Walnut Street						Water Street						Walnut Street						Redfield Street						Water Street						
	North						East						South						Southwest						West						
	Right	Bear Righ	Thru	Left	U-Turn	Total	Right	Thru	Bear Left	Left	U-Turn	Total	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Righ	Bear Righ	Bear Left	Hard Left	U-Turn	Total	Hard Righ	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	0	7	1	0	0	8	0	1	0	0	0	1	0	0	1	2	0	3	0	2	8	1	0	11	0	0	0	1	0	1	24
11:15 AM	2	4	0	0	0	6	0	2	1	0	0	3	1	0	1	0	0	2	1	1	7	0	0	9	0	0	0	0	0	0	20
11:30 AM	2	5	0	0	0	7	0	0	1	0	0	1	0	0	1	2	0	3	3	0	7	0	0	10	0	0	3	1	0	4	25
11:45 AM	3	7	0	1	0	11	0	0	1	0	0	1	0	0	0	1	0	1	3	0	3	0	0	6	1	1	0	1	0	3	22
Total	7	23	1	1	0	32	0	3	3	0	0	6	1	0	3	5	0	9	7	3	25	1	0	36	1	1	3	3	0	8	91
12:00 PM	2	3	0	0	0	5	1	0	0	0	0	1	0	1	1	1	0	3	0	1	6	1	0	8	0	0	0	3	0	3	20
12:15 PM	0	7	0	0	0	7	0	0	0	0	0	0	0	0	0	1	0	1	2	0	3	0	0	5	0	0	0	3	0	3	16
12:30 PM	2	5	1	0	0	8	0	0	0	0	0	0	0	0	0	2	0	2	2	0	5	1	0	8	0	0	0	2	0	2	20
12:45 PM	1	7	0	0	0	8	0	1	1	0	0	2	0	0	1	0	0	1	2	1	3	0	0	6	0	0	0	2	0	2	19
Total	5	22	1	0	0	28	1	1	1	0	0	3	0	1	2	4	0	7	6	2	17	2	0	27	0	0	0	10	0	10	75
1:00 PM	1	7	0	0	0	8	0	1	0	0	0	1	0	0	0	2	0	2	2	0	4	1	0	7	1	0	0	3	0	4	22
1:15 PM	0	8	0	0	0	8	0	0	1	0	0	1	0	1	1	1	0	3	2	0	3	2	0	7	0	1	1	2	0	4	23
1:30 PM	1	3	1	0	0	5	0	0	3	0	0	3	0	0	1	1	0	2	1	1	6	1	0	9	0	1	2	2	0	5	24
1:45 PM	2	8	1	0	0	11	0	0	0	0	0	0	0	0	1	3	0	4	2	1	10	0	0	13	0	0	0	3	0	3	31
Total	4	26	2	0	0	32	0	1	4	0	0	5	0	1	3	7	0	11	7	2	23	4	0	36	1	2	3	10	0	16	100
Grand Total	16	71	4	1	0	92	1	5	8	0	0	14	1	2	8	16	0	27	20	7	65	7	0	99	2	3	6	23	0	34	266
Approach %	17.4	77.2	4.3	1.1	0.0		7.1	35.7	57.1	0.0	0.0		3.7	7.4	29.6	59.3	0.0		20.2	7.1	65.7	7.1	0.0		5.9	8.8	17.6	67.6	0.0		
Total %	6.0	26.7	1.5	0.4	0.0	34.6	0.4	1.9	3.0	0.0	0.0	5.3	0.4	0.8	3.0	6.0	0.0	10.2	7.5	2.6	24.4	2.6	0.0	37.2	0.8	1.1	2.3	8.6	0.0	12.8	
Exiting Leg Total						91						15						27						97						36	266
Cars	16	67	4	1	0	88	1	5	8	0	0	14	1	2	8	16	0	27	20	7	61	7	0	95	2	3	6	23	0	34	258
% Cars	100.0	94.4	100.0	100.0	0.0	95.7	100.0	100.0	100.0	0.0	0.0	100.0	100.0	100.0	100.0	100.0	0.0	100.0	100.0	100.0	93.8	100.0	0.0	96.0	100.0	100.0	100.0	100.0	0.0	100.0	97.0
Exiting Leg Total						87						15						27						93						36	258
Heavy Vehicles	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	6
% Heavy Vehicles	0.0	2.8	0.0	0.0	0.0	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.2	0.0	0.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	2.3
Exiting Leg Total						4						0						0						2						0	6
Buses	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
% Buses	0.0	2.8	0.0	0.0	0.0	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8
Exiting Leg Total						0						0						0						2						0	2

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

1:00 PM	Walnut Street						Water Street						Walnut Street						Redfield Street						Water Street						
	North						East						South						Southwest						West						
	Right	Bear Righ	Thru	Left	U-Turn	Total	Right	Thru	Bear Left	Left	U-Turn	Total	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Righ	Bear Righ	Bear Left	Hard Left	U-Turn	Total	Hard Righ	Right	Thru	Left	U-Turn	Total	Total
1:00 PM	1	7	0	0	0	8	0	1	0	0	0	1	0	0	0	2	0	2	2	0	4	1	0	7	1	0	0	3	0	4	22
1:15 PM	0	8	0	0	0	8	0	0	1	0	0	1	0	1	1	1	0	3	2	0	3	2	0	7	0	1	1	2	0	4	23
1:30 PM	1	3	1	0	0	5	0	0	3	0	0	3	0	0	1	1	0	2	1	1	6	1	0	9	0	1	2	2	0	5	24
1:45 PM	2	8	1	0	0	11	0	0	0	0	0	0	0	0	1	3	0	4	2	1	10	0	0	13	0	0	0	3	0	3	31
Total Volume	4	26	2	0	0	32	0	1	4	0	0	5	0	1	3	7	0	11	7	2	23	4	0	36	1	2	3	10	0	16	100
% Approach Total	12.5	81.3	6.3	0.0	0.0		0.0	20.0	80.0	0.0	0.0		0.0	9.1	27.3	63.6	0.0		19.4	5.6	63.9	11.1	0.0		6.3	12.5	18.8	62.5	0.0		

PDI File #: **175750 FFF**
Location: **N: Walnut Street S: Walnut Street**
Location: **E: Water Street W: Water Street SW: Redfield Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Saturday, June 24, 2017**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars, Heavy Vehicles, and Buses (Combined)

	Walnut Street						Water Street						Walnut Street						Redfield Street						Water Street						
	North						East						South						Southwest						West						
	Right	Bear Righ	Thru	Left	U-Turn	Total	Right	Thru	Bear Left	Left	U-Turn	Total	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Righ	Bear Righ	Bear Left	Hard Left	U-Turn	Total	Hard Righ	Right	Thru	Left	U-Turn	Total	Total
PHF	0.500	0.813	0.500	0.000	0.000	0.727	0.000	0.250	0.333	0.000	0.000	0.417	0.000	0.250	0.750	0.583	0.000	0.688	0.875	0.500	0.575	0.500	0.000	0.692	0.250	0.500	0.375	0.833	0.000	0.800	0.806
Cars	4	25	2	0	0	31	0	1	4	0	0	5	0	1	3	7	0	11	7	2	23	4	0	36	1	2	3	10	0	16	99
Cars %	100.0	96.2	100.0	0.0	0.0	96.9	0.0	100.0	100.0	0.0	0.0	100.0	0.0	100.0	100.0	100.0	0.0	100.0	100.0	100.0	100.0	100.0	0.0	100.0	100.0	100.0	100.0	100.0	0.0	100.0	99.0
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Heavy Vehicles %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Buses	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Buses %	0.0	3.8	0.0	0.0	0.0	3.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0
Cars Enter Leg	4	25	2	0	0	31	0	1	4	0	0	5	0	1	3	7	0	11	7	2	23	4	0	36	1	2	3	10	0	16	99
Heavy Enter Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bus Enter Leg	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Entering Leg	4	26	2	0	0	32	0	1	4	0	0	5	0	1	3	7	0	11	7	2	23	4	0	36	1	2	3	10	0	16	100
Cars Exiting Leg						34						5						11						37						12	99
Heavy Exiting Leg						0						0						0						0						0	0
Buses Exiting Leg						0						0						0						1						0	1
Total Exiting Leg						34						5						11						38						12	100

PDI File #: **175750 FFF**
Location: **N: Walnut Street S: Walnut Street**
Location: **E: Water Street W: Water Street SW: Redfield Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Saturday, June 24, 2017**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars

	Walnut Street						Water Street						Walnut Street						Redfield Street						Water Street						
	North						East						South						Southwest						West						
	Right	Bear Righ	Thru	Left	U-Turn	Total	Right	Thru	Bear Left	Left	U-Turn	Total	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Righ	Bear Righ	Bear Left	Hard Left	U-Turn	Total	Hard Righ	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	0	6	1	0	0	7	0	1	0	0	0	1	0	0	1	2	0	3	0	2	8	1	0	11	0	0	0	1	0	1	23
11:15 AM	2	4	0	0	0	6	0	2	1	0	0	3	1	0	1	0	0	2	1	1	6	0	0	8	0	0	0	0	0	0	19
11:30 AM	2	4	0	0	0	6	0	0	1	0	0	1	0	0	1	2	0	3	3	0	6	0	0	9	0	0	3	1	0	4	23
11:45 AM	3	6	0	1	0	10	0	0	1	0	0	1	0	0	0	1	0	1	3	0	2	0	0	5	1	1	0	1	0	3	20
Total	7	20	1	1	0	29	0	3	3	0	0	6	1	0	3	5	0	9	7	3	22	1	0	33	1	1	3	3	0	8	85
12:00 PM	2	3	0	0	0	5	1	0	0	0	0	1	0	1	1	1	0	3	0	1	6	1	0	8	0	0	0	3	0	3	20
12:15 PM	0	7	0	0	0	7	0	0	0	0	0	0	0	0	0	1	0	1	2	0	3	0	0	5	0	0	0	3	0	3	16
12:30 PM	2	5	1	0	0	8	0	0	0	0	0	0	0	0	0	2	0	2	2	0	5	1	0	8	0	0	0	2	0	2	20
12:45 PM	1	7	0	0	0	8	0	1	1	0	0	2	0	0	1	0	0	1	2	1	2	0	0	5	0	0	0	2	0	2	18
Total	5	22	1	0	0	28	1	1	1	0	0	3	0	1	2	4	0	7	6	2	16	2	0	26	0	0	0	10	0	10	74
1:00 PM	1	6	0	0	0	7	0	1	0	0	0	1	0	0	0	2	0	2	2	0	4	1	0	7	1	0	0	3	0	4	21
1:15 PM	0	8	0	0	0	8	0	0	1	0	0	1	0	1	1	1	0	3	2	0	3	2	0	7	0	1	1	2	0	4	23
1:30 PM	1	3	1	0	0	5	0	0	3	0	0	3	0	0	1	1	0	2	1	1	6	1	0	9	0	1	2	2	0	5	24
1:45 PM	2	8	1	0	0	11	0	0	0	0	0	0	0	0	1	3	0	4	2	1	10	0	0	13	0	0	0	3	0	3	31
Total	4	25	2	0	0	31	0	1	4	0	0	5	0	1	3	7	0	11	7	2	23	4	0	36	1	2	3	10	0	16	99
Grand Total	16	67	4	1	0	88	1	5	8	0	0	14	1	2	8	16	0	27	20	7	61	7	0	95	2	3	6	23	0	34	258
Approach %	18.2	76.1	4.5	1.1	0.0		7.1	35.7	57.1	0.0	0.0		3.7	7.4	29.6	59.3	0.0		21.1	7.4	64.2	7.4	0.0		5.9	8.8	17.6	67.6	0.0		
Total %	6.2	26.0	1.6	0.4	0.0	34.1	0.4	1.9	3.1	0.0	0.0	5.4	0.4	0.8	3.1	6.2	0.0	10.5	7.8	2.7	23.6	2.7	0.0	36.8	0.8	1.2	2.3	8.9	0.0	13.2	
Exiting Leg Total						87						15						27						93						36	258

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

1:00 PM	Walnut Street						Water Street						Walnut Street						Redfield Street						Water Street						
	North						East						South						Southwest						West						
	Right	Bear Righ	Thru	Left	U-Turn	Total	Right	Thru	Bear Left	Left	U-Turn	Total	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Righ	Bear Righ	Bear Left	Hard Left	U-Turn	Total	Hard Righ	Right	Thru	Left	U-Turn	Total	Total
1:00 PM	1	6	0	0	0	7	0	1	0	0	0	1	0	0	0	2	0	2	2	0	4	1	0	7	1	0	0	3	0	4	21
1:15 PM	0	8	0	0	0	8	0	0	1	0	0	1	0	1	1	1	0	3	2	0	3	2	0	7	0	1	1	2	0	4	23
1:30 PM	1	3	1	0	0	5	0	0	3	0	0	3	0	0	1	1	0	2	1	1	6	1	0	9	0	1	2	2	0	5	24
1:45 PM	2	8	1	0	0	11	0	0	0	0	0	0	0	0	1	3	0	4	2	1	10	0	0	13	0	0	0	3	0	3	31
Total Volume	4	25	2	0	0	31	0	1	4	0	0	5	0	1	3	7	0	11	7	2	23	4	0	36	1	2	3	10	0	16	99
% Approach Total	12.9	80.6	6.5	0.0	0.0		0.0	20.0	80.0	0.0	0.0		0.0	9.1	27.3	63.6	0.0		19.4	5.6	63.9	11.1	0.0		6.3	12.5	18.8	62.5	0.0		
PHF	0.500	0.781	0.500	0.000	0.000	0.705	0.000	0.250	0.333	0.000	0.000	0.417	0.000	0.250	0.750	0.583	0.000	0.688	0.875	0.500	0.575	0.500	0.000	0.692	0.250	0.500	0.375	0.833	0.000	0.800	0.798
Entering Leg	4	25	2	0	0	31	0	1	4	0	0	5	0	1	3	7	0	11	7	2	23	4	0	36	1	2	3	10	0	16	99
Exiting Leg						34						5						11						37						12	99
Total						65						10						22						73						28	198

PDI File #: **175750 FFF**
Location: **N: Walnut Street S: Walnut Street**
Location: **E: Water Street W: Water Street SW: Redfield Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Saturday, June 24, 2017**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Heavy Vehicles

	Walnut Street						Water Street						Walnut Street						Redfield Street						Water Street						
	North						East						South						Southwest						West						
	Right	Bear Righ	Thru	Left	U-Turn	Total	Right	Thru	Bear Left	Left	U-Turn	Total	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Righ	Bear Righ	Bear Left	Hard Left	U-Turn	Total	Hard Righ	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1
11:30 AM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2
11:45 AM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2
Total	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	5
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	6
Approach %	0.0	100.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
Total %	0.0	33.3	0.0	0.0	0.0	33.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	66.7	0.0	0.0	66.7	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total						4						0						0						2						0	6

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

11:00 AM	Walnut Street						Water Street						Walnut Street						Redfield Street						Water Street						
	North						East						South						Southwest						West						
	Right	Bear Righ	Thru	Left	U-Turn	Total	Right	Thru	Bear Left	Left	U-Turn	Total	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Righ	Bear Righ	Bear Left	Hard Left	U-Turn	Total	Hard Righ	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1
11:30 AM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2
11:45 AM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2
Total Volume	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	5
% Approach Total	0.0	100.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.500	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.750	0.000	0.000	0.750	0.000	0.000	0.000	0.000	0.000	0.000	0.625
Entering Leg	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	5
Exiting Leg						3						0						0						2						0	5
Total						5						0						0						5						0	10

PDI File #: **175750 FFF**
Location: **N: Walnut Street S: Walnut Street**
Location: **E: Water Street W: Water Street SW: Redfield Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Saturday, June 24, 2017**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Buses

	Walnut Street						Water Street						Walnut Street						Redfield Street						Water Street						
	North						East						South						Southwest						West						
	Right	Bear Righ	Thru	Left	U-Turn	Total	Right	Thru	Bear Left	Left	U-Turn	Total	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Righ	Bear Righ	Bear Left	Hard Left	U-Turn	Total	Hard Righ	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Grand Total	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Approach %	0.0	100.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
Total %	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total						0						0						0						2						0	2

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

11:00 AM	Walnut Street						Water Street						Walnut Street						Redfield Street						Water Street						
	North						East						South						Southwest						West						
	Right	Bear Righ	Thru	Left	U-Turn	Total	Right	Thru	Bear Left	Left	U-Turn	Total	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Righ	Bear Righ	Bear Left	Hard Left	U-Turn	Total	Hard Righ	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
% Approach Total	0.0	100.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.250	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250
Entering Leg	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Exiting Leg						0						0						0						1						0	1
Total						1						0						0						1						0	2

PDI File #: **175750 FFF**
Location: **N: Walnut Street S: Walnut Street**
Location: **E: Water Street W: Water Street SW: Redfield Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Saturday, June 24, 2017**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Bicycles (on Roadway and Crosswalks)

	Walnut Street (North)								Water Street (East)								Walnut Street (South)								Redfield Street (Southwest)								Water Street (West)								
	Right	Bear Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Bear Left	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	Hard Left	U-Turn	CW-WB	CW-EB	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	CW-NWB	CW-SEB	Total	Hard Right	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	2
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	2
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
1:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	3
1:30 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	3
1:45 PM	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Total	0	0	0	0	0	0	0	0	0	4	2	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	4	10
Grand Total	0	0	0	0	0	0	0	0	0	5	2	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	6	13
Approach %	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	71.4	28.6	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	100.0	0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	38.5	15.4	0.0	0.0	0.0	0.0	53.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	46.2	0.0	0.0	0.0	0.0	46.2	
Exiting Leg Total								0								6								0								2								5	13

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

1:00 PM	Walnut Street (North)								Water Street (East)								Walnut Street (South)								Redfield Street (Southwest)								Water Street (West)								
	Right	Bear Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Bear Left	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	Hard Left	U-Turn	CW-WB	CW-EB	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	CW-NWB	CW-SEB	Total	Hard Right	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
1:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	3
1:30 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	3
1:45 PM	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Total Volume	0	0	0	0	0	0	0	0	0	4	2	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	4	10
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	66.7	33.3	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	100.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.333	0.250	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.500	0.833
Entering Leg	0	0	0	0	0	0	0	0	0	4	2	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	4	10
Exiting Leg								0								4								0								2								4	10
Total								0								10								0								2								8	20

PDI File #: **175750 FFF**
Location: **N: Walnut Street S: Walnut Street**
Location: **E: Water Street W: Water Street SW: Redfield Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Saturday, June 24, 2017**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Pedestrians

	Walnut Street								Water Street								Walnut Street								Redfield Street								Water Street								
	North								East								South								Southwest								West								
	Right	Bear Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Bear Left	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	Hard Left	U-Turn	CW-WB	CW-EB	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	CW-NWB	CW-SEB	Total	Hard Right	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
11:00 AM	0	0	0	0	0	0	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	3	3	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	6
12:00 PM	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
12:30 PM	0	0	0	0	0	1	1	2	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
12:45 PM	0	0	0	0	0	2	1	3	0	0	0	0	0	1	2	3	0	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
Total	0	0	0	0	0	3	3	6	0	0	0	0	0	3	5	8	0	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16
1:00 PM	0	0	0	0	0	1	2	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1
1:30 PM	0	0	0	0	0	0	2	2	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	1	4	5	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	7
Grand Total	0	0	0	0	0	4	10	14	0	0	0	0	0	4	7	11	0	0	0	0	0	1	1	2	0	0	0	0	0	0	1	1	0	0	0	0	0	1	0	1	29
Approach %	0.0	0.0	0.0	0.0	0.0	28.6	71.4		0.0	0.0	0.0	0.0	0.0	36.4	63.6		0.0	0.0	0.0	0.0	0.0	50.0	50.0		0.0	0.0	0.0	0.0	0.0	0.0	100.0		0.0	0.0	0.0	0.0	0.0	100.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	13.8	34.5	48.3	0.0	0.0	0.0	0.0	0.0	13.8	24.1	37.9	0.0	0.0	0.0	0.0	0.0	3.4	3.4	6.9	0.0	0.0	0.0	0.0	0.0	0.0	3.4	3.4	0.0	0.0	0.0	0.0	0.0	3.4	0.0	3.4	
Exiting Leg Total								14								11								2								1								1	29

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

12:15 PM	Walnut Street								Water Street								Walnut Street								Redfield Street								Water Street								
	North								East								South								Southwest								West								
	Right	Bear Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Bear Left	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	Hard Left	U-Turn	CW-WB	CW-EB	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	CW-NWB	CW-SEB	Total	Hard Right	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
12:30 PM	0	0	0	0	0	1	1	2	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
12:45 PM	0	0	0	0	0	2	1	3	0	0	0	0	0	1	2	3	0	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
1:00 PM	0	0	0	0	0	1	2	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Total Volume	0	0	0	0	0	4	4	8	0	0	0	0	0	3	5	8	0	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18
% Approach Total	0.0	0.0	0.0	0.0	0.0	50.0	50.0		0.0	0.0	0.0	0.0	0.0	37.5	62.5		0.0	0.0	0.0	0.0	0.0	50.0	50.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.500	0.500	0.667	0.000	0.000	0.000	0.000	0.000	0.375	0.625	0.500	0.000	0.000	0.000	0.000	0.000	0.250	0.250	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.563
Entering Leg	0	0	0	0	0	4	4	8	0	0	0	0	0	3	5	8	0	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18
Exiting Leg								8								8								2								0								0	18
Total								16								16								4								0								0	36

PDI File #: **175750 G**
Location: **N: Driveway S: Lawley Street**
Location: **E: Ericsson Street W: Driveway**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars, Heavy Vehicles, and Buses (Combined)

	Driveway					Ericsson Street					Lawley Street					Driveway					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	9	0	9	1	0	0	0	1	0	0	0	0	0	10
7:15 AM	0	0	0	0	0	0	0	4	0	4	0	0	0	0	0	0	0	0	0	0	4
7:30 AM	0	0	0	0	0	0	0	4	0	4	1	0	0	0	1	0	0	0	0	0	5
7:45 AM	0	0	0	0	0	0	0	8	0	8	1	1	1	0	3	0	0	0	0	0	11
Total	0	0	0	0	0	0	0	25	0	25	3	1	1	0	5	0	0	0	0	0	30
8:00 AM	0	0	1	0	1	0	1	7	0	8	2	0	2	1	5	0	0	0	0	0	14
8:15 AM	0	0	0	0	0	0	0	6	0	6	0	0	0	0	0	0	0	0	0	0	6
8:30 AM	0	0	0	0	0	0	1	9	0	10	2	0	0	1	3	0	0	0	0	0	13
8:45 AM	0	0	0	0	0	0	0	5	0	5	2	0	1	0	3	0	0	0	0	0	8
Total	0	0	1	0	1	0	2	27	0	29	6	0	3	2	11	0	0	0	0	0	41
Grand Total	0	0	1	0	1	0	2	52	0	54	9	1	4	2	16	0	0	0	0	0	71
Approach %	0.0	0.0	100.0	0.0		0.0	3.7	96.3	0.0		56.3	6.3	25.0	12.5		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	1.4	0.0	1.4	0.0	2.8	73.2	0.0	76.1	12.7	1.4	5.6	2.8	22.5	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					1					10					54					6	71
Cars	0	0	0	0	0	0	2	52	0	54	9	0	4	2	15	0	0	0	0	0	69
% Cars	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	100.0	0.0	100.0	100.0	93.8	0.0	0.0	0.0	0.0	0.0	97.2
Exiting Leg Total					0					9					54					6	69
Heavy Vehicles	0	0	1	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
% Heavy Vehicles	0.0	0.0	100.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	6.3	0.0	0.0	0.0	0.0	0.0	2.8
Exiting Leg Total					1					1					0					0	2
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Buses	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Exiting Leg Total					0					0					0					0	0

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:45 AM	Driveway					Ericsson Street					Lawley Street					Driveway					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:45 AM	0	0	0	0	0	0	0	8	0	8	1	1	1	0	3	0	0	0	0	0	11
8:00 AM	0	0	1	0	1	0	1	7	0	8	2	0	2	1	5	0	0	0	0	0	14
8:15 AM	0	0	0	0	0	0	0	6	0	6	0	0	0	0	0	0	0	0	0	0	6
8:30 AM	0	0	0	0	0	0	1	9	0	10	2	0	0	1	3	0	0	0	0	0	13
Total Volume	0	0	1	0	1	0	2	30	0	32	5	1	3	2	11	0	0	0	0	0	44
% Approach Total	0.0	0.0	100.0	0.0		0.0	6.3	93.8	0.0		45.5	9.1	27.3	18.2		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.250	0.000	0.250	0.000	0.500	0.833	0.000	0.800	0.625	0.250	0.375	0.500	0.550	0.000	0.000	0.000	0.000	0.000	0.786
Cars	0	0	0	0	0	0	2	30	0	32	5	0	3	2	10	0	0	0	0	0	42
Cars %	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	100.0	0.0	100.0	100.0	90.9	0.0	0.0	0.0	0.0	0.0	95.5
Heavy Vehicles	0	0	1	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
Heavy Vehicles %	0.0	0.0	100.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	9.1	0.0	0.0	0.0	0.0	0.0	4.5
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Buses %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cars Enter Leg	0	0	0	0	0	0	2	30	0	32	5	0	3	2	10	0	0	0	0	0	42
Heavy Enter Leg	0	0	1	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
Bus Enter Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Entering Leg	0	0	1	0	1	0	2	30	0	32	5	1	3	2	11	0	0	0	0	0	44
Cars Exiting Leg					0					5					32					5	42
Heavy Exiting Leg					1					1					0					0	2
Buses Exiting Leg					0					0					0					0	0
Total Exiting Leg					1					6					32					5	44

PDI File #: **175750 G**
Location: **N: Driveway S: Lawley Street**
Location: **E: Ericsson Street W: Driveway**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars

	Driveway					Ericsson Street					Lawley Street					Driveway					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	9	0	9	1	0	0	0	1	0	0	0	0	0	10
7:15 AM	0	0	0	0	0	0	0	4	0	4	0	0	0	0	0	0	0	0	0	0	4
7:30 AM	0	0	0	0	0	0	0	4	0	4	1	0	0	0	1	0	0	0	0	0	5
7:45 AM	0	0	0	0	0	0	0	8	0	8	1	0	1	0	2	0	0	0	0	0	10
Total	0	0	0	0	0	0	0	25	0	25	3	0	1	0	4	0	0	0	0	0	29
8:00 AM	0	0	0	0	0	0	1	7	0	8	2	0	2	1	5	0	0	0	0	0	13
8:15 AM	0	0	0	0	0	0	0	6	0	6	0	0	0	0	0	0	0	0	0	0	6
8:30 AM	0	0	0	0	0	0	1	9	0	10	2	0	0	1	3	0	0	0	0	0	13
8:45 AM	0	0	0	0	0	0	0	5	0	5	2	0	1	0	3	0	0	0	0	0	8
Total	0	0	0	0	0	0	2	27	0	29	6	0	3	2	11	0	0	0	0	0	40
Grand Total	0	0	0	0	0	0	2	52	0	54	9	0	4	2	15	0	0	0	0	0	69
Approach %	0.0	0.0	0.0	0.0		0.0	3.7	96.3	0.0		60.0	0.0	26.7	13.3		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	2.9	75.4	0.0	78.3	13.0	0.0	5.8	2.9	21.7	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					0					9					54					6	69

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:45 AM	Driveway					Ericsson Street					Lawley Street					Driveway					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:45 AM	0	0	0	0	0	0	0	8	0	8	1	0	1	0	2	0	0	0	0	0	10
8:00 AM	0	0	0	0	0	0	1	7	0	8	2	0	2	1	5	0	0	0	0	0	13
8:15 AM	0	0	0	0	0	0	0	6	0	6	0	0	0	0	0	0	0	0	0	0	6
8:30 AM	0	0	0	0	0	0	1	9	0	10	2	0	0	1	3	0	0	0	0	0	13
Total Volume	0	0	0	0	0	0	2	30	0	32	5	0	3	2	10	0	0	0	0	0	42
% Approach Total	0.0	0.0	0.0	0.0		0.0	6.3	93.8	0.0		50.0	0.0	30.0	20.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.833	0.000	0.800	0.625	0.000	0.375	0.500	0.500	0.000	0.000	0.000	0.000	0.000	0.808
Entering Leg	0	0	0	0	0	0	2	30	0	32	5	0	3	2	10	0	0	0	0	0	42
Exiting Leg					0					5					32					5	42
Total					0					37					42					5	84

PDI File #: **175750 G**
Location: **N: Driveway S: Lawley Street**
Location: **E: Ericsson Street W: Driveway**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Heavy Vehicles

	Driveway					Ericsson Street					Lawley Street					Driveway					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
8:00 AM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Grand Total	0	0	1	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
Approach %	0.0	0.0	100.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	50.0	0.0	50.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0	0.0	0.0	50.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					1					1					0					0	2

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:15 AM	Driveway					Ericsson Street					Lawley Street					Driveway					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
8:00 AM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Volume	0	0	1	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
% Approach Total	0.0	0.0	100.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.250	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.500
Entering Leg	0	0	1	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
Exiting Leg					1					1					0					0	2
Total					2					1					1					0	4

PDI File #: **175750 G**
Location: **N: Driveway S: Lawley Street**
Location: **E: Ericsson Street W: Driveway**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Buses

	Driveway					Ericsson Street					Lawley Street					Driveway					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					0					0					0					0	0

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Driveway					Ericsson Street					Lawley Street					Driveway					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg					0					0					0					0	0
Total					0					0					0					0	0

PDI File #: **175750 G**
Location: **N: Driveway S: Lawley Street**
Location: **E: Ericsson Street W: Driveway**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class:

Bicycles (on Roadway and Crosswalks)

	Driveway							Ericsson Street							Lawley Street							Driveway							
	North							East							South							West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	0	0	0	0	0	0	0	2
Total	0	0	0	0	0	0	0	0	0	2	0	0	0	2	2	0	0	0	0	0	2	0	0	0	0	0	0	0	4
8:00 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	2	0	2	0	0	0	0	0	0	0	3
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	2	0	2	0	0	0	0	0	0	0	3
Grand Total	0	0	0	0	0	0	0	0	0	3	0	0	0	3	2	0	0	0	2	0	4	0	0	0	0	0	0	0	7
Approach %	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	100.0	0.0	0.0	0.0		50.0	0.0	0.0	0.0	50.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	42.9	0.0	0.0	0.0	42.9	28.6	0.0	0.0	0.0	28.6	0.0	57.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total							0							2							5							0	7

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:15 AM	Driveway							Ericsson Street							Lawley Street							Driveway							
	North							East							South							West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	0	0	0	0	0	0	0	2
8:00 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	2	0	2	0	0	0	0	0	0	0	3
Total Volume	0	0	0	0	0	0	0	0	0	3	0	0	0	3	2	0	0	0	2	0	4	0	0	0	0	0	0	0	7
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	100.0	0.0	0.0	0.0		50.0	0.0	0.0	0.0	50.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.375	0.000	0.000	0.000	0.375	0.250	0.000	0.000	0.000	0.250	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.583
Entering Leg	0	0	0	0	0	0	0	0	0	3	0	0	0	3	2	0	0	0	2	0	4	0	0	0	0	0	0	0	7
Exiting Leg							0							2							5							0	7
Total							0							5							9							0	14

PDI File #: **175750 G**
Location: **N: Driveway S: Lawley Street**
Location: **E: Ericsson Street W: Driveway**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Pedestrians

	Driveway							Ericsson Street							Lawley Street							Driveway							
	North							East							South							West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	0	0	0	0	3
7:15 AM	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	2
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	0	1	2
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4	0	0	0	0	1	1	2	6
Total	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	9	0	9	0	0	0	0	2	1	3	13
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	0	1	2
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	2
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	2	2	4	5
Grand Total	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	10	0	10	0	0	0	0	4	3	7	18
Approach %	0.0	0.0	0.0	0.0	0.0	100.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	100.0	0.0		0.0	0.0	0.0	0.0	57.1	42.9		
Total %	0.0	0.0	0.0	0.0	0.0	5.6	5.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	55.6	0.0	55.6	0.0	0.0	0.0	0.0	22.2	16.7	38.9	
Exiting Leg Total							1							0							10							7	18

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Driveway							Ericsson Street							Lawley Street							Driveway							
	North							East							South							West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	0	0	0	0	3
7:15 AM	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	2
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	0	1	2
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4	0	0	0	0	1	1	2	6
Total Volume	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	9	0	9	0	0	0	0	2	1	3	13
% Approach Total	0.0	0.0	0.0	0.0	0.0	100.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	100.0	0.0		0.0	0.0	0.0	0.0	66.7	33.3		
PHF	0.000	0.000	0.000	0.000	0.000	0.250	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.563	0.000	0.563	0.000	0.000	0.000	0.000	0.500	0.250	0.375	0.542
Entering Leg	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	9	0	9	0	0	0	0	2	1	3	13
Exiting Leg							1							0							9							3	13
Total							2							0							18							6	26

PDI File #: **175750 GG**
Location: **N: Driveway S: Lawley Street**
Location: **E: Ericsson Street W: Driveway**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars, Heavy Vehicles, and Buses (Combined)

	Driveway					Ericsson Street					Lawley Street					Driveway					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	3	0	3	3	0	1	0	4	2	0	0	0	2	9
4:15 PM	0	2	0	0	2	0	0	6	0	6	2	0	0	0	2	0	0	0	0	0	10
4:30 PM	0	0	0	0	0	0	0	6	0	6	4	0	0	2	6	2	0	0	0	2	14
4:45 PM	0	0	0	0	0	0	0	8	0	8	6	0	0	0	6	2	0	0	0	2	16
Total	0	2	0	0	2	0	0	23	0	23	15	0	1	2	18	6	0	0	0	6	49
5:00 PM	0	0	0	0	0	0	0	4	0	4	3	0	0	0	3	0	0	0	0	0	7
5:15 PM	0	0	0	0	0	0	0	3	0	3	1	0	0	1	2	1	0	0	0	1	6
5:30 PM	0	0	0	0	0	0	0	3	0	3	3	0	0	0	3	0	0	0	0	0	6
5:45 PM	0	0	0	0	0	0	0	12	0	12	7	0	0	0	7	0	0	0	0	0	19
Total	0	0	0	0	0	0	0	22	0	22	14	0	0	1	15	1	0	0	0	1	38
Grand Total	0	2	0	0	2	0	0	45	0	45	29	0	1	3	33	7	0	0	0	7	87
Approach %	0.0	100.0	0.0	0.0		0.0	0.0	100.0	0.0		87.9	0.0	3.0	9.1		100.0	0.0	0.0	0.0		
Total %	0.0	2.3	0.0	0.0	2.3	0.0	0.0	51.7	0.0	51.7	33.3	0.0	1.1	3.4	37.9	8.0	0.0	0.0	0.0	8.0	
Exiting Leg Total					0					29					57					1	87
Cars	0	2	0	0	2	0	0	45	0	45	29	0	1	3	33	7	0	0	0	7	87
% Cars	0.0	100.0	0.0	0.0	100.0	0.0	0.0	100.0	0.0	100.0	100.0	0.0	100.0	100.0	100.0	100.0	0.0	0.0	0.0	100.0	100.0
Exiting Leg Total					0					29					57					1	87
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Heavy Vehicles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Exiting Leg Total					0					0					0					0	0
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Buses	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Exiting Leg Total					0					0					0					0	0

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Driveway					Ericsson Street					Lawley Street					Driveway					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	3	0	3	3	0	1	0	4	2	0	0	0	2	9
4:15 PM	0	2	0	0	2	0	0	6	0	6	2	0	0	0	2	0	0	0	0	0	10
4:30 PM	0	0	0	0	0	0	0	6	0	6	4	0	0	2	6	2	0	0	0	2	14
4:45 PM	0	0	0	0	0	0	0	8	0	8	6	0	0	0	6	2	0	0	0	2	16
Total Volume	0	2	0	0	2	0	0	23	0	23	15	0	1	2	18	6	0	0	0	6	49
% Approach Total	0.0	100.0	0.0	0.0		0.0	0.0	100.0	0.0		83.3	0.0	5.6	11.1		100.0	0.0	0.0	0.0		
PHF	0.000	0.250	0.000	0.000	0.250	0.000	0.000	0.719	0.000	0.719	0.625	0.000	0.250	0.250	0.750	0.750	0.000	0.000	0.000	0.750	0.766
Cars	0	2	0	0	2	0	0	23	0	23	15	0	1	2	18	6	0	0	0	6	49
Cars %	0.0	100.0	0.0	0.0	100.0	0.0	0.0	100.0	0.0	100.0	100.0	0.0	100.0	100.0	100.0	100.0	0.0	0.0	0.0	100.0	100.0
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Heavy Vehicles %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Buses %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cars Enter Leg	0	2	0	0	2	0	0	23	0	23	15	0	1	2	18	6	0	0	0	6	49
Heavy Enter Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bus Enter Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Entering Leg	0	2	0	0	2	0	0	23	0	23	15	0	1	2	18	6	0	0	0	6	49
Cars Exiting Leg					0					15					33					1	49
Heavy Exiting Leg					0					0					0					0	0
Buses Exiting Leg					0					0					0					0	0
Total Exiting Leg					0					15					33					1	49

PDI File #: **175750 GG**
Location: **N: Driveway S: Lawley Street**
Location: **E: Ericsson Street W: Driveway**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars

	Driveway					Ericsson Street					Lawley Street					Driveway					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	3	0	3	3	0	1	0	4	2	0	0	0	2	9
4:15 PM	0	2	0	0	2	0	0	6	0	6	2	0	0	0	2	0	0	0	0	0	10
4:30 PM	0	0	0	0	0	0	0	6	0	6	4	0	0	2	6	2	0	0	0	2	14
4:45 PM	0	0	0	0	0	0	0	8	0	8	6	0	0	0	6	2	0	0	0	2	16
Total	0	2	0	0	2	0	0	23	0	23	15	0	1	2	18	6	0	0	0	6	49
5:00 PM	0	0	0	0	0	0	0	4	0	4	3	0	0	0	3	0	0	0	0	0	7
5:15 PM	0	0	0	0	0	0	0	3	0	3	1	0	0	1	2	1	0	0	0	1	6
5:30 PM	0	0	0	0	0	0	0	3	0	3	3	0	0	0	3	0	0	0	0	0	6
5:45 PM	0	0	0	0	0	0	0	12	0	12	7	0	0	0	7	0	0	0	0	0	19
Total	0	0	0	0	0	0	0	22	0	22	14	0	0	1	15	1	0	0	0	1	38
Grand Total	0	2	0	0	2	0	0	45	0	45	29	0	1	3	33	7	0	0	0	7	87
Approach %	0.0	100.0	0.0	0.0		0.0	0.0	100.0	0.0		87.9	0.0	3.0	9.1		100.0	0.0	0.0	0.0		
Total %	0.0	2.3	0.0	0.0	2.3	0.0	0.0	51.7	0.0	51.7	33.3	0.0	1.1	3.4	37.9	8.0	0.0	0.0	0.0	8.0	
Exiting Leg Total					0					29					57					1	87

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Driveway					Ericsson Street					Lawley Street					Driveway					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	3	0	3	3	0	1	0	4	2	0	0	0	2	9
4:15 PM	0	2	0	0	2	0	0	6	0	6	2	0	0	0	2	0	0	0	0	0	10
4:30 PM	0	0	0	0	0	0	0	6	0	6	4	0	0	2	6	2	0	0	0	2	14
4:45 PM	0	0	0	0	0	0	0	8	0	8	6	0	0	0	6	2	0	0	0	2	16
Total Volume	0	2	0	0	2	0	0	23	0	23	15	0	1	2	18	6	0	0	0	6	49
% Approach Total	0.0	100.0	0.0	0.0		0.0	0.0	100.0	0.0		83.3	0.0	5.6	11.1		100.0	0.0	0.0	0.0		
PHF	0.000	0.250	0.000	0.000	0.250	0.000	0.000	0.719	0.000	0.719	0.625	0.000	0.250	0.250	0.750	0.750	0.000	0.000	0.000	0.750	0.766
Entering Leg	0	2	0	0	2	0	0	23	0	23	15	0	1	2	18	6	0	0	0	6	49
Exiting Leg					0					15					33					1	49
Total					2					38					51					7	98

PDI File #: **175750 GG**
Location: **N: Driveway S: Lawley Street**
Location: **E: Ericsson Street W: Driveway**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class:

Heavy Vehicles

	Driveway					Ericsson Street					Lawley Street					Driveway					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					0					0					0					0	0

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Driveway					Ericsson Street					Lawley Street					Driveway					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg					0					0					0					0	0
Total					0					0					0					0	0

PDI File #: **175750 GG**
Location: **N: Driveway S: Lawley Street**
Location: **E: Ericsson Street W: Driveway**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Buses

	Driveway					Ericsson Street					Lawley Street					Driveway					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					0					0					0					0	0

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Driveway					Ericsson Street					Lawley Street					Driveway					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg					0					0					0					0	0
Total					0					0					0					0	0

PDI File #: **175750 GG**
Location: **N: Driveway S: Lawley Street**
Location: **E: Ericsson Street W: Driveway**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class:

Bicycles (on Roadway and Crosswalks)

	Driveway							Ericsson Street							Lawley Street							Driveway							
	North							East							South							West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	0	0	0	0	0	0	0	2
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	1	0	0	0	1	2	0	0	0	0	0	2	0	0	0	0	0	0	0	3
Grand Total	0	0	0	0	0	0	0	0	0	1	0	0	0	1	3	0	0	0	0	0	3	0	0	0	0	0	0	0	4
Approach %	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	100.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25.0	0.0	0.0	0.0	25.0	75.0	0.0	0.0	0.0	0.0	0.0	75.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total							0							3							1							0	4

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Driveway							Ericsson Street							Lawley Street							Driveway							
	North							East							South							West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	1
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	1
Exiting Leg							0							1							0							0	1
Total							0							1							1							0	2

PDI File #: **175750 GG**
Location: **N: Driveway S: Lawley Street**
Location: **E: Ericsson Street W: Driveway**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class:

Pedestrians

	Driveway							Ericsson Street							Lawley Street							Driveway							
	North							East							South							West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	2	0	2	3
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	2	0	2	4
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	2	0	2	4
Approach %	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	100.0		0.0	0.0	0.0	0.0	100.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0	50.0	0.0	0.0	0.0	0.0	50.0	0.0	50.0	
Exiting Leg Total							0							0							2							2	4

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Driveway							Ericsson Street							Lawley Street							Driveway							
	North							East							South							West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	2	0	2	3
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	2	0	2	4
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	100.0		0.0	0.0	0.0	0.0	100.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.500	0.000	0.000	0.000	0.000	0.250	0.000	0.250	0.333
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	2	0	2	4
Exiting Leg							0							0							2							2	4
Total							0							0							4							4	8

PDI File #: **175750 GGG**
Location: **N: Driveway S: Lawley Street**
Location: **E: Ericsson Street W: Driveway**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Saturday, June 24, 2017**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars, Heavy Vehicles, and Buses (Combined)

	Driveway					Ericsson Street					Lawley Street					Driveway					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	0	0	0	0	0	0	0	3	1	4	6	0	0	0	6	0	0	0	0	0	10
11:15 AM	0	0	0	0	0	0	0	7	0	7	4	0	0	0	4	0	0	0	0	0	11
11:30 AM	0	0	0	0	0	0	0	2	0	2	1	0	0	0	1	0	0	0	0	0	3
11:45 AM	0	0	0	0	0	0	0	3	0	3	1	0	0	1	2	0	0	0	0	0	5
Total	0	0	0	0	0	0	0	15	1	16	12	0	0	1	13	0	0	0	0	0	29
12:00 PM	0	1	0	0	1	0	0	2	0	2	3	0	0	0	3	0	0	0	0	0	6
12:15 PM	0	0	0	0	0	0	0	12	0	12	3	0	0	1	4	0	0	0	0	0	16
12:30 PM	0	0	0	0	0	0	0	1	0	1	4	0	0	1	5	0	0	0	0	0	6
12:45 PM	0	0	0	0	0	0	0	3	0	3	3	0	0	0	3	0	0	0	0	0	6
Total	0	1	0	0	1	0	0	18	0	18	13	0	0	2	15	0	0	0	0	0	34
1:00 PM	0	0	0	0	0	0	0	12	0	12	7	0	0	1	8	0	0	0	0	0	20
1:15 PM	0	0	0	0	0	0	0	6	0	6	3	0	0	0	3	0	0	0	0	0	9
1:30 PM	0	0	0	0	0	0	0	8	0	8	4	0	0	0	4	0	0	0	0	0	12
1:45 PM	0	0	0	0	0	0	0	5	0	5	2	0	0	0	2	0	0	0	0	0	7
Total	0	0	0	0	0	0	0	31	0	31	16	0	0	1	17	0	0	0	0	0	48
Grand Total	0	1	0	0	1	0	0	64	1	65	41	0	0	4	45	0	0	0	0	0	111
Approach %	0.0	100.0	0.0	0.0		0.0	0.0	98.5	1.5		91.1	0.0	0.0	8.9		0.0	0.0	0.0	0.0		
Total %	0.0	0.9	0.0	0.0	0.9	0.0	0.0	57.7	0.9	58.6	36.9	0.0	0.0	3.6	40.5	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					0					42					69					0	111
Cars	0	1	0	0	1	0	0	64	1	65	41	0	0	4	45	0	0	0	0	0	111
% Cars	0.0	100.0	0.0	0.0	100.0	0.0	0.0	100.0	100.0	100.0	100.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	0.0	0.0	100.0
Exiting Leg Total					0					42					69					0	111
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Heavy Vehicles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Exiting Leg Total					0					0					0					0	0
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Buses	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Exiting Leg Total					0					0					0					0	0

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

12:15 PM	Driveway					Ericsson Street					Lawley Street					Driveway					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
12:15 PM	0	0	0	0	0	0	0	12	0	12	3	0	0	1	4	0	0	0	0	0	16
12:30 PM	0	0	0	0	0	0	0	1	0	1	4	0	0	1	5	0	0	0	0	0	6
12:45 PM	0	0	0	0	0	0	0	3	0	3	3	0	0	0	3	0	0	0	0	0	6
1:00 PM	0	0	0	0	0	0	0	12	0	12	7	0	0	1	8	0	0	0	0	0	20
Total Volume	0	0	0	0	0	0	0	28	0	28	17	0	0	3	20	0	0	0	0	0	48
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	100.0	0.0		85.0	0.0	0.0	15.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.583	0.000	0.583	0.607	0.000	0.000	0.750	0.625	0.000	0.000	0.000	0.000	0.000	0.600
Cars	0	0	0	0	0	0	0	28	0	28	17	0	0	3	20	0	0	0	0	0	48
Cars %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	100.0	100.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	0.0	0.0	100.0
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Heavy Vehicles %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Buses %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cars Enter Leg	0	0	0	0	0	0	0	28	0	28	17	0	0	3	20	0	0	0	0	0	48
Heavy Enter Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bus Enter Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Entering Leg	0	0	0	0	0	0	0	28	0	28	17	0	0	3	20	0	0	0	0	0	48
Cars Exiting Leg					0					17					31					0	48
Heavy Exiting Leg					0					0					0					0	0
Buses Exiting Leg					0					0					0					0	0
Total Exiting Leg					0					17					31					0	48

PDI File #: **175750 GGG**
Location: **N: Driveway S: Lawley Street**
Location: **E: Ericsson Street W: Driveway**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Saturday, June 24, 2017**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars

	Driveway					Ericsson Street					Lawley Street					Driveway					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	0	0	0	0	0	0	0	3	1	4	6	0	0	0	6	0	0	0	0	0	10
11:15 AM	0	0	0	0	0	0	0	7	0	7	4	0	0	0	4	0	0	0	0	0	11
11:30 AM	0	0	0	0	0	0	0	2	0	2	1	0	0	0	1	0	0	0	0	0	3
11:45 AM	0	0	0	0	0	0	0	3	0	3	1	0	0	1	2	0	0	0	0	0	5
Total	0	0	0	0	0	0	0	15	1	16	12	0	0	1	13	0	0	0	0	0	29
12:00 PM	0	1	0	0	1	0	0	2	0	2	3	0	0	0	3	0	0	0	0	0	6
12:15 PM	0	0	0	0	0	0	0	12	0	12	3	0	0	1	4	0	0	0	0	0	16
12:30 PM	0	0	0	0	0	0	0	1	0	1	4	0	0	1	5	0	0	0	0	0	6
12:45 PM	0	0	0	0	0	0	0	3	0	3	3	0	0	0	3	0	0	0	0	0	6
Total	0	1	0	0	1	0	0	18	0	18	13	0	0	2	15	0	0	0	0	0	34
1:00 PM	0	0	0	0	0	0	0	12	0	12	7	0	0	1	8	0	0	0	0	0	20
1:15 PM	0	0	0	0	0	0	0	6	0	6	3	0	0	0	3	0	0	0	0	0	9
1:30 PM	0	0	0	0	0	0	0	8	0	8	4	0	0	0	4	0	0	0	0	0	12
1:45 PM	0	0	0	0	0	0	0	5	0	5	2	0	0	0	2	0	0	0	0	0	7
Total	0	0	0	0	0	0	0	31	0	31	16	0	0	1	17	0	0	0	0	0	48
Grand Total	0	1	0	0	1	0	0	64	1	65	41	0	0	4	45	0	0	0	0	0	111
Approach %	0.0	100.0	0.0	0.0		0.0	0.0	98.5	1.5		91.1	0.0	0.0	8.9		0.0	0.0	0.0	0.0		
Total %	0.0	0.9	0.0	0.0	0.9	0.0	0.0	57.7	0.9	58.6	36.9	0.0	0.0	3.6	40.5	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					0					42					69					0	111

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

12:15 PM	Driveway					Ericsson Street					Lawley Street					Driveway					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
12:15 PM	0	0	0	0	0	0	0	12	0	12	3	0	0	1	4	0	0	0	0	0	16
12:30 PM	0	0	0	0	0	0	0	1	0	1	4	0	0	1	5	0	0	0	0	0	6
12:45 PM	0	0	0	0	0	0	0	3	0	3	3	0	0	0	3	0	0	0	0	0	6
1:00 PM	0	0	0	0	0	0	0	12	0	12	7	0	0	1	8	0	0	0	0	0	20
Total Volume	0	0	0	0	0	0	0	28	0	28	17	0	0	3	20	0	0	0	0	0	48
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	100.0	0.0		85.0	0.0	0.0	15.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.583	0.000	0.583	0.607	0.000	0.000	0.750	0.625	0.000	0.000	0.000	0.000	0.000	0.600
Entering Leg	0	0	0	0	0	0	0	28	0	28	17	0	0	3	20	0	0	0	0	0	48
Exiting Leg					0					17					31					0	48
Total					0					45					51					0	96

PDI File #: **175750 GGG**
Location: **N: Driveway S: Lawley Street**
Location: **E: Ericsson Street W: Driveway**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Saturday, June 24, 2017**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Heavy Vehicles

	Driveway					Ericsson Street					Lawley Street					Driveway					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					0					0					0					0	0

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

11:00 AM	Driveway					Ericsson Street					Lawley Street					Driveway					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg					0					0					0					0	0
Total					0					0					0					0	0

PDI File #: **175750 GGG**
Location: **N: Driveway S: Lawley Street**
Location: **E: Ericsson Street W: Driveway**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Saturday, June 24, 2017**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Buses

	Driveway					Ericsson Street					Lawley Street					Driveway					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					0					0					0					0	0

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

11:00 AM	Driveway					Ericsson Street					Lawley Street					Driveway					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg					0					0					0					0	0
Total					0					0					0					0	0

PDI File #: **175750 GGG**
Location: **N: Driveway S: Lawley Street**
Location: **E: Ericsson Street W: Driveway**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Saturday, June 24, 2017**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Bicycles (on Roadway and Crosswalks)

	Driveway							Ericsson Street							Lawley Street							Driveway							
	North							East							South							West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	0	0	0	0	0	0	0	2
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	0	0	0	0	0	0	0	2
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	2	1	0	0	0	0	0	1	0	0	0	0	0	0	0	3
Total	0	0	0	0	0	0	0	0	0	2	0	0	0	2	1	0	0	0	0	0	1	0	0	0	0	0	0	0	3
Grand Total	0	0	0	0	0	0	0	0	0	2	0	0	0	2	3	0	0	0	0	0	3	0	0	0	0	0	0	0	5
Approach %	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	100.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	40.0	0.0	0.0	0.0	40.0	60.0	0.0	0.0	0.0	0.0	0.0	60.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total							0							3							2							0	5

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

1:00 PM	Driveway							Ericsson Street							Lawley Street							Driveway							
	North							East							South							West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	2	1	0	0	0	0	0	1	0	0	0	0	0	0	0	3
Total Volume	0	0	0	0	0	0	0	0	0	2	0	0	0	2	1	0	0	0	0	0	1	0	0	0	0	0	0	0	3
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	100.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.250	0.250	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250
Entering Leg	0	0	0	0	0	0	0	0	0	2	0	0	0	2	1	0	0	0	0	0	1	0	0	0	0	0	0	0	3
Exiting Leg							0							1							2							0	3
Total							0							3							3							0	6

PDI File #: **175750 GGG**
Location: **N: Driveway S: Lawley Street**
Location: **E: Ericsson Street W: Driveway**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Saturday, June 24, 2017**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Pedestrians

	Driveway							Ericsson Street							Lawley Street							Driveway							
	North							East							South							West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2
Total	0	0	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	1	1	3
Grand Total	0	0	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	1	1	3
Approach %	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	50.0	50.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	100.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	33.3	33.3	66.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	33.3	33.3	
Exiting Leg Total							0							2							0							1	3

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

1:00 PM	Driveway							Ericsson Street							Lawley Street							Driveway							
	North							East							South							West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2
Total Volume	0	0	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	1	1	3
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	50.0	50.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	100.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.250	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.250	0.375
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	1	1	3
Exiting Leg							0							2							0							1	3
Total							0							4							0							2	6

PDI File #: **175750 H**
Location: **N: Driveway S: Port Norfolk Street**
Location: **E: Ericsson Street W: Ericsson Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars, Heavy Vehicles, and Buses (Combined)

	Driveway					Ericsson Street					Port Norfolk Street					Ericsson Street					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	1	2	0	0	3	4	0	7	0	11	0	1	0	0	1	15
7:15 AM	0	0	0	0	0	0	3	0	0	3	0	0	2	0	2	0	0	0	0	0	5
7:30 AM	0	0	0	0	0	0	1	0	0	1	3	1	3	0	7	0	1	0	0	1	9
7:45 AM	0	0	0	0	0	0	3	0	0	3	0	2	7	0	9	0	1	0	0	1	13
Total	0	0	0	0	0	1	9	0	0	10	7	3	19	0	29	0	3	0	0	3	42
8:00 AM	1	0	0	0	1	0	2	0	0	2	1	0	4	0	5	0	2	0	0	2	10
8:15 AM	0	0	0	0	0	1	1	0	0	2	0	1	5	0	6	0	0	0	0	0	8
8:30 AM	0	0	1	0	1	0	5	0	0	5	2	0	5	0	7	0	1	0	0	1	14
8:45 AM	2	0	0	0	2	0	0	0	0	0	1	1	4	0	6	0	2	0	0	2	10
Total	3	0	1	0	4	1	8	0	0	9	4	2	18	0	24	0	5	0	0	5	42
Grand Total	3	0	1	0	4	2	17	0	0	19	11	5	37	0	53	0	8	0	0	8	84
Approach %	75.0	0.0	25.0	0.0		10.5	89.5	0.0	0.0		20.8	9.4	69.8	0.0		0.0	100.0	0.0	0.0		
Total %	3.6	0.0	1.2	0.0	4.8	2.4	20.2	0.0	0.0	22.6	13.1	6.0	44.0	0.0	63.1	0.0	9.5	0.0	0.0	9.5	
Exiting Leg Total					7					20					0					57	84
Cars	3	0	1	0	4	2	17	0	0	19	10	5	37	0	52	0	7	0	0	7	82
% Cars	100.0	0.0	100.0	0.0	100.0	100.0	100.0	0.0	0.0	100.0	90.9	100.0	100.0	0.0	98.1	0.0	87.5	0.0	0.0	87.5	97.6
Exiting Leg Total					7					18					0					57	82
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	1	0	0	1	2
% Heavy Vehicles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.1	0.0	0.0	0.0	1.9	0.0	12.5	0.0	0.0	12.5	2.4
Exiting Leg Total					0					2					0					0	2
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Buses	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Exiting Leg Total					0					0					0					0	0

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:45 AM	Driveway					Ericsson Street					Port Norfolk Street					Ericsson Street					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:45 AM	0	0	0	0	0	0	3	0	0	3	0	2	7	0	9	0	1	0	0	1	13
8:00 AM	1	0	0	0	1	0	2	0	0	2	1	0	4	0	5	0	2	0	0	2	10
8:15 AM	0	0	0	0	0	1	1	0	0	2	0	1	5	0	6	0	0	0	0	0	8
8:30 AM	0	0	1	0	1	0	5	0	0	5	2	0	5	0	7	0	1	0	0	1	14
Total Volume	1	0	1	0	2	1	11	0	0	12	3	3	21	0	27	0	4	0	0	4	45
% Approach Total	50.0	0.0	50.0	0.0		8.3	91.7	0.0	0.0		11.1	11.1	77.8	0.0		0.0	100.0	0.0	0.0		
PHF	0.250	0.000	0.250	0.000	0.500	0.250	0.550	0.000	0.000	0.600	0.375	0.375	0.750	0.000	0.750	0.000	0.500	0.000	0.000	0.500	0.804
Cars	1	0	1	0	2	1	11	0	0	12	2	3	21	0	26	0	3	0	0	3	43
Cars %	100.0	0.0	100.0	0.0	100.0	100.0	100.0	0.0	0.0	100.0	66.7	100.0	100.0	0.0	96.3	0.0	75.0	0.0	0.0	75.0	95.6
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	1	0	0	1	2
Heavy Vehicles %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	33.3	0.0	0.0	0.0	3.7	0.0	25.0	0.0	0.0	25.0	4.4
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Buses %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cars Enter Leg	1	0	1	0	2	1	11	0	0	12	2	3	21	0	26	0	3	0	0	3	43
Heavy Enter Leg	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	1	0	0	1	2
Bus Enter Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Entering Leg	1	0	1	0	2	1	11	0	0	12	3	3	21	0	27	0	4	0	0	4	45
Cars Exiting Leg					4					6					0					33	43
Heavy Exiting Leg					0					2					0					0	2
Buses Exiting Leg					0					0					0					0	0
Total Exiting Leg					4					8					0					33	45

PDI File #: **175750 H**
Location: **N: Driveway S: Port Norfolk Street**
Location: **E: Ericsson Street W: Ericsson Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars

	Driveway					Ericsson Street					Port Norfolk Street					Ericsson Street					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	1	2	0	0	3	4	0	7	0	11	0	1	0	0	1	15
7:15 AM	0	0	0	0	0	0	3	0	0	3	0	0	2	0	2	0	0	0	0	0	5
7:30 AM	0	0	0	0	0	0	1	0	0	1	3	1	3	0	7	0	1	0	0	1	9
7:45 AM	0	0	0	0	0	0	3	0	0	3	0	2	7	0	9	0	1	0	0	1	13
Total	0	0	0	0	0	1	9	0	0	10	7	3	19	0	29	0	3	0	0	3	42
8:00 AM	1	0	0	0	1	0	2	0	0	2	1	0	4	0	5	0	1	0	0	1	9
8:15 AM	0	0	0	0	0	1	1	0	0	2	0	1	5	0	6	0	0	0	0	0	8
8:30 AM	0	0	1	0	1	0	5	0	0	5	1	0	5	0	6	0	1	0	0	1	13
8:45 AM	2	0	0	0	2	0	0	0	0	0	1	1	4	0	6	0	2	0	0	2	10
Total	3	0	1	0	4	1	8	0	0	9	3	2	18	0	23	0	4	0	0	4	40
Grand Total	3	0	1	0	4	2	17	0	0	19	10	5	37	0	52	0	7	0	0	7	82
Approach %	75.0	0.0	25.0	0.0		10.5	89.5	0.0	0.0		19.2	9.6	71.2	0.0		0.0	100.0	0.0	0.0		
Total %	3.7	0.0	1.2	0.0	4.9	2.4	20.7	0.0	0.0	23.2	12.2	6.1	45.1	0.0	63.4	0.0	8.5	0.0	0.0	8.5	
Exiting Leg Total					7					18					0					57	82

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:45 AM	Driveway					Ericsson Street					Port Norfolk Street					Ericsson Street					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:45 AM	0	0	0	0	0	0	3	0	0	3	0	2	7	0	9	0	1	0	0	1	13
8:00 AM	1	0	0	0	1	0	2	0	0	2	1	0	4	0	5	0	1	0	0	1	9
8:15 AM	0	0	0	0	0	1	1	0	0	2	0	1	5	0	6	0	0	0	0	0	8
8:30 AM	0	0	1	0	1	0	5	0	0	5	1	0	5	0	6	0	1	0	0	1	13
Total Volume	1	0	1	0	2	1	11	0	0	12	2	3	21	0	26	0	3	0	0	3	43
% Approach Total	50.0	0.0	50.0	0.0		8.3	91.7	0.0	0.0		7.7	11.5	80.8	0.0		0.0	100.0	0.0	0.0		
PHF	0.250	0.000	0.250	0.000	0.500	0.250	0.550	0.000	0.000	0.600	0.500	0.375	0.750	0.000	0.722	0.000	0.750	0.000	0.000	0.750	0.827
Entering Leg	1	0	1	0	2	1	11	0	0	12	2	3	21	0	26	0	3	0	0	3	43
Exiting Leg					4					6					0					33	43
Total					6					18					26					36	86

PDI File #: **175750 H**
Location: **N: Driveway S: Port Norfolk Street**
Location: **E: Ericsson Street W: Ericsson Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class:

Heavy Vehicles

	Driveway					Ericsson Street					Port Norfolk Street					Ericsson Street					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	1	0	0	1	2
Grand Total	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	1	0	0	1	2
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0	0.0	0.0	0.0	50.0	0.0	50.0	0.0	0.0	50.0	
Exiting Leg Total					0					2					0					0	2

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:45 AM	Driveway					Ericsson Street					Port Norfolk Street					Ericsson Street					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1
Total Volume	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	1	0	0	1	2
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.250	0.000	0.250	0.000	0.000	0.250	0.500
Entering Leg	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	1	0	0	1	2
Exiting Leg					0					2					0					0	2
Total					0					2					1					1	4

PDI File #: **175750 H**
Location: **N: Driveway S: Port Norfolk Street**
Location: **E: Ericsson Street W: Ericsson Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Buses**

	Driveway					Ericsson Street					Port Norfolk Street					Ericsson Street					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					0					0					0					0	0

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Driveway					Ericsson Street					Port Norfolk Street					Ericsson Street					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg					0					0					0					0	0
Total					0					0					0					0	0

PDI File #: **175750 H**
Location: **N: Driveway S: Port Norfolk Street**
Location: **E: Ericsson Street W: Ericsson Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class:

Bicycles (on Roadway and Crosswalks)

	Driveway							Ericsson Street							Port Norfolk Street							Ericsson Street							
	North							East							South							West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	2	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	2
Total	2	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	4
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Grand Total	2	0	0	0	0	0	2	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	2	0	0	0	0	2	5
Approach %	100.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	100.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0	0.0		
Total %	40.0	0.0	0.0	0.0	0.0	0.0	40.0	0.0	0.0	20.0	0.0	0.0	0.0	20.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	40.0	0.0	0.0	0.0	0.0	40.0	
Exiting Leg Total							0							2							1							2	5

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:30 AM	Driveway							Ericsson Street							Port Norfolk Street							Ericsson Street							
	North							East							South							West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:30 AM	2	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	2
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Volume	2	0	0	0	0	0	2	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	2	0	0	0	0	2	5
% Approach Total	100.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	100.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0	0.0		
PHF	0.250	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.250	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.250	0.625
Entering Leg	2	0	0	0	0	0	2	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	2	0	0	0	0	2	5
Exiting Leg							0							2							1							2	5
Total							2							3							1							4	10

PDI File #: **175750 H**
Location: **N: Driveway S: Port Norfolk Street**
Location: **E: Ericsson Street W: Ericsson Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class:

Pedestrians

	Driveway							Ericsson Street							Port Norfolk Street							Ericsson Street							
	North							East							South							West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	0	0	0	0	3
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	0	0	0	0	3
Grand Total	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	0	0	0	0	3
Approach %	0.0	0.0	0.0	0.0	100.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	50.0	50.0		0.0	0.0	0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	33.3	0.0	33.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	33.3	33.3	66.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total							1							0							2							0	3

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:15 AM	Driveway							Ericsson Street							Port Norfolk Street							Ericsson Street							
	North							East							South							West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	0	0	0	0	3
Total Volume	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	0	0	0	0	3
% Approach Total	0.0	0.0	0.0	0.0	100.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	50.0	50.0		0.0	0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.250	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.250	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250
Entering Leg	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	0	0	0	0	3
Exiting Leg							1							0							2							0	3
Total							2							0							4							0	6

PDI File #: **175750 HH**
Location: **N: Driveway S: Port Norfolk Street**
Location: **E: Ericsson Street W: Ericsson Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars, Heavy Vehicles, and Buses (Combined)

	Driveway					Ericsson Street					Port Norfolk Street					Ericsson Street					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	1	0	1	1	2	0	0	3	0	1	1	0	2	0	3	0	0	3	9
4:15 PM	2	0	0	0	2	0	1	0	0	1	2	2	4	0	8	0	1	1	0	2	13
4:30 PM	2	0	0	0	2	0	2	0	0	2	1	1	1	0	3	0	4	0	0	4	11
4:45 PM	2	0	2	0	4	0	4	0	0	4	2	0	1	0	3	0	4	2	0	6	17
Total	6	0	3	0	9	1	9	0	0	10	5	4	7	0	16	0	12	3	0	15	50
5:00 PM	1	0	0	0	1	0	1	0	0	1	0	1	2	0	3	0	2	1	0	3	8
5:15 PM	1	0	0	0	1	0	1	0	0	1	1	2	2	0	5	0	1	0	0	1	8
5:30 PM	2	0	0	0	2	0	0	0	0	0	3	0	0	0	3	0	3	0	0	3	8
5:45 PM	2	0	0	0	2	0	3	0	0	3	2	2	7	0	11	0	5	2	0	7	23
Total	6	0	0	0	6	0	5	0	0	5	6	5	11	0	22	0	11	3	0	14	47
Grand Total	12	0	3	0	15	1	14	0	0	15	11	9	18	0	38	0	23	6	0	29	97
Approach %	80.0	0.0	20.0	0.0		6.7	93.3	0.0	0.0		28.9	23.7	47.4	0.0		0.0	79.3	20.7	0.0		
Total %	12.4	0.0	3.1	0.0	15.5	1.0	14.4	0.0	0.0	15.5	11.3	9.3	18.6	0.0	39.2	0.0	23.7	6.2	0.0	29.9	
Exiting Leg Total					16					37					0					44	97
Cars	12	0	3	0	15	1	14	0	0	15	10	8	18	0	36	0	23	6	0	29	95
% Cars	100.0	0.0	100.0	0.0	100.0	100.0	100.0	0.0	0.0	100.0	90.9	88.9	100.0	0.0	94.7	0.0	100.0	100.0	0.0	100.0	97.9
Exiting Leg Total					15					36					0					44	95
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	2
% Heavy Vehicles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.1	11.1	0.0	0.0	5.3	0.0	0.0	0.0	0.0	0.0	2.1
Exiting Leg Total					1					1					0					0	2
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Buses	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Exiting Leg Total					0					0					0					0	0

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Driveway					Ericsson Street					Port Norfolk Street					Ericsson Street					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	1	0	1	1	2	0	0	3	0	1	1	0	2	0	3	0	0	3	9
4:15 PM	2	0	0	0	2	0	1	0	0	1	2	2	4	0	8	0	1	1	0	2	13
4:30 PM	2	0	0	0	2	0	2	0	0	2	1	1	1	0	3	0	4	0	0	4	11
4:45 PM	2	0	2	0	4	0	4	0	0	4	2	0	1	0	3	0	4	2	0	6	17
Total Volume	6	0	3	0	9	1	9	0	0	10	5	4	7	0	16	0	12	3	0	15	50
% Approach Total	66.7	0.0	33.3	0.0		10.0	90.0	0.0	0.0		31.3	25.0	43.8	0.0		0.0	80.0	20.0	0.0		
PHF	0.750	0.000	0.375	0.000	0.563	0.250	0.563	0.000	0.000	0.625	0.625	0.500	0.438	0.000	0.500	0.000	0.750	0.375	0.000	0.625	0.735
Cars	6	0	3	0	9	1	9	0	0	10	4	4	7	0	15	0	12	3	0	15	49
Cars %	100.0	0.0	100.0	0.0	100.0	100.0	100.0	0.0	0.0	100.0	80.0	100.0	100.0	0.0	93.8	0.0	100.0	100.0	0.0	100.0	98.0
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1
Heavy Vehicles %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.0	0.0	0.0	0.0	6.3	0.0	0.0	0.0	0.0	0.0	2.0
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Buses %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cars Enter Leg	6	0	3	0	9	1	9	0	0	10	4	4	7	0	15	0	12	3	0	15	49
Heavy Enter Leg	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1
Bus Enter Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Entering Leg	6	0	3	0	9	1	9	0	0	10	5	4	7	0	16	0	12	3	0	15	50
Cars Exiting Leg					8					19					0					22	49
Heavy Exiting Leg					0					1					0					0	1
Buses Exiting Leg					0					0					0					0	0
Total Exiting Leg					8					20					0					22	50

PDI File #: **175750 HH**
Location: **N: Driveway S: Port Norfolk Street**
Location: **E: Ericsson Street W: Ericsson Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars

	Driveway					Ericsson Street					Port Norfolk Street					Ericsson Street					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	1	0	1	1	2	0	0	3	0	1	1	0	2	0	3	0	0	3	9
4:15 PM	2	0	0	0	2	0	1	0	0	1	2	2	4	0	8	0	1	1	0	2	13
4:30 PM	2	0	0	0	2	0	2	0	0	2	0	1	1	0	2	0	4	0	0	4	10
4:45 PM	2	0	2	0	4	0	4	0	0	4	2	0	1	0	3	0	4	2	0	6	17
Total	6	0	3	0	9	1	9	0	0	10	4	4	7	0	15	0	12	3	0	15	49
5:00 PM	1	0	0	0	1	0	1	0	0	1	0	1	2	0	3	0	2	1	0	3	8
5:15 PM	1	0	0	0	1	0	1	0	0	1	1	2	2	0	5	0	1	0	0	1	8
5:30 PM	2	0	0	0	2	0	0	0	0	0	3	0	0	0	3	0	3	0	0	3	8
5:45 PM	2	0	0	0	2	0	3	0	0	3	2	1	7	0	10	0	5	2	0	7	22
Total	6	0	0	0	6	0	5	0	0	5	6	4	11	0	21	0	11	3	0	14	46
Grand Total	12	0	3	0	15	1	14	0	0	15	10	8	18	0	36	0	23	6	0	29	95
Approach %	80.0	0.0	20.0	0.0		6.7	93.3	0.0	0.0		27.8	22.2	50.0	0.0		0.0	79.3	20.7	0.0		
Total %	12.6	0.0	3.2	0.0	15.8	1.1	14.7	0.0	0.0	15.8	10.5	8.4	18.9	0.0	37.9	0.0	24.2	6.3	0.0	30.5	
Exiting Leg Total					15					36					0					44	95

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Driveway					Ericsson Street					Port Norfolk Street					Ericsson Street					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	1	0	1	1	2	0	0	3	0	1	1	0	2	0	3	0	0	3	9
4:15 PM	2	0	0	0	2	0	1	0	0	1	2	2	4	0	8	0	1	1	0	2	13
4:30 PM	2	0	0	0	2	0	2	0	0	2	0	1	1	0	2	0	4	0	0	4	10
4:45 PM	2	0	2	0	4	0	4	0	0	4	2	0	1	0	3	0	4	2	0	6	17
Total Volume	6	0	3	0	9	1	9	0	0	10	4	4	7	0	15	0	12	3	0	15	49
% Approach Total	66.7	0.0	33.3	0.0		10.0	90.0	0.0	0.0		26.7	26.7	46.7	0.0		0.0	80.0	20.0	0.0		
PHF	0.750	0.000	0.375	0.000	0.563	0.250	0.563	0.000	0.000	0.625	0.500	0.500	0.438	0.000	0.469	0.000	0.750	0.375	0.000	0.625	0.721
Entering Leg	6	0	3	0	9	1	9	0	0	10	4	4	7	0	15	0	12	3	0	15	49
Exiting Leg					8					19					0					22	49
Total					17					29					15					37	98

PDI File #: **175750 HH**
Location: **N: Driveway S: Port Norfolk Street**
Location: **E: Ericsson Street W: Ericsson Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Heavy Vehicles

	Driveway (North)					Ericsson Street (East)					Port Norfolk Street (South)					Ericsson Street (West)					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
Grand Total	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	2
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		50.0	50.0	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0	50.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					1					1					0					0	2

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Driveway (North)					Ericsson Street (East)					Port Norfolk Street (South)					Ericsson Street (West)					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.250
Entering Leg	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1
Exiting Leg					0					1					0					0	1
Total					0					1					1					0	2

PDI File #: **175750 HH**
Location: **N: Driveway S: Port Norfolk Street**
Location: **E: Ericsson Street W: Ericsson Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Buses**

	Driveway (North)					Ericsson Street (East)					Port Norfolk Street (South)					Ericsson Street (West)					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					0					0					0					0	0

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Driveway (North)					Ericsson Street (East)					Port Norfolk Street (South)					Ericsson Street (West)					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg					0					0					0					0	0
Total					0					0					0					0	0

PDI File #: **175750 HH**
Location: **N: Driveway S: Port Norfolk Street**
Location: **E: Ericsson Street W: Ericsson Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class:

Bicycles (on Roadway and Crosswalks)

	Driveway							Ericsson Street							Port Norfolk Street							Ericsson Street							
	North							East							South							West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	2	0	0	0	0	0	0	0	2
5:30 PM	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	0	0	0	0	0	1	0	0	0	0	0	0	0	1	1	0	0	0	0	2	0	0	1	0	0	0	1	4
Grand Total	1	0	0	0	0	0	1	0	0	0	0	0	0	0	1	1	0	0	0	0	2	0	1	1	0	0	0	2	5
Approach %	100.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		50.0	50.0	0.0	0.0	0.0	0.0		0.0	50.0	50.0	0.0	0.0	0.0		
Total %	20.0	0.0	0.0	0.0	0.0	0.0	20.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.0	20.0	0.0	0.0	0.0	0.0	40.0	0.0	20.0	20.0	0.0	0.0	0.0	40.0	
Exiting Leg Total							2							2							0							1	5

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Driveway							Ericsson Street							Port Norfolk Street							Ericsson Street							
	North							East							South							West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.250	0.250
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
Exiting Leg							0							1							0							0	1
Total							0							1							0							1	2

PDI File #: **175750 HH**
Location: **N: Driveway S: Port Norfolk Street**
Location: **E: Ericsson Street W: Ericsson Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class:

Pedestrians

	Driveway							Ericsson Street							Port Norfolk Street							Ericsson Street							
	North							East							South							West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Grand Total	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Approach %	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	100.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total							0							1							0							0	1

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:45 PM	Driveway							Ericsson Street							Port Norfolk Street							Ericsson Street							
	North							East							South							West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Volume	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	100.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Exiting Leg							0							1							0							0	1
Total							0							2							0							0	2

PDI File #: **175750 HHH**
Location: **N: Driveway S: Port Norfolk Street**
Location: **E: Ericsson Street W: Ericsson Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Saturday, June 24, 2017**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars, Heavy Vehicles, and Buses (Combined)

	Driveway					Ericsson Street					Port Norfolk Street					Ericsson Street					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	1	0	0	0	1	0	0	0	0	0	2	2	3	0	7	0	4	3	0	7	15
11:15 AM	1	0	0	0	1	0	5	0	0	5	0	0	1	0	1	0	4	0	0	4	11
11:30 AM	0	0	1	0	1	0	0	0	0	0	1	0	2	0	3	0	1	0	0	1	5
11:45 AM	1	0	0	0	1	0	0	0	0	0	2	1	2	0	5	0	1	0	0	1	7
Total	3	0	1	0	4	0	5	0	0	5	5	3	8	0	16	0	10	3	0	13	38
12:00 PM	0	0	0	0	0	1	1	0	0	2	2	1	1	0	4	0	2	1	0	3	9
12:15 PM	5	0	1	0	6	0	3	0	0	3	3	0	4	0	7	0	2	1	0	3	19
12:30 PM	1	0	0	0	1	0	0	0	0	0	1	1	0	0	2	0	3	1	0	4	7
12:45 PM	1	0	0	0	1	0	0	0	0	0	1	0	2	0	3	0	2	1	0	3	7
Total	7	0	1	0	8	1	4	0	0	5	7	2	7	0	16	0	9	4	0	13	42
1:00 PM	3	0	1	0	4	1	5	0	0	6	3	0	4	0	7	0	5	2	0	7	24
1:15 PM	0	0	0	0	0	0	5	0	0	5	4	2	1	0	7	0	2	0	0	2	14
1:30 PM	1	0	1	0	2	0	5	0	0	5	2	1	1	0	4	0	4	0	0	4	15
1:45 PM	2	0	0	0	2	0	2	0	0	2	0	0	1	0	1	0	2	1	0	3	8
Total	6	0	2	0	8	1	17	0	0	18	9	3	7	0	19	0	13	3	0	16	61
Grand Total	16	0	4	0	20	2	26	0	0	28	21	8	22	0	51	0	32	10	0	42	141
Approach %	80.0	0.0	20.0	0.0		7.1	92.9	0.0	0.0		41.2	15.7	43.1	0.0		0.0	76.2	23.8	0.0		
Total %	11.3	0.0	2.8	0.0	14.2	1.4	18.4	0.0	0.0	19.9	14.9	5.7	15.6	0.0	36.2	0.0	22.7	7.1	0.0	29.8	
Exiting Leg Total					20					57					0					64	141
Cars	16	0	4	0	20	2	26	0	0	28	21	8	22	0	51	0	31	9	0	40	139
% Cars	100.0	0.0	100.0	0.0	100.0	100.0	100.0	0.0	0.0	100.0	100.0	100.0	100.0	0.0	100.0	0.0	96.9	90.0	0.0	95.2	98.6
Exiting Leg Total					19					56					0					64	139
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
% Heavy Vehicles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	0.0	2.4	0.7
Exiting Leg Total					1					0					0					0	1
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
% Buses	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.1	0.0	0.0	2.4	0.7
Exiting Leg Total					0					1					0					0	1

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

1:00 PM	Driveway					Ericsson Street					Port Norfolk Street					Ericsson Street					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
1:00 PM	3	0	1	0	4	1	5	0	0	6	3	0	4	0	7	0	5	2	0	7	24
1:15 PM	0	0	0	0	0	0	5	0	0	5	4	2	1	0	7	0	2	0	0	2	14
1:30 PM	1	0	1	0	2	0	5	0	0	5	2	1	1	0	4	0	4	0	0	4	15
1:45 PM	2	0	0	0	2	0	2	0	0	2	0	0	1	0	1	0	2	1	0	3	8
Total Volume	6	0	2	0	8	1	17	0	0	18	9	3	7	0	19	0	13	3	0	16	61
% Approach Total	75.0	0.0	25.0	0.0		5.6	94.4	0.0	0.0		47.4	15.8	36.8	0.0		0.0	81.3	18.8	0.0		
PHF	0.500	0.000	0.500	0.000	0.500	0.250	0.850	0.000	0.000	0.750	0.563	0.375	0.438	0.000	0.679	0.000	0.650	0.375	0.000	0.571	0.635
Cars	6	0	2	0	8	1	17	0	0	18	9	3	7	0	19	0	13	3	0	16	61
Cars %	100.0	0.0	100.0	0.0	100.0	100.0	100.0	0.0	0.0	100.0	100.0	100.0	100.0	0.0	100.0	0.0	100.0	100.0	0.0	100.0	100.0
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Heavy Vehicles %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Buses %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cars Enter Leg	6	0	2	0	8	1	17	0	0	18	9	3	7	0	19	0	13	3	0	16	61
Heavy Enter Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bus Enter Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Entering Leg	6	0	2	0	8	1	17	0	0	18	9	3	7	0	19	0	13	3	0	16	61
Cars Exiting Leg					7					24					0					30	61
Heavy Exiting Leg					0					0					0					0	0
Buses Exiting Leg					0					0					0					0	0
Total Exiting Leg					7					24					0					30	61

PDI File #: **175750 HHH**
Location: **N: Driveway S: Port Norfolk Street**
Location: **E: Ericsson Street W: Ericsson Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Saturday, June 24, 2017**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars

	Driveway					Ericsson Street					Port Norfolk Street					Ericsson Street					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	1	0	0	0	1	0	0	0	0	0	2	2	3	0	7	0	3	3	0	6	14
11:15 AM	1	0	0	0	1	0	5	0	0	5	0	0	1	0	1	0	4	0	0	4	11
11:30 AM	0	0	1	0	1	0	0	0	0	0	1	0	2	0	3	0	1	0	0	1	5
11:45 AM	1	0	0	0	1	0	0	0	0	0	2	1	2	0	5	0	1	0	0	1	7
Total	3	0	1	0	4	0	5	0	0	5	5	3	8	0	16	0	9	3	0	12	37
12:00 PM	0	0	0	0	0	1	1	0	0	2	2	1	1	0	4	0	2	0	0	2	8
12:15 PM	5	0	1	0	6	0	3	0	0	3	3	0	4	0	7	0	2	1	0	3	19
12:30 PM	1	0	0	0	1	0	0	0	0	0	1	1	0	0	2	0	3	1	0	4	7
12:45 PM	1	0	0	0	1	0	0	0	0	0	1	0	2	0	3	0	2	1	0	3	7
Total	7	0	1	0	8	1	4	0	0	5	7	2	7	0	16	0	9	3	0	12	41
1:00 PM	3	0	1	0	4	1	5	0	0	6	3	0	4	0	7	0	5	2	0	7	24
1:15 PM	0	0	0	0	0	0	5	0	0	5	4	2	1	0	7	0	2	0	0	2	14
1:30 PM	1	0	1	0	2	0	5	0	0	5	2	1	1	0	4	0	4	0	0	4	15
1:45 PM	2	0	0	0	2	0	2	0	0	2	0	0	1	0	1	0	2	1	0	3	8
Total	6	0	2	0	8	1	17	0	0	18	9	3	7	0	19	0	13	3	0	16	61
Grand Total	16	0	4	0	20	2	26	0	0	28	21	8	22	0	51	0	31	9	0	40	139
Approach %	80.0	0.0	20.0	0.0		7.1	92.9	0.0	0.0		41.2	15.7	43.1	0.0		0.0	77.5	22.5	0.0		
Total %	11.5	0.0	2.9	0.0	14.4	1.4	18.7	0.0	0.0	20.1	15.1	5.8	15.8	0.0	36.7	0.0	22.3	6.5	0.0	28.8	
Exiting Leg Total					19					56					0					64	139

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

1:00 PM	Driveway					Ericsson Street					Port Norfolk Street					Ericsson Street					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
1:00 PM	3	0	1	0	4	1	5	0	0	6	3	0	4	0	7	0	5	2	0	7	24
1:15 PM	0	0	0	0	0	0	5	0	0	5	4	2	1	0	7	0	2	0	0	2	14
1:30 PM	1	0	1	0	2	0	5	0	0	5	2	1	1	0	4	0	4	0	0	4	15
1:45 PM	2	0	0	0	2	0	2	0	0	2	0	0	1	0	1	0	2	1	0	3	8
Total Volume	6	0	2	0	8	1	17	0	0	18	9	3	7	0	19	0	13	3	0	16	61
% Approach Total	75.0	0.0	25.0	0.0		5.6	94.4	0.0	0.0		47.4	15.8	36.8	0.0		0.0	81.3	18.8	0.0		
PHF	0.500	0.000	0.500	0.000	0.500	0.250	0.850	0.000	0.000	0.750	0.563	0.375	0.438	0.000	0.679	0.000	0.650	0.375	0.000	0.571	0.635
Entering Leg	6	0	2	0	8	1	17	0	0	18	9	3	7	0	19	0	13	3	0	16	61
Exiting Leg					7					24					0					30	61
Total					15					42					19					46	122

PDI File #: **175750 HHH**
Location: **N: Driveway S: Port Norfolk Street**
Location: **E: Ericsson Street W: Ericsson Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Saturday, June 24, 2017**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Heavy Vehicles

	Driveway					Ericsson Street					Port Norfolk Street					Ericsson Street					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	100.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	100.0	
Exiting Leg Total					1					0					0					0	1

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

11:15 AM	Driveway					Ericsson Street					Port Norfolk Street					Ericsson Street					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	100.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.250	0.250
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
Exiting Leg					1					0					0					0	1
Total					1					0					0					1	2

PDI File #: **175750 HHH**
Location: **N: Driveway S: Port Norfolk Street**
Location: **E: Ericsson Street W: Ericsson Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Saturday, June 24, 2017**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Buses

	Driveway					Ericsson Street					Port Norfolk Street					Ericsson Street					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0	
Exiting Leg Total					0					1					0					0	1

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

11:00 AM	Driveway					Ericsson Street					Port Norfolk Street					Ericsson Street					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.250	0.250
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
Exiting Leg					0					1					0					0	1
Total					0					1					0					1	2

PDI File #: **175750 HHH**
Location: **N: Driveway S: Port Norfolk Street**
Location: **E: Ericsson Street W: Ericsson Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Saturday, June 24, 2017**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Bicycles (on Roadway and Crosswalks)

	Driveway							Ericsson Street							Port Norfolk Street							Ericsson Street							
	North							East							South							West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	2	0	2	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	2	0	2	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1:45 PM	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	1	0	0	0	0	1	3
Total	0	0	0	0	0	0	0	0	3	0	0	0	0	3	0	0	0	0	0	0	0	0	1	0	0	0	0	1	4
Grand Total	0	0	2	0	2	0	4	0	3	0	0	0	0	3	0	0	0	0	0	0	0	0	1	0	0	0	0	1	8
Approach %	0.0	0.0	50.0	0.0	50.0	0.0		0.0	100.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0	0.0		
Total %	0.0	0.0	25.0	0.0	25.0	0.0	50.0	0.0	37.5	0.0	0.0	0.0	0.0	37.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.5	0.0	0.0	0.0	0.0	12.5	
Exiting Leg Total							2							3							0							3	8

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

11:15 AM	Driveway							Ericsson Street							Port Norfolk Street							Ericsson Street							
	North							East							South							West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	2	0	2	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Total Volume	0	0	2	0	2	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
% Approach Total	0.0	0.0	50.0	0.0	50.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.250	0.000	0.250	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250
Entering Leg	0	0	2	0	2	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Exiting Leg							2							2							0							0	4
Total							6							2							0							0	8

PDI File #: **175750 HHH**
Location: **N: Driveway S: Port Norfolk Street**
Location: **E: Ericsson Street W: Ericsson Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Saturday, June 24, 2017**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Pedestrians

	Driveway							Ericsson Street							Port Norfolk Street							Ericsson Street							
	North							East							South							West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	1	1	0	0	0	0	0	0	0	3
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	1	1	0	0	0	0	0	0	0	3
Approach %	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	100.0		0.0	0.0	0.0	0.0	0.0	100.0		0.0	0.0	0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	66.7	66.7	0.0	0.0	0.0	0.0	0.0	33.3	33.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total							0							2							1							0	3

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

12:00 PM	Driveway							Ericsson Street							Port Norfolk Street							Ericsson Street							
	North							East							South							West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	1	1	0	0	0	0	0	0	0	3
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	100.0		0.0	0.0	0.0	0.0	0.0	100.0		0.0	0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.500	0.000	0.000	0.000	0.000	0.000	0.250	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.750
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	1	1	0	0	0	0	0	0	0	3
Exiting Leg							0							2							1							0	3
Total							0							4							2							0	6

PDI File #: **175750 I**
Location: **N: Parking Lot Access S: Walnut Street**
Location: **W: Ericsson Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class:

Cars, Heavy Vehicles, and Buses (Combined)

	Parking Lot Access				Walnut Street				Ericsson Street				
	North				South				West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	3	0	3	5	0	0	5	8
7:15 AM	1	0	0	1	1	2	0	3	0	0	0	0	4
7:30 AM	0	0	0	0	2	1	0	3	5	1	0	6	9
7:45 AM	0	1	0	1	1	2	0	3	1	0	0	1	5
Total	1	1	0	2	4	8	0	12	11	1	0	12	26
8:00 AM	0	1	0	1	0	2	0	2	3	1	0	4	7
8:15 AM	0	0	0	0	1	2	0	3	0	0	0	0	3
8:30 AM	0	0	0	0	1	5	0	6	4	0	0	4	10
8:45 AM	0	0	0	0	2	0	0	2	2	0	0	2	4
Total	0	1	0	1	4	9	0	13	9	1	0	10	24
Grand Total	1	2	0	3	8	17	0	25	20	2	0	22	50
Approach %	33.3	66.7	0.0		32.0	68.0	0.0		90.9	9.1	0.0		
Total %	2.0	4.0	0.0	6.0	16.0	34.0	0.0	50.0	40.0	4.0	0.0	44.0	
Exiting Leg Total				10				22				18	50
Cars	1	2	0	3	8	17	0	25	18	2	0	20	48
% Cars	100.0	100.0	0.0	100.0	100.0	100.0	0.0	100.0	90.0	100.0	0.0	90.9	96.0
Exiting Leg Total				10				20				18	48
Heavy Vehicles	0	0	0	0	0	0	0	0	2	0	0	2	2
% Heavy Vehicles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	0.0	0.0	9.1	4.0
Exiting Leg Total				0				2				0	2
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0
% Buses	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Exiting Leg Total				0				0				0	0

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Parking Lot Access				Walnut Street				Ericsson Street				
	North				South				West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	3	0	3	5	0	0	5	8
7:15 AM	1	0	0	1	1	2	0	3	0	0	0	0	4
7:30 AM	0	0	0	0	2	1	0	3	5	1	0	6	9
7:45 AM	0	1	0	1	1	2	0	3	1	0	0	1	5
Total Volume	1	1	0	2	4	8	0	12	11	1	0	12	26
% Approach Total	50.0	50.0	0.0		33.3	66.7	0.0		91.7	8.3	0.0		
PHF	0.250	0.250	0.000	0.500	0.500	0.667	0.000	1.000	0.550	0.250	0.000	0.500	0.722
Cars	1	1	0	2	4	8	0	12	11	1	0	12	26
Cars %	100.0	100.0	0.0	100.0	100.0	100.0	0.0	100.0	100.0	100.0	0.0	100.0	100.0
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0
Heavy Vehicles %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0
Buses %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cars Enter Leg	1	1	0	2	4	8	0	12	11	1	0	12	26
Heavy Enter Leg	0	0	0	0	0	0	0	0	0	0	0	0	0
Bus Enter Leg	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Entering Leg	1	1	0	2	4	8	0	12	11	1	0	12	26
Cars Exiting Leg				5				12				9	26
Heavy Exiting Leg				0				0				0	0
Buses Exiting Leg				0				0				0	0
Total Exiting Leg				5				12				9	26

PDI File #: **175750 I**
Location: **N: Parking Lot Access S: Walnut Street**
Location: **W: Ericsson Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Cars**

	Parking Lot Access				Walnut Street				Ericsson Street				
	North				South				West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	3	0	3	5	0	0	5	8
7:15 AM	1	0	0	1	1	2	0	3	0	0	0	0	4
7:30 AM	0	0	0	0	2	1	0	3	5	1	0	6	9
7:45 AM	0	1	0	1	1	2	0	3	1	0	0	1	5
Total	1	1	0	2	4	8	0	12	11	1	0	12	26
8:00 AM	0	1	0	1	0	2	0	2	2	1	0	3	6
8:15 AM	0	0	0	0	1	2	0	3	0	0	0	0	3
8:30 AM	0	0	0	0	1	5	0	6	3	0	0	3	9
8:45 AM	0	0	0	0	2	0	0	2	2	0	0	2	4
Total	0	1	0	1	4	9	0	13	7	1	0	8	22
Grand Total	1	2	0	3	8	17	0	25	18	2	0	20	48
Approach %	33.3	66.7	0.0		32.0	68.0	0.0		90.0	10.0	0.0		
Total %	2.1	4.2	0.0	6.3	16.7	35.4	0.0	52.1	37.5	4.2	0.0	41.7	
Exiting Leg Total				10				20				18	48

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Parking Lot Access				Walnut Street				Ericsson Street				
	North				South				West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	3	0	3	5	0	0	5	8
7:15 AM	1	0	0	1	1	2	0	3	0	0	0	0	4
7:30 AM	0	0	0	0	2	1	0	3	5	1	0	6	9
7:45 AM	0	1	0	1	1	2	0	3	1	0	0	1	5
Total Volume	1	1	0	2	4	8	0	12	11	1	0	12	26
% Approach Total	50.0	50.0	0.0		33.3	66.7	0.0		91.7	8.3	0.0		
PHF	0.250	0.250	0.000	0.500	0.500	0.667	0.000	1.000	0.550	0.250	0.000	0.500	0.722
Entering Leg	1	1	0	2	4	8	0	12	11	1	0	12	26
Exiting Leg				5				12				9	26
Total				7				24				21	52

PDI File #: **175750 I**
Location: **N: Parking Lot Access S: Walnut Street**
Location: **W: Ericsson Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Heavy Vehicles

	Parking Lot Access				Walnut Street				Ericsson Street				
	North				South				West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	1	0	0	1	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	1	0	0	1	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	2	0	0	2	2
Grand Total	0	0	0	0	0	0	0	0	2	0	0	2	2
Approach %	0.0	0.0	0.0		0.0	0.0	0.0		100.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0	
Exiting Leg Total				0				2				0	2

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:45 AM	Parking Lot Access				Walnut Street				Ericsson Street				
	North				South				West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Total
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	1	0	0	1	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	1	0	0	1	1
Total Volume	0	0	0	0	0	0	0	0	2	0	0	2	2
% Approach Total	0.0	0.0	0.0		0.0	0.0	0.0		100.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.500	0.500
Entering Leg	0	0	0	0	0	0	0	0	2	0	0	2	2
Exiting Leg				0				2				0	2
Total				0				2				2	4

PDI File #: **175750 I**
Location: **N: Parking Lot Access S: Walnut Street**
Location: **W: Ericsson Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Buses**

	Parking Lot Access				Walnut Street				Ericsson Street				
	North				South				West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total				0				0				0	0

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Parking Lot Access				Walnut Street				Ericsson Street				
	North				South				West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg				0				0				0	0
Total				0				0				0	0

PDI File #: **175750 I**
Location: **N: Parking Lot Access S: Walnut Street**
Location: **W: Ericsson Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Bicycles (on Roadway and Crosswalks)

	Parking Lot Access						Walnut Street						Ericsson Street						
	North						South						West						
	Right	Thru	U-Turn	CW-EB	CW-WB	Total	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	2
Total	0	0	0	0	0	0	1	0	0	0	0	1	2	0	0	0	0	2	3
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1
Grand Total	0	0	0	0	0	0	1	1	0	0	0	2	2	0	0	0	0	2	4
Approach %	0.0	0.0	0.0	0.0	0.0		50.0	50.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	25.0	25.0	0.0	0.0	0.0	50.0	50.0	0.0	0.0	0.0	0.0	50.0	
Exiting Leg Total						1						2						1	4

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:30 AM	Parking Lot Access						Walnut Street						Ericsson Street						
	North						South						West						
	Right	Thru	U-Turn	CW-EB	CW-WB	Total	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:30 AM	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	2
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1
Total Volume	0	0	0	0	0	0	1	1	0	0	0	2	2	0	0	0	0	2	4
% Approach Total	0.0	0.0	0.0	0.0	0.0		50.0	50.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.250	0.000	0.000	0.000	0.500	0.250	0.000	0.000	0.000	0.000	0.250	0.500
Entering Leg	0	0	0	0	0	0	1	1	0	0	0	2	2	0	0	0	0	2	4
Exiting Leg						1						2						1	4
Total						1						4						3	8

PDI File #: **175750 I**
Location: **N: Parking Lot Access S: Walnut Street**
Location: **W: Ericsson Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Pedestrians

	Parking Lot Access						Walnut Street						Ericsson Street						
	North						South						West						
	Right	Thru	U-Turn	CW-EB	CW-WB	Total	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	1	0	1	0	0	0	0	1	1	0	0	0	0	0	0	2
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	1	0	1	0	0	0	0	1	1	0	0	0	0	0	0	2
Grand Total	0	0	0	1	0	1	0	0	0	0	1	1	0	0	0	0	0	0	2
Approach %	0.0	0.0	0.0	100.0	0.0		0.0	0.0	0.0	0.0	100.0		0.0	0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	50.0	0.0	50.0	0.0	0.0	0.0	0.0	50.0	50.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total						1						1						0	2

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:15 AM	Parking Lot Access						Walnut Street						Ericsson Street						
	North						South						West						
	Right	Thru	U-Turn	CW-EB	CW-WB	Total	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	1	0	1	0	0	0	0	1	1	0	0	0	0	0	0	2
Total Volume	0	0	0	1	0	1	0	0	0	0	1	1	0	0	0	0	0	0	2
% Approach Total	0.0	0.0	0.0	100.0	0.0		0.0	0.0	0.0	0.0	100.0		0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.250	0.000	0.250	0.000	0.000	0.000	0.000	0.250	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.250
Entering Leg	0	0	0	1	0	1	0	0	0	0	1	1	0	0	0	0	0	0	2
Exiting Leg						1						1						0	2
Total						2						2						0	4

PDI File #: **175750 II**
Location: **N: Parking Lot Access S: Walnut Street**
Location: **W: Ericsson Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class:

Cars, Heavy Vehicles, and Buses (Combined)

	Parking Lot Access				Walnut Street				Ericsson Street				
	North				South				West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Total
4:00 PM	1	0	0	1	12	2	0	14	4	0	0	4	19
4:15 PM	0	3	0	3	2	1	0	3	3	0	0	3	9
4:30 PM	1	10	0	11	7	1	0	8	2	3	0	5	24
4:45 PM	2	5	0	7	4	2	0	6	4	3	0	7	20
Total	4	18	0	22	25	6	0	31	13	6	0	19	72
5:00 PM	0	5	0	5	5	1	0	6	2	0	0	2	13
5:15 PM	1	4	0	5	5	0	0	5	1	1	0	2	12
5:30 PM	0	5	0	5	5	1	0	6	3	3	0	6	17
5:45 PM	0	0	0	0	11	5	0	16	3	4	0	7	23
Total	1	14	0	15	26	7	0	33	9	8	0	17	65
Grand Total	5	32	0	37	51	13	0	64	22	14	0	36	137
Approach %	13.5	86.5	0.0		79.7	20.3	0.0		61.1	38.9	0.0		
Total %	3.6	23.4	0.0	27.0	37.2	9.5	0.0	46.7	16.1	10.2	0.0	26.3	
Exiting Leg Total				65				54				18	137
Cars	5	31	0	36	51	13	0	64	22	14	0	36	136
% Cars	100.0	96.9	0.0	97.3	100.0	100.0	0.0	100.0	100.0	100.0	0.0	100.0	99.3
Exiting Leg Total				65				53				18	136
Heavy Vehicles	0	1	0	1	0	0	0	0	0	0	0	0	1
% Heavy Vehicles	0.0	3.1	0.0	2.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7
Exiting Leg Total				0				1				0	1
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0
% Buses	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Exiting Leg Total				0				0				0	0

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Parking Lot Access				Walnut Street				Ericsson Street				
	North				South				West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Total
4:00 PM	1	0	0	1	12	2	0	14	4	0	0	4	19
4:15 PM	0	3	0	3	2	1	0	3	3	0	0	3	9
4:30 PM	1	10	0	11	7	1	0	8	2	3	0	5	24
4:45 PM	2	5	0	7	4	2	0	6	4	3	0	7	20
Total Volume	4	18	0	22	25	6	0	31	13	6	0	19	72
% Approach Total	18.2	81.8	0.0		80.6	19.4	0.0		68.4	31.6	0.0		
PHF	0.500	0.450	0.000	0.500	0.521	0.750	0.000	0.554	0.813	0.500	0.000	0.679	0.750
Cars	4	18	0	22	25	6	0	31	13	6	0	19	72
Cars %	100.0	100.0	0.0	100.0	100.0	100.0	0.0	100.0	100.0	100.0	0.0	100.0	100.0
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0
Heavy Vehicles %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0
Buses %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cars Enter Leg	4	18	0	22	25	6	0	31	13	6	0	19	72
Heavy Enter Leg	0	0	0	0	0	0	0	0	0	0	0	0	0
Bus Enter Leg	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Entering Leg	4	18	0	22	25	6	0	31	13	6	0	19	72
Cars Exiting Leg				31				31				10	72
Heavy Exiting Leg				0				0				0	0
Buses Exiting Leg				0				0				0	0
Total Exiting Leg				31				31				10	72

PDI File #: **175750 II**
Location: **N: Parking Lot Access S: Walnut Street**
Location: **W: Ericsson Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars

	Parking Lot Access				Walnut Street				Ericsson Street				
	North				South				West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Total
4:00 PM	1	0	0	1	12	2	0	14	4	0	0	4	19
4:15 PM	0	3	0	3	2	1	0	3	3	0	0	3	9
4:30 PM	1	10	0	11	7	1	0	8	2	3	0	5	24
4:45 PM	2	5	0	7	4	2	0	6	4	3	0	7	20
Total	4	18	0	22	25	6	0	31	13	6	0	19	72
5:00 PM	0	4	0	4	5	1	0	6	2	0	0	2	12
5:15 PM	1	4	0	5	5	0	0	5	1	1	0	2	12
5:30 PM	0	5	0	5	5	1	0	6	3	3	0	6	17
5:45 PM	0	0	0	0	11	5	0	16	3	4	0	7	23
Total	1	13	0	14	26	7	0	33	9	8	0	17	64
Grand Total	5	31	0	36	51	13	0	64	22	14	0	36	136
Approach %	13.9	86.1	0.0		79.7	20.3	0.0		61.1	38.9	0.0		
Total %	3.7	22.8	0.0	26.5	37.5	9.6	0.0	47.1	16.2	10.3	0.0	26.5	
Exiting Leg Total				65				53				18	136

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Parking Lot Access				Walnut Street				Ericsson Street				
	North				South				West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Total
4:00 PM	1	0	0	1	12	2	0	14	4	0	0	4	19
4:15 PM	0	3	0	3	2	1	0	3	3	0	0	3	9
4:30 PM	1	10	0	11	7	1	0	8	2	3	0	5	24
4:45 PM	2	5	0	7	4	2	0	6	4	3	0	7	20
Total Volume	4	18	0	22	25	6	0	31	13	6	0	19	72
% Approach Total	18.2	81.8	0.0		80.6	19.4	0.0		68.4	31.6	0.0		
PHF	0.500	0.450	0.000	0.500	0.521	0.750	0.000	0.554	0.813	0.500	0.000	0.679	0.750
Entering Leg	4	18	0	22	25	6	0	31	13	6	0	19	72
Exiting Leg				31				31				10	72
Total				53				62				29	144

PDI File #: **175750 II**
Location: **N: Parking Lot Access S: Walnut Street**
Location: **W: Ericsson Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class:

Heavy Vehicles

	Parking Lot Access				Walnut Street				Ericsson Street				
	North				South				West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	1	0	1	0	0	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	1	0	0	0	0	0	0	0	0	1
Grand Total	0	1	0	1	0	0	0	0	0	0	0	0	1
Approach %	0.0	100.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0		
Total %	0.0	100.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total				0				1				0	1

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Parking Lot Access				Walnut Street				Ericsson Street				
	North				South				West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg				0				0				0	0
Total				0				0				0	0

PDI File #: **175750 II**
Location: **N: Parking Lot Access S: Walnut Street**
Location: **W: Ericsson Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class:

Buses

	Parking Lot Access				Walnut Street				Ericsson Street				
	North				South				West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total				0				0				0	0

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Parking Lot Access				Walnut Street				Ericsson Street				
	North				South				West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg				0				0				0	0
Total				0				0				0	0

PDI File #: **175750 II**
Location: **N: Parking Lot Access S: Walnut Street**
Location: **W: Ericsson Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Bicycles (on Roadway and Crosswalks)

	Parking Lot Access						Walnut Street						Ericsson Street						
	North						South						West						
	Right	Thru	U-Turn	CW-EB	CW-WB	Total	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
5:00 PM	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	2	0	0	0	2	0	0	0	0	0	0	1	0	0	0	0	1	3
Grand Total	0	2	0	0	0	2	0	0	0	0	0	0	2	0	0	0	0	2	4
Approach %	0.0	100.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0	0.0		
Total %	0.0	50.0	0.0	0.0	0.0	50.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0	0.0	0.0	0.0	0.0	50.0	
Exiting Leg Total						0						4						0	4

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Parking Lot Access						Walnut Street						Ericsson Street						
	North						South						West						
	Right	Thru	U-Turn	CW-EB	CW-WB	Total	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
% Approach Total	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.250	0.250
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
Exiting Leg						0						1						0	1
Total						0						1						1	2

PDI File #: **175750 II**
Location: **N: Parking Lot Access S: Walnut Street**
Location: **W: Ericsson Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Pedestrians

	Parking Lot Access						Walnut Street						Ericsson Street						
	North						South						West						
	Right	Thru	U-Turn	CW-EB	CW-WB	Total	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	7	0	7	0	0	0	0	0	0	0	0	0	0	0	0	7
Total	0	0	0	7	0	7	0	0	0	0	0	0	0	0	0	0	0	0	7
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
Grand Total	0	0	0	7	0	7	0	0	0	0	0	0	0	0	0	1	0	1	8
Approach %	0.0	0.0	0.0	100.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	100.0	0.0		
Total %	0.0	0.0	0.0	87.5	0.0	87.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.5	0.0	12.5	
Exiting Leg Total						7						0						1	8

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Parking Lot Access						Walnut Street						Ericsson Street						
	North						South						West						
	Right	Thru	U-Turn	CW-EB	CW-WB	Total	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	7	0	7	0	0	0	0	0	0	0	0	0	0	0	0	7
Total Volume	0	0	0	7	0	7	0	0	0	0	0	0	0	0	0	0	0	0	7
% Approach Total	0.0	0.0	0.0	100.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.250	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250
Entering Leg	0	0	0	7	0	7	0	0	0	0	0	0	0	0	0	0	0	0	7
Exiting Leg						7						0						0	7
Total						14						0						0	14

PDI File #: **175750 III**
Location: **N: Parking Lot Access S: Walnut Street**
Location: **W: Ericsson Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Saturday, June 24, 2017**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars, Heavy Vehicles, and Buses (Combined)

	Parking Lot Access				Walnut Street				Ericsson Street				
	North				South				West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Total
11:00 AM	0	3	0	3	4	0	0	4	3	3	0	6	13
11:15 AM	3	0	0	3	5	2	0	7	2	2	0	4	14
11:30 AM	0	4	0	4	6	0	0	6	2	1	0	3	13
11:45 AM	0	3	0	3	1	0	0	1	4	0	0	4	8
Total	3	10	0	13	16	2	0	18	11	6	0	17	48
12:00 PM	0	0	0	0	1	3	0	4	3	1	0	4	8
12:15 PM	0	1	0	1	1	3	0	4	6	0	0	6	11
12:30 PM	0	3	0	3	3	0	0	3	4	1	0	5	11
12:45 PM	0	1	0	1	2	0	0	2	1	2	0	3	6
Total	0	5	0	5	7	6	0	13	14	4	0	18	36
1:00 PM	3	1	0	4	5	3	0	8	4	5	0	9	21
1:15 PM	2	2	0	4	4	3	0	7	4	1	0	5	16
1:30 PM	1	1	0	2	3	4	0	7	4	2	0	6	15
1:45 PM	2	6	0	8	10	0	0	10	2	0	0	2	20
Total	8	10	0	18	22	10	0	32	14	8	0	22	72
Grand Total	11	25	0	36	45	18	0	63	39	18	0	57	156
Approach %	30.6	69.4	0.0		71.4	28.6	0.0		68.4	31.6	0.0		
Total %	7.1	16.0	0.0	23.1	28.8	11.5	0.0	40.4	25.0	11.5	0.0	36.5	
Exiting Leg Total				63				64				29	156
Cars	11	22	0	33	42	18	0	60	37	18	0	55	148
% Cars	100.0	88.0	0.0	91.7	93.3	100.0	0.0	95.2	94.9	100.0	0.0	96.5	94.9
Exiting Leg Total				60				59				29	148
Heavy Vehicles	0	3	0	3	3	0	0	3	0	0	0	0	6
% Heavy Vehicles	0.0	12.0	0.0	8.3	6.7	0.0	0.0	4.8	0.0	0.0	0.0	0.0	3.8
Exiting Leg Total				3				3				0	6
Buses	0	0	0	0	0	0	0	0	2	0	0	2	2
% Buses	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.1	0.0	0.0	3.5	1.3
Exiting Leg Total				0				2				0	2

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

1:00 PM	Parking Lot Access				Walnut Street				Ericsson Street				
	North				South				West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Total
1:00 PM	3	1	0	4	5	3	0	8	4	5	0	9	21
1:15 PM	2	2	0	4	4	3	0	7	4	1	0	5	16
1:30 PM	1	1	0	2	3	4	0	7	4	2	0	6	15
1:45 PM	2	6	0	8	10	0	0	10	2	0	0	2	20
Total Volume	8	10	0	18	22	10	0	32	14	8	0	22	72
% Approach Total	44.4	55.6	0.0		68.8	31.3	0.0		63.6	36.4	0.0		
PHF	0.667	0.417	0.000	0.563	0.550	0.625	0.000	0.800	0.875	0.400	0.000	0.611	0.857
Cars	8	9	0	17	22	10	0	32	14	8	0	22	71
Cars %	100.0	90.0	0.0	94.4	100.0	100.0	0.0	100.0	100.0	100.0	0.0	100.0	98.6
Heavy Vehicles	0	1	0	1	0	0	0	0	0	0	0	0	1
Heavy Vehicles %	0.0	10.0	0.0	5.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0
Buses %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cars Enter Leg	8	9	0	17	22	10	0	32	14	8	0	22	71
Heavy Enter Leg	0	1	0	1	0	0	0	0	0	0	0	0	1
Bus Enter Leg	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Entering Leg	8	10	0	18	22	10	0	32	14	8	0	22	72
Cars Exiting Leg				30				23				18	71
Heavy Exiting Leg				0				1				0	1
Buses Exiting Leg				0				0				0	0
Total Exiting Leg				30				24				18	72

PDI File #: **175750 III**
Location: **N: Parking Lot Access S: Walnut Street**
Location: **W: Ericsson Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Saturday, June 24, 2017**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars

	Parking Lot Access				Walnut Street				Ericsson Street				
	North				South				West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Total
11:00 AM	0	3	0	3	4	0	0	4	1	3	0	4	11
11:15 AM	3	0	0	3	4	2	0	6	2	2	0	4	13
11:30 AM	0	3	0	3	5	0	0	5	2	1	0	3	11
11:45 AM	0	2	0	2	1	0	0	1	4	0	0	4	7
Total	3	8	0	11	14	2	0	16	9	6	0	15	42
12:00 PM	0	0	0	0	1	3	0	4	3	1	0	4	8
12:15 PM	0	1	0	1	1	3	0	4	6	0	0	6	11
12:30 PM	0	3	0	3	3	0	0	3	4	1	0	5	11
12:45 PM	0	1	0	1	1	0	0	1	1	2	0	3	5
Total	0	5	0	5	6	6	0	12	14	4	0	18	35
1:00 PM	3	0	0	3	5	3	0	8	4	5	0	9	20
1:15 PM	2	2	0	4	4	3	0	7	4	1	0	5	16
1:30 PM	1	1	0	2	3	4	0	7	4	2	0	6	15
1:45 PM	2	6	0	8	10	0	0	10	2	0	0	2	20
Total	8	9	0	17	22	10	0	32	14	8	0	22	71
Grand Total	11	22	0	33	42	18	0	60	37	18	0	55	148
Approach %	33.3	66.7	0.0		70.0	30.0	0.0		67.3	32.7	0.0		
Total %	7.4	14.9	0.0	22.3	28.4	12.2	0.0	40.5	25.0	12.2	0.0	37.2	
Exiting Leg Total				60				59				29	148

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

1:00 PM	Parking Lot Access				Walnut Street				Ericsson Street				
	North				South				West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Total
1:00 PM	3	0	0	3	5	3	0	8	4	5	0	9	20
1:15 PM	2	2	0	4	4	3	0	7	4	1	0	5	16
1:30 PM	1	1	0	2	3	4	0	7	4	2	0	6	15
1:45 PM	2	6	0	8	10	0	0	10	2	0	0	2	20
Total Volume	8	9	0	17	22	10	0	32	14	8	0	22	71
% Approach Total	47.1	52.9	0.0		68.8	31.3	0.0		63.6	36.4	0.0		
PHF	0.667	0.375	0.000	0.531	0.550	0.625	0.000	0.800	0.875	0.400	0.000	0.611	0.888
Entering Leg	8	9	0	17	22	10	0	32	14	8	0	22	71
Exiting Leg				30				23				18	71
Total				47				55				40	142

PDI File #: **175750 III**
Location: **N: Parking Lot Access S: Walnut Street**
Location: **W: Ericsson Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Saturday, June 24, 2017**
Start Time: **11:00 AM**
End Time: **2:00 PM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class:

Heavy Vehicles

	Parking Lot Access				Walnut Street				Ericsson Street				
	North				South				West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	1	0	0	1	0	0	0	0	1
11:30 AM	0	1	0	1	1	0	0	1	0	0	0	0	2
11:45 AM	0	1	0	1	0	0	0	0	0	0	0	0	1
Total	0	2	0	2	2	0	0	2	0	0	0	0	4
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	1	0	0	1	0	0	0	0	1
Total	0	0	0	0	1	0	0	1	0	0	0	0	1
1:00 PM	0	1	0	1	0	0	0	0	0	0	0	0	1
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	1	0	0	0	0	0	0	0	0	1
Grand Total	0	3	0	3	3	0	0	3	0	0	0	0	6
Approach %	0.0	100.0	0.0		100.0	0.0	0.0		0.0	0.0	0.0		
Total %	0.0	50.0	0.0	50.0	50.0	0.0	0.0	50.0	0.0	0.0	0.0	0.0	
Exiting Leg Total				3				3				0	6

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

11:00 AM	Parking Lot Access				Walnut Street				Ericsson Street				
	North				South				West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	1	0	0	1	0	0	0	0	1
11:30 AM	0	1	0	1	1	0	0	1	0	0	0	0	2
11:45 AM	0	1	0	1	0	0	0	0	0	0	0	0	1
Total Volume	0	2	0	2	2	0	0	2	0	0	0	0	4
% Approach Total	0.0	100.0	0.0		100.0	0.0	0.0		0.0	0.0	0.0		
PHF	0.000	0.500	0.000	0.500	0.500	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.500
Entering Leg	0	2	0	2	2	0	0	2	0	0	0	0	4
Exiting Leg				2				2				0	4
Total				4				4				0	8

PDI File #: **175750 III**
Location: **N: Parking Lot Access S: Walnut Street**
Location: **W: Ericsson Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Saturday, June 24, 2017**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Buses

	Parking Lot Access				Walnut Street				Ericsson Street				
	North				South				West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	2	0	0	2	2
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	2	0	0	2	2
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	2	0	0	2	2
Approach %	0.0	0.0	0.0		0.0	0.0	0.0		100.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0	
Exiting Leg Total				0				2				0	2

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

11:00 AM	Parking Lot Access				Walnut Street				Ericsson Street				
	North				South				West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	2	0	0	2	2
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	2	0	0	2	2
% Approach Total	0.0	0.0	0.0		0.0	0.0	0.0		100.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.250	0.250
Entering Leg	0	0	0	0	0	0	0	0	2	0	0	2	2
Exiting Leg				0				2				0	2
Total				0				2				2	4

PDI File #: **175750 III**
Location: **N: Parking Lot Access S: Walnut Street**
Location: **W: Ericsson Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Saturday, June 24, 2017**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Bicycles (on Roadway and Crosswalks)

	Parking Lot Access						Walnut Street						Ericsson Street						
	North						South						West						
	Right	Thru	U-Turn	CW-EB	CW-WB	Total	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Left	U-Turn	CW-NB	CW-SB	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	1	0	0	0	0	1	2	0	0	0	0	2	3
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	1	0	0	0	0	1	2	0	0	0	0	2	3
1:00 PM	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	2	1	0	0	0	3	0	0	0	0	0	0	3
1:45 PM	2	0	0	0	0	2	0	0	0	0	0	0	1	0	0	0	0	1	3
Total	2	0	0	0	0	2	3	1	0	0	0	4	1	0	0	0	0	1	7
Grand Total	2	0	0	0	0	2	4	1	0	0	0	5	3	0	0	0	0	3	10
Approach %	100.0	0.0	0.0	0.0	0.0		80.0	20.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0	0.0		
Total %	20.0	0.0	0.0	0.0	0.0	20.0	40.0	10.0	0.0	0.0	0.0	50.0	30.0	0.0	0.0	0.0	0.0	30.0	
Exiting Leg Total						4						3						3	10

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

1:00 PM	Parking Lot Access						Walnut Street						Ericsson Street						
	North						South						West						
	Right	Thru	U-Turn	CW-EB	CW-WB	Total	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Left	U-Turn	CW-NB	CW-SB	Total	Total
1:00 PM	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	2	1	0	0	0	3	0	0	0	0	0	0	3
1:45 PM	2	0	0	0	0	2	0	0	0	0	0	0	1	0	0	0	0	1	3
Total Volume	2	0	0	0	0	2	3	1	0	0	0	4	1	0	0	0	0	1	7
% Approach Total	100.0	0.0	0.0	0.0	0.0		75.0	25.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0	0.0		
PHF	0.250	0.000	0.000	0.000	0.000	0.250	0.375	0.250	0.000	0.000	0.000	0.333	0.250	0.000	0.000	0.000	0.000	0.250	0.583
Entering Leg	2	0	0	0	0	2	3	1	0	0	0	4	1	0	0	0	0	1	7
Exiting Leg						3						1						3	7
Total						5						5						4	14

PDI File #: **175750 III**
Location: **N: Parking Lot Access S: Walnut Street**
Location: **W: Ericsson Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Saturday, June 24, 2017**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Pedestrians

	Parking Lot Access						Walnut Street						Ericsson Street						
	North						South						West						
	Right	Thru	U-Turn	CW-EB	CW-WB	Total	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Left	U-Turn	CW-NB	CW-SB	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1
12:00 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1
12:15 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	0	0	0	2
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4	4
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	4	0	4	5
Grand Total	0	0	0	0	1	1	0	0	0	1	2	3	0	0	0	4	0	4	8
Approach %	0.0	0.0	0.0	0.0	100.0		0.0	0.0	0.0	33.3	66.7		0.0	0.0	0.0	100.0	0.0		
Total %	0.0	0.0	0.0	0.0	12.5	12.5	0.0	0.0	0.0	12.5	25.0	37.5	0.0	0.0	0.0	50.0	0.0	50.0	
Exiting Leg Total						1						3						4	8

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

12:15 PM	Parking Lot Access						Walnut Street						Ericsson Street						
	North						South						West						
	Right	Thru	U-Turn	CW-EB	CW-WB	Total	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Left	U-Turn	CW-NB	CW-SB	Total	Total
12:15 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4	4
Total Volume	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	4	0	4	5
% Approach Total	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	100.0		0.0	0.0	0.0	100.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.250	0.000	0.000	0.000	0.250	0.000	0.250	0.313
Entering Leg	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	4	0	4	5
Exiting Leg						0						1						4	5
Total						0						2						8	10

PDI File #: **175750 J**
Location: **N: Sullivan & McLaughlin Driveway S: MTA Gated Driveway**
Location: **E: Conley Street W: Conley Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars, Heavy Vehicles, and Buses (Combined)

	Sullivan & McLaughlin Driveway					Conley Street					MTA Gated Driveway					Conley Street					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	3	21	0	0	24	0	0	0	0	0	0	6	1	0	7	31
7:15 AM	2	0	0	0	2	2	14	0	0	16	0	0	0	0	0	0	1	1	0	2	20
7:30 AM	0	0	0	0	0	1	22	0	1	24	0	0	0	0	0	0	5	0	0	5	29
7:45 AM	0	0	0	0	0	1	14	0	0	15	0	0	0	0	0	0	7	2	0	9	24
Total	2	0	0	0	2	7	71	0	1	79	0	0	0	0	0	0	19	4	0	23	104
8:00 AM	1	0	0	0	1	1	20	0	0	21	0	0	0	0	0	0	13	1	0	14	36
8:15 AM	1	0	0	0	1	0	12	0	0	12	0	0	0	0	0	0	7	0	0	7	20
8:30 AM	0	0	0	0	0	0	13	0	0	13	0	0	0	0	0	0	4	0	1	5	18
8:45 AM	0	0	0	0	0	0	11	0	0	11	0	0	0	0	0	0	12	0	0	12	23
Total	2	0	0	0	2	1	56	0	0	57	0	0	0	0	0	0	36	1	1	38	97
Grand Total	4	0	0	0	4	8	127	0	1	136	0	0	0	0	0	0	55	5	1	61	201
Approach %	100.0	0.0	0.0	0.0		5.9	93.4	0.0	0.7		0.0	0.0	0.0	0.0		0.0	90.2	8.2	1.6		
Total %	2.0	0.0	0.0	0.0	2.0	4.0	63.2	0.0	0.5	67.7	0.0	0.0	0.0	0.0	0.0	0.0	27.4	2.5	0.5	30.3	
Exiting Leg Total					13					56					0					132	201
Cars	3	0	0	0	3	8	126	0	1	135	0	0	0	0	0	0	52	5	1	58	196
% Cars	75.0	0.0	0.0	0.0	75.0	100.0	99.2	0.0	100.0	99.3	0.0	0.0	0.0	0.0	0.0	0.0	94.5	100.0	100.0	95.1	97.5
Exiting Leg Total					13					53					0					130	196
Heavy Vehicles	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	4
% Heavy Vehicles	25.0	0.0	0.0	0.0	25.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.5	0.0	0.0	4.9	2.0
Exiting Leg Total					0					3					0					1	4
Buses	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
% Buses	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5
Exiting Leg Total					0					0					0					1	1

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:15 AM	Sullivan & McLaughlin Driveway					Conley Street					MTA Gated Driveway					Conley Street					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:15 AM	2	0	0	0	2	2	14	0	0	16	0	0	0	0	0	0	1	1	0	2	20
7:30 AM	0	0	0	0	0	1	22	0	1	24	0	0	0	0	0	0	5	0	0	5	29
7:45 AM	0	0	0	0	0	1	14	0	0	15	0	0	0	0	0	0	7	2	0	9	24
8:00 AM	1	0	0	0	1	1	20	0	0	21	0	0	0	0	0	0	13	1	0	14	36
Total Volume	3	0	0	0	3	5	70	0	1	76	0	0	0	0	0	0	26	4	0	30	109
% Approach Total	100.0	0.0	0.0	0.0		6.6	92.1	0.0	1.3		0.0	0.0	0.0	0.0		0.0	86.7	13.3	0.0		
PHF	0.375	0.000	0.000	0.000	0.375	0.625	0.795	0.000	0.250	0.792	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.500	0.000	0.536	0.757
Cars	2	0	0	0	2	5	70	0	1	76	0	0	0	0	0	0	24	4	0	28	106
Cars %	66.7	0.0	0.0	0.0	66.7	100.0	100.0	0.0	100.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	92.3	100.0	0.0	93.3	97.2
Heavy Vehicles	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	3
Heavy Vehicles %	33.3	0.0	0.0	0.0	33.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.7	0.0	0.0	6.7	2.8
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Buses %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cars Enter Leg	2	0	0	0	2	5	70	0	1	76	0	0	0	0	0	0	24	4	0	28	106
Heavy Enter Leg	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	3
Bus Enter Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Entering Leg	3	0	0	0	3	5	70	0	1	76	0	0	0	0	0	0	26	4	0	30	109
Cars Exiting Leg					9					25					0					72	106
Heavy Exiting Leg					0					2					0					1	3
Buses Exiting Leg					0					0					0					0	0
Total Exiting Leg					9					27					0					73	109

PDI File #: **175750 J**
Location: **N: Sullivan & McLaughlin Driveway S: MTA Gated Driveway**
Location: **E: Conley Street W: Conley Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars

	Sullivan & McLaughlin Driveway					Conley Street					MTA Gated Driveway					Conley Street					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	3	21	0	0	24	0	0	0	0	0	0	6	1	0	7	31
7:15 AM	1	0	0	0	1	2	14	0	0	16	0	0	0	0	0	0	1	1	0	2	19
7:30 AM	0	0	0	0	0	1	22	0	1	24	0	0	0	0	0	0	5	0	0	5	29
7:45 AM	0	0	0	0	0	1	14	0	0	15	0	0	0	0	0	0	6	2	0	8	23
Total	1	0	0	0	1	7	71	0	1	79	0	0	0	0	0	0	18	4	0	22	102
8:00 AM	1	0	0	0	1	1	20	0	0	21	0	0	0	0	0	0	12	1	0	13	35
8:15 AM	1	0	0	0	1	0	12	0	0	12	0	0	0	0	0	0	7	0	0	7	20
8:30 AM	0	0	0	0	0	0	12	0	0	12	0	0	0	0	0	0	4	0	1	5	17
8:45 AM	0	0	0	0	0	0	11	0	0	11	0	0	0	0	0	0	11	0	0	11	22
Total	2	0	0	0	2	1	55	0	0	56	0	0	0	0	0	0	34	1	1	36	94
Grand Total	3	0	0	0	3	8	126	0	1	135	0	0	0	0	0	0	52	5	1	58	196
Approach %	100.0	0.0	0.0	0.0		5.9	93.3	0.0	0.7		0.0	0.0	0.0	0.0		0.0	89.7	8.6	1.7		
Total %	1.5	0.0	0.0	0.0	1.5	4.1	64.3	0.0	0.5	68.9	0.0	0.0	0.0	0.0	0.0	0.0	26.5	2.6	0.5	29.6	
Exiting Leg Total					13					53					0					130	196

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:30 AM	Sullivan & McLaughlin Driveway					Conley Street					MTA Gated Driveway					Conley Street					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:30 AM	0	0	0	0	0	1	22	0	1	24	0	0	0	0	0	0	5	0	0	5	29
7:45 AM	0	0	0	0	0	1	14	0	0	15	0	0	0	0	0	0	6	2	0	8	23
8:00 AM	1	0	0	0	1	1	20	0	0	21	0	0	0	0	0	0	12	1	0	13	35
8:15 AM	1	0	0	0	1	0	12	0	0	12	0	0	0	0	0	0	7	0	0	7	20
Total Volume	2	0	0	0	2	3	68	0	1	72	0	0	0	0	0	0	30	3	0	33	107
% Approach Total	100.0	0.0	0.0	0.0		4.2	94.4	0.0	1.4		0.0	0.0	0.0	0.0		0.0	90.9	9.1	0.0		
PHF	0.500	0.000	0.000	0.000	0.500	0.750	0.773	0.000	0.250	0.750	0.000	0.000	0.000	0.000	0.000	0.000	0.625	0.375	0.000	0.635	0.764
Entering Leg	2	0	0	0	2	3	68	0	1	72	0	0	0	0	0	0	30	3	0	33	107
Exiting Leg					6					31					0					70	107
Total					8					103					0					103	214

PDI File #: **175750 J**
Location: **N: Sullivan & McLaughlin Driveway S: MTA Gated Driveway**
Location: **E: Conley Street W: Conley Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Heavy Vehicles

	Sullivan & McLaughlin Driveway					Conley Street					MTA Gated Driveway					Conley Street					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
Total	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	2
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
Grand Total	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	4
Approach %	100.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
Total %	25.0	0.0	0.0	0.0	25.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	75.0	0.0	0.0	75.0	
Exiting Leg Total					0					3					0					1	4

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:15 AM	Sullivan & McLaughlin Driveway					Conley Street					MTA Gated Driveway					Conley Street					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:15 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
Total Volume	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	3
% Approach Total	100.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
PHF	0.250	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.500	0.750
Entering Leg	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	3
Exiting Leg					0					2					0					1	3
Total					1					2					0					3	6

PDI File #: **175750 J**
Location: **N: Sullivan & McLaughlin Driveway S: MTA Gated Driveway**
Location: **E: Conley Street W: Conley Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Buses

	Sullivan & McLaughlin Driveway					Conley Street					MTA Gated Driveway					Conley Street					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Grand Total	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Approach %	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					0					0					0					1	1

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:45 AM	Sullivan & McLaughlin Driveway					Conley Street					MTA Gated Driveway					Conley Street					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total Volume	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
% Approach Total	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250
Entering Leg	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Exiting Leg					0					0					0					1	1
Total					0					1					0					1	2

PDI File #: **175750 J**
Location: **N: Sullivan & McLaughlin Driveway S: MTA Gated Driveway**
Location: **E: Conley Street W: Conley Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class:

Bicycles (on Roadway and Crosswalks)

	Sullivan & McLaughlin Driveway							Conley Street							MTA Gated Driveway							Conley Street							
	North							East							South							West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	3	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
7:15 AM	0	0	0	0	0	0	0	0	4	0	0	0	0	4	0	0	0	0	0	0	0	0	1	0	0	0	0	1	5
7:30 AM	2	0	0	0	0	0	2	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	1	0	0	0	0	1	5
7:45 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2	0	0	0	2	3
Total	2	0	0	0	0	0	2	0	10	0	0	0	0	10	0	0	0	0	0	0	0	0	2	2	0	0	0	4	16
8:00 AM	0	0	0	0	0	1	1	0	3	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
8:15 AM	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
8:30 AM	0	0	0	0	1	0	1	0	3	0	0	0	0	3	0	0	0	0	0	0	0	0	1	0	0	0	0	1	5
8:45 AM	0	0	0	0	0	0	0	0	6	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
Total	0	0	0	0	1	1	2	0	14	0	0	0	0	14	0	0	0	0	0	0	0	0	1	0	0	0	0	1	17
Grand Total	2	0	0	0	1	1	4	0	24	0	0	0	0	24	0	0	0	0	0	0	0	0	3	2	0	0	0	5	33
Approach %	50.0	0.0	0.0	0.0	25.0	25.0		0.0	100.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	60.0	40.0	0.0	0.0	0.0		
Total %	6.1	0.0	0.0	0.0	3.0	3.0	12.1	0.0	72.7	0.0	0.0	0.0	0.0	72.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.1	6.1	0.0	0.0	0.0	15.2	
Exiting Leg Total							4							3							0							26	33

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:15 AM	Sullivan & McLaughlin Driveway							Conley Street							MTA Gated Driveway							Conley Street							
	North							East							South							West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:15 AM	0	0	0	0	0	0	0	0	4	0	0	0	0	4	0	0	0	0	0	0	0	0	1	0	0	0	0	1	5
7:30 AM	2	0	0	0	0	0	2	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	1	0	0	0	0	1	5
7:45 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2	0	0	0	2	3
8:00 AM	0	0	0	0	0	1	1	0	3	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Total Volume	2	0	0	0	0	1	3	0	10	0	0	0	0	10	0	0	0	0	0	0	0	0	2	2	0	0	0	4	17
% Approach Total	66.7	0.0	0.0	0.0	0.0	33.3		0.0	100.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	50.0	50.0	0.0	0.0	0.0		
PHF	0.250	0.000	0.000	0.000	0.000	0.250	0.375	0.000	0.625	0.000	0.000	0.000	0.000	0.625	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.250	0.000	0.000	0.000	0.500	0.850
Entering Leg	2	0	0	0	0	1	3	0	10	0	0	0	0	10	0	0	0	0	0	0	0	0	2	2	0	0	0	4	17
Exiting Leg							3							2							0							12	17
Total							6							12							0							16	34

PDI File #: **175750 J**
Location: **N: Sullivan & McLaughlin Driveway S: MTA Gated Driveway**
Location: **E: Conley Street W: Conley Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Pedestrians

	Sullivan & McLaughlin Driveway							Conley Street							MTA Gated Driveway							Conley Street							
	North							East							South							West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	2	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	3	1	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
8:00 AM	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:45 AM	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	2	2	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Grand Total	0	0	0	0	5	3	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
Approach %	0.0	0.0	0.0	0.0	62.5	37.5		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	62.5	37.5	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total							8							0							0							0	8

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:15 AM	Sullivan & McLaughlin Driveway							Conley Street							MTA Gated Driveway							Conley Street							
	North							East							South							West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:15 AM	0	0	0	0	2	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:00 AM	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Total Volume	0	0	0	0	4	2	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
% Approach Total	0.0	0.0	0.0	0.0	66.7	33.3		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.500	0.500	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500
Entering Leg	0	0	0	0	4	2	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
Exiting Leg							6							0							0							0	6
Total							12							0							0							0	12

PDI File #: **175750 JJ**
Location: **N: Sullivan & McLaughlin Driveway S: MTA Gated Driveway**
Location: **E: Conley Street W: Conley Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars, Heavy Vehicles, and Buses (Combined)

	Sullivan & McLaughlin Driveway					Conley Street					MTA Gated Driveway					Conley Street					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	3	0	2	0	5	0	16	0	0	16	0	0	0	0	0	0	10	0	0	10	31
4:15 PM	0	0	1	0	1	0	14	0	0	14	0	0	0	0	0	0	9	0	0	9	24
4:30 PM	0	0	1	0	1	0	18	0	0	18	0	0	0	0	0	0	19	0	1	20	39
4:45 PM	1	0	0	0	1	0	9	0	0	9	0	0	0	0	0	0	17	0	0	17	27
Total	4	0	4	0	8	0	57	0	0	57	0	0	0	0	0	0	55	0	1	56	121
5:00 PM	1	0	0	0	1	0	16	0	0	16	0	0	0	0	0	0	12	0	0	12	29
5:15 PM	0	0	3	0	3	0	5	0	0	5	0	0	0	0	0	0	6	0	1	7	15
5:30 PM	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	0	16	1	0	17	26
5:45 PM	0	0	0	0	0	0	12	0	0	12	0	0	0	0	0	0	20	2	1	23	35
Total	1	0	3	0	4	0	42	0	0	42	0	0	0	0	0	0	54	3	2	59	105
Grand Total	5	0	7	0	12	0	99	0	0	99	0	0	0	0	0	0	109	3	3	115	226
Approach %	41.7	0.0	58.3	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	94.8	2.6	2.6		
Total %	2.2	0.0	3.1	0.0	5.3	0.0	43.8	0.0	0.0	43.8	0.0	0.0	0.0	0.0	0.0	0.0	48.2	1.3	1.3	50.9	
Exiting Leg Total					3					116					0					107	226
Cars	5	0	7	0	12	0	97	0	0	97	0	0	0	0	0	0	107	3	3	113	222
% Cars	100.0	0.0	100.0	0.0	100.0	0.0	98.0	0.0	0.0	98.0	0.0	0.0	0.0	0.0	0.0	0.0	98.2	100.0	100.0	98.3	98.2
Exiting Leg Total					3					114					0					105	222
Heavy Vehicles	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	3
% Heavy Vehicles	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.9	1.3
Exiting Leg Total					0					1					0					2	3
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
% Buses	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.9	0.4
Exiting Leg Total					0					1					0					0	1

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Sullivan & McLaughlin Driveway					Conley Street					MTA Gated Driveway					Conley Street					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	3	0	2	0	5	0	16	0	0	16	0	0	0	0	0	0	10	0	0	10	31
4:15 PM	0	0	1	0	1	0	14	0	0	14	0	0	0	0	0	0	9	0	0	9	24
4:30 PM	0	0	1	0	1	0	18	0	0	18	0	0	0	0	0	0	19	0	1	20	39
4:45 PM	1	0	0	0	1	0	9	0	0	9	0	0	0	0	0	0	17	0	0	17	27
Total Volume	4	0	4	0	8	0	57	0	0	57	0	0	0	0	0	0	55	0	1	56	121
% Approach Total	50.0	0.0	50.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	98.2	0.0	1.8		
PHF	0.333	0.000	0.500	0.000	0.400	0.000	0.792	0.000	0.000	0.792	0.000	0.000	0.000	0.000	0.000	0.000	0.724	0.000	0.250	0.700	0.776
Cars	4	0	4	0	8	0	55	0	0	55	0	0	0	0	0	0	53	0	1	54	117
Cars %	100.0	0.0	100.0	0.0	100.0	0.0	96.5	0.0	0.0	96.5	0.0	0.0	0.0	0.0	0.0	0.0	96.4	0.0	100.0	96.4	96.7
Heavy Vehicles	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	3
Heavy Vehicles %	0.0	0.0	0.0	0.0	0.0	0.0	3.5	0.0	0.0	3.5	0.0	0.0	0.0	0.0	0.0	0.0	1.8	0.0	0.0	1.8	2.5
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
Buses %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.8	0.0	0.0	1.8	0.8
Cars Enter Leg	4	0	4	0	8	0	55	0	0	55	0	0	0	0	0	0	53	0	1	54	117
Heavy Enter Leg	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	3
Bus Enter Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
Total Entering Leg	4	0	4	0	8	0	57	0	0	57	0	0	0	0	0	0	55	0	1	56	121
Cars Exiting Leg					0					57					0					60	117
Heavy Exiting Leg					0					1					0					2	3
Buses Exiting Leg					0					1					0					0	1
Total Exiting Leg					0					59					0					62	121

PDI File #: **175750 JJ**
Location: **N: Sullivan & McLaughlin Driveway S: MTA Gated Driveway**
Location: **E: Conley Street W: Conley Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars

	Sullivan & McLaughlin Driveway					Conley Street					MTA Gated Driveway					Conley Street					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	3	0	2	0	5	0	16	0	0	16	0	0	0	0	0	0	10	0	0	10	31
4:15 PM	0	0	1	0	1	0	14	0	0	14	0	0	0	0	0	0	8	0	0	8	23
4:30 PM	0	0	1	0	1	0	16	0	0	16	0	0	0	0	0	0	18	0	1	19	36
4:45 PM	1	0	0	0	1	0	9	0	0	9	0	0	0	0	0	0	17	0	0	17	27
Total	4	0	4	0	8	0	55	0	0	55	0	0	0	0	0	0	53	0	1	54	117
5:00 PM	1	0	0	0	1	0	16	0	0	16	0	0	0	0	0	0	12	0	0	12	29
5:15 PM	0	0	3	0	3	0	5	0	0	5	0	0	0	0	0	0	6	0	1	7	15
5:30 PM	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	0	16	1	0	17	26
5:45 PM	0	0	0	0	0	0	12	0	0	12	0	0	0	0	0	0	20	2	1	23	35
Total	1	0	3	0	4	0	42	0	0	42	0	0	0	0	0	0	54	3	2	59	105
Grand Total	5	0	7	0	12	0	97	0	0	97	0	0	0	0	0	0	107	3	3	113	222
Approach %	41.7	0.0	58.3	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	94.7	2.7	2.7		
Total %	2.3	0.0	3.2	0.0	5.4	0.0	43.7	0.0	0.0	43.7	0.0	0.0	0.0	0.0	0.0	0.0	48.2	1.4	1.4	50.9	
Exiting Leg Total					3					114					0					105	222

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Sullivan & McLaughlin Driveway					Conley Street					MTA Gated Driveway					Conley Street					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	3	0	2	0	5	0	16	0	0	16	0	0	0	0	0	0	10	0	0	10	31
4:15 PM	0	0	1	0	1	0	14	0	0	14	0	0	0	0	0	0	8	0	0	8	23
4:30 PM	0	0	1	0	1	0	16	0	0	16	0	0	0	0	0	0	18	0	1	19	36
4:45 PM	1	0	0	0	1	0	9	0	0	9	0	0	0	0	0	0	17	0	0	17	27
Total Volume	4	0	4	0	8	0	55	0	0	55	0	0	0	0	0	0	53	0	1	54	117
% Approach Total	50.0	0.0	50.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	98.1	0.0	1.9		
PHF	0.333	0.000	0.500	0.000	0.400	0.000	0.859	0.000	0.000	0.859	0.000	0.000	0.000	0.000	0.000	0.000	0.736	0.000	0.250	0.711	0.813
Entering Leg	4	0	4	0	8	0	55	0	0	55	0	0	0	0	0	0	53	0	1	54	117
Exiting Leg					0					57					0					60	117
Total					8					112					0					114	234

PDI File #: **175750 JJ**
Location: **N: Sullivan & McLaughlin Driveway S: MTA Gated Driveway**
Location: **E: Conley Street W: Conley Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Heavy Vehicles

	Sullivan & McLaughlin Driveway					Conley Street					MTA Gated Driveway					Conley Street					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	3
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	3
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	3
Approach %	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	66.7	0.0	0.0	66.7	0.0	0.0	0.0	0.0	0.0	0.0	33.3	0.0	0.0	33.3	
Exiting Leg Total					0					1					0					2	3

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Sullivan & McLaughlin Driveway					Conley Street					MTA Gated Driveway					Conley Street					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	3
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	3
% Approach Total	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.250	0.250
Entering Leg	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	3
Exiting Leg					0					1					0					2	3
Total					0					3					0					3	6

PDI File #: **175750 JJ**
Location: **N: Sullivan & McLaughlin Driveway S: MTA Gated Driveway**
Location: **E: Conley Street W: Conley Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Buses

	Sullivan & McLaughlin Driveway					Conley Street					MTA Gated Driveway					Conley Street					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0	
Exiting Leg Total					0					1					0					0	1

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Sullivan & McLaughlin Driveway					Conley Street					MTA Gated Driveway					Conley Street					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.250	0.250
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
Exiting Leg					0					1					0					0	1
Total					0					1					0					1	2

PDI File #: **175750 JJ**
Location: **N: Sullivan & McLaughlin Driveway S: MTA Gated Driveway**
Location: **E: Conley Street W: Conley Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
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Class:

Bicycles (on Roadway and Crosswalks)

	Sullivan & McLaughlin Driveway							Conley Street							MTA Gated Driveway							Conley Street							
	North							East							South							West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	2
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1	0	0	0	4	4
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
4:45 PM	0	0	0	0	0	1	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	5	0	0	0	0	5	7
Total	0	0	0	0	0	1	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	11	1	0	0	0	12	14
5:00 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	3	0	0	0	0	3	4
5:15 PM	0	0	0	0	1	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	6	0	0	0	0	6	8
5:30 PM	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	0	0	8	9
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
Total	0	0	0	0	1	1	2	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	18	0	0	0	0	18	22
Grand Total	0	0	0	0	1	2	3	0	3	0	0	0	0	3	0	0	0	0	0	0	0	0	29	1	0	0	0	30	36
Approach %	0.0	0.0	0.0	0.0	33.3	66.7		0.0	100.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	96.7	3.3	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	2.8	5.6	8.3	0.0	8.3	0.0	0.0	0.0	0.0	8.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	80.6	2.8	0.0	0.0	0.0	83.3	
Exiting Leg Total							4							29							0							3	36

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:45 PM	Sullivan & McLaughlin Driveway							Conley Street							MTA Gated Driveway							Conley Street							
	North							East							South							West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:45 PM	0	0	0	0	0	1	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	5	0	0	0	0	5	7
5:00 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	3	0	0	0	0	3	4
5:15 PM	0	0	0	0	1	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	6	0	0	0	0	6	8
5:30 PM	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	0	0	8	9
Total Volume	0	0	0	0	1	2	3	0	3	0	0	0	0	3	0	0	0	0	0	0	0	0	22	0	0	0	0	22	28
% Approach Total	0.0	0.0	0.0	0.0	33.3	66.7		0.0	100.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.250	0.500	0.750	0.000	0.750	0.000	0.000	0.000	0.000	0.750	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.688	0.000	0.000	0.000	0.000	0.688	0.778
Entering Leg	0	0	0	0	1	2	3	0	3	0	0	0	0	3	0	0	0	0	0	0	0	0	22	0	0	0	0	22	28
Exiting Leg							3							22							0							3	28
Total							6							25							0							25	56

PDI File #: **175750 JJ**
Location: **N: Sullivan & McLaughlin Driveway S: MTA Gated Driveway**
Location: **E: Conley Street W: Conley Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Friday, June 23, 2017**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
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Email: datarequests@pdillc.com

Class:

Pedestrians

	Sullivan & McLaughlin Driveway							Conley Street							MTA Gated Driveway							Conley Street							
	North							East							South							West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:00 PM	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:15 PM	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:30 PM	0	0	0	0	1	2	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
5:45 PM	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Total	0	0	0	0	4	5	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
Grand Total	0	0	0	0	6	5	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11
Approach %	0.0	0.0	0.0	0.0	54.5	45.5		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	54.5	45.5	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total							11							0							0							0	11

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

5:00 PM	Sullivan & McLaughlin Driveway							Conley Street							MTA Gated Driveway							Conley Street							
	North							East							South							West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
5:00 PM	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:15 PM	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:30 PM	0	0	0	0	1	2	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
5:45 PM	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Total Volume	0	0	0	0	4	5	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
% Approach Total	0.0	0.0	0.0	0.0	44.4	55.6		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.500	0.625	0.750	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.750
Entering Leg	0	0	0	0	4	5	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
Exiting Leg							9							0							0							0	9
Total							18							0							0							0	18

PDI File #: **175750 JJJ**
Location: **N: Sullivan & McLaughlin Driveway S: MTA Gated Driveway**
Location: **E: Conley Street W: Conley Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Saturday, June 24, 2017**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars, Heavy Vehicles, and Buses (Combined)

	Sullivan & McLaughlin Driveway					Conley Street					MTA Gated Driveway					Conley Street					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	6	0	0	6	13
11:15 AM	0	0	0	0	0	0	14	0	0	14	0	0	0	0	0	0	7	0	0	7	21
11:30 AM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	8	0	0	8	11
11:45 AM	0	0	1	0	1	0	11	0	0	11	0	0	0	0	0	0	13	0	0	13	25
Total	0	0	1	0	1	0	35	0	0	35	0	0	0	0	0	0	34	0	0	34	70
12:00 PM	0	0	0	0	0	0	11	0	1	12	0	0	0	0	0	0	6	0	2	8	20
12:15 PM	0	0	0	0	0	0	16	0	0	16	0	0	0	0	0	0	12	0	1	13	29
12:30 PM	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	13	0	0	13	20
12:45 PM	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	0	13	0	0	13	22
Total	0	0	0	0	0	0	43	0	1	44	0	0	0	0	0	0	44	0	3	47	91
1:00 PM	0	0	0	0	0	0	17	0	0	17	0	0	0	0	0	0	18	0	0	18	35
1:15 PM	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	12	0	0	12	19
1:30 PM	0	0	0	0	0	0	12	0	0	12	0	0	0	0	0	0	11	0	0	11	23
1:45 PM	0	0	0	0	0	0	17	0	0	17	0	0	0	0	0	0	9	0	1	10	27
Total	0	0	0	0	0	0	53	0	0	53	0	0	0	0	0	0	50	0	1	51	104
Grand Total	0	0	1	0	1	0	131	0	1	132	0	0	0	0	0	0	128	0	4	132	265
Approach %	0.0	0.0	100.0	0.0		0.0	99.2	0.0	0.8		0.0	0.0	0.0	0.0		0.0	97.0	0.0	3.0		
Total %	0.0	0.0	0.4	0.0	0.4	0.0	49.4	0.0	0.4	49.8	0.0	0.0	0.0	0.0	0.0	0.0	48.3	0.0	1.5	49.8	
Exiting Leg Total					0					130					0					135	265
Cars	0	0	1	0	1	0	131	0	1	132	0	0	0	0	0	0	127	0	4	131	264
% Cars	0.0	0.0	100.0	0.0	100.0	0.0	100.0	0.0	100.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	99.2	0.0	100.0	99.2	99.6
Exiting Leg Total					0					129					0					135	264
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
% Heavy Vehicles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.0	0.8	0.4
Exiting Leg Total					0					1					0					0	1
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Buses	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Exiting Leg Total					0					0					0					0	0

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

12:15 PM	Sullivan & McLaughlin Driveway					Conley Street					MTA Gated Driveway					Conley Street					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
12:15 PM	0	0	0	0	0	0	16	0	0	16	0	0	0	0	0	0	12	0	1	13	29
12:30 PM	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	13	0	0	13	20
12:45 PM	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	0	13	0	0	13	22
1:00 PM	0	0	0	0	0	0	17	0	0	17	0	0	0	0	0	0	18	0	0	18	35
Total Volume	0	0	0	0	0	0	49	0	0	49	0	0	0	0	0	0	56	0	1	57	106
% Approach Total	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	98.2	0.0	1.8		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.721	0.000	0.000	0.721	0.000	0.000	0.000	0.000	0.000	0.000	0.778	0.000	0.250	0.792	0.757
Cars	0	0	0	0	0	0	49	0	0	49	0	0	0	0	0	0	56	0	1	57	106
Cars %	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	100.0	100.0	100.0
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Heavy Vehicles %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Buses %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cars Enter Leg	0	0	0	0	0	0	49	0	0	49	0	0	0	0	0	0	56	0	1	57	106
Heavy Enter Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bus Enter Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Entering Leg	0	0	0	0	0	0	49	0	0	49	0	0	0	0	0	0	56	0	1	57	106
Cars Exiting Leg					0					56					0					50	106
Heavy Exiting Leg					0					0					0					0	0
Buses Exiting Leg					0					0					0					0	0
Total Exiting Leg					0					56					0					50	106

PDI File #: **175750 JJJ**
Location: **N: Sullivan & McLaughlin Driveway S: MTA Gated Driveway**
Location: **E: Conley Street W: Conley Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Saturday, June 24, 2017**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars

	Sullivan & McLaughlin Driveway					Conley Street					MTA Gated Driveway					Conley Street					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	6	0	0	6	13
11:15 AM	0	0	0	0	0	0	14	0	0	14	0	0	0	0	0	0	7	0	0	7	21
11:30 AM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	8	0	0	8	11
11:45 AM	0	0	1	0	1	0	11	0	0	11	0	0	0	0	0	0	13	0	0	13	25
Total	0	0	1	0	1	0	35	0	0	35	0	0	0	0	0	0	34	0	0	34	70
12:00 PM	0	0	0	0	0	0	11	0	1	12	0	0	0	0	0	0	5	0	2	7	19
12:15 PM	0	0	0	0	0	0	16	0	0	16	0	0	0	0	0	0	12	0	1	13	29
12:30 PM	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	13	0	0	13	20
12:45 PM	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	0	13	0	0	13	22
Total	0	0	0	0	0	0	43	0	1	44	0	0	0	0	0	0	43	0	3	46	90
1:00 PM	0	0	0	0	0	0	17	0	0	17	0	0	0	0	0	0	18	0	0	18	35
1:15 PM	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	12	0	0	12	19
1:30 PM	0	0	0	0	0	0	12	0	0	12	0	0	0	0	0	0	11	0	0	11	23
1:45 PM	0	0	0	0	0	0	17	0	0	17	0	0	0	0	0	0	9	0	1	10	27
Total	0	0	0	0	0	0	53	0	0	53	0	0	0	0	0	0	50	0	1	51	104
Grand Total	0	0	1	0	1	0	131	0	1	132	0	0	0	0	0	0	127	0	4	131	264
Approach %	0.0	0.0	100.0	0.0		0.0	99.2	0.0	0.8		0.0	0.0	0.0	0.0		0.0	96.9	0.0	3.1		
Total %	0.0	0.0	0.4	0.0	0.4	0.0	49.6	0.0	0.4	50.0	0.0	0.0	0.0	0.0	0.0	0.0	48.1	0.0	1.5	49.6	
Exiting Leg Total					0					129					0					135	264

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

12:15 PM	Sullivan & McLaughlin Driveway					Conley Street					MTA Gated Driveway					Conley Street					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
12:15 PM	0	0	0	0	0	0	16	0	0	16	0	0	0	0	0	0	12	0	1	13	29
12:30 PM	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	13	0	0	13	20
12:45 PM	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	0	13	0	0	13	22
1:00 PM	0	0	0	0	0	0	17	0	0	17	0	0	0	0	0	0	18	0	0	18	35
Total Volume	0	0	0	0	0	0	49	0	0	49	0	0	0	0	0	0	56	0	1	57	106
% Approach Total	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	98.2	0.0	1.8		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.721	0.000	0.000	0.721	0.000	0.000	0.000	0.000	0.000	0.000	0.778	0.000	0.250	0.792	0.757
Entering Leg	0	0	0	0	0	0	49	0	0	49	0	0	0	0	0	0	56	0	1	57	106
Exiting Leg					0					56					0					50	106
Total					0					105					0					107	212

PDI File #: **175750 JJJ**
Location: **N: Sullivan & McLaughlin Driveway S: MTA Gated Driveway**
Location: **E: Conley Street W: Conley Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Saturday, June 24, 2017**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Heavy Vehicles

	Sullivan & McLaughlin Driveway					Conley Street					MTA Gated Driveway					Conley Street					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0	
Exiting Leg Total					0					1					0					0	1

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

11:15 AM	Sullivan & McLaughlin Driveway					Conley Street					MTA Gated Driveway					Conley Street					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.250	0.250
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
Exiting Leg					0					1					0					0	1
Total					0					1					0					1	2

PDI File #: **175750 JJJ**
Location: **N: Sullivan & McLaughlin Driveway S: MTA Gated Driveway**
Location: **E: Conley Street W: Conley Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Saturday, June 24, 2017**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Buses

	Sullivan & McLaughlin Driveway					Conley Street					MTA Gated Driveway					Conley Street					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					0					0					0					0	0

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

11:00 AM	Sullivan & McLaughlin Driveway					Conley Street					MTA Gated Driveway					Conley Street					
	North					East					South					West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg					0					0					0					0	0
Total					0					0					0					0	0

PDI File #: **175750 JJJ**
Location: **N: Sullivan & McLaughlin Driveway S: MTA Gated Driveway**
Location: **E: Conley Street W: Conley Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Saturday, June 24, 2017**
Start Time: **11:00 AM**
End Time: **2:00 PM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class:

Bicycles (on Roadway and Crosswalks)

	Sullivan & McLaughlin Driveway							Conley Street							MTA Gated Driveway							Conley Street							
	North							East							South							West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1	2
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	3
12:45 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	1	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	2	0	0	0	0	2	4
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
1:15 PM	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1:30 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1	2
1:45 PM	0	0	0	0	1	0	1	0	5	0	0	0	0	5	0	0	0	0	0	0	0	0	1	0	0	0	0	1	7
Total	0	0	0	0	1	1	2	0	6	0	0	0	0	6	0	0	0	0	0	0	0	0	2	1	0	0	0	3	11
Grand Total	0	0	0	0	1	2	3	0	8	0	0	0	0	8	0	0	0	0	0	0	0	0	5	1	0	0	0	6	17
Approach %	0.0	0.0	0.0	0.0	33.3	66.7		0.0	100.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	83.3	16.7	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	5.9	11.8	17.6	0.0	47.1	0.0	0.0	0.0	0.0	47.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	29.4	5.9	0.0	0.0	0.0	35.3	
Exiting Leg Total							4							5							0							8	17

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

1:00 PM	Sullivan & McLaughlin Driveway							Conley Street							MTA Gated Driveway							Conley Street							
	North							East							South							West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
1:15 PM	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1:30 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1	2
1:45 PM	0	0	0	0	1	0	1	0	5	0	0	0	0	5	0	0	0	0	0	0	0	0	1	0	0	0	0	1	7
Total Volume	0	0	0	0	1	1	2	0	6	0	0	0	0	6	0	0	0	0	0	0	0	0	2	1	0	0	0	3	11
% Approach Total	0.0	0.0	0.0	0.0	50.0	50.0		0.0	100.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	66.7	33.3	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.250	0.250	0.500	0.000	0.300	0.000	0.000	0.000	0.000	0.300	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.250	0.000	0.000	0.000	0.750	0.393
Entering Leg	0	0	0	0	1	1	2	0	6	0	0	0	0	6	0	0	0	0	0	0	0	0	2	1	0	0	0	3	11
Exiting Leg							3							2							0							6	11
Total							5							8							0							9	22

PDI File #: **175750 JJJ**
Location: **N: Sullivan & McLaughlin Driveway S: MTA Gated Driveway**
Location: **E: Conley Street W: Conley Street**
City, State: **Dorchester, MA**
Client: **VHB/ A. Santiago**
Site Code: **13866.00**
Count Date: **Saturday, June 24, 2017**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Pedestrians

	Sullivan & McLaughlin Driveway							Conley Street							MTA Gated Driveway							Conley Street							
	North							East							South							West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
11:00 AM	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	1	2	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
12:45 PM	0	0	0	0	0	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Total	0	0	0	0	1	5	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
1:00 PM	0	0	0	0	2	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
1:45 PM	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Total	0	0	0	0	3	4	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
Grand Total	0	0	0	0	5	10	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15
Approach %	0.0	0.0	0.0	0.0	33.3	66.7		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	33.3	66.7	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total							15							0							0							0	15

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

12:15 PM	Sullivan & McLaughlin Driveway							Conley Street							MTA Gated Driveway							Conley Street							
	North							East							South							West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	1	2	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
12:45 PM	0	0	0	0	0	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
1:00 PM	0	0	0	0	2	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Total Volume	0	0	0	0	3	6	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
% Approach Total	0.0	0.0	0.0	0.0	33.3	66.7		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.375	0.500	0.750	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.750
Entering Leg	0	0	0	0	3	6	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
Exiting Leg							9							0							0							0	9
Total							18							0							0							0	18

PRECISION
D A T A
INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Walnut Street near # 145
between Ericsson Street and Water Street
City, State: Dorchester, MA
Client: VHB / A. Santiago
NB

175750 CC Class
Site Code: 13866.00

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
07/13/1														
7	0	2	0	0	0	0	0	0	0	0	0	0	0	2
01:00	0	0	1	0	0	0	0	0	0	0	0	0	0	1
02:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
03:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
04:00	0	0	0	0	1	0	0	0	0	0	0	0	0	1
05:00	0	3	0	1	1	0	0	0	0	0	0	0	0	5
06:00	2	2	3	0	2	0	0	0	0	0	0	0	0	9
07:00	0	4	1	0	0	0	0	0	0	0	0	0	0	5
08:00	0	12	2	0	1	0	0	0	0	0	0	0	0	15
09:00	2	14	6	0	4	0	0	0	0	0	0	0	0	26
10:00	0	10	10	0	4	0	0	1	0	0	0	0	0	25
11:00	1	29	5	0	4	0	0	0	0	0	0	0	0	39
12 PM	1	20	12	0	3	0	0	0	0	0	0	0	0	36
13:00	0	14	6	0	1	0	0	0	0	0	0	0	0	21
14:00	0	11	3	1	2	0	0	0	0	0	0	0	0	17
15:00	2	13	2	0	2	0	0	0	0	0	0	0	0	19
16:00	1	18	6	0	3	0	0	0	0	0	0	0	0	28
17:00	1	37	3	0	1	0	0	0	0	0	0	0	0	42
18:00	0	36	9	0	1	0	0	0	0	0	0	0	0	46
19:00	0	15	2	0	1	0	0	0	0	0	0	0	0	18
20:00	0	11	0	0	0	0	0	0	0	0	0	0	0	11
21:00	0	21	4	0	1	0	0	0	0	0	0	0	0	26
22:00	0	7	0	0	0	0	0	0	0	0	0	0	0	7
23:00	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total	10	281	76	2	32	0	0	1	0	0	0	0	0	402
Percent	2.5%	69.9%	18.9%	0.5%	8.0%	0.0%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	06:00	11:00	10:00	05:00	09:00			10:00						11:00
Vol.	2	29	10	1	4			1						39
PM Peak	15:00	17:00	12:00	14:00	12:00									18:00
Vol.	2	37	12	1	3									46

PRECISION
D A T A
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Walnut Street near # 145
between Ericsson Street and Water Street
City, State: Dorchester, MA
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175750 CC Class
Site Code: 13866.00

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
07/14/1														
7	0	6	0	0	0	0	0	0	0	0	0	0	0	6
01:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
02:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	1	0	0	0	0	0	0	0	0	1
05:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
06:00	0	2	4	0	2	0	0	0	0	0	0	0	0	8
07:00	0	0	2	0	1	0	0	0	0	0	0	0	0	3
08:00	2	9	1	0	0	0	0	0	0	0	0	0	0	12
09:00	0	6	6	1	4	1	0	0	0	0	0	0	0	18
10:00	3	15	7	0	1	0	0	0	0	0	0	0	0	26
11:00	0	25	7	0	5	0	0	0	0	0	0	0	0	37
12 PM	0	18	8	0	4	0	0	0	0	0	0	0	0	30
13:00	0	28	4	2	5	0	0	0	0	0	0	0	0	39
14:00	2	27	4	1	4	1	0	0	0	0	0	0	0	39
15:00	2	29	4	0	0	0	0	0	0	0	0	0	0	35
16:00	0	27	8	0	3	0	0	0	0	0	0	0	0	38
17:00	0	22	5	1	3	0	0	0	0	0	0	0	0	31
18:00	0	62	11	0	4	0	0	0	0	0	0	0	0	77
19:00	0	40	5	0	2	0	0	0	0	0	0	0	0	47
20:00	0	27	6	0	1	0	0	0	0	0	0	0	0	34
21:00	1	20	6	0	2	0	0	0	0	0	0	0	0	29
22:00	0	11	2	0	0	0	0	0	0	0	0	0	0	13
23:00	2	7	1	0	1	0	0	0	0	0	0	0	0	11
Total	12	389	91	5	43	2	0	0	0	0	0	0	0	542
Percent	2.2%	71.8%	16.8%	0.9%	7.9%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	10:00	11:00	10:00	09:00	11:00	09:00								11:00
Vol.	3	25	7	1	5	1								37
PM Peak	14:00	18:00	18:00	13:00	13:00	14:00								18:00
Vol.	2	62	11	2	5	1								77

PRECISION
D A T A
INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Walnut Street near # 145
between Ericsson Street and Water Street
City, State: Dorchester, MA
Client: VHB / A. Santiago
NB

175750 CC Class
Site Code: 13866.00

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
07/15/1														
7	0	3	1	0	0	0	0	0	0	0	0	0	0	4
01:00	0	5	0	0	0	0	0	0	0	0	0	0	0	5
02:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	2	0	0	0	1	0	0	0	0	0	0	0	3
05:00	0	0	0	0	1	0	0	0	0	0	0	0	0	1
06:00	0	1	0	0	1	0	0	0	0	0	0	0	0	2
07:00	0	8	0	0	0	0	0	0	0	0	0	0	0	8
08:00	0	14	4	0	1	0	0	0	0	0	0	0	0	19
09:00	0	12	4	0	1	0	0	0	0	0	0	0	0	17
10:00	0	19	8	0	4	0	0	0	0	0	0	0	0	31
11:00	0	25	2	0	4	0	0	0	0	0	0	0	0	31
12 PM	0	30	9	0	2	0	0	0	0	0	0	0	0	41
13:00	3	34	2	1	4	0	0	0	0	0	0	0	0	44
14:00	1	25	5	0	2	0	0	0	0	0	0	0	0	33
15:00	0	27	6	1	2	0	0	0	0	0	0	0	0	36
16:00	2	24	4	1	1	0	0	0	0	0	0	0	0	32
17:00	0	34	10	0	2	0	0	0	0	0	0	0	0	46
18:00	3	86	17	0	5	0	0	0	0	0	0	0	0	111
19:00	1	43	7	0	0	0	0	0	0	0	0	0	0	51
20:00	0	38	6	0	2	0	0	0	0	0	0	0	0	46
21:00	2	22	1	0	0	0	0	0	0	0	0	0	0	25
22:00	0	21	1	0	0	0	0	0	0	0	0	0	0	22
23:00	1	9	3	0	0	0	0	0	0	0	0	0	0	13
Total	13	484	90	3	32	1	0	0	0	0	0	0	0	623
Percent	2.1%	77.7%	14.4%	0.5%	5.1%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak		11:00	10:00		10:00	04:00								10:00
Vol.		25	8		4	1								31
PM Peak	13:00	18:00	18:00	13:00	18:00									18:00
Vol.	3	86	17	1	5									111

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Walnut Street near # 145
between Ericsson Street and Water Street
City, State: Dorchester, MA
Client: VHB / A. Santiago
SB

175750 CC Class
Site Code: 13866.00

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
07/13/1														
7	0	1	0	0	0	0	0	0	0	0	0	0	0	1
01:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
02:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
03:00	0	1	1	0	0	0	0	0	0	0	0	0	0	2
04:00	0	3	0	0	1	0	0	0	0	0	0	0	0	4
05:00	0	2	1	1	0	0	0	0	0	0	0	0	0	4
06:00	0	7	0	0	0	0	0	0	0	0	0	0	0	7
07:00	0	12	1	0	3	0	0	0	0	0	0	0	0	16
08:00	0	19	5	0	1	0	0	0	0	0	0	0	0	25
09:00	0	22	2	0	2	0	0	0	0	0	0	0	0	26
10:00	1	9	6	0	3	0	0	0	0	0	0	0	0	19
11:00	2	23	3	0	2	1	0	1	0	0	0	0	0	32
12 PM	1	26	2	0	1	1	0	0	0	0	0	0	0	31
13:00	0	33	12	0	4	0	0	0	0	0	0	0	0	49
14:00	0	21	6	1	0	0	0	0	0	0	0	0	0	28
15:00	0	15	3	0	2	0	0	0	0	0	0	0	0	20
16:00	0	16	6	0	3	0	0	0	0	0	0	0	0	25
17:00	0	15	8	0	1	0	0	0	0	0	0	0	0	24
18:00	0	12	1	1	0	0	0	0	0	0	0	0	0	14
19:00	0	34	4	1	2	0	0	0	0	0	0	0	0	41
20:00	0	27	5	0	2	0	0	0	0	0	0	0	0	34
21:00	0	22	5	0	0	0	0	0	0	0	0	0	0	27
22:00	0	10	0	0	0	0	0	0	0	0	0	0	0	10
23:00	0	5	0	0	0	0	0	0	0	0	0	0	0	5
Total	4	337	71	4	27	2	0	1	0	0	0	0	0	446
Percent	0.9%	75.6%	15.9%	0.9%	6.1%	0.4%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	11:00	11:00	10:00	05:00	07:00	11:00		11:00						11:00
Vol.	2	23	6	1	3	1		1						32
PM Peak	12:00	19:00	13:00	14:00	13:00	12:00								13:00
Vol.	1	34	12	1	4	1								49

PRECISION
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Walnut Street near # 145
between Ericsson Street and Water Street
City, State: Dorchester, MA
Client: VHB / A. Santiago
SB

175750 CC Class
Site Code: 13866.00

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
07/14/1														
7	0	1	0	0	0	0	0	0	0	0	0	0	0	1
01:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
02:00	0	4	0	0	0	0	0	0	0	0	0	0	0	4
03:00	0	7	0	0	0	0	0	0	0	0	0	0	0	7
04:00	0	5	0	0	0	1	0	0	0	0	0	0	0	6
05:00	0	4	0	0	0	0	0	0	0	0	0	0	0	4
06:00	1	7	1	0	0	0	0	0	0	0	0	0	0	9
07:00	0	14	3	0	0	0	0	0	0	0	0	0	0	17
08:00	1	14	3	0	3	0	0	0	0	0	0	0	0	21
09:00	0	13	3	0	3	1	0	0	0	0	0	0	0	20
10:00	0	20	3	1	3	0	0	0	1	0	0	0	0	28
11:00	0	10	8	0	2	0	0	0	0	0	0	0	0	20
12 PM	0	23	7	0	1	0	0	0	0	0	0	0	0	31
13:00	0	26	15	2	3	0	0	0	0	0	0	0	0	46
14:00	0	31	8	1	2	1	0	0	0	0	0	0	0	43
15:00	0	29	2	2	5	0	0	0	0	0	0	0	0	38
16:00	0	20	12	0	2	0	0	0	0	0	0	0	0	34
17:00	0	21	6	1	1	0	0	0	0	0	0	0	0	29
18:00	0	19	8	0	1	0	0	0	0	0	0	0	0	28
19:00	0	33	4	0	0	0	0	0	0	0	0	0	0	37
20:00	0	27	5	0	2	0	0	0	0	0	0	0	0	34
21:00	0	25	3	0	0	0	0	0	0	0	0	0	0	28
22:00	0	38	2	0	0	0	0	0	0	0	0	0	0	40
23:00	0	21	1	0	1	0	0	0	0	0	0	0	0	23
Total	2	414	94	7	29	3	0	0	1	0	0	0	0	550
Percent	0.4%	75.3%	17.1%	1.3%	5.3%	0.5%	0.0%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	
AM Peak	06:00	10:00	11:00	10:00	08:00	04:00			10:00					10:00
Vol.	1	20	8	1	3	1			1					28
PM Peak		22:00	13:00	13:00	15:00	14:00								13:00
Vol.		38	15	2	5	1								46

PRECISION
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Walnut Street near # 145
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Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
07/15/1														
7	0	14	2	0	0	0	0	0	0	0	0	0	0	16
01:00	0	6	0	0	0	0	0	0	0	0	0	0	0	6
02:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
03:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
04:00	0	2	0	0	0	1	0	0	0	0	0	0	0	3
05:00	0	2	1	0	0	0	0	0	0	0	0	0	0	3
06:00	0	4	0	0	0	0	0	0	0	0	0	0	0	4
07:00	0	10	1	0	0	0	0	0	0	0	0	0	0	11
08:00	0	17	3	0	1	0	0	0	0	0	0	0	0	21
09:00	1	13	3	0	0	0	0	0	0	0	0	0	0	17
10:00	0	8	3	0	2	0	0	0	0	0	0	0	0	13
11:00	0	26	1	0	3	0	0	0	0	0	0	0	0	30
12 PM	0	22	6	0	2	0	0	0	0	0	0	0	0	30
13:00	0	36	6	0	1	0	0	1	0	0	0	0	0	44
14:00	0	17	2	0	0	0	0	0	0	0	0	0	0	19
15:00	1	28	4	0	1	0	0	0	0	0	0	0	0	34
16:00	0	20	3	0	1	0	0	0	0	0	0	0	0	24
17:00	0	25	5	0	0	0	0	0	0	0	0	0	0	30
18:00	0	22	6	0	0	0	0	0	0	0	0	0	0	28
19:00	0	30	3	0	2	0	0	0	0	0	0	0	0	35
20:00	0	39	4	0	0	0	0	0	0	0	0	0	0	43
21:00	0	44	10	0	3	0	0	0	0	0	0	0	0	57
22:00	0	43	7	0	1	0	0	0	0	0	0	0	0	51
23:00	0	49	6	0	0	0	0	0	0	0	0	0	0	55
Total	2	482	76	0	17	1	0	1	0	0	0	0	0	579
Percent	0.3%	83.2%	13.1%	0.0%	2.9%	0.2%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	09:00	11:00	08:00		11:00	04:00								11:00
Vol.	1	26	3		3	1								30
PM Peak	15:00	23:00	21:00		21:00			13:00						21:00
Vol.	1	49	10		3			1						57

PRECISION
D A T A
INDUSTRIES, LLC
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Walnut Street near # 145
between Ericsson Street and Water Street
City, State: Dorchester, MA
Client: VHB / A. Santiago
NB

175750 CC Speed
Site Code: 13866.00

Start Time	1 14	15 19	20 24	25 29	30 34	35 39	40 44	45 49	50 54	55 59	60 64	65 69	70 9999	Total	85th % ile	Ave Speed
07/13/ 17	0	0	1	1	0	0	0	0	0	0	0	0	0	2	27	25
01:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1	18	17
02:00	0	0	1	0	0	0	0	0	0	0	0	0	0	1	23	22
03:00	0	0	1	0	0	0	0	0	0	0	0	0	0	1	23	22
04:00	0	0	0	1	0	0	0	0	0	0	0	0	0	1	28	27
05:00	1	1	2	1	0	0	0	0	0	0	0	0	0	5	25	19
06:00	3	0	3	1	0	**1**	**1**	0	0	0	0	0	0	9	37	22
07:00	0	0	2	3	0	0	0	0	0	0	0	0	0	5	27	25
08:00	**4**	3	3	4	1	0	0	0	0	0	0	0	0	15	27	19
09:00	4	6	9	7	0	0	0	0	0	0	0	0	0	26	26	20
10:00	0	**10**	8	5	2	0	0	0	0	0	0	0	0	25	27	22
11:00	2	10	**16**	**8**	**3**	0	0	0	0	0	0	0	0	**39**	27	22
12 PM	1	**12**	12	10	1	0	0	0	0	0	0	0	0	36	26	22
13:00	1	6	10	4	0	0	0	0	0	0	0	0	0	21	25	21
14:00	0	3	10	3	1	0	0	0	0	0	0	0	0	17	26	23
15:00	1	3	7	4	**4**	0	0	0	0	0	0	0	0	19	30	24
16:00	**3**	6	13	3	3	0	0	0	0	0	0	0	0	28	27	21
17:00	1	10	**21**	10	0	0	0	0	0	0	0	0	0	42	25	22
18:00	2	12	13	**16**	3	0	0	0	0	0	0	0	0	**46**	27	22
19:00	2	4	7	5	0	0	0	0	0	0	0	0	0	18	26	21
20:00	2	3	3	3	0	0	0	0	0	0	0	0	0	11	26	19
21:00	1	3	14	8	0	0	0	0	0	0	0	0	0	26	26	22
22:00	0	2	4	1	0	0	0	0	0	0	0	0	0	7	23	21
23:00	0	0	1	0	0	0	0	0	0	0	0	0	0	1	23	22
Total	28	95	161	98	18	1	1	0	0	0	0	0	0	402		
%	7.0%	23.6%	40.0%	24.4%	4.5%	0.2%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	08:00	10:00	11:00	11:00	11:00	06:00	06:00							11:00		
Vol.	4	10	16	8	3	1	1							39		
PM Peak	16:00	12:00	17:00	18:00	15:00									18:00		
Vol.	3	12	21	16	4									46		

Stats

15th Percentile :	15 MPH
50th Percentile :	21 MPH
85th Percentile :	26 MPH
95th Percentile :	28 MPH
Mean Speed(Average) :	22 MPH
10 MPH Pace Speed :	20-29 MPH
Number in Pace :	259
Percent in Pace :	64.4%
Number of Vehicles > 25 MPH :	98
Percent of Vehicles > 25 MPH :	24.5%

PRECISION
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Walnut Street near # 145
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175750 CC Speed
Site Code: 13866.00

Start Time	1 14	15 19	20 24	25 29	30 34	35 39	40 44	45 49	50 54	55 59	60 64	65 69	70 9999	Total	85th % ile	Ave Speed
07/14/ 17	1	1	4	0	0	0	0	0	0	0	0	0	0	6	22	19
01:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2	18	17
02:00	0	2	1	0	0	0	0	0	0	0	0	0	0	3	21	19
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
04:00	0	0	1	0	0	0	0	0	0	0	0	0	0	1	23	22
05:00	0	1	1	1	0	0	0	0	0	0	0	0	0	3	26	22
06:00	0	1	6	1	0	0	0	0	0	0	0	0	0	8	23	22
07:00	0	1	1	1	0	0	0	0	0	0	0	0	0	3	26	22
08:00	**3**	1	5	3	0	0	0	0	0	0	0	0	0	12	26	19
09:00	1	2	6	8	1	0	0	0	0	0	0	0	0	18	27	23
10:00	3	**6**	11	3	2	**1**	0	0	0	0	0	0	0	26	27	21
11:00	1	3	**18**	**9**	**5**	1	0	0	0	0	0	0	0	**37**	29	24
12 PM	2	4	14	10	0	0	0	0	0	0	0	0	0	30	26	22
13:00	2	**12**	15	7	2	**1**	0	0	0	0	0	0	0	39	26	22
14:00	1	7	15	11	5	0	0	0	0	0	0	0	0	39	28	23
15:00	**3**	7	13	11	1	0	0	0	0	0	0	0	0	35	27	22
16:00	2	10	14	7	4	1	0	0	0	0	0	0	0	38	28	22
17:00	1	8	11	11	0	0	0	0	0	0	0	0	0	31	26	22
18:00	1	7	**31**	**32**	**6**	0	0	0	0	0	0	0	0	**77**	28	24
19:00	3	6	17	18	3	0	0	0	0	0	0	0	0	47	27	23
20:00	3	6	14	8	2	1	0	0	0	0	0	0	0	34	27	22
21:00	3	5	14	6	1	0	0	0	0	0	0	0	0	29	26	21
22:00	0	1	7	5	0	0	0	0	0	0	0	0	0	13	27	24
23:00	3	1	3	3	1	0	0	0	0	0	0	0	0	11	27	20
Total	33	94	222	155	33	5	0	0	0	0	0	0	0	542		
%	6.1%	17.3%	41.0%	28.6%	6.1%	0.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	08:00	10:00	11:00	11:00	11:00	10:00								11:00		
Vol.	3	6	18	9	5	1								37		
PM Peak	15:00	13:00	18:00	18:00	18:00	13:00								18:00		
Vol.	3	12	31	32	6	1								77		

Stats

15th Percentile :	16 MPH
50th Percentile :	22 MPH
85th Percentile :	27 MPH
95th Percentile :	30 MPH
Mean Speed(Average) :	22 MPH
10 MPH Pace Speed :	20-29 MPH
Number in Pace :	377
Percent in Pace :	69.6%
Number of Vehicles > 25 MPH :	162
Percent of Vehicles > 25 MPH :	29.9%

PRECISION
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City, State: Dorchester, MA
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175750 CC Speed
Site Code: 13866.00

Start Time	1 14	15 19	20 24	25 29	30 34	35 39	40 44	45 49	50 54	55 59	60 64	65 69	70 9999	Total	85th % ile	Ave Speed
07/15/ 17	0	0	0	4	0	0	0	0	0	0	0	0	0	4	28	27
01:00	0	1	1	3	0	0	0	0	0	0	0	0	0	5	27	24
02:00	0	0	1	1	0	0	0	0	0	0	0	0	0	2	27	25
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
04:00	1	1	0	0	1	0	0	0	0	0	0	0	0	3	31	19
05:00	0	0	1	0	0	0	0	0	0	0	0	0	0	1	23	22
06:00	0	0	0	1	1	0	0	0	0	0	0	0	0	2	32	30
07:00	1	1	6	0	0	0	0	0	0	0	0	0	0	8	23	20
08:00	1	**6**	9	2	1	0	0	0	0	0	0	0	0	19	24	21
09:00	2	4	4	6	1	0	0	0	0	0	0	0	0	17	27	21
10:00	**4**	3	**10**	11	**3**	0	0	0	0	0	0	0	0	**31**	28	22
11:00	0	4	8	**15**	3	**1**	0	0	0	0	0	0	0	31	28	25
12 PM	6	8	21	6	0	0	0	0	0	0	0	0	0	41	23	20
13:00	5	7	26	3	2	**1**	0	0	0	0	0	0	0	44	23	21
14:00	1	7	10	12	**3**	0	0	0	0	0	0	0	0	33	28	23
15:00	4	5	17	7	3	0	0	0	0	0	0	0	0	36	27	22
16:00	4	7	14	5	2	0	0	0	0	0	0	0	0	32	26	21
17:00	3	7	20	**14**	2	0	0	0	0	0	0	0	0	46	27	22
18:00	**16**	**44**	**37**	11	3	0	0	0	0	0	0	0	0	**111**	23	19
19:00	6	18	17	8	2	0	0	0	0	0	0	0	0	51	25	20
20:00	5	9	24	8	0	0	0	0	0	0	0	0	0	46	24	20
21:00	4	8	9	4	0	0	0	0	0	0	0	0	0	25	24	19
22:00	4	7	8	2	1	0	0	0	0	0	0	0	0	22	23	19
23:00	2	2	4	4	1	0	0	0	0	0	0	0	0	13	27	21
Total	69	149	247	127	29	2	0	0	0	0	0	0	0	623		
%	11.1%	23.9%	39.6%	20.4%	4.7%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	10:00	08:00	10:00	11:00	10:00	11:00								10:00		
Vol.	4	6	10	15	3	1								31		
PM Peak	18:00	18:00	18:00	17:00	14:00	13:00								18:00		
Vol.	16	44	37	14	3	1								111		

Stats

15th Percentile :	14 MPH
50th Percentile :	20 MPH
85th Percentile :	26 MPH
95th Percentile :	28 MPH
Mean Speed(Average) :	21 MPH
10 MPH Pace Speed :	15-24 MPH
Number in Pace :	396
Percent in Pace :	63.6%
Number of Vehicles > 25 MPH :	133
Percent of Vehicles > 25 MPH :	21.3%

PRECISION
D A T A
INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Walnut Street near # 145
between Ericsson Street and Water Street
City, State: Dorchester, MA
Client: VHB / A. Santiago
SB

175750 CC Speed
Site Code: 13866.00

Start Time	1 14	15 19	20 24	25 29	30 34	35 39	40 44	45 49	50 54	55 59	60 64	65 69	70 9999	Total	85th % ile	Ave Speed
07/13/ 17	0	1	0	0	0	0	0	0	0	0	0	0	0	1	18	17
01:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1	18	17
02:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1	18	17
03:00	0	0	1	1	0	0	0	0	0	0	0	0	0	2	27	25
04:00	1	1	1	1	0	0	0	0	0	0	0	0	0	4	26	18
05:00	2	0	1	1	0	0	0	0	0	0	0	0	0	4	26	16
06:00	2	0	2	3	0	0	0	0	0	0	0	0	0	7	27	20
07:00	2	2	5	6	1	0	0	0	0	0	0	0	0	16	27	22
08:00	2	5	8	8	**2**	0	0	0	0	0	0	0	0	25	27	22
09:00	0	5	**15**	4	2	0	0	0	0	0	0	0	0	26	26	23
10:00	2	2	11	4	0	0	0	0	0	0	0	0	0	19	25	21
11:00	**4**	**7**	10	**10**	1	0	0	0	0	0	0	0	0	**32**	27	21
12 PM	**4**	7	12	6	2	0	0	0	0	0	0	0	0	31	26	21
13:00	4	**10**	25	6	**3**	**1**	0	0	0	0	0	0	0	**49**	26	21
14:00	1	5	8	**12**	2	0	0	0	0	0	0	0	0	28	28	23
15:00	1	2	4	11	1	1	0	0	0	0	0	0	0	20	28	25
16:00	1	6	10	5	3	0	0	0	0	0	0	0	0	25	28	22
17:00	0	5	10	7	2	0	0	0	0	0	0	0	0	24	27	23
18:00	2	0	8	2	2	0	0	0	0	0	0	0	0	14	28	22
19:00	1	10	**26**	4	0	0	0	0	0	0	0	0	0	41	23	21
20:00	3	8	19	3	1	0	0	0	0	0	0	0	0	34	23	20
21:00	1	4	9	11	2	0	0	0	0	0	0	0	0	27	28	23
22:00	1	2	1	6	0	0	0	0	0	0	0	0	0	10	27	23
23:00	0	0	3	2	0	0	0	0	0	0	0	0	0	5	27	24
Total	34	84	189	113	24	2	0	0	0	0	0	0	0	446		
%	7.6%	18.8%	42.4%	25.3%	5.4%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	11:00	11:00	09:00	11:00	08:00									11:00		
Vol.	4	7	15	10	2									32		
PM Peak	12:00	13:00	19:00	14:00	13:00	13:00								13:00		
Vol.	4	10	26	12	3	1								49		

Stats

15th Percentile :	15 MPH
50th Percentile :	21 MPH
85th Percentile :	27 MPH
95th Percentile :	29 MPH
Mean Speed(Average) :	22 MPH
10 MPH Pace Speed :	20-29 MPH
Number in Pace :	302
Percent in Pace :	67.7%
Number of Vehicles > 25 MPH :	116
Percent of Vehicles > 25 MPH :	26.1%

PRECISION
D A T A
INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Walnut Street near # 145
between Ericsson Street and Water Street
City, State: Dorchester, MA
Client: VHB / A. Santiago
SB

175750 CC Speed
Site Code: 13866.00

Start Time	1 14	15 19	20 24	25 29	30 34	35 39	40 44	45 49	50 54	55 59	60 64	65 69	70 9999	Total	85th % ile	Ave Speed
07/14/ 17	0	0	1	0	0	0	0	0	0	0	0	0	0	1	23	22
01:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2	18	17
02:00	**3**	1	0	0	0	0	0	0	0	0	0	0	0	4	15	10
03:00	0	2	1	3	0	0	**1**	0	0	0	0	0	0	7	28	26
04:00	2	0	2	1	1	0	0	0	0	0	0	0	0	6	29	20
05:00	3	0	1	0	0	0	0	0	0	0	0	0	0	4	20	11
06:00	2	1	1	4	0	**1**	0	0	0	0	0	0	0	9	28	22
07:00	0	4	10	3	0	0	0	0	0	0	0	0	0	17	24	22
08:00	1	**6**	10	3	0	0	1	0	0	0	0	0	0	21	25	22
09:00	0	4	9	6	1	0	0	0	0	0	0	0	0	20	27	23
10:00	2	2	**11**	**11**	**2**	0	0	0	0	0	0	0	0	**28**	28	23
11:00	2	2	6	9	1	0	0	0	0	0	0	0	0	20	27	23
12 PM	1	6	12	10	2	0	0	0	0	0	0	0	0	31	27	23
13:00	2	**18**	16	8	2	0	0	0	0	0	0	0	0	**46**	25	21
14:00	2	9	20	11	1	0	0	0	0	0	0	0	0	43	26	22
15:00	2	10	14	11	1	0	0	0	0	0	0	0	0	38	26	22
16:00	2	8	10	**12**	2	0	0	0	0	0	0	0	0	34	27	22
17:00	3	10	7	6	3	0	0	0	0	0	0	0	0	29	27	21
18:00	2	8	12	4	2	0	0	0	0	0	0	0	0	28	26	21
19:00	1	6	19	9	2	0	0	0	0	0	0	0	0	37	27	23
20:00	1	11	10	10	1	**1**	0	0	0	0	0	0	0	34	27	22
21:00	2	4	17	4	1	0	0	0	0	0	0	0	0	28	25	21
22:00	1	4	**22**	8	**5**	0	0	0	0	0	0	0	0	40	28	23
23:00	**4**	4	6	8	0	0	0	**1**	0	0	0	0	0	23	27	21
Total	38	122	217	141	27	2	2	1	0	0	0	0	0	550		
%	6.9%	22.2%	39.5%	25.6%	4.9%	0.4%	0.4%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	02:00	08:00	10:00	10:00	10:00	06:00	03:00							10:00		
Vol.	3	6	11	11	2	1	1							28		
PM Peak	23:00	13:00	22:00	16:00	22:00	20:00		23:00						13:00		
Vol.	4	18	22	12	5	1		1						46		

Stats

15th Percentile :	15 MPH
50th Percentile :	21 MPH
85th Percentile :	27 MPH
95th Percentile :	29 MPH
Mean Speed(Average) :	22 MPH
10 MPH Pace Speed :	20-29 MPH
Number in Pace :	358
Percent in Pace :	65.1%
Number of Vehicles > 25 MPH :	145
Percent of Vehicles > 25 MPH :	26.3%

PRECISION
D A T A
INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Walnut Street near # 145
between Ericsson Street and Water Street
City, State: Dorchester, MA
Client: VHB / A. Santiago
SB

175750 CC Speed
Site Code: 13866.00

Start Time	1 14	15 19	20 24	25 29	30 34	35 39	40 44	45 49	50 54	55 59	60 64	65 69	70 9999	Total	85th % ile	Ave Speed
07/15/ 17	1	0	6	7	**2**	0	0	0	0	0	0	0	0	16	28	25
01:00	0	0	2	3	1	0	0	0	0	0	0	0	0	6	29	26
02:00	0	2	0	1	0	0	0	0	0	0	0	0	0	3	26	20
03:00	0	1	1	0	0	0	0	0	0	0	0	0	0	2	22	20
04:00	0	1	1	1	0	0	0	0	0	0	0	0	0	3	26	22
05:00	1	0	1	1	0	0	0	0	0	0	0	0	0	3	26	19
06:00	0	2	1	1	0	0	0	0	0	0	0	0	0	4	26	21
07:00	**2**	1	5	3	0	0	0	0	0	0	0	0	0	11	26	20
08:00	1	5	8	6	1	0	0	0	0	0	0	0	0	21	27	22
09:00	1	4	7	4	1	0	0	0	0	0	0	0	0	17	27	22
10:00	2	4	5	1	1	0	0	0	0	0	0	0	0	13	24	19
11:00	1	**9**	**12**	**8**	0	0	0	0	0	0	0	0	0	**30**	26	21
12 PM	0	10	12	7	0	**1**	0	0	0	0	0	0	0	30	26	22
13:00	4	11	19	9	1	0	0	0	0	0	0	0	0	44	25	21
14:00	1	5	5	7	1	0	0	0	0	0	0	0	0	19	27	22
15:00	1	4	14	**12**	**2**	0	**1**	0	0	0	0	0	0	34	28	24
16:00	0	7	11	5	1	0	0	0	0	0	0	0	0	24	26	22
17:00	1	6	15	6	2	0	0	0	0	0	0	0	0	30	26	22
18:00	3	9	14	2	0	0	0	0	0	0	0	0	0	28	23	19
19:00	4	14	15	2	0	0	0	0	0	0	0	0	0	35	22	19
20:00	6	13	18	4	2	0	0	0	0	0	0	0	0	43	23	19
21:00	7	**22**	20	8	0	0	0	0	0	0	0	0	0	**57**	23	19
22:00	**9**	17	15	8	2	0	0	0	0	0	0	0	0	51	25	19
23:00	0	13	**31**	9	1	0	0	**1**	0	0	0	0	0	55	25	22
Total	45	160	238	115	18	1	1	1	0	0	0	0	0	579		
%	7.8%	27.6%	41.1%	19.9%	3.1%	0.2%	0.2%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	07:00	11:00	11:00	11:00	00:00									11:00		
Vol.	2	9	12	8	2									30		
PM Peak	22:00	21:00	23:00	15:00	15:00	12:00	15:00	23:00						21:00		
Vol.	9	22	31	12	2	1	1	1						57		

Stats

15th Percentile :	15 MPH
50th Percentile :	20 MPH
85th Percentile :	26 MPH
95th Percentile :	28 MPH
Mean Speed(Average) :	21 MPH
10 MPH Pace Speed :	15-24 MPH
Number in Pace :	398
Percent in Pace :	68.7%
Number of Vehicles > 25 MPH :	113
Percent of Vehicles > 25 MPH :	19.5%

Walnut Street near # 145
between Ericsson Street and Water Street
City, State: Dorchester, MA
Client: VHB / A. Santiago

PRECISION
D A T A
INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

175750 CC Volume
Site Code: 13866.00

Start	NB				SB				Combined				7/13/2017 Thu
Time	A.M.		P.M.		A.M.		P.M.		A.M.		P.M.		
12:00	1		7		1		10		2		17		
12:15	0		12		0		4		0		16		
12:30	0		8		0		8		0		16		
12:45	1	2	9	36	0	1	9	31	1	3	18	67	
01:00	0		9		0		15		0		24		
01:15	1		7		1		12		2		19		
01:30	0		5		0		14		0		19		
01:45	0	1	0	21	0	1	8	49	0	2	8	70	
02:00	0		5		0		7		0		12		
02:15	1		6		1		12		2		18		
02:30	0		3		0		4		0		7		
02:45	0	1	3	17	0	1	5	28	0	2	8	45	
03:00	0		4		1		6		1		10		
03:15	1		3		0		6		1		9		
03:30	0		5		1		2		1		7		
03:45	0	1	7	19	0	2	6	20	0	3	13	39	
04:00	0		11		1		10		1		21		
04:15	0		7		1		3		1		10		
04:30	1		4		1		5		2		9		
04:45	0	1	6	28	1	4	7	25	1	5	13	53	
05:00	2		9		2		8		4		17		
05:15	1		11		1		8		2		19		
05:30	0		12		0		3		0		15		
05:45	2	5	10	42	1	4	5	24	3	9	15	66	
06:00	4		14		3		7		7		21		
06:15	2		11		1		2		3		13		
06:30	0		11		1		2		1		13		
06:45	3	9	10	46	2	7	3	14	5	16	13	60	
07:00	0		9		2		7		2		16		
07:15	1		2		3		16		4		18		
07:30	3		4		3		6		6		10		
07:45	1	5	3	18	8	16	12	41	9	21	15	59	
08:00	8		3		7		7		15		10		
08:15	2		2		5		10		7		12		
08:30	2		2		8		8		10		10		
08:45	3	15	4	11	5	25	9	34	8	40	13	45	
09:00	5		4		6		7		11		11		
09:15	9		8		8		8		17		16		
09:30	6		7		4		6		10		13		
09:45	6	26	7	26	8	26	6	27	14	52	13	53	
10:00	3		2		4		1		7		3		
10:15	5		4		3		2		8		6		
10:30	8		0		6		4		14		4		
10:45	9	25	1	7	6	19	3	10	15	44	4	17	
11:00	6		1		10		1		16		2		
11:15	7		0		7		2		14		2		
11:30	8		0		4		0		12		0		
11:45	18	39	0	1	11	32	2	5	29	71	2	6	
Total	130		272		138		308		268		580		
Percent	48.5%		46.9%		51.5%		53.1%						
Day Total		402				446				848			
Peak	11:00	-	05:15	-	11:00	-	00:45	-	11:00	-	00:45	-	-	-
Vol.	39	-	47	-	32	-	50	-	71	-	80	-	-	-
P.H.F.	0.542		0.839		0.727		0.833		0.612		0.833			

PRECISION
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Walnut Street near # 145
between Ericsson Street and Water Street
City, State: Dorchester, MA
Client: VHB / A. Santiago

175750 CC Volume
Site Code: 13866.00

Start	NB				SB				Combined				7/14/2017 Fri
Time	A.M.		P.M.		A.M.		P.M.		A.M.		P.M.		
12:00	3		9		0		9		3		18		
12:15	0		6		0		4		0		10		
12:30	3		7		1		6		4		13		
12:45	0	6	8	30	0	1	12	31	0	7	20	61	
01:00	0		10		0		9		0		19		
01:15	0		13		0		15		0		28		
01:30	0		13		1		8		1		21		
01:45	2	2	3	39	1	2	14	46	3	4	17	85	
02:00	2		8		0		9		2		17		
02:15	0		8		1		11		1		19		
02:30	1		12		2		13		3		25		
02:45	0	3	11	39	1	4	10	43	1	7	21	82	
03:00	0		6		7		7		7		13		
03:15	0		8		0		11		0		19		
03:30	0		10		0		10		0		20		
03:45	0	0	11	35	0	7	10	38	0	7	21	73	
04:00	0		9		3		12		3		21		
04:15	0		9		2		9		2		18		
04:30	0		10		1		5		1		15		
04:45	1	1	10	38	0	6	8	34	1	7	18	72	
05:00	1		5		0		6		1		11		
05:15	0		8		1		12		1		20		
05:30	0		13		1		2		1		15		
05:45	2	3	5	31	2	4	9	29	4	7	14	60	
06:00	2		16		5		4		7		20		
06:15	2		25		2		6		4		31		
06:30	3		19		1		7		4		26		
06:45	1	8	17	77	1	9	11	28	2	17	28	105	
07:00	0		12		4		5		4		17		
07:15	2		6		4		6		6		12		
07:30	1		16		6		11		7		27		
07:45	0	3	13	47	3	17	15	37	3	20	28	84	
08:00	1		6		4		8		5		14		
08:15	1		7		4		11		5		18		
08:30	6		7		9		6		15		13		
08:45	4	12	14	34	4	21	9	34	8	33	23	68	
09:00	4		15		5		7		9		22		
09:15	1		4		4		8		5		12		
09:30	5		8		2		6		7		14		
09:45	8	18	2	29	9	20	7	28	17	38	9	57	
10:00	7		3		7		14		14		17		
10:15	2		4		11		11		13		15		
10:30	11		3		5		7		16		10		
10:45	6	26	3	13	5	28	8	40	11	54	11	53	
11:00	12		4		3		5		15		9		
11:15	8		3		7		7		15		10		
11:30	6		2		7		6		13		8		
11:45	11	37	2	11	3	20	5	23	14	57	7	34	
Total	119		423		139		411		258		834		
Percent	46.1%		50.7%		53.9%		49.3%						
Day Total		542				550				1092			
Peak	10:30	-	06:00	-	09:45	-	01:45	-	09:45	-	06:00	-	-	-
Vol.	37	-	77	-	32	-	47	-	60	-	105	-	-	-
P.H.F.	0.771		0.770		0.727		0.783		0.882		0.847			

PRECISION
D A T A
INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Walnut Street near # 145
between Ericsson Street and Water Street
City, State: Dorchester, MA
Client: VHB / A. Santiago

175750 CC Volume
Site Code: 13866.00

Start	NB				SB				Combined				7/15/2017 Sat
Time	A.M.		P.M.		A.M.		P.M.		A.M.		P.M.		
12:00	1		17		9		5		10		22		
12:15	2		7		2		10		4		17		
12:30	1		7		0		6		1		13		
12:45	0	4	10	41	5	16	9	30	5	20	19	71	
01:00	0		10		3		11		3		21		
01:15	0		14		1		11		1		25		
01:30	5		6		1		13		6		19		
01:45	0	5	14	44	1	6	9	44	1	11	23	88	
02:00	0		8		1		7		1		15		
02:15	1		5		1		6		2		11		
02:30	0		11		1		1		1		12		
02:45	1	2	9	33	0	3	5	19	1	5	14	52	
03:00	0		11		1		13		1		24		
03:15	0		12		1		8		1		20		
03:30	0		9		0		6		0		15		
03:45	0	0	4	36	0	2	7	34	0	2	11	70	
04:00	1		4		0		8		1		12		
04:15	0		12		0		7		0		19		
04:30	0		7		1		6		1		13		
04:45	2	3	9	32	2	3	3	24	4	6	12	56	
05:00	0		14		1		11		1		25		
05:15	0		12		1		5		1		17		
05:30	1		8		0		9		1		17		
05:45	0	1	12	46	1	3	5	30	1	4	17	76	
06:00	0		57		0		9		0		66		
06:15	1		23		0		8		1		31		
06:30	0		10		3		8		3		18		
06:45	1	2	21	111	1	4	3	28	2	6	24	139	
07:00	2		11		0		6		2		17		
07:15	2		16		1		9		3		25		
07:30	1		13		4		12		5		25		
07:45	3	8	11	51	6	11	8	35	9	19	19	86	
08:00	8		6		2		8		10		14		
08:15	3		10		6		10		9		20		
08:30	2		14		8		12		10		26		
08:45	6	19	16	46	5	21	13	43	11	40	29	89	
09:00	4		4		4		16		8		20		
09:15	9		9		5		13		14		22		
09:30	1		8		4		19		5		27		
09:45	3	17	4	25	4	17	9	57	7	34	13	82	
10:00	7		4		3		15		10		19		
10:15	7		7		5		11		12		18		
10:30	7		7		0		15		7		22		
10:45	10	31	4	22	5	13	10	51	15	44	14	73	
11:00	8		2		6		17		14		19		
11:15	6		3		11		23		17		26		
11:30	10		6		5		5		15		11		
11:45	7	31	2	13	8	30	10	55	15	61	12	68	
Total	123		500		129		450		252		950		
Percent	48.8%		52.6%		51.2%		47.4%						
Day Total		623				579				1202			
Peak	10:45	-	06:00	-	11:00	-	10:30	-	10:45	-	06:00	-	-	-
Vol.	34	-	111	-	30	-	65	-	61	-	139	-	-	-
P.H.F.	0.850		0.487		0.682		0.707		0.897		0.527			

Crash Rate Reports

INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Boston, MA COUNT DATE : Jun-17

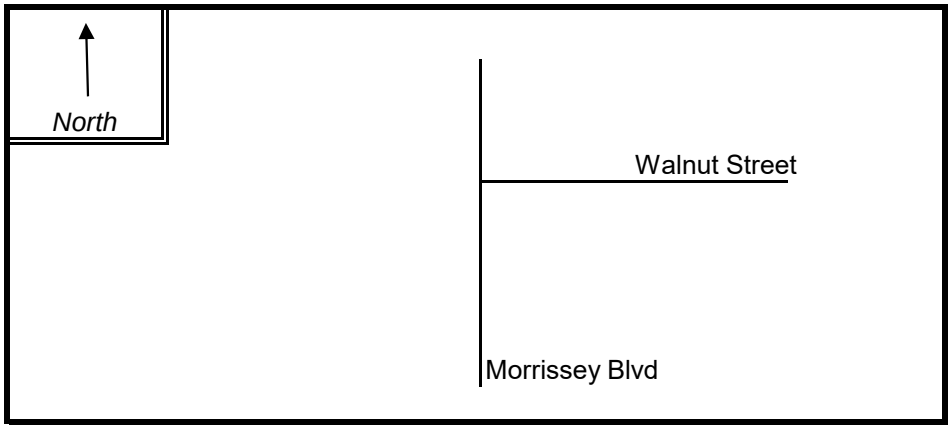
DISTRICT : 6 UNSIGNALIZED : [X] SIGNALIZED : [ ]

~ INTERSECTION DATA ~

MAJOR STREET : Morrissey Boulevard

MINOR STREET(S) : Walnut Street

INTERSECTION DIAGRAM (Label Approaches)



PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	NB	WB				
PEAK HOURLY VOLUMES (AM/PM) :	3,030	140				**3,170**

" K " FACTOR : **0.090**

INTERSECTION ADT (**V**) = TOTAL DAILY APPROACH VOLUME : **35,222**

TOTAL # OF CRASHES : 15

OF YEARS : 5

AVERAGE # OF CRASHES PER YEAR (**A**) : **3.00**

CRASH RATE CALCULATION : **0.23**

RATE = $\frac{(A * 1{,}000{,}000)}{(V * 365)}$

Comments :

Project Title & Date:

INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Boston, MA COUNT DATE : Jun-17

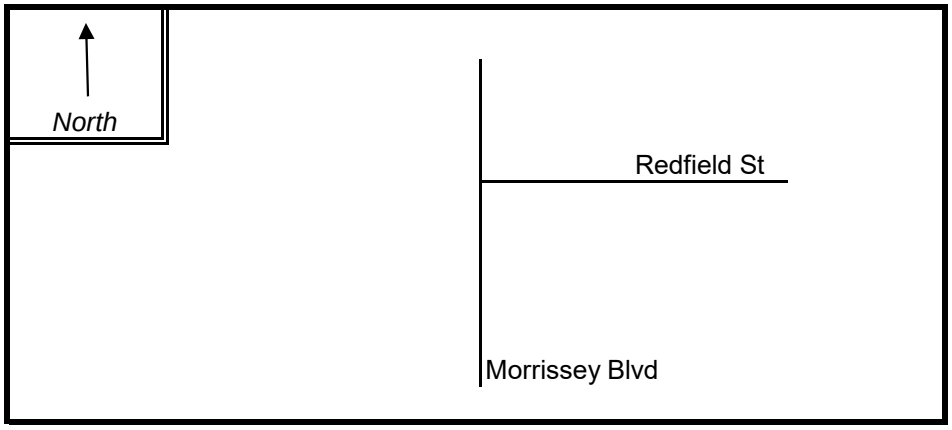
DISTRICT : 6 UNSIGNALIZED : ☒ SIGNALIZED : ☐

~ INTERSECTION DATA ~

MAJOR STREET : Morrissey Boulevard

MINOR STREET(S) : Redfield Street

INTERSECTION DIAGRAM (Label Approaches)



PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	NB					
PEAK HOURLY VOLUMES (AM/PM) :	2,370					**2,370**

" K " FACTOR :	**0.090**	INTERSECTION ADT (**V**) = TOTAL DAILY APPROACH VOLUME :			**26,333**
TOTAL # OF CRASHES :	3	# OF YEARS :	5	AVERAGE # OF CRASHES PER YEAR (**A**) :	**0.60**

CRASH RATE CALCULATION : **0.06** RATE = $\frac{(A * 1{,}000{,}000)}{(V * 365)}$

Comments : _____

Project Title & Date: _____

INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Boston, MA COUNT DATE : Jun-17

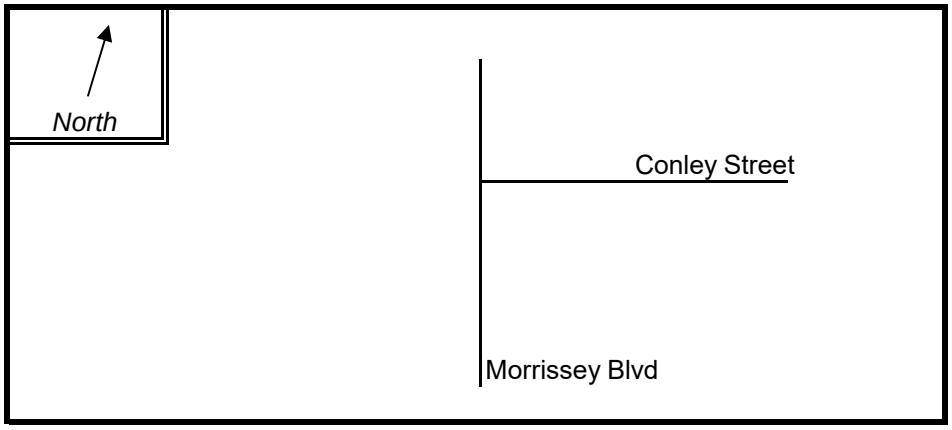
DISTRICT : 6 UNSIGNALIZED : ☐ SIGNALIZED : ☒

~ INTERSECTION DATA ~

MAJOR STREET : Morrissey Boulevard

MINOR STREET(S) : Conley Street

INTERSECTION DIAGRAM (Label Approaches)



PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	NB	WB				
PEAK HOURLY VOLUMES (AM/PM) :	865	70				**935**

" K " FACTOR :	**0.090**	INTERSECTION ADT (**V**) = TOTAL DAILY APPROACH VOLUME :			**10,389**
TOTAL # OF CRASHES :	7	# OF YEARS :	5	AVERAGE # OF CRASHES PER YEAR (**A**) :	**1.40**

CRASH RATE CALCULATION : **0.37** RATE = $\frac{(A * 1{,}000{,}000)}{(V * 365)}$

Comments : _____

Project Title & Date: _____

INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Boston, MA COUNT DATE : Jun-17

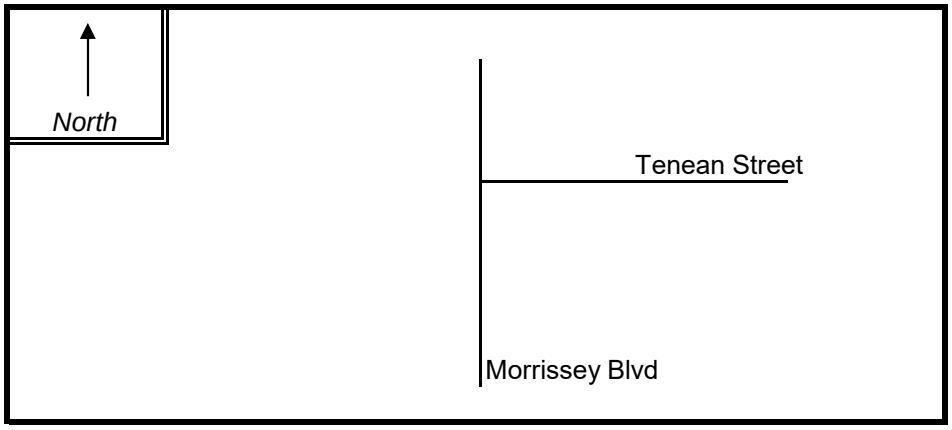
DISTRICT : 6 UNSIGNALIZED : ☒ SIGNALIZED : ☐

~ INTERSECTION DATA ~

MAJOR STREET : Morrissey Boulevard

MINOR STREET(S) : Tenean Street

INTERSECTION DIAGRAM (Label Approaches)



PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	NB	NWB	SWB			
PEAK HOURLY VOLUMES (AM/PM) :	1,050	55	95			**1,200**

" K " FACTOR : **0.090**

INTERSECTION ADT (**V**) = TOTAL DAILY APPROACH VOLUME : **13,333**

TOTAL # OF CRASHES : 5

OF YEARS : 5

AVERAGE # OF CRASHES PER YEAR (**A**) : **1.00**

CRASH RATE CALCULATION : **0.21**

RATE = $\frac{(A * 1{,}000{,}000)}{(V * 365)}$

Comments : _____

Project Title & Date: _____

INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Boston, MA COUNT DATE : Jun-17

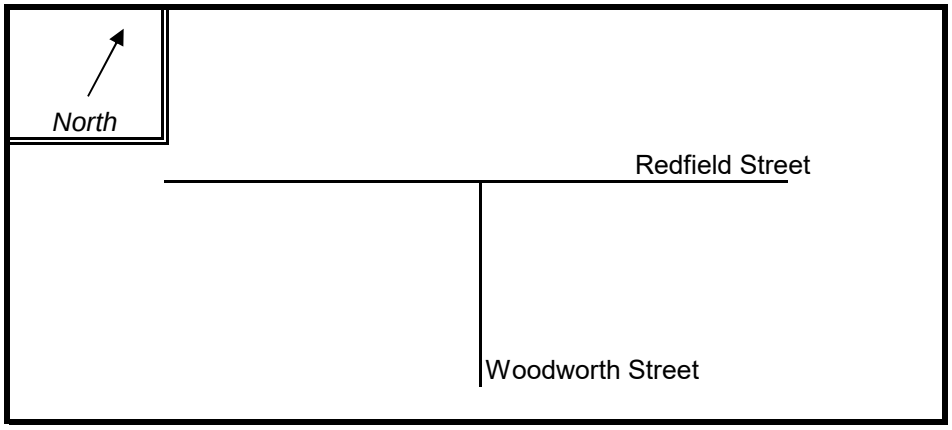
DISTRICT : 6 UNSIGNALIZED : [X] SIGNALIZED : [ ]

~ INTERSECTION DATA ~

MAJOR STREET : Redfield Street

MINOR STREET(S) : Woodworth Street

INTERSECTION DIAGRAM (Label Approaches)



PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	NB	WB	EB			
PEAK HOURLY VOLUMES (AM/PM) :	10	90	110			**210**

" K " FACTOR : **0.090**

INTERSECTION ADT (**V**) = TOTAL DAILY APPROACH VOLUME : **2,333**

TOTAL # OF CRASHES : 1

OF YEARS : 5

AVERAGE # OF CRASHES PER YEAR (**A**) : **0.20**

CRASH RATE CALCULATION : **0.23**

RATE = $\frac{(A * 1{,}000{,}000)}{(V * 365)}$

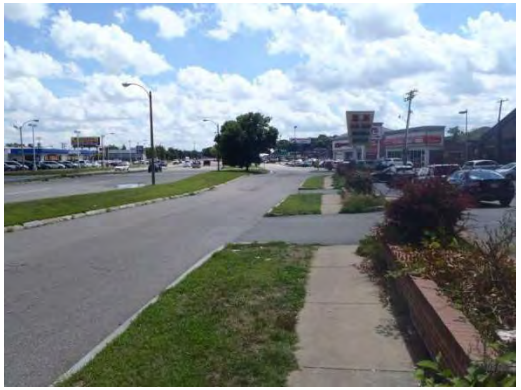
Comments :

Project Title & Date:

Morrissey Boulevard Redesign for Reconstruction
Presentation
DCR Public Meeting #3

dcr MASSACHUSETTS DEPARTMENT OF CONSERVATION AND RECREATION

MORRISSEY BOULEVARD REDESIGN FOR RECONSTRUCTION


DCR Public Meeting – #3

Tuesday, June 27, 2017
6:30 PM – 8:00 PM
Leahy Holloran Community Center (Murphy School)
One Worrell Street, Dorchester, MA

Commonwealth of Massachusetts

Governor

Charles D. Baker

Lieutenant Governor

Karyn E. Polito

Energy and Environmental Secretary

Matthew A. Beaton

Department of Conservation and Recreation Commissioner

Leo Roy

dcr
Massachusetts

DCR Mission Statement

To protect, promote and enhance our common wealth of natural, cultural and recreational resources for the well-being of all.

dcr MASSACHUSETTS DEPARTMENT OF CONSERVATION AND RECREATION

Tonight's Meeting - Purpose

- Update on 25% Design Plans (full project length)
  - Vehicle / Pedestrian / Bicycle Facilities
  - Intersection Layouts and Operations
  - Enhanced Neighborhood Connections
- Review Project Development
  - North Area – Mt. Vernon to Pattens Cove Bridge
  - Middle Area – Pattens Cove to I-93/Freeport St.
  - South Area – I-93/Freeport St. to Neponset Circle
- Obtain Public Input on Key Issues and Concerns

dcr MASSACHUSETTS DEPARTMENT OF CONSERVATION AND RECREATION

Primary Project Goals

- ***Stormwater and flooding***: Provide stormwater improvements and climate resiliency

- ***Transportation****:* Provide safe, convenient, and inviting pedestrian and bicycle accommodations, balanced with appropriate vehicular accommodations

- ***Landscape & Urban Design****:* Enhance parkway character and strengthen connections to recreational facilities, natural resource areas, and neighborhoods

dcr MASSACHUSETTS DEPARTMENT OF CONSERVATION AND RECREATION

Design Team

dcr Massachusetts

Overall Project Management, Direction and Guidance

HDR

Civil & Structural Engineering; Drainage & Coastal Design

Horsley Witten Group
Sustainable Environmental Solutions

Stormwater & Flood Control Strategy; Green Infrastructure

CROSBY | SCHLESSINGER | SMALLRIDGE LLC

Landscape Architecture & Urban Design

McMAHON
TRANSPORTATION ENGINEERS & PLANNERS

Transportation Analysis & Design

Epsilon
ASSOCIATES INC.

Environmental Permitting

GEI Consultants

Geotechnical & Geoenvironmental

BRYANT ASSOCIATES

Survey & Right-of-Way

dcr MASSACHUSETTS DEPARTMENT OF CONSERVATION AND RECREATION

Design Project Scope

Mt. Vernon St.

North Area

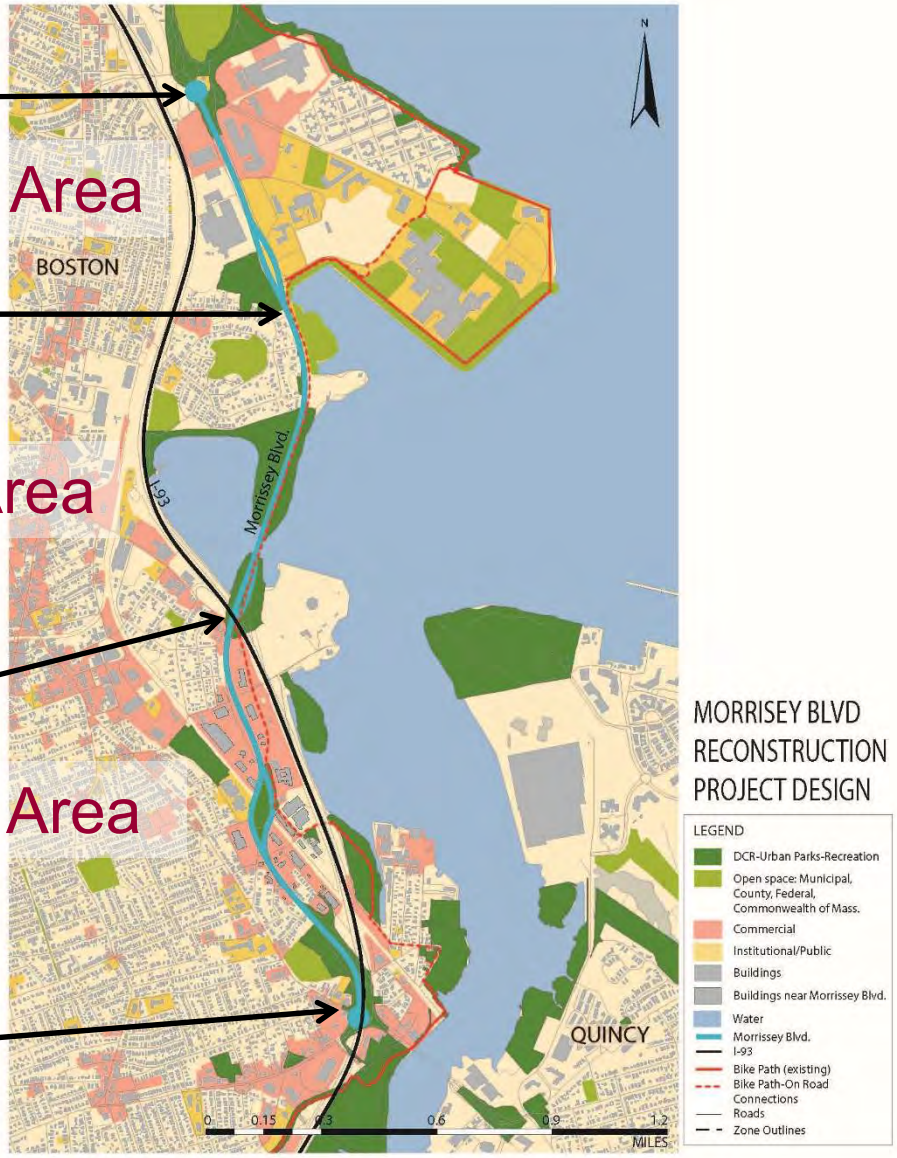
Pattens Cove Bridge

Middle Area

Interstate 93/Freeport St.

South Area

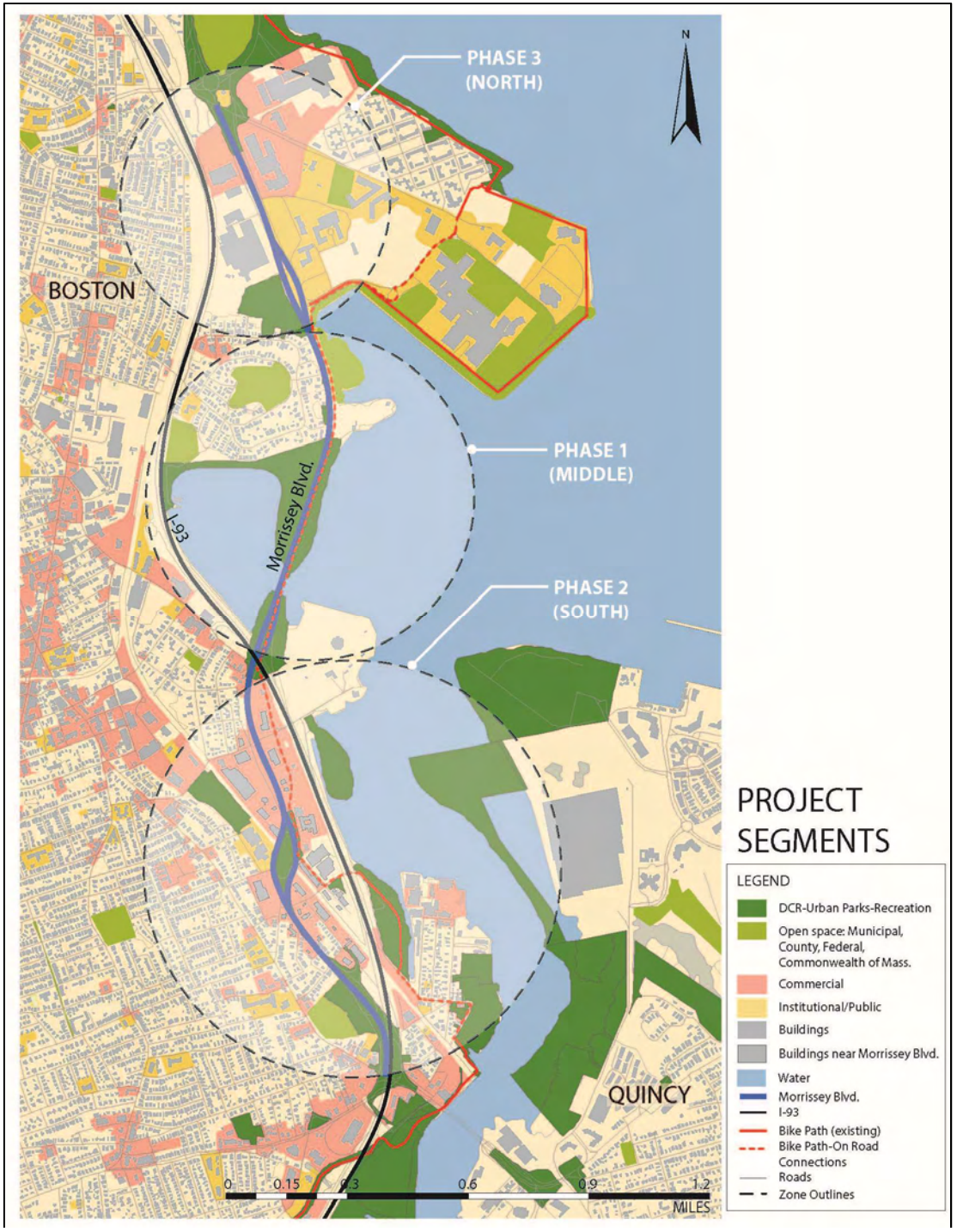
Neponset Circle



dcr MASSACHUSETTS DEPARTMENT OF CONSERVATION AND RECREATION

Project Phasing

- Design is fully funded
- “Middle” segment is most vulnerable due to flooding conditions and has been prioritized and is funded first for construction
- Construction of North and South segments will be in subsequent phases.



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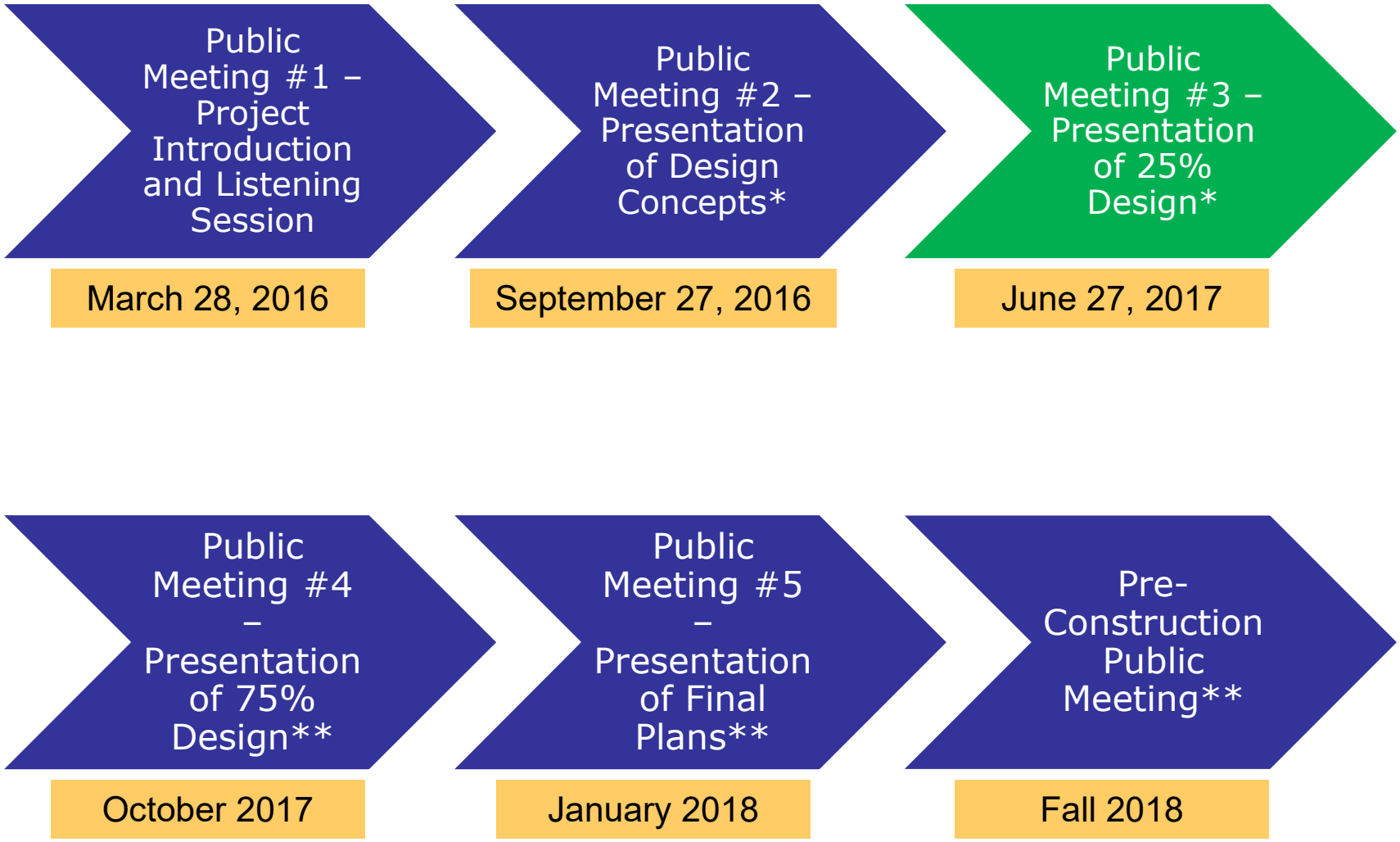
Design Project and Public Process Timeline



* Entire Corridor Length

** Phase 1 (Middle Segment) only

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General Concept Features

- Elevate roadway for coastal resiliency
  - Green Infrastructure & Drainage Improvements
  - Limit to < 3 closures from tidal flooding in 2065
- Maintain traffic capacity throughout the corridor
  - Targeted lane reductions
  - Optimized intersections
- Design and posted speed of 35 mph (vs. 40 mph)
  - Will undergo MassDOT approval process
- Separate bicycle and pedestrian facilities where feasible
  - Cycle track at same grade as sidewalk
  - Combination of 1-way paths (running with road traffic) and 2-way paths

What You Told Us….

- Corridor-Wide
  - Reduce traffic speeds
  - Connect neighborhoods to parks / shore
  - Provide dedicated bicycle and pedestrian facilities
  - Change character from highway to urban boulevard
  - Enhance aesthetics and landscaping

- Specific Locations
  - Intersection operations for all users
  - Driveway safety
  - Additional crosswalks; U-turns; left-turns
  - Enhance/take advantage of natural features (beaches, wetlands, open space)

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What Has Changed Since Meeting #2?

- Bicycle and pedestrian connections updated throughout the corridor.
- Two-way cycle tracks between Mt. Vernon Street and Bianculli Boulevard.
- Beach Access Area:
  - Entrance moved 300 feet north
  - 18” to 24” high retaining wall w/riprap slope
- Traffic signal at Victory Road allows U-Turns on both directions, and left turns in southbound direction.
- Traffic improvements at Neponset Circle to allow two-way circulation under I-93.

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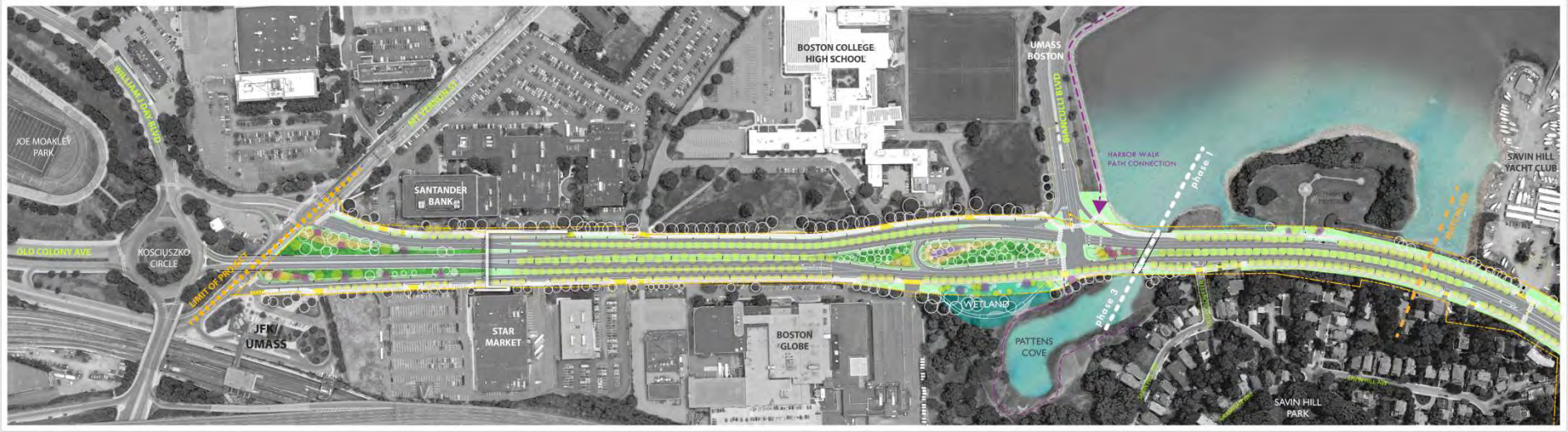
NORTH SEGMENT

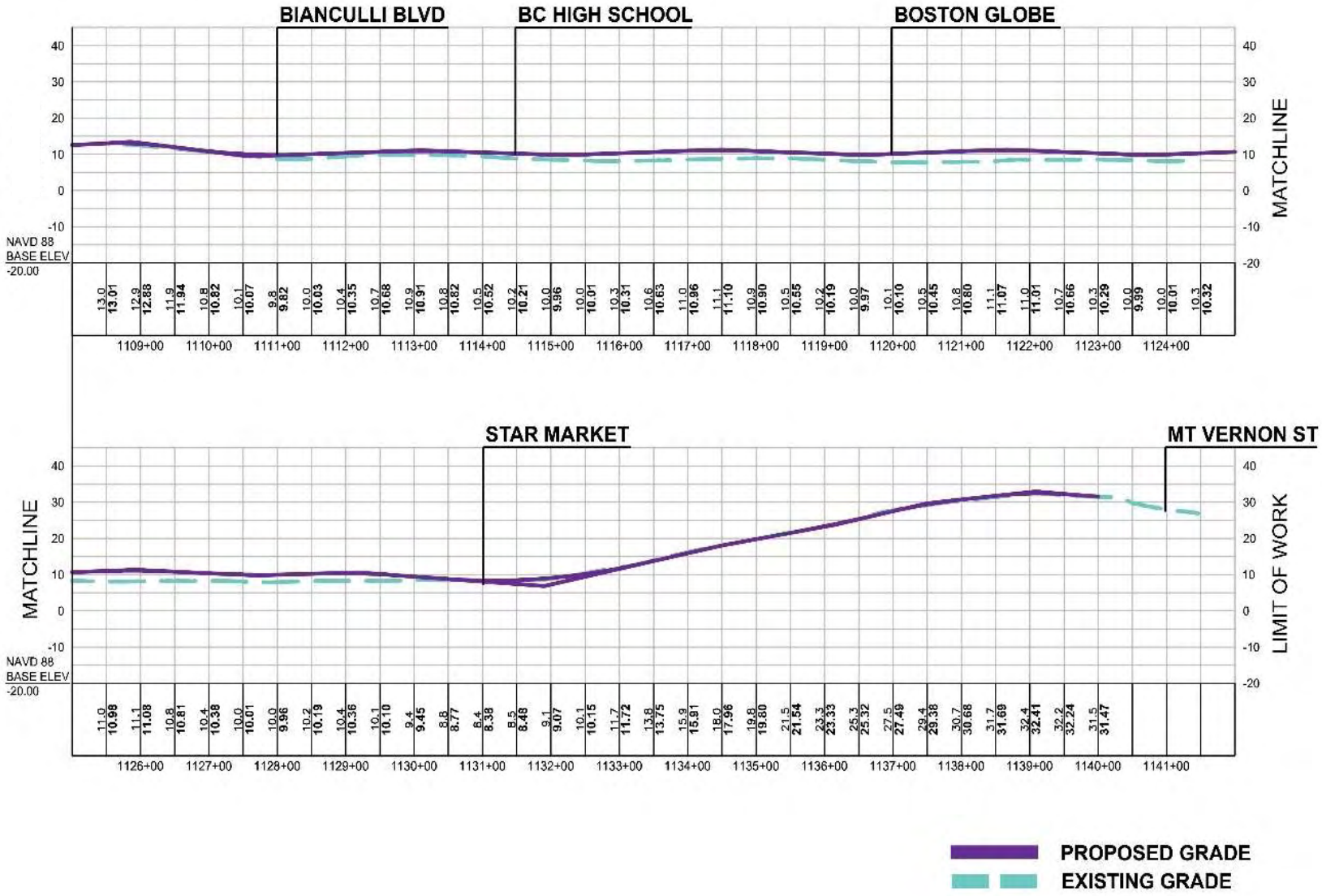


MORRISSEY BOULEVARD
NORTH SEGMENT

dcr MASSACHUSETTS DEPARTMENT OF CONSERVATION AND RECREATION

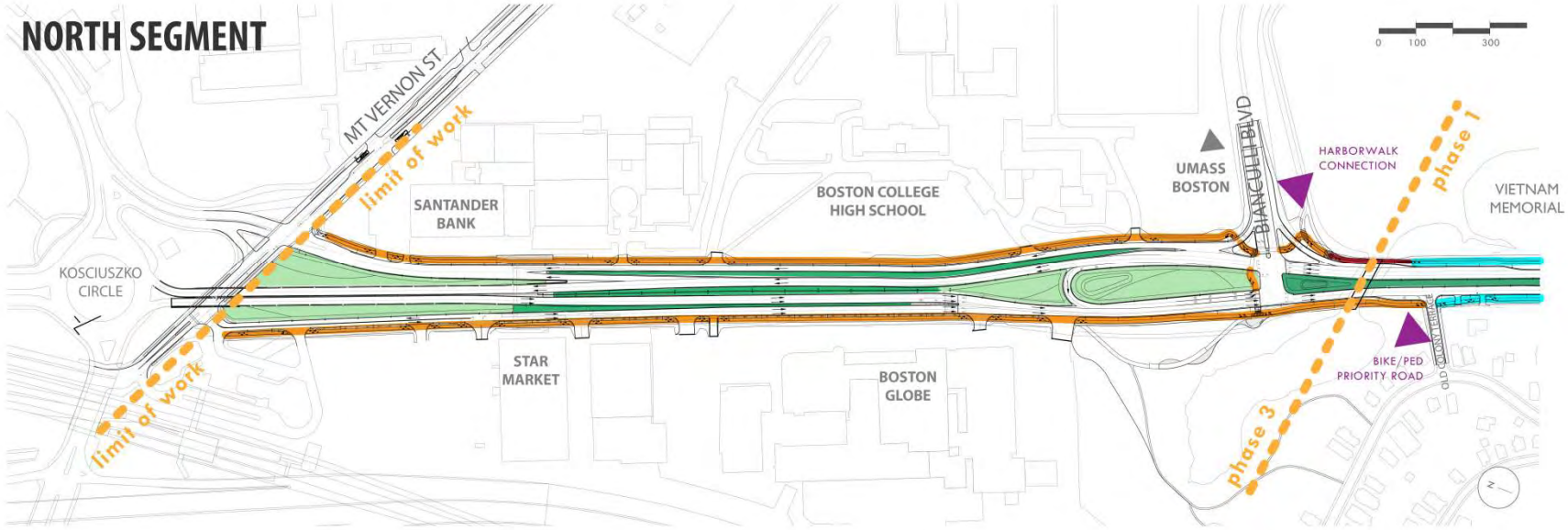
MORRISSEY BOULEVARD

NORTH SEGMENT PROFILE



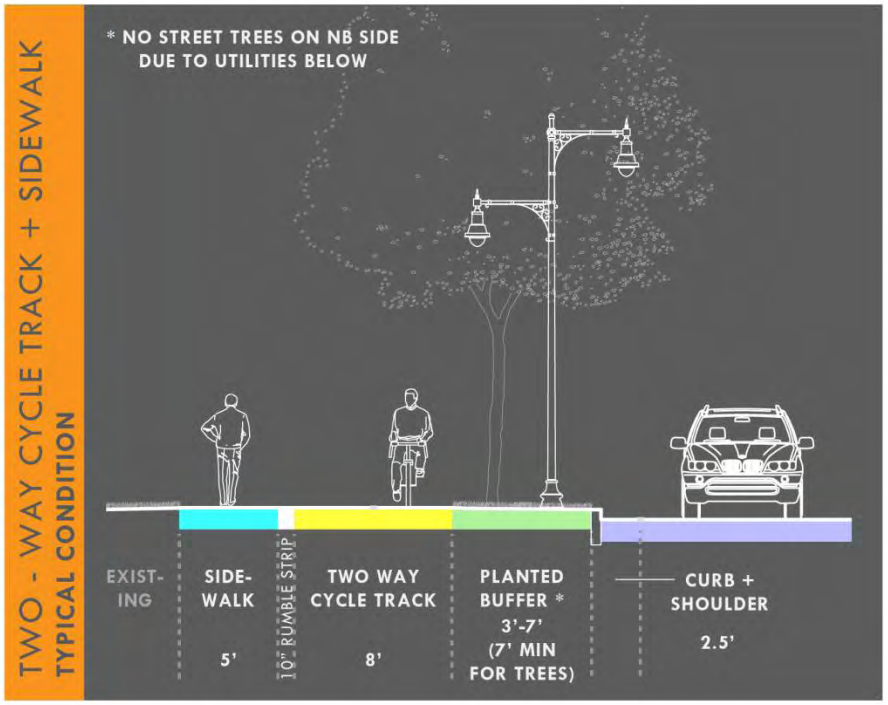
dcr MASSACHUSETTS DEPARTMENT OF CONSERVATION AND RECREATION

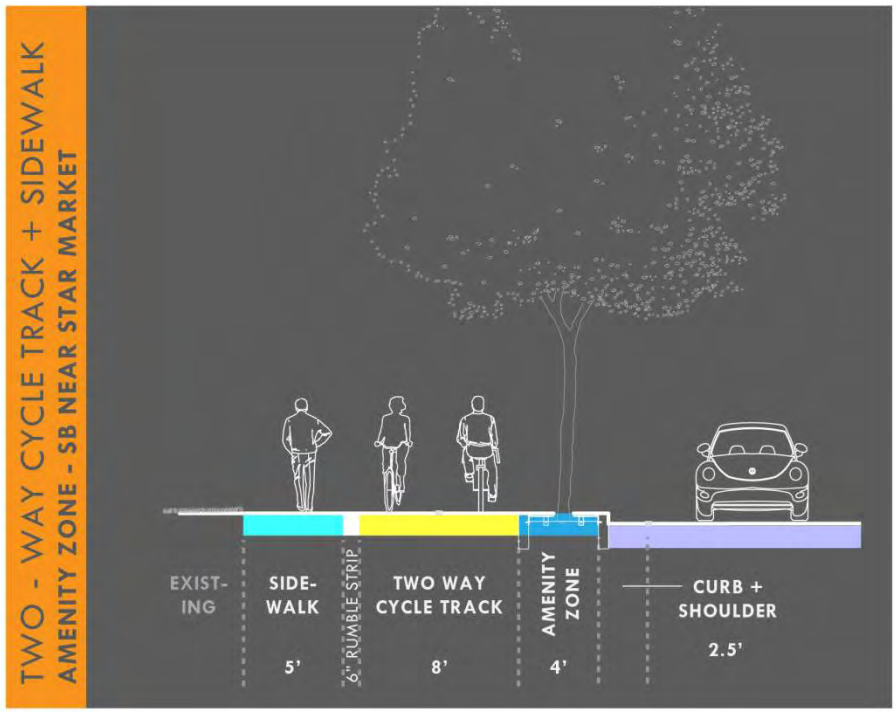
NORTH SEGMENT: Bicycle & Pedestrian Facilities



dcr MASSACHUSETTS DEPARTMENT OF CONSERVATION AND RECREATION

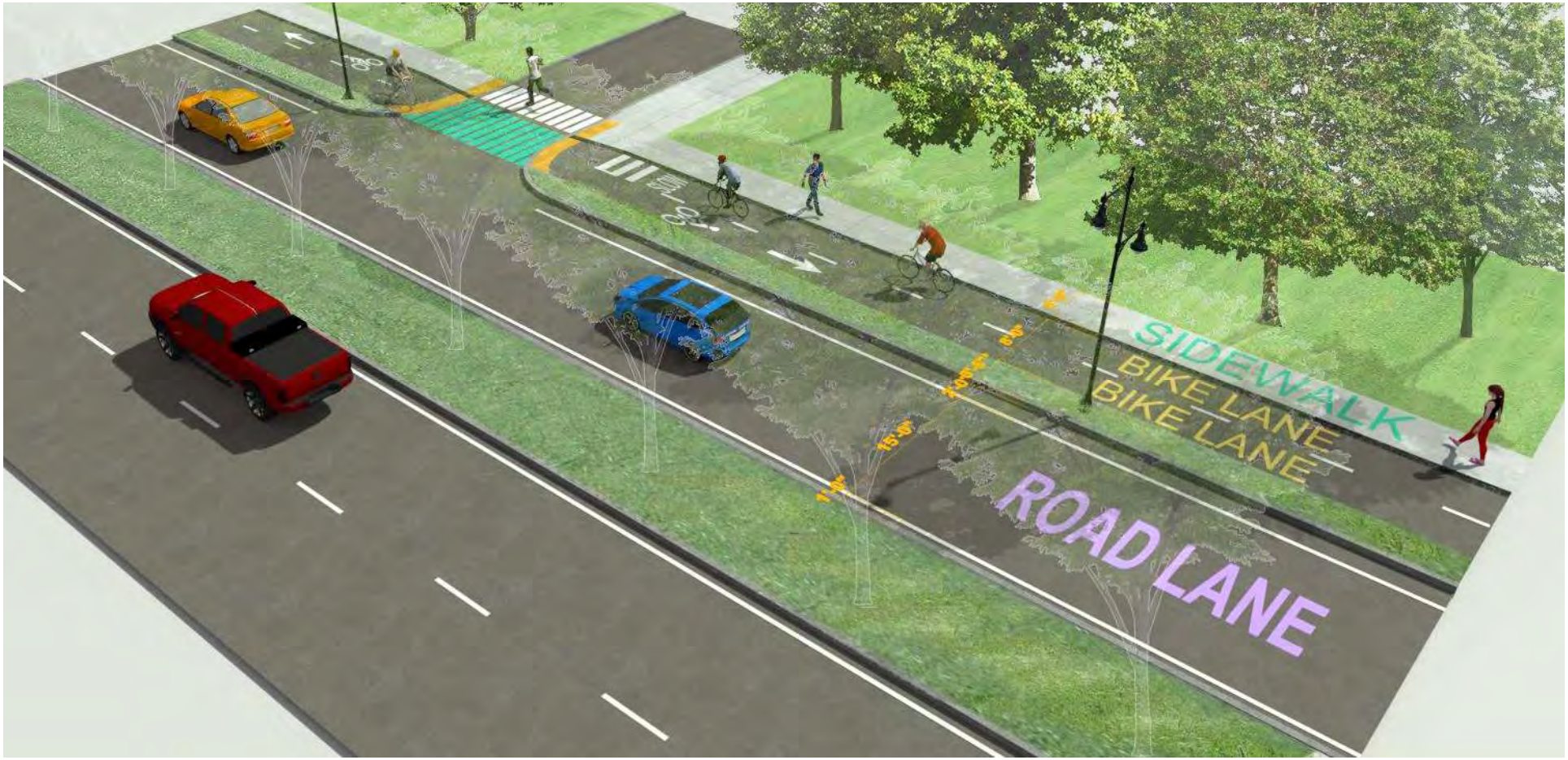
NORTH SEGMENT:
Typical Character Sections





dcr MASSACHUSETTS DEPARTMENT OF CONSERVATION AND RECREATION

NORTH SEGMENT: Two-Way Cycle Track + Sidewalk (North Bound in front of Boston College High School)



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NORTH SEGMENT: EXISTING CONDITION
(South Bound in front of The Boston Globe Building)

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NORTH SEGMENT: Two-Way Cycle Track + Sidewalk (South Bound in front of The Boston Globe)

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MORRISSEY BOULEVARD

MT VERNON STREET INTERSECTION – PROPOSED ROADWAY PLAN

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MORRISSEY BOULEVARD

MT VERNON STREET INTERSECTION – TRAFFIC PLAN

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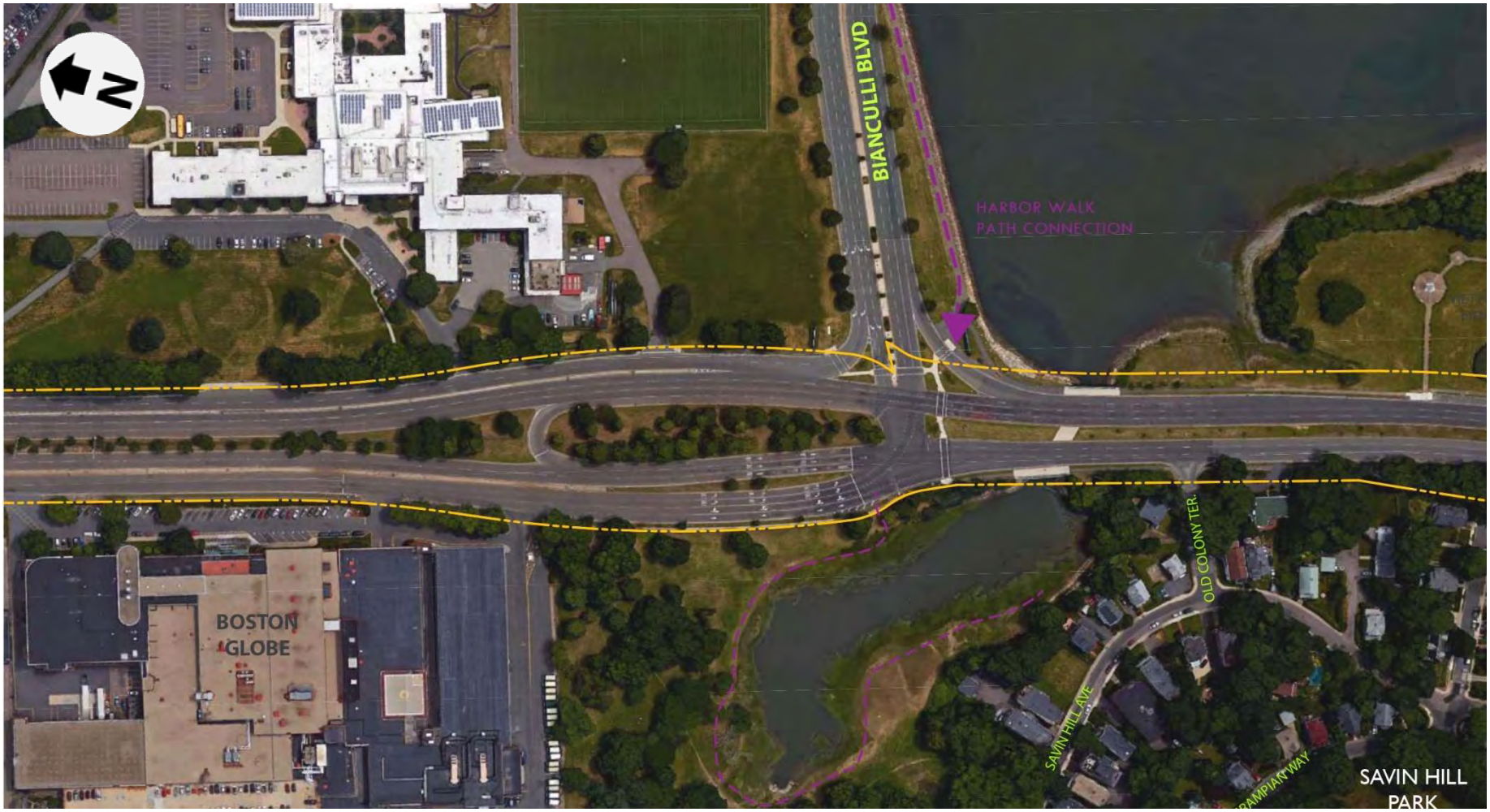
MORRISSEY BOULEVARD

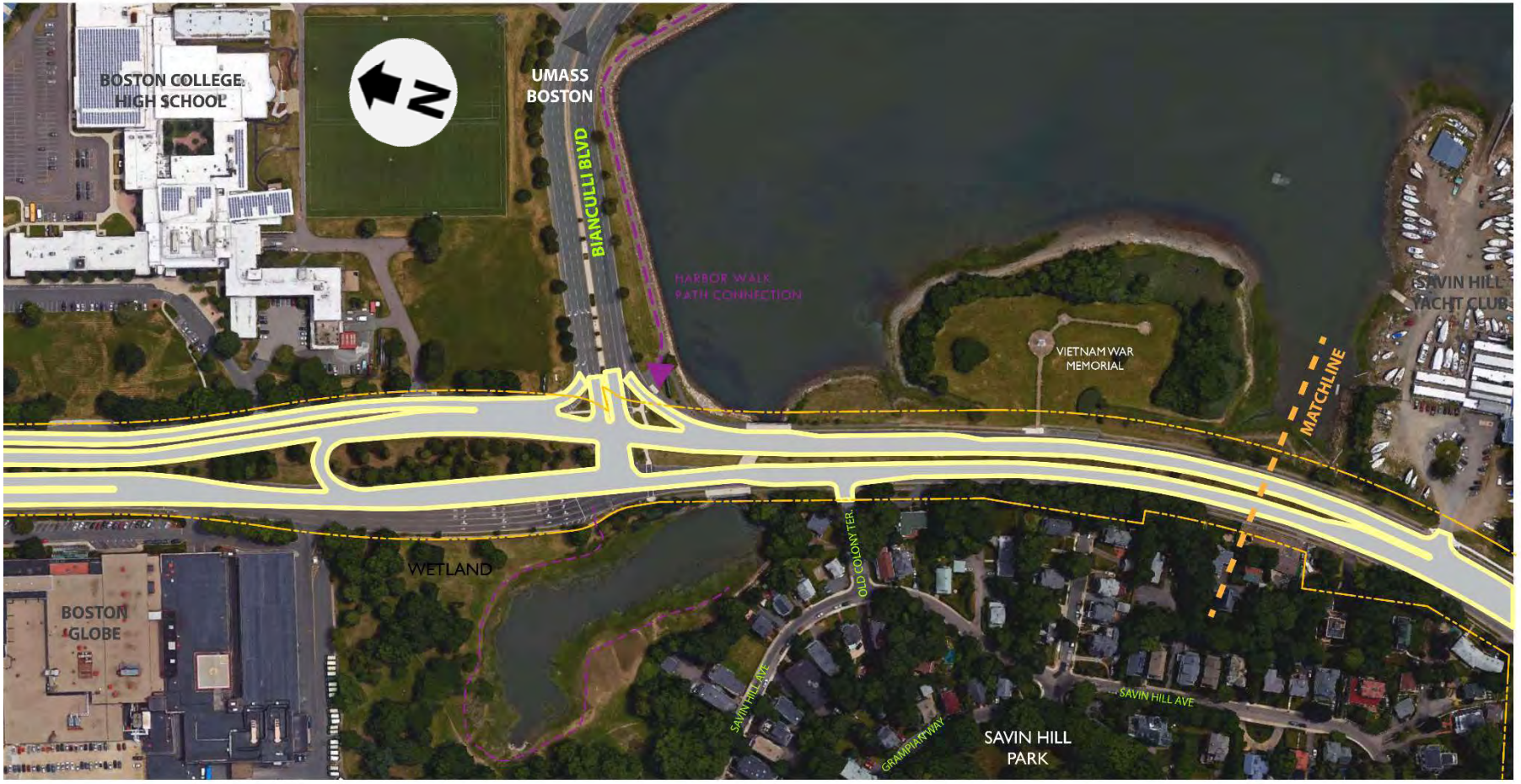
BIANCULLI BOULEVARD INTERSECTION - EXISTING



dcr MASSACHUSETTS DEPARTMENT OF CONSERVATION AND RECREATION

MORRISSEY BOULEVARD

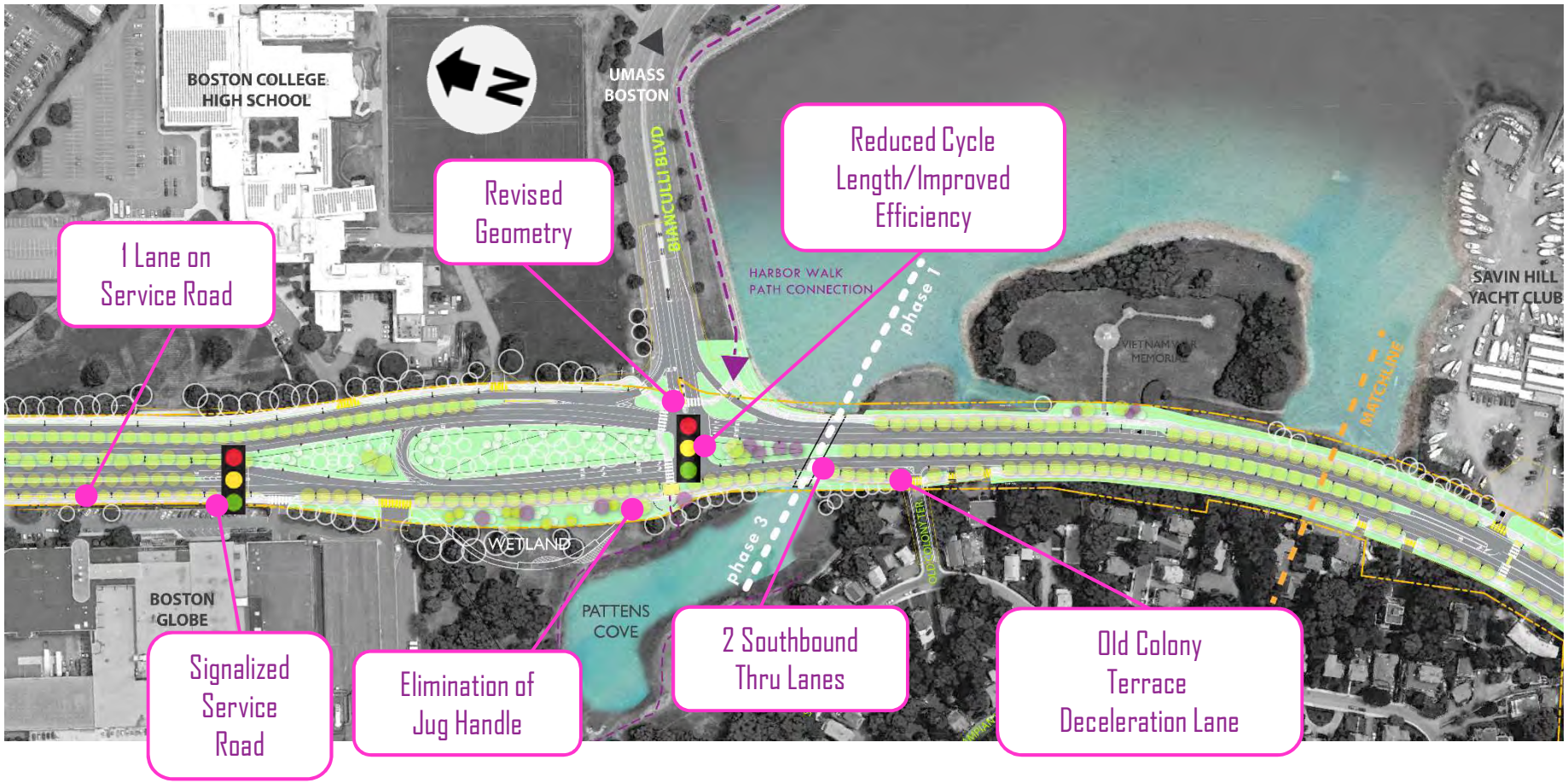
BIANCULLI BOULEVARD INTERSECTION – PROPOSED ROADWAY



dcr MASSACHUSETTS DEPARTMENT OF CONSERVATION AND RECREATION

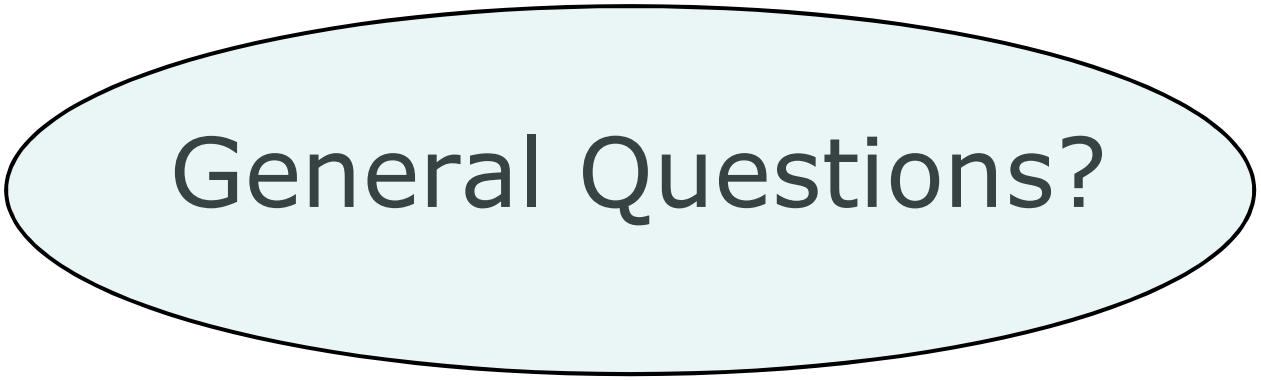
MORRISSEY BOULEVARD

BIANCULLI BOULEVARD INTERSECTION – PROPOSED TRAFFIC PLAN



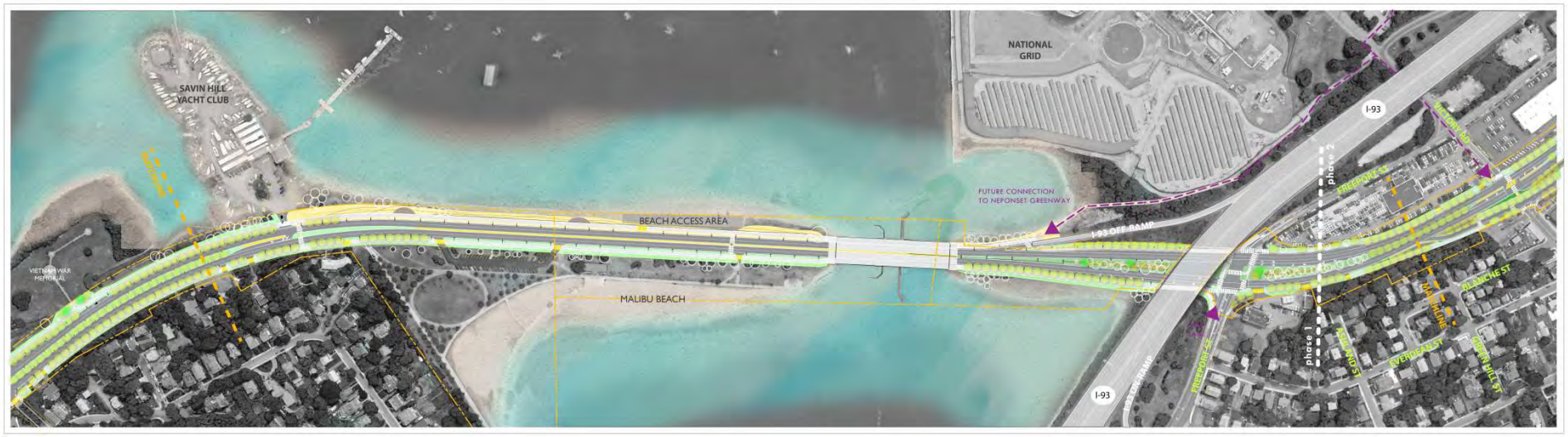
dcr MASSACHUSETTS DEPARTMENT OF CONSERVATION AND RECREATION

Northern Segment



dcr MASSACHUSETTS DEPARTMENT OF CONSERVATION AND RECREATION

MIDDLE SEGMENT

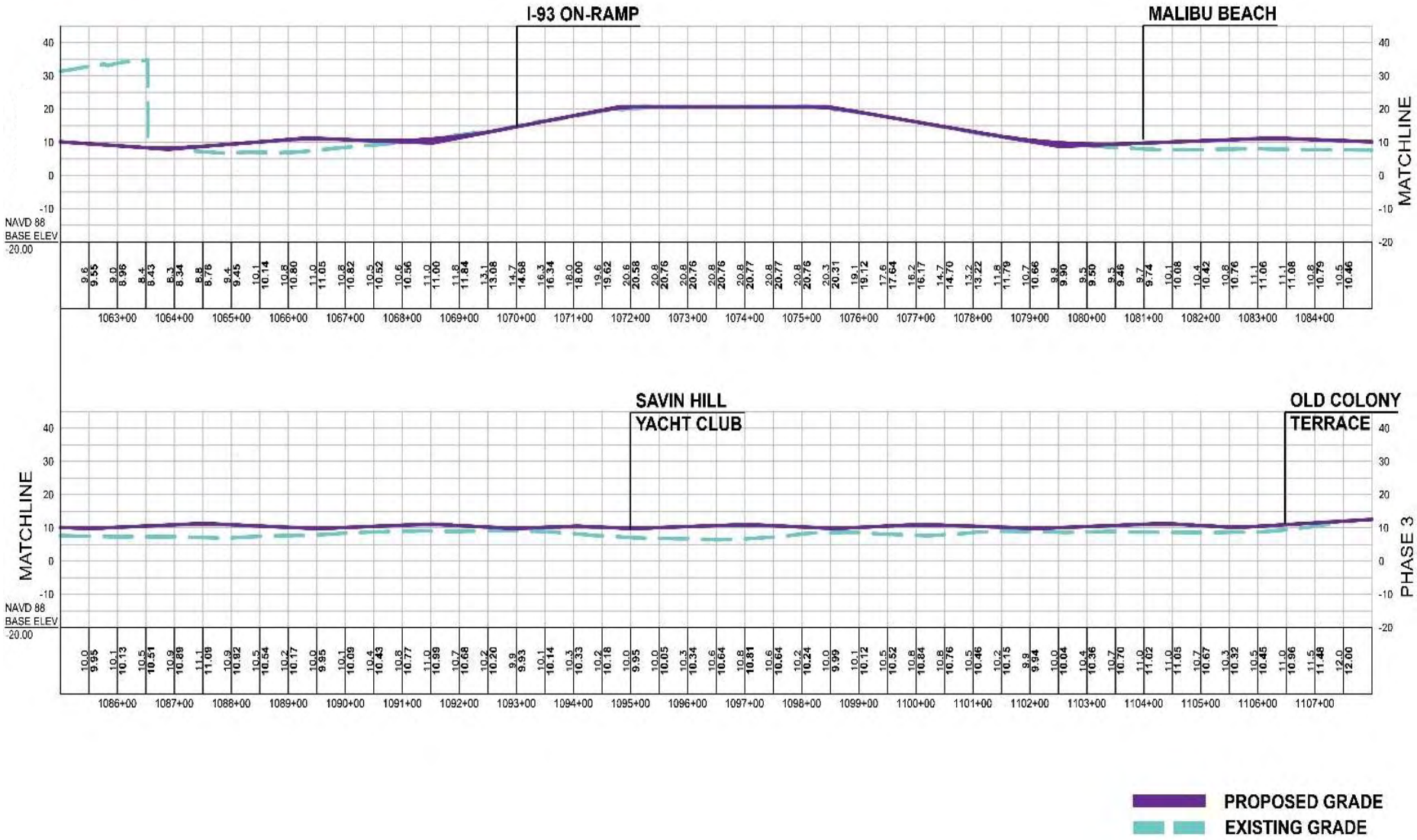


MORRISSEY BOULEVARD
MID SEGMENT

dcr MASSACHUSETTS DEPARTMENT OF CONSERVATION AND RECREATION

MORRISSEY BOULEVARD

MIDDLE SEGMENT PROFILE



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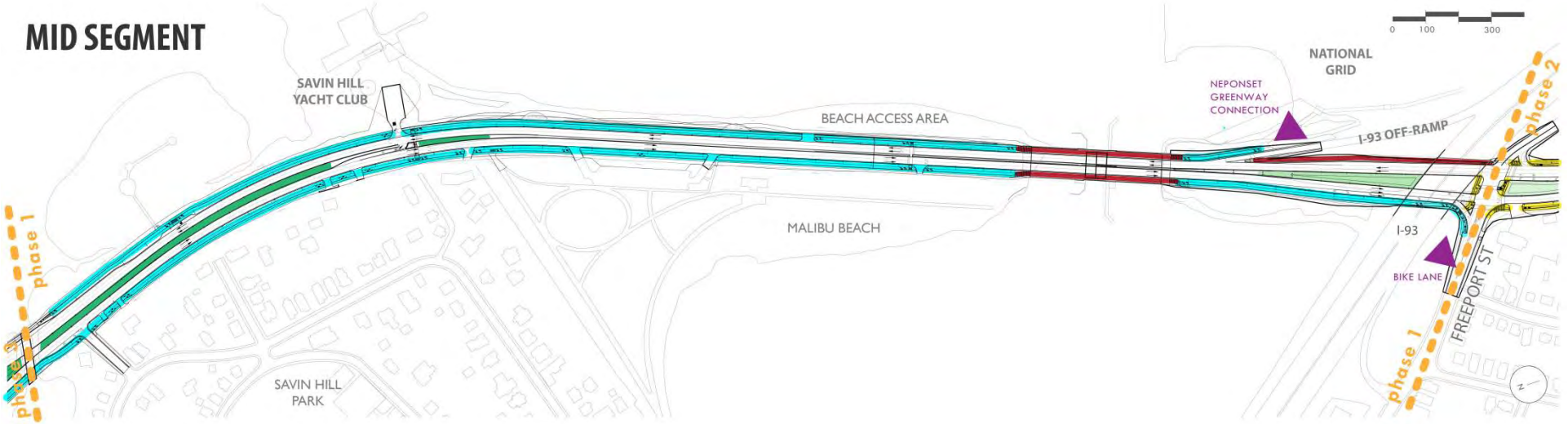
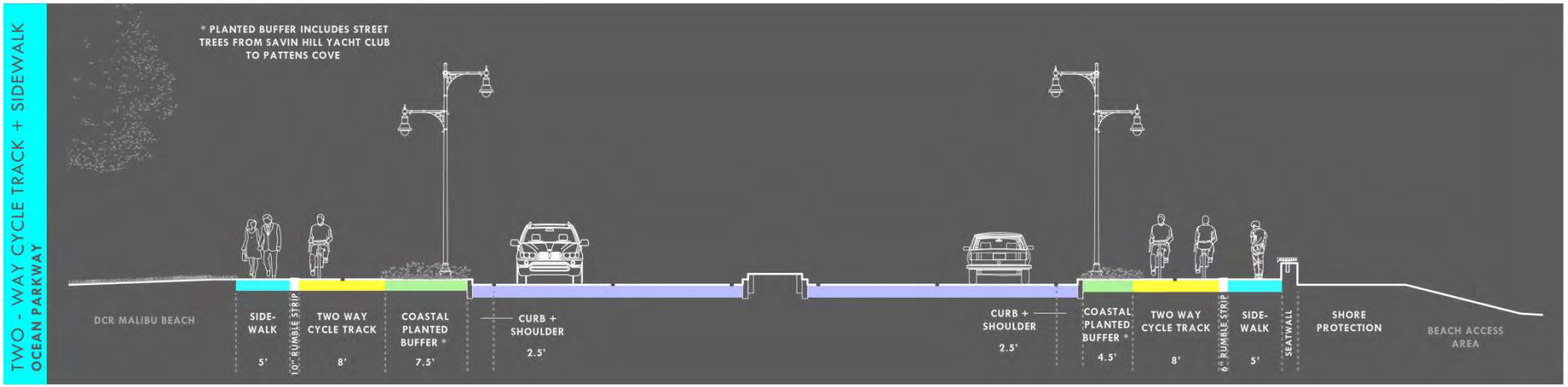
MID SEGMENT: Ocean Parkway Bicycle & Pedestrian Facilities



dcr MASSACHUSETTS DEPARTMENT OF CONSERVATION AND RECREATION

MID SEGMENT: Ocean Parkway Typical Character Section



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Proposed Bicycle & Pedestrian Facilities
Ocean Parkway Area

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MORRISSEY BOULEVARD

MALIBU BEACH AREA - EXISTING

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MALIBU BEACH AREA – PROPOSED ROADWAY PLAN

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MALIBU BEACH AREA – PROPOSED TRAFFIC PLAN

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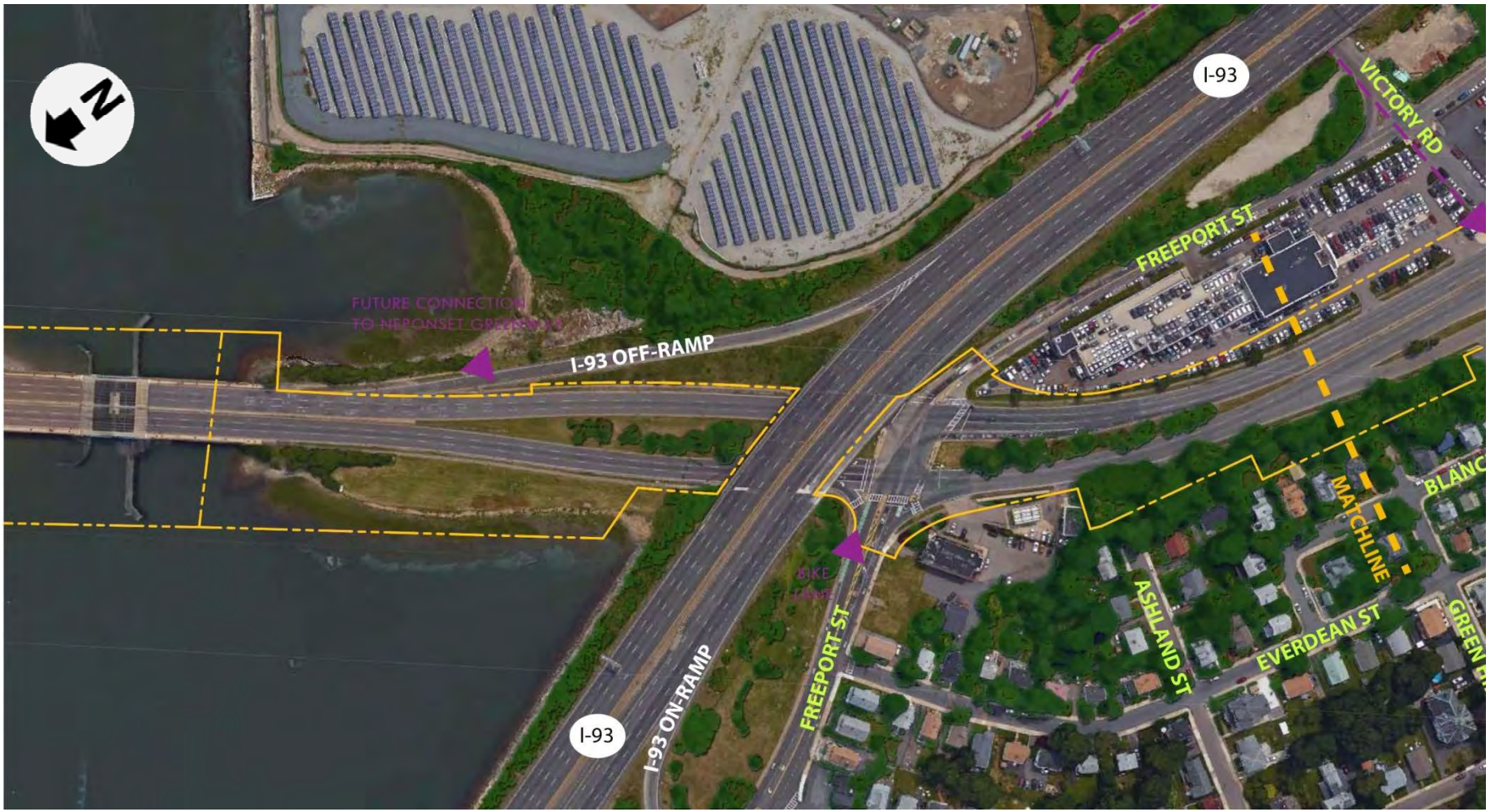
MORRISSEY BOULEVARD

FREEPORT STREET INTERSECTION – EXISTING



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FREEPORT STREET INTERSECTION – PROPOSED ROADWAY PLAN

dcr MASSACHUSETTS DEPARTMENT OF CONSERVATION AND RECREATION

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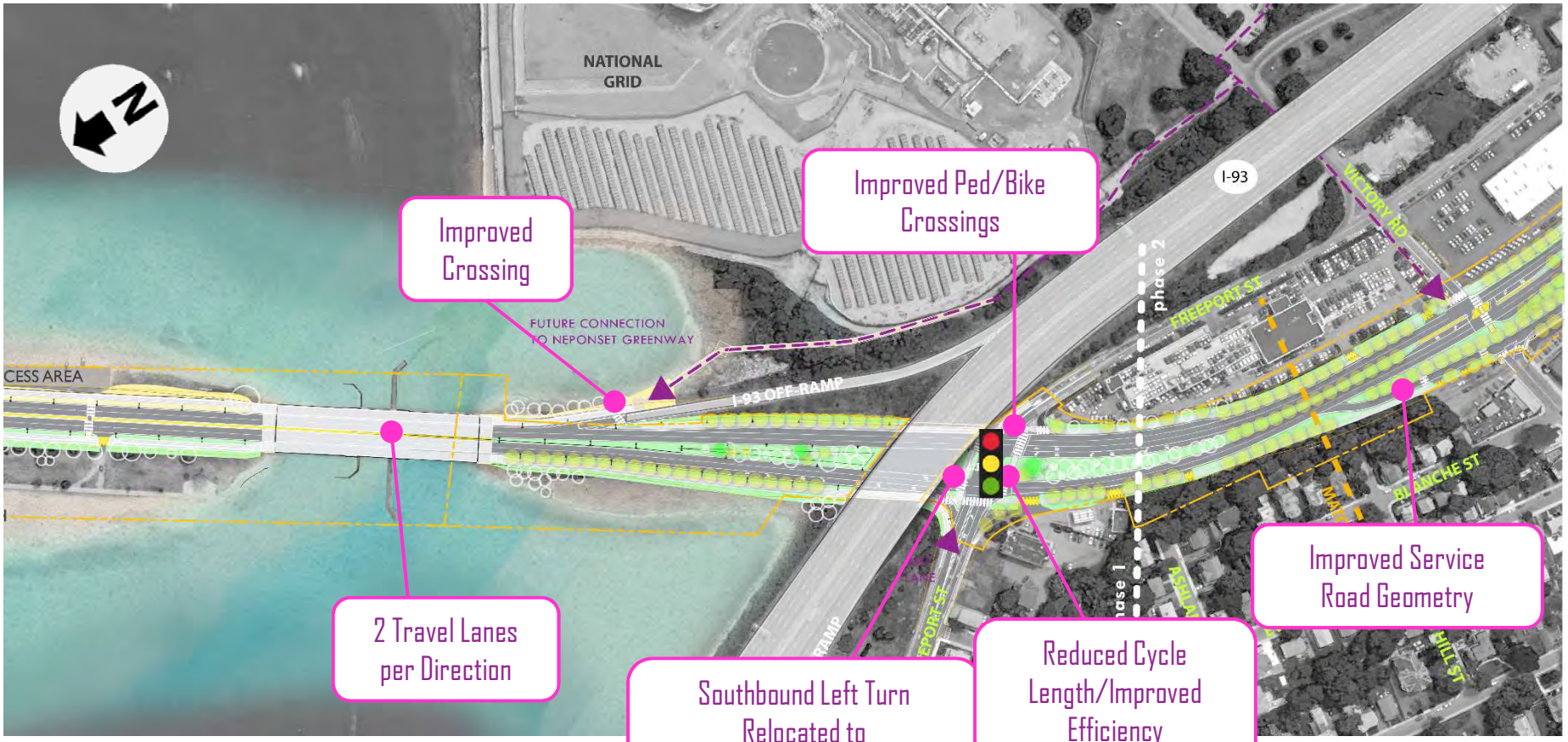
FREEPORT STREET INTERSECTION – PROPOSED TRAFFIC PLAN



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Middle Segment

General Questions?

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SOUTH SEGMENT

MORRISSEY BOULEVARD
SOUTH SEGMENT

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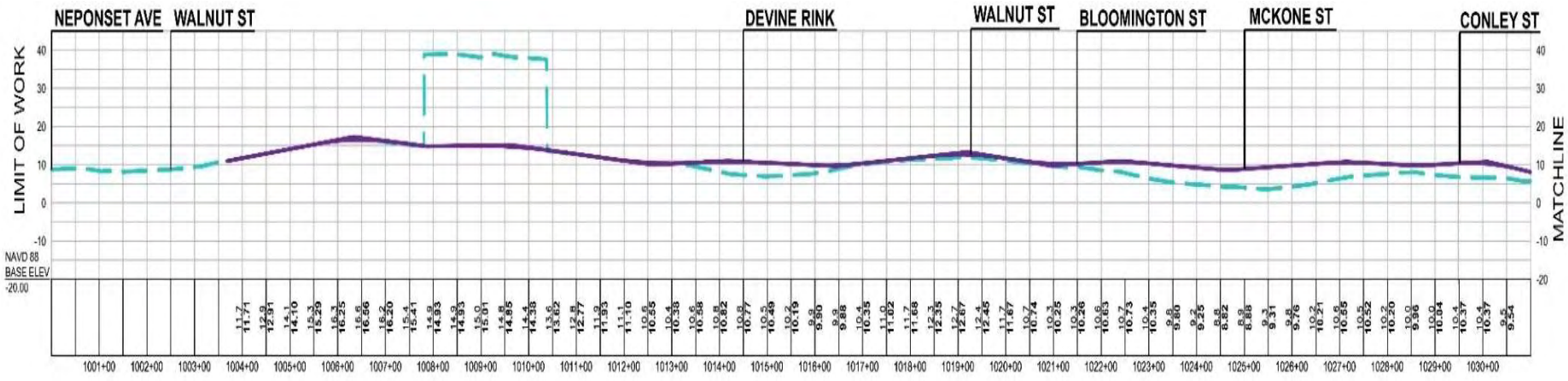
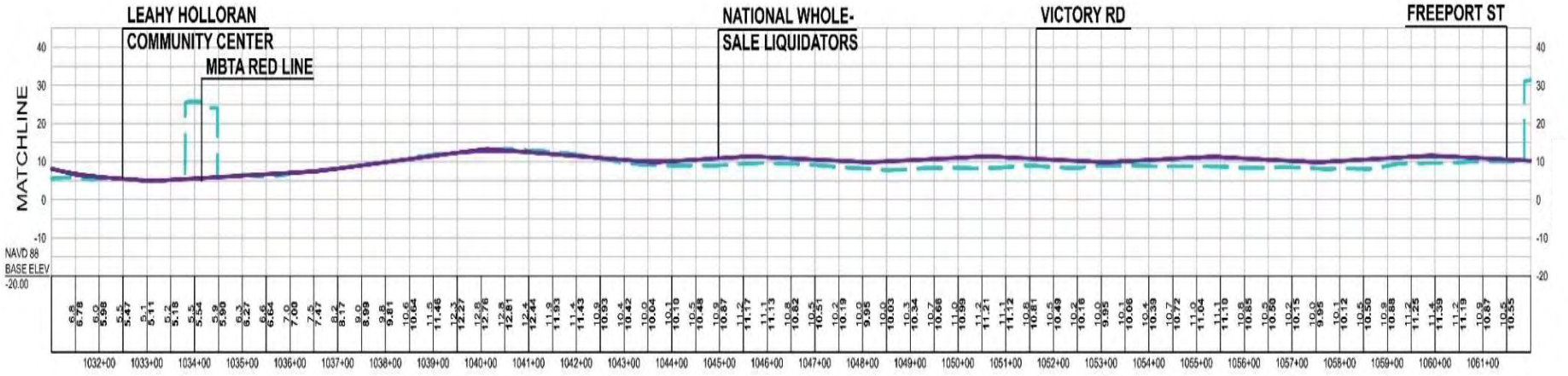
SOUTH SEGMENT PROFILE





PROPOSED GRADE
EXISTING GRADE

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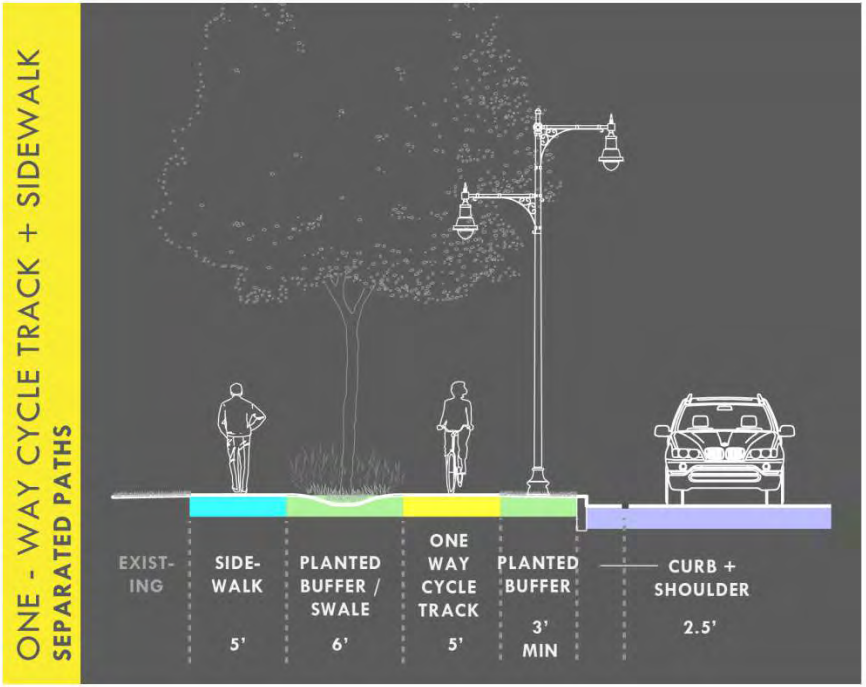
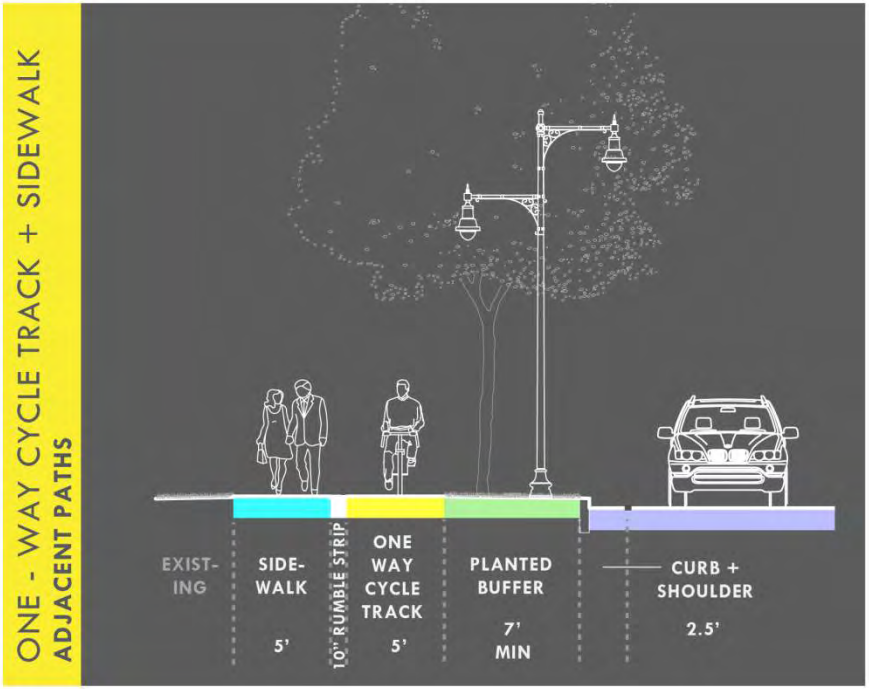
SOUTH SEGMENT: Bicycle & Pedestrian Facilities

dcr MASSACHUSETTS DEPARTMENT OF CONSERVATION AND RECREATION

SOUTH SEGMENT:
Typical Character Sections





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Proposed Bicycle & Pedestrian Facilities
One-Way Cycle Track + Sidewalk (Separated)

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SOUTH SEGMENT: EXISTING CONDITION
(North Bound at Tolman Street)

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SOUTH SEGMENT: PROPOSED SEPARTED ONE-WAY CYCLE TRACK + SIDEWALK (North Bound at Tolman Street)

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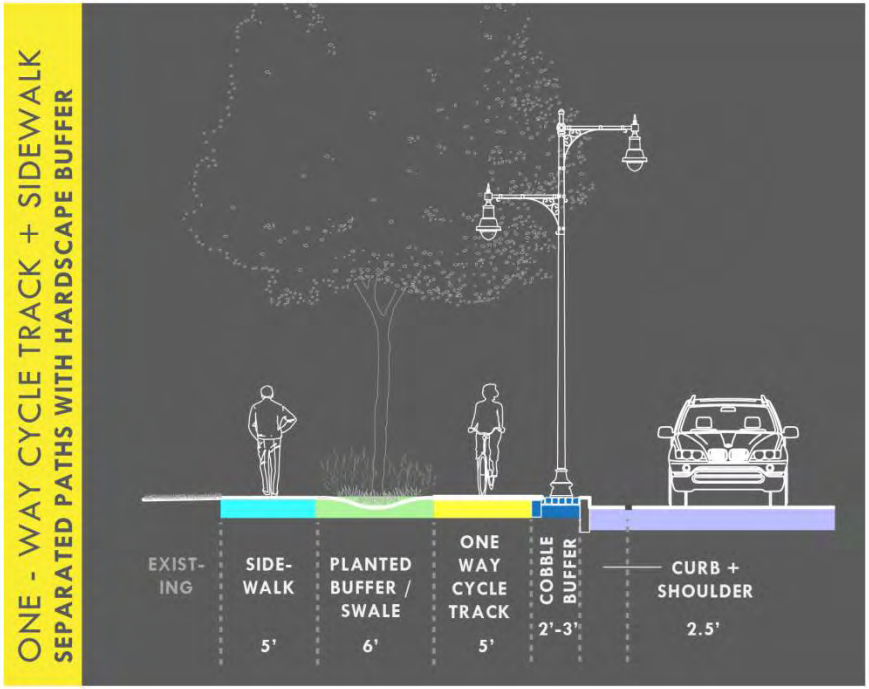
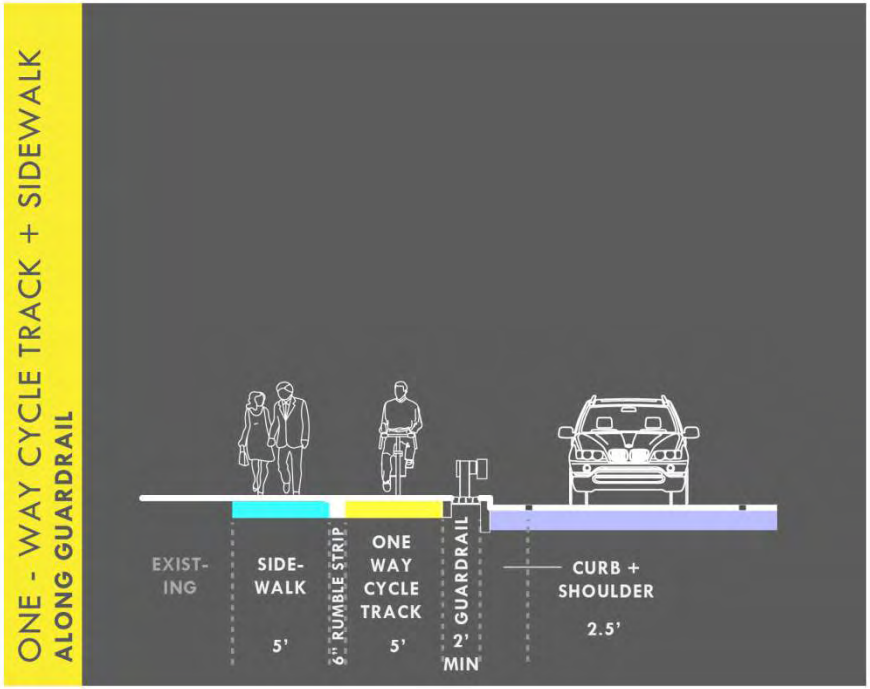
SOUTH SEGMENT:
Typical Character Sections
Narrow Conditions





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SOUTH SEGMENT: EXISTING CONDITION
(South Bound at MBTA Redline Underpass)

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SOUTH SEGMENT: PROPOSED ONE-WAY CYCLE TRACK + SIDEWALK (South Bound at MBTA Redline Underpass)

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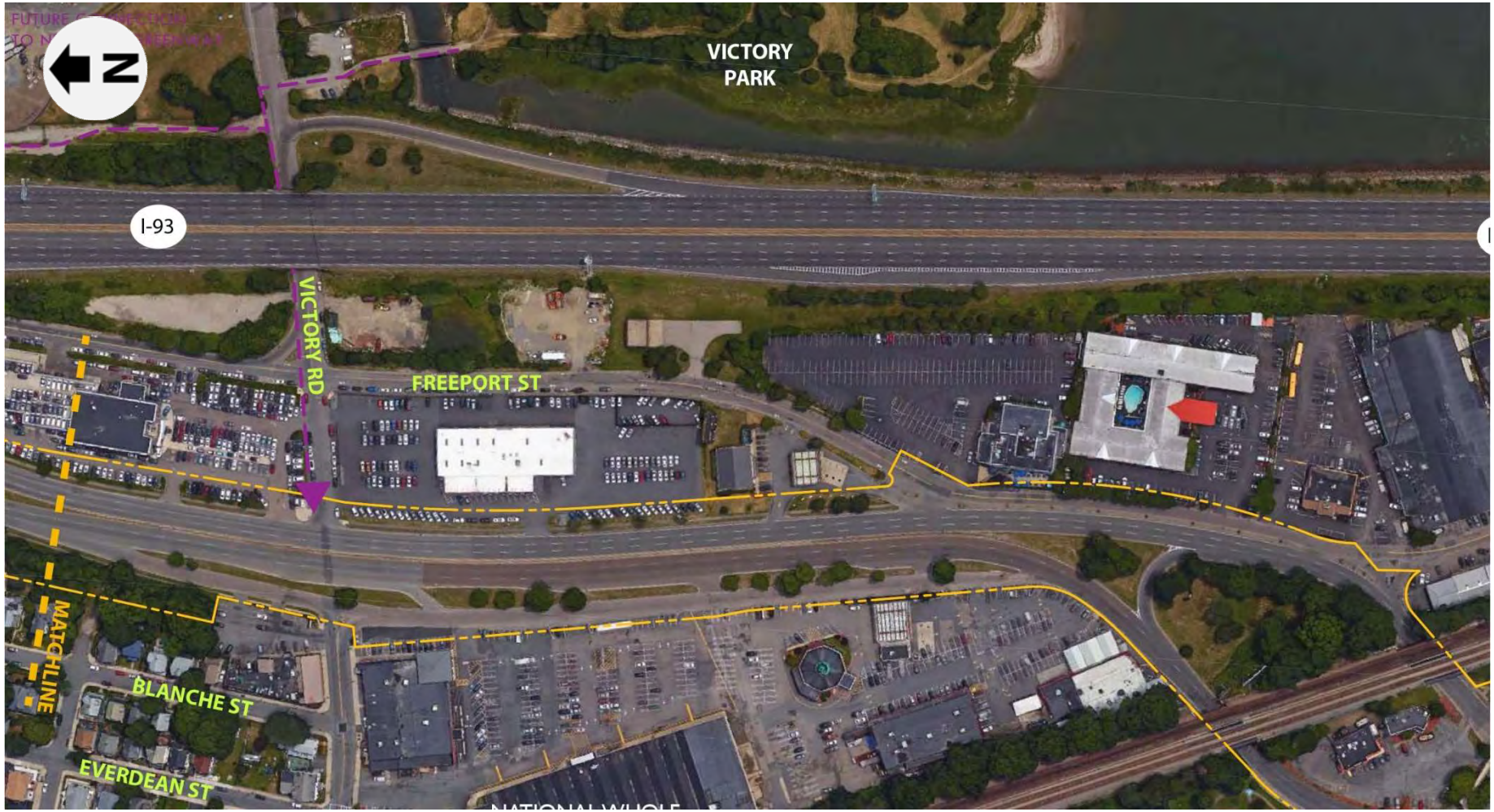
MORRISSEY BOULEVARD

VICTORY ROAD INTERSECTION – EXISTING



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MORRISSEY BOULEVARD

VICTORY ROAD INTERSECTION – PROPOSED ROADWAY PLAN

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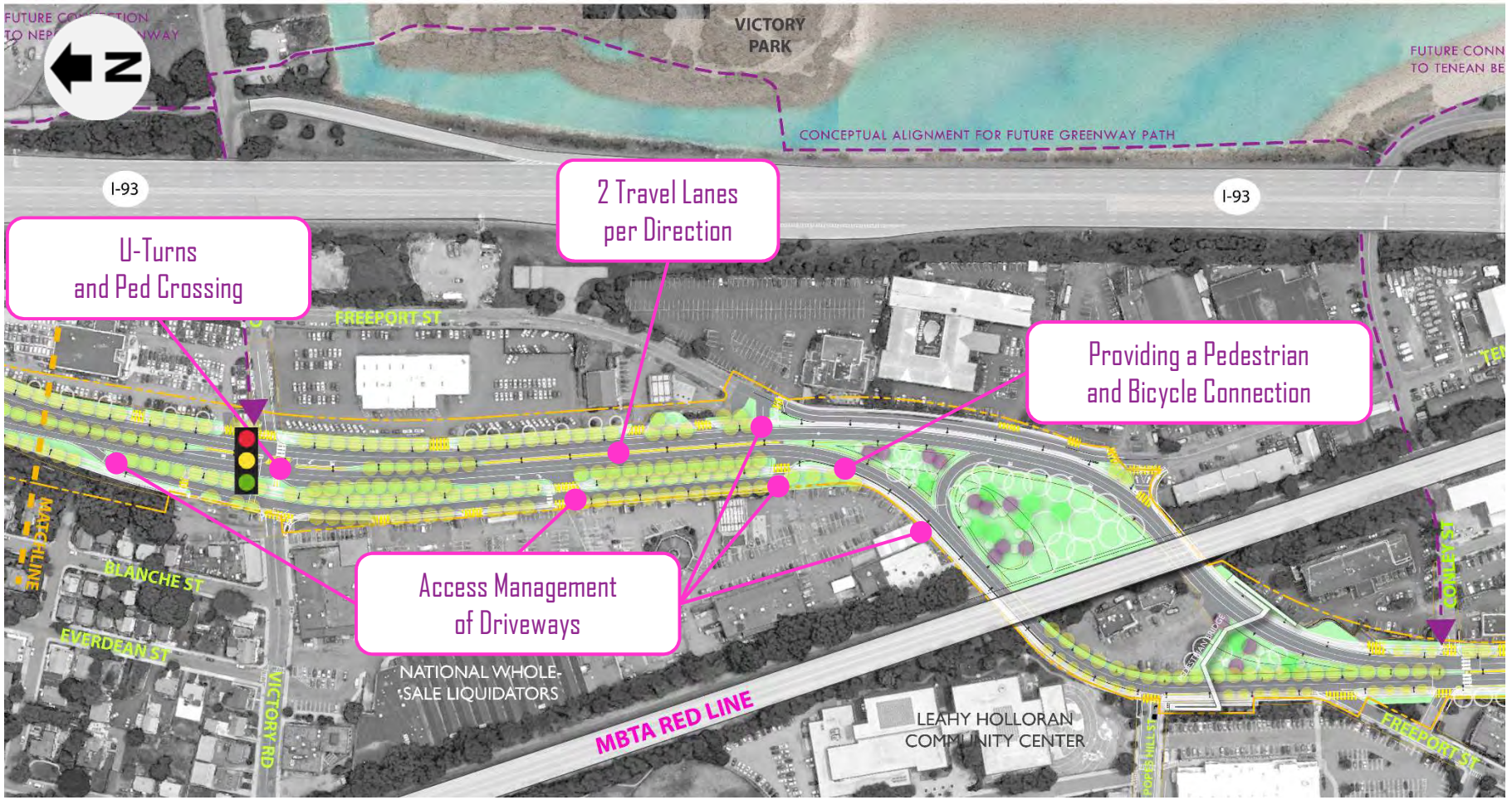
MORRISSEY BOULEVARD

VICTORY ROAD INTERSECTION – PROPOSED TRAFFIC PLAN



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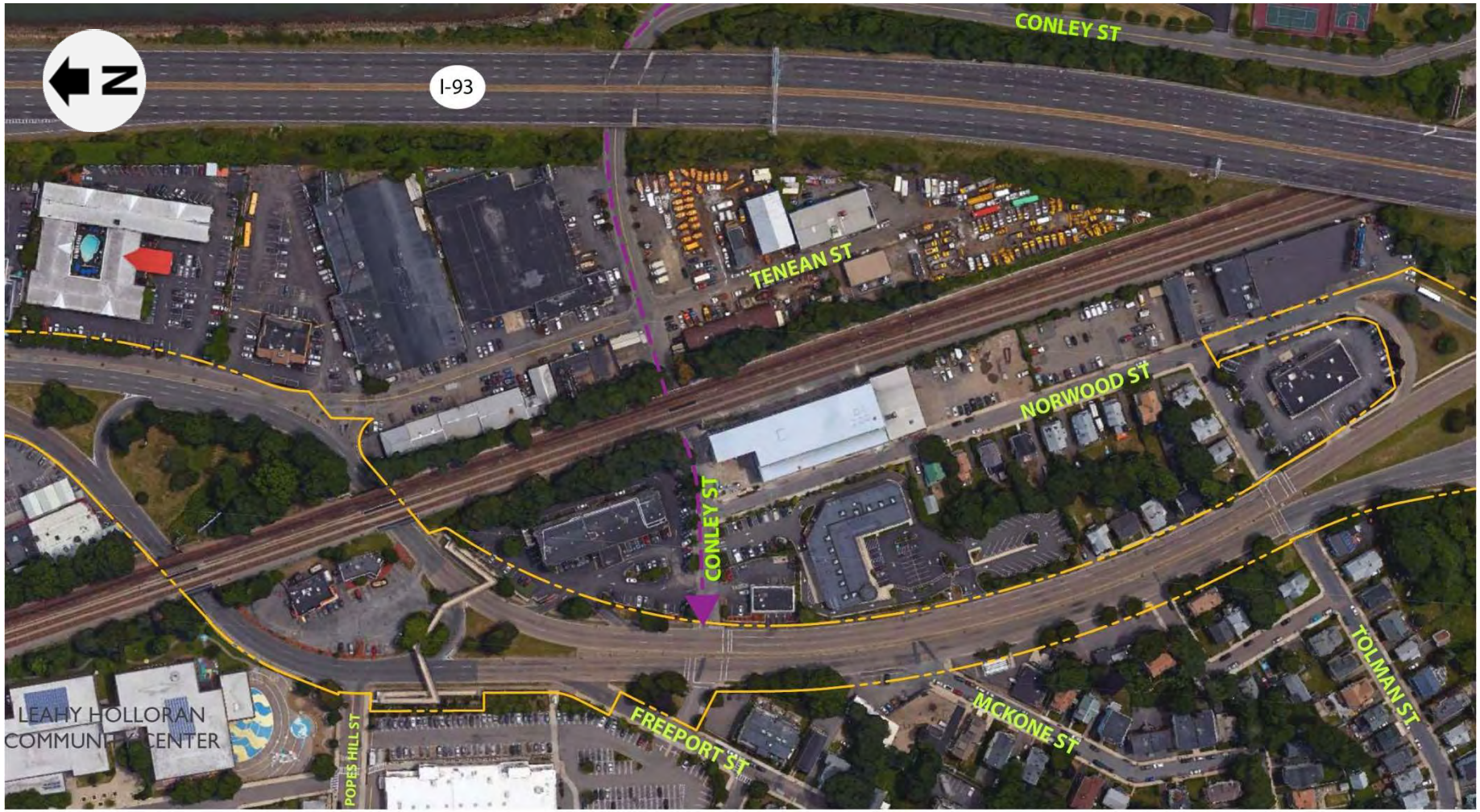
MORRISSEY BOULEVARD

MBTA RED LINE OVERPASS – EXISTING



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MORRISSEY BOULEVARD

MBTA RED LINE OVERPASS – PROPOSED ROADWAY PLAN

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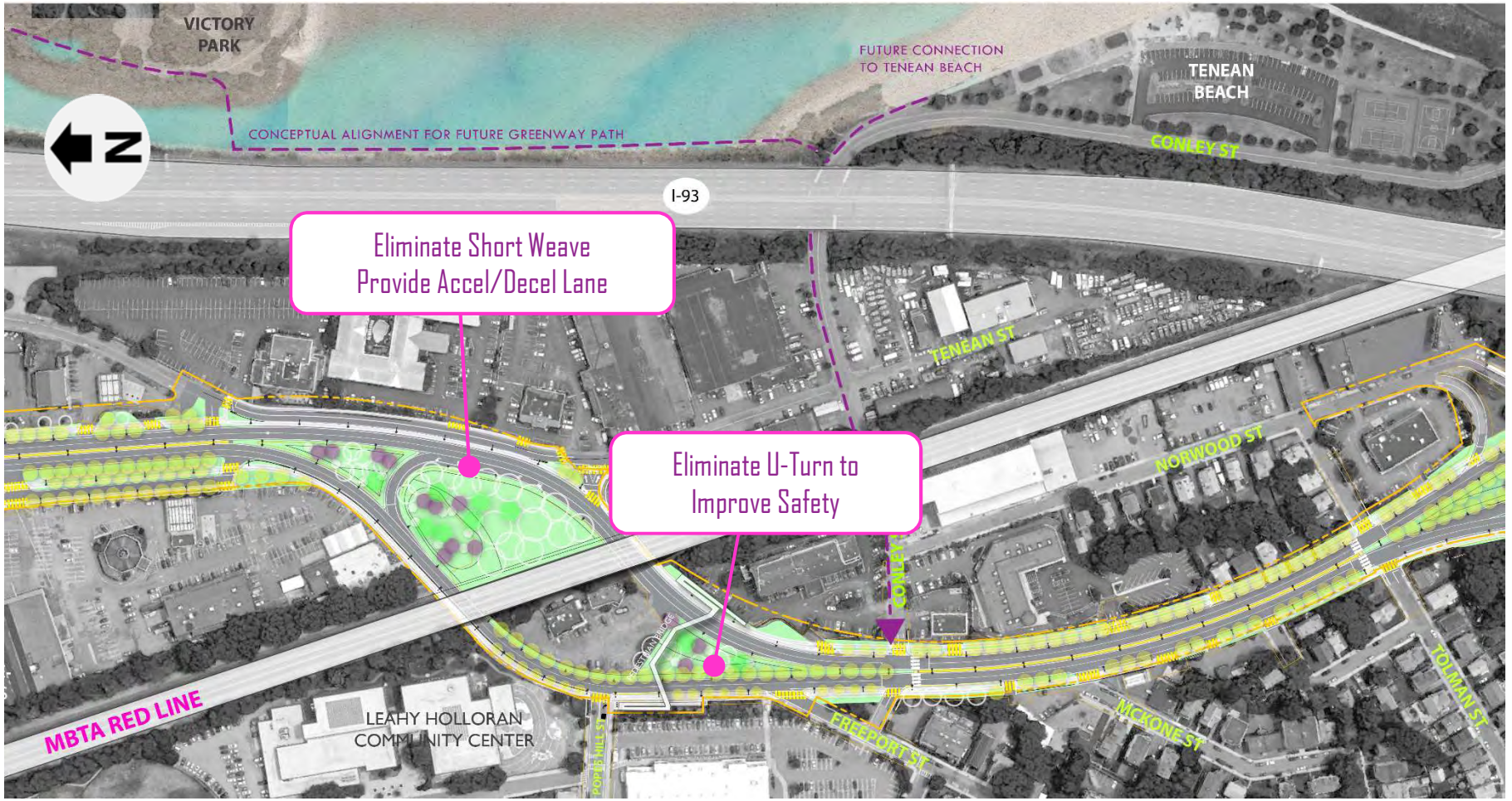
MORRISSEY BOULEVARD

MBTA RED LINE OVERPASS – PROPOSED TRAFFIC PLAN



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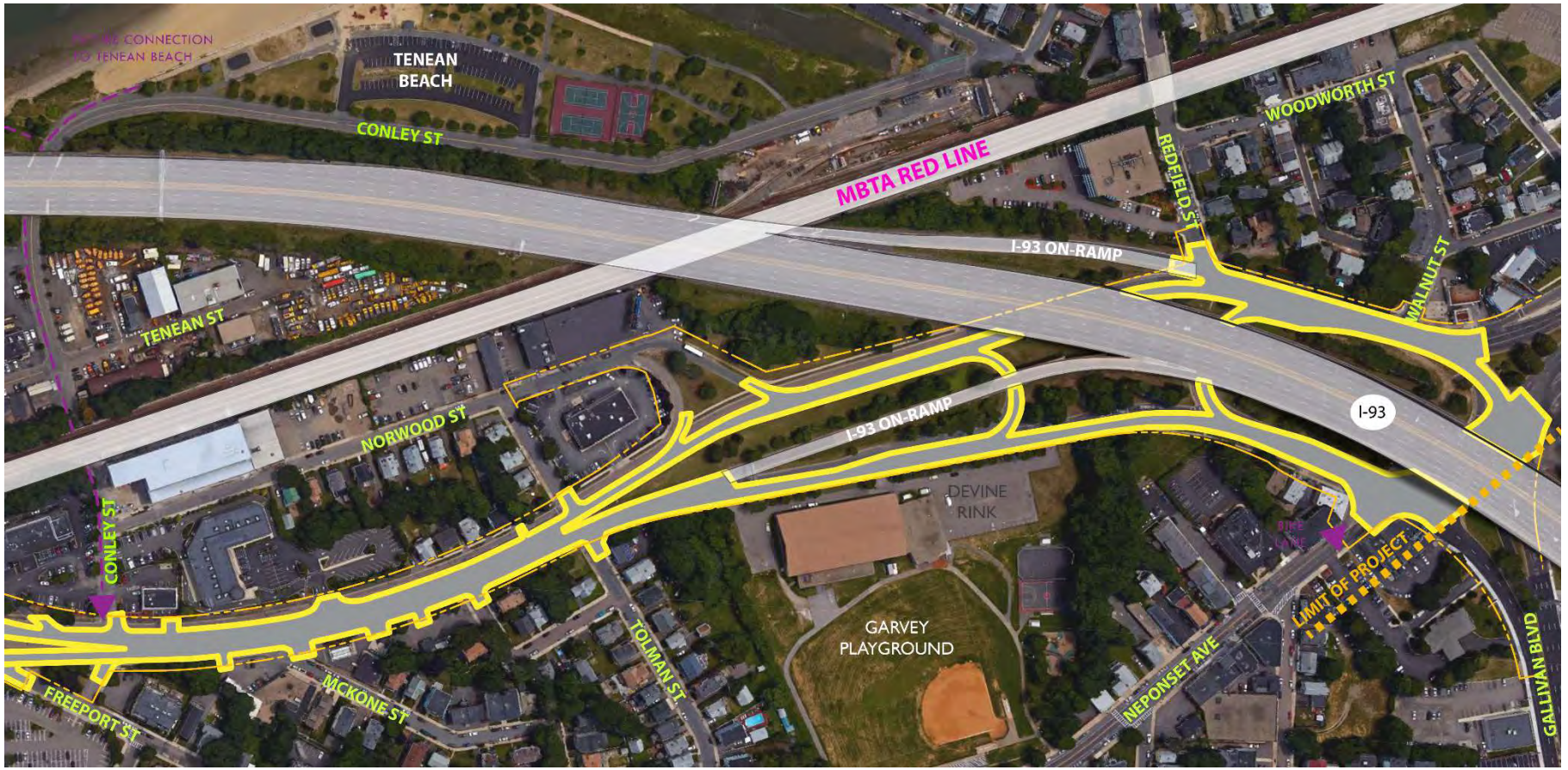
MORRISSEY BOULEVARD

NEPONSET CIRCLE – PROPOSED ROADWAY PLAN



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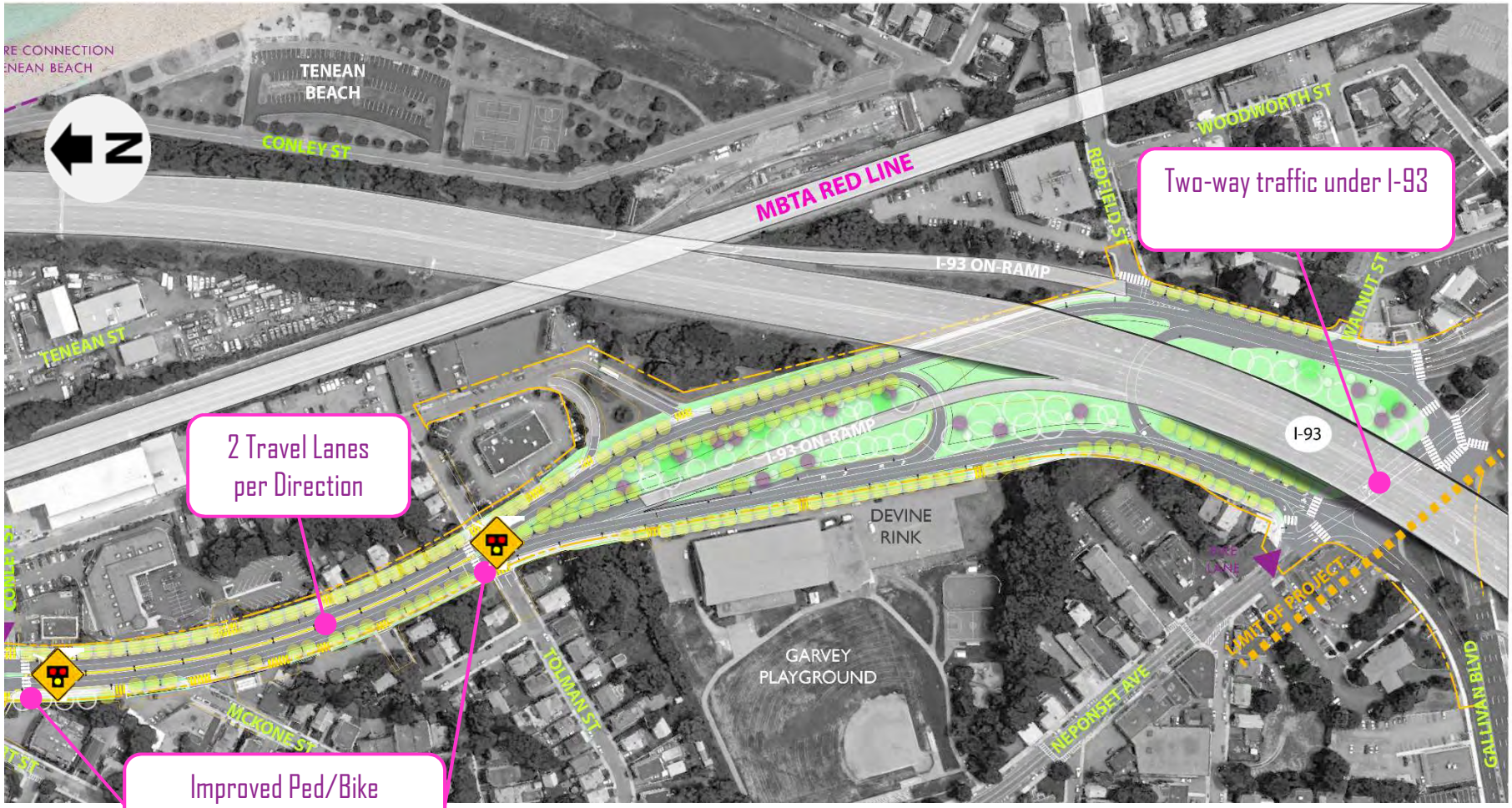
NEPONSET CIRCLE – PROPOSED TRAFFIC PLAN



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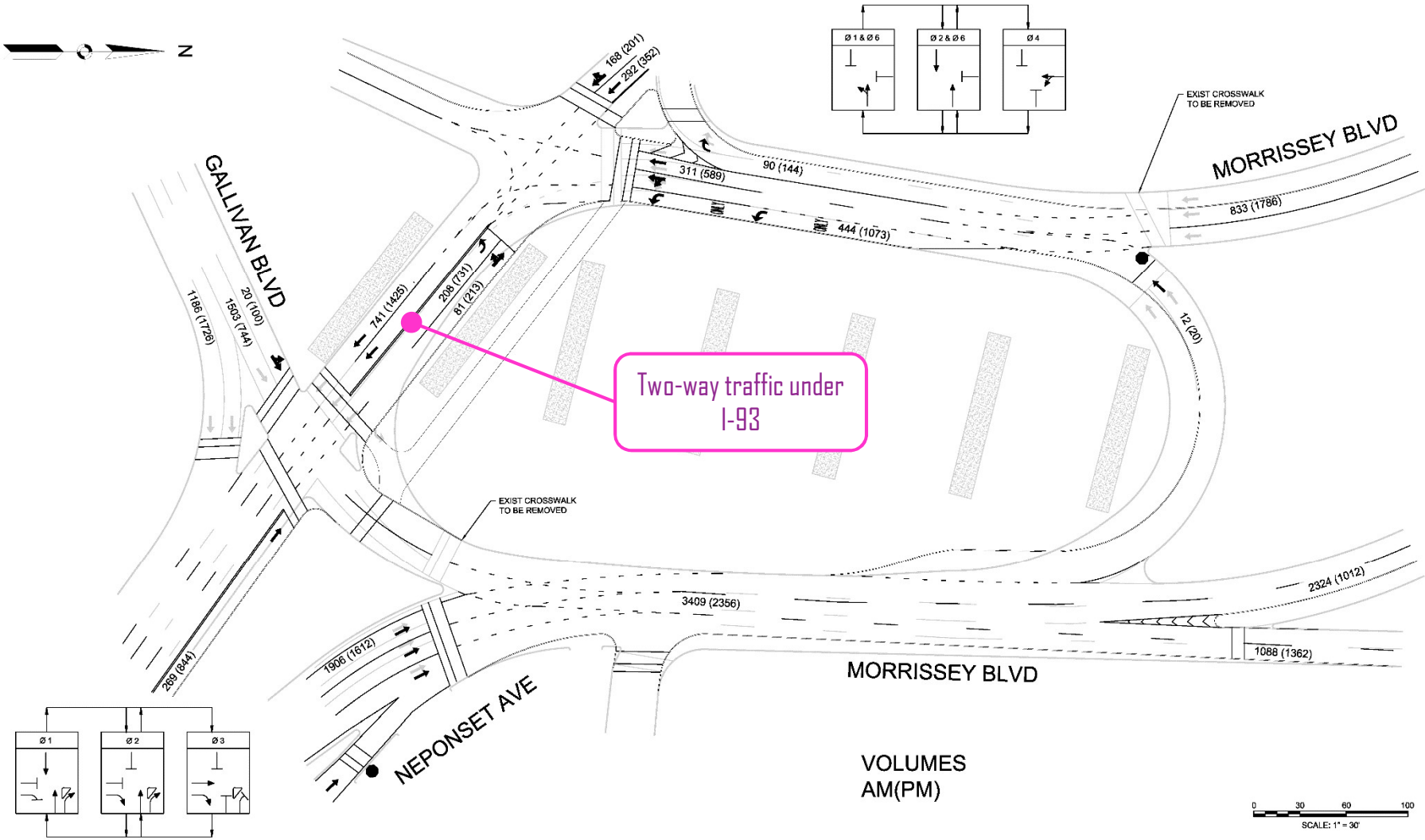
MORRISSEY BOULEVARD

NEPONSET CIRCLE – PROPOSED TRAFFIC PLAN



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Southern Segment

General Questions?

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How to provide feedback after tonight:

- Submit comments online: http://www.mass.gov/eea/agencies/dcr/public-outreach/submit-public-comments/

- Write: **Department of Conservation and Recreation**
  Office of Public Outreach
  251 Causeway Street, Suite 600
  Boston, MA 02114

- Deadline for receipt of comments is **July 18, 2017**.

- Note: Public comments submitted to DCR may be posted on the DCR website in their entirety.

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Additional Information

For more information:

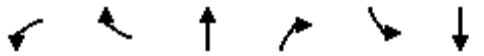
See materials relative to this meeting posted under "Materials From Past Public Meetings 2016" at
http://www.mass.gov/eea/agencies/dcr/public-outreach/public-meetings/

If you have questions or concerns or wish to subscribe to a DCR general information or project-related listserv contact DCR's Office of Community Relations at (617) 626-4973 or Mass.Parks@state.ma.us.

Synchro Results

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	50	3190	10	0	0
Future Volume (vph)	0	50	3190	10	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.86	0.86	1.00	1.00
Frt		0.865				
Flt Protected						
Satd. Flow (prot)	0	1479	5767	0	0	0
Flt Permitted						
Satd. Flow (perm)	0	1479	5767	0	0	0
Link Speed (mph)	30		30			30
Link Distance (ft)	218		100			408
Travel Time (s)	5.0		2.3			9.3
Peak Hour Factor	0.59	0.59	0.95	0.95	0.92	0.92
Heavy Vehicles (%)	0%	0%	2%	2%	2%	2%
Adj. Flow (vph)	0	85	3358	11	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	85	3369	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.14	1.14	1.14	1.14	1.14	1.14
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	CBD		
Control Type: Unsignalized			
Intersection Capacity Utilization 61.7%		ICU Level of Service B	
Analysis Period (min) 15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	50	3190	10	0	0
Future Volume (Veh/h)	0	50	3190	10	0	0
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.59	0.59	0.95	0.95	0.92	0.92
Hourly flow rate (vph)	0	85	3358	11	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			100			
pX, platoon unblocked						
vC, conflicting volume	3364	845			3369	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	3364	845			3369	
tC, single (s)	6.8	*9.4			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	51			100	
cM capacity (veh/h)	6	173			80	

Direction, Lane #	WB 1	NB 1	NB 2	NB 3	NB 4
Volume Total	85	959	959	959	491
Volume Left	0	0	0	0	0
Volume Right	85	0	0	0	11
cSH	173	1700	1700	1700	1700
Volume to Capacity	0.49	0.56	0.56	0.56	0.29
Queue Length 95th (ft)	60	0	0	0	0
Control Delay (s)	44.6	0.0	0.0	0.0	0.0
Lane LOS	E				
Approach Delay (s)	44.6	0.0			
Approach LOS	E				

Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	61.7%	ICU Level of Service	B
Analysis Period (min)	15		

* User Entered Value

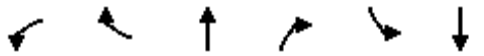
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	15	5	30	0	0	45
Future Volume (vph)	15	5	30	0	0	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.967					0.865
Flt Protected			0.950			
Satd. Flow (prot)	1654	0	1624	0	0	1479
Flt Permitted			0.950			
Satd. Flow (perm)	1654	0	1624	0	0	1479
Link Speed (mph)	30			30	30	
Link Distance (ft)	262			305	206	
Travel Time (s)	6.0			6.9	4.7	
Confl. Peds. (#/hr)		1	1			1
Peak Hour Factor	0.53	0.53	0.70	0.70	0.73	0.73
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	28	9	43	0	0	62
Shared Lane Traffic (%)						
Lane Group Flow (vph)	37	0	43	0	0	62
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.14	1.14	1.14	1.14	1.14	1.14
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	CBD		
Control Type: Unsignalized			
Intersection Capacity Utilization 18.8%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	15	5	30	0	0	45
Future Volume (Veh/h)	15	5	30	0	0	45
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.53	0.53	0.70	0.70	0.73	0.73
Hourly flow rate (vph)	28	9	43	0	0	62
Pedestrians				1	1	
Lane Width (ft)				12.0	12.0	
Walking Speed (ft/s)				3.5	3.5	
Percent Blockage				0	0	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			38		120	34
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			38		120	34
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		100	94
cM capacity (veh/h)			1584		856	1042

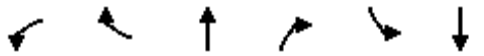
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	37	43	62
Volume Left	0	43	0
Volume Right	9	0	62
cSH	1700	1584	1042
Volume to Capacity	0.02	0.03	0.06
Queue Length 95th (ft)	0	2	5
Control Delay (s)	0.0	7.3	8.7
Lane LOS		A	A
Approach Delay (s)	0.0	7.3	8.7
Approach LOS			A

Intersection Summary			
Average Delay	6.0		
Intersection Capacity Utilization	18.8%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	45	2430	5	0	0
Future Volume (vph)	0	45	2430	5	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.91	0.91	1.00	1.00
Frt		0.865				
Flt Protected						
Satd. Flow (prot)	0	1422	4668	0	0	0
Flt Permitted						
Satd. Flow (perm)	0	1422	4668	0	0	0
Link Speed (mph)	30		30			30
Link Distance (ft)	207		404			445
Travel Time (s)	4.7		9.2			10.1
Peak Hour Factor	0.75	0.75	0.86	0.86	0.92	0.92
Heavy Vehicles (%)	0%	4%	0%	0%	0%	0%
Adj. Flow (vph)	0	60	2826	6	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	60	2832	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.14	1.14	1.14	1.14	1.14	1.14
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

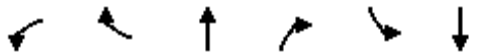
Intersection Summary			
Area Type:	CBD		
Control Type: Unsignalized			
Intersection Capacity Utilization 62.3%		ICU Level of Service B	
Analysis Period (min) 15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	45	2430	5	0	0
Future Volume (Veh/h)	0	45	2430	5	0	0
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.75	0.75	0.86	0.86	0.92	0.92
Hourly flow rate (vph)	0	60	2826	6	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	2829	945			2832	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2829	945			2832	
tC, single (s)	6.8	7.0			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	77			100	
cM capacity (veh/h)	14	259			137	

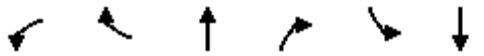
Direction, Lane #	WB 1	NB 1	NB 2	NB 3
Volume Total	60	1130	1130	571
Volume Left	0	0	0	0
Volume Right	60	0	0	6
cSH	259	1700	1700	1700
Volume to Capacity	0.23	0.66	0.66	0.34
Queue Length 95th (ft)	22	0	0	0
Control Delay (s)	23.0	0.0	0.0	0.0
Lane LOS	C			
Approach Delay (s)	23.0	0.0		
Approach LOS	C			

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	62.3%	ICU Level of Service	B
Analysis Period (min)	15		



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	35	2755	30	0	0
Future Volume (vph)	0	35	2755	30	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.91	0.91	1.00	1.00
Frt		0.865	0.998			
Flt Protected						
Satd. Flow (prot)	0	1644	5177	0	0	0
Flt Permitted						
Satd. Flow (perm)	0	1644	5177	0	0	0
Link Speed (mph)	30		30			30
Link Distance (ft)	70		146			278
Travel Time (s)	1.6		3.3			6.3
Peak Hour Factor	0.92	0.92	0.86	0.86	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	0	38	3203	35	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	38	3238	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Yield		Free			Free

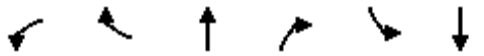
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 63.9%		ICU Level of Service B	
Analysis Period (min) 15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	35	2755	30	0	0
Future Volume (Veh/h)	0	35	2755	30	0	0
Sign Control	Yield		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.86	0.86	0.92	0.92
Hourly flow rate (vph)	0	38	3203	35	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	3220	1085			3238	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	3220	1085			3238	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	82			100	
cM capacity (veh/h)	8	215			94	

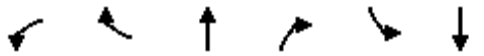
Direction, Lane #	WB 1	NB 1	NB 2	NB 3
Volume Total	38	1281	1281	676
Volume Left	0	0	0	0
Volume Right	38	0	0	35
cSH	215	1700	1700	1700
Volume to Capacity	0.18	0.75	0.75	0.40
Queue Length 95th (ft)	16	0	0	0
Control Delay (s)	25.3	0.0	0.0	0.0
Lane LOS	D			
Approach Delay (s)	25.3	0.0		
Approach LOS	D			

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	63.9%	ICU Level of Service	B
Analysis Period (min)	15		



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	140	3010	20	0	0
Future Volume (vph)	0	140	3010	20	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.86	0.86	1.00	1.00
Ped Bike Factor						
Frt		0.865	0.999			
Flt Protected						
Satd. Flow (prot)	0	1450	5819	0	0	0
Flt Permitted						
Satd. Flow (perm)	0	1450	5819	0	0	0
Link Speed (mph)	30		30			30
Link Distance (ft)	215		101			408
Travel Time (s)	4.9		2.3			9.3
Confl. Peds. (#/hr)				3		
Peak Hour Factor	0.76	0.76	0.88	0.88	0.92	0.92
Heavy Vehicles (%)	0%	2%	1%	0%	0%	0%
Adj. Flow (vph)	0	184	3420	23	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	184	3443	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.14	1.14	1.14	1.14	1.14	1.14
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	CBD		
Control Type: Unsignalized			
Intersection Capacity Utilization	65.1%	ICU Level of Service	C
Analysis Period (min)	15		



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	140	3010	20	0	0
Future Volume (Veh/h)	0	140	3010	20	0	0
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.76	0.76	0.88	0.88	0.92	0.92
Hourly flow rate (vph)	0	184	3420	23	0	0
Pedestrians	3					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	3.5					
Percent Blockage	0					
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			101			
pX, platoon unblocked						
vC, conflicting volume	3434	870			3446	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	3434	870			3446	
tC, single (s)	6.8	*9.4			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	0			100	
cM capacity (veh/h)	5	162			77	

Direction, Lane #	WB 1	NB 1	NB 2	NB 3	NB 4
Volume Total	184	977	977	977	512
Volume Left	0	0	0	0	0
Volume Right	184	0	0	0	23
cSH	162	1700	1700	1700	1700
Volume to Capacity	1.13	0.57	0.57	0.57	0.30
Queue Length 95th (ft)	244	0	0	0	0
Control Delay (s)	167.7	0.0	0.0	0.0	0.0
Lane LOS	F				
Approach Delay (s)	167.7	0.0			
Approach LOS	F				

Intersection Summary			
Average Delay	8.5		
Intersection Capacity Utilization	65.1%	ICU Level of Service	C
Analysis Period (min)	15		

* User Entered Value

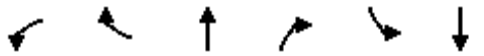
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	70	40	90	0	0	10
Future Volume (vph)	70	40	90	0	0	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.951					0.865
Flt Protected			0.950			
Satd. Flow (prot)	1560	0	1624	0	0	1479
Flt Permitted			0.950			
Satd. Flow (perm)	1560	0	1624	0	0	1479
Link Speed (mph)	30			30	30	
Link Distance (ft)	262			305	206	
Travel Time (s)	6.0			6.9	4.7	
Confl. Peds. (#/hr)		2	2			
Peak Hour Factor	0.75	0.75	0.78	0.78	0.62	0.62
Heavy Vehicles (%)	5%	3%	0%	0%	2%	0%
Adj. Flow (vph)	93	53	115	0	0	16
Shared Lane Traffic (%)						
Lane Group Flow (vph)	146	0	115	0	0	16
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.14	1.14	1.14	1.14	1.14	1.14
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	CBD		
Control Type: Unsignalized			
Intersection Capacity Utilization	17.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	70	40	90	0	0	10
Future Volume (Veh/h)	70	40	90	0	0	10
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.75	0.75	0.78	0.78	0.62	0.62
Hourly flow rate (vph)	93	53	115	0	0	16
Pedestrians					2	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					3.5	
Percent Blockage					0	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			148		352	122
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			148		352	122
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			92		100	98
cM capacity (veh/h)			1443		593	933

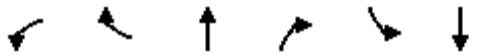
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	146	115	16
Volume Left	0	115	0
Volume Right	53	0	16
cSH	1700	1443	933
Volume to Capacity	0.09	0.08	0.02
Queue Length 95th (ft)	0	6	1
Control Delay (s)	0.0	7.7	8.9
Lane LOS		A	A
Approach Delay (s)	0.0	7.7	8.9
Approach LOS			A

Intersection Summary			
Average Delay	3.7		
Intersection Capacity Utilization	17.3%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	70	855	10	0	0
Future Volume (vph)	0	70	855	10	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.91	0.91	1.00	1.00
Frt		0.865	0.998			
Flt Protected						
Satd. Flow (prot)	0	1479	4659	0	0	0
Flt Permitted						
Satd. Flow (perm)	0	1479	4659	0	0	0
Link Speed (mph)	30		30			30
Link Distance (ft)	207		404			445
Travel Time (s)	4.7		9.2			10.1
Peak Hour Factor	0.82	0.82	0.82	0.82	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	0	85	1043	12	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	85	1055	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.14	1.14	1.14	1.14	1.14	1.14
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	CBD		
Control Type: Unsignalized			
Intersection Capacity Utilization 30.1%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	70	855	10	0	0
Future Volume (Veh/h)	0	70	855	10	0	0
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.82	0.82	0.82	0.82	0.92	0.92
Hourly flow rate (vph)	0	85	1043	12	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1049	354			1055	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1049	354			1055	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	87			100	
cM capacity (veh/h)	226	648			668	

Direction, Lane #	WB 1	NB 1	NB 2	NB 3
Volume Total	85	417	417	221
Volume Left	0	0	0	0
Volume Right	85	0	0	12
cSH	648	1700	1700	1700
Volume to Capacity	0.13	0.25	0.25	0.13
Queue Length 95th (ft)	11	0	0	0
Control Delay (s)	11.4	0.0	0.0	0.0
Lane LOS	B			
Approach Delay (s)	11.4	0.0		
Approach LOS	B			

Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	30.1%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	105	1035	15	0	0
Future Volume (vph)	0	105	1035	15	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.91	0.91	1.00	1.00
Frt		0.865	0.998			
Flt Protected						
Satd. Flow (prot)	0	1644	5177	0	0	0
Flt Permitted						
Satd. Flow (perm)	0	1644	5177	0	0	0
Link Speed (mph)	30		30			30
Link Distance (ft)	70		146			278
Travel Time (s)	1.6		3.3			6.3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	0	114	1125	16	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	114	1141	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Yield		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 33.5%		ICU Level of Service A	
Analysis Period (min) 15			

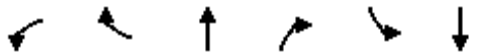
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	105	1035	15	0	0
Future Volume (Veh/h)	0	105	1035	15	0	0
Sign Control	Yield		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	114	1125	16	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1133	383			1141	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1133	383			1141	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	82			100	
cM capacity (veh/h)	200	621			620	

Direction, Lane #	WB 1	NB 1	NB 2	NB 3
Volume Total	114	450	450	241
Volume Left	0	0	0	0
Volume Right	114	0	0	16
cSH	621	1700	1700	1700
Volume to Capacity	0.18	0.26	0.26	0.14
Queue Length 95th (ft)	17	0	0	0
Control Delay (s)	12.1	0.0	0.0	0.0
Lane LOS	B			
Approach Delay (s)	12.1	0.0		
Approach LOS	B			

Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	33.5%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	50	3190	10	0	0
Future Volume (vph)	0	50	3190	10	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.86	0.86	1.00	1.00
Frt		0.865				
Flt Protected						
Satd. Flow (prot)	0	1479	5767	0	0	0
Flt Permitted						
Satd. Flow (perm)	0	1479	5767	0	0	0
Link Speed (mph)	30		30			30
Link Distance (ft)	218		100			408
Travel Time (s)	5.0		2.3			9.3
Peak Hour Factor	0.59	0.59	0.95	0.95	0.92	0.92
Heavy Vehicles (%)	0%	0%	2%	2%	2%	2%
Adj. Flow (vph)	0	85	3358	11	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	85	3369	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.14	1.14	1.14	1.14	1.14	1.14
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	CBD		
Control Type: Unsignalized			
Intersection Capacity Utilization 61.7%		ICU Level of Service B	
Analysis Period (min) 15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	50	3190	10	0	0
Future Volume (Veh/h)	0	50	3190	10	0	0
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.59	0.59	0.95	0.95	0.92	0.92
Hourly flow rate (vph)	0	85	3358	11	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			100			
pX, platoon unblocked						
vC, conflicting volume	3364	845			3369	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	3364	845			3369	
tC, single (s)	6.8	*9.4			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	51			100	
cM capacity (veh/h)	6	173			80	

Direction, Lane #	WB 1	NB 1	NB 2	NB 3	NB 4
Volume Total	85	959	959	959	491
Volume Left	0	0	0	0	0
Volume Right	85	0	0	0	11
cSH	173	1700	1700	1700	1700
Volume to Capacity	0.49	0.56	0.56	0.56	0.29
Queue Length 95th (ft)	60	0	0	0	0
Control Delay (s)	44.6	0.0	0.0	0.0	0.0
Lane LOS	E				
Approach Delay (s)	44.6	0.0			
Approach LOS	E				

Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	61.7%	ICU Level of Service	B
Analysis Period (min)	15		

* User Entered Value

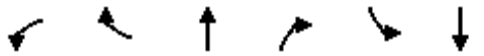
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	15	5	30	0	0	46
Future Volume (vph)	15	5	30	0	0	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.967					0.865
Flt Protected			0.950			
Satd. Flow (prot)	1654	0	1624	0	0	1479
Flt Permitted			0.950			
Satd. Flow (perm)	1654	0	1624	0	0	1479
Link Speed (mph)	30			30	30	
Link Distance (ft)	262			305	206	
Travel Time (s)	6.0			6.9	4.7	
Confl. Peds. (#/hr)		1	1			1
Peak Hour Factor	0.53	0.53	0.70	0.70	0.73	0.73
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	28	9	43	0	0	63
Shared Lane Traffic (%)						
Lane Group Flow (vph)	37	0	43	0	0	63
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.14	1.14	1.14	1.14	1.14	1.14
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	CBD		
Control Type: Unsignalized			
Intersection Capacity Utilization 18.8%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	15	5	30	0	0	46
Future Volume (Veh/h)	15	5	30	0	0	46
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.53	0.53	0.70	0.70	0.73	0.73
Hourly flow rate (vph)	28	9	43	0	0	63
Pedestrians				1	1	
Lane Width (ft)				12.0	12.0	
Walking Speed (ft/s)				3.5	3.5	
Percent Blockage				0	0	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			38		120	34
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			38		120	34
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		100	94
cM capacity (veh/h)			1584		856	1042

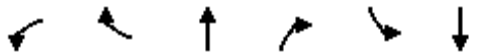
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	37	43	63
Volume Left	0	43	0
Volume Right	9	0	63
cSH	1700	1584	1042
Volume to Capacity	0.02	0.03	0.06
Queue Length 95th (ft)	0	2	5
Control Delay (s)	0.0	7.3	8.7
Lane LOS		A	A
Approach Delay (s)	0.0	7.3	8.7
Approach LOS			A

Intersection Summary			
Average Delay	6.0		
Intersection Capacity Utilization	18.8%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	46	2461	5	0	0
Future Volume (vph)	0	46	2461	5	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.91	0.91	1.00	1.00
Frt		0.865				
Flt Protected						
Satd. Flow (prot)	0	1422	4668	0	0	0
Flt Permitted						
Satd. Flow (perm)	0	1422	4668	0	0	0
Link Speed (mph)	30		30			30
Link Distance (ft)	207		404			445
Travel Time (s)	4.7		9.2			10.1
Peak Hour Factor	0.75	0.75	0.86	0.86	0.92	0.92
Heavy Vehicles (%)	0%	4%	0%	0%	0%	0%
Adj. Flow (vph)	0	61	2862	6	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	61	2868	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.14	1.14	1.14	1.14	1.14	1.14
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

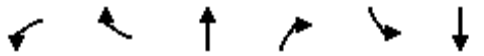
Intersection Summary			
Area Type:	CBD		
Control Type: Unsignalized			
Intersection Capacity Utilization 63.0%		ICU Level of Service B	
Analysis Period (min) 15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	46	2461	5	0	0
Future Volume (Veh/h)	0	46	2461	5	0	0
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.75	0.75	0.86	0.86	0.92	0.92
Hourly flow rate (vph)	0	61	2862	6	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	2865	957			2868	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2865	957			2868	
tC, single (s)	6.8	7.0			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	76			100	
cM capacity (veh/h)	14	254			132	

Direction, Lane #	WB 1	NB 1	NB 2	NB 3
Volume Total	61	1145	1145	578
Volume Left	0	0	0	0
Volume Right	61	0	0	6
cSH	254	1700	1700	1700
Volume to Capacity	0.24	0.67	0.67	0.34
Queue Length 95th (ft)	23	0	0	0
Control Delay (s)	23.6	0.0	0.0	0.0
Lane LOS	C			
Approach Delay (s)	23.6	0.0		
Approach LOS	C			

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	63.0%	ICU Level of Service	B
Analysis Period (min)	15		



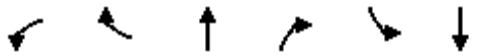
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	35	2790	30	0	0
Future Volume (vph)	0	35	2790	30	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.91	0.91	1.00	1.00
Frt		0.865	0.998			
Flt Protected						
Satd. Flow (prot)	0	1644	5177	0	0	0
Flt Permitted						
Satd. Flow (perm)	0	1644	5177	0	0	0
Link Speed (mph)	30		30			30
Link Distance (ft)	70		146			278
Travel Time (s)	1.6		3.3			6.3
Peak Hour Factor	0.92	0.92	0.86	0.86	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	0	38	3244	35	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	38	3279	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Yield		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 64.6%		ICU Level of Service C	
Analysis Period (min) 15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	35	2790	30	0	0
Future Volume (Veh/h)	0	35	2790	30	0	0
Sign Control	Yield		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.86	0.86	0.92	0.92
Hourly flow rate (vph)	0	38	3244	35	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	3262	1099			3279	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	3262	1099			3279	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	82			100	
cM capacity (veh/h)	7	211			91	

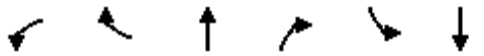
Direction, Lane #	WB 1	NB 1	NB 2	NB 3
Volume Total	38	1298	1298	684
Volume Left	0	0	0	0
Volume Right	38	0	0	35
cSH	211	1700	1700	1700
Volume to Capacity	0.18	0.76	0.76	0.40
Queue Length 95th (ft)	16	0	0	0
Control Delay (s)	25.8	0.0	0.0	0.0
Lane LOS	D			
Approach Delay (s)	25.8	0.0		
Approach LOS	D			

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	64.6%	ICU Level of Service	C
Analysis Period (min)	15		



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	142	3048	20	0	0
Future Volume (vph)	0	142	3048	20	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.86	0.86	1.00	1.00
Ped Bike Factor						
Frt		0.865	0.999			
Flt Protected						
Satd. Flow (prot)	0	1450	5819	0	0	0
Flt Permitted						
Satd. Flow (perm)	0	1450	5819	0	0	0
Link Speed (mph)	30		30			30
Link Distance (ft)	215		101			408
Travel Time (s)	4.9		2.3			9.3
Confl. Peds. (#/hr)				3		
Peak Hour Factor	0.76	0.76	0.88	0.88	0.92	0.92
Heavy Vehicles (%)	0%	2%	1%	0%	0%	0%
Adj. Flow (vph)	0	187	3464	23	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	187	3487	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.14	1.14	1.14	1.14	1.14	1.14
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	CBD		
Control Type: Unsignalized			
Intersection Capacity Utilization	65.9%	ICU Level of Service	C
Analysis Period (min)	15		



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	142	3048	20	0	0
Future Volume (Veh/h)	0	142	3048	20	0	0
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.76	0.76	0.88	0.88	0.92	0.92
Hourly flow rate (vph)	0	187	3464	23	0	0
Pedestrians	3					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	3.5					
Percent Blockage	0					
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			101			
pX, platoon unblocked						
vC, conflicting volume	3478	880			3490	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	3478	880			3490	
tC, single (s)	6.8	*9.4			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	0			100	
cM capacity (veh/h)	5	158			74	

Direction, Lane #	WB 1	NB 1	NB 2	NB 3	NB 4
Volume Total	187	990	990	990	518
Volume Left	0	0	0	0	0
Volume Right	187	0	0	0	23
cSH	158	1700	1700	1700	1700
Volume to Capacity	1.18	0.58	0.58	0.58	0.30
Queue Length 95th (ft)	259	0	0	0	0
Control Delay (s)	185.3	0.0	0.0	0.0	0.0
Lane LOS	F				
Approach Delay (s)	185.3	0.0			
Approach LOS	F				

Intersection Summary			
Average Delay	9.4		
Intersection Capacity Utilization	65.9%	ICU Level of Service	C
Analysis Period (min)	15		

* User Entered Value

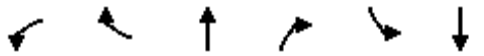
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	71	41	91	0	0	10
Future Volume (vph)	71	41	91	0	0	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.950					0.865
Flt Protected			0.950			
Satd. Flow (prot)	1558	0	1624	0	0	1479
Flt Permitted			0.950			
Satd. Flow (perm)	1558	0	1624	0	0	1479
Link Speed (mph)	30			30	30	
Link Distance (ft)	262			305	206	
Travel Time (s)	6.0			6.9	4.7	
Confl. Peds. (#/hr)		2	2			
Peak Hour Factor	0.75	0.75	0.78	0.78	0.62	0.62
Heavy Vehicles (%)	5%	3%	0%	0%	2%	0%
Adj. Flow (vph)	95	55	117	0	0	16
Shared Lane Traffic (%)						
Lane Group Flow (vph)	150	0	117	0	0	16
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.14	1.14	1.14	1.14	1.14	1.14
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	CBD		
Control Type: Unsignalized			
Intersection Capacity Utilization 17.4%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	71	41	91	0	0	10
Future Volume (Veh/h)	71	41	91	0	0	10
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.75	0.75	0.78	0.78	0.62	0.62
Hourly flow rate (vph)	95	55	117	0	0	16
Pedestrians					2	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					3.5	
Percent Blockage					0	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			152		358	124
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			152		358	124
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			92		100	98
cM capacity (veh/h)			1438		587	930

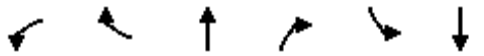
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	150	117	16
Volume Left	0	117	0
Volume Right	55	0	16
cSH	1700	1438	930
Volume to Capacity	0.09	0.08	0.02
Queue Length 95th (ft)	0	7	1
Control Delay (s)	0.0	7.7	8.9
Lane LOS		A	A
Approach Delay (s)	0.0	7.7	8.9
Approach LOS			A

Intersection Summary			
Average Delay	3.7		
Intersection Capacity Utilization	17.4%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	71	866	10	0	0
Future Volume (vph)	0	71	866	10	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.91	0.91	1.00	1.00
Frt		0.865	0.998			
Flt Protected						
Satd. Flow (prot)	0	1479	4659	0	0	0
Flt Permitted						
Satd. Flow (perm)	0	1479	4659	0	0	0
Link Speed (mph)	30		30			30
Link Distance (ft)	207		404			445
Travel Time (s)	4.7		9.2			10.1
Peak Hour Factor	0.82	0.82	0.82	0.82	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	0	87	1056	12	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	87	1068	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.14	1.14	1.14	1.14	1.14	1.14
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

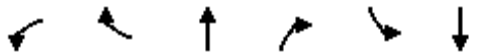
Intersection Summary			
Area Type:	CBD		
Control Type: Unsignalized			
Intersection Capacity Utilization 30.4%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	71	866	10	0	0
Future Volume (Veh/h)	0	71	866	10	0	0
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.82	0.82	0.82	0.82	0.92	0.92
Hourly flow rate (vph)	0	87	1056	12	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1062	358			1068	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1062	358			1068	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	86			100	
cM capacity (veh/h)	222	644			660	

Direction, Lane #	WB 1	NB 1	NB 2	NB 3
Volume Total	87	422	422	223
Volume Left	0	0	0	0
Volume Right	87	0	0	12
cSH	644	1700	1700	1700
Volume to Capacity	0.14	0.25	0.25	0.13
Queue Length 95th (ft)	12	0	0	0
Control Delay (s)	11.5	0.0	0.0	0.0
Lane LOS	B			
Approach Delay (s)	11.5	0.0		
Approach LOS	B			

Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	30.4%	ICU Level of Service	A
Analysis Period (min)	15		



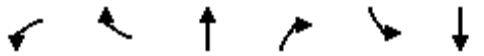
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	106	1048	15	0	0
Future Volume (vph)	0	106	1048	15	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.91	0.91	1.00	1.00
Frt		0.865	0.998			
Flt Protected						
Satd. Flow (prot)	0	1644	5177	0	0	0
Flt Permitted						
Satd. Flow (perm)	0	1644	5177	0	0	0
Link Speed (mph)	30		30			30
Link Distance (ft)	70		146			278
Travel Time (s)	1.6		3.3			6.3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	0	115	1139	16	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	115	1155	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Yield		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 33.8%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	106	1048	15	0	0
Future Volume (Veh/h)	0	106	1048	15	0	0
Sign Control	Yield		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	115	1139	16	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1147	388			1155	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1147	388			1155	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	81			100	
cM capacity (veh/h)	196	617			612	

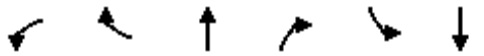
Direction, Lane #	WB 1	NB 1	NB 2	NB 3
Volume Total	115	456	456	244
Volume Left	0	0	0	0
Volume Right	115	0	0	16
cSH	617	1700	1700	1700
Volume to Capacity	0.19	0.27	0.27	0.14
Queue Length 95th (ft)	17	0	0	0
Control Delay (s)	12.2	0.0	0.0	0.0
Lane LOS	B			
Approach Delay (s)	12.2	0.0		
Approach LOS	B			

Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	33.8%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	70	3235	10	0	0
Future Volume (vph)	0	70	3235	10	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.86	0.86	1.00	1.00
Frt		0.865				
Flt Protected						
Satd. Flow (prot)	0	1479	5767	0	0	0
Flt Permitted						
Satd. Flow (perm)	0	1479	5767	0	0	0
Link Speed (mph)	30		30			30
Link Distance (ft)	218		100			408
Travel Time (s)	5.0		2.3			9.3
Peak Hour Factor	0.59	0.59	0.95	0.95	0.92	0.92
Heavy Vehicles (%)	0%	0%	2%	2%	2%	2%
Adj. Flow (vph)	0	119	3405	11	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	119	3416	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.14	1.14	1.14	1.14	1.14	1.14
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	CBD		
Control Type: Unsignalized			
Intersection Capacity Utilization 63.8%		ICU Level of Service B	
Analysis Period (min) 15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	70	3235	10	0	0
Future Volume (Veh/h)	0	70	3235	10	0	0
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.59	0.59	0.95	0.95	0.92	0.92
Hourly flow rate (vph)	0	119	3405	11	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			100			
pX, platoon unblocked						
vC, conflicting volume	3410	857			3416	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	3410	857			3416	
tC, single (s)	6.8	*9.4			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	29			100	
cM capacity (veh/h)	6	168			77	

Direction, Lane #	WB 1	NB 1	NB 2	NB 3	NB 4
Volume Total	119	973	973	973	497
Volume Left	0	0	0	0	0
Volume Right	119	0	0	0	11
cSH	168	1700	1700	1700	1700
Volume to Capacity	0.71	0.57	0.57	0.57	0.29
Queue Length 95th (ft)	107	0	0	0	0
Control Delay (s)	66.2	0.0	0.0	0.0	0.0
Lane LOS	F				
Approach Delay (s)	66.2	0.0			
Approach LOS	F				

Intersection Summary			
Average Delay	2.2		
Intersection Capacity Utilization	63.8%	ICU Level of Service	B
Analysis Period (min)	15		

* User Entered Value

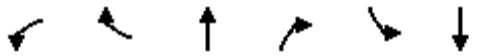
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	20	5	49	0	0	46
Future Volume (vph)	20	5	49	0	0	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.974					0.865
Flt Protected			0.950			
Satd. Flow (prot)	1666	0	1624	0	0	1479
Flt Permitted			0.950			
Satd. Flow (perm)	1666	0	1624	0	0	1479
Link Speed (mph)	30			30	30	
Link Distance (ft)	262			305	206	
Travel Time (s)	6.0			6.9	4.7	
Confl. Peds. (#/hr)		1	1			1
Peak Hour Factor	0.53	0.53	0.70	0.70	0.73	0.73
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	38	9	70	0	0	63
Shared Lane Traffic (%)						
Lane Group Flow (vph)	47	0	70	0	0	63
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.14	1.14	1.14	1.14	1.14	1.14
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	CBD		
Control Type: Unsignalized			
Intersection Capacity Utilization 20.0%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	20	5	49	0	0	46
Future Volume (Veh/h)	20	5	49	0	0	46
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.53	0.53	0.70	0.70	0.73	0.73
Hourly flow rate (vph)	38	9	70	0	0	63
Pedestrians				1	1	
Lane Width (ft)				12.0	12.0	
Walking Speed (ft/s)				3.5	3.5	
Percent Blockage				0	0	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			48		184	44
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			48		184	44
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			96		100	94
cM capacity (veh/h)			1571		774	1029

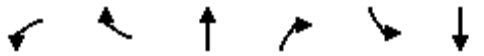
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	47	70	63
Volume Left	0	70	0
Volume Right	9	0	63
cSH	1700	1571	1029
Volume to Capacity	0.03	0.04	0.06
Queue Length 95th (ft)	0	3	5
Control Delay (s)	0.0	7.4	8.7
Lane LOS		A	A
Approach Delay (s)	0.0	7.4	8.7
Approach LOS			A

Intersection Summary			
Average Delay	5.9		
Intersection Capacity Utilization	20.0%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	57	2461	6	0	0
Future Volume (vph)	0	57	2461	6	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.91	0.91	1.00	1.00
Frt		0.865				
Flt Protected						
Satd. Flow (prot)	0	1422	4668	0	0	0
Flt Permitted						
Satd. Flow (perm)	0	1422	4668	0	0	0
Link Speed (mph)	30		30			30
Link Distance (ft)	207		404			445
Travel Time (s)	4.7		9.2			10.1
Peak Hour Factor	0.75	0.75	0.86	0.86	0.92	0.92
Heavy Vehicles (%)	0%	4%	0%	0%	0%	0%
Adj. Flow (vph)	0	76	2862	7	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	76	2869	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.14	1.14	1.14	1.14	1.14	1.14
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

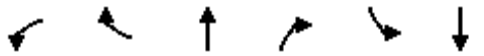
Intersection Summary			
Area Type:	CBD		
Control Type: Unsignalized			
Intersection Capacity Utilization 63.6%		ICU Level of Service B	
Analysis Period (min) 15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	57	2461	6	0	0
Future Volume (Veh/h)	0	57	2461	6	0	0
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.75	0.75	0.86	0.86	0.92	0.92
Hourly flow rate (vph)	0	76	2862	7	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	2866	958			2869	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2866	958			2869	
tC, single (s)	6.8	7.0			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	70			100	
cM capacity (veh/h)	14	254			132	

Direction, Lane #	WB 1	NB 1	NB 2	NB 3
Volume Total	76	1145	1145	579
Volume Left	0	0	0	0
Volume Right	76	0	0	7
cSH	254	1700	1700	1700
Volume to Capacity	0.30	0.67	0.67	0.34
Queue Length 95th (ft)	30	0	0	0
Control Delay (s)	25.1	0.0	0.0	0.0
Lane LOS	D			
Approach Delay (s)	25.1	0.0		
Approach LOS	D			

Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	63.6%	ICU Level of Service	B
Analysis Period (min)	15		



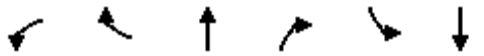
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	41	2790	30	0	0
Future Volume (vph)	0	41	2790	30	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.91	0.91	1.00	1.00
Frt		0.865	0.998			
Flt Protected						
Satd. Flow (prot)	0	1644	5177	0	0	0
Flt Permitted						
Satd. Flow (perm)	0	1644	5177	0	0	0
Link Speed (mph)	30		30			30
Link Distance (ft)	70		146			278
Travel Time (s)	1.6		3.3			6.3
Peak Hour Factor	0.92	0.92	0.86	0.86	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	0	45	3244	35	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	45	3279	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Yield		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 64.6%		ICU Level of Service C	
Analysis Period (min) 15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	41	2790	30	0	0
Future Volume (Veh/h)	0	41	2790	30	0	0
Sign Control	Yield		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.86	0.86	0.92	0.92
Hourly flow rate (vph)	0	45	3244	35	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	3262	1099			3279	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	3262	1099			3279	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	79			100	
cM capacity (veh/h)	7	211			91	

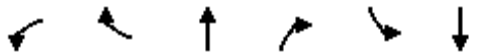
Direction, Lane #	WB 1	NB 1	NB 2	NB 3
Volume Total	45	1298	1298	684
Volume Left	0	0	0	0
Volume Right	45	0	0	35
cSH	211	1700	1700	1700
Volume to Capacity	0.21	0.76	0.76	0.40
Queue Length 95th (ft)	20	0	0	0
Control Delay (s)	26.7	0.0	0.0	0.0
Lane LOS	D			
Approach Delay (s)	26.7	0.0		
Approach LOS	D			

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	64.6%	ICU Level of Service	C
Analysis Period (min)	15		



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	151	3070	20	0	0
Future Volume (vph)	0	151	3070	20	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.86	0.86	1.00	1.00
Ped Bike Factor						
Frt		0.865	0.999			
Flt Protected						
Satd. Flow (prot)	0	1450	5819	0	0	0
Flt Permitted						
Satd. Flow (perm)	0	1450	5819	0	0	0
Link Speed (mph)	30		30			30
Link Distance (ft)	215		101			408
Travel Time (s)	4.9		2.3			9.3
Confl. Peds. (#/hr)				3		
Peak Hour Factor	0.76	0.76	0.88	0.88	0.92	0.92
Heavy Vehicles (%)	0%	2%	1%	0%	0%	0%
Adj. Flow (vph)	0	199	3489	23	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	199	3512	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.14	1.14	1.14	1.14	1.14	1.14
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	CBD		
Control Type: Unsignalized			
Intersection Capacity Utilization 66.9%		ICU Level of Service C	
Analysis Period (min) 15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	151	3070	20	0	0
Future Volume (Veh/h)	0	151	3070	20	0	0
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.76	0.76	0.88	0.88	0.92	0.92
Hourly flow rate (vph)	0	199	3489	23	0	0
Pedestrians	3					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	3.5					
Percent Blockage	0					
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			101			
pX, platoon unblocked						
vC, conflicting volume	3504	887			3515	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	3504	887			3515	
tC, single (s)	6.8	*9.4			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	0			100	
cM capacity (veh/h)	5	156			72	

Direction, Lane #	WB 1	NB 1	NB 2	NB 3	NB 4
Volume Total	199	997	997	997	521
Volume Left	0	0	0	0	0
Volume Right	199	0	0	0	23
cSH	156	1700	1700	1700	1700
Volume to Capacity	1.27	0.59	0.59	0.59	0.31
Queue Length 95th (ft)	293	0	0	0	0
Control Delay (s)	219.9	0.0	0.0	0.0	0.0
Lane LOS	F				
Approach Delay (s)	219.9	0.0			
Approach LOS	F				

Intersection Summary			
Average Delay	11.8		
Intersection Capacity Utilization	66.9%	ICU Level of Service	C
Analysis Period (min)	15		

* User Entered Value

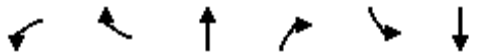
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	93	41	100	0	0	10
Future Volume (vph)	93	41	100	0	0	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.959					0.865
Flt Protected			0.950			
Satd. Flow (prot)	1571	0	1624	0	0	1479
Flt Permitted			0.950			
Satd. Flow (perm)	1571	0	1624	0	0	1479
Link Speed (mph)	30			30	30	
Link Distance (ft)	262			305	206	
Travel Time (s)	6.0			6.9	4.7	
Confl. Peds. (#/hr)		2	2			
Peak Hour Factor	0.75	0.75	0.78	0.78	0.62	0.62
Heavy Vehicles (%)	5%	3%	0%	0%	2%	0%
Adj. Flow (vph)	124	55	128	0	0	16
Shared Lane Traffic (%)						
Lane Group Flow (vph)	179	0	128	0	0	16
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.14	1.14	1.14	1.14	1.14	1.14
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	CBD		
Control Type: Unsignalized			
Intersection Capacity Utilization 21.4%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	93	41	100	0	0	10
Future Volume (Veh/h)	93	41	100	0	0	10
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.75	0.75	0.78	0.78	0.62	0.62
Hourly flow rate (vph)	124	55	128	0	0	16
Pedestrians					2	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					3.5	
Percent Blockage					0	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			181		410	154
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			181		410	154
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			91		100	98
cM capacity (veh/h)			1404		543	896

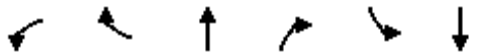
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	179	128	16
Volume Left	0	128	0
Volume Right	55	0	16
cSH	1700	1404	896
Volume to Capacity	0.11	0.09	0.02
Queue Length 95th (ft)	0	8	1
Control Delay (s)	0.0	7.8	9.1
Lane LOS		A	A
Approach Delay (s)	0.0	7.8	9.1
Approach LOS			A

Intersection Summary			
Average Delay	3.5		
Intersection Capacity Utilization	21.4%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	76	866	12	0	0
Future Volume (vph)	0	76	866	12	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.91	0.91	1.00	1.00
Frt		0.865	0.998			
Flt Protected						
Satd. Flow (prot)	0	1479	4659	0	0	0
Flt Permitted						
Satd. Flow (perm)	0	1479	4659	0	0	0
Link Speed (mph)	30		30			30
Link Distance (ft)	207		404			445
Travel Time (s)	4.7		9.2			10.1
Peak Hour Factor	0.82	0.82	0.82	0.82	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	0	93	1056	15	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	93	1071	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.14	1.14	1.14	1.14	1.14	1.14
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

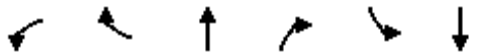
Intersection Summary			
Area Type:	CBD		
Control Type: Unsignalized			
Intersection Capacity Utilization 30.8%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	76	866	12	0	0
Future Volume (Veh/h)	0	76	866	12	0	0
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.82	0.82	0.82	0.82	0.92	0.92
Hourly flow rate (vph)	0	93	1056	15	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1064	360			1071	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1064	360			1071	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	86			100	
cM capacity (veh/h)	221	643			658	

Direction, Lane #	WB 1	NB 1	NB 2	NB 3
Volume Total	93	422	422	226
Volume Left	0	0	0	0
Volume Right	93	0	0	15
cSH	643	1700	1700	1700
Volume to Capacity	0.14	0.25	0.25	0.13
Queue Length 95th (ft)	13	0	0	0
Control Delay (s)	11.5	0.0	0.0	0.0
Lane LOS	B			
Approach Delay (s)	11.5	0.0		
Approach LOS	B			

Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	30.8%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	109	1048	15	0	0
Future Volume (vph)	0	109	1048	15	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.91	0.91	1.00	1.00
Frt		0.865	0.998			
Flt Protected						
Satd. Flow (prot)	0	1644	5177	0	0	0
Flt Permitted						
Satd. Flow (perm)	0	1644	5177	0	0	0
Link Speed (mph)	30		30			30
Link Distance (ft)	70		146			278
Travel Time (s)	1.6		3.3			6.3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	0	118	1139	16	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	118	1155	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Yield		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 34.0%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	109	1048	15	0	0
Future Volume (Veh/h)	0	109	1048	15	0	0
Sign Control	Yield		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	118	1139	16	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1147	388			1155	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1147	388			1155	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	81			100	
cM capacity (veh/h)	196	617			612	

Direction, Lane #	WB 1	NB 1	NB 2	NB 3
Volume Total	118	456	456	244
Volume Left	0	0	0	0
Volume Right	118	0	0	16
cSH	617	1700	1700	1700
Volume to Capacity	0.19	0.27	0.27	0.14
Queue Length 95th (ft)	18	0	0	0
Control Delay (s)	12.2	0.0	0.0	0.0
Lane LOS	B			
Approach Delay (s)	12.2	0.0		
Approach LOS	B			

Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	34.0%	ICU Level of Service	A
Analysis Period (min)	15		

Appendix E: Wind Study

REPORT

NEPONSET WHARF

BOSTON, MA

PEDESTRIAN WIND ASSESSMENT

PROJECT # 1803080

MARCH 29, 2018

SUBMITTED TO

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1. INTRODUCTION

Rowan Williams Davies & Irwin Inc. (RWDI) was retained by Rode Architects Inc. to assess the potential pedestrian level wind impact of the proposed Neponset Wharf development in Boston, MA (Image 1), in support of the Project application to the Boston Planning and Development Agency (BPDA). This qualitative assessment is based on the following:

- a review of the regional long-term wind data from Boston Logan International Airport;
- design drawings and documents received by RWDI on March 7, 2018;
- wind-tunnel studies undertaken by RWDI for similar projects in Boston, including many in waterfront areas;
- our engineering judgment, experience and expert knowledge of wind flows around buildings[1-3]; and,
- use of software developed by RWDI (Windestimator[2]) for estimating the potential wind conditions around generalized building forms.

This qualitative approach provides a screening-level estimation of potential wind conditions. Conceptual wind control measures to improve wind comfort are recommended, where necessary. In order to quantify these conditions or refine any conceptual mitigation measures, physical scale-model tests in a boundary-layer wind tunnel would typically be required.

Note that other wind issues, such as those related to cladding and structural wind loads, door operability, air quality, snow drifting and loading, etc., are not considered in the scope of this assessment.

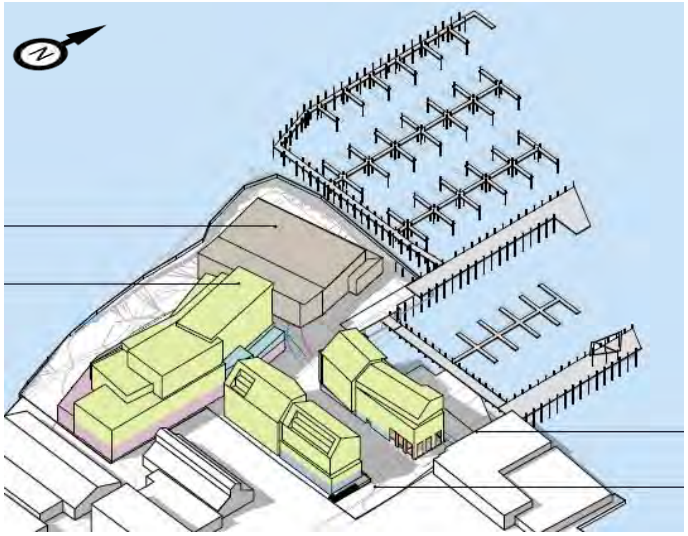


Image 1: Rendering of the Proposed Development

1. C.J. Williams, H. Wu, W.F. Waechter and H.A. Baker (1999), "Experience with Remedial Solutions to Control Pedestrian Wind Problems", 10th International Conference on Wind Engineering, Copenhagen, Denmark.
2. H. Wu, C.J. Williams, H.A. Baker and W.F. Waechter (2004), "Knowledge-based Desk-Top Analysis of Pedestrian Wind Conditions", ASCE Structure Congress 2004, Nashville, Tennessee.
3. H. Wu and F. Kriksic (2012). "Designing for Pedestrian Comfort in Response to Local Climate", Journal of Wind Engineering and Industrial Aerodynamics, vol.104-106, pp.397-407.

2. SITE & BUILDING INFORMATION

The site for the proposed Neponset Wharf development is currently occupied by several low-rise buildings and parking lots. It is immediately surrounded by water in most directions, with existing low residential buildings to the south, a low commercial building to the east and parking spaces to the southeast (Image 2). Further away from the site, the terrain consists of dense low buildings to the southeast through west to north. Downtown Boston and Logan Airport are to the distant north and Quincy Bay to the northeast and east.

Image 2: Aerial View of the Project Site and Existing Surroundings (Photo Courtesy of Google™ Earth)

The proposed development consists of four buildings: three residential buildings between five and seven stories (Buildings A, B and C in Image 3) and a lower boathouse.

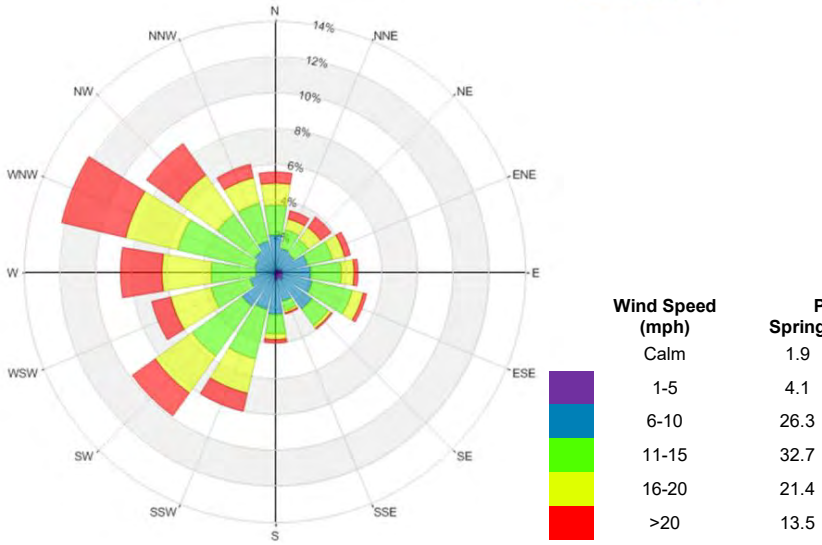
Pedestrian areas include building entrances, walkways between buildings, landscaped seating areas, commercial and public piers and boardwalks, as shown in Image 3.

Image : Site Plan of the Proposed Development

3. LOCAL WIND DATA

Wind statistics at Boston Logan International Airport between 1990 and 2017 were analyzed and Image 4 graphically depicts the distributions of wind frequency and directionality for the four seasons and for the annual period. When all winds are considered (regardless of speed), winds from the northwest and southwest quadrants are predominant. Northeasterly winds are also relatively frequent in the spring.

Strong winds with mean speeds greater than 20 mph (red bands in the wind roses) are prevalent from the west-northwest direction throughout the year, while the strong winds from the southwest and northeast are also common. These are critical wind directions focused on in the following discussions.



Annual Winds

Spring (March to May) | Summer (June to August) | Fall (September to November) | Winter (December to February)

Image 4: Directional Distribution of Winds Approaching Boston Logan International Airport (1990 to 2017)

4. PEDESTRIAN WIND CRITERIA

The Boston Planning and Development Agency (BPDA) has adopted two standards for assessing the relative wind comfort of pedestrians.

First, the BPDA wind design guidance criterion states that an effective gust velocity (hourly-mean wind speed + 1.5 times the root mean square wind speed) of 31 mph should not be exceeded more than one percent (1%) of the time. This criterion is hereby referred to as the gust criterion.

The second set of criteria used by the BPDA to determine the acceptability of specific locations is based on the work of Melbourne[4]. This set of criteria is used to determine the relative level of pedestrian wind comfort for activities such as sitting, standing and walking. The criteria are expressed in terms of benchmarks for the 1-hour mean wind speed exceeded 1% of the time (i.e., the 99-percentile mean wind speed). They are as follows:

Table 1 – BPDA Mean Wind Speed Criteria *

Dangerous	> 27 mph
Uncomfortable for Walking	> 19 and ≤ 27 mph
Comfortable for Walking	> 15 and ≤ 19 mph
Comfortable for Standing	> 12 and ≤ 15 mph
Comfortable for Sitting	≤ 12 mph

* Applicable to the mean wind speed exceeded one percent (1%) of the time.

Pedestrians on walkways and parking lots will be active and wind speeds comfortable for walking are appropriate at these locations. Lower wind speeds comfortable for standing are desired for building entrances where people are apt to linger. For any outdoor seating areas, low wind speeds comfortable for sitting are desired in the summer months when such amenity spaces are typically in use.

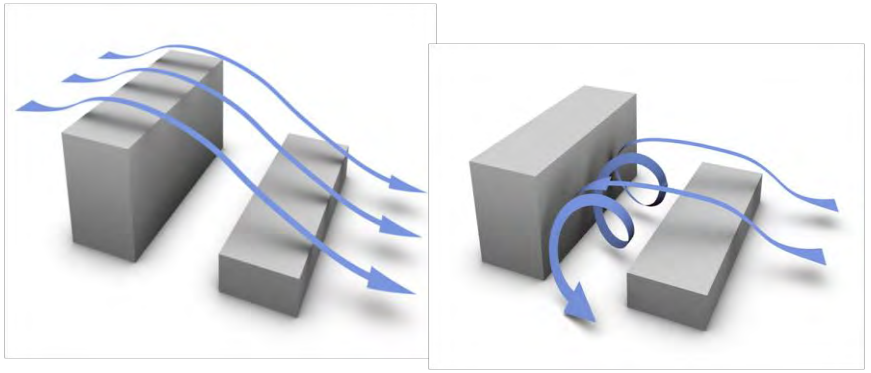
The following discussion on pedestrian wind conditions is based on the annual wind climate. Typically the summer and fall winds tend to be more comfortable than the annual winds while the winter and spring winds are less comfortable than the annual winds.

4. Melbourne, W.H., 1978, "Criteria for Environmental Wind Conditions", Journal of Industrial Aerodynamics, 3 (1978) 241 - 249.

5.1 Background

Predicting wind speeds and frequencies of occurrence is complicated. It involves the assessment of building geometry, orientation, position and height of surrounding buildings, upwind terrain and the local wind climate. Over the years, RWDI has conducted thousands of wind tunnel model studies on pedestrian wind conditions around buildings, yielding a broad knowledge base. This knowledge has been incorporated into RWDI's proprietary software that allows, in many situations, for a screening-level qualitative estimation of pedestrian wind conditions without wind tunnel testing.

Winds generally tend to flow over dense arrays of buildings of similar height (Image 5a). Buildings taller than their surroundings tend to intercept the stronger winds at higher elevations and redirect them to the ground level (Image 5b). Such a downwashing flow (Image 5c) is the main cause for increased wind activity around buildings at the pedestrian level, especially at building corners. These downwashed winds may subsequently channel along street canyons and make those areas windy (Image 5d). If these building/wind combinations occur for prevailing winds, there is a greater potential for increased wind activity and uncomfortable conditions.



a) Wind Flow over Low-rise Buildings

b) Deflected down by a Taller Building

c) Downwashing Flow and Corner Acceleration

d) Channeling Effect between Buildings

Image 5: General Wind Flow Phenomena around Buildings

5.2 No Build Conditions

Wind conditions on the existing site are expected to be in compliance with the effective gust criterion, given the low heights of the on-site and surrounding buildings (Image 6).

However, the mean wind speeds are expected to be uncomfortable at waterfront areas, around exposed building corners and in the gaps between the existing buildings on an annual basis, especially during the winter and spring seasons. This is due to the site exposure to the prevailing northwest and northeast winds.

Image 6: Southeast View of the Existing Buildings and Surroundings (Photo Courtesy of Google™ Earth)

5.3 Build Conditions

Key pedestrian areas are labeled in Image 7 on the next page to assist in the following discussions on the potential wind conditions after construction.

Main Entrances

The main entrance to the proposed Boathouse (A1 in Image 7) and the east entrance to Building B (A2) are located in recessed areas. The main entrance to Building C (A3) is at the middle of the south façade. They are largely sheltered by the proposed buildings from the prevailing winds and, as a result, suitable wind conditions are expected in general. Additional setbacks of these entrances would further improve the wind conditions.

Entrances A4 and A5 are also sheltered from the northwest and southwest winds by Building A, but may be affected by the northeast winds that accelerate through the gaps first between the Boathouse and Building C and between Buildings A and B. It is our recommendation that these entrances be relocated away from this windy area and/or recessed from the building façade as other entrances. Alternative measures may include wind screens on both sides of doorways and canopies above entrances to provide local wind protection and achieve comfortable wind conditions for pedestrians throughout the year – see photos in Image 8 for wind control examples.

5. PEDESTRIAN WIND CONDITIONS

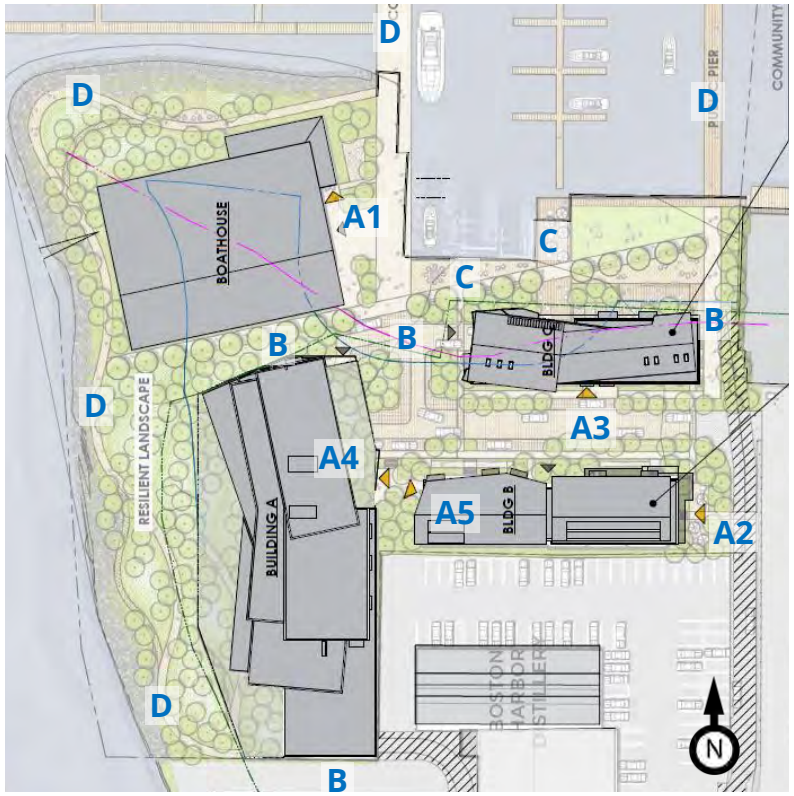


Image 7: Key Pedestrian Areas on and around the Development

Image 8: Wind Control Examples for Building Entrances

5. PEDESTRIAN WIND CONDITIONS

Walkways between Buildings

As shown in Image 1, the proposed Boathouse is the lowest among the four proposed buildings. It is a positive design feature to locate the lowest building in the most exposed area. The other three buildings are between five and seven stories and they will provide sheltering for one or more prevailing wind directions for walkways between the proposed and existing buildings. The stepped west and south façades of Building A is another wind control feature for wind control.

While suitable wind conditions are generally expected on walkways most of the time, increased wind activity is predicted at the exposed gaps between the buildings, in particular Locations B in Image 7. The resultant wind conditions may become uncomfortable and/or unacceptable during the winter and spring seasons.

Suitable wind conditions are expected on these walkways during the summer and fall seasons due to the local wind climate and protection offered by the proposed dense landscaping. To improve the wind conditions in the winter and spring seasons, coniferous or marcescent species may be considered in landscaping design. Alternatively, hardscaping elements, such as screens and trellises, can be installed around windy areas. Photos in Image 9 are wind control examples for walkways and for outdoor seating areas to be discussed in the next section.

Image 9: Wind Control Examples for Sidewalks and Seating Areas

5. PEDESTRIAN WIND CONDITIONS

Seating Areas

Outdoor seating areas (Locations C in Image 7) are surrounded by the proposed buildings and landscaping to the west and south, which will shelter the prevailing southwest and west winds during the summer (Image 4), when these area are typically in use.

Winds from the northeast and north direction, although not very frequent in the summer, may affect the seating areas due to the full exposure of the site to the open water surface. The resulted wind speeds may become higher than desired for sitting from time to time. If desired, lower wind speeds can be created by enhancing the proposed landscaping along the perimeter of the seating areas. Tall, transparent glass panels or screens may also be considered along the north edge of the seating areas – see Image 8 for examples.

Piers and Boardwalks

Wind conditions on the public and commercial piers and boardwalks (Areas D in Image 7) are expected to be similar to the existing conditions in the area. With the proposed buildings and landscaping in place, wind conditions are predicted to be suitable for walking during the summer and fall seasons. In the winter and spring, wind conditions may become uncomfortable and unacceptable. These wind conditions are likely acceptable due to limited use during the cold months.

If desired, wind tunnel testing can be conducted at a later design stage to quantify these wind conditions and to develop wind control solutions.

Appendix F: Air Quality and Greenhouse Gas Supporting Documentation

Note: **Materials are provided on the enclosed CD-ROM. Hard Copies available upon request.**

Appendix F: Air Quality and Greenhouse Gas Supporting Documentation

MOVES Emissions Factor Output
Mobile Source Mesoscale Analysis
Background Concentrations
Energy Modeling
Stationary Source Analysis
Solar PV Analysis
CHP Analysis
Passive House Analysis

MOVES Emissions Factor Output

Neoponset Wharf

Emissions Factors By Link (g/mi)

Emission Factors From MOVES2014a

	Roadway Segments	2018 Existing			2023 No Build			2023 Build		
		NO_x	VOC	CO_2	NO_x	VOC	CO_2	NO_x	VOC	CO_2
1	West Driveway (Ericsson/Lawley)	0.26	1.48	496.29	0.19	1.41	440.07	0.19	1.41	440.07
2	Driveway (Ericsson/Port Norfolk)	0.23	1.47	466.63	0.17	1.40	413.67	0.17	1.40	413.67
3	East Driveway (Ericsson/Walnut)	0.23	1.47	466.63	0.17	1.40	413.67	0.17	1.40	413.67
4	Ericsson St (Lawley/Port Norfolk)	0.25	2.41	491.11	0.19	2.30	435.48	0.19	2.30	435.48
5	Ericsson St (Port Norfolk/Walnut)	0.26	1.83	504.62	0.20	1.74	447.54	0.20	1.74	447.54
6	Lawley St (Ericsson/Water)	0.23	0.42	470.95	0.17	0.40	417.53	0.17	0.40	417.53
7	Port Norfolk St (Ericsson/Water)	0.21	0.42	442.37	0.15	0.39	392.11	0.15	0.39	392.11
8	Walnut St (Ericsson/Water)	0.25	0.43	488.99	0.18	0.40	433.59	0.18	0.40	433.59
9	Neponset Trail/Conley (Morrissey/Lawley)	0.23	0.21	469.92	0.17	0.19	416.60	0.17	0.19	416.60
10	Franklin Street (End/Water)	0.27	1.08	510.31	0.20	1.03	452.61	0.20	1.03	452.61
11	Water St (Lawley/Port Norfolk)	0.44	2.45	695.02	0.34	2.33	617.24	0.34	2.33	617.24
12	Water St (Port Norfolk/Walnut)	0.31	1.84	545.09	0.23	1.75	483.70	0.23	1.75	483.70
13	Water St (Walnut/End)	0.32	1.49	561.14	0.24	1.42	498.01	0.24	1.42	498.01
14	Wm E Doucette Sq (Water/Redfield)	0.41	2.44	662.43	0.31	2.33	588.18	0.31	2.33	588.18
15	Redfield St (Wm E Doucette/Water)	0.45	1.86	703.12	0.35	1.77	624.50	0.35	1.77	624.50
16	Walnut St (Water/End)	0.24	0.71	480.09	0.18	0.67	425.67	0.18	0.67	425.67
17	Redfield St (Wm E Doucette/Woodworth)	0.29	1.25	533.09	0.22	1.19	472.98	0.22	1.19	472.98
18	Woodworth St (Redfield/End)	0.44	0.99	691.26	0.34	0.93	613.89	0.34	0.93	613.89
19	Redfield St (Morrissey/Woodford)	0.42	1.51	671.16	0.32	1.43	595.96	0.32	1.43	595.96
20	Walnut St (Morrissey)	0.23	0.77	466.63	0.17	0.73	413.67	0.17	0.73	413.67
21	Neponset Cir (Morrissey)	0.20	1.82	434.76	0.15	1.73	385.30	0.15	1.73	385.30
22	Hancock St (Morrissey)	0.20	0.29	392.64	0.15	0.27	348.13	0.15	0.27	348.13
23	Morrissey Blvd (Hancock/Walnut)	0.20	3.56	392.64	0.15	3.40	348.13	0.15	3.40	348.13
24	Morrissey Blvd (Walnut/Redfield)	0.31	1.07	503.83	0.23	1.02	447.18	0.23	1.02	447.18
25	I93 Ramp (Morrissey)	0.29	0.39	486.05	0.22	0.36	431.36	0.22	0.36	431.36
26	Morrissey Blvd (Redfield/Conley)	0.19	0.22	374.18	0.14	0.21	331.69	0.14	0.21	331.69
25	Morrissey Blvd (Conley/Tenean1)	0.29	0.39	486.05	0.22	0.36	431.36	0.22	0.36	431.36
26	Idle Link	0.19	0.22	374.18	0.14	0.21	331.69	0.14	0.21	331.69

yearID	monthID	dayID	hourID	stateID	countyID	zoneID	linkID	pollutantID	emissionQuant	emissionRate	massUnits	distanceUnits
2018	7	5	16	25	25025	250250	1	3	0.012794058	0.255881153	g	mi
2018	7	5	16	25	25025	250250	1	87	0.073871307	1.477426119	g	mi
2018	7	5	16	25	25025	250250	1	90	24.81459999	496.2919924	g	mi
2018	7	5	16	25	25025	250250	2	3	0.011479598	0.229591947	g	mi
2018	7	5	16	25	25025	250250	2	87	0.073666915	1.473338284	g	mi
2018	7	5	16	25	25025	250250	2	90	23.33139992	466.6279914	g	mi
2018	7	5	16	25	25025	250250	3	3	0.011479598	0.229591947	g	mi
2018	7	5	16	25	25025	250250	3	87	0.073666915	1.473338284	g	mi
2018	7	5	16	25	25025	250250	3	90	23.33139992	466.6279914	g	mi
2018	7	5	16	25	25025	250250	4	3	0.007529913	0.250997105	g	mi
2018	7	5	16	25	25025	250250	4	87	0.072317518	2.410583997	g	mi
2018	7	5	16	25	25025	250250	4	90	14.73330021	491.1100179	g	mi
2018	7	5	16	25	25025	250250	5	3	0.010576358	0.264408958	g	mi
2018	7	5	16	25	25025	250250	5	87	0.073166832	1.829170849	g	mi
2018	7	5	16	25	25025	250250	5	90	20.18499947	504.6249979	g	mi
2018	7	5	16	25	25025	250250	6	3	0.046586167	0.232930832	g	mi
2018	7	5	16	25	25025	250250	6	87	0.084629096	0.423145474	g	mi
2018	7	5	16	25	25025	250250	6	90	94.19090271	470.9545065	g	mi
2018	7	5	16	25	25025	250250	7	3	0.041819036	0.209095177	g	mi
2018	7	5	16	25	25025	250250	7	87	0.083934925	0.419674621	g	mi
2018	7	5	16	25	25025	250250	7	90	88.47460175	442.3730021	g	mi
2018	7	5	16	25	25025	250250	8	3	0.049790531	0.248952653	g	mi
2018	7	5	16	25	25025	250250	8	87	0.085114487	0.425572426	g	mi
2018	7	5	16	25	25025	250250	8	90	97.79889679	488.9944767	g	mi
2018	7	5	16	25	25025	250250	9	3	0.118452899	0.232260591	g	mi
2018	7	5	16	25	25025	250250	9	87	0.107192673	0.210181715	g	mi
2018	7	5	16	25	25025	250250	9	90	239.6589966	469.9196099	g	mi
2018	7	5	16	25	25025	250250	10	3	0.018947212	0.270674456	g	mi
2018	7	5	16	25	25025	250250	10	87	0.0755895	1.079850001	g	mi
2018	7	5	16	25	25025	250250	10	90	35.72159958	510.3085632	g	mi
2018	7	5	16	25	25025	250250	11	3	0.013328617	0.444287227	g	mi
2018	7	5	16	25	25025	250250	11	87	0.073376983	2.445899501	g	mi
2018	7	5	16	25	25025	250250	11	90	20.85050011	695.0166858	g	mi
2018	7	5	16	25	25025	250250	12	3	0.012230104	0.305752603	g	mi
2018	7	5	16	25	25025	250250	12	87	0.073462449	1.836561266	g	mi
2018	7	5	16	25	25025	250250	12	90	21.80340004	545.0850132	g	mi
2018	7	5	16	25	25025	250250	13	3	0.015991632	0.319832633	g	mi
2018	7	5	16	25	25025	250250	13	87	0.074408337	1.488166727	g	mi
2018	7	5	16	25	25025	250250	13	90	28.05699921	561.1399758	g	mi
2018	7	5	16	25	25025	250250	14	3	0.012395202	0.413173415	g	mi
2018	7	5	16	25	25025	250250	14	87	0.073171668	2.439055646	g	mi
2018	7	5	16	25	25025	250250	14	90	19.87299919	662.4333212	g	mi
2018	7	5	16	25	25025	250250	15	3	0.018108362	0.452709068	g	mi
2018	7	5	16	25	25025	250250	15	87	0.074553378	1.86383449	g	mi
2018	7	5	16	25	25025	250250	15	90	28.12470055	703.1175294	g	mi
2018	7	5	16	25	25025	250250	16	3	0.026505759	0.240961447	g	mi
2018	7	5	16	25	25025	250250	16	87	0.078197896	0.710889972	g	mi
2018	7	5	16	25	25025	250250	16	90	52.80970001	480.0881845	g	mi
2018	7	5	16	25	25025	250250	17	3	0.017625952	0.293765876	g	mi
2018	7	5	16	25	25025	250250	17	87	0.075043701	1.250728372	g	mi
2018	7	5	16	25	25025	250250	17	90	31.98550034	533.0916842	g	mi
2018	7	5	16	25	25025	250250	18	3	0.03520561	0.440070136	g	mi
2018	7	5	16	25	25025	250250	18	87	0.078838944	0.985486827	g	mi
2018	7	5	16	25	25025	250250	18	90	55.30059814	691.2574923	g	mi
2018	7	5	16	25	25025	250250	19	3	0.021071987	0.421439738	g	mi
2018	7	5	16	25	25025	250250	19	87	0.075331479	1.506629564	g	mi
2018	7	5	16	25	25025	250250	19	90	33.55820084	671.1640067	g	mi
2018	7	5	16	25	25025	250250	20	3	0.022959195	0.229591947	g	mi
2018	7	5	16	25	25025	250250	20	87	0.077283427	0.77283426	g	mi
2018	7	5	16	25	25025	250250	20	90	46.66279984	466.6279914	g	mi
2018	7	5	16	25	25025	250250	21	3	0.008090488	0.202262197	g	mi

2018	7	5	16	25	25025	250250	21	87	0.072789297	1.819732453	g	mi
2018	7	5	16	25	25025	250250	21	90	17.39049911	434.7624876	g	mi
2018	7	5	16	25	25025	250250	22	3	0.061263878	0.204212918	g	mi
2018	7	5	16	25	25025	250250	22	87	0.08733055	0.291101822	g	mi
2018	7	5	16	25	25025	250250	22	90	117.7919998	392.6399838	g	mi
2018	7	5	16	25	25025	250250	23	3	0.004084262	0.204213108	g	mi
2018	7	5	16	25	25025	250250	23	87	0.071202412	3.560120692	g	mi
2018	7	5	16	25	25025	250250	23	90	7.852839947	392.6420061	g	mi
2018	7	5	16	25	25025	250250	24	3	0.021491103	0.307015754	g	mi
2018	7	5	16	25	25025	250250	24	87	0.075113453	1.073049324	g	mi
2018	7	5	16	25	25025	250250	24	90	35.26779938	503.8257032	g	mi
2018	7	5	16	25	25025	250250	25	3	0.063965879	0.290753999	g	mi
2018	7	5	16	25	25025	250250	25	87	0.085404865	0.388203936	g	mi
2018	7	5	16	25	25025	250250	25	90	106.9300003	486.0454586	g	mi
2018	7	5	16	25	25025	250250	26	3	0.079209305	0.18859359	g	mi
2018	7	5	16	25	25025	250250	26	87	0.093407854	0.22239966	g	mi
2018	7	5	16	25	25025	250250	26	90	157.1560059	374.180978	g	mi
2018	7	5	16	25	25025	250250	27	3	0.025366554	0.195127346	g	mi
2018	7	5	16	25	25025	250250	27	87	0.077378459	0.595218939	g	mi
2018	7	5	16	25	25025	250250	27	90	49.63890076	381.8377121	g	mi
2018	7	5	16	25	25025	250250	28	3	1.603675723	NULL	g	mi
2018	7	5	16	25	25025	250250	28	87	1.018820286	NULL	g	mi
2018	7	5	16	25	25025	250250	28	90	3987.870117	NULL	g	mi

yearID	monthID	dayID	hourID	stateID	countyID	zoneID	linkID	pollutantID	emissionQuant	emissionRate	massUnits	distanceUnits
2023	7	5	16	25	25025	250250	1	3	0.009468907	0.189378147	g	mi
2023	7	5	16	25	25025	250250	1	87	0.070319399	1.406387964	g	mi
2023	7	5	16	25	25025	250250	1	90	22.00370026	440.0739986	g	mi
2023	7	5	16	25	25025	250250	2	3	0.008450969	0.16901938	g	mi
2023	7	5	16	25	25025	250250	2	87	0.070141926	1.402838507	g	mi
2023	7	5	16	25	25025	250250	2	90	20.68359947	413.6719833	g	mi
2023	7	5	16	25	25025	250250	3	3	0.008450969	0.16901938	g	mi
2023	7	5	16	25	25025	250250	3	87	0.070141926	1.402838507	g	mi
2023	7	5	16	25	25025	250250	3	90	20.68359947	413.6719833	g	mi
2023	7	5	16	25	25025	250250	4	3	0.005566342	0.185544746	g	mi
2023	7	5	16	25	25025	250250	4	87	0.068995073	2.299835833	g	mi
2023	7	5	16	25	25025	250250	4	90	13.06429958	435.4766625	g	mi
2023	7	5	16	25	25025	250250	5	3	0.007844305	0.196107621	g	mi
2023	7	5	16	25	25025	250250	5	87	0.069720998	1.743024999	g	mi
2023	7	5	16	25	25025	250250	5	90	17.90159988	447.5400071	g	mi
2023	7	5	16	25	25025	250250	6	3	0.034322333	0.17161166	g	mi
2023	7	5	16	25	25025	250250	6	87	0.079466775	0.397333869	g	mi
2023	7	5	16	25	25025	250250	6	90	83.50679779	417.5339827	g	mi
2023	7	5	16	25	25025	250250	7	3	0.030649146	0.153245728	g	mi
2023	7	5	16	25	25025	250250	7	87	0.078872055	0.394360268	g	mi
2023	7	5	16	25	25025	250250	7	90	78.4213028	392.1065081	g	mi
2023	7	5	16	25	25025	250250	8	3	0.036796704	0.183983517	g	mi
2023	7	5	16	25	25025	250250	8	87	0.079886548	0.399432735	g	mi
2023	7	5	16	25	25025	250250	8	90	86.71820068	433.590997	g	mi
2023	7	5	16	25	25025	250250	9	3	0.08727669	0.171130767	g	mi
2023	7	5	16	25	25025	250250	9	87	0.098662384	0.193455658	g	mi
2023	7	5	16	25	25025	250250	9	90	212.4680023	416.6039339	g	mi
2023	7	5	16	25	25025	250250	10	3	0.014079082	0.20112974	g	mi
2023	7	5	16	25	25025	250250	10	87	0.071789794	1.025568477	g	mi
2023	7	5	16	25	25025	250250	10	90	31.68300056	452.6142919	g	mi
2023	7	5	16	25	25025	250250	11	3	0.010196491	0.339883046	g	mi
2023	7	5	16	25	25025	250250	11	87	0.069942243	2.331408165	g	mi
2023	7	5	16	25	25025	250250	11	90	18.51709938	617.2366598	g	mi
2023	7	5	16	25	25025	250250	12	3	0.009154669	0.22886673	g	mi
2023	7	5	16	25	25025	250250	12	87	0.069982603	1.749565119	g	mi
2023	7	5	16	25	25025	250250	12	90	19.34799957	483.7000001	g	mi
2023	7	5	16	25	25025	250250	13	3	0.011984695	0.239693891	g	mi
2023	7	5	16	25	25025	250250	13	87	0.070790634	1.41581265	g	mi
2023	7	5	16	25	25025	250250	13	90	24.90060043	498.0120012	g	mi
2023	7	5	16	25	25025	250250	14	3	0.009423026	0.31410087	g	mi
2023	7	5	16	25	25025	250250	14	87	0.069753319	2.325110686	g	mi
2023	7	5	16	25	25025	250250	14	90	17.64550018	588.1833526	g	mi
2023	7	5	16	25	25025	250250	15	3	0.013869205	0.346730122	g	mi
2023	7	5	16	25	25025	250250	15	87	0.070962623	1.774065609	g	mi
2023	7	5	16	25	25025	250250	15	90	24.97990036	624.497523	g	mi
2023	7	5	16	25	25025	250250	16	3	0.019559583	0.177814389	g	mi
2023	7	5	16	25	25025	250250	16	87	0.073998816	0.672716516	g	mi
2023	7	5	16	25	25025	250250	16	90	46.82410049	425.6736432	g	mi
2023	7	5	16	25	25025	250250	17	3	0.013164958	0.219415971	g	mi
2023	7	5	16	25	25025	250250	17	87	0.071332425	1.188873775	g	mi
2023	7	5	16	25	25025	250250	17	90	28.37849998	472.9750103	g	mi
2023	7	5	16	25	25025	250250	18	3	0.026912063	0.3364008	g	mi
2023	7	5	16	25	25025	250250	18	87	0.074662596	0.933282471	g	mi
2023	7	5	16	25	25025	250250	18	90	49.11100006	613.8875145	g	mi
2023	7	5	16	25	25025	250250	19	3	0.016040735	0.320814694	g	mi
2023	7	5	16	25	25025	250250	19	87	0.071617849	1.432356962	g	mi
2023	7	5	16	25	25025	250250	19	90	29.79800034	595.9599978	g	mi
2023	7	5	16	25	25025	250250	20	3	0.016901959	0.169019585	g	mi
2023	7	5	16	25	25025	250250	20	87	0.073218249	0.732182477	g	mi
2023	7	5	16	25	25025	250250	20	90	41.36719894	413.6719833	g	mi
2023	7	5	16	25	25025	250250	21	3	0.005920974	0.148024355	g	mi

2023	7	5	16	25	25025	250250	21	87	0.069394737	1.734868476	g	mi
2023	7	5	16	25	25025	250250	21	90	15.41189957	385.2974978	g	mi
2023	7	5	16	25	25025	250250	22	3	0.045411497	0.151371652	g	mi
2023	7	5	16	25	25025	250250	22	87	0.081725657	0.272418846	g	mi
2023	7	5	16	25	25025	250250	22	90	104.439003	348.1299961	g	mi
2023	7	5	16	25	25025	250250	23	3	0.00302743	0.151371494	g	mi
2023	7	5	16	25	25025	250250	23	87	0.068042949	3.402147518	g	mi
2023	7	5	16	25	25025	250250	23	90	6.962629795	348.1314975	g	mi
2023	7	5	16	25	25025	250250	24	3	0.016239436	0.231991947	g	mi
2023	7	5	16	25	25025	250250	24	87	0.071379013	1.019700187	g	mi
2023	7	5	16	25	25025	250250	24	90	31.30279922	447.1828442	g	mi
2023	7	5	16	25	25025	250250	25	3	0.048215006	0.219159117	g	mi
2023	7	5	16	25	25025	250250	25	87	0.080138199	0.364264543	g	mi
2023	7	5	16	25	25025	250250	25	90	94.89890289	431.3586519	g	mi
2023	7	5	16	25	25025	250250	26	3	0.058496438	0.139277238	g	mi
2023	7	5	16	25	25025	250250	26	87	0.086882241	0.206862485	g	mi
2023	7	5	16	25	25025	250250	26	90	139.3110046	331.6928785	g	mi
2023	7	5	16	25	25025	250250	27	3	0.018762251	0.144325016	g	mi
2023	7	5	16	25	25025	250250	27	87	0.073282324	0.563710204	g	mi
2023	7	5	16	25	25025	250250	27	90	44.00799942	338.5230849	g	mi
2023	7	5	16	25	25025	250250	28	3	1.049248695	NULL	g	mi
2023	7	5	16	25	25025	250250	28	87	0.930854201	NULL	g	mi
2023	7	5	16	25	25025	250250	28	90	3522.919922	NULL	g	mi

Mobile Source Mesoscale Analysis

Neoponset Wharf
Mesoscale Analysis

	2018 Existing	2023 No-Build	2023 Build
OXIDES OF NITROGEN (NOx)			
Emissions (kg/d)	3.2	2.4	2.5
Project Contribution (kg/d)			0.1
VOLATILE ORGANIC COMPOUNDS (VOC)			
Emissions (kg/d)	8.6	8.3	8.6
Project Contribution (kg/d)			0.3
GREENHOUSE GAS (CO_2)			
Emissions (short tons per year)	2,329	2,098	2,198
Project Contribution (short tons per year)			100

Neoponset Wharf

2023 Build

Link No.	Description	Roadway Link Length Speed	Roadway Link Length (miles)	Emission Factor (g/mi) NO_x	Emission Factor (g/mi) VOC	AADT (veh/day)	Seasonally Adjusted ADT (veh/day)	VMT Peak (veh-miles)	VMT Off-Peak (veh-miles)	Peak Period Factor	Peak Traffic Data Period Volume (vehicles)	Peak Traffic Data Average Delay (sec)	Peak Traffic Data Adjusted Delay (veh-sec)	Off-Peak Traffic Data Period Volume (vehicles)	Off-Peak Traffic Data Average Delay (sec)	Off-Peak Traffic Data Adjusted Delay (veh-sec)	Link Emissions NO_x (grams)	Link Emissions VOC (grams)
1	West Driveway (Ericsson/Lawley)	25	0.05	0.19	1.41	0	0	0	0	0.57	0	0	0	0	0	0	0	0
2	Driveway (Ericsson/Port Norfolk)	25	0.05	0.17	1.40	959	959	28	20	0.57	550	0	0	409	0	0	8	67
3	East Driveway (Ericsson/Walnut)	25	0.05	0.17	1.40	628	628	18	13	0.57	360	0	0	268	0	0	5	44
4	Ericsson St (Lawley/Port Norfolk)	25	0.03	0.19	2.30	765	765	13	10	0.57	439	0	0	326	0	0	4	53
5	Ericsson St (Port Norfolk/Walnut)	25	0.04	0.20	1.74	571	571	13	10	0.57	328	0	0	243	0	0	4	40
6	Lawley St (Ericsson/Water)	25	0.2	0.17	0.40	993	993	114	85	0.57	570	0	0	423	0	0	34	79
7	Port Norfolk St (Ericsson/Water)	25	0.2	0.15	0.39	365	365	42	31	0.57	210	0	0	156	0	0	11	29
8	Walnut St (Ericsson/Water)	25	0.2	0.18	0.40	1,085	1,085	124	92	0.57	622	0	0	462	0	0	40	87
9	Neponset Trail/Conley (Morrissey/Lawley)	25	0.51	0.17	0.19	1,770	1,770	518	385	0.57	1,015	6	5,838	754	5	3,904	154	175
10	Franklin Street (End/Water)	25	0.07	0.20	1.03	0	0	0	0	0.57	0	0	0	0	0	0	0	0
11	Water St (Lawley/Port Norfolk)	25	0.03	0.34	2.33	1,347	1,347	23	17	0.57	773	0	0	574	0	0	14	94
12	Water St (Port Norfolk/Walnut)	25	0.04	0.23	1.75	400	400	9	7	0.57	229	0	0	170	0	0	4	28
13	Water St (Walnut/End)	25	0.05	0.24	1.42	171	171	5	4	0.57	98	0	0	73	0	0	2	12
14	Wm E Doucette Sq (Water/Redfield)	25	0.03	0.31	2.33	1,050	1,050	18	13	0.57	603	0	0	448	0	0	10	73
15	Redfield St (Wm E Doucette/Water)	25	0.04	0.35	1.77	1,382	1,382	32	24	0.57	793	0	0	589	0	0	19	98
16	Walnut St (Water/End)	25	0.11	0.18	0.67	171	171	11	8	0.57	98	0	0	73	0	0	3	13
17	Redfield St (Wm E Doucette/Woodworth)	25	0.06	0.22	1.19	2,375	2,375	82	61	0.57	1,363	4	5,314	1,012	4	3,553	31	169
18	Woodworth St (Redfield/End)	25	0.08	0.34	0.93	1,747	1,747	80	60	0.57	1,002	5	4,560	745	4	3,049	47	130
19	Redfield St (Morrissey/Woodford)	25	0.05	0.32	1.43	1,564	1,564	45	33	0.57	897	0	0	667	0	0	25	112
20	Walnut St (Morrissey)	25	0.1	0.17	0.73	1,975	1,975	113	84	0.57	1,133	110	124,602	842	99	83,321	33	145
21	Neponset Cir (Morrissey)	25	0.04	0.15	1.73	0	0	0	0	0.57	0	0	0	0	0	0	0	0
22	Hancock St (Morrissey)	35	0.3	0.15	0.27	0	0	0	0	0.57	0	0	0	0	0	0	0	0
23	Morrissey Blvd (Hancock/Walnut)	35	0.02	0.15	3.40	35,315	35,315	405	301	0.57	20,261	0	0	15,054	0	0	107	2,403
24	Morrissey Blvd (Walnut/Redfield)	35	0.07	0.23	1.02	27,688	27,688	1,112	826	0.57	15,885	0	0	11,803	0	0	450	1,976
25	I93 Ramp (Morrissey)	35	0.22	0.22	0.36	13,005	13,005	1,641	1,220	0.57	7,461	0	0	5,544	0	0	627	1,042
26	Morrissey Blvd (Redfield/Conley)	35	0.42	0.14	0.21	10,036	10,036	2,418	1,797	0.57	5,758	0	0	4,278	0	0	587	872
27	Morrissey Blvd (Conley/Tenean1)	35	0.13	0.14	0.56	10,767	10,767	803	597	0.57	6,177	0	0	4,590	0	0	202	789
							VMT (per day)	7,668	5,697								2.4	8.5
							VMT (per year)	2,798,835	2,079,520.6			Arterial	140,314			93,828	**Daily Total (kg)**	
																	NO_X	**VOC**

VMT Total (per year)	**4,878,355.11**

	NOx EF (g/s)	NOx Idle (g/day)	NOx Idle (kg/day)	VOC EF (g/s)	VOC Idle (g/day)	VOC Idle (kg/day)
Peak Period	0.0003	41	**0.04**	0.0003	36	**0.04**
Off-Peak Period	0.0003	27	**0.03**	0.0003	24	**0.02**
Total (Including Link)			**2.49**			**8.59**

Neoponset Wharf

2023 No Build

Link No.	Description	Roadway Link Length Speed	Roadway Link Length (miles)	Emission Factor (g/mi) NO_x	Emission Factor (g/mi) VOC	AADT (veh/day)	Seasonally Adjusted ADT (veh/day)	VMT Peak (veh-miles)	VMT Off-Peak (veh-miles)	Peak Period Factor	Peak Traffic Data Period Volume (vehicles)	Peak Traffic Data Average Delay (sec)	Peak Traffic Data Adjusted Delay (veh-sec)	Off-Peak Traffic Data Period Volume (vehicles)	Off-Peak Traffic Data Average Delay (sec)	Off-Peak Traffic Data Adjusted Delay (veh-sec)	Link Emissions NO_x (grams)	Link Emissions VOC (grams)
1	West Driveway (Ericsson/Lawley)	25	0.05	0.19	1.41	0	0	0	0	0.57	0	0	0	0	0	0	0	0
2	Driveway (Ericsson/Port Norfolk)	25	0.05	0.17	1.40	228	228	7	5	0.57	131	0	0	97	0	0	2	16
3	East Driveway (Ericsson/Walnut)	25	0.05	0.17	1.40	628	628	18	13	0.57	360	0	0	268	0	0	5	44
4	Ericsson St (Lawley/Port Norfolk)	25	0.03	0.19	2.30	457	457	8	6	0.57	262	0	0	195	0	0	3	32
5	Ericsson St (Port Norfolk/Walnut)	25	0.04	0.20	1.74	343	343	8	6	0.57	197	0	0	146	0	0	3	24
6	Lawley St (Ericsson/Water)	25	0.2	0.17	0.40	685	685	79	58	0.57	393	0	0	292	0	0	24	54
7	Port Norfolk St (Ericsson/Water)	25	0.2	0.15	0.39	171	171	20	15	0.57	98	0	0	73	0	0	5	14
8	Walnut St (Ericsson/Water)	25	0.2	0.18	0.40	856	856	98	73	0.57	491	0	0	365	0	0	32	68
9	Neponset Trail/Conley (Morrissey/Lawley)	25	0.51	0.17	0.19	1,507	1,507	441	328	0.57	865	6	4,972	642	5	3,325	132	149
10	Franklin Street (End/Water)	25	0.07	0.20	1.03	0	0	0	0	0.57	0	0	0	0	0	0	0	0
11	Water St (Lawley/Port Norfolk)	25	0.03	0.34	2.33	1,210	1,210	21	15	0.57	694	0	0	516	0	0	12	85
12	Water St (Port Norfolk/Walnut)	25	0.04	0.23	1.75	400	400	9	7	0.57	229	0	0	170	0	0	4	28
13	Water St (Walnut/End)	25	0.05	0.24	1.42	171	171	5	4	0.57	98	0	0	73	0	0	2	12
14	Wm E Doucette Sq (Water/Redfield)	25	0.03	0.31	2.33	868	868	15	11	0.57	498	0	0	370	0	0	8	61
15	Redfield St (Wm E Doucette/Water)	25	0.04	0.35	1.77	1,153	1,153	26	20	0.57	662	0	0	492	0	0	16	82
16	Walnut St (Water/End)	25	0.11	0.18	0.67	171	171	11	8	0.57	98	0	0	73	0	0	3	13
17	Redfield St (Wm E Doucette/Woodworth)	25	0.06	0.22	1.19	1,964	1,964	68	50	0.57	1,127	4	4,338	837	3	2,901	26	140
18	Woodworth St (Redfield/End)	25	0.08	0.34	0.93	1,621	1,621	74	55	0.57	930	4	4,139	691	4	2,768	44	121
19	Redfield St (Morrissey/Woodford)	25	0.05	0.32	1.43	1,279	1,279	37	27	0.57	734	0	0	545	0	0	21	92
20	Walnut St (Morrissey)	25	0.1	0.17	0.73	1,850	1,850	106	79	0.57	1,061	93	98,320	788	83	65,746	31	135
21	Neponset Cir (Morrissey)	25	0.04	0.15	1.73	0	0	0	0	0.57	0	0	0	0	0	0	0	0
22	Hancock St (Morrissey)	35	0.3	0.15	0.27	0	0	0	0	0.57	0	0	0	0	0	0	0	0
23	Morrissey Blvd (Hancock/Walnut)	35	0.02	0.15	3.40	35,030	35,030	402	299	0.57	20,097	0	0	14,932	0	0	106	2,384
24	Morrissey Blvd (Walnut/Redfield)	35	0.07	0.23	1.02	27,403	27,403	1,101	818	0.57	15,722	0	0	11,681	0	0	445	1,956
25	I93 Ramp (Morrissey)	35	0.22	0.22	0.36	13,005	13,005	1,641	1,220	0.57	7,461	0	0	5,544	0	0	627	1,042
26	Morrissey Blvd (Redfield/Conley)	35	0.42	0.14	0.21	10,002	10,002	2,410	1,791	0.57	5,738	0	0	4,264	0	0	585	869
27	Morrissey Blvd (Conley/Tenean1)	35	0.13	0.14	0.56	10,698	10,698	798	593	0.57	6,138	0	0	4,560	0	0	201	784
							VMT (per day)	7,402	5,499								2.3	8.2
							VMT (per year)	2,701,617	2,007,288.6			Arterial	111,770			74,740	Daily Total (kg) NO_X	VOC

VMT Total (per year)	**4,708,905.84**

	NOx EF (g/s)	NOx Idle (g/day)	NOx Idle (kg/day)	VOC EF (g/s)	VOC Idle (g/day)	VOC Idle (kg/day)
Peak Period	0.0003	33	**0.03**	0.0003	29	**0.03**
Off-Peak Period	0.0003	22	**0.02**	0.0003	19	**0.02**
Total (Including Link)			**2.39**			**8.25**

Neoponset Wharf

2018 Existing

Link No.	Description	Roadway Link Length Type	Roadway Link Length (miles)	Emission Factor (g/mi) NO_x	Emission Factor (g/mi) VOC	AADT (veh/day)	Seasonally Adjusted ADT (veh/day)	VMT Peak (veh-miles)	VMT Off-Peak (veh-miles)	Peak Period Factor	Peak Traffic Data Period Volume (vehicles)	Peak Traffic Data Average Delay (sec)	Peak Traffic Data Adjusted Delay (veh-sec)	Off-Peak Traffic Data Period Volume (vehicles)	Off-Peak Traffic Data Average Delay (sec)	Off-Peak Traffic Data Adjusted Delay (veh-sec)	Link Emissions NO_x (grams)	Link Emissions VOC (grams)
1	West Driveway (Ericsson/Lawley)	25	0.05	0.26	1.48	0	0	0	0	0.57	0	0	0	0	0	0	0	0
2	Driveway (Ericsson/Port Norfolk)	25	0.05	0.23	1.47	228	228	7	5	0.57	131	0	0	97	0	0	3	17
3	East Driveway (Ericsson/Walnut)	25	0.05	0.23	1.47	628	628	18	13	0.57	360	0	0	268	0	0	7	46
4	Ericsson St (Lawley/Port Norfolk)	25	0.03	0.25	2.41	457	457	8	6	0.57	262	0	0	195	0	0	3	33
5	Ericsson St (Port Norfolk/Walnut)	25	0.04	0.26	1.83	343	343	8	6	0.57	197	0	0	146	0	0	4	25
6	Lawley St (Ericsson/Water)	25	0.2	0.23	0.42	685	685	79	58	0.57	393	0	0	292	0	0	32	58
7	Port Norfolk St (Ericsson/Water)	25	0.2	0.21	0.42	171	171	20	15	0.57	98	0	0	73	0	0	7	14
8	Walnut St (Ericsson/Water)	25	0.2	0.25	0.43	856	856	98	73	0.57	491	0	0	365	0	0	43	73
9	Neponset Trail/Conley (Morrissey/Lawley)	25	0.51	0.23	0.21	1,484	1,484	434	323	0.57	852	6	4,854	633	5	3,246	176	159
10	Franklin Street (End/Water)	25	0.07	0.27	1.08	0	0	0	0	0.57	0	0	0	0	0	0	0	0
11	Water St (Lawley/Port Norfolk)	25	0.03	0.44	2.45	1,199	1,199	21	15	0.57	688	0	0	511	0	0	16	88
12	Water St (Port Norfolk/Walnut)	25	0.04	0.31	1.84	400	400	9	7	0.57	229	0	0	170	0	0	5	29
13	Water St (Walnut/End)	25	0.05	0.32	1.49	171	171	5	4	0.57	98	0	0	73	0	0	3	13
14	Wm E Doucette Sq (Water/Redfield)	25	0.03	0.41	2.44	856	856	15	11	0.57	491	0	0	365	0	0	11	63
15	Redfield St (Wm E Doucette/Water)	25	0.04	0.45	1.86	1,142	1,142	26	19	0.57	655	0	0	487	0	0	21	85
16	Walnut St (Water/End)	25	0.11	0.24	0.71	171	171	11	8	0.57	98	0	0	73	0	0	5	13
17	Redfield St (Wm E Doucette/Woodworth)	25	0.06	0.29	1.25	1,941	1,941	67	50	0.57	1,114	4	4,287	827	3	2,867	34	146
18	Woodworth St (Redfield/End)	25	0.08	0.44	0.99	1,598	1,598	73	55	0.57	917	4	4,081	681	4	2,729	56	126
19	Redfield St (Morrissey/Woodford)	25	0.05	0.42	1.51	1,256	1,256	36	27	0.57	721	0	0	535	0	0	26	95
20	Walnut St (Morrissey)	25	0.1	0.23	0.77	1,827	1,827	105	78	0.57	1,048	84	87,516	779	75	58,522	42	141
21	Neponset Cir (Morrissey)	25	0.04	0.20	1.82	0	0	0	0	0.57	0	0	0	0	0	0	0	0
22	Hancock St (Morrissey)	35	0.3	0.20	0.29	0	0	0	0	0.57	0	0	0	0	0	0	0	0
23	Morrissey Blvd (Hancock/Walnut)	35	0.02	0.20	3.56	34,596	34,596	397	295	0.57	19,848	0	0	14,747	0	0	141	2,463
24	Morrissey Blvd (Walnut/Redfield)	35	0.07	0.31	1.07	27,060	27,060	1,087	807	0.57	15,525	0	0	11,535	0	0	582	2,033
25	I93 Ramp (Morrissey)	35	0.22	0.29	0.39	12,845	12,845	1,621	1,205	0.57	7,369	0	0	5,475	0	0	822	1,097
26	Morrissey Blvd (Redfield/Conley)	35	0.42	0.19	0.22	9,876	9,876	2,380	1,768	0.57	5,666	0	0	4,210	0	0	782	923
27	Morrissey Blvd (Conley/Tenean1)	35	0.13	0.20	0.60	10,561	10,561	788	585	0.57	6,059	0	0	4,502	0	0	268	817
							VMT (per day)	7,311	5,432								3.1	8.6
							VMT (per year)	2,668,574	1,982,737.5			Arterial	100,739			67,364	Daily Total (kg)	
																	NO_X	VOC

VMT Total (per year)	**4,651,311.43**

	NOx (g/s)	NOx (g/day)	NOx (kg/day)	VOC (g/s)	VOC (g/day)	VOC (kg/day)
Peak Period	0.0004	45	**0.04**	0.0003	29	**0.03**
Off-Peak Period	0.0004	30	**0.03**	0.0003	19	**0.02**
Total (Including Link)			**3.16**			**8.60**

Neoponset Wharf

Build																		Link Emissions
							Weekday							Weekday				
												Peak Traffic Data			Off-Peak Traffic Data			
Link No.	Description	Roadway Link Length Speed	(miles)	Emission Factor (g/mi) CO_2	AADT (veh/day)	Seasonally Adjusted ADT (veh/day)	VMT Peak (veh-miles)	VMT Off-Peak (veh-miles)	Annual Weekday Trips (veh/yr)	Peak Period Factor	Period Volume (vehicles)	Average Delay (sec)	Adjusted Delay (veh-sec)	Period Volume (vehicles)	Average Delay (sec)	Adjusted Delay (veh-sec)	CO_2 (grams)
1	West Driveway (Ericsson/Lawley)	25	0.05	440.1	0	0	0	0	0	0.57	0	0	0	0	0	0	0
2	Driveway (Ericsson/Port Norfolk)	25	0.05	413.7	959	959	10,042	7,461	350,067	0.57	200,842	0	0	149,225	0	0	7,240,653
3	East Driveway (Ericsson/Walnut)	25	0.05	413.7	628	628	6,575	4,885	229,211	0.57	131,504	0	0	97,707	0	0	4,740,903
4	Ericsson St (Lawley/Port Norfolk)	25	0.03	435.5	765	765	4,806	3,571	279,220	0.57	160,196	0	0	119,025	0	0	3,647,819
5	Ericsson St (Port Norfolk/Walnut)	25	0.04	447.5	571	571	4,782	3,553	208,373	0.57	119,549	0	0	88,824	0	0	3,730,218
6	Lawley St (Ericsson/Water)	25	0.2	417.5	993	993	41,603	30,911	362,570	0.57	208,015	0	0	154,554	0	0	30,277,038
7	Port Norfolk St (Ericsson/Water)	25	0.2	392.1	365	365	15,302	11,370	133,359	0.57	76,511	0	0	56,848	0	0	10,458,185
8	Walnut St (Ericsson/Water)	25	0.2	433.6	1,085	1,085	45,429	33,753	395,909	0.57	227,143	0	0	168,766	0	0	34,332,558
9	Neponset Trail/Conley (Morrissey/Lawley)	25	0.51	416.6	1,770	1,770	189,007	140,431	645,958	0.57	370,602	6	2,130,962	275,356	5	1,424,965	137,245,322
10	Franklin Street (End/Water)	25	0.07	452.6	0	0	0	0	0	0.57	0	0	0	0	0	0	0
11	Water St (Lawley/Port Norfolk)	25	0.03	617.2	1,347	1,347	8,464	6,289	491,761	0.57	282,136	0	0	209,626	0	0	9,105,992
12	Water St (Port Norfolk/Walnut)	25	0.04	483.7	400	400	3,347	2,487	145,861	0.57	83,684	0	0	62,177	0	0	2,822,126
13	Water St (Walnut/End)	25	0.05	498.0	171	171	1,793	1,332	62,512	0.57	35,865	0	0	26,647	0	0	1,556,587
14	Wm E Doucette Sq (Water/Redfield)	25	0.03	588.2	1,050	1,050	6,599	4,903	383,407	0.57	219,970	0	0	163,437	0	0	6,765,410
15	Redfield St (Wm E Doucette/Water)	25	0.04	624.5	1,382	1,382	11,572	8,598	504,264	0.57	289,309	0	0	214,955	0	0	12,596,457
16	Walnut St (Water/End)	25	0.11	425.7	171	171	3,945	2,931	62,512	0.57	35,865	0	0	26,647	0	0	2,927,069
17	Redfield St (Wm E Doucette/Woodworth)	25	0.06	473.0	2,375	2,375	29,839	22,171	866,833	0.57	497,324	4	1,939,564	369,509	4	1,296,978	24,599,433
18	Woodworth St (Redfield/End)	25	0.08	613.9	1,747	1,747	29,266	21,744	637,623	0.57	365,820	5	1,664,481	271,803	4	1,113,031	31,314,287
19	Redfield St (Morrissey/Woodford)	25	0.05	596.0	1,564	1,564	16,378	12,169	570,943	0.57	327,564	0	0	243,379	0	0	17,012,964
20	Walnut St (Morrissey)	25	0.1	413.7	1,975	1,975	41,364	30,733	720,972	0.57	413,640	110	45,479,687	307,332	99	30,412,069	29,824,593
21	Neponset Cir (Morrissey)	25	0.04	385.3	0	0	0	0	0	0.57	0	0	0	0	0	0	0
22	Hancock St (Morrissey)	35	0.3	348.1	0	0	0	0	0	0.57	0	0	0	0	0	0	0
23	Morrissey Blvd (Hancock/Walnut)	35	0.02	348.1	35,315	35,315	147,906	109,894	12,889,980	0.57	7,395,304	0	0	5,494,675	0	0	89,748,158
24	Morrissey Blvd (Walnut/Redfield)	35	0.07	447.2	27,688	27,688	405,869	301,559	10,106,111	0.57	5,798,129	0	0	4,307,982	0	0	316,349,555
25	I93 Ramp (Morrissey)	35	0.22	431.4	13,005	13,005	599,132	445,152	4,746,746	0.57	2,723,327	0	0	2,023,419	0	0	450,461,033
26	Morrissey Blvd (Redfield/Conley)	35	0.42	331.7	10,036	10,036	882,702	655,844	3,663,205	0.57	2,101,672	0	0	1,561,532	0	0	510,324,741
27	Morrissey Blvd (Conley/Tenean1)	35	0.13	338.5	10,767	10,767	293,110	217,780	3,929,923	0.57	2,254,695	0	0	1,675,228	0	0	172,948,040
						VMT (per year)	2,798,835	2,079,521									2,105.41
												Arterial	51,214,694			34,247,043	**Total (tons/year)**

	Weekday	Total
VMT per year	**4,878,355.11**	**4,878,355.11**

	Weekday Idle			Total Idle		
	(g/s)	(g/year)	(tons/year)	(g/s)	(g/year)	(tons/year)
Peak Period	0.9786	50,118,129	**55.24**			**55.24**
Off-Peak Period	0.9786	33,513,775	**36.94**			**36.94**
Total			**92.19**	Total (Including Link)		**2,197.60**

Neoponset Wharf

No Build		Weekday									Weekday						Link Emissions
		Roadway Link Length		Emission		Seasonally			Annual	Peak		Peak Traffic Data			Off-Peak Traffic Data		
Link No.	Description	Speed	(miles)	Factor (g/mi) CO_2	AADT (veh/day)	Adjusted ADT (veh/day)	VMT Peak (veh-miles)	VMT Off-Peak (veh-miles)	Weekday Trips (veh/yr)	Period Factor	Period Volume (vehicles)	Average Delay (sec)	Adjusted Delay (veh-sec)	Period Volume (vehicles)	Average Delay (sec)	Adjusted Delay (veh-sec)	CO_2 (grams)
1	West Driveway (Ericsson/Lawley)	25	0.05	440.1	0	0	0	0	0	0.57	0	0	0	0	0	0	0
2	Driveway (Ericsson/Port Norfolk)	25	0.05	413.7	228	228	2,391	1,776	83,349	0.57	47,820	0	0	35,530	0	0	1,723,965
3	East Driveway (Ericsson/Walnut)	25	0.05	413.7	628	628	6,575	4,885	229,211	0.57	131,504	0	0	97,707	0	0	4,740,903
4	Ericsson St (Lawley/Port Norfolk)	25	0.03	435.5	457	457	2,869	2,132	166,699	0.57	95,639	0	0	71,059	0	0	2,177,802
5	Ericsson St (Port Norfolk/Walnut)	25	0.04	447.5	343	343	2,869	2,132	125,024	0.57	71,729	0	0	53,295	0	0	2,238,131
6	Lawley St (Ericsson/Water)	25	0.2	417.5	685	685	28,692	21,318	250,048	0.57	143,459	0	0	106,589	0	0	20,880,716
7	Port Norfolk St (Ericsson/Water)	25	0.2	392.1	171	171	7,173	5,329	62,512	0.57	35,865	0	0	26,647	0	0	4,902,274
8	Walnut St (Ericsson/Water)	25	0.2	433.6	856	856	35,865	26,647	312,560	0.57	179,324	0	0	133,237	0	0	27,104,651
9	Neponset Trail/Conley (Morrissey/Lawley)	25	0.51	416.6	1,507	1,507	160,961	119,593	550,106	0.57	315,609	6	1,814,755	234,496	5	1,213,519	116,879,887
10	Franklin Street (End/Water)	25	0.07	452.6	0	0	0	0	0	0.57	0	0	0	0	0	0	0
11	Water St (Lawley/Port Norfolk)	25	0.03	617.2	1,210	1,210	7,603	5,649	441,752	0.57	253,444	0	0	188,308	0	0	8,179,959
12	Water St (Port Norfolk/Walnut)	25	0.04	483.7	400	400	3,347	2,487	145,861	0.57	83,684	0	0	62,177	0	0	2,822,126
13	Water St (Walnut/End)	25	0.05	498.0	171	171	1,793	1,332	62,512	0.57	35,865	0	0	26,647	0	0	1,556,587
14	Wm E Doucette Sq (Water/Redfield)	25	0.03	588.2	868	868	5,451	4,050	316,728	0.57	181,715	0	0	135,013	0	0	5,588,817
15	Redfield St (Wm E Doucette/Water)	25	0.04	624.5	1,153	1,153	9,660	7,177	420,914	0.57	241,489	0	0	179,425	0	0	10,514,398
16	Walnut St (Water/End)	25	0.11	425.7	171	171	3,945	2,931	62,512	0.57	35,865	0	0	26,647	0	0	2,927,069
17	Redfield St (Wm E Doucette/Woodworth)	25	0.06	473.0	1,964	1,964	24,675	18,333	716,805	0.57	411,249	4	1,583,308	305,556	3	1,058,751	20,341,839
18	Woodworth St (Redfield/End)	25	0.08	613.9	1,621	1,621	27,162	20,181	591,781	0.57	339,519	4	1,510,861	252,261	4	1,010,306	29,062,933
19	Redfield St (Morrissey/Woodford)	25	0.05	596.0	1,279	1,279	13,389	9,948	466,756	0.57	267,790	0	0	198,967	0	0	13,908,409
20	Walnut St (Morrissey)	25	0.1	413.7	1,850	1,850	38,734	28,779	675,130	0.57	387,339	93	35,886,951	287,791	83	23,997,448	27,928,231
21	Neponset Cir (Morrissey)	25	0.04	385.3	0	0	0	0	0	0.57	0	0	0	0	0	0	0
22	Hancock St (Morrissey)	35	0.3	348.1	0	0	0	0	0	0.57	0	0	0	0	0	0	0
23	Morrissey Blvd (Hancock/Walnut)	35	0.02	348.1	35,030	35,030	146,711	109,005	12,785,793	0.57	7,335,530	0	0	5,450,263	0	0	89,022,745
24	Morrissey Blvd (Walnut/Redfield)	35	0.07	447.2	27,403	27,403	401,685	298,450	10,001,924	0.57	5,738,354	0	0	4,263,570	0	0	313,088,219
25	I93 Ramp (Morrissey)	35	0.22	431.4	13,005	13,005	599,132	445,152	4,746,746	0.57	2,723,327	0	0	2,023,419	0	0	450,461,033
26	Morrissey Blvd (Redfield/Conley)	35	0.42	331.7	10,002	10,002	879,690	653,605	3,650,702	0.57	2,094,499	0	0	1,556,203	0	0	508,583,018
27	Morrissey Blvd (Conley/Tenean1)	35	0.13	338.5	10,698	10,698	291,245	216,394	3,904,918	0.57	2,240,349	0	0	1,664,569	0	0	171,847,629
						VMT (per year)	2,701,617	2,007,289									2,024.34
												Arterial	40,795,874			27,280,024	Total (tons/year)

	Weekday	Total
VMT per year	4,708,905.84	4,708,905.84

	Weekday Idle			Total Idle		
	(g/s)	(g/year)	(tons/year)	(g/s)	(g/year)	(tons/year)
Peak Period	0.9786	39,922,389	**44.01**			**44.01**
Off-Peak Period	0.9786	26,695,928	**29.43**			**29.43**
Total			**73.43**	Total (Including Link)		**2,097.77**

Neoponset Wharf

Existing											Weekday						Link Emissions
												Peak Traffic Data			Off-Peak Traffic Data		
Link No.	Description	Roadway Link Length Type	(miles)	Emission Factor (g/mi) CO_2	AADT (veh/day)	Seasonally Adjusted ADT (veh/day)	VMT Peak (veh-miles)	VMT Off-Peak (veh-miles)	Annual Weekday Trips (veh/yr)	Peak Period Factor	Period Volume (vehicles)	Average Delay (sec)	Adjusted Delay (veh-sec)	Period Volume (vehicles)	Average Delay (sec)	Adjusted Delay (veh-sec)	CO_2 (grams)
1	West Driveway (Ericsson/Lawley)	25	0.05	496.3	0	0	0	0	0	0.57	0	0	0	0	0	0	0
2	Driveway (Ericsson/Port Norfolk)	25	0.05	466.6	228	228	2,391	1,776	83,349	0.57	47,820	0	0	35,530	0	0	1,944,657
3	East Driveway (Ericsson/Walnut)	25	0.05	466.6	628	628	6,575	4,885	229,211	0.57	131,504	0	0	97,707	0	0	5,347,808
4	Ericsson St (Lawley/Port Norfolk)	25	0.03	491.1	457	457	2,869	2,132	166,699	0.57	95,639	0	0	71,059	0	0	2,456,023
5	Ericsson St (Port Norfolk/Walnut)	25	0.04	504.6	343	343	2,869	2,132	125,024	0.57	71,729	0	0	53,295	0	0	2,523,610
6	Lawley St (Ericsson/Water)	25	0.2	471.0	685	685	28,692	21,318	250,048	0.57	143,459	0	0	106,589	0	0	23,552,256
7	Port Norfolk St (Ericsson/Water)	25	0.2	442.4	171	171	7,173	5,329	62,512	0.57	35,865	0	0	26,647	0	0	5,530,726
8	Walnut St (Ericsson/Water)	25	0.2	489.0	856	856	35,865	26,647	312,560	0.57	179,324	0	0	133,237	0	0	30,568,035
9	Neponset Trail/Conley (Morrissey/Lawley)	25	0.51	469.9	1,484	1,484	158,522	117,781	541,771	0.57	310,828	6	1,771,717	230,943	5	1,184,739	129,840,269
10	Franklin Street (End/Water)	25	0.07	510.3	0	0	0	0	0	0.57	0	0	0	0	0	0	0
11	Water St (Lawley/Port Norfolk)	25	0.03	695.0	1,199	1,199	7,532	5,596	437,584	0.57	251,053	0	0	186,531	0	0	9,123,849
12	Water St (Port Norfolk/Walnut)	25	0.04	545.1	400	400	3,347	2,487	145,861	0.57	83,684	0	0	62,177	0	0	3,180,274
13	Water St (Walnut/End)	25	0.05	561.1	171	171	1,793	1,332	62,512	0.57	35,865	0	0	26,647	0	0	1,753,900
14	Wm E Doucette Sq (Water/Redfield)	25	0.03	662.4	856	856	5,380	3,997	312,560	0.57	179,324	0	0	133,237	0	0	6,211,507
15	Redfield St (Wm E Doucette/Water)	25	0.04	703.1	1,142	1,142	9,564	7,106	416,747	0.57	239,098	0	0	177,649	0	0	11,720,880
16	Walnut St (Water/End)	25	0.11	480.1	171	171	3,945	2,931	62,512	0.57	35,865	0	0	26,647	0	0	3,301,241
17	Redfield St (Wm E Doucette/Woodworth)	25	0.06	533.1	1,941	1,941	24,388	18,120	708,470	0.57	406,467	4	1,564,897	302,003	3	1,046,440	22,660,756
18	Woodworth St (Redfield/End)	25	0.08	691.3	1,598	1,598	26,779	19,897	583,446	0.57	334,737	4	1,489,581	248,708	4	996,076	32,264,890
19	Redfield St (Morrissey/Woodford)	25	0.05	671.2	1,256	1,256	13,150	9,771	458,422	0.57	263,008	0	0	195,414	0	0	15,383,801
20	Walnut St (Morrissey)	25	0.1	466.6	1,827	1,827	38,256	28,424	666,795	0.57	382,557	84	31,943,506	284,238	75	21,360,484	31,114,518
21	Neponset Cir (Morrissey)	25	0.04	434.8	0	0	0	0	0	0.57	0	0	0	0	0	0	0
22	Hancock St (Morrissey)	35	0.3	392.6	0	0	0	0	0	0.57	0	0	0	0	0	0	0
23	Morrissey Blvd (Hancock/Walnut)	35	0.02	392.6	34,596	34,596	144,893	107,655	12,627,429	0.57	7,244,672	0	0	5,382,757	0	0	99,161,182
24	Morrissey Blvd (Walnut/Redfield)	35	0.07	503.8	27,060	27,060	396,664	294,719	9,876,900	0.57	5,666,625	0	0	4,210,275	0	0	348,336,526
25	I93 Ramp (Morrissey)	35	0.22	486.0	12,845	12,845	591,768	439,681	4,688,402	0.57	2,689,854	0	0	1,998,548	0	0	501,330,819
26	Morrissey Blvd (Redfield/Conley)	35	0.42	374.2	9,876	9,876	868,643	645,398	3,604,860	0.57	2,068,199	0	0	1,536,662	0	0	566,525,437
27	Morrissey Blvd (Conley/Tenean1)	35	0.13	381.8	10,561	10,561	287,515	213,623	3,854,908	0.57	2,211,657	0	0	1,643,251	0	0	191,353,414
						VMT (per year)	2,668,574	1,982,738									2,254.39
												Arterial	36,769,702			24,587,740	Total (tons/year)

	Weekday	Total
VMT per year	4,651,311.43	4,651,311.43

	Weekday			Total		
	(g/s)	(g/year)	(tons/year)	(g/s)	(g/year)	(tons/year)
Peak Period	1.1077	40,731,332	**44.90**			**44.90**
Off-Peak Period	1.1077	27,236,864	**30.02**			**30.02**
Total			**74.92**	Total (Including Link)		**2,329.32**

Neoponset Wharf

Weekday Traffic

Link No.	Roadway Description	2018 Roadway S.A.F.	2018 Roadway ADT (veh/day)	2018 Seasonal ADT (veh/day)	2023 Roadway ADT (veh/day)	2023 Seasonal ADT (veh/day)	2023 Traffic Increase (existing)	2023 Roadway ADT (veh/day)	2023 Seasonal ADT (veh/day)	2023 Traffic Increase (existing)	2023 Traffic Increase (no-build)
1	West Driveway (Ericsson/Lawley)	100%	0	0	0	0	#DIV/0!	0	0	#DIV/0!	#DIV/0!
2	Driveway (Ericsson/Port Norfolk)	100%	228	228	228	228	0%	959	959	320%	320%
3	East Driveway (Ericsson/Walnut)	100%	628	628	628	628	0%	628	628	0%	0%
4	Ericsson St (Lawley/Port Norfolk)	100%	457	457	457	457	0%	765	765	68%	68%
5	Ericsson St (Port Norfolk/Walnut)	100%	343	343	343	343	0%	571	571	67%	67%
6	Lawley St (Ericsson/Water)	100%	685	685	685	685	0%	993	993	45%	45%
7	Port Norfolk St (Ericsson/Water)	100%	171	171	171	171	0%	365	365	113%	113%
8	Walnut St (Ericsson/Water)	100%	856	856	856	856	0%	1,085	1,085	27%	27%
9	Neponset Trail/Conley (Morrissey/Lawley)	100%	1,484	1,484	1,507	1,507	2%	1,770	1,770	19%	17%
10	Franklin Street (End/Water)	100%	0	0	0	0	#DIV/0!	0	0	#DIV/0!	#DIV/0!
11	Water St (Lawley/Port Norfolk)	100%	1,199	1,199	1,210	1,210	1%	1,347	1,347	12%	11%
12	Water St (Port Norfolk/Walnut)	100%	400	400	400	400	0%	400	400	0%	0%
13	Water St (Walnut/End)	100%	171	171	171	171	0%	171	171	0%	0%
14	Wm E Doucette Sq (Water/Redfield)	100%	856	856	868	868	1%	1,050	1,050	23%	21%
15	Redfield St (Wm E Doucette/Water)	100%	1,142	1,142	1,153	1,153	1%	1,382	1,382	21%	20%
16	Walnut St (Water/End)	100%	171	171	171	171	0%	171	171	0%	0%
17	Redfield St (Wm E Doucette/Woodworth)	100%	1,941	1,941	1,964	1,964	1%	2,375	2,375	22%	21%
18	Woodworth St (Redfield/End)	100%	1,598	1,598	1,621	1,621	1%	1,747	1,747	9%	8%
19	Redfield St (Morrissey/Woodford)	100%	1,256	1,256	1,279	1,279	2%	1,564	1,564	25%	22%
20	Walnut St (Morrissey)	100%	1,827	1,827	1,850	1,850	1%	1,975	1,975	8%	7%
21	Neponset Cir (Morrissey)	100%	0	0	0	0	#DIV/0!	0	0	#DIV/0!	#DIV/0!
22	Hancock St (Morrissey)	100%	0	0	0	0	#DIV/0!	0	0	#DIV/0!	#DIV/0!
23	Morrissey Blvd (Hancock/Walnut)	100%	34,596	34,596	35,030	35,030	1%	35,315	35,315	2%	1%
24	Morrissey Blvd (Walnut/Redfield)	100%	27,060	27,060	27,403	27,403	1%	27,688	27,688	2%	1%
25	I93 Ramp (Morrissey)	100%	12,845	12,845	13,005	13,005	1%	13,005	13,005	1%	0%
26	Morrissey Blvd (Redfield/Conley)	100%	9,876	9,876	10,002	10,002	1%	10,036	10,036	2%	0%
27	Morrissey Blvd (Conley/Tenean1)	100%	10,561	10,561	10,698	10,698	1%	10,767	10,767	2%	1%

Neoponset Wharf
Weekday Vehicle Delay

Link No.	Description	Directions	2018 Delay By Approach NB or EB (sec)	2018 Delay By Approach SB or WB (sec)	2018 Adjusted Delay * NB or EB (sec)	2018 Adjusted Delay * SB or WB (sec)	2018 Combined Delay (sec)	2023 Delay By Approach NB or EB (sec)	2023 Delay By Approach SB or WB (sec)	2023 Adjusted Delay * NB or EB (sec)	2023 Adjusted Delay * SB or WB (sec)	2023 Combined Delay (sec)	2023 Delay By Approach NB or EB (sec)	2023 Delay By Approach SB or WB (sec)	2023 Adjusted Delay * NB or EB (sec)	2023 Adjusted Delay * SB or WB (sec)	2023 Combined Delay (sec)
1	West Driveway (Ericsson/Lawley)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	Driveway (Ericsson/Port Norfolk)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	East Driveway (Ericsson/Walnut)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	Ericsson St (Lawley/Port Norfolk)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	Ericsson St (Port Norfolk/Walnut)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	Lawley St (Ericsson/Water)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	Port Norfolk St (Ericsson/Water)	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	Walnut St (Ericsson/Water)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	Neponset Trail/Conley (Morrissey/Lawley)	2	0	11.4	0	11.4	5.7	0	11.5	0	11.5	5.75	0	11.5	0	11.5	5.75
10	Franklin Street (End/Water)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	Water St (Lawley/Port Norfolk)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	Water St (Port Norfolk/Walnut)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	Water St (Walnut/End)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	Wm E Doucette Sq (Water/Redfield)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	Redfield St (Wm E Doucette/Water)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	Walnut St (Water/End)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	Redfield St (Wm E Doucette/Woodworth)	2	0	7.7	0	7.7	3.85	0	7.7	0	7.7	3.85	0	7.8	0	7.8	3.9
18	Woodworth St (Redfield/End)	2	8.9	0	8.9	0	4.45	8.9	0	8.9	0	4.45	9.1	0	9.1	0	4.55
19	Redfield St (Morrissey/Woodford)	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	Walnut St (Morrissey)	2	0	167	0	167	83.5	0	185.3	0	185.3	92.65	0	219.9	0	219.9	109.95
21	Neponset Cir (Morrissey)	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	Hancock St (Morrissey)	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	Morrissey Blvd (Hancock/Walnut)	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	Morrissey Blvd (Walnut/Redfield)	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	I93 Ramp (Morrissey)	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	Morrissey Blvd (Redfield/Conley)	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	Morrissey Blvd (Conley/Tenean1)	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

PM PEAK CONDITION DELAY BY APPROACH (seconds)		2018 Existing EB	2018 Existing WB	2018 Existing NB	2018 Existing SB	2023 No Build EB	2023 No Build WB	2023 No Build NB	2023 No Build SB	2023 Build EB	2023 Build WB	2023 Build NB	2023 Build SB
1	Morrisey Blvd/Morrissey Blvd & Walnut Street		167	0			185.3	0			219.9	0	
3	Woodworth Street & Redfield Street	0	7.7	8.9		0	7.7	8.9		0	7.8	9.1	
11	Morrissey Blvd/Morrissey Boulevard & Conley Street		11.4	0			11.5	0			11.5	0	
44	Morrissey Blvd/Tenean St		12.1	0			12.2	0			12.2	0	

Neoponset Wharf

Weekday Average Daily Traffic (ADT) for Mesoscale Roadway Network

	Roadway Segments	Speed Limit (mph)	2018 Existing Volume (ADT)	2023 No-Build Volume (ADT)	2023 Build Volume (ADT)	2023 Build-Mit Volume (ADT)	K Factor	S.A.F.	Unadjusted PM Peak Hour 2018 Existing	Unadjusted PM Peak Hour 2023 No-Build	Unadjusted PM Peak Hour 2023 Build
							8.8%	1.00			
1	West Driveway (Ericsson/Lawley)	25	0	0	0	0			0	0	0
2	Driveway (Ericsson/Port Norfolk)	25	228	228	959	959			20	20	84
3	East Driveway (Ericsson/Walnut)	25	628	628	628	628			55	55	55
4	Ericsson St (Lawley/Port Norfolk)	25	457	457	765	765			40	40	67
5	Ericsson St (Port Norfolk/Walnut)	25	343	343	571	571			30	30	50
6	Lawley St (Ericsson/Water)	25	685	685	993	993			60	60	87
7	Port Norfolk St (Ericsson/Water)	25	171	171	365	365			15	15	32
8	Walnut St (Ericsson/Water)	25	856	856	1,085	1,085			75	75	95
9	Neponset Trail/Conley (Morrissey/Lawley)	25	1,484	1,507	1,770	1,770			130	132	155
10	Franklin Street (End/Water)	25	0	0	0	0			0	0	0
11	Water St (Lawley/Port Norfolk)	25	1,199	1,210	1,347	1,347			105	106	118
12	Water St (Port Norfolk/Walnut)	25	400	400	400	400			35	35	35
13	Water St (Walnut/End)	25	171	171	171	171			15	15	15
14	Wm E Doucette Sq (Water/Redfield)	25	856	868	1,050	1,050			75	76	92
15	Redfield St (Wm E Doucette/Water)	25	1,142	1,153	1,382	1,382			100	101	121
16	Walnut St (Water/End)	25	171	171	171	171			15	15	15
17	Redfield St (Wm E Doucette/Woodworth)	25	1,941	1,964	2,375	2,375			170	172	208
18	Woodworth St (Redfield/End)	25	1,598	1,621	1,747	1,747			140	142	153
19	Redfield St (Morrissey/Woodford)	25	1,256	1,279	1,564	1,564			110	112	137
20	Walnut St (Morrissey)	25	1,827	1,850	1,975	1,975			160	162	173
21	Neponset Cir (Morrissey)	25	0	0	0	0			0	0	0
22	Hancock St (Morrissey)	35	0	0	0	0			0	0	0
23	Morrissey Blvd (Hancock/Walnut)	35	34,596	35,030	35,315	35,315			3,030	3,068	3,093
24	Morrissey Blvd (Walnut/Redfield)	35	27,060	27,403	27,688	27,688			2,370	2,400	2,425
25	I93 Ramp (Morrissey)	35	12,845	13,005	13,005	13,005			1,125	1,139	1,139
26	Morrissey Blvd (Redfield/Conley)	35	9,876	10,002	10,036	10,036			865	876	879
27	Morrissey Blvd (Conley/Tenean1)	35	10,561	10,698	10,767	10,767			925	937	943

Neoponset Wharf

Weekday ATR Volumes

Redfield Street

5/3/2017					5/4/2017					Weekday Average				
			Peak Period Data					Peak Period Data					Peak Period Data	
Begin Time	Volume	V/C Ratio	Hours	Volume	Begin Time	Volume	V/C Ratio	Hours	Volume	Begin Time	Volume	V/C Ratio	Hours	Volume
12:00 AM	10	0.01	0	0	12:00 AM	8	0.01	0	0	12:00 AM	9	0.01	0	0
1:00 AM	3	0.00	0	0	1:00 AM	5	0.00	0	0	1:00 AM	4	0.00	0	0
2:00 AM	2	0.00	0	0	2:00 AM	3	0.00	0	0	2:00 AM	3	0.00	0	0
3:00 AM	2	0.00	0	0	3:00 AM	8	0.01	0	0	3:00 AM	5	0.00	0	0
4:00 AM	9	0.01	0	0	4:00 AM	5	0.00	0	0	4:00 AM	7	0.00	0	0
5:00 AM	13	0.01	0	0	5:00 AM	19	0.01	0	0	5:00 AM	16	0.01	0	0
6:00 AM	29	0.02	0	0	6:00 AM	29	0.02	0	0	6:00 AM	29	0.02	0	0
7:00 AM	27	0.02	0	0	7:00 AM	37	0.02	0	0	7:00 AM	32	0.02	0	0
8:00 AM	34	0.02	0	0	8:00 AM	34	0.02	0	0	8:00 AM	34	0.02	0	0
9:00 AM	43	0.03	0	0	9:00 AM	28	0.02	0	0	9:00 AM	36	0.02	0	0
10:00 AM	38	0.02	0	0	10:00 AM	42	0.03	0	0	10:00 AM	40	0.03	0	0
11:00 AM	38	0.02	0	0	11:00 AM	65	0.04	1	65	11:00 AM	52	0.03	0	0
12:00 PM	54	0.03	1	54	12:00 PM	55	0.04	0	0	12:00 PM	55	0.03	1	55
1:00 PM	60	0.04	1	60	1:00 PM	75	0.05	1	75	1:00 PM	68	0.04	1	68
2:00 PM	70	0.04	1	70	2:00 PM	61	0.04	0	0	2:00 PM	66	0.04	1	66
3:00 PM	62	0.04	1	62	3:00 PM	56	0.04	0	0	3:00 PM	59	0.04	1	59
4:00 PM	65	0.04	1	65	4:00 PM	76	0.05	1	76	4:00 PM	71	0.04	1	71
5:00 PM	80	0.05	1	80	5:00 PM	78	0.05	1	78	5:00 PM	79	0.05	1	79
6:00 PM	34	0.02	0	0	6:00 PM	57	0.04	0	0	6:00 PM	46	0.03	0	0
7:00 PM	43	0.03	0	0	7:00 PM	81	0.05	1	81	7:00 PM	62	0.04	1	62
8:00 PM	37	0.02	0	0	8:00 PM	82	0.05	1	82	8:00 PM	60	0.04	1	60
9:00 PM	30	0.02	0	0	9:00 PM	37	0.02	0	0	9:00 PM	34	0.02	0	0
10:00 PM	26	0.02	0	0	10:00 PM	28	0.02	0	0	10:00 PM	27	0.02	0	0
11:00 PM	8	0.01	0	0	11:00 PM	18	0.01	0	0	11:00 PM	13	0.01	0	0
Total	**817**		**6**	**391**	**Total**	**987**		**6**	**457**	**Total**	**902**		**8**	**518**
Roadway Capacity	**Crit. V/C**	**Critical Capacity**			**Roadway Capacity**	**Crit. V/C**	**Critical Capacity**			**Roadway Capacity**	**Crit. V/C**	**Critical Capacity**		
1,570	**3%**	**47**			**1,570**	**4%**	**63**			**1570**	**4%**	**55**		
Peak Hour (K) Factor	**0.098**				**Peak Hour (K) Factor**	**0.083**				**Peak Hour (K) Factor**	**0.088**			
Peak Period Volume Factor	**0.479**				**Peak Period Volume Factor**	**0.463**				**Peak Period Volume Factor**	**0.574**			

Neoponset Wharf

Emissions Factors By Link (g/mi)

Emission Factors From MOVES2014a

	Roadway Segments	2018 Existing			2023 No Build			2023 Build		
		NO_x	VOC	CO_2	NO_x	VOC	CO_2	NO_x	VOC	CO_2
1	West Driveway (Ericsson/Lawley)	0.26	1.48	496.29	0.19	1.41	440.07	0.19	1.41	440.07
2	Driveway (Ericsson/Port Norfolk)	0.23	1.47	466.63	0.17	1.40	413.67	0.17	1.40	413.67
3	East Driveway (Ericsson/Walnut)	0.23	1.47	466.63	0.17	1.40	413.67	0.17	1.40	413.67
4	Ericsson St (Lawley/Port Norfolk)	0.25	2.41	491.11	0.19	2.30	435.48	0.19	2.30	435.48
5	Ericsson St (Port Norfolk/Walnut)	0.26	1.83	504.62	0.20	1.74	447.54	0.20	1.74	447.54
6	Lawley St (Ericsson/Water)	0.23	0.42	470.95	0.17	0.40	417.53	0.17	0.40	417.53
7	Port Norfolk St (Ericsson/Water)	0.21	0.42	442.37	0.15	0.39	392.11	0.15	0.39	392.11
8	Walnut St (Ericsson/Water)	0.25	0.43	488.99	0.18	0.40	433.59	0.18	0.40	433.59
9	Neponset Trail/Conley (Morrissey/Lawley)	0.23	0.21	469.92	0.17	0.19	416.60	0.17	0.19	416.60
10	Franklin Street (End/Water)	0.27	1.08	510.31	0.20	1.03	452.61	0.20	1.03	452.61
11	Water St (Lawley/Port Norfolk)	0.44	2.45	695.02	0.34	2.33	617.24	0.34	2.33	617.24
12	Water St (Port Norfolk/Walnut)	0.31	1.84	545.09	0.23	1.75	483.70	0.23	1.75	483.70
13	Water St (Walnut/End)	0.32	1.49	561.14	0.24	1.42	498.01	0.24	1.42	498.01
14	Wm E Doucette Sq (Water/Redfield)	0.41	2.44	662.43	0.31	2.33	588.18	0.31	2.33	588.18
15	Redfield St (Wm E Doucette/Water)	0.45	1.86	703.12	0.35	1.77	624.50	0.35	1.77	624.50
16	Walnut St (Water/End)	0.24	0.71	480.09	0.18	0.67	425.67	0.18	0.67	425.67
17	Redfield St (Wm E Doucette/Woodworth)	0.29	1.25	533.09	0.22	1.19	472.98	0.22	1.19	472.98
18	Woodworth St (Redfield/End)	0.44	0.99	691.26	0.34	0.93	613.89	0.34	0.93	613.89
19	Redfield St (Morrissey/Woodford)	0.42	1.51	671.16	0.32	1.43	595.96	0.32	1.43	595.96
20	Walnut St (Morrissey)	0.23	0.77	466.63	0.17	0.73	413.67	0.17	0.73	413.67
21	Neponset Cir (Morrissey)	0.20	1.82	434.76	0.15	1.73	385.30	0.15	1.73	385.30
22	Hancock St (Morrissey)	0.20	0.29	392.64	0.15	0.27	348.13	0.15	0.27	348.13
23	Morrissey Blvd (Hancock/Walnut)	0.20	3.56	392.64	0.15	3.40	348.13	0.15	3.40	348.13
24	Morrissey Blvd (Walnut/Redfield)	0.31	1.07	503.83	0.23	1.02	447.18	0.23	1.02	447.18
25	I93 Ramp (Morrissey)	0.29	0.39	486.05	0.22	0.36	431.36	0.22	0.36	431.36
26	Morrissey Blvd (Redfield/Conley)	0.19	0.22	374.18	0.14	0.21	331.69	0.14	0.21	331.69
27	Morrissey Blvd (Conley/Tenean1)	0.20	0.60	381.84	0.14	0.56	338.52	0.14	0.56	338.52

Neoponset Wharf

Mesoscale Roadway Data

Link No.	Description	Speed Limit (mph)	Link Length (miles)	Grade (%)	Directions
1	West Driveway (Ericsson/Lawley)	25	0.05	0.8	2
2	Driveway (Ericsson/Port Norfolk)	25	0.05	0.0	2
3	East Driveway (Ericsson/Walnut)	25	0.05	0.0	2
4	Ericsson St (Lawley/Port Norfolk)	25	0.03	0.6	2
5	Ericsson St (Port Norfolk/Walnut)	25	0.04	0.9	2
6	Lawley St (Ericsson/Water)	25	0.20	0.1	2
7	Port Norfolk St (Ericsson/Water)	25	0.20	-0.7	1
8	Walnut St (Ericsson/Water)	25	0.20	0.6	2
9	Neponset Trail/Conley (Morrissey/Lawley)	25	0.51	0.1	2
10	Franklin Street (End/Water)	25	0.07	1.1	2
11	Water St (Lawley/Port Norfolk)	25	0.03	5.1	2
12	Water St (Port Norfolk/Walnut)	25	0.04	1.9	2
13	Water St (Walnut/End)	25	0.05	2.3	2
14	Wm E Doucette Sq (Water/Redfield)	25	0.03	4.4	2
15	Redfield St (Wm E Doucette/Water)	25	0.04	5.2	2
16	Walnut St (Water/End)	25	0.11	0.3	2
17	Redfield St (Wm E Doucette/Woodworth)	25	0.06	1.6	2
18	Woodworth St (Redfield/End)	25	0.08	5.0	2
19	Redfield St (Morrissey/Woodford)	25	0.05	4.5	1
20	Walnut St (Morrissey)	25	0.10	0.0	2
21	Neponset Cir (Morrissey)	25	0.04	-0.9	1
22	Hancock St (Morrissey)	35	0.30	0.0	1
23	Morrissey Blvd (Hancock/Walnut)	35	0.02	0.0	1
24	Morrissey Blvd (Walnut/Redfield)	35	0.07	2.4	1
25	I93 Ramp (Morrissey)	35	0.22	2.1	1
26	Morrissey Blvd (Redfield/Conley)	35	0.42	-0.5	1
27	Morrissey Blvd (Conley/Tenean1)	35	0.13	-0.3	1

Project Data

TRAFFIC DATA

Project Name	Neoponset Wharf
Existing Year	2018
No-Build Year	2023
Build Year	2023
Seasonal Adjustment Factor	1.00
K-Factor	8.8%

Idle Emission Factors

Year	NOx (g/hr)	VOC (g/hr)	CO2 (g/hr)
2018	1.60	1.02	3,987.87
2023	1.05	0.93	3,522.92

Background Concentrations

Carbon Monoxide (CO) Background Concentrations

Year	1-Hour* (ppm)	8-Hour** (ppm)
2014	1.6	0.9
2015	1.7	0.9
2016	1.3	0.9

*** 1-Hour values represent 2nd highest**

**** 8-Hour values represent 2nd highest**

1- Hour Background Calculation

Von Hillern, Boston MA

Pollutant	1-Hour* (ppm)	Molecular weight	Background Concentration (Micrograms/meter3)
Carbon Monoxide	1.7	28.0	1957.9

* Highest value of 2014, 2015 and 2016

8-Hour Background Calculation

Von Hillern, Boston MA

Pollutant	8-Hour* (ppm)	Molecular weight	Background Concentration (Micrograms/meter3)
Carbon Monoxide	0.9	28.0	1048.3

* Highest value of 2014, 2015 and 2016

Energy Modeling

Base Case

REPORT- BEPS Building Energy Performance WEATHER FILE- Boston MA TMY2

		LIGHTS	TASK LIGHTS	MISC EQUIP	SPACE HEATING	SPACE COOLING	HEAT REJECT	PUMPS & AUX	VENT FANS	REFRIG DISPLAY	HT PUMP SUPPLEM	DOMEST HOT WTR	EXT USAGE	TOTAL
BA	ELECTRICITY													
	MBTU	899.6	0.0	713.8	0.0	311.4	0.0	19.9	694.6	0.0	0.0	0.0	0.0	2639.4
BB	ELECTRICITY													
	MBTU	261.9	0.0	343.9	0.0	244.4	0.0	12.4	456.6	0.0	0.0	0.0	0.0	1319.2
BC	ELECTRICITY													
	MBTU	236.7	0.0	316.7	0.0	242.0	0.0	11.8	442.6	0.0	0.0	0.0	0.0	1249.9
BD	ELECTRICITY													
	MBTU	368.9	0.0	59.8	0.0	43.5	0.0	0.0	67.1	0.0	0.0	0.0	0.0	539.3
EM1	ELECTRICITY													
	MBTU	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FBA	NATURAL-GAS													
	MBTU	0.0	0.0	0.0	2903.0	0.0	0.0	0.0	0.0	0.0	0.0	2551.0	0.0	5454.1
FBB	NATURAL-GAS													
	MBTU	0.0	0.0	0.0	1427.0	0.0	0.0	0.0	0.0	0.0	0.0	423.2	0.0	1850.2
FBC	NATURAL-GAS													
	MBTU	0.0	0.0	0.0	1365.0	0.0	0.0	0.0	0.0	0.0	0.0	423.2	0.0	1788.2
FBD	NATURAL-GAS													
	MBTU	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	90.2	0.0	90.4
FM1	NATURAL-GAS													
	MBTU	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	MBTU	1767.0	0.0	1434.0	5695.0	841.4	0.0	44.1	1661.0	0.0	0.0	3488.0	0.0	14931.0

TOTAL SITE ENERGY 14930.80 MBTU 56.7 KBTU/SQFT-YR GROSS-AREA 56.7 KBTU/SQFT-YR NET-AREA
TOTAL SOURCE ENERGY 26426.70 MBTU 100.3 KBTU/SQFT-YR GROSS-AREA 100.3 KBTU/SQFT-YR NET-AREA

PERCENT OF HOURS ANY SYSTEM ZONE OUTSIDE OF THROTTLING RANGE = 3.06
PERCENT OF HOURS ANY PLANT LOAD NOT SATISFIED = 0.00
HOURS ANY ZONE ABOVE COOLING THROTTLING RANGE = 268
HOURS ANY ZONE BELOW HEATING THROTTLING RANGE = 0

NOTE: ENERGY IS APPORTIONED HOURLY TO ALL END-USE CATEGORIES.

REPORT- BEPU Building Utility Performance WEATHER FILE- Boston MA TMY2

		LIGHTS	TASK LIGHTS	MISC EQUIP	SPACE HEATING	SPACE COOLING	HEAT REJECT	PUMPS & AUX	VENT FANS	REFRIG DISPLAY	HT PUMP SUPPLEM	DOMEST HOT WTR	EXT USAGE	TOTAL
BA	ELECTRICITY													
	KWH	263594.	0.	209155.	0.	91252.	0.	5826.	203527.	0.	0.	0.	0.	773355.
BB	ELECTRICITY													
	KWH	76749.	0.	100749.	0.	71616.	0.	3627.	133798.	0.	0.	0.	0.	386540.
BC	ELECTRICITY													
	KWH	69364.	0.	92788.	0.	70913.	0.	3470.	129688.	0.	0.	0.	0.	366224.
BD	ELECTRICITY													
	KWH	108093.	0.	17510.	0.	12754.	0.	0.	19672.	0.	0.	0.	0.	158028.
EM1	ELECTRICITY													
	KWH	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
FBA	NATURAL-GAS													
	THERM	0.	0.	0.	29032.	0.	0.	0.	0.	0.	0.	25508.	0.	54541.
FBB	NATURAL-GAS													
	THERM	0.	0.	0.	14270.	0.	0.	0.	0.	0.	0.	4232.	0.	18502.
FBC	NATURAL-GAS													
	THERM	0.	0.	0.	13650.	0.	0.	0.	0.	0.	0.	4232.	0.	17882.
FBD	NATURAL-GAS													
	THERM	0.	0.	0.	2.	0.	0.	0.	0.	0.	0.	902.	0.	904.
FM1	NATURAL-GAS													
	THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

TOTAL ELECTRICITY 1684147. KWH 6.391 KWH /SQFT-YR GROSS-AREA 6.391 KWH /SQFT-YR NET-AREA
TOTAL NATURAL-GAS 91829. THERM 0.348 THERM /SQFT-YR GROSS-AREA 0.348 THERM /SQFT-YR NET-AREA

PERCENT OF HOURS ANY SYSTEM ZONE OUTSIDE OF THROTTLING RANGE = 3.06
PERCENT OF HOURS ANY PLANT LOAD NOT SATISFIED = 0.00
HOURS ANY ZONE ABOVE COOLING THROTTLING RANGE = 268
HOURS ANY ZONE BELOW HEATING THROTTLING RANGE = 0

NOTE: ENERGY IS APPORTIONED HOURLY TO ALL END-USE CATEGORIES.

REPORT- PS-E Energy End-Use Summary for all Electric Meters WEATHER FILE- Boston MA TMY2

	LIGHTS	TASK LIGHTS	MISC EQUIP	SPACE HEATING	SPACE COOLING	HEAT REJECT	PUMPS & AUX	VENT FANS	REFRIG DISPLAY	HT PUMP SUPPLEM	DOMEST HOT WTR	EXT USAGE	TOTAL
JAN													
KWH	43977.	0.	35683.	0.	2.	0.	2155.	41335.	0.	0.	0.	0.	123153.
MAX KW	112.692	0.000	119.258	0.000	0.724	0.000	2.897	55.558	0.000	0.000	0.000	0.000	290.405
DAY/HR	1/ 8	0/ 0	2/21	0/ 0	11/20	0/ 0	1/ 1	1/ 1	0/ 0	0/ 0	0/ 0	0/ 0	2/21
PEAK ENDUSE	112.692	0.000	119.258	0.000	0.000	0.000	2.897	55.558	0.000	0.000	0.000	0.000	
PEAK PCT	38.8	0.0	41.1	0.0	0.0	0.0	1.0	19.1	0.0	0.0	0.0	0.0	
FEB													
KWH	39722.	0.	32220.	0.	27.	0.	1947.	37335.	0.	0.	0.	0.	111250.
MAX KW	112.692	0.000	119.258	0.000	1.362	0.000	2.897	55.558	0.000	0.000	0.000	0.000	290.405
DAY/HR	1/ 8	0/ 0	1/21	0/ 0	26/16	0/ 0	1/ 1	1/ 1	0/ 0	0/ 0	0/ 0	0/ 0	1/21
PEAK ENDUSE	112.692	0.000	119.258	0.000	0.000	0.000	2.897	55.558	0.000	0.000	0.000	0.000	
PEAK PCT	38.8	0.0	41.1	0.0	0.0	0.0	1.0	19.1	0.0	0.0	0.0	0.0	
MAR													
KWH	43977.	0.	35709.	0.	148.	0.	2051.	41335.	0.	0.	0.	0.	123220.
MAX KW	112.692	0.000	119.258	0.000	2.751	0.000	2.897	55.558	0.000	0.000	0.000	0.000	290.405
DAY/HR	1/ 8	0/ 0	1/21	0/ 0	27/19	0/ 0	1/ 1	1/ 1	0/ 0	0/ 0	0/ 0	0/ 0	1/21
PEAK ENDUSE	112.692	0.000	119.258	0.000	0.000	0.000	2.897	55.558	0.000	0.000	0.000	0.000	
PEAK PCT	38.8	0.0	41.1	0.0	0.0	0.0	1.0	19.1	0.0	0.0	0.0	0.0	
APR													
KWH	42559.	0.	34554.	0.	513.	0.	1626.	40002.	0.	0.	0.	0.	119253.
MAX KW	112.692	0.000	119.258	0.000	9.604	0.000	2.897	55.558	0.000	0.000	0.000	0.000	293.047
DAY/HR	1/ 8	0/ 0	2/21	0/ 0	27/18	0/ 0	1/ 2	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	18/21
PEAK ENDUSE	112.692	0.000	119.258	0.000	5.539	0.000	0.000	55.558	0.000	0.000	0.000	0.000	
PEAK PCT	38.5	0.0	40.7	0.0	1.9	0.0	0.0	19.0	0.0	0.0	0.0	0.0	
MAY													
KWH	43977.	0.	35741.	0.	15698.	0.	383.	41335.	0.	0.	0.	0.	137134.
MAX KW	112.692	0.000	119.258	0.000	211.856	0.000	2.897	55.558	0.000	0.000	0.000	0.000	456.081
DAY/HR	1/ 8	0/ 0	1/21	0/ 0	29/17	0/ 0	1/ 2	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	29/21
PEAK ENDUSE	112.692	0.000	119.258	0.000	168.573	0.000	0.000	55.558	0.000	0.000	0.000	0.000	
PEAK PCT	24.7	0.0	26.1	0.0	37.0	0.0	0.0	12.2	0.0	0.0	0.0	0.0	
JUN													
KWH	42559.	0.	34548.	0.	46576.	0.	2.	40002.	0.	0.	0.	0.	163686.
MAX KW	112.692	0.000	119.258	0.000	251.956	0.000	0.854	55.558	0.000	0.000	0.000	0.000	490.851
DAY/HR	1/ 8	0/ 0	1/21	0/ 0	11/18	0/ 0	7/ 1	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	11/21
PEAK ENDUSE	112.692	0.000	119.258	0.000	203.342	0.000	0.000	55.558	0.000	0.000	0.000	0.000	
PEAK PCT	23.0	0.0	24.3	0.0	41.4	0.0	0.0	11.3	0.0	0.0	0.0	0.0	

JUL													
KWH	43977.	0.	35671.	0.	83801.	0.	0.	41335.	0.	0.	0.	0.	204784.
MAX KW	112.692	0.000	119.258	0.000	269.373	0.000	0.000	55.558	0.000	0.000	0.000	0.000	499.398
DAY/HR	1/ 8	0/ 0	2/21	0/ 0	20/17	0/ 0	0/ 0	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	6/21
PEAK ENDUSE	112.692	0.000	119.258	0.000	211.890	0.000	0.000	55.558	0.000	0.000	0.000	0.000	
PEAK PCT	22.6	0.0	23.9	0.0	42.4	0.0	0.0	11.1	0.0	0.0	0.0	0.0	
AUG													
KWH	43977.	0.	35798.	0.	68721.	0.	0.	41335.	0.	0.	0.	0.	189832.
MAX KW	112.692	0.000	119.258	0.000	236.701	0.000	0.000	55.558	0.000	0.000	0.000	0.000	472.812
DAY/HR	1/ 8	0/ 0	1/21	0/ 0	22/17	0/ 0	0/ 0	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	13/21
PEAK ENDUSE	112.692	0.000	119.258	0.000	185.304	0.000	0.000	55.558	0.000	0.000	0.000	0.000	
PEAK PCT	23.8	0.0	25.2	0.0	39.2	0.0	0.0	11.8	0.0	0.0	0.0	0.0	

REPORT- PS-E Energy End-Use Summary for all Electric Meters WEATHER FILE- Boston MA TMY2

(CONTINUED)

SEP													
KWH	42559.	0.	34420.	0.	28894.	0.	0.	40002.	0.	0.	0.	0.	145875.
MAX KW	112.692	0.000	119.258	0.000	230.099	0.000	0.000	55.558	0.000	0.000	0.000	0.000	443.071
DAY/HR	1/ 8	0/ 0	4/21	0/ 0	14/16	0/ 0	0/ 0	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	14/21
PEAK ENDUSE	112.692	0.000	119.258	0.000	155.562	0.000	0.000	55.558	0.000	0.000	0.000	0.000	
PEAK PCT	25.4	0.0	26.9	0.0	35.1	0.0	0.0	12.5	0.0	0.0	0.0	0.0	
OCT													
KWH	43977.	0.	35741.	0.	1935.	0.	716.	41335.	0.	0.	0.	0.	123704.
MAX KW	112.692	0.000	119.258	0.000	35.964	0.000	2.897	55.558	0.000	0.000	0.000	0.000	299.145
DAY/HR	1/ 8	0/ 0	1/21	0/ 0	3/12	0/ 0	5/ 2	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	2/21
PEAK ENDUSE	112.692	0.000	119.258	0.000	11.637	0.000	0.000	55.558	0.000	0.000	0.000	0.000	
PEAK PCT	37.7	0.0	39.9	0.0	3.9	0.0	0.0	18.6	0.0	0.0	0.0	0.0	
NOV													
KWH	42559.	0.	34523.	0.	163.	0.	1941.	40002.	0.	0.	0.	0.	119187.
MAX KW	112.692	0.000	119.258	0.000	5.443	0.000	2.897	55.558	0.000	0.000	0.000	0.000	290.405
DAY/HR	1/ 8	0/ 0	1/21	0/ 0	9/14	0/ 0	1/ 2	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	2/21
PEAK ENDUSE	112.692	0.000	119.258	0.000	0.000	0.000	2.897	55.558	0.000	0.000	0.000	0.000	
PEAK PCT	38.8	0.0	41.1	0.0	0.0	0.0	1.0	19.1	0.0	0.0	0.0	0.0	
DEC													
KWH	43977.	0.	35594.	0.	57.	0.	2105.	41335.	0.	0.	0.	0.	123068.
MAX KW	112.692	0.000	119.258	0.000	1.680	0.000	2.897	55.558	0.000	0.000	0.000	0.000	290.405
DAY/HR	1/ 8	0/ 0	3/21	0/ 0	15/14	0/ 0	1/ 1	1/ 1	0/ 0	0/ 0	0/ 0	0/ 0	3/21
PEAK ENDUSE	112.692	0.000	119.258	0.000	0.000	0.000	2.897	55.558	0.000	0.000	0.000	0.000	
PEAK PCT	38.8	0.0	41.1	0.0	0.0	0.0	1.0	19.1	0.0	0.0	0.0	0.0	
	=======	=======	=======	=======	=======	=======	=======	=======	=======	=======	=======	=======	========
KWH	517799.	0.	420203.	0.	246535.	0.	12924.	486690.	0.	0.	0.	0.	1684147.
MAX KW	112.692	0.000	119.258	0.000	269.373	0.000	2.897	55.558	0.000	0.000	0.000	0.000	499.398
MON/DY	1/ 1	0/ 0	1/ 2	0/ 0	7/20	0/ 0	1/ 1	1/ 1	0/ 0	0/ 0	0/ 0	0/ 0	7/ 6
PEAK ENDUSE	112.692	0.000	119.258	0.000	211.890	0.000	0.000	55.558	0.000	0.000	0.000	0.000	
PEAK PCT	22.6	0.0	23.9	0.0	42.4	0.0	0.0	11.1	0.0	0.0	0.0	0.0	

REPORT- PS-E Energy End-Use Summary for all Fuel Meters WEATHER FILE- Boston MA TMY2

	LIGHTS	TASK LIGHTS	MISC EQUIP	SPACE HEATING	SPACE COOLING	HEAT REJECT	PUMPS & AUX	VENT FANS	REFRIG DISPLAY	HT PUMP SUPPLEM	DOMEST HOT WTR	EXT USAGE	TOTAL
JAN													
MBTU	0.	0.	0.	1350.	0.	0.	0.	0.	0.	0.	344.	0.	1696.
MAX MBTU/HR	0.0	0.0	0.0	3.1	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0	3.8
DAY/HR	0/ 0	0/ 0	0/ 0	31/ 7	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	31/ 8	0/ 0	31/ 8
PEAK ENDUSE	0.0	0.0	0.0	3.1	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0	
PEAK PCT	0.0	0.0	0.0	79.9	0.0	0.0	0.0	0.0	0.0	0.0	20.1	0.0	
FEB													
MBTU	0.	0.	0.	1080.	0.	0.	0.	0.	0.	0.	324.	0.	1402.
MAX MBTU/HR	0.0	0.0	0.0	3.1	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0	3.7
DAY/HR	0/ 0	0/ 0	0/ 0	2/ 7	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	17/ 8	0/ 0	2/ 8
PEAK ENDUSE	0.0	0.0	0.0	2.9	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0	
PEAK PCT	0.0	0.0	0.0	78.3	0.0	0.0	0.0	0.0	0.0	0.0	21.7	0.0	
MAR													
MBTU	0.	0.	0.	878.	0.	0.	0.	0.	0.	0.	357.	0.	1235.
MAX MBTU/HR	0.0	0.0	0.0	2.8	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0	3.3
DAY/HR	0/ 0	0/ 0	0/ 0	18/ 5	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	17/ 8	0/ 0	18/ 8
PEAK ENDUSE	0.0	0.0	0.0	2.4	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0	
PEAK PCT	0.0	0.0	0.0	75.3	0.0	0.0	0.0	0.0	0.0	0.0	24.7	0.0	
APR													
MBTU	0.	0.	0.	402.	0.	0.	0.	0.	0.	0.	334.	0.	737.
MAX MBTU/HR	0.0	0.0	0.0	2.1	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0	2.5
DAY/HR	0/ 0	0/ 0	0/ 0	5/ 6	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	1/ 8	0/ 0	5/ 7
PEAK ENDUSE	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	
PEAK PCT	0.0	0.0	0.0	80.0	0.0	0.0	0.0	0.0	0.0	0.0	20.0	0.0	
MAY													
MBTU	0.	0.	0.	55.	0.	0.	0.	0.	0.	0.	309.	0.	364.
MAX MBTU/HR	0.0	0.0	0.0	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	1.5
DAY/HR	0/ 0	0/ 0	0/ 0	1/ 6	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	1/ 8	0/ 0	1/ 7
PEAK ENDUSE	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	
PEAK PCT	0.0	0.0	0.0	68.8	0.0	0.0	0.0	0.0	0.0	0.0	31.2	0.0	
JUN													
MBTU	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	267.	0.	267.
MAX MBTU/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.6
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	6/18	0/ 0	6/18
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	

JUL													
MBTU	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	248.	0.	248.
MAX MBTU/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.6
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	4/19	0/ 0	4/19
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	
AUG													
MBTU	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	233.	0.	233.
MAX MBTU/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.5
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	15/ 8	0/ 0	15/ 8
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	

REPORT- PS-E Energy End-Use Summary for all Fuel Meters WEATHER FILE- Boston MA TMY2

(CONTINUED)

SEP													
MBTU	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	227.	0.	227.
MAX MBTU/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.5
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	29/ 8	0/ 0	29/ 8
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	
OCT													
MBTU	0.	0.	0.	103.	0.	0.	0.	0.	0.	0.	253.	0.	356.
MAX MBTU/HR	0.0	0.0	0.0	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	1.6
DAY/HR	0/ 0	0/ 0	0/ 0	13/ 6	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	27/ 8	0/ 0	13/ 8
PEAK ENDUSE	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	
PEAK PCT	0.0	0.0	0.0	65.1	0.0	0.0	0.0	0.0	0.0	0.0	34.9	0.0	
NOV													
MBTU	0.	0.	0.	697.	0.	0.	0.	0.	0.	0.	274.	0.	971.
MAX MBTU/HR	0.0	0.0	0.0	2.7	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	3.2
DAY/HR	0/ 0	0/ 0	0/ 0	20/ 7	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	20/ 8	0/ 0	20/ 8
PEAK ENDUSE	0.0	0.0	0.0	2.6	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	
PEAK PCT	0.0	0.0	0.0	80.3	0.0	0.0	0.0	0.0	0.0	0.0	19.7	0.0	
DEC													
MBTU	0.	0.	0.	1130.	0.	0.	0.	0.	0.	0.	316.	0.	1447.
MAX MBTU/HR	0.0	0.0	0.0	3.9	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	4.3
DAY/HR	0/ 0	0/ 0	0/ 0	24/ 7	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	24/ 8	0/ 0	24/ 7
PEAK ENDUSE	0.0	0.0	0.0	3.9	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	
PEAK PCT	0.0	0.0	0.0	89.2	0.0	0.0	0.0	0.0	0.0	0.0	10.8	0.0	
	=======	=======	=======	=======	=======	=======	=======	=======	=======	=======	=======	=======	========
MBTU	0.	0.	0.	5700.	0.	0.	0.	0.	0.	0.	3490.	0.	9183.
MAX MBTU/HR	0.0	0.0	0.0	3.9	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0	4.3
MON/DY	0/ 0	0/ 0	0/ 0	12/24	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	2/17	0/ 0	12/24
PEAK ENDUSE	0.0	0.0	0.0	3.9	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	
PEAK PCT	0.0	0.0	0.0	89.2	0.0	0.0	0.0	0.0	0.0	0.0	10.8	0.0	

REPORT- PS-F Energy End-Use Summary for BA WEATHER FILE- Boston MA TMY2

	LIGHTS	TASK LIGHTS	MISC EQUIP	SPACE HEATING	SPACE COOLING	HEAT REJECT	PUMPS & AUX	VENT FANS	REFRIG DISPLAY	HT PUMP SUPPLEM	DOMEST HOT WTR	EXT USAGE	TOTAL
JAN													
KWH	22387.	0.	17761.	0.	0.	0.	937.	17286.	0.	0.	0.	0.	58372.
MAX KW	56.744	0.000	59.308	0.000	0.000	0.000	1.259	23.234	0.000	0.000	0.000	0.000	140.545
DAY/HR	1/ 8	0/ 0	2/21	0/ 0	0/ 0	0/ 0	1/ 1	1/ 1	0/ 0	0/ 0	0/ 0	0/ 0	2/21
PEAK ENDUSE	56.744	0.000	59.308	0.000	0.000	0.000	1.259	23.234	0.000	0.000	0.000	0.000	
PEAK PCT	40.4	0.0	42.2	0.0	0.0	0.0	0.9	16.5	0.0	0.0	0.0	0.0	
FEB													
KWH	20221.	0.	16037.	0.	0.	0.	846.	15613.	0.	0.	0.	0.	52718.
MAX KW	56.744	0.000	59.308	0.000	0.000	0.000	1.259	23.234	0.000	0.000	0.000	0.000	140.545
DAY/HR	1/ 8	0/ 0	1/21	0/ 0	0/ 0	0/ 0	1/ 1	1/ 1	0/ 0	0/ 0	0/ 0	0/ 0	1/21
PEAK ENDUSE	56.744	0.000	59.308	0.000	0.000	0.000	1.259	23.234	0.000	0.000	0.000	0.000	
PEAK PCT	40.4	0.0	42.2	0.0	0.0	0.0	0.9	16.5	0.0	0.0	0.0	0.0	
MAR													
KWH	22387.	0.	17774.	0.	0.	0.	921.	17286.	0.	0.	0.	0.	58369.
MAX KW	56.744	0.000	59.308	0.000	0.000	0.000	1.259	23.234	0.000	0.000	0.000	0.000	140.545
DAY/HR	1/ 8	0/ 0	1/21	0/ 0	0/ 0	0/ 0	1/ 1	1/ 1	0/ 0	0/ 0	0/ 0	0/ 0	1/21
PEAK ENDUSE	56.744	0.000	59.308	0.000	0.000	0.000	1.259	23.234	0.000	0.000	0.000	0.000	
PEAK PCT	40.4	0.0	42.2	0.0	0.0	0.0	0.9	16.5	0.0	0.0	0.0	0.0	
APR													
KWH	21665.	0.	17199.	0.	36.	0.	780.	16728.	0.	0.	0.	0.	56408.
MAX KW	56.744	0.000	59.308	0.000	2.210	0.000	1.259	23.234	0.000	0.000	0.000	0.000	140.798
DAY/HR	1/ 8	0/ 0	2/21	0/ 0	18/14	0/ 0	1/ 2	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	18/21
PEAK ENDUSE	56.744	0.000	59.308	0.000	1.512	0.000	0.000	23.234	0.000	0.000	0.000	0.000	
PEAK PCT	40.3	0.0	42.1	0.0	1.1	0.0	0.0	16.5	0.0	0.0	0.0	0.0	
MAY													
KWH	22387.	0.	17790.	0.	3862.	0.	216.	17286.	0.	0.	0.	0.	61541.
MAX KW	56.744	0.000	59.308	0.000	79.722	0.000	1.259	23.234	0.000	0.000	0.000	0.000	206.793
DAY/HR	1/ 8	0/ 0	1/21	0/ 0	29/16	0/ 0	1/ 2	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	29/21
PEAK ENDUSE	56.744	0.000	59.308	0.000	67.507	0.000	0.000	23.234	0.000	0.000	0.000	0.000	
PEAK PCT	27.4	0.0	28.7	0.0	32.6	0.0	0.0	11.2	0.0	0.0	0.0	0.0	
JUN													
KWH	21665.	0.	17196.	0.	16074.	0.	2.	16728.	0.	0.	0.	0.	71666.
MAX KW	56.744	0.000	59.308	0.000	103.247	0.000	0.854	23.234	0.000	0.000	0.000	0.000	227.602
DAY/HR	1/ 8	0/ 0	1/21	0/ 0	3/15	0/ 0	7/ 1	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	11/21
PEAK ENDUSE	56.744	0.000	59.308	0.000	88.317	0.000	0.000	23.234	0.000	0.000	0.000	0.000	
PEAK PCT	24.9	0.0	26.1	0.0	38.8	0.0	0.0	10.2	0.0	0.0	0.0	0.0	

JUL													
KWH	22387.	0.	17755.	0.	34049.	0.	0.	17286.	0.	0.	0.	0.	91478.
MAX KW	56.744	0.000	59.308	0.000	112.253	0.000	0.000	23.234	0.000	0.000	0.000	0.000	232.572
DAY/HR	1/ 8	0/ 0	2/21	0/ 0	20/17	0/ 0	0/ 0	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	19/21
PEAK ENDUSE	56.744	0.000	59.308	0.000	93.286	0.000	0.000	23.234	0.000	0.000	0.000	0.000	
PEAK PCT	24.4	0.0	25.5	0.0	40.1	0.0	0.0	10.0	0.0	0.0	0.0	0.0	
AUG													
KWH	22387.	0.	17819.	0.	27159.	0.	0.	17286.	0.	0.	0.	0.	84651.
MAX KW	56.744	0.000	59.308	0.000	101.485	0.000	0.000	23.234	0.000	0.000	0.000	0.000	221.321
DAY/HR	1/ 8	0/ 0	1/21	0/ 0	28/14	0/ 0	0/ 0	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	13/21
PEAK ENDUSE	56.744	0.000	59.308	0.000	82.035	0.000	0.000	23.234	0.000	0.000	0.000	0.000	
PEAK PCT	25.6	0.0	26.8	0.0	37.1	0.0	0.0	10.5	0.0	0.0	0.0	0.0	

REPORT- PS-F Energy End-Use Summary for BA WEATHER FILE- Boston MA TMY2
(CONTINUED)

SEP													
KWH	21665.	0.	17132.	0.	9840.	0.	0.	16728.	0.	0.	0.	0.	65366.
MAX KW	56.744	0.000	59.308	0.000	96.416	0.000	0.000	23.234	0.000	0.000	0.000	0.000	207.449
DAY/HR	1/ 8	0/ 0	4/21	0/ 0	14/16	0/ 0	0/ 0	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	14/21
PEAK ENDUSE	56.744	0.000	59.308	0.000	68.163	0.000	0.000	23.234	0.000	0.000	0.000	0.000	
PEAK PCT	27.4	0.0	28.6	0.0	32.9	0.0	0.0	11.2	0.0	0.0	0.0	0.0	
OCT													
KWH	22387.	0.	17790.	0.	222.	0.	362.	17286.	0.	0.	0.	0.	58048.
MAX KW	56.744	0.000	59.308	0.000	2.866	0.000	1.259	23.234	0.000	0.000	0.000	0.000	141.171
DAY/HR	1/ 8	0/ 0	1/21	0/ 0	6/16	0/ 0	4/24	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	2/21
PEAK ENDUSE	56.744	0.000	59.308	0.000	1.886	0.000	0.000	23.234	0.000	0.000	0.000	0.000	
PEAK PCT	40.2	0.0	42.0	0.0	1.3	0.0	0.0	16.5	0.0	0.0	0.0	0.0	
NOV													
KWH	21665.	0.	17183.	0.	9.	0.	847.	16728.	0.	0.	0.	0.	56433.
MAX KW	56.744	0.000	59.308	0.000	1.752	0.000	1.259	23.234	0.000	0.000	0.000	0.000	140.545
DAY/HR	1/ 8	0/ 0	1/21	0/ 0	9/14	0/ 0	1/ 2	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	2/21
PEAK ENDUSE	56.744	0.000	59.308	0.000	0.000	0.000	1.259	23.234	0.000	0.000	0.000	0.000	
PEAK PCT	40.4	0.0	42.2	0.0	0.0	0.0	0.9	16.5	0.0	0.0	0.0	0.0	
DEC													
KWH	22387.	0.	17716.	0.	0.	0.	916.	17286.	0.	0.	0.	0.	58305.
MAX KW	56.744	0.000	59.308	0.000	0.000	0.000	1.259	23.234	0.000	0.000	0.000	0.000	140.545
DAY/HR	1/ 8	0/ 0	3/21	0/ 0	0/ 0	0/ 0	1/ 1	1/ 1	0/ 0	0/ 0	0/ 0	0/ 0	3/21
PEAK ENDUSE	56.744	0.000	59.308	0.000	0.000	0.000	1.259	23.234	0.000	0.000	0.000	0.000	
PEAK PCT	40.4	0.0	42.2	0.0	0.0	0.0	0.9	16.5	0.0	0.0	0.0	0.0	
	=======	=======	=======	=======	=======	=======	=======	=======	=======	=======	=======	=======	========
KWH	263594.	0.	209155.	0.	91252.	0.	5826.	203527.	0.	0.	0.	0.	773355.
MAX KW	56.744	0.000	59.308	0.000	112.253	0.000	1.259	23.234	0.000	0.000	0.000	0.000	232.572
MON/DY	1/ 1	0/ 0	1/ 2	0/ 0	7/20	0/ 0	1/ 1	1/ 1	0/ 0	0/ 0	0/ 0	0/ 0	7/19
PEAK ENDUSE	56.744	0.000	59.308	0.000	93.286	0.000	0.000	23.234	0.000	0.000	0.000	0.000	
PEAK PCT	24.4	0.0	25.5	0.0	40.1	0.0	0.0	10.0	0.0	0.0	0.0	0.0	

YEARLY TRANSFORMER LOSSES = 0.0 KWH

REPORT- PS-F Energy End-Use Summary for BB WEATHER FILE- Boston MA TMY2

	LIGHTS	TASK LIGHTS	MISC EQUIP	SPACE HEATING	SPACE COOLING	HEAT REJECT	PUMPS & AUX	VENT FANS	REFRIG DISPLAY	HT PUMP SUPPLEM	DOMEST HOT WTR	EXT USAGE	TOTAL
JAN													
KWH	6518.	0.	8555.	0.	0.	0.	618.	11364.	0.	0.	0.	0.	27056.
MAX KW	22.426	0.000	29.666	0.000	0.000	0.000	0.831	15.274	0.000	0.000	0.000	0.000	68.198
DAY/HR	1/ 8	0/ 0	2/21	0/ 0	0/ 0	0/ 0	1/ 1	1/ 1	0/ 0	0/ 0	0/ 0	0/ 0	2/21
PEAK ENDUSE	22.426	0.000	29.666	0.000	0.000	0.000	0.831	15.274	0.000	0.000	0.000	0.000	
PEAK PCT	32.9	0.0	43.5	0.0	0.0	0.0	1.2	22.4	0.0	0.0	0.0	0.0	
FEB													
KWH	5888.	0.	7725.	0.	0.	0.	559.	10264.	0.	0.	0.	0.	24435.
MAX KW	22.426	0.000	29.666	0.000	0.000	0.000	0.831	15.274	0.000	0.000	0.000	0.000	68.198
DAY/HR	1/ 8	0/ 0	1/21	0/ 0	0/ 0	0/ 0	1/ 1	1/ 1	0/ 0	0/ 0	0/ 0	0/ 0	1/21
PEAK ENDUSE	22.426	0.000	29.666	0.000	0.000	0.000	0.831	15.274	0.000	0.000	0.000	0.000	
PEAK PCT	32.9	0.0	43.5	0.0	0.0	0.0	1.2	22.4	0.0	0.0	0.0	0.0	
MAR													
KWH	6518.	0.	8562.	0.	0.	0.	574.	11364.	0.	0.	0.	0.	27018.
MAX KW	22.426	0.000	29.666	0.000	0.158	0.000	0.831	15.274	0.000	0.000	0.000	0.000	68.198
DAY/HR	1/ 8	0/ 0	1/21	0/ 0	27/15	0/ 0	1/ 1	1/ 1	0/ 0	0/ 0	0/ 0	0/ 0	1/21
PEAK ENDUSE	22.426	0.000	29.666	0.000	0.000	0.000	0.831	15.274	0.000	0.000	0.000	0.000	
PEAK PCT	32.9	0.0	43.5	0.0	0.0	0.0	1.2	22.4	0.0	0.0	0.0	0.0	
APR													
KWH	6308.	0.	8285.	0.	11.	0.	431.	10997.	0.	0.	0.	0.	26032.
MAX KW	22.426	0.000	29.666	0.000	2.790	0.000	0.831	15.274	0.000	0.000	0.000	0.000	68.198
DAY/HR	1/ 8	0/ 0	2/21	0/ 0	27/18	0/ 0	1/ 2	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	2/21
PEAK ENDUSE	22.426	0.000	29.666	0.000	0.000	0.000	0.831	15.274	0.000	0.000	0.000	0.000	
PEAK PCT	32.9	0.0	43.5	0.0	0.0	0.0	1.2	22.4	0.0	0.0	0.0	0.0	
MAY													
KWH	6518.	0.	8570.	0.	5149.	0.	90.	11364.	0.	0.	0.	0.	31692.
MAX KW	22.426	0.000	29.666	0.000	64.404	0.000	0.831	15.274	0.000	0.000	0.000	0.000	115.778
DAY/HR	1/ 8	0/ 0	1/21	0/ 0	29/17	0/ 0	1/ 2	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	29/21
PEAK ENDUSE	22.426	0.000	29.666	0.000	48.412	0.000	0.000	15.274	0.000	0.000	0.000	0.000	
PEAK PCT	19.4	0.0	25.6	0.0	41.8	0.0	0.0	13.2	0.0	0.0	0.0	0.0	
JUN													
KWH	6308.	0.	8284.	0.	14219.	0.	0.	10997.	0.	0.	0.	0.	39808.
MAX KW	22.426	0.000	29.666	0.000	72.182	0.000	0.000	15.274	0.000	0.000	0.000	0.000	122.674
DAY/HR	1/ 8	0/ 0	1/21	0/ 0	11/18	0/ 0	0/ 0	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	11/21
PEAK ENDUSE	22.426	0.000	29.666	0.000	55.307	0.000	0.000	15.274	0.000	0.000	0.000	0.000	
PEAK PCT	18.3	0.0	24.2	0.0	45.1	0.0	0.0	12.5	0.0	0.0	0.0	0.0	

JUL													
KWH	6518.	0.	8552.	0.	23670.	0.	0.	11364.	0.	0.	0.	0.	50104.
MAX KW	22.426	0.000	29.666	0.000	76.219	0.000	0.000	15.274	0.000	0.000	0.000	0.000	125.342
DAY/HR	1/ 8	0/ 0	2/21	0/ 0	20/17	0/ 0	0/ 0	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	6/21
PEAK ENDUSE	22.426	0.000	29.666	0.000	57.975	0.000	0.000	15.274	0.000	0.000	0.000	0.000	
PEAK PCT	17.9	0.0	23.7	0.0	46.3	0.0	0.0	12.2	0.0	0.0	0.0	0.0	
AUG													
KWH	6518.	0.	8585.	0.	19627.	0.	0.	11364.	0.	0.	0.	0.	46094.
MAX KW	22.426	0.000	29.666	0.000	67.899	0.000	0.000	15.274	0.000	0.000	0.000	0.000	117.000
DAY/HR	1/ 8	0/ 0	1/21	0/ 0	22/17	0/ 0	0/ 0	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	13/21
PEAK ENDUSE	22.426	0.000	29.666	0.000	49.634	0.000	0.000	15.274	0.000	0.000	0.000	0.000	
PEAK PCT	19.2	0.0	25.4	0.0	42.4	0.0	0.0	13.1	0.0	0.0	0.0	0.0	

REPORT- PS-F Energy End-Use Summary for BB WEATHER FILE- Boston MA TMY2
(CONTINUED)

SEP													
KWH	6308.	0.	8251.	0.	8582.	0.	0.	10997.	0.	0.	0.	0.	34138.
MAX KW	22.426	0.000	29.666	0.000	64.669	0.000	0.000	15.274	0.000	0.000	0.000	0.000	109.077
DAY/HR	1/ 8	0/ 0	4/21	0/ 0	14/16	0/ 0	0/ 0	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	14/21
PEAK ENDUSE	22.426	0.000	29.666	0.000	41.710	0.000	0.000	15.274	0.000	0.000	0.000	0.000	
PEAK PCT	20.6	0.0	27.2	0.0	38.2	0.0	0.0	14.0	0.0	0.0	0.0	0.0	
OCT													
KWH	6518.	0.	8570.	0.	358.	0.	194.	11364.	0.	0.	0.	0.	27004.
MAX KW	22.426	0.000	29.666	0.000	14.767	0.000	0.831	15.274	0.000	0.000	0.000	0.000	70.992
DAY/HR	1/ 8	0/ 0	1/21	0/ 0	3/12	0/ 0	4/24	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	2/21
PEAK ENDUSE	22.426	0.000	29.666	0.000	3.626	0.000	0.000	15.274	0.000	0.000	0.000	0.000	
PEAK PCT	31.6	0.0	41.8	0.0	5.1	0.0	0.0	21.5	0.0	0.0	0.0	0.0	
NOV													
KWH	6308.	0.	8277.	0.	0.	0.	557.	10997.	0.	0.	0.	0.	26139.
MAX KW	22.426	0.000	29.666	0.000	0.000	0.000	0.831	15.274	0.000	0.000	0.000	0.000	68.198
DAY/HR	1/ 8	0/ 0	1/21	0/ 0	0/ 0	0/ 0	1/ 2	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	2/21
PEAK ENDUSE	22.426	0.000	29.666	0.000	0.000	0.000	0.831	15.274	0.000	0.000	0.000	0.000	
PEAK PCT	32.9	0.0	43.5	0.0	0.0	0.0	1.2	22.4	0.0	0.0	0.0	0.0	
DEC													
KWH	6518.	0.	8532.	0.	0.	0.	605.	11364.	0.	0.	0.	0.	27019.
MAX KW	22.426	0.000	29.666	0.000	0.000	0.000	0.831	15.274	0.000	0.000	0.000	0.000	68.198
DAY/HR	1/ 8	0/ 0	3/21	0/ 0	0/ 0	0/ 0	1/ 1	1/ 1	0/ 0	0/ 0	0/ 0	0/ 0	3/21
PEAK ENDUSE	22.426	0.000	29.666	0.000	0.000	0.000	0.831	15.274	0.000	0.000	0.000	0.000	
PEAK PCT	32.9	0.0	43.5	0.0	0.0	0.0	1.2	22.4	0.0	0.0	0.0	0.0	
KWH	76749.	0.	100749.	0.	71616.	0.	3627.	133798.	0.	0.	0.	0.	386540.
MAX KW	22.426	0.000	29.666	0.000	76.219	0.000	0.831	15.274	0.000	0.000	0.000	0.000	125.342
MON/DY	1/ 1	0/ 0	1/ 2	0/ 0	7/20	0/ 0	1/ 1	1/ 1	0/ 0	0/ 0	0/ 0	0/ 0	7/ 6
PEAK ENDUSE	22.426	0.000	29.666	0.000	57.975	0.000	0.000	15.274	0.000	0.000	0.000	0.000	
PEAK PCT	17.9	0.0	23.7	0.0	46.3	0.0	0.0	12.2	0.0	0.0	0.0	0.0	

YEARLY TRANSFORMER LOSSES = 0.0 KWH

REPORT- PS-F Energy End-Use Summary for BC WEATHER FILE- Boston MA TMY2

	LIGHTS	TASK LIGHTS	MISC EQUIP	SPACE HEATING	SPACE COOLING	HEAT REJECT	PUMPS & AUX	VENT FANS	REFRIG DISPLAY	HT PUMP SUPPLEM	DOMEST HOT WTR	EXT USAGE	TOTAL
JAN													
KWH	5891.	0.	7879.	0.	0.	0.	600.	11015.	0.	0.	0.	0.	25385.
MAX KW	20.503	0.000	27.322	0.000	0.000	0.000	0.806	14.804	0.000	0.000	0.000	0.000	63.437
DAY/HR	1/ 8	0/ 0	2/21	0/ 0	0/ 0	0/ 0	1/ 1	1/ 1	0/ 0	0/ 0	0/ 0	0/ 0	2/21
PEAK ENDUSE	20.503	0.000	27.322	0.000	0.000	0.000	0.806	14.804	0.000	0.000	0.000	0.000	
PEAK PCT	32.3	0.0	43.1	0.0	0.0	0.0	1.3	23.3	0.0	0.0	0.0	0.0	
FEB													
KWH	5321.	0.	7114.	0.	0.	0.	542.	9949.	0.	0.	0.	0.	22926.
MAX KW	20.503	0.000	27.322	0.000	0.000	0.000	0.806	14.804	0.000	0.000	0.000	0.000	63.437
DAY/HR	1/ 8	0/ 0	1/21	0/ 0	0/ 0	0/ 0	1/ 1	1/ 1	0/ 0	0/ 0	0/ 0	0/ 0	1/21
PEAK ENDUSE	20.503	0.000	27.322	0.000	0.000	0.000	0.806	14.804	0.000	0.000	0.000	0.000	
PEAK PCT	32.3	0.0	43.1	0.0	0.0	0.0	1.3	23.3	0.0	0.0	0.0	0.0	
MAR													
KWH	5891.	0.	7886.	0.	0.	0.	556.	11015.	0.	0.	0.	0.	25347.
MAX KW	20.503	0.000	27.322	0.000	0.000	0.000	0.806	14.804	0.000	0.000	0.000	0.000	63.437
DAY/HR	1/ 8	0/ 0	1/21	0/ 0	0/ 0	0/ 0	1/ 1	1/ 1	0/ 0	0/ 0	0/ 0	0/ 0	1/21
PEAK ENDUSE	20.503	0.000	27.322	0.000	0.000	0.000	0.806	14.804	0.000	0.000	0.000	0.000	
PEAK PCT	32.3	0.0	43.1	0.0	0.0	0.0	1.3	23.3	0.0	0.0	0.0	0.0	
APR													
KWH	5701.	0.	7631.	0.	25.	0.	414.	10659.	0.	0.	0.	0.	24430.
MAX KW	20.503	0.000	27.322	0.000	2.127	0.000	0.806	14.804	0.000	0.000	0.000	0.000	64.363
DAY/HR	1/ 8	0/ 0	2/21	0/ 0	18/17	0/ 0	1/ 2	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	18/21
PEAK ENDUSE	20.503	0.000	27.322	0.000	1.733	0.000	0.000	14.804	0.000	0.000	0.000	0.000	
PEAK PCT	31.9	0.0	42.5	0.0	2.7	0.0	0.0	23.0	0.0	0.0	0.0	0.0	
MAY													
KWH	5891.	0.	7893.	0.	5227.	0.	77.	11015.	0.	0.	0.	0.	30103.
MAX KW	20.503	0.000	27.322	0.000	62.928	0.000	0.806	14.804	0.000	0.000	0.000	0.000	110.416
DAY/HR	1/ 8	0/ 0	1/21	0/ 0	29/17	0/ 0	1/ 2	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	29/21
PEAK ENDUSE	20.503	0.000	27.322	0.000	47.786	0.000	0.000	14.804	0.000	0.000	0.000	0.000	
PEAK PCT	18.6	0.0	24.7	0.0	43.3	0.0	0.0	13.4	0.0	0.0	0.0	0.0	
JUN													
KWH	5701.	0.	7629.	0.	14057.	0.	0.	10659.	0.	0.	0.	0.	38046.
MAX KW	20.503	0.000	27.322	0.000	70.693	0.000	0.000	14.804	0.000	0.000	0.000	0.000	116.911
DAY/HR	1/ 8	0/ 0	1/21	0/ 0	11/18	0/ 0	0/ 0	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	11/21
PEAK ENDUSE	20.503	0.000	27.322	0.000	54.281	0.000	0.000	14.804	0.000	0.000	0.000	0.000	
PEAK PCT	17.5	0.0	23.4	0.0	46.4	0.0	0.0	12.7	0.0	0.0	0.0	0.0	

JUL													
KWH	5891.	0.	7876.	0.	23226.	0.	0.	11015.	0.	0.	0.	0.	48008.
MAX KW	20.503	0.000	27.322	0.000	74.623	0.000	0.000	14.804	0.000	0.000	0.000	0.000	119.567
DAY/HR	1/ 8	0/ 0	2/21	0/ 0	20/17	0/ 0	0/ 0	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	6/21
PEAK ENDUSE	20.503	0.000	27.322	0.000	56.937	0.000	0.000	14.804	0.000	0.000	0.000	0.000	
PEAK PCT	17.1	0.0	22.9	0.0	47.6	0.0	0.0	12.4	0.0	0.0	0.0	0.0	
AUG													
KWH	5891.	0.	7907.	0.	19319.	0.	0.	11015.	0.	0.	0.	0.	44132.
MAX KW	20.503	0.000	27.322	0.000	66.431	0.000	0.000	14.804	0.000	0.000	0.000	0.000	111.129
DAY/HR	1/ 8	0/ 0	1/21	0/ 0	22/17	0/ 0	0/ 0	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	13/21
PEAK ENDUSE	20.503	0.000	27.322	0.000	48.499	0.000	0.000	14.804	0.000	0.000	0.000	0.000	
PEAK PCT	18.5	0.0	24.6	0.0	43.6	0.0	0.0	13.3	0.0	0.0	0.0	0.0	

REPORT- PS-F Energy End-Use Summary for BC WEATHER FILE- Boston MA TMY2
(CONTINUED)

SEP													
KWH	5701.	0.	7599.	0.	8622.	0.	0.	10659.	0.	0.	0.	0.	32581.
MAX KW	20.503	0.000	27.322	0.000	62.959	0.000	0.000	14.804	0.000	0.000	0.000	0.000	103.823
DAY/HR	1/ 8	0/ 0	4/21	0/ 0	14/16	0/ 0	0/ 0	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	14/21
PEAK ENDUSE	20.503	0.000	27.322	0.000	41.193	0.000	0.000	14.804	0.000	0.000	0.000	0.000	
PEAK PCT	19.7	0.0	26.3	0.0	39.7	0.0	0.0	14.3	0.0	0.0	0.0	0.0	
OCT													
KWH	5891.	0.	7893.	0.	437.	0.	160.	11015.	0.	0.	0.	0.	25396.
MAX KW	20.503	0.000	27.322	0.000	14.607	0.000	0.806	14.804	0.000	0.000	0.000	0.000	66.954
DAY/HR	1/ 8	0/ 0	1/21	0/ 0	3/12	0/ 0	5/ 2	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	2/21
PEAK ENDUSE	20.503	0.000	27.322	0.000	4.324	0.000	0.000	14.804	0.000	0.000	0.000	0.000	
PEAK PCT	30.6	0.0	40.8	0.0	6.5	0.0	0.0	22.1	0.0	0.0	0.0	0.0	
NOV													
KWH	5701.	0.	7623.	0.	0.	0.	537.	10659.	0.	0.	0.	0.	24521.
MAX KW	20.503	0.000	27.322	0.000	0.000	0.000	0.806	14.804	0.000	0.000	0.000	0.000	63.437
DAY/HR	1/ 8	0/ 0	1/21	0/ 0	0/ 0	0/ 0	1/ 2	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	2/21
PEAK ENDUSE	20.503	0.000	27.322	0.000	0.000	0.000	0.806	14.804	0.000	0.000	0.000	0.000	
PEAK PCT	32.3	0.0	43.1	0.0	0.0	0.0	1.3	23.3	0.0	0.0	0.0	0.0	
DEC													
KWH	5891.	0.	7858.	0.	0.	0.	584.	11015.	0.	0.	0.	0.	25348.
MAX KW	20.503	0.000	27.322	0.000	0.000	0.000	0.806	14.804	0.000	0.000	0.000	0.000	63.437
DAY/HR	1/ 8	0/ 0	3/21	0/ 0	0/ 0	0/ 0	1/ 1	1/ 1	0/ 0	0/ 0	0/ 0	0/ 0	3/21
PEAK ENDUSE	20.503	0.000	27.322	0.000	0.000	0.000	0.806	14.804	0.000	0.000	0.000	0.000	
PEAK PCT	32.3	0.0	43.1	0.0	0.0	0.0	1.3	23.3	0.0	0.0	0.0	0.0	
KWH	69364.	0.	92788.	0.	70913.	0.	3470.	129688.	0.	0.	0.	0.	366224.
MAX KW	20.503	0.000	27.322	0.000	74.623	0.000	0.806	14.804	0.000	0.000	0.000	0.000	119.567
MON/DY	1/ 1	0/ 0	1/ 2	0/ 0	7/20	0/ 0	1/ 1	1/ 1	0/ 0	0/ 0	0/ 0	0/ 0	7/ 6
PEAK ENDUSE	20.503	0.000	27.322	0.000	56.937	0.000	0.000	14.804	0.000	0.000	0.000	0.000	
PEAK PCT	17.1	0.0	22.9	0.0	47.6	0.0	0.0	12.4	0.0	0.0	0.0	0.0	

YEARLY TRANSFORMER LOSSES = 0.0 KWH

REPORT- PS-F Energy End-Use Summary for BD WEATHER FILE- Boston MA TMY2

	LIGHTS	TASK LIGHTS	MISC EQUIP	SPACE HEATING	SPACE COOLING	HEAT REJECT	PUMPS & AUX	VENT FANS	REFRIG DISPLAY	HT PUMP SUPPLEM	DOMEST HOT WTR	EXT USAGE	TOTAL
JAN													
KWH	9180.	0.	1487.	0.	2.	0.	0.	1671.	0.	0.	0.	0.	12341.
MAX KW	13.019	0.000	2.961	0.000	0.724	0.000	0.000	2.246	0.000	0.000	0.000	0.000	18.950
DAY/HR	1/ 7	0/ 0	1/ 7	0/ 0	11/20	0/ 0	0/ 0	1/ 1	0/ 0	0/ 0	0/ 0	0/ 0	11/20
PEAK ENDUSE	13.019	0.000	2.961	0.000	0.724	0.000	0.000	2.246	0.000	0.000	0.000	0.000	
PEAK PCT	68.7	0.0	15.6	0.0	3.8	0.0	0.0	11.9	0.0	0.0	0.0	0.0	
FEB													
KWH	8292.	0.	1343.	0.	27.	0.	0.	1509.	0.	0.	0.	0.	11171.
MAX KW	13.019	0.000	2.961	0.000	1.362	0.000	0.000	2.246	0.000	0.000	0.000	0.000	19.178
DAY/HR	1/ 7	0/ 0	1/ 7	0/ 0	26/16	0/ 0	0/ 0	1/ 1	0/ 0	0/ 0	0/ 0	0/ 0	26/19
PEAK ENDUSE	13.019	0.000	2.961	0.000	0.953	0.000	0.000	2.246	0.000	0.000	0.000	0.000	
PEAK PCT	67.9	0.0	15.4	0.0	5.0	0.0	0.0	11.7	0.0	0.0	0.0	0.0	
MAR													
KWH	9180.	0.	1487.	0.	148.	0.	0.	1671.	0.	0.	0.	0.	12486.
MAX KW	13.019	0.000	2.961	0.000	2.751	0.000	0.000	2.246	0.000	0.000	0.000	0.000	20.976
DAY/HR	1/ 7	0/ 0	1/ 7	0/ 0	27/19	0/ 0	0/ 0	1/ 1	0/ 0	0/ 0	0/ 0	0/ 0	27/19
PEAK ENDUSE	13.019	0.000	2.961	0.000	2.751	0.000	0.000	2.246	0.000	0.000	0.000	0.000	
PEAK PCT	62.1	0.0	14.1	0.0	13.1	0.0	0.0	10.7	0.0	0.0	0.0	0.0	
APR													
KWH	8884.	0.	1439.	0.	442.	0.	0.	1617.	0.	0.	0.	0.	12382.
MAX KW	13.019	0.000	2.961	0.000	4.847	0.000	0.000	2.246	0.000	0.000	0.000	0.000	22.746
DAY/HR	1/ 7	0/ 0	1/ 7	0/ 0	18/14	0/ 0	0/ 0	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	18/14
PEAK ENDUSE	13.019	0.000	2.634	0.000	4.847	0.000	0.000	2.246	0.000	0.000	0.000	0.000	
PEAK PCT	57.2	0.0	11.6	0.0	21.3	0.0	0.0	9.9	0.0	0.0	0.0	0.0	
MAY													
KWH	9180.	0.	1487.	0.	1460.	0.	0.	1671.	0.	0.	0.	0.	13799.
MAX KW	13.019	0.000	2.961	0.000	6.008	0.000	0.000	2.246	0.000	0.000	0.000	0.000	23.831
DAY/HR	1/ 7	0/ 0	1/ 7	0/ 0	29/16	0/ 0	0/ 0	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	29/14
PEAK ENDUSE	13.019	0.000	2.634	0.000	5.932	0.000	0.000	2.246	0.000	0.000	0.000	0.000	
PEAK PCT	54.6	0.0	11.1	0.0	24.9	0.0	0.0	9.4	0.0	0.0	0.0	0.0	
JUN													
KWH	8884.	0.	1439.	0.	2225.	0.	0.	1617.	0.	0.	0.	0.	14165.
MAX KW	13.019	0.000	2.961	0.000	6.144	0.000	0.000	2.246	0.000	0.000	0.000	0.000	24.240
DAY/HR	1/ 7	0/ 0	1/ 7	0/ 0	11/14	0/ 0	0/ 0	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	11/19
PEAK ENDUSE	13.019	0.000	2.961	0.000	6.015	0.000	0.000	2.246	0.000	0.000	0.000	0.000	
PEAK PCT	53.7	0.0	12.2	0.0	24.8	0.0	0.0	9.3	0.0	0.0	0.0	0.0	

JUL													
KWH	9180.	0.	1487.	0.	2856.	0.	0.	1671.	0.	0.	0.	0.	15194.
MAX KW	13.019	0.000	2.961	0.000	6.296	0.000	0.000	2.246	0.000	0.000	0.000	0.000	24.361
DAY/HR	1/ 7	0/ 0	1/ 7	0/ 0	6/18	0/ 0	0/ 0	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	6/19
PEAK ENDUSE	13.019	0.000	2.961	0.000	6.135	0.000	0.000	2.246	0.000	0.000	0.000	0.000	
PEAK PCT	53.4	0.0	12.2	0.0	25.2	0.0	0.0	9.2	0.0	0.0	0.0	0.0	
AUG													
KWH	9180.	0.	1487.	0.	2616.	0.	0.	1671.	0.	0.	0.	0.	14955.
MAX KW	13.019	0.000	2.961	0.000	6.082	0.000	0.000	2.246	0.000	0.000	0.000	0.000	24.101
DAY/HR	1/ 7	0/ 0	1/ 7	0/ 0	22/14	0/ 0	0/ 0	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	25/20
PEAK ENDUSE	13.019	0.000	2.961	0.000	5.875	0.000	0.000	2.246	0.000	0.000	0.000	0.000	
PEAK PCT	54.0	0.0	12.3	0.0	24.4	0.0	0.0	9.3	0.0	0.0	0.0	0.0	

REPORT- PS-F Energy End-Use Summary for BD WEATHER FILE- Boston MA TMY2

(CONTINUED)

SEP													
KWH	8884.	0.	1439.	0.	1850.	0.	0.	1617.	0.	0.	0.	0.	13790.
MAX KW	13.019	0.000	2.961	0.000	6.056	0.000	0.000	2.246	0.000	0.000	0.000	0.000	23.906
DAY/HR	1/ 7	0/ 0	1/ 7	0/ 0	14/16	0/ 0	0/ 0	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	14/14
PEAK ENDUSE	13.019	0.000	2.634	0.000	6.007	0.000	0.000	2.246	0.000	0.000	0.000	0.000	
PEAK PCT	54.5	0.0	11.0	0.0	25.1	0.0	0.0	9.4	0.0	0.0	0.0	0.0	
OCT													
KWH	9180.	0.	1487.	0.	917.	0.	0.	1671.	0.	0.	0.	0.	13256.
MAX KW	13.019	0.000	2.961	0.000	4.302	0.000	0.000	2.246	0.000	0.000	0.000	0.000	21.993
DAY/HR	1/ 7	0/ 0	1/ 7	0/ 0	3/12	0/ 0	0/ 0	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	3/14
PEAK ENDUSE	13.019	0.000	2.634	0.000	4.094	0.000	0.000	2.246	0.000	0.000	0.000	0.000	
PEAK PCT	59.2	0.0	12.0	0.0	18.6	0.0	0.0	10.2	0.0	0.0	0.0	0.0	
NOV													
KWH	8884.	0.	1439.	0.	153.	0.	0.	1617.	0.	0.	0.	0.	12094.
MAX KW	13.019	0.000	2.961	0.000	3.691	0.000	0.000	2.246	0.000	0.000	0.000	0.000	21.590
DAY/HR	1/ 7	0/ 0	1/ 7	0/ 0	9/14	0/ 0	0/ 0	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	9/14
PEAK ENDUSE	13.019	0.000	2.634	0.000	3.691	0.000	0.000	2.246	0.000	0.000	0.000	0.000	
PEAK PCT	60.3	0.0	12.2	0.0	17.1	0.0	0.0	10.4	0.0	0.0	0.0	0.0	
DEC													
KWH	9180.	0.	1487.	0.	57.	0.	0.	1671.	0.	0.	0.	0.	12395.
MAX KW	13.019	0.000	2.961	0.000	1.680	0.000	0.000	2.246	0.000	0.000	0.000	0.000	19.722
DAY/HR	1/ 7	0/ 0	1/ 7	0/ 0	15/14	0/ 0	0/ 0	1/ 1	0/ 0	0/ 0	0/ 0	0/ 0	6/20
PEAK ENDUSE	13.019	0.000	2.961	0.000	1.496	0.000	0.000	2.246	0.000	0.000	0.000	0.000	
PEAK PCT	66.0	0.0	15.0	0.0	7.6	0.0	0.0	11.4	0.0	0.0	0.0	0.0	
KWH	108093.	0.	17510.	0.	12754.	0.	0.	19672.	0.	0.	0.	0.	158028.
MAX KW	13.019	0.000	2.961	0.000	6.296	0.000	0.000	2.246	0.000	0.000	0.000	0.000	24.361
MON/DY	1/ 1	0/ 0	1/ 1	0/ 0	7/ 6	0/ 0	0/ 0	1/ 1	0/ 0	0/ 0	0/ 0	0/ 0	7/ 6
PEAK ENDUSE	13.019	0.000	2.961	0.000	6.135	0.000	0.000	2.246	0.000	0.000	0.000	0.000	
PEAK PCT	53.4	0.0	12.2	0.0	25.2	0.0	0.0	9.2	0.0	0.0	0.0	0.0	

YEARLY TRANSFORMER LOSSES = 0.0 KWH

REPORT- PS-F Energy End-Use Summary for EM1 WEATHER FILE- Boston MA TMY2

	LIGHTS	TASK LIGHTS	MISC EQUIP	SPACE HEATING	SPACE COOLING	HEAT REJECT	PUMPS & AUX	VENT FANS	REFRIG DISPLAY	HT PUMP SUPPLEM	DOMEST HOT WTR	EXT USAGE	TOTAL
JAN													
KWH	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
MAX KW	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0
PEAK ENDUSE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
FEB													
KWH	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
MAX KW	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0
PEAK ENDUSE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
MAR													
KWH	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
MAX KW	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0
PEAK ENDUSE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
APR													
KWH	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
MAX KW	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0
PEAK ENDUSE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
MAY													
KWH	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
MAX KW	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0
PEAK ENDUSE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
JUN													
KWH	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
MAX KW	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0
PEAK ENDUSE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

JUL													
KWH	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
MAX KW	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0
PEAK ENDUSE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

AUG													
KWH	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
MAX KW	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0
PEAK ENDUSE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

REPORT- PS-F Energy End-Use Summary for EM1 WEATHER FILE- Boston MA TMY2
(CONTINUED)

SEP													
KWH	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
MAX KW	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0
PEAK ENDUSE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
OCT													
KWH	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
MAX KW	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0
PEAK ENDUSE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
NOV													
KWH	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
MAX KW	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0
PEAK ENDUSE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
DEC													
KWH	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
MAX KW	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0
PEAK ENDUSE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	=======	=======	=======	=======	=======	=======	=======	=======	=======	=======	=======	=======	========
KWH	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
MAX KW	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
MON/DY	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0
PEAK ENDUSE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

YEARLY TRANSFORMER LOSSES = 0.0 KWH

REPORT- PS-F Energy End-Use Summary for FBA WEATHER FILE- Boston MA TMY2

	LIGHTS	TASK LIGHTS	MISC EQUIP	SPACE HEATING	SPACE COOLING	HEAT REJECT	PUMPS & AUX	VENT FANS	REFRIG DISPLAY	HT PUMP SUPPLEM	DOMEST HOT WTR	EXT USAGE	TOTAL
JAN													
THERM	0.	0.	0.	6640.	0.	0.	0.	0.	0.	0.	2444.	0.	9084.
MAX THERM/HR	0.0	0.0	0.0	14.9	0.0	0.0	0.0	0.0	0.0	0.0	5.5	0.0	20.4
DAY/HR	0/ 0	0/ 0	0/ 0	31/ 8	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	31/ 8	0/ 0	31/ 8
PEAK ENDUSE	0.0	0.0	0.0	14.9	0.0	0.0	0.0	0.0	0.0	0.0	5.5	0.0	
PEAK PCT	0.0	0.0	0.0	73.2	0.0	0.0	0.0	0.0	0.0	0.0	26.8	0.0	
FEB													
THERM	0.	0.	0.	5413.	0.	0.	0.	0.	0.	0.	2278.	0.	7692.
MAX THERM/HR	0.0	0.0	0.0	15.1	0.0	0.0	0.0	0.0	0.0	0.0	5.7	0.0	20.1
DAY/HR	0/ 0	0/ 0	0/ 0	2/ 7	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	17/ 8	0/ 0	2/ 8
PEAK ENDUSE	0.0	0.0	0.0	14.4	0.0	0.0	0.0	0.0	0.0	0.0	5.7	0.0	
PEAK PCT	0.0	0.0	0.0	71.8	0.0	0.0	0.0	0.0	0.0	0.0	28.2	0.0	
MAR													
THERM	0.	0.	0.	4598.	0.	0.	0.	0.	0.	0.	2511.	0.	7109.
MAX THERM/HR	0.0	0.0	0.0	13.6	0.0	0.0	0.0	0.0	0.0	0.0	5.7	0.0	17.8
DAY/HR	0/ 0	0/ 0	0/ 0	18/ 5	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	17/ 8	0/ 0	18/ 8
PEAK ENDUSE	0.0	0.0	0.0	12.1	0.0	0.0	0.0	0.0	0.0	0.0	5.7	0.0	
PEAK PCT	0.0	0.0	0.0	68.2	0.0	0.0	0.0	0.0	0.0	0.0	31.8	0.0	
APR													
THERM	0.	0.	0.	2359.	0.	0.	0.	0.	0.	0.	2361.	0.	4720.
MAX THERM/HR	0.0	0.0	0.0	10.4	0.0	0.0	0.0	0.0	0.0	0.0	5.5	0.0	14.7
DAY/HR	0/ 0	0/ 0	0/ 0	5/ 6	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	1/ 8	0/ 0	5/ 8
PEAK ENDUSE	0.0	0.0	0.0	9.2	0.0	0.0	0.0	0.0	0.0	0.0	5.5	0.0	
PEAK PCT	0.0	0.0	0.0	62.4	0.0	0.0	0.0	0.0	0.0	0.0	37.6	0.0	
MAY													
THERM	0.	0.	0.	380.	0.	0.	0.	0.	0.	0.	2233.	0.	2614.
MAX THERM/HR	0.0	0.0	0.0	6.5	0.0	0.0	0.0	0.0	0.0	0.0	5.1	0.0	9.4
DAY/HR	0/ 0	0/ 0	0/ 0	1/ 6	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	1/ 8	0/ 0	1/ 8
PEAK ENDUSE	0.0	0.0	0.0	4.4	0.0	0.0	0.0	0.0	0.0	0.0	5.1	0.0	
PEAK PCT	0.0	0.0	0.0	46.3	0.0	0.0	0.0	0.0	0.0	0.0	53.7	0.0	
JUN													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1980.	0.	1980.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.6	0.0	4.6
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	6/18	0/ 0	6/18
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.6	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	

JUL													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1887.	0.	1887.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.2	0.0	4.2
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	4/19	0/ 0	4/19
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.2	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	
AUG													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1806.	0.	1806.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0	0.0	4.0
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	15/ 8	0/ 0	15/ 8
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	

REPORT- PS-F Energy End-Use Summary for FBA WEATHER FILE- Boston MA TMY2
(CONTINUED)

SEP													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1761.	0.	1761.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.1	0.0	4.1
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	29/ 8	0/ 0	29/ 8
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.1	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	
OCT													
THERM	0.	0.	0.	609.	0.	0.	0.	0.	0.	0.	1927.	0.	2536.
MAX THERM/HR	0.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0	0.0	0.0	4.3	0.0	9.4
DAY/HR	0/ 0	0/ 0	0/ 0	13/ 6	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	27/ 8	0/ 0	13/ 8
PEAK ENDUSE	0.0	0.0	0.0	5.2	0.0	0.0	0.0	0.0	0.0	0.0	4.3	0.0	
PEAK PCT	0.0	0.0	0.0	54.6	0.0	0.0	0.0	0.0	0.0	0.0	45.4	0.0	
NOV													
THERM	0.	0.	0.	3478.	0.	0.	0.	0.	0.	0.	2035.	0.	5512.
MAX THERM/HR	0.0	0.0	0.0	13.1	0.0	0.0	0.0	0.0	0.0	0.0	4.7	0.0	17.3
DAY/HR	0/ 0	0/ 0	0/ 0	20/ 7	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	20/ 8	0/ 0	20/ 8
PEAK ENDUSE	0.0	0.0	0.0	12.6	0.0	0.0	0.0	0.0	0.0	0.0	4.7	0.0	
PEAK PCT	0.0	0.0	0.0	72.8	0.0	0.0	0.0	0.0	0.0	0.0	27.2	0.0	
DEC													
THERM	0.	0.	0.	5555.	0.	0.	0.	0.	0.	0.	2285.	0.	7840.
MAX THERM/HR	0.0	0.0	0.0	20.0	0.0	0.0	0.0	0.0	0.0	0.0	5.1	0.0	23.4
DAY/HR	0/ 0	0/ 0	0/ 0	24/ 7	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	24/ 8	0/ 0	24/ 7
PEAK ENDUSE	0.0	0.0	0.0	20.0	0.0	0.0	0.0	0.0	0.0	0.0	3.4	0.0	
PEAK PCT	0.0	0.0	0.0	85.5	0.0	0.0	0.0	0.0	0.0	0.0	14.5	0.0	
	=======	=======	=======	=======	=======	=======	=======	=======	=======	=======	=======	=======	========
THERM	0.	0.	0.	29032.	0.	0.	0.	0.	0.	0.	25508.	0.	54541.
MAX THERM/HR	0.0	0.0	0.0	20.0	0.0	0.0	0.0	0.0	0.0	0.0	5.7	0.0	23.4
MON/DY	0/ 0	0/ 0	0/ 0	12/24	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	2/17	0/ 0	12/24
PEAK ENDUSE	0.0	0.0	0.0	20.0	0.0	0.0	0.0	0.0	0.0	0.0	3.4	0.0	
PEAK PCT	0.0	0.0	0.0	85.5	0.0	0.0	0.0	0.0	0.0	0.0	14.5	0.0	

REPORT- PS-F Energy End-Use Summary for FBB WEATHER FILE- Boston MA TMY2

	LIGHTS	TASK LIGHTS	MISC EQUIP	SPACE HEATING	SPACE COOLING	HEAT REJECT	PUMPS & AUX	VENT FANS	REFRIG DISPLAY	HT PUMP SUPPLEM	DOMEST HOT WTR	EXT USAGE	TOTAL
JAN													
THERM	0.	0.	0.	3506.	0.	0.	0.	0.	0.	0.	451.	0.	3957.
MAX THERM/HR	0.0	0.0	0.0	8.1	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	8.9
DAY/HR	0/ 0	0/ 0	0/ 0	31/ 7	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	31/ 8	0/ 0	31/ 8
PEAK ENDUSE	0.0	0.0	0.0	7.9	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	
PEAK PCT	0.0	0.0	0.0	88.7	0.0	0.0	0.0	0.0	0.0	0.0	11.3	0.0	
FEB													
THERM	0.	0.	0.	2741.	0.	0.	0.	0.	0.	0.	435.	0.	3176.
MAX THERM/HR	0.0	0.0	0.0	8.3	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0	9.0
DAY/HR	0/ 0	0/ 0	0/ 0	2/ 7	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	17/ 8	0/ 0	2/ 7
PEAK ENDUSE	0.0	0.0	0.0	8.3	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	
PEAK PCT	0.0	0.0	0.0	92.2	0.0	0.0	0.0	0.0	0.0	0.0	7.8	0.0	
MAR													
THERM	0.	0.	0.	2139.	0.	0.	0.	0.	0.	0.	480.	0.	2619.
MAX THERM/HR	0.0	0.0	0.0	7.2	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0	7.7
DAY/HR	0/ 0	0/ 0	0/ 0	18/ 5	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	17/ 8	0/ 0	18/ 7
PEAK ENDUSE	0.0	0.0	0.0	7.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	
PEAK PCT	0.0	0.0	0.0	90.9	0.0	0.0	0.0	0.0	0.0	0.0	9.1	0.0	
APR													
THERM	0.	0.	0.	858.	0.	0.	0.	0.	0.	0.	444.	0.	1302.
MAX THERM/HR	0.0	0.0	0.0	5.3	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	5.8
DAY/HR	0/ 0	0/ 0	0/ 0	5/ 6	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	1/ 8	0/ 0	5/ 7
PEAK ENDUSE	0.0	0.0	0.0	5.1	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	
PEAK PCT	0.0	0.0	0.0	88.4	0.0	0.0	0.0	0.0	0.0	0.0	11.6	0.0	
MAY													
THERM	0.	0.	0.	89.	0.	0.	0.	0.	0.	0.	389.	0.	478.
MAX THERM/HR	0.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.0	3.2
DAY/HR	0/ 0	0/ 0	0/ 0	1/ 6	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	1/ 8	0/ 0	1/ 6
PEAK ENDUSE	0.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	
PEAK PCT	0.0	0.0	0.0	93.9	0.0	0.0	0.0	0.0	0.0	0.0	6.1	0.0	
JUN													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	313.	0.	313.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.7
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	6/18	0/ 0	6/18
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	

JUL													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	268.	0.	268.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.6
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	4/19	0/ 0	4/19
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	
AUG													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	236.	0.	236.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.5
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	15/ 8	0/ 0	15/ 8
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	

REPORT- PS-F Energy End-Use Summary for FBB WEATHER FILE- Boston MA TMY2
(CONTINUED)

SEP													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	230.	0.	230.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.5
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	29/ 8	0/ 0	29/ 8
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	
OCT													
THERM	0.	0.	0.	227.	0.	0.	0.	0.	0.	0.	272.	0.	499.
MAX THERM/HR	0.0	0.0	0.0	3.2	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	3.4
DAY/HR	0/ 0	0/ 0	0/ 0	13/ 6	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	27/ 8	0/ 0	13/ 7
PEAK ENDUSE	0.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	
PEAK PCT	0.0	0.0	0.0	88.3	0.0	0.0	0.0	0.0	0.0	0.0	11.7	0.0	
NOV													
THERM	0.	0.	0.	1779.	0.	0.	0.	0.	0.	0.	320.	0.	2099.
MAX THERM/HR	0.0	0.0	0.0	7.1	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	7.6
DAY/HR	0/ 0	0/ 0	0/ 0	14/ 6	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	20/ 8	0/ 0	20/ 7
PEAK ENDUSE	0.0	0.0	0.0	7.1	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	
PEAK PCT	0.0	0.0	0.0	93.5	0.0	0.0	0.0	0.0	0.0	0.0	6.5	0.0	
DEC													
THERM	0.	0.	0.	2930.	0.	0.	0.	0.	0.	0.	394.	0.	3324.
MAX THERM/HR	0.0	0.0	0.0	9.4	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.0	10.0
DAY/HR	0/ 0	0/ 0	0/ 0	24/ 7	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	24/ 8	0/ 0	24/ 7
PEAK ENDUSE	0.0	0.0	0.0	9.4	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	
PEAK PCT	0.0	0.0	0.0	94.1	0.0	0.0	0.0	0.0	0.0	0.0	5.9	0.0	
	=======	=======	=======	=======	=======	=======	=======	=======	=======	=======	=======	=======	========
THERM	0.	0.	0.	14270.	0.	0.	0.	0.	0.	0.	4232.	0.	18502.
MAX THERM/HR	0.0	0.0	0.0	9.4	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0	10.0
MON/DY	0/ 0	0/ 0	0/ 0	12/24	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	3/17	0/ 0	12/24
PEAK ENDUSE	0.0	0.0	0.0	9.4	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	
PEAK PCT	0.0	0.0	0.0	94.1	0.0	0.0	0.0	0.0	0.0	0.0	5.9	0.0	

REPORT- PS-F Energy End-Use Summary for FBC WEATHER FILE- Boston MA TMY2

	LIGHTS	TASK LIGHTS	MISC EQUIP	SPACE HEATING	SPACE COOLING	HEAT REJECT	PUMPS & AUX	VENT FANS	REFRIG DISPLAY	HT PUMP SUPPLEM	DOMEST HOT WTR	EXT USAGE	TOTAL
JAN													
THERM	0.	0.	0.	3375.	0.	0.	0.	0.	0.	0.	451.	0.	3825.
MAX THERM/HR	0.0	0.0	0.0	7.8	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	8.7
DAY/HR	0/ 0	0/ 0	0/ 0	31/ 7	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	31/ 8	0/ 0	31/ 8
PEAK ENDUSE	0.0	0.0	0.0	7.7	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	
PEAK PCT	0.0	0.0	0.0	88.5	0.0	0.0	0.0	0.0	0.0	0.0	11.5	0.0	
FEB													
THERM	0.	0.	0.	2629.	0.	0.	0.	0.	0.	0.	435.	0.	3064.
MAX THERM/HR	0.0	0.0	0.0	8.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0	8.7
DAY/HR	0/ 0	0/ 0	0/ 0	2/ 7	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	17/ 8	0/ 0	2/ 7
PEAK ENDUSE	0.0	0.0	0.0	8.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	
PEAK PCT	0.0	0.0	0.0	91.9	0.0	0.0	0.0	0.0	0.0	0.0	8.1	0.0	
MAR													
THERM	0.	0.	0.	2040.	0.	0.	0.	0.	0.	0.	480.	0.	2520.
MAX THERM/HR	0.0	0.0	0.0	6.9	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0	7.4
DAY/HR	0/ 0	0/ 0	0/ 0	18/ 5	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	17/ 8	0/ 0	18/ 7
PEAK ENDUSE	0.0	0.0	0.0	6.7	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	
PEAK PCT	0.0	0.0	0.0	90.5	0.0	0.0	0.0	0.0	0.0	0.0	9.5	0.0	
APR													
THERM	0.	0.	0.	807.	0.	0.	0.	0.	0.	0.	444.	0.	1251.
MAX THERM/HR	0.0	0.0	0.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	5.5
DAY/HR	0/ 0	0/ 0	0/ 0	5/ 6	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	1/ 8	0/ 0	5/ 7
PEAK ENDUSE	0.0	0.0	0.0	4.9	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	
PEAK PCT	0.0	0.0	0.0	87.8	0.0	0.0	0.0	0.0	0.0	0.0	12.2	0.0	
MAY													
THERM	0.	0.	0.	76.	0.	0.	0.	0.	0.	0.	389.	0.	466.
MAX THERM/HR	0.0	0.0	0.0	2.7	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.0	2.9
DAY/HR	0/ 0	0/ 0	0/ 0	1/ 6	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	1/ 8	0/ 0	1/ 6
PEAK ENDUSE	0.0	0.0	0.0	2.7	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	
PEAK PCT	0.0	0.0	0.0	93.4	0.0	0.0	0.0	0.0	0.0	0.0	6.6	0.0	
JUN													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	313.	0.	313.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.7
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	6/18	0/ 0	6/18
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	

JUL													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	268.	0.	268.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.6
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	4/19	0/ 0	4/19
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	
AUG													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	236.	0.	236.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.5
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	15/ 8	0/ 0	15/ 8
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	

REPORT- PS-F Energy End-Use Summary for FBC WEATHER FILE- Boston MA TMY2
(CONTINUED)

SEP													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	230.	0.	230.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.5
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	29/ 8	0/ 0	29/ 8
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	
OCT													
THERM	0.	0.	0.	191.	0.	0.	0.	0.	0.	0.	272.	0.	463.
MAX THERM/HR	0.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	3.2
DAY/HR	0/ 0	0/ 0	0/ 0	13/ 6	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	27/ 8	0/ 0	30/ 7
PEAK ENDUSE	0.0	0.0	0.0	2.8	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	
PEAK PCT	0.0	0.0	0.0	87.5	0.0	0.0	0.0	0.0	0.0	0.0	12.5	0.0	
NOV													
THERM	0.	0.	0.	1711.	0.	0.	0.	0.	0.	0.	320.	0.	2031.
MAX THERM/HR	0.0	0.0	0.0	6.9	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	7.4
DAY/HR	0/ 0	0/ 0	0/ 0	20/ 7	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	20/ 8	0/ 0	20/ 7
PEAK ENDUSE	0.0	0.0	0.0	6.9	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	
PEAK PCT	0.0	0.0	0.0	93.4	0.0	0.0	0.0	0.0	0.0	0.0	6.6	0.0	
DEC													
THERM	0.	0.	0.	2821.	0.	0.	0.	0.	0.	0.	394.	0.	3215.
MAX THERM/HR	0.0	0.0	0.0	9.1	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.0	9.7
DAY/HR	0/ 0	0/ 0	0/ 0	24/ 7	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	24/ 8	0/ 0	24/ 7
PEAK ENDUSE	0.0	0.0	0.0	9.1	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	
PEAK PCT	0.0	0.0	0.0	94.0	0.0	0.0	0.0	0.0	0.0	0.0	6.0	0.0	
	=======	=======	=======	=======	=======	=======	=======	=======	=======	=======	=======	=======	========
THERM	0.	0.	0.	13650.	0.	0.	0.	0.	0.	0.	4232.	0.	17882.
MAX THERM/HR	0.0	0.0	0.0	9.1	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0	9.7
MON/DY	0/ 0	0/ 0	0/ 0	12/24	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	3/17	0/ 0	12/24
PEAK ENDUSE	0.0	0.0	0.0	9.1	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	
PEAK PCT	0.0	0.0	0.0	94.0	0.0	0.0	0.0	0.0	0.0	0.0	6.0	0.0	

REPORT- PS-F Energy End-Use Summary for FBD WEATHER FILE- Boston MA TMY2

	LIGHTS	TASK LIGHTS	MISC EQUIP	SPACE HEATING	SPACE COOLING	HEAT REJECT	PUMPS & AUX	VENT FANS	REFRIG DISPLAY	HT PUMP SUPPLEM	DOMEST HOT WTR	EXT USAGE	TOTAL
JAN													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	96.	0.	96.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.2
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	31/ 8	0/ 0	31/ 8
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	
FEB													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	92.	0.	92.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.2
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	17/ 8	0/ 0	17/ 8
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	
MAR													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	102.	0.	102.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.2
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	17/ 8	0/ 0	17/ 8
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	
APR													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	94.	0.	94.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.2
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	1/ 8	0/ 0	1/ 8
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	
MAY													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	82.	0.	82.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.2
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	1/ 8	0/ 0	1/ 8
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	
JUN													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	66.	0.	66.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.2
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	6/18	0/ 0	6/18
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	

JUL													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	57.	0.	57.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	4/19	0/ 0	4/19
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	
AUG													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	51.	0.	51.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	15/ 8	0/ 0	15/ 8
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	

REPORT- PS-F Energy End-Use Summary for FBD WEATHER FILE- Boston MA TMY2
(CONTINUED)

SEP													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	50.	0.	50.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	29/ 8	0/ 0	29/ 8
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	
OCT													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	59.	0.	59.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	27/ 8	0/ 0	27/ 8
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	
NOV													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	69.	0.	69.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.2
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	20/ 8	0/ 0	20/ 8
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	
DEC													
THERM	0.	0.	0.	2.	0.	0.	0.	0.	0.	0.	85.	0.	87.
MAX THERM/HR	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.3
DAY/HR	0/ 0	0/ 0	0/ 0	25/ 7	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	24/ 8	0/ 0	25/ 8
PEAK ENDUSE	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	
PEAK PCT	0.0	0.0	0.0	43.3	0.0	0.0	0.0	0.0	0.0	0.0	56.7	0.0	
	=======	=======	=======	=======	=======	=======	=======	=======	=======	=======	=======	=======	========
THERM	0.	0.	0.	2.	0.	0.	0.	0.	0.	0.	902.	0.	904.
MAX THERM/HR	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.3
MON/DY	0/ 0	0/ 0	0/ 0	12/25	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	2/17	0/ 0	12/25
PEAK ENDUSE	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	
PEAK PCT	0.0	0.0	0.0	43.3	0.0	0.0	0.0	0.0	0.0	0.0	56.7	0.0	

REPORT- PS-F Energy End-Use Summary for FM1 WEATHER FILE- Boston MA TMY2

	LIGHTS	TASK LIGHTS	MISC EQUIP	SPACE HEATING	SPACE COOLING	HEAT REJECT	PUMPS & AUX	VENT FANS	REFRIG DISPLAY	HT PUMP SUPPLEM	DOMEST HOT WTR	EXT USAGE	TOTAL
JAN													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
FEB													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
MAR													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
APR													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
MAY													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
JUN													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

JUL													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
AUG													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

REPORT- PS-F Energy End-Use Summary for FM1 WEATHER FILE- Boston MA TMY2
(CONTINUED)

SEP													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
OCT													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
NOV													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
DEC													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	=======	=======	=======	=======	=======	=======	=======	=======	=======	=======	=======	=======	========
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MON/DY	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

Design Case

REPORT- BEPS Building Energy Performance WEATHER FILE- Boston MA TMY2

		LIGHTS	TASK LIGHTS	MISC EQUIP	SPACE HEATING	SPACE COOLING	HEAT REJECT	PUMPS & AUX	VENT FANS	REFRIG DISPLAY	HT PUMP SUPPLEM	DOMEST HOT WTR	EXT USAGE	TOTAL
BA	ELECTRICITY													
	MBTU	625.6	0.0	713.8	209.1	170.8	2.6	96.9	611.2	0.0	0.0	0.0	0.0	2430.0
BB	ELECTRICITY													
	MBTU	209.2	0.0	343.9	0.0	136.6	0.0	0.0	271.8	0.0	0.0	0.0	0.0	961.4
BC	ELECTRICITY													
	MBTU	190.4	0.0	316.7	0.0	138.0	0.0	0.0	264.2	0.0	0.0	0.0	0.0	909.3
BD	ELECTRICITY													
	MBTU	219.7	0.0	59.8	0.0	31.8	0.0	0.0	50.1	0.0	0.0	0.0	0.0	361.4
EM1	ELECTRICITY													
	MBTU	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FBA	NATURAL-GAS													
	MBTU	0.0	0.0	0.0	1197.0	0.0	0.0	0.0	0.0	0.0	0.0	1249.0	0.0	2445.9
FBB	NATURAL-GAS													
	MBTU	0.0	0.0	0.0	1026.0	0.0	0.0	0.0	0.0	0.0	0.0	179.9	0.0	1206.0
FBC	NATURAL-GAS													
	MBTU	0.0	0.0	0.0	975.8	0.0	0.0	0.0	0.0	0.0	0.0	179.9	0.0	1155.8
FBD	NATURAL-GAS													
	MBTU	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	41.4	0.0	41.4
FM1	NATURAL-GAS													
	MBTU	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	MBTU	1245.0	0.0	1434.0	3408.0	477.2	2.6	96.9	1197.0	0.0	0.0	1650.0	0.0	9511.2

TOTAL SITE ENERGY 9511.19 MBTU 36.1 KBTU/SQFT-YR GROSS-AREA 36.1 KBTU/SQFT-YR NET-AREA
TOTAL SOURCE ENERGY 18835.30 MBTU 71.5 KBTU/SQFT-YR GROSS-AREA 71.5 KBTU/SQFT-YR NET-AREA

PERCENT OF HOURS ANY SYSTEM ZONE OUTSIDE OF THROTTLING RANGE = 2.48
PERCENT OF HOURS ANY PLANT LOAD NOT SATISFIED = 0.00
HOURS ANY ZONE ABOVE COOLING THROTTLING RANGE = 202
HOURS ANY ZONE BELOW HEATING THROTTLING RANGE = 15

NOTE: ENERGY IS APPORTIONED HOURLY TO ALL END-USE CATEGORIES.

REPORT- BEPU Building Utility Performance WEATHER FILE- Boston MA TMY2

		LIGHTS	TASK LIGHTS	MISC EQUIP	SPACE HEATING	SPACE COOLING	HEAT REJECT	PUMPS & AUX	VENT FANS	REFRIG DISPLAY	HT PUMP SUPPLEM	DOMEST HOT WTR	EXT USAGE	TOTAL
BA	ELECTRICITY													
	KWH	183308.	0.	209155.	61260.	50044.	772.	28379.	179084.	0.	0.	0.	0.	712002.
BB	ELECTRICITY													
	KWH	61287.	0.	100749.	0.	40019.	0.	1.	79628.	0.	0.	0.	0.	281685.
BC	ELECTRICITY													
	KWH	55778.	0.	92788.	0.	40434.	0.	1.	77416.	0.	0.	0.	0.	266418.
BD	ELECTRICITY													
	KWH	64376.	0.	17510.	0.	9313.	0.	0.	14679.	0.	0.	0.	0.	105878.
EM1	ELECTRICITY													
	KWH	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
FBA	NATURAL-GAS													
	THERM	0.	0.	0.	11970.	0.	0.	0.	0.	0.	0.	12489.	0.	24459.
FBB	NATURAL-GAS													
	THERM	0.	0.	0.	10261.	0.	0.	0.	0.	0.	0.	1799.	0.	12060.
FBC	NATURAL-GAS													
	THERM	0.	0.	0.	9758.	0.	0.	0.	0.	0.	0.	1799.	0.	11558.
FBD	NATURAL-GAS													
	THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	414.	0.	414.
FM1	NATURAL-GAS													
	THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

TOTAL ELECTRICITY 1365983. KWH 5.184 KWH /SQFT-YR GROSS-AREA 5.184 KWH /SQFT-YR NET-AREA
TOTAL NATURAL-GAS 48491. THERM 0.184 THERM /SQFT-YR GROSS-AREA 0.184 THERM /SQFT-YR NET-AREA

PERCENT OF HOURS ANY SYSTEM ZONE OUTSIDE OF THROTTLING RANGE = 2.48
PERCENT OF HOURS ANY PLANT LOAD NOT SATISFIED = 0.00
HOURS ANY ZONE ABOVE COOLING THROTTLING RANGE = 202
HOURS ANY ZONE BELOW HEATING THROTTLING RANGE = 15

NOTE: ENERGY IS APPORTIONED HOURLY TO ALL END-USE CATEGORIES.

REPORT- PS-E Energy End-Use Summary for all Electric Meters WEATHER FILE- Boston MA TMY2

	LIGHTS	TASK LIGHTS	MISC EQUIP	SPACE HEATING	SPACE COOLING	HEAT REJECT	PUMPS & AUX	VENT FANS	REFRIG DISPLAY	HT PUMP SUPPLEM	DOMEST HOT WTR	EXT USAGE	TOTAL
JAN													
KWH	30979.	0.	35683.	14492.	1.	0.	3667.	29795.	0.	0.	0.	0.	114616.
MAX KW	84.756	0.000	119.258	35.355	0.121	0.000	8.467	40.047	0.000	0.000	0.000	0.000	276.662
DAY/HR	1/ 8	0/ 0	2/21	31/ 7	16/12	0/ 0	31/18	1/ 1	0/ 0	0/ 0	0/ 0	0/ 0	31/21
PEAK ENDUSE	84.756	0.000	119.258	25.326	0.000	0.000	7.274	40.047	0.000	0.000	0.000	0.000	
PEAK PCT	30.6	0.0	43.1	9.2	0.0	0.0	2.6	14.5	0.0	0.0	0.0	0.0	
FEB													
KWH	27981.	0.	32220.	11689.	1.	0.	2812.	26911.	0.	0.	0.	0.	101613.
MAX KW	84.756	0.000	119.258	36.141	0.135	0.000	8.467	40.047	0.000	0.000	0.000	0.000	269.471
DAY/HR	1/ 8	0/ 0	1/21	2/ 7	2/10	0/ 0	1/ 8	1/ 1	0/ 0	0/ 0	0/ 0	0/ 0	6/21
PEAK ENDUSE	84.756	0.000	119.258	20.236	0.000	0.000	5.175	40.047	0.000	0.000	0.000	0.000	
PEAK PCT	31.5	0.0	44.3	7.5	0.0	0.0	1.9	14.9	0.0	0.0	0.0	0.0	
MAR													
KWH	30979.	0.	35709.	9661.	1.	0.	2216.	29795.	0.	0.	0.	0.	108360.
MAX KW	84.756	0.000	119.258	30.568	0.271	0.000	8.233	40.047	0.000	0.000	0.000	0.000	261.427
DAY/HR	1/ 8	0/ 0	1/21	18/ 5	31/ 8	0/ 0	18/ 5	1/ 1	0/ 0	0/ 0	0/ 0	0/ 0	8/21
PEAK ENDUSE	84.756	0.000	119.258	14.417	0.000	0.000	2.949	40.047	0.000	0.000	0.000	0.000	
PEAK PCT	32.4	0.0	45.6	5.5	0.0	0.0	1.1	15.3	0.0	0.0	0.0	0.0	
APR													
KWH	29979.	0.	34554.	4525.	143.	0.	740.	28834.	0.	0.	0.	0.	98776.
MAX KW	84.756	0.000	119.258	23.801	5.149	0.000	6.910	40.047	0.000	0.000	0.000	0.000	250.981
DAY/HR	1/ 8	0/ 0	2/21	5/ 7	18/17	0/ 0	5/ 7	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	20/21
PEAK ENDUSE	84.756	0.000	119.258	6.235	0.000	0.000	0.684	40.047	0.000	0.000	0.000	0.000	
PEAK PCT	33.8	0.0	47.5	2.5	0.0	0.0	0.3	16.0	0.0	0.0	0.0	0.0	
MAY													
KWH	30979.	0.	35741.	564.	7904.	24.	632.	29795.	0.	0.	0.	0.	105639.
MAX KW	84.756	0.000	119.258	14.170	115.722	0.576	10.288	40.047	0.000	0.000	0.000	0.000	349.932
DAY/HR	1/ 8	0/ 0	1/21	1/ 6	29/17	23/14	30/18	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	29/21
PEAK ENDUSE	84.756	0.000	119.258	0.000	95.531	0.576	9.764	40.047	0.000	0.000	0.000	0.000	
PEAK PCT	24.2	0.0	34.1	0.0	27.3	0.2	2.8	11.4	0.0	0.0	0.0	0.0	
JUN													
KWH	29979.	0.	34548.	17.	26066.	129.	2485.	28834.	0.	0.	0.	0.	122057.
MAX KW	84.756	0.000	119.258	0.176	153.707	0.928	10.288	40.047	0.000	0.000	0.000	0.000	380.527
DAY/HR	1/ 8	0/ 0	1/21	9/ 7	11/18	11/19	1/13	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	11/21
PEAK ENDUSE	84.756	0.000	119.258	0.000	125.349	0.828	10.288	40.047	0.000	0.000	0.000	0.000	
PEAK PCT	22.3	0.0	31.3	0.0	32.9	0.2	2.7	10.5	0.0	0.0	0.0	0.0	

JUL													
KWH	30979.	0.	35671.	7.	48985.	310.	5322.	29795.	0.	0.	0.	0.	151068.
MAX KW	84.756	0.000	119.258	0.161	165.914	1.028	10.288	40.047	0.000	0.000	0.000	0.000	386.740
DAY/HR	1/ 8	0/ 0	2/21	26/ 7	20/17	20/19	2/21	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	6/21
PEAK ENDUSE	84.756	0.000	119.258	0.000	131.510	0.881	10.288	40.047	0.000	0.000	0.000	0.000	
PEAK PCT	21.9	0.0	30.8	0.0	34.0	0.2	2.7	10.4	0.0	0.0	0.0	0.0	
AUG													
KWH	30979.	0.	35798.	10.	39638.	238.	4463.	29795.	0.	0.	0.	0.	140921.
MAX KW	84.756	0.000	119.258	0.143	144.379	0.854	10.288	40.047	0.000	0.000	0.000	0.000	367.996
DAY/HR	1/ 8	0/ 0	1/21	5/ 7	22/17	23/17	1/19	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	13/21
PEAK ENDUSE	84.756	0.000	119.258	0.000	112.928	0.719	10.288	40.047	0.000	0.000	0.000	0.000	
PEAK PCT	23.0	0.0	32.4	0.0	30.7	0.2	2.8	10.9	0.0	0.0	0.0	0.0	

REPORT- PS-E Energy End-Use Summary for all Electric Meters WEATHER FILE- Boston MA TMY2

(CONTINUED)

SEP													
KWH	29979.	0.	34420.	23.	15965.	71.	1592.	28834.	0.	0.	0.	0.	110883.
MAX KW	84.756	0.000	119.258	0.163	136.019	0.773	10.288	40.047	0.000	0.000	0.000	0.000	348.413
DAY/HR	1/ 8	0/ 0	4/21	30/ 8	14/16	14/16	1/15	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	14/21
PEAK ENDUSE	84.756	0.000	119.258	0.000	93.488	0.576	10.288	40.047	0.000	0.000	0.000	0.000	
PEAK PCT	24.3	0.0	34.2	0.0	26.8	0.2	3.0	11.5	0.0	0.0	0.0	0.0	
OCT													
KWH	30979.	0.	35741.	914.	1066.	0.	121.	29795.	0.	0.	0.	0.	98616.
MAX KW	84.756	0.000	119.258	13.336	13.473	0.000	2.441	40.047	0.000	0.000	0.000	0.000	249.112
DAY/HR	1/ 8	0/ 0	1/21	13/ 6	3/12	0/ 0	13/ 6	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	2/21
PEAK ENDUSE	84.756	0.000	119.258	0.056	4.994	0.000	0.000	40.047	0.000	0.000	0.000	0.000	
PEAK PCT	34.0	0.0	47.9	0.0	2.0	0.0	0.0	16.1	0.0	0.0	0.0	0.0	
NOV													
KWH	29979.	0.	34523.	7260.	39.	0.	1475.	28834.	0.	0.	0.	0.	102109.
MAX KW	84.756	0.000	119.258	31.143	2.388	0.000	8.464	40.047	0.000	0.000	0.000	0.000	265.501
DAY/HR	1/ 8	0/ 0	1/21	20/ 7	9/14	0/ 0	20/ 7	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	19/21
PEAK ENDUSE	84.756	0.000	119.258	17.051	0.000	0.000	4.389	40.047	0.000	0.000	0.000	0.000	
PEAK PCT	31.9	0.0	44.9	6.4	0.0	0.0	1.7	15.1	0.0	0.0	0.0	0.0	
DEC													
KWH	30979.	0.	35594.	12100.	1.	0.	2856.	29795.	0.	0.	0.	0.	111325.
MAX KW	84.756	0.000	119.258	41.911	0.275	0.000	8.467	40.047	0.000	0.000	0.000	0.000	279.597
DAY/HR	1/ 8	0/ 0	3/21	24/ 7	24/10	0/ 0	24/ 5	1/ 1	0/ 0	0/ 0	0/ 0	0/ 0	19/21
PEAK ENDUSE	84.756	0.000	119.258	27.824	0.000	0.000	7.712	40.047	0.000	0.000	0.000	0.000	
PEAK PCT	30.3	0.0	42.7	10.0	0.0	0.0	2.8	14.3	0.0	0.0	0.0	0.0	
	=======	=======	=======	=======	=======	=======	=======	=======	=======	=======	=======	=======	========
KWH	364750.	0.	420203.	61260.	139810.	772.	28381.	350811.	0.	0.	0.	0.	1365983.
MAX KW	84.756	0.000	119.258	41.911	165.914	1.028	10.288	40.047	0.000	0.000	0.000	0.000	386.740
MON/DY	1/ 1	0/ 0	1/ 2	12/24	7/20	7/20	5/30	1/ 1	0/ 0	0/ 0	0/ 0	0/ 0	7/ 6
PEAK ENDUSE	84.756	0.000	119.258	0.000	131.510	0.881	10.288	40.047	0.000	0.000	0.000	0.000	
PEAK PCT	21.9	0.0	30.8	0.0	34.0	0.2	2.7	10.4	0.0	0.0	0.0	0.0	

REPORT- PS-E Energy End-Use Summary for all Fuel Meters WEATHER FILE- Boston MA TMY2

	LIGHTS	TASK LIGHTS	MISC EQUIP	SPACE HEATING	SPACE COOLING	HEAT REJECT	PUMPS & AUX	VENT FANS	REFRIG DISPLAY	HT PUMP SUPPLEM	DOMEST HOT WTR	EXT USAGE	TOTAL
JAN													
MBTU	0.	0.	0.	777.	0.	0.	0.	0.	0.	0.	162.	0.	940.
MAX MBTU/HR	0.0	0.0	0.0	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	2.3
DAY/HR	0/ 0	0/ 0	0/ 0	31/ 8	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	31/ 8	0/ 0	31/ 8
PEAK ENDUSE	0.0	0.0	0.0	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	
PEAK PCT	0.0	0.0	0.0	84.1	0.0	0.0	0.0	0.0	0.0	0.0	15.9	0.0	
FEB													
MBTU	0.	0.	0.	614.	0.	0.	0.	0.	0.	0.	153.	0.	767.
MAX MBTU/HR	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	2.2
DAY/HR	0/ 0	0/ 0	0/ 0	2/ 7	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	17/ 8	0/ 0	2/ 7
PEAK ENDUSE	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	
PEAK PCT	0.0	0.0	0.0	88.9	0.0	0.0	0.0	0.0	0.0	0.0	11.1	0.0	
MAR													
MBTU	0.	0.	0.	480.	0.	0.	0.	0.	0.	0.	169.	0.	649.
MAX MBTU/HR	0.0	0.0	0.0	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	1.8
DAY/HR	0/ 0	0/ 0	0/ 0	18/ 5	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	17/ 8	0/ 0	18/ 7
PEAK ENDUSE	0.0	0.0	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	
PEAK PCT	0.0	0.0	0.0	86.6	0.0	0.0	0.0	0.0	0.0	0.0	13.4	0.0	
APR													
MBTU	0.	0.	0.	203.	0.	0.	0.	0.	0.	0.	159.	0.	362.
MAX MBTU/HR	0.0	0.0	0.0	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	1.4
DAY/HR	0/ 0	0/ 0	0/ 0	5/ 6	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	1/ 8	0/ 0	5/ 7
PEAK ENDUSE	0.0	0.0	0.0	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	
PEAK PCT	0.0	0.0	0.0	83.0	0.0	0.0	0.0	0.0	0.0	0.0	17.0	0.0	
MAY													
MBTU	0.	0.	0.	31.	0.	0.	0.	0.	0.	0.	147.	0.	178.
MAX MBTU/HR	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.7
DAY/HR	0/ 0	0/ 0	0/ 0	1/ 6	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	1/ 8	0/ 0	1/ 7
PEAK ENDUSE	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	
PEAK PCT	0.0	0.0	0.0	70.8	0.0	0.0	0.0	0.0	0.0	0.0	29.2	0.0	
JUN													
MBTU	0.	0.	0.	5.	0.	0.	0.	0.	0.	0.	127.	0.	132.
MAX MBTU/HR	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.3
DAY/HR	0/ 0	0/ 0	0/ 0	9/ 7	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	6/18	0/ 0	29/ 8
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	
PEAK PCT	0.0	0.0	0.0	12.5	0.0	0.0	0.0	0.0	0.0	0.0	87.5	0.0	

JUL													
MBTU	0.	0.	0.	2.	0.	0.	0.	0.	0.	0.	118.	0.	120.
MAX MBTU/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.3
DAY/HR	0/ 0	0/ 0	0/ 0	26/ 7	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	4/19	0/ 0	5/ 8
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	
PEAK PCT	0.0	0.0	0.0	9.1	0.0	0.0	0.0	0.0	0.0	0.0	90.9	0.0	
AUG													
MBTU	0.	0.	0.	3.	0.	0.	0.	0.	0.	0.	111.	0.	113.
MAX MBTU/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.3
DAY/HR	0/ 0	0/ 0	0/ 0	5/ 7	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	15/ 8	0/ 0	5/ 8
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	
PEAK PCT	0.0	0.0	0.0	14.0	0.0	0.0	0.0	0.0	0.0	0.0	86.0	0.0	

REPORT- PS-E Energy End-Use Summary for all Fuel Meters WEATHER FILE- Boston MA TMY2

(CONTINUED)

SEP													
MBTU	0.	0.	0.	7.	0.	0.	0.	0.	0.	0.	107.	0.	114.
MAX MBTU/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.3
DAY/HR	0/ 0	0/ 0	0/ 0	30/ 8	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	29/ 8	0/ 0	30/ 8
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	
PEAK PCT	0.0	0.0	0.0	16.3	0.0	0.0	0.0	0.0	0.0	0.0	83.7	0.0	
OCT													
MBTU	0.	0.	0.	55.	0.	0.	0.	0.	0.	0.	119.	0.	174.
MAX MBTU/HR	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.8
DAY/HR	0/ 0	0/ 0	0/ 0	13/ 6	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	27/ 8	0/ 0	13/ 8
PEAK ENDUSE	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	
PEAK PCT	0.0	0.0	0.0	67.2	0.0	0.0	0.0	0.0	0.0	0.0	32.8	0.0	
NOV													
MBTU	0.	0.	0.	376.	0.	0.	0.	0.	0.	0.	129.	0.	505.
MAX MBTU/HR	0.0	0.0	0.0	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	1.9
DAY/HR	0/ 0	0/ 0	0/ 0	20/ 7	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	20/ 8	0/ 0	20/ 8
PEAK ENDUSE	0.0	0.0	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	
PEAK PCT	0.0	0.0	0.0	83.9	0.0	0.0	0.0	0.0	0.0	0.0	16.1	0.0	
DEC													
MBTU	0.	0.	0.	646.	0.	0.	0.	0.	0.	0.	149.	0.	795.
MAX MBTU/HR	0.0	0.0	0.0	2.3	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	2.6
DAY/HR	0/ 0	0/ 0	0/ 0	24/ 7	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	24/ 8	0/ 0	24/ 8
PEAK ENDUSE	0.0	0.0	0.0	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	
PEAK PCT	0.0	0.0	0.0	86.9	0.0	0.0	0.0	0.0	0.0	0.0	13.1	0.0	
	=======	=======	=======	=======	=======	=======	=======	=======	=======	=======	=======	=======	========
MBTU	0.	0.	0.	3200.	0.	0.	0.	0.	0.	0.	1650.	0.	4849.
MAX MBTU/HR	0.0	0.0	0.0	2.3	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	2.6
MON/DY	0/ 0	0/ 0	0/ 0	12/24	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	3/17	0/ 0	12/24
PEAK ENDUSE	0.0	0.0	0.0	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	
PEAK PCT	0.0	0.0	0.0	86.9	0.0	0.0	0.0	0.0	0.0	0.0	13.1	0.0	

REPORT- PS-F Energy End-Use Summary for BA WEATHER FILE- Boston MA TMY2

	LIGHTS	TASK LIGHTS	MISC EQUIP	SPACE HEATING	SPACE COOLING	HEAT REJECT	PUMPS & AUX	VENT FANS	REFRIG DISPLAY	HT PUMP SUPPLEM	DOMEST HOT WTR	EXT USAGE	TOTAL
JAN													
KWH	15569.	0.	17761.	14492.	0.	0.	3667.	15210.	0.	0.	0.	0.	66698.
MAX KW	42.307	0.000	59.308	35.355	0.000	0.000	8.466	20.444	0.000	0.000	0.000	0.000	154.659
DAY/HR	1/ 8	0/ 0	2/21	31/ 7	0/ 0	0/ 0	31/18	1/ 1	0/ 0	0/ 0	0/ 0	0/ 0	31/21
PEAK ENDUSE	42.307	0.000	59.308	25.326	0.000	0.000	7.274	20.444	0.000	0.000	0.000	0.000	
PEAK PCT	27.4	0.0	38.3	16.4	0.0	0.0	4.7	13.2	0.0	0.0	0.0	0.0	
FEB													
KWH	14062.	0.	16037.	11689.	0.	0.	2811.	13738.	0.	0.	0.	0.	58337.
MAX KW	42.307	0.000	59.308	36.141	0.000	0.000	8.466	20.444	0.000	0.000	0.000	0.000	147.468
DAY/HR	1/ 8	0/ 0	1/21	2/ 7	0/ 0	0/ 0	1/ 8	1/ 1	0/ 0	0/ 0	0/ 0	0/ 0	6/21
PEAK ENDUSE	42.307	0.000	59.308	20.236	0.000	0.000	5.174	20.444	0.000	0.000	0.000	0.000	
PEAK PCT	28.7	0.0	40.2	13.7	0.0	0.0	3.5	13.9	0.0	0.0	0.0	0.0	
MAR													
KWH	15569.	0.	17774.	9661.	0.	0.	2216.	15210.	0.	0.	0.	0.	60430.
MAX KW	42.307	0.000	59.308	30.568	0.000	0.000	8.232	20.444	0.000	0.000	0.000	0.000	139.424
DAY/HR	1/ 8	0/ 0	1/21	18/ 5	0/ 0	0/ 0	18/ 5	1/ 1	0/ 0	0/ 0	0/ 0	0/ 0	8/21
PEAK ENDUSE	42.307	0.000	59.308	14.417	0.000	0.000	2.948	20.444	0.000	0.000	0.000	0.000	
PEAK PCT	30.3	0.0	42.5	10.3	0.0	0.0	2.1	14.7	0.0	0.0	0.0	0.0	
APR													
KWH	15066.	0.	17199.	4525.	21.	0.	740.	14719.	0.	0.	0.	0.	52271.
MAX KW	42.307	0.000	59.308	23.801	1.472	0.000	6.909	20.444	0.000	0.000	0.000	0.000	128.977
DAY/HR	1/ 8	0/ 0	2/21	5/ 7	18/14	0/ 0	5/ 7	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	20/21
PEAK ENDUSE	42.307	0.000	59.308	6.235	0.000	0.000	0.684	20.444	0.000	0.000	0.000	0.000	
PEAK PCT	32.8	0.0	46.0	4.8	0.0	0.0	0.5	15.9	0.0	0.0	0.0	0.0	
MAY													
KWH	15569.	0.	17790.	564.	1702.	24.	632.	15210.	0.	0.	0.	0.	51490.
MAX KW	42.307	0.000	59.308	14.170	41.658	0.576	10.288	20.444	0.000	0.000	0.000	0.000	171.360
DAY/HR	1/ 8	0/ 0	1/21	1/ 6	30/18	23/14	30/18	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	30/21
PEAK ENDUSE	42.307	0.000	59.308	0.000	38.437	0.576	10.288	20.444	0.000	0.000	0.000	0.000	
PEAK PCT	24.7	0.0	34.6	0.0	22.4	0.3	6.0	11.9	0.0	0.0	0.0	0.0	
JUN													
KWH	15066.	0.	17196.	17.	8480.	129.	2485.	14719.	0.	0.	0.	0.	58093.
MAX KW	42.307	0.000	59.308	0.176	63.827	0.928	10.288	20.444	0.000	0.000	0.000	0.000	191.152
DAY/HR	1/ 8	0/ 0	1/21	9/ 7	11/19	11/19	1/13	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	11/21
PEAK ENDUSE	42.307	0.000	59.308	0.000	57.977	0.828	10.288	20.444	0.000	0.000	0.000	0.000	
PEAK PCT	22.1	0.0	31.0	0.0	30.3	0.4	5.4	10.7	0.0	0.0	0.0	0.0	

JUL													
KWH	15569.	0.	17755.	7.	19444.	310.	5322.	15210.	0.	0.	0.	0.	73616.
MAX KW	42.307	0.000	59.308	0.161	69.665	1.028	10.288	20.444	0.000	0.000	0.000	0.000	193.972
DAY/HR	1/ 8	0/ 0	2/21	26/ 7	20/17	20/19	2/21	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	19/21
PEAK ENDUSE	42.307	0.000	59.308	0.000	60.755	0.869	10.288	20.444	0.000	0.000	0.000	0.000	
PEAK PCT	21.8	0.0	30.6	0.0	31.3	0.4	5.3	10.5	0.0	0.0	0.0	0.0	
AUG													
KWH	15569.	0.	17819.	10.	15148.	238.	4463.	15210.	0.	0.	0.	0.	68457.
MAX KW	42.307	0.000	59.308	0.143	61.152	0.854	10.288	20.444	0.000	0.000	0.000	0.000	185.714
DAY/HR	1/ 8	0/ 0	1/21	5/ 7	23/18	23/17	1/19	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	13/21
PEAK ENDUSE	42.307	0.000	59.308	0.000	52.649	0.719	10.288	20.444	0.000	0.000	0.000	0.000	
PEAK PCT	22.8	0.0	31.9	0.0	28.3	0.4	5.5	11.0	0.0	0.0	0.0	0.0	

REPORT- PS-F Energy End-Use Summary for BA WEATHER FILE- Boston MA TMY2
(CONTINUED)

SEP													
KWH	15066.	0.	17132.	23.	5144.	71.	1592.	14719.	0.	0.	0.	0.	53746.
MAX KW	42.307	0.000	59.308	0.163	56.524	0.773	10.288	20.444	0.000	0.000	0.000	0.000	175.009
DAY/HR	1/ 8	0/ 0	4/21	30/ 8	14/16	14/16	1/15	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	14/21
PEAK ENDUSE	42.307	0.000	59.308	0.000	42.086	0.576	10.288	20.444	0.000	0.000	0.000	0.000	
PEAK PCT	24.2	0.0	33.9	0.0	24.0	0.3	5.9	11.7	0.0	0.0	0.0	0.0	
OCT													
KWH	15569.	0.	17790.	914.	102.	0.	121.	15210.	0.	0.	0.	0.	49706.
MAX KW	42.307	0.000	59.308	13.336	1.705	0.000	2.441	20.444	0.000	0.000	0.000	0.000	122.895
DAY/HR	1/ 8	0/ 0	1/21	13/ 6	3/13	0/ 0	13/ 6	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	12/21
PEAK ENDUSE	42.307	0.000	59.308	0.727	0.000	0.000	0.110	20.444	0.000	0.000	0.000	0.000	
PEAK PCT	34.4	0.0	48.3	0.6	0.0	0.0	0.1	16.6	0.0	0.0	0.0	0.0	
NOV													
KWH	15066.	0.	17183.	7260.	3.	0.	1474.	14719.	0.	0.	0.	0.	55707.
MAX KW	42.307	0.000	59.308	31.143	1.204	0.000	8.463	20.444	0.000	0.000	0.000	0.000	143.498
DAY/HR	1/ 8	0/ 0	1/21	20/ 7	9/14	0/ 0	20/ 7	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	19/21
PEAK ENDUSE	42.307	0.000	59.308	17.051	0.000	0.000	4.388	20.444	0.000	0.000	0.000	0.000	
PEAK PCT	29.5	0.0	41.3	11.9	0.0	0.0	3.1	14.2	0.0	0.0	0.0	0.0	
DEC													
KWH	15569.	0.	17716.	12100.	0.	0.	2856.	15210.	0.	0.	0.	0.	63451.
MAX KW	42.307	0.000	59.308	41.911	0.000	0.000	8.466	20.444	0.000	0.000	0.000	0.000	157.594
DAY/HR	1/ 8	0/ 0	3/21	24/ 7	0/ 0	0/ 0	24/ 5	1/ 1	0/ 0	0/ 0	0/ 0	0/ 0	19/21
PEAK ENDUSE	42.307	0.000	59.308	27.824	0.000	0.000	7.711	20.444	0.000	0.000	0.000	0.000	
PEAK PCT	26.8	0.0	37.6	17.7	0.0	0.0	4.9	13.0	0.0	0.0	0.0	0.0	
KWH	183308.	0.	209155.	61260.	50044.	772.	28379.	179084.	0.	0.	0.	0.	712002.
MAX KW	42.307	0.000	59.308	41.911	69.665	1.028	10.288	20.444	0.000	0.000	0.000	0.000	193.972
MON/DY	1/ 1	0/ 0	1/ 2	12/24	7/20	7/20	5/30	1/ 1	0/ 0	0/ 0	0/ 0	0/ 0	7/19
PEAK ENDUSE	42.307	0.000	59.308	0.000	60.755	0.869	10.288	20.444	0.000	0.000	0.000	0.000	
PEAK PCT	21.8	0.0	30.6	0.0	31.3	0.4	5.3	10.5	0.0	0.0	0.0	0.0	

YEARLY TRANSFORMER LOSSES = 0.0 KWH

REPORT- PS-F Energy End-Use Summary for BB WEATHER FILE- Boston MA TMY2

	LIGHTS	TASK LIGHTS	MISC EQUIP	SPACE HEATING	SPACE COOLING	HEAT REJECT	PUMPS & AUX	VENT FANS	REFRIG DISPLAY	HT PUMP SUPPLEM	DOMEST HOT WTR	EXT USAGE	TOTAL
JAN													
KWH	5205.	0.	8555.	0.	0.	0.	0.	6763.	0.	0.	0.	0.	20524.
MAX KW	17.958	0.000	29.666	0.000	0.088	0.000	0.000	9.090	0.000	0.000	0.000	0.000	56.715
DAY/HR	1/ 8	0/ 0	2/21	0/ 0	29/ 9	0/ 0	31/ 7	1/ 1	0/ 0	0/ 0	0/ 0	0/ 0	2/21
PEAK ENDUSE	17.958	0.000	29.666	0.000	0.000	0.000	0.000	9.090	0.000	0.000	0.000	0.000	
PEAK PCT	31.7	0.0	52.3	0.0	0.0	0.0	0.0	16.0	0.0	0.0	0.0	0.0	
FEB													
KWH	4701.	0.	7725.	0.	0.	0.	0.	6108.	0.	0.	0.	0.	18535.
MAX KW	17.958	0.000	29.666	0.000	0.082	0.000	0.000	9.090	0.000	0.000	0.000	0.000	56.715
DAY/HR	1/ 8	0/ 0	1/21	0/ 0	16/15	0/ 0	2/ 7	1/ 1	0/ 0	0/ 0	0/ 0	0/ 0	1/21
PEAK ENDUSE	17.958	0.000	29.666	0.000	0.000	0.000	0.000	9.090	0.000	0.000	0.000	0.000	
PEAK PCT	31.7	0.0	52.3	0.0	0.0	0.0	0.0	16.0	0.0	0.0	0.0	0.0	
MAR													
KWH	5205.	0.	8562.	0.	1.	0.	0.	6763.	0.	0.	0.	0.	20531.
MAX KW	17.958	0.000	29.666	0.000	0.271	0.000	0.000	9.090	0.000	0.000	0.000	0.000	56.715
DAY/HR	1/ 8	0/ 0	1/21	0/ 0	31/ 8	0/ 0	3/18	1/ 1	0/ 0	0/ 0	0/ 0	0/ 0	1/21
PEAK ENDUSE	17.958	0.000	29.666	0.000	0.000	0.000	0.000	9.090	0.000	0.000	0.000	0.000	
PEAK PCT	31.7	0.0	52.3	0.0	0.0	0.0	0.0	16.0	0.0	0.0	0.0	0.0	
APR													
KWH	5037.	0.	8285.	0.	0.	0.	0.	6545.	0.	0.	0.	0.	19868.
MAX KW	17.958	0.000	29.666	0.000	0.281	0.000	0.000	9.090	0.000	0.000	0.000	0.000	56.715
DAY/HR	1/ 8	0/ 0	2/21	0/ 0	27/18	0/ 0	11/21	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	2/21
PEAK ENDUSE	17.958	0.000	29.666	0.000	0.000	0.000	0.000	9.090	0.000	0.000	0.000	0.000	
PEAK PCT	31.7	0.0	52.3	0.0	0.0	0.0	0.0	16.0	0.0	0.0	0.0	0.0	
MAY													
KWH	5205.	0.	8570.	0.	2521.	0.	0.	6763.	0.	0.	0.	0.	23060.
MAX KW	17.958	0.000	29.666	0.000	37.364	0.000	0.000	9.090	0.000	0.000	0.000	0.000	84.907
DAY/HR	1/ 8	0/ 0	1/21	0/ 0	29/17	0/ 0	3/19	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	29/21
PEAK ENDUSE	17.958	0.000	29.666	0.000	28.193	0.000	0.000	9.090	0.000	0.000	0.000	0.000	
PEAK PCT	21.2	0.0	34.9	0.0	33.2	0.0	0.0	10.7	0.0	0.0	0.0	0.0	
JUN													
KWH	5037.	0.	8284.	0.	7884.	0.	0.	6545.	0.	0.	0.	0.	27750.
MAX KW	17.958	0.000	29.666	0.000	43.150	0.000	0.000	9.090	0.000	0.000	0.000	0.000	88.961
DAY/HR	1/ 8	0/ 0	1/21	0/ 0	11/18	0/ 0	10/ 6	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	11/21
PEAK ENDUSE	17.958	0.000	29.666	0.000	32.246	0.000	0.000	9.090	0.000	0.000	0.000	0.000	
PEAK PCT	20.2	0.0	33.3	0.0	36.2	0.0	0.0	10.2	0.0	0.0	0.0	0.0	

JUL													
KWH	5205.	0.	8552.	0.	13657.	0.	0.	6763.	0.	0.	0.	0.	34177.
MAX KW	17.958	0.000	29.666	0.000	45.738	0.000	0.000	9.090	0.000	0.000	0.000	0.000	90.597
DAY/HR	1/ 8	0/ 0	2/21	0/ 0	20/17	0/ 0	1/16	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	6/21
PEAK ENDUSE	17.958	0.000	29.666	0.000	33.883	0.000	0.000	9.090	0.000	0.000	0.000	0.000	
PEAK PCT	19.8	0.0	32.7	0.0	37.4	0.0	0.0	10.0	0.0	0.0	0.0	0.0	
AUG													
KWH	5205.	0.	8585.	0.	11212.	0.	0.	6763.	0.	0.	0.	0.	31765.
MAX KW	17.958	0.000	29.666	0.000	40.232	0.000	0.000	9.090	0.000	0.000	0.000	0.000	85.770
DAY/HR	1/ 8	0/ 0	1/21	0/ 0	22/17	0/ 0	2/ 6	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	13/21
PEAK ENDUSE	17.958	0.000	29.666	0.000	29.056	0.000	0.000	9.090	0.000	0.000	0.000	0.000	
PEAK PCT	20.9	0.0	34.6	0.0	33.9	0.0	0.0	10.6	0.0	0.0	0.0	0.0	

REPORT- PS-F Energy End-Use Summary for BB WEATHER FILE- Boston MA TMY2
(CONTINUED)

SEP													
KWH	5037.	0.	8251.	0.	4602.	0.	0.	6545.	0.	0.	0.	0.	24435.
MAX KW	17.958	0.000	29.666	0.000	37.514	0.000	0.000	9.090	0.000	0.000	0.000	0.000	81.570
DAY/HR	1/ 8	0/ 0	4/21	0/ 0	14/16	0/ 0	2/11	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	14/21
PEAK ENDUSE	17.958	0.000	29.666	0.000	24.855	0.000	0.000	9.090	0.000	0.000	0.000	0.000	
PEAK PCT	22.0	0.0	36.4	0.0	30.5	0.0	0.0	11.1	0.0	0.0	0.0	0.0	
OCT													
KWH	5205.	0.	8570.	0.	140.	0.	0.	6763.	0.	0.	0.	0.	20679.
MAX KW	17.958	0.000	29.666	0.000	3.910	0.000	0.000	9.090	0.000	0.000	0.000	0.000	58.800
DAY/HR	1/ 8	0/ 0	1/21	0/ 0	3/12	0/ 0	3/16	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	3/21
PEAK ENDUSE	17.958	0.000	29.666	0.000	2.086	0.000	0.000	9.090	0.000	0.000	0.000	0.000	
PEAK PCT	30.5	0.0	50.5	0.0	3.5	0.0	0.0	15.5	0.0	0.0	0.0	0.0	
NOV													
KWH	5037.	0.	8277.	0.	0.	0.	0.	6545.	0.	0.	0.	0.	19859.
MAX KW	17.958	0.000	29.666	0.000	0.025	0.000	0.000	9.090	0.000	0.000	0.000	0.000	56.715
DAY/HR	1/ 8	0/ 0	1/21	0/ 0	22/ 9	0/ 0	20/ 7	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	1/21
PEAK ENDUSE	17.958	0.000	29.666	0.000	0.000	0.000	0.000	9.090	0.000	0.000	0.000	0.000	
PEAK PCT	31.7	0.0	52.3	0.0	0.0	0.0	0.0	16.0	0.0	0.0	0.0	0.0	
DEC													
KWH	5205.	0.	8532.	0.	1.	0.	0.	6763.	0.	0.	0.	0.	20502.
MAX KW	17.958	0.000	29.666	0.000	0.190	0.000	0.000	9.090	0.000	0.000	0.000	0.000	56.715
DAY/HR	1/ 8	0/ 0	3/21	0/ 0	24/ 9	0/ 0	24/ 7	1/ 1	0/ 0	0/ 0	0/ 0	0/ 0	3/21
PEAK ENDUSE	17.958	0.000	29.666	0.000	0.000	0.000	0.000	9.090	0.000	0.000	0.000	0.000	
PEAK PCT	31.7	0.0	52.3	0.0	0.0	0.0	0.0	16.0	0.0	0.0	0.0	0.0	
KWH	61287.	0.	100749.	0.	40019.	0.	1.	79628.	0.	0.	0.	0.	281685.
MAX KW	17.958	0.000	29.666	0.000	45.738	0.000	0.000	9.090	0.000	0.000	0.000	0.000	90.597
MON/DY	1/ 1	0/ 0	1/ 2	0/ 0	7/20	0/ 0	4/11	1/ 1	0/ 0	0/ 0	0/ 0	0/ 0	7/ 6
PEAK ENDUSE	17.958	0.000	29.666	0.000	33.883	0.000	0.000	9.090	0.000	0.000	0.000	0.000	
PEAK PCT	19.8	0.0	32.7	0.0	37.4	0.0	0.0	10.0	0.0	0.0	0.0	0.0	

YEARLY TRANSFORMER LOSSES = 0.0 KWH

REPORT- PS-F Energy End-Use Summary for BC WEATHER FILE- Boston MA TMY2

	LIGHTS	TASK LIGHTS	MISC EQUIP	SPACE HEATING	SPACE COOLING	HEAT REJECT	PUMPS & AUX	VENT FANS	REFRIG DISPLAY	HT PUMP SUPPLEM	DOMEST HOT WTR	EXT USAGE	TOTAL
JAN													
KWH	4737.	0.	7879.	0.	0.	0.	0.	6575.	0.	0.	0.	0.	19192.
MAX KW	16.463	0.000	27.322	0.000	0.063	0.000	0.000	8.837	0.000	0.000	0.000	0.000	52.623
DAY/HR	1/ 8	0/ 0	2/21	0/ 0	30/10	0/ 0	31/ 7	1/ 1	0/ 0	0/ 0	0/ 0	0/ 0	2/21
PEAK ENDUSE	16.463	0.000	27.322	0.000	0.000	0.000	0.000	8.837	0.000	0.000	0.000	0.000	
PEAK PCT	31.3	0.0	51.9	0.0	0.0	0.0	0.0	16.8	0.0	0.0	0.0	0.0	
FEB													
KWH	4279.	0.	7114.	0.	0.	0.	0.	5939.	0.	0.	0.	0.	17332.
MAX KW	16.463	0.000	27.322	0.000	0.059	0.000	0.000	8.837	0.000	0.000	0.000	0.000	52.623
DAY/HR	1/ 8	0/ 0	1/21	0/ 0	2/10	0/ 0	2/ 7	1/ 1	0/ 0	0/ 0	0/ 0	0/ 0	1/21
PEAK ENDUSE	16.463	0.000	27.322	0.000	0.000	0.000	0.000	8.837	0.000	0.000	0.000	0.000	
PEAK PCT	31.3	0.0	51.9	0.0	0.0	0.0	0.0	16.8	0.0	0.0	0.0	0.0	
MAR													
KWH	4737.	0.	7886.	0.	0.	0.	0.	6575.	0.	0.	0.	0.	19198.
MAX KW	16.463	0.000	27.322	0.000	0.057	0.000	0.000	8.837	0.000	0.000	0.000	0.000	52.623
DAY/HR	1/ 8	0/ 0	1/21	0/ 0	18/11	0/ 0	3/19	1/ 1	0/ 0	0/ 0	0/ 0	0/ 0	1/21
PEAK ENDUSE	16.463	0.000	27.322	0.000	0.000	0.000	0.000	8.837	0.000	0.000	0.000	0.000	
PEAK PCT	31.3	0.0	51.9	0.0	0.0	0.0	0.0	16.8	0.0	0.0	0.0	0.0	
APR													
KWH	4584.	0.	7631.	0.	18.	0.	0.	6363.	0.	0.	0.	0.	18596.
MAX KW	16.463	0.000	27.322	0.000	1.671	0.000	0.000	8.837	0.000	0.000	0.000	0.000	54.294
DAY/HR	1/ 8	0/ 0	2/21	0/ 0	18/21	0/ 0	12/20	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	18/21
PEAK ENDUSE	16.463	0.000	27.322	0.000	1.671	0.000	0.000	8.837	0.000	0.000	0.000	0.000	
PEAK PCT	30.3	0.0	50.3	0.0	3.1	0.0	0.0	16.3	0.0	0.0	0.0	0.0	
MAY													
KWH	4737.	0.	7893.	0.	2742.	0.	0.	6575.	0.	0.	0.	0.	21948.
MAX KW	16.463	0.000	27.322	0.000	36.734	0.000	0.000	8.837	0.000	0.000	0.000	0.000	80.662
DAY/HR	1/ 8	0/ 0	1/21	0/ 0	29/17	0/ 0	1/20	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	29/21
PEAK ENDUSE	16.463	0.000	27.322	0.000	28.039	0.000	0.000	8.837	0.000	0.000	0.000	0.000	
PEAK PCT	20.4	0.0	33.9	0.0	34.8	0.0	0.0	11.0	0.0	0.0	0.0	0.0	
JUN													
KWH	4584.	0.	7629.	0.	7949.	0.	0.	6363.	0.	0.	0.	0.	26526.
MAX KW	16.463	0.000	27.322	0.000	42.570	0.000	0.000	8.837	0.000	0.000	0.000	0.000	84.504
DAY/HR	1/ 8	0/ 0	1/21	0/ 0	11/18	0/ 0	7/ 7	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	11/21
PEAK ENDUSE	16.463	0.000	27.322	0.000	31.881	0.000	0.000	8.837	0.000	0.000	0.000	0.000	
PEAK PCT	19.5	0.0	32.3	0.0	37.7	0.0	0.0	10.5	0.0	0.0	0.0	0.0	

JUL													
KWH	4737.	0.	7876.	0.	13521.	0.	0.	6575.	0.	0.	0.	0.	32710.
MAX KW	16.463	0.000	27.322	0.000	45.067	0.000	0.000	8.837	0.000	0.000	0.000	0.000	86.184
DAY/HR	1/ 8	0/ 0	2/21	0/ 0	20/17	0/ 0	13/ 6	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	6/21
PEAK ENDUSE	16.463	0.000	27.322	0.000	33.561	0.000	0.000	8.837	0.000	0.000	0.000	0.000	
PEAK PCT	19.1	0.0	31.7	0.0	38.9	0.0	0.0	10.3	0.0	0.0	0.0	0.0	
AUG													
KWH	4737.	0.	7907.	0.	11169.	0.	0.	6575.	0.	0.	0.	0.	30388.
MAX KW	16.463	0.000	27.322	0.000	39.616	0.000	0.000	8.837	0.000	0.000	0.000	0.000	81.073
DAY/HR	1/ 8	0/ 0	1/21	0/ 0	22/17	0/ 0	2/ 6	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	13/21
PEAK ENDUSE	16.463	0.000	27.322	0.000	28.450	0.000	0.000	8.837	0.000	0.000	0.000	0.000	
PEAK PCT	20.3	0.0	33.7	0.0	35.1	0.0	0.0	10.9	0.0	0.0	0.0	0.0	

REPORT- PS-F Energy End-Use Summary for BC WEATHER FILE- Boston MA TMY2

(CONTINUED)

SEP													
KWH	4584.	0.	7599.	0.	4766.	0.	0.	6363.	0.	0.	0.	0.	23312.
MAX KW	16.463	0.000	27.322	0.000	36.761	0.000	0.000	8.837	0.000	0.000	0.000	0.000	77.157
DAY/HR	1/ 8	0/ 0	4/21	0/ 0	14/16	0/ 0	9/18	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	14/21
PEAK ENDUSE	16.463	0.000	27.322	0.000	24.534	0.000	0.000	8.837	0.000	0.000	0.000	0.000	
PEAK PCT	21.3	0.0	35.4	0.0	31.8	0.0	0.0	11.5	0.0	0.0	0.0	0.0	
OCT													
KWH	4737.	0.	7893.	0.	269.	0.	0.	6575.	0.	0.	0.	0.	19474.
MAX KW	16.463	0.000	27.322	0.000	4.429	0.000	0.000	8.837	0.000	0.000	0.000	0.000	55.119
DAY/HR	1/ 8	0/ 0	1/21	0/ 0	3/12	0/ 0	14/18	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	2/21
PEAK ENDUSE	16.463	0.000	27.322	0.000	2.496	0.000	0.000	8.837	0.000	0.000	0.000	0.000	
PEAK PCT	29.9	0.0	49.6	0.0	4.5	0.0	0.0	16.0	0.0	0.0	0.0	0.0	
NOV													
KWH	4584.	0.	7623.	0.	0.	0.	0.	6363.	0.	0.	0.	0.	18571.
MAX KW	16.463	0.000	27.322	0.000	0.021	0.000	0.000	8.837	0.000	0.000	0.000	0.000	52.623
DAY/HR	1/ 8	0/ 0	1/21	0/ 0	22/ 9	0/ 0	1/17	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	1/21
PEAK ENDUSE	16.463	0.000	27.322	0.000	0.000	0.000	0.000	8.837	0.000	0.000	0.000	0.000	
PEAK PCT	31.3	0.0	51.9	0.0	0.0	0.0	0.0	16.8	0.0	0.0	0.0	0.0	
DEC													
KWH	4737.	0.	7858.	0.	0.	0.	0.	6575.	0.	0.	0.	0.	19171.
MAX KW	16.463	0.000	27.322	0.000	0.127	0.000	0.000	8.837	0.000	0.000	0.000	0.000	52.623
DAY/HR	1/ 8	0/ 0	3/21	0/ 0	24/10	0/ 0	24/ 7	1/ 1	0/ 0	0/ 0	0/ 0	0/ 0	3/21
PEAK ENDUSE	16.463	0.000	27.322	0.000	0.000	0.000	0.000	8.837	0.000	0.000	0.000	0.000	
PEAK PCT	31.3	0.0	51.9	0.0	0.0	0.0	0.0	16.8	0.0	0.0	0.0	0.0	
	=======	=======	=======	=======	=======	=======	=======	=======	=======	=======	=======	=======	========
KWH	55778.	0.	92788.	0.	40434.	0.	1.	77416.	0.	0.	0.	0.	266418.
MAX KW	16.463	0.000	27.322	0.000	45.067	0.000	0.000	8.837	0.000	0.000	0.000	0.000	86.184
MON/DY	1/ 1	0/ 0	1/ 2	0/ 0	7/20	0/ 0	4/12	1/ 1	0/ 0	0/ 0	0/ 0	0/ 0	7/ 6
PEAK ENDUSE	16.463	0.000	27.322	0.000	33.561	0.000	0.000	8.837	0.000	0.000	0.000	0.000	
PEAK PCT	19.1	0.0	31.7	0.0	38.9	0.0	0.0	10.3	0.0	0.0	0.0	0.0	

YEARLY TRANSFORMER LOSSES = 0.0 KWH

REPORT- PS-F Energy End-Use Summary for BD WEATHER FILE- Boston MA TMY2

	LIGHTS	TASK LIGHTS	MISC EQUIP	SPACE HEATING	SPACE COOLING	HEAT REJECT	PUMPS & AUX	VENT FANS	REFRIG DISPLAY	HT PUMP SUPPLEM	DOMEST HOT WTR	EXT USAGE	TOTAL
JAN													
KWH	5468.	0.	1487.	0.	0.	0.	0.	1247.	0.	0.	0.	0.	8201.
MAX KW	8.028	0.000	2.961	0.000	0.000	0.000	0.000	1.676	0.000	0.000	0.000	0.000	12.665
DAY/HR	1/ 7	0/ 0	1/ 7	0/ 0	0/ 0	0/ 0	0/ 0	1/ 1	0/ 0	0/ 0	0/ 0	0/ 0	1/ 7
PEAK ENDUSE	8.028	0.000	2.961	0.000	0.000	0.000	0.000	1.676	0.000	0.000	0.000	0.000	
PEAK PCT	63.4	0.0	23.4	0.0	0.0	0.0	0.0	13.2	0.0	0.0	0.0	0.0	
FEB													
KWH	4938.	0.	1343.	0.	0.	0.	0.	1126.	0.	0.	0.	0.	7408.
MAX KW	8.028	0.000	2.961	0.000	0.045	0.000	0.000	1.676	0.000	0.000	0.000	0.000	12.711
DAY/HR	1/ 7	0/ 0	1/ 7	0/ 0	14/ 7	0/ 0	0/ 0	1/ 1	0/ 0	0/ 0	0/ 0	0/ 0	14/ 7
PEAK ENDUSE	8.028	0.000	2.961	0.000	0.045	0.000	0.000	1.676	0.000	0.000	0.000	0.000	
PEAK PCT	63.2	0.0	23.3	0.0	0.4	0.0	0.0	13.2	0.0	0.0	0.0	0.0	
MAR													
KWH	5468.	0.	1487.	0.	0.	0.	0.	1247.	0.	0.	0.	0.	8202.
MAX KW	8.028	0.000	2.961	0.000	0.069	0.000	0.000	1.676	0.000	0.000	0.000	0.000	12.734
DAY/HR	1/ 7	0/ 0	1/ 7	0/ 0	27/19	0/ 0	0/ 0	1/ 1	0/ 0	0/ 0	0/ 0	0/ 0	27/19
PEAK ENDUSE	8.028	0.000	2.961	0.000	0.069	0.000	0.000	1.676	0.000	0.000	0.000	0.000	
PEAK PCT	63.0	0.0	23.3	0.0	0.5	0.0	0.0	13.2	0.0	0.0	0.0	0.0	
APR													
KWH	5291.	0.	1439.	0.	104.	0.	0.	1206.	0.	0.	0.	0.	8041.
MAX KW	8.028	0.000	2.961	0.000	2.283	0.000	0.000	1.676	0.000	0.000	0.000	0.000	14.846
DAY/HR	1/ 7	0/ 0	1/ 7	0/ 0	18/14	0/ 0	0/ 0	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	18/19
PEAK ENDUSE	8.028	0.000	2.961	0.000	2.181	0.000	0.000	1.676	0.000	0.000	0.000	0.000	
PEAK PCT	54.1	0.0	19.9	0.0	14.7	0.0	0.0	11.3	0.0	0.0	0.0	0.0	
MAY													
KWH	5468.	0.	1487.	0.	939.	0.	0.	1247.	0.	0.	0.	0.	9140.
MAX KW	8.028	0.000	2.961	0.000	5.252	0.000	0.000	1.676	0.000	0.000	0.000	0.000	17.590
DAY/HR	1/ 7	0/ 0	1/ 7	0/ 0	29/14	0/ 0	0/ 0	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	29/14
PEAK ENDUSE	8.028	0.000	2.634	0.000	5.252	0.000	0.000	1.676	0.000	0.000	0.000	0.000	
PEAK PCT	45.6	0.0	15.0	0.0	29.9	0.0	0.0	9.5	0.0	0.0	0.0	0.0	
JUN													
KWH	5291.	0.	1439.	0.	1752.	0.	0.	1206.	0.	0.	0.	0.	9689.
MAX KW	8.028	0.000	2.961	0.000	5.357	0.000	0.000	1.676	0.000	0.000	0.000	0.000	17.839
DAY/HR	1/ 7	0/ 0	1/ 7	0/ 0	11/14	0/ 0	0/ 0	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	11/19
PEAK ENDUSE	8.028	0.000	2.961	0.000	5.174	0.000	0.000	1.676	0.000	0.000	0.000	0.000	
PEAK PCT	45.0	0.0	16.6	0.0	29.0	0.0	0.0	9.4	0.0	0.0	0.0	0.0	

JUL													
KWH	5468.	0.	1487.	0.	2364.	0.	0.	1247.	0.	0.	0.	0.	10565.
MAX KW	8.028	0.000	2.961	0.000	5.464	0.000	0.000	1.676	0.000	0.000	0.000	0.000	17.939
DAY/HR	1/ 7	0/ 0	1/ 7	0/ 0	6/18	0/ 0	0/ 0	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	6/19
PEAK ENDUSE	8.028	0.000	2.961	0.000	5.274	0.000	0.000	1.676	0.000	0.000	0.000	0.000	
PEAK PCT	44.8	0.0	16.5	0.0	29.4	0.0	0.0	9.3	0.0	0.0	0.0	0.0	
AUG													
KWH	5468.	0.	1487.	0.	2110.	0.	0.	1247.	0.	0.	0.	0.	10311.
MAX KW	8.028	0.000	2.961	0.000	5.337	0.000	0.000	1.676	0.000	0.000	0.000	0.000	17.768
DAY/HR	1/ 7	0/ 0	1/ 7	0/ 0	22/14	0/ 0	0/ 0	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	13/19
PEAK ENDUSE	8.028	0.000	2.961	0.000	5.103	0.000	0.000	1.676	0.000	0.000	0.000	0.000	
PEAK PCT	45.2	0.0	16.7	0.0	28.7	0.0	0.0	9.4	0.0	0.0	0.0	0.0	

REPORT- PS-F Energy End-Use Summary for BD WEATHER FILE- Boston MA TMY2
(CONTINUED)

SEP													
KWH	5291.	0.	1439.	0.	1453.	0.	0.	1206.	0.	0.	0.	0.	9389.
MAX KW	8.028	0.000	2.961	0.000	5.242	0.000	0.000	1.676	0.000	0.000	0.000	0.000	17.581
DAY/HR	1/ 7	0/ 0	1/ 7	0/ 0	14/14	0/ 0	0/ 0	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	14/14
PEAK ENDUSE	8.028	0.000	2.634	0.000	5.242	0.000	0.000	1.676	0.000	0.000	0.000	0.000	
PEAK PCT	45.7	0.0	15.0	0.0	29.8	0.0	0.0	9.5	0.0	0.0	0.0	0.0	
OCT													
KWH	5468.	0.	1487.	0.	555.	0.	0.	1247.	0.	0.	0.	0.	8757.
MAX KW	8.028	0.000	2.961	0.000	3.474	0.000	0.000	1.676	0.000	0.000	0.000	0.000	15.886
DAY/HR	1/ 7	0/ 0	1/ 7	0/ 0	3/12	0/ 0	0/ 0	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	1/ 9
PEAK ENDUSE	8.028	0.000	2.961	0.000	3.221	0.000	0.000	1.676	0.000	0.000	0.000	0.000	
PEAK PCT	50.5	0.0	18.6	0.0	20.3	0.0	0.0	10.5	0.0	0.0	0.0	0.0	
NOV													
KWH	5291.	0.	1439.	0.	35.	0.	0.	1206.	0.	0.	0.	0.	7972.
MAX KW	8.028	0.000	2.961	0.000	1.487	0.000	0.000	1.676	0.000	0.000	0.000	0.000	14.098
DAY/HR	1/ 7	0/ 0	1/ 7	0/ 0	2/11	0/ 0	0/ 0	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	2/ 9
PEAK ENDUSE	8.028	0.000	2.961	0.000	1.433	0.000	0.000	1.676	0.000	0.000	0.000	0.000	
PEAK PCT	56.9	0.0	21.0	0.0	10.2	0.0	0.0	11.9	0.0	0.0	0.0	0.0	
DEC													
KWH	5468.	0.	1487.	0.	0.	0.	0.	1247.	0.	0.	0.	0.	8202.
MAX KW	8.028	0.000	2.961	0.000	0.055	0.000	0.000	1.676	0.000	0.000	0.000	0.000	12.720
DAY/HR	1/ 7	0/ 0	1/ 7	0/ 0	3/ 7	0/ 0	0/ 0	1/ 1	0/ 0	0/ 0	0/ 0	0/ 0	3/ 7
PEAK ENDUSE	8.028	0.000	2.961	0.000	0.055	0.000	0.000	1.676	0.000	0.000	0.000	0.000	
PEAK PCT	63.1	0.0	23.3	0.0	0.4	0.0	0.0	13.2	0.0	0.0	0.0	0.0	
KWH	64376.	0.	17510.	0.	9313.	0.	0.	14679.	0.	0.	0.	0.	105878.
MAX KW	8.028	0.000	2.961	0.000	5.464	0.000	0.000	1.676	0.000	0.000	0.000	0.000	17.939
MON/DY	1/ 1	0/ 0	1/ 1	0/ 0	7/ 6	0/ 0	0/ 0	1/ 1	0/ 0	0/ 0	0/ 0	0/ 0	7/ 6
PEAK ENDUSE	8.028	0.000	2.961	0.000	5.274	0.000	0.000	1.676	0.000	0.000	0.000	0.000	
PEAK PCT	44.8	0.0	16.5	0.0	29.4	0.0	0.0	9.3	0.0	0.0	0.0	0.0	

YEARLY TRANSFORMER LOSSES = 0.0 KWH

REPORT- PS-F Energy End-Use Summary for EM1 WEATHER FILE- Boston MA TMY2

	LIGHTS	TASK LIGHTS	MISC EQUIP	SPACE HEATING	SPACE COOLING	HEAT REJECT	PUMPS & AUX	VENT FANS	REFRIG DISPLAY	HT PUMP SUPPLEM	DOMEST HOT WTR	EXT USAGE	TOTAL
JAN													
KWH	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
MAX KW	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0
PEAK ENDUSE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
FEB													
KWH	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
MAX KW	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0
PEAK ENDUSE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
MAR													
KWH	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
MAX KW	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0
PEAK ENDUSE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
APR													
KWH	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
MAX KW	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0
PEAK ENDUSE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
MAY													
KWH	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
MAX KW	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0
PEAK ENDUSE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
JUN													
KWH	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
MAX KW	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0
PEAK ENDUSE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

JUL													
KWH	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
MAX KW	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0
PEAK ENDUSE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

AUG													
KWH	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
MAX KW	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0
PEAK ENDUSE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

REPORT- PS-F Energy End-Use Summary for EM1 WEATHER FILE- Boston MA TMY2
(CONTINUED)

SEP													
KWH	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
MAX KW	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0
PEAK ENDUSE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
OCT													
KWH	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
MAX KW	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0
PEAK ENDUSE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
NOV													
KWH	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
MAX KW	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0
PEAK ENDUSE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
DEC													
KWH	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
MAX KW	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0
PEAK ENDUSE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	=======	=======	=======	=======	=======	=======	=======	=======	=======	=======	=======	=======	========
KWH	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
MAX KW	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
MON/DY	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0
PEAK ENDUSE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

YEARLY TRANSFORMER LOSSES = 0.0 KWH

REPORT- PS-F Energy End-Use Summary for FBA WEATHER FILE- Boston MA TMY2

	LIGHTS	TASK LIGHTS	MISC EQUIP	SPACE HEATING	SPACE COOLING	HEAT REJECT	PUMPS & AUX	VENT FANS	REFRIG DISPLAY	HT PUMP SUPPLEM	DOMEST HOT WTR	EXT USAGE	TOTAL
JAN													
THERM	0.	0.	0.	2895.	0.	0.	0.	0.	0.	0.	1197.	0.	4091.
MAX THERM/HR	0.0	0.0	0.0	7.7	0.0	0.0	0.0	0.0	0.0	0.0	2.7	0.0	10.4
DAY/HR	0/ 0	0/ 0	0/ 0	31/ 8	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	31/ 8	0/ 0	31/ 8
PEAK ENDUSE	0.0	0.0	0.0	7.7	0.0	0.0	0.0	0.0	0.0	0.0	2.7	0.0	
PEAK PCT	0.0	0.0	0.0	74.3	0.0	0.0	0.0	0.0	0.0	0.0	25.7	0.0	
FEB													
THERM	0.	0.	0.	2330.	0.	0.	0.	0.	0.	0.	1115.	0.	3446.
MAX THERM/HR	0.0	0.0	0.0	7.6	0.0	0.0	0.0	0.0	0.0	0.0	2.8	0.0	10.2
DAY/HR	0/ 0	0/ 0	0/ 0	2/ 7	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	17/ 8	0/ 0	2/ 8
PEAK ENDUSE	0.0	0.0	0.0	7.4	0.0	0.0	0.0	0.0	0.0	0.0	2.8	0.0	
PEAK PCT	0.0	0.0	0.0	72.8	0.0	0.0	0.0	0.0	0.0	0.0	27.2	0.0	
MAR													
THERM	0.	0.	0.	1861.	0.	0.	0.	0.	0.	0.	1229.	0.	3090.
MAX THERM/HR	0.0	0.0	0.0	6.3	0.0	0.0	0.0	0.0	0.0	0.0	2.8	0.0	8.2
DAY/HR	0/ 0	0/ 0	0/ 0	18/ 5	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	17/ 8	0/ 0	18/ 8
PEAK ENDUSE	0.0	0.0	0.0	5.4	0.0	0.0	0.0	0.0	0.0	0.0	2.8	0.0	
PEAK PCT	0.0	0.0	0.0	66.3	0.0	0.0	0.0	0.0	0.0	0.0	33.7	0.0	
APR													
THERM	0.	0.	0.	842.	0.	0.	0.	0.	0.	0.	1156.	0.	1998.
MAX THERM/HR	0.0	0.0	0.0	4.5	0.0	0.0	0.0	0.0	0.0	0.0	2.7	0.0	6.8
DAY/HR	0/ 0	0/ 0	0/ 0	5/ 7	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	1/ 8	0/ 0	5/ 8
PEAK ENDUSE	0.0	0.0	0.0	4.1	0.0	0.0	0.0	0.0	0.0	0.0	2.7	0.0	
PEAK PCT	0.0	0.0	0.0	60.4	0.0	0.0	0.0	0.0	0.0	0.0	39.6	0.0	
MAY													
THERM	0.	0.	0.	124.	0.	0.	0.	0.	0.	0.	1094.	0.	1218.
MAX THERM/HR	0.0	0.0	0.0	2.5	0.0	0.0	0.0	0.0	0.0	0.0	2.5	0.0	4.1
DAY/HR	0/ 0	0/ 0	0/ 0	1/ 6	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	1/ 8	0/ 0	1/ 8
PEAK ENDUSE	0.0	0.0	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0	2.5	0.0	
PEAK PCT	0.0	0.0	0.0	39.8	0.0	0.0	0.0	0.0	0.0	0.0	60.2	0.0	
JUN													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	969.	0.	969.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.3	0.0	2.3
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	6/18	0/ 0	6/18
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.3	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	

JUL													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	924.	0.	924.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	0.0	2.1
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	4/19	0/ 0	4/19
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	
AUG													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	884.	0.	884.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	2.0
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	15/ 8	0/ 0	15/ 8
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	

REPORT- PS-F Energy End-Use Summary for FBA WEATHER FILE- Boston MA TMY2

(CONTINUED)

SEP													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	862.	0.	862.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	2.0
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	29/ 8	0/ 0	29/ 8
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	
OCT													
THERM	0.	0.	0.	193.	0.	0.	0.	0.	0.	0.	943.	0.	1136.
MAX THERM/HR	0.0	0.0	0.0	2.3	0.0	0.0	0.0	0.0	0.0	0.0	2.1	0.0	3.9
DAY/HR	0/ 0	0/ 0	0/ 0	13/ 6	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	27/ 8	0/ 0	13/ 8
PEAK ENDUSE	0.0	0.0	0.0	1.8	0.0	0.0	0.0	0.0	0.0	0.0	2.1	0.0	
PEAK PCT	0.0	0.0	0.0	46.8	0.0	0.0	0.0	0.0	0.0	0.0	53.2	0.0	
NOV													
THERM	0.	0.	0.	1349.	0.	0.	0.	0.	0.	0.	996.	0.	2345.
MAX THERM/HR	0.0	0.0	0.0	6.2	0.0	0.0	0.0	0.0	0.0	0.0	2.3	0.0	8.4
DAY/HR	0/ 0	0/ 0	0/ 0	20/ 7	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	20/ 8	0/ 0	20/ 8
PEAK ENDUSE	0.0	0.0	0.0	6.1	0.0	0.0	0.0	0.0	0.0	0.0	2.3	0.0	
PEAK PCT	0.0	0.0	0.0	72.5	0.0	0.0	0.0	0.0	0.0	0.0	27.5	0.0	
DEC													
THERM	0.	0.	0.	2376.	0.	0.	0.	0.	0.	0.	1119.	0.	3495.
MAX THERM/HR	0.0	0.0	0.0	9.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5	0.0	11.5
DAY/HR	0/ 0	0/ 0	0/ 0	24/ 8	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	24/ 8	0/ 0	24/ 8
PEAK ENDUSE	0.0	0.0	0.0	9.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5	0.0	
PEAK PCT	0.0	0.0	0.0	78.1	0.0	0.0	0.0	0.0	0.0	0.0	21.9	0.0	
	=======	=======	=======	=======	=======	=======	=======	=======	=======	=======	=======	=======	========
THERM	0.	0.	0.	11970.	0.	0.	0.	0.	0.	0.	12489.	0.	24459.
MAX THERM/HR	0.0	0.0	0.0	9.0	0.0	0.0	0.0	0.0	0.0	0.0	2.8	0.0	11.5
MON/DY	0/ 0	0/ 0	0/ 0	12/24	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	2/17	0/ 0	12/24
PEAK ENDUSE	0.0	0.0	0.0	9.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5	0.0	
PEAK PCT	0.0	0.0	0.0	78.1	0.0	0.0	0.0	0.0	0.0	0.0	21.9	0.0	

REPORT- PS-F Energy End-Use Summary for FBB WEATHER FILE- Boston MA TMY2

	LIGHTS	TASK LIGHTS	MISC EQUIP	SPACE HEATING	SPACE COOLING	HEAT REJECT	PUMPS & AUX	VENT FANS	REFRIG DISPLAY	HT PUMP SUPPLEM	DOMEST HOT WTR	EXT USAGE	TOTAL
JAN													
THERM	0.	0.	0.	2493.	0.	0.	0.	0.	0.	0.	190.	0.	2683.
MAX THERM/HR	0.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	6.3
DAY/HR	0/ 0	0/ 0	0/ 0	31/ 7	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	4/ 8	0/ 0	31/ 7
PEAK ENDUSE	0.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	
PEAK PCT	0.0	0.0	0.0	95.7	0.0	0.0	0.0	0.0	0.0	0.0	4.3	0.0	
FEB													
THERM	0.	0.	0.	1949.	0.	0.	0.	0.	0.	0.	186.	0.	2135.
MAX THERM/HR	0.0	0.0	0.0	6.2	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	6.5
DAY/HR	0/ 0	0/ 0	0/ 0	17/ 6	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	1/ 8	0/ 0	2/ 7
PEAK ENDUSE	0.0	0.0	0.0	6.2	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	
PEAK PCT	0.0	0.0	0.0	95.4	0.0	0.0	0.0	0.0	0.0	0.0	4.6	0.0	
MAR													
THERM	0.	0.	0.	1509.	0.	0.	0.	0.	0.	0.	207.	0.	1716.
MAX THERM/HR	0.0	0.0	0.0	5.3	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	5.4
DAY/HR	0/ 0	0/ 0	0/ 0	18/ 5	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	11/ 8	0/ 0	18/ 7
PEAK ENDUSE	0.0	0.0	0.0	5.1	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	
PEAK PCT	0.0	0.0	0.0	94.5	0.0	0.0	0.0	0.0	0.0	0.0	5.5	0.0	
APR													
THERM	0.	0.	0.	613.	0.	0.	0.	0.	0.	0.	193.	0.	807.
MAX THERM/HR	0.0	0.0	0.0	3.8	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	4.0
DAY/HR	0/ 0	0/ 0	0/ 0	5/ 6	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	1/ 8	0/ 0	5/ 7
PEAK ENDUSE	0.0	0.0	0.0	3.7	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	
PEAK PCT	0.0	0.0	0.0	92.8	0.0	0.0	0.0	0.0	0.0	0.0	7.2	0.0	
MAY													
THERM	0.	0.	0.	99.	0.	0.	0.	0.	0.	0.	170.	0.	269.
MAX THERM/HR	0.0	0.0	0.0	2.1	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	2.2
DAY/HR	0/ 0	0/ 0	0/ 0	1/ 6	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	1/ 8	0/ 0	1/ 6
PEAK ENDUSE	0.0	0.0	0.0	2.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	
PEAK PCT	0.0	0.0	0.0	97.3	0.0	0.0	0.0	0.0	0.0	0.0	2.7	0.0	
JUN													
THERM	0.	0.	0.	28.	0.	0.	0.	0.	0.	0.	136.	0.	164.
MAX THERM/HR	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.5
DAY/HR	0/ 0	0/ 0	0/ 0	9/ 7	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	1/ 8	0/ 0	29/ 8
PEAK ENDUSE	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	
PEAK PCT	0.0	0.0	0.0	41.1	0.0	0.0	0.0	0.0	0.0	0.0	58.9	0.0	

JUL													
THERM	0.	0.	0.	12.	0.	0.	0.	0.	0.	0.	115.	0.	127.
MAX THERM/HR	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.4
DAY/HR	0/ 0	0/ 0	0/ 0	26/ 7	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	1/ 8	0/ 0	1/19
PEAK ENDUSE	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	
PEAK PCT	0.0	0.0	0.0	39.3	0.0	0.0	0.0	0.0	0.0	0.0	60.7	0.0	
AUG													
THERM	0.	0.	0.	16.	0.	0.	0.	0.	0.	0.	99.	0.	115.
MAX THERM/HR	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.4
DAY/HR	0/ 0	0/ 0	0/ 0	16/ 9	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	1/ 8	0/ 0	5/ 8
PEAK ENDUSE	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	
PEAK PCT	0.0	0.0	0.0	48.1	0.0	0.0	0.0	0.0	0.0	0.0	51.9	0.0	

REPORT- PS-F Energy End-Use Summary for FBB WEATHER FILE- Boston MA TMY2
(CONTINUED)

SEP													
THERM	0.	0.	0.	36.	0.	0.	0.	0.	0.	0.	95.	0.	130.
MAX THERM/HR	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.5
DAY/HR	0/ 0	0/ 0	0/ 0	30/ 8	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	25/ 8	0/ 0	30/ 8
PEAK ENDUSE	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	
PEAK PCT	0.0	0.0	0.0	52.6	0.0	0.0	0.0	0.0	0.0	0.0	47.4	0.0	
OCT													
THERM	0.	0.	0.	186.	0.	0.	0.	0.	0.	0.	111.	0.	297.
MAX THERM/HR	0.0	0.0	0.0	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	2.3
DAY/HR	0/ 0	0/ 0	0/ 0	13/ 6	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	4/18	0/ 0	13/ 6
PEAK ENDUSE	0.0	0.0	0.0	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
PEAK PCT	0.0	0.0	0.0	98.1	0.0	0.0	0.0	0.0	0.0	0.0	1.9	0.0	
NOV													
THERM	0.	0.	0.	1234.	0.	0.	0.	0.	0.	0.	131.	0.	1365.
MAX THERM/HR	0.0	0.0	0.0	5.3	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	5.5
DAY/HR	0/ 0	0/ 0	0/ 0	20/ 7	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	5/ 8	0/ 0	20/ 7
PEAK ENDUSE	0.0	0.0	0.0	5.3	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	
PEAK PCT	0.0	0.0	0.0	96.4	0.0	0.0	0.0	0.0	0.0	0.0	3.6	0.0	
DEC													
THERM	0.	0.	0.	2087.	0.	0.	0.	0.	0.	0.	164.	0.	2251.
MAX THERM/HR	0.0	0.0	0.0	7.2	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	7.4
DAY/HR	0/ 0	0/ 0	0/ 0	24/ 7	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	19/ 8	0/ 0	24/ 7
PEAK ENDUSE	0.0	0.0	0.0	7.2	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	
PEAK PCT	0.0	0.0	0.0	96.8	0.0	0.0	0.0	0.0	0.0	0.0	3.2	0.0	
	=======	=======	=======	=======	=======	=======	=======	=======	=======	=======	=======	=======	========
THERM	0.	0.	0.	10261.	0.	0.	0.	0.	0.	0.	1799.	0.	12060.
MAX THERM/HR	0.0	0.0	0.0	7.2	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	7.4
MON/DY	0/ 0	0/ 0	0/ 0	12/24	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	3/11	0/ 0	12/24
PEAK ENDUSE	0.0	0.0	0.0	7.2	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	
PEAK PCT	0.0	0.0	0.0	96.8	0.0	0.0	0.0	0.0	0.0	0.0	3.2	0.0	

REPORT- PS-F Energy End-Use Summary for FBC WEATHER FILE- Boston MA TMY2

	LIGHTS	TASK LIGHTS	MISC EQUIP	SPACE HEATING	SPACE COOLING	HEAT REJECT	PUMPS & AUX	VENT FANS	REFRIG DISPLAY	HT PUMP SUPPLEM	DOMEST HOT WTR	EXT USAGE	TOTAL
JAN													
THERM	0.	0.	0.	2387.	0.	0.	0.	0.	0.	0.	190.	0.	2577.
MAX THERM/HR	0.0	0.0	0.0	5.8	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	6.2
DAY/HR	0/ 0	0/ 0	0/ 0	31/ 7	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	4/ 8	0/ 0	31/ 8
PEAK ENDUSE	0.0	0.0	0.0	5.8	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	
PEAK PCT	0.0	0.0	0.0	92.9	0.0	0.0	0.0	0.0	0.0	0.0	7.1	0.0	
FEB													
THERM	0.	0.	0.	1858.	0.	0.	0.	0.	0.	0.	186.	0.	2044.
MAX THERM/HR	0.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	6.2
DAY/HR	0/ 0	0/ 0	0/ 0	2/ 7	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	1/ 8	0/ 0	2/ 7
PEAK ENDUSE	0.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	
PEAK PCT	0.0	0.0	0.0	95.3	0.0	0.0	0.0	0.0	0.0	0.0	4.7	0.0	
MAR													
THERM	0.	0.	0.	1431.	0.	0.	0.	0.	0.	0.	207.	0.	1638.
MAX THERM/HR	0.0	0.0	0.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	5.2
DAY/HR	0/ 0	0/ 0	0/ 0	18/ 5	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	11/ 8	0/ 0	18/ 7
PEAK ENDUSE	0.0	0.0	0.0	4.9	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	
PEAK PCT	0.0	0.0	0.0	94.2	0.0	0.0	0.0	0.0	0.0	0.0	5.8	0.0	
APR													
THERM	0.	0.	0.	575.	0.	0.	0.	0.	0.	0.	193.	0.	768.
MAX THERM/HR	0.0	0.0	0.0	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	3.7
DAY/HR	0/ 0	0/ 0	0/ 0	5/ 6	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	1/ 8	0/ 0	5/ 7
PEAK ENDUSE	0.0	0.0	0.0	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	
PEAK PCT	0.0	0.0	0.0	92.3	0.0	0.0	0.0	0.0	0.0	0.0	7.7	0.0	
MAY													
THERM	0.	0.	0.	89.	0.	0.	0.	0.	0.	0.	170.	0.	259.
MAX THERM/HR	0.0	0.0	0.0	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	2.0
DAY/HR	0/ 0	0/ 0	0/ 0	1/ 6	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	1/ 8	0/ 0	1/ 6
PEAK ENDUSE	0.0	0.0	0.0	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	
PEAK PCT	0.0	0.0	0.0	97.1	0.0	0.0	0.0	0.0	0.0	0.0	2.9	0.0	
JUN													
THERM	0.	0.	0.	22.	0.	0.	0.	0.	0.	0.	136.	0.	158.
MAX THERM/HR	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.5
DAY/HR	0/ 0	0/ 0	0/ 0	9/ 7	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	1/ 8	0/ 0	7/ 8
PEAK ENDUSE	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	
PEAK PCT	0.0	0.0	0.0	37.8	0.0	0.0	0.0	0.0	0.0	0.0	62.2	0.0	

JUL													
THERM	0.	0.	0.	8.	0.	0.	0.	0.	0.	0.	115.	0.	124.
MAX THERM/HR	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.4
DAY/HR	0/ 0	0/ 0	0/ 0	26/ 7	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	1/ 8	0/ 0	26/ 7
PEAK ENDUSE	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	
PEAK PCT	0.0	0.0	0.0	58.8	0.0	0.0	0.0	0.0	0.0	0.0	41.2	0.0	
AUG													
THERM	0.	0.	0.	13.	0.	0.	0.	0.	0.	0.	99.	0.	112.
MAX THERM/HR	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.4
DAY/HR	0/ 0	0/ 0	0/ 0	5/ 7	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	1/ 8	0/ 0	5/ 8
PEAK ENDUSE	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	
PEAK PCT	0.0	0.0	0.0	46.8	0.0	0.0	0.0	0.0	0.0	0.0	53.2	0.0	

REPORT- PS-F Energy End-Use Summary for FBC WEATHER FILE- Boston MA TMY2

(CONTINUED)

SEP													
THERM	0.	0.	0.	31.	0.	0.	0.	0.	0.	0.	95.	0.	126.
MAX THERM/HR	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.5
DAY/HR	0/ 0	0/ 0	0/ 0	30/ 8	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	25/ 8	0/ 0	30/ 8
PEAK ENDUSE	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	
PEAK PCT	0.0	0.0	0.0	52.1	0.0	0.0	0.0	0.0	0.0	0.0	47.9	0.0	
OCT													
THERM	0.	0.	0.	167.	0.	0.	0.	0.	0.	0.	111.	0.	278.
MAX THERM/HR	0.0	0.0	0.0	2.1	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	2.1
DAY/HR	0/ 0	0/ 0	0/ 0	13/ 6	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	4/18	0/ 0	30/ 7
PEAK ENDUSE	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	
PEAK PCT	0.0	0.0	0.0	92.6	0.0	0.0	0.0	0.0	0.0	0.0	7.4	0.0	
NOV													
THERM	0.	0.	0.	1179.	0.	0.	0.	0.	0.	0.	131.	0.	1311.
MAX THERM/HR	0.0	0.0	0.0	5.1	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	5.3
DAY/HR	0/ 0	0/ 0	0/ 0	20/ 7	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	5/ 8	0/ 0	20/ 7
PEAK ENDUSE	0.0	0.0	0.0	5.1	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	
PEAK PCT	0.0	0.0	0.0	96.3	0.0	0.0	0.0	0.0	0.0	0.0	3.7	0.0	
DEC													
THERM	0.	0.	0.	1998.	0.	0.	0.	0.	0.	0.	164.	0.	2162.
MAX THERM/HR	0.0	0.0	0.0	6.9	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	7.2
DAY/HR	0/ 0	0/ 0	0/ 0	24/ 7	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	19/ 8	0/ 0	24/ 7
PEAK ENDUSE	0.0	0.0	0.0	6.9	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	
PEAK PCT	0.0	0.0	0.0	96.7	0.0	0.0	0.0	0.0	0.0	0.0	3.3	0.0	
	=======	=======	=======	=======	=======	=======	=======	=======	=======	=======	=======	=======	========
THERM	0.	0.	0.	9758.	0.	0.	0.	0.	0.	0.	1799.	0.	11558.
MAX THERM/HR	0.0	0.0	0.0	6.9	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	7.2
MON/DY	0/ 0	0/ 0	0/ 0	12/24	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	3/11	0/ 0	12/24
PEAK ENDUSE	0.0	0.0	0.0	6.9	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	
PEAK PCT	0.0	0.0	0.0	96.7	0.0	0.0	0.0	0.0	0.0	0.0	3.3	0.0	

REPORT- PS-F Energy End-Use Summary for FBD WEATHER FILE- Boston MA TMY2

	LIGHTS	TASK LIGHTS	MISC EQUIP	SPACE HEATING	SPACE COOLING	HEAT REJECT	PUMPS & AUX	VENT FANS	REFRIG DISPLAY	HT PUMP SUPPLEM	DOMEST HOT WTR	EXT USAGE	TOTAL
JAN													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	44.	0.	44.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	31/ 8	0/ 0	31/ 8
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	
FEB													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	43.	0.	43.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	17/ 8	0/ 0	17/ 8
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	
MAR													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	47.	0.	47.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	17/ 8	0/ 0	17/ 8
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	
APR													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	43.	0.	43.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	1/ 8	0/ 0	1/ 8
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	
MAY													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	38.	0.	38.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	1/ 8	0/ 0	1/ 8
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	
JUN													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	31.	0.	31.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	6/18	0/ 0	6/18
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	

JUL													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	26.	0.	26.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	4/19	0/ 0	4/19
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	
AUG													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	23.	0.	23.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	15/ 8	0/ 0	15/ 8
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	

REPORT- PS-F Energy End-Use Summary for FBD WEATHER FILE- Boston MA TMY2
(CONTINUED)

SEP													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	23.	0.	23.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	29/ 8	0/ 0	29/ 8
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	
OCT													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	27.	0.	27.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	27/ 8	0/ 0	27/ 8
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	
NOV													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	31.	0.	31.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	20/ 8	0/ 0	20/ 8
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	
DEC													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	39.	0.	39.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	24/ 8	0/ 0	24/ 8
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	
	=======	=======	=======	=======	=======	=======	=======	=======	=======	=======	=======	=======	========
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	414.	0.	414.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1
MON/DY	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	3/17	0/ 0	3/17
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	

REPORT- PS-F Energy End-Use Summary for FM1 WEATHER FILE- Boston MA TMY2

	LIGHTS	TASK LIGHTS	MISC EQUIP	SPACE HEATING	SPACE COOLING	HEAT REJECT	PUMPS & AUX	VENT FANS	REFRIG DISPLAY	HT PUMP SUPPLEM	DOMEST HOT WTR	EXT USAGE	TOTAL
JAN													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
FEB													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
MAR													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
APR													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
MAY													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
JUN													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

JUL													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
AUG													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

REPORT- PS-F Energy End-Use Summary for FM1 WEATHER FILE- Boston MA TMY2
(CONTINUED)

SEP													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
OCT													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
NOV													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
DEC													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	=======	=======	=======	=======	=======	=======	=======	=======	=======	=======	=======	=======	========
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MON/DY	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

Stationary Source Analysis

Stationary Source Greenhouse Gas Emissions Estimate

Job number: 13866.00
Project: Neponset Wharf
Scenario: Proposed

Building A

ENERGY CONSUMPTION

Scenario	Space Cool (kWh)	Heat Rejection (kBtu)	Space Heating (kWh)	Space Heating (therm)	Hot Water (therm)	Vent Fans (kWh)	Pumps & Aux. (kWh)	Misc. Equip. (kWh)	Interior Lighting (kWh)	Total Electricity (MWh)	Total Gas (MMBtu)	Total Energy (MMBtu)	EUI (kBtu/sf-yr)
BASELINE	91,252	0	0	29,032	25,508	203,527	5,826	209,155	263,594	773.4	5,454	8,091	53.6
DESIGN	50,044	772	61,260	11,970	12,489	179,084	28,379	209,155	183,308	712.0	2,446	4,873	32.3
END-USE SAVINGS	41,208	-772	-61,260	17,062	13,019	24,443	-22,553	0	80,286	61.4	3,008	3,217	
PERCENT SAVINGS												39.8%	

GREENHOUSE GAS EMISSIONS

Scenario	Space Cool (tons/yr)	Heat Rejection (tons/yr)	Space Heating (tons/yr)	Space Heating (tons/yr)	Hot Water (tons/yr)	Vent Fans (tons/yr)	Pumps & Aux. (tons/yr)	Misc. Equip. (tons/yr)	Interior Lighting (tons/yr)	Total Electricity (tons/yr)	Total Gas (tons/yr)	Total Energy (tons/yr)
BASELINE	32.4	0.0	0.0	169.8	149.2	72.3	2.1	74.3	93.6	274.5	319.1	593.6
DESIGN	17.8	0.3	21.7	70.0	73.1	63.6	10.1	74.3	65.1	252.8	143.1	395.8
END-USE SAVINGS	14.6	-0.3	-21.7	99.8	76.2	8.7	-8.0	0.0	28.5	21.8	176.0	197.8
PERCENT SAVINGS												33.3%

Building B

ENERGY CONSUMPTION

Scenario	Space Cool (kWh)	Heat Rejection (kBtu)	Space Heating (kWh)	Space Heating (therm)	Hot Water (therm)	Vent Fans (kWh)	Pumps & Aux. (kWh)	Misc. Equip. (kWh)	Interior Lighting (kWh)	Total Electricity (MWh)	Total Gas (MMBtu)	Total Energy (MMBtu)	EUI (kBtu/sf-yr)
BASELINE	71,616	0	0	14,270	4,232	133,798	3,627	100,749	76,749	386.5	1,850	3,168	66.7
DESIGN	40,019	0	0	10,261	1,799	79,628	1	100,749	61,287	281.7	1,206	2,166	45.6
END-USE SAVINGS	31,597	0	0	4,009	2,433	54,170	3,626	0	15,462	104.9	644	1,002	
PERCENT SAVINGS												31.6%	

GREENHOUSE GAS EMISSIONS

Scenario	Space Cool (tons/yr)	Heat Rejection (tons/yr)	Space Heating (tons/yr)	Space Heating (tons/yr)	Hot Water (tons/yr)	Vent Fans (tons/yr)	Pumps & Aux. (tons/yr)	Misc. Equip. (tons/yr)	Interior Lighting (tons/yr)	Total Electricity (tons/yr)	Total Gas (tons/yr)	Total Energy (tons/yr)
BASELINE	25.4	0.0	0.0	83.5	24.8	47.5	1.3	35.8	27.2	137.2	108.2	245.5
DESIGN	14.2	0.0	0.0	60.0	10.5	28.3	0.0	35.8	21.8	100.0	70.6	170.5
END-USE SAVINGS	11.2	0.0	0.0	23.5	14.2	19.2	1.3	0.0	5.5	37.2	37.7	74.9
PERCENT SAVINGS												30.5%

Building C

ENERGY CONSUMPTION

Scenario	Space Cool (kWh)	Heat Rejection (kBtu)	Space Heating (kWh)	Space Heating (therm)	Hot Water (therm)	Vent Fans (kWh)	Pumps & Aux. (kWh)	Misc. Equip. (kWh)	Interior Lighting (kWh)	Total Electricity (MWh)	Total Gas (MMBtu)	Total Energy (MMBtu)	EUI (kBtu/sf-yr)
BASELINE	70,913	0	0	13,650	4,232	129,688	3,470	92,788	69,364	366.2	1,788	3,037	69.8
DESIGN	40,434	0	0	9,758	1,799	77,416	1	92,788	55,778	266.4	1,156	2,064	47.4
END-USE SAVINGS	30,479	0	0	3,892	2,433	52,272	3,469	0	13,586	99.8	633	973	
PERCENT SAVINGS												32.0%	

GREENHOUSE GAS EMISSIONS

Scenario	Space Cool (tons/yr)	Heat Rejection (tons/yr)	Space Heating (tons/yr)	Space Heating (tons/yr)	Hot Water (tons/yr)	Vent Fans (tons/yr)	Pumps & Aux. (tons/yr)	Misc. Equip. (tons/yr)	Interior Lighting (tons/yr)	Total Electricity (tons/yr)	Total Gas (tons/yr)	Total Energy (tons/yr)
BASELINE	25.2	0.0	0.0	79.9	24.8	46.0	1.2	32.9	24.6	130.0	104.6	234.6
DESIGN	14.4	0.0	0.0	57.1	10.5	27.5	0.0	32.9	19.8	94.6	67.6	162.2
END-USE SAVINGS	10.8	0.0	0.0	22.8	14.2	18.6	1.2	0.0	4.8	35.4	37.0	72.4
PERCENT SAVINGS												30.9%

Building D

ENERGY CONSUMPTION

Scenario	Space Cool (kWh)	Heat Rejection (kBtu)	Space Heating (kWh)	Space Heating (therm)	Hot Water (therm)	Vent Fans (kWh)	Pumps & Aux. (kWh)	Misc. Equip. (kWh)	Interior Lighting (kWh)	Total Electricity (MWh)	Total Gas (MMBtu)	Total Energy (MMBtu)	EUI (kBtu/sf-yr)
BASELINE	12,754	0	0	2	902	19,672	0	17,510	108,093	158.0	90.4	629	33.1
DESIGN	9,313	0	0	0	414	14,679	0	17,510	64,376	105.9	41.4	402	21.2
END-USE SAVINGS	3,441	0	0	2	488	4,993	0	0	43,717	52.2	49.0	227	
PERCENT SAVINGS												36.0%	

GREENHOUSE GAS EMISSIONS

Scenario	Space Cool (tons/yr)	Heat Rejection (tons/yr)	Space Heating (tons/yr)	Space Heating (tons/yr)	Hot Water (tons/yr)	Vent Fans (tons/yr)	Pumps & Aux. (tons/yr)	Misc. Equip. (tons/yr)	Interior Lighting (tons/yr)	Total Electricity (tons/yr)	Total Gas (tons/yr)	Total Energy (tons/yr)
BASELINE	4.5	0.0	0.0	0.0	5.3	7.0	0.0	6.2	38.4	56.1	5.3	61.4
DESIGN	3.3	0.0	0.0	0.0	2.4	5.2	0.0	6.2	22.9	37.6	2.4	40.0
END-USE SAVINGS	1.2	0.0	0.0	0.0	2.9	1.8	0.0	0.0	15.5	18.5	2.9	21.4
PERCENT SAVINGS												34.8%

PROJECT TOTAL

ENERGY CONSUMPTION

Scenario	Space Cool (kWh)	Heat Rejection (kBtu)	Space Heating (kWh)	Space Heating (therm)	Hot Water (therm)	Vent Fans (kWh)	Pumps & Aux. (kWh)	Misc. Equip. (kWh)	Interior Lighting (kWh)	Total Electricity (MWh)	Total Gas (MMBtu)	Total Energy (MMBtu)
BASELINE	246,535	0	0	56,954	34,874	486,685	12,923	420,202	517,800	1,684	9,183	14,925
DESIGN	139,810	772	61,260	31,989	16,501	350,807	28,381	420,202	364,749	1,366	4,849	9,506
END-USE SAVINGS	106,725	-772	-61,260	24,965	18,373	135,878	-15,458	0	153,051	318	4,334	5,419
PERCENT SAVINGS												36.3%

GREENHOUSE GAS EMISSIONS

Scenario	Space Cool (tons/yr)	Heat Rejection (tons/yr)	Space Heating (tons/yr)	Space Heating (tons/yr)	Hot Water (tons/yr)	Vent Fans (tons/yr)	Pumps & Aux. (tons/yr)	Misc. Equip. (tons/yr)	Interior Lighting (tons/yr)	Total Electricity (tons/yr)	Total Gas (tons/yr)	Total Energy (tons/yr)
BASELINE	87.5	0.0	0.0	333.2	204.0	172.8	4.6	149.2	183.8	597.9	537.2	1,135.1
DESIGN	49.6	0.3	21.7	187.1	96.5	124.5	10.1	149.2	129.5	484.9	283.7	768.6
END-USE SAVINGS	37.9	-0.3	-21.7	146.0	107.5	48.2	-5.5	0.0	54.3	112.9	253.5	366.5
PERCENT SAVINGS												32.3%

CONVERSION TABLE

CONVERT	MULTIPLY BY
KWH TO MWH	0.001
MWH TO LBS[2]	710.0
THERMS TO MBTU	0.1
LBS TO SHORT TONS	0.0005
kBTU to KWH	0.293
MMBTU to LBS[3]	117.0

Energy Source

Natural Gas Use

Electricity Use

2 mwh to lbs of CO2 conversion factor from 2016 ISO New England Electric Generator Air Emissions Report
3 https://www.eia.gov/environment/emissions/co2_vol_mass.cfm

Stationary Source Greenhouse Gas Emissions Estimate

Job number: 13866.00
Project: Neponset Wharf
Scenario: Proposed with Energy Star

Building A

ENERGY CONSUMPTION

Scenario	Space Cool (kWh)	Heat Rejection (kBtu)	Space Heating (kWh)	Space Heating (therm)	Hot Water (therm)	Vent Fans (kWh)	Pumps & Aux. (kWh)	Misc. Equip. (kWh)	Interior Lighting (kWh)	Total Electricity (MWh)	Total Gas (MMBtu)	Total Energy (MMBtu)	EUI (kBtu/sf-yr)
BASELINE	91,252	0	0	29,032	25,508	203,527	5,826	209,155	263,594	773.4	5,454	8,091	53.6
DESIGN	50,044	772	61,260	11,970	12,489	179,084	28,379	188,240	183,308	691.1	2,446	4,802	31.8
END-USE SAVINGS	41,208	-772	-61,260	17,062	13,019	24,443	-22,553	20,916	80,286	82.3	3,008	3,289	
PERCENT SAVINGS												40.6%	

GREENHOUSE GAS EMISSIONS

Scenario	Space Cool (tons/yr)	Heat Rejection (tons/yr)	Space Heating (tons/yr)	Space Heating (tons/yr)	Hot Water (tons/yr)	Vent Fans (tons/yr)	Pumps & Aux. (tons/yr)	Misc. Equip. (tons/yr)	Interior Lighting (tons/yr)	Total Electricity (tons/yr)	Total Gas (tons/yr)	Total Energy (tons/yr)
BASELINE	32.4	0.0	0.0	169.8	149.2	72.3	2.1	74.3	93.6	274.5	319.1	593.6
DESIGN	17.8	0.3	21.7	70.0	73.1	63.6	10.1	66.8	65.1	245.3	143.1	388.4
END-USE SAVINGS	14.6	-0.3	-21.7	99.8	76.2	8.7	-8.0	7.4	28.5	29.2	176.0	205.2
PERCENT SAVINGS												34.6%

Building B

ENERGY CONSUMPTION

Scenario	Space Cool (kWh)	Heat Rejection (kBtu)	Space Heating (kWh)	Space Heating (therm)	Hot Water (therm)	Vent Fans (kWh)	Pumps & Aux. (kWh)	Misc. Equip. (kWh)	Interior Lighting (kWh)	Total Electricity (MWh)	Total Gas (MMBtu)	Total Energy (MMBtu)	EUI (kBtu/sf-yr)
BASELINE	71,616	0	0	14,270	4,232	133,798	3,627	100,749	76,749	386.5	1,850	3,168	66.7
DESIGN	40,019	0	0	10,261	1,799	79,628	1	90,674	61,287	271.6	1,206	2,132	44.9
END-USE SAVINGS	31,597	0	0	4,009	2,433	54,170	3,626	10,075	15,462	114.9	644	1,036	
PERCENT SAVINGS												32.7%	

GREENHOUSE GAS EMISSIONS

Scenario	Space Cool (tons/yr)	Heat Rejection (tons/yr)	Space Heating (tons/yr)	Space Heating (tons/yr)	Hot Water (tons/yr)	Vent Fans (tons/yr)	Pumps & Aux. (tons/yr)	Misc. Equip. (tons/yr)	Interior Lighting (tons/yr)	Total Electricity (tons/yr)	Total Gas (tons/yr)	Total Energy (tons/yr)
BASELINE	25.4	0.0	0.0	83.5	24.8	47.5	1.3	35.8	27.2	137.2	108.2	245.5
DESIGN	14.2	0.0	0.0	60.0	10.5	28.3	0.0	32.2	21.8	96.4	70.6	167.0
END-USE SAVINGS	11.2	0.0	0.0	23.5	14.2	19.2	1.3	3.6	5.5	40.8	37.7	78.5
PERCENT SAVINGS												32.0%

Building C

ENERGY CONSUMPTION

Scenario	Space Cool (kWh)	Heat Rejection (kBtu)	Space Heating (kWh)	Space Heating (therm)	Hot Water (therm)	Vent Fans (kWh)	Pumps & Aux. (kWh)	Misc. Equip. (kWh)	Interior Lighting (kWh)	Total Electricity (MWh)	Total Gas (MMBtu)	Total Energy (MMBtu)	EUI (kBtu/sf-yr)
BASELINE	70,913	0	0	13,650	4,232	129,688	3,470	92,788	69,364	366.2	1,788	3,037	69.8
DESIGN	40,434	0	0	9,758	1,799	77,416	1	83,509	55,778	257.1	1,156	2,032	46.7
END-USE SAVINGS	30,479	0	0	3,892	2,433	52,272	3,469	9,279	13,586	109.1	633	1,004	
PERCENT SAVINGS												33.1%	

GREENHOUSE GAS EMISSIONS

Scenario	Space Cool (tons/yr)	Heat Rejection (tons/yr)	Space Heating (tons/yr)	Space Heating (tons/yr)	Hot Water (tons/yr)	Vent Fans (tons/yr)	Pumps & Aux. (tons/yr)	Misc. Equip. (tons/yr)	Interior Lighting (tons/yr)	Total Electricity (tons/yr)	Total Gas (tons/yr)	Total Energy (tons/yr)
BASELINE	25.2	0.0	0.0	79.9	24.8	46.0	1.2	32.9	24.6	130.0	104.6	234.6
DESIGN	14.4	0.0	0.0	57.1	10.5	27.5	0.0	29.6	19.8	91.3	67.6	158.9
END-USE SAVINGS	10.8	0.0	0.0	22.8	14.2	18.6	1.2	3.3	4.8	38.7	37.0	75.7
PERCENT SAVINGS												32.3%

Building D

ENERGY CONSUMPTION

Scenario	Space Cool (kWh)	Heat Rejection (kBtu)	Space Heating (kWh)	Space Heating (therm)	Hot Water (therm)	Vent Fans (kWh)	Pumps & Aux. (kWh)	Misc. Equip. (kWh)	Interior Lighting (kWh)	Total Electricity (MWh)	Total Gas (MMBtu)	Total Energy (MMBtu)	EUI (kBtu/sf-yr)
BASELINE	12,754	0	0	2	902	19,672	0	17,510	108,093	158.0	90.4	629	33.1
DESIGN	9,313	0	0	0	414	14,679	0	15,759	64,376	104.1	41.4	396	20.9
END-USE SAVINGS	3,441	0	0	2	488	4,993	0	1,751	43,717	53.9	49.0	233	
PERCENT SAVINGS												37.0%	

GREENHOUSE GAS EMISSIONS

Scenario	Space Cool (tons/yr)	Heat Rejection (tons/yr)	Space Heating (tons/yr)	Space Heating (tons/yr)	Hot Water (tons/yr)	Vent Fans (tons/yr)	Pumps & Aux. (tons/yr)	Misc. Equip. (tons/yr)	Interior Lighting (tons/yr)	Total Electricity (tons/yr)	Total Gas (tons/yr)	Total Energy (tons/yr)
BASELINE	4.5	0.0	0.0	0.0	5.3	7.0	0.0	6.2	38.4	56.1	5.3	61.4
DESIGN	3.3	0.0	0.0	0.0	2.4	5.2	0.0	5.6	22.9	37.0	2.4	39.4
END-USE SAVINGS	1.2	0.0	0.0	0.0	2.9	1.8	0.0	0.6	15.5	19.1	2.9	22.0
PERCENT SAVINGS												35.8%

PROJECT TOTAL

ENERGY CONSUMPTION

Scenario	Space Cool (kWh)	Heat Rejection (kBtu)	Space Heating (kWh)	Space Heating (therm)	Hot Water (therm)	Vent Fans (kWh)	Pumps & Aux. (kWh)	Misc. Equip. (kWh)	Interior Lighting (kWh)	Total Electricity (MWh)	Total Gas (MMBtu)	Total Energy (MMBtu)
BASELINE	246,535	0	0	56,954	34,874	486,685	12,923	420,202	517,800	1,684	9,183	14,925
DESIGN	139,810	772	61,260	31,989	16,501	350,807	28,381	378,182	364,749	1,324	4,849	9,363
END-USE SAVINGS	106,725	-772	-61,260	24,965	18,373	135,878	-15,458	42,020	153,051	360	4,334	5,562
PERCENT SAVINGS												37.3%

GREENHOUSE GAS EMISSIONS

Scenario	Space Cool (tons/yr)	Heat Rejection (tons/yr)	Space Heating (tons/yr)	Space Heating (tons/yr)	Hot Water (tons/yr)	Vent Fans (tons/yr)	Pumps & Aux. (tons/yr)	Misc. Equip. (tons/yr)	Interior Lighting (tons/yr)	Total Electricity (tons/yr)	Total Gas (tons/yr)	Total Energy (tons/yr)
BASELINE	87.5	0.0	0.0	333.2	204.0	172.8	4.6	149.2	183.8	597.9	537.2	1,135.1
DESIGN	49.6	0.3	21.7	187.1	96.5	124.5	10.1	134.3	129.5	470.0	283.7	753.7
END-USE SAVINGS	37.9	-0.3	-21.7	146.0	107.5	48.2	-5.5	14.9	54.3	127.9	253.5	381.4
PERCENT SAVINGS												33.6%

CONVERSION TABLE

CONVERT	MULTIPLY BY
KWH TO MWH	0.001
MWH TO LBS[2]	710.0
THERMS TO MBTU	0.1
LBS TO SHORT TONS	0.0005
kBTU to KWH	0.293
MMBTU to LBS[3]	117.0

Energy Source
Natural Gas Use
Electricity Use

2 mwh to lbs of CO2 conversion factor from 2016 ISO New England Electric Generator Air Emissions Report
3 https://www.eia.gov/environment/emissions/co2_vol_mass.cfm

Solar PV Analysis

Neponset Wharf Solar GHG Estimation		
System Size	100	kW DC
System Area	15,000	sf
System Efficiency	19	percent
System Output	**115,500** **115.5**	**kWh/yr** **MWh/yr**
GHG Emission Factor	710	lbs/MWh
GHG Emissions	**41**	**Short Tons**

Silfab SOLAR

SLG-M
Monocrystalline

BAA ARRA | 30 30-YEAR GUARANTEE | AUTOMATED MANUFACTURING | JUST-IN-TIME | DNV TOP PERFORMER | TIER 1 BANKABLE $$$ | HIGH EFFICIENCY

370 Wp 72 Cell
Monocrystalline PV Module

CE IEC TÜV ETL Intertek Fraunhofer ISE

100% MAXIMUM POWER DENSITY
Silfab's SLG-M 370 ultra-high-efficiency modules are optimized for Commercial projects where maximum power density is preferred.

100% NORTH AMERICAN QUALITY MATTERS
Silfab's fully-automated manufacturing facility ensures precision engineering is applied at every stage. Superior reliability and performance combine to produce one of the highest quality modules with the lowest defect rate in the industry.

NORTH AMERICAN CUSTOMIZED SERVICE
Silfab's 100% North American based team leverages just-in-time manufacturing to deliver unparalleled service, on-time delivery and flexible project solutions.

ENSURES MAXIMUM EFFICIENCY
72 of the highest efficiency, premium quality monocrystalline cells result in a maximum power rating of 370Wp.

ADVANCED PERFORMANCE WARRANTY
25-year linear power performance guarantee to 82%

ENHANCED PRODUCT WARRANTY
12-year product/workmanship warranty

BUILT BY INDUSTRY EXPERTS
With over 35 years of industry experience, Silfab's technical team are pioneers in PV technology and are dedicated to an innovative approach that provides superior manufacturing processes including: infra-red cell sorting, glass washing, automated soldering and meticulous cell alignment.

POSITIVE TOLERANCE
(-0/+5W) All positive module sorting ensures maximum performance

44 PPM DEFECT RATE*
Total automation ensures strict quality control during each step of the process at our certified ISO manufacturing facility.
*As of December 31, 2016

LIGHT AND DURABLE
Over-engineered to weather low load bearing structures up to 5400 Pa. Light-weight frame exclusively designed with wide-ranging racking compatibility and durability.

PID RESISTANT
Proven in accordance to IEC 62804-1

AVAILABLE IN
Silver

MADE IN NORTH AMERICA

Electrical Specifications		SILFAB SLG Monocrystalline	
Test Conditions		STC	NOCT
Module Power (Pmax)	Wp	370	279.4
Maximum power voltage (Vpmax)	V	39.6	35.6
Maximum power current (Ipmax)	A	9.35	7.85
Open circuit voltage (Voc)	V	48.2	44.56
Short circuit current (Isc)	A	9.93	8.14
Module efficiency	%	19.0	17.9
Maximum system voltage (VDC)	V	1000	
Series fuse rating	A	15	
Power Tolerance	Wp	-0/+5	

Measurement conditions: STC 1000 W/m2 • AM 1.5 • Temperature 25 °C • NOCT 800 W/m² • AM 1.5 • Measurement uncertainty ≤ 3%
• Sun simulator calibration reference modules from Fraunhofer Institute. Electrical characteristics may vary by ±5% and power by -0/+5W.

Temperature Ratings		SILFAB SLG Monocrystalline
Temperature Coefficient Isc	%/K	0.03
Temperature Coefficient Voc	%/K	-0.30
Temperature Coefficient Pmax	%/K	-0.38
NOCT (± 2°C)	°C	45
Operating temperature	°C	-40/+85

Mechanical Properties and Components		SILFAB SLG Monocrystalline
Module weight (± 1 kg)	kg	23
Dimensions (H x L x D; ± 1mm)	mm	1970 x 990 x 38
Maximum surface load (wind/snow)*	N/m²	5400
Hail impact resistance		ø 25 mm at 83 km/h
Cells		72 - Si monocrystalline - 4 or 5 busbar - 156.75 x 156.75 mm
Glass		3.2 mm high transmittance, tempered, antireflective coating
Backsheet		Multilayer polyester-based
Frame		Anodized Al
Bypass diodes		3 diodes-45V/12A, IP67/IP68
Cables and connectors (See installation manual)		1200 mm ø 5.7 mm (4 mm²), MC4 compatible

Warranties	SILFAB SLG Monocrystalline
Module product warranty	12 years
Linear power performance guarantee	25 years ≥ 97% end of 1st year ≥ 90% end of 12th year ≥ 82% end of 25th year

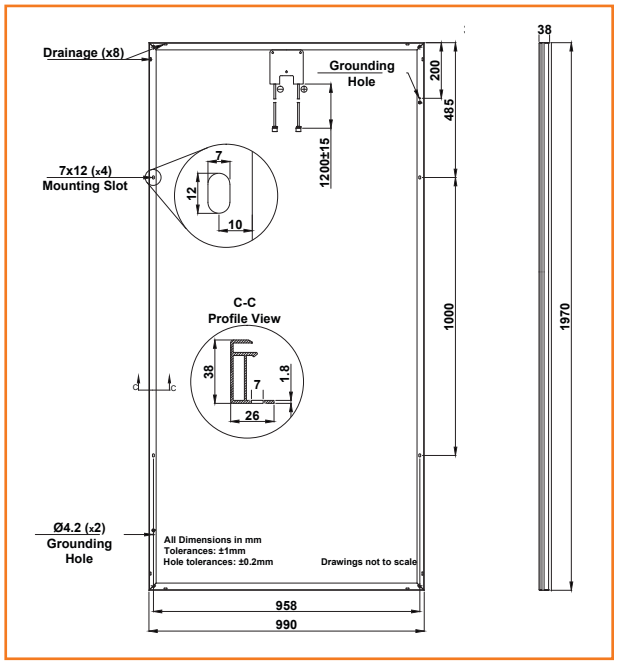
Certifications	SILFAB SLG Monocrystalline
Product	ULC ORD C1703, UL 1703, IEC 61215, IEC 61730, IEC 61701, CEC listed
	UL Fire Rating: Type 2 (Type 1 on request)
Factory	ISO 9001:2008

Warning: Read the installation and User Manual before handling, installing and operating modules.

Third-party generated pan files from PV Evolution Labs available for download at: www.silfab.ca/downloads

TOP PERFORMER 2017 DNV·GL PV MODULE RELIABILITY SCORECARD

- Pallet Count: 30
- Container Count: 750



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CHP Analysis

Building A		
Building Area		150,000
Gas Rate ($/Therm)		1.20
CHP Gas Rate		1.20
Electric Rate ($/kWh)		0.19
CHP Capacity (kW)		75.00
CHP Thermal Eff (%)		0.55
Full Load Hours		2,426
Building DHW Load (MBTU)		1,854
Builiding DHW Load (Therms)		18,540
Annual DHW Cost without CHP	$	(27,131.71)
With CHP Unit		
Annual Gas Consumption (Therms)		20,487
Annual Cost	$	(24,584.21)
Annual Heat Recovery (Therms)		11,268
Annual Savings (DHW Cost Avoided)	$	13,521.32
Annual Electric Production (kWh)		181,950
Annual Savings	$	34,570.50
Net Annual Utility Savings	$	23,507.61
Annual Maintenance Cost ($)	$	(5,458.50)
Annual AEC Benefit	$	-
Annual Net Savings		$18,049.11
Annual Net Savings $/SF		0.12
Unit Cost	$	300,000.00
Unit Incentive	$	-
Net Unit Cost	$	300,000.00
Simple Payback (Yrs)		**17**

Building B		
Building Area		47,500
Gas Rate ($/Therm)		1.20
CHP Gas Rate		1.20
Electric Rate ($/kWh)		0.19
CHP Capacity (kW)		35.00
CHP Thermal Eff (%)		0.55
Full Load Hours		2,426
Building DHW Load (MBTU)		300
Builiding DHW Load (Therms)		3,000
Annual DHW Cost without CHP	$	(4,390.24)
With CHP Unit		
Annual Gas Consumption (Therms)		9,561
Annual Cost	$	(11,472.63)
Annual Heat Recovery (Therms)		5,258
Annual Savings (DHW Cost Avoided)	$	6,309.95
Annual Electric Production (kWh)		84,910
Annual Savings	$	16,132.90
Net Annual Utility Savings	$	10,970.22
Annual Maintenance Cost ($)	$	(2,547.30)
Annual AEC Benefit	$	-
Annual Net Savings		$8,422.92
Annual Net Savings $/SF		0.18
Unit Cost	$	140,000.00
Unit Incentive	$	-
Net Unit Cost	$	140,000.00
Simple Payback (Yrs)		**17**

Neponset Wharf
CHP GHG Analysis

	Energy Consumption/Production			GHG Production/Savings			
CHP System	Annual Gas Consumption (therms/yr)	Annual Heat Recovery (therms/yr)	Annual Electric Production (kWh/yr)	Annual Gas Consumption (tons/yr)	Annual Heat Recovery (tons/yr)	Annual Electric Production (tons/yr)	Total GHG Savings (tons/yr)
Building A	-20,487	11,268	181,950	-120	66	65	11
Building B	-9,561	5,258	84,910	-56	31	30	5
Building C	-9,561	5,258	84,910	-56	31	30	5
Total	**-39,609**	**21,784**	**351,770**	**-232**	**127**	**125**	**21**

Passive House Analysis

RODE
535 Albany Street | 405
Boston, MA
02118

MEMO

TO: SETH LATTRELL, VHB

FROM: MIKE BENNETT

DATE: APRIL 4, 2018

RE: PORT NORFOLK - PASSIVE HOUSE [BUILDING B]

Project: Neponset Wharf

The Neponset Wharf development will consist of 4 total buildings; 3 residential [with a small retail space] and 1 boat storage building with marina clubhouse. The project team is interested in the feasibility of adapting the design to meet the energy consumption limits for heating, cooling, and total building primary energy demand outlined in the Passive House standard and certification program compared to a conventional building envelope.

The following analysis looks at the ASHRAE 90.1 2013 baseline compared to a conventional construction approach as well as a Passive House design. The analysis shows the Energy Reduction of the 2 proposed schemes compared to the baseline.

I. Passive House Principles and Requirements

The passive design principles focus on achieving very low energy use for heating and cooling buildings by implementing design solutions such as optimized orientation and shading, superinsulation, passive solar gains, air-tight envelope, elimination of thermal bridges and efficient HVAC.

There are no prescriptive insulation requirements for Passive House certification, however, in order to meet the strict energy use requirements, a highly insulated envelope is essential. The insulation has to be continuous and connection details free of thermal bridges. Achieving Passive House certification requires the design to meet stringent airtightness standards (n50: 0.6 ACH @ 50Pa). Performance must be verified through blower door testing of the entire building after construction.

The effect of internal loads in a building pursuing the passive house is magnified in a passive house due to the airtight, heavily insulated envelope. To meet energy targets, a passive house design requires reduced internal loads through high efficiency lighting (e.g. LED's) and Energy Star equipment.

Further, the annual energy load needs to be below the climate-specific heating, cooling and primary (source) energy performance metrics provided in the PHIUS+2015 Passive Building Standard. These requirements for climate zone 5A-Boston are summarized in Table-1 of this report.

The mechanical system being deployed to support compliance with passive house goals is a Variable Refrigerant Flow (VRF) heat recovery type system. This system provides excellent energy performance based on the high EER of the equipment, the ability to recover energy from simultaneous heat gain and heat loss in the building, and the ability to effectively modulate the system to meet part loads. The configuration of the system requires the use of additional piping distribution above and beyond the baseline system which results in a higher installed first cost even when taking into account the lower load requirements associated with passive house.

II. Energy Modeling Comparison

Input Summary	Baseline Case (ASHRAE 90.1-2013, App. G)	Proposed Design	Proposed Design with Passive House Building B
Roof Insulation	R-30 c.i. U-0.032 per Table A2.2.3	R-35 c.i. (all construction types) U-0.028 per Table A2.2.3	R-60 c.i. (Building B) U-0.016 per Table A2.2.3
Wall Insulation	R-13 + R-10 c.i (metal stud) U-0.055 per Table A3.3.3.1	R-20 ci (all construction types) U-0.044 per Table A3.3.3.1	R-40 ci (Building B) U-0.023 per Table A3.3.3.1 *Air sealing reduces infiltration 30%
Windows / Glazing	U-0.42 (fixed) U-0.50 (operable) SHGC-0.40 (both)	U-0.36 (assembly, all construction types) SHGC-0.32 (all construction types)	Triple Glazing U-0.25 (Building B, assembly) SHGC 0.20
Window-to-Wall Ratio	same as proposed (residential) 6% (Boathouse)	31.5% (Building A) 31.1% (residential B and C) 6% (Building D)	31%
Temperature Setpoints	Cooling: 75°F Heating: 70°F	Cooling: 75°F Heating: 70°F	Cooling: 77°F Heating: 68°F
Corridor HVAC System	DX RTU with Gas-Fired Furnace and heat recovery (50% Eff.)	DX RTU with Gas-Fired Furnace and heat recovery (75% Eff.)	DX RTU with Gas-Fired Furnace and heat recovery (75% Eff.)
Corridor Cooling Efficiency	10.8 EER	12 EER	12 EER
Corridor Heating Efficiency	80% Et Gas Fired Furnace	80% Et Gas Fired Furnace	80% Et Gas Fired Furnace
Residential HVAC System	PTAC - DX with hot water coil	WSHP (Building A) DX w/combi boilers (Building B/C) DX (Building D) with ERVs at Residential	VRF (Building B) with ERVs at Residential
Residential Cooling Efficiency	9.3 EER	15 EER (Building A) 12 EER (Building B, C, D)	14.1 EER (Building B)
Residential Heating Efficiency	82% Ec Boiler	95% Ec Boiler	4.2 COP (Building B)
Retail HVAC System	Air Cooled Packaged VAV w/ Hot Water Coils	Air Cooled Packaged VAV w/ Hot Water Coils	Air Cooled Packaged VAV w/ Hot Water Coils
Retail Cooling Efficiency	12.2 EER	13 EER	13 EER
Retail Heating Efficiency	82% Ec Boiler	95% Ec Boiler	95% Ec Boiler
Domestic Hot Water	80% Et Boiler	95% Et Boiler (combi/central system)	95% Et Boiler (central)
Lighting LPD (Space by Space)	0.51 x 90% = 0.46 W/SF (Residential) 0.66 x 90% = 0.594 W/SF (Corridor) 0.69 x 90% = 0.621 W/SF (Stairwell) 1.44 W/SF (Retail) 0.19 x 90% = 0.171 W/SF (Parking) 0.42 (Mechanical) *Vacancy sensors in common spaces *Dimming panels	0.41 W/SF (Residential) 0.45 W/SF (Corridor) 0.60 W/SF (Stairwell) 1.44 W/SF (Retail) 0.095 W/SF (Parking) 0.32 (Mechanical) *Vacancy sensors in common spaces *Dimming panels	0.30 W/SF (Residential) 0.45 W/SF (Corridor) 0.60 W/SF (Stairwell) 1.44 W/SF (Retail) 0.095 W/SF (Parking) 0.32 (Mechanical) *Vacancy sensors in common spaces *Dimming panels

Appliances	Standard Efficiency	Energy Star Rated	Energy Star Rated
Bathroom Fans	N/A - exhaust fans included in total system fan energy	N/A - exhaust fans included in total system fan energy	N/A - exhaust fans included in total system fan energy
Elevators	same as proposed	Regenerative Drive	Regenerative Drive
Whole Building Energy Model Results			
Electricity Cost [kWh]	$0.140	$0.140	$0.140
Natural Gas Cost	$1.100	$1.100	$1.100
Energy Reduction from Baseline	**Building A Resil: 7,934 MMBTU Building B Resi: 3,093 MMBTU Building C Resi: 2,968 MMBTU Building D Boathouse: 630 MMBTU**	**Building A Resi: 39.8% Building B Resi: 31.4% Building C Resi: 31.9% Building D Boathouse: 36.0%**	**Building B Residential: 66%**

Notes:

(1) Utility rates assumed to be $0.14 per KWH (electric) and $1.10 per therm (gas) for both cases

(2) Wall and roof insulation values are "equivalent" R-values and include inside and outside film effects

(3) Window U-value and SHGC are for fenestration total assembly

(4) The energy model summarized in this report shall be used for comparison purposes only. Neither the proposed building performance nor the baseline building performance are predictions of actual energy consumption or costs for the proposed design after construction. Actual experience will differ from these calculations due to variations such as occupancy, building operation and maintenance, weather, energy use not covered by the ASHRAE 90.1 App. G procedure, changes in the energy rates between design of the building and occupancy, and the precision of the calculation tool.

III. Energy Reduction vs. Cost

To determine the viability of the cost of these three design schemes, the development team created a cost comparison to evaluate the financial viability of each option.

Category	Baseline Case (ASHRAE 90.1-2013, App. G)	Proposed Design	Proposed Design with Passive House Building B
HVAC	$45/sf	$50/sf	$60/sf
Exterior Envelope [Walls, Roof, Insulation]	$82.50/sf	$97.50/sf	$133.50/sf
Windows/Glazing	$130/sf	$140/sf	$175/sf
Total	**$257.50/sf**	**$287.50/sf**	**$368.50/sf**

IV. Summary

The proposed design scheme employs a number of energy reduction strategies as outlined in the chart in section II, and achieves an 36.0% energy reduction when compared to the baseline ASHRAE 90.1 2013, App. G standard. A “Passive House” design that follows all the criteria for materials, insulation, systems, glazing, etc. shown in section II above is able to achieve a 66% energy reduction compared to the same baseline standard. However, the first costs associated with the Passive Design are more than 28% higher than the proposed design, and since these will be condo units sold by the proponent, the lifetime pay back of the more efficient systems will not benefit the development team. We are recommending to move forward with the proposed design.

REPORT- BEPS Building Energy Performance WEATHER FILE- Boston MA TMY2

		LIGHTS	TASK LIGHTS	MISC EQUIP	SPACE HEATING	SPACE COOLING	HEAT REJECT	PUMPS & AUX	VENT FANS	REFRIG DISPLAY	HT PUMP SUPPLEM	DOMEST HOT WTR	EXT USAGE	TOTAL
BA	ELECTRICITY													
	MBTU	409.3	0.0	713.8	31.5	206.6	5.4	126.1	465.3	0.0	0.0	0.0	0.0	1958.0
BB	ELECTRICITY													
	MBTU	94.6	0.0	343.9	60.6	81.5	0.0	0.0	226.5	0.0	5.0	0.0	0.0	812.0
BC	ELECTRICITY													
	MBTU	85.0	0.0	316.7	18.4	160.0	0.0	0.0	219.7	0.0	0.0	0.0	0.0	799.8
BD	ELECTRICITY													
	MBTU	219.7	0.0	59.8	0.0	33.1	0.0	0.0	48.1	0.0	0.0	0.0	0.0	360.6
EM1	ELECTRICITY													
	MBTU	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FBA	NATURAL-GAS													
	MBTU	0.0	0.0	0.0	450.6	0.0	0.0	0.0	0.0	0.0	0.0	1249.0	0.0	1699.5
FBB	NATURAL-GAS													
	MBTU	0.0	0.0	0.0	86.3	0.0	0.0	0.0	0.0	0.0	0.0	179.9	0.0	266.2
FBC	NATURAL-GAS													
	MBTU	0.0	0.0	0.0	75.7	0.0	0.0	0.0	0.0	0.0	0.0	179.9	0.0	255.7
FBD	NATURAL-GAS													
	MBTU	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	41.4	0.0	41.4
FM1	NATURAL-GAS													
	MBTU	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	MBTU	808.7	0.0	1434.0	723.2	481.1	5.4	126.1	959.6	0.0	5.0	1650.0	0.0	6193.3

TOTAL SITE ENERGY 6193.33 MBTU 23.5 KBTU/SQFT-YR GROSS-AREA 23.5 KBTU/SQFT-YR NET-AREA
TOTAL SOURCE ENERGY 14054.40 MBTU 53.3 KBTU/SQFT-YR GROSS-AREA 53.3 KBTU/SQFT-YR NET-AREA

PERCENT OF HOURS ANY SYSTEM ZONE OUTSIDE OF THROTTLING RANGE = 3.64
PERCENT OF HOURS ANY PLANT LOAD NOT SATISFIED = 0.00
HOURS ANY ZONE ABOVE COOLING THROTTLING RANGE = 282
HOURS ANY ZONE BELOW HEATING THROTTLING RANGE = 37

NOTE: ENERGY IS APPORTIONED HOURLY TO ALL END-USE CATEGORIES.

REPORT- BEPU Building Utility Performance WEATHER FILE- Boston MA TMY2

		LIGHTS	TASK LIGHTS	MISC EQUIP	SPACE HEATING	SPACE COOLING	HEAT REJECT	PUMPS & AUX	VENT FANS	REFRIG DISPLAY	HT PUMP SUPPLEM	DOMEST HOT WTR	EXT USAGE	TOTAL
BA	ELECTRICITY													
	KWH	119937.	0.	209155.	9222.	60537.	1585.	36937.	136333.	0.	0.	0.	0.	573706.
BB	ELECTRICITY													
	KWH	27719.	0.	100749.	17768.	23867.	0.	1.	66353.	0.	1473.	0.	0.	237929.
BC	ELECTRICITY													
	KWH	24904.	0.	92788.	5399.	46867.	0.	1.	64380.	0.	0.	0.	0.	234340.
BD	ELECTRICITY													
	KWH	64376.	0.	17510.	0.	9692.	0.	0.	14087.	0.	0.	0.	0.	105665.
EM1	ELECTRICITY													
	KWH	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
FBA	NATURAL-GAS													
	THERM	0.	0.	0.	4506.	0.	0.	0.	0.	0.	0.	12489.	0.	16995.
FBB	NATURAL-GAS													
	THERM	0.	0.	0.	863.	0.	0.	0.	0.	0.	0.	1799.	0.	2662.
FBC	NATURAL-GAS													
	THERM	0.	0.	0.	757.	0.	0.	0.	0.	0.	0.	1799.	0.	2557.
FBD	NATURAL-GAS													
	THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	414.	0.	414.
FM1	NATURAL-GAS													
	THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

TOTAL ELECTRICITY 1151639. KWH 4.370 KWH /SQFT-YR GROSS-AREA 4.370 KWH /SQFT-YR NET-AREA
TOTAL NATURAL-GAS 22628. THERM 0.086 THERM /SQFT-YR GROSS-AREA 0.086 THERM /SQFT-YR NET-AREA

PERCENT OF HOURS ANY SYSTEM ZONE OUTSIDE OF THROTTLING RANGE = 3.64
PERCENT OF HOURS ANY PLANT LOAD NOT SATISFIED = 0.00
HOURS ANY ZONE ABOVE COOLING THROTTLING RANGE = 282
HOURS ANY ZONE BELOW HEATING THROTTLING RANGE = 37

NOTE: ENERGY IS APPORTIONED HOURLY TO ALL END-USE CATEGORIES.

REPORT- PS-E Energy End-Use Summary for all Electric Meters WEATHER FILE- Boston MA TMY2

	LIGHTS	TASK LIGHTS	MISC EQUIP	SPACE HEATING	SPACE COOLING	HEAT REJECT	PUMPS & AUX	VENT FANS	REFRIG DISPLAY	HT PUMP SUPPLEM	DOMEST HOT WTR	EXT USAGE	TOTAL
JAN													
KWH	20123.	0.	35683.	10262.	0.	0.	671.	23879.	0.	493.	0.	0.	91112.
MAX KW	45.167	0.000	119.258	32.434	0.000	0.000	3.736	32.095	0.000	2.205	0.000	0.000	215.780
DAY/HR	1/ 8	0/ 0	2/21	6/ 5	0/ 0	0/ 0	6/ 5	1/ 1	0/ 0	6/ 5	0/ 0	0/ 0	31/21
PEAK ENDUSE	45.167	0.000	119.258	17.202	0.000	0.000	0.909	32.095	0.000	1.149	0.000	0.000	
PEAK PCT	20.9	0.0	55.3	8.0	0.0	0.0	0.4	14.9	0.0	0.5	0.0	0.0	
FEB													
KWH	18176.	0.	32220.	6728.	0.	0.	484.	21568.	0.	310.	0.	0.	79485.
MAX KW	45.167	0.000	119.258	33.241	0.058	0.000	4.036	32.095	0.000	4.530	0.000	0.000	209.950
DAY/HR	1/ 8	0/ 0	1/21	1/ 5	26/ 7	0/ 0	1/ 5	1/ 1	0/ 0	17/ 8	0/ 0	0/ 0	1/21
PEAK ENDUSE	45.167	0.000	119.258	12.221	0.000	0.000	0.596	32.095	0.000	0.613	0.000	0.000	
PEAK PCT	21.5	0.0	56.8	5.8	0.0	0.0	0.3	15.3	0.0	0.3	0.0	0.0	
MAR													
KWH	20123.	0.	35709.	3847.	3.	0.	274.	23879.	0.	149.	0.	0.	83984.
MAX KW	45.167	0.000	119.258	26.595	0.393	0.000	2.053	32.095	0.000	1.546	0.000	0.000	200.915
DAY/HR	1/ 8	0/ 0	1/21	10/ 6	27/19	0/ 0	10/ 6	1/ 1	0/ 0	10/ 6	0/ 0	0/ 0	8/21
PEAK ENDUSE	45.167	0.000	119.258	3.809	0.000	0.000	0.423	32.095	0.000	0.162	0.000	0.000	
PEAK PCT	22.5	0.0	59.4	1.9	0.0	0.0	0.2	16.0	0.0	0.1	0.0	0.0	
APR													
KWH	19474.	0.	34554.	190.	370.	0.	156.	23109.	0.	2.	0.	0.	77856.
MAX KW	45.167	0.000	119.258	5.578	17.249	0.000	7.048	32.095	0.000	0.178	0.000	0.000	217.382
DAY/HR	1/ 8	0/ 0	2/21	5/ 6	18/19	0/ 0	18/21	1/ 2	0/ 0	4/ 6	0/ 0	0/ 0	18/21
PEAK ENDUSE	45.167	0.000	119.258	0.000	13.814	0.000	7.048	32.095	0.000	0.000	0.000	0.000	
PEAK PCT	20.8	0.0	54.9	0.0	6.4	0.0	3.2	14.8	0.0	0.0	0.0	0.0	
MAY													
KWH	20123.	0.	35741.	0.	12069.	92.	3475.	23879.	0.	0.	0.	0.	95379.
MAX KW	45.167	0.000	119.258	0.022	98.059	0.973	13.009	32.095	0.000	0.000	0.000	0.000	297.881
DAY/HR	1/ 8	0/ 0	1/21	1/ 6	29/19	29/20	22/16	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	29/21
PEAK ENDUSE	45.167	0.000	119.258	0.000	87.391	0.960	13.009	32.095	0.000	0.000	0.000	0.000	
PEAK PCT	15.2	0.0	40.0	0.0	29.3	0.3	4.4	10.8	0.0	0.0	0.0	0.0	
JUN													
KWH	19474.	0.	34548.	0.	27174.	291.	6630.	23109.	0.	0.	0.	0.	111225.
MAX KW	45.167	0.000	119.258	0.000	107.629	1.043	13.009	32.095	0.000	0.000	0.000	0.000	302.331
DAY/HR	1/ 8	0/ 0	1/21	0/ 0	11/19	2/19	1/10	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	11/21
PEAK ENDUSE	45.167	0.000	119.258	0.000	91.841	0.960	13.009	32.095	0.000	0.000	0.000	0.000	
PEAK PCT	14.9	0.0	39.4	0.0	30.4	0.3	4.3	10.6	0.0	0.0	0.0	0.0	

JUL													
KWH	20123.	0.	35671.	0.	41185.	547.	8800.	23879.	0.	0.	0.	0.	130204.
MAX KW	45.167	0.000	119.258	0.000	112.850	1.057	13.009	32.095	0.000	0.000	0.000	0.000	309.277
DAY/HR	1/ 8	0/ 0	2/21	0/ 0	6/19	6/19	1/11	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	11/21
PEAK ENDUSE	45.167	0.000	119.258	0.000	98.752	0.995	13.009	32.095	0.000	0.000	0.000	0.000	
PEAK PCT	14.6	0.0	38.6	0.0	31.9	0.3	4.2	10.4	0.0	0.0	0.0	0.0	
AUG													
KWH	20123.	0.	35798.	0.	35686.	436.	8264.	23879.	0.	0.	0.	0.	124187.
MAX KW	45.167	0.000	119.258	0.000	101.705	0.960	13.009	32.095	0.000	0.000	0.000	0.000	295.876
DAY/HR	1/ 8	0/ 0	1/21	0/ 0	22/17	1/12	1/14	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	23/21
PEAK ENDUSE	45.167	0.000	119.258	0.000	85.386	0.960	13.009	32.095	0.000	0.000	0.000	0.000	
PEAK PCT	15.3	0.0	40.3	0.0	28.9	0.3	4.4	10.8	0.0	0.0	0.0	0.0	

REPORT- PS-E Energy End-Use Summary for all Electric Meters WEATHER FILE- Boston MA TMY2

(CONTINUED)

SEP													
KWH	19474.	0.	34420.	0.	20706.	210.	5840.	23109.	0.	0.	0.	0.	103759.
MAX KW	45.167	0.000	119.258	0.000	98.504	0.960	13.009	32.095	0.000	0.000	0.000	0.000	285.333
DAY/HR	1/ 8	0/ 0	4/21	0/ 0	14/16	1/10	1/13	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	14/21
PEAK ENDUSE	45.167	0.000	119.258	0.000	74.843	0.960	13.009	32.095	0.000	0.000	0.000	0.000	
PEAK PCT	15.8	0.0	41.8	0.0	26.2	0.3	4.6	11.2	0.0	0.0	0.0	0.0	
OCT													
KWH	20123.	0.	35741.	0.	3713.	8.	1536.	23879.	0.	0.	0.	0.	85000.
MAX KW	45.167	0.000	119.258	0.000	44.030	0.960	11.103	32.095	0.000	0.000	0.000	0.000	239.416
DAY/HR	1/ 8	0/ 0	1/21	0/ 0	3/12	3/10	3/21	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	2/21
PEAK ENDUSE	45.167	0.000	119.258	0.000	32.294	0.152	10.449	32.095	0.000	0.000	0.000	0.000	
PEAK PCT	18.9	0.0	49.8	0.0	13.5	0.1	4.4	13.4	0.0	0.0	0.0	0.0	
NOV													
KWH	19474.	0.	34523.	3073.	58.	0.	220.	23109.	0.	109.	0.	0.	80565.
MAX KW	45.167	0.000	119.258	28.799	2.978	0.000	5.607	32.095	0.000	1.806	0.000	0.000	204.917
DAY/HR	1/ 8	0/ 0	1/21	20/ 5	1/15	0/ 0	1/15	1/ 2	0/ 0	20/ 5	0/ 0	0/ 0	21/21
PEAK ENDUSE	45.167	0.000	119.258	7.756	0.000	0.000	0.414	32.095	0.000	0.227	0.000	0.000	
PEAK PCT	22.0	0.0	58.2	3.8	0.0	0.0	0.2	15.7	0.0	0.1	0.0	0.0	
DEC													
KWH	20123.	0.	35594.	8289.	0.	0.	590.	23879.	0.	409.	0.	0.	88884.
MAX KW	45.167	0.000	119.258	68.445	0.087	0.000	5.500	32.095	0.000	11.262	0.000	0.000	225.266
DAY/HR	1/ 8	0/ 0	3/21	25/10	24/ 9	0/ 0	20/ 4	1/ 1	0/ 0	25/10	0/ 0	0/ 0	20/ 8
PEAK ENDUSE	45.167	0.000	68.212	65.758	0.000	0.000	3.211	32.095	0.000	10.823	0.000	0.000	
PEAK PCT	20.1	0.0	30.3	29.2	0.0	0.0	1.4	14.2	0.0	4.8	0.0	0.0	
	=======	=======	=======	=======	=======	=======	=======	=======	=======	=======	=======	=======	========
KWH	236935.	0.	420203.	32389.	140964.	1585.	36939.	281154.	0.	1473.	0.	0.	1151640.
MAX KW	45.167	0.000	119.258	68.445	112.850	1.057	13.009	32.095	0.000	11.262	0.000	0.000	309.277
MON/DY	1/ 1	0/ 0	1/ 2	12/25	7/ 6	7/ 6	5/22	1/ 1	0/ 0	12/25	0/ 0	0/ 0	7/11
PEAK ENDUSE	45.167	0.000	119.258	0.000	98.752	0.995	13.009	32.095	0.000	0.000	0.000	0.000	
PEAK PCT	14.6	0.0	38.6	0.0	31.9	0.3	4.2	10.4	0.0	0.0	0.0	0.0	

REPORT- PS-E Energy End-Use Summary for all Fuel Meters WEATHER FILE- Boston MA TMY2

	LIGHTS	TASK LIGHTS	MISC EQUIP	SPACE HEATING	SPACE COOLING	HEAT REJECT	PUMPS & AUX	VENT FANS	REFRIG DISPLAY	HT PUMP SUPPLEM	DOMEST HOT WTR	EXT USAGE	TOTAL
JAN													
MBTU	0.	0.	0.	171.	0.	0.	0.	0.	0.	0.	162.	0.	333.
MAX MBTU/HR	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.8
DAY/HR	0/ 0	0/ 0	0/ 0	6/ 6	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	31/ 8	0/ 0	31/ 8
PEAK ENDUSE	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	
PEAK PCT	0.0	0.0	0.0	55.4	0.0	0.0	0.0	0.0	0.0	0.0	44.6	0.0	
FEB													
MBTU	0.	0.	0.	132.	0.	0.	0.	0.	0.	0.	153.	0.	285.
MAX MBTU/HR	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.8
DAY/HR	0/ 0	0/ 0	0/ 0	1/ 5	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	17/ 8	0/ 0	1/ 8
PEAK ENDUSE	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	
PEAK PCT	0.0	0.0	0.0	52.9	0.0	0.0	0.0	0.0	0.0	0.0	47.1	0.0	
MAR													
MBTU	0.	0.	0.	89.	0.	0.	0.	0.	0.	0.	169.	0.	258.
MAX MBTU/HR	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.7
DAY/HR	0/ 0	0/ 0	0/ 0	18/ 6	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	17/ 8	0/ 0	18/ 8
PEAK ENDUSE	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	
PEAK PCT	0.0	0.0	0.0	43.7	0.0	0.0	0.0	0.0	0.0	0.0	56.3	0.0	
APR													
MBTU	0.	0.	0.	18.	0.	0.	0.	0.	0.	0.	159.	0.	177.
MAX MBTU/HR	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.5
DAY/HR	0/ 0	0/ 0	0/ 0	5/ 6	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	1/ 8	0/ 0	5/ 8
PEAK ENDUSE	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	
PEAK PCT	0.0	0.0	0.0	27.9	0.0	0.0	0.0	0.0	0.0	0.0	72.1	0.0	
MAY													
MBTU	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	147.	0.	148.
MAX MBTU/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.4
DAY/HR	0/ 0	0/ 0	0/ 0	1/ 6	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	1/ 8	0/ 0	1/ 8
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	
PEAK PCT	0.0	0.0	0.0	6.9	0.0	0.0	0.0	0.0	0.0	0.0	93.1	0.0	
JUN													
MBTU	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	127.	0.	127.
MAX MBTU/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.3
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	6/18	0/ 0	6/18
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	

JUL													
MBTU	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	118.	0.	118.
MAX MBTU/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.3
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	4/19	0/ 0	4/19
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	

AUG													
MBTU	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	111.	0.	111.
MAX MBTU/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.2
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	15/ 8	0/ 0	15/ 8
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	

REPORT- PS-E Energy End-Use Summary for all Fuel Meters WEATHER FILE- Boston MA TMY2
(CONTINUED)

SEP													
MBTU	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	107.	0.	107.
MAX MBTU/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.2
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	29/ 8	0/ 0	29/ 8
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	
OCT													
MBTU	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	119.	0.	119.
MAX MBTU/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.3
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	27/ 8	0/ 0	27/ 8
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	
NOV													
MBTU	0.	0.	0.	63.	0.	0.	0.	0.	0.	0.	129.	0.	192.
MAX MBTU/HR	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.7
DAY/HR	0/ 0	0/ 0	0/ 0	20/ 5	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	20/ 8	0/ 0	20/ 8
PEAK ENDUSE	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	
PEAK PCT	0.0	0.0	0.0	54.1	0.0	0.0	0.0	0.0	0.0	0.0	45.9	0.0	
DEC													
MBTU	0.	0.	0.	140.	0.	0.	0.	0.	0.	0.	149.	0.	289.
MAX MBTU/HR	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.9
DAY/HR	0/ 0	0/ 0	0/ 0	25/ 6	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	24/ 8	0/ 0	24/ 8
PEAK ENDUSE	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	
PEAK PCT	0.0	0.0	0.0	62.4	0.0	0.0	0.0	0.0	0.0	0.0	37.6	0.0	
	=======	=======	=======	=======	=======	=======	=======	=======	=======	=======	=======	=======	========
MBTU	0.	0.	0.	613.	0.	0.	0.	0.	0.	0.	1650.	0.	2263.
MAX MBTU/HR	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.9
MON/DY	0/ 0	0/ 0	0/ 0	12/25	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	3/17	0/ 0	12/24
PEAK ENDUSE	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	
PEAK PCT	0.0	0.0	0.0	62.4	0.0	0.0	0.0	0.0	0.0	0.0	37.6	0.0	

REPORT- PS-F Energy End-Use Summary for BA WEATHER FILE- Boston MA TMY2

	LIGHTS	TASK LIGHTS	MISC EQUIP	SPACE HEATING	SPACE COOLING	HEAT REJECT	PUMPS & AUX	VENT FANS	REFRIG DISPLAY	HT PUMP SUPPLEM	DOMEST HOT WTR	EXT USAGE	TOTAL
JAN													
KWH	10186.	0.	17761.	2856.	0.	0.	671.	11579.	0.	0.	0.	0.	43053.
MAX KW	22.478	0.000	59.308	10.844	0.000	0.000	3.736	15.563	0.000	0.000	0.000	0.000	102.383
DAY/HR	1/ 8	0/ 0	2/21	6/ 5	0/ 0	0/ 0	6/ 5	1/ 1	0/ 0	0/ 0	0/ 0	0/ 0	31/21
PEAK ENDUSE	22.478	0.000	59.308	4.126	0.000	0.000	0.908	15.563	0.000	0.000	0.000	0.000	
PEAK PCT	22.0	0.0	57.9	4.0	0.0	0.0	0.9	15.2	0.0	0.0	0.0	0.0	
FEB													
KWH	9201.	0.	16037.	2021.	0.	0.	483.	10458.	0.	0.	0.	0.	38201.
MAX KW	22.478	0.000	59.308	11.385	0.000	0.000	4.036	15.563	0.000	0.000	0.000	0.000	100.334
DAY/HR	1/ 8	0/ 0	1/21	1/ 5	0/ 0	0/ 0	1/ 5	1/ 1	0/ 0	0/ 0	0/ 0	0/ 0	1/21
PEAK ENDUSE	22.478	0.000	59.308	2.389	0.000	0.000	0.596	15.563	0.000	0.000	0.000	0.000	
PEAK PCT	22.4	0.0	59.1	2.4	0.0	0.0	0.6	15.5	0.0	0.0	0.0	0.0	
MAR													
KWH	10186.	0.	17774.	1213.	0.	0.	274.	11579.	0.	0.	0.	0.	41026.
MAX KW	22.478	0.000	59.308	8.132	0.000	0.000	2.052	15.563	0.000	0.000	0.000	0.000	98.616
DAY/HR	1/ 8	0/ 0	1/21	10/ 6	0/ 0	0/ 0	10/ 6	1/ 1	0/ 0	0/ 0	0/ 0	0/ 0	8/21
PEAK ENDUSE	22.478	0.000	59.308	0.844	0.000	0.000	0.422	15.563	0.000	0.000	0.000	0.000	
PEAK PCT	22.8	0.0	60.1	0.9	0.0	0.0	0.4	15.8	0.0	0.0	0.0	0.0	
APR													
KWH	9858.	0.	17199.	131.	26.	0.	156.	11205.	0.	0.	0.	0.	38576.
MAX KW	22.478	0.000	59.308	3.238	2.250	0.000	7.048	15.563	0.000	0.000	0.000	0.000	106.647
DAY/HR	1/ 8	0/ 0	2/21	5/ 5	18/21	0/ 0	18/21	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	18/21
PEAK ENDUSE	22.478	0.000	59.308	0.000	2.250	0.000	7.048	15.563	0.000	0.000	0.000	0.000	
PEAK PCT	21.1	0.0	55.6	0.0	2.1	0.0	6.6	14.6	0.0	0.0	0.0	0.0	
MAY													
KWH	10186.	0.	17790.	0.	4021.	92.	3475.	11579.	0.	0.	0.	0.	47144.
MAX KW	22.478	0.000	59.308	0.022	44.962	0.973	13.009	15.563	0.000	0.000	0.000	0.000	153.967
DAY/HR	1/ 8	0/ 0	1/21	1/ 6	29/20	29/20	22/16	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	29/21
PEAK ENDUSE	22.478	0.000	59.308	0.000	42.648	0.960	13.009	15.563	0.000	0.000	0.000	0.000	
PEAK PCT	14.6	0.0	38.5	0.0	27.7	0.6	8.4	10.1	0.0	0.0	0.0	0.0	
JUN													
KWH	9858.	0.	17196.	0.	11453.	291.	6630.	11205.	0.	0.	0.	0.	56633.
MAX KW	22.478	0.000	59.308	0.000	46.707	1.043	13.009	15.563	0.000	0.000	0.000	0.000	156.018
DAY/HR	1/ 8	0/ 0	1/21	0/ 0	11/20	2/19	1/10	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	11/21
PEAK ENDUSE	22.478	0.000	59.308	0.000	44.699	0.960	13.009	15.563	0.000	0.000	0.000	0.000	
PEAK PCT	14.4	0.0	38.0	0.0	28.6	0.6	8.3	10.0	0.0	0.0	0.0	0.0	

JUL													
KWH	10186.	0.	17755.	0.	18745.	547.	8800.	11579.	0.	0.	0.	0.	67612.
MAX KW	22.478	0.000	59.308	0.000	50.109	1.057	13.009	15.563	0.000	0.000	0.000	0.000	161.463
DAY/HR	1/ 8	0/ 0	2/21	0/ 0	11/21	6/19	1/11	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	11/21
PEAK ENDUSE	22.478	0.000	59.308	0.000	50.109	0.995	13.009	15.563	0.000	0.000	0.000	0.000	
PEAK PCT	13.9	0.0	36.7	0.0	31.0	0.6	8.1	9.6	0.0	0.0	0.0	0.0	
AUG													
KWH	10186.	0.	17819.	0.	16224.	436.	8264.	11579.	0.	0.	0.	0.	64508.
MAX KW	22.478	0.000	59.308	0.000	45.644	0.960	13.009	15.563	0.000	0.000	0.000	0.000	154.820
DAY/HR	1/ 8	0/ 0	1/21	0/ 0	23/20	1/12	1/14	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	23/21
PEAK ENDUSE	22.478	0.000	59.308	0.000	43.501	0.960	13.009	15.563	0.000	0.000	0.000	0.000	
PEAK PCT	14.5	0.0	38.3	0.0	28.1	0.6	8.4	10.1	0.0	0.0	0.0	0.0	

REPORT- PS-F Energy End-Use Summary for BA WEATHER FILE- Boston MA TMY2
(CONTINUED)

SEP													
KWH	9858.	0.	17132.	0.	8999.	210.	5840.	11205.	0.	0.	0.	0.	53245.
MAX KW	22.478	0.000	59.308	0.000	43.361	0.960	13.009	15.563	0.000	0.000	0.000	0.000	149.688
DAY/HR	1/ 8	0/ 0	4/21	0/ 0	14/16	1/10	1/13	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	14/21
PEAK ENDUSE	22.478	0.000	59.308	0.000	38.369	0.960	13.009	15.563	0.000	0.000	0.000	0.000	
PEAK PCT	15.0	0.0	39.6	0.0	25.6	0.6	8.7	10.4	0.0	0.0	0.0	0.0	
OCT													
KWH	10186.	0.	17790.	0.	1064.	8.	1536.	11579.	0.	0.	0.	0.	42164.
MAX KW	22.478	0.000	59.308	0.000	17.231	0.960	11.103	15.563	0.000	0.000	0.000	0.000	122.228
DAY/HR	1/ 8	0/ 0	1/21	0/ 0	3/12	3/10	3/21	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	2/21
PEAK ENDUSE	22.478	0.000	59.308	0.000	14.277	0.152	10.449	15.563	0.000	0.000	0.000	0.000	
PEAK PCT	18.4	0.0	48.5	0.0	11.7	0.1	8.5	12.7	0.0	0.0	0.0	0.0	
NOV													
KWH	9858.	0.	17183.	747.	6.	0.	219.	11205.	0.	0.	0.	0.	39219.
MAX KW	22.478	0.000	59.308	8.986	1.265	0.000	5.607	15.563	0.000	0.000	0.000	0.000	99.038
DAY/HR	1/ 8	0/ 0	1/21	20/ 5	9/14	0/ 0	1/15	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	19/21
PEAK ENDUSE	22.478	0.000	59.308	1.223	0.000	0.000	0.466	15.563	0.000	0.000	0.000	0.000	
PEAK PCT	22.7	0.0	59.9	1.2	0.0	0.0	0.5	15.7	0.0	0.0	0.0	0.0	
DEC													
KWH	10186.	0.	17716.	2254.	0.	0.	590.	11579.	0.	0.	0.	0.	42325.
MAX KW	22.478	0.000	59.308	13.139	0.000	0.000	5.500	15.563	0.000	0.000	0.000	0.000	103.281
DAY/HR	1/ 8	0/ 0	3/21	20/ 5	0/ 0	0/ 0	20/ 4	1/ 1	0/ 0	0/ 0	0/ 0	0/ 0	24/21
PEAK ENDUSE	22.478	0.000	59.308	4.915	0.000	0.000	1.017	15.563	0.000	0.000	0.000	0.000	
PEAK PCT	21.8	0.0	57.4	4.8	0.0	0.0	1.0	15.1	0.0	0.0	0.0	0.0	
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KWH	119937.	0.	209155.	9222.	60537.	1585.	36937.	136333.	0.	0.	0.	0.	573706.
MAX KW	22.478	0.000	59.308	13.139	50.109	1.057	13.009	15.563	0.000	0.000	0.000	0.000	161.463
MON/DY	1/ 1	0/ 0	1/ 2	12/20	7/11	7/ 6	5/22	1/ 1	0/ 0	0/ 0	0/ 0	0/ 0	7/11
PEAK ENDUSE	22.478	0.000	59.308	0.000	50.109	0.995	13.009	15.563	0.000	0.000	0.000	0.000	
PEAK PCT	13.9	0.0	36.7	0.0	31.0	0.6	8.1	9.6	0.0	0.0	0.0	0.0	

YEARLY TRANSFORMER LOSSES = 0.0 KWH

REPORT- PS-F Energy End-Use Summary for BB WEATHER FILE- Boston MA TMY2

	LIGHTS	TASK LIGHTS	MISC EQUIP	SPACE HEATING	SPACE COOLING	HEAT REJECT	PUMPS & AUX	VENT FANS	REFRIG DISPLAY	HT PUMP SUPPLEM	DOMEST HOT WTR	EXT USAGE	TOTAL
JAN													
KWH	2354.	0.	8555.	5600.	0.	0.	0.	5635.	0.	493.	0.	0.	22639.
MAX KW	7.669	0.000	29.666	14.753	0.000	0.000	0.000	7.575	0.000	2.205	0.000	0.000	55.667
DAY/HR	1/ 8	0/ 0	2/21	6/ 5	0/ 0	0/ 0	12/ 4	1/ 1	0/ 0	6/ 5	0/ 0	0/ 0	31/21
PEAK ENDUSE	7.669	0.000	29.666	9.608	0.000	0.000	0.000	7.575	0.000	1.149	0.000	0.000	
PEAK PCT	13.8	0.0	53.3	17.3	0.0	0.0	0.0	13.6	0.0	2.1	0.0	0.0	
FEB													
KWH	2126.	0.	7725.	3585.	0.	0.	0.	5090.	0.	310.	0.	0.	18837.
MAX KW	7.669	0.000	29.666	21.329	0.000	0.000	0.000	7.575	0.000	4.530	0.000	0.000	53.422
DAY/HR	1/ 8	0/ 0	1/21	17/ 8	0/ 0	0/ 0	25/15	1/ 1	0/ 0	17/ 8	0/ 0	0/ 0	1/21
PEAK ENDUSE	7.669	0.000	29.666	7.899	0.000	0.000	0.000	7.575	0.000	0.613	0.000	0.000	
PEAK PCT	14.4	0.0	55.5	14.8	0.0	0.0	0.0	14.2	0.0	1.1	0.0	0.0	
MAR													
KWH	2354.	0.	8562.	2078.	0.	0.	0.	5635.	0.	149.	0.	0.	18779.
MAX KW	7.669	0.000	29.666	13.139	0.080	0.000	0.000	7.575	0.000	1.546	0.000	0.000	47.732
DAY/HR	1/ 8	0/ 0	1/21	10/ 6	27/15	0/ 0	29/22	1/ 1	0/ 0	10/ 6	0/ 0	0/ 0	6/21
PEAK ENDUSE	7.669	0.000	29.666	2.688	0.000	0.000	0.000	7.575	0.000	0.134	0.000	0.000	
PEAK PCT	16.1	0.0	62.2	5.6	0.0	0.0	0.0	15.9	0.0	0.3	0.0	0.0	
APR													
KWH	2278.	0.	8285.	58.	47.	0.	0.	5454.	0.	2.	0.	0.	16124.
MAX KW	7.669	0.000	29.666	2.456	3.673	0.000	0.000	7.575	0.000	0.178	0.000	0.000	47.860
DAY/HR	1/ 8	0/ 0	2/21	4/ 6	18/18	0/ 0	17/ 2	1/ 2	0/ 0	4/ 6	0/ 0	0/ 0	18/21
PEAK ENDUSE	7.669	0.000	29.666	0.000	2.950	0.000	0.000	7.575	0.000	0.000	0.000	0.000	
PEAK PCT	16.0	0.0	62.0	0.0	6.2	0.0	0.0	15.8	0.0	0.0	0.0	0.0	
MAY													
KWH	2354.	0.	8570.	0.	2127.	0.	0.	5635.	0.	0.	0.	0.	18686.
MAX KW	7.669	0.000	29.666	0.000	17.950	0.000	0.000	7.575	0.000	0.000	0.000	0.000	58.860
DAY/HR	1/ 8	0/ 0	1/21	0/ 0	29/17	0/ 0	5/ 1	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	29/21
PEAK ENDUSE	7.669	0.000	29.666	0.000	13.950	0.000	0.000	7.575	0.000	0.000	0.000	0.000	
PEAK PCT	13.0	0.0	50.4	0.0	23.7	0.0	0.0	12.9	0.0	0.0	0.0	0.0	
JUN													
KWH	2278.	0.	8284.	0.	4653.	0.	0.	5454.	0.	0.	0.	0.	20669.
MAX KW	7.669	0.000	29.666	0.000	20.101	0.000	0.000	7.575	0.000	0.000	0.000	0.000	59.650
DAY/HR	1/ 8	0/ 0	1/21	0/ 0	11/18	0/ 0	0/ 0	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	11/21
PEAK ENDUSE	7.669	0.000	29.666	0.000	14.740	0.000	0.000	7.575	0.000	0.000	0.000	0.000	
PEAK PCT	12.9	0.0	49.7	0.0	24.7	0.0	0.0	12.7	0.0	0.0	0.0	0.0	

JUL													
KWH	2354.	0.	8552.	0.	7095.	0.	0.	5635.	0.	0.	0.	0.	23637.
MAX KW	7.669	0.000	29.666	0.000	20.863	0.000	0.000	7.575	0.000	0.000	0.000	0.000	60.595
DAY/HR	1/ 8	0/ 0	2/21	0/ 0	20/17	0/ 0	0/ 0	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	6/21
PEAK ENDUSE	7.669	0.000	29.666	0.000	15.685	0.000	0.000	7.575	0.000	0.000	0.000	0.000	
PEAK PCT	12.7	0.0	49.0	0.0	25.9	0.0	0.0	12.5	0.0	0.0	0.0	0.0	
AUG													
KWH	2354.	0.	8585.	0.	6009.	0.	0.	5635.	0.	0.	0.	0.	22584.
MAX KW	7.669	0.000	29.666	0.000	18.651	0.000	0.000	7.575	0.000	0.000	0.000	0.000	58.120
DAY/HR	1/ 8	0/ 0	1/21	0/ 0	22/17	0/ 0	0/ 0	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	1/21
PEAK ENDUSE	7.669	0.000	29.666	0.000	13.210	0.000	0.000	7.575	0.000	0.000	0.000	0.000	
PEAK PCT	13.2	0.0	51.0	0.0	22.7	0.0	0.0	13.0	0.0	0.0	0.0	0.0	

REPORT- PS-F Energy End-Use Summary for BB WEATHER FILE- Boston MA TMY2
(CONTINUED)

SEP													
KWH	2278.	0.	8251.	0.	3383.	0.	0.	5454.	0.	0.	0.	0.	19365.
MAX KW	7.669	0.000	29.666	0.000	17.751	0.000	0.000	7.575	0.000	0.000	0.000	0.000	56.513
DAY/HR	1/ 8	0/ 0	4/21	0/ 0	14/16	0/ 0	0/ 0	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	14/21
PEAK ENDUSE	7.669	0.000	29.666	0.000	11.603	0.000	0.000	7.575	0.000	0.000	0.000	0.000	
PEAK PCT	13.6	0.0	52.5	0.0	20.5	0.0	0.0	13.4	0.0	0.0	0.0	0.0	
OCT													
KWH	2354.	0.	8570.	0.	552.	0.	0.	5635.	0.	0.	0.	0.	17112.
MAX KW	7.669	0.000	29.666	0.000	8.086	0.000	0.000	7.575	0.000	0.000	0.000	0.000	51.033
DAY/HR	1/ 8	0/ 0	1/21	0/ 0	3/12	0/ 0	0/ 0	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	3/21
PEAK ENDUSE	7.669	0.000	29.666	0.000	6.123	0.000	0.000	7.575	0.000	0.000	0.000	0.000	
PEAK PCT	15.0	0.0	58.1	0.0	12.0	0.0	0.0	14.8	0.0	0.0	0.0	0.0	
NOV													
KWH	2278.	0.	8277.	1871.	1.	0.	0.	5454.	0.	109.	0.	0.	17991.
MAX KW	7.669	0.000	29.666	13.900	0.371	0.000	0.000	7.575	0.000	1.806	0.000	0.000	51.672
DAY/HR	1/ 8	0/ 0	1/21	20/ 5	1/15	0/ 0	27/12	1/ 2	0/ 0	20/ 5	0/ 0	0/ 0	21/21
PEAK ENDUSE	7.669	0.000	29.666	6.535	0.000	0.000	0.000	7.575	0.000	0.227	0.000	0.000	
PEAK PCT	14.8	0.0	57.4	12.6	0.0	0.0	0.0	14.7	0.0	0.4	0.0	0.0	
DEC													
KWH	2354.	0.	8532.	4575.	0.	0.	0.	5635.	0.	409.	0.	0.	21506.
MAX KW	7.669	0.000	29.666	55.674	0.087	0.000	0.000	7.575	0.000	11.262	0.000	0.000	91.619
DAY/HR	1/ 8	0/ 0	3/21	25/10	24/ 9	0/ 0	16/ 9	1/ 1	0/ 0	25/10	0/ 0	0/ 0	20/ 8
PEAK ENDUSE	7.669	0.000	16.481	49.071	0.000	0.000	0.000	7.575	0.000	10.823	0.000	0.000	
PEAK PCT	8.4	0.0	18.0	53.6	0.0	0.0	0.0	8.3	0.0	11.8	0.0	0.0	
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KWH	27719.	0.	100749.	17768.	23867.	0.	1.	66353.	0.	1473.	0.	0.	237929.
MAX KW	7.669	0.000	29.666	55.674	20.863	0.000	0.000	7.575	0.000	11.262	0.000	0.000	91.619
MON/DY	1/ 1	0/ 0	1/ 2	12/25	7/20	0/ 0	3/29	1/ 1	0/ 0	12/25	0/ 0	0/ 0	12/20
PEAK ENDUSE	7.669	0.000	16.481	49.071	0.000	0.000	0.000	7.575	0.000	10.823	0.000	0.000	
PEAK PCT	8.4	0.0	18.0	53.6	0.0	0.0	0.0	8.3	0.0	11.8	0.0	0.0	

YEARLY TRANSFORMER LOSSES = 0.0 KWH

REPORT- PS-F Energy End-Use Summary for BC WEATHER FILE- Boston MA TMY2

	LIGHTS	TASK LIGHTS	MISC EQUIP	SPACE HEATING	SPACE COOLING	HEAT REJECT	PUMPS & AUX	VENT FANS	REFRIG DISPLAY	HT PUMP SUPPLEM	DOMEST HOT WTR	EXT USAGE	TOTAL
JAN													
KWH	2115.	0.	7879.	1806.	0.	0.	0.	5468.	0.	0.	0.	0.	17269.
MAX KW	6.992	0.000	27.322	6.836	0.000	0.000	0.000	7.349	0.000	0.000	0.000	0.000	45.131
DAY/HR	1/ 8	0/ 0	2/21	6/ 5	0/ 0	0/ 0	11/19	1/ 1	0/ 0	0/ 0	0/ 0	0/ 0	31/21
PEAK ENDUSE	6.992	0.000	27.322	3.468	0.000	0.000	0.000	7.349	0.000	0.000	0.000	0.000	
PEAK PCT	15.5	0.0	60.5	7.7	0.0	0.0	0.0	16.3	0.0	0.0	0.0	0.0	
FEB													
KWH	1910.	0.	7114.	1121.	0.	0.	0.	4939.	0.	0.	0.	0.	15085.
MAX KW	6.992	0.000	27.322	6.991	0.000	0.000	0.000	7.349	0.000	0.000	0.000	0.000	43.597
DAY/HR	1/ 8	0/ 0	1/21	1/ 4	0/ 0	0/ 0	11/18	1/ 1	0/ 0	0/ 0	0/ 0	0/ 0	1/21
PEAK ENDUSE	6.992	0.000	27.322	1.933	0.000	0.000	0.000	7.349	0.000	0.000	0.000	0.000	
PEAK PCT	16.0	0.0	62.7	4.4	0.0	0.0	0.0	16.9	0.0	0.0	0.0	0.0	
MAR													
KWH	2115.	0.	7886.	556.	0.	0.	0.	5468.	0.	0.	0.	0.	16025.
MAX KW	6.992	0.000	27.322	5.324	0.075	0.000	0.000	7.349	0.000	0.000	0.000	0.000	42.204
DAY/HR	1/ 8	0/ 0	1/21	10/ 6	27/16	0/ 0	23/12	1/ 1	0/ 0	0/ 0	0/ 0	0/ 0	8/21
PEAK ENDUSE	6.992	0.000	27.322	0.540	0.000	0.000	0.000	7.349	0.000	0.000	0.000	0.000	
PEAK PCT	16.6	0.0	64.7	1.3	0.0	0.0	0.0	17.4	0.0	0.0	0.0	0.0	
APR													
KWH	2047.	0.	7631.	1.	132.	0.	0.	5291.	0.	0.	0.	0.	15102.
MAX KW	6.992	0.000	27.322	0.095	9.415	0.000	0.000	7.349	0.000	0.000	0.000	0.000	50.278
DAY/HR	1/ 8	0/ 0	2/21	10/ 6	18/19	0/ 0	7/13	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	18/21
PEAK ENDUSE	6.992	0.000	27.322	0.000	8.614	0.000	0.000	7.349	0.000	0.000	0.000	0.000	
PEAK PCT	13.9	0.0	54.3	0.0	17.1	0.0	0.0	14.6	0.0	0.0	0.0	0.0	
MAY													
KWH	2115.	0.	7893.	0.	4911.	0.	0.	5468.	0.	0.	0.	0.	20387.
MAX KW	6.992	0.000	27.322	0.000	34.553	0.000	0.000	7.349	0.000	0.000	0.000	0.000	70.154
DAY/HR	1/ 8	0/ 0	1/21	0/ 0	29/19	0/ 0	0/ 0	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	29/21
PEAK ENDUSE	6.992	0.000	27.322	0.000	28.491	0.000	0.000	7.349	0.000	0.000	0.000	0.000	
PEAK PCT	10.0	0.0	38.9	0.0	40.6	0.0	0.0	10.5	0.0	0.0	0.0	0.0	
JUN													
KWH	2047.	0.	7629.	0.	9264.	0.	0.	5291.	0.	0.	0.	0.	24231.
MAX KW	6.992	0.000	27.322	0.000	36.246	0.000	0.000	7.349	0.000	0.000	0.000	0.000	70.733
DAY/HR	1/ 8	0/ 0	1/21	0/ 0	11/19	0/ 0	0/ 0	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	11/21
PEAK ENDUSE	6.992	0.000	27.322	0.000	29.069	0.000	0.000	7.349	0.000	0.000	0.000	0.000	
PEAK PCT	9.9	0.0	38.6	0.0	41.1	0.0	0.0	10.4	0.0	0.0	0.0	0.0	

JUL													
KWH	2115.	0.	7876.	0.	12960.	0.	0.	5468.	0.	0.	0.	0.	28419.
MAX KW	6.992	0.000	27.322	0.000	38.317	0.000	0.000	7.349	0.000	0.000	0.000	0.000	72.694
DAY/HR	1/ 8	0/ 0	2/21	0/ 0	6/19	0/ 0	0/ 0	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	6/21
PEAK ENDUSE	6.992	0.000	27.322	0.000	31.031	0.000	0.000	7.349	0.000	0.000	0.000	0.000	
PEAK PCT	9.6	0.0	37.6	0.0	42.7	0.0	0.0	10.1	0.0	0.0	0.0	0.0	
AUG													
KWH	2115.	0.	7907.	0.	11315.	0.	0.	5468.	0.	0.	0.	0.	26805.
MAX KW	6.992	0.000	27.322	0.000	34.824	0.000	0.000	7.349	0.000	0.000	0.000	0.000	67.881
DAY/HR	1/ 8	0/ 0	1/21	0/ 0	22/17	0/ 0	0/ 0	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	22/21
PEAK ENDUSE	6.992	0.000	27.322	0.000	26.217	0.000	0.000	7.349	0.000	0.000	0.000	0.000	
PEAK PCT	10.3	0.0	40.3	0.0	38.6	0.0	0.0	10.8	0.0	0.0	0.0	0.0	

REPORT- PS-F Energy End-Use Summary for BC WEATHER FILE- Boston MA TMY2
(CONTINUED)

SEP													
KWH	2047.	0.	7599.	0.	6808.	0.	0.	5291.	0.	0.	0.	0.	21745.
MAX KW	6.992	0.000	27.322	0.000	32.256	0.000	0.000	7.349	0.000	0.000	0.000	0.000	64.450
DAY/HR	1/ 8	0/ 0	4/21	0/ 0	14/16	0/ 0	0/ 0	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	14/21
PEAK ENDUSE	6.992	0.000	27.322	0.000	22.787	0.000	0.000	7.349	0.000	0.000	0.000	0.000	
PEAK PCT	10.8	0.0	42.4	0.0	35.4	0.0	0.0	11.4	0.0	0.0	0.0	0.0	
OCT													
KWH	2115.	0.	7893.	0.	1473.	0.	0.	5468.	0.	0.	0.	0.	16949.
MAX KW	6.992	0.000	27.322	0.000	18.349	0.000	0.000	7.349	0.000	0.000	0.000	0.000	53.679
DAY/HR	1/ 8	0/ 0	1/21	0/ 0	6/16	0/ 0	0/ 0	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	2/21
PEAK ENDUSE	6.992	0.000	27.322	0.000	12.015	0.000	0.000	7.349	0.000	0.000	0.000	0.000	
PEAK PCT	13.0	0.0	50.9	0.0	22.4	0.0	0.0	13.7	0.0	0.0	0.0	0.0	
NOV													
KWH	2047.	0.	7623.	455.	4.	0.	0.	5291.	0.	0.	0.	0.	15420.
MAX KW	6.992	0.000	27.322	5.914	1.160	0.000	0.000	7.349	0.000	0.000	0.000	0.000	42.804
DAY/HR	1/ 8	0/ 0	1/21	20/ 5	1/15	0/ 0	16/21	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	19/21
PEAK ENDUSE	6.992	0.000	27.322	1.140	0.000	0.000	0.000	7.349	0.000	0.000	0.000	0.000	
PEAK PCT	16.3	0.0	63.8	2.7	0.0	0.0	0.0	17.2	0.0	0.0	0.0	0.0	
DEC													
KWH	2115.	0.	7858.	1460.	0.	0.	0.	5468.	0.	0.	0.	0.	16902.
MAX KW	6.992	0.000	27.322	8.223	0.000	0.000	0.000	7.349	0.000	0.000	0.000	0.000	45.704
DAY/HR	1/ 8	0/ 0	3/21	20/ 5	0/ 0	0/ 0	11/13	1/ 1	0/ 0	0/ 0	0/ 0	0/ 0	19/21
PEAK ENDUSE	6.992	0.000	27.322	4.040	0.000	0.000	0.000	7.349	0.000	0.000	0.000	0.000	
PEAK PCT	15.3	0.0	59.8	8.8	0.0	0.0	0.0	16.1	0.0	0.0	0.0	0.0	
KWH	24904.	0.	92788.	5399.	46867.	0.	1.	64380.	0.	0.	0.	0.	234340.
MAX KW	6.992	0.000	27.322	8.223	38.317	0.000	0.000	7.349	0.000	0.000	0.000	0.000	72.694
MON/DY	1/ 1	0/ 0	1/ 2	12/20	7/ 6	0/ 0	4/ 7	1/ 1	0/ 0	0/ 0	0/ 0	0/ 0	7/ 6
PEAK ENDUSE	6.992	0.000	27.322	0.000	31.031	0.000	0.000	7.349	0.000	0.000	0.000	0.000	
PEAK PCT	9.6	0.0	37.6	0.0	42.7	0.0	0.0	10.1	0.0	0.0	0.0	0.0	

YEARLY TRANSFORMER LOSSES = 0.0 KWH

REPORT- PS-F Energy End-Use Summary for BD WEATHER FILE- Boston MA TMY2

	LIGHTS	TASK LIGHTS	MISC EQUIP	SPACE HEATING	SPACE COOLING	HEAT REJECT	PUMPS & AUX	VENT FANS	REFRIG DISPLAY	HT PUMP SUPPLEM	DOMEST HOT WTR	EXT USAGE	TOTAL
JAN													
KWH	5468.	0.	1487.	0.	0.	0.	0.	1196.	0.	0.	0.	0.	8151.
MAX KW	8.028	0.000	2.961	0.000	0.000	0.000	0.000	1.608	0.000	0.000	0.000	0.000	12.598
DAY/HR	1/ 7	0/ 0	1/ 7	0/ 0	0/ 0	0/ 0	0/ 0	1/ 1	0/ 0	0/ 0	0/ 0	0/ 0	1/ 7
PEAK ENDUSE	8.028	0.000	2.961	0.000	0.000	0.000	0.000	1.608	0.000	0.000	0.000	0.000	
PEAK PCT	63.7	0.0	23.5	0.0	0.0	0.0	0.0	12.8	0.0	0.0	0.0	0.0	
FEB													
KWH	4938.	0.	1343.	0.	0.	0.	0.	1081.	0.	0.	0.	0.	7362.
MAX KW	8.028	0.000	2.961	0.000	0.058	0.000	0.000	1.608	0.000	0.000	0.000	0.000	12.655
DAY/HR	1/ 7	0/ 0	1/ 7	0/ 0	26/ 7	0/ 0	0/ 0	1/ 1	0/ 0	0/ 0	0/ 0	0/ 0	26/ 7
PEAK ENDUSE	8.028	0.000	2.961	0.000	0.058	0.000	0.000	1.608	0.000	0.000	0.000	0.000	
PEAK PCT	63.4	0.0	23.4	0.0	0.5	0.0	0.0	12.7	0.0	0.0	0.0	0.0	
MAR													
KWH	5468.	0.	1487.	0.	3.	0.	0.	1196.	0.	0.	0.	0.	8154.
MAX KW	8.028	0.000	2.961	0.000	0.393	0.000	0.000	1.608	0.000	0.000	0.000	0.000	12.991
DAY/HR	1/ 7	0/ 0	1/ 7	0/ 0	27/19	0/ 0	0/ 0	1/ 1	0/ 0	0/ 0	0/ 0	0/ 0	27/19
PEAK ENDUSE	8.028	0.000	2.961	0.000	0.393	0.000	0.000	1.608	0.000	0.000	0.000	0.000	
PEAK PCT	61.8	0.0	22.8	0.0	3.0	0.0	0.0	12.4	0.0	0.0	0.0	0.0	
APR													
KWH	5291.	0.	1439.	0.	165.	0.	0.	1158.	0.	0.	0.	0.	8053.
MAX KW	8.028	0.000	2.961	0.000	2.510	0.000	0.000	1.608	0.000	0.000	0.000	0.000	14.959
DAY/HR	1/ 7	0/ 0	1/ 7	0/ 0	18/14	0/ 0	0/ 0	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	18/19
PEAK ENDUSE	8.028	0.000	2.961	0.000	2.362	0.000	0.000	1.608	0.000	0.000	0.000	0.000	
PEAK PCT	53.7	0.0	19.8	0.0	15.8	0.0	0.0	10.7	0.0	0.0	0.0	0.0	
MAY													
KWH	5468.	0.	1487.	0.	1011.	0.	0.	1196.	0.	0.	0.	0.	9162.
MAX KW	8.028	0.000	2.961	0.000	5.175	0.000	0.000	1.608	0.000	0.000	0.000	0.000	17.446
DAY/HR	1/ 7	0/ 0	1/ 7	0/ 0	29/14	0/ 0	0/ 0	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	29/14
PEAK ENDUSE	8.028	0.000	2.634	0.000	5.175	0.000	0.000	1.608	0.000	0.000	0.000	0.000	
PEAK PCT	46.0	0.0	15.1	0.0	29.7	0.0	0.0	9.2	0.0	0.0	0.0	0.0	
JUN													
KWH	5291.	0.	1439.	0.	1804.	0.	0.	1158.	0.	0.	0.	0.	9692.
MAX KW	8.028	0.000	2.961	0.000	5.271	0.000	0.000	1.608	0.000	0.000	0.000	0.000	17.689
DAY/HR	1/ 7	0/ 0	1/ 7	0/ 0	11/14	0/ 0	0/ 0	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	11/19
PEAK ENDUSE	8.028	0.000	2.961	0.000	5.092	0.000	0.000	1.608	0.000	0.000	0.000	0.000	
PEAK PCT	45.4	0.0	16.7	0.0	28.8	0.0	0.0	9.1	0.0	0.0	0.0	0.0	

JUL													
KWH	5468.	0.	1487.	0.	2385.	0.	0.	1196.	0.	0.	0.	0.	10536.
MAX KW	8.028	0.000	2.961	0.000	5.378	0.000	0.000	1.608	0.000	0.000	0.000	0.000	17.789
DAY/HR	1/ 7	0/ 0	1/ 7	0/ 0	6/18	0/ 0	0/ 0	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	20/19
PEAK ENDUSE	8.028	0.000	2.961	0.000	5.192	0.000	0.000	1.608	0.000	0.000	0.000	0.000	
PEAK PCT	45.1	0.0	16.6	0.0	29.2	0.0	0.0	9.0	0.0	0.0	0.0	0.0	
AUG													
KWH	5468.	0.	1487.	0.	2138.	0.	0.	1196.	0.	0.	0.	0.	10289.
MAX KW	8.028	0.000	2.961	0.000	5.253	0.000	0.000	1.608	0.000	0.000	0.000	0.000	17.622
DAY/HR	1/ 7	0/ 0	1/ 7	0/ 0	22/14	0/ 0	0/ 0	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	13/19
PEAK ENDUSE	8.028	0.000	2.961	0.000	5.025	0.000	0.000	1.608	0.000	0.000	0.000	0.000	
PEAK PCT	45.6	0.0	16.8	0.0	28.5	0.0	0.0	9.1	0.0	0.0	0.0	0.0	

REPORT- PS-F Energy End-Use Summary for BD WEATHER FILE- Boston MA TMY2
(CONTINUED)

SEP													
KWH	5291.	0.	1439.	0.	1516.	0.	0.	1158.	0.	0.	0.	0.	9404.
MAX KW	8.028	0.000	2.961	0.000	5.163	0.000	0.000	1.608	0.000	0.000	0.000	0.000	17.433
DAY/HR	1/ 7	0/ 0	1/ 7	0/ 0	14/14	0/ 0	0/ 0	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	14/14
PEAK ENDUSE	8.028	0.000	2.634	0.000	5.163	0.000	0.000	1.608	0.000	0.000	0.000	0.000	
PEAK PCT	46.1	0.0	15.1	0.0	29.6	0.0	0.0	9.2	0.0	0.0	0.0	0.0	
OCT													
KWH	5468.	0.	1487.	0.	624.	0.	0.	1196.	0.	0.	0.	0.	8775.
MAX KW	8.028	0.000	2.961	0.000	3.604	0.000	0.000	1.608	0.000	0.000	0.000	0.000	15.946
DAY/HR	1/ 7	0/ 0	1/ 7	0/ 0	3/12	0/ 0	0/ 0	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	3/ 9
PEAK ENDUSE	8.028	0.000	2.961	0.000	3.348	0.000	0.000	1.608	0.000	0.000	0.000	0.000	
PEAK PCT	50.3	0.0	18.6	0.0	21.0	0.0	0.0	10.1	0.0	0.0	0.0	0.0	
NOV													
KWH	5291.	0.	1439.	0.	47.	0.	0.	1158.	0.	0.	0.	0.	7935.
MAX KW	8.028	0.000	2.961	0.000	1.667	0.000	0.000	1.608	0.000	0.000	0.000	0.000	14.218
DAY/HR	1/ 7	0/ 0	1/ 7	0/ 0	2/11	0/ 0	0/ 0	1/ 2	0/ 0	0/ 0	0/ 0	0/ 0	2/ 9
PEAK ENDUSE	8.028	0.000	2.961	0.000	1.620	0.000	0.000	1.608	0.000	0.000	0.000	0.000	
PEAK PCT	56.5	0.0	20.8	0.0	11.4	0.0	0.0	11.3	0.0	0.0	0.0	0.0	
DEC													
KWH	5468.	0.	1487.	0.	0.	0.	0.	1196.	0.	0.	0.	0.	8151.
MAX KW	8.028	0.000	2.961	0.000	0.000	0.000	0.000	1.608	0.000	0.000	0.000	0.000	12.598
DAY/HR	1/ 7	0/ 0	1/ 7	0/ 0	0/ 0	0/ 0	0/ 0	1/ 1	0/ 0	0/ 0	0/ 0	0/ 0	1/ 7
PEAK ENDUSE	8.028	0.000	2.961	0.000	0.000	0.000	0.000	1.608	0.000	0.000	0.000	0.000	
PEAK PCT	63.7	0.0	23.5	0.0	0.0	0.0	0.0	12.8	0.0	0.0	0.0	0.0	
KWH	64376.	0.	17510.	0.	9692.	0.	0.	14087.	0.	0.	0.	0.	105665.
MAX KW	8.028	0.000	2.961	0.000	5.378	0.000	0.000	1.608	0.000	0.000	0.000	0.000	17.789
MON/DY	1/ 1	0/ 0	1/ 1	0/ 0	7/ 6	0/ 0	0/ 0	1/ 1	0/ 0	0/ 0	0/ 0	0/ 0	7/20
PEAK ENDUSE	8.028	0.000	2.961	0.000	5.192	0.000	0.000	1.608	0.000	0.000	0.000	0.000	
PEAK PCT	45.1	0.0	16.6	0.0	29.2	0.0	0.0	9.0	0.0	0.0	0.0	0.0	

YEARLY TRANSFORMER LOSSES = 0.0 KWH

REPORT- PS-F Energy End-Use Summary for EM1 WEATHER FILE- Boston MA TMY2

	LIGHTS	TASK LIGHTS	MISC EQUIP	SPACE HEATING	SPACE COOLING	HEAT REJECT	PUMPS & AUX	VENT FANS	REFRIG DISPLAY	HT PUMP SUPPLEM	DOMEST HOT WTR	EXT USAGE	TOTAL
JAN													
KWH	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
MAX KW	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0
PEAK ENDUSE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
FEB													
KWH	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
MAX KW	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0
PEAK ENDUSE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
MAR													
KWH	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
MAX KW	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0
PEAK ENDUSE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
APR													
KWH	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
MAX KW	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0
PEAK ENDUSE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
MAY													
KWH	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
MAX KW	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0
PEAK ENDUSE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
JUN													
KWH	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
MAX KW	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0
PEAK ENDUSE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

JUL													
KWH	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
MAX KW	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0
PEAK ENDUSE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

AUG													
KWH	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
MAX KW	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0
PEAK ENDUSE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

REPORT- PS-F Energy End-Use Summary for EM1 WEATHER FILE- Boston MA TMY2
(CONTINUED)

SEP													
KWH	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
MAX KW	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0
PEAK ENDUSE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
OCT													
KWH	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
MAX KW	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0
PEAK ENDUSE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
NOV													
KWH	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
MAX KW	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0
PEAK ENDUSE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
DEC													
KWH	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
MAX KW	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0
PEAK ENDUSE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	=======	=======	=======	=======	=======	=======	=======	=======	=======	=======	=======	=======	========
KWH	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
MAX KW	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
MON/DY	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0
PEAK ENDUSE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

YEARLY TRANSFORMER LOSSES = 0.0 KWH

REPORT- PS-F Energy End-Use Summary for FBA WEATHER FILE- Boston MA TMY2

	LIGHTS	TASK LIGHTS	MISC EQUIP	SPACE HEATING	SPACE COOLING	HEAT REJECT	PUMPS & AUX	VENT FANS	REFRIG DISPLAY	HT PUMP SUPPLEM	DOMEST HOT WTR	EXT USAGE	TOTAL
JAN													
THERM	0.	0.	0.	1251.	0.	0.	0.	0.	0.	0.	1197.	0.	2447.
MAX THERM/HR	0.0	0.0	0.0	3.6	0.0	0.0	0.0	0.0	0.0	0.0	2.7	0.0	6.1
DAY/HR	0/ 0	0/ 0	0/ 0	6/ 6	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	31/ 8	0/ 0	31/ 8
PEAK ENDUSE	0.0	0.0	0.0	3.4	0.0	0.0	0.0	0.0	0.0	0.0	2.7	0.0	
PEAK PCT	0.0	0.0	0.0	56.0	0.0	0.0	0.0	0.0	0.0	0.0	44.0	0.0	
FEB													
THERM	0.	0.	0.	970.	0.	0.	0.	0.	0.	0.	1115.	0.	2086.
MAX THERM/HR	0.0	0.0	0.0	3.9	0.0	0.0	0.0	0.0	0.0	0.0	2.8	0.0	6.0
DAY/HR	0/ 0	0/ 0	0/ 0	1/ 5	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	17/ 8	0/ 0	1/ 8
PEAK ENDUSE	0.0	0.0	0.0	3.3	0.0	0.0	0.0	0.0	0.0	0.0	2.8	0.0	
PEAK PCT	0.0	0.0	0.0	54.4	0.0	0.0	0.0	0.0	0.0	0.0	45.6	0.0	
MAR													
THERM	0.	0.	0.	652.	0.	0.	0.	0.	0.	0.	1229.	0.	1882.
MAX THERM/HR	0.0	0.0	0.0	2.7	0.0	0.0	0.0	0.0	0.0	0.0	2.8	0.0	4.8
DAY/HR	0/ 0	0/ 0	0/ 0	11/ 6	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	17/ 8	0/ 0	18/ 8
PEAK ENDUSE	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	2.8	0.0	
PEAK PCT	0.0	0.0	0.0	42.5	0.0	0.0	0.0	0.0	0.0	0.0	57.5	0.0	
APR													
THERM	0.	0.	0.	144.	0.	0.	0.	0.	0.	0.	1156.	0.	1300.
MAX THERM/HR	0.0	0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0	2.7	0.0	3.8
DAY/HR	0/ 0	0/ 0	0/ 0	4/24	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	1/ 8	0/ 0	5/ 8
PEAK ENDUSE	0.0	0.0	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0	2.7	0.0	
PEAK PCT	0.0	0.0	0.0	28.7	0.0	0.0	0.0	0.0	0.0	0.0	71.3	0.0	
MAY													
THERM	0.	0.	0.	2.	0.	0.	0.	0.	0.	0.	1094.	0.	1095.
MAX THERM/HR	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	2.5	0.0	2.6
DAY/HR	0/ 0	0/ 0	0/ 0	1/ 7	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	1/ 8	0/ 0	1/ 8
PEAK ENDUSE	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	2.5	0.0	
PEAK PCT	0.0	0.0	0.0	6.4	0.0	0.0	0.0	0.0	0.0	0.0	93.6	0.0	
JUN													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	969.	0.	969.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.3	0.0	2.3
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	6/18	0/ 0	6/18
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.3	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	

JUL													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	924.	0.	924.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	0.0	2.1
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	4/19	0/ 0	4/19
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	
AUG													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	884.	0.	884.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	2.0
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	15/ 8	0/ 0	15/ 8
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	

REPORT- PS-F Energy End-Use Summary for FBA WEATHER FILE- Boston MA TMY2
(CONTINUED)

SEP													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	862.	0.	862.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	2.0
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	29/ 8	0/ 0	29/ 8
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	
OCT													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	943.	0.	943.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	0.0	2.1
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	27/ 8	0/ 0	27/ 8
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	
NOV													
THERM	0.	0.	0.	463.	0.	0.	0.	0.	0.	0.	996.	0.	1459.
MAX THERM/HR	0.0	0.0	0.0	2.9	0.0	0.0	0.0	0.0	0.0	0.0	2.3	0.0	4.9
DAY/HR	0/ 0	0/ 0	0/ 0	20/ 5	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	20/ 8	0/ 0	20/ 8
PEAK ENDUSE	0.0	0.0	0.0	2.6	0.0	0.0	0.0	0.0	0.0	0.0	2.3	0.0	
PEAK PCT	0.0	0.0	0.0	53.0	0.0	0.0	0.0	0.0	0.0	0.0	47.0	0.0	
DEC													
THERM	0.	0.	0.	1025.	0.	0.	0.	0.	0.	0.	1119.	0.	2143.
MAX THERM/HR	0.0	0.0	0.0	4.5	0.0	0.0	0.0	0.0	0.0	0.0	2.5	0.0	6.5
DAY/HR	0/ 0	0/ 0	0/ 0	20/ 5	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	24/ 8	0/ 0	24/ 8
PEAK ENDUSE	0.0	0.0	0.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5	0.0	
PEAK PCT	0.0	0.0	0.0	61.1	0.0	0.0	0.0	0.0	0.0	0.0	38.9	0.0	
	=======	=======	=======	=======	=======	=======	=======	=======	=======	=======	=======	=======	========
THERM	0.	0.	0.	4506.	0.	0.	0.	0.	0.	0.	12489.	0.	16995.
MAX THERM/HR	0.0	0.0	0.0	4.5	0.0	0.0	0.0	0.0	0.0	0.0	2.8	0.0	6.5
MON/DY	0/ 0	0/ 0	0/ 0	12/20	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	2/17	0/ 0	12/24
PEAK ENDUSE	0.0	0.0	0.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5	0.0	
PEAK PCT	0.0	0.0	0.0	61.1	0.0	0.0	0.0	0.0	0.0	0.0	38.9	0.0	

REPORT- PS-F Energy End-Use Summary for FBB WEATHER FILE- Boston MA TMY2

	LIGHTS	TASK LIGHTS	MISC EQUIP	SPACE HEATING	SPACE COOLING	HEAT REJECT	PUMPS & AUX	VENT FANS	REFRIG DISPLAY	HT PUMP SUPPLEM	DOMEST HOT WTR	EXT USAGE	TOTAL
JAN													
THERM	0.	0.	0.	233.	0.	0.	0.	0.	0.	0.	190.	0.	424.
MAX THERM/HR	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	1.0
DAY/HR	0/ 0	0/ 0	0/ 0	31/12	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	4/ 8	0/ 0	31/ 8
PEAK ENDUSE	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	
PEAK PCT	0.0	0.0	0.0	56.0	0.0	0.0	0.0	0.0	0.0	0.0	44.0	0.0	
FEB													
THERM	0.	0.	0.	183.	0.	0.	0.	0.	0.	0.	186.	0.	369.
MAX THERM/HR	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	1.2
DAY/HR	0/ 0	0/ 0	0/ 0	17/ 8	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	1/ 8	0/ 0	17/ 8
PEAK ENDUSE	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	
PEAK PCT	0.0	0.0	0.0	59.1	0.0	0.0	0.0	0.0	0.0	0.0	40.9	0.0	
MAR													
THERM	0.	0.	0.	132.	0.	0.	0.	0.	0.	0.	207.	0.	339.
MAX THERM/HR	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	1.0
DAY/HR	0/ 0	0/ 0	0/ 0	18/ 6	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	11/ 8	0/ 0	17/ 8
PEAK ENDUSE	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	
PEAK PCT	0.0	0.0	0.0	50.5	0.0	0.0	0.0	0.0	0.0	0.0	49.5	0.0	
APR													
THERM	0.	0.	0.	31.	0.	0.	0.	0.	0.	0.	193.	0.	225.
MAX THERM/HR	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.7
DAY/HR	0/ 0	0/ 0	0/ 0	5/ 7	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	1/ 8	0/ 0	5/ 8
PEAK ENDUSE	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	
PEAK PCT	0.0	0.0	0.0	35.8	0.0	0.0	0.0	0.0	0.0	0.0	64.2	0.0	
MAY													
THERM	0.	0.	0.	2.	0.	0.	0.	0.	0.	0.	170.	0.	172.
MAX THERM/HR	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.5
DAY/HR	0/ 0	0/ 0	0/ 0	1/ 6	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	1/ 8	0/ 0	1/ 8
PEAK ENDUSE	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	
PEAK PCT	0.0	0.0	0.0	16.3	0.0	0.0	0.0	0.0	0.0	0.0	83.7	0.0	
JUN													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	136.	0.	136.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.3
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	1/ 8	0/ 0	1/ 8
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	

JUL													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	115.	0.	115.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.3
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	1/ 8	0/ 0	1/ 8
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	
AUG													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	99.	0.	99.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.2
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	1/ 8	0/ 0	1/ 8
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	

REPORT- PS-F Energy End-Use Summary for FBB WEATHER FILE- Boston MA TMY2
(CONTINUED)

SEP													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	95.	0.	95.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.2
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	25/ 8	0/ 0	25/ 8
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	
OCT													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	111.	0.	111.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.3
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	4/18	0/ 0	4/18
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	
NOV													
THERM	0.	0.	0.	87.	0.	0.	0.	0.	0.	0.	131.	0.	219.
MAX THERM/HR	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.8
DAY/HR	0/ 0	0/ 0	0/ 0	14/ 6	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	5/ 8	0/ 0	20/ 8
PEAK ENDUSE	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	
PEAK PCT	0.0	0.0	0.0	59.5	0.0	0.0	0.0	0.0	0.0	0.0	40.5	0.0	
DEC													
THERM	0.	0.	0.	194.	0.	0.	0.	0.	0.	0.	164.	0.	359.
MAX THERM/HR	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	1.3
DAY/HR	0/ 0	0/ 0	0/ 0	25/ 6	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	19/ 8	0/ 0	24/ 8
PEAK ENDUSE	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	
PEAK PCT	0.0	0.0	0.0	71.0	0.0	0.0	0.0	0.0	0.0	0.0	29.0	0.0	
	=======	=======	=======	=======	=======	=======	=======	=======	=======	=======	=======	=======	========
THERM	0.	0.	0.	863.	0.	0.	0.	0.	0.	0.	1799.	0.	2662.
MAX THERM/HR	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	1.3
MON/DY	0/ 0	0/ 0	0/ 0	12/25	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	3/11	0/ 0	12/24
PEAK ENDUSE	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	
PEAK PCT	0.0	0.0	0.0	71.0	0.0	0.0	0.0	0.0	0.0	0.0	29.0	0.0	

REPORT- PS-F Energy End-Use Summary for FBC WEATHER FILE- Boston MA TMY2

	LIGHTS	TASK LIGHTS	MISC EQUIP	SPACE HEATING	SPACE COOLING	HEAT REJECT	PUMPS & AUX	VENT FANS	REFRIG DISPLAY	HT PUMP SUPPLEM	DOMEST HOT WTR	EXT USAGE	TOTAL
JAN													
THERM	0.	0.	0.	224.	0.	0.	0.	0.	0.	0.	190.	0.	414.
MAX THERM/HR	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	1.0
DAY/HR	0/ 0	0/ 0	0/ 0	31/ 8	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	4/ 8	0/ 0	31/ 8
PEAK ENDUSE	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	
PEAK PCT	0.0	0.0	0.0	56.8	0.0	0.0	0.0	0.0	0.0	0.0	43.2	0.0	
FEB													
THERM	0.	0.	0.	162.	0.	0.	0.	0.	0.	0.	186.	0.	348.
MAX THERM/HR	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	1.0
DAY/HR	0/ 0	0/ 0	0/ 0	17/ 6	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	1/ 8	0/ 0	17/ 8
PEAK ENDUSE	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	
PEAK PCT	0.0	0.0	0.0	53.2	0.0	0.0	0.0	0.0	0.0	0.0	46.8	0.0	
MAR													
THERM	0.	0.	0.	102.	0.	0.	0.	0.	0.	0.	207.	0.	309.
MAX THERM/HR	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.9
DAY/HR	0/ 0	0/ 0	0/ 0	18/ 7	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	11/ 8	0/ 0	17/ 8
PEAK ENDUSE	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	
PEAK PCT	0.0	0.0	0.0	48.5	0.0	0.0	0.0	0.0	0.0	0.0	51.5	0.0	
APR													
THERM	0.	0.	0.	6.	0.	0.	0.	0.	0.	0.	193.	0.	199.
MAX THERM/HR	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.6
DAY/HR	0/ 0	0/ 0	0/ 0	4/ 6	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	1/ 8	0/ 0	4/ 8
PEAK ENDUSE	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	
PEAK PCT	0.0	0.0	0.0	18.7	0.0	0.0	0.0	0.0	0.0	0.0	81.3	0.0	
MAY													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	170.	0.	170.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.4
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	1/ 8	0/ 0	1/ 8
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	
JUN													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	136.	0.	136.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.3
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	1/ 8	0/ 0	1/ 8
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	

JUL													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	115.	0.	115.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.3
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	1/ 8	0/ 0	1/ 8
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	
AUG													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	99.	0.	99.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.2
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	1/ 8	0/ 0	1/ 8
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	

REPORT- PS-F Energy End-Use Summary for FBC WEATHER FILE- Boston MA TMY2

(CONTINUED)

SEP													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	95.	0.	95.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.2
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	25/ 8	0/ 0	25/ 8
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	
OCT													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	111.	0.	111.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.3
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	4/18	0/ 0	4/18
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	
NOV													
THERM	0.	0.	0.	82.	0.	0.	0.	0.	0.	0.	131.	0.	213.
MAX THERM/HR	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.8
DAY/HR	0/ 0	0/ 0	0/ 0	14/ 6	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	5/ 8	0/ 0	20/ 8
PEAK ENDUSE	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	
PEAK PCT	0.0	0.0	0.0	60.7	0.0	0.0	0.0	0.0	0.0	0.0	39.3	0.0	
DEC													
THERM	0.	0.	0.	182.	0.	0.	0.	0.	0.	0.	164.	0.	346.
MAX THERM/HR	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	1.1
DAY/HR	0/ 0	0/ 0	0/ 0	24/ 7	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	19/ 8	0/ 0	24/ 8
PEAK ENDUSE	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	
PEAK PCT	0.0	0.0	0.0	64.2	0.0	0.0	0.0	0.0	0.0	0.0	35.8	0.0	
	=======	=======	=======	=======	=======	=======	=======	=======	=======	=======	=======	=======	========
THERM	0.	0.	0.	757.	0.	0.	0.	0.	0.	0.	1799.	0.	2557.
MAX THERM/HR	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	1.1
MON/DY	0/ 0	0/ 0	0/ 0	12/24	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	3/11	0/ 0	12/24
PEAK ENDUSE	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	
PEAK PCT	0.0	0.0	0.0	64.2	0.0	0.0	0.0	0.0	0.0	0.0	35.8	0.0	

REPORT- PS-F Energy End-Use Summary for FBD WEATHER FILE- Boston MA TMY2

	LIGHTS	TASK LIGHTS	MISC EQUIP	SPACE HEATING	SPACE COOLING	HEAT REJECT	PUMPS & AUX	VENT FANS	REFRIG DISPLAY	HT PUMP SUPPLEM	DOMEST HOT WTR	EXT USAGE	TOTAL
JAN													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	44.	0.	44.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	31/ 8	0/ 0	31/ 8
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	
FEB													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	43.	0.	43.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	17/ 8	0/ 0	17/ 8
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	
MAR													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	47.	0.	47.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	17/ 8	0/ 0	17/ 8
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	
APR													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	43.	0.	43.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	1/ 8	0/ 0	1/ 8
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	
MAY													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	38.	0.	38.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	1/ 8	0/ 0	1/ 8
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	
JUN													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	31.	0.	31.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	6/18	0/ 0	6/18
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	

JUL													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	26.	0.	26.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	4/19	0/ 0	4/19
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	
AUG													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	23.	0.	23.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	15/ 8	0/ 0	15/ 8
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	

REPORT- PS-F Energy End-Use Summary for FBD WEATHER FILE- Boston MA TMY2
(CONTINUED)

SEP													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	23.	0.	23.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	29/ 8	0/ 0	29/ 8
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	
OCT													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	27.	0.	27.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	27/ 8	0/ 0	27/ 8
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	
NOV													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	31.	0.	31.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	20/ 8	0/ 0	20/ 8
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	
DEC													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	39.	0.	39.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	24/ 8	0/ 0	24/ 8
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	
	=======	=======	=======	=======	=======	=======	=======	=======	=======	=======	=======	=======	========
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	414.	0.	414.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1
MON/DY	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	3/17	0/ 0	3/17
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	

REPORT- PS-F Energy End-Use Summary for FM1 WEATHER FILE- Boston MA TMY2

	LIGHTS	TASK LIGHTS	MISC EQUIP	SPACE HEATING	SPACE COOLING	HEAT REJECT	PUMPS & AUX	VENT FANS	REFRIG DISPLAY	HT PUMP SUPPLEM	DOMEST HOT WTR	EXT USAGE	TOTAL
JAN													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
FEB													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
MAR													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
APR													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
MAY													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
JUN													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

JUL													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

AUG													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

REPORT- PS-F Energy End-Use Summary for FM1 WEATHER FILE- Boston MA TMY2
(CONTINUED)

SEP													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
OCT													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
NOV													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
DEC													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DAY/HR	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	=======	=======	=======	=======	=======	=======	=======	=======	=======	=======	=======	=======	========
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
MAX THERM/HR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MON/DY	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0
PEAK ENDUSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
PEAK PCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

Stationary Source Greenhouse Gas Emissions Estimate

Job number: 13866.00
Project: Neponset Wharf
Scenario: Passive Design

Building A

ENERGY CONSUMPTION

Scenario	Space Cool (kWh)	Heat Rejection (kBtu)	Space Heating (kWh)	Space Heating (therm)	HP Supplement (kWh)	Hot Water (therm)	Vent Fans (kWh)	Pumps & Aux. (kWh)	Misc. Equip. (kWh)	Interior Lighting (kWh)	Total Electricity (MWh)	Total Gas (MMBtu)	Total Energy (MMBtu)	EUI (kBtu/sf-yr)
BASELINE	91,252	0	0	29,032	0	25,508	203,527	5,826	209,155	263,594	773.4	5,454	8,091	53.6
DESIGN	60,537	1,585	9,222	4,506	0	12,489	136,333	36,937	209,155	119,937	573.7	1,700	3,656	24.2
END-USE SAVINGS	30,715	-1,585	-9,222	24,526	0	13,019	67,194	-31,111	0	143,657	199.6	3,755	4,435	
PERCENT SAVINGS													54.8%	

GREENHOUSE GAS EMISSIONS

Scenario	Space Cool (tons/yr)	Heat Rejection (tons/yr)	Space Heating (tons/yr)	Space Heating (tons/yr)	HP Supplement (tons/yr)	Hot Water (tons/yr)	Vent Fans (tons/yr)	Pumps & Aux. (tons/yr)	Misc. Equip. (tons/yr)	Interior Lighting (tons/yr)	Total Electricity (tons/yr)	Total Gas (tons/yr)	Total Energy (tons/yr)
BASELINE	32.4	0.0	0.0	169.8	0.0	149.2	72.3	2.1	74.3	93.6	274.5	319.1	593.6
DESIGN	21.5	0.6	3.3	26.4	0.0	73.1	48.4	13.1	74.3	42.6	203.7	99.4	303.1
END-USE SAVINGS	10.9	-0.6	-3.3	143.5	0.0	76.2	23.9	-11.0	0.0	51.0	70.9	219.6	290.5
PERCENT SAVINGS													48.9%

Building B

ENERGY CONSUMPTION

Scenario	Space Cool (kWh)	Heat Rejection (kBtu)	Space Heating (kWh)	Space Heating (therm)	HP Supplement (kWh)	Hot Water (therm)	Vent Fans (kWh)	Pumps & Aux. (kWh)	Misc. Equip. (kWh)	Interior Lighting (kWh)	Total Electricity (MWh)	Total Gas (MMBtu)	Total Energy (MMBtu)	EUI (kBtu/sf-yr)
BASELINE	71,616	0	0	14,270	0	4,232	133,798	3,627	100,749	76,749	386.5	1,850	3,168	66.7
DESIGN	23,867	0	17,768	863	1,473	1,799	66,353	1	100,749	27,719	237.9	266	1,077	22.7
END-USE SAVINGS	47,749	0	-17,768	13,407	-1,473	2,433	67,445	3,626	0	49,030	148.6	1,584	2,091	
PERCENT SAVINGS													66.0%	

GREENHOUSE GAS EMISSIONS

Scenario	Space Cool (tons/yr)	Heat Rejection (tons/yr)	Space Heating (tons/yr)	Space Heating (tons/yr)	HP Supplement (tons/yr)	Hot Water (tons/yr)	Vent Fans (tons/yr)	Pumps & Aux. (tons/yr)	Misc. Equip. (tons/yr)	Interior Lighting (tons/yr)	Total Electricity (tons/yr)	Total Gas (tons/yr)	Total Energy (tons/yr)
BASELINE	25.4	0.0	0.0	83.5	0.0	24.8	47.5	1.3	35.8	27.2	137.2	108.2	245.5
DESIGN	8.5	0.0	6.3	5.0	0.5	10.5	23.6	0.0	35.8	9.8	84.5	15.6	100.0
END-USE SAVINGS	17.0	0.0	-6.3	78.4	-0.5	14.2	23.9	1.3	0.0	17.4	52.8	92.7	145.4
PERCENT SAVINGS													59.2%

Building C

ENERGY CONSUMPTION

Scenario	Space Cool (kWh)	Heat Rejection (kBtu)	Space Heating (kWh)	Space Heating (therm)	HP Supplement (kWh)	Hot Water (therm)	Vent Fans (kWh)	Pumps & Aux. (kWh)	Misc. Equip. (kWh)	Interior Lighting (kWh)	Total Electricity (MWh)	Total Gas (MMBtu)	Total Energy (MMBtu)	EUI (kBtu/sf-yr)
BASELINE	70,913	0	0	13,650	0	4,232	129,688	3,470	92,788	69,364	366.2	1,788	3,037	69.8
DESIGN	46,867	0	5,399	757	0	1,799	64,380	1	92,788	24,904	234.3	256	1,055	24.2
END-USE SAVINGS	24,046	0	-5,399	12,893	0	2,433	65,308	3,469	0	44,460	131.9	1,533	1,982	
PERCENT SAVINGS													65.3%	

GREENHOUSE GAS EMISSIONS

Scenario	Space Cool (tons/yr)	Heat Rejection (tons/yr)	Space Heating (tons/yr)	Space Heating (tons/yr)	HP Supplement (tons/yr)	Hot Water (tons/yr)	Vent Fans (tons/yr)	Pumps & Aux. (tons/yr)	Misc. Equip. (tons/yr)	Interior Lighting (tons/yr)	Total Electricity (tons/yr)	Total Gas (tons/yr)	Total Energy (tons/yr)
BASELINE	25.2	0.0	0.0	79.9	0.0	24.8	46.0	1.2	32.9	24.6	130.0	104.6	234.6
DESIGN	16.6	0.0	1.9	4.4	0.0	10.5	22.9	0.0	32.9	8.8	83.2	15.0	98.1
END-USE SAVINGS	8.5	0.0	-1.9	75.4	0.0	14.2	23.2	1.2	0.0	15.8	46.8	89.7	136.5
PERCENT SAVINGS													58.2%

Building D

ENERGY CONSUMPTION

Scenario	Space Cool (kWh)	Heat Rejection (kBtu)	Space Heating (kWh)	Space Heating (therm)	HP Supplement (kWh)	Hot Water (therm)	Vent Fans (kWh)	Pumps & Aux. (kWh)	Misc. Equip. (kWh)	Interior Lighting (kWh)	Total Electricity (MWh)	Total Gas (MMBtu)	Total Energy (MMBtu)	EUI (kBtu/sf-yr)
BASELINE	12,754	0	0	2	0	902	19,672	0	17,510	108,093	158.0	90.4	629	33.1
DESIGN	9,692	0	0	0	0	414	14,087	0	17,510	64,376	105.7	41.4	402	21.1
END-USE SAVINGS	3,062	0	0	2	0	488	5,585	0	0	43,717	52.4	49.0	228	
PERCENT SAVINGS													36.2%	

GREENHOUSE GAS EMISSIONS

Scenario	Space Cool (tons/yr)	Heat Rejection (tons/yr)	Space Heating (tons/yr)	Space Heating (tons/yr)	HP Supplement (tons/yr)	Hot Water (tons/yr)	Vent Fans (tons/yr)	Pumps & Aux. (tons/yr)	Misc. Equip. (tons/yr)	Interior Lighting (tons/yr)	Total Electricity (tons/yr)	Total Gas (tons/yr)	Total Energy (tons/yr)
BASELINE	4.5	0.0	0.0	0.0	0.0	5.3	7.0	0.0	6.2	38.4	56.1	5.3	61.4
DESIGN	3.4	0.0	0.0	0.0	0.0	2.4	5.0	0.0	6.2	22.9	37.5	2.4	39.9
END-USE SAVINGS	1.1	0.0	0.0	0.0	0.0	2.9	2.0	0.0	0.0	15.5	18.6	2.9	21.5
PERCENT SAVINGS													35.0%

PROJECT TOTAL

ENERGY CONSUMPTION

Scenario	Space Cool (kWh)	Heat Rejection (kBtu)	Space Heating (kWh)	Space Heating (therm)	HP Supplement (kWh)	Hot Water (therm)	Vent Fans (kWh)	Pumps & Aux. (kWh)	Misc. Equip. (kWh)	Interior Lighting (kWh)	Total Electricity (MWh)	Total Gas (MMBtu)	Total Energy (MMBtu)
BASELINE	246,535	0	0	56,954	0	34,874	486,685	12,923	420,202	517,800	1,684	9,183	14,925
DESIGN	140,963	1,585	32,389	6,126	1,473	16,501	281,153	36,939	420,202	236,936	1,152	2,263	6,189
END-USE SAVINGS	105,572	-1,585	-32,389	50,828	-1,473	18,373	205,532	-24,016	0	280,864	533	6,920	8,736
PERCENT SAVINGS													58.5%

GREENHOUSE GAS EMISSIONS

Scenario	Space Cool (tons/yr)	Heat Rejection (tons/yr)	Space Heating (tons/yr)	Space Heating (tons/yr)	HP Supplement (tons/yr)	Hot Water (tons/yr)	Vent Fans (tons/yr)	Pumps & Aux. (tons/yr)	Misc. Equip. (tons/yr)	Interior Lighting (tons/yr)	Total Electricity (tons/yr)	Total Gas (tons/yr)	Total Energy (tons/yr)
BASELINE	87.5	0.0	0.0	333.2	0.0	204.0	172.8	4.6	149.2	183.8	597.9	537.2	1,135.1
DESIGN	50.0	0.6	11.5	35.8	0.5	96.5	99.8	13.1	149.2	84.1	408.8	132.4	541.2
END-USE SAVINGS	37.5	-0.6	-11.5	297.3	-0.5	107.5	73.0	-8.5	0.0	99.7	189.0	404.8	593.9
PERCENT SAVINGS													52.3%

CONVERSION TABLE

CONVERT	MULTIPLY BY
KWH TO MWH	0.001
MWH TO LBS[2]	710.0
THERMS TO MBTU	0.1
LBS TO SHORT TONS	0.0005
kBTU to KWH	0.293
MMBTU to LBS[3]	117.0

Energy Source

Natural Gas Use
Electricity Use

2 mwh to lbs of CO2 conversion factor from 2016 ISO New England Electric Generator Air Emissions Report
3 https://www.eia.gov/environment/emissions/co2_vol_mass.cfm

Division 1	Phase	Description	Takeoff Quantity	Total Cost/Unit	Total Amount
		Option 1			
230000.00		*HVAC*		*/SF*	*45*
		Option 1	*1.00* **SF**	45.00 /SF	45
		Option 2			
230000.00		*HVAC*		*/SF*	*50*
		Option 2	*1.00* **SF**	50.00 /SF	50
		Option 3			
230000.00		*HVAC*		*/SF*	*60*
		Option 3	*1.00* **SF**	60.00 /SF	60
		Passive House			
050000.00		*METALS*	*100.00 SF*	*15.00 /SF*	*1,500*
060000.00		*WOOD, PLASTICS, & COMPOSITES*	*100.00 SF*	*4.50 /SF*	*450*
070000.00		*THERMAL & MOISTURE PROTECTION*	*100.00 SF*	*109.00 /SF*	*10,900*
090000.00		*FINISHES*	*100.00 SF*	*5.00 /SF*	*500*
		Passive House	*100.00* **SF**	133.50 /SF	13,350
		Type 2A - Rain Screen Assembly			
050000.00		*METALS*	*100.00 SF*	*15.00 /SF*	*1,500*
060000.00		*WOOD, PLASTICS, & COMPOSITES*	*100.00 SF*	*4.50 /SF*	*450*
070000.00		*THERMAL & MOISTURE PROTECTION*	*100.00 SF*	*73.00 /SF*	*7,300*
090000.00		*FINISHES*	*100.00 SF*	*5.00 /SF*	*500*
		Type 2A - Rain Screen Assembly	*100.00* **SF**	97.50 /SF	9,750
		Type 3 - Masonry Veneer Assembly			
040000.00		*MASONRY*	*100.00 SF*	*45.00 /SF*	*4,500*
050000.00		*METALS*	*100.00 SF*	*15.00 /SF*	*1,500*
060000.00		*WOOD, PLASTICS, & COMPOSITES*	*100.00 SF*	*4.50 /SF*	*450*
070000.00		*THERMAL & MOISTURE PROTECTION*	*100.00 SF*	*13.00 /SF*	*1,300*
090000.00		*FINISHES*	*100.00 SF*	*5.00 /SF*	*500*
		Type 3 - Masonry Veneer Assembly	*100.00* **SF**	82.50 /SF	8,250
		Openings			
084400		*Kawneer Curtain Wall System & Glazing*	*100.00 SF*	*140.00 /SF*	*14,000*
085113		*Kawneer Aluminum Punched Window System*	*100.00 SF*	*130.00 /SF*	*13,000*
088100		*Passive House Triple Glazing*	*100.00 SF*	*60.00 /SF*	*6,000*
		Openings	*100.00* **SF**	330.00 /SF	33,000

Division 1	Phase	Description	Takeoff Quantity	Total Cost/Unit	Total Amount
		Option 1			
230000.00		***HVAC***			
		HVAC			
	230000.01	HVAC System | Heat Pump - Price Represents Per SF Cost	1.00 SF	45.00 /SF	45
		HVAC		**/SF**	**45**
		230000.00 HVAC		***/SF***	***45***
		Option 1	***1.00*** **SF**	**45.00 /SF**	**45**

Division 1	Phase	Description	Takeoff Quantity	Total Cost/Unit	Total Amount
		Option 2			
230000.00		***HVAC***			
		HVAC			
	230000.02	HVAC System | FCU / Dx with Gas Pipe & Navian - Price Represents per SF Cost	1.00 SF	50.00 /SF	50
		HVAC		**/SF**	**50**
		230000.00 HVAC		***/SF***	***50***
		Option 2	***1.00*** **SF**	**50.00 /SF**	**50**

Division 1	Phase	Description	Takeoff Quantity	Total Cost/Unit	Total Amount
		Option 3			
230000.00		***HVAC***			
		HVAC			
	230000.03	HVAC System | VRF with Gas Pipe & Navian - Price Represents per SF Cost	1.00 SF	60.00 /SF	60
		HVAC		**/SF**	**60**
		230000.00 HVAC		***/SF***	***60***
		Option 3	***1.00* SF**	**60.00 /SF**	**60**

Division 1	Phase	Description	Takeoff Quantity	Total Cost/Unit	Total Amount
		Passive House			
050000.00		***METALS***			
		COLD-FORMED METAL FRAMING			
	054113.00	Cold-Formed Metal Stud Framing | 2x6 Stud Wall	100.00 SF	15.00 /SF	1,500
		COLD-FORMED METAL FRAMING	***100.00 SF***	**15.00 /SF**	**1,500**
		050000.00 METALS	***100.00 SF***	***15.00 /SF***	***1,500***
060000.00		***WOOD, PLASTICS, & COMPOSITES***			
		CARPENTRY			
	060000.01	1/2" Plywood	100.00 SF	4.50 /SF	450
		CARPENTRY	***100.00 SF***	**4.50 /SF**	**450**
		060000.00 WOOD, PLASTICS, & COMPOSITES	***100.00 SF***	***4.50 /SF***	***450***
070000.00		***THERMAL & MOISTURE PROTECTION***			
		THERMAL PROTECTION & INSULATION			
	072126.00	5.5" High Density Cellulose	100.00 SF	10.00 /SF	1,000
	072129.00	2" Foil Faced Polyiso	100.00 SF	4.00 /SF	400
		THERMAL PROTECTION & INSULATION	***100.00 SF***	**14.00 /SF**	**1,400**
		WEATHER BARRIERS			
	072700.00	Vapor Permeable Fluid Applied Air Barrier	100.00 SF	10.00 /SF	1,000
		WEATHER BARRIERS	***100.00 SF***	**10.00 /SF**	**1,000**
		METAL PANELS			
	074213.00	Material Varies* w/ Rain Screen Battens with Clips	100.00 SF	85.00 /SF	8,500
		METAL PANELS	***100.00 SF***	**85.00 /SF**	**8,500**
		070000.00 THERMAL & MOISTURE PROTECTION	***100.00 SF***	***109.00 /SF***	***10,900***
090000.00		***FINISHES***			
		DRYWALL			
	092000.01	Drywall | 1 Layer 5/8" GWB	100.00 SF	5.00 /SF	500
		DRYWALL	***100.00 SF***	**5.00 /SF**	**500**
		090000.00 FINISHES	***100.00 SF***	***5.00 /SF***	***500***
		Passive House	***100.00 SF***	**133.50 /SF**	**13,350**

Division 1	Phase	Description	Takeoff Quantity	Total Cost/Unit	Total Amount
		Type 2A - Rain Screen Assembly			
050000.00		***METALS***			
		COLD-FORMED METAL FRAMING			
	054113.00	Cold-Formed Metal Stud Framing | 2x6 Stud Wall	100.00 SF	15.00 /SF	1,500
		COLD-FORMED METAL FRAMING	***100.00 SF***	**15.00 /SF**	**1,500**
		050000.00 METALS	***100.00 SF***	***15.00 /SF***	***1,500***
060000.00		***WOOD, PLASTICS, & COMPOSITES***			
		CARPENTRY			
	060000.01	1/2" Plywood	100.00 SF	4.50 /SF	450
		CARPENTRY	***100.00 SF***	**4.50 /SF**	**450**
		060000.00 WOOD, PLASTICS, & COMPOSITES	***100.00 SF***	***4.50 /SF***	***450***
070000.00		***THERMAL & MOISTURE PROTECTION***			
		THERMAL PROTECTION & INSULATION			
	072216.00	R19 Batts Insulation	100.00 SF	3.00 /SF	300
		THERMAL PROTECTION & INSULATION	***100.00 SF***	**3.00 /SF**	**300**
		WEATHER BARRIERS			
	072700.00	Vapor Permeable Fluid Applied Air Barrier	100.00 SF	10.00 /SF	1,000
		WEATHER BARRIERS	***100.00 SF***	**10.00 /SF**	**1,000**
		METAL PANELS			
	074646.00	High Density Fiber Cement Rainscreen over Painted Wood Battens	100.00 SF	60.00 /SF	6,000
		METAL PANELS	***100.00 SF***	**60.00 /SF**	**6,000**
		070000.00 THERMAL & MOISTURE PROTECTION	***100.00 SF***	***73.00 /SF***	***7,300***
090000.00		***FINISHES***			
		DRYWALL			
	092000.01	Drywall | 1 Layer 5/8" GWB	100.00 SF	5.00 /SF	500
		DRYWALL	***100.00 SF***	**5.00 /SF**	**500**
		090000.00 FINISHES	***100.00 SF***	***5.00 /SF***	***500***
		Type 2A - Rain Screen Assembly	***100.00 SF***	**97.50 /SF**	**9,750**

Division 1	Phase	Description	Takeoff Quantity	Total Cost/Unit	Total Amount
		Type 3 - Masonry Veneer Assembly			
040000.00		***MASONRY***			
		MASONRY			
	040000.01	Masonry | Brick over 1" Air Gap	100.00 SF	45.00 /SF	4,500
		MASONRY	***100.00*** **SF**	**45.00 /SF**	**4,500**
		040000.00 MASONRY	***100.00 SF***	***45.00 /SF***	***4,500***
050000.00		***METALS***			
		COLD-FORMED METAL FRAMING			
	054113.00	Cold-Formed Metal Stud Framing | 2x6 Stud Wall	100.00 SF	15.00 /SF	1,500
		COLD-FORMED METAL FRAMING	***100.00*** **SF**	**15.00 /SF**	**1,500**
		050000.00 METALS	***100.00 SF***	***15.00 /SF***	***1,500***
060000.00		***WOOD, PLASTICS, & COMPOSITES***			
		CARPENTRY			
	060000.01	1/2" Plywood	100.00 SF	4.50 /SF	450
		CARPENTRY	***100.00*** **SF**	**4.50 /SF**	**450**
		060000.00 WOOD, PLASTICS, & COMPOSITES	***100.00 SF***	***4.50 /SF***	***450***
070000.00		***THERMAL & MOISTURE PROTECTION***			
		THERMAL PROTECTION & INSULATION			
	072216.00	R19 Batts Insulation	100.00 SF	3.00 /SF	300
		THERMAL PROTECTION & INSULATION	***100.00*** **SF**	**3.00 /SF**	**300**
		WEATHER BARRIERS			
	072700.00	Vapor Permeable Fluid Applied Air Barrier	100.00 SF	10.00 /SF	1,000
		WEATHER BARRIERS	***100.00*** **SF**	**10.00 /SF**	**1,000**
		070000.00 THERMAL & MOISTURE PROTECTION	***100.00 SF***	***13.00 /SF***	***1,300***
090000.00		***FINISHES***			
		DRYWALL			
	092000.01	Drywall | 1 Layer 5/8" GWB	100.00 SF	5.00 /SF	500
		DRYWALL	***100.00*** **SF**	**5.00 /SF**	**500**
		090000.00 FINISHES	***100.00 SF***	***5.00 /SF***	***500***
		Type 3 - Masonry Veneer Assembly	***100.00*** **SF**	**82.50 /SF**	**8,250**

Division 1	Phase	Description	Takeoff Quantity	Total Cost/Unit	Total Amount
		Openings			
084400		***Kawneer Curtain Wall System & Glazing***			
		Curtain Wall And Glazed Assemblies			
	08-44-13.10	Kawneer Curtain Wall System	100.00 sf	140.00 /sf	14,000
		Curtain Wall And Glazed Assemblies	***100.00***	**140.00**	**14,000**
		084400 Kawneer Curtain Wall System & Glazing	***100.00 SF***	***140.00 /SF***	***14,000***
085113		***Kawneer Aluminum Punched Window System***			
		Aluminum Windows			
	08-51-13.20	Kawneer Aluminum Punched Operable Window Assembly	100.00 sf	130.00 /sf	13,000
		Aluminum Windows	***100.00***	**130.00**	**13,000**
		085113 Kawneer Aluminum Punched Window System	***100.00 SF***	***130.00 /SF***	***13,000***
088100		***Passive House Triple Glazing***			
		Glass Glazing			
	08-81-10.10	Passive House Triple Glazing Premium - Punched Window	100.00 sf	25.00 /sf	2,500
	08-81-10.10	Passive House Triple Glazing Premium - Curtain Wall	100.00 sf	35.00 /sf	3,500
		Glass Glazing	***100.00***	**60.00**	**6,000**
		088100 Passive House Triple Glazing	***100.00 SF***	***60.00 /SF***	***6,000***
		Openings	***100.00*** **SF**	**330.00 /SF**	**33,000**

Appendix G: Waterways Supporting Documentation

Note: **Materials are provided on the enclosed CD-ROM. Hard Copies available upon request.**

Neponset River Estuary

Area of Critical Environmental Concern

Resource Management Plan

March 1996

Massachusetts Executive Office of Environmental Affairs
Department of Environmental Management
Areas of Critical Environmental Concern (ACEC) Program

William F. Weld, Governor
Argeo Paul Cellucci, Lt. Governor

Trudy Coxe, Secretary, EOEA
Peter C. Webber, Commissioner, DEM

Neponset River Estuary

Area of Critical Environmental Concern

Resource Management Plan

March 1996

Massachusetts Executive Office of Environmental Affairs
Trudy Coxe, Secretary, EOEA
Department of Environmental Management
Peter C. Webber, Commissioner, DEM

Prepared for: ACEC Program
100 Cambridge Street, 14th Floor
Boston, MA 02202

Prepared by: Richard F. Delaney and Jack Wiggin

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Neponset River Acronym List

BNAF	Boston Natural Areas Fund
Boston BOH	Board of Health
Boston CC	Conservation Commission
Boston DPW	Department of Public Works
Boston ED	Environment Department
Boston PD	Parks Department
BRA	Redevelopment Authority
BW&SC	Water and Sewer Commission
DEM	Department of Environmental Management
DEM/ACEC	Areas of Critical Environmental Concern
DEM/CA/SP	Coastal Access/ Sea Path Program
DEP	Department of Environmental Protection
DEP/BRP	Bureau of Resource Protection
DEP/BWSC	Bureau of Waste Site Clean Up
DEP/DWW	Division of Wetlands and Waterways
DEP/OWM	Office of Watershed Management
DFWELE	Department of Fisheries and Wildlife Environmental Law Enforcement
DFWELE/DMF	Division of Marine Fisheries
DFWELE/Riverways	Riverways Program
DFWELE/DFW	Division of Fisheries and Wildlife
DFWELE/DFW/NHP	Natural Heritage Program
DFWELE/PAB	Public Access Board
EOEA	Executive Office of Environmental Affairs
EOEA/OTA	Office of Technical Assistance
EOEA/WRBP	Wetlands Restoration and Banking Program
JBC	Joint Beaches Commission
MAPC	Metropolitan Area Planning Council
MBTA	Massachusetts Bay Transit Authority
MCZM	Massachusetts Coastal Zone Management
MDC	Metropolitan District Commission
MHC	Massachusetts Historical Commission
MHD	Massachusetts Highway Department
Milton BOS	Board of Selectmen
Milton CC	Conservation Commission
Milton DPW	Department of Public Works
Milton PD	Parks Department
Milton Planning	Planning Department
MWRA	Massachusetts Water Resource Authority
NepRWA	Neponset River Watershed Association
NepRWA-FONE	Friends of Neponset Estuary
NepRWA-UM	Urban Monitors
NR Coordinator	Neponset River Coordinator
NRESC	Neponset River Estuary Stewardship Council
NRWCC	Neponset River Watershed Community Council
Quincy BOH	Board of Health
Quincy CC	Conservation Commission
Quincy DPW	Department of Public Works
Quincy PD	Parks Department
Quincy Planning	Planning Department
STH/STB	Save the Harbor/ Save the Bay
TBHA	The Boston Harbor Association
TPL	Trust for Public Lands
TTOR	The Trustees of Reservations
UMass Boston	UMass Boston
USACOE	US Army Corps of Engineers
USFWS	US Fish and Wildlife Service

Preface

In September 1994, the Neponset River Watershed Association and the Boston, Milton and Quincy Conservation Commissions nominated the Neponset River Estuary as an Area of Critical Environmental Concern (ACEC). The intent of the nomination was to engage the Commonwealth in efforts to protect existing natural and cultural resources and to identify methods of restoring degraded resources. An extensive public review and Executive Office of Environmental Affairs (EOEA) interagency review followed. On March 27, 1995, under the authority of Massachusetts General Law Chapter 21A, Section 2(7), Secretary of Environmental Affairs Trudy Coxe designated the Neponset River Estuary an ACEC with an effective date of December 1, 1995 (see Appendix A for the designation document).

The Neponset River Estuary ACEC designation is notable for two reasons. First, it recognizes the critical importance of the natural resources situated in a heavily urbanized area and, second, in making the designation, the Secretary, for the first time, directed the agencies of the Executive Office of Environmental Affairs (EOEA) to collaborate with municipalities, environmental and community groups and organizations, local businesses and residents, and other interested parties to prepare a Resource Management Plan (RMP) for the ACEC.

The purpose of the Neponset River Estuary ACEC Resource Management Plan is to guide implementation of the Neponset River Estuary ACEC designation, i.e., those activities for preserving, restoring, enhancing, using, and managing the resources of the estuary, and to coordinate the activities and interests of federal, state and local agencies and the public and private sectors within the ACEC. The Secretary also required the RMP to address certain regulatory and boundary issues identified in the designation document and to propose, as appropriate, recommendations for amending the designation prior to its December 1, 1995 effective date.

A draft Resource Management Plan (RMP) and proposed amendments to the ACEC designation were distributed for public review and were the subject of a public hearing on November 15, 1995. On December 1, 1995 the Secretary issued her decision to amend the Neponset River Estuary ACEC designation incorporating a technical clarification of the ACEC boundary and providing for limited exemptions for specified environmentally beneficial activities. She also issued the MEPA Certificate asking that the RMP be further developed and refined, particularly in regard to coordination with other on-going planning initiatives, and to include a detailed implementation plan.

Executive Summary

Introduction

On March 27, 1995 the Secretary of Environmental Affairs designated the Neponset River Estuary an Area of Critical Environmental Concern (ACEC) under the authority of Massachusetts General Laws Chapter 21A, Section 2(7). In making the designation, the Secretary also directed the agencies of the Executive Office of Environmental Affairs (EOEA) to collaborate with municipalities, environmental and community groups and organizations, local businesses and residents, and other interested parties to prepare a Resource Management Plan (RMP) for the Neponset River Estuary ACEC.

The purpose of the Resource Management Plan is to guide the implementation of the Neponset River Estuary ACEC and coordinate the activities and interests of federal, state and local agencies and the public and private sectors within the ACEC. As required by the designation, the plan also addresses regulatory and boundary issues identified in the designation document and raised during the public review process leading to the designation.

The Resource Management Plan for the Neponset River Estuary ACEC describes the existing conditions of the natural resources, human uses, and interests of state, local and federal government and citizen advocacy groups. It establishes goals to guide future decisions and actions in the Neponset River Estuary ACEC; identifies issues of resource preservation, restoration, enhancement, and use; and makes recommendations for managing the resources. Section I of the RMP introduces the ACEC program, details the purpose of the RMP, and discusses the associated state, municipal, regional, nonprofit, and federal agencies and programs affecting the Estuary. Section II details the recommended actions and tasks for meeting each goal for each resource feature identified in the ACEC designation. Section III discusses the implementation strategy for the RMP and plan evaluation and schedule for revision of the plan.

Following an extensive review and evaluation of the regulatory analysis and recommendations for amendments to the designation contained in the draft RMP, and based on public hearing testimony and written comments received, the Secretary of Environmental Affairs adopted amendments to the original designation on December 1, 1995. These amendments provide limited exemptions from the ACEC for certain environmentally beneficial activities that are instrumental in the restoration of natural resources within the ACEC. In order to avoid any unnecessary delays in the implementation of these rehabilitation projects and because they provide a net environmental benefit and are consistent with the goals of the ACEC, the Secretary exempted certain activities associated with the closure and capping of the Hallet Street landfill, the remediation of hazardous waste sites, and specified improvement dredging projects. The Neponset River Estuary ACEC is notable for recognizing the critical importance of preserving and managing a highly significant estuarine ecosystem situated in a heavily urbanized area.

The Planning Process

The current Final Resource Management Plan is being submitted to MEPA for a final public review on March 15, 1996, to be noticed in the Environmental Monitor on March 25th. A 30-day public comment period will follow, after which the Secretary will issue her final findings on the plan. At that point the plan becomes a working document to be implemented and revised over time.

This planning process began in September 1994, when the Neponset River Watershed Association and the Boston, Milton and Quincy Conservation Commissions nominated the Neponset River Estuary as an Area of Critical Environmental Concern (ACEC). The intent of the nomination was to engage the Commonwealth in efforts to protect existing natural and cultural resources and to identify methods of restoring degraded resources. An extensive public review of the nomination was conducted by the Executive Office of Environmental Affairs (EOEA). On March 27, 1995, Secretary of Environmental Affairs Trudy Coxe designated the Neponset River Estuary an ACEC with an effective date of December 1, 1995 and requested that an RMP be prepared (see Appendix A for a copy of the ACEC designation document). The Department of Environmental Management (DEM), which administers the Massachusetts ACEC Program, drafted a scope for the RMP and retained consultants to draft the plan under the guidance of a steering committee.

The identification of issues and development of the goals upon which this Resource Management Plan is based was guided by a steering committee representing the four co-nominators of the ACEC designation: the conservation commissions of Boston, Milton and Quincy, and the Neponset River Watershed Association; four representatives of the Executive Office of Environmental Affairs (EOEA): the Coastal Zone Management Program (MCZM), Department of Environmental Management (DEM), the Department of Environmental Protection (DEP), and the Metropolitan District Commission (MDC); and representatives of environmental and community groups.

A draft Resource Management Plan and proposed amendments to the ACEC designation were distributed for public review and were the subject of a public hearing on November 15, 1995. The draft Resource Management Plan also underwent a concurrent review in accordance with the requirements of the Massachusetts Environmental Policy Act (MEPA) regulations. On December 1, 1995, the Secretary issued her decision to amend the Neponset River Estuary ACEC designation incorporating a technical clarification of the ACEC boundary and providing for limited exemptions for environmentally beneficial activities (see Appendix B for a copy of the ACEC Amendments document).

The findings and conclusion of the MEPA review of the draft RMP are presented in the Certificate of the Secretary of Environmental Affairs, EOEA #10516, issued December 1, 1995 (see Appendix B for the designation of amendments and Appendix C for the MEPA Certificate). In the Certificate, the Secretary acknowledged the accomplishments of the draft RMP including the need and justification to adopt the amendments to the ACEC. She also asked that the plan be further developed and refined, particularly in regard to coordination with other on-going planning initiatives and to include a detailed implementation plan. Between December 1, 1995 and March 15, 1996, the steering committee, other state and municipal agencies, nonprofit environmental groups, citizen reviewers, and the consultants continued to revise the plan and identify specific implementation tasks.

Significance of the Neponset River and Resources

The Neponset River flows 27 miles (45 km) from the Neponset Reservoir in Foxboro to Dorchester Bay. The total drainage area of the watershed is 323 square miles. The estuarine section of the river extends from Lower Mills Dam to its mouth at Commercial and Squantum points, an area of approximately 1300 acres. Among its resources are one of the two remaining salt marshes in Boston Harbor, fisheries and wildlife habitat, active and passive recreation, historic and anthropological sites, and beautiful natural and urban vistas. The value of these resources was found to be of regional significance in the ACEC designation for their outstanding natural and cultural characteristics, and for the intrinsic value of the estuarine ecosystem. Urbanization during this century, however, has slowly degraded the resources of the ecosystem making this present restoration and protection effort appropriate.

Important criteria in support of the designation of this area as an ACEC include significant threats to public health through contamination to shellfish beds and water quality; uniqueness of the area through the presence of state-listed rare species; the biological productivity of the estuarine wetlands system; and the potential economic benefits in terms of recreation, tourism and fisheries from a restored and healthy ecosystem.

Goals for the Neponset River Estuary ACEC

The goals for the Neponset River ACEC endorsed by the steering committee were shaped from a draft list of resource management goals and objectives prepared by EOEA which was based on a list originally suggested by the nominators of the Neponset River Estuary ACEC. The draft goals and objectives were distributed for public review and comment during the nomination process. Goals have been developed for each of the resource features identified in the nomination in order to address their restoration, enhancement, preservation, and management.

Overall

Preserve, enhance, restore, manage, and encourage appropriate use of the natural and cultural resources of the estuary of the Neponset River.

Surface Waters and Water Quality

Protect and improve the water quality conditions of the Neponset River Estuary in order to meet, or where possible exceed, state water quality standards.

Estuarine and Freshwater Wetlands

Preserve, protect, and restore wetlands in the Neponset Estuary.

Habitat Resources

Preserve, protect and restore fisheries and wildlife habitat in the Neponset Estuary.

Finfish

Protect, restore, and enhance anadromous fish runs and habitat/breeding grounds for salt water species.

Shellfish

Preserve, protect, and restore shellfish beds to increase the availability of the resource for wildlife and for commercial and recreational use.

Wildlife

Protect and restore the salt marsh, brackish marsh, coastal bank, barrier beach and the vegetated 100 foot buffer zones, as self-regulating systems, in order to support the full range of biological diversity in the Estuary, including rare and endangered species.

Special Use Areas

Protect, enhance, and increase publicly-owned open space in the Estuary for its recreational and educational value.

Cultural, Historical and Archeological Resources

Preserve, protect, enhance, and restore historic and anthropological sites in the Neponset Estuary.

Economic Development

Encourage appropriate land and water uses that provide public benefits and are compatible with sound resource protection and management.

Water-dependent Uses

Preserve and encourage water-dependent uses.

Summary of Major Recommendations of the RMP

The Resource Management Plan contains regulatory and nonregulatory actions for preserving, restoring, enhancing, using, and managing the resources of the Neponset River Estuary ACEC. Viewed collectively, the recommended actions provide a comprehensive plan for protecting the natural value and functions of the Estuary's resources and, where possible, accommodate and encourage appropriate economic and recreational use.

The recommended actions or suggested tasks are presented by resource type and activity. In most cases, each recommended action or task suggests an initial list of *key parties* which are encouraged to coordinate and cooperate in implementing it. A *lead party* has been identified and other parties may need to become involved eventually. Likewise, a suggested *timetable* and *potential resources* needed to accomplish the task are identified. In all cases, every effort has been made to complement and incorporate other planning efforts underway in the river especially the MDC Master Plan—through which many substantial recreation, open space and remediation opportunities will occur.

Three overlying themes emerged from the development of the RMP and its numerous individual tasks. First, the daunting challenge of restoring the water quality of an urban estuary is the determining factor for most of the natural resource related goals, such as salt marsh, fisheries resources, and wildlife habitat restoration. Second, MDC's ongoing Master Plan effort represents an exciting and rare opportunity to achieve well-planned, sustainable recreational use and public access to a rather sizable length of riverfront. Third, given the urbanized nature of this ACEC, several environmental remediation projects need to be undertaken on an expedited basis.

Water quality. Several tasks in the Surface Waters and Water Quality section of the RMP recommend further identification and elimination of point and nonpoint sources of pollution. The water quality of the Estuary has been classified as SB, fishable/swimmable by the DEP, but it is significantly polluted and does not meet those standards. Assessment has indicated

that many of the sources of pollution emanate upriver above the ACEC or are from nonpoint sources in areas adjacent to the ACEC. Therefore, an overriding recommendation of the RMP calls for the implementation of nonpoint source plans and stormwater management plans for the areas immediately adjacent to the ACEC as well as for the entire watershed.

The MDC Master Plan. Due to the significance and scope of the MDC properties and planning processes in the ACEC, and because the MDC Master Plan and Park Design Project for the Lower Neponset River anticipates activities and uses consistent with the goals of the ACEC, the RMP recommends that the Master Plan, once completed, reviewed, and approved by the Secretary of EOEA, become an addendum to the RMP and that its timely implementation be a priority recommendation of the RMP and all involved agencies. The Master Plan will not only address increased public access and recreational activities, but also incorporates several major remediation and restoration projects. A discussion of the Master Plan and most of the RMP's recommendations for implementation of this plan are found in the Special Use section of this plan.

Environmentally beneficial projects. Several recommendations address major landfill closure, hazardous waste site remediation projects and some limited improvement dredging projects. One concern raised in the nomination review process was whether the increased scrutiny and potential for more stringent standards for permitting activities within or affecting the ACEC could hinder or delay the implementation of these projects.

Because the overriding purpose of ACEC designation is to "preserve, enhance, restore, manage, and encourage appropriate use of the natural and cultural resources," the draft RMP recommended that these environmentally beneficial activities be given limited exemptions from the ACEC designation through formal amendments adopted by the Secretary of EOEA. Following public review and EOEA evaluation, the Secretary adopted these amendments on December 1, 1995. These specified activities will continue to be subject to all other requirements of wetland, waterways, and other environmental laws and regulations, and are exempted on the condition that the owner (or its agents) takes all practicable measures to avoid and minimize further degradation of adjacent resources and to mitigate any unavoidable impacts to the greatest extent possible.

The closure and capping of the Hallet Street and Neponset Drive-In landfill sites represents the largest remedial action to improve the environmental quality of the ACEC. Both the review and evaluation process and the ultimate remedial actions will be complex. The process will be conducted under the direction of the Metropolitan District Commission (MDC) as part of the landfill assessment actions (Initial and Comprehensive Site Assessments) and landfill closure construction, as determined through DEP/DSWM's Corrective Alternative Action Analysis (CAAA) process.

Implementation Strategy and Plan Revision

Based on the steering committee and interagency discussions, the recommended process for evaluation of the plan's implementation and periodic revision is as follows.

The overall and most effective mechanism for advancing the goals of an ACEC is cooperation and collaboration among public agencies, nonprofits, the private sector, and the public. These cooperative efforts are realized through increased communication and education, joint efforts toward meeting common objectives, and evaluation of the progress gained through those efforts.

This resource management plan proposes numerous tasks to implement the goals and objectives of the ACEC, all of which depend on a commitment by a collaboration among various government and nongovernmental entities. The implementation of the tasks suggested in this plan will occur over time as the agencies deemed responsible and cooperating parties are able to incorporate the tasks into their yearly work plans. The plan provides a reference document as well as a working blueprint for improvements to the Estuary.

As a state designation, an ACEC requires agencies of the Executive Office of Environmental Affairs (EOEA) to take actions to preserve, restore, and enhance the resources of the ACEC. This ACEC resource management plan recommends various tasks that state agencies can cooperatively implement. Many state agency representatives would also be involved through participation in the Neponset Estuary ACEC Stewardship Council, discussed below, and resource management plan revisions.

EOEA's Neponset Watershed Project, conducted in conjunction with the Neponset River Watershed Association provides a framework for the extensive cooperation and coordination required to effectively implement this RMP. The ACEC designation highlights the estuarine ecosystem within this larger watershed initiative. However, all tasks in this RMP are recommended with the expectation that they be closely aligned and integrated with the management strategies and plans being developed by other major planning initiatives within this watershed and estuary. These include the MDC Master Plan, the Friends of the Neponset Estuary Action Plan, the BNAF/TPL Neponset Greenway Plan, the Neponset River Watershed Action Plan, the Plan for the Future of Boston Harbor Beaches, and the EOEA Watershed Wetlands Restoration Plan.

The RMP recommends that an ACEC Stewardship Council be organized for the purpose of periodically reviewing and evaluating the progress made in implementing the RMP, building consensus, and recommending further actions or changes to the RMP. It is also recommended that this process be conducted at meetings twice each year by all interested parties, including the ACEC nominators, municipal, state agency, and nonprofit environmental group representatives, local businesses, and citizens.

In order to facilitate the Council's actions, the RMP recommends creation of a position of Neponset River Coordinator, housed in the community at the Neponset River Watershed Association, who would be primarily responsible for coordination, public outreach and technical assistance. With several initiatives currently active in the Neponset River, a single point of contact and coordination would be beneficial to all, especially the citizens who have been active in many of these programs.

It is envisioned that the Stewardship Council will hold semiannual meetings in September and March and other meetings as deemed necessary. An annual update report would be prepared by the Neponset River Coordinator based on these meetings and for the review and approval by the ACEC Stewardship Council. The report would describe the status and updated timetable for each implementation task in the RMP and would provide other updates and additions. Achieving the goals of the ACEC will be an iterative and dynamic process, and the Stewardship meetings and annual report will help focus and evaluate the numerous activities that will be involved.

If future meetings and evaluations reveal the need for plan revisions to address Chapter 91 Waterways Regulations requirements for private docks and piers, formal review and approval by the Secretary of Environmental Affairs will be required. The Neponset River Coordinator would consult DEM's ACEC Program for guidance. The process is outlined in EOEA's "Policy Guidelines for the Review and Approval of ACEC Resource Management Plans."

Future plan updates and the results of other ongoing planning efforts within the ACEC may also involve proposals for further amendments to the designation. The procedures for amending the ACEC designation itself are contained in the regulations of the Executive Office of Environment Affairs (301 CMR 12.00). Changes to the boundary or provisions for further improvement dredging projects not specified in the currently designated ACEC, are examples of changes that would require formally amending the ACEC designation. Such proposals should first be considered and endorsed by the Stewardship Council, and be brought to DEM's ACEC Program for review before being formally submitted to the Secretary for consideration.

Conclusion

The rich and varied resources of the Neponset Estuary ACEC have been shaped by the interaction of complex natural processes and intense human activities. Its present highly stressed condition is troublesome. The potential for restoration and enhancement of its environmental quality and economic viability is substantial; but the challenge can be daunting. The first steps have been taken. The citizens have clearly voiced their concern and desire for improvements. The ACEC designation has focused responsible agencies and individuals' attention on the critical issues and goals. Now, the Resource Management Plan provides the first set of strategies and tasks needed to achieve these goals. Every task will require significant coordination and collaboration. The RMP, itself a product of wide collaboration among the interested parties, needs to be viewed as a dynamic mechanism that is implemented immediately, re-evaluated periodically, and adjusted as issues arise.

I. Introduction

The ACEC Program

The Massachusetts Areas of Critical Environmental Concern (ACEC) program is designed to promote the long-term preservation, management, and use of natural and cultural resources that have been determined to be of regional, state, or national significance. Resources of importance include fisheries, coastal geologic features, salt and fresh water wetlands, surface waters and water supplies, natural hazard areas, historical and archeological resources, wildlife habitat, and special use areas such as public recreation areas.

Areas that combine four or more of these features may be nominated by citizens, municipal or state agencies or the Governor for designation as an ACEC. A decision by the Secretary of Environmental Affairs to designate an area as an ACEC carries with it a requirement that all state environmental agencies acquire information about the resources of the ACEC; preserve, restore or enhance the resources of the area; and ensure that activities within the ACEC minimize adverse effects on the natural and cultural values of the designated area.

State agencies carry out this charge through coordinated regulatory review and revision, integrating policy and planning, and by assisting in the preparation of ACEC resource management plans which establish goals for resource protection and use and an implementation strategy.

For a detailed description of the ACEC program, the reader is referred to the Massachusetts Department of Environmental Management's (DEM) *ACEC Program Guide* (1993).

The Purpose and Structure of the Resource Management Plan

An ACEC resource management plan is a collaborative effort between Executive Office of Environmental Affairs (EOEA) agencies and municipalities, environmental and community groups and organizations, local businesses and residents, and other interested parties. A resource management plan is meant to develop resource management goals and implementation plans for the preservation, restoration, enhancement, use and management of the resources of an ACEC. The resource management plan, to the greatest extent possible, will guide the implementation of the ACEC designation and coordinate the activities and interests of federal, state and local agencies and the public and private sectors. Relevant regulatory and planning programs and certain collaborative programs are discussed below. Section II, Resource Management of the Neponset River Estuary, includes an inventory and assessment of the resources, and recommended guidance and tasks for accomplishing the goals of the plan.

In addition to providing a management structure for an ACEC, a resource management plan may address certain activities which are prohibited by state regulation in an ACEC in the absence of such a plan. Specifically, 310 CMR 32(1)(e)(4), DEP Waterways Regulations, prohibits construction of new privately-owned docks and piers in an ACEC unless provided for in a resource management plan adopted by the municipality and approved by EOEA. The

role of the resource management plan in this regard is to provide an analysis of the potential impact of such structures on the resources of the ACEC, and to provide a context and recommendation for the review and permitting of these types of structures.

Because the Neponset Estuary is a highly urbanized ACEC, it is characterized by extensive waterfront development, important public recreation lands owned and managed by the MDC, accumulated negative environmental impacts on water quality, salt marshes, fisheries and wildlife habitat, and critical environmental resource restoration needs and opportunities. In response to these circumstances, several regulatory issues were raised during the public review of the nomination. These issues, which included a reevaluation of the boundary and an assessment of the impact of ACEC designation on several major environmentally-beneficial projects, were examined in the October 1995 draft Resource Management Plan. Regulatory amendments drafted in conjunction with and supported by that plan were adopted by the Secretary of Environmental Affairs in December 1, 1995 following public review and hearing. As stated in the Secretary's Certificate on the Neponset River Estuary ACEC Resource Management Plan (EOEA #10516), "The Wetlands Protection Act, the Chapter 91 Waterways regulations and the MEPA regulations require stricter standards and a more sensitive review of projects within an ACEC. However, stricter standards and more sensitive review are not necessarily needed when an activity is designed to enhance the environment, especially when there is consensus that the existing environment is not pristine. Therefore, the . . . amendments exempt such beneficial activities from the ACEC designation, so that they may go forward without being subject to the ACEC-related standards." Those amendments pertain to regulatory provisions for landfill closures cleanup of hazardous waste (21E) sites, and future improvement dredging projects (see Appendix B).

The resource management plan is also meant to:

- provide the public with an outline of regulatory requirements and agency roles within the ACEC; at the same time establish a mechanism to integrate resource conservation and restoration objectives into the planning, management, and regulatory activities of the federal, state, and local governments;

- work towards improved decision making by recommending that the assessment of resource values and of cumulative impacts of estuarine development be undertaken in advance of individual project review;

- promote increased coordination and cooperation among the several municipalities, state and federal agencies, nonprofit groups and citizens in gathering and sharing information, considering future land and water use, reviewing proposed development, and in designing and implementing specific solutions to problems;

- streamline regulatory reviews through advance planning, inventory and research, and public/private cooperative efforts.

The resource management plan is meant to be an evolving document. It sets up a structure for on-going implementation and includes mechanisms for evaluating and amending the document (see Section III).

The Neponset River Estuary and the Significance of its Resources

The Neponset River flows 27 miles from the Neponset Reservoir in Foxboro to Dorchester Bay. The total drainage area of the watershed is 323 square miles. The Neponset River estuary is that segment where the flow of the Neponset River meets the coastal waters of Dorchester Bay. It extends from the Lower Mills Dam to the mouth of the river between Commercial and Squantum points and is within the cities of Boston and Quincy and the town of Milton (see Figure 1). The Neponset River Estuary ACEC covers an area of approximately 1300 acres.

Among its resources are one of the two remaining salt marshes in Boston Harbor, fisheries and wildlife habitat, active and passive recreation, historic and anthropological sites, and beautiful natural and urban vistas. The estuary has been fortunate in that some level of protection of its natural assets has been in place for a century, thus preserving its marshlands from the negative impacts of drainage and development. Urbanization, however, has slowly degraded the ecosystem, making this present effort at protection and restoration appropriate.

The estuary is also an economic resource. A variety of industrial, commercial and residential uses and infrastructure exist within and alongside the natural resources. These human uses of the estuary are important and this plan attempts to provide a management framework for both preserving, enhancing, and restoring natural and cultural resources and encouraging and integrating appropriate human uses.

The document designating the Neponset River Estuary an ACEC identified the following interests in support of the nomination of the Neponset River Estuary for protection under the ACEC program. It is useful to review them in the context of the resource management plan, as they set up the context for management planning and implementation in the estuary:

(1) Threats to Public Health Through Inappropriate Use

Much of the ACEC is floodplain, a natural hazard area. Although much of the upland portions of the ACEC are already developed, it was found that potential future inappropriate development in sensitive areas, increased impervious surfaces, and inadequately designed and constructed storm water measures constitute a threat to the resources of the ACEC and to public health and safety.

Contaminated shellfish beds due to poor water quality resulting from inappropriate development also constitute a potential threat to public health and safety. Although shellfish harvesting is restricted, attempts to harvest shellfish threaten public health. In addition, poor water quality threatens public health through the public use of beaches and swimming areas.

Finally, there is a threat to public health resulting from the location of at least 13 potential hazardous waste sites (also known as 21E sites) listed by the Department of Environmental Protection (DEP) as located within the nominated area as of December 16, 1994. This number includes the former Neponset Drive-In site owned by MDC.

(2) Quality of the Natural Characteristics

The undeveloped Neponset marshes are an outstanding natural characteristic significant to the region, and the recreational opportunities afforded by the river for boating, swimming and fishing, and by MDC lands and other open space areas for other forms of recreation strongly support ACEC designation.

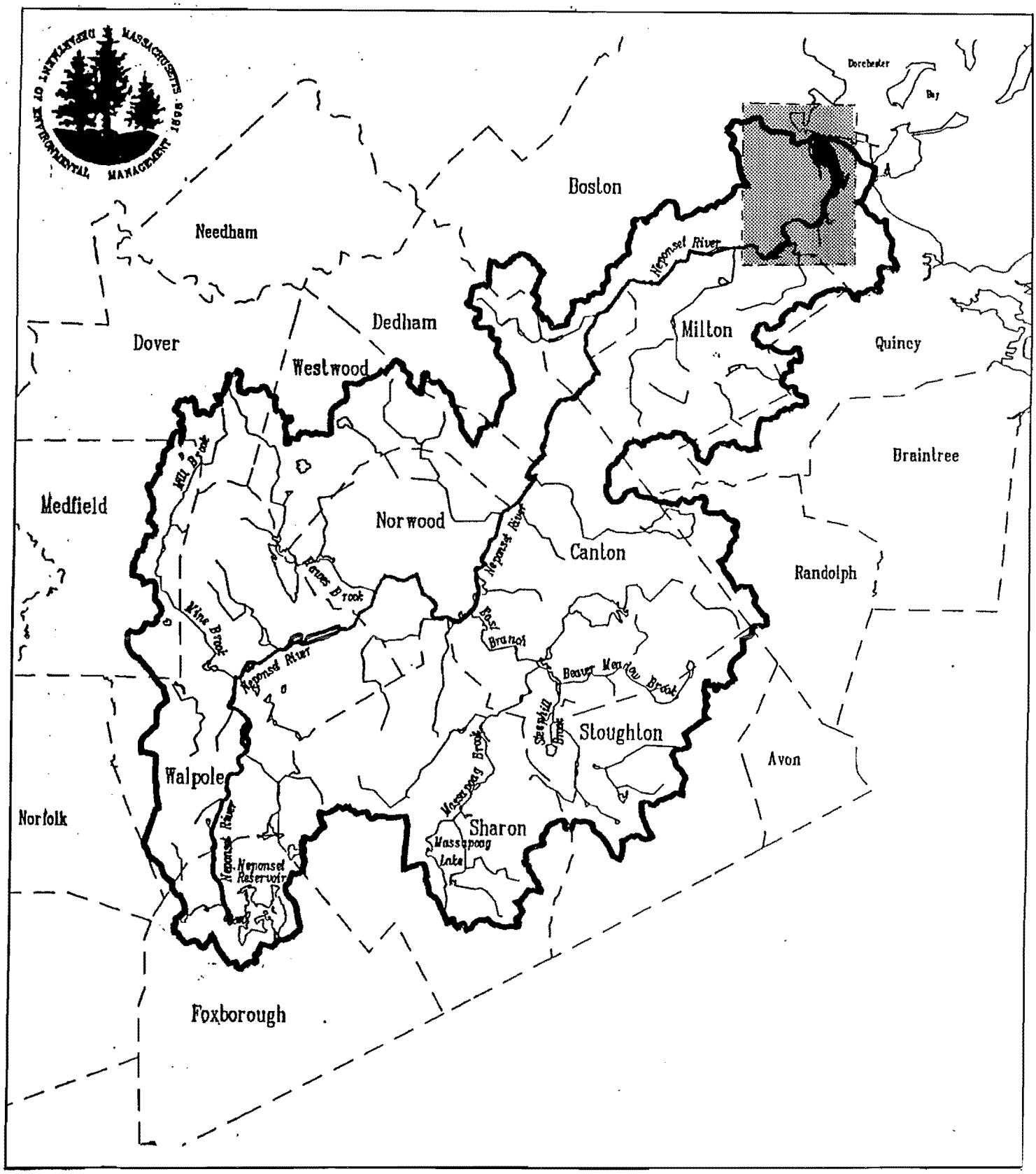


Figure 1: Map of the Neponset River Watershed (from Neponset River Basin Plan, Mass. DEM-Office of Water Resources) with the estuary indicated by shaded box.

(3) Productivity

Estuarine wetland systems are among the richest and most biologically productive ecosystems on earth, and the Neponset River estuary is no exception. Comments from the Massachusetts Division of Marine Fisheries and the Natural Heritage & Endangered Species Program underline the significance of the area regarding biological productivity and diversity of wildlife.

(4) Uniqueness of Area

The uniqueness of the area is defined from a regional, state or national perspective, considering features such as endangered plant and animal species, archaeological/historic/cultural resources, or other resources of educational value. The uniqueness of this area supports ACEC designation, through the presence of state-listed rare species and archaeological and historic resources, and the educational value this riverine, salt marsh ecosystem to the Boston metropolitan area.

(5) Irreversibility and Magnitude of Impact, and Imminence of Threat to the Resources

The resources of the Neponset River Estuary are subject to heavy historical and current development pressures that threaten their continued viability as a healthy and productive ecosystem. The condition of and threats to resources are similar if not identical to those described in the designation document for the Fowl Meadow and Ponkapoag Bog ACEC: "Historically, discharges to the Neponset River from a variety of sources resulted in extremely poor water quality. Water quality has improved since the passage and implementation of the Clean Water Act, but according to recent information from the DEP Bureau of Resource Protection (BRP), the river does not meet Class B standards. According to BRP, 'Through the discharge permit and construction grant programs, point sources have largely been cleaned up, but unless nonpoint sources are addressed, the river will not meet Class B standards. The river does not meet its designated uses because of high coliform bacteria counts, nutrient enrichment, and low dissolved oxygen levels. The sources of these pollutants are CSOs (Combined Sewer Overflows), exfiltration, urban runoff and septic systems . . .'"

It is essential that these kinds of conditions, combined with continued urban use and development pressures, do not result in irreversible environmental degradation of the Neponset River estuary. Therefore, the Neponset River Estuary ACEC designation is warranted to protect the resources from imminent threats, and highly significant, adverse and irreversible impacts.

(6) Economic Benefits

Economic benefits are described in the ACEC Regulations in terms of intrinsic values important to a region's economic stability, such as recreation, tourism, and fisheries development. Recreation values of the area associated with the Neponset River, and the extensive public recreation and open space areas, strongly support designation. Fisheries development supporting designation is also clearly documented.

(7) Supporting Factors

Over 70 comments were received regarding the nomination. Written or oral testimony was received from three state legislators; five municipal boards and commissions; 16 environmental and community organizations; three businesses; ten federal and state agencies; and over thirty citizens. Although not all comments supported ACEC

designation, and many expressed concerns or reservations regarding designation, the large majority of comments recognized the intrinsic value and importance of the area.

An ACEC designation requires higher standards of review by state agencies of certain proposed activities and encourages coordination of programs, plans and activities to achieve the goals of the designation.

The nomination process has pointed out the large number of conflicting visions that exist for parts of the Neponset River Estuary and, without a context for resolution of these differences, it is unlikely they will be resolved adequately or acceptably. The designation highlights the importance of the estuary's resources and focuses attention on issues of resource values, function, degradation and use. The designation of this ACEC, accompanied by the requirement to prepare a resource management plan, will prove to be an effective means for advancing the natural resource and human use values of this estuary.

A major value of ACEC designation is the educational opportunity it provides. The ecosystem orientation, the emphasis on coordination among government, nonprofit organizations, and the public, and the collaborative efforts to develop resource management goals make everyone more aware of the critical nature of the assets that are to be protected. An informed and engaged constituency is more likely to work to improve an ecosystem's environmental and human values.

The Boundary of the Neponset River Estuary ACEC

The boundary of the Neponset River Estuary ACEC, as designated, can be generally described to include the following:

1) the wetland resource areas of the Neponset River marshes and estuary, as defined by the Wetlands Protection Act regulations. The boundary generally follows the jurisdiction of the Wetlands Regulations, including the edge of the resource area and a 100-foot buffer. It does not include the floodplain where, in several locations, it extends beyond the 100-foot buffer of these resource areas.
2) adjacent public open space and historic districts.

The approximate boundary is shown on a GIS map produced by the Department of Environmental Management (Figure 2). Actual delineation of the 100-foot buffer zone of the wetlands resource areas would be made by the conservation commission during its review of a Request for Determination of Applicability or Notice of Intent using the procedures specified by the Wetlands Protection Act, M.G.L. Ch. 131, sec. 40, and DEP in the Wetlands Protection Regulations, 310 CMR 10.00.

The official document designating this ACEC contains the legal description of the boundary (Appendix A) with one technical clarification adopted as part of the amendments to the Neponset River Estuary ACEC (Appendix B).

Boundary Issues Raised in Original ACEC Nomination Review

The designation document for the Neponset River Estuary ACEC stipulated that the boundary as described therein be reevaluated during the preparation of the resource management plan and that any recommendations for amending the boundary be proposed prior to the December 1, 1995 effective date of the designation.
The boundary proposed in the *nomination* of the Neponset River Estuary utilized a number of types of features including roads, county line, zoning district lines, property lines, natural

Neponset River Estuary ACEC

Base Map: USGS 1:25,000 topographic maps; USGS-NMD 1:100,000 hydrography enhanced by MassGIS at 1:25,000.

ACECs: ACEC boundary compiled and automated by Mass. Dept. of Environmental Management (DEM).

Scale 1:20,000

0 — 1 mile

0 — 1 kilometer

N W E S

DEM/MassGIS, March 1996

For more information, write or call: ACEC Program, Massachusetts Dept. of Environmental Management, Div. of Resource Conservation, 100 Cambridge St., Room 1404, Boston, MA 02202 617-727-3160

Legend

Neponset River Estuary ACEC boundary

This map is for planning and illustrative purposes only. It represents the best available digital statewide data for a given theme. It is not to be used by itself for legal boundary definition or regulatory interpretation. See the Neponset River Estuary ACEC designation document, as amended December 1, 1995, for the legal boundary description.

BOSTON

203

3a

QUINCY

MILTON

Figure 2: Map of the Neponset River Estuary ACEC boundary.

resources, setbacks and straight line distances between two points. While this kind of "architectural boundary" is for the most part readily identifiable on maps or in the field, it did raise a number of concerns about consistency and rationale for the boundary. Additional comments related to including floodplain areas, additional open water at the mouth of the river, and acreage around Commercial Point.

After consultation with the nominating parties, the Secretary selected a resource-based boundary, as described above, for the designated ACEC.

Several issues arose as a result:

A freshwater wetland on an undeveloped parcel of privately-owned land, excluded under the nominated boundary, was included. The property owner was concerned with additional restrictions on development potential.

Portions of developed single-family residential properties whose rear lot lines are coterminous with the saltmarsh border were included in the boundary by virtue of the 100-foot setback from the resource. Under the MEPA regulations, within an ACEC, an appeal to DEP of a conservation commission's approval of a regulated activity within the 100-foot buffer zone would require the proponent to prepare and file an Environmental Notification Form (since DEP's role would constitute a "state action"). This situation led to a concern that in some cases a single-family homeowner could be subject to an additional procedural requirement with perhaps little potential that increased environmental protection will be gained.

During the process of preparing the RMP, the ACEC boundary was reviewed on a parcel-by-parcel basis (including the Lower Mills historic district and the open space boundaries), boundary issues raised during the public review of the designation were thoroughly evaluated, and interviews were conducted with several affected property owners.

For all of the following reasons it was concluded that the resource-based boundary is the best delineation. It (1) encompasses the most critical natural resources, (2) reflects the ecosystem orientation of the ACEC program, (3) is consistent and equitable, and (4) provides a reasonable boundary for the three municipalities in which the ACEC exists and one that is already utilized by the local conservation commissions and DEP in administering the Wetlands Protection Act.

The freshwater wetlands on Squantum Point are an important component of the diverse habitat found at this location. This variety of habitat types in a relatively small area is one of the primary reasons for the unusual abundance of birds (including several state-listed rare species) and high diversity of species found on Squantum Point (see Appendix E). Including these freshwater wetlands within the boundary is consistent with the habitat protection goals of the ACEC.

The resource management plan recommends no changes to the resource-based boundary definition of the designation document. One technical revision to clarify a potential misinterpretation of the boundary was recommended and adopted by the Secretary as an amendment to the designation. Specifically, the explanatory note following the eleventh paragraph in the "Final Boundary Description of the Neponset River Estuary ACEC" contained in the designation document was revised to read:

> [Explanatory note: By following the 100-foot wetlands buffer two "islands" of upland are not included within the ACEC boundary. The first lies within property known as No. 2 Granite Avenue, Milton, and the second is the general

area surrounding the intersection of Granite Avenue and the Southeast Expressway.]

Further, to relieve property owners of the potential requirement to file an ENF in the wetlands appeal situation described above, the plan recommends that the MEPA regulations be evaluated and potentially revised to eliminate this requirement in these types of cases, where MEPA review would be duplicative or unnecessary. In the interim, the Secretary of Environmental Affairs has issued a letter of assurance that such cases reaching MEPA will be expedited consistent with this objective.

Several technical revisions to the GIS map presented during the public hearing in January 1995 are required. These are needed only so the map accurately represents the boundary as described in the designation document.

Planning, Programmatic and Regulatory Framework

There is a substantial amount of attention and resources now being directed at the Neponset River. Six major efforts have direct application to areas within the estuary and the ACEC (these are described more fully at the end of this section).

(1) In 1994 the Secretary of Environmental Affairs selected the Neponset River as the pilot watershed for the Executive Office of Environmental Affairs' Watershed Initiative, an integrated public and private approach to the protection of surface and groundwater.
(2) With support from the Riverways Program, the Neponset River Watershed Association spawned five subwatershed groups as Stream Teams, one of which is the estuary, to identify issues and problems in the subbasin and propose an action plan for addressing the issues.
(3) The Metropolitan District Commission is nearing completion of a Master Plan and Park Design for its properties along the lower Neponset River from Mattapan Square to the mouth of the river.
(4) The Boston Natural Areas Fund, which has long been involved with the Neponset River, recently enhanced its community action and educational programming for the Boston shore of the Neponset River with a grant from the Lila Wallace-Reader's Digest Fund. As a partner in this project, the Trust for Public Land is developing a plan identifying potential acquisitions along the river that would help achieve the objectives of the Neponset River Greenway.
(5) The Joint Commission's Plan for the Future of Boston Harbor Beaches (1993) made a number of recommendations, to be implemented over the next several years, for improving the condition of and access to and between Tenean Beach and adjacent beaches.
(6) EOEA's Wetlands Restoration & Banking Program is preparing a "Neponset River Watershed Wetlands Restoration Plan" as model for the state's other watersheds.

The objective of ACEC designation is the long-term preservation, management and use of the resources. Beyond special initiatives focusing on Neponset resources such as those above, the objectives of ACEC designation can be advanced through the authorities, responsibilities, and efforts of federal, state, and regional agencies; municipal boards, commissions, and departments; and civic and environmental associations and organizations. The following is a review of these agencies and organizations.

Agencies of the Executive Office of Environmental Affairs

The ACEC regulations, 301 CMR 12.00, direct all agencies within the Executive Office of Environmental Affairs to take actions, administer programs, and review regulations to preserve, restore, and enhance the resources of ACECs. EOEA agencies are also required to subject projects under their jurisdiction "to the closest scrutiny" to meet these objectives. Therefore, guidelines for implementing ACEC designation are not found in one set of laws or regulations, but are embodied within a variety of regulations and programs of state agencies.

A listing and summary of each state agency, program, and regulation that specifically addresses ACECs is presented in the *ACEC Program Guide* produced by EOEA's Department of Environmental Management in 1993. This guide is updated periodically. Another good source of this information for coastal ACECs, such as the Neponset River Estuary, is *EOEA and the Coastal Program* by the Massachusetts Coastal Zone Management Office. The following is a list identifying relevant state agencies and programs.

Regulatory Agencies and Programs

The following list identifies relevant state agencies and programs:

Massachusetts Environmental Policy Act Unit (MEPA)
DEP-Division of Wetlands and Waterways

- Wetland Protection Program
- Waterways Regulation Program
- 401 Water Quality Certification Program

DEP-Bureau of Waste Site Cleanup

- Hazardous Waste Site Cleanup (M.G.L.c.21E)

DEP-Division of Solid Waste Management

- Landfill Closure

Resource Assessment or Planning Agencies and Programs

State agencies, programs, and authorities that conduct resource assessments and/or planning in the estuary include:

Coastal Zone Management Program
Department of Environmental Management

- ACEC Program
- Office of Water Resources

Department of Environmental Protection

- Office of Watershed Management
- Wetlands Conservancy Program (mapping of wetlands and eelgrass beds)

Department of Fisheries, Wildlife, & Environmental Law Enforcement

- Division of Marine Fisheries
- Riverways Program (shoreline surveys)

Executive Office of Environmental Affairs, Wetlands Restoration and Banking Program
Massachusetts Bays Program (see below)
Massachusetts Historical Commission
Massachusetts Water Resources Authority (sampling and assessment of water and sediment quality)
Metropolitan District Commission

Municipal Boards and Agencies

Planning and Zoning

The municipalities regulate land use, density and dimensions of development through local zoning by-laws. Each city and town in the estuary in accordance with Massachusetts Home Rule Provisions has enacted local zoning and resource protection ordinances, bylaws and regulations. The Home Rule Amendment of 1966 granted broad governing powers to the municipalities. This means that each community has autonomous local land use control of the shoreline and lands within the ACEC. In the future, each community may also be able to exercise greater flexibility in zoning revisions and adoption of innovative zoning concepts for resource protection without legislative authorization.

Boston revised much of its zoning for the Neponset River/Dorchester Bay waterfront during the process of preparing and adopting the Harborpark Plan in 1990. The final permanent zoning for this area is contained in Article 42A of the Boston Zoning Code.

The zoning adopted for Neponset River/Dorchester Bay features several large shoreland open space districts covering areas of natural shoreline and beach. This district ensures minimal development for these resources. There are also several subdistricts on developed or developable land designed to promote the city's policy of balanced development, including water-dependent industrial activity, waterfront commercial and related uses, as well as residential use. Boston's regulations contain requirements for public access to be incorporated into private development on waterfront property.

South of the Neponset Avenue bridge, the shoreline is zoned open space except for a residential district at the Keystone Apartments and a waterfront manufacturing district covering the T Construction Corp. and Schlager Auto Body sites. The zoning for Port Norfolk solidifies the core residential use and establishes a waterfront service subdistrict to preserve water-dependent uses, particularly for the repair, service, storage, and sale of commercial and pleasure boats and boating supplies.

In Milton, the shoreline is zoned primarily single-family residential with lot sizes ranging from one acre to one-fifth of an acre, with business districts at Lower Mills and at No. 2 Granite Avenue. The zoning map for Milton has a notation on publicly-owned properties (including the saltmarsh of the Neponset River Reservation) that they are not available for residential development.

Quincy's zoning of the waterfront from Squantum Point to the Milton line includes Planned Unit Development (PUD), business, residential, and open space districts, the latter on public parkland. Portions of the PUD and business districts on Squantum Point have not been built out and constitute the greatest area of potential new development within and adjacent to the ACEC.

Wetlands Protection

The Wetlands Protection Act (MGL Chapter 131, Section 40) through the Wetlands Protection Program requires local Conservation Commissions to examine and regulate development activities which may alter wetlands, and to issue or deny permits based on whether the proposed activity is consistent with the requirements of the Wetlands Protection Act and DEP regulations. DEP's responsibilities under the program are to consider appeals of local conservation commission decisions, review requests for variances, and provide enforcement and technical assistance.

The conservation commissions in Boston, Milton, and Quincy regulate activities within their jurisdictions in resource areas under the authority of the Wetlands Protection Act and, in the case of Quincy and Milton, under municipal ordinance or by-laws. Regulated areas include coastal wetlands, mudflat, bank, land subject to tidal action and coastal storm flowage, land subject to flooding, and in a zone extending 100 feet landward of any of these resource areas. Regulated activities include dredging, filling, removing, altering, or building in the areas identified above. The commissions' concern is to protect public health and safety from flooding, minimize the impact of coastal storms, maintain the natural flow pattern of water courses, and protect the wetlands areas.

The City of Quincy's Wetlands Protection Ordinance is adopted under the Home Rule provisions, independent of the Wetlands Protection Act and its regulations. This ordinance establishes procedures for applicants and commission review of proposed activities.

Applications under the Quincy ordinance are identical to a Notice of Intent filed pursuant to the Wetlands Protection Act. Public hearings are generally noticed and held concurrently and decisions reference both the local ordinance and the state authority, though conditions on approvals may specifically reference one or the other authority. Under the local ordinance, the area subject to the Quincy Conservation Commission's jurisdiction includes a 100-foot buffer zone around land subject to flooding.

Milton's Wetlands Bylaw is Chapter 15 of the Town's Bylaws. Like Quincy's ordinance, the bylaw establishes procedural requirements for applicant's and commission review and includes the 100-foot buffer zone around land subject to coastal storm flowage, flood or inundation. The Conservation Commission recently adopted a Non-Disturbance Zone regulation. The regulation states that in order to preserve the quality of certain wetland resources it is necessary to restrict or limit activity adjacent to them. Adjacent to any bank, land under water or bordering vegetated wetlands the zone of non-disturbance shall be a distance of 25 feet from the edge of the resource area wherein no alternation will be permitted. The non-disturbance zone does not apply to activities that are inherently water-dependent including, but not limited to marinas, docks and wharves. Relief from this provision is possible upon vote of the commission.

The Boston Conservation Commission has not adopted a city ordinance, but exercises its authority under M.G.L. Chapter 131, Section 40.

Water Supply, Stormwater and Sanitary Sewage Collection

The Boston Water and Sewer Commission has responsibility for the construction, operation and maintenance of the water and sewage infrastructure throughout the city. The commission operates three combined sewer overflows and nine stormwater outfalls within the ACEC (see Figure 3). As an active partner in efforts to improve the water quality of the Neponset River, the Commission has launched an ambitious CSO control program consisting of: separation of combined sewer areas by separate sanitary sewers and storm drains; an inspection, maintenance and rehabilitation program for tidegates and regulators; relocation of catch basins from combined sewers to storm drains; and manhole rehabilitations; removal of infiltration/inflow to increase capacity of sewer system.

The Commission has developed a Stormwater Management Program emphasizing best management practices, protecting the structural integrity and hydraulic capacity of the drainage system, and control of discharge of pollutants to storm drains, use of grit and oil separators, and public education campaigns.

The Commission has recently completed an investigation of the Pine Neck Creek Storm Drain to identify sources of bacterial contamination to the drain and to develop remediation measures. It is anticipated that some dredging in the creek may be a necessary part of the remediation plan.

The Quincy Department of Public Works is responsible for the city's stormwater and sanitary sewer collection system. Stormwater and sanitary sewers are separate in Quincy. There are a number of stormwater outfalls to the Neponset River estuary. The DPW has an comprehensive program for managing stormwater and controlling the effects of discharges.

The Milton Department of Public Works, Water and Sewer Division is responsible for the public water supply and collection system. All of Milton is served by public water and, within the ACEC, only the residences in the Forbes Road neighborhood have on-site septic systems. A water quality problem has been identified in this area and sewering of the area is being considered by the town.

Regional Agencies and Organizations

Metropolitan Area Planning Council (MAPC)

The Metropolitan Area Planning Council is the regional planning agency for the 101 cities and towns surrounding Boston. MAPC conducts analyses and planning studies of the region, reviews regional impacts of major projects, and provides technical assistance to communities with a range of planning and community development issues including land use controls, water quality, and transportation.

In the Fall 1995, MAPC began a demonstration project in the Neponset River Basin designed to address stormwater runoff from urban areas (a nonpoint source of pollution) by providing technical assistance to the communities in the management and prevention of nonpoint sources. The project involves computing estimated current and future (2020) nonpoint source pollution loads in three selected subbasins of the watershed using a water quality model (P8). One of the selected subbasins is the estuary below the Lower Mills dam. Existing bylaws, regulations, and practices of the communities in the study will be reviewed and evaluated for their effectiveness in managing stormwater runoff and water quality impacts. A model stormwater bylaw/regulation will be developed and presented by MAPC during a workshop by local board members.

Nonprofit Groups

Neponset River Watershed Association (NepRWA)

One of the nominators of the Neponset River Estuary ACEC, NepRWA is a nonprofit citizens organization established in 1967 to work for improved water quality, enhanced access, and protection of open space in the Neponset River watershed. It organizes and supports public educational opportunities and other efforts to increase understanding of and focus attention on the resources of the Neponset River watershed. NepRWA is a central component of the collaborative Neponset River Watershed Pilot Project (described below).

An estuary subgroup, Friends of the Neponset Estuary, has been formed within the Association. This subgroup, with the assistance of DFWELE's Adopt-A-Stream program has conducted a shoreline survey and monitored river flow at the gauge at the Lower Mills Dam in

Neponset River Estuary ACEC

Storm Drains & Combined Sewer Overflows

For more information, write or call: ACEC Program, Massachusetts Dept. of Environmental Management, Div. of Resource Conservation, 100 Cambridge St., Room 1404, Boston, MA 02202 617-727-3160

Base Map: USGS 1:25,000 topographic maps; USGS-NMD 1:100,000 hydrography enhanced by MassGIS at 1:25,000.

ACECs: ACEC boundary compiled and automated by Mass. Dept. of Environmental Management (DEM).

Combined Sewer Overflows (CSOs): Massachusetts Water Resources Authority; automated by Metcalf & Eddy.

Boston Storm Drains: Boston Water & Sewer Commission; automated by Rizzo Associates.

Scale 1:20,000

0 1 mile

0 1 kilometer

N W E S

DEM/MassGIS, March 1996

Legend

- Combined sewer overflows
- Boston storm drain outfalls
- Neponset River Estuary ACEC boundary

This map is for planning and illustrative purposes only. It represents the best available digital statewide data for a given theme. It is not to be used by itself for legal boundary definition or regulatory interpretation. See the Neponset River Estuary ACEC designation document, as amended December 1, 1995, for the legal boundary description.

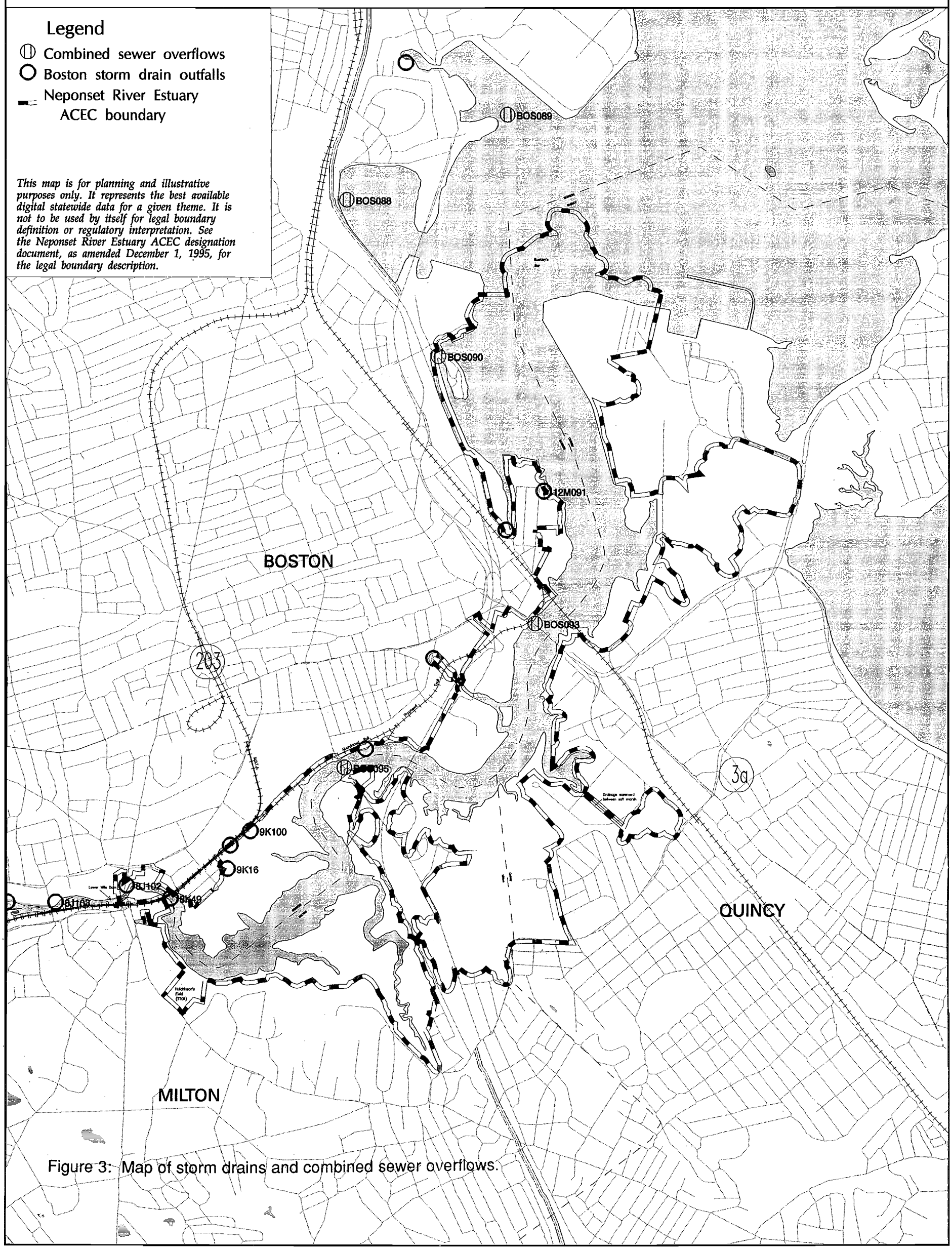


Figure 3: Map of storm drains and combined sewer overflows.

support of restoring smelt spawning in the estuary. The subgroup has been designated an official Adopt-A-Stream group by DFWELE.

Boston Natural Areas Fund (BNAF)

BNAF is a nonprofit corporation founded in 1977 to work with residents to preserve, protect, and improve urban open space in Boston. BNAF is a membership organization, focusing on Urban Wilds (places of natural beauty and environmental significance) and community gardens, of which it owns 30 throughout the city. BNAF, with the Trust for Public Land, is currently involved in a four year initiative, "Greenways to Boston harbor: the Neponset River Greenway and the East Boston Greenway," a community based project to build constituencies and stewardship for the Greenways and to demonstrate their recreational, environmental and educational potential. On the Neponset, the project is planned, implemented and evaluated by the 40 member Neponset Greenway Coordinating Council consisting of residents of Hyde Park, Mattapan and Dorchester. The Neponset Greenway Project includes support for community advocacy, educational programs for all ages, summer and weekend environmental jobs for youth and special events.

Save the Harbor/Save the Bay (STH/STB)

Save the Harbor/Save the Bay is a nonprofit organization whose mission is to foster a positive vision of Boston Harbor and Massachusetts Bay and to build a constituency to promote restoration and protection of these valuable resources. STH/STB is sponsoring an effort to have citizens become involved in monitoring water quality in the estuary.

The Boston Harbor Association (TBHA)

The Boston Harbor Association is a nonprofit, public interest organization founded in 1973 to promote a clean, alive, and accessible Boston Harbor. The Association has been working with state agencies and others on educating the public on water quality issues. TBHA was designated by the Joint Commission on the Future of Boston Harbor Beaches to monitor MDC's implementation of that plan to restore the Boston Harbor beaches.

Federal Agencies

U.S. Army Corps of Engineers

Section 404, of the Clean Water Act authorizes the U.S. Army Corps of Engineers to regulate the discharge of dredged or fill material into all waters (including wetlands) of the U.S. The limit of jurisdiction is the high tide line in tidal waters. Regulated activities include the placement of fill for construction, site-development fill, riprap, seawalls, and beach nourishment.

Section 10 of the Rivers and Harbors Act of 1899 authorizes the Corps to regulate structures and work in navigable waters of the U.S. Jurisdiction extends shoreward to the mean high water line. Regulated activities include construction of piers and wharves, permanent mooring structures such as pilings, intake and outfall pipes, boat ramps, and dredging or disposal of dredged material, excavation, and filling.

Federal Emergency Management Agency (FEMA)

FEMA administers the National Flood Insurance Program (NFIP) which enables property owners to purchase insurance protection against losses from flooding. Participation in the NFIP is based on an agreement between local communities and the federal government which

states that if a community will implement and enforce measures to reduce future flood risks to new construction in special flood hazard areas, the federal government will make flood insurance available within the community.

Current planning projects in the estuary

In addition to this ACEC Resource Management Plan, there are a number of other planning and management projects underway currently in the Neponset River Estuary:

EOEA's Watershed Initiative

EOEA's Watershed Initiative, begun in 1994, is the Commonwealth's commitment and effort to develop a watershed management model to "institute community-based environmental decision making by using small watersheds as functional systems to integrate/coordinate regulatory and nonregulatory activities at the local, state and federal levels." The initiative is guided by a steering committee whose members are drawn from state and federal agencies, watershed associations, environmental nonprofits, industry, and citizens. This initiative will establish the direction and form for integrated management of the Commonwealth's water resources.

Neponset River Watershed Pilot Project

The Neponset Watershed Project is the Watershed Initiative's pilot project to demonstrate the watershed approach to addressing environmental concerns. In 1994 the Secretary of Environmental Affairs selected the Neponset River as the pilot watershed for the Executive Office of Environmental Affairs' Watershed Initiative, an integrated public and private approach to the protection of surface and groundwater. DEP's Office of Watershed Management, with the support and participation of civic organizations, businesses, local governments, citizens, and state and federal agencies, will work together within the watershed's boundaries to manage the activities that affect water quality and the health of the watershed. The project's implementation plan features the following milestones:

Final Resource Assessment Report	September 1995
Watershed Management Plan	April 1996
Basin-wide permitting	September 1996
Water resource grant targeting	September 1996-January 1999

Under this project, and with the active leadership of NepRWA and EOEA's Riverways Program, six subwatershed groups were formed to do shoreline surveys and develop actions plans for each subwatershed. The recommendations from the Action Plan of the Friends of the Estuary Subwatershed Group are incorporated in this ACEC Resource Management Plan as an Addendum (see Addendum A).

Friends of the Neponset Estuary Action Plan

The Friends of the Neponset Estuary is the subwatershed group focused on the Neponset River Estuary. As a participant in the Riverways Program's (Massachusetts Department of Fisheries, Wildlife, & Environmental Law Enforcement) Adopt-A-Stream Program, the Friends have been studying various issues of the estuary, conducted a shoreline survey, and prepared an Action Plan for the Neponset Estuary. The Action Plan presents goals, objectives, and specific future actions for the group and others to take to improve conditions of the estuary. Because of its important role in advancing the objectives of the ACEC, the Action Plan is an addendum to this ACEC resource management plan.

MDC's Master Plan and Park Design Project for the Lower Neponset River Reservation

The Metropolitan District Commission's Neponset River Estuary Master Plan is part of MDC's ongoing planning effort within and adjacent to the Neponset River Reservation. The planning effort is part of the MDC's long-standing goal to provide continuous public access from Castle Island in Boston Harbor to the Blue Hills in Milton. The geographic scope of the Master Plan area includes both sides of the river from its mouth at Squantum and Commercial Points to Mattapan Square, with a cursory examination of the River up to Paul's Bridge. The area includes the communities of Quincy, Boston, and Milton and both existing and potential MDC public parkland.

While this phase of planning within the Neponset region will be completed in May, 1996, the MDC has been conducting planning efforts for over four years. Given the focus of the Executive Office of Environmental Affairs, various non-profit, and local entities upon the Neponset River Basin, it is anticipated that the MDC's Master Plan will play a significant role in the process of implementing the ACEC resource management plan. The MDC Master Plan is described more fully in the Special Use Areas section and is intended to be incorporated into this ACEC plan as an addendum after review and approval of the MDC Plan by the Secretary of EOEA.

Greenways to Boston Harbor: The Neponset River Greenway

The Boston Natural Areas Fund (BNAF) and the Trust for Public Land (TPL), with funding from the Lila-Wallace Reader's Digest Fund, is conducting a four-year project "Greenways to Boston Harbor: The Neponset River Greenway (and the East Boston Greenway)." The project will enable the TPL to assist public agencies, including the MDC and the city, with plans to acquire, transfer and develop land for new parks.

The BNAF, along with several other organizations, sponsored a citizens participatory planning workshop on the Neponset (and East Boston) Greenway on May 5 and 6, 1995. Participation was drawn from the Neponset Greenway Coordinating Council, a grassroots citizen's organization formed by BNAF. The workshop generated written and graphic materials representing existing conditions and concepts for the future of the Neponset River. Recommendations from that workshop are incorporated in Section II of this plan.

Plan for the Future of Boston Harbor Beaches

The Joint Commission on the Future of Boston Harbor Beaches was established in 1991 by executive order of Governor Weld and then Boston Mayor Flynn to "coordinate, develop, and recommend a plan for the restoration of the beaches of Boston Harbor." In June 1993, following a two-year planning process that involved broad public participation, the Commission issued its plan for improving the physical condition and environmental quality of and accessibility to the Boston Harbor beaches. Follow-up studies and design of the plan's proposals for individual beaches, including Tenean Beach, are now underway. The Boston Harbor Association has been designated by the Commission to monitor and guide implementation of the plan.

The Massachusetts Wetlands Restoration & Banking Program

The Massachusetts Wetlands Restoration & Banking Program (WRBP) is currently working with the US Army Corps of Engineers to assess the condition of a number of wetland areas around the state, including the Neponset marshes. It is anticipated that a draft Watershed Wetlands Restoration Plan (WWRP) for the Neponset watershed will be made available for

public review by the fall of 1996. The WWRP will provide an inventory of wetlands restoration sites prioritized based on their capability to improve the watershed's flood storage, water quality, and fish and wildlife habitat, as well as providing information that can be used for land use planning and management purposes beyond wetlands restoration (Wetlands Restoration & Banking Program, 1995).

In the Neponset River estuary, the WRBP is working with the MDC and examining the possible restoration of the Metropolitan District Commission's Neponset Marshes and degraded wetlands at Granite Avenue in Milton. Part of the assessment of the health of the marshes and potential for restoration will include soils assessment for potential contaminants, particularly in filled areas.

In addition to the projects and programs described above, EOEA is involved in several other collaborative programs relevant to the Neponset River Estuary. Among these are:

Shellfish Bed Restoration Program

Shellfish Bed Restoration Program is a collaboration of the Massachusetts Division of Marine Fisheries (DMF), Massachusetts Association of Conservation Districts (MACD), Natural Resource Conservation Service (NRCS), Massachusetts Department of Environmental Protection, and the Massachusetts Bays Program (MBP) to identify and mitigate nonpoint source pollution from specific storm drains which are now causing shellfish bed closure or threatening open beds. Administered with the help of Regional Planning Agency technical assistance staff and a full-time program manager with funding from MBP, this program enhances the capacity of local communities to address their pollution problems.

Massachusetts Bays Program

Massachusetts Bays Program (MBP) is a partnership of federal, state, and local governments that is about to complete a five year assessment and planning effort that will conclude with a Comprehensive Conservation and Management Plan for Massachusetts and Cape Cod bays. That plan is meant to serve as a blueprint for coordinated action aimed at restoring and protecting water quality and the diverse natural resources of the Massachusetts Bays. The goals and management strategies of the CCMP and this RMP are quite similar. The smaller geographic scale of the 1,260-acre Neponset Estuary ACEC allows for the assessments and recommendations included in this plan to be more specific than those of the CCMP.

II. Resource Management of the Neponset River Estuary

The goals for the Neponset River ACEC endorsed by the steering committee were shaped from a draft list of resource management goals and objectives prepared by EOEA which was based on a list originally suggested by the nominators of the Neponset River Estuary ACEC. The draft goals and objectives were distributed for public review and comment during the nomination process. The following are the goals for the Neponset River Estuary ACEC:

Overall goal for the Neponset River Estuary

Goal: Preserve, enhance, restore, manage, and encourage appropriate use of the natural and cultural resources of the estuary of the Neponset River.

Objectives:

- Integrate state agency project review in ACEC
- Coordinate federal, state, and local planning and regulatory review
- Provide public education regarding the benefits of the ACEC and long range planning

Surface Waters

Goal: Protect and improve the water quality conditions of the Neponset River estuary in order to meet, or where possible exceed, state water quality standards.

Objectives:

- Identify and reduce point and nonpoint sources of pollution
- Identify areas of contaminated sediments and sources of this contamination
- Ensure that all sponsors and proponents of activities in the ACEC employ best management practices

Estuarine and Freshwater Wetlands

Goal: Preserve, protect, and restore saltmarsh and wetlands in the Neponset Estuary.

Objectives:

- Identify filled or degraded wetlands and consider appropriate means of restoration
- Maintain floodplain storage and prevent coastal hazards.
- Prepare a baseline assessment of the health of the saltmarsh in the ACEC
- Educate owners of residential and commercial properties containing or abutting wetlands on the value of the resources and potential impacts

Habitat Resources

Goal: Preserve, protect and restore fisheries and wildlife habitat in the Neponset Estuary.

Finfish

Goal: Protect, restore, and enhance anadromous fish runs and habitat/breeding grounds for salt water species.

Shellfish

Goal: Preserve, protect, and restore shellfish beds to increase the availability of the resource for wildlife and for commercial and recreational use.

Objectives:

- Evaluate status of fisheries habitat.
- Catalog plant and animal species and map habitats

  Assess anthropogenic impacts on species composition and habitat distribution

  Assess feasibility/desirability of habitat restoration including shellfish beds and fish ladders.

  Identify point sources of pollution in the watershed that can be targeted for remediation

Wildlife

Goal: Protect and restore the salt marsh, brackish marsh, coastal bank, barrier beach and the vegetated 100 foot buffer zones, as self-regulating systems, in order to support the full range of biological diversity in the estuary, including rare and endangered species.

Objectives:

- Evaluate status of wildlife habitat
- Catalog plant and animal species and map habitats including upland species and rare species
- Assess anthropogenic impacts, species composition and habitat distribution, including wildlife corridors and open space buffers
- Evaluate effect of land uses on habitat
- Assess potential future impacts of land use on habitat through analysis of municipal zoning bylaws
- Assess stream flow for adequate habitat requirement
- Restore degraded habitats; protect unprotected habitats; maintain existing open space.
- Direct active recreation away from sensitive areas

Economic Development

Goal: Encourage appropriate land and water uses that provide public benefits and are compatible with sound resource protection and management.

Objectives:

- Develop and implement a plan for sustainable development of ACEC resources.
- Identify opportunities for and work towards integrated permit review
- Establish a procedure for identifying and evaluating cumulative impacts

Water-dependent Uses

Goal: Preserve existing water-dependent uses.

Objectives:

- Develop and implement a plan for sound water-dependent uses
- Develop maintenance dredging and disposal plan with municipal government agencies, DEM, DEP, CZM and the U.S. Army Corps of Engineers.
- Identify sites of previous dredging and for future dredging
- Compile and assess all sediment data from studies and permit files

Historical and Archaeological Resources

Goal: Preserve, protect, enhance, and restore historic and anthropological sites in the Neponset Estuary.

Objectives:

- Make anthropology/history of the Neponset Estuary publicly available
- Incorporate historic interpretation in planning processes
- Increase public access where appropriate and interpret these resources for the public

Special Use Areas

Goal: Protect, enhance and increase publicly-owned open space in the estuary for its value as recreational and educational resources.

Objectives:

- Coordinate the objectives of this RMP and the MDC's Park Master Plan for the Lower Neponset and with municipal recreation plans
- Encourage collaboration among public agencies, nonprofits, and private sector in prioritizing and acquiring open space
- Improve water quality for swimming, boating and fishing
- Develop plan to ensure public access to the Neponset Estuary
- Protect view sheds and make them publicly accessible
- Make use of the estuary as a laboratory and classroom for study of estuarine environments, environmental impacts, and cultural resources
- Remediate hazardous waste sites

For each category of resources and uses in the estuary, the following sections present an inventory of the existing conditions, an assessment of those conditions and existing management, and an implementation strategy. The implementation strategy begins with an identification of the issues followed by a number of specific tasks for addressing those issues and promoting the goals and objectives of ACEC.

Listed for each task are: cooperating parties, a time table, and resources for accomplishing the task. The identified agencies, organizations, or individuals under each task are those that

exercise authority or are capable and interested in contributing to the task; the entry in bolded type would have lead or coordinating responsibility. The time table entries indicate the estimated period of time in which the task would be tackled; the time frames are variously based on availability of resources, the schedule established by the lead agency, complexity of the task, and/or sequencing of tasks. Most of the tasks are projected to be completed within the five-year implementation schedule of this resource management plan. Entries under resources for accomplishing the task identify the commitment of human and financial resources needed to support the task, with specific sources identified in some cases.

Key for entries under Tasks
Cooperating parties: lead party in bold typeface, other are cooperators
Time table: based on the plan's five-year implementation schedule.
Immediate = within one year; Short-term, 1 to 3 years; Long-term = 3 to 5 years.
Resources to accomplish the task: identifies type of resources needed and possible sources.

Surface Waters and Water Quality

Goal: Protect and improve the water quality conditions of the Neponset River Estuary in order to meet, or where possible exceed, state water quality standards

Inventory

Within the Neponset River Estuary Area of Critical Environmental Concern (ACEC), the Neponset River flows from the Lower Mills Dam to its mouth at Commercial Point and Squantum Point, a distance of 4.2 tidally-influenced miles. The surface area of open water is approximately 84 acres. Portions of Gulliver Creek in Milton, Sagamore Creek in Quincy, and Pine Neck Creek and Davenport Creek in Boston flow into the Neponset River within the ACEC.

The waters of the Neponset River Estuary are classified SB-Fishable / Swimmable with restricted shellfishing in the Department of Environmental Protection's Surface Water Quality Standards (314 CMR 4.00). Class SB waters are designated as habitat for fish, other aquatic life, and wildlife; support primary and secondary recreation; and have good aesthetic quality. Factors that contribute to the attainment or non-attainment of SB water quality include point and non-point sources of pollution, sediment quality, stream flow, and diverse biota. Potential contaminants include bacteria, metals, PAHs, PCBs and other toxic products of 20th century technology. It is important to note that while this section of the river has been classified as SB it has not attained all water quality standards required for that classification. Similarly, while classified under Surface Water Quality Standards as a Restricted Shellfish Area (shellfish harvesting allowed with depuration), the entire estuary is classified as Prohibited by the Division of Marine Fisheries.

Sources of Pollution

The water quality in the estuary is significantly impacted by upstream sources. A Massachusetts Water Resources Authority (MWRA) study found the highest levels of fecal coliform, biochemical oxygen demand, total suspended solids and zinc and copper coming into the estuary from above the Lower Mills dam (MWRA, 1994). A study in 1993 indicated that upstream problems are due to a number of sources of sewage along the river (Rex, 1993). Several storm drains above the Lower Mills Dam were found to be contaminated with sewage in Boston Water & Sewer Commission (BWSC) dry-weather screening (MWRA, 1994; BWSC 1993, 1991).

The estuary itself is within a highly urbanized area with high density housing, industrial and commercial activities impacting water quality through point and non-point source pollution. One CSO treatment facility at Commercial Point (BOS090) and two other CSOs (BOS093 and BOS 095) discharge in the estuary (see Figure 4). Based on monitoring of the CSOs conducted by the MWRA in 1992, overflow of one CSO requires one-half inch of rain or greater and the others will overflow after 0.1 inches of rain. NPDES discharge permits in the estuary have been issued for the U.S. Army National Guard Armory in Dorchester (Permit #MA0030252, for intermittent discharge of vehicle washwater; and the BWSC CSOs identified above (Permit #MA0101192) (DEP, 1995). Additional known sources of fecal coliform pollution in the estuary are the failing septic systems in the Forbes Road neighborhood in Milton and Unquity Brook/Gulliver's Creek. About 60 storm drains from developed land in

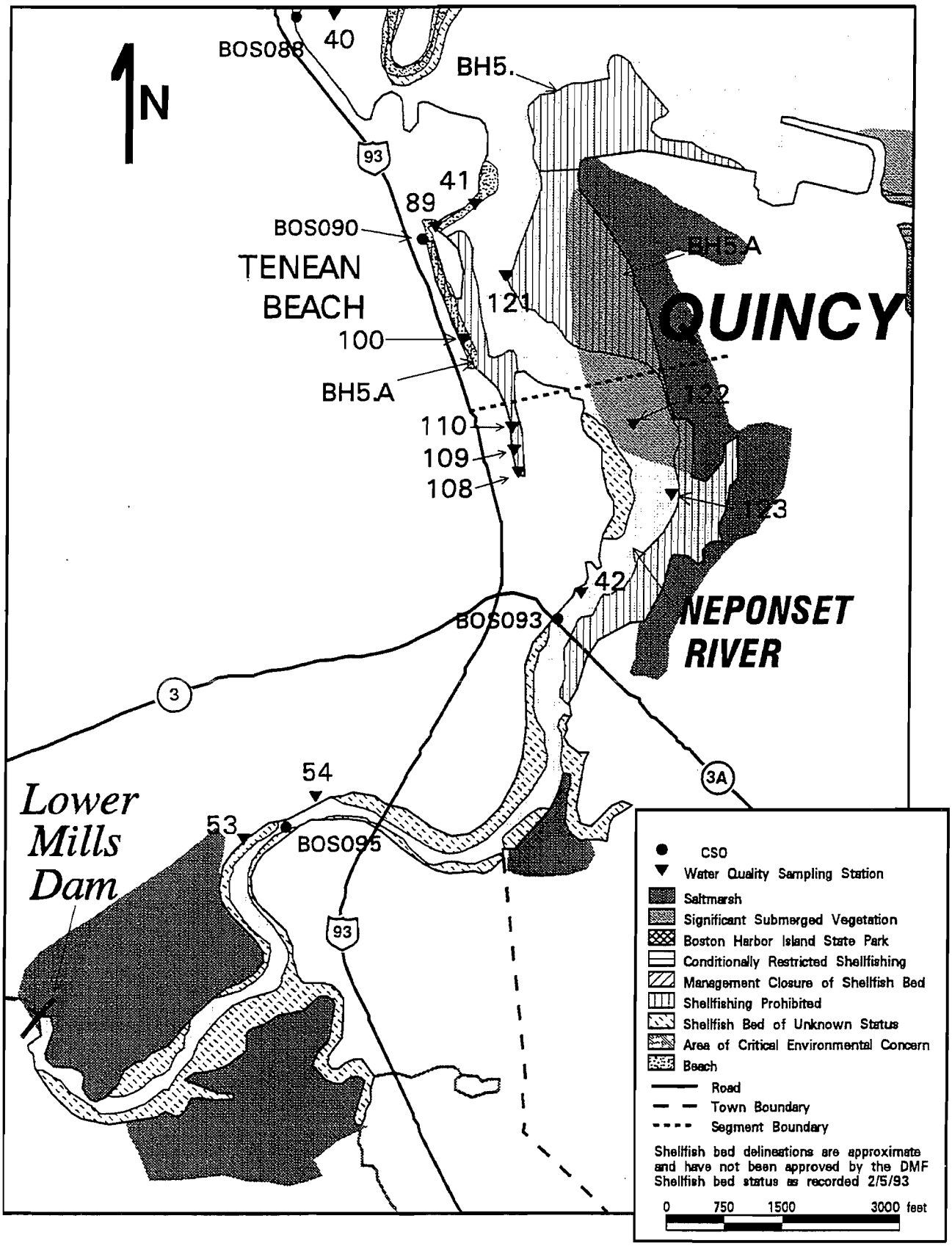


Figure 4: Map of point source discharges, sampling stations, and resources impacts by water quality (from MWRA Baseline water Quality Assessment, Figure 16-1).

Boston bordering the estuary and from area highways discharge in the estuary; and, a yet to be determined number of storm drains exist in Milton and Quincy.

Other sources of pollution are more difficult to quantify; but certainly adding to the pollutant loadings, include the non-point sources of pollution from lawn applications of fertilizers, herbicides, and pesticides, animal waste, boat discharges, and sediments from erosion and stormwater runoff.

Assessment

Some of the more recent water quality assessments include studies by the MWRA and the DEP. The Massachusetts Water Resources Authority conducted a Baseline Water Quality Assessment of Boston Harbor and its major tributaries in support of the *System Master Plan (SMP) and Combined Sewer Overflow (CSO) Control Plan for Boston Harbor*. The results and conclusions of the data collection and analysis for the assessment were published by the MWRA in August 1994. This work was the basis for the characterization of the estuary provided in *The Neponset River Watershed 1994 Resource Assessment Report* prepared by DEP's Office of Watershed Management (DEP, 1995).

These assessments show that upstream river flow and stormwater from the adjacent land are the major sources of pollution to the Estuary, resulting in non-attainment of water quality standards. Although two untreated CSO's and one treated CSO at Commercial Point discharge into the Neponset River, they contribute a small percentage of fecal coliform bacteria, nutrients and toxins to the total pollutant load, as shown in Table 1 (from MWRA, 1994).

As part of the effort to evaluate the effects of CSO improvements, the MWRA has been monitoring several water quality parameters, including fecal coliform bacteria, pyrene, and total suspended solids since 1985. The most recent data, characterized in the DEP Office of Watershed Management study (Oct.1995), indicate that the estuary's waters fully support secondary recreation such as boating, partially support swimming at Tenean Beach and aquatic life, and do not support restricted shell fishing. In other words, the river does not meet its current classification of SB.

The Massachusetts Department of Environmental Protection (DEP) has recently completed its detailed assessment of Neponset River water quality (DEP, October, 1995) which will be used as the basis for a basin-wide planning document. Included in the evaluation were detailed water chemistry studies, sediment sampling, and biological assessments. Due to technical constraints, however, DEP did not include the saline estuarine environment in its evaluation of the Neponset but relied on MWRA data for that region. It does not expect to collect any additional information on the estuary in the final basin planning document. However, the plan will have basinwide as well as subwatershed water quality issues identified with suggested means to resolving the issues, and the Estuary is included in the plan.

As part of the Boston Harbor clean-up and because a number of critical use activities like swimming and shellfishing have been identified in this area, the Massachusetts Water Resources Authority (MWRA) and the Boston Water and Sewer Commission (BWSC) have undertaken a number of projects to remediate stormwater discharges and combined sewer overflows in the Neponset estuary. System improvements made between 1988 and 1992 have significantly decreased CSO volumes throughout the MWRA system and the Final CSO Plan proposes complete separation of the Neponset stormwater discharges from the sewerage system by 2008.

As part of the Boston Water & Sewer Commission's ongoing programs, it corrected 30 illegal connections in the Neponset Basin in 1995; and has identified 2 remaining illegal connections

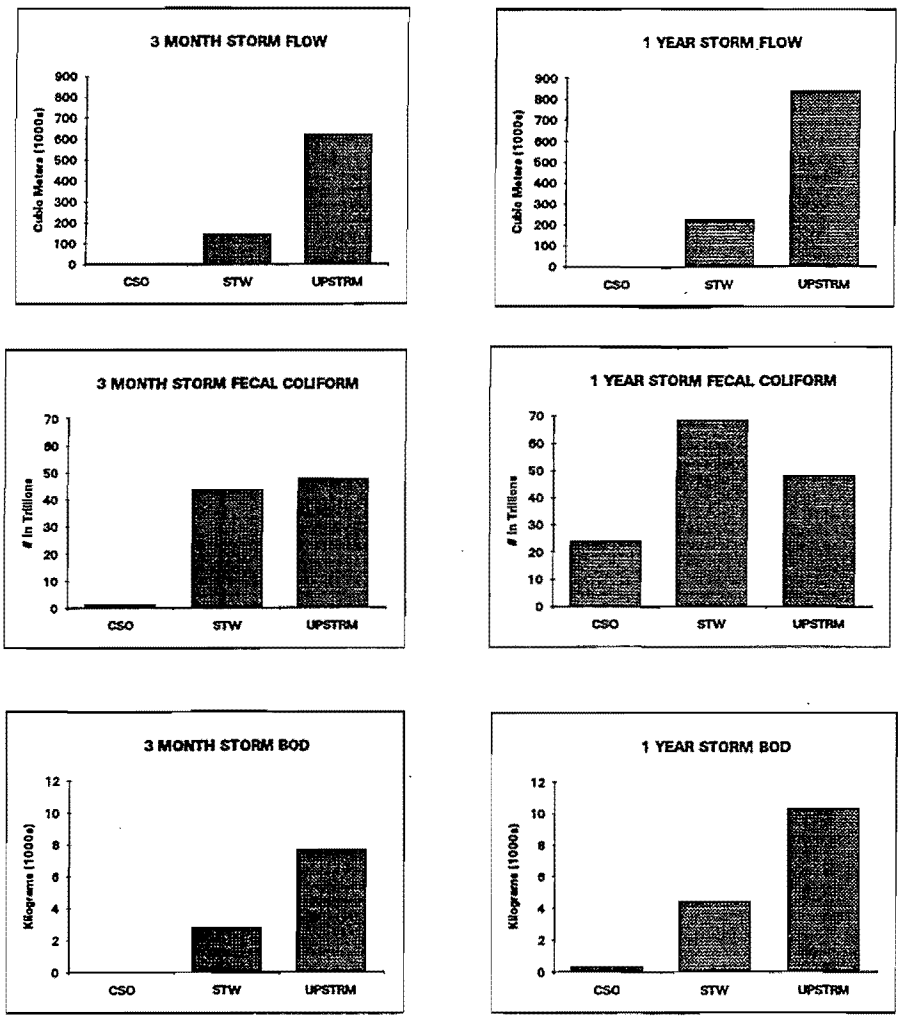


FIGURE 16-3. FUTURE PLANNED FLOWS AND LOADS FOR THREE MONTH AND ONE YEAR STORM EVENTS - NEPONSET RIVER

Table 1: Pollutant Flows and Loads in the Neponset River (from MWRA Baseline Water Quality Assessment, August 1994). Key to notation of X-axis: CSO = combined sewer overflows; STW = storm drains; UPSTRM = upstream.

Table 1 (con't): Pollutant Flows and Loads in the Neponset River (from MWRA Baseline Water Quality Assessment, August 1994). Key to notation of X-axis: CSO = combined sewer overflows; STW = storm drains; UPSTRM = upstream.

FIGURE 16-4. FUTURE PLANNED ANNUAL FLOWS AND LOADS - NEPONSET RIVER
(a) FLOWS, BIOCHEMICAL OXYGEN DEMAND,TOTAL SUSPENDED SOLIDS, COPPER, ZINC

FIGURE 16-4. FUTURE PLANNED ANNUAL FLOWS AND LOADS - NEPONSET RIVER
(b) FLOWS, TOTAL PHOSPHORUS, NITRATE,AMMONIA, TOTAL KJELDAHL NITROGEN

on the Neponset River, upstream of the ACEC, that will be corrected in the Spring of 1996. Evaluation of storm drains on the Boston side by the Boston Water and Sewer Commission identified only one discharge point in the lower river which may have contamination with debris and/or oil (MWRA, 1994; BWSC 1993, 1991). The BW&S' Harbor Quality Department has proven to be productive and effective in addressing illegal sanitary sewage connections to storm drains. An effective stormwater management program will also need to address sediment loading from roadway runoff. In particular, the area below Lower Mills Dam and the Adams Street Bridge needs monitoring for the smelt spawning habitat there (see Habitat Resources section for more information).

Tenean Beach Water Quality Monitoring

Regular monitoring of water quality at Tenean Beach has been conducted by the MDC. Bacteriological testing shows considerable improvement in conditions in recent years with the bacteriological conditions at the beach exceeding standards by 47 percent in 1989 and declining to two percent in 1992. The decline in bacteriological contamination is believed to be due to the operation of the Fox Point CSO (nearby the ACEC) and Commercial Point CSO treatment facilities (within the ACEC)which began operations in 1990 and 1991, respectively. These treatment facilities provide solids separation and chlorination prior to discharge of overflow water to the harbor (Lane, Frenchman 1993).

The Boston Water and Sewer Commission recently completed an investigation of the sources of bacterial contamination to the Pine Neck Creek storm drain, which discharges south of Tenean Beach (BWSC,1996). The investigation included smoke and dye testing, as well as television inspection of all storm drains and sanitary sewers in the area. Wet and dry weather water quality sampling of the drain and its receiving waters was also conducted.

The investigation revealed no significant sources of sanitary contamination to the drain. Review of existing data and data collected as part of the investigation indicate that although bacterial concentrations in the drainage system are high, they are consistent with concentrations in storm drainage from similar urbanized locations. The sources of bacteria in stormwater samples appears to be stormwater runoff, likely due to contact with accumulated pet and other animal waste deposits and street litter. Elevated bacterial contaminations measured in dry weather samples, in conjunction with a correlation between higher concentrations and low tide, suggest that accumulated sediments in the drain and in receiving waters may be providing an ongoing source of bacteria to the overlying water column.

Impacts from Recreational Boating

Recreational boating has the potential to degrade water quality through improper discharge of boat waste and motor oil, and boat maintenance activities. There are two pump-outs in the vicinity of the estuary, located at Marina Bay and Thomas Marine. The ratio determined by an interagency team that developed the Massachusetts boat pumpout program is one pumpout per 300 moorings and slips. Though that ratio is exceeded in the estuary, the majority of berths are in the two facilities with pumpouts.

Implementation Strategy

Management Issues

The Neponset River is polluted from a variety of sources including upstream sources, nonpoint sources, storm drains, and CSOs. The river upstream is a major source of bacteria. Upstream problems are due to a number of sources of sewage along the river. Illegal sanitary sewage

connections to storm drains are a source of untreated sewage to the Neponset River. Stormwater discharging into the Neponset estuary is collected from a broad, heavily urbanized land area as well from several highways. Several storm drains above the Lower Mills Dam were found to be contaminated with sewage in dry-weather screening. Continued monitoring and detection of other sources of pollution is necessary to develop the most cost-effective remediation of water quality in the Neponset River estuary.

Its urban location and the presence of numerous transportation systems presents both a management challenge and opportunity for the ACEC. Certain activities such as the maintenance and repair, but not substantial enlargement, of the storm drainage systems on public roadways, maintenance activities related to the upkeep of the roadway surface (such as, repaving, line painting, bridge deck repair), the repair of structural components of bridges (such as railing, trusses, stone masonry, etc.), and, maintenance of guardrail, signs, signals and delineators could proceed without additional individual regulatory review on the condition that project proponents (and their agents) adopt best management practices (BMP's) that take all practicable measures to avoid and minimize degradation of adjacent resources and to mitigate any unavoidable impacts to the greatest extent possible. The MEPA review process could provide a reasonable environmental review process for transportation system maintenance and operation related activities that may affect the ACEC. The adoption of BMP plans could be the basis and rationale for an appeal to MEPA that could reduce the existing threshold levels which would trigger a MEPA review of these activities proposed by the project proponents.

Tasks

1. Some data about the water quality, sediment quality, and biological health of the Neponset River estuary is available, as indicated above. A more complete inventory of water quality sediment and biological data for the Neponset River estuary is needed.

Cooperating parties

Neponset River Coordinator
coordinate and assemble data
MWRA
source of information
BWSC, Milton and Quincy DPWs
source of information
DEP Office of Watershed Management
source of information
MDC
source of information
University of Massachusetts Boston
source of information and technical assistance
Massachusetts Bays Program
source of information

Time table for completion

Immediate

Resources to accomplish the task

Staff time

2. Identify additional sources of point and nonpoint pollution, bacterial and chemical contaminants in the Neponset River estuary by continued, expanded and coordinated monitoring and detection programs.

Cooperating parties

Friends of the Neponset Estuary (NepRWA subwatershed group)
field surveys and sampling
Save the Harbor/Save the Bay
training of volunteers
Urban Monitors (NepRWA, subwatershed group)
field sampling
DEP Office of Watershed Management
coordination of sampling protocols
BWSC, Milton and Quincy DPWs
source of information, technical assistance and field sampling
Municipal Boards of Health
source of information

Time table for completion

Ongoing

Resources to accomplish the task

Funding support from proposed marine monitoring program.
Volunteer time and materials

3. Recommend accurate identification and mapping of stormwater outfalls and outfall drainage areas be done by each of the three communities in the ACEC and, ideally, all communities in the watershed that discharge stormwater to the Neponset River; and identify and eliminate all illegal sanitary sewage connections to stormwater outfalls.

Cooperating parties

Municipal water and sewer authorities and DPWs
identification and mapping
BW&SC
technical assistance

Time table for completion

Short-term

Resources to accomplish the task

Commitment of municipal staff
Possible Funding from Coastal Pollutant Remediation (CPR) Program
Section 319 funds

Key for entries under Tasks
Cooperating parties: lead party in bold typeface, other are cooperators
Time table: based on the plan's five-year implementation schedule.
Immediate = within one year; Short-term, 1 to 3 years; Long-term = 3 to 5 years.
Resources to accomplish the task: identifies type of resources needed and possible sources.

4. Citizen monitoring should be encouraged to supplement MWRA/MDC/DEP assessments. A long term citizen monitoring program and strategy be established at the Neponset River Watershed Association focused on efforts to pinpoint sources of bacterial contamination and storm water monitoring. Encourage MWRA to maintain and expand its existing commitment to support volunteer citizen water quality monitoring with in-kind laboratory services.

Cooperating parties

NepRWA
coordination of various citizen groups
Friends of the Neponset Estuary
field sampling by volunteers
Save the Harbor/Save the Bay
training of volunteers
BNAF
field sampling by volunteers
MWRA
support with in-kind laboratory services

Time table for completion

Immediate

Resources to accomplish the task

MWRA in-kind services

5. Implement the recommendation of the Final CSO Conceptual Plan and System Master Plan for complete sewer line separation in the area, which will eliminate all CSO discharges.

Cooperating parties

BW&SC
engineering design and construction
MWRA
planning and funding

Time table for completion

Long-term

Resources to accomplish the task

MWRA capital funds

6. Develop and implement a municipal and regional stormwater management program which share objectives and techniques. The three communities, along with technical support staff from appropriate state agencies could form an informal Estuary Stormwater Management Committee to further pursue recommendations regarding assessment, remediation, and prevention of stormwater pollution and the development of a stormwater outreach program.

Cooperating parties

DEP & MCZM Nonpoint Source Program
coordination and tech. assistance
BW&SC
source of information and implementation

Milton Department of Public Works
source of information and implementation
Quincy Department of Public Works
source of information and implementation
NepRWA
local education and information

Time table for completion

Short-term

Resources to accomplish the task

Commitment of staff

7. Implement a solution to the septic system problem in the Forbes Road neighborhood in Milton.

Cooperating parties

Milton Board of Selectmen
overall coordination
Milton Board of Health
technical assistance and permitting
DEP
review, evaluation and permitting, funding approval

Time table for completion

Short-term

Resources to accomplish the task

Municipal and state funds for sewer construction

8. Develop Maintenance and Operations Plans for the sections of highway, road, and transit routes that traverse the ACEC. These plans could be developed cooperatively with other agencies and feature the best management practices available for controlling stormwater, reducing the of use of toxic materials, contingency planning for oil and hazardous spills, and other measures to avoid and or mitigate any impacts, including those associated with ongoing maintenance.

Cooperating parties

Massachusetts Highway Department
coordination and training
EOEA
policy and regulatory review
Municipal departments of public works
source of information and practices
MBTA
source of information and practices

Time table for completion

Short-term

Resources to accomplish the task

Commitment of staff

9. Review the operational procedures and activities of all marinas and yacht clubs to identify and implement steps that can be taken to minimize any negative impacts on the river. These steps may include adopting an oil spill response plan, reducing the amount and types of toxic materials used around the facility, better management of stormwater run-off, recycling options, etc.

Cooperating parties

DMF
coordination and technical assistance
MCZM Harbor Management Program
technical assistance
Marinas and yacht clubs
source of information
DEP
technical assistance
Municipal boards of health
review of health by-laws

Time table for completion

Short-term

Resources to accomplish the task

Commitment of staff

10. Assess the need for an additional pump-out in the estuary and work with marinas and yacht clubs to site it. Alternatively, determine how to make maximum use of the facilities at Marina Bay and Thomas Marine.

Cooperating parties

DMF
coordination and technical assistance
MCZM Harbor Management Program
technical assistance
Neponset ACEC Stewardship Council
review and evaluation

Time table for completion

Short-term

Resources to accomplish the task

Commitment of staff
Funds from Coastal Pollutant Remediation (CPR) Program

11. Present the conclusions of the shoreline survey completed by the Friends of the Neponset Estuary to the Conservation Commissions and Departments of Public Works of each of the three communities, and the Massachusetts Highway Department and the MBTA. Submit the findings to the Division of Marine Fisheries for their use in evaluating water quality related to shellfish resources.

Cooperating parties

Friends of the Neponset Estuary
source of information

Interested parties and agencies
partial list above

Time table for completion

Immediate

Resources to accomplish the task

Commitment of staff

12. Regularly assess overall water quality and management concerns in the Neponset estuary. After review of the assessment by EOEA agencies, Neponset River Estuary Stewardship Council, and other appropriate parties and identify new mechanisms to bring the Neponset estuary to SB quality, including specific tasks, responsible parties, and time tables.

Cooperating parties

Neponset River Estuary Stewardship Council
coordination, review and evaluation

Time table for completion

Short-term

Resources to accomplish the task

Commitment of EOEA agency staff

Estuarine and Freshwater Wetlands

Goal: Preserve, protect, and restore wetlands in the Neponset Estuary

Inventory

The predominant ecological and visual features of the Neponset River Estuary ACEC are the extensive salt marshes. According to GIS data, salt marsh comprises approximately 320 acres, or 26 per cent of the total area of the ACEC. Salt marsh is valuable as a major source of carbon and nitrogen for the marine food chain, nursery habitat for juvenile marine species, habitat for diverse plant, bird and wildlife species, and serve as efficient filters for contaminants from upland discharges and urban runoff thereby helping to maintain water quality. In addition, salt marsh provides flood control and protection of uplands from storm damage, and is a valuable recreational resource. The marshes of the Neponset River Estuary are the second largest remaining salt marsh in Boston Harbor.

Within the ACEC, large expanses of salt marsh are located below the Lower Mills Dam in Boston and Milton, along the south shore of the Neponset at the Milton and Quincy municipal boundary, and in Quincy north of the Conrail bridge to Squantum Point (see Figure 5).

Freshwater wetlands are located at Squantum Point and within the area of the Presidents' Golf Course. According to the Massachusetts Division of Fisheries and Wildlife's Natural Heritage and Endangered Species Program, Squantum Point "provides habitat for a tremendous diversity of bird species and is one of the most important wildlife habitats in the urbanized Boston area" (communication, February 1995). The importance of this area is described further under Habitat Resources.

The combined acreage of open water at high tide, estuarine wetlands, and other wetland resource areas totals approximately 830 acres, or 66 per cent of the total area of the ACEC. In addition, floodplains overlay most of the ACEC, especially the wetlands. Floodplains cover approximately 1,005 acres or 80 per cent of the ACEC (Figure 6). This estuarine wetland system is a highly productive ecosystem, supporting important marine fisheries and diverse wildlife habitat. It is unique in its size and proximity to a highly urbanized area.

In designating the Neponset River Estuary as an Area of Critical Environmental Concern (ACEC), the Secretary found that the wetland resource areas included in the Neponset River Estuary are significant to the prevention of pollution, flood control, the prevention of storm damage, the protection of fisheries, the protection of land containing shellfish, and the protection of wildlife habitat - all of which are public interests defined in the Wetlands Protection Act and its regulations.

Over time, much of the marshland has been engineered. Fill has been placed in the wetlands of the Neponset Estuary from a variety of activities: disposal of sediment dredged from the navigation channel of the Neponset River, a solid waste landfill at Hallet Street, fill to create usable land for building or recreational purposes, disposal from construction activities, and the accumulation of tidal flotsam. Industrial activities have taken place at the edges of and in the wetlands, filling salt marsh and leaving deposits of hazardous materials behind. Flood control dikes have been constructed and parts of the marsh have been ditched to promote drainage and control mosquitoes. A number of these activities have altered the marsh in ways that promote the growth of the invasive phragmites species over native salt marsh species.

Point and nonpoint sources of pollution to the estuary affect both water quality and the health of the marshes. (See more about nonpoint source pollution abatement under Surface Waters and Water Quality.)

Assessment

The Massachusetts Wetlands Restoration & Banking Program (WRBP) is currently working with the US Army Corps of Engineers, along with local citizens and officials to assess the condition of a number of wetland areas around the state, including the Neponset marshes. It is anticipated that a draft Watershed Wetlands Restoration Plan (WWRP) for the Neponset watershed will be made available for public review by the fall of 1996. The WWRP will provide an inventory of wetlands restoration sites prioritized based on their capability to improve the watershed's flood storage, water quality, and fish and wildlife habitat, as well as providing information that can be used for land use planning and management purposes beyond wetlands restoration (Wetlands Restoration & Banking Program, 1995).

In the Neponset River estuary, the WRBP is working with the MDC and examining the possible restoration of the Metropolitan District Commission's Neponset Marshes and degraded wetlands south of Granite Avenue in Boston. Part of the assessment of the health of the marshes and potential for restoration will have to include soils assessment for potential contaminants, particularly in filled areas.

There are no regulatory prohibitions on marsh (including tidally-impaired marshes) restoration activities. Salt marsh restoration or rehabilitation projects, however, must ensure that there are no adverse effects to public or private water supplies, and that the projects avoid or, where avoidance is not practicable, minimize and mitigate any impacts to resource areas. Additionally, the restoration projects should: use best management practices to minimize erosion and siltation of adjacent resource areas; avoid, minimize or mitigate flooding impacts; and avoid placement of fill or structures in resource areas.

The Wetlands Conservancy Program, in cooperation with the Massachusetts Coastal Zone Management Program (MCZM) and the National Marine Fisheries Service (NMFS), has begun a three-year program to accurately inventory the state's submerged rooted vascular plant (SRV) resources. The project involved acquisition and interpretation of aerial photography at 1:20,000 scale followed by fieldwork and underwater survey work to accurately delineate and classify the SRV resources which are then depicted on photomaps. Aerial photographs of the Neponset estuary have been taken, and it is projected that the process to produce maps of the area will be completed during 1996.

Implementation Strategy

Management Issues

While some information is already available regarding the condition and restoration potential of Neponset ACEC wetlands, the WWRP will provide comprehensive data on location of sites and preliminary data on condition and restorability. Large sections of the salt marsh in the estuary have been invaded by phragmites. It is known that the placement of dredge material on areas of the marsh is partially responsible, although other causes may be present as well, e.g., tide gates.

The MDC Master Plan for the Lower Neponset River will discuss on-going collaborative efforts with WRBP and the historic nature of the marshes and their flora/fauna components,

Neponset River Estuary ACEC

Wetlands

Base Map: USGS 1:25,000 topographic maps; USGS-NMD 1:100,000 hydrography enhanced by MassGIS at 1:25,000.

ACECs: ACEC boundary compiled and automated by Mass. Dept. of Environmental Management (DEM).

Wetlands: Automated by Applied Geographics from DEP 1:5000 orthophoto maps.

Scale 1:20,000

0 — 1 mile

0 — 1 kilometer

N W E S

DEM/MassGIS, March 1996

For more information, write or call: ACEC Program, Massachusetts Dept. of Environmental Management, Div. of Resource Conservation, 100 Cambridge St., Room 1404, Boston, MA 02202 617-727-3160

Legend

- Salt marsh
- Freshwater wetlands
- Tidal Flat
- Neponset River Estuary ACEC boundary

This map is for planning and illustrative purposes only. It represents the best available digital statewide data for a given theme. It is not to be used by itself for legal boundary definition or regulatory interpretation. See the Neponset River Estuary ACEC designation document, as amended December 1, 1995, for the legal boundary description.

BOSTON

QUINCY

MILTON

203

3a

Neponset River

Figure 5: Map of wetlands in Neponset River Estuary ACEC.

Neponset River Estuary ACEC

Floodplains

Base Map: USGS 1:25,000 topographic maps; USGS-NMD 1:100,000 hydrography enhanced by MassGIS at 1:25,000.

ACECs: ACEC boundary compiled and automated by Mass. Dept. of Environmental Management (DEM).

Floodplains: Compiled onto 1:7500 basemap & automated by DEM from US Federal Emergency Management Agency data.

Scale 1:20,000

0 1 mile

0 1 kilometer

N W E S

DEM/MassGIS, March 1996

For more information, write or call: ACEC Program, Massachusetts Dept. of Environmental Management, Div. of Resource Conservation, 100 Cambridge St., Room 1404, Boston, MA 02202 617-727-3160

Legend

- Floodplain, 100-year
- Neponset River Estuary ACEC boundary

This map is for planning and illustrative purposes only. It represents the best available digital statewide data for a given theme. It is not to be used by itself for legal boundary definition or regulatory interpretation. See the Neponset River Estuary ACEC designation document, as amended December 1, 1995, for the legal boundary description.

BOSTON

203

3a

QUINCY

MILTON

Figure 6: Map of the floodplain in the area of the Neponset River Estuary ACEC.

and make recommendations for next steps to be followed in regard to the marshes. The potential for restoring the MDC-owned marshes should be reflected in the plan and be consistent with the recommendations of the WWRP, e.g., potential for restoration of marsh area filled with dredge material. An analysis of potential soil contamination is expected to be part of the assessment of the potential for restoration at this site.

The construction of the State Street Bank Complex physically severed a substantial section of the marsh system along the river. The health of this marsh depends on the conduit running through the parking lots of the complex. The run-off inevitably carrying a cumulative load of pollutants stresses the system further.

Tasks

1. Complete watershed-level assessment (WWRP and MDC Master Plan) of Neponset wetlands.

   Cooperating parties

   WRBP and community sponsors
   complete assessment and WWRP
   Metropolitan District Commission
   complete Master Plan for Lower Neponset River
   NepRWA/Friends of the Estuary
   provide information and public review
   Boston, Milton, Quincy conservation commissions
   provide information and participate in restoration projects
   Neponset River Estuary Stewardship Council
   upon completion of the WWRP, incorporate appropriate Estuary sections into this ACEC resource management plan by reference or as an appendix

   Time table for completion

   Immediate (Fall, 1996) Watershed Wetlands Restoration Plan
   Immediate (April, 1996) MDC Master Plan for the Lower Neponset River

   Resources to accomplish the task

   Commitment of EOEA to these programs

2. Begin implementation of the WWRP by developing and carrying out recommended site-specific restoration plans to improve the quality and functions of the Neponset estuary wetlands.

   Cooperating parties

   WRBP
   coordination, sponsor, and technical assistance

Key for entries under Tasks
Cooperating parties: lead party in bold typeface, other are cooperators
Time table: based on the plan's five-year implementation schedule.
Immediate = within one year; Short-term, 1 to 3 years; Long-term = 3 to 5 years.
Resources to accomplish the task: identifies type of resources needed and possible sources.

DEP
permitting and technical assistance
MDC
conduct soil assessments, as necessary, to determine potential for restoration of marsh filled with dredge material; implement restoration projects proposed in Master Plan.
U.S. Army Corps of Engineers
potential participant in wetlands restoration
Public and private project sponsors (municipal conservation commissions, Quincy DPW, Milton Board of Selectmen, private property owners)
potential sponsors of or participants in implementation of site-specific plans
DEP-DWW
permitting and technical assistance

Time table for completion

Short-term

Resources to accomplish the task

Commitment of sponsor(s)
Funds (see List of Funding Sources in WRBP's Watershed Wetlands Restoration Planning Guidance Document)

3. Upon completion, incorporate the Wetlands Conservancy Program's mapping of SRV resources (eelgrass) into this plan and into decision making in the ACEC, e.g., in permitting activities such as boating facilities.

Cooperating parties

DEP's Wetlands Conservancy Program
complete SRV mapping
Neponset River Estuary Stewardship Council
incorporate information into this ACEC resource management plan

Time table for completion

Immediate

Resources to accomplish the task

Funds from the National Marine Fisheries Service
Funds to support assessment. Possible sources include: Open Space Bond Issue, Mass. Water Resources Authority, Mass Bays Program

4. Educate landowners bordering the salt marsh and freshwater wetlands regarding the types of activities, such as disposal of brush and clippings, use of pesticides and fertilizers, that adversely impact the marsh.

Cooperating parties

NepRWA/Friends of the Estuary/Neponset River Coordinator
clearinghouse of information; educational programming
WRBP
WWRP will provide landowner outreach and education
Municipal conservation commissions and staff
disseminate information and enforce regulations
BNAF
educational programming

Massachusetts Bays Program
implementation of CCMP includes education; possible source of future funding

Time table for completion

Short-term

Resources to accomplish the task

Commitment of staff resources
Funding to support continued public educational efforts of nonprofits active in the estuary
Neponset River Coordinator

5. Educate the public of the role, function, and importance of wetlands.

Cooperating parties

NepRWA/Friends of the Estuary/Neponset River Coordinator
coordination, clearinghouse
MDC
Include interpretive environmental education as part of the program/facilities of the Lower Neponset River park; Neponset Rangers will contribute
BNAF
clearinghouse; public educational programming

Time table for completion

Ongoing

Resources to accomplish the task

Neponset River Coordinator
Funds for programming (see List of Funding Sources in WRBP's Watershed Wetlands Restoration Planning Guidance Document)

6. Identify, prioritize, and seek to acquire ownership—fee or easements—of significant wetland parcels within or contiguous to the ACEC.

Cooperating parties

MDC, municipal conservation commissions
fee acquisition or conservation easement
BNAF/Trust for Public Land
assist in identifying and prioritizing sites and in acquisitions

Time table for completion

Long-term

Resources to accomplish the task

Acquisition funds: 1996 Open Space Bond

7. Assess the condition and health of the isolated salt marsh at the State Street Bank complex in Quincy, and develop and implement measures for restoration.

Cooperating parties

WRBP
initiator and technical assistance

State Street Bank
implementation of measures to improve condition of marsh

Time table for completion

Long-term

Resources to accomplish the task

Commitment to public/private partnership
Restoration funds

8. Conduct a review and evaluation of municipal regulations, policies, and procedures (notices, etc.) and consider certain common regulatory provisions for improved protection of the wetlands resources. Boston and Quincy might consider adopting, as a policy or regulatory provision, a non-disturbance buffer zone contiguous to wetlands resources.

Cooperating parties

Boston, Milton, and Quincy conservation commissions
adopt local regulations, as appropriate

Time table for completion

Short-term

Resources to accomplish the task

Commitment of commission and staff

Habitat Resources

Goal: Preserve, protect and restore fisheries and wildlife habitat in the Neponset Estuary

FINFISH

Inventory

According to the Massachusetts Division of Marine Fisheries (DMF), the Neponset River supports valuable anadromous fish populations, including one of the largest smelt runs in Massachusetts Bay (Coates, 1995; Chase, 1996). This run supports a hook and line, recreational fishery in the fall and winter. The river provides suitable spawning habitat for blueback herring and a viable population exists in the estuary. Blueback herring are valued for bait and roe harvest and are an important forage species in the Bay. American shad have been observed by biologists below the Lower Mills Dam, and are believed to be members of a remnant population (personal communication, Phil Brady, DMF). Larval cod were present in ichthyoplankton samples taken in 1989 in the river near Granite Avenue (Chase, 1996).

DMF recognizes important fisheries habitat areas within the ACEC and notes, in particular, the magnitude of these resources relative to other locations in Massachusetts Bay. Numerous fish species enter the Neponset River estuary as seasonal migrants for feeding purposes, with striped bass, bluefish and winter flounder considered significant for commercial and recreational importance. During Autumn 1994 and Spring 1995, DMF completed a suitability assessment of the Neponset River above the Lower Mills dam and concluded that the waterway and substrate are suitable for shad and blueback herring spawning for a distance of 15.5 miles above the dam.

Assessment

The presence of the dam at Lower Mills, close to the tidal reach of the river acts as an upstream limit to smelt and blueback herring spawning habitat. There is no fish passage at the dam, thus preventing bluebacks from utilizing upstream habitat. Smelt are not jumpers by nature and do not use fish ladders. Smelt lay eggs on rocks below the dam and when the tide recedes, the eggs that are exposed dry out. This problem has existed since the dam was constructed, and although it may limit the population size, a sustainable population continues to support a popular fishery.

Restoration of anadromous fish runs in the Neponset River requires fish ladders to be constructed at the Lower Mills dam and the Tileston dam. A fishway project is underway involving DEP's Office of Watershed Management, in collaboration with Department of Fisheries, Wildlife and Environmental Law Enforcement (DFWELE), DMF, DEP, MDC, and the U.S. Fish and Wildlife Service. The project is using Section 319 funds (from the base funding of the Watershed Resources Restoration Project) to do preliminary design of the fish ladder and install a permanent gauge at the Lower Mills dam. The flow gauge at this location is needed to determine flow requirements for spawning smelt and bluebacks and future needs for passage with the new ladders.

Implementation Strategy

Management Issues

Fish ladders at the Lower Mills dam (and at the Tileston dam further upstream) are needed to provide the blueback herring and shad with access to more area of river to spawn, allowing those populations to increase.

The flow of the Neponset River is impacted by diversions and groundwater withdrawals throughout the watershed raising general concerns about the need for water conservation measures and the cumulative impact of municipal withdrawals. In particular, the adequacy of river flow in the vicinity of the Lower Mills dam needs to be assessed. Stream flow gauges are located in the upper reaches of the Neponset. As a provision of the Interbasin Transfer Act decision on the Dedham-Westwood Water District by the Water Resources Commission, there is a water depth requirement of one foot below the dam to protect anadromous fish spawning; a temporary wire gauge was installed at the Lower Mills dam for this purpose. The gauge was read by a group of volunteer "Smelt Stewards" during the Spring and Summer 1995 and will be done again this year.

Sand and sediment carried by storm drains discharging to the upper estuary can impact smelt spawning by covering the eggs laid on the river bottom below the dam (see the Surface Waters and Water Quality section for more information on stormwater management).

Current data on the finfish resources of the Neponset estuary is lacking. The last comprehensive report, *A Study of the Marine Resources of Dorchester Bay*, was done by DMF in 1971. DMF did recently complete and publish an assessment of the smelt resources of the estuary (Chase, 1996).

Water quality and forage quality need to be improved to increase commercial and recreational fish species. Water quality problems in rivers can degrade spawning habitat for certain species thereby limiting recruitment and affecting species abundance. A diminished forage base can decrease growth, both individual and population (personal communication, Brad Chase, DMF).

Tasks

1. Complete an inventory of fishery resources and an analysis of their current status. This should be done by the Division of Marine Fisheries as an updating of its 1971 document, *A Study of the Marine Resources of Dorchester Bay.*

Cooperating parties

DMF
organize, coordinate, and conduct the study
Smelt Stewards (Friends of the Estuary subwatershed group)
source of information

Key for entries under Tasks
Cooperating parties: lead party in bold typeface, other are cooperators
Time table: based on the plan's five-year implementation schedule.
Immediate = within one year; Short-term, 1 to 3 years; Long-term = 3 to 5 years.
Resources to accomplish the task: identifies type of resources needed and possible sources.

Time table for completion

Short-term

Resources to accomplish the task

Commitment of existing staff and resources
Grant funds for Dorchester Bay/Neponset River Estuary study or seek appropriation from legislature for comprehensive study of the estuarine and near shore marine resources of Massachusetts

2. Support the fishway project being planned by state and federal agencies. This could involve identifying and securing a cash or in-kind contribution to match possible federal funds to continue the project through construction. Explore sources for this match among the active nonprofits, state and municipal agencies, and the private sector.

Cooperating parties

DEP OWM
coordination
DMF
lead in construction of fish ladder
US F&WS
technical assistance
MDC
potential source of match
NepRWA/Friends of the Estuary/Neponset River Coordinator
seek funding

Time table for completion

Short-term

Resources to accomplish the task

Commitment of existing staff and resources
Funding

3. Recommend, as required by the Water Management Act permit, that the Dedham/Westwood Water District, install a permanent stream flow gauge at the Lower Mills dam to acquire the necessary flow data in support of the fish ladder.

Cooperating parties

Dedham/Westwood Water District
install gauge
DEP-OWM, DMF
technical assistance
Friends of the Neponset Estuary
monitor gauge

Time table for completion

Immediate

Resources to accomplish the task

Commitment of staff and volunteer resources

4. To ensure upstream activities do not diminish flow at critical spawning times, DEP should carefully consider the potential impact of diminished flows on efforts to restore the anadromous fish runs in its assessment of proposals for new or increased withdrawals upstream. New withdrawal permits issued by DEP, in consultation with DMF, should contain a condition that withdrawals are reduced at such times as successful spawning, rearing, or migration would be threatened by low flow conditions.

Cooperating parties

DEP
permit review
DMF
technical assistance with permit decisions

Time table for completion

Ongoing

Resources to accomplish the task

Commitment of existing staff

SHELLFISH

Inventory

With regard to shellfish resources, DMF states that there are substantial soft-shell clam beds at the mouth of the Neponset River. A limited survey of Buckley's Bar was conducted in 1989 and found very high densities of soft-shell clams, with a potential yield of 68 clams per square foot. DMF estimates that the 50 acres of Buckley's Bar could produce approximately 12,500 bushels per year, with a current market value of $1 million per year to local harvesters. However, recent water samples from this area found continued high levels of contamination, with DMF concluding that "open shellfish harvest is not likely in the near future for this area, although restricted classification (harvest by permitted master diggers followed by depuration) is a feasible goal, especially with plans underway to improve water quality in Boston Harbor and the Neponset River." See Surface Waters/Water Quality section for discussion of existing conditions and measures being taken to improve water quality.

Figure 7 is a map produced by DMF of lower Neponset River/Upper Dorchester Bay showing shellfish growing areas, classification areas and types, and monitoring stations (for classification). Growing area refers to a geographical area, one of 303 areas into which the Commonwealth's intertidal and subtidal area has been divided for administrative purposes. The Neponset River Estuary ACEC includes growing area number GBH3.

All of the coastal waters within the Neponset River Estuary ACEC are classified as prohibited for shellfishing because water quality data has, for many years, indicated high concentrations of fecal material. Before any closed area can be opened there must be a sanitary survey conducted by DMF which documents and assesses all sources of potential pollution to an area.

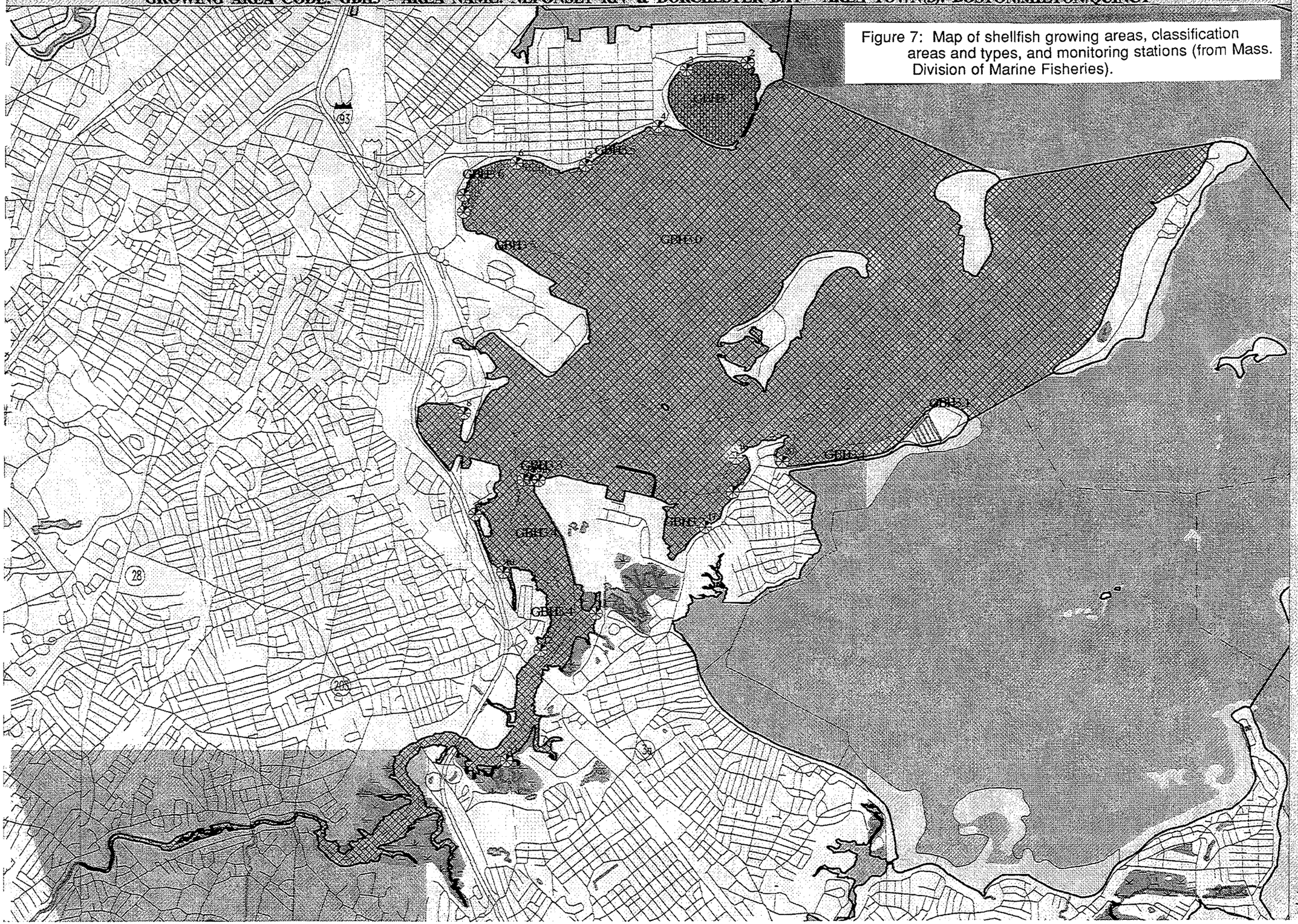
Assessment

Buckley's Bar is not included in the EOEA/MassBays Shellfish Restoration project. Sites for this project were selected based on an assessment of the feasibility of making significant improvements to the beds with the application of limited resources. In most cases, this has

MASSACHUSETTS DIVISION OF MARINE FISHERIES – DESIGNATED SHELLFISH GROWING AREA

GROWING AREA CODE: GBH3 - AREA NAME: NEPONSET RIV & DORCHESTER BAY - AREA TOWN(S): BOSTON/MILTON/QUINCY

Figure 7: Map of shellfish growing areas, classification areas and types, and monitoring stations (from Mass. Division of Marine Fisheries).



0 1 Mi.

0 1 KM

STATION TYPE

- CLASSIFICATION
- POLLUTION SOURCE
- AD-HOC
- PRIMARY PSP
- SECONDARY PSP
- TERTIARY PSP
- CHEMICAL
- MARINA

BOUNDARY LINES

- GROWING AREA
- CLASSIFICATION AREA
- TOWN BOUNDARY

CLASS AREA TYPE AS OF 01/01/95

- APPROVED
- CONDITIONALLY APPROVED
- CONDITIONALLY RESTRICTED
- RESTRICTED
- MANAGEMENT CLOSURE
- PROHIBITED

This product is for planning and educational purposes only. It is not to be used by itself for legal boundary definition or regulatory interpretation.

meant that sites were selected where a single point source of pollution could be identified and repaired. At Buckley's Bar, there are numerous point and non-point sources of contamination, making restoration a difficult and challenging task.

As the Boston Harbor cleanup proceeds toward completion, the degree to which bacterial loading from upstream and from CSOs and sewer lines is mitigated will ultimately determine future shellfishing opportunities in Dorchester Bay and the Neponset Estuary. According to DMF, information generated over the last 5 to 7 years generally shows the Neponset River/Dorchester Bay to be seriously contaminated with little or no chance to be reopened to the harvest of shellfish for human consumption (correspondence from D. Roach, DMF, Nov. 1995).

One positive occurrence in the vicinity (outside the ACEC at the northern tip of Squantum) was the reclassification upgrade of Nickerson Beach to Conditionally Restricted for controlled purification in July 1995. Since then, Nickerson Beach has produced 2,307 bushels of soft shell clams for controlled depuration. However, the sanitary evaluation conducted at that time found rainfall triggered pollution events to be persistent for a minimum of five days even under average rainfall conditions (i.e., 0.5"). It is believed these protracted contaminating episodes reflect adverse impacts emanating from the Neponset River (correspondence from D. Roach, DMF, Sept. 1995)

Implementation Strategy

Management Issue

The restoration of shellfishing in the Neponset River estuary appears to be a long term proposition. A better understanding of the sources of pollution is needed so that efforts at restoration can begin as soon as practicable.

1. Assess feasibility of opening Neponset estuary shellfish beds for harvesting following significant water quality improvements (see Surface Waters and Water Quality section).

Cooperating parties

DMF
source of information and technical assistance
Boston, Milton and Quincy Boards of Health
source of information and technical assistance
MWRA/BWSC, Milton and Quincy DPWs
source of information and technical assistance
Mussel Watch
source of information
MassBays/Shellfish Restoration Program
technical assistance and recipient of assessment
MassBays Program
source of information and possible source of funding

Time table for completion

Long-term

Resources to accomplish the task

Commitment of existing staff and resources
Funding for Neponset River Coordinator

2. Identify potentially valuable shellfish beds in the ACEC. This could be done as part of an updating of the 1971 document, *A Study of the Marine Resources of Dorchester Bay*. This information will be useful to support long-term efforts to restore shellfishing in the estuary and in the regulatory review of proposed projects in these areas.

Cooperating parties

DMF
technical assistance
DEP
condition maintenance dredging permits to require shellfish survey, as appropriate
Friends of the Estuary/Neponset River Coordinator
compile existing knowledge and new data as produced
Boston, Milton, and Quincy Conservation Commissions
coordinate permit requirements/conditions with DEP

Time table for completion

Long-term

Resources to accomplish the task

Commitment of existing staff and resources
Funding for Neponset River Coordinator

3. Identify mechanisms to restore the Neponset estuary shellfish beds, including time tables, responsible parties, and financial resources.

Cooperating parties

Neponset River Estuary Stewardship Council
initiate, organize, and coordinate strategy
DMF
perform sanitary survey, when appropriate, such as after point sources of contamination are abated

Time table for completion

Long-term

Resources to accomplish the task

Commitment of staff and resources

WILDLIFE

Inventory

Comments regarding the nomination provided by the Massachusetts Natural Heritage & Endangered Species Program (NHP), Division of Fisheries and Wildlife, dated February 1, 1995 focus on state-listed rare species and non-game wildlife in the Squantum Point area, in Quincy. According to NHP, this area "provides habitat for a tremendous diversity of bird species and is one of the most important wildlife habitats in the urbanized Boston area."

NHP goes on to state that, "For over 30 years, Squantum Point has been known as a feeding area, roosting area, and migratory stopover for over 200 species of birds. State-listed rare species known to utilize this area are the Short-eared Owl (Asio flammeus), Northern Harrier

(Circus cyaneus), and Least Tern (Sterna antillarum). A list of bird species sighted in the Neponset River Estuary marshes and at Squantum Point is presented in Appendix E. Other bird species that use this area, and are uncommon but not state-listed, include the Snowy Owl, Great Blue Heron and Osprey among many others."

In regard to the wildlife habitat of this area, NHP explains that, "One of the primary reasons that Squantum Point supports both an unusual abundance of birds and a high diversity of species is the variety of habitat types occurring within a relatively small area. This area includes mudflats, sandy beaches, saltmarshes, freshwater wetlands and shrubby upland." Another reason for the heavy use by birds is because so few suitable areas exist in the greater Boston area. NHP recommended including all of these habitats within the boundary of the ACEC, and designating the area as an ACEC to help "protect an area that is unique because it is one of the few remaining natural ecosystems in our urban environment."

Assessment

The diversity of resources in the estuary—the river, its tributaries, the mudflats, salt marshes, freshwater wetlands, and vegetated open spaces—are important habitat for a variety of wildlife and fish species. The large expanse of these resources and the connection this area provides with contiguous natural areas upriver and towards the bay add to its habitat value. However, the natural resources of the Neponset estuary have been reduced and impacted by decades of urban development.

Public ownership and, more recently, regulatory and nonregulatory programs have provided protection for saltmarsh and intertidal areas. Other resources, such as freshwater wetlands and upland areas fringing on wetlands, which contribute important habitat diversity, would benefit from better protection through public acquisition (fee simple or conservation easement) and/or a higher standard of regulatory review at both the local and state levels.

Implementation Strategy

Management Issues

The tremendous efforts at reducing point and nonpoint sources of pollution and a recognition of the importance of urban green space have renewed an interest in restoring the habitat value of currently degraded natural resources.

More information needs to be acquired on the importance and quality of the various aquatic and terrestrial habitats and on the effects of development. maintaining and restoring a diversity of habitat—wetlands and fringing upland—is necessary to support needs of a range of species. The MDC planning process currently underway will produce some data, the Notices of Intent filed with the municipal conservation commissions also contain useful information, as do site evaluations done by the nonprofits active in the watershed and bird and wildlife enthusiasts.

Tasks

1. Identify sources of information to complete wildlife inventory.

Cooperating parties

Friends of the Estuary (NepRWA subwatershed group):
organize project, coordinate, source of information,
Neponset River Coordinator:
staffing

Mass. Natural Heritage & Endangered Species Program (NHP)
source and repository of information and mapping
DFWELE
source of information and technical assistance
Metropolitan District Commission (MDC)
source of information
Boston, Milton, and Quincy conservation commissions
source of information
Boston Natural Areas Fund (BNAF)
source of information

Time table for completion

Short-term

Resources to accomplish the task

Commitment of existing staff and resources
Funding for Neponset River Coordinator

2. Prepare a comprehensive assessment of the quality of wildlife habitat in the Neponset Estuary. Include identification of degraded upland and buffer areas in the ACEC. Compile and assess information from existing sources.

Cooperating parties

Friends of the Neponset Estuary (NepRWA subwatershed group):
serve as steering committee, coordinate, draft sections
Neponset River Coordinator
prepare and produce product
technical assistance and mapping
DFWELE, NHP, DEP, and MassGIS
technical assistance
Boston, Milton, and Quincy conservation commissions and staff
provide information and technical assistance

Time table for completion

Long-term

Resources to accomplish the task

Commitment of existing staff and resources

3. Prepare proposals for funding for restoring degraded habitat in the estuary. Possible sources include: Section 604(b) Planning and Assessment funds available to the regional planning agency (MAPC) and other substate units for projects relating to water supply, wetland restoration and banking, and identifying nonpoint sources of pollution; Section 319 grants available for projects addressing problems of nonpoint source pollution.

Cooperating parties

NepRWA/Friends of the Estuary/Neponset River Coordinator
research sources of funds and prepare proposals
MAPC
prepare proposals
Boston, Milton, and Quincy conservation commissions
identify areas in need of restoration

Time table for completion

Short-term

Resources to accomplish the task

Commitment of existing staff and resources
Neponset River Coordinator

4. Based on analysis above, develop a plan with specific actions to protect and improve the wildlife habitat of the Neponset Estuary. Such plan may include recommendations: for municipalities to adopt flexible zoning techniques to protect wildlife habitat on developable property; wetlands conservation restrictions on areas bordering sensitive resources; consideration of public acquisition of privately-held freshwater wetlands that are part of a larger wetland system. The plan should include time tables, responsible parties, and necessary financial resources.

Cooperating parties

NepRWA/Friends of the Estuary/Neponset River Coordinator
Organize, coordinate, prepare
BRA, Milton Planning Board, Quincy Planning Board
consider adopting appropriate regulations, and through permitting authorities, protecting habitat resources
Boston, Milton and Quincy conservation commissions
consider adopting appropriate regulations and, through permitting authorities, protecting habitat resources
DFWELE, NHP, DEP
technical assistance
MDC
implementation of habitat restoration projects

Time table for completion

Long-term

Resources to accomplish the task

Commitment of existing staff and resources

Economic Use and Development

Goal: Encourage appropriate land and water uses that provide public benefits and are compatible with sound resource protection and management.

Inventory

While the preponderance of area within the Neponset River Estuary ACEC is salt marsh, intertidal flats and open water, these natural resources are interspersed with and surrounded by a mix of commercial, industrial, residential, and recreational land uses typical of an urban area.

Land use in the ACEC is presented in Table 2. The data is 1985 land use interpreted from 1:25,000 aerial photography and classified into 21 categories. This is the most recent available data for this area. Figure 8 depicts this same land use information, though aggregated into major categories. This classification system describes the nature of the land, the vegetation, and land use. Most notable from this data is that the ACEC is 33% saltmarsh, 10% open water, and another 20% is recreational land.

Land use at the northern end of the ACEC (mouth of the Neponset River) is primarily industrial, commercial, transportation-related, and publicly-owned open space. Industrial uses include the storage facility of Boston Gas at Commercial Point and the former Jordan Marsh warehouse on Squantum Point. Between this latter use and the commercial marina at Marina Bay is a large parcel of open space recently purchased by the MDC. Water transportation facilities include the pier and parking lot for the MWRA's ferry to its Deer Island facility.

Port Norfolk is a mixture of commercial and residential uses, a yacht club and a large undeveloped MDC park parcel (formerly the site of the Shaffer Paper Company). The Quincy side of the river is dominated by saltmarsh and mudflats owned by the MDC. On the Boston side, beyond the bridges for the MBTA's red line and Route 3A, are the former Neponset drive-in Theater and the Hallet Street landfill, now being planned for recreational open space by the MDC (see Special Use section). Opposite this on the Quincy side are commercial uses, including the State Street Bank office complex and, further up the river, saltmarsh backed by the President's Golf Course has been acquired by the City and will be rezoned to Open Space.

The next segment of the river is bracketed by the bridge crossings of the Southeast Expressway and Granite Avenue. On the Boston side are the Keystone Apartment building, a converted industrial building, and two industrial uses: Schlager Auto Body and T Construction Corp., whose property is used primarily for storage of materials. Remnants of piers exist at both of these properties, with fishing boats tied up along the structure at T Construction Corp. On the opposite side of the river, in Milton, is the skeleton of a partially built commercial building, a victim of the downturn in the real estate market that began in the late 1980's.

South of the Granite Avenue Bridge the river flows between large expanses of saltmarsh. Publicly-owned open space and residential uses border the marshes. The MBTA rail line crosses the river at the point where the commercial uses of the Lower Mills area begin. Lower Mills features a complex of historic buildings which housed Baker Chocolate until 1965.

Table 2: Land Use in the Neponset River Estuary ACEC, 1985 (from MassGIS)

Land Use	Acres	Percentage
Pasture	3.32	0.37
Forest	41.91	4.63
Open Areas with no vegetation	35.98	3.97
Participation Recreation	177.86	19.65
Spectator Recreation	14.64	1.62
Water-based Recreation	19.58	2.16
Multifamily Residential	4.03	0.45
High Density Residential	26.83	2.96
Medium Density Residential	0.02	0.00
Low Density Residential	2.40	0.27
Saltwater wetland	301.26	33.28
Commercial	32.26	3.56
Industrial	47.98	5.30
Urban open	68.14	7.53
Transportation	44.85	4.95
Waste disposal	0.50	0.06
Water	83.62	9.24
TOTAL	905.16	100.00

The Neponset River ACEC is criss-crossed throughout by several major north-south transportation corridors including the Southeast Expressway (with its new High Occupancy vehicle lane), the MBTA Red Line, the Old Colony railroad and several road bridges. These important regional linkages also attract and support the diverse range of land uses. These numerous transportation routes not only reflect the history of human use of this area; but also, distinctly shape the dynamics and dimensions of this urban ACEC. These major public investments provide access through the ACEC as well as direct access to specific resource areas and public recreational sites.

Assessment

The upper estuary is characterized by saltmarsh and mudflats and is in a much more natural condition than the lower estuary. Very little of the shoreline is privately owned, and where it is privately owned—as at the commercial district of Lower Mills—limited opportunity exists for utilizing the river due to the steep shoreline banks and/or the shallowness and narrowness of the river.

The heart or central node of the ACEC is located in the vicinity of the Granite Avenue Bridge. This area, approximately in the middle of the estuary, provides dramatic views of the estuary,

especially its upper reaches, has great potential for increased public access, and marks a transition from the open estuarine system to a more natural river marsh system.

The lower estuary is and has been the site of considerable commercial and industrial use. Past dredging has been done in a number of locations, (including a federal navigation channel up to the Neponset Avenue bridge), shorelines have been altered, and structures have been built in support of water-dependent uses. This section of the estuary offers far more opportunity and is better suited for water-dependent uses, including public recreation.

The Neponset River Estuary has in the past supported major industrial and commercial uses and continues to do so. The designation of the estuary as an ACEC does not preclude new development or the expansion of existing residential, commercial or industrial uses. However, the amount of privately-owned upland in the ACEC is rather limited. Further, natural resources such as saltmarsh and mudflats limit the water-dependent use potential of many properties.

The efficient and safe operation of the numerous transportation systems that criss-cross the ACEC is a regional priority and transportation agencies are concerned about the effect of the ACEC on new construction and ongoing maintenance. However, proposed improvements to mass transportation can reduce air and water pollution within the ACEC; and likewise, properly maintained storm drainage systems and the adoption of best management practices for all operations will help minimize impacts on the natural resources of the ACEC(see Surface Water and Water Quality section).

Throughout this very urban ACEC, the impacts of many decades of human uses create a priority for restoration projects and add an extra measure of complexity to the management of the natural resources. This is especially evident in the lower estuary where environmentally beneficial projects like the closure of the landfill and remediation of several hazardous waste sites are critical elements of the Resource Management Plan (RMP).

Based on this assessment in the draft Neponset Estuary ACEC RMP, the Secretary of Environmental Affairs, on December 1, 1995, amended the ACEC designation to provide for limited exemptions from the ACEC for specific actions required for landfill closures as part of the landfill assessment actions (Initial and Comprehensive Site Assessments) and landfill closure construction, as determined through DEP/DSWM's Corrective Alternative Action Analysis and/or the Massachusetts Contingency Plan. A detailed listing of such actions is contained in the December 1, 1995 amendments (see Appendix B).

Similarly, exemptions were granted from the ACEC designation for responses performed in compliance with M.G.L. Ch. 21 E and the Massachusetts Contingency Plan for the assessment and remediation of releases of oil and/or hazardous material located within the boundaries of the ACEC (see Figure 9). All exemptions for these environmentally-beneficial activities were issued on the condition that all practicable measures would be taken to avoid, minimize and mitigate impacts that would further degrade the resources of the ACEC.

Implementation Strategy

Management Issues

There is a need to develop and implement a plan for sustainable development of ACEC resources. This requires an understanding of the potential of existing land use and new development (and redevelopment) to encroach upon or otherwise impact valuable natural and

Neponset River Estuary ACEC

Land Use

For more information, write or call: ACEC Program, Massachusetts Dept. of Environmental Management, Div. of Resource Conservation, 100 Cambridge St., Room 1404, Boston, MA 02202 617-727-3160

Base Map: USGS 1:25,000 topographic maps; USGS-NMD 1:100,000 hydrography enhanced by MassGIS at 1:25,000.

ACECs: ACEC boundary compiled and automated by Mass. Dept. of Environmental Management (DEM).

Land Use: UMass Amherst 1:25,000 interpreted from 1985 aerial photography.

Waste Disposal: Department of Environmental Protection, 1:25000.

Scale 1:20,000

0 1 mile

0 1 kilometer

N W E S

DEM/MassGIS, March 1996

Legend

- Unvegetated Open
- Vegetated Areas
- Recreation
- Residential
- Commercial, Industrial, Trans.
- Waste Disposal
- Neponset River Estuary ACEC boundary

This map is for planning and illustrative purposes only. It represents the best available digital statewide data for a given theme. It is not to be used by itself for legal boundary definition or regulatory interpretation. See the Neponset River Estuary ACEC designation document, as amended December 1, 1995, for the legal boundary description.

BOSTON

QUINCY

MILTON

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Figure 8: Map of land use in the Neponset River Estuary ACEC.

Neponset River Estuary ACEC

Hazardous Waste Sites

For more information, write or call: ACEC Program, Massachusetts Dept. of Environmental Management, Div. of Resource Conservation, 100 Cambridge St., Room 1404, Boston, MA 02202 617-727-3160

Base Map: USGS 1:25,000 topographic maps; USGS-NMD 1:100,000 hydrography enhanced by MassGIS at 1:25,000.

ACECs: ACEC boundary compiled and automated by Mass. Dept. of Environmental Management (DEM).

Hazardous Waste Sites: Mass. General Laws Chapter 21E Sites listed in Department of Environmental Protection, Bureau of Waste Site Cleanup's SITES Database. Points located by address matching and GPS by DEP/MassGIS, February 1995.

Scale 1:20,000

0 1 mile

0 1 kilometer

N W E S

DEM/MassGIS, March 1996

Legend

- Hazardous Waste (21E) Sites (Confirmed sites and sites to be investigated)
- Neponset River Estuary ACEC boundary

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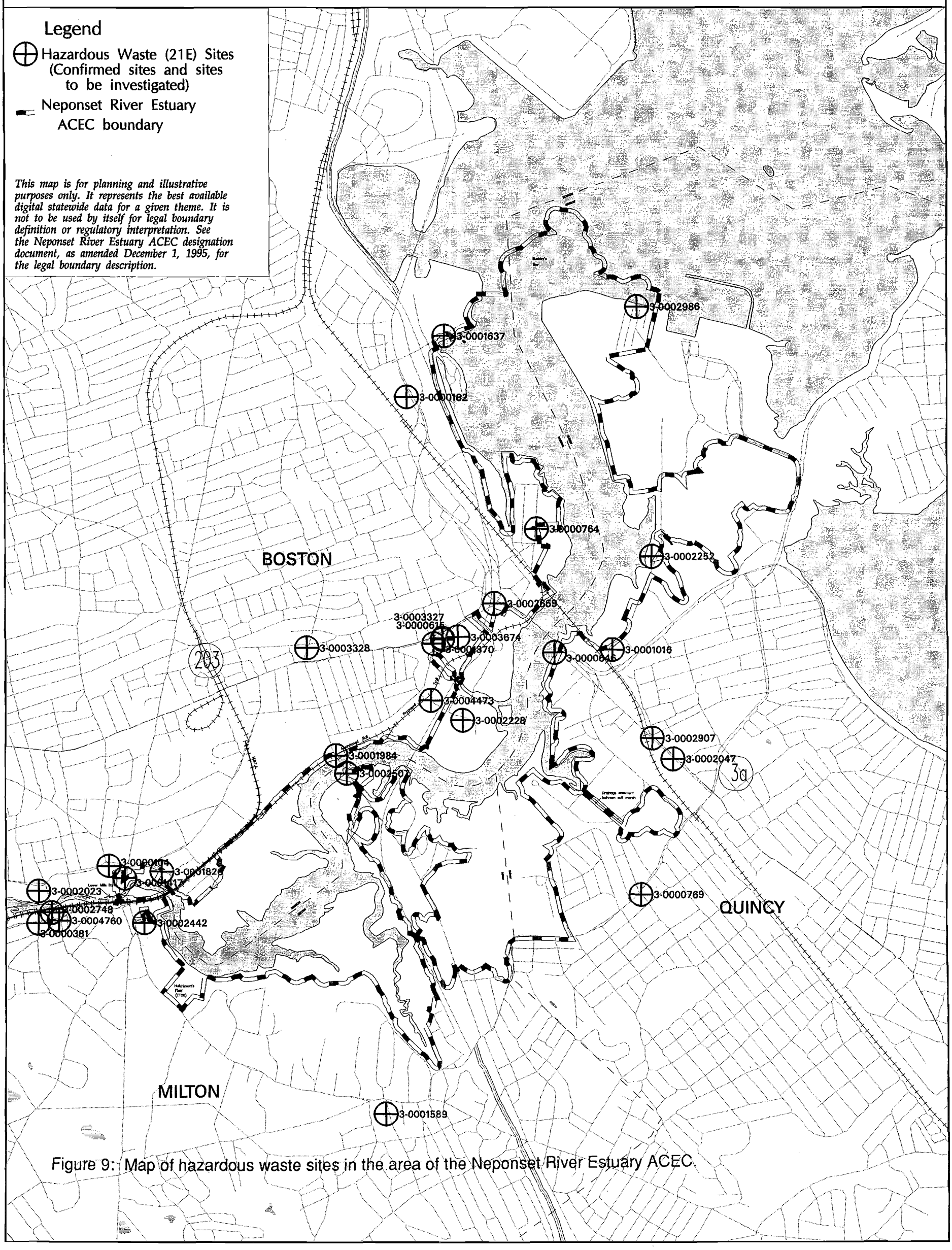

Figure 9: Map of hazardous waste sites in the area of the Neponset River Estuary ACEC.

cultural resources of the ACEC. It also requires as an understanding of the capability of the land and water resources of the ACEC to support desired economic uses.

Certain maintenance and repair activities associated with the extensive transportation networks within the ACEC should not be impaired by the designation and should proceed without additional regulatory review based on the condition that all practicable measures to avoid and minimize degradation of adjacent resources and to mitigate any unavoidable impacts are taken. Similarly, cooperative plans should be developed to incorporate best management practices for controlling stormwater, reducing levels of toxic materials, and contingency planning for oil and hazardous material spills.

Tasks

1. Complete a parcel-by-parcel inventory of land use in the ACEC. The use of each of the nearly 250 parcels identified as being at least partially within the ACEC should be aggregated into a land use classification system relevant to the management needs of the ACEC. This should be designed as a subclassification so as to remain compatible with the MassGIS classification scheme. Categories might include:

water-dependent commercial	low-density residential
water-dependent industrial	medium-density residential
nonwater-dependent commercial	high-density residential
nonwater-dependent industrial	protected open space
institutional	active recreation (water-dependent and nonwater-dependent)
vacant	

Sources of information:
- Neponset River Estuary ACEC data base
- MassGIS data base
- Municipal assessors records
- 1: 5,000-scale wetlands classification
- Municipal inventories and plans
- Wetlands Conservancy Maps

Cooperating parties

Neponset River Coordinator
assemble and organize information
Municipal planning staffs
source of information
Mass GIS
assistance with data management and mapping
MAPC
source of information

Time table for completion

Immediate

Key for entries under Tasks
Cooperating parties: lead party in bold typeface, other are cooperators
Time table: based on the plan's five-year implementation schedule.
Immediate = within one year; Short-term, 1 to 3 years; Long-term = 3 to 5 years.
Resources to accomplish the task: identifies type of resources needed and possible sources.

Resources to accomplish the task

Commitment of existing staff time
Funds for full time Neponset River Coordinator

2. Review and assess municipal zoning ordinances (Boston, Milton, Quincy) for allowable use/natural resource conflicts, adequacy of setback, minimum non-wetland lot area, and similar requirements for protection of natural resources. Recommend additional measures as appropriate.

Sources of information may include:
Municipal zoning ordinances and maps

Cooperating parties

MAPC
coordination, analysis and recommended models
Municipal planning staffs
source of information, analysis and recommendations
Neponset River Coordinator
public information

Time table for completion

Short-term

Resources to accomplish the task

Commitment of existing staff time
Funds to support Neponset River Coordinator

3. Based on the inventory and assessment above, develop economic development/land use plan which resolves natural resource/economic use conflicts in the Neponset estuary. Revise local zoning, as needed. Include time tables, responsible parties, financial resources/constraints.

Cooperating parties

MAPC
coordination and plan development
Municipal planning staff
source of information, analysis and recommendations
Neponset River Coordinator
public information
Neponset River Estuary Stewardship Council
review and evaluation

Time table for completion

Long-term

Resources to accomplish the task

Funding for ACEC Coordinator
Planning funds ($10,000); seek funding from the State's Municipal Incentive Grants Program.

Water-dependent Uses

Goal: Preserve and encourage water-dependent uses.

Inventory

Water-dependent uses

The number of water-dependent uses along the Neponset River Estuary has decreased from earlier decades, but the river still supports several recreational, commercial, and industrial uses dependent on waterfront locations. There are currently four yacht clubs, two marinas and several commercial properties that accommodate vessel berthing. There are only two water dependent facilities in the upper estuary, i.e., the area south of the Granite Avenue Bridge. The lower estuary, however, features many more water-dependent facilities and, by reason of past alteration of the resources and proximity to the open waters of the bay, is more suitable for these uses.

As discussed above, a number of private water-dependent uses exist in the ACEC. The estuary has a long history of commercial and industrial water-dependent uses, and the remnants of structures used for these purposes are still in existence along the riverfront. The locations of these structures are shown on Figure 10 and identified in Table 3. Permit information on these structures is contained in Appendix D.

Upper estuary: South of Granite Avenue Bridge

Milton Yacht Club

Milton Yacht Club is situated at the upper end of the estuary, near the tidal reach of the river, and at the head of the main dredged navigational channel. The property occupied by the club is leased from the town which also owns the fixed dock and other waterfront structures. The yacht club owns the floating dock and maintains the entire property. The club has about 130 members (100 regular member, 30 associate members), half of which are from Milton. The size of the club is limited in the by-laws to the number of boats that can be stored in the yard.

There are no slips; all boats are at two strings of moorings, one on each side of the dredged channel. There are approximately 30 moorings and boats are reached by dinghies kept at the dock. The fleet consists almost entirely of power boats, averaging about 32' in length, and drawing 2.5 to 3.0' of water. At low tide the navigable portion of the river is extremely narrow, some moored boats rest on mud. The area was last dredged in 1984 and, according to club members, is in serious need of dredging. The club does not anticipate expansion, but requires maintenance of its past and present facilities.

Much of the water frontage is a parking lot owned by H.P. Hood, but is used by the yacht club and the public. The northern corner of the parking lot is a popular location for launching canoes. While this arrangement has apparently worked well, changes in the private ownership of the land could disrupt and possibly diminish the amount of access and use currently enjoyed at this location.

Table 3: Previously authorized waterfront structures in the Neponset River Estuary ACEC

Location	Structures	Fig. 10 Map Ref.
Milton Yacht Club		1
224 Adams Street, Milton	build and maintain a pier and float; asphalt boat launching ramp extending 95' into tidewaters	2
T Construction Corp	piles and floats	3
Shlager Auto Body	fixed pier	4
2 Granite Avenue	piles for fixed pier	5
Neponset Valley Yacht Club	fixed pier, floating docks, boat launch ramp	6
Sagamore Creek at Walnut Street	maintain existing concrete platform and timber bulkhead and remove 5 piles	7
2 Hancock Street, Quincy	4 commercial floats 10'X30'; maint of existing pier construct fixed pier fill shoreline	8
Taylor Street, north of MBTA bridge	construct and maintain pile-supported piers and walkways, travel-lift slip and dock, steel sheet piling, timber pile breakwater; removal of steel barge;	9
Bay State Road	construct storm drain, tide gate and stone headwall for shoreline stabilization and flood control	10
Port Norfolk Condominiums, Boston	construct multi-unit residential buildings and site work, construct public waterfront walkway, viewing platform, place granite block seawall in and over existing filleds tidelands	11
Port Norfolk Yacht Club, 179 Walnut Street	concrete boat ramp, marine railway, retaining wall, floating docks, timber pier	12
Ericsson and Walnut Street, Boston	construct 36" strom drain outfall, associated riprap	13
Old Colony Yacht Club	place timber piles, floats, and steel barge bulkhead	14
Victory Road Park	place 135 l.f. of rip-rap, construct 60' timber bridge	15
MWRA Pier, west of Marina Bay, Quincy	construct a pier, ramp, floating dock, shore protection, and parking facility	16
Marina Bay, Quincy	pile-supported pier to support floats; pile-held dock extension for commercial boating facilities; wood wharf; wooded decks	17
Surrounding Harborside Condominiums, Quincy		18

Neponset River Estuary ACEC

Base Map: USGS 1:25,000 topographic maps; USGS-NMD 1:100,000 hydrography enhanced by MassGIS at 1:25,000.

ACECs: ACEC boundary compiled and automated by Mass. Dept. of Environmental Management (DEM).

Scale 1:20,000

0 — 1 mile

0 — 1 kilometer

N W E S

DEM/MassGIS, March 1996

For more information, write or call: ACEC Program, Massachusetts Dept. of Environmental Management, Div. of Resource Conservation, 100 Cambridge St., Room 1404, Boston, MA 02202 617-727-3160

Legend

Neponset River Estuary ACEC boundary

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BOSTON

MILTON

QUINCY

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3a

Figure 10: Map of previously authorized structures and fill in the Neponset River Estuary ACEC.

Neponset Valley Yacht Club

Neponset Valley Yacht Club is situated on MDC property just south of the Granite Avenue Bridge. It has 40 members and 20 boats on moorings accessed by dinghies from a fixed dock with floats. There is a boat launch ramp useable only at mid-tide or higher. The public occasionally uses the ramp to launch canoes, but yacht club members are wary because of the possibility of injury and liability. The entire property floods periodically at extreme high tides making any substantial improvements or permanent additions to this site ill-advised.

Mid Estuary: Neponset River Bridge to Granite Avenue

The area between the Neponset River Bridge and the Granite Avenue Bridge delineates the middle section of the Neponset Estuary ACEC. On the north side of the river is the former Hallet Street landfill and the former Neponset Drive-in Theater, both now owned by the MDC. These properties are the future site of Pope John Paul II Park. The south side of the river has extensive saltmarsh acreage with the President's Golf Course rising on the hills beyond. The State Street Bank office complex fronts a portion of the Quincy riverfront and the Southeast Expressway crosses the ACEC in this section. Currently, there is no water-dependent use in this area.

Lower Estuary: North of Neponset Avenue Bridge

While there are a number of sites of former water-dependent commercial or industrial uses in the upper and middle section of the estuary, the existing marine uses are concentrated in the lower part of the estuary, north of the Neponset Avenue Bridge (Route 3A). These sites represent the preferred areas for limited expansion for economic development rather than impacting new undeveloped areas of the ACEC. At the same time, these fairly intensive uses and operations at these sites represent continuous and cumulative impacts on the natural resources such as nonpoint pollution, boating discharges and accidental spills.

Cashman Marine

Cashman Marine is a water-dependent industrial property on the Quincy shoreline between the Neponset Avenue bridge and the MBTA Red Line bridge. The site is used for loading/unloading earth materials between trucks and barges.

Port Norfolk Yacht Club

Port Norfolk Yacht Club has approximately 85 slips and boats. The boat basin and upland have been created and modified through a series of dredging, filling, and structures authorizations (see Appendix D).

Thomas Marine

Formerly called Norwood Marine, this marina has slips for 100+ boats, travel lift, pump out, upland boat storage, boat maintenance facilities, and offers sale of marine supplies. The owner is planning work to improve some structural conditions and, possibly, reconfigure the boat basin.

Old Colony Yacht Club

Old Colony Yacht Club is located in a tight area adjacent to and surrounded by the former landfill, now Victory Road Park, the Commercial Point CSO outfall, and the Boston Gas facility. Repairs to bulkheading and some maintenance dredging have been completed recently.

MWRA Water Transportation Facility

Squantum Point supports one of the mainland ferry terminals for transporting MWRA workers to Deer Island and is an MDC park. This area offers potential for more public access and as a passenger water transportation facility after the MWRA completes it work in 1999.

Venetia Restaurant

The Venetia Restaurant is located on the waterfront between Thomas Marine and the Port Norfolk Yacht Club. There are several slips, moorings and old pilings located nearby.

Dredged Areas

Lower Estuary: Navigation channel north of Neponset Avenue Bridge

A channel provides navigable water through Dorchester Bay from the main ship channel (President Roads) in Boston Harbor up to the Neponset Avenue Bridge (see Figure 11b and c). This channel was authorized by Congress in 1907 and last dredged in 1966-67 to a depth of fifteen feet (MLW) by 100' wide. Later plans (see Appendix D) to increase the depth and breadth of the channel have since been deauthorized (personal communication, ACOE).

Mid and Upper Estuary: Navigation channel south of the Neponset Avenue Bridge

The reach of the river south of the Neponset Avenue Bridge to the Milton Yacht Club is navigable by recreational boats. While no specific record of a navigation channel being dredged *throughout* this section has been obtained, a condition of the Army Corps of Engineers' agreement to dredge the channel north of the Neponset Avenue Bridge was that the state was to dredge and maintain this reach to a depth of -6.0 feet (MLW). The Corps condition survey report of 1978 notes that this condition has been fulfilled (see Appendix D). Commonwealth records do indicate that the state has dredged two section of this reach: one in the vicinity of the Neponset Valley Yacht Club and the other at and below Milton Yacht Club (Figure 11 a and b).

In 1982 DEQE's Division of Waterways commissioned a feasibility study for the dredging of this portion of the Neponset River. The study recommended the (federal) channel width of one hundred feet be extended upstream to the Milton Town Landing with the following depths: ten feet (MLW) from the upstream terminus of the federal channel to the Granite Avenue Draw Bridge; a tapering depth of ten feet to six feet (MLW) through the mooring area of the Neponset Valley Yacht Club to a point about 1050 feet upstream of the Granite Avenue Bridge; and from this point to the Milton Town Landing, a proposed depth of six feet (MLW). This project was not implemented as described due to lack of funding and permit concerns about dredging and disposal impacts, but maintenance dredging by DEM did take place in the area of Milton Yacht Club.

Figures 11(a), (b), and (c) depict areas in the ACEC which have been dredged in the past and Table 4 identifies each site. Additional information on the extent of work authorized for each site is contained in Appendix D, a comprehensive listing of permits and licenses issued in the Neponset Estuary. It should be noted that several entries in Figure 11, Table 4, and Appendix D are for locations that, based on former and current use, have been dredged in the past, but for which dredge permits have not been located.

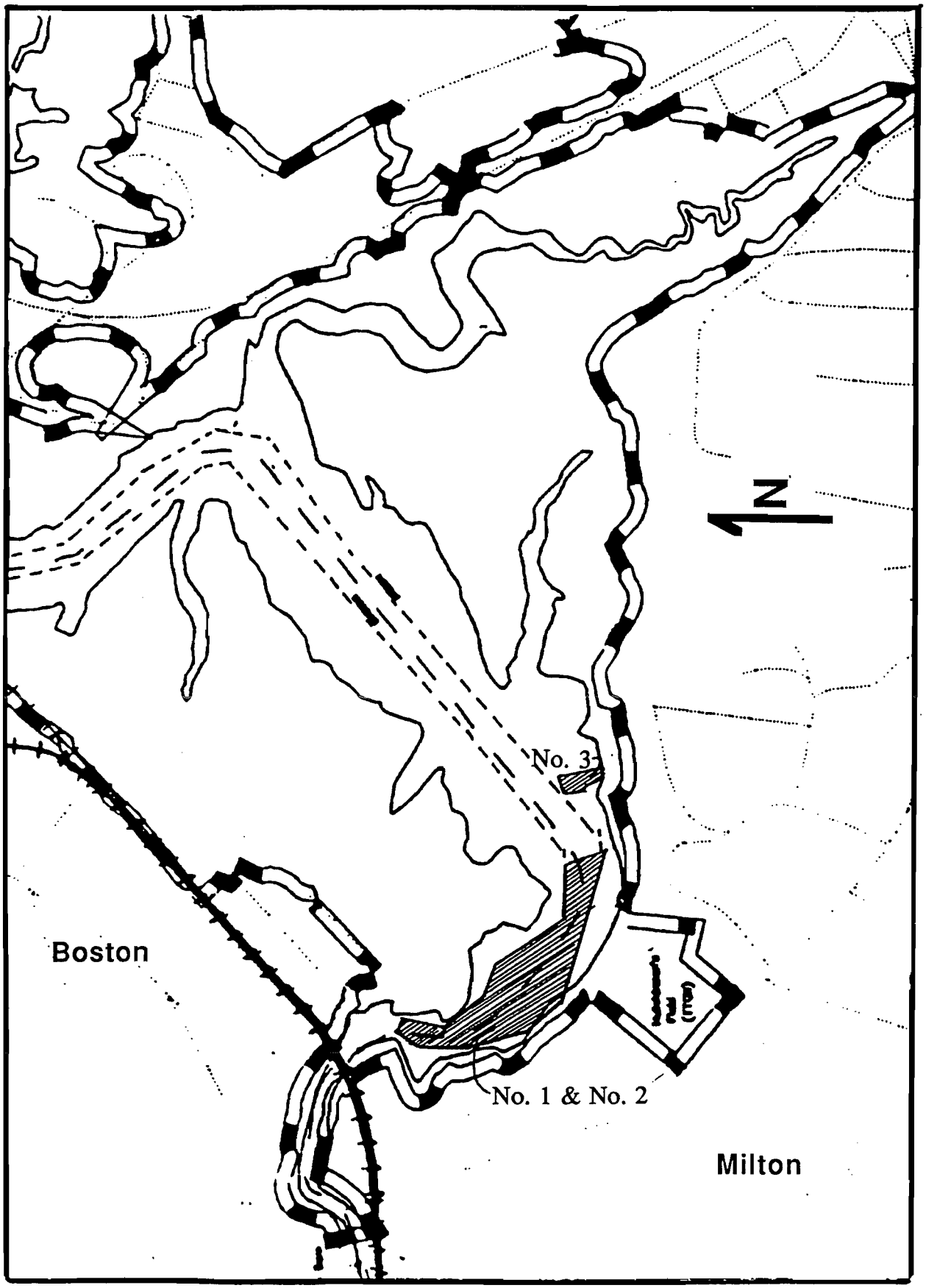


Figure 11 (a): Map of previously authorized dredging in the upper Neponset River Estuary ACEC.

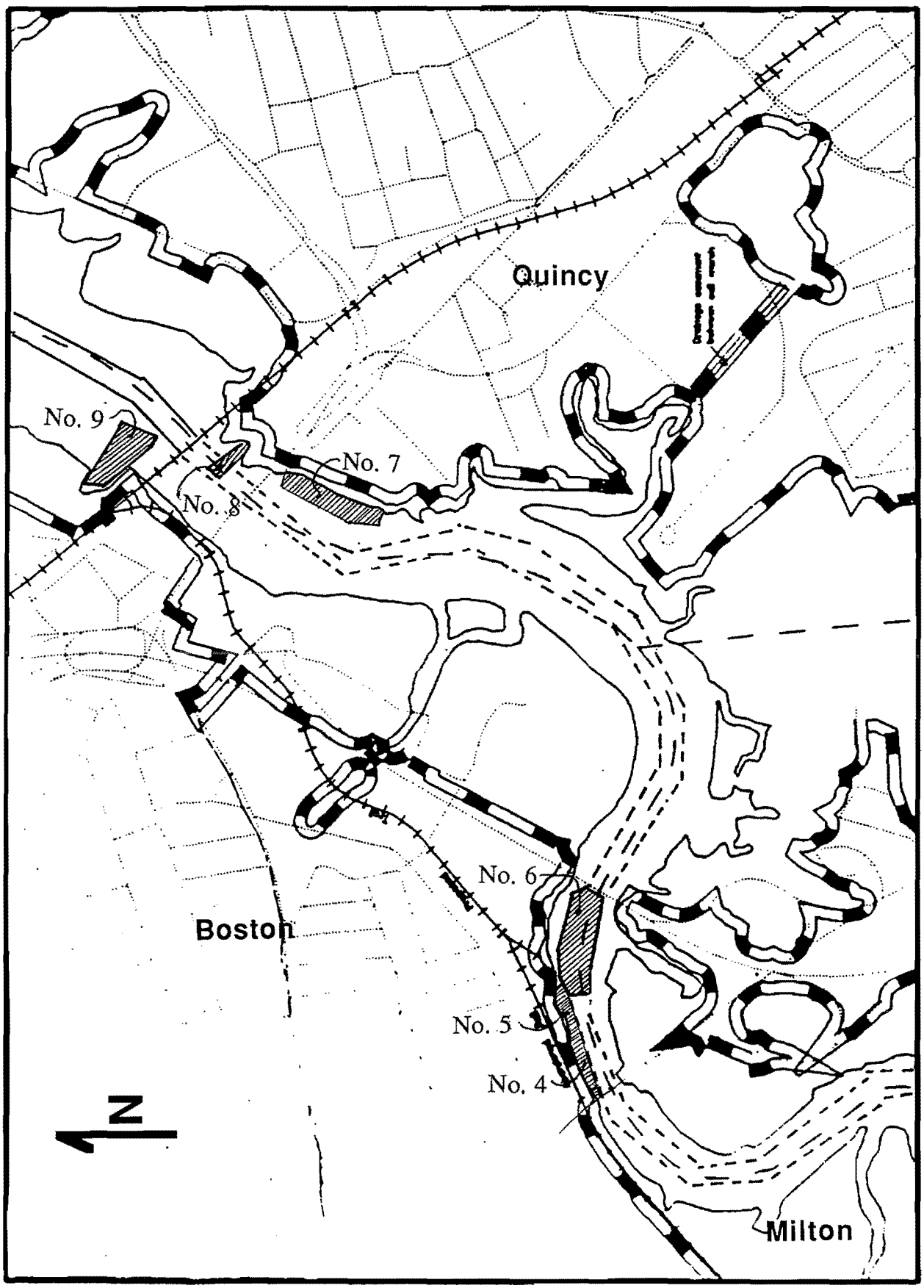


Figure 11 (b): Map of previously authorized dredging in the mid Neponset River Estuary ACEC.

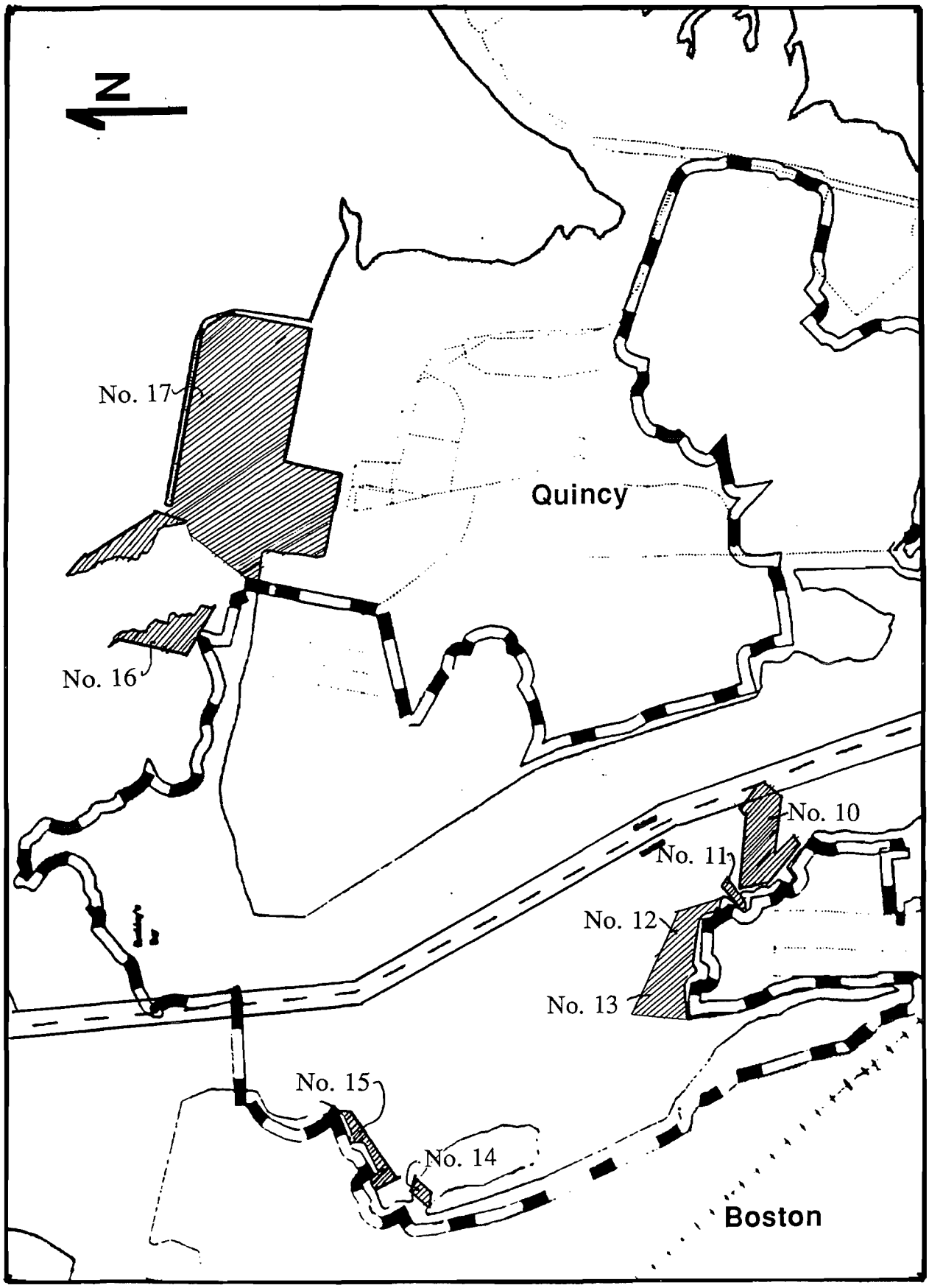


Figure 11 (c): Map of previously authorized dredging in the lower Neponset River Estuary ACEC.

Table 4: Previously authorized dredging in the ACEC

	Dredging	Fig. 11 Map Ref.
Milton Yacht Club		
	dredge channel and basin in Neponset River to -6.0 MLW (min width 100'; plan	11(a), No. 1
	maintenance dredge channel in Neponset River to -6.0 MLW (min width 100')	11(a), No. 2
224 Adams Street, Milton		
	dredging 37'X75' to depth of -4.0 MLW	11(a), No. 3
T Construction Corp.		11(b), No. 4
Shlager Auto Body		11(b), No. 5
Neponset Valley Yacht Club		
	dredge channel to -8.0 MLW (min width 200')	11(b), No. 6
Adams Inn		11(b), No. 7
2 Hancock Street, Quincy		
	maint. dredge 9,000 cy; max depth -7.0 MLW; disposal at MBDS	11(b), No. 8
Taylor Street, north of MBTA bridge		
	dredge 24.000 cy; for commercial marina facility	(b), No. 9
Port Norfolk Yacht Club, 179 Walnut Street		
	maintenance dredge 9,200 cy; max depth -6.0 MLW; disposal at MBDS	11(c), No. 10
	dredge 16,000 cy of subaqueous material from irregularly shaped area	
	maintenance dredge basin to -6.0 MLW	
Ericsson and Walnut Street, Boston		
	dredge 50 cy material	11(c), No. 11
Venezia Restaurant		11(c), No. 12
Thomas Marina		11(c), No. 13
Victory Road Park		
	dredge two areas on either side of bridge: 1,900 cy to the east, 1,200 cy to the west; on-site upland disposal	11(c), No. 14
Old Colony Yacht Club (and Port Norfolk Yacht Club		
	dredge 13,000 cy at the Old Colony YC (see also Port Norfolk YC, dredge 16,000 cy)	11(c), No. 15
	maintenance dredge basin to -6.0 MLW	
	dredge area adjacent to seawall to depth of -5.0' MLW	
MWRA Pier, west of Marina Bay, Quincy		
	dredge 51/000 cy to max depth of -10.0' MLW; disposal MBDS	11(c), No. 16
Marina Bay, Quincy		11(c), No. 17
Neponset River Dorchester Bay to Neponset Avenue/Hancock Street		
	100' wide channel dredged to -15.0 MLW. Last dredged in 1966-1967. Condition survey in 1978 revealed no hazards to navigation.	
Neponset River south of Neponset Avenue Bridge		
	Neponset Avenue Bridge to Granite Ave bridge: 100' wide, -6.0 MLW Granite Ave. Bridge to Godfrey's Coal Wharf: 75' wide, -6.0 MLW In front of Godfrey's Coal Wharf: not less than 50' Mooring basin in front of Vose's Grove to -6.0 MLW. Completed 8/24	
	dredge and maintain a 2 mile reach of channel between the Neponset Bridge and Milton Mills to -6.0 MLW. (This dredging was required of the Commonwealth as a condition of ACOE dredging north of Neponset Bridge in 1907.	

Assessment

Water-dependent uses

The extent and value of the natural resources of the estuary limit the opportunity for new privately-owned structures in the ACEC. However, the estuary has and does support a number of active and important water-dependent uses, particularly in the area north of the Granite Avenue Bridge. Water-dependent uses should be accommodated and encouraged in these locations, where the resources have been altered by prior activities and where investment in facilities and supporting infrastructure have already been made by property owners and the public.

The planning for the MDC Master Plan and Park Design is being finalized concurrently with this RMP. Among the goals of the plan is to increase and improve public access to and along the riverfront of the entire ACEC. It is anticipated that this access will include pedestrian, boating, and fishing opportunities which may include new public structures. The final MDC Plan is intended to be incorporated into this RMP as an addendum after EOEA Secretarial review and approval, and through annual ACEC plan revisions if needed.

Because the major goals of this designation in an urban area include the restoration of resources, certain activities that otherwise would be prohibited under the provisions described above need to be undertaken. Consequently, a number of specific "environmentally beneficial" actions have been granted a limited exemption from the ACEC designation by the Secretary of Environmental Affairs via amendments to the ACEC designation issued on December 1, 1995. Specifically exempted dredging activities include improvement dredging associated with the stormwater outfalls at Tenean and Lawley Streets and Pine Neck Creek, Boston; dredging /sediment removal to allow for separation of combined sewer outfalls; sediment removal and resanding at Tenean Beach; dredging necessary to access recreational facilities as part of the MDC Master Plan; dredging for utility crossings; and certain marina dredging delineated by marina operators in conjunction with DEP Ch. 91 staff.

The ACEC designation triggers specific restrictions contained in the Commonwealth's Chapter 91 regulations regarding waterfront structures and fill. The purpose of these regulations is to protect and preserve the public's interest in coastal tidelands and waterways by ensuring that such areas are utilized only for water-dependent uses or otherwise serve a proper public purpose. The relevant provisions of the Ch.91 regulations are outlined below:

New fill: Within ACECs the Chapter 91 regulations prohibit new fill in tidelands (with a few limited exceptions described below).

Structures: Within ACECs the following projects may be conducted (are eligible for licensing in the ACEC (310 CMR 9.32(1)(e)):

1) fill or structures for any use on previously filled tidelands

2) structures for public pedestrian access over flowed tidelands, provided it is not feasible to locate the structure above the high-water mark or within the footprint of existing pile supported structure or pile field.

3) publicly-owned structures for water-dependent use below the high-water mark, provided it is designed to minimize encroachment into the water. Such structures would include a dock, pier, or boat launch ramp.

4) Privately-owned structures for a water-dependent use below the high-water mark, provided that:
    a) the proposed use is not industrial and is located within the footprint of existing previously authorized pile-supported structures. Example: a new commercial dock in area of former industrial pier;
    b) such structures are necessary to accommodate infrastructure facilities, and are designed to minimize encroachment in the water. Infrastructure facilities are those that produce, deliver or provide electric, gas, water, sewage, transportation, or telecommunications services to the public.
    c) such structures consistent with a Resource Management Plan adopted by the municipality and approved by the secretary.

Beyond those described above, the few limited circumstances described in the Ch.91 regulations in which fill or structures may be allowed in the ACEC (provided that reasonable measures are taken to avoid, minimize, and mitigate any encroachment in the waterway) include:

1) shoreline stabilization or rehabilitation of an existing shore protection structure;
2) installation of drainage, ventilation, or utility structures, or placement of minor and incidental fill necessary to accommodate any modification to existing *public* roadways or railroad track and/or rail bed; or
3) improvement or rehabilitation of existing *public* roadways or railroad track and/or rail bed, provided that any net encroachment with respect to public roadways is limited to widening by less than a single lane, adding shoulders, and upgrading substandard intersections.

None of the above effects or restricts the continuation, maintenance, or replacement of existing and/or licensed water-dependent use structures, nor limits structures otherwise eligible for licensing. An important provision in the Chapter 91 regulations allows for the permitting of new privately-owned structures below the high-water mark if they have been provided for in a Resource Management Plan that has been approved by the Secretary of EOEA and adopted by the local municipality (see above).

Under ACEC provisions, new or improvement dredging is not allowed; and only in those areas where previous dredging can be verified will maintenance dredging be permitted.

Upper Estuary: South of Granite Avenue Bridge

The existing boating facilities are appropriate in scale and strike a reasonable balance between the requirements of operations and maintenance vs. equitable access; however, there appears to be significant interest in more recreational/educational use in this end of the Neponset River estuary. The types of use most frequently mentioned include canoeing, kayaking and hiking/birding.

The general area around the Granite Ave. bridge could provide opportunities for increasing these kinds of uses. Neponset Valley Yacht Club site is well situated and physically suited for launching of canoes, kayaks and small boats. The property has existing parking and easy access off Granite Avenue. If planned in conjunction with similar or related activities around the perimeter of the No. 2 Granite Avenue building and possible long range public improvements at the Schlager site, it could serve as a highly visible recreational center of the estuary especially if coordinated with the MDC Plan.

Mid-estuary: Granite Avenue Bridge to Neponset Avenue Bridge

There exists the opportunity to reestablish waterfront structures and boating access in this transition area between the more natural environment to the south and the developed area of the lower estuary. Redevelopment of the T Construction Corp. and/or Schlager sites could accommodate restored structures for commercial or recreational boating. The waterfront of these sites has been engineered and the existence of former waterfront structures provide the opportunity under DEP Waterways Regs. 310 CMR 9.32(1), also called Ch.91 Regs, to permit new privately-owned structures for *commercial* use.

Lower Estuary: North of Neponset Avenue Bridge

This section of the ACEC contains the largest concentration of water-dependent uses including existing marinas, yacht clubs, restaurants and water transportation facilities.
An expansion of water-dependent uses is best accommodated in this area where necessary infrastructure investments have already been made, the channel is more navigable, a more pristine areas will not be impacted.

Given strict prohibitions concerning the alteration of saltmarsh and physical limitations due to shallow water depths in the upper estuary, and the potential use or reuse locations previously authorized or historically used for water-dependent structures, the construction of new privately-owned water-dependent use structures in locations not previously authorized or historically used is not recommended within the Neponset Estuary ACEC.

Dredging

The natural sedimentation processes that occur within a riverine estuary often result in the reoccurring shifting and shoaling of areas within the ACEC. This has repeatedly caused navigational problems for the numerous types of boating, shipping and economic activities that have historically utilized the Neponset River. The ACEC designation brings several regulatory provisions into effect that address the issue of dredging. These provisions relate to maintenance dredging vs. improvement dredging.

Maintenance dredging can be conducted in the ACEC upon approval of necessary permits. Maintenance dredging refers to the dredging of areas that have in the past been authorized for dredging regardless of whether or not dredging has ever been done. The areal extent and depth of maintenance dredging eligible for permitting is as described and shown in existing authorizations. Table 4, Appendix D and Figure 11 list and depict previously dredged areas within the Neponset River Estuary ACEC. The sites listed in Table 4, Appendix D and on Figure 11 include those identified through previous permits as well as those for which permits have not yet been located but, based on former or current use, it is apparent that dredging has been done in the past.

Improvement dredging, that is, new dredging, is prohibited in the ACEC except for the sole purpose of fisheries or wildlife enhancement. Improvement dredging is defined as dredging of an area that has not been authorized previously.

Consultations with owners of existing marinas and marine businesses and with board members of existing yacht clubs in the ACEC revealed no immediate or short term expansion plans that include the need for improvement dredging. In some cases, representatives of these facilities explained that there may be places within or at the perimeter of their boat berthing areas that have not been included in previous authorizations, but that if eligible for dredging, could improve the functioning and capacity of the existing facility without encroaching on contiguous resource areas.

This kind of improvement dredging would be consistent with another stated goal of increasing public access and recreational and educational opportunities. Nevertheless, if improvement dredging is to be allowed within the ACEC, it should be done under strict conditions to avoid and minimize any negative effects of the resources (see Appendix B, page 8, regarding the specific language of the December 1, 1995 amendments describing limited exemptions for certain improvement dredging projects). Those conditions could include the use of a tight closing environmental dredge bucket, seasonal prohibitions to avoid spawning and migration periods, no disposal in Massachusetts waters and preferably in containment sites for any contaminated sediment. The disposal of dredged material is prohibited in coastal tidelands unless for the express purpose of beach nourishment, dune construction or stabilization with vegetative cover, or the enhancement of fishery or wildlife habitat.

Implementation Strategy

Water-dependent Uses

Management Issues

Generally, throughout the entire ACEC tidelands area, all structures should now have a license under the Ch.91 regulations administered by DEP. All unlicensed structures in the ACEC should file for a Chapter 91 license under the Amnesty Program by October 4, 1996. The Amnesty Program provides a simple, low cost opportunity for all existing structures to obtain required permits before the new provisions of the law go into effect.

In the upper estuary south of the Granite Street Bridge, very limited expansion of water dependent uses or any other structures is appropriate. Any reconfiguration or limited expansion of existing (including previously authorized or built) privately-owned water-dependent use structures may be permitted in conformance to the following guidelines:

- requires no new (improvement) dredging
- reconfigured structure is no closer than 25' from tidal wetlands
- reconfigured structure is no closer than 10' from navigation channel

Any new publicly-owned structures may be permitted in conformance with the following guidelines:

- structures minimize encroachment into navigable waterway
- structures built over mudflat and saltmarsh be designed and constructed to avoid and minimize impacts
- planning for new structures be coordinated with that of other municipal, state, and citizen groups

Given strict prohibitions concerning the alteration of saltmarsh and physical limitations due to shallow water depths in the upper estuary, and the potential use or reuse locations previously authorized or historically used for water-dependent structures, the construction of new privately-owned water-dependent use structures in locations not previously authorized or historically used is not recommended within the Neponset Estuary ACEC.

Appropriate water dependent uses in this section of the ACEC would be those with low impact such as canoeing, kayaking, birding, hiking and educational and interpretative programs. All boats should observe the no wake (5 mph) speed limit to prevent damage to the saltmarsh.

The middle section of the estuary offers substantial potential to increase the opportunities to maximize the opportunities to promote water-dependent uses, including boating and public access, as new land uses occur in this area. A detailed and coordinated planning study should assess the current, planned and potential uses of this transition area. For example, a public pedestrian/fishing structure or a dock for a water transportation service would be an appropriate reuse of the remnant pile field at No. 2 Granite Avenue in accordance with 310 CMR 9.32(1). If the Granite Avenue site is redeveloped for commercial use, coordinate the state and municipal reviews to achieve the most appropriate use of the waterfront. Again, use of this section of the river should complement activities and uses envisioned by the MDC Plan.

In the lower estuary section of the ACEC, limited expansion/improvement of existing facilities is anticipated and endorsed by this plan. This pertains only to proposed improvements:

- contiguous to existing facilities and/or
- in areas previously used for water-dependent activities that have not returned to a natural state.

Sites of previous dredging, fill and structures are identified on Figures 10 and 11 and in Tables 3 and 4, and detailed in Appendix D.

Tasks

1. Prepare a more detailed and comprehensive plan for public and private water-dependent uses in the estuary.

Cooperating parties

Neponset River Coordinator
coordination and plan development
MDC
source of information and plan review
DEP-DWW
source of information and plan review
Municipal planning and conservation commission staff
source of data and review

Time table for completion

After completion of the MDC's Master Plan

Resources to accomplish the task

Funding for Neponset River Coordinator
Planning funds ($10,000); seek funding from the State's Municipal Incentive Grants Program.

Key for entries under Tasks
Cooperating parties: lead party in bold typeface, other are cooperators
Time table: based on the plan's five-year implementation schedule.
Immediate = within one year; Short-term, 1 to 3 years; Long-term = 3 to 5 years.
Resources to accomplish the task: identifies type of resources needed and possible sources.

2. Conduct a detailed and coordinated planning study focused on the current, planned and future uses of the critical transition area in the middle section of the ACEC, from the Neponset Valley Yacht Club to the Keystone Building, to determine the most appropriate use of this waterfront and to suggest activities and uses that would be complementary to those envisioned by the MDC Master Plan.

Cooperating parties

MDC
coordinate and provide information
DEP/DWW
information and plan review
Milton Planning Board
source of information and develop plan
Boston Redevelopment Authority
source of information and develop plan
MCZM
source of information and technical assistance
DEP-DWW
source of information and plan review
BNAF
source of information
Boston Conservation Commission
source of information

Time table for completion

Immediate

Resources to accomplish the task:

Commitment of staff time
Agency staff and information

Dredging

Management Issues

Consistent with this RMP's goals and objectives for economic development, special use areas, and the several intertidal and subtidal resource, future dredging for water-dependent uses should be limited essentially to those areas that have been dredged previously, i.e., maintenance dredging. See also task 2, below.

However, improvement dredging should be limited to specific areas where public projects are undertaken to promote public health, public recreation and environmental quality improvements. Regarding the exemption for dredging or trenching for potential utility crossings, this exemption should be considered only in the case where there is a clearly defined, compelling and urgent public need, and after a thorough alternatives analysis and public environmental review that has demonstrated that there are no other feasible alternatives. Specifically, exemptions have been granted from the Chapter 91 prohibitions regarding improvement dredging in the December 1, 1995 Amendments to the Neponset River Estuary ACEC (see Appendix B), as follows:

1. Improvement dredging associated with the stormwater outfalls at Tenean and Lawley Streets and Pine Neck Creek, Boston;
2. Dredging and sediment removal to allow for the installation or modification of stormwater outfalls necessary to allow the MWRA and the Boston Water & Sewer Commission to separate the existing combined sewers located in the ACEC;
3. Sediment removal and resanding at Tenean Beach,
4. Dredging necessary to access recreational boating facilities (launch ramps and docks) included in the MDC Neponset River Estuary Master Plan, as reviewed and approved by the Secretary of EOEA;
5. Dredging or trenching that may be necessary for utility crossings;
6. Dredging necessary for marina facilities provided the marina owners work with (DEP) Chapter 91 Waterways staff and EOEA agencies to delineate work areas.

A maintenance and improvement dredging and disposal plan is needed for the estuary to guide these activities in the future. It should include a complete record of the condition of the sediments throughout the estuary; accurate descriptions of previous dredging; and better delineation of new or expanded structures or dredging (see task 2, below).

Tasks

1. Assemble and synthesize all data contained in planning documents, academic research, municipal and state authorizations, licenses and permits which is related to analysis of contaminated soils.

Cooperating parties

NepRWA
assemble and analyze data
DEP/DWW
source of information, e.g., 401 Water Quality Certification
U.S. Army Corps of Engineers
source of information
University of Massachusetts Boston
source of information and analysis

Time table for completion

Immediate

Resources to accomplish task

Commitment of EOEA staff time
Funds from DEP research programs

2. Develop a dredge management and disposal plan for the estuary that will determine acceptable project areas for dredging and disposal. Results from task #1 will be part of the basis for this plan.

Cooperating parties

MCZM Harbor Management Program
coordination and planning
DEP-DWW
source of data and regulatory review
Owners/operators of water-dependent use facilities
source of data, planning

Municipal conservation commissions and staff
planning and review

Time table for completion

Short-term

Resources to accomplish the task

Commitment of state and municipal staff time

3. In several cases within the ACEC (see Appendix D), authorizations for dredging of sites that clearly have been dredged in the past, have not been located. In the short term, if necessary, it is recommended that these areas be considered as "maintenance dredging" areas. All authorizations should be located and compiled into the existing DEP data base.

Cooperating parties

DEP-DWW
regulatory review
DEM, Waterways
source of information
U.S. Army Corps of Engineers
source of information
Municipal Conservation Commission staff
source of information and review
Owners of dredge sites
source of information

Time table for completion

Immediate

Resources to accomplish the task

Commitment of staff time

4. Compile a set of standard and special conditions on dredging should be compiled from federal, state, and municipal agencies that issue permits for dredging to provide a consistent and predictable framework for dredging projects.

Cooperating parties

MCZM
coordination and model standards
U.S. Army Corps of Engineers
source of information and regulatory review
Municipal Conservation Commission staff
source of information

Time table for completion

Immediate

Resources to accomplish the task

Commitment of agency staff time

Historical and Archaeological Resources

Goal: Preserve, protect, enhance, and restore historic and archaeological sites in the Neponset Estuary.

Inventory

The geographical location and ecological richness of the Neponset River has attracted human use and settlement for 10,000 years. As summarized in the 1989 MDC publication, *A History and Guide to the Restoration of Dorchester Shores,* "the area is well endowed with abundant natural resources, and during the 10,000 years that humans have occupied the Boston Basin, the Neponset River would have been utilized during different seasons, and at different levels of intensity throughout prehistory." At the time of the first European contact with the region, Lower Falls was the seat of the Neponset tribe of the Massachusetts Indians.

The Neponset estuary was used by the Neponset Indians in the warmer seasons as a source of food. In the spring and fall, shad and herring were captured at the falls now known as Lower Mills. The earliest European settlers in Dorchester report that the Native Americans cultivated corn in an area known as the Massachusetts Fields on the Milton side of the estuary. Evidence of native encampments in the upper reaches of the estuary has been identified. The tribe was believed to have moved up-river to hunt and camp in the cooler months. Layers of archaeological and historical resources are concentrated in the area of the Neponset River estuary. At least nine archaeological sites have been recorded along the lower Neponset River.

The falls at Lower Mills were one of the earliest sources of hydropower on the North American continent. Because the power of the Neponset River could be harnessed without the major capital investment required to tame larger streams, the Industrial Revolution came early to the Neponset. During the first half of the eighteenth century, the lower falls powered gun powder mills, saw mills, grist mills, a fulling mill, a paper mill and a snuff mill. In 1765, chocolate manufacturing was begun in an existing saw mill.

Intense industrialization continued as long as water power was an efficient source of energy. The Walter Baker Chocolate Company expanded throughout the nineteenth century to become the principal industry of the village of Lower Mills. Many buildings of that complex remain and their significance has been recognized as the Dorchester/Lower Mills Industrial District, listed on the National Register of Historic Places in 1980 (Figure 12).

The MDC publication mentioned above further describes colonial settlement and evolving historical development and industrial use of the area. The Lower Mills and Neponset marshes area, Port Norfolk and Commercial Point are highlighted in the narrative. Visible reminders of the colonial and industrial periods remain, but much of this history, is not readily apparent without guides such as the MDC publication or longtime residents of the area.

Assessment

The MDC publication, *A History and Guide to the Restoration of Dorchester Shores*, May, 1989 contains specific chapters on Lower Neponset, Port Norfolk, and Lower Mills. It's bibliography provides an extensive list of other historical and archeological research focused on the Neponset River and adjacent areas. It contains some of the most convincing documentation of the scope and value of such resources within the ACEC.

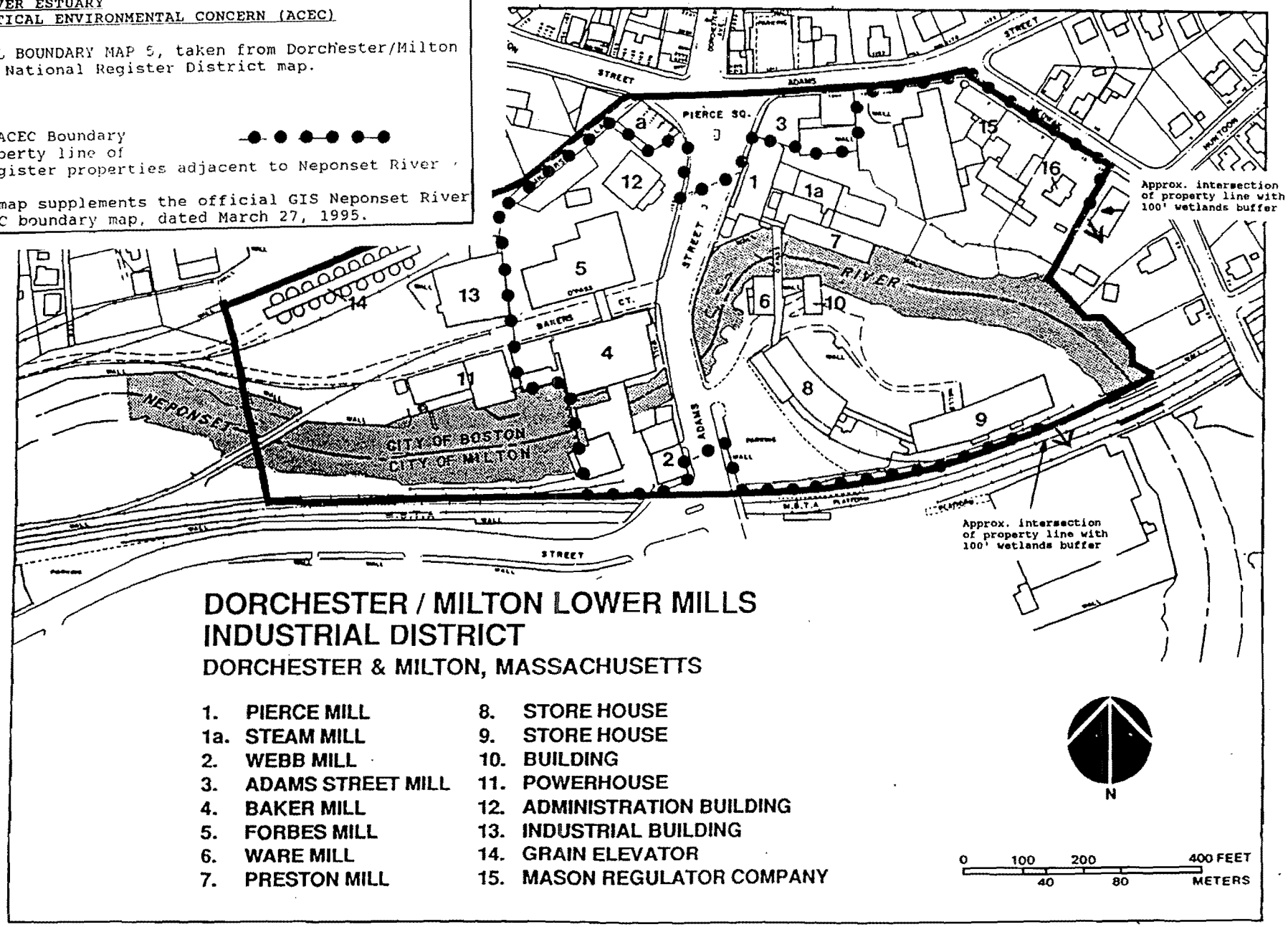
NEPONSET RIVER ESTUARY
AREA OF CRITICAL ENVIRONMENTAL CONCERN (ACEC)

SUPPLEMENTAL BOUNDARY MAP 5, taken from Dorchester/Milton Lower Mills National Register District map.

MAP KEY

Segment of ACEC Boundary showing property line of National Register properties adjacent to Neponset River

Note: This map supplements the official GIS Neponset River Estuary ACEC boundary map, dated March 27, 1995.



A Plan of the Dorchester/ Milton Lower Mills National Register District. Boston Landmarks Commission.

Figure 12: Map of the Lower Mills Historic District (source as noted).

Implementation Strategy

Management Issues

The historical and archeological significance of the Neponset River Estuary is very important and needs to be understood and incorporated into public planning and decision making processes. To achieve this goal efforts should be made to increase public understanding and awareness of these resources through educational and interpretive programs and by providing reasonable access to these resources.

Tasks

1. Complete inventory of available information on historic and archeological resources.

Cooperating parties

Neponset River Coordinator
assemble and organize inventory
Massachusetts Historical Commission
review and technical assistance
MDC
source of information
Historical societies
source of information

Time table for completion

Short-term

Resources to accomplish the task

Staff commitment
Funds to support Neponset River Coordinator

2. Assess appropriate integration of historical and archeological information in land use planning in the Neponset River Estuary.

Cooperating parties

Municipal planning agencies
access information and incorporate in existing municipal planning process
MDC
source of information
Massachusetts Historical Commission
source of information and tech. assistance
Historical societies
source of information

Time table for completion

Short-term

Resources to accomplish the task

Staff commitment

3. Make reference material available to those responsible for planning and decision making in the estuary. Catalog and distribute a Neponset River Estuary bibliography.

Cooperating parties

Neponset River Coordinator
public information and education
Massachusetts Historical Commission
public information and education

Time table for completion

Short-term

Resources to accomplish the task

Staff time and publication costs

4. Prepare designs for the reconstruction of the Adams Street bridge in Milton Lower Mills to reflect and enhance the historic character of the area, accommodate pedestrians, and provide opportunities for viewing the river, and avoid and minimize adverse impacts on water quality, wetland resources, fisheries, and wildlife habitat.

Cooperating parties

Massachusetts Highway Department
planning and design decisions
Massachusetts Historical Commission
project review and evaluation

Time table for completion

Immediate

Resources to accomplish this task

State and federal highways funds

Special Use Areas

Goal: Protect, enhance and increase publicly-owned open space in the estuary for its value as recreational and educational resources.

The ACEC regulations define "special use areas" as "undeveloped natural areas, public recreational areas, or significant scenic site(s)." The Neponset River Estuary ACEC is rich in this category of resources, notably, 1) scenic sites and views of the river and estuary from a number of locations, 2) the undeveloped and scenic nature of the salt marshes, and 3) the large proportion of public lands for recreation (Figure 13). The MDC owns a large amount of the riverfront property in the estuary which imposes on it a major responsibility for stewardship of the resources.

Inventory

According to the Metropolitan District Commission (February 16, 1995 letter to EOEA Secretary), the MDC owns approximately 490 acres in the ACEC, representing 39 percent of the total ACEC acreage. MDC's Neponset River acquisition program began in response to Charles Eliot's concept of a metropolitan park system for Boston at the turn of the century. Between 1896 and 1905, the MDC acquired approximately 270 acres of marsh between the Lower Mills dam and the Granite Avenue Bridge, an area now known as the Neponset River Reservation. In the one hundred years since, the MDC has acquired additional large parcels in the estuary: Squantum Point Park in North Quincy, the former Hallet Street landfill and Neponset Drive-In sites (Pope John Paul II Park), the former Conrail right-of-way, and the site of the former Shaffer Paper Company site on the shoreline of Port Norfolk. The MDC also owns other properties within the ACEC developed as parkland: Victory Road Park, Tenean Beach, and Ventura Street playground. These properties total another 220 acres. The most recent MDC purchase was wetlands acreage adjacent to the Jordan Marsh warehouse on Squantum Point.

MDC divides these properties into three categories: natural areas like the Neponset Marshes and portions of Squantum Point Park; developed sites such as Ventura Park Playground, Tenean Beach, and Victory Road Park; and undeveloped sites such as Pope John Paul II Park, portions of Squantum Point Park, the Shaffer site, and the former Conrail line, which need recreational access and enhancement and environmental reclamation and restoration (Table 5). Several of the MDC properties, i.e., the former sites of the Hallet Street landfill and Shaffer Paper, will require environmental remediation before they can be developed as recreational facilities (see discussion below and in the Economic Development section).

In addition to MDC lands, other publicly-owned recreation and open space areas highly important to local residents and the region include: The Trustees of Reservations' Governor Hutchinson's Field in Milton (9.6 acres), the Milton Town Landing, the President's Golf Course (35 acres) in Milton and Quincy, and expanse of salt marsh (25 acres) owned by the Town of Milton (Figure 13).

Table 5: MDC ownership in the Neponset River Estuary ACEC.

Site	Present Use
Neponset Marshes, Milton and Quincy	natural area
Squantum Point Park, North Quincy	natural area
Ventura Park Playground, Boston	developed
Tenean Beach, Boston	developed: sandy beach, play lot, basketball
Victory Road Park, Boston (former Troy landfill)	developed: passive rec., fishing
Pope John Paul II Park (Hallet Street/Neponset Drive-In site), Boston	undeveloped
former Conrail right-of-way, Boston	undeveloped
former Shaffer Paper Company site, Boston	undeveloped

Open Space and Recreation Planning in the Estuary

MDC's Master Plan and Park Design Project for the Lower Neponset River Reservation: The MDC is currently engaged in a master planning effort for the Lower Neponset River which is scheduled for completion in Spring 1996. The planning effort is part of the MDC's long-standing goal to provide continuous public access from Castle Island to the Blue Hills. The geographic scope of the Master Plan area includes both sides of the river from its mouth at Squantum and Commercial Points to Mattapan Square, with a cursory examination of the River up to Paul's Bridge. The area includes the communities of Quincy, Boston, and Milton and both existing and potential MDC public parkland. This planning area encompasses virtually the entire ACEC.

Due to the significance of MDC properties and planning in the ACEC, the completed MDC Master Plan is intended to be incorporated as an addendum to the ACEC Resource Management Plan after the completed MDC plan is reviewed and approved by the Secretary of EOEA. Full public review of MDC's plan should ensure the opportunity for public and agency comment for both recreational and environmental concerns. As the major steward of the ACEC, MDC has the opportunity to model environmentally sustainable design and development, best management practices in remediation, long-term vision for the restoration, preservation, and enhancement of critical resources, and the public benefits of coordinated recreation and environmental education.

The one-year master planning effort will produce construction documents for a multi-use pathway for connecting various public spaces within and adjacent to the Reservation. Based on an ongoing series of public meetings, public input and comment, the Master Plan will also produce schematic-level designs for various areas within the Master Plan area. The MDC is responsible for filing for any appropriate MEPA (Massachusetts Environmental Policy Act) reviews and for securing all necessary permits, e.g., Chapter 91, Orders of Conditions, 401 Water Quality Certification, prior to constructing the park improvements.

The planning process has been guided by a Citizens Advisory Committee (CAC) which has met for over four years. The CAC meets periodically to offer suggestions and comment on alternatives for future use of the properties. A number of public meetings have been held in the neighborhoods surrounding the river to gather input and comments.

Neponset River Estuary ACEC

Protected & Recreational Open Space

For more information, write or call: ACEC Program, Massachusetts Dept. of Environmental Management, Div. of Resource Conservation, 100 Cambridge St., Room 1404, Boston, MA 02202 617-727-3160

Base Map: USGS 1:25,000 topographic maps; USGS-NMD 1:100,000 hydrography enhanced by MassGIS at 1:25,000.

ACECs: ACEC boundary compiled and automated by Mass. Dept. of Environmental Management (DEM).

Protected & Recreational Open Space: Data from MassGIS at 1:25,000 in an ongoing update program. MDC and TTOR parcels from MDC 1:5000 data.

Scale 1:20,000

0 1 mile

0 1 kilometer

N W E S

DEM/MassGIS, March 1996

Legend

- Metropolitan District Commission property
- Other protected & recreational open space
- Boat ramp
- Marina
- Neponset River Estuary ACEC boundary

This map is for planning and illustrative purposes only. It represents the best available digital statewide data for a given theme. It is not to be used by itself for legal boundary definition or regulatory interpretation. See the Neponset River Estuary ACEC designation document, as amended December 1, 1995, for the legal boundary description.

Figure 13: Map of protected and recreational open space in the area of the Neponset River Estuary ACEC.

Proposals presented to the CAC to-date for consideration include, for the area north of the Southeast Expressway:

- overlooks of the river from structures to be built on opposite shores
- boating facilities ranging from to launch ramps to a community boating facility renting small boats
- riverfront promenade
- fishing piers
- fields for organized team sports, playgrounds, and passive open space

For the area between Lower Mills and the Southeast Expressway to the north:

- "put-in" areas for canoes and other small craft
- walking paths through the marsh, following previously filled areas
- bird blinds in the marsh for bird and wildlife observation
- fishing spots
- overlooks of the river

Other products of the MDC's master plan process include, but are not limited to:

- Completion and submittal to DEP of a Comprehensive Site Assessment for the former Hallet St./Drive-In sites;
- an inventory and analysis of the entire Master Plan area;
- recommendations for: interpretive programming, pedestrian, bicycle, and other non-motorized accessways to, from, and within the Master Plan area;
- interim and final signage;
- recommendations for a comprehensive safety strategy, including lighting, rangers, police, and foot, bicycle, and/or mounted patrols;
- Recommendations for potential acquisitions of property or easements for access;
- Survey of the route of the multi-use pathway, etc.

As the largest owner of properties within the ACEC, the MDC intends the master plan process to focus upon the means of developing the Neponset River Reservation for the public benefit while maintaining the unique natural qualities of the area. Funding for construction of the improvements in the final MDC master plan is included in the 1996 Open Space Bond Bill.

The estimated schedule for completion of the final master plan is May 1996. Site design drawings for the multi-use path are to be completed a month later. The creation of recreation facilities on the Pope John Paul II Park site follows the remediation and closure of the former landfill which will take several years.

Greenways to Boston Harbor: The Neponset River Greenway: The Boston Natural Areas Fund and the Trust for Public Land (TPL), with funding from the Lila-Wallace Reader's Digest Fund, is conducting a four-year project "Greenways to Boston Harbor: The Neponset River Greenway [and the East Boston Greenway]." This is a community-based project to build constituencies and stewardship for the greenways and to demonstrate their recreational, environmental and educational potential. The Neponset project is planned, implemented, and evaluated by the 40 member Neponset Greenway Coordinating Council

consisting of residents of Hyde Park, Mattapan, and Dorchester. The Neponset Greenway Project also includes support for educational programs for all ages, summer and weekend environmental jobs for youth and special events, and community advocacy.

TPL's role in this initiative is to develop a plan identifying potential acquisitions along the river, from Pauls Bridge to the mouth of the estuary, that would help achieve the objectives of the Neponset River Greenway. Goals and prioritization criteria are being drafted jointly by TPL, BNAF, greenway council members, and MDC. The project aims to create a continuous 50' to 100' wide green corridor along the banks of the Neponset River by acquiring and protecting new land which links and/or widens existing segments of MDC's Neponset River Reservation. This greenway will provide physical and visual access to the river, improve additional opportunities to engage in recreational activities, improve water quality, protect natural and cultural resources and endangered species, and promote community revitalization. TPL's land protection plan will assist public agencies, including the MDC and the City of Boston, with plans to acquire, transfer and develop land for new parks.

Plan for the Future of Boston Harbor Beaches: The Joint Commission on the Future of Boston Harbor Beaches was established in 1991 by executive order of Governor Weld and then Boston Mayor Flynn to "coordinate, develop, and recommend a plan for the restoration of the beaches of Boston Harbor." Considerable public investment in and effort to eliminate sources of pollution to Boston Harbor have resulted in significantly improved water quality and renewed interest in restoring the beaches. In June 1993, following a two-year planning process that involved broad public participation, the Commission issued its plan for improving the physical condition and environmental quality of and accessibility to the Boston Harbor beaches. The Boston Harbor Association has been designated by the Commission to monitor and guide implementation of the plan.

Tenean Beach in Dorchester, the only developed recreational beach in the ACEC, is included in the Commission's plan. The Tenean Beach property features a 150 space parking lot, tot lot, picnic shelter, viewing tower, a sanitary facility, tennis courts, furnishings and lighting. The beach is about 100,00 square feet in size and separated from the water by a relatively steep berm. Salt marsh vegetation is growing at both ends of the beach.

Monitoring of water quality at Tenean Beach is the responsibility of the MDC. MDC's Beach Testing Program takes and tests water samples for both Enterococcus and Fecal Coliform every Wednesday during the summer months for purposes of determining suitability for swimming. The Massachusetts DEP bacteriological standard for swimming beaches in Class SB waters (the classification of this area) is 200 fecal coliform bacteria per 100 milliliters of water. The US Environmental Protection Agency uses a standard for Enterococcus bacteria of 104 bacteria per 100 milliliters of water.

Bacteriological testing by the MDC shows a general improvement in conditions in recent years. Bacteriological conditions at the beach exceeded standards by 47 percent in 1989 and declined to two percent in 1992. This decline is believed to be due to the operation of the Fox Point and Commercial Point CSO treatment facilities which began operations in 1990 and 1991, respectively.

Chemical analyses of sediment samples taken near Tenean have found metal concentrations to be low, and concentration of organics low or below the detection limit. Sampling and analyses of sediments for PAH compounds, commissioned by the Joint Beaches Commission, indicated none detected (laboratory results appear in Appendix B of the Joint Beaches Commission report).

Thirty million dollars for implementation of the Joint Commission's plan was approved in 1994. This money is currently funding a long-term site design for Tenean Beach improvements as recommended by the Beaches Plan. Among the plan's recommendations for Tenean Beach being studied by the consultant are:

- regrading the beach to provide gentler slope and renourishment;
- replacing existing salt marsh vegetation (will require a variance from DEP and replacement of marsh);
- upgrading the recreational facilities and the sanitary facilities and landscaping;
- screen expressway with heavy landscaping;
- design and install an interpretive feature;
- develop the planned shoreline connection to Victory Road Park;
- complete planned pedestrian/bicycle connection to the Neponset River Reservation;
- continue an annual beach cleanup and raking to remove refuse and debris.

Assessment

The long-term commitment of the MDC to purchase open space along the shores of the Neponset River provides, today, an abundance of public property with great potential to provide active and passive recreational opportunities and to preserve and enhance natural habitat.

Several of the most prominent sites require extensive site preparation and/or suffer from environmental problems that will take time and money to remediate. A significant portion of the Pope John Paul II Park property is affected by years of use as a municipal landfill and must be capped and closed consistent with DEP regulations. The next steps are completion of a Comprehensive Site Assessment, a Closure Alternative Analysis, and a Closure Plan. The necessary measures to control leachate and rehabilitate the property are expensive and time consuming, but will greatly improve environmental quality, resource protection, and opportunities for public use. The amendments to the Neponset River Estuary ACEC adopted by the Secretary of EOEA on December 1, 1995 provide exemptions from the ACEC designation for all activities required to be undertaken as part of the landfill closure (see Appendix B).

The MDC is presently conducting a planning process that includes considerable public participation for determine the most desired and appropriate use of the open space resources in the Lower Neponset River. The process will produce a conceptual master plan for MDC's Neponset River properties and detailed plans for a pedestrian walkway/bikeway along the shore of the Neponset providing improved access to the river. The planning effort includes a complete inventory of open space and recreational sites and an assessment of the open space and recreational management needs of the lower Neponset River.

Preliminary plans of the Beaches Commission and the MDC show a limited number of locations in the ACEC where improvement dredging below the high tide line may be necessary. These include the proposal to improve conditions at Tenean Beach and to access recreational boating facilities such as launch ramps and docks(see Task 8 below for proposed locations). These limited improvement dredging activities also received an exemption from the ACEC designation in the December 1, 1995 amendments. Among the other recommendations of the Beaches Commission plan, the proposal to replace existing salt marsh vegetation at Tenean beach will require a variance from DEP and replication of the marsh.

The Neponset Greenway Project being conducted by BNAF and TPL will contribute to increasing access to the river and restoring some of the natural character of the area. Its efforts

to build a constituency for the Neponset will contribute to long-term stewardship of the resources.

Though MDC testing indicates that water quality at Tenean Beach has improved since the early 1990s, MDC still feels the beach has water quality problems.

Implementation Strategy

Management Issues

A large percentage of publicly-owned open space has not yet been improved or maintained for recreational use. A number of the MDC properties are sites of former industrial or commercial uses that the MDC purchased to redevelop for recreational use. Other properties have been held in their natural state for habitat and open space purposes.

Much of the publicly-owned property along the river is salt marsh or rimmed by fringe marsh or mudflats. These resources should be protected in the overall plans to improve recreational use.

The MDC Master Plan includes proposals for publicly-owned structures for recreational boating, pedestrian access and fishing. In addition to any applicable regulatory guidelines, the MDC should observe the EOEA's Small Dock and Pier Guidelines and Policy for the location and design of these structures. The guidelines emphasize avoiding and minimizing impacts on wetlands and shellfish resources. In the middle and upper estuary in particular, dock and launching facilities should be sited in areas that have been used historically to minimize alteration of natural areas.

Existing sites suitable for launching of small boats, canoes and kayaks are limited and not improved.

Tasks

1. Continue to facilitate remediation and closure of the landfill sites at Pope John Paul II Park and appropriate redevelopment for recreation in future review processes. The regulatory provisions under which this project will be conducted, from MEPA to CAAA, to actual permitting, should provide adequate levels of environmental protection.

   Cooperating parties

   MDC
   owner and project proponent
   MEPA
   review and evaluation and certification of project
   DEP
   review, evaluation, and permitting
   City of Boston and nonprofits
   advocacy for park improvements

Key for entries under Tasks
Cooperating parties: lead party in bold typeface, other are cooperators
Time table: based on the plan's five-year implementation schedule.
Immediate = within one year; Short-term, 1 to 3 years; Long-term = 3 to 5 years.
Resources to accomplish the task: identifies type of resources needed and possible sources.

Time table for completion

Long-term

Resources to accomplish the task

Commitment of agency staff resources
Funds from the 1996 Open Space Bond

2. Support timely implementation of the MDC Master Plan for the Lower Neponset River by promoting priority of the project—for its importance to the goals of the Neponset Rive Estuary ACEC—among the commitments of EOEA in the 1996 Open Space Bond.

Cooperating parties

Neponset River Watershed Community Council/Neponset River Estuary Stewardship Council
incorporate recommendations into watershed management plan
DEM, MDC, MCZM
incorporate in agencies' bond funding priorities

Time table for completion

Immediate

Resources to accomplish the task

Commitment of agency and citizen efforts

3. Coordinate and integrate all governmental and citizen-based open space and recreational planning, including acquisition strategies, for the estuary. This includes the MDC's Master Plan for the Lower Neponset River, Joint Beaches Commission Plan, the Neponset Greenway Project, and municipal open space plans.

Cooperating parties

MDC, BNAF, and the Neponset River Estuary Stewardship Council
continue broad coordination and participation in recreational and land acquisition planning with other cooperating parties
Trust for Public Land
technical assistance
Joint Beaches Commission/TBHA
develop Tenean Beach proposals consistent with goals of ACEC
Boston, Quincy, Milton Parks and Recreation Departments and Conservation Commissions
continue to participate in watershed and estuary projects
DEP/BRP
encourage baseline site assessments for proposals to acquire additional parcels; review plans

Time table for completion

Short-term

Resources to accomplish the task

Commitment of agency and citizens groups

4. Identify and develop proposals for improving access to the riverfront. Preliminary proposals in the MDC Master Plan for pedestrian viewpoints or for bird watching include:
   a) Hutchinson Field
   b) Ventura Park shoreline
   c) MWRA right-of-way through marsh near Butler Street
   d) Granite Railroad pier
   e) at MDC right-of-way just south of the Granite Avenue bridge
   f) Pope John Paul II Park
   g) at the embankment through the marsh on the Milton/Quincy line
   h) at the end of Victory Road
   i) at Squantum Point

   Cooperating parties

   MDC and BNAF
   Continue to develop proposals for improving public access, and work with other cooperating parties to implement completed MDC Master Plan, as reviewed and approved by the Secretary of EOEA.

   Time table for completion

   Immediate

   Resources to accomplish the task

   Neponset River Coordinator

5. The work required to close the landfill(s) at Pope John Paul II Park may provide an excellent opportunity for waterfront improvements to provide the public with direct access to the river. Support concepts in the proposed MDC plan to create riverfront walkways, small boat access, ramps and/or docks, and fishing access that avoid and minimize impacts on wetlands and shellfish resources.

   Cooperating parties

   MDC and Neponset River Estuary Stewardship Council
   develop and/or review proposals to ensure consistency with ACEC plan
   DEM, MCZM, DEP-SWM, Wetlands and Waterways
   review and evaluate plans; provide technical assistance

   Time table for completion

   Short-term

   Resources to accomplish the task

   Funds to complete Comprehensive Site Assessment
   Commitment of agency resources
   Funds to support Neponset River Coordinator

6. If feasible and compatible with the MDC's plan, improve the waterfront at the Keystone Apartments to provide a public pedestrian connection between the Hallet Street landfill site and the railroad right-of-way. This concept was part of the municipal regulatory review at the time the property was converted to residential use.

   Cooperating parties

   MDC
   incorporate into Master Plan

BNAF
promote through Greenways project
City of Boston Conservation Commission
work with property owner
DEP-Wetlands and Waterways
review proposal

Time table for completion

Long-term

Resources to accomplish the task

Funds (MDC, City, private) for physical improvements

7. Investigate possibilities for constructing a community boat house to shelter canoes at one or more locations on the river.
   - Work with the state Public Access Board to identify a site(s)
   - Evaluate MDC and municipal properties, particularly south of the Neponset Avenue Bridge.

Cooperating parties

MDC
consider as proposal in Master Plan
State Access Board
assist in identifying sites
Town of Milton, City of Quincy, City of Boston
identify potentially appropriate municipal property
DEP-DWW
technical assistance and permit review

Time table for completion

Short-term

Resources to accomplish the task

Commitment of public agency staff resources
Funds (Open Space Bond, municipal, private) for construction

8. Provide increased opportunities for the public to launch small boats by constructing new public boat launch ramps or put-in areas. These facilities will contribute to improved recreational fishing opportunities. Among areas being evaluated by the MDC are:
   a) Milton Town Landing
   b) Ventura Park
   c) Hutchinson Field
   d) Neponset Valley Yacht Club
   e) MWRA right-of-way through the marsh near Butler Street
   f) Pope John Paul II Park
   g) MDC marsh east of Commander Shea Boulevard
   h) at MDC's Squantum Point property

Cooperating parties

MDC
evaluate and include in Master Plan as appropriate

State Access Board
assist in identifying sites
Town of Milton, City of Quincy, City of Boston
identify potential sites
DEP-Wetlands and Waterways
provide technical assistance and review permits
TTOR
consider such improvement

Time table for completion

Short-term

Resources to accomplish the task

Funding from 1996 Open Space Bond, Coastal Facilities Improvement Fund, enterprise fund

9. Assess utilizing public street ends for access to the river, primarily by neighborhood residents. One of the nonprofit river advocacy groups could conduct an initial evaluation of suitability and feasibility. Volunteers from the neighborhood could take on the project with technical assistance from state or municipal staff*Cooperating parties*

NepRWA/Friends of the Neponset Estuary
promote idea among neighborhood groups
BNAF
evaluate possibility through Greenways project
Town of Milton, City of Quincy, City of Boston
participate in implementation
Neighborhood groups
participate in planning and implementation
MDC, DEM, MCZM
technical assistance

Time table for completion

Short-term

Resources to accomplish the task

Commitment of citizen groups
Commitment of agency and municipal staff resources
Funds for improvements

10. Investigate improvements to the following areas to increase opportunities for recreational fishing:
    a) between the MBTA and Hancock Street Bridge
    b) south of Hancock Street Bridge
    c) railway ROW to west of Neponset Valley Yacht Clubd) near Lower Mills dam

Cooperating parties

NepRWA/Friends of the Neponset Estuary
evaluate these sites and identify others
MDC
evaluate and incorporate these and other sites into Master Plan as appropriate
DMF
provide technical assistance

DEP-DWW
technical assistance and permitting

Time table for completion

Short-term

Resources to accomplish the task

Commitment of citizen groups
Commitment of agency and municipal staff resources
Funds for improvements (1996 Open Space Bond)

11. Identify and evaluate potential sites for acquisition for conservation and recreation purposes, as part of an overall strategy to implement the purposes of ACEC designation and the goals of the Resource Management Plan. All plans to acquire property should include baseline site assessments. Potential sites include, but are not limited to:
    a) The adjoining sites of T Equipment Corp. and Schlager Auto Body on the Boston side of the river just north of the Granite Avenue bridge.
    b) All or a portion of No. 2 Granite Avenue in Milton, if an appropriate development option does not materialize.
    c) An area of freshwater wetlands located on the parcel north of the former Jordan Marsh warehouse.

Cooperating parties

MDC
evaluate these sites and identify others for acquisition
BNAF/TPL
includes "promotes ACEC designation and goals of resource management plan" as criterion for prioritizing potential acquisition sites
DEP
technical assistance with and review of potential site contamination

Time table for completion

Short-term

Resources to accomplish the task

Commitment of agencies and advocacy groups
Acquisition funds

12. Management plans for open space should be developed following the MDC's master planning effort and BNAF's Greenway Project.

Cooperating parties

MDC
develop management plan for MDC Neponset River properties and coordinate with BNAF for overall greenway plan.

BNAF
develop management plan for greenway in cooperation with MDC

Time table for completion

Short-term

Resources to accomplish the task

Commitment of agency and organizations
Funding

13. Remove billboards adjacent to Granite Avenue.

Cooperating parties

MDC
remove billboards

Time table for completion

Short-term

Resources to accomplish the task

Commitment of agency resources, municipal and legislative support

14. Encourage annual cleanups by citizens organizations and river users.

Cooperating parties

Massachusetts Bays Program
coordination
NepRWA and BNAF
sponsor clean-ups and educational programs

Time table for completion

Immediate

Resources to accomplish the task

Commitment of program and advocacy groups

15. Make use of the estuary as a laboratory and classroom for study of estuarine environments, environmental impacts, and cultural resources.

Cooperating parties

NepRWA
clearinghouse of educational programming
MDC, BNAF, STH/STB
educational programming and facilities on environmental and cultural resources
Public School systems
integrate into curriculum

Time table for completion

Ongoing

Resources to accomplish the task

Continued commitment of advocacy groups and agencies
Educational grant funds (MassBays, EPA, foundations)

III. Management Structure and Plan Revision

A. Implementation Strategy

The overall and most effective mechanism for advancing the goals of an ACEC is cooperation and collaboration among public agencies, nonprofits, the private sector, and the public. These cooperative efforts are realized through increased communication and education, joint efforts toward meeting common objectives, and evaluation of the progress gained through those efforts.

1. Plan Implementation

This resource management plan proposes numerous tasks to implement the goals and objectives of the ACEC, all of which depend on a commitment by an collaboration among various government and nongovernmental entities. The implementation of the tasks suggested in this plan will occur over time as the agencies deemed responsible and cooperating parties are able to incorporate the tasks into their yearly workplans.

The basic tools for achieving the purposes of an ACEC involve actions of state environmental agencies, local and regional planning and management, and education and research. The first tool is the requirement in the ACEC regulations that state environmental agencies administer programs, revise regulations, and review projects subject to their jurisdiction so as to preserve, restore, and enhance the resources of the ACEC. The second is local and regional cooperation and the coordination of private organizations, the citizens are encouraged to apply high environmental standards to proposed development and to the management of critical resources. The third tool is education and research which promotes understanding and raises consciousness about the environmental significance of the area.

The implementation of this resource management plan is expected to enhance these stewardship tools with recognized products and public benefits in response to identified needs and solutions to current problems. The plan provides a reference document as well as a working blueprint for improvements to the Estuary.

2. EOEA Implementation Strategies

As a state designation, an ACEC requires agencies of the Executive Office of Environmental Affairs (EOEA) to take actions to preserve, restore, and enhance the resources of the ACEC. This ACEC resource management plan recommends various tasks that state agencies can cooperatively implement. Many state agency representatives would also be involved through participation in the Neponset Estuary ACEC Stewardship Council and resource management plan revisions.

EOEA also has several ongoing statewide strategies that may receive higher priority within an ACEC, including integrated permit review, cumulative impact evaluation, and public participation in project review and planning. These are incorporated in the individual agency permitting and planning processes, and through the MEPA environmental review process.

EOEA has also instituted a watershed approach to environmental assessment, planning, and decision making for the protection and restoration of environmental quality. This regional perspective incorporates involvement and collaboration of municipal governments, businesses, watershed and other environmental organizations, and citizens with the state and federal governments.

Specific objectives of the watershed approach to environmental management include:

- streamlined and coordinated assessment, planning, and implementation;
- a community-based collaborative process of local prioritization of environmental problems and solutions to guide government decision making;
- increased public awareness and understanding of watershed systems; and
- measurable environmental results from public and private funding of these objectives.

One of the key features of the watershed approach is using a subwatershed focus to identify problems and develop an Action Plan to highlight those problems or recommend solutions. The Neponset Estuary is one of those subwatersheds and the Friends of the Estuary is the group that works locally to assess the quality of the river and its shoreline and suggest needed actions. This ACEC resource management plan incorporates many of their suggestions for action.

An overall framework for cooperation throughout the Neponset River basin is being promoted through the Secretary of Environmental Affairs' Neponset Watershed Project, the pilot project for EOEA's Watershed Initiative (see Section I). Conducted in partnership with the Neponset River Watershed Association, this ongoing initiative involves all 14 communities along the river in an effort to forge a new model of environmental management that emphasizes local involvement and cooperative alliances. Representatives of several state agencies and citizen groups have been contributing to the effort which, as of this date, has completed the resource assessment of the watershed and is preparing a Watershed Management Plan, including implementation strategies.

The Neponset River Estuary ACEC exists within this larger framework and alongside the several other ongoing planning efforts in the watershed. It is recommended that management of the ACEC and implementation of the ACEC Resource Management Plan be closely aligned and integrated with the management process being developed for the Neponset Watershed Project. This approach promotes efficiency and coordination and minimizes the potential for duplication and delays.

3. Intergovernmental Coordination

ACEC designation highlights the fact that the estuary is part of a single ecosystem. Management of the estuary is, however, divided among many jurisdictions. Providing suggestions to increase coordinated and consistent decision making at the local and state levels in order to achieve greater resource protection is one of the objectives of this RMP.

Tasks recommended in Section II frequently include intermunicipal collaboration, and it is up to the local boards and commissions to determine how they might implement the recommendations of this plan. The following paragraphs offer some suggestions for increased intermunicipal coordination.

As described in Section I of this plan, the land and water resources within the ACEC are subject to regulation by a number of government agencies at the state and federal levels as well

as by several commissions and departments in three municipalities. Though the objectives, standards, and procedures of each regulatory program are based on specific legal authorities that must be adhered to, there are opportunities to increase coordination in the interest of ensuring consistent decisions and the highest level of protection.

It is recommended that the three municipalities review and institute changes, if necessary, in their notification systems on projects in the estuary. Planning boards, conservation commissions, and departments of public works could send the notices of their public hearings and notices of decisions to the corresponding boards in the other two municipalities. This would be an initial step in coordinating review of pending proposals, decisions, and changes in rules or regulations. Another way to raise the awareness of the Estuary's resources at the local permit level is by a simple checklist. Checklists used by municipal boards (and staff) to guide preparation and review of applications could add a field for "Neponset River Estuary ACEC" so applicants and reviewers are conscious of the designation.

4. Community and Environmental Groups, Businesses, Citizens

A critical component of the ACEC is the role and contributions of the non-governmental groups and citizens. In the Neponset ACEC, these community and environmental groups, businesses, and citizens continue to be active and invaluable contributors of time, energy, information and ideas. Several implementation tasks rely on volunteer groups to continue their water quality monitoring and sampling programs. Businesses are encouraged to adopt best management practices whenever possible and to concentrate physical improvements and expansions in already developed areas rather than impact the remaining undisturbed areas. Citizens are encouraged to actively participate in the educational programs and advisory committees that deal with ACEC related issues. Perhaps, most importantly, these same nongovernmental groups and citizens who helped initiate the ACEC process, need to carefully monitor the progress of the implementation of tasks and responsibilities identified in the RMP and continue to voice support for all efforts to restore and protect this valuable area.

5. Resolution of Conflicting Goals/Strategies

There will be situations in which there are conflicting visions of the future of the Neponset River Estuary, as well as conflicts among users of the estuary. Many opportunities exist for conflict resolution and proactive citizen input to avoid conflicts, within the local and state permitting processes, within public advisory groups, and other public participation models. Conservation Commissions hold public hearings for their review of applications for permits to undertake activities in wetlands and the wetland buffer zone. Should a dispute arise for an Order of Conditions issued by the Conservation Commission, an appeal to the regional office of DEP is provided for in the DEP Wetlands Regulations. Within the Estuary, several public advisory groups already exist for input into the future public use of the area, including the Citizens' Advisory Committee for the MDC Master Plan for the Lower Neponset River, and the BNAF Neponset Greenway Council. Citizens can make their voice heard through voting and attendance at a variety of municipal meetings and hearings. These are all proactive ways for the public to participate in seeking to resolve issues without conflict.

Where new issues arise that are not already addressed in the existing process, one recommendation is to try focus group discussion to resolve potential conflicts among Neponset Estuary stewards and other involved local, regional, or state agency representatives. The process outlined below for a Neponset Estuary ACEC Stewardship Council provides for this mechanism.

For conflicts that may involve several parties, such as municipal, state, or federal agencies, and businesses or private individuals, and especially regarding environmental disputes over land

use of regulated activities, an alternative approach to legal action is offered through mediation by the Massachusetts Office of Dispute Resolution . This state agency has a unique public-private partnership that offers fee-for-service mediation, training, and conflict resolution services. In cooperation with the DEP, their Wetlands Appeals Mediation Program and Hazardous Waste Site Cleanup Mediation Program help to expedite hazardous waste site cleanups, environmentally sensitive areas, and involve people in creating collaborative and efficient solutions to environmental problems. This approach appears so effective that recent amendments to the state superfund law (MGL Ch. 21E, Sec. 4A) requires parties involved in hazardous waste site cleanups to try to resolve their disputes through negotiation.

B. Plan Evaluation and Revisions

The Steering Committee guiding the development and revision of this RMP recommends that a Neponset River Estuary ACEC Stewardship Council become the operating process for evaluating the implementation of this plan. One definition of a council is "an assembly of persons called together for consultation, deliberation, or discussion (American Heritage Dictionary).

1. Neponset River Estuary ACEC Stewardship Council

It is recommended that the ACEC Stewardship Council be organized and function in a manner similar to the Neponset River Watershed Community Council (WCC) established under EOEA's Neponset Watershed Project. The WCC exists not as a structured group, but as a process in which the stakeholders come together periodically at a series of working sessions to contribute to the development of the basin-wide plan, seek consensus, and coordinate actions. Membership of the WCC is open and fluid, which provides for a diversity of participation from stream team, municipal, nonprofit, business, and agency interests.

Participation in the ACEC Stewardship Council will be sought from the nominators of the Neponset River Estuary ACEC, the ACEC Resource Management Plan Steering Committee members, Friends of the Estuary, and representatives of other associated nonprofit, neighborhood, municipal, and state agencies, the business and development community, and other with scientific/technical expertise. However, anyone with an interest in the estuary and/or the ACEC will be eligible and welcome to participate in the Council. Similar to the WCC, the work of the ACEC Stewardship Council would be done through a process of schedules (semiannual) Council meetings to review and advise on implementation of the resource management plan. The Council would also consider general issues of the ACEC, supplemented, as and when necessary, with specialized ad hoc subcommittee meetings to respond to pending issues.

In order to evaluate the implementation of the plan, the Council will review task tables to update the status of tasks due to be implemented each year. The tasks enumerated in the plan (and summarized in the "Action Table") all include a time table for completion. This time table is intended to serve as an evaluation agenda for the Council's meeting. Based on its review, the Council (with support from the Coordinator) will direct appropriate action, e.g., review the completed products, adjust the scopes of tasks suggest alternative approaches, request additional resources, or extend a time table. Brief annual reports would be written based on these status decisions.

2. Neponset River Coordinator

With several significant initiatives ongoing in the watershed—ACEC, Neponset Watershed Project, MDC Master Plan, Neponset Greenway Plan, Joint Beaches Commission—and the active involvement of numerous neighborhood associations and subwatershed groups, there is a real need for a single point of coordination. A Neponset River Coordinator would provide the function of a clearinghouse of information from all projects as well as provide needed support and technical assistance for particular efforts. Since all of these efforts promote river-based planning and decision making and all feature considerable involvement of the citizens in the watershed, it makes the most sense for this function to be situated within the watershed and at an independent organization.

An ideal location for the coordinator is within the watershed, logically at the Neponset River Watershed Association. Since EOEA is sponsoring or involved in some capacity with all of the projects, it would be a prudent and effective investment for EOEA to provide funding to support this full-time position. NepRWA's contribution would be to provide office space and overhead support.

Proposed responsibilities of the Coordinator could include:

Neponset Estuary ACEC RMP revisions

- convene and facilitate meetings twice a year for the Neponset River Estuary ACEC Stewardship Council
- convene issues or focus groups during the year as needed
- call and correspond with cooperating parties identified in the plan for first year tasks
- based on semiannual meetings, update Neponset River Estuary ACEC action tables and mail to distribution list
- produce brief annual report on the plan
- coordinate revision of the plan in 3 to 5 years

Neponset Estuary Public Outreach

- provide a clearinghouse for Neponset Estuary information, coordinating notices of various events, meetings, projects
- create and mail newsletters, meeting announcements, and minutes of meetings
- Neponset Estuary Liaison
- act a coordinating contact person for issues in the Estuary that may need attention from the municipal and state agencies or community and nonprofit groups
- maintain a list of agency and group contacts
-

Potential other duties:

- provide technical assistance to the subwatershed groups
- provide public outreach for the subshed groups
- provide a coordinating role for the Fowl Meadow & Ponkapoag Bog ACEC

3. Plan Revision Schedule

An annual update report will be prepared by the Neponset River Coordinator for review and approval by the Stewardship Council. The report will describe the status and timetable for each implementation task in the RMP and will report on other related activities as well.

It is envisioned that the Stewardship Council will hold semiannual meetings in September and March and other meetings as deemed necessary. Achieving the goals of the ACEC will be an iterative and dynamic process, and the Stewardship meetings and annual report will help focus and evaluate the numerous activities that will be involved.

As tasks are completed, as changes in the natural or built conditions of the estuary occur, or as new information is developed, the Neponset River Estuary ACEC Resource Management Plan should be updated to incorporate or reflect this information. The Certificate of the Secretary of Environmental Affairs on the ENF for the Draft Resource Management Plan (dated 12/1/95) directs that "updates to the plan should be prepared every three to five years in order to address the results of ongoing planning efforts within the ACEC, as well as to incorporate any further amendments or exemptions that may be needed." To accomplish this, the Council, at each of its meetings, should review new information produced or amendments suggested, and determine what additions and revisions to the plan should be proposed. The Coordinator will then consult with DEM-ACEC Program regarding the need for formal review and approval by the Secretary. For example, if the proposal is to revise the plan for Chapter 91 Waterways regulations requirements for private docks and piers, it will need formal review and approval by the Secretary. In instances where Secretarial approval is needed, the process outlined in the "Policy Guidelines for the Review and Approval of ACEC Resource Management Plan" will be followed. Otherwise, the Council should take action to incorporate the changes within an appropriate time frame.

The procedures for amending the ACEC designation itself are contained in the regulations of the Executive Office of Environmental Affairs (301 CMR 12.00). Changes to the boundary, allowance for improvement dredging, or exempting activities from the stricter standard of the ACEC are examples of changes that would require amendment to the designation. Such proposals should first be considered and endorsed by the Stewardship Council before being formally considered by the Secretary.

The rich and varied resources of the Neponset Estuary ACEC have been shaped by the interaction of complex natural processes and intense human activities. Its present highly stressed condition is troublesome. The potential for restoration and enhancement of its environmental quality and economic viability is substantial; but the challenge can be daunting. The first steps have been taken. The citizens have clearly voiced their concern and desire for improvements. The ACEC designation has focused responsible agencies and individuals' attention on the critical issues and goals. Now, the Resource Management Plan provides the first set of strategies and tasks needed to achieve those goals. Every task will require significant coordination and collaboration. The RMP, itself a product of wide collaboration among the interested parties, needs to be viewed as a dynamic mechanism that should be implemented immediately, re-evaluated periodically, and adjusted as new issues arise.

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Appendices

DESIGNATION of the

NEPONSET RIVER ESTUARY

AREA OF CRITICAL ENVIRONMENTAL CONCERN

located in portions of the municipalities of

Boston, Milton, and Quincy

WITH SUPPORTING FINDINGS

Following an extensive formal review required by the regulations of the Executive Office of Environmental Affairs (301 CMR 12.00) including nomination, review, on-site visits, research, public information meetings, a public hearing and written comment period, and evaluation of all public comment and assembled data, I, the Secretary of Environmental Affairs, hereby designate the Neponset River Estuary, located in portions of the municipalities of Boston, Milton, and Quincy, as an Area of Critical Environmental Concern (ACEC). I take this action pursuant to the authority granted me under Massachusetts General Law Chapter 21A, Section 2(7).

I also hereby find that the wetland resource areas included in the Neponset River Estuary are significant to the prevention of pollution, flood control, the prevention of storm damage, the protection of fisheries, the protection of land containing shellfish, and the protection of wildlife habitat - all of which are public interests defined in the Wetlands Protection Act and regulations promulgated thereunder.

In addition, with regard to the Massachusetts Surface Water Quality Standards, 314 CMR 4.00, I recommend that the current Class SB water quality standards and antidegradation provisions continue to be applied to the waters of the Neponset River Estuary ACEC.

Introduction: Effective Date of Designation and Development of Neponset River Estuary ACEC Resource Management Plan

Pursuant to the ACEC Regulations at 301 CMR 12.11(1), which authorize the Secretary to provide the effective date of designation, the effective date of this designation shall be December 1, 1995.

I am directing the agencies of the Executive Office of Environmental Affairs (EOEA) to collaborate with municipalities, environmental and community groups and organizations, local businesses and residents, and other interested parties to prepare a Resource Management Plan for the Neponset River Estuary ACEC. The resource management plan will address the preservation, restoration, enhancement, use and management of the resources of the Neponset River Estuary ACEC, and address the regulatory and

boundary questions raised in the course of the public review of the nomination (see sections III. Boundary of the Neponset River Estuary ACEC and IV. Discussion of the Criteria for Designation below for additional description of these issues). The resource management plan, to the greatest extent possible, will guide the implementation of the Neponset River Estuary ACEC designation and coordinate the activities and interests of federal, state and local agencies and the public and private sectors.

The resource management plan should be completed by November 1, 1995. The plan should include recommendations for any proposed changes or modifications to this designation that may be needed. Because the ACEC Regulations at 301 CMR 12.13(2) state that an ACEC designation may be amended after one year, if there is a need to amend the designation before this one year period, I will entertain a waiver to the ACEC Regulations as provided for at 301 CMR 12.15.

In addition to directing EOEA agencies to participate in the development of a resource management plan, I hereby direct all EOEA agencies as of the date of this decision to take actions to preserve, restore and enhance the resources of this area, and to subject projects and activities in or impacting the area to the closest scrutiny to assure that they are carried out so as to minimize adverse effects on the resources and values of the ACEC. Furthermore, all EOEA agencies shall work to expedite all environmental restoration projects and other projects beneficial to public health, welfare and safety, such as landfill closures, hazardous waste site clean-ups, wetlands and fisheries habitat restoration, and public park and recreation planning and development.

As EOEA agencies are currently focusing and coordinating many actions and programs in the context of the Governor's Neponset River Watershed Initiative, those activities will further guide and support the directives described above and the purpose of this ACEC designation.

I. Procedures Leading to ACEC Designation

Background, Previous Neponset River ACEC Nominations

In May, 1991 a letter of nomination for a Neponset River Basin-wide ACEC signed by the Neponset River Watershed Association (NepRWA) and twelve Conservation Commissions was submitted to the Secretary. This nomination was a revised and updated version of an original nomination for the Neponset River Basin prepared in February, 1981. Following an initial review, the Neponset River Basin nomination was rejected for full review in July, 1991. This letter recommended that NepRWA and the Conservation Commissions consider potential separate nominations for the Fowl Meadow and the Neponset River Estuary.

A nomination for the Fowl Meadow and Ponkapoag Bog ACEC then was submitted in January, 1992 by NepRWA and the eight Conservation Commissions of cities and towns affected by the potential designation. Following a full review of this nomination pursuant to the ACEC Regulations, the Fowl Meadow and Ponkapoag Bog ACEC was designated in August, 1992.

Neponset River Estuary ACEC Nomination

A nomination for the Neponset River Estuary was submitted to me on September 30, 1994. I acknowledged receipt of the nomination in correspondence dated October 3, 1994, and accepted the nomination for full review in correspondence dated November 8, 1994. Copies of the acceptance letter and a summary of the nomination were sent to the Neponset River Watershed Association and the boards of selectmen, mayors and city councils, conservation commissions, and planning boards in Boston, Milton, and Quincy; state legislators representing the area; regional and state agencies; environmental organizations; and other interested parties. The November 8 correspondence included information regarding the scheduling of four public information meetings to be held in November and December. In addition, this correspondence distributed Draft Resource Management Goals and Objectives for public review and comments. These draft goals and objectives were based upon EOEA's initial review of the nomination and Draft Resource Management Goals prepared by the Neponset River Watershed Association (NepRWA). A copy of the NepRWA draft goals was also included with the November 8 mailing.

An initial series of public information meetings was held on November 29, 1994 at the Dorchester VFW Post in Dorchester; November 30, 1994 at the McKeon VFW Post in Dorchester; December 5, 1994 at the Milton High School in Milton; and December 8, 1994 in the City Council Chambers in Quincy. In EOEA correspondence dated December 22, 1994 public notice was sent to the above-mentioned parties describing two additional public information meetings for January 11 and January 19, 1995; a public hearing for January 25, 1995; and a ten-day written comment period following the hearing. Public notice of the meetings, hearing and comment period was also published in The Patriot Ledger on December 22, 1994, and in the December 23, 1994 issue of the Environmental Monitor. The December 22, 1994 correspondence also included an alternative method of describing the boundary of the nominated area, in response to questions raised in the review process and following discussions with NepRWA. In this correspondence I asked for comments from the nominators, state and municipal agencies, interested parties and the general public regarding this method of delineating a potential ACEC boundary, based more directly upon the resources of the nominated area. I also requested comments regarding draft resource management goals and objectives and commitments for participation in the development of a resource management plan if the area was designated an ACEC.

The last two public information meetings were held on January 11, 1995 at Cunningham Hall in Milton and January 19, 1995 at the Beachwood Community Life Center in North Quincy. A public hearing regarding the nomination was conducted on my behalf by Peter Webber, Commissioner of the Department of Environmental Management (DEM), on January 25, 1995 at the McKeon VFW Post in Dorchester. Twenty-four persons representing individual residents and a variety of groups and organizations presented oral testimony. A ten-day period for the submission of additional written comment followed the public hearing. In response to requests, the comment period was extended from February 6 to February 16, 1995. Notice of the extended comment period was published in The Patriot Ledger, The Dorchester Reporter, and the Milton Record Transcript and in numerous press articles. Throughout the public review process numerous newspaper articles and mailings from NepRWA provided additional information regarding the nomination and the review.

Written testimony was received from numerous individuals, state legislators, private organizations, and public agencies. Copies are on file at the offices of the DEM Division of Resource Conservation in Boston. Over seventy comments were received in the course of the public participation and review process. Additional information regarding these comments is described below in section IV. Discussion of the Criteria for Designation.

II. Description of the Resources of the Neponset River Estuary ACEC

A summary and overview of the resources and their critical interrelationships are provided here. Information, testimony, comments and materials submitted for the review of the nomination, some of which are specifically referenced in this document, are on file with the Department of Environmental Management.

Resource Overview

The central resource features of the Neponset River Estuary ACEC are the Neponset River and portions of its tributaries, the estuary, salt marshes, floodplains, fishery habitat, and diverse wildlife habitat. The ACEC begins at the Lower Mills Dam in Milton and Dorchester, which separates the coastal estuary from the inland fresh water portion of the Neponset, and extends to the mouth of the river at Commercial Point in Boston and Squantum Point in Quincy. Highly significant historical and archaeological resources, recreational areas, and scenic and educational values within this area contribute to the overall significance of the ACEC to the people and communities of the region. Thus the area reflects eight out of eleven of the resource features listed at 301 CMR 12.06.

Surface Waters

As mentioned above, within the ACEC the Neponset River flows from the Lower Mills Dam to its mouth at Commercial Point and Squantum Point. This section of the Neponset River is approximately 4.2 miles in length. The overall length of the Neponset River is approximately 28 miles from its source in Foxborough to its mouth in Dorchester Bay. Portions of Gulliver Creek in Milton and Sagamore Creek in Quincy flow into the Neponset River within the ACEC.

Estuarine Wetlands, Inland Wetlands and Floodplains

The predominant ecological and visual features of the Neponset River Estuary ACEC are the extensive salt marshes that are located along the Neponset River as it winds its way from the Lower Mill dam to Dorchester Bay. According to GIS data, salt marsh comprises approximately 320 acres within the ACEC, or 26 per cent of the total area of the ACEC. Large expanses of salt marsh are located below the Lower Mills Dam in Boston and Milton, along the south shore of the Neponset at the Milton and Quincy municipal boundary, and in Quincy north of the Conrail bridge to Squantum Point. Other smaller areas of salt marsh are found within the ACEC. Important inland wetlands are located at Squantum Point.

Overall, the combined acreage of open water at high tide, estuarine wetlands, and other wetland resource areas totals approximately 830 acres, or 66 per cent of the total area of the ACEC. In addition, floodplains overlay most of the ACEC, especially the wetlands. Floodplains cover approximately 1,005 acres or 80 per cent of the ACEC. This estuarine wetland system is a highly productive ecosystem, supporting important marine fisheries and diverse wildlife habitat. It is unique in its size and proximity to a highly urbanized area.

Fishery Habitat

According to comments regarding the nomination provided by the Massachusetts Division of Marine Fisheries (DMF), dated January 23, 1995, the Neponset River supports valuable anadromous fish populations, including one of the largest smelt runs in Massachusetts Bay. This run supports a hook and line, recreational fishery in the fall and winter. In addition, blueback herring spawn in the Neponset River, and are valued for roe harvest and are an important forage species in the Bay. American shad have been observed by biologists below the Lower Mills Dam. DMF supports ACEC designation in the interest of conserving anadromous fish populations and the potential benefits of future restoration projects.

In regard to shellfish resources, DMF states that there are substantial soft-shell clam beds at the mouth of the Neponset

River. A limited survey of Buckley's Bar was conducted in 1989 and found very high densities of soft-shell clams, with a potential yield of 68 clams per square foot. DMF estimates that the 50 acres of Buckley's Bar could produce approximately 12,500 bushels per year, with a current market value of $1 million per year to local harvesters. However, recent water samples from this area found continued high levels of contamination, with DMF concluding that "open shellfish harvest is not likely in the near future for this area, although restricted classification (harvest by permitted master diggers with depuration) is a feasible goal, especially with plans underway to improve water quality in Boston Harbor and the Neponset River."

DMF comments regarding the ACEC nomination concentrated on anadromous fish and shellfish resources "because there are important habitat areas within the proposed ACEC and because of the magnitude of these resources relative to other locations in Massachusetts Bay." DMF adds that there are numerous fish species that enter the Neponset River estuary as seasonal migrants for feeding purposes, with striped bass, bluefish and winter flounder considered significant for commercial and recreational importance. It is important that water and forage quality be improved for these species, as well as sportfishing access.

Habitat Resources

Comments regarding the nomination provided by the Massachusetts Natural Heritage & Endangered Species Program (NHP), Division of Fisheries and Wildlife, dated February 1, 1995 focus on state-listed rare species and non-game wildlife in the Squantum Point area, in Quincy. According to NHP, this area "provides habitat for a tremendous diversity of bird species and is one of the most important wildlife habitats in the urbanized Boston area."

NHP goes on to state that, "For over 30 years, Squantum Point has been known as a feeding area, roosting area, and migratory stopover for over 200 species of birds. State-listed rare species known to utilize this area are the Short-eared Owl (Asio flammeus), Northern Harrier (Circus cyaneus), and Least Tern (Sterna antillarum).... other bird species that use this area, and are uncommon but not state-listed, include the Snowy Owl, Great Blue Heron and Osprey among many others."

In regard to the wildlife habitat of this area, NHP explains that, "One of the primary reasons that Squantum Point supports both an unusual abundance of birds and a high diversity of species is the variety of habitat types occurring within a relatively small area. This area includes mudflats, sandy beaches, saltmarshes, freshwater wetlands and shrubby upland." Another reason for the heavy use by birds is because so few suitable areas exist in the greater Boston area. NHP recommends including all of these habitats within the boundary of the ACEC, and to designate the area as an ACEC to help

"protect an area that is unique because it is one of the few remaining natural ecosystems in our urban environment."

Historical/Archaeological Resources

Layers of archaeological and historical resources are concentrated in the area of the Neponset River estuary. These resources are described and documented in the 1989 publication of the Metropolitan District Commission, A History and Guide to the Restoration of Dorchester Shores. The geographical location and ecological richness of the area has attracted human use and settlement for 10,000 years. As summarized in the MDC publication, "the area is well endowed with abundant natural resources, and during the 10,000 years that humans have occupied the Boston Basin, the Neponset River would have been utilized during different seasons, and at different levels of intensity throughout prehistory." At the time of the first European contact with the region, Lower Falls was the seat of the Neponset tribe of the Massachusetts Indians. At least nine archaeological sites have been recorded along the lower Neponset River.

The MDC publication further describes colonial settlement and evolving historical development and industrial use of the area. The Lower Mills and Neponset marshes area, Port Norfolk and Commercial Point are highlighted in the narrative. Visible reminders of the colonial and industrial periods remain, but much of this history, like the archaeological resources from native settlement patterns and uses, are not readily apparent without guides such as the MDC publication or longtime residents of the area. High formal recognition has been awarded to the Dorchester and Milton Lower Mills Industrial District, which has been on the State and National Registers of Historic Places. Continued education and interpretation of human history and its interaction with the natural resources of the area are an essential element of preserving and restoring the ecological integrity of this area.

Special Use Areas

According to the ACEC regulations, "special use areas" are defined as "undeveloped natural areas, public recreational area, or significant scenic site(s)." The importance of this category of features to the nominated area is demonstrated by the number of scenic sites and views of the river and estuary available from a number of locations, the currently undeveloped and scenic nature of the salt marshes, and the large proportion of public lands for recreation that are located with the ACEC. Many of these features are linked to the Metropolitan District Commission's ownership of approximately 490 acres within the ACEC (39 per cent of the total acreage).

According to MDC comments regarding the nomination dated February 16, 1995, MDC owns approximately 270 acres known as the Neponset

River. A limited survey of Buckley's Bar was conducted in 1989 and found very high densities of soft-shell clams, with a potential yield of 68 clams per square foot. DMF estimates that the 50 acres of Buckley's Bar could produce approximately 12,500 bushels per year, with a current market value of $1 million per year to local harvesters. However, recent water samples from this area found continued high levels of contamination, with DMF concluding that "open shellfish harvest is not likely in the near future for this area, although restricted classification (harvest by permitted master diggers with depuration) is a feasible goal, especially with plans underway to improve water quality in Boston Harbor and the Neponset River."

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According to the ACEC regulations, "special use areas" are defined as "undeveloped natural areas, public recreational area, or significant scenic site(s)." The importance of this category of features to the nominated area is demonstrated by the number of scenic sites and views of the river and estuary available from a number of locations, the currently undeveloped and scenic nature of the salt marshes, and the large proportion of public lands for recreation that are located with the ACEC. Many of these features are linked to the Metropolitan District Commission's ownership of approximately 490 acres within the ACEC (39 per cent of the total acreage).

According to MDC comments regarding the nomination dated February 16, 1995, MDC owns approximately 270 acres known as the Neponset

Marshes, and approximately 220 acres that include several other properties - Squantum Point Park in North Quincy, and Ventura Park Playground, Tenean Beach, Victory Road Park, Pope John Paul II Park (the Hallet Street/Neponset Drive-In Site), and the former Conrail right-of-way and Shaffer Paper Company site in Boston. MDC divides these properties into three categories: natural areas like the Neponset Marshes and portions of Squantum Point Park; developed sites such as Ventura Park Playground, Tenean Beach, and Victory Road Park; and undeveloped sites such as Pope John Paul II Park, portions of Squantum Point Park, the Shaffer site, and the former Conrail line, which need recreational access, development and enhancement and environmental reclamation and restoration.

MDC is committed to providing a "green connection" from Mattapan to Castle Island, which traverses the ACEC along the Boston side of the river and includes a bicycle and park corridor connection. To this end MDC has initiated a major master planning program for the Neponset estuary which includes all of the properties described above, located in Boston, Milton and Quincy. According to MDC most of these sites have complicated development and management issues associated with them. MDC stewardship of these areas is an essential element of achieving the goals of ACEC designation, and the MDC master plan is a key element of the larger Neponset River Estuary ACEC resource management plan to be prepared.

In addition to MDC lands, other public recreation and open space areas highly important to local residents and the region include The Trustees of Reservations' Governor Hutchinson's Field in Milton, the Milton Town Landing, and the President's Golf Course in Milton and Quincy.

III. Boundary of the Neponset River Estuary ACEC

Description of Boundary Review Process

The boundary as recommended in the nomination employed several different types of boundary delineation, such as roads, county lines, zoning district lines, property lines, natural resources, setback distances from natural resources, and straight line distances between two points. About ten different types of delineation were used, and the overall sequence of describing the proposed boundary used over thirty changes from one type of description to another.

Several questions were raised in the course of the initial review and the first round of public meetings regarding the proposed method of describing the boundary of the nominated area. In discussions between NepRWA and EOEA staff, it was agreed that alternative methods of delineating a boundary for the proposed ACEC were appropriate for public review. Both the nominators and EOEA staff recognized that by so doing, they were continuing to describe

the same set of resources and the same ecosystem as had been proposed for protection in the nomination.

A method of delineating the boundary, based upon the Wetlands Protection Act Regulations (wetlands resource areas and a 100-foot buffer) plus adjacent public open space and historic districts, was distributed in EOEA correspondence dated December 22, 1994, and at the public information meetings and public hearing in January, 1995, on a geographic information systems (GIS) map. Differences between the nominated boundary and the alternate method of resource-based delineation are relatively few, reducing the total of 1540 acres nominated by fewer than 300 acres, according to GIS calculations. Commercial Point, primarily a gas tank facility, was originally included in its entirety, and is now only affected as to the 100-foot wetlands buffer. Open water between Commercial Point and the tidal flats at Buckley's Bar and the county line which extends northeasterly from Dorchester Bridge is not included in the current boundary. Extensive freshwater wetlands and a smaller saltwater wetland on Squantum Point are included in the resource-based boundary. A tract of commercial, residential, and industrial land in North Quincy outside of the 100-foot wetlands buffer zone is not included within the resource-based boundary. Two other residential areas, and an industrial area between the Southeast Expressway and MDC's proposed rail trail in Boston that were included based on roadway delineation are not included now other than within the 100-foot wetlands buffer. In other words, some properties and portions of properties included in the original proposed boundary due to using roads, property lines and other means are eliminated in the final boundary, and additional resource areas are added.

The consistency and rationale of the resource-based boundary regarding the protection of resources themselves, and the lack of clear consensus concerning boundaries among the nominating parties, municipal boards, and other public comment leads me to choose the resource-based boundary described in detail below. The overriding rationale for this boundary delineation is that it is directly based on and includes the wetland resource areas of the Neponset Estuary, from the mouth of the estuary up to the Lower Mills Dam in Milton and Boston, which divides the coastal estuary from the inland fresh water portion of the Neponset River.

Several comments regarding the proposed boundary, and concerns and suggestions regarding the regulatory effect of ACEC designation on important public environmental restoration and improvement projects were submitted in the course of the public review. These comments ranged from suggestions to exclude certain commercial and residential properties to proposals for language that would expedite landfill closures, hazardous waste site cleanups, and other beneficial environmental restoration and public recreation projects. Many concerns regarding the clean-up, restoration and

recreational development of MDC lands, which comprise approximately 500 acres of the ACEC, were expressed to me.

However, I have not included language in this designation document to exclude or exempt specific properties, activities or projects from the regulatory effects of ACEC designation. The intent of this designation - to preserve, restore and enhance the resources of the ACEC, including the provision of safe public access and recreation on public lands - should guide the actions and regulatory decisions of EOEA agencies. I expect that EOEA agencies, municipalities, community and environmental groups, and local businesses and residents will participate in the development of the Neponset River Estuary ACEC resource management plan over the next several months to address any unresolved issues regarding final boundary delineation and regulatory effects of ACEC designation prior to the effective date of this designation.

The final boundary is based on the wetland resource areas of the Neponset River marshes and estuary, as defined by the Wetlands Protection Act Regulations (Wetlands Regulations). The boundary generally follows the jurisdiction of the Wetlands Regulations, including the edge of the resource area and a 100-foot buffer. However, it does not include the floodplain of this area where the floodplain, in several locations, extends beyond the 100-foot buffer of these resource areas.

The boundary is approximated by that boundary shown on the GIS map produced by the Department of Environmental Management for the review of the Neponset River Estuary ACEC nomination. Actual delineation of the 100-foot buffer of the wetlands resource areas would be made during the course of a request for determination of applicability or notice of intent submitted by a project proponent to the Conservation Commissions of Boston, Milton, and Quincy, following the procedures specified by each Conservation Commission as provided in the Wetlands Protection Act, M.G.L. Ch.131, sec. 40, the Wetlands Protection Regulations, 310 CMR 10.00, and subject to their agreement. It is my intention that the Resource Management Planning process will also serve to identify a better approximation of the boundary on town assessor maps.

The official GIS map at 1:7500 scale and the supplemental maps listed below are on file at the offices of the DEM, Division of Resource Conservation. Reduced versions of the GIS map at a scale of 1:20,000 and copies of the supplemental maps are available upon request.

The GIS map is supplemented by the following maps:
1) City of Boston Planimetric Survey 14N-14E
2) City of Quincy Assessors Map 6143
3) Town of Milton map Roll 10A, Sheet 1
4) Town of Milton map Roll 7, Sheet 1
5) Dorchester/Milton Lower Mills National Register District map

The size of the Neponset River Estuary ACEC, according to GIS data, is approximately 1,260 acres. The respective acreage located in each municipality is as follows:

Boston - 435 acres
Milton - 355 acres
Quincy - 470 acres

Final Boundary Description of the Neponset River Estuary ACEC

Beginning at the bulkhead terminus of the walkway at the end of Victory Road overlooking the estuary at Commercial Point in Dorchester (Boston), as shown on the City of Boston Planimetric Survey 14N-14E, the boundary follows a straight line due east to 100 feet below Mean Low Water (MLW, or the edge of the tidal flats) of the Neponset River Estuary (near the Boston-Quincy municipal boundary) as shown on the DEM GIS map of the Neponset River Estuary ACEC.

It then follows the 100-foot line below MLW in a northerly, northeasterly, southerly, and southeasterly direction to the intersection of the Metropolitan District Commission (MDC) property line on land just west of the Marina Bay complex in Quincy, also shown on the DEM GIS map of the Neponset River Estuary ACEC.

Then southerly and westerly along the MDC property line to the edge of the 100-foot wetlands buffer.

It then follows along the 100-foot wetlands buffer line southeasterly and westerly, and includes the freshwater wetland areas located within and south of MDC's Squantum Point Reservation.

Then along the 100-foot wetlands buffer southerly and easterly towards East Squantum Street, then southerly, westerly, southerly, and westerly, thus including the extensive coastal marsh at the beginning of Squantum Point.

Then along the 100-foot wetlands buffer southerly, easterly, westerly, and southerly, thus including the next coastal marsh area to the south along the Neponset River.

Then along the 100-foot wetlands buffer along the Neponset River southerly, and then along the 100-foot wetlands buffer easterly around Sagamore Creek to the intersection of the drainage right-of-way that joins Sagamore Creek to the salt marsh wetlands to the southeast.

Then along and including the drainage right-of-way to the salt marsh wetlands to the southeast, along the 100-foot wetlands buffer around the wetland, and then back northwesterly along the drainage easement to the 100-foot wetlands buffer of Sagamore Creek.

Then along the 100-foot wetlands buffer northwesterly, southwesterly and southeasterly to the intersection with the President's Golf Course property line in Quincy .

Then southerly and westerly along the President's Golf Course property line (as shown on City of Quincy Assessors Map 6143) across the Quincy-Milton municipal boundary, and southerly along the property line in Milton (as shown on Town of Milton map Roll 10A, Sheet 1) until the intersection with the 100-foot wetlands buffer, thus including the public open space of the golf course.

Then along the 100-foot wetlands buffer in Milton westerly, to include the freshwater wetlands of the golf course, across Granite Ave., and southwesterly and northerly along the 100-foot wetlands buffer, across the Southeast Expressway, and southerly along the 100-foot wetlands buffer to the intersection with the MDC Neponset River Reservation property line, enclosing the saltwater wetlands that drain into Gulliver's Creek.

[Explanatory note: By following the 100-foot wetlands buffer a "pocket" of upland is not included within the ACEC boundary in the approximate area of the intersection of Granite Avenue and the Southeast Expressway.]

Then southerly along either the MDC property line or the 100-foot wetlands buffer, whichever is further from the saltmarsh, then northwesterly and westerly along the 100-foot wetlands buffer until the intersection with the Trustees of Reservations (TTOR) Governor Hutchinson's Field property line, thus enclosing the saltwater wetlands as well as the MDC public open space property.

Then southerly, westerly, southwesterly, northwesterly, and northeasterly around the TTOR property line back to the 100-foot wetlands buffer, thus enclosing the TTOR public access open space parcel.

Then northwesterly along the 100-foot wetlands buffer to the intersection with the Town of Milton's Captain's Landing property, as shown on Town of Milton map Roll 7 Sheet 1.

Then around the Town of Milton's Captain's Landing property line back to the 100-foot wetlands buffer.

Then northwesterly along the 100-foot wetlands buffer to the intersection with the Town of Milton's Town Landing and Town open space parcels, as shown on Town of Milton map Roll 7 Sheet 1.

Then around the Town of Milton's Town Landing and Town open space parcels back to the 100-foot wetlands buffer.

Then along the 100-foot wetlands buffer northwesterly to the Lower Mills Dam across the Neponset River in Milton and Dorchester (Boston), and including any adjacent parcels of the Dorchester/Milton Lower Mills National Register District, as shown on the Dorchester/Milton Lower Mills National Register District map.

Then along and including the Lower Mills Dam structure across the Milton-Boston municipal boundary to the 100-foot wetlands buffer in Boston; along the 100-foot wetlands buffer easterly to the MDC property line along Ventura Street in Boston, and including any adjacent parcels of the Dorchester/Milton Lower Mills National Register District, as shown on the Dorchester/Milton Lower Mills National Register District map.

Then northeasterly along the MDC property line and the 100-foot wetlands buffer to the MDC property line east of the Southeast Expressway.

Then northeasterly, northerly, westerly, southerly, northwesterly, and northeasterly along the MDC property line and the 100-foot wetlands buffer, whichever is further from the Neponset River, back to the intersection of the 100-foot wetlands buffer with the walkway at Commercial Point, as shown on the City

of Boston Planimetric Survey 14N-14E and back to the beginning point of the boundary description, thus including the MDC open space properties, and the wetlands resources, including the tidal inlet west of the Port Norfolk neighborhood.

IV. Discussion of the Criteria for Designation

In the review process leading to the designation of a nominated area, the Secretary must consider the factors specified in section 12.09 of the ACEC Regulations. As stated in the regulations, the factors need not be weighed equally, nor must all of these factors be present for an area to be designated. The strong presence of a single factor may be sufficient for designation.

Based on the information presented in the letter of nomination, at the public hearing, in written comments received throughout the public review process, and in agency research and review, I make the following findings in support of the designation of the Neponset River Estuary ACEC.

(1) Threat to the Public Health Through Inappropriate Use

As mentioned in the above Description of the Resources of the Neponset River Estuary ACEC, much of the ACEC is floodplain, a natural hazard area. Although much of the upland portions of the ACEC are already developed, I find that potential future inappropriate development in sensitive areas, increased impervious surfaces, and inadequately designed and constructed storm water measures constitute a threat to the resources of the ACEC and to public health and safety.

Contaminated shellfish beds due to poor water quality resulting from inappropriate development also constitute a potential threat to public health and safety. Although shellfish harvesting is restricted, attempts to harvest shellfish threaten public health. In addition, poor water quality threatens public health through the public use of beaches and swimming areas.

Finally, there is a threat to public health resulting from the location of at least 13 potential hazardous waste sites (also known as 21E sites) listed by the Department of Environmental Protection (DEP) as located within the nominated area as of December 16, 1994. This number includes the former Neponset Drive-In site owned by MDC. In finding that ACEC designation is appropriate because of threats associated with inappropriate use, I recommend that this ACEC designation be implemented to facilitate and expedite the clean-up of hazardous waste sites located within the ACEC by the DEP, MDC and authorized parties to protect public health and to restore and preserve the resources of the ACEC.

(2) Quality of the Natural Characteristics

The undeveloped Neponset marshes are an outstanding natural characteristic significant to the region, and the recreational opportunities afforded by the river for boating, swimming and fishing, and by MDC lands and other open space areas for other forms of recreation strongly support ACEC designation.

(3) Productivity

Estuarine wetland systems are among the richest and most biologically productive ecosystems on earth, and the Neponset River estuary is no exception. Furthermore, comments from the Massachusetts Division of Marine Fisheries and the Natural Heritage & Endangered Species Program (see above Description of the Resources of the Neponset River Estuary ACEC), underline the significance of the area regarding biological productivity and diversity of wildlife.

(4) Uniqueness of Area

The uniqueness of the area is defined from a regional, state or national perspective, considering features such as endangered plant and animal species, archaeological/historic/cultural resources, or other resources of educational value. Once again referring to section II. above, Description of the Resources of the Neponset River Estuary ACEC, I find that the uniqueness of this area supports ACEC designation, through the presence of state-listed rare species and archaeological and historic resources, and the educational value this riverine, salt marsh ecosystem to the Boston metropolitan area.

(5) Irreversibility and Magnitude of Impact, and Imminence of Threat to the Resources

I find that the resources of the Neponset River Estuary are subject to heavy historical and current development pressures that threaten their continued viability as a healthy and productive ecosystem. The condition of and threats to resources are similar if not identical to those described in the designation document for the Fowl Meadow and Ponkapoag Bog ACEC: "Historically, discharges to the Neponset River from a variety of sources resulted in extremely poor water quality. Water quality has improved since the passage and implementation of the Clean Water Act, but according to recent information from the DEP Bureau of Resource Protection (BRP), the river does not meet Class B standards. According to BRP, 'Through the discharge permit and construction grant programs, point sources have largely been cleaned up, but unless nonpoint sources are addressed, the river will not meet Class B standards. The river does not meet its designated uses because of high coliform bacteria counts, nutrient enrichment, and low dissolved oxygen levels. The

sources of these pollutants are CSOs (Combined Sewer Outflows), exfiltration, urban runoff and septic systems ....'"

It is essential that these kinds of conditions, combined with continued urban use and development pressures, do not result in irreversible environmental degradation of the Neponset River estuary. Therefore, as with the previous ACEC designation of Fowl Meadow and Ponkapoag Bog, I find that the Neponset River Estuary ACEC designation is warranted to protect the resources from imminent threats, and highly significant, adverse and irreversible impacts.

(6) Economic Benefits

Economic benefits are described in the ACEC Regulations in terms of intrinsic values important to a region's economic stability, such as recreation, tourism, and fisheries development. Recreation values of the area associated with the Neponset River, and the extensive public recreation and open space areas described above, strongly support designation. Fisheries development supporting designation is also clearly documented in section II. above, Description of the Resources of the Neponset River Estuary ACEC.

(7) Supporting Factors

Over 70 comments were received regarding the nomination. Written or oral testimony was received from three state legislators; five municipal boards and commissions; 16 environmental and community organizations; three businesses; ten federal and state agencies; and over thirty citizens. Although not all comments supported ACEC designation, and many expressed concerns or reservations regarding designation, the large majority of comments recognized the intrinsic value and importance of the area.

Considering 1) the characteristics of the resources of the area as described above; 2) the significance of the area in the context of the factors supporting designation; 3) that the area is located in three different municipalities without coordinated local control; and 4) that significant portions are owned by public agencies, the recommendations and comments submitted by the Massachusetts Coastal Zone Management (MCZM) Office, dated February 6, 1995, are especially relevant to my decision to designate the Neponset River Estuary as an ACEC.

The following statements paraphrase MCZM's comments and recommendations.

- The Neponset Estuary represents a unique opportunity to protect and restore a suite of valuable resources.
- An ACEC designation requires a coordinated state review of activities proposed in the area designated, and given the incremental nature of the environmental insults to an urbanized

ecosystem, a coordinated review is important to future restoration efforts.

- The nomination process has pointed out the large number of conflicting visions that exist for parts of the Neponset Estuary, and without a context for resolution of these differences, it is likely that they will be settled by default. The resource management plan that is to be a part of the proposed designation process provides an appropriate forum for resolution of these conflicts.
- A major value of ACEC designation is the educational function that it performs. The focus on the ecosystem, the coordinated review process, and the work to develop resource management goals all make the public and government agencies more aware of the critical nature of the assets that are to be protected. An informed constituency is more likely to work to improve an ecosystem's environmental values.

I find that these supporting factors further justify ACEC designation.

Conclusion

Therefore, I am pleased to exercise the authority granted to me pursuant to M.G.L. Chapter 21A, Section 2(7), to designate the Neponset River Estuary as an Area of Critical Environmental Concern.

Trudy Coxe — MARCH 27 1997

Trudy Coxe
Secretary of Environmental Affairs

Date

DESIGNATION OF AMENDMENTS to the

NEPONSET RIVER ESTUARY

AREA OF CRITICAL ENVIRONMENTAL CONCERN

WITH SUPPORTING FINDINGS

Following an extensive formal review required by the regulations of the Executive Office of Environmental Affairs (301 CMR 12.00), including the preparation of a draft resource management plan, acceptance of proposed amendments for public review, public information meetings, a public hearing and written comment period, and evaluation of all public comment and assembled data, I, the Secretary of Environmental Affairs, hereby amend, as described herein, the Neponset River Estuary Area of Critical Environmental Concern (ACEC) as designated on March 27, 1995. I take this action pursuant to the authority granted me under Massachusetts General Law Chapter 21A, Section 2(7).

I. Findings of Fact

1. On March 27, 1995, I designated the Neponset River Estuary, located in portions of the municipalities of Boston, Milton and Quincy, as an Area of Critical Environmental Concern. Furthermore, pursuant to the ACEC Regulations, 301 CMR 12.11(1), which authorize the Secretary to provide the effective date of designation, I determined the effective date of this designation to be December 1, 1995.

2. At the time of designation I also directed the agencies of the Executive Office of Environmental Affairs (EOEA) to collaborate with municipalities, environmental and community groups and organizations, local businesses and residents, and other interested parties to prepare a Resource Management Plan for the Neponset River Estuary ACEC. At this time I stated that the intent of the resource management plan is to address the preservation, restoration, enhancement, use and management of the resources of the Neponset River Estuary ACEC, and regulatory and boundary questions raised in the course of the public review of the nomination, including the preparation of recommendations for any proposed amendments to the designation that may be needed.

3. At the time of designation I also stated that if there was a need to amend the ACEC designation within one year of the date of designation, I would entertain a waiver to the ACEC regulations as provided for at 301 CMR 12.15, since the ACEC regulations at 301 CMR 12.13(2) state that an ACEC designation may be amended after one year.

4. On October 2, 1995 pursuant to 301 CMR 12.15 I issued a Limited Waiver from the Provisions of the ACEC Regulations regarding Amendments to the Neponset River Estuary ACEC Designation (see copy attached), in order to accept for public review proposed amendments to the Neponset River Estuary ACEC Designation developed in the course of the preparation of a draft Resource Management Plan for the ACEC.

5. On October 2, 1995 pursuant to 301 CMR 12.13(2) and 12.07, I accepted for public review proposed amendments submitted to me by the Department of Environmental Management.

6. Public notice of a hearing regarding the proposed amendments and the draft Resource Management Plan was published in the October 14, 1995 editions of the Boston Globe and The Patriot Ledger, and the October 10, 1995 edition of the Environmental Monitor. Copies of the notice were also mailed to affected municipalities and interested parties in correspondence from me dated October 12, 1995. The notice included the scheduling of a November 1 public information meeting in Quincy and a November 15 public hearing in Dorchester, with a 10-day comment period following the public hearing, to November 27, 1995.

7. A concurrent review of the draft Neponset River Estuary Resource Management Plan was undertaken pursuant to the Massachusetts Environmental Policy Act (MEPA) Regulations, following the submission of an Environmental Notification Form (ENF) to the MEPA Unit by the Department of Environmental Management on October 16, 1995. My findings regarding the draft Resource Management Plan are provided separately in the Certificate of the Secretary of Environmental Affairs, EOEA #10516, Neponset River Estuary ACEC Resource Management Plan, dated December 1, 1995, and are hereby incorporated by reference.

8. A public information meeting was held in Quincy on November 1, 1995 and a public hearing was held in Dorchester on November 15, 1995. Written comments were received until the close of the public comment period on November 27, 1995.

II. Decision

After a detailed and thorough evaluation of the information received and the public comment provided, I have decided to amend the Neponset River Estuary ACEC to provide for a technical clarification of the ACEC boundary and limited exemptions for environmentally beneficial activities. These amendments are further explained and described below, III. Amendments to the Neponset River Estuary ACEC Designation.

The language of the amendments is essentially the same that I accepted for public review on October 2, 1995 and subsequently circulated for public review and comment as described herein,

except that the exemption for the Hallet Street and Neponset Drive-in landfills is changed to include all landfill closures; the exemption for hazardous waste sites is expanded to include redevelopment activities undertaken as part of the assessment and remediation of the hazardous waste site located at #2 Granite Avenue in Milton; and additional limited exemptions for improvement dredging are added - for improvement dredging associated with the Pine Neck Creek stormwater outfall; improvement dredging or trenching that may be necessary for utility crossings; and improvement dredging that may be necessary for marina facilities. These changes were proposed and supported by the Metropolitan District Commission (landfill closures), Milton Board of Selectmen (#2 Granite Avenue hazardous waste site) and the Department of Environmental Protection (landfill closures, hazardous waste sites, and additional improvement dredging projects) to promote the purpose and objectives of ACEC designation.

Discussion of the Criteria Specified in Section 12.09 of the ACEC Regulations

In the review process leading to the decision regarding amendments to an ACEC designation, the Secretary must consider the factors specified in section 12.09 of the ACEC Regulations. Based on the information presented in the proposed amendments and in the draft Resource Management Plan, at the public hearing, in written comments received throughout the public review process, and in agency research and review, I make the following findings in support of the amendments described herein:

1. As stated below, the boundary of the ACEC best delineates the most critical natural resources of the estuarine ecosystem. It also provides a reasonable and consistent boundary for the three municipalities in which the ACEC exists and one that is already utilized by local boards in conducting their permitting and planning responsibilities. I find that the delineation of this ACEC boundary is supported by the quality of the natural characteristics and the uniqueness of the area.

2. The limited exemptions for environmentally beneficial activities address the closure of landfills, hazardous waste sites, and improvement dredging for stormwater outfall projects, Metropolitan District Commission recreation facilities located within the boundary of the ACEC, potential utility crossing projects, and marina facilities. I find that these limited exemptions are supported because they will address threats to public health, improve the quality of the natural characteristics of the area, improve or enhance the uniqueness of the area, improve and enhance recreational access and use, and provide economic benefits to the area. The limited exemptions regarding landfill closure, hazardous waste sites and stormwater projects will also address potentially

significant, irreversible or imminent threats to the resources of the area.

3. Supporting factors listed at 310 CMR 12.09(9) also contribute to the adoption of these amendments to the Neponset River Estuary ACEC.

- Approximately 24 comments were received regarding the proposed amendments or the draft resource management plan. Of the comments received regarding the proposed amendments, the large majority supported them, reflecting a public awareness of the value and importance of the area and these environmentally beneficial projects.
- Further, criteria regarding the lack of coordinated local control because the area is located within more than one municipality; ownership of a large portion of the resource area by the state government; and the existence of supplementing management programs in the area all support the need for ACEC designation and the need for limited exemptions to help expedite, streamline and coordinate efforts by municipal and state agencies, and environmental and community organizations, to preserve, restore, enhance, use and manage the natural and cultural resources of this area.
- It is important to add that the public has been informed of the preparation of the Neponset River Estuary Resource Management Plan since last March when the ACEC designation was made. A Steering Committee was formed to help prepare the plan, and meetings and input from the public since June, 1995 have contributed to the development of the draft plan and the proposed amendments.

In summary, I find ample justification to amend the Neponset River Estuary ACEC designation as described herein.

<u>Ongoing Neponset River Estuary Planning and Management and Potential Future Amendments to the ACEC</u>

It is important to state that, at the time of the effective date of the Neponset River Estuary ACEC designation and these amendments, there are several ongoing planning and management activities within this area. These include, but are not limited to, the preparation of:

- the final "Neponset River Estuary ACEC Resource Management Plan;"
- the Metropolitan District Commission (MDC) "Neponset River Estuary Master Plan;"
- the Boston Natural Areas Fund and Trust for Public Land "Neponset River Greenway Project;"
- the Neponset River Watershed Association Estuary Subwatershed Group "Action Plan;"
- the Massachusetts Wetlands Restoration and Banking Program "Neponset River Watershed Wetlands Restoration Plan;" and
- the Department of Environmental Protection "Neponset Watershed Management Plan."

I understand that every effort has been made prior to December 1, 1995 to identify potential amendments to guide and improve the implementation of this ACEC designation. I also understand that the various planning and management efforts underway may identify further amendments to the ACEC that may be needed to implement important recommendations and projects. In particular, the Metropolitan District Commission has commented that the Master Plan currently being developed for the Neponset River Reservation properties may identify further amendments that may be needed for environmentally and recreationally beneficial projects and activities.

The preparation and implementation of ACEC resource management plans and other planning efforts within ACECs should be a dynamic process, and future changes to this ACEC designation should be made where appropriate and where justified and supported by public planning and management efforts. The ACEC Regulations provide a clear and straightforward process for amending ACEC designations, especially where proposed amendments are identified as part of a dynamic and ongoing planning, management, and implementation process.

III. Amendments to the Neponset River Estuary ACEC Designation

1. ACEC Boundary

The final boundary is based on the landward boundary of the wetlands resource areas of the Neponset River marshes and estuary, as defined by the Wetlands Protection Act (Chapter 131, Section 40) and Regulations (310 CMR 10.00) plus a 100' buffer area. This boundary best delineates the most critical natural resources of the estuarine ecosystem. It also provides a reasonable and consistent boundary for the three municipalities in which the ACEC exists and one that is already utilized by local boards in conducting their permitting and planning responsibilities.

However, a technical amendment is necessary regarding ACEC designation maps that show a boundary that appears to be inclusive of all property known as #2 Granite Ave. at the intersection of Route 3/I-93 in Milton. A consistent application of the natural resource based boundary with the 100' buffer, includes the perimeter of this property but leaves a portion of the middle upland outside of the ACEC boundary.

The revised technical boundary language, to replace paragraph two of page 12 of the designation document for the Neponset River Estuary ACEC, is as follows:

[Explanatory note: By following the 100-foot wetlands buffer two "islands" of upland are not included within the ACEC boundary. The first lies within the property known as #2 Granite Avenue,

Milton. The second is in the vicinity of the intersection of Granite Avenue and the Southeast Expressway (Route 3/I-93), Milton.]

2. Limited Exemptions for Environmentally Beneficial Activities

The designation of an urban area, especially the Lower Neponset with its long history of human uses and accompanying impacts, adds an extra measure of complexity to the designation of this ACEC. One strong concern raised by state agencies and other interested parties is that the increased scrutiny and more stringent standards for permitting within the ACEC may unnecessarily delay the implementation of rehabilitation, restoration, and public use projects.

Both the Wetlands Protection Act and the Chapter 91 Waterways regulations set stricter standards for projects in coastal ACECs. The Wetlands regulations allow "no adverse impact" to any coastal wetland from any activity within an ACEC (310 CMR 10.24(5)(b)). For freshwater wetlands, only limited projects are allowed to alter Bordering Vegetated Wetlands (310 CMR 10.53 and 10.54). The Waterways Regulations prohibit improvement (new) dredging in an ACEC except for the sole purpose of fisheries or wildlife enhancement (310 CMR 9.40(1)(b)). These restrictions make sense when applied to activities which adversely impact pristine wetlands or waterways without at the same time having any positive environmental impact. The restrictions do not make sense, however, when an activity to be undertaken within an urban ACEC is designed to enhance the environment or the public's enjoyment of it.

Because the major purposes of ACEC designation are to "preserve, enhance, restore, manage, and encourage appropriate use of the natural and cultural resources" (emphasis added), the following environmentally beneficial activities are exempt from this ACEC designation, so that they may go forward without the ACEC-related permitting restrictions contained in the Wetlands and Waterways Regulations. Such activities will continue, of course, to be subject to all other requirements of wetland, waterways, and other environmental laws and regulations.

Landfill Closures

Exemptions are granted from this ACEC designation for all activities undertaken within the Neponset River Estuary ACEC boundaries which are required to be taken by the owner of any landfill as part of landfill assessment actions (Initial and Comprehensive Site Assessments) and landfill closure construction, as determined through DEP/DSWM's Corrective Alternative Action Analysis (CAAA), process and/or the Massachusetts Contingency Plan. Actions necessary for remediation include, but are not limited to: dredging contaminated sediment from perimeter of landfill in

wetlands or buffer zone and its disposal on upland portions of the site; installation of leachate cut-off walls along perimeter of landfill within wetlands or buffer zone; the collection, treatment and discharge of leachate into wetlands (if the Comprehensive Site Assessment determines discharge is not a significant public health or ecological risk); the placement of grading material and/or cap materials or erosion controls along perimeter of site within wetlands or buffer zone; the installation of boring/monitoring wells; temporary installation/operation of barging facilities at the site; remedial work on bridges and culverts; and any closure/post closure actions required by DEP. These and other associated corrective actions are exempted on the condition that the landfill owner (or its agents) takes all practicable measures to avoid and minimize further degradation of adjacent resources and to mitigate any unavoidable impacts to the greatest extent possible during site assessment and closure activities.

Hazardous Waste Sites

Exemptions are granted from this ACEC designation for response actions performed in compliance with M.G.L. c.21 E and the Massachusetts Contingency Plan 310 CMR 40.0000 for the assessment and remediation of releases of oil and/or hazardous material located within the Neponset River Estuary ACEC boundaries. These activities are also granted an exemption from the ACEC Designation for the purposes of Wetlands and Waterways regulations. These activities include but are not limited to the activities listed under the waiver language for actions required for landfill closures. These activities are exempted on the condition that project proponents (and their agents) take all practicable measures to avoid and minimize further degradation of adjacent resources and to mitigate any unavoidable impacts to the greatest extent possible and that the proponents obtain the applicable approvals pursuant to Wetlands and Waterways regulations.

This exemption shall apply to any future sites that may need to perform response actions under M.G.L. c.21 E and the Massachusetts Contingency Plan within the Neponset River Estuary ACEC. These sites include, but are not limited to, the Bureau of Waste Site Cleanup Disposal Site List and other unpublished lists provided by DEP. These exemptions shall remain in effect for each site until certification by DEP or the Licensed Site Professional overseeing the remediation activities that the remediation process has been satisfactorily completed at which time all provisions of the ACEC designation will be in effect except for any closure/post closure remediation actions required by DEP.

The exemption from the ACEC designation shall also apply to activities related to the redevelopment of the property at #2 Granite Avenue in Milton undertaken as part of the assessment and remediation of the hazardous waste site at this location.

Improvement Dredging

Exemptions are granted from this ACEC designation for the following improvement dredging activities for the purposes of Wetland and Waterways regulations and CZM Federal Consistency Review: improvement dredging associated with the stormwater outfalls at Tenean and Lawley Streets and Pine Neck Creek, Boston; dredging/sediment removal to allow for installation or modification of stormwater outfalls necessary to allow MWRA and the Boston Water & Sewer Commission to separate the existing combined sewers located in the ACEC; sediment removal and resanding at Tenean Beach, Boston; dredging that may be necessary to access recreational boating facilities (launch ramps and docks) included in the MDC "Neponset River Estuary Master Plan", as approved; dredging or trenching that may be necessary for utility crossings; and, dredging that may be necessary for marina facilities provided the marina owners work with Chapter 91 Waterways staff and EOEA agencies to delineate work areas. These activities are exempted on the condition that project proponents (and their agents) take all practicable measures to avoid and minimize further degradation of adjacent resources and to mitigate any unavoidable impacts to the greatest extent possible and that the proponents obtain the applicable approvals pursuant to Wetlands and Waterways regulations and CZM Federal Consistency review.

The effective date of these amendments shall be December 1, 1995.

Trudy Coxe — Dec 1 1995

Trudy Coxe / Date
Secretary of Environmental Affairs

The Commonwealth of Massachusetts
Executive Office of Environmental Affairs
100 Cambridge Street, Boston, 02202

WILLIAM F. WELD
GOVERNOR
ARGEO PAUL CELLUCCI
LIEUTENANT GOVERNOR
TRUDY COXE
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LIMITED WAIVER FROM THE PROVISIONS OF THE ACEC REGULATIONS REGARDING AMENDMENTS TO THE NEPONSET RIVER ESTUARY ACEC DESIGNATION

Findings of Fact

1. On March 27, 1995 I designated the Neponset River Estuary, located in portions of Boston, Milton and Quincy, as an Area of Critical Environmental Concern (ACEC). Furthermore, pursuant to the ACEC Regulations, 301 CMR 12.11(1), which authorize the Secretary to provide the effective date of designation, I determined the effective date of designation to be December 1, 1995.

2. At the time of designation I also directed the agencies of the Executive Office of Environmental Affairs (EOEA) to collaborate with municipalities, environmental and community groups and organizations, local businesses and residents, and other interested parties to prepare a Resource Management Plan for the Neponset River Estuary ACEC. The plan is intended to address the preservation, restoration, enhancement, use and management of the resources of the ACEC, and the regulatory and boundary questions raised in the course of the public review of the plan. Furthermore, the plan should include recommendations for any proposed changes or modifications to the designation that may be needed.

3. A draft Resource Management Plan has been completed, and includes recommendations for amendments to the ACEC designation. A public hearing regarding the Resource Management Plan and the proposed amendments is scheduled for November 15, 1995.

4. The ACEC regulations, 301 CMR 12.13(2) provide that an ACEC designation may be amended at any time after an ACEC has been designated for one year. In order to amend the Neponset River Estuary ACEC designation within one year, a waiver from the ACEC regulations, as provided at 301 CMR 12.15, is required by the Secretary.

Decision

In order to accept for public review the proposed amendments to the Neponset River Estuary ACEC Designation, I hereby grant a limited waiver from the provisions of the ACEC Regulations at 301 CMR 12.13(2) which allow amendments to be made to the designation only after one year from the date of designation. Strict compliance with the provision of 301 CMR 12.13(2) would result in an undue hardship upon the public and municipalities and residents of the area and would not serve to further the intent of M.G.L. c.21, s.2(7).

Trudy Coxe — October 2, 1995

Trudy Coxe
Secretary of Environmental Affairs

Date

The Commonwealth of Massachusetts
Executive Office of Environmental Affairs
100 Cambridge Street, Boston, 02202

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December 1, 1995

CERTIFICATE OF THE SECRETARY OF ENVIRONMENTAL AFFAIRS
ON THE
ENVIRONMENTAL NOTIFICATION FORM

PROJECT NAME	: Neponset River Estuary ACEC Resource Management Plan
PROJECT LOCATION	: Boston, Milton and Quincy
EOEA NUMBER	: 10516
PROJECT PROPONENT	: Massachusetts Department of Environmental Management
DATE NOTICED IN MONITOR	: October 23, 1995

Pursuant to the Massachusetts Environmental Policy Act (G. L. c. 30, ss. 61-62H) and Section 11.06 of the MEPA regulations (301 CMR 11.00), I hereby determine that the above project does not require the preparation of an Environmental Impact Report (EIR).

The project consists of the submission of the Draft Neponset River Estuary Area of Critical Environmental Concern (ACEC) Resource Management Plan as prepared for the Massachusetts Department of Environmental Management (DEM). DEM has prepared the draft Resource Management Plan (RMP) in accordance with the Neponset River Estuary ACEC designation and in collaboration with the affected municipalities and other interested parties. The purpose of the RMP is to guide the implementation of the Neponset River Estuary ACEC designation and to address the regulatory and boundary questions raised in the course of the public review of the nomination.

On March 27, 1995, the Neponset River Estuary was designated as an ACEC. However, the effective date of the designation was scheduled to be December 1, 1995. The ACEC area encompasses approximately 1,260 acres in Boston, Milton and Quincy.

As proposed, the draft RMP requires no state permits. However, the Environmental Notification Form (ENF) was submitted for MEPA review in accordance with 301 CMR 11.15(3)(b) for agency planning activities within an ACEC. On November 1, 1995, a MEPA

responsibilities will be coordinated so as to avoid inconsistency or conflict.

According to the comment letter from the Massachusetts Coastal Zone Management (MCZM) office, the recommendations contained in the draft RMP have not yet been formally endorsed by the ACEC Steering Committee. It is important to ensure an opportunity for full review and endorsement of the final RMP and its recommendations by the ACEC Steering Committee. This must be reflected in the schedule for finalizing the RMP.

Under the circumstances, it is clear that additional time is needed to prepare and review a final Neponset River Estuary ACEC RMP. MCZM's comment includes a proposed outline, which I ask the proponent to consider. I have also directed the MCZM office to prepare an Action Plan, which I understand is close to being completed. The Action Plan will specify the data to be collected, analyses to be performed, implementation tasks to be developed or executed, parties responsible for carrying out these tasks, and the timetables for doing so. In addition, the Action Plan will propose mechanisms for coordinating current and future planning efforts and incorporating their results into the RMP.

The final RMP should be responsive to the many thoughtful comments on the draft. It should address ways to further the recreational value of the area as recommended by the NRWA and others. It should present criteria and mechanisms for evaluating the effectiveness of the RMP and its applicability to other ACECs. It should identify an on-going management (coordinating) entity with specific responsibilities and authority to act.

I expect the final RMP to be submitted to me for my review in the Spring of 1996. Updates should be prepared every three to five years in order to address the results of ongoing planning efforts within the ACEC, as well as to incorporate any further amendments or exemptions that may be needed.

I believe that the Designation of the Neponset River Estuary ACEC, as amended, will not slow the momentum of ongoing efforts to protect the Neponset River. Given the amendments and exemptions now available, such efforts as the MDC cleanup of Hallet Street landfill site, the cleanup of other 21E sites, improvement dredging projects and other activities highlighted by concerned commenters do not require further postponement of the designation. Other restoration and rehabilitation projects that are found to have long-term benefits to the resource area can be considered for exemption during the review of RMP updates.

Given that a final RMP will be prepared and that the RMP will serve to protect environmental resources, it is not necessary to require preparation of an EIR. However, it remains important to provide adequate opportunity for input by affected municipalities, agencies, organizations, individuals and the public in general. Accordingly, I require that the final RMP be submitted to the MEPA Unit for notice in the Environmental Monitor, to be followed by a public comment period. I direct the MEPA Unit and the ACEC program to coordinate carefully so as to avoid unnecessary duplicative process or delay. Following the public comment period, I will issue my final findings on the RMP.

December 1, 1995
Date

Trudy Coxe, Secretary

Comments received : MAPC, 11/8/95
Quincy Citizens & Wollaston Park Associations, 11/15/95
New England Power Company & Massachusetts Electric Company, 11/15/95
Katherine Haynes Dunphy, 11/15/95
Melissa Creed, 11/15/95
Ellie Spring, 11/15/95
J.E. Ingoldsby & Assoc., 11/15/95
Robert L. Teagan, 11/16/95
Water Supply Citizens Advisory Committee, 11/21/95
Boston Natural Areas Fund, 11/21/95
Neponset River Watershed Assoc., 11/21/95
Senator Michael W. Morrissey, 11/21/95
Bruce J. Ayers-Quincy City Council, 11/22/95
Save the Harbor Save the Bay, 11/22/95
MDC, 11/24/95
BWSC, 11/24/95
Boston Harbor Assoc., 11/27/95
EOTC, 11/27/95
BED, 11/27/95
MWRA, 11/27/95
MCZM, 11/27/95
Boston GreenSpace Alliance, Inc., 11/27/95
DEP/Boston, 11/28/95

TC/WTG/wg

Permits and Licenses for Previous Structures, Dredging and Fill in the Neponset River Estuary ACEC

Date Issued	Permit	Permitee	Agency	Activity: Dredging	Activity: Structures	Activity: Fill	Conditons
Milton Yacht Club							
5/83	Contract No. 3002	DEQE-Division of Waterways		maintenance dredge channel in Neponset River to -6.0 MLW (min width 100')			COE 404 permit prohibits dredging between March 1 through June 30 for protection of anadromous fishery
7/67	Contract No. 2585	DPW-Division of Waterways	DPW	dredge channel and basin in Neponset River to -6.0 MLW (min width 100'; plan shows wider area)			
Neponset River south of Neponset Avenue Bridge							
8/20/23	Contract No. 84; Authorized by chapter 353 of the Acts of 1923			Neponset Avenue Bridge to Granite Ave bridge: 100' wide, -6.0 MLW Granite Ave. Bridge to Godfrey's Coal Wharf: 75' wide, -6.0 MLW In front of Godfrey's Coal Wharf: not less than 50' Mooring basin in front of Vose's Grove to -6.0 MLW			
				Dredge and maintain a 2 mile reach of channel between the Neponset Bridge and Milton Mills to -6.0 MLW. (This dredging was required of the Commonwealth as a condition of ACOE dredging north of Neponset Bridge in 1907.			Narrative with ACOE's condition survey of 1986 states this dredging was done and has been maintained since 1910.)

APPENDIX D

Permits and Licenses for Previous Structures, Dredging and Fill in the Neponset River Estuary ACEC

Date Issued	Permit	Permitee	Agency	Activity: Dredging	Activity: Structures	Activity: Fill	Conditons
224 Adams Street, Milton							
8/3/84	C. 91 #1098	Marion R. Lynch	DEQE		maintain a pier and float; construct and maintain a boat launching ramp and wall		
12/29/83	WQ Certification #83W-140	Marion R. Lynch	DEQE/DWPC		maintain existing pier and float, construct and maintain a boat launching ramp	remove unauthorized fill	
5/17/76	C. 91 #125	Teresa L. Grogan	DEQE	dredging 37'X75' to depth of -4.0 MLW	build and maintain a pier and float; asphalt boat launching ramp extending 95' into tidewaters		
Neponset Valley Yacht Club							
3/56	Contract No. 1594	DPW-Division of Waterways	DPW	dredge channel to -8.0 MLW (min width 200')			
State Street South							
11/3/80	C. 91 License No. 687	SSB Realty, Inc.	DEQE	construct 400'X18' open channel between Sagamore Creek and existing 18'X10'6" box culvert		with associated filling and excavation in Sagamore Creek	
4/30/80	Water Quality Certificate	SSB Realty	Water Resources Commission/ DWPC			relocate 145' of a channel leading to and place fill in wetlands	

Permits and Licenses for Previous Structures, Dredging and Fill in the Neponset River Estuary ACEC

Date Issued	Permit	Permitee	Agency	Activity: Dredging	Activity: Structures	Activity: Fill	Conditons
10/8/69	License No. 5593	SSB Realty Trust	DPW		Construct 1200' X18'X10'6" box culvert to handle drainage formerly carried by Sagamore Creek.	Fill, pipe, and otherwise relocate and modify the main channel and estuaries of Sagamore Creek. Place solid fill in Sagamore Creek over a distance of 980'.	
	C. 91 License No. 5731 (referenced on Plan 687)						
	C. 91 License No. 3662 (6 plan sheets)	SSB Realty, Inc.				maintain and 8-story office and retail building and 4-story parking garage in and over the filled waters of Sagamore Creek	Licensee shall maintain public walkways and the ground level publicly accessible areas outside the footprint of buildings as shown on the plan. Place 4 benches as shown on sheet 6A. Place appropriate signage
Sagamore Creek at Walnut Street							
10/26/90	C. 91 License No. 2427	Hardwood N.V.	DEP		maintain existing concrete platform and timber bulkhead and remove 5 piles		remove piles within 2 years
Sagamore Creek between Walnut and Newbury Streets							
2/25/59	C. 91 License No. 4196	Charles M. McConaghy	DPW			relocate existing tidal creek and fill existing location of creek	

Permits and Licenses for Previous Structures, Dredging and Fill in the Neponset River Estuary ACEC

Date Issued	Permit	Permitee	Agency	Activity: Dredging	Activity: Structures	Activity: Fill	Conditons
2 Hancock Street, Quincy							
3/30/93	Dredging # 239	Neponset Landing Trust	DEP	maint. dredge 9,000 cy; max depth -7.0 MLW; disposal at MBDS			dredging by mechancal means; no dredging 3/1 - 5/31
1/29/93	WQ certification BRP WP 39, T #22481		DEP/WPC	dredging area 50' to 100' X 460' long			no dredging between 2/1 and 6/15; environmental bucket plus reduced size of hinge openings and flaps covering hinge openings; no dredging within 25' of saltmarsh
	Lic no. 5050 & 5690; pier repair (referenced on No. 239)		DEP?				
12/18/91	Order of Conds. 59-356		Quincy Con Com	dredging	4 commercial floats 10'X30'; maint of existing pier		no dredging 3/16 - 10/14 (dredging to be done 10/15 - 3/15); no vehicles or equipment stored within the 100' coastal bank buffer zone; no servicing of equipment on site; catch basins with gas/oil interceptors, cleaned bi-annually; no storage
Taylor Street, north of MBTA bridge							
3/7/86	1190	National Data Verification Service	DEQE	dredge 24.000 cy; for commercial marina facility	construct and maintain pile-supported piers and walkways, travel-lift slip and dock, steel sheet piling, timber pile breakwater; removal of steel barge;		
12/7/84	Order of Conditions (referenced in 1190)	same	Boston Con Com				

Appendix I

Permits and Licenses for Previous Structures, Dredging and Fill in the Neponset River Estuary ACEC

Date Issued	Permit	Permitee	Agency	Activity			Conditons
				Dredging	Structures	Fill	
10/2/84	Water Quality Certification (referenced in 1190)		DEQE				
Neponset River between Squantum Point and MBTA bridge							
1/11/67	C. 91 License No. 5186	Boston Edison Company	DPW			place and maintain solid fill and stone slope proection; construct and maintain culverts	
	C. 91 License No. 5185	Mass. Bay Transportation Authority				place solid fill with stone faced slope in Neponset River	
Bay State Road							
10/11/89	C. 91 License No. 2075	City of Quincy Department of Public Works	DEP		construct storm drain, tide gate and stone headwall for shoreline stabilization and flood control		

Permits and Licenses for Previous Structures, Dredging and Fill in the Neponset River Estuary ACEC

Date Issued	Permit	Permitee	Agency	Activity: Dredging	Activity: Structures	Activity: Fill	Conditons
Port Norfolk Condominiums, Boston							
	C. 91 #1601	Port Norfolk Condominium, Inc.			construct multi-unit residential buildings and site work, construct public waterfront walkway, viewing platform, place granite block seawall in and over existing filleds tidelands		Public pedestrian accesse walkways leading to and along the site's waterfront area. The walkway along the waterfront of the site shall be a minimum of 6' wide. The permittee shall connect the site's waterfront walkway with future public walkway
2/10/87	Superseding Order of Conditions	Port Norfolk Condominium, Inc.	DEQE				
4/18/86	Water Quality Certificate	Port Norfolk Condominium, Inc.	DEQE/DWPC				
1905	C. 91 License No. 2944		Harbor and Land Commissioner			fill tidelands	
Port Norfolk Yacht Club, 179 Walnut Street							
3/30/93	Dredge Permit No. 243	Port Norfolk Yacht Club	DEP	maintenance dredge 9,200 cy; max depth -6.0 MLW; disposal at MBDS			dredging by mechanical means
	C. 91 Lic no. 4593 (referenced on plan for #243)		DPW		marine railway & filled steel barge		
	Lic no. 2083 (referenced on plan for #243)		DPW		floating dock		
	Lic no. 1596 (referenced on plan for #243)		DEQE		floating docks		

Permits and Licenses for Previous Structures, Dredging and Fill in the Neponset River Estuary ACEC

Date Issued	Permit	Permitee	Agency	Activity			Conditons
				Dredging	Structures	Fill	
1/5/93	WQ cert. BRP WP 39, T # 40204		DEP				silt curtain; no dredging 2/1 to 6/15 to protect winter flounder spawnng and the anadromous (smelt, blue back herring, shad) fish run; modified clamshell bucket; no dredging within 25' of salt marsh
10/17/91	Order of Conds 6-488		Boston Con Com				no dredging from 2/1 to 6/15; no dewatering; waste oil disposal facility; absorption pillows accessible
4/11/90	C. 91 Lic no. 2303 (2023 referenced on plan for #243)	Port Norfolk Yacht Club, Inc.	DEP		construct retaining wall with rip-rap toe apron		
	License No. 3 (reference on Lic. Plan 2303)		Port of Boston		timber pier		
12/18/85	Dredge Permit #150	DEM-Division of Waterways	DEQE	dredge 16,000 cy of subaqueous material from irregularly shaped area			
and 8/2/84	Water Quality Certification 84W-009D	DEM-Division of Waterways	DEQE/DWPC	dredge 16,000 cy of sediment; disposal at MBDS			disposal of material to be capped because of accumulation of PCBs; dredging to be done during the least productive periods of estuarine species, 10/1 to 2/1
7/84	Contract No. 3045	DEM	DEM-Division of Waterways	maintenance dredge basin to -6.0 MLW			
5/3/84	Order of Conditions 6-253	DEM-Division of Waterways	Boston Con Com	dredge 16,000 cy			no dredging between February 1 and May 15
2/19/93	C. 91 License No. 3244	Port Norfolk Yacht Club	DEP		construct a concrete boat ramp		

Ericsson and Walnut Street, Boston

Permits and Licenses for Previous Structures, Dredging and Fill in the Neponset River Estuary ACEC

Date Issued	Permit	Permitee	Agency	Activity: Dredging	Activity: Structures	Activity: Fill	Conditons
4/28/87	C. 91 #1606	Boston Water and Sewer	DEQE	dredge 50 cy material	construct 36" strom drain outfall, associated riprap		
2/17/87	Water Quality Certification No. 86W-242	Boston Water and Sewer Commission			36" storm drain		
Old Colony Yacht Club (and Port Norfolk Yacht Club							
12/18/85	Dredge Permit #150	DEM-Division of Waterways	DEQE	dredge 13,000 cy at the Old Colony YC (see also Port Norfolk YC, dredge 16,000 cy)			
7/84	Contract No. 3045	DEM-Divsion of Waterways	DEM	maintenance dredge basin to -6.0 MLW			
5/3/84	Order of Conditions 6-254	DEM-Division of Waterways	Boston Con Com				no dredging between February 1 and May 15
4/17/84 (Old Colony)	Water Quality Certificate 84W-009D	DEM-Division of Waterways	DEQE/DWPC	dredge 13,000 cy at Old Colony YC; disposal at MBDS; (see also Port Norfolk YC)			Old Colony: no dredging between February 15 and May 15
1982	Section 404 and Section 10 (referenced in WQ cert.)		U.S. ACOE				
	License No. 5736	Old Colony Yacht Club	DPW	dredge area adjacent to seawall to depth of -5.0' MLW	place timber piles, floats, and steel barge bulkhead		

Date Issued	Permit	Permitee	Agency	Activity: Dredging	Activity: Structures	Activity: Fill	Conditons
Victory Road Park							
6/8/87	C. 91 License No. 1635	Metropolitan District Commission	DEQE	dredge two areas on either side of bridge: 1,900 cy to the east, 1,200 cy to the west; on-site upland disposal	place 135 l.f. of rip-rap, construct 60' timber bridge		
3/18/87		Water Quality Certification	DEQE				
6/13/86	Order of Conditions	MDC	Boston Con Com				
MWRA Pier, west of Marina Bay, Quincy							
10/27/89	Dredge Permit #187	DEM-Division of Waterways	DEP	dredge 51/000 cy to max depth of -10.0' MLW; disposal MBDS			
10/26/89	Water Quality Certification	DEM-Division of Waterways	DEQE/DWPC	dredge channel to -10 feet MLW, 51,000 cy; disposal at MBDS			dredging to be completed by February 15; dredging by tight-closing bucket to reduce sediment resuspension; silt curtain not suitable in this location
9/19/89	Order of Conditions #59-302	DEM-Division of Waterways (and MWRA)	Quincy Con Com				separate NOI required for proposed personnel pier project and all landward activities
5/16/90	C. 91 License No. 2350 (6 plan sheets)		DEP		construct a pier, ramp, floating dock, shore protection, and parking facility		

Permits and Licenses for Previous Structures, Dredging and Fill in the Neponset River Estuary ACEC

Date Issued	Permit	Permitee	Agency	Activity: Dredging	Activity: Structures	Activity: Fill	Conditons
Marina Bay, Quincy							
4/28/87	C. 91 No. 1617 (plan: 3 sheets)		4/23/84		construct pile-supported pier to support floats		
12/3/86	C. 91 License No. 1572	Boston Harbor Marina Company	DEQE		maintain existing pile-held dock extension for commercial boating facilities		
10/22/85	C. 91 License No. 1329	Boston Harbor Marina Co.	DEQE		construct timber open-pile pier, 2 gangways, "U" shaped floating dock, and associated piles for berthing of commercial and private vessels		
2/24/85	Order of Conditions (referenced in C. 91 Lic. No. 1329						
4/23/84	C. 91 #1081	Boston Harbor Marina Co.			install five steel mooring piles with batter piles to provide fixed mooring anchorage for "Edmund Fitzgerald"		
	Water Quality Certification No. 84W-024				5 steel mooring piles		
	Water Quality Certification No. 84W-025	Boston Harbor Marina Co.			construct a 70'X30' timber, open-pile deck adjacent to existing seawall and wood wharf for commercial marina		
10/30/75	C. 91 #54	Boston Harbor Marina, Inc.	DEQE		place and maintain rubber tire breakwater, construct travel lift piers and place pile held floats		

Permits and Licenses for Previous Structures, Dredging and Fill in the Neponset River Estuary ACEC

Date Issued	Permit	Permitee	Agency	Activity: Dredging	Activity: Structures	Activity: Fill	Conditons
	C. 91 License No. 4568 (referenced in license #54)		DPW				
	C. 91 License No. 1082	Boston Harbor Marina Co.	DEQE		construct 2 open-pile wooden deck extensions appurtenant to an existing, previously authorized (Lic. No. 4234) wooden deck for additional commercial docking facilities and waterfront access for transient vessels.		
	C. 91 License No. 4234 (referenced in Lic. 1082)						
Surrounding Harborside Condominiums, Quincy							
8/30/85	C. 91 License No. 1306	Boston Harbor Marina Co.			maintain existing multi-unit residential buildings, associated structures, construct multi-unit residential buildings; construct open-pile access pier and viewing platform; 2 drainage ditch catwalks over filled tidelands		open-pile timber public access walkway, octagonally-shaped viewing platform and catwalks to be constructed within 6 months; pubic access signage; public access easement to Quincy for general public use of 89.5 acres of coastal beach, saltmarsh
Neponset River Dorchester Bay to Neponset Avenue/Hancock Street							

Permits and Licenses for Previous Structures, Dredging and Fill in the Neponset River Estuary ACEC

Date Issued	Permit	Permitee	Agency	Activity			Conditons
				Dredging	Structures	Fill	
completed in 1909	Authorized by the River and Harbor Act in 1907	U.S. Army Corps of Engineers		100' wide channel dredged to -15.0 MLW. Last dredged in 1966-1967. Condition survey in 1978 revealed no hazards to			Commonwealth of Mass must dredge and maintain a 2 mile reach of channel between the Neponset Bridge and Milton Mills to -6.0 MLW

A Checklist of Massachusetts Birds 1990-1995

Observed by Ron Donovan, Steven Donovan, and others
Provided by Massachusetts Natural Heritage and Endangered Species Program

Name of Species	Locality		
	Squantum Point	Neponset River Marshes	Status
Common Loon	M	M	SC
Red-throated Loon	M	M	
Red-necked Grebe	M		
Horned Grebe	M		
Pied-billed Grebe	M	M	T
Northern Fulmar			
Cory's Shearwater			
Greater Shearwater			
Sooty Shearwater			
Manx Shearwater			
Leach's Storm-Petrel			
Wilson's Storm Petrel			
Gannet			
Great Cormorant		M	
Double-crested Cormorant	P.R.	P.R.	
Great Blue Heron	P.R.	P.R.	
Green Heron	M	M	
Little Blue Heron	M	M	
Cattle Egret		V	
Great Egret	M	M	
Snowy Egret	M	M	
Louisiana Heron	M		
Black-crowned Night Heron	P.R.	P.R.	
Yellow Crowned Night Heron	M		
Least Bittern		V	
American Bittern	M	M	E
Glossy Ibis	M	M	
Mute Swan	M	M	
Canada Goose	P.R.	P.R.	
Brant	M	M	
Snow Goose	V	M	
Mallard	P.R.	M	
Ruddy-Sheduck	escaped bird		
Black Duck	P.R.	P.R.	
Gadwall		M	
Pintail	M	M	
Green-winged Teal	M	M	
Blue-winged Teal	M	M	
European Wigeon			
American Wigeon	M		
Northern Shoveler		M	
Wood Duck	M	M	
Redhead		V	
Ring-necked Duck		M	
Canvasback	M	M	
Greater Scaup	M	M	
Lesser Scaup			
Common Goleneys	M	M	
Barrow's Goldeneys			
Bufflehead	M	M	
Oldsquaw			
Harlequin Duck			
Common Eider	M		
King Eider	V		
White-winged Scoter	M	V	
Surf Scoter	M		

KEY M = Migrants; V = Vagrant; F = Formerly more common; P.R. = Permanent resident; breeds = Nesting bird. **Status** E = Endangered; T = Threatened; SC = Special Concern

Name of Species	Locality		
	Squantum Point	Neponset River Marshes	Status
Black Scoter	V		
Ruddy Duck	V		
Hooded Merganser	M	M	
Common Merganser	M	M	
Red-breasted Merganser	M	M	
Turkey Vulture	M	M	
Goshawk	V		
Sharp-skinned Hawk	M	M	SC
Copper's Hawk	M	M	
Red-tailed Hawk	P.R.	P.R.	
Red-shouldered Hawk		M	
Broad-winged Hawk		M	
Rough-legged Hawk	M	M	
Bald Eagle		V	
Northern Harrier	M	M	T
Osprey	M	M	
Peregrine Falcon	M	M	T
Merlin	M	M	
American Kestrel	P.R.	P.R.	
Ruffed Grousse		V	
Bobwhite	M		
Ring-necked Pheasant	P.R.	P.R.	
Turkey			
King Rail	V	V	T
Clapper Rail	M		
Viginia Rail	M	P.R.	
Sora	M	M	
Common Gallinule	V		
American Coot		M	
American Oystercatcher	M		
Semipalmated Plover	M	M	
Piping Plover			

Name of Species	Locality		
	Squantum Point	Neponset River Marshes	Status
Killdeer	P.R. breeds	P.R.	
American Golden Plover	M	M	
Black-bellied Plover	M	M	
Ruddy Turnstone	M	M	
American Woodcock	breeds	M	
Common Snipe	M	M	
Whimbrel	M	M	
Upland Sandpiper	V	M	E
Spotted Sandpiper	M	M	
Solitary Sandpiper	M	M	
Willet	M		
Greater Yellowlegs	M	M	
Lesser Yellowlegs	M	M	
Red Knot	M		
Purple Sandpiper			
Pectoral Sandpiper	M	M	
White-rumped Sandpiper	M	M	
Baird's Sandpiper	M		
Least Sandpiper	M	M	
Yellow Rail		M	
Little Stint	V		
Curlew Sandpiper	M		
Dunlin	M	M	
Short-billed Dowitcher	M	M	
Long-billed Dowitcher	V	M	
Stilt Sandpiper	M		
Semipalmated Sandpiper	M	M	
Western Sandpiper	M		
Buff-breasted Sandpiper	M		
Marbled Godwit			
Hudsonian Godwit	M	V	
Ruff	V		

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Name of Species	Locality		
	Squantum Point	Neponset River Marshes	Status
Sanderling	M		
Red Phalarope	V		
Wilson's Phalarope	M		
Northern Phalarope			
Pomerine Jaeger		dead ad.	
Parasitic Jaeger	V		
Glaucous Gull	M	M	
Iceland Gull	M	M	
Great Black-backed Gull	P.R.	P.R.	
Herring Gull	P.R.	P.R.	
Ringed-billed Gull	P.R.	P.R.	
Black Headed Gull	M	M	
Laughing Gull	M	M	
Bonaparte's Gull	M	M	
Little Gull	V		
Black-legged Kittiwake			
Forster's Tern	M	M	
Common Tern	breeds	M	SC
Arctic Tern			
Roseate Tern	M		E
Least Tern	breeds	M	SC
Caspian Tern	M	M	
Black Tern	M		
Black Skimmer	V		
Razorbill			
Thicke-billed Murre			
Dovekie			
Black Guillemot			
Rock Dove	P.R.	P.R.	
Mourning Dove	P.R.	P.R.	
Yellow-billed Cuckoo	M	M	
Black-billed Cuckoo	M	M	

Name of Species	Locality		
	Squantum Point	Neponset River Marshes	Status
Royal Tern	M		
Gull-billed Tern		V	
Barn Owl	F		SC
Screech Owl			
Great Horned Owl	M	P.R.	
Snowy Owl	M	M	
Barred Owl			
Long-eared Owl			
Short-eared Owl	M	M	E
Saw-whet Owl			
Whip-poor-will			
Common Nighthawk	M	M	
Chimney Swift	M	M	
Ruby-throated Hummingbird	M	M	
Belted Kingfisher	P.R.	P.R.	
Common Flicker	P.R.	P.R.	
Pileated Woodpecker			
Red-bellied Woodpecker		M (V)	
Red-headed Woodpecker			
Yellow-bellied Sapsucker	M	M	
Hairy Woodpecker	M	M	
Downey Woodpecker	P.R.	P.R.	
Eastern Kingbird	breeds	M	
Western Kingbird			
Great Crested Flycatcher	M	M	
Eastern Phoebe	M	M	
Yellow-beillied Flycatcher	M.F.		
Acadian Flycatcher			
Willow Fycatcher	breeds	breeds	
Alder Flycatcher			
Least Flycatcher	M	M	
Eastern Wood Pewee	M	M	

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Name of Species	Locality			Name of Species	Locality		
	Squantum Point	Neponset River Marshes	Status		Squantum Point	Neponset River Marshes	Status
Olive-sided Flycatcher				Blue-gray Gnatcatcher	M	M	
Horned LarK	M	M		Golden-crowned Kinglet	M	M	
Tree Swallow	M	breeds		Ruby-crowned Kinglet	M	M	
Bank Swallow	M	M		Water Pipit	M	M	
Rough-Winged Swallow	M	M		Cedar Waxwing	M	M	
Barn Swallow	breeds	breeds		Northern Shrike	M	M	
Cliff Swallow	M	M		Loggerhead Shrike	M.F.	V	E
Purple Martin		M		Starling	P.R.	P.R.	
Blue Jay	P.R.	P.R.		White-eyed Vireo			
Common Crow	P.R.	P.R.		Yellow-throated Vireo		M	
Fish Crow	M	M		Solitary Vireo	M	M	
Black-capped Chickadee	P.R.	P.R.		Red-eyed Vireo	M	M	
Boreal Chickadee				Philadelphia Vireo		M	
Tufted Titmouse	P.R.	P.R.		Warbling Vireo	M	M	
White-breasted Nuthatch	P.R.	P.R.		Black-and-white Warbler	M	M	
Red-breasted Nuthatch	M	M		Worm-eating Worbler			
Brown Creeper	M	M		Golden-winged Warbler			
House Wren	breeds	breeds		Blue-winged Warbler	M.F.	M	
Winter Wren	M	M		Tennessee Warbler	M.F.		
Carolina Wren	P.R.	P.R.		Orange-crowned Warbler	M	M	
Marsh Wren		breeds		Nashville Warbler	M	M	
Sedge Wren		M		Northern Parula	M	M	T
Mockingbird	P.R.	P.R.		Yelow Warbler	P.R.	breeds	
Gray Catbird	breeds	breeds		Magnolia Warbler	M	M	
Brown Thrasher	breeds	M		Cape May Warbler	M.F.	M	
American Robin	M	M		Black-throated Blue Warbler	M	M	
Wood Thrush	M	M		Yellow-rumped Warbler	M	M	
Hermit Thrush	M	M		Black-throated Green	M	M	
Swainson's Thrush	M	M		Warbler			
Gray-cheeked Thrush	M.F.			Blackburnian Warbler	M.F.	M	
Veery	M	M		Chestnut-sied Warbler	M	M	
Eastern Bluebird				Bay-breasted Warbler	M.F.	M	

KEY M = Migrants; V = Vagrant; F = Formerly more common; P.R. = Permanent resident; breeds = Nesting bird. **Status** E = Endangered; T = Threatened; SC = Special Concern

Name of Species	Locality		
	Squantum Point	Neponset River Marshes	Status
Blackpoll Warbler	M.F.	M	SC
Pine Warbler	M.F.		
Prairie Warbler	M.F.	M	
Palm Warbler	M	M	
Ovenbird	M	M	
Northern Waterthrush	M	M	
Louisiana Waterthrush			
Connecticut Warbler		M	
Mourning Warbler	M.F.	M	SC
Common Yellowthroat	P.R.	breeds	
Yellow-breasted Chat		M	
Hooded Warbler			
Wilson's Warbler	M	M	
Canada Warbler	M.F.	M	
American Redstart	M	M	
House Sparrow	P.R.	P.R.	
Bobolink	M	M	
Eastern Meadowlark	M.F.	M	
Redwinged Blackbird	P.R.	breeds	
Orchard Oriole	M.F.		
Northern Oriole	P.R.	breeds	
Rusty Blackbird	M	M	
Common Grackle	M	M	
Brown-headed Cowbird	M	M	
Blue Grosbeak		M	
Scarlet Tanager	M.F.	M	
Cardinal	P.R.	M	
Rose-breasted Grosbeak	M	M	
Indigo Bunting	M	breeds	
Dickelssel	V	M	
Evening Grosbeak		M(V)	
Purple Finch	V	V	

Name of Species	Locality		
	Squantum Point	Neponset River Marshes	Status
House Finch	P.R.	P.R.	
Pine Grosbeak			
Common Redpoll	M	M	
Pine Siskin		V	
American Goldfinch	P.R.	P.R.	
Red Crossbill			
White-winged Crossbill			
Rufous-sided Towhee	M	M	
Savannah Sparrow	M	M	
Grasshopper Sparrow		M	
Sharp-tailed Sparrow	breeds	breeds	
Seaside Sparrow	M	V	
Vesper Sparrow		M	
Lark Sparrow		M	
Dark-eyed Junco	M	M	
Tree Sparrow	M	M	
Chipping Sparrow	M	M	
Field sparrow	M	M	
White-crowned Sparrow	M	M	
White-throated Sparrow	M	M	
Fox Sparrow	M	M	
Lincoln's Sparrow	M	M	
Swamp Sparrow	M	breeds	
Song Sparrow	breeds	breeds	
Lapland Longspur		V	
Snow Bunting	M	M	
Henslow's Sparrow	M.F.		
Clay-colored Sparrow		M	
Total Number	231	223	

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Addenda

A. Action Plan of the Friends of the Estuary Subwatershed Group

B. MDC Master Plan for the Lower Neponset River

Note: The Resource Management Plan (RMP) for the Neponset River Estuary ACEC refers to these two plans, and the implementation of important aspects of the RMP depends on the implementation of these plans. The Action Plan, including a detailed shoreline survey of the Estuary, is incorporated into the RMP as an addendum. To obtain a copy, call the Neponset River Watershed Association at (617)575-0354. The MDC plan, scheduled to be completed after the completion of this RMP, is intended to be incorporated in the RMP as an addendum after the completed MDC plan is reviewed and approved by the Secretary of EOEA. To obtain a copy, call the MDC at (617)727-9693 ext. 264.

SITE PLAN

SCALE: 1"=40'-0"

1"=40'-0" 40 0 40 80

SCALE IN FEET

CHILDS ENGINEERING CORPORATION
34 WILLIAM WAY, BELLINGHAM, MA 02019 U.S.A.
Phone: (508) 966-9092 Fax: (508) 966-9096
E-mail: mail@childseng.com

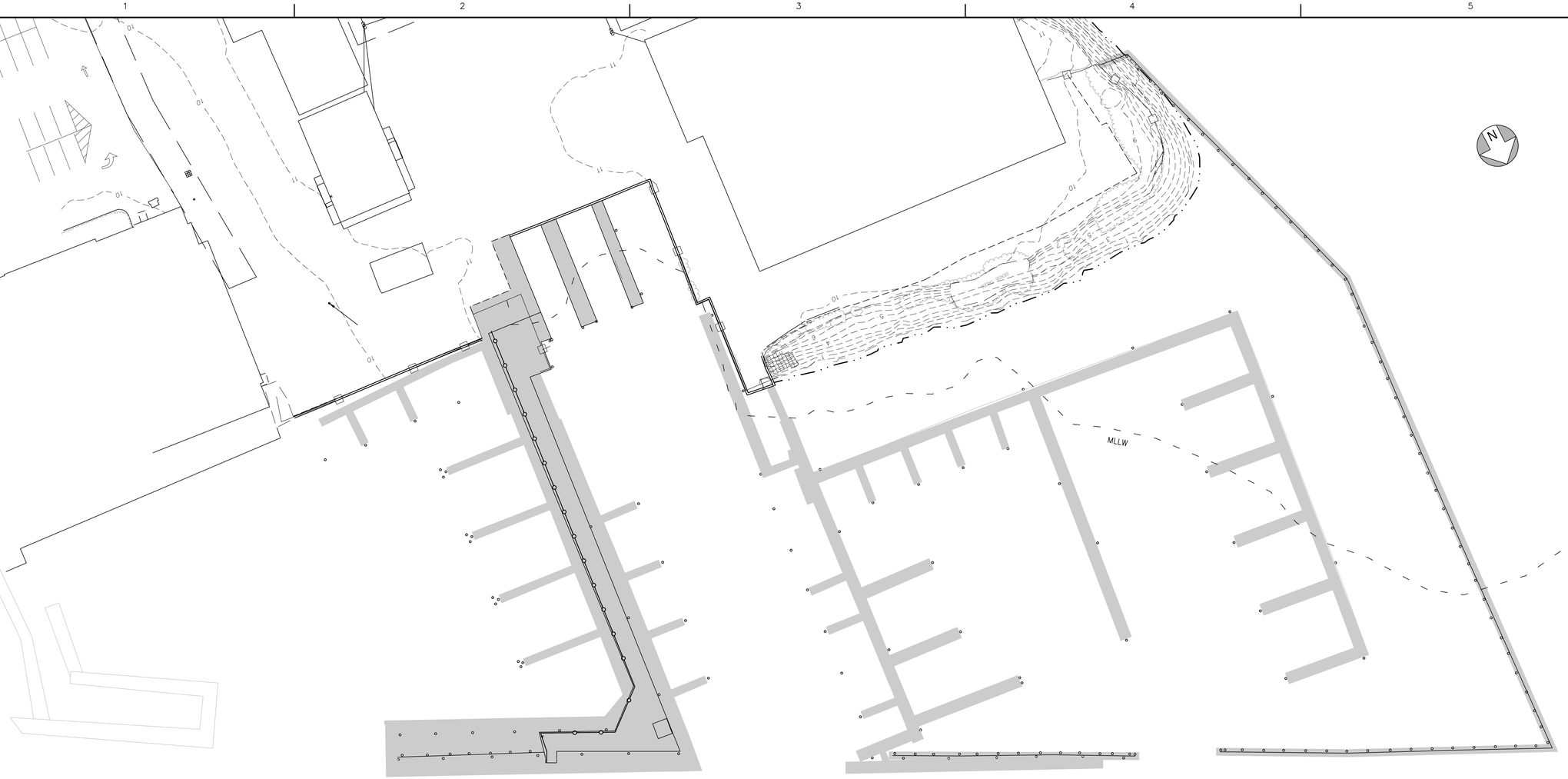
Mark	Description	Date	Appr.

Designed by: DLP	Date: 02/14/18		
Drawn by: TEQ	Check by: DLP	Design File no.: 274517 X-101	Scale: 1"=40'-0"
	Reviewed by: DLP		

MARINA DREDGING
RUSSO MARINE
DORCHESTER, MA

EXISTING SITE PLAN

Sheet reference number:
X-101
Sheet 1 of 5



PLAN

SCALE: 1"=30'-0"

30 0 30 60

1"=30'-0" SCALE IN FEET

LEGEND

STRUCTURES TO BE REMOVED

NOTES:

1.

CHILDS ENGINEERING CORPORATION
34 WILLIAM WAY, BELLINGHAM, MA 02019 U.S.A.
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E-mail: mail@childseng.com

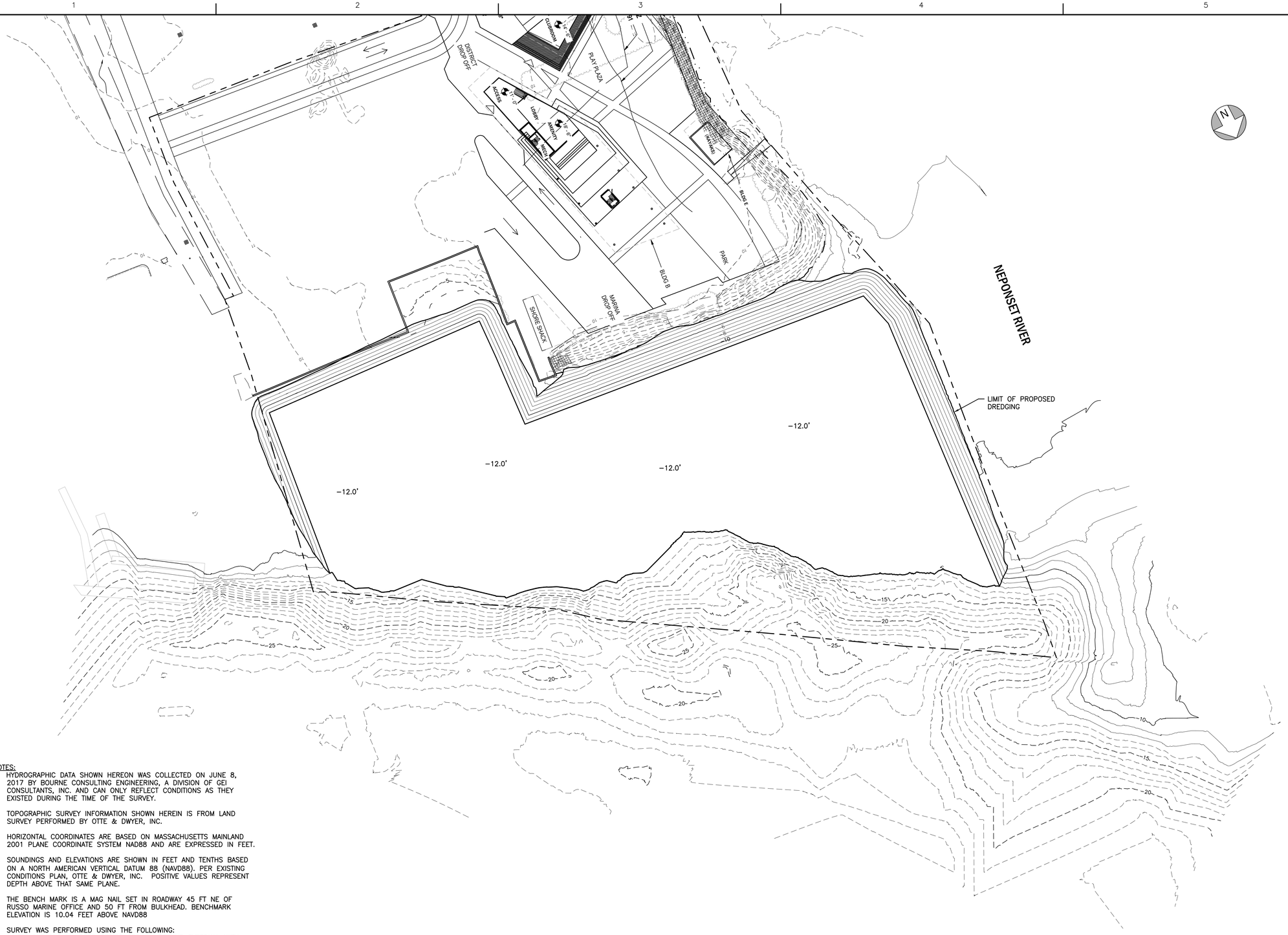
Mark	Description	Date	Appr.

Designed by: DLP	Drawn by: TEQ	Date: 02/14/18	Scale: 1"=40'-0"
Cad by: DLP	Design file no. 274517 X-102		
Reviewed by: DLP			

MARINA DREDGING
RUSSO MARINE
DORCHESTER, MA

DEMOLITION PLAN

Sheet reference number:
X-102
Sheet 2 of 5



NOTES:

1. HYDROGRAPHIC DATA SHOWN HEREON WAS COLLECTED ON JUNE 8, 2017 BY BOURNE CONSULTING ENGINEERING, A DIVISION OF GEI CONSULTANTS, INC. AND CAN ONLY REFLECT CONDITIONS AS THEY EXISTED DURING THE TIME OF THE SURVEY.
2. TOPOGRAPHIC SURVEY INFORMATION SHOWN HEREIN IS FROM LAND SURVEY PERFORMED BY OTTE & DWYER, INC.
3. HORIZONTAL COORDINATES ARE BASED ON MASSACHUSETTS MAINLAND 2001 PLANE COORDINATE SYSTEM NAD88 AND ARE EXPRESSED IN FEET.
4. SOUNDINGS AND ELEVATIONS ARE SHOWN IN FEET AND TENTHS BASED ON A NORTH AMERICAN VERTICAL DATUM 88 (NAVD88). PER EXISTING CONDITIONS PLAN, OTTE & DWYER, INC. POSITIVE VALUES REPRESENT DEPTH ABOVE THAT SAME PLANE.
5. THE BENCH MARK IS A MAG NAIL SET IN ROADWAY 45 FT NE OF RUSSO MARINE OFFICE AND 50 FT FROM BULKHEAD. BENCHMARK ELEVATION IS 10.04 FEET ABOVE NAVD88
6. SURVEY WAS PERFORMED USING THE FOLLOWING:
   - –TRIMBLE GEO XH 2005 SERIES GPS W/ ZEPHYR EXTERNAL WITH ANTENNA
   - –ODEM ECHOTRAC CV100
   - –SINGLE BEAM TRANSDUCER– 9° ANGLE – 200kHz
   - –HYPACK MAX HYDROGRAPHIC SURVEY SOFTWARE VERSION 2011 ON LAPTOP COMPUTER
7. PROPOSED SITE PLAN REFERENCED FROM DRAWING TITLED "GROUND SITE PLAN – BASEMENT OPTION" BY CPC ERICSON STREET LLC, BOSTON, MA. DATED 6/22/2017.

DREDGE PLAN

SCALE: 1"=40'–0"

1"=40'–0" 40 0 40 80

SCALE IN FEET

DREDGE VOLUME TO ELEV. –12.0' = 20,310 CU. YDS.

1 FOOT OVERDREDGE = 3,909 CU. YDS.

SQUARE FOOTAGE OF AREA AFFECTED BY DREDGING = 128,150 SF

DATUM: NAVD88

HTL	+6.99
MHW	+4.33
NAVD88	0.00
MLW	–5.16
MLLW	–5.51

CHILDS ENGINEERING CORPORATION
34 WILLIAM WAY, BELLINGHAM, MA 02019 U.S.A.
Phone: (508) 966–9092 Fax: (508) 966–9096
E–mail: mail@childseng.com

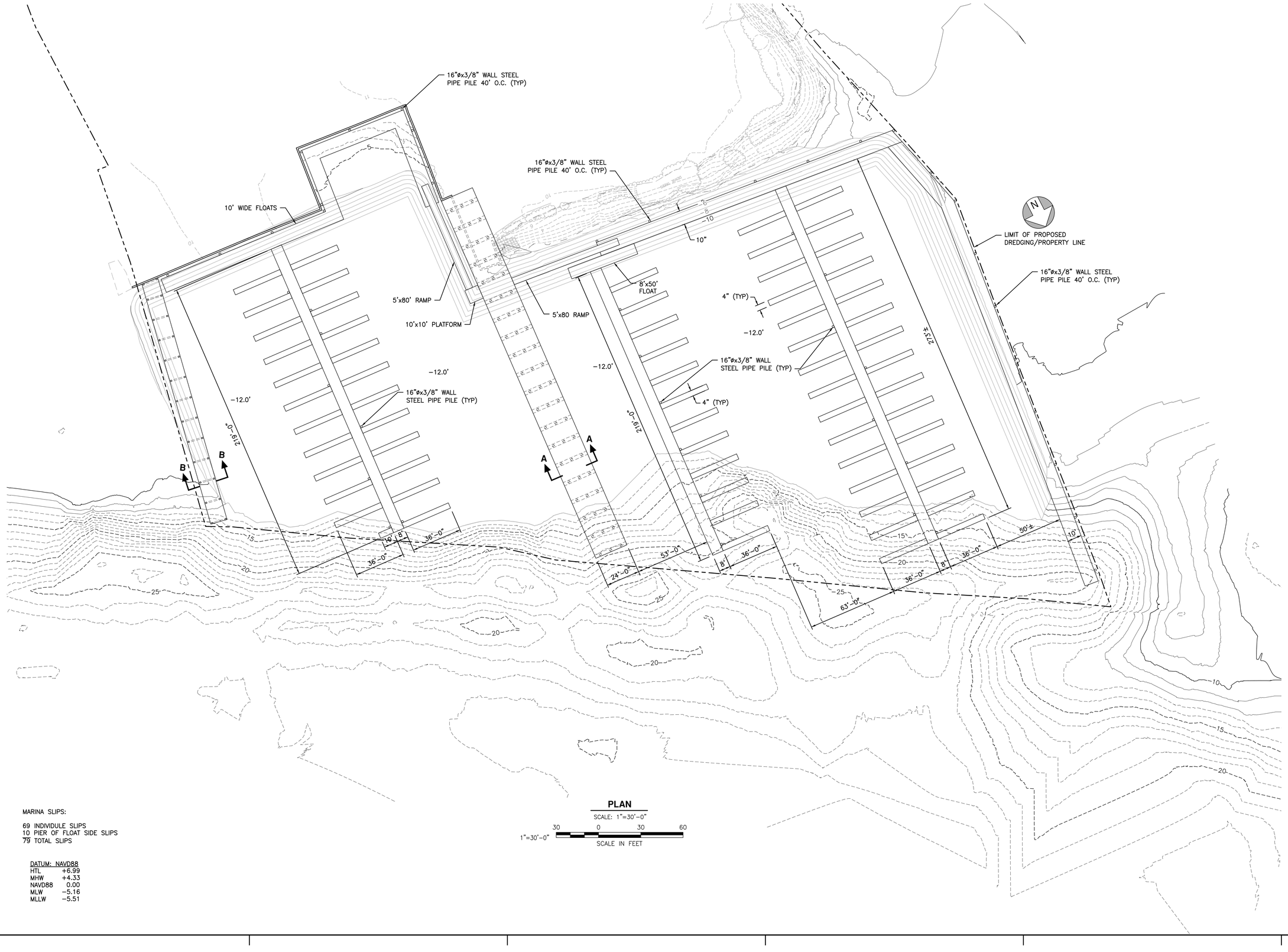
Mark	Description	Date	Appr.

Designed by: DLP	Date: 02/14/18		
Drawn by: TEO	Check by: DLP	Design File no.: 274517 X–103	Scale: 1"=40'–0"
	Reviewed by: DLP		

MARINA DREDGING
RUSSO MARINE
DORCHESTER, MA

PROPOSED DREDGE PLAN

Sheet reference number:
X–103
Sheet 3 of 5



MARINA SLIPS:

69 INDIVIDULE SLIPS
10 PIER OF FLOAT SIDE SLIPS
79 TOTAL SLIPS

DATUM: NAVD88	
HTL	+6.99
MHW	+4.33
NAVD88	0.00
MLW	-5.16
MLLW	-5.51

PLAN
SCALE: 1"=30'-0"

1"=30'-0" 30 0 30 60
SCALE IN FEET

CHILDS ENGINEERING CORPORATION
34 WILLIAM WAY, BELLINGHAM, MA 02019 U.S.A.
Phone: (508) 966-9092 Fax: (508) 966-9096
E-mail: mail@childseng.com

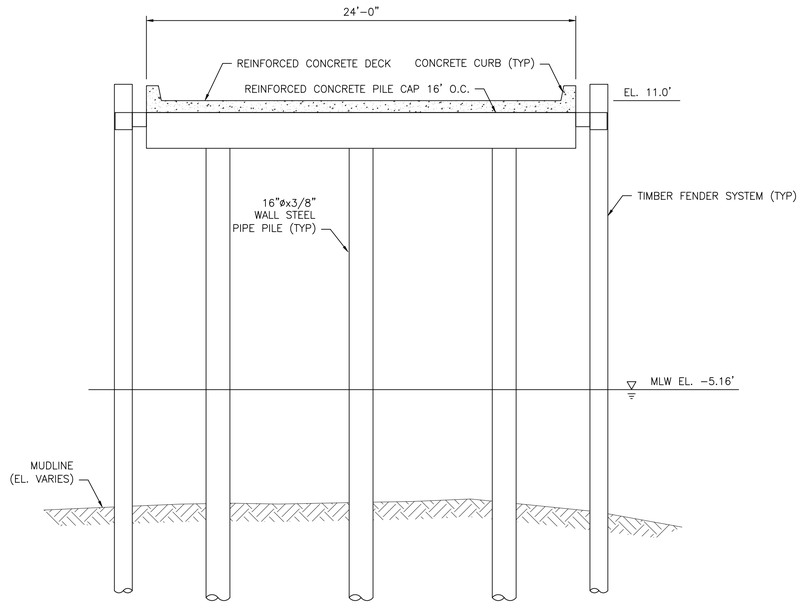
Mark	Description	Date	Appr.

Date: 02/14/18
Design file no.: 274517 X-103
Scale: 1"=40'-0"
Designed by: DLP
Drn. by: TEQ
Cal. by: DLP
Reviewed by: DLP

MARINA DREDGING
RUSSO MARINE
DORCHESTER, MA

PROPOSED MARINE FACILITIES
LAYOUT PLAN

Sheet reference number:
X-104
Sheet 4 of 5



SECTION A-A

SCALE: 1/4"=1'-0"

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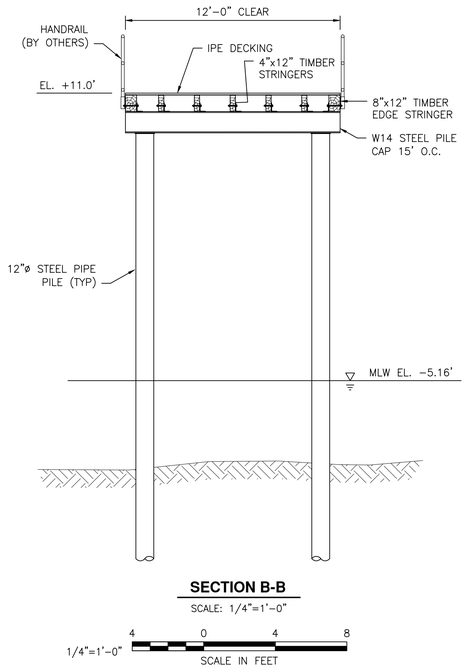
SCALE IN FEET



SECTION B-B

SCALE: 1/4"=1'-0"

1/4"=1'-0" 4 0 4 8

SCALE IN FEET

CHILDS ENGINEERING CORPORATION
34 WILLIAM WAY, BELLINGHAM, MA 02019 U.S.A.
Phone: (508) 966-9092 Fax: (508) 966-9096
E-mail: mail@childseng.com

Mark	Description	Date	Appr.

Designed by:	DLP	Date:	02/14/18
Dwn. by:	TEQ	Chkd. by	DLP
Design file no.	274517 X-105		
Reviewed by:	DLP	Scale:	1/4"=1'-0"

MARINA DREDGING
RUSSO MARINE
DORCHESTER, MA

PROPOSED MARINE FACILITIES SECTIONS

Sheet reference number:
X-105
Sheet 5 of 5

Appendix H: MEPA Comment Letters

The Commonwealth of Massachusetts
Executive Office of Energy and Environmental Affairs
100 Cambridge Street, Suite 900
Boston, MA 02114

Charles D. Baker
GOVERNOR

Karyn E. Polito
LIEUTENANT GOVERNOR

Matthew A. Beaton
SECRETARY

Tel: (617) 626-1000
Fax: (617) 626-1081
http://www.mass.gov/eea

August 25, 2017

CERTIFICATE OF THE SECRETARY OF ENERGY AND ENVIRONMENTAL AFFAIRS
ON THE
ENVIRONMENTAL NOTIFICATION FORM

PROJECT NAME	: Neponset Wharf
PROJECT MUNICIPALITY	: Boston
PROJECT WATERSHED	: Boston Harbor
EEA NUMBER	: 15728
PROJECT PROPONENT	: CPC Ericsson Street LLC
DATE NOTICED IN MONITOR	: July12, 2017

Pursuant to the Massachusetts Environmental Policy Act (M.G.L. c. 30, ss. 61-62I) and Section 11.03 of the MEPA Regulations (301 CMR 11.00), I hereby determine that this project **requires** the preparation of a mandatory Draft Environmental Impact Report (DEIR).

As described in the Environmental Notification Form (ENF), the project consists of a mixed-use development of approximately 307,000 square feet (sf) in four buildings and the renovation of a 75-slip marina. The proposed buildings include:

- Building A: An eight-story, 93,500-sf building with 43 residential units, a 25-room hotel, and 70 parking spaces;
- Building B: A five-story, 28,500-sf building with 21 residential units;
- Building C: A one-story, 23,000-sf boat storage facility; and,
- Building D: An eight-story, 159,000-sf building with 86 residential units, a 4,000-sf restaurant, and 115 parking spaces.

Buildings C and D are connected and also referred to as Building C/D in the ENF. The project also includes a 1,450-sf marina support building, a 650-sf kayak storage shed, and a 400-sf snack bar with public restrooms ("shore shack"). Five existing marina-related buildings with a combined area of 71,300 sf will be demolished. Approximately 24,200 cubic yards (cy) of sediment will be dredged from a 129,000-sf area within the marina to facilitate navigation.

Publicly-accessible outdoor open space will include a fishing pier, kayak launching and storage facilities, public restrooms, and a Harborwalk.

Project Site

The 7.6-acre project site is located at the northern tip of a peninsula known as Port Norfolk. The site includes four acres of watersheet occupied by the marina and 3.5 acres of land. The marina is surrounded by a wave fence to provide some protection from wave damage. The site is bordered by the Neponset River to the north, Pine Neck Creek to the west, a restaurant and parking lot to the east, and commercial uses to the south. Tenean Beach, which is under the care, custody and control of the Department of Conservation and Recreation (DCR), is located west of the site across Pine Neck Creek. The Port Norfolk residential neighborhood is located south of the commercial uses. The site is currently occupied by a 75-slip marina, buildings containing boat storage, marine services and sales, and a surface parking lot.

The site is located in the Neponset River Estuary Area of Critical Environmental Concern (ACEC). These areas are formally designated by the Commonwealth and the community to encourage their preservation and enhancement through planning, restoration and added regulatory protection. A two-acre area at the seaward end of the site consists of filled tidelands subject to the Massachusetts Department of Environmental Protection's (MassDEP) jurisdiction under M.G.L. Chapter 91 (c. 91). According to the Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Map (FIRM) number 25025C0091J (effective March 16, 2016), the majority of the landside portion the site is located within the 100-year floodplain (Zone AE) with a Base Flood Elevation (BFE) ranging between 11ft to 13 ft NAVD 88. The seaward edge of the site and the watersheet are located in a coastal flood zone with velocity hazard (VE) with a BFE of 14 ft NAVD 88. The site is located within the Port Norfolk Area, which is included in the Massachusetts Historical Commission's (MHC) Inventory of Historic and Archaeological Assets of the Commonwealth. MHC has identified the Port Norfolk Area as eligible for listing in the National Register of Historic Places.

Because the project exceeds 50,000 sf of gross floor area, it will be reviewed by the Boston Planning and Development Agency (BPDA) under its Large Project Review process pursuant to Article 80B of the City of Boston Zoning Code. The site is located within the Waterfront Service Subdistrict of the Dorchester Neighborhood District zoning code. According to the ENF, multi-family and mixed-use buildings are permitted uses under zoning; however, the hotel use, Floor Area Ratio (FAR), building height, lot coverage, side yard and multifamily dwellings as a percentage of FAR will require zoning relief.

Environmental Impacts and Mitigation

The project will add approximately two acres of nonwater-dependent use of tidelands. It will alter 94,000 sf of Land Under the Ocean (LUO), 36,000 sf of Coastal Beach, 29,600 sf of Riverfront Area, and 276,800 sf of Land Subject to Coastal Storm Flowage (LSCSF). The tidelands, wetland resource areas, and most of the upland portion of the site are located within the ACEC. The residential, hotel and restaurant uses will generate 1,515 new unadjusted average daily trips (adt) and the project will include185 new vehicle parking spaces. The project uses will consume 30,752 gallons per day (gpd) of water and generate 27,956 gpd of wastewater. The project will release emissions of Greenhouse Gasses (GHG) and other air pollutants

associated with the burning of fossil fuels for on-site energy use and automobile travel by residents and visitors to the site.

The Proponent has proposed measures to mitigate the project's impacts. The project will provide publicly accessible open space, including a Harborwalk, a fishing pier, kayak launching facilities, public restrooms and other amenities. It will include a new stormwater management system with Best Management Practices (BMPs) to improve the water quality and flow rate of stormwater discharged from the site as required by MassDEP's Stormwater Management Standards (SMS). It will include roadway improvements and Transportation Demand Management (TDM) measures to minimize single occupancy vehicle (SOV) trips and mitigate the impact of new trips generated by the project. The project will employ measures to conserve water and contribute to Infiltration/Inflow (I/I) reduction to preserve sewer capacity. The buildings will incorporate energy efficiency features and climate change adaptation measures to minimize GHG emissions and sea level rise and other effects of climate change.

Permitting and Jurisdiction

The project is undergoing MEPA review and is subject to preparation of a mandatory Environmental Impact Report (EIR) pursuant to Section 11.03(3)(a)(5) because it requires State Agency Permits and includes a new nonwater-dependent use of one or more acre of tidelands. The project exceeds the ENF thresholds at 301 CMR 11.06(b)(14) (generation of 1,000 or more new adt on roadways providing access to a single location and construction of 150 or more new parking spaces at a single location) and 301 CMR 11.03(11)(b) (any project within a designated ACEC, unless the project consists solely of one single family dwelling). The proposed bridge to Tenean Beach may also meet the threshold at 301 CMR 11.03(1)(b)(3), conversion of land held for natural resources purposes in accordance with Article 97 of the Amendments to the Constitution of the Commonwealth to any purpose not in accordance with Article 97. The project requires a c.91 License and a Section 401 Water Quality Certificate (WQC) from MassDEP. It may require a Construction Access Permit from DCR. It wil require a Federal Consistency determination from the Massachusetts Office of Coastal Zone Management (CZM). The project is subject to the MEPA GHG Emissions Policy and Protocol (GHG Policy) and will require a Public Benefit Determination (PBD).

The project requires an Order of Conditions from the Boston Conservation Commission (BCC) (or in the case of an appeal, a Superseding Order of Conditions (SOC) from MassDEP). It will require Article 80 Review by the BPDA and a Transportation Access Plan Agreement (TAPA) and Construction Management Plan (CMP) approval from the Boston Transportation Department (BTD). It will require a National Pollutant Discharge Elimination System (NPDES) Stormwater General Permit from the United States Environmental Protection Agency (EPA) and a Section 10/Section 404 Individual Permit from the Army Corps of Engineers (ACOE).

Because the Proponent is not seeking State Financial Assistance, MEPA jurisdiction extends to those aspects of the project that are within the subject matter of required or potentially required State Permits and that may cause Damage to the Environment, as defined in the MEPA regulations. Because the project requires a c.91 License, MEPA jurisdiction is broad in scope pursuant to 301 CMR 11.02(a) and extends to all aspects of the project that may cause Damage to the Environment, as defined in the MEPA regulations.

SCOPE

General

The Proponent will file a DEIR and a Final EIR (FEIR) which will provide additional information and analysis about the project. Both the DEIR and FEIR will be subject to public review and comment. The Proponent submitted an ENF that identified project components, impacts and mitigation measures at a conceptual level. The DEIR should provide detailed plans, descriptions and data that sufficiently describe the proposed project, its impacts, and baseline environmental conditions for the purpose of State Agency and public review. It should follow Section 11.07 of the MEPA regulations for outline and content, as modified by this scope. The DEIR should clearly demonstrate that the Proponent has sought to avoid, minimize and mitigate Damage to the Environment to the maximum extent feasible.

Development of the project site is constrained by a limited roadway network, the site's location at the end of a small peninsula occupied primarily by residential uses, its proximity to wetlands and a coastal floodplain, vulnerability to sea level rise, and regulatory requirements reflecting the public's rights in tidelands and the sensitive ecology of the area. A primary focus of the DEIR should be to identify a development alternative that seeks to strike the right balance considering environmental constraints, neighboring uses and the Proponent's development goals.

Project Description and Permitting

The ENF described existing site conditions and provided a basic project description and conceptual plans. It identified the project's potential impacts on tidelands, the ACEC, transportation, water and sewer use, drainage, GHG emissions, and historic resources, reviewed short-term impacts anticipated during the construction period, and identified potential mitigation measures.

The DEIR should include plans and a detailed description of existing conditions, including site topography, soil conditions, and infrastructure. It should describe the project and identify any changes to the project since the filing of the ENF. It should include updated site plans for existing and post-development conditions at a legible scale. The plans should depict existing and proposed conditions for all project elements, including the marina, dredging area, footbridge, and on-shore development. Plans should be provided at a legible scale and clearly identify buildings, public areas, impervious areas, and boundaries of tidelands, the ACEC and wetlands resource areas, including floodplains. The DEIR should provide plans detailing wetlands impacts, pedestrian and bicycle accommodations, roadway improvements, and stormwater and utility infrastructure. C.1

The DEIR should identify and describe State, federal and local permitting and review requirements associated with the project and provide an update on the status of each of these pending actions. It should include a description and analysis of applicable statutory and regulatory standards and requirements, and a discussion of the project's consistency with those standards. C.2

Some commenters suggested that the Proponent has acquired or will acquire other properties in the area for subsequent development. The DEIR should disclose any future phases C.3

of the project and identify the associated impacts. It should describe likely phasing scenarios, and discuss how mitigation measures will be implemented in the phasing scenarios to ensure that project impacts are appropriately mitigated as development proceeds. C.3

Public Comments

The DEIR should respond to all comments received on the ENF. I received comments from state and City agencies, environmental advocacy groups, and residents of Port Norfolk. Comments from agencies have requested a significant amount of information that must be provided in the DEIR to determine whether the project will meet regulatory standards, including additional information about existing conditions, a more detailed description of the project and its impacts, and a more robust consideration of mitigation. While generally receptive to some redevelopment of the site, Port Norfolk residents expressed concern that the scale of the project is incompatible with the predominately residential character of the area and that it would strain the area's infrastructure. Of particular concern, is the potential impact of over 1,500 new adt on the limited roadway network serving the site. Residents also offered detailed comments about the project's impacts on wetlands and water quality, the effect of the design and scale of the project on waterfront accessibility by the public, contaminated soils and sediments, and the visual impacts associated with the proposed height and orientation of the buildings. I urge the Proponent to carefully consider all comments while developing additional alternatives and refining the project design. C.4

Alternatives Analysis

The ENF compared the Preferred Alternative to a No Build alternative and three alternatives that could be constructed as-of-right under current zoning:

- Marina Renovation
- Cold Storage/Seafood Processing
- Marine Retail.

The No-Build Alternative would maintain the existing conditions and buildings and continue the use of the site for marina and boatyard services. This alternative would not include dredging and would have no new impacts. The Marina Renovation alternative would renovate the marina and buildings and perform maintenance dredging to support continued use of the site. Impacts associated with this alternative would be limited to those associated with dredging; there would be no change to the intensity of use of the site. The Cold Storage/Seafood Processing alternative would include replacing the existing buildings with a 50,000- to 75,000-sf facility along the waterfront. The main piers of the marina would be retained to provide access to the facility for commercial vessels. Its overall size would be reduced and no dredging would be required. This alternative would generate additional truck trips to and from the site and would have noise and odor impacts. The Marine Retail alternative would replace the existing buildings with a 20,000-sf boating supply and fishing retail store and surface lots for parking and boat storage. These new structures would be constructed outside of c. 91 jurisdiction. The floats and docks would be retained for use in boat sales and dredging would not be required. This alternative would generate additional traffic but not as many trips as the Preferred Alternative.

According to the ENF, none of these alternatives would require significant public access facilities or stormwater management improvements.

The Preferred Alternative includes the construction of 307,000 sf of mixed uses in four new buildings. It would maintain the existing marina services and add residential, hotel and restaurant uses. The Preferred Alternative would generate 1,515 new adt, considerably more than the other alternatives, and require significant increases in water and sewer use. It would provide two acres of public open space, a 28,000 sf Harborwalk, and other publicly-accessible waterfront facilities, improve water quality by providing a new stormwater management system, and maintain water-dependent uses at the site.

The DEIR should provide an expanded alternatives analysis. It should review a Reduced Build alternative that includes redevelopment of the site at a lower density. The DEIR should include at least one alternative that is consistent with the urban design guidelines included in the 1988 Port Norfolk Neighborhood Plan. If the Proponent has obtained rights to develop additional land in Port Norfolk, the analysis should also include an alternative that encompasses all of the land under or the potentially under control of the Proponent.

C.5

The DEIR should provide a detailed comparison of the alternatives, including detailed descriptions and plans of each alternative. It should compare the environmental impacts of each alternative, quantitatively to the extent practicable, with respect to trip generation, traffic operations, pedestrian and bicycle access, water use, wastewater generation, impervious area, tidelands, wetlands resource areas and GHG emissions.

Article 97 and DCR Parkland

The project may include a pedestrian bridge over Pine Neck Creek to provide a connection between the site and DCR's Tenean Beach. The Proponent may construct the bridge and, upon completion, transfer ownership to DCR or the Proponent will maintain ownership of the bridge. If the Proponent retains ownership, the project will require a Land Transfer from DCR in the form of an easement. The Land Transfer would be subject to the EEA Article 97 Land Disposition Policy (Article 97 Policy), which ensures a no net loss of Article 97 land. The DEIR should review how the project would comply with the relevant portions of the Article 97 Policy, including the six criteria for determining when "exceptional circumstances" exist such that a disposition of Article 97 land may be appropriate:

- The Proponent of the disposition must conduct an analysis of alternatives, commensurate with the type and size of the proposed disposition, that achieve the purpose of the disposition without the use of Article 97 land, such as the use of other land available within the appropriate market area;
- The disposition of the subject parcel and its proposed use may not destroy or threaten a unique or significant resource (e.g., significant habitat, rare or unusual terrain, or areas of significant public recreation);
- Real estate of equal or greater value, and of significantly greater resource value is granted to the disposing agency;
- The minimum necessary area of Article 97 should be included in the disposition and the existing resources continue to be protected to the maximum extent possible;

- The disposition serves an Article 97 purpose or another public purpose without detracting from the mission, plans, policies and mandates of EEA and its appropriate department or division; and
- The disposition is not contrary to the express wishes of the person(s) who donated or sold the parcel or interests to the Commonwealth.

Alternately, DCR has indicated that it will accept ownership of the pedestrian bridge if the Proponent constructs and maintains the bridge, agrees to relocate and improve the Tenean Beach playground and constructs and maintains publicly accessible restrooms. If the Proponent does not intend to maintain ownership of the bridge, the DEIR should describe the terms of any agreements between DCR and the Proponent for construction of the bridge and provision of public facilities as described by DCR. The DEIR should provide detailed design plans of the bridge and identify any impacts to wetlands resource areas or parkland and proposed mitigation measures. As noted by the MassDEP Waterways Regulation Program (WRP), the bridge must be designed to span the waterway with no fill or structures below the mean high water mark in order to comply with c. 91 standards for projects in an ACEC. I note the concern of DCR and residents that the bridge could result in use of the Tenean Beach parking lot by residents. The DEIR should describe any measures that the Proponent will undertake to avoid impacts to parking supply for Tenean Beach. C.6

Tidelands

Approximately two acres of the site at its seaward end are comprised of filled tidelands. According to the ENF, eight c. 91 licenses have been issued authorizing fill and structures at the site since 1879. The ENF reviewed the project's compliance with the c. 91 regulations, including those for nonwater-dependent uses. The site contains a Water-dependent Use Zone (WDUZ) extending 74 feet from the shoreline. The boat storage portion of Building C/D is proposed to be located within the WDUZ. The project would not include any nonwater-dependent Facilities of Private Tenancy (FPT) on the ground level within 100 feet of the shoreline; FPTs proposed within this setback are proposed on upper levels of the buildings. According to the ENF, the project has been designed to provide at least one square foot of tidelands outside the footprint of any building for each square foot of tidelands occupied by a building containing nonwater-dependent uses, as required by the c. 91 regulations. The ENF also stated that the project will comply with c.91 limits on building height, which restrict the height of nonwater-dependent use buildings to 55 feet within 100 feet of the shoreline, with a permissible increase in height of one foot for every two feet back from the shoreline. The project will encourage public use of the shoreline by providing a Harborwalk, fishing pier, kayak launch and other publicly accessible waterfront open spaces and facilities.

The ENF did not provide calculations, plans, or other information to document that the project will comply with the c. 91 standards. A portion of Building C/D, which contains the boat storage facility and residential units, will be located within the WDUZ. It is not clear to what extent Buildings C and D are distinct from one another. Buildings containing nonwater-dependent uses are prohibited from the WDUZ. The DEIR should describe the design of these buildings and address how they comply with the WDUZ prohibition. The DEIR should clearly show all buildings and uses within tidelands and quantify ground floor uses on filled tidelands. The DEIR should include an overlay of c. 91 regulatory zones, including the landward limit of filled tidelands, the WDUZ, 100-ft setback from the shoreline, and building height limits on C.7

proposed conditions plans. It should document compliance with the c. 91 open space standard, provide detailed designs of the public waterfront open space and other publicly-accessible exterior areas and facilities, and identify exterior areas that will be reserved for private use. The DEIR should describe how design of interior Facilities of Public Accommodation and exterior public open space will be coordinated to provide meaningful and desirable use of the site by the public. The DEIR should document pre- and post-development views of the water from public streets. It should provide the additional information requested in the comment letter from the MassDEP Waterways Regulation Program. C.7

According to MassDEP, the proposed Harborwalk and marina improvements appear to conform with the c. 91 regulations as they relate to structures and uses in an ACEC and are consistent with the Neponset River Estuary ACEC Resource Management Plan (RMP). Many commenters noted that improvement dredging is prohibited within the ACEC. The c. 91 regulations prohibit improvement dredging within an ACEC for any uses other than fisheries and wildlife enhancement. The ENF identified one authorization for dredging that was issued in 1911. The DEIR should detail the area to be dredged, the proposed dredge depth, and resource areas impacted by dredging, including Land Containing Shellfish. The DEIR should additional documentation that the proposed dredging can be considered to be maintenance dredging. C.8

The project exceeds an EIR threshold as defined in 301 CMR 11.03 and is subject to the provisions of *An Act Relative to Licensing Requirements for Certain Tidelands* (2007 Mass. Acts ch. 168) and the Public Benefit Determination regulations (301 CMR 13.00). Consistent with Section 8 of the legislation, I must conduct a Public Benefits Review as part of the EIR review of projects located on landlocked tidelands that entail a new use or modification of an existing use. The ENF noted that the project will provide new public open space on previously inaccessible tidelands. The DEIR should provide an updated analysis of the project's public benefits and how it will address the PBD regulatory criteria. I will issue a PBD within 30 days of the issuance of the final Certificate. C.9

Wetlands and Stormwater

Wetland resource areas at the site include LUO, Land Containing Shellfish, Coastal Beach/Tidal Flats, Coastal Bank, Riverfront Area and LSCSF. According to the ENF, the project will alter 29,600 sf of Riverfront Area and 276,800 sf of LSCSF in connection with development of the site. Dredging and renovation of the marina will impact 94,000 sf of LUO and 36,000 sf of Coastal Beach. The ENF stated that the project will conform to the performance standards in the Wetlands Regulations but did not document the nature and extent of the impacts, specify measures to minimize or mitigate impacts or describe how the project will meet performance standards.

The DEIR should include a map delineating all resource areas in relation to the project elements. It should describe and quantify impacts to each wetland resource area and identify measures to minimize and mitigate resource area impacts. The DEIR should describe existing and proposed conditions in relation to existing floodplain elevations and projected elevations due to sea level rise. It should include plans and cross-sections showing topography, fill, all buildings and structures, and first floor elevations. The DEIR should provide plans and analysis to document that the proposed structures will meet the Massachusetts State Building Code, 8th Edition requirements for new construction within the floodplain. According to CZM and DCR, C.10 C.11

buildings located in more than one flood zone must be designed to meet the standards for the more restrictive zone. The plans and architectural renderings included in the ENF suggest that the building designs may not meet the Building Code requirement that the lowest horizontal member of the lowest floor be elevated two feet above the BFE. C.11

The Proponent will remove the existing wave fence. The DEIR should document whether any new structure will be necessary to dissipate wave energy to protect the marina and landside portion of the site. It should describe the proposed structure and document potential direct impacts or indirect impacts caused by dissipating or redirecting waves. C.12

The project will reduce impervious surface by 0.5 acres compared to existing conditions. According to the ENF, stormwater runoff currently flows to the Neponset River via direct overland flow or through catch basins connected to the drainage system in Ericsson Street, which discharges into the river. The drainage system is owned by the Boston Water and Sewer Commission (BWSC). The project will include a new stormwater management system that will comply with the SMS by improving water quality, reducing runoff volume and maintaining or minimizing peak rates of runoff compared to existing conditions. The DEIR should provide a more detailed description of the proposed stormwater management system, including supporting documentation, calculations and data to demonstrate that it will comply with the SMS and BWSC standards, type and location of Best Management Practices (BMPs), plans showing the locations of system components and connections to the BWSC system, and ultimate discharge points. The DEIR should evaluate the feasibility of incorporating Low Impact Design (LID) features in the overall design of the site. C.13

Traffic and Transportation

The ENF reviewed the existing roadway network adjacent to the project site, identified nearby bus routes operated by the Massachusetts Bay Transportation Authority (MBTA), and provided an estimate of the project's trip generation. It described the transportation analysis to be provided in the DEIR and acknowledged that the project may be required to provide transportation-related mitigation, which may include roadway improvements, shuttle service, and TDM measures.

The site has limited vehicular and transit access. It is connected to the Port Norfolk neighborhood by two driveways onto Ericsson Street. Lawley Street, Port Norfolk Street and Walnut Street run in a north-south direction between Ericsson Street and Water Street. Access to the regional roadway network is provided via Water Street to either Conley Street, which intersects with Morrissey Boulevard, or Redfield Street, which provides access to Neponset Circle in combination with Woodworth Street and Walnut Street. Parking at the site occurs on unstriped surface lots. The nearest MBTA bus stops are at Neponset Circle, approximately 0.5 miles south of the site. Bus Route 201/202 runs between Fields Corner and North Quincy and Bus Route 210 provides access between Fields Corner and Quincy Center.

The project will add 1,515 unadjusted weekday adt and 1,591 unadjusted Saturday trips based on trip generation estimates derived from the Institute of Transportation Engineers (ITE) *Trip Generation Manual (9th Edition)* for Land Use Codes (LUC) 230 (Residential Condominium/Townhouse), 310 (Hotel) and 931 (Quality Restaurant). Adjusted for a five percent allocation for bicycle and pedestrian trips, the project will generate 1,440 new daily

vehicle trips on weekdays and 1,230 new vehicle trips on Saturday. It will generate 83 new vehicle trips during the weekday morning peak hour, 124 during the weekday evening peak hour, and 394 during the Saturday mid-day peak period. The trip generation estimates were not adjusted for transit use because the project site lacks public transportation service.

The DEIR should include a traffic study prepared consistent with the EEA/Massachusetts Department of Transportation (MassDOT) *Transportation Impact Assessment (TIA) Guidelines* issued in March 2014 and the City of Boston's requirements for traffic studies. It should identify the study area used for the analysis; describe both existing and proposed roadway, pedestrian, and bicycle conditions; public transit capacity and infrastructure; roadway and intersection volumes; safety issues; and capacity analyses for the weekday morning and evening peak hours. At a minimum, the TIA study area should include the intersections of Walnut Street at Neponset Circle, Redfield Street at Neponset Circle, Morrissey Boulevard at Conley Street, and Morrissey Boulevard at Tenean Street. The DEIR should include a detailed description of existing and proposed site access and internal circulation roadways. The TIA should provide this analysis for Existing, No Build, Build, and Build with mitigation scenarios. Future conditions should be based on the seven-year planning increments suggested by the TIA Guidelines. Background growth in traffic should be determined based on trips to be generated by other nearby planned or approved projects using ITE trip rates, and an annual growth factor, which should be determined based on historical trends in the area. This factor should be incorporated into Future Build and No-Build conditions presented in the TIA. C.14

According to DCR, plans to reconstruct Morrissey Boulevard are at the 25 percent design stage. The Morrissey Boulevard project will improve flood control, street lighting, and pedestrian and bicycle access and safety. The design includes significant changes to Neponset Circle, the intersections of Morrissey Boulevard at Tenean Street and Morrissey Boulevard at Conley Street. The DEIR should identify and describe the planned Morrissey Boulevard reconstruction and how it may affect the project's transportation options. It should also identify the project's potential impact on the DCR project. Future conditions analyzed in the TIA should include the proposed configuration of Morrissey Boulevard. C.15

The DEIR should provide a trip distribution for the project, an analysis of vehicle crash data for study area intersections, and traffic signal warrants at any intersection where signalization may be proposed. The TIA should include a tabular summary of the results of the intersection operations analysis, including volume-to-capacity ratios (V/C) and average delays. The level-of-service (LOS) for each lane group/turning movement should be clearly indicated for each condition. The DEIR should calculate crash rates for each study area intersection using local and MassDOT data covering the most recent five-year period. Any proposed roadway improvements, including bicycle/pedestrian facilities, that are recommended to mitigate traffic impacts should be consistent with Complete Streets design guidelines contained in the *MassDOT Project Development and Design Guide*. C.16

It should clearly identify any mitigation measures that will be necessary to minimize impacts to the local road network, including improvements to bicycle and pedestrian facilities, public transportation services, and roadway improvements. The DEIR should evaluate the feasibility of providing or expanding safe pedestrian and bicycle facilities on area roadways and describe improvements that will be necessary to encourage non-vehicular trips to and from the site. The DEIR should describe the project's anticipated transportation impacts and identify C.17

appropriate mitigation measures for locations where the project would likely have an impact on traffic operations. The Proponent should indicate a clear commitment to implement proposed mitigation measures and describe the timing of their implementation. C.17

The ENF included a commitment to implement TDM measures to reduce single-occupancy vehicle (SOV) trips to and from the site, but did not list any proposed measures. The DEIR should include a comprehensive TDM program that will provide incentives for using alternative transportation and discourage SOV trips. The TDM program should evaluate all feasible measures to reduce trip generation associated with the project. The TDM program should be based on specific measures that have been successful in reducing trip generation for similar projects. The Proponent should consult with the City of Boston, MassDOT, MassRIDES and local Transportation Management Associations (TMA) to discuss specific measures that have been successful in reducing trip generation for similar projects in Boston. The DEIR should report on feasibility of establishing new shuttle service. The TDM plan should seek to maximize the use of pedestrian and bicycle facilities, offer incentives for using public transportation and local transportation and shuttle services, and encourage the use of low-emissions vehicles. The DEIR should review the potential for pedestrian and bicycle improvements to area roadways to promote non-vehicular access to the site. The DEIR should include an outline of a Transportation Monitoring Program designed to evaluate the transportation-related assumptions made in the DEIR, the adequacy of mitigation measures, and the effectiveness of the TDM program. C.18

The project will include 185 parking spaces. The projected parking supply was determined by calculating 1.4 spaces per retail unit (11 spaces), 1.0 spaces per residential unit (150 spaces), and 0.5 spaces per hotel room (24 spaces). The Proponent should consult with DCR regarding parking and the DEIR should provide a detailed analysis of parking supply and demand, discuss how the amount of parking proposed in the ENF compares to the parking need and supply for several comparable facilities and to zoning requirements, and provide a parking management program. The TIA should evaluate the potential for space sharing at the project site. C.19

Climate Change

Executive Order 569: Establishing an Integrated Climate Change Strategy for the Commonwealth (EO 569) was issued on September 16, 2016. EO 569 recognizes the serious threat presented by climate change and directs agencies within the administration to develop and implement an integrated strategy that leverages state resources to combat climate change and prepare for its impacts. The Order seeks to ensure that Massachusetts will meet greenhouse gas emissions reduction limits established under the Global Warming Solution Act of 2008 (GWSA) and will work to prepare state government and cities and towns for the impacts of climate change.

The GHG Policy and requirements to analyze the effects of climate change through EIR review is an important part of this statewide strategy. These analyses advance proponents' understanding of a project's contribution and vulnerability to climate change. I strongly encourage the Proponent to consider complementary approaches – such as passive design for residential buildings, incorporation of renewables and inclusion of LID in site design - which

can improve the project's resiliency, reduce GHG emissions and conserve and sustainably employ the natural resources of the Commonwealth.

Adaptation and Resiliency

The ENF reviewed how climate change could affect the site, including extreme precipitation, extreme weather conditions and sea level rise. Future weather conditions are expected to include increases in intense precipitation events, periods of drought, tropical rainfall patterns, and extreme heat and cold stretches, and increases in the number of days with extreme heat (over 90 degrees F and 100 degrees F). According to *Climate Change and Sea Level Rise Projections for Boston* (2016), prepared by the Boston Research Advisory Group (BRAG) for the City of Boston, sea level is expected to rise by four to eight feet by the year 2100, depending on the level of GHG emissions over that time span. Higher sea levels are likely to result in greater frequency and impact of flooding from storm events.

The ENF listed potential resiliency measures that will be incorporated into the project design, including:

- Raising the elevation of the first floor and critical building infrastructure above future flood levels;
- Maximizing green space to mitigate heat effects;
- Landscaping with native, drought-resistant plants; and
- Reusing grey water and/or stormwater for irrigation.

In the DEIR, the Proponent should review any additional design features that may provide resiliency and support adaptation under future climate scenarios. At a minimum, the Proponent should consider adopting measures such as elevating the ground level of the site, on-site renewable energy generation, high albedo roofing material, water-tight conduits, additional green space and pervious pavement. The DEIR should provide additional information on how the tidal garden will be designed to increase the resiliency of the site. C.20

Sustainable Design

Article 37 of the Boston Zoning Code requires that the project be certifiable by the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) program under the LEEDv4 rating system. As described in the ENF, the project will meet the lowest LEED certification level. I encourage the Proponent to strive for certification at a higher level and note that adopting additional building energy efficiency measures, as discussed in more detail below, would contribute considerably toward that goal. The DEIR should include a full evaluation of sustainable design elements for the buildings and exterior site areas, including measures identified in the LEED rating system. C.21

Greenhouse Gas (GHG) Emissions

This project is subject to review under the May 5, 2010 MEPA GHG Policy. The Policy requires Proponents to quantify carbon dioxide (CO_2) emissions and identify measures to avoid, minimize or mitigate such emissions. The analysis should quantify the direct and indirect CO_2

emissions of the project's energy use (stationary sources) and transportation-related emissions (mobile sources). Direct emissions include on-site stationary sources, which typically emit GHGs by burning fossil fuel for heat, hot water, steam and other processes. Indirect emissions result from the consumption of energy, such as electricity, that is generated off-site by burning of fossil fuels, and from emissions from vehicles used by employees, vendors, customers and others.

Stationary Sources

The City of Boston has adopted the Massachusetts Stretch Energy Code (SC). Therefore, the project will be required to meet the applicable version of the Stretch Code in effect at the time of construction. The Stretch Code increases the energy efficiency code requirements for new construction (both residential and commercial) and for major residential renovations or additions in municipalities that adopt it. The current SC requires a reduction in energy use of 10 percent compared to that achieved by complying with the baseline energy provisions of the State Building Code. According to the ENF, the buildings have been designed to exceed the energy conservation requirements of the 8th edition of the Building Code, which are based on the American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE) standards 90.1-2013.

The ENF provided a preliminary analysis of the project's stationary-source GHG emissions and reviewed potential mitigation measures. The buildings will be designed with a high performance thermal envelope, including continuous insulation on the roof, walls and floors, and window glazing with high resistance to heat flow (low U-value) and solar transmittance (low Solar Heat Gain Coefficient (SHGC)). The buildings will incorporate energy-efficient heating, ventilation and air conditioning (HVAC) systems that exceeding Building Code requirements. The project will also include low lighting power density, and high efficiency hot water boilers.

The DEIR should provide a GHG analysis consistent with the EEA GHG Policy. It should calculate and compare GHG emissions from: 1) a Base Case corresponding to the current Massachusetts Building Code and 2) a Preferred Alternative that achieves greater reductions in energy use and GHG emissions than required by the Building Code. According to the ENF, the project will target a 15 percent reduction in energy use compared to the baseline Building Code. The GHG analysis should not be constrained by an energy reduction target, and should clearly demonstrate consistency with the objectives of MEPA review, one of which is to document the means by which Damage to the Environment can be avoided, minimized and mitigated to the maximum extent feasible. The Proponent should identify the model used to analyze GHG emissions, clearly state modeling assumptions, explicitly note which GHG reduction measures have been modeled, and identify whether certain building design or operational GHG reduction measures will be mandated by the Proponent to future occupants or merely encouraged for adoption and implementation. The DEIR should include the modeling printout for each alternative and emission tables that compare base case emissions in tons per year (tpy) with the Preferred Alternative showing the anticipated reduction in tpy and percentage by emissions source (both direct and indirect). Other tables and graphs may also be included to convey the GHG emissions and potential reductions associated with various mitigation measures as necessary. The DEIR should provide the information and formatted tables requested in the Department of Energy Resources' (DOER) comment letter. C.22

The project proposes to construct residential buildings, which are well-suited to Passive design strategies. As noted by DOER, the use of Passive design could reduce GHG emissions by approximately 30 percent and result in considerable cost-savings for residents.

The DEIR should present an evaluation of mitigation measures identified in the GHG Policy Appendix. In particular, the feasibility of each of the mitigation measures outlined below should be assessed for each of the major project elements, and if feasible, GHG emissions reduction potential associated with major mitigation elements should be evaluated to assess the relative benefits of each measure. The DEIR should explain, in reasonable detail, why certain measures, which could provide significant GHG reductions, were not selected – either because it is not applicable to the project or is considered technically or financially infeasible. At a minimum, the DEIR should assess the feasibility of the following mitigation measures: C.23

- Maintaining window-to-wall ratios consistent with the Building Code to minimize energy loss through windows;
- Passive design for the residential buildings;
- Use of high-albedo roofing materials;
- Reduce energy use through peak shaving or load shifting strategies;
- Incorporate lighting motion sensors, climate control and building energy management systems;
- Install energy efficient LED lighting, both exterior and interior; and
- Consider the development of a "green lease" program whereby tenants agree to pay the landlord recovery costs for energy efficiency improvements based on predicted cost savings to the tenant.

The DEIR should analyze the potential for on-site energy generation by rooftop solar PV and Combined Heat and Power (CHP) systems and document the expected energy savings and reduction in GHG emissions from each generating technology. According to the ENF, the Proponent will also evaluate the use of wind turbine generators, transpired solar collectors and solar thermal. The analysis of potential on-site energy generation should address DOER's comments.

The solar feasibility analysis should consider solar PV for both a first-party and a third-party ownership structure. The analysis should:

- Estimate available roof area (excluding areas dedicated for mechanical equipment) or ground space for solar panel installation; C.24
- State the assumed panel efficiency;
- Estimate electrical output of the potential system; and
- Estimate and compare annual GHG reductions to use of natural gas.

The analysis should include a narrative and data to support the Proponent's adoption (or dismissal) of solar PV systems as a feasible measure to avoid, minimize or mitigate project-related GHG emissions and Damage to the Environment. If solar PV is not feasible at this time, the Proponent should commit to constructing the buildings with "solar-ready" roofs.

Mobile sources

The GHG analysis should include an evaluation of potential GHG emissions from mobile emissions sources. The DEIR should follow the guidance provided in the GHG Policy for *Indirect Emissions from Transportation* to determine mobile emissions for Existing Conditions, Build Conditions, and Build Conditions with Mitigation. The Proponent should thoroughly explore means to improve traffic operations and minimize overall single occupancy vehicle trips. Improvements in traffic operations that minimize idling time can minimize overall project-related mobile source emissions. The DEIR should also review measures to promote the use of low-emissions vehicles, including installing EV charging stations and providing designated parking spaces for these vehicles. The Build with Mitigation model should incorporate roadway improvements, TDM measures, and any other transportation mitigation to be implemented by the Proponent. C.25

Mitigation

The DEIR should include a commitment to provide a self-certification to the MEPA Office at the completion of the project. It should be signed by an appropriate professional (e.g. engineer, architect, transportation planner, general contractor) indicating that all of the GHG mitigation measures, or equivalent measures that are designed to collectively achieve identified reductions in stationary source GHG emission and transportation-related measures, have been incorporated into the project. C.26

Hazardous Waste

The ENF documented a release of oil and/or hazardous materials regulated under M.G.L. chapter 21E, the Massachusetts Contingency Plan (MCP). The release is associated with a former underground storage tank (UST) containing fuel. The release was assigned Release Tracking Number (RTN) 3-12654 by MassDEP in 1995 and consists of petroleum hydrocarbons, petroleum-related constituents and non-aqueous phase liquid (NAPL). Groundwater testing has indicated that the contaminants of concern associated with the release are below the applicable MCP risk characterization standards.

According to MassDEP, historical site uses could have resulted in releases of heavy metals and other contaminants in the soil and sediment. The DEIR should describe any additional assessment and/or treatment of the MCP release that will facilitate regulatory closure under the MCP. It should describe any additional assessment of soils, sediment and groundwater that will be conducted prior to construction and potential measures to remove, treat and/or dispose of contaminated material. It should address any implications to land uses. C.27

Water and Wastewater

The project will generate 30,752 gpd of wastewater and consume 27,956 gpd of water. The site is supplied with water via a 12-inch water main in Ericsson Street. Wastewater from the site will be directed to the BWSC 12-inch diameter sewer main in Ericsson Street. The site is served by separate sanitary sewers and storm drains maintained by the BWSC. The BWSC system carries sanitary flow from this area to the MWRA's Columbus Park Headworks for transport to the Deer Island Treatment Plant. According to the MWRA, infiltration and inflow

(I/I) into the sanitary system, along with flows from combined systems may, in large storms, contribute to flooding in Dorchester and combined sewer overflows (CSO) into Fort Point Channel and the MWRA's South Boston CSO Storage Tunnel.

The project will be required to mitigate its contribution of flow into the BWSC sanitary system. MassDEP regulations at 314 CMR 12.04(2)(d) specify that communities with combined sewer overflows (CSOs), such as Boston, must require projects generating 15,000 gpd or more of new wastewater flow to remove four gallons of infiltration and inflow (I/I) for each gallon of wastewater. According to the ENF, the Proponent will make a monetary contribution to the BWSC's I/I Reduction Mitigation Account to mitigate the impacts of the project on the sewer system. As noted by the MWRA, groundwater discharges into the sanitary system are prohibited. The DEIR should indicate whether the project will require a discharge permit from the MWRA's Toxic Reduction and Control (TRAC) Department for a laundry facility at the proposed hotel. C.28

Comments from Port Norfolk residents express concern that the project will overtax the water and sewer infrastructure serving the neighborhood. The DEIR should include updated water use and wastewater generation estimates. It should evaluate the capacity of the existing BWSC water supply system under average and peak flow conditions. The DEIR should include information and plans describing the existing and proposed water and wastewater systems on site and in the BWSC system. The DEIR should describe the location and size of infrastructure, connections to the BWSC water and sewer systems, and the path and ultimate disposal of wastewater from the site. The DEIR should identify and describe water conservation measures that will be incorporated into design and operations. At a minimum, the DEIR should review the feasibility of installing low-flow fixtures and using rainwater or gray water for irrigation and other purposes. C.29

Solid Waste

The DEIR should characterize the solid waste expected to be generated by the project. In 2014, Massachusetts banned the disposal of commercial organic wastes by businesses and institutions that generate a ton or more of organic materials per week. Business subject to the ban must use composting, conversion (such as anaerobic digestion), recycling or reuse of organic waste. The DEIR should indicate whether any proposed uses may be subject to the waste ban and how it may dispose of its organic waste. C.30

The DEIR should describe measures to reduce and recycle organic and other wastes through waste diversion and recycling programs. As noted by MassDEP, incorporating the design, infrastructure, and contractual components of the project's solid waste facilities at this stage will help ensure the success of future waste reduction and recycling efforts. The Proponent should refer to MassDEP's comment letter for additional information and links to web sites providing technical assistance. C.31

Construction Period

The DEIR should provide drafts of the Construction Management Plan (CMP) and Transportation Access Plan Agreement (TAPA). It should identify the schedule for construction of various elements and phases. It should identify construction-period impacts and mitigation relative to noise, air quality, water quality, and traffic, including pedestrians and bicyclists. The C.32

DEIR should document any contaminated soil or groundwater regulated under the MCP and describe construction-period remediation and mitigation measures if necessary. The DEIR should confirm that the project will require its construction contractors to use Ultra Low Sulfur Diesel fuel, and discuss the use of after-engine emissions controls, such as oxidation catalysts or diesel particulate filters. More information regarding construction-period diesel emission mitigation may be found on MassDEP's web site at http://www.mass.gov/dep/air/diesel/conretro.pdf. C.32

The DEIR should provide more information regarding the project's generation, handling, recycling, and disposal of construction and demolition debris (C&D) and identify measures to reduce solid waste generated by the project. The Proponent has committed to recycle or reuse at least 75 percent of the C&D material. Demolition of any structures must comply with the MassDEP Asbestos Regulations (310 CMR 7.15) that became effective on June 20, 2014. These regulations require a pre-demolition and post-abatement surveys and inspections by a licensed asbestos monitor. The Proponent should consult the MassDEP comment letter with regard to regulatory requirements and potential mitigation measures for the removal, handling, and disposal of asbestos containing material (ACM) and other demolition debris during the construction period. The Proponent is reminded that any contaminated material encountered during construction must be managed in accordance with the MCP and with prior notification to MassDEP. C.33

The DEIR should describe potential construction period dewatering requirements, discuss how dewatering will be conducted in a manner consistent with MWRA, MassDEP and/or BWSC regulations/guidelines, and identify any necessary permits. The DEIR should describe appropriate erosion and sedimentation control BMPs. I encourage the Proponent to adopt erosion and sedimentation controls consistent with a Stormwater Pollution Prevention Plan (SWPPP) prepared in accordance with the NPDES Construction General Permit requirements. C.34

Mitigation and Draft Section 61 Findings

The DEIR should include a separate chapter summarizing proposed mitigation measures. This chapter should also include draft Section 61 Findings for each permit to be issued by State Agencies. The DEIR should contain clear commitments to implement these mitigation measures, estimate the individual costs of each proposed measure, identify the parties responsible for implementation, and a schedule for implementation. The DEIR should clearly indicate which mitigation measures will be constructed or implemented based upon project phasing, either tying mitigation commitments to overall project square footage/phase or environmental impact thresholds, to ensure that measures are in place to mitigate the anticipated impact associated with each development phase. C.35

Responses to Comments

The DEIR should contain a copy of this Certificate and a copy of each comment letter received. In order to ensure that the issues raised by commenters are addressed, the DEIR should include direct responses to comments to the extent that they are within MEPA jurisdiction. This directive is not intended to, and shall not be construed to, enlarge the Scope of the DEIR beyond what has been expressly identified in this certificate. C.36

Circulation

The Proponent should circulate the DEIR to those parties who commented on the ENF, to any State Agencies from which the Proponent will seek permits or approvals, and to any parties specified in section 11.16 of the MEPA regulations. Per 301 CMR 11.16(5), the Proponent may circulate copies of the EIR to commenters in CD-ROM format or by directing commenters to a project website address. However, the Proponent must make a reasonable number of hard copies available to accommodate those without convenient access to a computer and distribute these upon request on a first-come, first-served basis. The Proponent should send correspondence accompanying the CD-ROM or website address indicating that hard copies are available upon request, noting relevant comment deadlines, and appropriate addresses for submission of comments. The DEIR submitted to the MEPA office should include a digital copy of the complete document. A copy of the DEIR should be made available for review at the Boston Public Library (BPL) and the Dorchester branch of the BPL. C.37

August 25, 2017
Date

Matthew A. Beaton

Comments received:

07/20/2017	Board of Underwater Archaeological Resources (BUAR)
07/24/2017	John Lyons
07/30/2017	Frank Kodzis
08/01/2017	Massachusetts Department of Environmental Protection (MassDEP)/ Northeast Regional Office (NERO)
08/01/2017	Massachusetts Water Resources Authority (MWRA)
08/09/2017	Boguslaw Bialek
08/09/2017	Jolanta Bialek
08/09/2017	Freda Nolan
08/09/2017	Shari Winick
08/09/2017	Naomi Frye
08/09/2017	Helen O'Connor
08/09/2017	W. John Rudicus
08/09/2017	Freda Manning
08/09/2017	Massachusetts Department of Environmental Protection (MassDEP)/Waterways Regulation Program (WRP)
08/10/2017	WalkBoston
08/10/2017	Boston Water and Sewer Commission (BWSC)
08/13/2017	Maria Lyons
08/14/2017	Paul Nutting
08/14/2017	Jason Berry
08/14/2017	Ellen Spring
08/14/2017	Susan Roche

08/14/2017 Emy Thomas
08/14/2017 Joseph McDermott
08/15/2017 Port Norfolk Civic Association
08/15/2017 Daniel Roche
08/15/2017 Massachusetts Office of Coastal Zone Management (CZM)
08/15/2017 Edward Roche
08/15/2017 Boston Planning and Development Agency (BPDA)
08/15/2017 Conservation Law Foundation
08/15/2017 Boston Harbor Now
08/15/2017 Neponset River Watershed Association
08/15/2017 Department of Conservation and Recreation (DCR)
08/16/2017 Department of Energy Resources (DOER)
08/18/2017 Division of Marine Fisheries (DMF)

MAB/AJS/ajs

Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection
Northeast Regional Office • 205B Lowell Street, Wilmington MA 01887 • 978-694-3200

Charles D. Baker
Governor

Karyn E. Polito
Lieutenant Governor

Matthew A. Beaton
Secretary

Martin Suuberg
Commissioner

August 1, 2017

Matthew A. Beaton, Secretary
Executive Office of
Energy & Environmental Affairs
100 Cambridge Street
Boston MA, 02114

Attn: MEPA Unit

RE: Boston - Neponset Wharf
24 Ericsson Street
Boston, MA
EEA #15728

Dear Secretary Beaton:

The Department of Environmental Protection Northeast Regional Office (MassDEP-NERO) has reviewed the Environmental Notification Form (ENF) submitted by VHB on behalf of CPC Ericsson Street LLC, to construct a mixed-use development known as Neponset Wharf. The project encompasses 7.6 acres in the Port Norfolk area of Dorchester. The proposed project is to construct three new buildings with 150 condominium units, a 25-room hotel, restaurant and 185 structured parking spaces. The project will also reserve over 50 percent of the site for public outdoor space. MassDEP provides the following comments.

Wastewater

The ENF indicates that the proposed project will generate increased wastewater flows of 29,382 gallons per day (gpd). MassDEP regulations at 314 CMR 12.04(2)(d) require sewer authorities with permitted combined sewer overflows, including the Boston Water & Sewer Commission (BWSC), to require removal of four gallons of infiltration and inflow (I/I) for each gallon of new wastewater flow generated for any new connection to their system where greater than 15,000 gallons per day of new wastewater flows will be generated. Accordingly the proponent should meet with staff from BWSC to ensure that this mitigation requirement is met. 1.1

Hazardous Waste/MCP

The previous site uses included: 1) From the late 1800's to 1908 the site and surrounding property was developed as a nail factory; 2) From the late 1920's – 1940's the site and vicinity was used as a shipyard, and both pleasure boats and military vessels were constructed; and 3) From the 1950's to the present the site included a variety of uses including a marina, shipbuilding and repair, the Port Alloy Foundry, Seaboard Salvage Corporation, Dorchester Ice Cream Company, and Arcway Welding Company.

Historical usage and storage of various petroleum products have resulted in releases of petroleum hydrocarbons to the subsurface soil and groundwater at the site, with non-aqueous phase liquid present in some areas. The release was first discovered in March 1981, when the U.S. Coast Guard issued a Notice of Responsibility to a previous owner of the property identified as Norwood Marine. Currently, the releases are collectively being managed under RTN 3-12654 which was assigned by MassDEP in 1995. The area impacted occupies the northeastern section of the subject site.

Remedial actions associated with RTN 3-12654 are being conducted under Phase V Remedy Operation Status (ROS). The ROS remedial actions consist of biannual analysis of groundwater within the release area as well as the injection of potassium permanganate as deemed necessary. The most recent status report is dated May 24, 2017 and was submitted by McPhail Associates on behalf of CPC Ericsson LLC. The Licensed Site Professional of Record is William Burns (LSP # 4381).

MassDEP has reviewed the history of site operations to determine the types of contamination that may be present, and compared these to release conditions investigated and reported to date at the site, to determine if the nature and extent of contamination was sufficiently evaluated. Although the ENF/PNF states that "Prior to construction, additional assessment will be performed to pre-characterize in-situ soils for off-site removal, and groundwater for potential off-site discharge, these plans have not yet been submitted. Based on historical site use, the supplemental environmental investigation plans should include the following elements:

- Historical site uses could have released heavy metals to surface and subsurface soils. Boat building and storage facilities often contain soils contaminated with copper, zinc, lead, mercury, cadmium, and tributyl tin. The site was permitted for use as a foundry and for metal melting including cobalt and nickel. Despite the likelihood of metals contamination at the site, surface soils and subsurface soils down to a depth of 6 feet have not been evaluated for the presence of metals contamination. The development plan for the property contains 2 acres of landscaped outdoor space. The potential presence of heavy metals contamination in soils on site, and associated environmental and human health risks, must be thoroughly evaluated. 1.2

- The property includes 4 acres of water sheet that encompasses the dock area. The assessment must include an evaluation surface water and sediment in this area to determine if it is part of the disposal site. An evaluation of "Local Conditions" must

also be completed to determine if any contamination that may be identified within the dock area is either consistent with conditions in the general area or is required to be remediated as part of the disposal site.

- As part of the renovation of the existing marina the ENF/PNF indicates that maintenance dredging will be performed. Based on historical site uses and the known presence of polychlorinated biphenyls (PCBs) in the sediments of the Neponset River Estuary, any dredged sediments should be evaluated for metals and PCBs as part of sediment characterization and management. 1.2

In addition, MassDEP has reviewed the development plans in relation to the access the project provides for people to fish and kayak within the Neponset River Estuary. The development plans should include the following considerations:

- The ENF/PNF indicates that the development will include a public fishing pier, and facilities for kayak launching and storage. Studies completed by the United States Geologic Survey from 2002 through 2006 identified PCBs in salt water fish within the Neponset River Estuary, but at that time they were not found at levels that presented a risk to human health. The inclusion of a fishing pier to encourage fishing in this area should be re-evaluated. In addition, it is unclear as to the extent to which the kayak launch will require people to have direct contact with sediments. The presence of contaminated sediments in the area to be used for the kayak launch and fishing should be assessed and a risk characterization should be completed for these receptors and site uses. 1.3

Contaminated Soil and Groundwater

The project proponent is advised that excavating, removing and/or disposing of contaminated soil, pumping of contaminated groundwater, or working in contaminated media must be done under the provisions of MGL c.21E (and, potentially, c.21C) and all other applicable federal, state, and local laws, regulations, and bylaws. If permits and approvals under these provisions are not obtained beforehand, considerable delays in the project can occur. The project proponent cannot manage contaminated media without prior submittal of appropriate plans to MassDEP, which describe the proposed contaminated soil and groundwater handling and disposal approach, as well as health and safety precautions. If contamination at the site is known or suspected, the appropriate tests should be conducted well in advance of the start of construction and professional environmental consulting services should be readily available to provide technical guidance to facilitate any necessary permits. If dewatering activities are to occur at a site with contaminated groundwater, or in proximity to contaminated groundwater where dewatering can draw in the contamination, a plan must be in place to properly manage the groundwater and ensure site conditions are not exacerbated by these activities. Dust and/or vapor monitoring and controls are often necessary for large-scale projects in contaminated areas. The need to conduct real-time air monitoring for contaminated dust and to implement dust suppression must be determined prior to excavation of soils, especially those contaminated with compounds such as metals and PCBs. An evaluation of contaminant concentrations in soil should be completed to determine the concentration 1.4

of contaminated dust that could pose a risk to health of on-site workers and nearby human receptors. If this dust concentration, or action level, is reached during excavation, dust suppression should be implemented as needed, or earthwork should be halted. A Licensed Site Professional (LSP) must be employed or engaged to manage, supervise or actually perform the necessary response actions at the site. 1.4

Capping of Contaminated Soil

If capping of contaminated soil is needed to achieve a level of No Significant Risk, MassDEP recommends the following capping design criteria. In unpaved areas, a minimum of three feet of clean soil should be placed over the contaminated soil. This protective layer of clean soil should be separated from the underlying contaminated soil by a geotextile or combination of materials, which will provide both a brightly colored visual marker and a permeable fabric to separate the clean soil from the contaminated soil. In paved areas, a minimum one-foot cap consisting of clean soil, road base and the pavement layer should be placed over the contaminated soil. Similar to unpaved areas, the contaminated soil should be separated from the clean soil or road base using a visual marker and geotextile. In such cases, an Activity and Use Limitation (AUL), prepared in accordance with 310 CMR 40.1012 would be necessary to identify the maintenance requirements of the cap. It should also be noted that a cap constructed as a Release Abatement Measure will not be considered a Permanent Solution until a Phase III completed in accordance with 310 CMR 40.0850 demonstrates the lack of a feasible alternative, as required by 310 CMR 40.0442(4). 1.5

Potential Indoor Air Impacts

Parties constructing and/or renovating buildings in contaminated areas should consider whether chemical or petroleum vapors in subsurface soils and/or groundwater could impact the indoor air quality of the buildings. All relevant site data, such as contaminant concentrations in soil and groundwater, depth to groundwater, and soil gas concentrations should be evaluated to determine the potential for indoor air impacts to existing or proposed building structures. Particular attention should be paid to the vapor intrusion pathway for sites with elevated levels of chlorinated volatile organic compounds such as tetrachloroethylene (PCE) and trichloroethylene (TCE). MassDEP has additional information about the vapor intrusion pathway on its website at http://www.mass.gov/eea/agencies/massdep/cleanup/regulations/vapor-intrusion-and-indoor-air-contamination-waste-sites.html. 1.6

New Structures and Utilities

Construction activities conducted at a disposal site shall not prevent or impede the implementation of likely assessment or remedial response actions at the site. Construction of structures at a contaminated site may be conducted as a Release Abatement Measure if assessment and remedial activities prescribed at 310 CMR 40.0442(3) are completed within and adjacent to the footprint of the proposed structure prior to or concurrent with the construction activities. Excavation of contaminated soils to construct clean utility corridors should be conducted for all new utility installations. 1.7

Activity and Use Limitations

An Activity and Use Limitation (AUL) is a legal document that is recorded or registered at the appropriate Registry of Deeds and identifies site conditions that are the basis for maintaining a condition of No Significant Risk at a property where contamination remains after a cleanup. The AUL identifies permitted and allowable site uses and activities that may occur at a property while maintaining No Significant Risk. The AUL also identifies restricted uses and activities, which could result in the exposure of people at or near the disposal site to remaining contamination if such activities were to occur. The project proponent is advised that in cases where proposed activities would not be consistent with a level of No Significant Risk and/or an existing AUL, additional cleanup and the amendment or termination of the initial AUL and implementation of a revised AUL would be necessary before the proposed activities could occur. 1.8

Recycling/Demolition

MassDEP encourages the project proponent to make a significant commitment to C&D recycling activities as a sustainable measure for the project, consistent with comparable projects that have undergone MEPA reviews. In addition, the proponent is advised that demolition activities must comply with both Solid Waste and Air Pollution Control regulations, pursuant to M.G.L. Chapter 40, Section 54, which provides:

"Every city or town shall require, as a condition of issuing a building permit or license for the demolition, renovation, rehabilitation or other alteration of a building or structure, that the debris resulting from such demolition, renovation, rehabilitation or alteration be disposed of in a properly licensed solid waste disposal facility, as defined by Section one hundred and fifty A of Chapter one hundred and eleven. Any such permit or license shall indicate the location of the facility at which the debris is to be disposed. If for any reason, the debris will not be disposed as indicated, the permittee or licensee shall notify the issuing authority as to the location where the debris will be disposed. The issuing authority shall amend the permit or license to so indicate."

1.9

For the purposes of implementing the requirements of M.G.L. Chapter 40, Section 54, MassDEP considers an asphalt, brick, and concrete (ABC) rubble processing or recycling facility, (pursuant to the provisions of Section (3) under 310 CMR 16.05, the Site Assignment regulations for solid waste management facilities), to be conditionally exempt from the site assignment requirements, if the ABC rubble at such facilities is separated from other solid waste materials at the point of generation. In accordance with 310 CMR 16.05(3), ABC can be crushed on-site with a 30-day notification to MassDEP. However, the asphalt is limited to weathered bituminous concrete, (no roofing asphalt), and the brick and concrete must be uncoated or not impregnated with materials such as roofing epoxy. If the brick and concrete are not clean, the material is defined as construction and demolition (C&D) waste and requires either a Beneficial Use Determination (BUD) or a Site Assignment and permit before it can be crushed.

Pursuant to the requirements of 310 CMR 7.02 of the Air Pollution Control regulations, if the ABC crushing activities are projected to result in the emission of one ton or more of particulate

matter to the ambient air per year, and/or if the crushing equipment employs a diesel oil fired engine with an energy input capacity of three million or more British thermal units per hour for either mechanical or electrical power which will remain on-site for twelve or more months, then a plan application must be submitted to MassDEP for written approval prior to installation and operation of the crushing equipment.

Asbestos removal notification on permit form BWP AQ04 (ANF 001) and building demolition notification on permit form BWP AQ06 must be submitted to MassDEP at least 10 working days prior to initiating work. If any asbestos-containing materials will need to be abated through non-traditional abatement methods, the proponent must apply for and obtain approval from MassDEP, through Application BWP AQ36 - Application for Non-Traditional Asbestos Abatement Work Practice Approval. Except for vinyl asbestos tile (VAT) and asphaltic-asbestos felt and shingles, the disposal of asbestos containing materials within the Commonwealth must be at a facility specifically approved by MassDEP, (310 CMR 19.061). No asbestos containing material including VAT, and/or asphaltic-asbestos felts or shingles may be disposed at a facility operating as a recycling facility, (310 CMR 16.05). In addition, if the demolition project contain asbestos, the project proponent is advised that asbestos and asbestos-containing waste material are a special waste as defined in the Solid Waste Management regulations, (310 CMR 19.061). The disposal of the asbestos containing materials outside the jurisdictional boundaries of the Commonwealth must comply with all the applicable laws and regulations of the state receiving the material. 1.9

The demolition activity also must conform to current Massachusetts Air Pollution Control regulations governing nuisance conditions at 310 CMR 7.01, 7.09 and 7.10. As such, the proponent should propose measures to prevent and minimize dust, noise, and odor nuisance conditions, which may occur during the demolition. Again, MassDEP must be notified in writing, at least 10 days in advance of removing any asbestos, and at least 10 days prior to any demolition work. The removal of asbestos from the buildings must adhere to the special safeguards defined in the Air Pollution Control regulations, (310 CMR 7.15 (2)).

Waste Ban Regulation – 310 CMR 19.017

Section 310 CMR 19.017 ***Waste Bans*** of the Massachusetts Solid Waste regulations prohibit the disposal of certain wastes in Massachusetts. These wastes include, but are not limited to, recyclable paper (including cardboard). The Massachusetts Organics Waste Ban on the disposal of commercial organic wastes by businesses and institutions also is in effect. It prohibits the disposal of organic wastes from businesses and institutions that generate a ton or more of organic materials per week, which necessitates the composting, conversion (such as anaerobic digestion), recycling or reuse of organic the waste.

As the lead state agencies responsible for helping the Commonwealth achieve its waste diversion goals, MassDEP and EEA have strongly supported voluntary initiatives by the private sector to institutionalize source reduction and recycling into their operations. Adapting the design, infrastructure, and contractual requirements necessary to incorporate reduction, recycling and recycled products into existing large-scale developments has presented significant challenges to recycling proponents. Integrating those components into developments such as this helps assist effective waste diversion programs. For example, facilities with minimal obstructions to trash

receptacles and easy access to main recycling areas and trash chutes allow for implementation of recycling programs and have been proven to reduce cleaning costs by 20 percent to 50 percent. Other designs that provide sufficient space and electrical services will support consolidating and compacting recyclable material and truck access for recycling material collection.

By incorporating recycling and source reduction into the design, the proponent has the opportunity to join a national movement toward sustainable design. Sustainable design was endorsed in 1993 by the American Institute of Architects with the signing of its *Declaration of Interdependence for a Sustainable Future.* The project proponent may be aware of organizations that provide additional information and technical assistance, including Reuse Marketplace (http://www.reusemarketplace.org/), USEPA's WasteWise Program (www.epa.gov/wastewise/), and MassRecycle (http://www.massrecycle.org/). The listed organizations and programs are notable for offering valuable and effective waste reduction and recycling assistance, web-based resources, case studies, and tools for C&D projects. 1.10

The MassDEP Northeast Regional Office appreciates the opportunity to comment on this proposed project. Please contact Kevin.Brander@state.ma.us or at (978) 694-3236 for further information on wastewater issues. Please contact Joanne.Fagan@state.ma.us or at (978) 694-3390 for further information on hazardous waste issues. If you have any general questions regarding these comments, please contact me at John.D.Viola@state.ma.us or at (978) 694-3304.

Sincerely,

This final document copy is being provided to you electronically by the Department of Environmental Protection. A signed copy of this document is on file at the DEP office listed on the letterhead.

John D. Viola
Deputy Regional Director

cc: Brona Simon, Massachusetts Historical Commission
Joanne Fagan, Rachel Freed, Kevin Brander, MassDEP-NERO

COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF
ENERGY AND ENVIRONMENTAL AFFAIRS
DEPARTMENT OF ENERGY RESOURCES
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Charles D. Baker
Governor

Karyn E. Polito
Lt. Governor

Matthew A. Beaton
Secretary

Judith F. Judson
Commissioner

16 August 2017

Matthew Beaton, Secretary
Executive Office of Energy & Environmental Affairs
100 Cambridge Street
Boston, Massachusetts 02114
Attn: MEPA Unit

RE: Neponset Wharf, Boston, Massachusetts EEA #15728

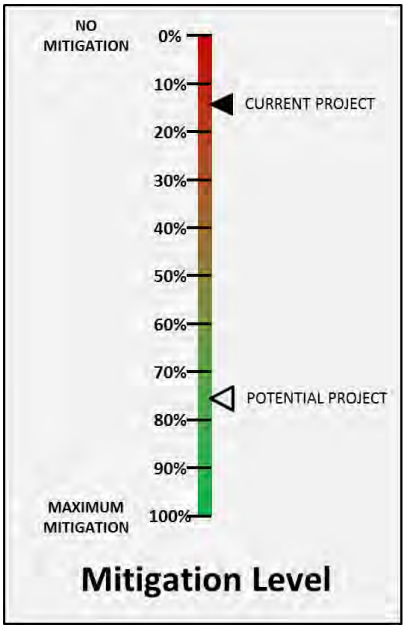
Cc: Arah Schuur, Director of Energy Efficiency Programs, Department of Energy Resources
Judith Judson, Commissioner, Department of Energy Resources

Dear Secretary Beaton:

We've reviewed the Environmental Notification Form (ENF) for the above-referenced project. The proponent has already evaluated and is committing to an array of efficiency measures which will help deliver notable GHG mitigation. We are pleased to see the following measures already committed:

- Above-code threshold, continuous insulation
- Above-code threshold glazing performance
- VRF in hotel; above-code threshold HVAC efficiency throughout
- Reduced lighting densities

The proponent also indicates that subsequent submissions will evaluate solar PV, CHP, and other measures. We recommend also adding to future evaluations Passive design for the residential portion. We also recommend maintaining code-threshold window-to-wall ratios.



The current submission's mitigation level[1] is 14%. We currently estimate that this project could reach a mitigation level of 76% by implementing the recommendations below.

Pathway to 76% Mitigation Level

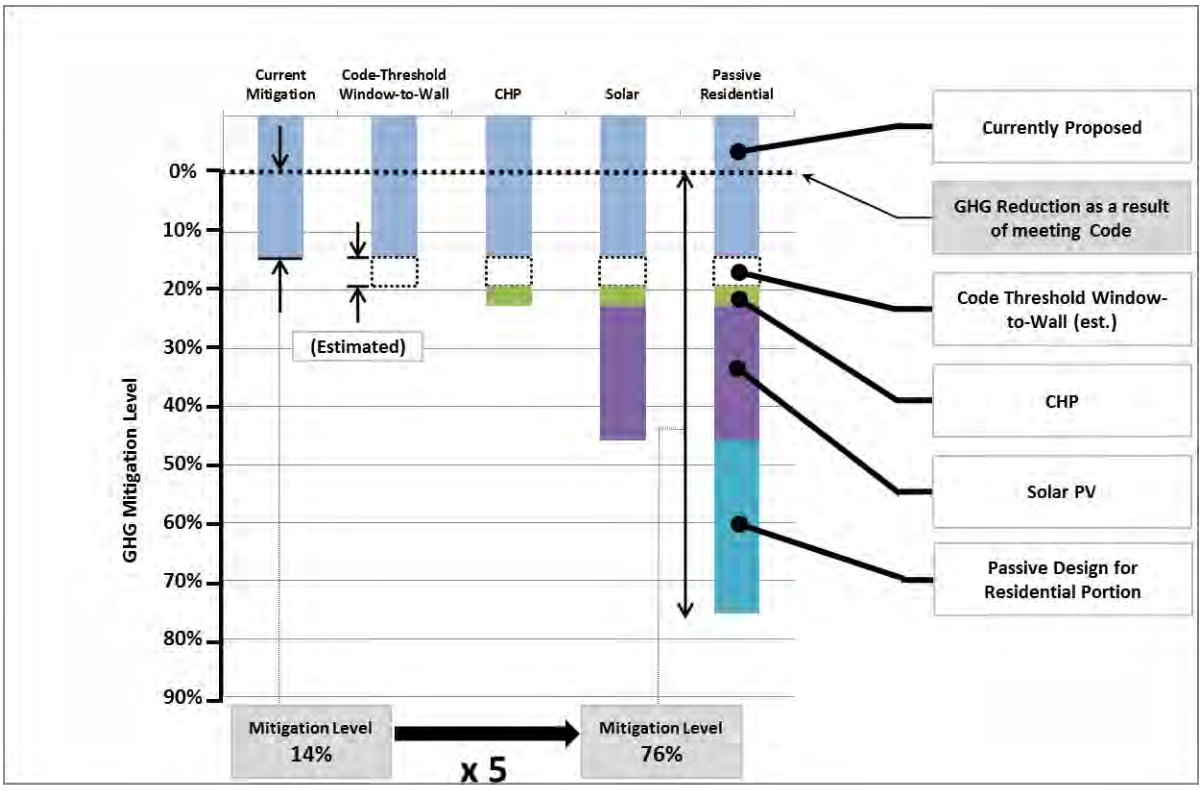
Based on the evaluations performed, it appears that the project can readily achieve a GHG Mitigation Level of 76% using the following strategies:

- Maintaining code-threshold window-to-wall ratio (24% for hotel; 24 to 34% for restaurant; and 40% for residential – see Table G3.1.1-1). Window to wall ratio is currently set at 50%. We conservatively estimate maintaining code-threshold window-to-wall ratios would improve Mitigation Level to 19%, but this requires thorough modeling to confirm.

- CHP and solar PV on the roofs would improve Mitigation Level to 46%. We understand these will be evaluated.

- Passive Design for the residential portion of the development would improve Mitigation Level to 76%.

The figure below illustrates the above:



[1] Mitigation Level is the GHG emissions below locally-required Building Code, expressed in percent. A Mitigation Level of 0% means no above-code GHG mitigation is proposed.

Improving Resilience & Housing Affordability for City of Boston

In addition to greenhouse gas mitigation, the above package of mitigation would also improve resilience of Boston's built assets and improve housing affordability for the City:

- Resilience: Passive buildings require near-negligible active and heating and cooling, and thus perform well during power outages and extreme weather. In fact, residents of an existing Passive multifamily in South Boston (see below) report not having to turn on their heat through winter of 2016-2017. PV and CHP would also contribute to resilience.

- Affordability: A Passive Multifamily would cost residents an average of $1,300/unit less for gas and electricity per year, a 62% reduction in utility costs.

Passive Multifamily in Boston

Information about a Passive multifamily that is completed and in-service is available here: http://www.distillerynorth.com/. This project has plans for additional expansion.

Key Recommendations

Our recommendations are as follows:

1. Investigate Passive design for the residential portion of the development. Passive design methods are available here: http://www.phius.org/home-page. Multifamily specific information is available here: http://multifamily.phius.org/. An extensive study on financial and feasibility of Passive multifamily is available here: http://www.fxfowle.com/projects/182/feasibility-study-to-implement-the-passivhaus-standard-on-tall-residential-buildings/. See right for examples of Passive multifamily projects, including both low rise and high rise examples.

Second and Delaware Project – Passive Low Rise
http://multifamily.phius.org/case-study/second-and-delaware

2.1

2. When evaluating Passive cost feasibility (and cost evaluations, in general), we recommend netting additional envelope costs against reduced HVAC costs. With Passive, usually HVAC systems can be downsized as a result of improving envelope. The above report estimates this approach yields a 2 to 3% cost add on a net basis. The Second and Delaware project (upper picture on right)

Mott Haven Project – Passive High Rise
https://ny.curbed.com/2016/4/29/11540744/nyc-largest-passive-house-mott-haven-241-affordable-apartments

2.2

reportedly costs $4/sf less to construct than conventional construction on a net basis 2.2

3. In addition, we recommend further cost netting against potential financial benefits derived from the following sources, which can also reduce first costs:

   - Mass Save performance incentive for residential new construction for high rise and low rise: http://www.masssave.com/en/residential/building-a-house/offers/rnc-multi-family-high-rise. and http://www.masssave.com/en/residential/building-a-house/offers/rnc-performance-path
   - Massachusetts Clean Energy Center incentives for heat pumps and VRF: http://www.masscec.com/installer-resources-air-source-heat-pumps
   - Alternative Energy Credits for heat pumps and VRF: http://www.mass.gov/eea/energy-utilities-clean-tech/renewable-energy/renewable-thermal/renewable-heating-and-cooling-alternative-portfolio-std.html

   2.3

4. Using PHIUS methods, we estimate an EUI of 12 kBtu/sy-yr for the residential portion of the development. The DOER is available to review Passive findings in advance of the next submission. 2.4

5. Having more fenestration than Building Code thresholds necessarily results in trading off other efficiency improvements, resulting in reduced GHG benefits, increased operating costs, and reduced resiliency than would otherwise occur. We recommend that fenestration be maintained within code-thresholds (Table G3.1.1-1).

   If the proponent chooses to continue to evaluate an option that exceeds these thresholds, we recommend submitting the following energy model scenario results:

   - Code building with Code-threshold window-to-wall ratio
   - Code building, with planned window-to-wall ratio
   - Planned building with Code-threshold window-to-wall ratio
   - Planned building with planned window-to-wall ratio

   The above scenarios will help reveal the extent to which other efficiency measures are being traded-off by exceeding fenestration thresholds.

   2.5

6. Section C406.1 of the building code specifies that 2 out of a list of 6 measures be included in a code building. The proponent should clarify which 2 measures are being chosen, and incorporate those values into their "baseline case" model. 2.6

Other Recommendations

In order to expedite the DOER review, we recommend the following accompany the submission:

A. A table similar to the example below should be included: 2.7

Measure/Area	Base Code 2013 90.1 App. G or 2015 IECC	Proposed	% Change	Comment
Roof Assembly U-value (Btu/hr-Ft^2-f)				
Bldg 1	*code value*	*design value*	%	
Bldg 2	*code value*	*design value*	%	
(Additional rows for each bldg.)	*code value*	*design value*	%	
Wall Assembly U-value (Btu/hr-Ft^2-f)				
Bldg 1	*code value*	*design value*	%	
Bldg 2	*code value*	*design value*	%	
Area Window/Area Wall (%)				
Bldg 1	*code value*	*design value*	%	
Bldg 2	*code value*	*design value*	%	
Window U-value (Btu/hr-Ft^2-f)				
Bldg 1	*code value*	*design value*	%	
Bldg 2	*code value*	*design value*	%	
AC Efficiency (EER)				
Bldg 1	*code value*	*design value*	%	
Bldg 2	*code value*	*design value*	%	
ERV Effectiveness (%)				
Bldg 1	*code value*	*design value*	%	
Bldg 2	*code value*	*design value*	%	
Boiler (% efficiency)				
Bldg 1	*code value*	*design value*	%	
Bldg 2	*code value*	*design value*	%	
LPD (Watts/sq ft)				
Bldg 1	*code value*	*design value*	%	
Bldg 2	*code value*	*design value*	%	
(continue to include service water, equipment, etc)				

B. A description of the proposed building envelope assembly: report both component R-values and whole assembly U-factor. Utilize the pre-calculated relationships between R-Value and U-factor contained in Appendix A in the code. Distinguish between non-continuous and continuous insulation. 2.8

C. A description of the building energy simulation model and procedures utilized. 2.9

D. A detailed and complete table of modeling inputs showing the item and the input value for both the base and as-designed scenarios. The area of the building should be included. 2.10

E. The output of the model showing the monthly and annual energy consumption by major end use system. 2.11

F. Baseline (e.g. Code) energy use intensity and proposed mitigated building energy use intensity. 2.12

G. Project modeling files are to be submitted to the DOER with the submittal on a flash drive or may be transmitted via electronic file transfer to paul.ormond@state.ma.us. 2.13

H. Separate "side calcs" may be required for non-building energy consuming site improvements which are not included in the building energy modeling software (e.g. parking lot lighting). 2.14

I. Estimate area of roof potentially usable for solar development (e.g. 'Usable Roof Area" (URA)). Estimate resulting power production and associated GHG reduction if all this URA was utilized. 2.15

J. A description of the proposed project building usage and size, including a site plan and elevation views, should be included. 2.16

K. Provide a summary of discussions with MassSave. 2.17

L. We recommend cross-examining produced model results' total and individual end uses with representative, prototype buildings developed by Pacific Northwest National Labs/Department of Energy found here: 2.18

- https://www.energycodes.gov/sites/default/files/documents/BECP_901_2013_Progress_Indicator_0_0.pdf
- http://www.energycodes.gov/sites/default/files/documents/2013EndUseTables.zip
- https://www.energycodes.gov/commercial-energy-cost-savings-analysis

Sincerely,

Paul F. Ormond, P.E.
Energy Efficiency Engineer
Massachusetts Department of Energy Resources

dcr
Massachusetts

August 15, 2017

Secretary Matthew A. Beaton
Executive Office of Energy and Environmental Affairs
Attn: Alex Strysky, MEPA Office
100 Cambridge Street, Suite 900
Boston, Massachusetts 02114

Re: EOEEA #15728 Neponset Wharf EENF

Dear Secretary Beaton:

The Department of Conservation and Recreation ("DCR" or "Department") is pleased to submit the following comments in response to the Expanded Environmental Notification Form ("EENF") submitted by CPC Ericsson Street LLC (the "Proponent") for its Neponset Wharf project (the "Project"). As stated in the EENF, the Project will both construct a mixed-use development consisting of 150 condominium units, a 25-unit hotel, a restaurant, and 185 parking spaces, and make improvements to an existing marina. The Proponent is also seeking to construct two acres of landscaped outdoor space, including a Harborwalk, public fishing pier, kayak launching and storage, public restrooms, and a small concession stand. The Project Site (the "Site") consists of 7.6 acres, 4 acres of which are watersheet at the marina, with the remaining 3.6 acres being developed land on an existing wharf. A new pedestrian bridge is proposed to be designed and constructed by the Proponent across a tidal creek to connect the Site to Tenean Beach.

DCR has care, custody, and control of the Tenean Beach facility, consisting of a swimming beach, a playground facility, tennis and basketball courts, and a parking lot with approximately 90 spaces. DCR also has care, custody, and control of a nearby bicycle/pedestrian path that connects public recreation spaces including Savin Hill Beach, Tenean Beach, Pope John Paul II Park, Senator John Finnegan Park, and the Neponset River Reservation. The Project is located in the Neponset River Estuary Area of Critical Environmental Concern ("ACEC"). DCR also has care, custody, and control of nearby Morrissey Boulevard, an arterial roadway that carries significant traffic volumes. The Project requires a mandatory Environmental Impact Report ("EIR").

DCR makes the following comments and suggestions regarding the EIR scope:

Article 97

The EENF states that the proposed pedestrian bridge connecting the Site to Tenean Beach, if permitted and constructed, would be transferred to DCR. DCR will accept ownership of the proposed bridge given the following conditions: the Proponent constructs and agrees to maintain the bridge, agrees to relocate and improve the Tenean Beach playground, constructs and maintains publically accessible restrooms. In the case that the Proponent does not accept these conditions and 3.1

COMMONWEALTH OF MASSACHUSETTS · EXECUTIVE OFFICE OF ENERGY & ENVIRONMENTAL AFFAIRS
Department of Conservation and Recreation
251 Causeway Street, Suite 600
Boston MA 02114-2119
617-626-1250 617-626-1351 Fax
www.mass.gov/dcr

Charles D. Baker, Governor
Karyn E. Polito, Lt. Governor
Matthew A. Beaton, Secretary, Executive Office of Energy & Environmental Affairs
Leo Roy, Commissioner, Department of Conservation & Recreation

still chooses to include the bridge in the proposal, a permanent easement on DCR property will be required. DCR notes that a Construction and Access Permit will be required for any construction activities on DCR property, regardless of the ultimate ownership of a pedestrian bridge or other elements related to the Project. 3.1

DCR notes that transfer of interests in state conservation property, including the granting of an easement, must meet the requirements set forth in the Executive Office of Energy and Environmental Affairs ("EEA") Article 97 Land Disposition Policy, which has the stated goal of ensuring no net loss of Article 97 lands under the ownership and control of the Commonwealth. The policy states as a general premise that EEA and its agencies shall not sell, transfer or otherwise dispose of any right or interest in Article 97 lands. Transfer of ownership or interests therein may only occur under exceptional circumstances, as defined in the policy, including the determination that no feasible alternative is available, and a minimum amount of land is being disposed for the proposed use. Additionally, any disposition of Article 97 lands will require legislative authorization obtained by a 2/3 majority on a roll call vote. In its EIR, DCR requests that the Proponent state how it would meet the Article 97 Land Disposition Policy, in the event the Proponent retains ownership of the pedestrian bridge. 3.2

DCR notes the potential, if the pedestrian bridge is constructed, for depletion of available parking spaces at the DCR lot at Tenean Beach, if the 185 spaces provided on the Project site are not adequate for the intended residential, hotel / restaurant and recreation purposes. DCR requests that the Proponent, in its EIR, demonstrate how it will provide adequate parking on-site to prevent depletion of available public parking at Tenean Beach. 3.3

Water Quality

DCR notes that its beaches along this stretch of waterfront periodically encounter water quality issues. DCR requests that in its EIR, the Proponent evaluate the impact of its development program on water quality within the Tenean Beach area, by comparing pre- and post-development conditions and demonstrating compliance with the Massachusetts Stormwater Policy. DCR requests that in its EIR the Proponent map stormwater catchment areas, identify potential infiltration methods and structural improvements to stormwater infrastructure, and potential operation and maintenance plans including street sweeping. 3.4

Flood Hazard Management

As proposed, the Project involves activities within a 100-year floodplain as delineated on the current effective Flood Insurance Rate Map ("FIRM") for Suffolk County, dated March 16, 2016. DCR's Flood Hazard Management Program ("FHMP"), under agreement with the Federal Emergency Management Agency ("FEMA"), is the state coordinating agency for the National Flood Insurance Program ("NFIP"). As such, the FHMP provides technical assistance to communities that participate in the NFIP related directly to the program and also related to floodplain management in general. Communities that participate in the NFIP are required by FEMA, as a condition of their participation, to regulate development within the 100-year floodplain in a manner that meets or exceeds the minimum standards established by FEMA, located at 44 CFR 60.3. Participating communities such as Boston are required to adopt the NFIP requirements through locally enforceable measures. In Massachusetts, many of the requirements contained in 44 CFR 60.3 are enforced through existing state regulations such as the State Building Code (780 CMR) and Wetlands Protection Act regulations (310 CMR 10.00). Communities

typically adopt the remainder of the requirements as part of a zoning ordinance or other locally enforceable measure. Boston has a zoning bylaw that includes a Floodplain District section which has been accepted by FEMA as meeting their requirements under the NFIP.

In our role as NFIP coordinator, the FHMP offers comments on the proposed Project's relationship to many of the above regulations and requirements. The FHMP does not directly administer any of these requirements and therefore does not provide official determinations as to compliance with them; rather, our comments are provided as an overview of the requirements and the documentation necessary to demonstrate compliance with these requirements.

The Project includes construction of a new mixed-use development including four new buildings. Based on information submitted with the EENF, the structures are proposed to be located within the 100-year floodplain on the current effective FIRM, specifically a zone VE with a base flood elevation of 14 feet above North American Vertical Datum ("NAVD"), and zones AE with base flood elevations of 13 and 12 feet above NAVD. Because of its location in the 100-year floodplain, compliance with the requirements of several federal, state and local measures related to floodplain development is required. The Massachusetts State Building Code (780 CMR) Eighth Edition, includes specific standards for structures newly constructed or substantially improved in the floodplain.

Within VE zones, the State Building Code requires that the bottom of the lowest horizontal structural member of the lowest floor be two feet above the base flood elevation. The space below this is to be free of obstruction, with some exceptions. Further, only certain uses are permitted in spaces below the base flood elevation: building access, parking and storage. Plans included with the ENF show that buildings B and C-D (referred to alternatively as Buildings C and D or Building C/D) are located partly in the VE zone. Buildings that are located in more than one flood zone must be designed and constructed to meet the standards for the more restrictive of the zones. Architectural elevations and project renderings in the EENF suggest that the free-of-obstruction requirement is not met by this proposal for buildings B and C-D. Also, proposed uses for those buildings in Section 2.3 of the EENF do not appear consistent with uses allowed under the Building Code for enclosed space below the base flood elevation in V zones. 3.5

Transportation

The EENF indicates that four potential intersections under DCR jurisdiction will be evaluated in the EIR process: two unsignalized intersections at Walnut Street/Neponset Circle and Redfield Street/Neponset Circle, and two signalized intersections at Morrissey Boulevard/Conley Street and Morrissey Boulevard/ Tenean Street. DCR supports the inclusion of these intersections in the EIR transportation analysis.

DCR is currently at the 25% design stage of a Morrissey Boulevard reconstruction project. The Morrissey Boulevard project seeks to improve flood control, street lighting, pedestrian and bicycle access, and includes significant proposed changes to Neponset Circle, the Morrissey Boulevard/Tenean Street intersection, and the Morrissey Boulevard/Conley Street intersection. DCR recommends that the Proponent coordinate with the Department during the design phase of the Morrissey Boulevard project. 3.6

Thank you for the opportunity to comment on the EENF. If you have questions regarding our comments relating to Article 97, please contact Jim Comeau at james.comeau@state.ma.us or 617-626-1403. Water quality questions can be directed to Robert Lowell at robert.lowell@state.ma.us or 617-626-1340. Flood Hazard Management questions can be directed to Eric Carlson eric.carlson@state.ma.us or 617-626-1362. Transportation questions can be directed to Mark MacLean at mark.maclean@state.ma.us or 617-626-4923.

Sincerely,

Leo Roy
Commissioner

cc: Patrice Kish, Rob Lowell, Norm Orrall (DCR)
Ryan P. Sillery, CPC Ericsson Street LLC
Seth Lattrell, VHB

THE COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF ENERGY AND ENVIRONMENTAL AFFAIRS
OFFICE OF COASTAL ZONE MANAGEMENT
251 Causeway Street, Suite 800, Boston, MA 02114-2136
(617) 626-1200 FAX: (617) 626-1240

MEMORANDUM

TO: Matthew A. Beaton, Secretary, EEA
ATTN: Alex Strysky, MEPA Unit
FROM: Bruce Carlisle, Director, CZM
DATE: August 15, 2017
RE: EEA-15728, Neponset Wharf, Boston

The Massachusetts Office of Coastal Zone Management (CZM) has completed its review of the above-referenced Environmental Notification Form (ENF), noticed in the *Environmental Monitor* dated May 24, 2017. According to the ENF, the project exceeds the threshold for a mandatory Environmental Impact Report (EIR) for a new non-water dependent use occupying one or more acres of tidelands. CZM recommends that the proponent address the issues identified below in the EIR.

Project Description

With this ENF filing, CPC Ericsson Street, LLC proposes to construct a mixed-use development (residential, hotel, restaurant, boathouse, and parking) totaling 307,000 sf in four new buildings on a site which currently houses a 75-slip marina and related water-dependent uses. The project will require dredging to support renovations to the marina. Two acres of outdoor public space are proposed with this project including passive recreation areas, harbor walk, and a pedestrian connection to the state-owned Tenean Beach. The project is partially located within the Neponset River Estuary Area of Critical Environmental Concern (ACEC). The project is located within filled and flowed tidelands and proposes impacts to Coastal Bank and Land Subject to Coastal Storm Flowage.

Project Comments

The ENF indicates that portions of the project site lie within the 100-year floodplain (A Zone elevations 11, 12, and 13 ft NAVD88 and Velocity Zone elevation 14 ft NAVD88). However, the ENF does not provide information regarding how the proposed project will intersect with these flood zones. The EIR should include figures depicting plan view and cross sections through the site which show the exiting topography, any proposed fill, proposed building program (including permanent and seasonal structures, marina with piers, pedestrian bridge and recreational space), and proposed finish floor, with respect to existing MHW, the FEMA Base Flood Elevations (A and V) in NAVD88, and storm and sea level rise elevations. Additionally, the ENF does not provide detailed information regarding how climate change impacts including increased sea levels, storm intensity and frequency, and precipitation have been incorporated into the project design. The EIR should provide detailed information describing how the proposed project has been designed for projected sea levels for the area. It is important to consider these potential impacts over the life of the proposed development. The proponent should describe and use the anticipated lifespan of the proposed project as the basis for incorporating the projected increases in precipitation, coastal flooding, and storm events into the project design. The EIR should also include details on building design and other measures to avoid and mitigate risks from inundation and storm damage. The

4.1

EIR should also include an analysis of wave energy for the proposed project under existing and future conditions. If a structure such as a wave fence is required to dissipate wave energy for the proposed marina, or additional shore protection is needed due to the removal of the wave fence, impacts to adjacent areas, including resources such as Tenean Beach and salt marsh resources, should be fully evaluated. 4.1

Prior to filing the EIR, the proponent should consult with the Massachusetts Department of Conservation and Recreation's Flood Hazard Management Program regarding the proximity of the proposed project to the various flood zones and State Building Code requirements. 4.2

The EIR should evaluate how the proposed development will affect the ability of the floodplain to provide storm damage protection and flood control interests under the Massachusetts Wetlands Protection Act (WPA). The physical characteristics of the floodplain, such as topography, permeability, and vegetation are critical for determining how effective an area is in slowing down moving water and in protecting areas within and landward of these zones from storm damage and flooding. Areas of vegetated cover and pervious areas provide surfaces that can detail, absorb, slow or evaporate waters. Impervious surfaces, fill and solid structures may have the effect of channeling flood waters, which increases their velocity. Although there are no specific performance standards for this coastal resource area, it is a protected resource area and as part of the plan to redevelop this site, the EIR should evaluate alternative designs for the proposed project which will improve the ability of the floodplain to provide storm damage protection and flood control to landward areas. The EIR should also include a description of how the flow of water across the site will be changed by the proposed project, particularly as it relates to adjacent development and infrastructure. 4.3

As previously noted the project site includes areas of filled tidelands as well as flowed tidelands. As such, the project will need to comply with the regulatory standards of MassDEP's Waterways regulations. Additional information relating to work in areas within jurisdiction should be provided in the DEIR as outlined below.

- Detailed plan showing the existing (licensed) and proposed marina footprint
- Detailed plan showing the layout of the proposed marina (location, size and number of slips, piers, floats)
- Documentation relating to the previously licensed marina and location within the Neponset River Estuary Area of Critical Environmental Concern
- Discussion of proposed dredge area and depth and how this relates to the existing licensed dredge footprint

4.4

Federal Consistency

The proposed project may be subject to CZM federal consistency review. For further information on this process, please contact, Robert Boeri, Project Review Coordinator, at 617-626-1050 or visit the CZM web site at www.state.ma.us/czm/fcr.htm.

BKC/bw/lbe

cc: Rich McGuiness, Chris Busch, Erikk Hokenson, BPDA
Mia Goldwasser, City of Boston Environment
Ben Lynch, Rachel Freed, MassDEP

The COMMONWEALTH OF MASSACHUSETTS
BOARD OF UNDERWATER ARCHAEOLOGICAL RESOURCES
EXECUTIVE OFFICE OF ENERGY AND ENVIRONMENTAL AFFAIRS
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Tel. (617) 626-1200 Fax (617) 626-1240 Web Site: www.mass.gov/czm/buar/index.htm

July 20, 2017

Secretary Matthew A. Beaton
Executive Office of Energy and Environmental Affairs
Attention: Alex Strysky, MEPA Unit
100 Cambridge St., Suite 900
Boston, MA 02114

RE: Neponset Wharf, 24 Ericsson Street, Neponset River, Boston (EEA #15728)

Dear Secretary Beaton,

The staff of the Massachusetts Board of Underwater Archaeological Resources has reviewed the above referenced project's ENF (#15728) and supporting materials submitted by VBH, Inc., on behalf of CPC Ericsson Street LLC. We offer the following comments.

The Board has conducted a preliminary review of its files and secondary literature sources to identify known and potential submerged cultural resources in the proposed project area. No record of any underwater archaeological resources was found. Based on the results of this review, the Board expects that this project is unlikely to impact submerged cultural resources.

5.1

However, should heretofore-unknown submerged cultural resources be encountered during the course of the project, the Board expects that the project's sponsor will take steps to limit adverse affects and notify the Board, as well as other appropriate agencies, immediately in accordance with the Board's *Policy Guidance for the Discovery of Unanticipated Archaeological Resources*.

The Board appreciates the opportunity to provide these comments as part of the review process. Should you have any questions regarding this letter, please do not hesitate to contact me at the address above, by email at victor.mastone@state.ma.us, or by telephone at (617) 626-1141.

Sincerely,

Victor T. Mastone
Director

/vtm

Commonwealth of Massachusetts

Division of Marine Fisheries

251 Causeway Street, Suite 400
Boston, Massachusetts 02114
(617)626-1520
fax (617)626-1509

David E. Pierce, Ph.D.
Director

Charles D. Baker
Governor
Karyn E. Polito
Lieutenant Governor
Matthew A. Beaton
Secretary
Ronald Amidon
Commissioner
Mary-Lee King
Deputy Commissioner

August 18, 2017

Secretary Matthew A. Beaton
Executive Office of Energy and Environmental Affairs (EEA)
Attn: MEPA Office
Alex Strysky, EEA No. 15728
100 Cambridge Street, Suite 900
Boston MA 02114

Re: Neponset Wharf, CPC Ericsson Street

Dear Secretary Beaton:

Division of Marine Fisheries (DMF) staff have reviewed the Environmental Notification Form for the proposed mixed use development along the Neponset River and Pine Neck Creek. Portions of the project site are within the Neponset River Estuary Area of Critical Environmental Concern (ACEC). The proposed development will reduce impervious surface, and increase public access to the waterfront including a public fishing pier. Project impacts will include 94,000sf of impact to Land Under the Ocean and 36,000sf to coastal beaches, including Land Containing Shellfish, mapped as soft shell clam (*Mya arenaria*) habitat. Dredging in the marina basin is proposed, as needed.

DMF requests information on the proposed dredging and alternatives plans with details on project impacts to wetland resource areas, including plans to minimize impacts to Land Under the Ocean, Coastal Beach, Tidal Flat and Land Containing Shellfish. We would also like to discuss the details of the fishing pier with the applicant. DMF public access staff are available to discuss the pier design and can provide helpful recommendations that address area needs. 6.1

Please contact Tay Evans at 978-282-0308 x.168 or tay.evans@state.ma.us. for more information about this review, and Ross Kessler at 508-990-2860 x. 143 or ross.kessler@state.ma.us to discuss public access plans.

Sincerely,

David E. Pierce, PhD
Director

DP/te/sd

cc:
R. Kessler; K. Ford, DMF
K. Chin, DEP
B. Boeri, CZM
B. Newman, ACOE
Boston Conservation Commission
S. Latrell, VHB

boston planning & development agency

August 15, 2017

Secretary of Energy and Environmental Affairs
Executive Office of Energy and Environmental Affairs
ATTN: MEPA Office
Mr. Alex Strysky, EEA #15728
100 Cambridge Street, Suite 900
Boston, MA 02114

RE: Environmental Notification Form/Project Notification Form, EEA #15728
Neponset Wharf, 24 Ericsson Street, Boston

Dear Mr. Strysky,

Waterfront Planning staff of the Boston Planning & Development Agency (BPDA) have received and reviewed the Environmental Notification Form (ENF)/Project Notification Form (PNF) for Neponset Wharf (the "Project") at 24 Ericsson Street in Port Norfolk, Dorchester, Boston (the "Project Site"). The Project, proposed by CPC Ericsson Street, LLC (the "Proponent") comprises 307,000 SF of new development in three mixed-use buildings and a boathouse; the reconfiguration of docks and piers for the existing marina; and approximately two acres of open space. Portions of the site are within the Neponset River Estuary Area of Critical Environmental Concern (the "ACEC") and seaward of the historic high water mark; as a result, these portions are subject to the ACEC Resource Management Plan and the state's Waterways regulations, respectively. In addition, the entire site is located within the 100-year floodplain in various zones and elevations.

Because of its impacts, the Project is required to file both a Draft Environmental Impact Report (DEIR) and Draft Project Impact Report (DPIR). The DEIR/DPIR should include additional information on the elevations of the landscaped open spaces and how these areas may function as both recreational space and a flood protection system not only for the Project, but also for the Port Norfolk neighborhood; more details on the proposed Tidal Garden; clarifications on the marina components, including heights of pilings, accessibility, and the functionality of the new wave/wind attenuator, especially as compared to the existing one; and an exploration of the feasibility of water transportation from the Project site. We strongly encourage the Proponent to identify and pursue additional measures to achieve a higher LEED rating. Finally, a Resiliency Checklist for each structure, instead of one for the entire Project, is required by the BPDA. 7.1

boston planning & development agency

We look forward to reviewing the DEIR/DPIR upon filing. As always, we appreciate the opportunity to comment and for your consideration.

Very truly yours,

Richard McGuinness
Deputy Director for Climate Change and Environmental Planning

cc: Tim Czerwienski, Project Manager, BPDA
Lisa Berry Engler, Boston Harbor Regional Coordinator, Coastal Zone Management

AS

Boston Water and Sewer Commission

980 Harrison Avenue
Boston, MA 02119-2540
617-989-7000

August 10, 2017

Secretary Matthew A. Beaton
Executive Office of Energy and Environmental Affairs
Attention: MEPA Office
Alex Strysky, EEA No. 15728
100 Cambridge Street, Suite 900
Boston, MA 02114

and

Tim Czerwienski
Project Manager
Boston Planning and Development Agency
One City Hall Square
Boston, MA 02201

Re: Neponset Wharf
Environmental Notification Form/Project Notification Form

Dear Secretary Beaton and Mr. Czerwienski:

The Boston Water and Sewer Commission (Commission) has reviewed the Environmental Notification Form (ENF) and the Project Notification Form (PNF) for the proposed Neponset Wharf project located at 24 Ericsson Street in the Port Norfolk neighborhood of Boston.

The proposed project is located on an approximately 7.6 acre site along the Neponset River and Pine Neck Creek at the northernmost point of the Port Norfolk peninsula. The site currently contains a boat dealership, a marina, and supporting buildings. The project proponent, CPC Ericsson Street LLC, proposes to construct 307,000 square feet (sf) of floor area in four new buildings including a boathouse and three mixed-use buildings. The project includes the following:

- The existing marina will be reconfigured and maintenance dredging will occur, as needed.
- The existing landside storage and services areas will be consolidated from 71,300 sf to 23,000 sf.
- Three new mixed use buildings will contain 150 condominium units, 185 parking spaces, a 25-room hotel and a restaurant/café.
- An existing paved area will be replaced with approximately 2 acres of new landscaped open space, including approximately 28,000 sf of publicly accessible Harborwalk, a fishing pier, a kayak launching area, restrooms, a refreshment stand, and a support building.

The site is bounded to the north by the Neponset River, to the east by the Venezia, to the south by existing buildings and to the west by the Pine Neck Creek.

According to the ENF/PNF, the proposed water demand is 30,752 gallons per day (gpd). The Commission owns and maintains a 12-inch Southern High water main in Ericsson Street.

According to the ENF/PNF, the proposed sewage generation is 27,956 gpd. For sewage and storm drainage service, the site is served by a 12-inch sanitary sewer and a 12-inch storm drain in Ericsson Street.

The Commission has the following comments regarding the proposed project:

General

1. Prior to demolition of any buildings, all water, sewer and storm drain connections to the buildings must be cut and capped at the main pipe in accordance with the Commission's requirements. The proponent must then complete a Termination Verification Approval Form for a Demolition Permit, available from the Commission and submit the completed form to the City of Boston's Inspectional Services Department before a demolition permit will be issued. 8.1

2. All new or relocated water mains, sewers and storm drains must be designed and constructed at CPC Ericsson Street LLC's expense. They must be designed and constructed in conformance with the Commission's design standards, Water Distribution System and Sewer Use Regulations, and Requirements for Site Plans. To assure compliance with the Commission's requirements, the proponent must submit a site plan and a General Service Application to the Commission's Engineering Customer Service Department for review and approval when the design of the new water and wastewater systems and the proposed service connections to those systems are 50 percent complete. The site plan should include the locations of new, relocated and existing water mains, sewers and drains which serve the site, proposed service connections as well as water meter locations. 8.2

3. The Department of Environmental Protection (DEP), in cooperation with the Massachusetts Water Resources Authority and its member communities, is implementing a coordinated approach to flow control in the MWRA regional wastewater system, particularly the removal of extraneous clean water (e.g., infiltration/inflow (I/I)) in the system. In April of 2014, the Massachusetts DEP promulgated new regulations regarding wastewater. The Commission has a National Pollutant Discharge Elimination System (NPDES) Permit for its combined sewer overflows and is subject to these new regulations [314 CMR 12.00, section 12.04(2)(d)]. This section requires all new sewer connections with design flows exceeding 15,000 gpd to mitigate the impacts of the development by removing four gallons of infiltration and inflow (I/I) for each new gallon 8.3

of wastewater flow. In this regard, any new connection or expansion of an existing connection that exceeds 15,000 gallons per day of wastewater shall assist in the I/I reduction effort to ensure that the additional wastewater flows are offset by the removal of I/I. Currently, a minimum ratio of 4:1 for I/I removal to new wastewater flow added is used. The Commission supports the policy, and will require proponent to develop a consistent inflow reduction plan. The 4:1 requirement should be addressed at least 90 days prior to activation of water service and will be based on the estimated sewage generation provided on the project site plan. 8.3

4. The design of the project should comply with the City of Boston's Complete Streets Initiative, which requires incorporation of "green infrastructure" into street designs. Green infrastructure includes greenscapes, such as trees, shrubs, grasses and other landscape plantings, as well as rain gardens and vegetative swales, infiltration basins, and paving materials and permeable surfaces. The proponent must develop a maintenance plan for the proposed green infrastructure. For more information on the Complete Streets Initiative see the City's website at http://bostoncompletestreets.org/ 8.4

5. CPC Ericsson Street LLC should be aware that the US Environmental Protection Agency issued the Remediation General Permit (RGP) for Groundwater Remediation, Contaminated Construction Dewatering, and Miscellaneous Surface Water Discharges. If groundwater contaminated with petroleum products, for example, is encountered, CPC Ericsson Street LLC will be required to apply for a RGP to cover these discharges. 8.5

6. It is CPC Ericsson Street LLC's responsibility to evaluate the capacity of the water, sewer and storm drain systems serving the project site to determine if the systems are adequate to meet future project demands. With the site plan, CPC Ericsson Street LLC must include a detailed capacity analysis for the water, sewer and storm drain systems serving the project site, as well as an analysis of the impacts the proposed project will have on the Commission's water, sewer and storm drainage systems. 8.6

Water

1. CPC Ericsson Street LLC must provide separate estimates of peak and continuous maximum water demand for residential, commercial, industrial, irrigation of landscaped areas, and air-conditioning make-up water for the project with the site plan. Estimates should be based on full-site build-out of the proposed project. CPC Ericsson Street LLC should also provide the methodology used to estimate water demand for the proposed project. 8.7

2. CPC Ericsson Street LLC should explore opportunities for implementing water conservation measures in addition to those required by the State Plumbing Code. In particular, CPC Ericsson Street LLC should consider outdoor landscaping which requires minimal use of water to maintain. If CPC Ericsson Street LLC plans to install in-ground 8.8

sprinkler systems, the Commission recommends that timers, soil moisture indicators and rainfall sensors be installed. The use of sensor-operated faucets and toilets in common areas of buildings should be considered. 8.8

3. CPC Ericsson Street LLC is required to obtain a Hydrant Permit for use of any hydrant during the construction phase of this project. The water used from the hydrant must be metered. CPC Ericsson Street LLC should contact the Commission's Meter Department for information on and to obtain a Hydrant Permit. 8.9

4. If water service is to be provided to the proposed docks in the marina, CPC Ericsson Street LLC will be required to install cross connection control devises on the water service. CPC Ericsson Street LLC will also be required to install approved backflow prevention devices on the water services for fire protection, vehicle wash, mechanical and any irrigation systems. CPC Ericsson Street LLC is advised to consult with Mr. James Florentino, Manager of Engineering Code Enforcement, with regards to backflow prevention. 8.10

5. The Commission is utilizing a Fixed Radio Meter Reading System to obtain water meter readings. For new water meters, the Commission will provide a Meter Transmitter Unit (MTU) and connect the device to the meter. For information regarding the installation of MTUs, CPC Ericsson Street LLC should contact the Commission's Meter Department. 8.11

<u>Sewage / Drainage</u>

1. In conjunction with the Site Plan and the General Service Application CPC Ericsson Street LLC will be required to submit a Stormwater Pollution Prevention Plan. The plan must: 8.12

   - Identify specific best management measures for controlling erosion and preventing the discharge of sediment, contaminated stormwater or construction debris to the Commission's drainage system when construction is underway.

   - Include a site map which shows, at a minimum, existing drainage patterns and areas used for storage or treatment of contaminated soils, groundwater or stormwater, and the location of major control structures or treatment structures to be utilized during the construction.

   - Specifically identify how the project will comply with the Department of Environmental Protection's Performance Standards for Stormwater Management both during construction and after construction is complete.

2. Developers of projects involving disturbances of land of one acre or more will be required to obtain an NPDES General Permit for Construction from the Environmental 8.13

Protection Agency and the Massachusetts Department of Environmental Protection. CPC Ericsson Street LLC is responsible for determining if such a permit is required and for obtaining the permit. If such a permit is required, it is required that a copy of the permit and any pollution prevention plan prepared pursuant to the permit be provided to the Commission's Engineering Services Department, prior to the commencement of construction. The pollution prevention plan submitted pursuant to a NPDES Permit may be submitted in place of the pollution prevention plan required by the Commission provided the Plan addresses the same components identified in item 1 above. 8.13

3. The Commission encourages CPC Ericsson Street LLC to explore additional opportunities for protecting stormwater quality on site by minimizing sanding and the use of deicing chemicals, pesticides, and fertilizers. 8.14

4. The discharge of dewatering drainage to a sanitary sewer is prohibited by the Commission. CPC Ericsson Street LLC is advised that the discharge of any dewatering drainage to the storm drainage system requires a Drainage Discharge Permit from the Commission. If the dewatering drainage is contaminated with petroleum products, CPC Ericsson Street LLC will be required to obtain a Remediation General Permit from the Environmental Protection Agency (EPA) for the discharge. 8.15

5. CPC Ericsson Street LLC must fully investigate methods for retaining stormwater on-site before the Commission will consider a request to discharge stormwater to the Commission's system. The site plan should indicate how storm drainage from roof drains will be handled and the feasibility of retaining their stormwater discharge on-site. Under no circumstances will stormwater be allowed to discharge to a sanitary sewer. 8.16

6. The Massachusetts Department of Environmental Protection (MassDEP) established Stormwater Management Standards. The standards address water quality, water quantity and recharge. In addition to Commission standards, CPC Ericsson Street LLC will be required to meet MassDEP Stormwater Management Standards. 8.17

7. If pump-out stations are to be constructed for the new slips, the wastewater from the pump-out station must be discharged to a sanitary sewer. CPC Ericsson Street LLC is advised to consult with Mr. Phil Larocque, Site Plan Engineer, with regard to connecting the pump-out station to a sanitary sewer. 8.18

8. Sanitary sewage must be kept separate from stormwater and separate sanitary sewer and storm drain service connections must be provided. The Commission requires that existing stormwater and sanitary sewer service connections, which are to be re-used by the proposed project, be dye tested to confirm they are connected to the appropriate system. 8.19

9. The Commission requests that CPC Ericsson Street LLC install a permanent casting stating "Don't Dump: Drains to Boston Harbor" next to any catch basin created or modified as part of this project. CPC Ericsson Street LLC should contact the Commission's Operations Division for information regarding the purchase of the castings. 8.20

10. If a cafeteria or food service facility is built as part of this project, grease traps will be required in accordance with the Commission's Sewer Use Regulations. CPC Ericsson Street LLC is advised to consult with the Commission's Operations Department with regards to grease traps. 8.21

11. The enclosed floors of a parking garage must drain through oil separators into the sewer system in accordance with the Commission's Sewer Use Regulations. The Commission's Requirements for Site Plans, available by contacting the Engineering Services Department, include requirements for separators. 8.22

12. The Commission requires installation of particle separators on all new parking lots greater than 7,500 square feet in size. If it is determined that it is not possible to infiltrate all of the runoff from the new parking lot, the Commission will require the installation of a particle separator or a standard Type 5 catch basin with an outlet tee for the parking lot. Specifications for particle separators are provided in the Commission's requirements for Site Plans. 8.23

Thank you for the opportunity to comment on this project.

Yours truly,

John P. Sullivan, P.E.
Chief Engineer

JPS/afh

C: Ryan Sillery, CPC Ericsson Street LLC
M. Connolly, MWRA via e-mail
M. Zlody, BED via e-mail
P. Larocque, BWSC via e-mail

August 10, 2017

Secretary Matthew A. Beaton
Executive Office of Energy and Environmental Affairs
Attn: Deirdre Buckley, Director, MEPA Office
100 Cambridge Street, Suite 900
Boston, MA 02114

RE: Environmental Notification Form – Neponset Wharf, Boston (EEA No. 15728)

Dear Secretary Beaton and Director Buckley:

WalkBoston appreciates the opportunity to comment on the Environmental Notification Form (ENF) for the proposed Neponset Wharf development in the Port Norfolk neighborhood of Dorchester, Boston. This project has the potential to advance walkable community goals by promoting active outdoor uses and enhancing pedestrian access to the waterfront. At the same time the project site remains highly inaccessible without a motor vehicle, which raises broader concerns about pedestrian safety and connectivity. Significant Transportation Demand Management (TDM) and mitigation measures would be necessary to address these issues.

The project proponent's goals of creating two acres of new landscaped outdoor space on the site, including 28,000 square feet of continuous publicly accessible Harborwalk, will significantly enhance the local public realm, while also promoting active living and outdoor recreation. We are intrigued by the proponent's consideration of a bicycle and pedestrian bridge to connect the project site with Tenean Beach. While such a bridge would certainly improve public access to the Harborwalk, we have also heard resident concerns about the bridge's potential impacts on the local ecology and its potential to put excess demand on the availability of parking for Tenean Beach if users of the new development use the public parking lot park at the Beach.

Relatedly, the proponent has stated their intention to "provide pedestrian and bicycle transportation infrastructure that is consistent with Boston Transportation Department's Complete Streets guidelines." Creating streets, sidewalks and paths that accommodate road users of all abilities and travel modes is critical to developing more livable and walkable communities, so WalkBoston is pleased to see a commitment to these issues reflected in the ENF. However actually implementing these concepts in a heavily car-dependent neighborhood and project site means that significant challenges must be addressed.

<u>High proportion and number of motor vehicle trips:</u> Given poor transit access and limited street connectivity to the Port Norfolk neighborhood and the proposed Neponset Wharf site, the proponent estimates that only five percent of trips generated by the project will be bicycle and walking trips. The remaining 95 percent of project-generated trips will be in motor vehicles, for a total of 1,440 new vehicular trips on an average weekday. To accommodate this traffic, the proponent has proposed 185 parking spaces on the project site. We are concerned that the number of trips and the number of parking spaces do not seem to be aligned, as these figures

9.1

would suggest nearly eight trips per day per parking space. This suggests a need to more fully explore appropriate transportation options for the development of this site.

In addition, the increased volume of motor vehicles this project would generate in Port Norfolk will increase risks to people walking and biking on the neighborhood's narrow streets and sidewalks. The project proponent has stated their intention to develop a TDM plan for the project in the forthcoming Draft Environmental Impact Report (DEIR). This plan should include a full accounting of how proposed TDM measures would reduce the overall number of motor vehicle trips and increase the overall percentage of trips using walking, biking and transit modes. 9.1

Neighborhood access and pedestrian safety: Redfield Street, Tenean Street/Conley Street, and Woodworth Street/Walnut Street are the primary routes for motor vehicles to enter and exit the Port Norfolk neighborhood. The proposed project will significantly increase the number of motor vehicles traveling these streets, so the proponent should explore ways to implement traffic calming and pedestrian safety measures along these streets as mitigation. Given that much of this increased traffic will come from Neponset Circle/Morrissey Boulevard, the intersections of Redfield, Walnut, Conley and Tenean Streets at these locations should also be assessed for safety improvements in coordination with the Department of Conservation and Recreation (DCR). 9.2

Site access and pedestrian safety: The project site abuts Ericsson Street, with a one-way entry to the site to be aligned with Port Norfolk Street and a one-way exit from the site to be aligned with Lawley Street. The proposed project will significantly increase the number of motor vehicles traveling these streets as well, so the proponent should also explore ways to implement traffic calming and pedestrian safety measures along these streets as further mitigation.

The proponent should also clarify how pedestrians will safely enter and exit the project site at Port Norfolk and Lawley Streets. The current site access/egress points at these locations lack sidewalks and are relatively narrow for motor vehicles even in the absence of sidewalks. These access/egress points also abut existing buildings, so while the proponent "envision[s] multiple accessible sidewalks along the entry points into the site," it is unclear where the space for safe pedestrian accommodations will actually come from. Increasing the number of motor vehicles traveling through this area will pose additional safety risks to pedestrians, so the proponent should explore plans for mitigation here as well. 9.3

Thank you for considering these issues and please feel free to contact us with any questions.

Sincerely,

Wendy Landman

Wendy Landman
Executive Director

Cc: Alexander Strysky, MEPA Office
Tim Czerwienski, Boston Planning and Development Agency

neponset river
WATERSHED ASSOCIATION
1967-2017 Celebrating 50 years

August 15, 2017

Mathew A. Beaton, Secretary
Executive Office of Energy and Environmental Affairs
100 Cambridge Street, Suite 900 (9th Floor)
Attn: MEPA Office
Boston, MA 02114

Brian Golden, Director
Boston Planning and Redevelopment Agency
One City Hall Square
Boston, MA 02201

Via email to Alexander.Strysky@ma.us.gov and Tim.Czerwienski@boston.gov

RE: MEPA File No. 15728—ENF for Neponset Wharf, 24 Ericsson Street, Boston, MA 02122 and Article 80 PNF 2017-6-30—24 Ericsson Street, Boston, MA 02122

Dear Secretary Beaton and Mr. Golden:

The Neponset River Watershed Association (NepRWA) submits the following comments on the environmental notification form under review for the proposed Neponset Wharf mixed use complex on Ericsson Street in Dorchester and on the Article 80 PNF 2017-6-30. NepRWA is a nonprofit conservation organization working to clean up and protect the Neponset River, its tributaries and surrounding watershed lands.

We are generally supportive of redevelopment projects, such as Neponset Wharf and particularly those that will benefit the community and improve existing degraded environmental conditions without creating any adverse impacts to the local environment. However, due to the scale of the proposed project (construction of 150 residential units, boutique hotel, restaurant and retail, and improved marina), we ask that the Proponent be required to submit a Draft Environmental Impact Report (DEIR)/Draft Project Impact Report (DPIR) that will take into account the negative and positive impacts to the local environment and remaining wildlife habitat, wetlands and water resources, and public access to these resources.

2173 Washington Street, Canton, MA 02021
781.575.0354 | staff@neponset.org | www.neponset.org

Neponset River Estuary is a Massachusetts Area of Critical Environmental Concern (ACEC) and redevelopment projects touching on the area must take extra care to support the goals of the ACEC resource management plan (RMP).

Neponset Wharf is located in the ACEC. The Massachusetts Areas of Critical Environmental Concern program is designed to promote the long-term preservation, management, and use of natural and cultural resources that have been determined to be of regional, state, or national significance. The Neponset River Estuary comprises approximately 1,300 acres and includes one of the two major remaining salt marshes in Boston Harbor, along with fisheries and wildlife habitat, active and passive recreation amenities, historic and anthropological sites, and beautiful natural and urban vistas. Urban development in the area has degraded these resources, elevating the need to restore and protect the area.

The Neponset River Estuary ACEC RMP aims not just to preserve but also to improve the water quality of the estuary, and any redevelopment project in the area must incorporate measures to further that goal.

Among the goals of the Neponset Estuary ACEC RMP is to protect and improve water quality conditions in order to meet, or **where possible exceed**,[1] state water quality standards. Additional goals include restoring fisheries and wildlife habitat (including shellfish beds), supporting biological diversity, and encouraging appropriate land and water uses that benefit the public and are compatible with sound resource protection and management.[2] Notwithstanding these laudable goals, the Neponset Estuary does not yet meet required water quality standards for its fishable/swimmable classification. The RMP identifies "inadequately designed and constructed stormwater measures" and inappropriate development as causes of the poor water quality and threats to the resources of the ACEC and to public health and safety.[3] Thus, any development or redevelopment within the estuary must be conducted carefully and must implement best management practices **to improve** water quality. 10.1

The proponent's ENF/PNF lacks sufficient detail to determine whether the project will adequately protect and improve the estuary.

The Proponent has proposed a project that includes four new residential buildings, two of which would be 85 feet tall. Included within those buildings would be 150 residential units, a boutique hotel, a restaurant and 185 parking spaces. The project also includes renovation of the existing marina, including dredging, and the establishment of a harbor walk and landscaped open space. Additionally, the proposal contemplates a pedestrian bridge over Pine Neck Creek to Tenean Beach.

[1] MA EXEC. OFFICE OF ENVIRON. AFFAIRS, NEPONSET RIVER ESTUARY AREA OF CRITICAL ENVIRONMENTAL CONCERN RESOURCE MANAGEMENT PLAN, 11 (1996).
[2] *Id.*
[3] *Id.* at 25-26 (1996).

The scope of the project presented in the ENF/PNF may not accurately describe the Proponent's plans to redevelop in the area, and, therefore, may not take into account the most effective mitigation measures and public access features.

At the outset, NepRWA and the Port Norfolk residents would like to know how the property under consideration relates to the ownership and potential future development of adjoining properties. The Boston Globe reported earlier this year that the Proponent has secured the rights to purchase other property adjoining (or at least in the same vicinity) as the instant property in order to develop them in the future as "a sequel of sorts to the current project."[4] 301 CMR 11.01(2)(c) requires a Proponent to consider the **entirety** of a project, and prohibits a Proponent from segmenting a project to curtail MEPA review. Since there appear to be property rights and plans to redevelop more than the parcel under consideration in the current ENF/PNF, a legitimate concern is that the project may have been segmented, which significantly affects consideration of the environmental and community impacts of the project as a whole, as well as potential alternatives and mitigation that should be considered. The approved scope of the instant proposal may well be replicated on other parcels, amplifying the effect on the existing neighborhood. Thus, the Proponent should detail their future plans for adjoining properties to ensure a complete review. 10.2

A major source of water pollution in the estuary is stormwater runoff, and the Project must implement the most effective BMPs for this particular site.

The Massachusetts Stormwater Handbook establishes that where the Massachusetts Department of Environmental Protection (DEP) has issued a Total Maximum Daily Load (TMDL) for a pollutant other than Total Suspended Solids (TSS), the Proponent must propose stormwater BMPs consistent with the TMDL.[5] The Commonwealth has issued TMDLs for the Neponset River requiring the reduction of fecal coliform and e. coli[6] (a major source of which is stormwater runoff in the estuary).[7] In addition, the project's proximity to a public swimming beach makes efforts to reduce bacteria in stormwater runoff even more imperative. The Proponent must detail in the DEIR/DPIR the specific BMPs that will be included in the project, how they are consistent with the TMDL and how they will improve existing stormwater runoff conditions.[8] Moreover, given the ACEC RMP aims to improve water quality in the estuary, the DEIR/DPIR should include a detailed evaluation of potential stormwater BMPs at the site that would fully meet the Massachusetts stormwater standards by treating the first inch of runoff from the site, consistent with the TMDL and good practice regarding nutrient removal. 10.3

[4] Jon Chesto, *Developer hopes to tap into Dorchester's Port Norfolk*, BOSTON GLOBE (February 24, 2017).
[5] MA DEP'T ENVIRON. PROTECTION, MASSACHUSETTS STORMWATER HANDBOOK, Vol. 1, ch. 2, 12-13 (2008) [hereinafter STORMWATER HANDBOOK].
[6] MA DEP'T ENVIRON. PROTECTION, TOTAL MAXIMUM DAILY LOADS OF BACTERIA FOR NEPONSET RIVER BASIN (2002); MA DEP'T ENVIRON. PROTECTION, ADDENDUM: TOTAL MAXIMUM DAILY LOADS OF BACTERIA FOR NEPONSET RIVER BASIN (2012).
[7] MA DEP'T ENVIRON. PROTECTION, TOTAL MAXIMUM DAILY LOADS OF BACTERIA FOR NEPONSET RIVER BASIN, 30 (2002)
[8] STORMWATER HANDBOOK, Vol. 1, Ch. 1, 10 note 15 (2008) (*citing id.* at Vol. 1 ch. 2, 12-13).

We recommend that at least the first inch of runoff from all impervious surfaces (including pavement, walkways and rooftops) on the site should be treated using one of the following practices:

- Surface or subsurface infiltration practices including porous pavement (subject to verification that soils on the site are not contaminated);
- Low impact development techniques including bio-retention and tree filter boxes;
- Surface or subsurface filtration practices such as sand filters; or
- Measures that retain and/or evaporate water from the site to reduce the frequency and volume of polluted stormwater runoff leaving the site, including, but not limited to, green roofs and on-site rain water capture and irrigation/grey water reuse.

10.4

Additionally, the DEIR/DPIR should detail efforts to minimize stormwater pollutants on site. Specifically, the Proponent should detail:

- The configuration of commercial dumpsters kept on site for residential buildings, hotel, restaurant and other structures which ideally should be kept indoors or under roof cover;
- How waste from the proposed dog park will be regularly cleared to prevent runoff contamination; and
- Measures that will be undertaken to educate residents and maintenance/operations staff about the problem of stormwater pollution and appropriate O&M procedures.

10.5

The Proponent should clarify plans to manage pollution associated with marina use.

The DEIR/DPIR should include detailed examination of pollution control measures that will be implemented in the marina. Specifically, the Proponent should:

- Commit to provide a holding tank pump out facility which is accessible to both slip owners and the public;
- Detail measures to prevent pollution from boat maintenance (preferably by keeping these activities under cover); and
- Describe other measures that will be used to minimize the impact of marina activities, such as a program that will be used to educate slip owners and operation and maintenance staff about pollution prevention practices.

10.6

The Proponent should describe the plan to achieve maximum water conservation through both indoor and outdoor water uses.

The Proponent has indicated the project will use low-flow plumbing fixtures for water closets and faucets, including EPA WaterSense labeled fixtures for all toilets, urinals, faucets, and showerheads. We would urge the Proponent go beyond compliance with the relatively weak WaterSense standards and specify toilets that comply with the MaP Premium standard, urinals that use 0.25 GPF or less, lavatory faucets that use 1.0 GPM and showerheads that use 1.5 GPM. The Proponent should also ensure that all laundry equipment used in the project has a water factor of 4.0 or less. A variety of readily available products meet these criteria at prices comparable to conventional fixtures.

10.7

The Proponent has indicated that the landscaping and open space areas will not require irrigation, but rather will rely on native and adaptive plant species. The DEIR/DPIR should explore this in more detail.

10.8

The Proponent must ensure meaningful access to the shoreline.

The ENF/DNF describes enhancements to public access, including a Harborwalk, kayak rentals/boat storage and new open space. The DEIR/DPIR should further detail plans to ensure meaningful access by the public—including affordability of access to recreational opportunities. The Proponent should explore offering free kayak/canoe storage, and other no-cost public amenities to ensure the proposed access truly is meaningful. Furthermore, will members of the public be able to launch their own canoes and kayaks and/or utilize fishing pier and the dog park? The DEIR/DPIR should clarify which areas of the proposed open space would be open to the public and discuss what provision is being made for parking to ensure that the public has the ability to access the waterfront in practice. The Proponent should also clarify installation of signage, clearly delineating publicly accessible areas and permitted activities. 10.9

The DEIR/DPIR should also explore alternative approaches to the design of the open space and public access facilities. One long standing need in the Neponset River and adjoining communities to the north and south is for a publicly accessible boat ramp for trailer access. Additional scenarios to be considered for the open space would be alternative layouts that would accommodate a more naturalized shoreline over a larger portion of the site (see discussion of living shoreline below) that would enhance both habitat value and aesthetics of the existing armored shoreline, and structuring pervious spaces at the outer edges, closest to the water. Additionally, continuous access (along a boardwalk or other path) along the shoreline should clearly be laid out. 10.10

Finally the DEIR/DPIR should further describe the proposed use of the commercial space which is shown at the end of the wharf, and how this space relates to requirements regarding facilities of public accommodation. 10.11

The proponent should explore and detail potential pedestrian access from the project site to Tenean Beach.

The ENF/PNF identifies the potential for a pedestrian bridge over Pine Neck Creek to Tenean Beach, creating access between the beach and finished project. At a conceptual level, any measure to increase pedestrian and/or bicycle routes is appealing, however, the ENF/PNF lacks sufficient detail to meaningfully evaluate this proposal. The DEIR/DPIR should include a detailed analysis of such a bridge, including where the abutments would be located at the beach, and the impact on wildlife habitat, water quality, etc. Additionally, as discussed further below, the neighborhood has legitimate concerns about the adequacy of the proposed parking given limited access to transit options and therefore the Proponent should examine anticipated effects on public parking and beach access should the beach parking lot become an accessory lot to the finished project site and its amenities. 10.12

The proponent should explore and detail issues around improvement dredging.

Plans provided in the ENF/PNF appear to indicate that the proposed piers and marina will extend slightly farther west and north that the existing marina and the area highlighted as representing previous dredging. The DEIR/DPIR should further describe issues around maintenance vs. improvement dredging as well as sediment contamination in the context of proposed dredging. 10.13

The Proponent should better detail the project's climate change resiliency and explore alternatives to open space and shoreline engineering.

The Proponent has gone to great lengths to describe the project as implementing strategies to make it resilient to rising sea levels and extreme weather events, but the ENF/PNF lacks sufficient detail to evaluate the adequacy of those strategies. For example, while the Proponent describes elevating occupiable spaces, it does not identify the current elevation of the site, and and how potentially large grade changes will affect the sites relationship with the water. Additional considerations should include, examination of whether the site will become an island during large storms and whether emergency egress will be maintained, as well as the ability of sewer and drain infrastructure. The ENF/PNF should therefore include existing and proposed grading plans, showing proposed facilities, Wetlands Act and Chapter 91 jurisdiction and tidal and flood elevations. Flood elevations should be shown for the neighborhood as a whole. Finally, the DEIR/DPIR should describe in more detail the strategies the Proponent plans to employ to ensure the project complies with the city's Climate Change Resiliency and Preparedness Policy, beyond measures designed to accommodate rising sea levels. 10.14

The Proponent should also examine alternatives to shoreline design. At present, the shoreline of the site comprises a seawall, dumped-stone revetment, and sheet-pile bulkhead. The project proposal anticipates a park-like open space area close to the western and northern shoreline while maintaining the seawall. The Proponents acknowledge a goal of fitting with the "decades-long planning and open space development" efforts of both the city and state; efforts which include rehabilitating "waterfront edges and bringing back the natural environment that existed before industrial development blocked public access."[9] The Proponent should explore alternatives to the current proposal that include engineering techniques to create a living shoreline, which may better serve climate resiliency and estuary health. Such techniques are currently being considered and implemented in other local development projects.[10] 10.15

The Proponent must further detail the project's impact on abutting neighborhood.

While the Proponent assures the state and city through the ENF/PNF that the project will result in a "substantial net benefit to the community" and that they have worked closely with the community to ensure this, it is unclear that they have actually done so in a meaningful way. The DEIR/DPIR must closely examine and detail the impact of the project on the safety and quality of life of the abutting neighborhood, including the project's impact on traffic, access to the waterfront, increased noise, and residents' enjoyment of the water and skyline. 10.16

During the MEPA site visit, it was evident that many in the community do not believe the Proponent has actually listened to their concerns about the scale and scope of the project, its effect on future development of adjoining parcels, and its impact on the character of the neighborhood. In particular, there exist legitimate concerns that given the lack of convenient transit access and presumed affluence of most of the residential occupants, the project anticipates

[9] CITYPOINT CAPITAL, NEPONSET WHARF ENVIRONMENTAL NOTIFICATION FORM/PROJECT NOTIFICATION FORM, 1-4 (June 2017)

[10] *E.g., see* Seth Daniel, *Wynn Begins Working on Living Shoreline, but What Is a Living Shoreline?*, EVERETT INDEPENDENT (July 14, 2017); FORT POINT ASSOCIATES, INC., Clippership Wharf, *available at* http://www.fpa-inc.com/projects/Waterfront/clippership-wharf.html; BOSTON CIVIC DESIGN COMMISSION, HODGE BOILER WORKS PROJECT, July 11, 2017 Meeting Minutes, *available at* http://www.bostonplans.org/getattachment/f15081cc-c54d-4f65-91d3-64ccd14502b5.

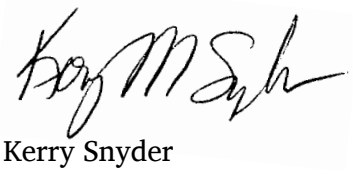
inadequate parking, which will overflow to the neighborhood (or Tenean Beach, should a pedestrian walkway be constructed over Pine Neck Creek). Community members have expressed concerns about increased water usage, and sewage generation given existing sewer capacity problems in the area in the form of past sanitary sewer overflows into homes. Traffic flow to and from the site via narrow neighborhood streets is another concern, as are those regarding the visual and neighborhood character impact of developing such tall buildings in proximity to a cohesive neighborhood of low rise buildings, using a pallet of materials that bears no seeming relationship to buildings in the existing neighborhood. All of these neighborhood concerns seem particularly relevant in light of the potential segmentation of this project from redevelopment of the adjoining property as mentioned above.

10.16

The Proponent should consider additional efforts to work with the community to explore alternatives to both the project and mitigation efforts, including underground parking (which could also lessen building height concerns), access to public transportation (to reduce traffic), improvements to existing infrastructure, a reduction in the size of proposed structures, efforts to use materials that better fit with the character of the neighborhood, and amenities community members actually need or desire. The DEIR/DPIR must further detail the steps the Proponent has taken and will take to ensure the project fits with the growth of the community.

Thank you very much for your consideration of these comments. Should you have any further questions, please do not hesitate to contact me.

Sincerely,



Kerry Snyder
Advocacy Director

Received 7/24/17
at Scoping Session

July 24, 2017

John J. Lyons, President
Port Norfolk Civic Association
176 Walnut Street
Dorchester, Massachusetts 02122

Honorable Matthew A. Beaton Secretary
Executive office of Energy and Environmental Affairs
100 Cambridge Street
Boston, Massachusetts 02114

Re: Port Norfolk Proposed Development
Ericson St. Dorchester Waterfront 02122
Public Comments MEPA review.
Transmittal of Boston Redevelopment Authority Neighborhood Plan for Port Norfolk

Dear Secretary Beaton:

Greetings! I write in relation to the comment period ending August 1, 2017 regarding the proposed development ; To assist MEPA in its evaluations of this project I enclose a copy of the "Boston Redevelopment Authority Plan for Port Norfolk" dated 1990 called Exhibit A : zoning / urban design and related studies that identify and address the many peculiar problems and opportunities associated with developing this site and aspects of project scale and the site, and infrastructure limitations that I believe that all participants in the review process should be aware of and address singularly and holistically. Further comments will follow soon.

If you have any questions please contact me at 617 -905-2609.

Respectfully yours

John J. Lyons
President

Port Norfolk Civic Association

176 Walnut Street
Dorchester, MA 02122
Phone (617) 905-2609

Email: PortNorfolkCivic@gmail.com

John Lyons	Jennifer McCarthy	Mary McCarthy
President	Treasurer	Secretary

Matthew A. Beaton
Secretary of Energy and Environmental Affairs
Executive Office of Energy and Environmental Affairs
100 Cambridge Street
Suite 900
ATTN: MEPA Office
Alex Strysky
Boston, MA 02114

RE: Neponset Wharf Project
EEA No. 15728

This letter is submitted in response to the Environmental Notification Form (ENF) submitted by City Point Capital relative to a proposed mixed-use development at the site of an existing marina in the Port Norfolk neighborhood in the Dorchester District of the City of Boston. The site is physically located at the tip of a narrow peninsula, in the mouth of the Neponset River, and is within an Area of Critical Environmental Concern. In addition, the surrounding streets are primarily residential in character, with substantial parkland, beaches and tidelands. The proposed project is detrimental to the environmental, architectural and historic character of Port Norfolk, including the residential and water-dependent uses which have simultaneously evolved since the early to mid-nineteenth Century.

The ENF is presented in a manner which presents the project as being substantially motivated to restore access to the water and reflect the surrounding environment. In fact the scale and the design, including placement of structures, is calculated to maximize access and views for the benefit of a private marina and residential condominiums, which will be priced well beyond the means of most Boston residents. Specifically, the proposed boat house is located in a site

which has historically remained open, even when the site has been used for ship building, and later a marina with boat storage and repair. The boat house is attached to an eight story residential structure, and has a flat roof, which can easily be used for a private gathering space, excluding the public, and likely to generate noise which will affect the adjacent residential neighborhood and the surrounding ACEC.

The ENF states that the inclusion of a hotel and 4000 square foot restaurant will "complement the water-dependent facilities by adding vitality and activity to this prominent location where the Neponset River meets Boston Harbor". The theme of facilitating intense activity is completely contrary to the purpose of an ACEC designation "where unique clusters of natural and human resource values exist and which are worthy of a high level of concern and protection". The proposed project will have the effect of adversely affecting the character and quality of life in the isolated residential peninsula, and the nature and size of the proposed uses will adversely affect the surrounding ACEC. The projected traffic will far exceed capacity, which is a problem identified in the neighborhood for over 30 years, with no realistic solution. The existing sewer system is primarily comprised of lines installed prior to 1900, and multiple homes have had problems with backups and lateral line collapse. The projection in the ENF states that sewer flow in the neighborhood in the neighborhood will increase generation by more than 20 times the current flow. The means of increasing capacity, the cost, and the burden during proposed construction are not addressed. 11.1 11.2 11.3

The neighborhood presently has its share of licensed establishments, including Venezia Restaurant, Venezia Function Facility, the Boston Winery, and the Boston Harbor Distillery. Venezia voluntarily closes earlier than allowed by their licenses, reflecting the nature of their events and the clientele. The Distillery was supported by the neighborhood, despite the forbidden use, at the request of the Bruno Family, owners of the site. The proviso was that the lease included restrictions on the lease to avoid conducting a business which would generate transient traffic, and the license closing hour is 11:00 pm, which is the earliest permitted under Massachusetts law. The use for such facilities is forbidden under current zoning. In order to avoid possible future conflict over more intensive uses, the neighborhood cannot agree to allow new licensed establishments to be included in the project. 11.4

The proposal for dredging of the marina site must be evaluated in light of the fact that it has not been maintained for a number of years. The adjacent Pine Neck Creek is remembered as a popular location for swimming. It is presently silted to a level which leaves little water even at high tide. The effect of the proposed removal of the wave fence and dredging on water circulation and silt and sand movement on Pine Neck Creek and Tenean Beach are not addressed. 11.5

The true intentions about the scale and possible phasing of the project must be addressed, in light of media reports that a subsequent phase may be anticipated. 11.6

Port Norfolk has been the subject of significant study with respect to all zoning and environmental aspects of planning. The BRA Plan completed in 1988 included participation of all City and State agencies having jurisdiction. The IPOD and the interim zoning adopted thereafter reflected the results of the study The current Article 65 of the Boston Zoning Code includes substantially all of the same findings, and recognizes the unique character and challenges of Port Norfolk.

Over the past 30 years community members from Savin Hill to Hyde Park have advocated and worked together, and tens of millions in dollars have been invested by the Commonwealth, to acquire and improve the Neponset Shores reservation. Now that it nears completion, we have a proposal to essentially construct an upscale destination in the mouth of the Neponset River Estuary.

Rather than set aside all of the work done in the past, the Plan and the Zoning should be reviewed, carefully considered, and respected. The Development plan should be radically modified to fit within the environmental, architectural and human context of Port Norfolk. This is a once in 100 years opportunity to get this right.

John J. Lyons
President
Port Norfolk Civic Association

15 State Street, Suite 1100
Boston, MA 02109
617.223.8671
bostonharbornow.org

August 15, 2017

Via email to: Alexander.Strysky@ma.us.gov

Secretary Matthew Beaton
Executive Office of Energy and Environmental Affairs (EEA)
100 Cambridge Street, Ste 900
Boston, MA 02114

Attn: MEPA Office: Alex Strysky, EEA# 15728

Re: Neponset Wharf, 24 Ericsson Street, Environmental Notification Form, EEA# 15728

Dear Secretary Beaton,

On behalf of Boston Harbor Now, thank you for the opportunity to comment on the MEPA Environmental Notification Form (ENF) for the Neponset Wharf project, submitted by City Point Capital on June 30, 2017.

After reviewing the ENF and attending the July 24, 2017 MEPA site visit, we ask that the proponent be required to submit a Draft Environmental Impact Report (DEIR) to address the following:

- The extent and type of dredging proposed within the Neponset River Estuary ACEC,
- Potential impacts to public access and open space,
- Site accessibility and traffic related impacts to the neighboring community,
- Impacts related to construction activities, and
- Proposed climate resiliency strategies.

Project Description
As presented in the Environmental Notification Form the proposal is for the construction of a new, mixed-used development project in the Port Norfolk neighborhood of Dorchester. The entire site is approximately 7.6 acres and is comprised of both land and watersheet areas. The Neponset Wharf project will include:

- A renovated 75-vessel marina with new reconfigured docks and piers,

- Maintenance dredging of the area near the marina,
- 185 new parking spaces and 152 bike storage spots
- The addition of 150 new condominium units,
- A 25-room seasonal hotel,
- A 4,000 SF restaurant/café, and
- Two acres of landscaped outdoor space.

Area of Critical Environmental Concern

The Neponset Wharf project falls squarely within the boundary of the Neponset River Estuary ACEC. Designated in 1995 by the Massachusetts Secretary of Environmental Affairs, the 1,300-acre Neponset River Estuary is a Massachusetts Area of Critical Environmental Concern (ACEC). (Neponset River Estuary Area of Critical Environmental Concern Resource Management Plan, 11). The ACEC begins at the Lower Mills Dam in Dorchester and extends to the mouth of the river at Commercial Point in Boston and Squantum Point in Quincy. These designated areas are places that receive special recognition because of the significance of their natural and cultural resources. Projects located within an ACEC and subject to MEPA jurisdiction require closer scrutiny than projects located outside of ACECs.

As one of the nonprofits named in the 1996 Neponset River Estuary ACEC RMP and responsible for advancing the long-term objectives of the ACEC designation, Boston Harbor Now is particularly interested in understanding how the proposed mixed-use project and dredging will affect the resource area. (Neponset ACEC RMP, 16-21).

Dredging within the ACEC

According to the proponents, renovations to the existing marina will require some dredging. Section 8.3 of the ENF refers to the 1911 Harbor and Land Commissioners License as the original authorization for dredging of the marina. To date, the original license plans cannot be found in the registry of deeds or DEP records.

We ask that the DEIR address the following items related to the proposed dredging:

- The relevancy of a 100+ year old dredging license and the existing ACEC Resource Management Plan
- Whether the proposed dredging is for improvement or maintenance purposes
- Impacts to marine habitat and resource areas resulting from the proposed dredging activities.

12.1

Section 1.1.1 and Figure 8.1 of the ENF address the ACEC designation. As presented in the ENF, the project will "embrace" the heightened ACEC performance standards. We are glad to see the proponent's acknowledgement and commitment to complying with the ACEC standard. The DEIR should include additional details to address compliance and how the project proposes to meet or exceed this obligation.

Open Space and Public Realm

As presented in the ENF, the proposal will create nearly 2 acres of landscaped outdoor space that includes:

- A 28,000 SF Harborwalk,

- A public fishing pier,
- A kayak launch and storage,
- Public restrooms,
- The Shore Shack refreshment stand,
- A marina support building, and
- A pedestrian bridge across Pine Neck Creek (possibly)

The combination of open lawn, public seating, pet areas, fitness station, art installations and dedicated gathering areas has the potential to provide multi-use functionality of the area. We are encouraged by the addition of a new section of the Harborwalk and look forward to reviewing additional details of proposed amenities, signage, and public programming.

The ENF proposal includes several renderings of proposed public access to the project site (Figures 2.7-2.9). The DEIR should clearly distinguish areas of the wharf and open green space that are open to the public from those that are reserved for private use. The Public Realm improvements will play an important role in ensuring the open space areas are fully activated and create a welcoming waterfront experience for residents, neighbors, and visitors. Part of the success includes maintaining adequate signage at appropriate locations to advise the public of its access rights and disclose access-related regulations.

The DEIR should also include details of the proposed watersheet and water's edge activation as an integral part of the transient public's experience of the overall project site. The proponent should consider programming and public amenities that will encourage the public's use and enjoyment of the waterfront on a year-round basis.

We note that during the MEPA site visit, the community expressed concern over some of the proposed public amenities. Specifically, the kayak storage area, dog park, and pedestrian bridge to Tenean Beach. We encourage the proponent to work with the local community to develop a public realm improvement plan that includes amenities that fit within the character of this area of the waterfront and adjacent neighborhood.

12.2

Transportation

Accessibility to the site should be a key focus of the DEIR. As presented in the ENF, the project is located on the northern edge of the Port Norfolk peninsula. The site has limited vehicular access, is not readily accessible by train, and is serviced by only two MBTA bus routes. The bus routes are located at Neponset Circle, about half a mile from the site.

We are strongly in favor a detailed traffic analysis of existing traffic concerns in Port Norfolk and adjacent areas as part of the DEIR. Without the proper improvements, additional daily trips will put pressure on an already strained system. Section 5.3 of the ENF includes a summary of daily trips anticipated for the project. The summary includes vehicular trips generated by condominium, hotel, and retail/restaurant users. The DEIR transportation analysis should also include trips generated by the general public's use of the new landscaped outdoor spaces.

Despite its waterfront location, the mitigation efforts described in Section 5.7 might be best focused on land-based transportation accommodations that 1) serve a wider group of riders over a greater geographic area and is 2) a more cost-effective option than a water taxi.

12.3

Construction Impacts

We ask that best practices be implemented to minimize construction impacts to the nearby community. Depending on the anticipated construction activities, increased traffic is likely both in size and frequency of vehicles entering and leaving the area. We expect that delivery of construction materials will also affect the number of trucks traveling through the surrounding community. In addition to providing a construction management plan, we ask that the proponent consider a comprehensive traffic plan to minimize traffic flow interference from construction activities (e.g. advanced public notice of road closures, alternate routes, and shifting operations affecting traffic to off-peak hours). 12.4

Climate Resilient Design

As completed by the proponent, the Boston Climate Change Resiliency and Preparedness Checklist, confirms the project site is within the FEMA "100-year" Flood Zone VE and AE with a Boston City Base (BCB) site elevation ranging from 14-18.8 feet.

As presented in ENF, possible measures to address future flooding on the site include elevating the ground floor and moving critical infrastructure above the floodplain. However, Page 7 of the BPDA Climate Checklist indicates that specific flood protection measures have not been considered for the site. 12.5

As part of its resiliency strategy, the waterfront portion of Building B will be raised on pilings – resembling a building on stilts and a design more typical of beach homes. The space underneath the pilings will open up view corridors and create a covered terrace that is accessible to the public. This is a building typology that is new to Boston Harbor. We applaud the proponent for incorporating this innovative design in their project proposal.

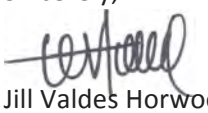
We look forward to reviewing the DEIR and additional details of the proponent's climate resiliency strategy to limit storm damage, minimize wave action, and protect inland resource areas.

Community Engagement

Over a dozen members of the Port Norfolk community attended the July 24, 2017, MEPA site visit. Although the community expressed concerns about the proposed development, many expressed a willingness to consider a smaller scale redevelopment project that benefits the community and improves the existing conditions of the site. To ensure the community is heard throughout the planning process, we encourage the proponent to consider additional ways to engage interested neighbors and stakeholders as the project moves forward. 12.6

Thank you for your consideration of our comments.

Sincerely,



Jill Valdes Horwood
Director of Policy

clf
conservation law foundation

For a thriving New England

CLF Massachusetts
62 Summer Street
Boston MA 02110
P: 617.350.0990
F: 617.350.4030
www.clf.org

August 15, 2017

Via email: alexander.strysky@state.ma.us

The Honorable Matthew A. Beaton
Executive Office of Energy and Environmental Affairs
100 Cambridge Street, Suite 900
Attn: MEPA Office, Alex Strysky
Boston, MA 02114

Subject: Comments on Neponset Wharf Environmental Notification Form, EEA # 15728

Dear Secretary Beaton:

Thank you for the opportunity to comment on the Environmental Notification Form ("ENF") for the proposed Neponset Wharf project located at 24 Ericsson Street in Dorchester. Conservation Law Foundation ("CLF") looks forward to working with the proponent and your office to ensure that this project is environmentally sensitive and promotes a high standard of public access and benefit while also addressing the concerns and meeting the needs of the surrounding community.

CLF is generally supportive of waterfront redevelopment efforts especially when they target underutilized areas to provide public access and benefit. Safeguarding the public trust is a critical component of any waterfront project and the proponent's proclaimed commitment to providing meaningful public access on this site and promoting water-dependent activities is very encouraging. However, our comments underpin the need for clarity and detail in the proponent's subsequent filing to ensure that these criteria are being met. We look forward to reviewing the proponent's response to comments and receiving more details about the project in the Draft Environmental Impact Report (DEIR).

Chapter 91-defined Open Space

The ENF asserts that the project will be in compliance with the open space requirements of Chapter 91 and will exceed those requirements. However, the proponent consistently uses the terms “public open space” and “public outdoor space” interchangeably and does not provide an estimation of the amount of Chapter 91-defined open space that will be made available on the site. For the purposes of Chapter 91, open space does not include areas that are covered and not “open to sky”. The proponent states that the 2-acre public open space/outdoor space will feature a continuous publicly accessible harborwalk; a public fishing pier; facilities for kayak launching and storage; public restrooms; a refreshment stand; and a marine support building. Among these listed uses, only the harborwalk, fishing pier, and kayak launch would be considered open space for the purposes of Chapter 91. By the proponent’s calculations, the kayak storage shed, shore shack, and marina support building alone will comprise 2,500 SF of the 2-acre area described as being open space.

We request that the proponent provide a breakdown of the amount of Chapter 91-defined open space so that it can be assessed for compliance with the standards contained in 310 CMR 9.53 (b)(1). We also request that the proponent clearly distinguish between “open space” and “public outdoor space”/”public realm” in their subsequent filings. 13.1

Water-dependent Use Zone

We are particularly concerned about the categorization of the shore shack as open space because it is a food/beverage service establishment. Not only should the shore shack be excluded from the open space calculation, it should be removed from the water-dependent use zone (“WDUZ”). There is ample room to locate the shore shack outside of the WDUZ and still adequately serve the public. The shore shack does not squarely fit into the definition of a water-dependent use under the regulations and more closely fits the restaurant category. 310 CMR 9.12 (f) states, “restaurants and other food/beverage service establishments are not considered water-dependent uses.” Chapter 91 does not allow for nonwater-dependent structures to be located within the WDUZ. While the shore shack may serve a public purpose, it would set a dangerous precedent that could open the door for other developers to locate similar food/beverage facilities in the WDUZ. 13.2

We request that the proponent relocating the shore shack outside of the WDUZ and provide a map of the WDUZ overlaid with the proposed development and uses. Currently, only a stand-alone map of the WDUZ is provided.

Public Access & Site Configuration

Generally, we are encouraged by the diversity of uses proposed for the public realm. In particular, a continuous harborwalk would be a tremendous asset to this area. However, we are concerned that the uses requiring a greater amount of hardscape and impervious surface are located around the outer edges of the site closest to the shoreline. We are also concerned that some of these uses, namely the dog park, will exacerbate existing pollution concerns by being located so close to surface waters. The current configuration is a missed opportunity to leverage green space for the purpose of flood protection and pollution control. By configuring the public realm in a way that prioritizes the location of green spaces along the outer edges, the proponent can more effectively buffer the site from flood waters and promote stormwater capture while also providing direct public access to the water. Public access to the water could be further enhanced through consideration of natural shoreline features. We request that the proponent assess the viability of features like living shorelines as an alternative to a structured shoreline. We understand that the location of the site in a velocity zone may create limitations but encourage the proponent to look to other developments that have recently prioritized natural features including the Clippership Wharf project in East Boston and the Wynn Casino project in Everett. 13.3

We are very interested in the idea of incorporating a tidal garden into the site design and request that the proponent provide more information on its design and function. We are also interested in the rationale for the tidal garden's location and have some concern that if located in the proposed area it could cut off continuous harborwalk access. Figure 2.9 of the proponent's ENF depicts pedestrian access on the harborwalk and demonstrates the missing link caused by the location of the tidal garden. We encourage the proponent to consider ways they can make the continuity of the harborwalk clear to visitors as well as ways to make the tidal garden an interactive space that provides the opportunity for the public to have close and direct contact with the shoreline and water. 13.4

Finally, we are supportive of the proponent's use of water-dependent facilities to encourage water-related activities on the site. The fishing pier is certainly a positive component to this project. However, because the proponent will be advertising this location as a fish pier and enabling fishing in this area, they should be required to post signage that alerts users to safety concerns and fish advisories. We encourage the proponent to work closely with the Department of Health on the appropriate signage. 13.5

Categorization of Buildings

We are concerned by the inconsistencies in the proponent's description of the proposed buildings on the site; specifically, "Building C" and "Building D". The project massing in Figure 2.3 depicts Buildings C and D as one structure and indicates that Building C is comprised of solely of a boathouse and Building D is comprised of parking, residential,

amenity and restaurant space. The description of these buildings in Section 2.3 of the ENF states that Building C and D are two structurally independent but adjacent buildings. Section 2.3 describes the features of each building in a way that appears to be inconsistent with the visual in Figure 2.3. The table below summarizes the inconsistent descriptions of Building C and D in terms of structure and programming.

Inconsistent Descriptions of Building C and D

	Description in Figure 2.3	Description in Section 2.3.1
Building C Features	- Boathouse	- Podium comprised of lobby, bike storage, and parking garage - Residential units
Building D Features	- Parking - Residential - Amenity - Restaurant	- Podium entirely taken up by boathouse - Restaurant café

Beyond these inconsistences, we are concerned that the framing of Building C and D are "structurally independent" is misleading. Ultimately, the building(s) are stacked and do not give the appearance of being separate structures. On its face, this appears to be a clever way for the proponent to avoid having Building C/D classified as a nonwater-dependent structure and thus avoid being subject to the applicable regulations. Specifically, this allows the proponent to ignore the shoreline setback requirements and the WDUZ requirements for nonwater-dependent structures. We are not oppose to the boathouse. In fact, we think the boathouse is a great component of this project. However, we would characterize this configuration as a predominately nonwater-dependent structure with a water-dependent facility of public accommodation on the ground floor.

A greater shoreline setback is desirable in this area not only for preservation of water-dependent uses but also for climate change purposes. It is unwise to encourage development so close to the shoreline in any waterfront development given the expected sea level rise, storm, and flood impacts, let alone a project in a floodplain and velocity zone.

We request that the proponent provide more detail on the rationale for characterizing Buildings C and D as separate structures. We also request that for purposes of regulatory compliance/consistency and climate resiliency the proponent consider increasing the setback of Building C/D from the shoreline and outside of the WDUZ. 13.6

Transportation

CLF would like to echo the concerns of the community about accessibility to this site. Public transportation to this area is currently very limited and as such is unlikely to be a primary mode of transportation for visitors. We request that the proponent provide a more detailed analysis of the traffic implications associated with this project as well as how the proponent will encourage public access to the site given the existing transportation constraints.

First, It is unclear whether the proponent will be providing public parking spaces for use by the general public accessing this site and if so, how many. The proponent has also indicated they are considering a pedestrian connection between their site and Tenean Beach. While we are not necessarily oppose to this connection, the proponent should consider how it may affect the availability of parking for beach-goers if the beach is used as overflow parking for the site and propose ways to mitigate the issue. 13.7

Second, site users will have to travel through a densely populated neighborhood to access this site, generating many more daily trips than the area is accustomed to. The proponent should consider the viability of water transportation as an alternative mode of transportation for the site to help alleviate the number of vehicle trips. By providing appropriate water transportation infrastructure, the proponent could make this site more accessible, reduce landside traffic and congestion issues, and promote active public use of the watersheet.

Proposed Dredging

The proponent states that the site's license history and historic aerials indicate that dredging of the existing marina was authorized in 1911 but that the plan for this license is missing from the Department of Environmental Protection ("DEP") records and from the registry of deeds. 310 CMR 9.22 (2) further states that, "Maintenance dredging may occur for five years from the date of issuance of the license or permit or for such other term, **not exceeding ten years**, specified therein, provided that the written notice required pursuant to the Wetlands Protection Act (M.G.L. c. 131, § 40 and 310 CMR 10.00: Wetlands Protection) has been filed with the Conservation Commission and a copy has been sent to the Department (emphasis added)."

The proponent has indicated they are working with DEP and other agencies to confirm that the proposed dredging is consistent with the definition of maintenance dredging but does not indicate that they intend to seek a permit. Specifically, Table 1-2 of anticipated permits and approvals does not indicate any intent to seek a new permit for the proposed dredging. We request that the proponent clarify the process by which they will be approved to complete the dredging and provide details on the proposed dredging including the scope and scale of the project compared to the existing conditions and an 13.8

explanation of how it meets the Department's definition of maintenance dredging versus improvement dredging.

It is also worth noting that dredging on this site was allegedly authorized in 1911, well before the Neponset River Estuary was designated as an ACEC in 1995. This makes it all the more important that the proposed dredging is consistent with DEP's definition of maintenance dredging versus improvement dredging, which may not have been an explicit concern at the time the dredging was allegedly authorized. The proponent states that the Resource Management Plan ("RMP") for the ACEC acknowledges and endorses maintenance dredging activities but does not provide details on whether the RMP includes specific standards for maintenance dredging. 13.8

Climate Change

We appreciate the proponent's recognition of climate change as an important consideration in the redevelopment of this site. In particular, we applaud the proponent for the creative design of "Building B", which is proposed to be constructed on pilings for sea level rise and resiliency purposes. However, we request that the proponent provide more detail on how climate change considerations will be woven into the decision-making for all aspects of the site including the public realm and critical infrastructure systems. For example, the proponent acknowledges that stormwater infrastructure should be designed to accommodate the expected increases in precipitation intensity but it is not clear whether the proponent has done so or plans to do so. The proponent has also proposed to remove the existing wave attenuator without much discussion of the implications of that decision. Similarly, the proponent has provided very little detail on the design and function of the tidal garden, which they state is a resiliency measure. 13.9

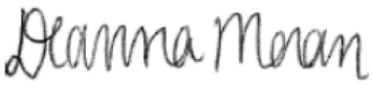
The proponent has discussed the proposed design elevation for the various buildings proposed on the site but has not addressed whether the site itself will be raised. The ENF states, "raised topography will help protect all site edge conditions", but no further details are provided. We request that the proponent more thoroughly analyze and describe how they will account for future climate impacts in the design and management of the site and how their on-site measures may or may not fit into broader climate resiliency plans for the surrounding area. This is especially important considering the location of the site in a floodplain and a velocity zone.

Summary of requests for DEIR:

- Calculation of open space (as defined by Chapter 91) and clear distinction from the area referred to as “public outdoor space”
- Consider relocating the shore shack outside of the WDUZ
- Provide a map of the WDUZ overlaid with the proposed development and uses
- Consider the viability of natural shoreline features
- Provide more information about the tidal garden including design, function, and rationale for location on the site
- Consider ways to reinforce continuity of the harborwalk including making the tidal garden more interactive for visitors
- Articulate plans for providing appropriate signage on the fishing pier to alert users to fish advisory and safety concerns
- Provide additional detail and rationale for the characterization of Buildings C and D as separate structures
- Consider increasing the setback of Building C/D from the shoreline and outside of the WDUZ
- More detailed transportation analysis including consideration of water transportation infrastructure and the need for public parking accommodation
- More detailed analysis and description of how climate change is being considered in all aspects of the project
- Provide details on the proposed dredging including the scope and scale of the project compared to the existing conditions and an explanation of how it meets the Department’s definition of maintenance dredging versus improvement dredging.

Thank you for your consideration of these comments. Please contact me at dmoran@clf.org with any questions.

Sincerely,



Deanna Moran
Director, Environmental Planning
Conservation Law Foundation

Strysky, Alexander (EEA)

From: emy thomas <emythomas@comcast.net>
Sent: Monday, August 14, 2017 2:54 PM
To: Strysky, Alexander (EEA)
Cc: jjljdcpa@aol.com
Subject: Neponset Wharf Project

Mr. Strysky,
The following are comments I would like to make regarding the Neponset Wharf Project. I live in one of The Estuary Condo units on the upper level.
As you have heard many times over, the density, the resulting traffic and height of buildings are a major concern for the whole area.

-The intersection at Walnut and Water Streets is a major concern. Cars, vans and trucks park right to the corner obstructing view for cars exiting Walnut St. at that intersection and bicyclists. The bicyclists don't stop in either direction and speed by. It is a bicycle accident waiting to happen. Need more signs such as "STOP" and "NO PARKING HERE TO CORNER" (this sign would also be helpful at Walnut St. and Neponset Circle where exiting is not easy under the best circumstances). Also I am concerned about the DCR plans for Morrissey Blvd. which would further limit our entering and leaving the Port. 14.1

-A pedestrian bridge to Tenean sounds nice, but I understand there would be environmental issues and parking at the beach would take spots away from the beachgoers, at least during the day. Plus the parking area frequently is flooded. 14.2

-I'd love to see a T stop at Tenean/Neponset and/or a ferry to Boston from the marina, but then again that might bring more traffic into the site and parking issues. The Old Colony railway used to have a Neponset stop and a Harrison Square stop (near where Wholesalers is now). 14.3

-Entering and exiting Walnut St., one most often needs to pull over or wait for an oncoming car to pull over in order to get down the street. I don't even enter the street if a car is coming and a car is parked right to the corner. The same happens on Woodworth St. 14.4

-I understand water/sewage infrastructure is maxed out, Tenean is the most contaminated beach due to infrastructure and Victory Park Dog Park. So no Dog Park here, please. 14.5

-Restaurant and hotel not needed. Hotel with shuttle and enough restaurants local. What about a swimming pool instead of restaurant for the residents and community? 14.6

-A pier to walk out on would be nice (a public viewing area with benches and signage), but what kind of fishing is there? Perhaps a couple of vending machines and restroom could be included in building where boats are proposed to be stored for the mariners. Don't need kayak storage, tide too low half the time for launching and there are other places to do that. 14.7

I would like to see historical signage along the Harborwalk/greenspaces around the perimeter of project. Maybe the signage wouldn't be ruined the way some were at the John Paul Park. 14.8

Thank you,
Emy Thomas
171 Walnut St., #15, Dorchester

August 14th 2017

Secretary of Energy and Environmental Affairs
Executive Office of Energy and Environmental Affairs (EEA)
Attn: MEPA Office
Alex Strysky, EEA No. 15728, Neponset Wharf Project
100 Cambridge Street, Suite 900
Boston MA 02114
Email MEPA - alexander.strysky@state.ma.us

This letter is in response to the Environmental Filing (EEA No. 15728) for the Neponset Wharf Project at 24 Ericsson Street by City Point Capital. My name is Jason Berry. I am a homeowner in the Port Norfolk neighborhood, 67 Lawley Street. I am on the IAG for this project and attended the MEPA information meeting.

I am strongly opposed to the Neponset Wharf Project in its current form. The size and scope of this project is unsuitable for the site and will cause significant harm to the neighborhood and the Neponset River Estuary, an Area of Critical Environment Concern (ACEC).

Dredging

The application indicates the project includes maintenance dredging and improvement dredging is not anticipated (Wetlands, Waterways and Tidelands Section > Part III, G Does the Project Include Dredging). I believe more attention should be given to the dredging license, the extent of dredging and the distinction between improvement and maintenance. The possibility of any improvement dredging in a prohibited ACEC area should not exist. 15.1

The application indicates it is in an intertidal area and as such is required to evaluate approaches and practical steps for avoidance when possible and minimization if avoidance is not possible. The project in its current form aggressively expands the scope of the marina. There is a functioning marina currently on the site. The most practical approach for avoidance/minimization would be to keep marina operations consistent with the current scale which can be accomplished without dredging. 15.2

The application indicates that is does not impact “Other resource areas (i.e. shellfish beds)” despite the fact that “substantial soft-shell clam beds are located at the mouth of the river” [reference 1]. I believe this answer should be revised. 15.3

The Neponset River Watershed suffers from “Legacy toxins (i.e., PCB-laced soil and groundwater from a former industrial property leaches toxins into the river)” [reference 2]. The application provides no physical and chemical data of the sediment and answers “no” to all sediment characterization questions. I believe these items should be required given the legacy toxins in the watershed. 15.4

The project in its current form should check both improvement and maintenance dredging until these items are resolved.

Reference 1 - http://www.mass.gov/eea/agencies/dcr/conservation/ecology-acec/neponset-river-estuary.html
Reference 2 - https://www.neponset.org/your-watershed/issues/

Height

The size of the proposed structures will have an adverse effect on the surrounding ecosystem and will decrease the quality of the Tenean beach experience.

The height will add shade to Pine Neck Creek and Tenean Beach. The shaded area will change water temperatures impacting wide life and vegetation. The size of the structures will impact an area heavily populated with birds. 15.5

The increased height will make the beach less desirable for visitors given the reduced sunlight, obstructed views and decreased ocean breezes.

Fence Removal and Bridge

The project calls for the removal of the in-water Tenean beach wave fence. Increased wave action from the removal of the fence could cause erosion issues at Tenean Beach and should be studied. 15.6

The proposed foot bridge between the site and Tenean beach will be placed over Pine Neck Creek. The creek ecosystem has improved over the years and will be set back by this unnecessary structure. 15.7

Other Issues

The following issues are of significant concern, have environment impact and should be considered as part of the MEPA application:

- Density – neighborhood can't handle proposed density
- Traffic – neighborhood can't handle increased traffic
- Sewage – already problematic sewage system can't handle increase
- Construction – neighborhood has old infrastructure, can't handle construction
- Design – incompatible with Port Norfolk neighborhood.

15.8

Please call (617-982-3768) or email (jberry@itfoots.com) with any questions. I can be reached via mail at 67 Lawley Street, Dorchester MA 02122.

Thank you,
Jason Berry

Strysky, Alexander (EEA)

From: Maria Lyons <mtlteach@comcast.net>
Sent: Sunday, August 13, 2017 10:19 PM
To: Strysky, Alexander (EEA)
Subject: Neponset Wharf Project Comment Letter to Environmental Filing
Attachments: Neponset Wharf Environment Filing Comments.docx

Matthew A. Beaton August 13, 2017

Secretary of Energy and Environmental Affairs

Executive Office of Energy and Environmental Affairs (EEA)

Attn: MEPA Office

Alex Strysky, EEA No15728, Neponset Wharf Project

100 Cambridge Street, Suite 900

Boston MA 02114

Dear Secretary Beaton,

This letter is in response to the Environmental Filing, (EEA No. 15728), for the Neponset Wharf Project by City Point Capital. I am strongly opposed to the Neponset Wharf Project. I have been a science teacher for 37 years with a Biology Degree from Boston University and have lived in Dorchester my entire life, the last 36 years in Port Norfolk. I am an active member of the Neponset Greenway Council and the Neponset Watershed Association and serve as the Environmental Chairperson for the Port Norfolk Civic Association. I have enjoyed working with the DCR on projects along the Neponset River especially the completion of the Joseph P. Finnegan Park at Port Norfolk. I believe that I am someone, along with many neighbors, who knows the area well and I am a strong supporter of the Neponset River ACEC. For these reasons, my comments are lengthy, but necessary.

Below is a summary of impacts to the Port Norfolk neighborhood, to the Neponset River Area of Critical Environmental Concern and the Dorchester Waterfront. The Environmental Notification Report for the Neponset Wharf Project is extremely deficient of information and misleading. The responses to the questions about possible impacts only refers to the actual site of the project and there is no regard to the surrounding neighborhoods or the ACEC. They are ignoring much of the Massachusetts Wetlands Act, River Act and ACEC Regulations especially in regards to sensitive areas surrounding the site.

In Regards To…

Size, Scope and Use - Project will overwhelm the Port Norfolk Neighborhood and Dorchester Waterfront. Port Norfolk peninsula is all at one level, 2-3 stories. 86 ft. high project will stick up like a sore thumb, negatively changing the Dorchester Waterfront views and character drastically. 150 condos and 25 room hotel will double 16.1

population of entire Port Norfolk neighborhood. Restaurant, 75 boat marina and other planned structures will changes character from quiet seaside neighborhood to an overhyped destination. There will be nothing to stop them from filing for liquor and entertainment licenses after project is built. The end of the Port Norfolk Peninsular, already is vibrant enough with a large restaurant, 4 function rooms, and 4 bars. Doubling the existing population will strain infrastructure and utilities. Proposed projects will harm Neponset River Area of Critical Environmental Concern (ACEC). 16.1

Design – Large box designs of steel are incompatible with historic Port Norfolk Neighborhood homes and buildings and natural ACEC area. Any reflective surfaces across from Tenean Beach will reflect sunlight into the eyes of the public trying to enjoy beach. 16.2

Traffic and Parking- 1,500 cars a day through small neighborhood streets unacceptable, only way in and out is through Morrissey Boulevard, already difficult to access. Plan only providing 185 parking spots. 150+75+25+Restaurant+visitors+workers does not add up to 185. The plan does not add in cars from marina, 75 boats, or visitors. 1,500 cars a day in and out will add air pollution and increase pollutants in runoff from area, negating the increase in permeable areas reducing runoff. 16.3

Height, Sky Dome, and Shade – Plan only addresses sky dome from Erikson Street. Two 86ft high buildings and other massive buildings, will block view of sky dome and ocean from Tenean Beach, Rte. 93, Dorchester Neighborhoods, Venezia Harborwalk and block ocean breeze onto Tenean Beach. The beautiful views of sunrises and sunsets across the end of the Port Norfolk Peninsula will be blocked. Large buildings will block birds moving back and forth to feed and nest between Squantum point Park and Pine Neck Creek and Migratory Birds. Project will add shade to Pine Neck Creek and Tenean Beach, changing temperature of water, impacting wildlife and enjoyment by humans. 16.4

Sewage – 1,245 to 27,956 Gallons/day increase to an old, already problematic sewer system will cause more backup into homes. Most of Port Norfolk is a flat sea level peninsula, hampering flow. 16.5

Dredging and Larger Marina - They have not found a previous dredging permit. What will be maintenance - what will be improvement? How determination be made if no permit record is found? Port Norfolk Yacht Club members believe it has been approximately 30 years since last dredging. Much of the site has refilled with PCB contaminated mud up to the level of land in Pine Neck Creek. The surrounding area is now an ACEC and has changed back into a natural area considerably. The developer should be required to start a new dredging licensing procedure to ensure safety of the area. Resuming large amount of dredging in a now ACEC area will impact the adjoining shellfish beds at Bucky's Bar (off of Squantum Point Park), mudflats, marshes, Tenean Beach and the wildlife that feeds and nests there by covering them with mud and releasing PCBs into the water. Deep dredging across from Tenean Beach could cause erosion of beach, creek, and harm marsh by changing current patterns and wave actions. There is no completely safe way to dredge contaminated mud. More boats means more pollution such as from oil, gasoline, wastes leaks. Presently there is only about 15-20 boats on site. 16.6

Fence Removal in water across from Tenean Beach – Increased wave action could cause erosion of Tenean Beach. Professional evaluation of existing conditions and modeling of proposed changes must be required. 16.7

Bridge – Building a bridge across Pine Neck Creek will destroy marshes at Pine Neck Creek, ACEC, and would facilitate the use of Tenean Beach parking as ancillary parking for a private development. Visitors to Neponset Wharf, marina, restaurant patrons will take up spaces of public beach goers, and compete with neighborhood residents for insufficient parking on the peninsula. The scenic view from the end of Pine Neck Creek to downtown Boston, is also a popular artists' spot that would be blocked by a bridge. 16.8

Open space, Public view - The developer's report on open space and view is misleading. They say they are providing 2 acres of open space but much of public open space is unusable, under buildings or alongside 16.9

buildings. It is not clear if they are also counting streets and sidewalks. The best view, next to Venezia, is reserved for private use. The plan is for a flat roof boat storage building. This could easily be changed into an inappropriate, private, loud, open air bar/ entertainment spot after it is built. The offered public view is of the Xway and LNG tank. 40% of Port Norfolk already is open space and they would be destroying the public view from Tenean Beach, Rte. 93 and Dorchester. A small additional space and questionable view does not justify the harmful impacts of this project. 16.9

Construction – Noise and vibrations due to construction of a large project and trucks will impact neighborhood and ACEC wildlife. There is a substantial threat that construction could cause damage to historic homes and buildings, old streets and water and sewer pipes, especially since much of Port Norfolk is on filled land, know to increase impact. 16.10

Noise will scare away birds in ACEC, nesting and feeding near site.

Public Amenities – The offered public amenities are redundant in the area, inappropriate for area, or harmful to ACEC and neighborhood, and will increase traffic even more. Do not justify negative impacts regarding Chapter 91 Laws, Wetlands Act, neighborhood or ACEC.

Kayak launch – Will launch into a mudflat area, no water large parts of each day with tides.

Public will have to pay for kayak storage.

A more useful and appropriate Kayak launch already exist in nearby Neponset 2 Park. 16.11

Fishing - Fish in Neponset River have high levels of PCBs, should not be eaten.

Fishing Pier already exists next to Joseph Finnegan Port Norfolk Park.

Fishing gear, lines, and hooks could entangle birds and children, wash up on Beach and marshes.

Beach Sand area - Tenean Beach is right across Pine Neck Creek from project. If they remove seawall the project site will easily flood.

Playground and courts – Large playground, basketball and tennis courts at Tenean Beach.

Dog Park – Adding a dog park beside Tenean beach will increase bacteria level at Tenean Beach beyond the unacceptable current levels. This should not be allowed.

Fire Safety- There are concerns about fire safety. Entrances into and through Port Norfolk are difficult. Entrances into this site are narrow and multi- angled. Will large fire equipment be able to reach all sides of the buildings proposed on the site? Will there be water pressure capable to reach 86ft high? 16.12

Boston Zoning Code and Port Norfolk BRA Report– Project ignores Dorchester Port Norfolk Neighborhood Waterfront Service District Zoning- max height 35FT, no hotel, no restaurant - Allowing this project will set a bad precedent for entire Dorchester Waterfront. Many years ago, Dorchester lost its waterfront when the train tracks and Rte. 93 were built. The DCR has been working for many years to restore the Dorchester Waterfront. With the designation of the Neponset River ACEC and the creations of parks, they have been quite successful. 16.13

This project would be the beginning of creating a wall of condos between Dorchester and its waterfront. The Dorchester Waterfront Zoning Code and the BRA Plan for Port Norfolk is meant to protect Dorchester from projects such as the Neponset Wharf. Project needs to be cut down. They should be offering a much smaller project in size, height and density. 16.13

Economic Injustice – Tenean Beach is the Poor Man's Beach. It would not be right if rich people get to sit in their condos and enjoy their view while the public at Tenean Beach, Dorchester neighborhoods and travelers on Rte. 93 have to look at 86ft high monstrous buildings.

Environmental Injustice - The designation of an area as an ACEC raises it to the highest standards of protection from any project in or around it. The ACEC mandate for all private and public agencies is to "Do No Harm". The Neponset Wharf sits directly in the Neponset River ACEC.

In the Neponset River ACEC the designation is working. Much of the area is returning to the natural marshes, mudflats, shellfish, and buffer zones needed for the health of the Boston Harbor and the ocean wildlife. Some of the bird observations from this summer have included egrets, great blue herons, night herons, bitterns, cormorants, swans, swallows, red wing blackbirds, and various ducks, gulls and sandpipers. 16.14

The issues raised above, need to be evaluated by comprehensive studies by expects in each field.

Thank you for taking the time to read these comments. I have attached a complete review of the Neponset Wharf Filing that includes laws not cited by City Point Capital and comments on each section of the Environmental Filing for the Neponset Wharf Project.

Sincerely,

Maria Lyons

Port Norfolk Civic Association

Environmental Chairperson

Neponset Greenway Council Member

Neponset Watershed Association Member

Neponset Wharf Environmental Filling

Port Norfolk Civic Association Responses

Sections of Plan and developer responses in Black

PNCA Responses in red

Pages 2-6 Laws and Regulations

Pages 6- 16 Comments on Environmental Filing

Massachusetts Laws and Regulations pertaining to Neponset Wharf Project

Reported In Env. Filing by applicant

Ch. 91 301CMR11.03(3)(a)(5) Provided that a Chapter 91 License is required, New non-water dependent use or Expansion of an existing non-water dependent structure, provided the use or structure occupies one or more acres of waterways or tidelands.

301 CMZ 11.03(11)(b) Areas of Critical Environmental Concern

(b) ENF and Other MEPA Review if the Secretary So Requires. Any Project within a designated ACEC, unless the Project consists solely of one single family dwelling.

310 CMR 11.03(6)(b)(14) Generation of 1,000 or more New adt on roadways providing access to a single location and construction of 150 or more New parking spaces at a single location.

Not Reported in Neponset Wharf Environmental Filing

301 CMZ 10.02: Statement of Jurisdiction

(1) Areas Subject to Protection under M.G.L. c. 131, § 40. The following areas are subject to protection under M.G.L. c. 131, § 40:

(a) Any bank, the ocean
any freshwater wetland, any estuary
any coastal wetland, any creek
any beach, bordering any river
any dune, on any stream
any flat, any pond
any marsh, or any lake
or any swamp
(b) Land under any of the water bodies listed above
(c) Land subject to tidal action
(d) Land subject to coastal storm flowage
(e) Land subject to flooding
(f) Riverfront area.

310 CMZ 10.2 (d) Activities Outside the Areas Subject to Protection under M.G.L. c. 131, § 40 and the Buffer Zone. Any activity proposed or undertaken outside the areas specified in 310 CMR 10.02(1) and outside the Buffer Zone is not subject to regulation under M.G.L. c. 131, § 40and does not require the filing of a Notice of Intent unless and until that activity actually alters an Area Subject to Protection under M.G.L. c. 131, § 40. In the event that the issuing authority determines that such activity has in fact altered an Area Subject to Protection under M.G.L. c. 131, § 40, it may require the filing of a Notice of Intent and/or issuance of an Enforcement Order and shall impose such conditions on the activity or any portion thereof as it deems necessary to contribute to the protection of the interests identified in M.G.L. c. 131, § 40.

M.G.L. c.131,Section 40: Removal, fill, dredging or altering of land bordering waters

Section 40. No person shall remove, fill, dredge or alter any bank, riverfront area, fresh water wetland, coastal wetland, beach, dune, flat, marsh, meadow or swamp bordering on the ocean or on any estuary, creek, river, stream, pond, or lake, or any land under said waters or any land subject to tidal action, coastal storm flowage, or flooding,

301 CMZ 10.03: General Provisions

(1) Burden of Proof.

(a) Any person who files a Notice of Intent to perform any work within an Area Subject to Protection under M.G.L. c. 131, § 40 or within the Buffer Zone has the burden of demonstrating to the issuing authority:

1. that the area is not significant to the protection of any of the interests identified in M.G.L. c. 131, § 40; or
2. that the proposed work within a resource area will contribute to the protection of the interests identified in M.G.L. c. 131, § 40 by complying with the general performance standards established by 310 CMR 10.00 for that area.

Comment [m1]:

Comment [m2]:

Comment [m3]:

Comment [m4]:

Comment [m5]:

Comment [m6]:

310 CMR 10.58 Riverfront Area -25Ft setback along Rivers in Boston

301 CMZ 10.37: Estimated Habitats of Rare Wildlife (for Coastal Wetlands) As would applies to surrounding area ACEC [310 CMZ 10.2 (d)] See ACEC Bird list.

If a project is within estimated habitat which is indicated on the most recent Estimated Habitat Map of State-listed Rare Wetlands Wildlife (if any) published by the Natural Heritage and Endangered Species Program (hereinafter referred to as the Program), a fully completed copy of the Notice of Intent (including all plans, reports, and other materials required under 310 CMR 10.05(4)(a) and (b)) for such project shall be sent to the Program via the U.S. Postal Service by express or priority mail (or otherwise sent in a manner that guarantees delivery within two days). Such copy shall be sent no later than the date of the filing of the Notice of Intent with the issuing authority. Proof of timely mailing or other delivery to the Program of the copy of such Notice of Intent shall be included in the Notice of Intent which is submitted to the issuing authority and sent to the Department's regional office.

Within 30 days of the filing of such a Notice of Intent with the issuing authority, the Program shall determine whether any state-listed species identified on the aforementioned map are likely to continue to be located on or near the site of the original occurrence and, if so, whether the area to be altered by the proposed project is in fact part of such species' habitat.

Land

310 CMR 11.03 (1)(b)(6). Approval in accordance with M.G.L. c. 121A of a New urban redevelopment project or a fundamental change in an approved urban redevelopment project, provided that the Project consists of 100 or more dwelling units or 50,000 or more sf of non-residential space.

310 CMR 11.03 (1)(b)(7). Approval in accordance with M.G.L. c. 121B of a New urban renewal plan or a major modification of an existing urban renewal plan.

3. Wetlands - as would apply to surrounding areas ACEC [310 CMZ 10.2 (d)]

310 CMR 11.03 (3) (a). alteration of one or more acres of salt marsh or bordering vegetating wetlands; or
b. alteration of ten or more acres of any other wetlands.
310 CMR 11.03 (3) (a)(2). Alteration requiring a variance in accordance with the Wetlands Protection Act.
310 CMR 11.03 (3)(b)(1)(a) alteration of coastal dune, barrier beach or coastal bank;
b. alteration of 500 or more linear feet of bank along a fish run or inland bank;
c. alteration of 1,000 or more sf of salt marsh or outstanding resource waters;
d. alteration of 5,000 or more sf of bordering or isolated vegetated wetlands;

310 CMR 11.03 (3)(b) (2) Construction of a New roadway or bridge providing access to a barrier beach or a New utility line providing service to a structure on a barrier beach.

310 CMR 11.03(3)(b)(3) Dredging of 10,000 or more cy of material.

4. Water

310 CMR 11.03 (4)(a)(4) Provided that the Project is undertaken by an Agency, New water service to a municipality or water district across a municipal boundary through New or existing pipelines, unless a disruption of service emergency is declared in accordance with applicable statutes and regulations.

5. Wastewater

310 CMR 11.03(5)(a)(4) Provided that the Project is undertaken by an Agency, New sewer service to a municipality or sewer district across a municipal boundary through New or existing pipelines, unless an emergency is declared in accordance with applicable statutes and regulations.

Federal Clean Waters Act 33 U.S.C. §1251 et seq. (1972)

Boston Zoning Code

REGULATIONS APPLICABLE IN WATERFRONT SERVICE SUBDISTRICTS

SECTION 65-17. Establishment of Waterfront Service Subdistricts. This Section 65-17 establishes Waterfront Service ("WS") Subdistricts within the Dorchester Neighborhood District. The Waterfront Service ("WS") Subdistricts in the Dorchester Neighborhood District are governed by the provisions of this Article, rather than by Article 42C (Waterfront Service District) of this Code. The following Waterfront Service Subdistrict is established:

1. Port Norfolk Waterfront Service (WS) Subdistrict

SECTION 65-18. Use Regulations Applicable in Waterfront Service Subdistricts. Within the Waterfront Service Subdistricts, no land or structure shall be erected, used, or arranged or designed to be used, in whole or in part, unless, for the proposed location of such use, the use is identified in Table B of this Article as "A" (allowed) or as "C" (conditional). Any use identified as “C” (conditional) in Table B is subject to the provisions of Article 6. Any use identified as "F" (forbidden) in Table B for the proposed location of such use is forbidden in such location. Any use not included in Table B is forbidden in the Waterfront Service Subdistricts.

SECTION 65-19. Dimensional Regulations Applicable in Waterfront Service Subdistricts. The minimum Lot Size, Lot Width, Lot Frontage, Front Yard, Side Yard, Rear Yard, and Usable Open Space required for any Lot in a Waterfront Service Subdistrict, and the maximum allowed Floor Area Ratio and Building Height for such Lot, are set forth in Table D of this Article.

Table B and D

https://library.municode.com/ma/boston/codes/redevelopment_authority?nodeId=ART65TA

BRA Plan for Port Norfolk, 1988

Port Norfolk Civic Association Responses to Neponset Wharf Environmental Filing

Page 2 Summary of Project Size and Environmental Impacts

Land

Square Feet of New bordering vegetative wetlands alterations- their response N/A

Against ACEC Wetlands Regulations, Vegetative wetlands surrounding Pine Neck Creek would be altered by bridge to Tenean Beach. Pine neck creek nesting site for shore birds.

Structures

Number of Housing Units- 150,

Missing Structures – *Plan fails to mention Hotel, Restaurant, Parking Garage, Snack Bar, Kayak storage shed, New Piers in this section. No mention of number of bedrooms in units.*

Against Ch. 91 301CMR11.03(3)(a)(5) includes over 1 acre of new non-water dependent use
Against ACEC Regulations 301 CMZ 11.03(11)(b) prohibits any project within ACEC
Against Boston Zoning Code – Housing Conditional, Single Family, 5000sf
Against Boston Zoning code - Restaurant, Garage, Hotel Forbidden

Maximum Height – 85 ft

Against Boston Zoning Code - 35 ft The Port Norfolk neighborhood is mostly at the same height. The project as planned sticking up at the end would be unsightly to the entire Neponset community. The 35 ft Zoning maximum is there for a reason, so that a wall of condos will not be built between the Dorchester Community and the Ocean. We have to endure the train tracks, Rt 93 and Morrissey Boulevard which all stole away Dorchester's waterfront. We should not have to endure a wall of condos as well! Travelers on Rt 93 as it goes by the Port Norfolk neighborhood, have the best view of the ocean from this highway in all of Boston. The view includes Port Norfolk, Victory Road Park, Squantum Point Park, The Kennedy Library as well as the ocean. Due to the massive size, both height and width, the Neponset Wharf project will stick up like a sore thumb and spoil this view. This project, if built as planned, will set a bad precedent for the entire waterfront area.

Against ACEC Regulations – Height could impede migratory and shore birds from feeding and nesting, as they travel across Port Norfolk to and from Squantum Point Park and Pine Neck Creek.

Transportation

Adjusted Vehicles/ Unadjusted Vehicles - 1,737/1,632

Traffic – The proposed project would add, by their estimate, 1,737 vehicle trips a day to a small neighborhood that already has problems travelling up and down our streets due to the existing businesses at the end of the Port Norfolk peninsula. For example, traveling on Walnut, Woodsworth, or Lawley, one must find a place to pull over to allow opposite traffic to pass. We also have problems entering and exiting onto Morrissey Boulevard, are only pathway in and out. During rush hours you have to wait in lines for your turn to fight the traffic to get out and can be blocked from returning by lines of cars backed up on the boulevard. The proposed DCR Morrissey Boulevard project will only make this worse. The traffic problem cannot be resolved.

Pg. 2 Summary of Project Size and Environmental Impacts Cont.

Parking - 185

Against 310 CMR 11.03(6)(b)(14) Exceeds 1,000 trip threshold and construction of parking garage Higher number is the one to use, as there is no proof luxury condo owners will ride share.185 spot garage doesn't even provide enough parking for housing and marina. Number of housing units should be reduced. Restaurant and Hotel would greatly increase traffic, both day and night, and parking needs would far exceed the 185 spots in the garage. Where will they park? Both should be eliminated.

Wastewater

Water use – from 1,370- 30,752

Huge increase in water use*- Can neighborhood water lines support this increase*

Wastewater – from 1,245-27,956

Huge Increase in sewage*- Can neighborhood's old sewage lines handle this increase. Many Port Norfolk residents have had raw sewage backup into their homes from city sewage lines. A comprehensive study needs to be done in the entire neighborhood.*

Page 3 General Project Information

Existing Conditions

2nd Paragraph – Is small, isolated and overgrown area west of buildings a marsh, in buffer zone in ACEC?

Project Description

1st Paragraph, - The project will provide over 50% of site for public outdoor space. Is that 50% of total, 7.6 acres or 50% of 3.6 non-water acres? Does 50% include roads, sidewalks, and narrow green areas alongside buildings? Does 50% include fishing pier, snack shack, restrooms, kayak storage, or just green areas? Not well defined.

Page 4 General Project Information Cont.

New Pedestrian Bridge - across Pine Neck Creek to project site

In addition to destroying marsh lands, a bridge at this point will cause an overuse of the Tenean Beach Parking area by people using the marina, restaurant or visiting tenants. This will block out the public that wants to park here to go to Tenean Beach. The Tenean Beach parking area should not become free, ancillary parking for a private project.

Pg. 4 Summary of Environmental Impacts

Daylight- Due to the setback from the nearest public way, the Project will not significantly impact visible skydome.

Measurements of Skydome blockage were only taken from one spot on Erickson Street.

Does not consider impact on visible skydome from Tenean beach or the Public Harborwalk at Venezia Restaurant. Both will be seriously impacted. From Tenean Beach, public will be facing extremely large buildings to the East, that will significantly increase the blockage of the view of the skydome and also morning sunshine. Morning shade could affect the health of the surrounding ACEC, as well as public enjoyment of the beach.

From the Harborwalk at Venezia looking west, there will also be a significant increase in the blockage of the skydome and The Project will block the beautiful sunsets viewed from this area.

Residents of Dorchester and Travelers on Rt 93 have a beautiful view of the ocean. The view includes Port Norfolk, Victory Road Park, Squantum Point Park, The Kennedy Library as well as the ocean. Due to the massive size, both height and width, the Neponset Wharf project will stick up like a sore thumb and spoil this view. This project, if built as planned, will set a bad precedent for the entire area.

Wetlands /Waterways – no details

Removal of Fence along pier- *The impact of removing the fence along the pier across from Tenean Beach has not been acknowledged or studied by the Project planners. An assessment by ocean shoreline engineers needs to be completed before this change is considered, with the highest standards applied according to ACEC regulations. Will it cause the erosion of Tenean Beach sand or destruction of marshland along Pine Neck Creek or Victory Road Park due to increase wave activity?*

Wetland Impact- *Project Plan does not acknowledge Bridge to Tenean causing destruction of wetlands.*

Dredging Impact- *Plan does not acknowledge that much of the area is surrounded by shellfish, Bucky's Bar, that was reseeded by the State a few years ago to promote growth of Oyster Beds. Dredging in area will have extreme impact on shellfish beds and on the tidal flats that are used as feeding grounds by shore birds and other wildlife.*

Increased dredging in this area could also contaminate Tenean Beach and surrounding ACEC marshes with mud containing PCP's.

Will dredging cause erosion of sand and mud at Tenean Beach and Pine Neck Creek. Build up of mud level in front of Tenean Beach and on site of project has increased. Drastic reduction on site may impact surrounding mudflats and beach.

No License *– The Project Planners have found no license to dredge in project area. Shouldn't they be required to begin dredging license request procedures from the beginning of the process*? Is the amount of dredging maintenance or improvement? How can you tell if no license, if previous amounts of dredging were legal?

Water Quality- Project will improve water quality…

Dog Park- *Plan fails to acknowledge that a dog park will increase bacterial waste in the runoff into an ACEC. Neighborhood is working on reducing dog use in this ACEC area not increase use. Save the Harbor/Save the Bay studies have shown dog wastes contaminate the water.*

Motor Vehicles *– Plan fails to acknowledge large increase in cars and trucks will increase amount of toxins being runoff into ACEC.*

Pg 4 Summary of Environmental Impacts Cont.

Noise - … no adverse noise impact…

Traffic – *Project fails to acknowledge the overwhelming increase in traffic, day and night, cars and trucks, will cause a significant increase in noise impacting the surrounding residential neighborhood and wildlife.*

Hotel/ Bar *The developers have mentioned that the Hotel would have a Roof Top Bar. When asked about the Hotel/ Restaurant at the Open House, they refused to answer questions about it. Certainly an open, rooftop bar will negatively impact both the neighborhood and the wildlife in the adjacent ACEC.*

Solid and Hazardous Materials – Existing solid and hazardous wastes

Hazardous wastes*- It is extremely worrisome that there are hazardous wastes on this site and that the surrounding neighborhood has never been notified! Adults and children walk around this site all the time. We have just gotten rid of one hazardous site in the neighborhood and now we find that there is another! Has it been running off into the water?*

Geotechnical - …additional geotechnical assessments will be performed...

Incomplete Filing – *Project planners have not determined final geotechnical assessment yet they have filed an Environmental report. They have also only considered their project site and not the entire neighborhood. What will happen if there is a large influx of truck traffic and if pile driving is necessary?*

Filled Ground *– Most of Port Norfolk is filled ground. As such, the area experiences a great deal of shaking from trucks as they pass through, train vibrations and we have felt a great deal of shaking from Earthquakes with epicenters from as far away as New Hampshire. Geotechnical studies need to be completed in the entire Port Norfolk area before this project goes forward.*

Construction – Construction related impacts are temporary in nature.

Neighborhood Impacts – *There are historic homes and buildings in the Port Norfolk area that could be impacted by vibrations by trucks and pile drivers. We are also concerned about our streets. They seem to be sinking! Continuous truck traffic during construction will increase this problem. The neighborhood has a very old sewage system. Will heavy increase in truck traffic damage pipes? A full study needs to be done here. Are the developers offering insurance to the city and neighborhood to fix any damages that are caused by construction of their project?*

Pg. 4 Alternatives

Harborwalk *- The alternatives offered by the Project Development Team fail to recognize that in 1999 the owners of the project property received a license to build an additional wall along the property. In remediation for the taking of public tidelands, they were ordered to construct a designated Harborwalk with a public viewing area, a bench and signage.*

Pg. 5 Preferred Alternative 150 Condos, 25 room Hotel, Restaurant, 75 slip Marina

Preferred Alternative *– The proposed Plan, with 150 units of housing, hotel, restaurant and marina, is overwhelming in size and density within the small Port Norfolk Neighborhood. The plan fails to report an important piece of information regarding density and infrastructure use, the number of bedrooms in each of the housing units. The plans neglects to report the affect it will have on the neighborhood and the surrounding ACEC. Insurmountable traffic issues, sewage problems, impacts on wetlands and shellfish beds, alteration of the skydome from highly public views are all ignored. Even the design of the project is overwhelming. The height of the project, 85ft, is double the height of the rest of Port Norfolk. It does not represent the character of the neighborhood, which has many historic homes and buildings or the ACEC natural experience that the DCR has been spending millions of dollars on in the surrounding area. It is a large, boxy, modernistic design which might belong downtown, but not in the Port Norfolk neighborhood.*

To offset the forbidden uses that the plan is asking for, the project proposes numerous public amenities, not all of which are wanted or even practical for the area, some could actually cause harm. They are listed below.

Problems with Public Amenities Proposed for Project.

1. Restaurant, hotel, bar, garage all forbidden under Boston Zoning Code and Chap 91 Non-Water Dependent uses. Will increase traffic and parking impacts.

2. The open green space is a welcomed addition, however there are problems that need to be addressed. Most of the public open space faces the Rt. 93 Expressway or the LNG tank. The best view, next to Venetia, has a building where it could link to the Venezia Harborwalk. Is this the site of an open air bar that would add noise?

3. The dog park would add bacterial waste to the ACEC waters.

4. Fishing Pier is in an area where the fish have high levels of PCP's. Broken fishing lines and hooks could entangle birds and wash up on beach.

5. Paid Kayak storage and launch is proposed in an area that has extreme low tides. Most of the area is dry mudflats for about half the time each day with ever changing time due to the tides.

6. Bridge to Tenean Beach would damage the marsh along Pin Neck Creek and would serve as ancillary parking to a private development, blocking out the public that wants to park and use Tenean Beach. The bridge would also block a known Artist view spot from the end of Pine Neck Creek.

7. Other amenities, such as snack shack, restrooms, court ?, sand play area?, as well as kayak launch and fishing pier, may look nice but will only exacerbate the traffic and parking problems.

These ideas are duplicating amenities that already exist in the area. *There is a large beach, tennis and basketball courts, and playground right around the corner at Tenean Beach. There is a fishing area beside the Train Bridge in Port Norfolk. There is a useful kayak launch at Neponset II Park. Parkland and views at Tenean Beach ,Joseph Finnegan Park at Port Norfolk and the Harborwalk at Venezia Restaurant. There is no public need of these proposed amenities.*

To the residents of Port Norfolk, the proposed amenities are not worth the overwhelming imposition the project would have on the neighborhood. *It would change the character of the neighborhood from a small, peaceful seaside community to a hangout for a privileged crowd. We already have plenty of vitality with a yacht club, a large restaurant, a winery and a whiskey distillery all situated at the end of the Port Norfolk Peninsula. All together that includes 3 bars, and 4 function rooms. We have reached our limit on speeders and drunk drivers. We are happy to share our state parks and beaches with everyone, even take in more residents, but we do not want to become the "destination" as proposed by the Neponset Wharf Project. We are not in the Seaport or Part of Marina Bay, both areas created where there were no neighborhoods. We are an existing neighborhood and ACEC area that needs to be protected from projects such as the proposed Neponset Wharf Project.*

Missing Proposed Alternative-

Another alternative, not listed by the planners, is a project that offers a reasonable amount of housing, and marina with a public walkway along the waterfront connecting to adjacent Harborwalks around the Port Norfolk Peninsular. No hotel, restaurant, or problematic public amenities. Under these guidelines, a compromise could be made.

A small retirement Community.

Pg. 7 <u>Mitigation Measures</u>

Area of Critical Environmental Concern:

Does not answer question on compliance sufficiently.

The applicant does not address the impact of the project on Buffer Zone and surrounding ACEC, which are protected by the Massachusetts Wetlands Protection Act and ACEC Regulations. Under ACEC Regulations the Wetlands Regulations are held to the highest standards, Do No Harm.

Does not address impact of shade from tall buildings on Pine Neck Creek and Tenean Beach. Reducing amount of sunshine and temperature could make area unsuitable for wildlife and the public at Tenean Beach.

Does not address impact of car, truck and boat discharges on ACEC waters.

Does not address impact of Dog Park adding bacterial waste to ACEC across from a public beach.

Does not address impact of noise, construction and after, on ACEC wildlife.

Rare Species:

Rare Species are in the immediate ACEC vicinity. Listed on Rare and Endangered Species List attached to project proposal.
Does not address blockage of migratory and shore birds travelling from Squantum to Pine Neck Creek and back.
Does not address impact of dredging of mud, (which is contaminated with pcbs), harming feeding grounds, shellfish area, mudflats, marshes and beaches.

Historical/ Archaeological Resources:

Does not address possible harm of historic homes and buildings from shaking from truck traffic and construction. Filled land is highly susceptible to vibrations.

Water Resources:

Plan does not address

Pcbs in water and fish are not amenable to a Fish Pier.

Increase in turbidity and pcbs from dredging

Changes in river flow and wave action, beach erosion due to changes in fencing and piers.

Pg. 8

Massachusetts Contingency Plan: Petroleum wastes on site and release

There has been no notice to the neighborhood of the release of petroleum products on this site. There is a public beach directly across from property.

Solid and Hazardous Wastes: Hazardous wastes on site

There has been no notice to the neighborhood that there are hazardous wastes on site. Adults and children freely walk around most of this site.

Designated Wild and Scenic River: Not a designated Scenic River

Included in the Neponset River Reservation designation as an ACEC is "Scenic Vistas".

Pg. 10 Massachusetts Contingency Plans Cont.

Land Section

II Impacts and Permits

E. Is any part pf project currently subject to conservation restrictions…

Applicant has answered yes, then asked to describe, no answer.

III. Consistency

A.Identify the project's municipal comprehensive land use plan

Applicant has responded with Imagine Boston 2030, (a non-legal vision of the city.)

Applicant fails to recognize Legal Boston Zoning Code, Port Norfolk Neighborhood Waterfront Service District, a zoning designed for this site.

Applicant fails to recognize 1988 BRA Plan report on Port Norfolk

B. Describe the Project's consistency with plan Applicant has responded that the project is consistent with Imagine Boston 2030

Imagine Boston does not mention Neponset or Port Norfolk as a place of growth.
Dorchester Map in Imagine Boston, by residents, does not identify Port Norfolk as a place of growth.
Imagine Boston calls on developments to be in scale and size to neighborhood and to fit the character of the neighborhood. This project overwhelms the neighborhood.

Applicants plan is highly inconsistent with the Boston Zoning code for site and BRA plan for Port Norfolk.

35ft Max height
water dependent use only
hotel, restaurant, bar, garage are all forbidden
housing conditional, reverts to single family , 5,000 sq ft lots

This project's size and design is highly inconsistent with the natural ACEC parks and wetlands that surround the area.

Pg 11 Rare Species Section

Applicant has answered no rare species or habitats.

The applicant does not address the impact of the project on Buffer Zone and surrounding ACEC, which are protected by the Massachusetts Wetlands Protection Act and ACEC Regulations. Under ACEC Regulations the Wetlands Regulations are held to the highest standards, Do No Harm.

There are no known rare species on site, however, there are rare species in the surrounding, an ACEC. Listed by developer on attached page. Endangered species of birds are known to live in Squantum Point Park across the river from the site, and many birds travel from Squantum Point Park across Port Norfolk during migrations and to reach Pine Neck Creek a favorite breeding and feeding area for various herons, egrets, ducks and swans. There are many migratory and permanent shore birds that live in the immediate area along the edges of the site, in the marshes of Pine Neck Creek and Victory Road Park.

Pg. 12 -13 Wetlands, Waterways, and Tidelands Section

I-II Wetlands

The applicant does not address the impact of the project on Buffer Zone and surrounding ACEC, which are protected by the Massachusetts Wetlands Protection Act and ACEC Regulations. Under ACEC Regulations the Wetlands Regulations are held to the highest standards, Do No Harm.

The following activities will have an impact on adjacent shellfish beds, mudflats, beach, and marshes

Dredging of mud containing pcbs on shellfish beds, mudflats, beach, marshes
Addition of onsite Dog park increasing bacteria level in water off Tenean Beach
Bridge across Pine Neck Creek destroying marsh, possible flow of sand along shore disruption
Removal of submerged fence and mud along pier could cause erosion of Tenean Beach sand by increased wave action, and or movement of mud into lower dredged out area on site. Needs to be studied.

III. Waterways and Tidelands Impacts and Permits

A Current License and Permitting

Applicant has not found a previous license to dredge. Is amount of dredging requested by plan maintenance or improvement? Was previous amount of dredging legal? Shouldn't they have to start application for dredging at the beginning of the process?

C. For Non-Water dependent use projects …Height of buildings on Filed Tidelands – 55ft.

Applicant fails to mention that adjacent buildings will be 85ft and the Boston Zoning Code restrict the height in the entire site to 35Ft. Height will impact migrating and local shore birds.

Applicant fails to mention impact of reducing skydome and increasing shade, decreasing sunlight and temperatures on Tenean Beach and PineNeck Creek water, on wildlife and public beach enjoyment or the impairment of ocean view from Dorchester and Travelers on Rt 93.

Pg 14

G. Does the project include Dredging – Yes

Applicant does not include impact on surrounding Shellfish Beds, mudflats, Beach, Marshes in ACEC.

With no previous dredging license how is maintenance vs improvement determined? Was amount of previous dredging legal? Area has significantly changed to a more natural state.

Pg 15 Water Supply

Fails to recognize…

Old water pipes in the Port Norfolk neighborhood may not be sufficient for increased use by project.

Increased volume of water (1,370-30,752gallons per day) in pipes could damage existing, old pipes.

Pg 16 Wastewater Section

Fails to recognize…

Old sewer pipes in Port Norfolk neighborhood may not be sufficient for increased in sewage capacity by project.

Increased volume of sewage, (1,245-27,956 gallons per day), could damage pipes causing them to burst or sewage back up into neighborhood resident's homes. This is an ongoing problem. There have been multiple incidences of sewage backup into homes.

Pg 17 Transportation

Applicant does not have a traffic plan at this time.

Shuttles, valet service will still add traffic to Port Norfolk streets.

Possible ferry service may be hampered by depth and cable crossing and also attracts more traffic through Port Norfolk.

Applicant is not adding in traffic count for marina or visitors.

DCR Plan for Morrissey Bouvelard changes traffic patterns, increasing difficulty entering and exiting Port Norfolk.

Will luxury condo owners share rides or take shuttle to T or will they want to use their own cars?

No definite number of bedrooms, no definite number of restaurant seating makes estimated car trips unreliable.

Pg 21 Energy ***Has it been determined how much energy the project will use and if neighborhood lines, (electricity, gas), are sufficient?***

Pg. 23 Historical and Archaeological Resources Section *Applicant does not report possible impact of shaking from trucks and construction. Vibrations may damage nearby historic buildings.*
Design is not consistent with the characteristics of the neighborhood buildings or homes.
Design is not consistent with the natural area, ACEC, and DCR Parks that surrounds site.

Matthew Beaton
Secretary of Energy and Environmental Affairs
MEPA Office
100 Cambridge Street Suite 900
Boston MA 02124

RE:No:15728, Neponset Wharf Project.

Dear Secretary Beaton:

I'd like to offer my comments on this project, based on my 20 years as a Dorchester environmental advocate, waterfront enhancer and protector. I serve on the Neponset River Greenway Council and the Metropolitan Beaches Commission. I'm also a scientist who knows about natural processes and the harm that can come to them. I do not live in this neighborhood; rather nearby in Savin Hill.

Quite simply, the landward part of this project is too large for the 3.3 acres as proposed. Currently, there are 185 individual dwelling units on the Port Norfolk peninsula. This proposal calls for almost doubling the unit count in this neighborhood with 175 tenanted units, including the hotel rooms. There are additional negative uses, and much needed shoreline improvements on other parts of the 3.6 acres of filled tidelands.

By comparison, the nearby Estuary condo complex, constructed in the '80's and contiguous to DCR's new Finnegan Park, is built upon 3.3 acres of filled tidelands and hosts only 22 condo units.

The Port suffers from a serious lack of public transportation access, thereby creating a car-centric development whose access will overwhelm the 2 narrow entrance streets with those seeking to drive to the end of the peninsula. Those street, while two-way, cannot function as a true 2-way due to on-street parking, which necessitates opposing vehicles, pull to the side to allow passage. It already is a "game of chicken." 17.1

Furthermore, this site is within the Neponset ACEC. This designation was assigned well before the current owner purchased his option on the site, and stringent compliance measures need to be taken to ensure the viability of this estuarial resource; not allow its degradation.

During the construction of Finnegan Park, DCR's consultants determined that the PCB's and other hazardous chemicals washed downstream the Neponset from various sources, were likely to be released into the estuary were they to remove the decrepit piling field on the river flats adjacent to the park. My assumption is that any dredging performed as part of the nearby marina rehab would produce the same negative results in the ACEC. As you know, case law has confirmed that wherever the chemicals lay now, they belong to the property owner, and it is up to them to seek redress from whoever deposited them there. But in no way should these be released into this sensitive fish nursery. 17.2
Additionally, is a waterborne fueling facility with the possibility (in fact, probability) of fuel releases into the water something we want to risk in this estuary given the acreage that DCR has accumulated to help protect the river from runoff pollution?

The proposal to construct a boardwalk across the mouth of Pine Neck Creek serves no one except the developers with extra parking for their overdeveloped site at Tenean, and a way for its tenants to access a swimmable beach. This is short sighted and should be scrapped in favor of a plan that provides a 17.3

walkway either on the land or a cantilevered boardwalk to their property boundary to the south; where for now it would terminate. 17.3

As with virtually everywhere else the current Harborwalk and Neponset River Greenway is sited, the goal on the Port should be to “harborwalk” its full circumference. This project takes a short-cut across the marsh. The two property owners between this site and the Harborwalk on Conley St. have for some reason been exempted to provide CH91 public access. Given that one of these owners, SuliMac has a temporary easement across DCR property in the vicinity of Conley St, all of the property owners should be working toward the goal of full public access to the waterfront resource. 17.4

Please consider the negative environmental impacts that will occur in the estuary area of the ACEC should this out of scale project move forward.

Thank you,

Paul Nutting
385 Savin Hill Ave
Dorchester MA 02125
617-282-9191
pfnindot@gmail.com

Mathew A. Beaton, Secretary of Energy and Environmental Affairs
Executive Office of Energy and Environmental Affairs
100 Cambridge Street, Suite 900
Boston MA 02114

August 14, 2017

Re: EEA No 15728, Neponset Wharf Project
Attention: Alexander.Strysky@ state.ma.us

Dear Sir;

This comment letter is in response to the above filing #15728 for the Neponset wharf project. I am opposed to the project as currently proposed, it is inappropriate and contains irreversible impacts in the ACEC and the neighborhood. The ENF is deficient regarding the treatment of ACEC and in particular, the Resource Management Plan for the Neponset River Estuary published in March of 1996.

The resource management plan (RMP) established the: ”goals as a guide to future decisions and action in the estuary”. This applies to waterways, wetlands, and habitat surrounding the project. The ENF only gives a cursory review to these aspects. There are many instances where background studies already published and vetted that the proponent didn’t incorporate. As a result the there is a basic misunderstanding of the rules of the road.

Even though twenty years has passed the Port Norfolk neighborhood is experiencing the first “Downtown waterfront” type development creating a new urban district that needs to assess density even with the public space proposed; we need to be preserving publically accessible waterfront.

Based on the Boston Waterfront Decision, a set of waterfront planning principles and urban design guidelines were born and these particularly, the view corridors and visual access should be adhered to. Buildings should not block the view of the water and skyline as currently proposed. Setbacks from water and piers, the ability for implementation of ascending setbacks to minimize shadows needs to be incorporated. 18.1

Height limits are compromised by FEMA flood regulations. However uses for the floors with the flood zone limits could still yield revenues by educating residents and others about the history of the area or gallery space for local artists as well as interpretive signage along the harbor walk. 18.2

There needs to be some comprise between commercial interests and regulatory review. Street level activity is lacking. I am somewhat skeptical about the survival of the trees depicted in the ENF. Testing of the sediments in the open space parcel needs to be studied. Finally the suggested dog park is not compatible with the ACEC designation and should be dropped. 18.3

The architectural character for the buildings is not compatible with the surrounding residential uses. Perhaps it is the desire of the proponents to create a contemporary look to a historical waterfront services district. It doesn’t really come off well. There needs to be some more compatible segue into the project that meet urban design guidelines. 18.4

1 *“I find that the Neponset River Estuary ACEC designation is warranted to protect the resources from imminent threats, and highly significant adverse and irreversible impacts” says the Secretary of the Environment, at the time, Trudy Cox.*

Building B needs to eliminate the wall effect on the upper floors to open up the view corridor. In addition the restaurant should have outdoor dining as a measure to ameliorate the impact of accommodations of private tenancy. 18.5

The Wetlands Protection Act and Chapter 91 regulations set stricter standards for coastal ACECs. “No adverse impacts” to any coastal wetlands from any activities within the ACEC. Only limited projects are allowed to alter bordering wetlands vegetation. The waterfront regulations prohibit improvement dredging except for the sole purpose of fisheries and wildlife. Chapter 91 restricts the opportunities for new privately owned structures. This proposal does not adequately respect the RMP already in place. Intensive use of vehicles and operations tips air quality. 18.6

The Chapter 91 licenses have not been held to the same standards in on the Dorchester waterfront as in say “Seaport district”. I am asking that the standards of review be on equal footing, notable examples include the dilapidated overlook which was conditioned by Chapter 91. There has never been any maintenance, it is unsafe and uninviting. It is incumbent upon all state agencies reviewing the project to achieve the “restoration and enhancement of the resources of the ACEC. 18.7

Understandably time has passed and the waterfront regulations have been revised and become more interconnected but that does not compromise ACEC standards as in the ENF. These standards need to be turned around so that the ACEC is the first bar, not the last as it seemed to be in the ENF. The ACEC designation requires a higher standard of analysis of the resource preservation which is not mentioned in the ENF. The proponents have essentially cherry picked the words that describe the ACEC goals; neglecting the language of “preserve, restore, and manage” in regard to the project. I am concerned that regulatory review may rescind the ACEC designation. 18.8

I would like to bring the reader to the principals of the RMP, Water Quality; condition of Pine Neck Creek whose water quality is the lowest in Boston Harbor due fecal coliform counts dissolved oxygen levels and nutrient enrichment. This location does not meet class B standards. The development needs to cooperate in helping at to restore and reduce the presence of these known problems that are a threat to public health as it lessens the use of Tenean beach. 18.9

Resource based boundary lines

The RMP is a boundary based document. The ENF is selective in helping people understand the 100 foot buffer zones which could easily become 1300 foot boundaries from the water’s edge so that line /boundary ought to be drawn out and adhered to. Filled and flowed tidelands need to be mapped in the next iteration particularly on Pine Neck Creek. Also the language in the ACEC section of the ENF needs to be compatible with the mapping. There isn’t any description why “mean low water” and” historic high water lines” are significant. 18.10

It is much more difficult to do anything meaningful about water quality on the Neponset river side of the peninsula project; the contaminated sediments have ruined some of the most productive clam beds, Buckley’s bar, without some long term cleanup plan for the Pcb’s residing in the sediments. Unless and until there is a concentrated effort to remove the sediments behind the two dams in Upper River trying to clean the lower estuary is not sustainable. Attention to Pine Neck Creek become the most doable and restores a proper public purpose to the ACEC. 18.11

 “I find that the Neponset River Estuary ACEC designation is warranted to protect the resources from imminent threats, and highly significant adverse and irreversible impacts” says the Secretary of the Environment, at the time, Trudy Cox.

Wetland restoration and banking program needs to perform a full analysis for the edges along Pine Neck Creek and those areas that would be considered coastal bank. It will determine opportunities to diversify plant species to attract fin fish for feeding and potential increase fish spawning in the creek. Also an assessment of the sediment and soils for potential contaminants in filled areas and to identify point and non-point sources of pollution as part of the DEIR. There will be continuous and cumulative impacts associated with non -point source pollution and water quality on the natural resources. Beach erosion is a perennial problem with the dredging and marina uses we need to balance the project's impact on the natural resources not further degrade the value of estuarine functions. 18.11

It seems to me that the open space parcel is key to the development. We know the 50% ratio is important but for the developers to tout it as special is misleading. The walking paths and circulation through the parcel should be clearer about linking various parts of the harbor walk at the edges of their property. How this development links areas where the harbor walk would go a long way in achieving a proper public purpose.

I do not think for a moment that the open space parcel presented in the ENF is anything other than guise for the next phase of project. Over time, permitting can change and probably will change the configuration of buildings on the parcels. Even though the proponents say this is a one phase project the placement of the buildings on the rest of the parcels dictate that open space parcel, is easily removed and turned into another building. That may happen anyway, but I am not about to make it easier for the proponents to meet their goals at the expense of restoring the habitat value in Pine Neck Creek. 18.12

Transportation and Traffic

The development as proposed doubles the number of residential units in the neighborhood all going to the 3.6 acres. The residential streets can't handle the 1500 anticipated vehicles particularly for first responders. The one way access to and from the development is a central problem. More attention needs to be placed on more access on the public streets that enter and leave the development so that the enormous increase of traffic is more easily absorbed by the development itself. For instance an additional lane on Walnut and Lawley streets. This will help alleviate some of the burden on abutters. In addition any transportation demand strategies need to include vigorous pursuit of ferry service and should include a movement for an additional redline station at Port Norfolk. With better connections to the MBTA, bicycling from the project to transportation services could be really feasible. 18.13

The ENF does not give satisfactory description of the local transportation network particularly the Redfield Street and Woodworth St. access points. No mention of the community health center or fire station was included in the ENF even though they are located across Morrissey Blvd. These are important institutions to the neighborhood and represent long standing connections to Neponset Circle. 18.14

With the planned improvements on Morrissey Boulevard this development needs to be prepared to coordinate with that project. And incorporate those intersections in the traffic study. 18.15

Parking spaces need to be provided for zip cars and limited parking for trailer parking for the water dependent uses like kayaking and other small water craft needs to be accounted for. The siting of new water dependent use the kayak storage although welcomed would be unusable at low tide. General parking for the project is unsustainable given the local street 18.16

 "I find that the Neponset River Estuary ACEC designation is warranted to protect the resources from imminent threats, and highly significant adverse and irreversible impacts" says the Secretary of the Environment, at the time, Trudy Cox.

infrastructure. A shuttle service seems an advancement to the project.These elements of transportation demand service should not be considered as amenities; they are essential. 18.16

Economic development should be limited expansion. Not previously authorized or historically used zoning is not recommended within the estuary. 18.17

Biking

The Neponset River Greenway council has been working to extend the bike path. Our attention has been concentrated on the missing links in Mattapan which has been recently achieved. Our focus is shifting to connecting along the water to Victory Road Park and the Gas tank parcel. This project needs to offer bicycles and pedestrian connections beside the potential of a bridge across pine neck creek which seems to provide accessory parking for the project and may impact natural resources in Pine Neck Creek. Here is another example of the lack of contextual setting for the project. The proponents should review the Dorchester Coast Greenway Master Plan and advance those goals. 18.18

Dredging

Without the dredging permit it is not possible to discern the difference between maintenance dredging and improvement dredging. The ACEC designation was not in place when the last dredging occurred. This might be remedied by requesting a search of the historic chapter 91 license and historic mapping this should be included in additional information under the scope. 18.19

The utility or impact to salt marsh restoration of the fence in the marina must be assessed. It's another visible sign of privatizing the waterfront treatment across from Tenean beach and is of primary importance. In this vein there are no photos of this view in the ENF another deficiency in the filings. It should be included in the DEIR.

In closing the project documents are deficit; the project is ill conceived, poorly planned, and not adequately looking at the context of the project setting. Without any cooperation from the developers for elements of a plan that are outside of their goals including disingenuous remarks at public meetings; I cannot support this project.

By way of reference, I served on the advisory group that compiled the ACEC resource management plan and I am a member of the Neponset Greenway Council. Unfortunately many of the RMP management recommendations of a coordinating council have not been put into place as; the Neponset Greenway Council has remained active without institutional support. Our membership is made up representatives from community civic association and other groups with interests like biking. Our aim is to comment on projects that affect the entire river. Please accept my comments as a basic tool for reference and a blue print for improvements to the Neponset estuary. I look forward to working with everyone connected with this project.

Sincerely,

Ellen Spring

Ellen Spring, Member Neponset Greenway Council

 "I find that the Neponset River Estuary ACEC designation is warranted to protect the resources from imminent threats, and highly significant adverse and irreversible impacts" says the Secretary of the Environment, at the time, Trudy Cox.

AS

www.sullymac.com

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RECEIVED
AUG 10 2017
MEPA

August 9, 2017

Matthew A . Beaton
Secretary of Energy and Environmental Affairs
Executive Office of Energy and Environmental Affairs (EEA)
Attn: MEPA Office
EEA No15728 , Neponset Wharf Project
100 Cambridge Street, Suite 900
Boston MA 02114

Mr. Beaton,

I have a great concern about transportation and traffic issues within the Port. As a major taxpayer and employer in Port Norfolk these things will be a huge detriment to my ability to operate my business in Port Norfolk. Please see below. In addition I would be a huge opponent to any discussion of making Lawley Street a one way street. 19.1

Pg 17 Transportation

Applicant does not have a traffic plan at this time.
Shuttles, valet service will still add traffic to Port Norfolk streets.
Possible ferry service may be hampered by depth and cable crossing and also attracts more traffic through Port Norfolk.
Applicant is not adding in traffic count for marina or visitors.
DCR Plan for Morrissey Bouvelard changes traffic patterns, increasing difficulty entering and exiting Port Norfolk.
Will luxury condo owners share rides or take shuttle to T or will they want to use their own cars?
No definite number of bedrooms, no definite number of restaurant seating makes estimated car trips unreliable.

Sincerely,

W. John Rudicus
Sullivan & McLaughlin
74 Lawley Street
Boston, MA 02122

Matthew A.
Beaton

August 9, 2017

Secretary of Energy and Environmental Affairs

Executive Office of Energy and Environmental Affairs (EEA)

Attn: MEPA Office

Alex Strysky, EEA No15728, Neponset Wharf Project

100 Cambridge Street, Suite 900

Boston MA 02114

RECEIVED
AUG 16 2017
MEPA

E-mail MEPA: Alex Strysky: alexander.strysky@state.ma.us

Dear Secretary Beaton,

This letter is in response to the Environmental Filing, (EEA No. 15728), for the Neponset Wharf Project by City Point Capital. I am strongly opposed to the Neponset Wharf project for the following reasons:

The project will overwhelm the Port Norfolk Neighborhood & Dorchester waterfront & change character of quite seaside neighborhood to overhyped destination. Will also double existing population, straining infrastructure & utilities. It will harm Neponset River area of Critical Environmental Concern (ACEC). 20.1

Thank you,

Boguslaw Bialek
182 Walnut St.
Dorchester, MA 02122

Daniel Roche impacted resident
158 Walnut Street
Dorchester, Massachusetts 02122

Hon. Mathew A. Beaton, Secretary
Executive Office of Energy and Environmental Affairs
100 Cambridge Street
Boston, MA 02114
c/o Alex Strysky MEPA Project Manager.

Re: Port Norfolk Proposed Development Neponset Wharf
Ericson St. Dorchester Waterfront 02122
Public Comments MEPA review.

Dear Secretary Beaton:

I write in relation to the MEPA comment period ending August 15, 2017 regarding the proposed development; To assist MEPA in its evaluations of this project I forwarded a copy c/o Mr. Alex Strysky of your staff , of the "Boston Redevelopment Authority Plan for Port Norfolk" dated 1990 called Exhibit A : zoning / urban design and related studies that identify and address the many peculiar problems and opportunities associated with developing this site and aspects of vehicular traffic , environmental conditions , project scale and the site, and infrastructure limitations that I believe that all considering factors in the review process should be addressed singularly and holistically and to ensure that the proponent conforms to the zoning and land use codes of the City of Boston and Commonwealth of Massachusetts .

I f you have any questions please contact me at 617 -5300379
.

Public safety matters!

TRANSPORTATION & PARKING (amended)

1. There is a traffic study in Exhibit A that defines the current traffic capacity of the 3 streets of port Norfolk: **Walnut Street, Port Norfolk Street, and Lawley Street** that access Port Norfolk including Morrissey Blvd interchanges. **In summary, the current traffic capacity rating of these streets and Neponset circle as of 1990 were rated as "F" (failure**). Nothing has changed other than the generation of more cars and less capacity to handle them.

2. **DCR has a plan in plan to eliminate 2 lanes of traffic from Morrissey Blvd**. A reduction of 3 travel lanes to 2 travel lanes. This plan would worsen the LOS of this neighborhoods connection to North and Southbound municipal roadway.

3. **The proponents preliminary traffic analysis estimates that 1500 vehicle trips daily would be** added to the streets already at capacity of failure without additional traffic!

Additional traffic study catchment area

4. The extensive traffic condition in the traffic analysis study area must consider the continuous traffic overflows , backups and delaying lanes and ramps on and off from the Expressway Southbound , the Expressway Northbound ‘ . along with the daily traffic flow north and southbound over the Neponset river bridge into Neponset circle . These conditions need to be factored into any traffic analysis of the development site and conditions included into the mix to determine capacity of intersections and streets from traffic daily moving out of the the Port Norfolk intersections of Conley , Walnut , Taylor and Tenean Streets . into and out of Morrissey Blvd and all intersections. This traffic survey can not be accurate without considering these factors . 21.1

Amendment to comments sent on august 14, 2017.

Edward Roche AIA NCARB BSA

Resident & impacted home owner
158 Walnut Street
Dorchester, Massachusetts 02122

Hon. Mathew A. Beaton, Secretary
Executive Office of Energy and Environmental Affairs
100 Cambridge Street
Boston, MA 02114
c/o Alex Streaky MEPA Project Manager.

Re: Port Norfolk Proposed Development Neponset Wharf
Ericson St. Dorchester Waterfront 02122
Public Comments MEPA review.

Dear Secretary Beaton:

Greetings! I write in relation to the MEPA comment period ending August 15, 2017 regarding the proposed development; To assist MEPA in its evaluations of this project I forwarded a copy c/o Mr. Alex Strysky of your staff , of the "Boston Redevelopment Authority Plan for Port Norfolk" dated 1990 called Exhibit A : zoning / urban design and related studies that identify and address the many peculiar problems and opportunities associated with developing this site and aspects of vehicular traffic , environmental conditions , project scale and the site, and infrastructure limitations that I believe that all considering factors in the review process should be addressed singularly and holistically and to ensure that the proponent conforms to the zoning and land use codes of the City of Boston and Commonwealth of Massachusetts .

I f you have any questions please contact me at 617 -290-5161.

.
B. photo copy Port Norfolk wharf image showing scale of works buildings. Circa 1895 & scale of Typical Victorian Home circa summer 1856.
C. Drawing E-1 showing comparison of scale existing residential. Bldgs. To proposed new buildings on site.

Public safety matters!

In 1982, a horrific fire ravaged the neighborhood of Port Norfolk. Following the catastrophe, then Mayor Raymond L. Flynn and BRA Director Stephen Coyle sought to address public safety egress, access issues that had been, among other things negatively affecting Port Norfolk since the neighborhood's streets had been planned in 1850 and constructed in the same years, another death occurred because of a closed bridge in 1987 and the emts could not find their way into Port Norfolk , a neighbor died of heart failure because of the delayed medical response.

Aside , following the many years of abandoned buildings and overall municipal neglect it was time to revisit the peninsulas planning and public safety problems. In 1985, The Boston Redevelopment Authority, followed the city of Boston's intervention, developed a comprehensive plan that became the new zoning codes for this neighborhood and the greater Dorchester district.

Specific design guidelines were laid out that are directly pertinent to the current Development proposal we are addressing today for 24 Ericsson Street, I believe that the following urban design guidelines, as valid today as they were then, that were established by the BRA in 1984 must be acknowledged by the development team if they intend on building housing and non-water dependent uses in the waterfront services zone in Port Norfolk.

The guidelines established by the BRA with the City of Boston's first IPOD and Development Guidelines for districts and neighborhoods in 1984 are the made up of the following components:

1. LAND USE & ZONING

Development Guidelines established in 1989-1992 prescribed the following land use regulations and neighborhood development procedures for Port Norfolk. The following guidelines are what we believe must be addressed with any proposal for new construction in our neighborhood and are more fully defined in Exhibit A:

1. To encourage new development which is architecturally compatible **with the** Predominant residential building types existing on the peninsula**.** 22.1

2. To **maintain the predominante height and massing** of the existing residential areas; 22.2

3. To encourage new development which is **compatible with existing residential area and opens and maintains view corridors to the water;** 22.3

4. To encourage the design of **phased developments to minimize impacts on existing residential development**; and minimizing negative impacts. 22.4

5. To promote compatible uses**, without increasing peak hour traffic delays and effects on Transportation and Parking:** 22.5

6. To discourage large, paved parking lots in new developments and
-Encourage covered parking on landscaped parking areas; and
-To minimize the impact of heavy traffic on adjacent residential streets. 22.6

Neighborhood Plan recommendations:

1. Insuring that any new development is compatible with existing historic structures placing height limits along with waterfront parcel zoning:

- Establishes a floor area ratio of 1. 0 and a height limit of 35 feet.
- Promotes water-dependent services uses.
- Replaces portions of the Waterfront Industrial district
- Conditionally permits uses that are not water-dependent, including residential, if restricted to 25% of the allowable FAR and 35% of the lot area and other conditions of use and factors . 22.7

2. TRANSPORTATION & PARKING

1. There is a traffic study in Exhibit A that defines the current traffic capacity of the 3 streets of port Norfolk: **Walnut Street, Port Norfolk Street, and Lawley Street** that access Port Norfolk including Morrissey Blvd interchanges. **In summary, the current traffic capacity rating of these streets and Neponset circle as of 1990 were rated as "F" (failure**). Nothing has changed other than the generation of more cars and less capacity to handle them.

2. **DCR has a plan in plan to eliminate 2 lanes of traffic from Morrissey Blvd**. A reduction of 3 travel lanes to 2 travel lanes. This plan would worsen the LOS of this neighborhoods connection to North and Southbound municipal roadway.

3. **The proponents preliminary traffic analysis estimates that 1500 vehicle trips daily would be** added to the streets already at capacity of failure without additional traffic!

3. PARKS & OPEN SPACE

1. DCRs extensive parkland acquired in recent years has resulted in over 36% +-, an abundance of green open areas, along the existing water's edge of the peninsula.

4. ENVIRONMENTAL ISSUES

The Port Norfolk sewer system was constructed in 1850. Nothing much has changed with this since an upgrade of water lines in 2004 and to our knowledge it remains a combined CSO system with continuing problems

This needs to be recognized and inspected in that this problem is perhaps contributing to water quality affecting the use of Tenean beach. Over time because of lack of maintenance and being the lowest point in the BWSewer system; deposits within the pipes reduce the undersized capacity further. 22.8

- Consequently, the combined sewer overflows negatively affect the water quality surrounding Port Norfolk. In addition, the storm drains at Tenean Beach negatively affects that bathing area in the ACEC

- The antiquated Sewer system occasionally results in surcharging. The conditions Would be expensive to correct, but modification is to be required to allow additional large scale development.

** It is important to note this public beach is heavily used by neighboring district residents in the southern / western areas of the City and beyond to swim in the ocean here! Great progress in this harbor cleanup regard The Port Norfolk waterfront is an ACEC. It is an aggressive statement to the users of this heavily used public beach will be overwhelmed with these 9 story structures casting shadows over the beach which is some peoples "visit to the cape " .*

5. HISTORICAL PRESERVATION & HOUSING

The built environment of the Port was shaped in the years 1840- 1850. The context for most development and architectural styles was established by prominent Dorchester architect, Luther Briggs (who was also a resident of the Port Norfolk). Briggs established 7 different architectural styles; while diverse, the similarity in materials and scale makes the community' s architecture harmonious, pleasant and beautiful. Briggs also laid out the current street patterns and parks but it is unclear if he had role in layout of the Nail factory works.

The architecture and scale of the Port has been recognized by the City of Boston Landmarks Commission as to be designated as an architectural conservation district to make sure that future developments continue to be woven into this successful fabric by design.

6 URBAN DESIGN GUIDELINES / recommendations

Constraints:

1. Port Norfolk has an existing over utilized land use and street pattern. The proposed development is too ambitious to fit within this context and not negatively impact the ACEC and neighborhoods

2. The original land use pattern was based on the 19th century needs to have water access and for housing to be close to employment. No plans or room to expand housing into the Waterfront services zone

3. Current seaport industrial uses require large tracts of land for containers, trucks, water access require specialized docking and receiving facilities. This is not Northern Avenue nor access route to Marina Bay complex of Quincy, Mass.

4. Break-bulk operations and deep-water access, neither of which Port Norfolk offers.

5. The expansion of the proposed site area to meet modern port requirements for a maritime use would encroach upon the residential area but may have a lesser impact on traffic patterns.

6. Similarly, the street pattern and widths (20' and 24') are 19th century in origin do not lend themselves to modification without major, undesirable neighborhood disruption and private land takings for expansion.

7. These conditions result in limited street capacity, little room for expansion and conflicts in land use, if major development of site adjacent to residences.

8. Regional transportation systems isolate and bisect the neighborhood.

9. The Boston Gas tank looms over the close horizon (loaded with natural gas)

10. The development parcel is in a Waterfront services zone WS 1: as such uses in this zone are to be water dependent uses, subject to CH. 91 the only use proposed that is water dependent is the Marina, the plan for the marina is under review and is acknowledged

11. Based on a preliminary analysis the existing housing density vs. the proposed new housing density is estimated that currently there is a total of 185* dwelling units on the peninsula and the proposed development of 150 housing units and 25 hotel units for a total of 175 new dwelling units effectively doubles the # of residences with no upgrading of the existing street capacity, new traffic conditions. Public safety access problems and utility infrastructure age and notwithstanding the proposed restaurant and expansion of the marina.

<u>Opportunities</u>

1. The original existing wood-frame, low -rise housing has architectural and Historic significance has been maintained and relatively intact.

2. Much of the Port Norfolk housing stock was built prior to 1860, and Displays a diverse interesting range of 19th century styles of then contemporary Architectural fabric..

Development should follow the zoning / and urban design plan.

4. The B LS Commission Survey, recommended that Port Norfolk be designated as an Architectural Conservation District. This fact was recognized in new zoning for area adopted in 1992 by a designation as an Architectural Overlay district.

5. Landmark buildings from the Nail factory / Lawley shipyard remain intact that could set the pattern and scale for design of new buildings! There are in the site area, buildings of the first industrial era that have been reused, **the shipyards lofting area has been exceptionally well redesigned and rebuilt;** this reuse is an example of the intent to integrate the industrial site back to the neighborhood scale and mass and the Lawley offices bldg. (Seymour ice cream)

6 The current site plan appears to be driven by the proponents attempt to meet Ch. 91 compliance., the site plan should be secondary to the architectural vision for this site. The open space component of the plan would be better served allowing the buildings to be where they should be in relation to the urban design goals. The fact that the peninsula is uniquely served with open spaces totaling approximate 36% , throughout the port lessens the importance of open space for the peninsula and to not create a new destination by accident or design creating worse traffic conditions

7. Irrespective of such designation, recognition of the neighborhood's architectural heritage should guide adjacent development. BRA plan.

8. Protection and enhancement of the existing housing stock is highly desirable, as in maintenance of the predominant height and density and general character and scale of the proposed new buildings.

Urban Design Guidelines

1. Mitigate the negative impacts that non-residential activity might have on existing housing.

2. Discourage new or expanded non-water related uses on waterfront parcels.

3. Preserve the scale and quality of the existing residential area.
Please see additional guidelines on pages 1 and 2 attached. And sketches E1 and E2

Moving forward: next possible steps

These wharfs and this site are no less important to the city of Boston than the wharves of the rest of the City. This is an important project in our city's history. The BRA plan recognized this ***when these regulations and zoning were approved in 1992 and*** *remain the law today.*

Having illustrated the history of our neighborhood and the rationale for its planning guidelines, it is suggested that the development team may express their understanding and acceptance of the long-standing BRA Plan and make a statement on their vision and commitment to the plans and the long existent community objectives for new development! It is hoped that the new buildings be beautiful additions to Dorchester's /Boston shores and reflect the history of the milieu dating back to 1600s as sites of the establishment of the nation's first commercial / residential waterfronts along the Harbor Park integrated shores.

Architectural suggestions for future development discussions

1. The new designs, should in the writer's opinion be woven into this existing residential fabric and not treated as an isolated element as is presently shown.

The development should be modelled on the existing character of the neighborhood and from waterfront neighborhood community's waterfronts elsewhere in Boston and New England. New buildings should be sensitive to traditional building forms, views long and short, vistas , scale, heights, massing, and materials and relate to the waterfront and narrow local street patterns.

22.9

The PNCA residents' concerns focus on preserving the historic residential character and architectonics of the Dorchester waterfront and on better utilizing the waterfront for water dependent and public uses. The density of the existing housing is high use and will be impacted heavily by the proposed high density uses: case in point, based on a preliminary analysis of plan that effectively doubles the # of residences on the peninsula with no upgrading of the in and out daily access, street capacity and utility infrastructure not including additional traffic of the proposed and existing restaurants and expansion of the marina.

2. The new plan should not wall itself off from the neighborhood further isolating the community from the waterfront .

The proponent would add 3 new buildings of 8 stories in a presently compatible site of all structures; further visual connections back to residential neighborhood need to be made sincerely; presently and proposed effectively walls off the neighborhood visually and physically with barriers and the incompatible new structures clashing with the scale and character of the existing port neighborhood.

22.10

Also, the following impact problems need to be considered:

The Southeast expressways retaining walls and constant drones and hello traffic are an unwelcome neighbor and a wall!

The MBTA red line and commuter tracks divide our neighborhood and present another wall of nuisance noise etc.

The current and historical route of airplane traffic that flies directly over in flight path to Logan airport.

3. The development team may consider hosting a charrette with the Port Norfolk Civic Committee to assist in creating a proponent / civic assn. vision to encourage and mitigate the proposed development in the neighborhood.

It is suggested that the proponent may engage an independent experienced design team with proven expertise in historic preservation in waterfront building and site design to conduct this charrette: as the current site and buildings plans appear to be driven and dictated by the proponents attempt to meet Ch. 91 compliance With proposed non-zoning nor water dependent non-compliant buildings in the water dependent zone.

22.11

There needs to be a balance between profit driven enterprise and impacts on existing resident's property rights and general overwhelming negative environmental impacts. The results of the Charrette may uncover a viable plan that may not please all, but may be agreeable to most.!

Hopefully, this process may lead to come to a design that is fluidly compatible with defining how new elements and structures not conflict with this historic neighborhood!

With the information that has been presented to date by the proponents of this plan, there is no concrete evidence that serious attention has been paid to the zoning laws and design guidelines that address the long-standing development guidelines that are the goals of our community and I find that the plan as presented has very negative impacts on the peninsula while providing new useable tangible benefits. I do say that I intend, in good faith, to work with the proponents to develop a viable plan for this site.

It is disturbing to myself and other residents of the city whose site doesn't abut nor inhabit the historic shores and places along the freedom trail of downtown, yet, this site is no less historically important and worthy of landmark protections than those downtown historic districts as they exist. Port Norfolk and Commercial point developed contextually and were in the same time line of the founding of the City of Boston and equally this waterfront should be recognized for its unique historical context.

Dorchester and the Port Norfolk site. deserves no less!

Thank you for this opportunity to comment on this project.

Edward Roche, AIA Resident

Honorable Mayor Martin Walsh
Honorable Governor Charles Baker
Honorable Congressman Stephen Lynch
Honorable Congressman Michael Capuano

Honorable City of Boston Councilor Frank Baker
Honorable City of Boston Councilor Anissa Essabi George
Honorable City of Boston Councilor Ayanna Pressley
Honorable City of Boston Councilor Michelle Wu President
Honorable City of Boston Councilor Michael Flaherty

Honorable Senator Linda Forry

Honorable Representative Daniel Hunt
Honorable Representative Daniel Cullinane
Honorable Representative Nick Costello

Honorable Director Brian Golden Boston Planning and Development
Project Manager Tim Czerwinski Boston **Planning and Development**

David Carlson, Senior Architect / Executive Director
Boston Civic Design Commission

Honorable Members of Boston Civic Design Commission. c/o Mr. David Carlson

Ms. Deneen Crosby ASLA
Mr. Michael Davis FAIA, LEED, Co-Vice Chair
Ms. Linda Eastley AICP
Mr. David Hacin FAIA
Ms. Andrea Leers AIA
Mr. David Manfredi FAIA
Mr. Paul F. McDonough Esquire, Co-Vice Chair
Mr. William L. Rawn FAIA LEED AP
Mr. Daniel St. Clair AIA
Mr. Kirk Sykes AIA
Ms. Lynn Wolff FASLA

Timeline port Norfolk Boston an island in the city. Understanding the Context (A residents perspective)

8084 AD reports of settlements by Native Americans blue hills Neponset river and islands. "king's handbook of Boston Harbor" .1

Pine Neck aka Port Norfolk Peninsula, 8000 ad till 1830s surrounded by water, "pine neck" similar geography / landform to present day Thompson island same topography, soil mases, landscape materials.

900 to 1100 ad: reports of Portuguese fisher's discovery of the "secret fishing grounds" east shore Atlantic Ocean of North America. The cod

Circa 1480 ad or so, king of England's map of north. America depicts area from what is now North Carolina to Canadas farthest eastern reaches is called" Dorchestershire ".

1492 Columbus discovers Americas

1620 pilgrims arrive in Plymouth

Spring 1621, Ship Mary and John visit Dorchester bay @ Savin Hill; erect camp /fort at Savin hill woods Movement over Massachusetts into Boston and beyond

General settlement of Boston development of this era.

1775Bonner/ Pelham maps environs created 1775

Revolutionary war Mill Street Dorchester fortifications on hill (still evident) cannons protection of Dorchester bay / town of Dorchester

1840 Old Colony Railroad comes in 1840s connecting cape cod to city of Boston

Industrial and residential development began interesting patterns as industrialist built homes next to lumber yards and shipyards and misc. factories. Recognized livability potential of the peninsula. Place to live and work.

1845 Luther Briggs, Dorchester architect, lays out what is now Port Norfolk street system and infrastructure and designs/constructs several homes in period architectural styles to establish fabric and context of present day port. Designed home, built in March – October months of 1856 long Italianate row along walnut St. block

1860 -64 American civil war / industrial growth / in this war. Lumber, steel, supplies ……. growth of industrial operations at present site from Ericson St. Note: scale of buildings generally same scale / heights of existing residential buildings Putnam nail factory.

1859 -1874 present day street layout was complete.

1872 -3 Town of Dorchester Annexed to City of Boston

1910 bridge built over water street connecting port to Neponset circle.

1880 -1940 sustained growth, depression, WW 2. Americas cup Columbia built in 1920s Lawley yard. / Oriole rescued

1940 – 1948 WW 2, lumber and shipyards in the river and port were booming, immigration of carpenters, shipwrights from New England, Scotland ships in summer and industrial buildings in winter Growth of Lawley ship works, incorporated nail factory into shipyard operations.

1942 WW2 our home converted to 9 room, rooming house through1950s house workers in the port.

1950 population of Dorchester was 230,000 people today 120,000

1952 Old colony rail line closes cuts port off

1953 Old Colony Parkway (now Wm T Morrissey Blvd) opens cuts port off

1952-1960 construction of southeast expressway – cuts port Norfolk again off from city.

1950s through 1970s Boston was, like most of northeast USA was a depressed city economically.

1960 s exodus from city, south shore and beyond.

(1969 photo drive in dump.)

Most lumber yards, industry, ship yard closes.

1970s decline in city services in port, paper, later hazardous material transfer station / plant moves in.

1980 huge fire, flames rising over 150 ft. in the air , at hazardous mat plant explodes closes port, our oldest son was 2 mos. Old

City is lethargic, no support to address what happened here, Dorchester neighborhoods mobilize &support efforts of Residents to fight fire dangers transfer station.

City councilors, Flynn, O'Neill, Langone, Sansone join our efforts.

1983 Ray Flynn elected mayor, paper company haz-mat closes, BRA director Steve Coyle tours Port Norfolk, orders zoning analysis, zoning board creates IPOD.

1984 master Harbor Park plan is created. Harbor walk guidelines project begins. BRA under director Stephen Coyle commissions Port Norfolk neighborhood plan and IPOD initiative.

1990 -92 Neighborhood plan approved by Mayor Flynn and Zoning commission, BRA – New zoning for port Norfolk and Dorchester has been made law of the city of Boston and the Commonwealth.

1988 current park created from haz mat site as envisioned by Port Norfolk neighborhood , city government, legislature, John and Maria Lyons on site of Shaffer Paper. Governor Charlie Baker, Mayor Martin Walsh ', Rep. Dan Hunt, Sen. Linda Forry and Congressman Stephen Lynch open Finnegan Park May 2017 joined by former elected officials Sen Paul White, Sen Jack Hart, Representative James Brett and Representative Tom Finneran (60% of the Neighborhood leaders of the 70s and 80s are no longer with us. Rip. Thank you all for your help in preserving our neighborhood.

Matthew A.
Beaton

August 9, 2017

Secretary of Energy and Environmental Affairs

Executive Office of Energy and Environmental Affairs (EEA)

Attn: MEPA Office

Alex Strysky, EEA No15728, Neponset Wharf Project

100 Cambridge Street, Suite 900

Boston MA 02114

E-mail MEPA: Alex Strysky: alexander.strysky@state.ma.us

Dear Secretary Beaton,

This letter is in response to the Environmental Filing, (EEA No. 15728), for the Neponset Wharf Project by City Point Capital. I am strongly opposed to the Neponset Wharf project for the following reasons: 23.1

I oppose the idea of taking away the View of Boston, the size and use of Port Norfolk Neighborhood there is only 1 way in and out more traffic [illegible] sewage to an old sewer system, also cause erosion of Tenan Beach, Bridge will destroy Pine Neck Creek. Also View

Helen OConnor
156 Belmont St #10
Brockton Ma 02301
508 510 -6880
617 733 5518

Matthew A.
Beaton

August 9, 2017

Secretary of Energy and Environmental Affairs

Executive Office of Energy and Environmental Affairs (EEA)

RECEIVED
AUG 16 2017
MEPA

Attn: MEPA Office

Alex Strysky, EEA No15728, Neponset Wharf Project

100 Cambridge Street, Suite 900

Boston MA 02114

E-mail MEPA: Alex Strysky: alexander.strysky@state.ma.us

Dear Secretary Beaton,

This letter is in response to the Environmental Filing, (EEA No. 15728), for the Neponset Wharf Project by City Point Capital. I am strongly opposed to the Neponset Wharf project for the following reasons:

1) Project will overhelm the Port Norfolk Neighborhood & Dorchester waterfront. Changes character & quite seaside neigborhood to overhyped destination. Doubles existing population, Straining infrastructure & utilities. 24.1

2) Seewage Issue - 1,245 to 27,956 gallons/day increase to an old, already problematic Sewer System will cause more backup into homes 24.2

3) Traffic Issue - 1,500 cars a day trough small neigborhood is unacceptable. The only way in & out is through Morrissey Boulevard which is already to access. The Proposed Project provides only 185 parking spots for 150 units, average family uses 2 cars = 300+parking spots needed. 24.3

4) Noise & vibrations due to construction & tracks will impact neigborhood & ACEC wildlife. 24.4

5/ The project design is incompatible with HISTORIC Port Norfolk Neighborhood homes & building & natural ACEC area.

24.5

Thank you,

Jolanta Bialek

JOLANTA BIALEK
182 Walnut St.
Dorchester, MA 02122
jolanta_bialek@hotmail.com

Strysky, Alexander (EEA)

From: fkodzis@juno.com
Sent: Sunday, July 30, 2017 6:11 PM
To: Strysky, Alexander (EEA)
Cc: jjljdcpa@aol.com
Subject: Comment letter on Enviromental impact to Port Norfolk Neponset Wharf

Dear Mr. Strysky
I have given considerable thought to the meeting on July 24, 2017 concerning the Neponset Wharf project. There are serious environmental impacts to the neighborhood that should be mitigated by the developer prior to any approval of your agency.

First; The traffic generated by this project is clearly a major obstacle, not only for the egress from the property into the neighborhood but the environmental impact of water run off into the bay from the excess vehicles on the small property. A solution is to limit the amount of cars onto the property. I highly recommend that your agency request from the developer a separate independent traffic engineer to review all traffic plans submitted by the developer. This would ensure the confidence of the neighborhood in accurate data. A development of this scale should automatically require a third party study. 25.1

Second; The history of this parcel of land dates back to the early 19th century where it was used as a nail manufacture and boat building. Both industries used hazardous material to produce their product. It has been used as a boat yard repair service going back as far as I can remember for 60 years. This service also produces hazardous waste. At the very minimum your agency should require sampling of the soil in all parts of the parcel. Not requiring this would be considered a serious fault. The new Finnagan park that was just open on the south side of Port Norfolk had this requirement. It would be imperative that the developers are held to the same standard. 25.2

I implore the MEPA to sustain any approval of this project until these concerns are address with adequate and reasonable solutions to both your agency and the neighborhood..
Thank you kindly
Frank Kodzis
157 Walnut Street
Port Norfolk

Matthew A. Beaton

Secretary of Energy and Environmental Affairs

Executive Office of Energy and Environmental Affairs (EEA)

Attn: MEPA Office

Alex Strysky, EEA No152728, Neponset Wharf Project

100 Cambridge St., Suite 900

Boston, MA 02114

E-mail MEPA: Alex Strysky: alexander.strysky@state.ma.us

Dear Secretary Beaton;

This letter is in response to the Environmental Filing, (EEA NO. 15728), for the Neponset Wharf Project by City Point Capital. We are strongly opposed to the Neponset Wharf project for the following reasons:

Traffic and Parking

This project almost doubles our population of Port Norfolk. The impact on traffic would be unbearable. As a peninsula, we have only two ways to exit. Almost every street in the neighborhood except at the diamond is one way traffic at peak travel times. Walnut St., Redfield St., Lawley St., Rice St., Woodworth St., and Lorenzo St. two cars cannot pass each other at peak times and one must pull over in the hard to find spaces on the side of the rode. Often on Woodworth hill one should remain at top or bottom of hill if another car is on the street because with all the parked cars there is no space to pull over. 26.1

To exit out by the beach is going to become more difficult with the changes being made with the suggested Morrisey Blvd. project and the loss of turn around across from Phillips Candy house. We will no longer have quick access to the Expressway heading South. Going North the traffic on the future two lane Morrisey Blvd. during school season will back up to the beach.

With the traffic comes the problems of parking. The project is asking for way too many units and not enough parking spaces. The overflow would then park on our 26.2

already too congested streets. We do not want to be another South Boston driving around to find a parking space. Our section of Walnut St., the middle section, every night has 2-3 cars parked illegally on the sidewalks. How will emergency vehicles be able to get by. This has been a problem before this project was even in the picture. 26.2

During construction, the large vehicles bringing product in and out is also concerning. Any car wishing to use the street would have to wait for the vehicle to go the by. 26.3

Water and Sewer

As one of the oldest sections of Dorchester we have great concerns if the infrastructure can support a project of this size. 26.4

Building and Construction

We are on the water and with all the construction the worry of a rodent problem is disconcerting. 26.5

Hotel

More traffic! More parking issues. With two hotels within two city blocks from Tenean Beach and one just over the bridge at the other end of the Port is it necessary? 26.6

Height

In our area, most of buildings are residential. The maximum height is four floors and they are rare most are only two. The buildings suggested do not conform to the neighborhood aesthetics. 26.7

Green Space * Optional Projects

We have plenty of open space with Finnegan Park, Tenean Beach, playground, tennis courts and basketball courts and kayak launch at the Granite Ave end of park. This will only cause more traffic for our streets. Hotels, restaurants, active marina will make it a destination place for people outside of Port Norfolk and no parking for them again causing them to be parking on our congested streets. 26.8

I have noticed an increase of birds in the last decade or so with the cleaner water. Will the height of the building influence migrating birds? 26.9

These buildings will also block the city view. 26.9

Dredging and Marina

Our neighborhood has had many environmental issues over the decades and we don't want more. Dredging will bring out the PCB's which will impact local fish and wildlife. 26.10

Foot & Bike Path Bridge

I loved this idea originally but it would just become a distant parking lot for the residents and visitors of the new development. 26.11

Thank you for taking these thoughts into consideration.

Sincerely,

Freda Manning

James Manning Sr.

Jeremiah Manning and

James Manning Jr.

97 Walnut St.

Dorchester, MA 02122

Email: manningsat97@gmail.com

Jamoat97@gmail.com

Jerry.mannn@gmail.com

Jimmymannin@gmai.com

-

Hon. Mathew A. Beaton, Secretary
Executive Office of Energy and Environmental Affairs
100 Cambridge Street
Boston, MA 02114
c/o Alex Strysky MEPA Project Manager.

Re: Port Norfolk Proposed Development Neponset Wharf
Ericsson St. Dorchester Waterfront 02122
Public Comments MEPA review.

Dear Secretary Beaton:

I am writing to express my concerns of the Ericsson St. Project. It is my opinion that "The Project", as now proposed, will have a negative impact on the quality of life for all Port Norfolk residents; will have a negative environmental impact on the existing tidelands and wetlands; and will negative impact on the history and future of Port Norfolk itself.

The Quality of Life: The existing infrastructure of Port Norfolk, particularly the antiquated sewerage system and the existing narrow streets are barely capable of handling the today's demand of use. Some of my neighbors are currently experiencing sewerage backups. "The Project", as now proposed, would nearly double the number of residential units in Port Norfolk. Could existing sewerage backups turn into future raw sewerage spillage into Dorchester Bay/Tenean Beach? I would rather not take that gamble. "The Project", as now proposed, would potentially more than double the number of vehicles in out of Port Norfolk. 27.1

When I leave for work in the morning, I drive down Walnut St., yield and turn left onto Ericsson St, stop at the corner of Lawley St. and inch my way around the corner. If there is a vehicle already on Lawley St., I wait for the approaching vehicle to pass me to Ericsson St before I drive down Lawley St. Usually, there are cars parked most of the length of the street. I find it safer to let traffic pass before I drive the length of the street. Not all drivers, especially those not accustomed to driving the streets of Port Norfolk, are as courteous as I am. I do not desire to see the streets of Port Norfolk turned into demolition derby.

Environmental Impacts: The peninsula of Port Norfolk, according to neighbors who know more than me, is part of an ACEC. "The Project", as now proposed, will further encroach on the area of critical environmental concern, and would create more potential environmental concerns, such as raw sewerage spills previously mentioned; the scale of "The Project", as now proposed, because of its height and massing, would affect the surrounding areas, including Tenean Beach and Pine Creek. 27.2

The History and Future of Port Norfolk: "The Project", as now proposed, in my opinion, is insensitive to the history of Port Norfolk. The scale and massing of the project does not fit into the fabric and history of Port Norfolk. If the developer does not learn from the history, the future will be dim. The residents of Port Norfolk deserve better than a few boxes falling out of the sky and landing on the peninsula of Port Norfolk. 27.3

Mr. Beaton, these are a just few of my thoughts and concerns regarding "The Project". I am sure you will be receiving other comments, some more in depth, and some including experiences of my neighbors in Port Norfolk. Port Norfolk is a great neighborhood with great neighbors. We watch out for each other. We need your help to watch out for us.

Sincerely,

Joseph P. McDermott
158 Walnut Street unit 2 rear
Dorchester, MA 02122
josmcdermott@yahoo.com

Matthew A.
Beaton

August 9, 2017

Secretary of Energy and Environmental Affairs

Executive Office of Energy and Environmental Affairs (EEA)

Attn: MEPA Office

Alex Strysky, EEA No15728, Neponset Wharf Project

100 Cambridge Street, Suite 900

Boston MA 02114

E-mail MEPA: Alex Strysky: alexander.strysky@state.ma.us

Dear Secretary Beaton,

This letter is in response to the Environmental Filing, (EEA No. 15728), for the Neponset Wharf Project by City Point Capital. I am strongly opposed to the Neponset Wharf project for the following reasons:

28.1 The impact these buildings / structures will have on this neighborhood will not benefit the current residents of Port Norfolk. The traffic is already a nightmare on the weekends!

28.2 From the beach perspective this will hurt the current structure of this tiny quaint beach, ruining city views + causing more pollution. We do NOT NEED this

Noon Flyr
146 Walnut St
Dorchester MA 02122

Matthew A.
Beaton

August 9, 2017

Secretary of Energy and Environmental Affairs

Executive Office of Energy and Environmental Affairs (EEA)

Attn: MEPA Office

Alex Strysky, EEA No15728, Neponset Wharf Project

100 Cambridge Street, Suite 900

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E-mail MEPA: Alex Strysky: alexander.strysky@state.ma.us

Dear Secretary Beaton,

This letter is in response to the Environmental Filing, (EEA No. 15728), for the Neponset Wharf Project by City Point Capital. I am strongly opposed to the Neponset Wharf project for the following reasons:

Too Many People and Cars..
We Moved here in 1960 Bought our home in 1969. and still have the same Tenants. We do not Want 1500 Cars Per day. It is hard now to get to where we Want to go by Car and Walking Can be a Problem with the Cars

29.1

Sheila T Malon

Ideas for Comment Letter **When you sign your letter, you should add your address and email**

Size, Scope and Use - Project will overwhelm the Port Norfolk Neighborhood and Dorchester Waterfront. Changes character from quite seaside neighborhood to overhyped destination. Doubles existing population, straining infrastructure and utilities. Will harm Neponset River Area of Critical Environmental Concern, ACEC.

Design – Incompatible with historic Port Norfolk Neighborhood homes and buildings and natural ACEC area.

Traffic and Parking- 1,500 cars a day through small neighborhood streets unacceptable, only way in and out is through Morrissey Boulevard, already difficult to access. Only providing 185 parking spots.

Height – Two 86ft high buildings and other massive buildings, will block view of sky dome and ocean from Tenean Beach, Rt 93, Dorchester Neighborhoods, Venezia Harborwalk and block ocean breeze onto Tenean Beach. Will block birds moving back and forth between Squantum point Park and Pine Neck Creek and Migratory Birds. Will add shade to Pine Neck Creek and Tenean Beach, changing temperature of water, impacting wildlife and humans.

Sewage – 1,245 to 27,956 Gallons/day increase to an old, already problematic sewer system will cause more backup into homes.

Dredging and Marina - They have not found a previous dredging permit. What will be maintenance - what will be improvement? Resuming large amount of dredging in now ACEC area will impact adjoining shellfish beds, mudflats, marshes, Tenean Beach and the wildlife that feeds and nests there by covering them with mud and PCBs. Deep dredging across from Tenean Beach could cause erosion of beach. More boats, more pollution. Presently only about 15-20 boats on site.

Fence Removal across from Tenean Beach – Increased wave action could cause erosion of Tenean Beach.

Bridge – Will destroy marshes at Pine Neck Creek and would serve as ancillary parking for a private development. Will take up spaces of beach goers. Destroys popular Dorchester artist's spot.

Open space, Public view - Much of open space unusable, under buildings, next to buildings. Best view, next to Venezia, reserved for private use. Public view is of Xway and LNG tank. 40% of Port Norfolk already open space.

Construction – Noise and vibrations due to construction and trucks will impact neighborhood and ACEC wildlife.

Ideas for Comment Letter **When you sign your letter, you should add your address and email**

Size, Scope and Use - Project will overwhelm the Port Norfolk Neighborhood and Dorchester Waterfront. Changes character from quite seaside neighborhood to overhyped destination. Doubles existing population, straining infrastructure and utilities. Will harm Neponset River Area of Critical Environmental Concern, ACEC.

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Matthew A.
Beaton

August 9, 2017

Secretary of Energy and Environmental Affairs

Executive Office of Energy and Environmental Affairs (EEA)

Attn: MEPA Office

Alex Strysky, EEA No15728, Neponset Wharf Project

100 Cambridge Street, Suite 900

Boston MA 02114

E-mail MEPA: Alex Strysky: alexander.strysky@state.ma.us

Dear Secretary Beaton,

This letter is in response to the Environmental Filing, (EEA No. 15728), for the Neponset Wharf Project by City Point Capital. I am strongly opposed to the Neponset Wharf project for the following reasons:

an already problematic sewer system will cause more backup into homes. - 30.1

The traffic is bad enough this project will create more traffic only way in & out is through Morrisey Blvd which is already difficult to access. Not enough parking. 30.2

Also, the project will overwhelm the Port Norfolk Neighborhood & Dorchester Waterfront. 30.3

Jari Winick
20 Madrid Square #5
Brockton, MA 02301

August 14, 2017

Susan Roche
158 Walnut Street
Dorchester, Massachusetts 02122

Hon. Mathew A. Beaton , Secretary
Executive Office of Energy and Environmental Affairs
100 Cambridge Street
Boston, MA 02114
c/o Alex Strysky MEPA Project Manager .

Re: Port Norfolk Proposed Development Neponset Wharf
Ericson St. Dorchester Waterfront 02122
Public Comments MEPA review.

Dear Secretary Beaton,

Thank you for the opportunity to submit comments regarding the Neponset Wharf project in the Port Norfolk neighborhood of Dorchester.

First, I would like to say that I personally welcome development to the area in question. It has long been neglected, and the opportunity to develop and enhance the property would be beneficial to the neighborhood. However, this project is very concerning for many reasons that I would like to state.

1. Construction: How will the developers handle construction equipment? During each meeting, I have asked that question, without receiving an answer. Port Norfolk is comprised of three very narrow streets, which can be challenging to enter and egress on a good day let alone a day with snow or heavy traffic from the Venezia Restaurant, adjacent to the property in question. We really can't face bulldozers and dump trucks every time we try to go to work in morning. A question that has been asked several times is in regard to first responders. What will happen when fire, police or ambulances are called during the construction process? 31.1
2. Overall design of the project: The overall design of the property is completely out of context with the neighborhood. The buildings have nothing to do with the overall architecture of the neighborhood and appears to have been designed by someone who has never seen Port Norfolk and quite frankly, does not care about the aesthetics of the neighborhood. We do not need a dog park, and we do not need a playground. This should not be a destination with the traffic that comes with that. We have those at Tenean Beach; honestly those so called amenities were meant as appeasements for the 31.2

neighborhood. While I am not an architect, I do understand the importance of a cohesive neighborhood in relation to architecture. If the project in question were redesigned in to more appropriately fit into the neighborhood it would be welcomed. 31.2

3. Traffic: I understand this issue has been raised several times. But I would like to reiterate that concern. Currently , we have an overabundance of traffic in the neighborhood, especially on the weekends. I would like to express my deep concern about the excessive speed in which non-residents travel down these already jammed, narrow streets. We have young children exiting Finnegan Park and drivers speeding down Walnut Street appear to have little regard for the safety of children or other residents of Port Norfolk. With that in mind, having an addition of a 25-room hotel, 150 new townhomes is extremely troubling and overwhelming . Marinas and . Hotels are 24/7 businesses, our neighborhood cannot possibly accommodate that kind of traffic. You can see the effects of hotel traffic in downtown Boston, what kind of effect will that have on a small neighborhood with only three narrow streets? 31.3

I want, again, to express my appreciation for this opportunity to state concerns for this Project. Again, while I am not opposed to development; the presented size and scope of the Neponset Wharf project and impact is not conducive to the Port Norfolk neighborhood. I would welcome a redesign that included more appropriate architecture, absent a hotel, restarant and destination type facilities such as dog parks.

I feel this development is not realistically respectful of the site and the neighborhood and is overwhelming to our small streets and creates another barrier between the water and the residents. Never in its 150 year history has seen a project as overwhelming, out of scale as this ! These concerns have been raised several times with the developers, and each time, none of the very specific questions asked have been answered.

Thank you for your time and attention to this matter.

Sincerely,

Susan Roche
158 Walnut St.
Dorchester, MA 02122

Impacted property owner and resident

CC: Councilor Frank Baker

Tim Czerwinski BPDA

Appendix I: BPDA Comment Letters

BOSTON REDEVELOPMENT AUTHORITY
D/B/A BOSTON PLANNING & DEVELOPMENT AGENCY

SCOPING DETERMINATION
24 ERICSSON STREET

SUBMISSION REQUIREMENTS
FOR DRAFT PROJECT IMPACT REPORT ("DPIR")

PROPOSED PROJECT:	24 ERICSSON STREET (NEPONSET WHARF)
PROJECT SITE:	7.6 ACRE SITE BOUNDED BY EXISTING BUILDINGS, THE NEPONSET RIVER, AND PINE NECK CREEK, DORCHESTER
PROPONENT:	CPC ERICSSON STREET, LLC
DATE:	JANUARY 12, 2018

The Boston Redevelopment Authority ("BRA"), d/b/a the Boston Planning & Development Agency ("BPDA") is issuing this Scoping Determination pursuant to Section 80B-5 of the Boston Zoning Code ("Code"), in response to a Project Notification Form ("PNF"), which City Point Capital (the "Proponent") filed on June 30, 2017 for the proposed 24 Ericsson Street project (the "Proposed Project"). Notice of the receipt by the BPDA of the PNF was published in the Boston Herald on June 30, 2017, which initiated a public comment period with a closing date of September 8, 2017. Pursuant to Section 80A-2 of the Code, the PNF was sent to the City's public agencies/departments and elected officials on June 30, 2017. Hard copies of the PNF were also sent to all of the Impact Advisory Group ("IAG") members. The initial public comment period was subsequently extended until October 1, 2017, through mutual consent between the BPDA and the Proponent to allow more time for the general public to provide comments and feedback.

On May 26, 2017, the Proponent filed a Letter of Intent ("LOI") in accordance with the Mayor's Executive Order Regarding Provision of Mitigation by Development Projects in Boston for the redevelopment of the site off Ericsson Street in the Dorchester neighborhood of Boston.

On May 30, 2017, letters soliciting nominations to the IAG for the proposed project were delivered to City Councilor Frank Baker, State Senator Linda Dorcena Forry, and State

Representative Daniel Hunt. Additional letters seeking recommendations were delivered to the Office of Neighborhood Services and the City Councilors at large.

The letters sought nominations or recommendations to the IAG by June 6, 2017. Councilor Baker responded with two (2); Senator Forry responded with two (2); Councilor Essaibi-George responded with two (2); Councilor Flaherty responded with one (1); and the Office of Neighborhood Services responded with two (2). On June 7, 2017, letters were sent confirming that the remaining elected officials declined to make nominations.

Nine (9) individuals were nominated and appointed to the IAG and have been invited to participate in advising BPDA staff on the Proposed Project's possible impacts and appropriate mitigation.

The following is a list of the IAG members:

1. Jason Berry
2. John Lyons
3. Maria Lyons
4. Kathy Mahoney
5. Jennifer Maloney McCarthy
6. Mary McCarthy
7. Ed Roche
8. John Rudicus
9. Ben Tankle

The BPDA appreciates the efforts of the IAG and the members should be applauded for their commitment to the review of the Proposed Project.

Pursuant to Section 80B5.3 of the Code, a Scoping Session was held on July 26, 2017 with the City of Boston's public agencies/departments at which time the Proposed Project was reviewed and discussed. IAG members were also invited to attend the Scoping Session.

A BPDA-sponsored publicly advertised meeting was conducted on August 9, 2017 at the Port Norfolk Yacht Club at 179 Walnut Street. IAG meetings were held on July 26, 2017 and on September 28, 2017 at the Port Norfolk Yacht Club.

Included in the Scoping Determination are written comments that were received by the BPDA in response to the PNF, from BPDA staff, public agencies/departments, elected officials, the general public, and IAG members. All of which are included in **Appendices A and B must be answered in their entirety.**

Appendix A includes written comments from BPDA staff, public agencies/departments, and elected officials.

Specifically, they are:

- BPDA Transportation, Urban Design, and Planning Departments
- BPDA Climate Change and Environmental Planning Department
- John P. Sullivan: Boston Water and Sewer Commission

Public comments received by the BPDA during the comment period are included in **Appendix B.**

The Scoping Determination requests information that the BPDA requires for its review of the Proposed Project in connection with Article 80 of the Code, Development Review and Approval, and other applicable sections of the Code.

In addition to the specific submission requirements outlined in the sections below, the following points are highlighted for additional emphasis and consideration:

- Throughout this initial phase of review, the Proponent has taken steps to meet with community members, elected officials, abutters, and various City agencies/departments. Regular conversations and meetings with all interested parties must continue through the duration of the public review process, ensuring that what is presented in the DPIR is beneficial to the respective neighborhood and the City of Boston as a whole.

- It is clear in reading through the comment letters that the Proposed Project has generated concern in the neighborhood. While some letters acknowledge the benefits of some type of redevelopment on the site, numerous letters request that additional studies occur in order to evaluate the potential impacts of this project, as well as the potential benefits. The BPDA encourages the Proponent to continue to work with those parties, including the IAG and community members, who have expressed concern, in order to minimize and mitigate the Proposed Project's impacts.

- The general public along with the IAG have expressed concerns with respect to the overall density of the project and related impacts. The BPDA encourages the Proponent to continue to work with the community to address the concerns regarding density.

- During the initial review process, residents and other stakeholders raised concerns about the Proposed Project's effect on the Neponset Estuary Area of Critical Environmental Concern (ACEC). The BPDA shares these concerns, and encourages

the Proponent to continue to work with the various stakeholders and to keep the sensitivity of the ACEC in mind as the design of the Proposed Project evolves.

- The BPDA encourages the Proponent to continue to work with the Boston Police Department ("BPD") and Boston Fire Department ("BFD") to review and address the community's concerns regarding the impacts that this proposal will have on the existing capacity of these departments' facilities and staff, as well as access to the Project Site, should a project move forward.

- The Proponent must work with the Boston Transportation Department ("BTD") to address concerns regarding site access, circulation of traffic in and around the Proposed Project site, potential traffic impacts, and appropriate mitigation.

- The BPDA encourages the Proponent to continue to engage the IAG and community to provide new public open space that addresses the needs and goals of the overall community and provides meaningful connections to existing open space and environmental resources.

- All development projects have construction impacts. As with any urban development, there needs to be a balance of construction related inconveniences with the daily activities that will continue to occur adjacent to the Proposed Project site. A detailed approach to the construction management must be included in the DPIR.

- The Proponent must take into account all BPDA approved and under review proposals nearby in the Dorchester neighborhood, scheduled infrastructure improvements in the general area, and nearby large scale developments in the City of Boston while conducting the DPIR's required studies (transportation, infrastructure, open space, etc.).

- The Proponent must clearly describe the overall demolition and phasing of the Proposed Project. The buildings to be demolished and constructed in each phase of the Proposed Project should be specified along with an anticipated timeline for each phase. The BPDA acknowledges that project timelines are subject to change due to market conditions and other factors.

I. PROJECT SITE

The Project Site encompasses approximately 7.6 acres—3.6 acres of developed land and four (4) acres of watersheet—located at 24 Ericsson Street, along the Neponset River and Pine Neck Creek, in the Port Norfolk section of Boston's Dorchester neighborhood. The Project Site is bounded to the north by the Neponset River, to the east by an existing

restaurant/function facility (Venezia), to the south and southeast by existing buildings, including the historic Putnam Nail Company buildings (now Boston Harbor Distillery), and to the west by Pine Neck Creek. The site is accessible from Ericsson Street by easements on either side to the Putnam Nail Company buildings.

II. PROJECT DESCRIPTION

The Proposed Project, as described in the PNF, consists of 307,000 square feet of development, including 150 condominium units, 4,000 square of restaurant space, and a 25-room hotel. Existing landside boat storage and service facilities will be renovated and consolidated from 71,300 square feet to 23,000 square feet, while maintain a capacity of approximately 75 vessels. Approximately 185 structured parking spaces will be provided. The Proponent seeks to create approximately two (2) acres of new landscaped open space, including 28,000 square feet of publicly accessible Harborwalk, a public fishing pier, facilities for kayak launching and storage, and a marina support building.

III. PREAMBLE

The Proposed Project is being reviewed pursuant to Article 80, Development Review and Approval, which sets forth a comprehensive procedure for project review of the following components: transportation, environmental protection, urban design, historic resources, infrastructure systems, site plan, tidelands, and Development Impact Project applicability. The Proponent is required to prepare and submit to the BPDA a Draft Project Impact Report ("DPIR") that meets the requirements of the Scoping Determination by detailing the Proposed Project's impacts and proposed measures to mitigate, limit or minimize such impacts. The DPIR shall contain the information necessary to meet the specifications of Section 80B-3 (Scope of Large Project Review; Content of Reports) and Section 80B-4 (Standards for Large Project Review Approval), as required by the Scoping Determination. After submitting the DPIR, the Proponent shall publish notice of such submittal as required by Section 80A-2. Pursuant to Section 80B-4(c) (i) (3), the BPDA shall issue a written Preliminary Adequacy Determination ("PAD") within ninety (90) days. Public comments, including the comments of public agencies, shall be transmitted in writing to the BPDA no later than fifteen (15) days prior to the date by which the BPDA must issue its PAD. The PAD shall indicate the additional steps, if any, necessary for the Proponent to satisfy the requirements of the Scoping Determination. If the BPDA determines that the DPIR adequately describes the Proposed Project's impacts and, if appropriate, propose measures to mitigate, limit or minimize such impacts, the PAD will announce such a determination and that the requirements of further review are waived pursuant to Section 80B-5.4(c) (iv). Section 80B-6 requires the Director of the BPDA to issue a Certification of Compliance indicating the successful completion of the Article 80 development review requirements before the Commissioner of Inspectional Services can issue any building permit for the Proposed Project.

IV. REVIEW/SUBMISSION REQUIREMENTS

In addition to full-size scale drawings, ten (10) copies of a bound booklet and an electronic copy (PDF format) containing all submission materials reduced to size 8-1/2" x 11", except where otherwise specified, are required. The booklet should be printed on both sides of the page. Bound booklets should be mailed directly to all of the IAG members. A copy of this Scoping Determination should be included in the booklet for reference. The electronic copy should be submitted to the BPDA via the following website: https://attachments.bostonredevelopmentauthority.org/

A. General Information

1. Applicant/Proponent Information

   a. Development Team
      (1) Names
         (a) Proponent (including description of development entity and type of corporation, and the principals thereof)
         (b) Attorney
         (c) Project consultants and architect(s)
      (2) Business address, telephone number, FAX number and e-mail, where available for each
      (3) Designated contact person for each

   SD.1

   b. Legal Information
      (1) Legal judgements or actions pending concerning the Proposed Project
      (2) History of tax arrears on property owned in Boston by Applicant
      (3) Evidence of site control over project area, including current ownership and purchase options, if any, for all parcels in the Proposed Project, all restrictive covenants and contractual restrictions affecting the Proponent's right or ability to accomplish the Proposed Project, and the nature of the agreements for securing parcels not owned by the Applicant.
      (4) Nature and extent of any and all public easements into, through, or surrounding the site.

   SD.2

2. Project Area

   a. An area map identifying the location of the Proposed Project

   SD.3

b. Description of metes and bounds of project area or certified survey of the project area.
c. Current zoning

SD.3

3. Project Description and Alternatives

a. The DPIR shall contain a full description of the Proposed Project and its components, including its size, physical characteristics, development schedule, costs, and proposed uses. This section of the DPIR shall also present analysis of the development context of the Proposed Project. Appropriate site and building plans to clearly illustrate the Proposed Project shall be required.

SD.4

b. A description of alternatives to the Proposed Project that were considered shall be presented and primary differences among the alternatives, particularly as they may affect environmental and traffic/transportation conditions, shall be discussed.

SD.5

4. Public Benefits

a. Anticipated employment levels including the following:
   (1) Estimated number of construction jobs
   (2) Estimated number of permanent jobs
b. Current and/or future activities and programs which benefit the host neighborhood, adjacent neighborhoods of Boston and the city at large, such as; child care programs, scholarships, internships, elderly services, education and job training programs, public realm/infrastructure improvements, grant programs, etc.
c. Other public benefits, if any, to be provided.

SD.6

5. Community Process

a. A list of meetings held and proposed with interested parties, including public agencies, abutters, elected officials, businesses, and community groups.

SD.7

b. Names and addresses of project area owners, abutters, and any community or business groups which, in the opinion of the applicant, may be substantially interested in or affected by the Proposed Project.

SD.8

B. REGULATORY CONTROLS AND PERMITS

An updated listing of all anticipated permits or approvals required from other municipal, state or federal agencies, including a proposed application schedule shall be included in the DPIR. SD.9

A statement on the applicability of the Massachusetts Environmental Policy Act ("MEPA") should be provided. If the Proposed Project is subject to MEPA, all required documentation should be provided to the BPDA, including, but not limited to, a copy of the Environmental Notification Form, decisions of the Secretary of Environmental Affairs, and the proposed schedule for coordination with BPDA procedures. SD.10

C. TRANSPORTATION COMPONENT

In addition to the information required to meet the specifications of Section 80B-3 and Section 80B-4 of the Code, the Proponent must also refer to the BTD "Transportation Access Plan Guidelines" in preparing its studies.

The Proponent must address the comments outlined by the BPDA's Transportation, Urban Design and Planning Departments, included in **Appendix A**. SD.11

Proposed transportation network and infrastructure improvements/mitigation in the impacted area should also be listed and explained in this component.

D. ENVIRONMENTAL PROTECTION COMPONENT

The DPIR must address the comments of the BPDA Climate Change and Environmental Planning Department, included in **Appendix A** and must include the most up to date documents required by the Article 37/ Interagency Green Building Committee ("IGBC"). SD.12

The DPIR should include the most up to date Article 37 Interagency Green Building Committee ("IGBC") documentation.

E. URBAN DESIGN COMPONENT

In addition to the information required to meet the specifications of Section 80B-3 and Section 80B-4 of the Code, the Proponent must address the comments outlined by the BPDA's Transportation, Urban Design and Planning Departments, included in **Appendix A**. SD.13

F. INFRASTRUCTURE SYSTEMS COMPONENT

An infrastructure impact analysis must be performed. The Proponent should continue to work with the City of Boston Public Works Department ("PWD"), Boston Water and Sewer SD.14

Commission ("BWSC"), and the Boston Groundwater Trust ("BGWT") (if applicable) on infrastructure impacts.

The standard scope for infrastructure analysis is outlined in the comment letter submitted by John P. Sullivan, Chief Engineer and Operations Officer, BWSC, submitted to the BPDA on June 30, 2017, included in **Appendix A**. SD.14

Any proposed or anticipated infrastructure improvements/mitigation in and around the Project Site should also be listed and explained in this component.

G. PUBLIC NOTICE

The Proponent will be responsible for preparing and publishing in one or more newspapers of general circulation in the City of Boston a public notice of the submission of the DPIR to the BPDA as required by Section 80A-2. This notice shall be published within five (5) days of the receipt of the DPIR by the BPDA. Therefore, public comments shall be transmitted to the BPDA within seventy five (75) days of the publication of the notice. A draft of the public notice must be submitted to the BPDA for review prior to publication. A sample of the public notice is attached as **Appendix C**. SD.15

Following publication of the public notice, the Proponent shall submit to the BPDA a copy of the published notice together with the date of publication.

H. INCLUSIONARY DEVELOPMENT POLICY/AFFORDABLE HOUSING COMPONENT

The Proposed Project must comply with the Mayor's Executive Order regarding the Inclusionary Development Policy ("IDP") executed on December 10, 2015 ("IDP"). The DPIR should include the approximate number of IDP or income restricted units to be created, the incomes of the households, and the anticipated unit mix. SD.16

I. ACCESSIBILITY CHECKLIST

As part of the DPIR, the Proponent must include an up to date and completed Article 80 Accessibility Checklist for the Proposed Project. An Accessibility Checklist is attached as **Appendix D**. SD.17

APPENDIX A

COMMENTS FROM BPDA STAFF, PUBLIC AGENCIES/DEPARTMENTS AND ELECTED OFFICIALS

TO: Tim Czerwienski, Project Manager
FROM: BPDA Urban Design and Planning Staff
SUBJECT: Neponset Wharf Redevelopment
24 Ericsson Street, Dorchester
Expanded Project Notification Form
Scoping Determination Comments

PLANNING & ZONING

Overview

Any proposed development on the peninsula of Port Norfolk should take great care to enhance the overall livability of the neighborhood. New development should respect the existing residential fabric; improve the climate resilience and environmental sustainability of the neighborhood; and provide access that connects the neighborhood to the local and regional transportation network.

The geography of Port Norfolk is unique, as a large portion of the neighborhood is situated on a peninsula within the Neponset River. As a result, there are several opportunities and challenges to development on the proposed project site.

Land Use and Open Space

A great deal of the neighborhood is characterized by its existing residential fabric, mostly made up of single-family and two-family homes. In addition, there are industrial uses, marina uses, as well as limited restaurant and entertainment uses. The proposed uses under consideration are mostly compatible with the existing neighborhood fabric but the proponent should consider how to best scale the residential uses so that they respect the existing residential fabric and unique architectural character of Port Norfolk. In addition, the proponent should consider whether the hotel uses are truly compatible with the neighborhood. The proponent should explore ways for the supportive retail, entertainment, and marina uses to be more of a neighborhood asset. SD.18

The project site itself presents a unique opportunity for the open space of the site to not only be a considerable recreational amenity but also a strategy to strengthen the climate resiliency of the neighborhood. The proponent should also be sure to design the open space so that it strengthens the relationship of the project and neighborhood to the waterfront. SD.19

Community Feedback

It is imperative that the Proponent continues to actively engage the community and consider the larger planning and development impacts to the neighborhood. SD.20

TRANSPORTATION

Peak hour analysis of the "gateway" intersections on Morrissey Boulevard is needed, including the following:

- Walnut Street at Morrissey Boulevard
- Redfield Street at Morrissey Boulevard
- Redfield Street at Woodworth Street
- Freeport Street at Morrissey Boulevard
- Tenean Street at Morrissey Boulevard

SD.21

The analysis should reflect the distribution of trips in and out of the neighborhood based on existing traffic counts, and should include both existing and future conditions both with and without the proposed project.

Additionally, analysis should focus on evaluation of actual traffic and pedestrian operations on the neighborhood streets and intersections and identify potential improvements, informed by actual traffic volumes. Peak period data collection for this evaluation should include the following intersections:

- Lawley Street at Water Street
- Lawley Street at Ericsson Street
- Port Norfolk Street at Water Street
- Port Norfolk Street at Ericsson Street
- Walnut Street at Water Street
- Walnut Street at Ericsson Street

SD.22

Daily ATR counts should also be collected for Lawley Street, Port Norfolk Street and Walnut Street to understand the patterns of use in providing access for the neighborhood and for the "wharf" areas north of Ericsson Street.

Finally, potential improvements should be explored, including, but not be limited to, the following:

- Intersection control and potential signalization
- Potential circulation changes
- Pedestrian improvements
- Striping and signage
- "Slow Street" improvements
- Parking management
- Car sharing and bike-share
- Transit enhancement opportunities

SD.23

- TDM strategies

SD.23

The proponent should consider access changes to minimize impacts on local streets. Could the Lawley Street access drive be one-way in and the Port Norfolk access drive be one way out? This would create a "circuit breaker" condition at Port Norfolk Street which is the street with the most existing residences.

Alternatively, could the Lawley Street access drive be a 2-way "shared street" condition that would allow for eliminating an internal site connection to the Port Norfolk Street access drive? With the existing Venezia Restaurant traffic primarily on Walnut Street, accommodating the new traffic generated from the project on Lawley Street would better balance network volumes among the three streets.

SD.24

Regardless, the proponent should explore, design, and implement approved potential "Slow Streets" type interventions for existing streets to calm traffic and improve safety.

Committing to more local small-scale commercial uses that only serve the site and immediate neighborhood would help to limit new trips from outside the neighborhood.

SD.25

As discussed with the proponent, a publicly accessible shuttle service to the Red Line should be explored with the community. Several potential partners in addition to Venezia include Neponset Landing in Quincy (for service to North Quincy Station) and the hotels and associated businesses on Freeport/Tenean Streets. The proponent should analyze the feasibility of water transportation to and from the site.

SD.26

Car share (e.g. Zipcar) options on site should be evaluated. These vehicles should be available to tenants, hotel guests, and employees. Adequate space should also be provided on site for transportation network companies such as Lyft/Uber.

SD.27

URBAN DESIGN AND ARCHITECTURE

These comments are a combination of the BPDA staff and the staff's interpretation of the Boston Civic Design Commission initial review at their August hearing. The Design Review process is a continuous process that ebbs and flows; these comments are a snapshot of the process at the time of the submission. We understand that the design will and has evolved from this point and we are looking forward to further review.

At the August hearing, while the Commission was receptive of the project as a whole they had a number of concerns. They questioned the massing strategies employed. Combining the boat storage and housing uses into a single structure (Building C & D), for example, creates a large structure that is out of scale with the surrounding context. Building A, with its parking deck projecting out beyond the housing above, also creates a larger footprint that doesn't relate to the rest of the development in the area. The Building that was well-

SD.28

received was Building B. This building has a single use, a clear footprint, and is of a scale that better integrates with its surrounding buildings. There were some questions about the programing which might be contributing to the scale of the buildings. SD.28

The site plan had several comments. The commission was interested in the approach to the site and sought more information on this. They did recognize the neighborhood issue of the traffic and the path of travel to the site. There was some discussion on the balance of open space and building footprint. Other areas that need further study were views (corridors, looking from and into the site, etc.) Resiliency was the last topic discussed and the Commission was looking for more info on this. SD.29 SD.30

The DPIR should explore options that include single-use buildings with narrower footprints that have a scale that better conforms to the area. The program should be reevaluated and revised to be less of a destination but be more supportive of the existing neighborhood. Finally, the DPIR should include a revised site plan that balances building footprints with open space and takes into consideration the approach to the site, view into and from the site, view corridors, etc. SD.31 SD.32 SD.33

CLIMATE CHANGE RESILIENCY

Port Norfolk and the project site are framed by waterways and vulnerable to current and future flooding from coastal storms. To promote resilience and limit damage from coastal inundation the BPDA has recently updated its Climate Change Checklist to have project proponents address the likely impacts and risks outlined in the City's Climate Ready Boston report and related vulnerability assessment. The checklist now requires proponents to review mitigation measures to contend with 40-inches of sea level rise during a 2070 1% chance storm event, with an additional foot of freeboard for all structures and two feet of freeboard for critical uses and mechanical systems. The top of water elevation for such an event in the Port Norfolk district would be approximately 19.7 feet Boston City Base (BCB). The proponent has indicated that they will establish a finish floor elevation of 21-feet BCB in FEMA AE Zones and 25-feet BCB in the FEMA VE zone. The checklist freeboard elevations of 20.7 and 21.7 BCB are within the general range of what is proposed. The proponent should also explore extending site elevations to those datum, as over time the coastal storm inundation elevation will become more frequent high-tide elevation with sea level rise. Marina infrastructure should be designed to meet or exceed the 25-feet elevation in the FEMA Velocity Zone to ensure docks and ramps can withstand storm surge. If the wave attenuator is maintained around the marina those elevation datum should also be considered. SD.34 SD.35

The project will also be subject to the state's Chapter 91 Waterways Regulations. It is our understanding the project will conform with the non-water dependent dimensional and use standards of the regulations. New publically accessible open space areas must be designed to read intuitively to the surrounding community as public, not private, open SD.36

space, including view corridors to the water and access to waterside ramps and docks. A public touch-and-go dock that can serve as a water taxi pick up and drop off location should also be included as part of the project along with other public amenities along the waterfront to facilitate public use including seating, fish cleaning areas, wayfinding signage, lighting, and observation areas. Facilities of Public Accommodation should address local resident interests and needs and those of water dependent uses. All in-water work, marina rehabilitation and management should be consistent with the Neponset River Estuary Area of Critical Environmental Concern Resource Management Plan. Project stormwater management infrastructure and plant species included in the landscape plan should also be responsive and sensitive to the ACEC designation and any related performance standards.

SD.37

SD.38

SD.39

GREEN BUILDINGS

The PNF indicates that the project will use the LEED v4 BD&C New Construction rating system. Additionally, the project team should commit to:

1. Achieving a minimum green building outcome of LEED Silver and striving to achieve LEED Gold for all buildings.
2. Reducing carbon impacts by improving the performance of the all buildings with a prioritization on passive building strategies.
3. Installing solar PV on all buildings.

The IGBC accepts the rating system selection and green building commitments.

SD.40

The PNF indicates the project team's awareness of utility and state-funded energy efficiency and clean/renewable energy programs. Please engage the utilities as soon as possible and provide information on any energy efficiency assistance and support that might be afforded to the project.

SD.41

The PNF includes the parameters for a whole building energy model. To maximize benefits of building energy modeling, Preliminary Energy Modeling should be included in the schematic planning and design phases. Please provide a Preliminary Energy Model and information on how energy modeling will be integrated into the preliminary, schematic, design development, and construction document phases of project planning.

SD.42

In support of Boston's Carbon Neutral 2050 GHG goal, please include the following strategies for reducing GHG emissions:

1. Prioritize passive strategies such as improved building envelope performance by increasing building envelope air tightness and insulation.

SD.43

2. Ensure active building systems are appropriately sized for improved passive performance and cost savings are fully captured.
3. Continue to assess the feasibility of CHP. Please provide system information. Additionally the project team should analyze opportunities for on-site battery energy storage systems for reducing peak electrical loads and providing secure energy services for occupants.
4. Please provide solar PV system(s) location, size, and output information along with any related analysis.

SD.43

ENVIRONMENTAL

Wind

The Proponent has stated the Proposed Project will have a maximum height of approximately 86 feet, thus the Proponent shall not be required to conduct a quantitative (wind tunnel) analysis but, shall be required to conduct a qualitative analysis of the pedestrian level winds (PLW) conditions. The analysis shall include public and other areas of pedestrian use, including entrances to adjacent buildings, sidewalks, and pedestrian walkways adjacent to and in the vicinity of the Proposed Project, and existing and proposed open spaces in the vicinity of the Proposed Project.

SD.44

For areas where wind speeds are projected to exceed acceptable levels, measures to reduce wind speeds and to mitigate potential adverse impacts shall be identified.

Shadow

A shadow analysis shall be required for existing and build conditions for the hours 9:00 a.m., 12:00 noon, and 3:00 p.m. for the vernal equinox, summer solstice, autumnal equinox, and winter solstice and for 6:00 p.m. during the summer and autumn. It should be noted that due to time differences (daylight savings vs. standard), the autumnal equinox shadows would not be the same as the vernal equinox shadows and therefore separate shadow studies are required for the vernal and autumnal equinoxes.

SD.45

Particular attention shall be given to existing or proposed public open spaces, plazas, park areas, sidewalks, pedestrian areas and walkways, adjacent to, and in the vicinity of the Proposed Project. Design or other mitigation measures to minimize or avoid any adverse shadow impact must be identified.

The above shadow analysis shall be required for any alternative to be studied in accordance with Scoping Determination as well as the preferred development option.

Noise

The Proponent shall be required to conduct a noise assessment to analyze the potential noise impacts that may occur during construction and as well as during the subsequent

SD.46

occupancy/operation of the Proposed Project. The noise assessment shall include monitoring of the existing sound levels as well as calculations of future sound levels associated with the Proposed Project's mechanical equipment including, but not limited to exhaust fans, cooling towers and emergency generators. Additionally, an evaluation of the study area shall identify sensitive receptor locations, locations with outdoor activities, which may be sensitive to noise associated with the Proposed Project.

SD.46

The Proponent shall be required to demonstrate that the Proposed Project complies with all applicable City of Boston, Massachusetts and Federal (including Housing and Urban Development noise standards) regulations and guidelines.

Solar Glare

An evaluation of potential solar glare impact on streets, public spaces shall not be required at this time, as the Proponent has stated that the building materials will include brick, painted brick, concrete, stone, wood, metal, tile, fiber cement clapboards and panels, glass, and metal canopies, and not a facade of reflective coated glass or other highly reflective materials.

SD.47

Air Quality

The Proposed Project is subject to review under the May 5, 2010 Massachusetts Environmental Protection Agency (MEPA) Greenhouse Gas (GHG) Policy. As such the Proponent shall be required to quantify carbon dioxide (CO2) emissions and identify measures to avoid, minimize or mitigate such emissions. The analysis shall quantify the direct and indirect CO2 emissions of the Proposed Project's energy use (stationary sources) and transportation-related emissions (mobile sources). Direct emissions include on-site stationary sources and indirect emissions result from the consumption of energy, such as electricity, that is generated off-site by burning of fossil fuels, and from emissions from vehicles used by employees, vendors, customers and others.

SD.48

Hazardous Waste

The Proponent has stated that a release of oil and/or hazardous materials regulated under the M.G.L. chapter 21E, the Massachusetts Contingency Plan (MCP) has occurred at the Proposed Project site. The Proponent has further stated that the 1995 release (Release Tracking Number 3-12654) is associated with a former underground storage tank (UST) containing fuel, in particular petroleum hydrocarbons, petroleum-related constituents and non-aqueous phase liquid (NAPL). The Proponent has stated that groundwater testing results indicate that the contaminants of concern (those associated with the release) fall below the applicable MCP risk characterization standards. However, the Proponent shall be required to provide a comprehensive description of any additional assessment and/or treatment of the MCP release that has been deemed necessary to facilitate an MCP regulatory closure. Additionally, the Proponent shall be required to provide a comprehensive description of any additional assessments of the soil, sediment and

SD.49

groundwater, anticipated to be conducted prior to construction as well as measures designed to remove, treat and/or dispose of contaminated material.

SD.49

Boston Water and Sewer Commission

980 Harrison Avenue
Boston, MA 02119-2540
617-989-7000

August 10, 2017

Secretary Matthew A. Beaton
Executive Office of Energy and Environmental Affairs
Attention: MEPA Office
Alex Strysky, EEA No. 15728
100 Cambridge Street, Suite 900
Boston, MA 02114

and

Tim Czerwienski
Project Manager
Boston Planning and Development Agency
One City Hall Square
Boston, MA 02201

Re: Neponset Wharf
Environmental Notification Form/Project Notification Form

Dear Secretary Beaton and Mr. Czerwienski:

The Boston Water and Sewer Commission (Commission) has reviewed the Environmental Notification Form (ENF) and the Project Notification Form (PNF) for the proposed Neponset Wharf project located at 24 Ericsson Street in the Port Norfolk neighborhood of Boston.

The proposed project is located on an approximately 7.6 acre site along the Neponset River and Pine Neck Creek at the northernmost point of the Port Norfolk peninsula. The site currently contains a boat dealership, a marina, and supporting buildings. The project proponent, CPC Ericsson Street LLC, proposes to construct 307,000 square feet (sf) of floor area in four new buildings including a boathouse and three mixed-use buildings. The project includes the following:

- The existing marina will be reconfigured and maintenance dredging will occur, as needed.
- The existing landside storage and services areas will be consolidated from 71,300 sf to 23,000 sf.
- Three new mixed use buildings will contain 150 condominium units, 185 parking spaces, a 25-room hotel and a restaurant/café.
- An existing paved area will be replaced with approximately 2 acres of new landscaped open space, including approximately 28,000 sf of publicly accessible Harborwalk, a fishing pier, a kayak launching area, restrooms, a refreshment stand, and a support building.

The site is bounded to the north by the Neponset River, to the east by the Venezia, to the south by existing buildings and to the west by the Pine Neck Creek.

According to the ENF/PNF, the proposed water demand is 30,752 gallons per day (gpd). The Commission owns and maintains a 12-inch Southern High water main in Ericsson Street.

According to the ENF/PNF, the proposed sewage generation is 27,956 gpd. For sewage and storm drainage service, the site is served by a 12-inch sanitary sewer and a 12-inch storm drain in Ericsson Street.

The Commission has the following comments regarding the proposed project:

General

1. Prior to demolition of any buildings, all water, sewer and storm drain connections to the buildings must be cut and capped at the main pipe in accordance with the Commission's requirements. The proponent must then complete a Termination Verification Approval Form for a Demolition Permit, available from the Commission and submit the completed form to the City of Boston's Inspectional Services Department before a demolition permit will be issued. 1.1

2. All new or relocated water mains, sewers and storm drains must be designed and constructed at CPC Ericsson Street LLC's expense. They must be designed and constructed in conformance with the Commission's design standards, Water Distribution System and Sewer Use Regulations, and Requirements for Site Plans. To assure compliance with the Commission's requirements, the proponent must submit a site plan and a General Service Application to the Commission's Engineering Customer Service Department for review and approval when the design of the new water and wastewater systems and the proposed service connections to those systems are 50 percent complete. The site plan should include the locations of new, relocated and existing water mains, sewers and drains which serve the site, proposed service connections as well as water meter locations. 1.2

3. The Department of Environmental Protection (DEP), in cooperation with the Massachusetts Water Resources Authority and its member communities, is implementing a coordinated approach to flow control in the MWRA regional wastewater system, particularly the removal of extraneous clean water (e.g., infiltration/inflow (I/I)) in the system. In April of 2014, the Massachusetts DEP promulgated new regulations regarding wastewater. The Commission has a National Pollutant Discharge Elimination System (NPDES) Permit for its combined sewer overflows and is subject to these new regulations [314 CMR 12.00, section 12.04(2)(d)]. This section requires all new sewer connections with design flows exceeding 15,000 gpd to mitigate the impacts of the development by removing four gallons of infiltration and inflow (I/I) for each new gallon 1.3

of wastewater flow. In this regard, any new connection or expansion of an existing connection that exceeds 15,000 gallons per day of wastewater shall assist in the I/I reduction effort to ensure that the additional wastewater flows are offset by the removal of I/I. Currently, a minimum ratio of 4:1 for I/I removal to new wastewater flow added is used. The Commission supports the policy, and will require proponent to develop a consistent inflow reduction plan. The 4:1 requirement should be addressed at least 90 days prior to activation of water service and will be based on the estimated sewage generation provided on the project site plan. 1.3

4. The design of the project should comply with the City of Boston's Complete Streets Initiative, which requires incorporation of "green infrastructure" into street designs. Green infrastructure includes greenscapes, such as trees, shrubs, grasses and other landscape plantings, as well as rain gardens and vegetative swales, infiltration basins, and paving materials and permeable surfaces. The proponent must develop a maintenance plan for the proposed green infrastructure. For more information on the Complete Streets Initiative see the City's website at http://bostoncompletestreets.org/ 1.4

5. CPC Ericsson Street LLC should be aware that the US Environmental Protection Agency issued the Remediation General Permit (RGP) for Groundwater Remediation, Contaminated Construction Dewatering, and Miscellaneous Surface Water Discharges. If groundwater contaminated with petroleum products, for example, is encountered, CPC Ericsson Street LLC will be required to apply for a RGP to cover these discharges. 1.5

6. It is CPC Ericsson Street LLC's responsibility to evaluate the capacity of the water, sewer and storm drain systems serving the project site to determine if the systems are adequate to meet future project demands. With the site plan, CPC Ericsson Street LLC must include a detailed capacity analysis for the water, sewer and storm drain systems serving the project site, as well as an analysis of the impacts the proposed project will have on the Commission's water, sewer and storm drainage systems. 1.6

Water

1. CPC Ericsson Street LLC must provide separate estimates of peak and continuous maximum water demand for residential, commercial, industrial, irrigation of landscaped areas, and air-conditioning make-up water for the project with the site plan. Estimates should be based on full-site build-out of the proposed project. CPC Ericsson Street LLC should also provide the methodology used to estimate water demand for the proposed project. 1.7

2. CPC Ericsson Street LLC should explore opportunities for implementing water conservation measures in addition to those required by the State Plumbing Code. In particular, CPC Ericsson Street LLC should consider outdoor landscaping which requires minimal use of water to maintain. If CPC Ericsson Street LLC plans to install in-ground 1.8

sprinkler systems, the Commission recommends that timers, soil moisture indicators and rainfall sensors be installed. The use of sensor-operated faucets and toilets in common areas of buildings should be considered. 1.8

3. CPC Ericsson Street LLC is required to obtain a Hydrant Permit for use of any hydrant during the construction phase of this project. The water used from the hydrant must be metered. CPC Ericsson Street LLC should contact the Commission's Meter Department for information on and to obtain a Hydrant Permit. 1.9

4. If water service is to be provided to the proposed docks in the marina, CPC Ericsson Street LLC will be required to install cross connection control devises on the water service. CPC Ericsson Street LLC will also be required to install approved backflow prevention devices on the water services for fire protection, vehicle wash, mechanical and any irrigation systems. CPC Ericsson Street LLC is advised to consult with Mr. James Florentino, Manager of Engineering Code Enforcement, with regards to backflow prevention. 1.10

5. The Commission is utilizing a Fixed Radio Meter Reading System to obtain water meter readings. For new water meters, the Commission will provide a Meter Transmitter Unit (MTU) and connect the device to the meter. For information regarding the installation of MTUs, CPC Ericsson Street LLC should contact the Commission's Meter Department. 1.11

Sewage / Drainage

1. In conjunction with the Site Plan and the General Service Application CPC Ericsson Street LLC will be required to submit a Stormwater Pollution Prevention Plan. The plan must:

   - Identify specific best management measures for controlling erosion and preventing the discharge of sediment, contaminated stormwater or construction debris to the Commission's drainage system when construction is underway.

   - Include a site map which shows, at a minimum, existing drainage patterns and areas used for storage or treatment of contaminated soils, groundwater or stormwater, and the location of major control structures or treatment structures to be utilized during the construction. 1.12

   - Specifically identify how the project will comply with the Department of Environmental Protection's Performance Standards for Stormwater Management both during construction and after construction is complete.

2. Developers of projects involving disturbances of land of one acre or more will be required to obtain an NPDES General Permit for Construction from the Environmental 1.13

Protection Agency and the Massachusetts Department of Environmental Protection. CPC Ericsson Street LLC is responsible for determining if such a permit is required and for obtaining the permit. If such a permit is required, it is required that a copy of the permit and any pollution prevention plan prepared pursuant to the permit be provided to the Commission's Engineering Services Department, prior to the commencement of construction. The pollution prevention plan submitted pursuant to a NPDES Permit may be submitted in place of the pollution prevention plan required by the Commission provided the Plan addresses the same components identified in item 1 above. 1.13

3. The Commission encourages CPC Ericsson Street LLC to explore additional opportunities for protecting stormwater quality on site by minimizing sanding and the use of deicing chemicals, pesticides, and fertilizers. 1.14

4. The discharge of dewatering drainage to a sanitary sewer is prohibited by the Commission. CPC Ericsson Street LLC is advised that the discharge of any dewatering drainage to the storm drainage system requires a Drainage Discharge Permit from the Commission. If the dewatering drainage is contaminated with petroleum products, CPC Ericsson Street LLC will be required to obtain a Remediation General Permit from the Environmental Protection Agency (EPA) for the discharge. 1.15

5. CPC Ericsson Street LLC must fully investigate methods for retaining stormwater on-site before the Commission will consider a request to discharge stormwater to the Commission's system. The site plan should indicate how storm drainage from roof drains will be handled and the feasibility of retaining their stormwater discharge on-site. Under no circumstances will stormwater be allowed to discharge to a sanitary sewer. 1.16

6. The Massachusetts Department of Environmental Protection (MassDEP) established Stormwater Management Standards. The standards address water quality, water quantity and recharge. In addition to Commission standards, CPC Ericsson Street LLC will be required to meet MassDEP Stormwater Management Standards. 1.17

7. If pump-out stations are to be constructed for the new slips, the wastewater from the pump-out station must be discharged to a sanitary sewer. CPC Ericsson Street LLC is advised to consult with Mr. Phil Larocque, Site Plan Engineer, with regard to connecting the pump-out station to a sanitary sewer. 1.18

8. Sanitary sewage must be kept separate from stormwater and separate sanitary sewer and storm drain service connections must be provided. The Commission requires that existing stormwater and sanitary sewer service connections, which are to be re-used by the proposed project, be dye tested to confirm they are connected to the appropriate system. 1.19

9. The Commission requests that CPC Ericsson Street LLC install a permanent casting stating "Don't Dump: Drains to Boston Harbor" next to any catch basin created or modified as part of this project. CPC Ericsson Street LLC should contact the Commission's Operations Division for information regarding the purchase of the castings. 1.20

10. If a cafeteria or food service facility is built as part of this project, grease traps will be required in accordance with the Commission's Sewer Use Regulations. CPC Ericsson Street LLC is advised to consult with the Commission's Operations Department with regards to grease traps. 1.21

11. The enclosed floors of a parking garage must drain through oil separators into the sewer system in accordance with the Commission's Sewer Use Regulations. The Commission's Requirements for Site Plans, available by contacting the Engineering Services Department, include requirements for separators. 1.22

12. The Commission requires installation of particle separators on all new parking lots greater than 7,500 square feet in size. If it is determined that it is not possible to infiltrate all of the runoff from the new parking lot, the Commission will require the installation of a particle separator or a standard Type 5 catch basin with an outlet tee for the parking lot. Specifications for particle separators are provided in the Commission's requirements for Site Plans. 1.23

Thank you for the opportunity to comment on this project.

Yours truly,

John P. Sullivan, P.E.
Chief Engineer

JPS/afh

C: Ryan Sillery, CPC Ericsson Street LLC
M. Connolly, MWRA via e-mail
M. Zlody, BED via e-mail
P. Larocque, BWSC via e-mail

Martin J. Walsh
Mayor

Article 37 Interagency Green Building Committee

January 11, 2018

Ryan P. Sillery
CPC Ericsson Street LLC
300 A Street
Boston, MA 02210

Re: 24 Ericsson Street – Zoning Article 37 Green Building Compliance

Dear Mr. Sillery,

The Boston Interagency Green Building Committee (IGBC) has reviewed the Notice of Project Change (PNF) submitted in conjunction with this project for compliance with Boston Zoning Article 37 Green Buildings.

The PNF indicates that the project will use the LEED v4 BD&C New Construction rating system. Additionally, the project team has committed to:

1. Achieving a minimum green building outcome of LEED Silver and striving to achieve LEED Gold for all buildings.
2. Reducing carbon impacts by improving the performance of the all buildings with a prioritization on passive building strategies.
3. Installing solar PV on all buildings.

2.1

The IGBC accepts the rating system selection and green building commitments.

The PNF indicates the project team's awareness of utility and state-funded energy efficiency and clean/renewable energy programs; please engage the utilities as soon as possible. Please provide information on any energy efficiency assistance and support that might be afforded to the project.

2.2

The PNF includes the parameters for a whole building energy model but no actual model. Please provide a Preliminary Energy Model and information on how energy modeling will be integrated into the preliminary, schematic, design development, and construction document phases of project planning.

2.3

In support of Boston's Carbon Neutral 2050 GHG goal, please include the following strategies for reducing GHG emissions:

2.4

- Prioritize passive strategies such as improved building envelope performance by increasing building envelope air tightness and insulation.
- Ensure active building systems are appropriately sized for improved passive performance and cost savings are fully captured.
- Continue to assess the feasibility of CHP. Please provide system information. Additionally the project team should analyze opportunities for on-site battery energy storage systems for reducing peak electrical loads and providing secure energy services for occupants.
- Please provide solar PV system(s) location, size, and output information along with any related analysis.
- Review and ensure compliance with Boston's Bicycle Parking Guidelines.

2.4

Please follow up with your BPDA Project Manager in responding to IGBC comments and provision of the requested information and items.

Consider utilizing LEED for Campus to document compliance of common prerequisites and credits. The Design Green Building Report can be common for all three buildings provided building unique conditions are identified and a LEED Checklist is provided for each building. If the projects ends up being phased beyond one year or if there are substantive program or design revisions, the project team should provide an updated Article 37 filing to support the concurrent green building, climate change resiliency, and urban design review of each building.

2.5

Please check the Article 37 Green Building and Climate Resiliency Guidelines page for updated information. In order to demonstrate compliance with Zoning Article 37, the following documents must be submitted to your BPDA Project Manager and the IGBC for review and approval:

- Design / Building Permit Green Building Report, including an update LEED Checklist, final building energy model, and supporting information as need to demonstrate how each prerequisite and credit will be achieved.
- An Excel (.xls) version of the updated LEED Checklist.
- Updated Climate Change Checklist (please note that new Climate Change Checklist was approved in October 2017 and should be used for your next filing).
- Signed Design Affidavit.

2.6

Please let me know if you have any questions or if I can be of any assistance.

Sincerely,

John Dalzell, AIA, LEED Fellow
On behalf of the Interagency Green Building Committee

Cc: Tim Czerwienski, BPDA Project Manager
IGBC

neponset river
WATERSHED ASSOCIATION
1967-2017 Celebrating 50 years

August 15, 2017

Mathew A. Beaton, Secretary
Executive Office of Energy and Environmental Affairs
100 Cambridge Street, Suite 900 (9th Floor)
Attn: MEPA Office
Boston, MA 02114

Brian Golden, Director
Boston Planning and Redevelopment Agency
One City Hall Square
Boston, MA 02201

Via email to Alexander.Strysky@ma.us.gov and Tim.Czerwienski@boston.gov

RE: MEPA File No. 15728—ENF for Neponset Wharf, 24 Ericsson Street, Boston, MA 02122 and Article 80 PNF 2017-6-30—24 Ericsson Street, Boston, MA 02122

Dear Secretary Beaton and Mr. Golden:

The Neponset River Watershed Association (NepRWA) submits the following comments on the environmental notification form under review for the proposed Neponset Wharf mixed use complex on Ericsson Street in Dorchester and on the Article 80 PNF 2017-6-30. NepRWA is a nonprofit conservation organization working to clean up and protect the Neponset River, its tributaries and surrounding watershed lands.

We are generally supportive of redevelopment projects, such as Neponset Wharf and particularly those that will benefit the community and improve existing degraded environmental conditions without creating any adverse impacts to the local environment. However, due to the scale of the proposed project (construction of 150 residential units, boutique hotel, restaurant and retail, and improved marina), we ask that the Proponent be required to submit a Draft Environmental Impact Report (DEIR)/Draft Project Impact Report (DPIR) that will take into account the negative and positive impacts to the local environment and remaining wildlife habitat, wetlands and water resources, and public access to these resources.

2173 Washington Street, Canton, MA 02021
781.575.0354 | staff@neponset.org | www.neponset.org

Neponset River Estuary is a Massachusetts Area of Critical Environmental Concern (ACEC) and redevelopment projects touching on the area must take extra care to support the goals of the ACEC resource management plan (RMP).

Neponset Wharf is located in the ACEC. The Massachusetts Areas of Critical Environmental Concern program is designed to promote the long-term preservation, management, and use of natural and cultural resources that have been determined to be of regional, state, or national significance. The Neponset River Estuary comprises approximately 1,300 acres and includes one of the two major remaining salt marshes in Boston Harbor, along with fisheries and wildlife habitat, active and passive recreation amenities, historic and anthropological sites, and beautiful natural and urban vistas. Urban development in the area has degraded these resources, elevating the need to restore and protect the area.

The Neponset River Estuary ACEC RMP aims not just to preserve but also to improve the water quality of the estuary, and any redevelopment project in the area must incorporate measures to further that goal.

Among the goals of the Neponset Estuary ACEC RMP is to protect and improve water quality conditions in order to meet, or **where possible exceed**,[1] state water quality standards. Additional goals include restoring fisheries and wildlife habitat (including shellfish beds), supporting biological diversity, and encouraging appropriate land and water uses that benefit the public and are compatible with sound resource protection and management.[2] Notwithstanding these laudable goals, the Neponset Estuary does not yet meet required water quality standards for its fishable/swimmable classification. The RMP identifies "inadequately designed and constructed stormwater measures" and inappropriate development as causes of the poor water quality and threats to the resources of the ACEC and to public health and safety.[3] Thus, any development or redevelopment within the estuary must be conducted carefully and must implement best management practices **to improve** water quality. 3.1

The proponent's ENF/PNF lacks sufficient detail to determine whether the project will adequately protect and improve the estuary.

The Proponent has proposed a project that includes four new residential buildings, two of which would be 85 feet tall. Included within those buildings would be 150 residential units, a boutique hotel, a restaurant and 185 parking spaces. The project also includes renovation of the existing marina, including dredging, and the establishment of a harbor walk and landscaped open space. Additionally, the proposal contemplates a pedestrian bridge over Pine Neck Creek to Tenean Beach.

[1] MA EXEC. OFFICE OF ENVIRON. AFFAIRS, NEPONSET RIVER ESTUARY AREA OF CRITICAL ENVIRONMENTAL CONCERN RESOURCE MANAGEMENT PLAN, 11 (1996).
[2] *Id.*
[3] *Id.* at 25-26 (1996).

The scope of the project presented in the ENF/PNF may not accurately describe the Proponent's plans to redevelop in the area, and, therefore, may not take into account the most effective mitigation measures and public access features.

At the outset, NepRWA and the Port Norfolk residents would like to know how the property under consideration relates to the ownership and potential future development of adjoining properties. The Boston Globe reported earlier this year that the Proponent has secured the rights to purchase other property adjoining (or at least in the same vicinity) as the instant property in order to develop them in the future as "a sequel of sorts to the current project."[4] 301 CMR 11.01(2)(c) requires a Proponent to consider the **entirety** of a project, and prohibits a Proponent from segmenting a project to curtail MEPA review. Since there appear to be property rights and plans to redevelop more than the parcel under consideration in the current ENF/PNF, a legitimate concern is that the project may have been segmented, which significantly affects consideration of the environmental and community impacts of the project as a whole, as well as potential alternatives and mitigation that should be considered. The approved scope of the instant proposal may well be replicated on other parcels, amplifying the effect on the existing neighborhood. Thus, the Proponent should detail their future plans for adjoining properties to ensure a complete review. 3.2

A major source of water pollution in the estuary is stormwater runoff, and the Project must implement the most effective BMPs for this particular site.

The Massachusetts Stormwater Handbook establishes that where the Massachusetts Department of Environmental Protection (DEP) has issued a Total Maximum Daily Load (TMDL) for a pollutant other than Total Suspended Solids (TSS), the Proponent must propose stormwater BMPs consistent with the TMDL.[5] The Commonwealth has issued TMDLs for the Neponset River requiring the reduction of fecal coliform and e. coli[6] (a major source of which is stormwater runoff in the estuary).[7] In addition, the project's proximity to a public swimming beach makes efforts to reduce bacteria in stormwater runoff even more imperative. The Proponent must detail in the DEIR/DPIR the specific BMPs that will be included in the project, how they are consistent with the TMDL and how they will improve existing stormwater runoff conditions.[8] Moreover, given the ACEC RMP aims to improve water quality in the estuary, the DEIR/DPIR should include a detailed evaluation of potential stormwater BMPs at the site that would fully meet the Massachusetts stormwater standards by treating the first inch of runoff from the site, consistent with the TMDL and good practice regarding nutrient removal. 3.3

[4] Jon Chesto, *Developer hopes to tap into Dorchester's Port Norfolk*, BOSTON GLOBE (February 24, 2017).
[5] MA DEP'T ENVIRON. PROTECTION, MASSACHUSETTS STORMWATER HANDBOOK, Vol. 1, ch. 2, 12-13 (2008) [hereinafter STORMWATER HANDBOOK].
[6] MA DEP'T ENVIRON. PROTECTION, TOTAL MAXIMUM DAILY LOADS OF BACTERIA FOR NEPONSET RIVER BASIN (2002); MA DEP'T ENVIRON. PROTECTION, ADDENDUM: TOTAL MAXIMUM DAILY LOADS OF BACTERIA FOR NEPONSET RIVER BASIN (2012).
[7] MA DEP'T ENVIRON. PROTECTION, TOTAL MAXIMUM DAILY LOADS OF BACTERIA FOR NEPONSET RIVER BASIN, 30 (2002)
[8] STORMWATER HANDBOOK, Vol. 1, Ch. 1, 10 note 15 (2008) (*citing id.* at Vol. 1 ch. 2, 12-13).

We recommend that at least the first inch of runoff from all impervious surfaces (including pavement, walkways and rooftops) on the site should be treated using one of the following practices:

- Surface or subsurface infiltration practices including porous pavement (subject to verification that soils on the site are not contaminated);
- Low impact development techniques including bio-retention and tree filter boxes;
- Surface or subsurface filtration practices such as sand filters; or
- Measures that retain and/or evaporate water from the site to reduce the frequency and volume of polluted stormwater runoff leaving the site, including, but not limited to, green roofs and on-site rain water capture and irrigation/grey water reuse.

3.4

Additionally, the DEIR/DPIR should detail efforts to minimize stormwater pollutants on site. Specifically, the Proponent should detail:

- The configuration of commercial dumpsters kept on site for residential buildings, hotel, restaurant and other structures which ideally should be kept indoors or under roof cover;
- How waste from the proposed dog park will be regularly cleared to prevent runoff contamination; and
- Measures that will be undertaken to educate residents and maintenance/operations staff about the problem of stormwater pollution and appropriate O&M procedures.

3.5

The Proponent should clarify plans to manage pollution associated with marina use.

The DEIR/DPIR should include detailed examination of pollution control measures that will be implemented in the marina. Specifically, the Proponent should:

- Commit to provide a holding tank pump out facility which is accessible to both slip owners and the public;
- Detail measures to prevent pollution from boat maintenance (preferably by keeping these activities under cover); and
- Describe other measures that will be used to minimize the impact of marina activities, such as a program that will be used to educate slip owners and operation and maintenance staff about pollution prevention practices.

3.6

The Proponent should describe the plan to achieve maximum water conservation through both indoor and outdoor water uses.

The Proponent has indicated the project will use low-flow plumbing fixtures for water closets and faucets, including EPA WaterSense labeled fixtures for all toilets, urinals, faucets, and showerheads. We would urge the Proponent go beyond compliance with the relatively weak WaterSense standards and specify toilets that comply with the MaP Premium standard, urinals that use 0.25 GPF or less, lavatory faucets that use 1.0 GPM and showerheads that use 1.5 GPM. The Proponent should also ensure that all laundry equipment used in the project has a water factor of 4.0 or less. A variety of readily available products meet these criteria at prices comparable to conventional fixtures.

3.7

The Proponent has indicated that the landscaping and open space areas will not require irrigation, but rather will rely on native and adaptive plant species. The DEIR/DPIR should explore this in more detail.

3.8

The Proponent must ensure meaningful access to the shoreline.

The ENF/DNF describes enhancements to public access, including a Harborwalk, kayak rentals/boat storage and new open space. The DEIR/DPIR should further detail plans to ensure meaningful access by the public—including affordability of access to recreational opportunities. The Proponent should explore offering free kayak/canoe storage, and other no-cost public amenities to ensure the proposed access truly is meaningful. Furthermore, will members of the public be able to launch their own canoes and kayaks and/or utilize fishing pier and the dog park? The DEIR/DPIR should clarify which areas of the proposed open space would be open to the public and discuss what provision is being made for parking to ensure that the public has the ability to access the waterfront in practice. The Proponent should also clarify installation of signage, clearly delineating publicly accessible areas and permitted activities. 3.9

The DEIR/DPIR should also explore alternative approaches to the design of the open space and public access facilities. One long standing need in the Neponset River and adjoining communities to the north and south is for a publicly accessible boat ramp for trailer access. Additional scenarios to be considered for the open space would be alternative layouts that would accommodate a more naturalized shoreline over a larger portion of the site (see discussion of living shoreline below) that would enhance both habitat value and aesthetics of the existing armored shoreline, and structuring pervious spaces at the outer edges, closest to the water. Additionally, continuous access (along a boardwalk or other path) along the shoreline should clearly be laid out. 3.10

Finally the DEIR/DPIR should further describe the proposed use of the commercial space which is shown at the end of the wharf, and how this space relates to requirements regarding facilities of public accommodation. 3.11

The proponent should explore and detail potential pedestrian access from the project site to Tenean Beach.

The ENF/PNF identifies the potential for a pedestrian bridge over Pine Neck Creek to Tenean Beach, creating access between the beach and finished project. At a conceptual level, any measure to increase pedestrian and/or bicycle routes is appealing, however, the ENF/PNF lacks sufficient detail to meaningfully evaluate this proposal. The DEIR/DPIR should include a detailed analysis of such a bridge, including where the abutments would be located at the beach, and the impact on wildlife habitat, water quality, etc. Additionally, as discussed further below, the neighborhood has legitimate concerns about the adequacy of the proposed parking given limited access to transit options and therefore the Proponent should examine anticipated effects on public parking and beach access should the beach parking lot become an accessory lot to the finished project site and its amenities. 3.12

The proponent should explore and detail issues around improvement dredging.

Plans provided in the ENF/PNF appear to indicate that the proposed piers and marina will extend slightly farther west and north that the existing marina and the area highlighted as representing previous dredging. The DEIR/DPIR should further describe issues around maintenance vs. improvement dredging as well as sediment contamination in the context of proposed dredging. 3.13

The Proponent should better detail the project's climate change resiliency and explore alternatives to open space and shoreline engineering.

The Proponent has gone to great lengths to describe the project as implementing strategies to make it resilient to rising sea levels and extreme weather events, but the ENF/PNF lacks sufficient detail to evaluate the adequacy of those strategies. For example, while the Proponent describes elevating occupiable spaces, it does not identify the current elevation of the site, and and how potentially large grade changes will affect the sites relationship with the water. Additional considerations should include, examination of whether the site will become an island during large storms and whether emergency egress will be maintained, as well as the ability of sewer and drain infrastructure. The ENF/PNF should therefore include existing and proposed grading plans, showing proposed facilities, Wetlands Act and Chapter 91 jurisdiction and tidal and flood elevations. Flood elevations should be shown for the neighborhood as a whole. Finally, the DEIR/DPIR should describe in more detail the strategies the Proponent plans to employ to ensure the project complies with the city's Climate Change Resiliency and Preparedness Policy, beyond measures designed to accommodate rising sea levels. 3.14

The Proponent should also examine alternatives to shoreline design. At present, the shoreline of the site comprises a seawall, dumped-stone revetment, and sheet-pile bulkhead. The project proposal anticipates a park-like open space area close to the western and northern shoreline while maintaining the seawall. The Proponents acknowledge a goal of fitting with the "decades-long planning and open space development" efforts of both the city and state; efforts which include rehabilitating "waterfront edges and bringing back the natural environment that existed before industrial development blocked public access."[9] The Proponent should explore alternatives to the current proposal that include engineering techniques to create a living shoreline, which may better serve climate resiliency and estuary health. Such techniques are currently being considered and implemented in other local development projects.[10] 3.15

The Proponent must further detail the project's impact on abutting neighborhood.

While the Proponent assures the state and city through the ENF/PNF that the project will result in a "substantial net benefit to the community" and that they have worked closely with the community to ensure this, it is unclear that they have actually done so in a meaningful way. The DEIR/DPIR must closely examine and detail the impact of the project on the safety and quality of life of the abutting neighborhood, including the project's impact on traffic, access to the waterfront, increased noise, and residents' enjoyment of the water and skyline. 3.16

During the MEPA site visit, it was evident that many in the community do not believe the Proponent has actually listened to their concerns about the scale and scope of the project, its effect on future development of adjoining parcels, and its impact on the character of the neighborhood. In particular, there exist legitimate concerns that given the lack of convenient transit access and presumed affluence of most of the residential occupants, the project anticipates

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[9] CITYPOINT CAPITAL, NEPONSET WHARF ENVIRONMENTAL NOTIFICATION FORM/PROJECT NOTIFICATION FORM, 1-4 (June 2017)

[10] *E.g., see* Seth Daniel, *Wynn Begins Working on Living Shoreline, but What Is a Living Shoreline?*, EVERETT INDEPENDENT (July 14, 2017); FORT POINT ASSOCIATES, INC., Clippership Wharf, *available at* http://www.fpa-inc.com/projects/Waterfront/clippership-wharf.html; BOSTON CIVIC DESIGN COMMISSION, HODGE BOILER WORKS PROJECT, July 11, 2017 Meeting Minutes, *available at* http://www.bostonplans.org/getattachment/f15081cc-c54d-4f65-91d3-64ccd14502b5.

inadequate parking, which will overflow to the neighborhood (or Tenean Beach, should a pedestrian walkway be constructed over Pine Neck Creek). Community members have expressed concerns about increased water usage, and sewage generation given existing sewer capacity problems in the area in the form of past sanitary sewer overflows into homes. Traffic flow to and from the site via narrow neighborhood streets is another concern, as are those regarding the visual and neighborhood character impact of developing such tall buildings in proximity to a cohesive neighborhood of low rise buildings, using a pallet of materials that bears no seeming relationship to buildings in the existing neighborhood. All of these neighborhood concerns seem particularly relevant in light of the potential segmentation of this project from redevelopment of the adjoining property as mentioned above. 3.16

The Proponent should consider additional efforts to work with the community to explore alternatives to both the project and mitigation efforts, including underground parking (which could also lessen building height concerns), access to public transportation (to reduce traffic), improvements to existing infrastructure, a reduction in the size of proposed structures, efforts to use materials that better fit with the character of the neighborhood, and amenities community members actually need or desire. The DEIR/DPIR must further detail the steps the Proponent has taken and will take to ensure the project fits with the growth of the community.

Thank you very much for your consideration of these comments. Should you have any further questions, please do not hesitate to contact me.

Sincerely,

Kerry Snyder
Advocacy Director

15 State Street, Suite 1100
Boston, MA 02109
617.223.8671
bostonharbornow.org

October 1, 2017

Via email to: Tim.Czerwienski@Boston.gov

Brian Golden
Director
Boston Planning & Development Agency
One City Hall Square
Boston, MA 02201

Attn: Tim Czerwienski

Re: Neponset Wharf, 24 Ericsson Street, Project Notification Form

Dear Director Golden,

On behalf of Boston Harbor Now, thank you for the opportunity to comment on the Project Notification Form (PNF) for the Neponset Wharf project, submitted by City Point Capita.

After reviewing the PN, attending the July 24, 2017 MEPA site visit, a number of public meetings, and the IAG meeting on September 28, 2017, we ask that the proponent be required to address the following:

- The extent and type of dredging proposed within the Neponset River Estuary ACEC,
- Potential impacts to public access and open space,
- Site accessibility and traffic related impacts to the neighboring community,
- Impacts related to construction activities, and
- Proposed climate resiliency strategies.

Project Description
As presented in the Project Notification Form the proposal is for the construction of a new, mixed-used development project in the Port Norfolk neighborhood of Dorchester. The entire site is approximately 7.6 acres and is comprised of both land and watersheet areas. The Neponset Wharf project will include:

- A renovated 75-vessel marina with new reconfigured docks and piers,

- Maintenance dredging of the area near the marina,
- 185 new parking spaces and 152 bike storage spots
- The addition of 150 new condominium units,
- A 25-room seasonal hotel,
- A 4,000 SF restaurant/café, and
- Two acres of landscaped outdoor space.

Area of Critical Environmental Concern

The Neponset Wharf project falls squarely within the boundary of the Neponset River Estuary ACEC. Designated in 1995 by the Massachusetts Secretary of Environmental Affairs, the 1,300-acre Neponset River Estuary is a Massachusetts Area of Critical Environmental Concern (ACEC). (Neponset River Estuary Area of Critical Environmental Concern Resource Management Plan, 11). The ACEC begins at the Lower Mills Dam in Dorchester and extends to the mouth of the river at Commercial Point in Boston and Squantum Point in Quincy. These designated areas are places that receive special recognition because of the significance of their natural and cultural resources. Projects located within an ACEC and subject to MEPA jurisdiction require closer scrutiny than projects located outside of ACECs.

As one of the nonprofits named in the 1996 Neponset River Estuary ACEC RMP and responsible for advancing the long-term objectives of the ACEC designation, Boston Harbor Now is particularly interested in understanding how the proposed mixed-use project and dredging will affect the resource area. (Neponset ACEC RMP, 16-21).

Dredging within the ACEC

According to the proponents, renovations to the existing marina will require some dredging. The PNF refers to the 1911 Harbor and Land Commissioners License as the original authorization for dredging of the marina. To date, the original license plans cannot be found in the registry of deeds or DEP records.

We ask that the proponent address the following items related to the proposed dredging:

- The relevancy of a 100+ year old dredging license and the existing ACEC Resource Management Plan
- Whether the proposed dredging is for improvement or maintenance purposes
- Impacts to marine habitat and resource areas resulting from the proposed dredging activities.

4.1

Figure 8.1 of the PNF address the ACEC designation. As presented, the project will "embrace" the heightened ACEC performance standards. We are glad to see the proponent's acknowledgement and commitment to complying with the ACEC standard. The proponent should provide additional details to address compliance and how the project proposes to meet or exceed this obligation.

Open Space and Public Realm

As presented in the PNF, the proposal will create nearly 2 acres of landscaped outdoor space that includes:

- A 28,000 SF Harborwalk,

- A public fishing pier,
- A kayak launch and storage,
- Public restrooms,
- The Shore Shack refreshment stand,
- A marina support building, and
- A pedestrian bridge across Pine Neck Creek (possibly)

The combination of open lawn, public seating, pet areas, fitness station, art installations and dedicated gathering areas has the potential to provide multi-use functionality of the area. We are encouraged by the addition of a new section of the Harborwalk and look forward to reviewing additional details of proposed amenities, signage, and public programming.

The PNF proposal includes several renderings of proposed public access to the project site (Figures 2.7-2.9). The proponent should clearly distinguish areas of the wharf and open green space that are open to the public from those that are reserved for private use. The Public Realm improvements will play an important role in ensuring the open space areas are fully activated and create a welcoming waterfront experience for residents, neighbors, and visitors. Part of the success includes maintaining adequate signage at appropriate locations to advise the public of its access rights and disclose access-related regulations.

The project filing should also include details of the proposed watersheet and water's edge activation as an integral part of the transient public's experience of the overall project site. The proponent should consider programming and public amenities that will encourage the public's use and enjoyment of the waterfront on a year-round basis. 4.2

We note that during the MEPA site visit, the community expressed concern over some of the proposed public amenities. Specifically, the kayak storage area, dog park, and pedestrian bridge to Tenean Beach. We encourage the proponent to work with the local community to develop a public realm improvement plan that includes amenities that fit within the character of this area of the waterfront and adjacent neighborhood.

Transportation

Accessibility to the site should be a key focus of the proposal. As presented in the PNF, the project is located on the northern edge of the Port Norfolk peninsula. The site has limited vehicular access, is not readily accessible by train, and is serviced by only two MBTA bus routes. The bus routes are located at Neponset Circle, about half a mile from the site.

We are strongly in favor of a detailed traffic analysis of existing traffic concerns in Port Norfolk and adjacent areas as part of the proposed project filing. Without the proper improvements, additional daily trips will put pressure on an already strained system. Section 5.3 of the PNF includes a summary of daily trips anticipated for the project. The summary includes vehicular trips generated by condominium, hotel, and retail/restaurant users. A transportation analysis should also include trips generated by the general public's use of the new landscaped outdoor spaces. 4.3

Despite its waterfront location, the mitigation efforts described in Section 5.7 might be best focused on land-based transportation accommodations that 1) serve a wider group of riders over a greater geographic area and is 2) a more cost-effective option than a water taxi. 4.3

Construction Impacts

We ask that best practices be implemented to minimize construction impacts to the nearby community. Depending on the anticipated construction activities, increased traffic is likely both in size and frequency of vehicles entering and leaving the area. We expect that delivery of construction materials will also affect the number of trucks traveling through the surrounding community. In addition to providing a construction management plan, we ask that the proponent consider a comprehensive traffic plan to minimize traffic flow interference from construction activities (e.g. advanced public notice of road closures, alternate routes, and shifting operations affecting traffic to off-peak hours). 4.4

Climate Resilient Design

As completed by the proponent, the Boston Climate Change Resiliency and Preparedness Checklist, confirms the project site is within the FEMA "100-year" Flood Zone VE and AE with a Boston City Base (BCB) site elevation ranging from 14-18.8 feet.

As presented in PNF, possible measures to address future flooding on the site include elevating the ground floor and moving critical infrastructure above the floodplain. However, Page 7 of the BPDA Climate Checklist indicates that specific flood protection measures have not been considered for the site.

As part of its resiliency strategy, the waterfront portion of Building B will be raised on pilings – resembling a building on stilts and a design more typical of beach homes. The space underneath the pilings will open up view corridors and create a covered terrace that is accessible to the public. This is a building typology that is new to Boston Harbor. We applaud the proponent for incorporating this innovative design in their project proposal. 4.5

We look forward to reviewing additional details of the proponent's climate resiliency strategy to limit storm damage, minimize wave action, and protect inland resource areas.

Community Engagement

Over a dozen members of the Port Norfolk community attended the July 24, 2017, MEPA site visit. Although the community expressed concerns about the proposed development, many expressed a willingness to consider a smaller scale redevelopment project that benefits the community and improves the existing conditions of the site. To ensure the community is heard throughout the planning process, we encourage the proponent to consider additional ways to engage interested neighbors and stakeholders as the project moves forward. 4.6

Thank you for your consideration of our comments.

Sincerely,

Jill Valdes Horwood
Director of Policy

September 22, 2017

Brian Golden
Director
Boston Planning & Development Agency
City Hall, 9th Floor
One City Hall Square
Boston, Ma 02201

Regarding: 24 Erickson Street, Dorchester, Neponset Wharf Project

Dear Director Golden,

This letter is from the Neponset Greenway Council in response to the proposed plan for the Neponset Wharf Project by City Point Capital. Thank you for giving us the opportunity to comment on this project. The Neponset Greenway Council is opposed to the Neponset Wharf Project Plan.

The Neponset Greenway Council is a volunteer organization that is dedicated to the development and stewardship of bike/walking paths and parks along the Neponset River and are strong advocates for environmental preservation within the Neponset River Reservation and Neponset River Area of Critical Environmental Concern. For 27 years, the Neponset Greenway Council has been the lead community organization working closely with the Department of Conservation and Recreation on the planning and construction of the Neponset Greenway. We have also been highly instrumental in the development and stewardship of the DCR Parks in Dorchester including St. John Paul II Park, Neponset Park, and Joseph Finnegan Park at Port Norfolk. Our membership includes volunteers from Dorchester, Mattapan, Hyde Park, Milton and beyond.

We believe that the Neponset Wharf Project, as proposed, will have negative effects on the public using the Neponset Greenway and Tenean Beach and on the Neponset ACEC physical structure and wildlife. We are also concerned with the general effect of this project on the Dorchester waterfront.

Below is a summary of impacts to the Neponset Greenway, Tenean Beach, the Neponset River ACEC and the Dorchester Waterfront. The Neponset Wharf Plan is extremely deficient of information and misleading. Possible impacts sited by the plan only refer to the actual site of the project and there is no regard to the surrounding neighborhoods or the ACEC. They are ignoring much of the Massachusetts Wetlands Act, River Act and ACEC Regulations especially in regards to sensitive areas surrounding the site.

In Regards To…

View of project from Neponset Greenway and Tenean Beach - Project will overwhelm the Dorchester Waterfront. Port Norfolk peninsula is all at one level, 2-3 stories. 86 ft. high project will stick up like a sore thumb, negatively changing the Dorchester Waterfront views and character drastically. 5.1

Design – Large box designs of steel are incompatible with the natural ACEC area. Any reflective surfaces across from Tenean Beach will reflect sunlight into the eyes of the public trying to enjoy beach. 5.2

Traffic- The Neponset Greenway crosses through the Port Norfolk Neighborhood from Joseph Finnegan Park to Tenean Beach. 1,500 cars a day through small neighborhood streets will make unsafe conditions for walkers and cyclists. 1,500 cars a day in and out will add air pollution and increase pollutants in runoff from area, negating the increase in permeable areas reducing runoff. 5.3

Height, Sky Dome, and Shade – Plan only addresses sky dome from Erikson Street. Two 86ft high buildings and other massive buildings, will block view of sky dome and ocean from Neponset Greenway, Tenean Beach, Rte. 93, Dorchester Neighborhoods, Venezia Harborwalk and block ocean breeze onto Tenean Beach. The beautiful views of sunrises and sunsets across the end of the Port Norfolk Peninsula will be blocked. Large buildings will block birds moving back and forth to feed and nest between Squantum point Park and Pine Neck Creek and Migratory Birds. Project will add shade to Pine Neck Creek and Tenean Beach, changing temperature of water, impacting wildlife and enjoyment by humans. 5.4

Dredging and Larger Marina - They have not found a previous dredging permit. How will maintenance / improvement dredging be determined? Much of the site has refilled with PCB contaminated mud up to the level of land in Pine Neck Creek. The surrounding area is now an ACEC and has changed back into a natural area considerably. Resuming large amount of dredging in a now ACEC area will impact the adjoining shellfish beds at Bucky's Bar (off of Squantum Point Park), mudflats, marshes, Tenean Beach and the wildlife that feeds and nests there by covering them with mud and releasing PCBs into the water. Deep dredging across from Tenean Beach could cause erosion of beach, creek, and harm marsh by changing current patterns and wave actions. There is no completely safe way to dredge contaminated mud. More boats means more pollution such as from oil, gasoline, wastes leaks. Presently there is only about 15-20 boats on site. Another issue not addressed by the Plan, is where will the hazardous waste conttaminated mud be deposited after it is dredged from the area? You cannot just dump it in the ocean somewhere else. 5.5

Fence Removal in water across from Tenean Beach – Increased wave action could cause erosion of Tenean 5.6

Bridge – Building a bridge across Pine Neck Creek will destroy marshes at Pine Neck Creek, ACEC, and would facilitate the use of Tenean Beach parking as ancillary parking for a private development. The scenic view from the end of Pine Neck Creek, along the Neponset Greenway, to downtown Boston, is also a popular artists' spot that would be blocked by a bridge. A preferred alternative would be a complete Harborwalk from Venezia to Tenean Beach around the Port Norfolk peninsular including the AIG and Sullivan McLaughlin properties. 5.7

Open space - The developer's report on open space is misleading. They say they are providing 2 acres of open space but much of public open space is unusable, under buildings or alongside buildings. It is not clear if they are also counting streets and sidewalks. A small additional space does not justify the harmful impacts of this project. 5.8

Construction – Noise and vibrations due to construction of a large project and trucks will impact ACEC wildlife. Noise will scare away birds in ACEC, nesting and feeding next to site, in marshes, mudflats and shellfish beds. 5.9

Public Amenities – The offered public amenities are redundant in the area, inappropriate for area, or harmful to ACEC, and will increase traffic even more. Do not justify negative impacts regarding Chapter 91 Laws, Wetlands Act, neighborhood or ACEC. Kayak launch, fishing pier, beach, playground, courts already exist in the neighboring area. There are tidal and contamination issues. Adding a dog park beside Tenean beach will increase bacteria level at Tenean Beach beyond the already unacceptable levels. This should not be allowed. 5.10

Allowing this project will set a bad precedent for the entire Dorchester Waterfront. Many years ago, Dorchester lost its waterfront when the train tracks and Rte. 93 were built. The DCR has been working for many years to restore the Dorchester Waterfront. With the designation of the Neponset River ACEC and the creation of the Neponset Greenway and parks, they have been quite successful. This project would be the beginning of creating a wall of condos between Dorchester and its waterfront. An alternative project, much smaller in size, height and density should be offered.

The Neponset River ACEC designation is working. Much of the area's extremely important ecosystem is returning to the natural marshes, mudflats, shellfish, and buffer zones needed for the health of the Boston Harbor and the ocean wildlife. It is evident, with a ride or walk along the Neponset Greenway, that these positive changes are occurring and the wildlife is prospering along the Neponset River. The proposed Neponset Project would be a step in the wrong direction.

The Neponset River ACEC Plan does encourage waterfront use at the site of the Neponset Wharf project, but it also states that any project at this site should be compatible with the surrounding ACEC and Port Norfolk Neighborhood. It should comply with the Port Norfolk Waterfront Zoning and all Wetlands Regulations. Clearly 150 condos, 85ft high, 1500 cars/day and extensive dredging do not fulfill the mandate of the Massachusetts ACEC Designation, "DO NO HARM".

Thank you for taking the time to read these comments.

Neponset Greenway Council

Barbara Baxter, Hyde Park
Marjorie Jeffries, Milton
John Lyons, Dorchester
Maria Lyons, Dorchester
Martha McDonough, Readville
Jessica Mink, Roslindale
Vivien Morris, Mattapan
Paul Nutting, Dorchester
Jeff Stone, Milton
Ellie Spring, Dorchester
Lee Toma, Milton
Rita Walsh, Hyde Park
Irene Walczak, Hyde Park
Steve White, Dorchester

September 29, 2017

Tim Czerwienski
Boston Planning and Development Agency
One City Hall, Ninth Floor
Boston, MA 02201

RE: WalkBoston comments on 24 Ericsson Street development (Neponset Wharf)

Dear Tim:

WalkBoston appreciates the opportunity to comment on the proposed Neponset Wharf development at 24 Ericsson Street in the Port Norfolk neighborhood of Dorchester, Boston. This project has the potential to advance walkable community goals by promoting active outdoor uses and enhancing pedestrian access to the waterfront. At the same time the project site remains highly inaccessible without a motor vehicle, which raises broader concerns about pedestrian safety and connectivity. Significant Transportation Demand Management (TDM) and mitigation measures would be necessary to address these issues.

The project proponent's goals of creating two acres of new landscaped outdoor space on the site, including 28,000 square feet of continuous publicly accessible Harborwalk, will significantly enhance the local public realm, while also promoting active living and outdoor recreation. We are intrigued by the proponent's consideration of a bicycle and pedestrian bridge to connect the project site with Tenean Beach. While such a bridge would certainly improve public access to the Harborwalk, we have also heard resident concerns about the bridge's potential impacts on the local ecology and its potential to put excess demand on the availability of parking for Tenean Beach if users of the new development use the public parking lot park at the Beach.

Relatedly, the proponent has stated their intention to "provide pedestrian and bicycle transportation infrastructure that is consistent with Boston Transportation Department's Complete Streets guidelines." Creating streets, sidewalks and paths that accommodate road users of all abilities and travel modes is critical to developing more livable and walkable communities, so WalkBoston is pleased to see a commitment to these issues reflected in the project's Environmental Notification Form. However actually implementing these concepts in a heavily car-dependent neighborhood and project site means that significant challenges must be addressed.

<u>High proportion and number of motor vehicle trips:</u> Given poor transit access and limited street connectivity to the Port Norfolk neighborhood and the proposed Neponset Wharf site, the proponent estimates that only five percent of trips generated by the project will be bicycle and walking trips. The remaining 95 percent of project-generated trips will be in motor vehicles, for a total of 1,440 new vehicular trips on an average weekday. To accommodate this traffic, the proponent has proposed 185 parking spaces on the project site. We are concerned that the number of trips and the number of parking spaces do not seem to be aligned, as these figures

6.1

would suggest nearly eight trips per day per parking space. This suggests a need to more fully explore appropriate transportation options for the development of this site.

In addition, the increased volume of motor vehicles this project would generate in Port Norfolk will increase risks to people walking and biking on the neighborhood's narrow streets and sidewalks. The project proponent has stated their intention to develop a TDM plan for the project in the forthcoming Draft Environmental Impact Report (DEIR). This plan should include a full accounting of how proposed TDM measures would reduce the overall number of motor vehicle trips and increase the overall percentage of trips using walking, biking and transit modes. 6.1

Neighborhood access and pedestrian safety: Redfield Street, Tenean Street/Conley Street, and Woodworth Street/Walnut Street are the primary routes for motor vehicles to enter and exit the Port Norfolk neighborhood. The proposed project will significantly increase the number of motor vehicles traveling these streets, so the proponent should explore ways to implement traffic calming and pedestrian safety measures along these streets as mitigation. Given that much of this increased traffic will come from Neponset Circle/Morrissey Boulevard, the intersections of Redfield, Walnut, Conley and Tenean Streets at these locations should also be assessed for safety improvements in coordination with the Department of Conservation and Recreation (DCR). 6.2

Site access and pedestrian safety: The project site abuts Ericsson Street, with a one-way entry to the site to be aligned with Port Norfolk Street and a one-way exit from the site to be aligned with Lawley Street. The proposed project will significantly increase the number of motor vehicles traveling these streets as well, so the proponent should also explore ways to implement traffic calming and pedestrian safety measures along these streets as further mitigation.

The proponent should also clarify how pedestrians will safely enter and exit the project site at Port Norfolk and Lawley Streets. The current site access/egress points at these locations lack sidewalks and are relatively narrow for motor vehicles even in the absence of sidewalks. These access/egress points also abut existing buildings, so while the proponent "envision[s] multiple accessible sidewalks along the entry points into the site," it is unclear where the space for safe pedestrian accommodations will actually come from. Increasing the number of motor vehicles traveling through this area will pose additional safety risks to pedestrians, so the proponent should explore plans for mitigation here as well. 6.3

Thank you for considering these issues and please feel free to contact us with any questions.

Sincerely,

Wendy Landman

Wendy Landman
Executive Director

Port Norfolk Civic Association *September 25, 2017*

Frank Kodzis: Committee Chair
Residents of Port Norfolk Community

Hon. Brian Golden, Executive Director Boston Planning and Development Authority
1 Solley Square
Boston City Hall
Boston, MA 02114

Subject: Opposition to development by the CPC Ericsson Street LLC; Neponset Wharf

Dear Director Golden,

We the residents of the Port Norfolk Community stand unanimous and unequivocally are in opposition to the propose development by CPC Ericsson Street LLC for the site known as Neponset Wharf. There is not a single resident of the entire community who supports the project presented by the developer. The developer admitted at a community meeting that ***not*** *one resident input was sought during the development project design. The community is united against the hardship and the impediment of way life that this project will inflict on the community. This project will impact every resident of the community and the surrounding area in such a negative magnitude that is unimaginable. It demonstrates a single objective by the developer to make the highest possible profit at the cost of destroying a neighborhood, the environment and surrounding area. The development area is less than 10% of the total area of the Port Norfolk community and surrounding area but yet impacts it 100%. A recent report by MEPA stated that the developer failed to answer or submit proper documentation that was required. Overall MEPA vindicated the comments and concerns of the residents. Every outside agency/ groups submitted letters of opposition (See Certificate of the Secretary of Energy and Environmental Affairs Report dated August 25, 2017). Local businesses submitted opposition letters. The Boston Labor Union and Plumbers Union were in opposition. The developer denies having vested interest in connecting property when ask about future plans but yet documents and newspaper articles reveal their intention to develop further. The concerns and worries of the community is that their homes, families and the surrounding area will be forever destroyed for the sole desire of this development in which they had no conversations and input but yet have to live with the consequences.*

General Consequences and Concerns of the Residents

- The local and state zoning codes/laws for the site will be exceeded. In 1990 a comprehensive re-zoning study was done; Interim Planning Overlay District (IPOD). The proposed development violates nearly every zoning code/law. Two eight story high- rise buildings, a 35 ft. limit is set by the zoning, the nearest structure of this size is 5 miles away, not only is un-acceptable to the character of the neighborhood, it will impede views of the water and light . A hotel is not allowed and is uncharacteristic of the neighborhood. Restaurant & Bars, light manufacturing and water related industry is only allowed. Too many condo units for the size of the project. Port Norfolk currently has 185 homes in the entire area. The developer is proposing 175 units in less than 10% of the area of Port Norfolk. 7.1
- Traffic: It is estimated by the developer that 1750 additional vehicles will be generated by the project. A complete study has yet to be submitted. The current study was done over the summer months when many of the residents were away on vacation. A yearlong study needs to be a true complete calculation. This should also be back up by an independent study. A study done in 1985 for a previous development gave the neighborhood an " F " FAILURE for street traffic mitigation. It is a family neighborhood with many children crossing and sometimes playing near the street. Although it is a major concern now for their safety any increase in traffic levels of residential streets is a serious safety threat. Port Norfolk is unique with limited traffic flow. There are three streets within the neighborhood that allow traffic to and from the developer's project. Only two streets to exit onto the major roads. The streets are narrow in width with parking on one side, thus not allowing no more than one vehicle to transverse the street. With vehicles traveling in both directions, one vehicle must wait until the other vehicle passes before proceeding through. In the winter the conditions are extremely worse when snow piles occupy the pull in areas. The additional concern back by a Life Safety Specialist for Emergency Response is the impediment of emergency vehicles to access the streets, delaying response times. This is critical component for the safety of the residents. Residents in Port Norfolk have died because of this delayed response. The developer does not address how these concerns will be alleviated. Re-routing traffic patterns of current street designs should 7.2

not be allowed by the developer. It is the position of the neighborhood the developer should have taken this into account before purchasing the land or developing the project. The failure of the developer to recognize the hazards impose on the neighborhood should not be the problem of the residents. The developer had a choice before purchasing the property. The Morrissey Blvd. and Neponset Circle exit from Port Norfolk is still another major obstacle. Neponset Circle cannot be easily exited in the rush hour traffic and it poses a serious accident potential. Vehicles are currently backed up on Walnut Street waiting for a chance to exit into the circle. With additional 1750 vehicles it will be impossible to exit. The other choice would be Tenean Street on to Morrissey Blvd. Morrissey Blvd. is slated for reconstruction reducing the lanes from three to two. The same condition would occur here as well. There is no public transportation in the Port Norfolk section, thus all transportation will be done by vehicles. 7.2

- Water and Sewer: The sewer system in the area is old and under duress. It can barely support the current use now and many times fail. Back up into homes frequently happen. The plumber's representative for the local Boston union stated at a community meeting the sewer system currently in place will not support this project of this size. The Boston Water Commission stated its concerns in a document to MEPA. 7.3
- Noise Pollution; The increase of traffic, delivery trucks at all times of the day, hotel business 24 hours, restaurant traffic, marina traffic, 175 condo units times two vehicles per family minimum plus guest vehicles all contribute to the noise pollution on the access streets to the development. The residents on the access streets should not suffer the adverse effects that they did not create. 7.4
- Construction Planning. No plan was presented to the community to mitigate the construction impact on the community. Port Norfolk streets and sidewalks are sinking. What impact will constructions vehicles and construction building have on this problem? Will the developer be responsible for the additional compromise of the streets and sidewalks? Will bonds be issued to cover the cost to residential damage caused by the massive building construction? This should be put forth as part of the project presentation not as an afterthought. 7.5

- Environment Impact: This site was heavily used during the late 1800's and early 1900's as an industrial and ship building site. These industries produced hazardous waste and toxins. As with the development of the new Finnegan Park that just open it was discovered to have hazardous soil. The developers at minimum should have a study done of the entire soil area as a presentation application to the community and the Boston Planning and Development Authority. This should include the water front access and tide lands. As in the MEPA release report the developer had not provided information/study on the effects on waterfront vegetation and wildlife infringement. The state and city has spent millions of dollars to improve the quality of the water and bring back natural scenic growth to the waterfront. The size of the project has left too many questions unanswered, as to the volume of run off from vehicles parked on site and traveling. This should include marina use and storage of watercraft. 7.6

*This project is **too big** for this neighborhood and the surrounding area. The developers should be advised to go back to the drawing board and take into consideration the comments and consequences of the project and make it better. Or just build to the current zoning regulations and laws. The residents and the surrounding area should not suffer the ill effects and consequences for the profits of the developer. Reasonable Planning, Cooperative Planning, Environment Sensitive, Historical Preservation and Respect of Others are all we are asking as a community. We the community implore the Boston Planning and Development Authority to protect, the community, the surrounding area, and the achievement for the betterment of all.*

Respectfully Submitted

Frank Kodzis, Committee Chair.
Residents of Port Norfolk

Port Norfolk Yacht Club

INCORPORATED

179-181 Walnut Street, Neponset, MA 02122
Mailing address: P.O. Box 220066
Dorchester, MA 02122
Telephone: (617) 822-3333

September 28,2017

To Whom To It May Concern,

We are writing to express our support of the Port Norfolk Civic Association, and their concerns regarding the proposed development of the area formally known as Russo's Marina, located at 24 Ericsson Street, Dorchester MA.

This area of the Neponset River is an estuary, and an area of critical and environmental concern. The estuary is the transition area between the land and the sea and between freshwater and saltwater, the environment with in estuary can be seriously impacted by human activities.

Estuaries are breeding grounds for species of migrating fish and are an important habit of a diverse number of wildlife that rely on the marshland. Increased boat traffic and increased automobile traffic will greatly impact all native life forms (human , avian and aquatic) There already exist concerns by other government agencies and organizations regarding the Neponset River. I.e. MWRA, The Army Corps of Engineers,The Neponset Greenway Counsel and the Neponset River River Watershed Association.

A project of this magnitude will have a tremendous effect on this neighborhood. increased traffic will be caused by both construction and personal vehicles. Once this project is finished this traffic problem will continue to exist, due to the increased number of residents in the apartments, condo and hotel , and with improved public access.

8.2

As residents in the Port Norfolk neighborhood since 1923, we have participated in the betterment of the area working on projects such as "Lucian Park" and the bike trails. We share the the same concerns for the development of this area as the Norfork Civic Association.

R/S
Stephen G. White, Vice Commodore
Port Norfolk Yacht Club

CC
Lloyd Davis, Commodore
Port Norfolk Yacht Club

Port Norfolk Civic Association

Port Norfolk Civic Association
176 Walnut Street
Dorchester, MA 02122
Phone (617) 905-2609

Email: PortNorfolkCivic@gmail.com

John Lyons
President

Jennifer McCarthy
Treasurer

Mary McCarthy
Secretary

October 4, 2017

Mr. Brian Golden, Director
Boston Planning and Development Agency
City Hall, 9th Floor
One City Hall Square
Boston, MA 02201

RE: Neponset Wharf
24 Ericsson Street
Dorchester, MA 02122

Dear Director Golden:

This letter is submitted in response to the Project Notification Form (PNF) filed by CPC Ericsson Street, LLC, relative to the Neponset Wharf project, proposed in the Port Norfolk Neighborhood, in the Dorchester District of the City of Boston.

The Port Norfolk Civic Association is opposed to the project as described in the filing for reasons set forth herein.

1. Project Description

The PNF accurately describes the Port Norfolk neighborhood as a "distinctive neighborhood [which] exhibits a character and scale that is unique to the City". The statement that the project respects the context, integrates into the existing fabric, and becomes an asset to the community is self-serving, and not supported by any objective evaluation of the facts.

The Port Norfolk neighborhood is in fact a small isolated peninsula, physically separated from the mainland, by Pine Neck Creek, the Southeast Expressway/Route 93, the MBTA Braintree Redline, Commuter Rail, Morrissey Boulevard, and Neponset Circle. The neighborhood reflects a distinctive street plan "more or less in place by 1859", as noted in the Zoning Code Article 65, Section 65-32. Following the Civil War, and the annexation of Dorchester by the City of Boston in 1870, housing development fairly rapidly filled the core of the neighborhood, while water-dependent industrial uses occupied most of the shoreline. The majority of structures within the neighborhood were completed in the 19th Century, and the only open space within the neighborhood core is in the form of side yards, as the original planners had envisioned. The proposed design does not in any way reflect the distinct character of the neighborhood. 9.1

The PNF states that the proposed project will "complement the water-dependent uses by adding vitality and activity to this prominent location where the Neponset River meets Boston Harbor". In reality, the project proposal would add a number of residential units which would approximately double the number of housing units in the entire neighborhood, on a lot representing less than 10% of the land area. The proposed residential development, together with a proposed hotel, restaurant and "amenities", will generate substantial new traffic, much of which will be transient, all of which must access the property using three existing narrow streets on the peninsula. The subject property is within an Area of Critical Environmental Concern (ACEC), and is within the Waterfront Service Subdistrict (WS) pursuant to Article 65 of the Zoning Code (the "Code"). The hotel and restaurant uses are forbidden under the Code in the WS Subdistrict, because they represent inappropriate uses of waterfront land, which supports significant economic activity, and which is in critically limited supply within the City. The residential use is conditional in the WS Subdistrict, on the same theory of inappropriate use, and the Code provides specific limitations with respect to FAR and lot coverage, in the unlikely event that the proponents can meet the general conditions required for approval. 9.2

The entire project, with the exception of the existing marina (to the extent that it has been legally constructed and maintained), is inappropriate within the ACEC. For over 30 years elected officials, community members, MDC/DCR and other state agencies have worked together to reclaim the Dorchester waterfront, and restore the natural environment. Millions of dollars in public funds have been expended to create and improve the 9.3

Neponset Shores Reservation. The construction of a "destination" "upscale" entertainment-oriented facility in the middle of the Neponset River Estuary is contrary to the principles of the ACEC legislation, and would negatively impact the adjacent public resource, including the estuary, Pine Neck Creek, and Tenean Beach, with respect to views and shading. The direct effects of the proposed active uses, on the surrounding ACEC would create unacceptable levels of noise, light and disruption, which cannot be mitigated. 9.3

2. Urban Design

The uses and the proposed scale of the project are completely inappropriate for the site and the neighborhood.

The introduction of a "boutique" hotel will negatively change the character of the neighborhood. Notwithstanding the assertions that the purpose of the hotel is to serve the marina, the structure would be available throughout the year with 24 hour operations by necessity. A hotel of any size will potentially generate transient traffic at all times of day, which is inconsistent with a residential community, and not presently generated by existing commercial uses in the neighborhood. There are presently three operating hotels located within 1 mile of the site. A hotel is not integral to the operation of a marina, and is not remotely water-dependent. 9.4

The proposal includes a 4000 sq. ft. restaurant. Directly adjacent to the site there are four licensed facilities, including Venezia Restaurant, Venezia function facility, Boston Winery, and Boston Harbor Distillery. The neighborhood should not be burdened with an additional licensed facility, which will intensify the atmosphere of an entertainment district, at the end of a primarily residential peninsula. In addition, the intensification of activity is inappropriate within the ACEC.

The height, massing, architectural style, and materials are in conflict with the existing unique 19th Century neighborhood. The project design fails to reflect the consistent theme found in the 1988 Port Norfolk Plan, the Port Norfolk IPOD, or the current Article 65, adopted in 2002. 9.5

3. Sustainability/Green Building

The PNF states that the proposed project complies with and exceeds all applicable Code requirements. Meeting or exceeding Code requirements with respect to Sustainability is admirable. The detrimental effects of traffic, density, and inappropriate uses, will affect the character and quality of life in the neighborhood to such an extent that the human cost outweighs any intangible benefit resulting from mere compliance with building, zoning or energy codes. 9.6

4. Environmental Protection

The discussion of environmental conditions and impacts of the proposed project are primarily technical in nature, and subject to the opinions of experts. We do question three aspects of this section.

The effect on Daylight appears to be measured solely from the Ericsson Street viewpoint. The most significantly affected views will be from Tenean Beach, from the Harborwalk adjacent to Venezia Restaurant, and from the river itself. 9.7

The noise analysis states that the proposed operations will not generate noise in violation of the City of Boston noise standards. The introduction of new activities will generate noise which is inconsistent with the ACEC, and which will negatively affect the immediately adjacent residential community. 9.8

The impact of construction of the proposed project is dismissed as "temporary" and to be "minimized" through a construction management plan. The timeline projects a two year construction phase, during which delivery of all materials and labor will be required to pass through three narrow residential streets. The impact and proposed management plan should be evaluated and disclosed now. 9.9

5. Transportation

The narrow streets within Port Norfolk reflect the fact that they were laid out long before the invention of motor vehicles. The present traffic and parking issues have been identified and discussed for over 30 years, with no realistic 9.10

solution ever proposed. There is no rapid transit MBTA service within one mile of the neighborhood. MBTA service is limited to a bus at Neponset Circle, connecting to Fields Corner and North Quincy. The realistic choice for most residents is travel by personal motor vehicle. All traffic entering and exiting Port Norfolk must cross Morrissey Boulevard, either passing through Neponset Circle, or the Conley/Tenean Street exits. During peak travel periods Neponset Circle is frequently gridlocked with Expressway onramp, Gallivan Boulevard, and Quincy bridge traffic converging. The alternative exit is either gridlocked or filled with speeding commuters. The projection of 1,500 daily additional trips out of the neighborhood will exacerbate the problem, and affect regional traffic including Cedar Grove, Neponset, Lower Mills, Mattapan, Milton, and Quincy. In addition to moving traffic, the supply of parking in the neighborhood has reached capacity. In this instance the argument is not merely theoretical. Unlike other Boston neighborhoods, which somehow manage to absorb additional vehicles, this peninsula has no available surrounding streets. The addition of substantial new residential units, and new commercial uses, will render a difficult situation beyond repair, and will affect every part of the neighborhood. The proposed redevelopment of the marina alone will result in a strain on traffic and parking capacity. The failure to adequately plan for parking and traffic in the Seaport and South Boston districts in the last 20 years has adversely affected the quality of life and created public safety issues. Port Norfolk exceeded traffic capacity years ago, as evidenced by both public (BRA) and private traffic studies. This critical issue alone should preclude consideration of the proposed project, and direct planning to alternative permitted uses. 9.10

6. Historic Resources

The PNF concludes by stating that the specific site "does not include any properties" [of historic significance], "and will have no direct impacts on historic resources". The same section of the PNF states that the entire Port Norfolk Area has been Recommended Eligible for National Register Listing. The two immediately adjacent commercial buildings and three entire streets leading to the site are listed in the Inventory of Archaeological Assets of the Commonwealth. 9.11

The creation of a "vibrant destination" for waterfront revelry may be appropriate in some circles for the Inner Harbor, but it is preposterous to suggest that it is sensitive to the adjacent Port Norfolk neighborhood. The scale is far beyond a reasonable reflection of the existing neighborhood. The proposed uses are either forbidden or discouraged and 9.12

limited under the Code, which has remained consistent through multiple changes during a 30 year period. The architectural style is completely in conflict with the adjacent district and the immediately adjacent structures. 9.12

7. Infrastructure

The PNF simply states that there is an expectation that existing utility capacity will accommodate the proposed project.

The deficiencies in the sewer system in the neighborhood have been well-documented for over 30 years, and were extensively discussed in the 1988 Port Norfolk Neighborhood Plan. Certain issues have been addressed, but the existing main sewer lines were installed in 1890, and are known to have insufficient pitch. The PNF estimates net new total sewage flow in excess of 29,000 gallons per day. An analysis of the effect of the proposed increase on the system must be conducted and a realistic proposal for handling capacity developed. The only path for sewer flow is the same three peninsula streets which carry the vehicular traffic. Multiple dwellings throughout the neighborhood have had laterals replaced in recent years, including this year. Walnut Street has extensive cracks between sewer manholes, and obvious settling of the roadway from the sidewalk curbs. 9.13

The PNF defers to utility providers with respect to all other utilities. The broadband capacity should be determined as well as the effect of potentially doubling internet traffic. The gas regulator system at Doucette Square was replaced in August 2017, after years of complaints from residents about the odor of gas. The addition of new overhead lines for electricity, telephone and cable/internet would have substantial negative aesthetic impact, and alternatives must be evaluated.

8. Wetlands and Waterways

The environmental issues presented in the PNF are significant, and will be addressed by experts in responsible public agencies, other interested organizations, and residents in the community. The proposal cannot be justified from a zoning perspective because there is no demonstrable hardship, and the proposal is not within the spirit and intent of the Code. From an environmental perspective, the project uses and scale are incompatible with the ACEC designation. The features presented as "public amenities" are also unnecessary and incompatible with the ACEC, including 9.14

a dog park, and shore shack. The kayak launch will generate transient traffic, and for a significant period of time each day launching at this location is impossible due to tidal flow. The cumulative value of so-called amenities is calculated to understate the primary objective of the project, which is to construct a private residential enclave in an ACEC and WS Zoning District. The placement of the boathouse usurps the best view of the harbor for the private owners, and closes an area which has been open even when the site was used by the Lawley Shipyard for an active shipbuilding business. 9.14 9.15

Conclusion

We acknowledge the fact that the City of Boston faces a critical housing crisis, which creates hardship for many citizens, and threatens our long term economic vitality. The near gridlock in transportation, reflecting design obsolescence and deferred maintenance in both public transit and the system of public ways, is an equally troubling issue, which greatly impacts the housing market.

The proposed project is not intended to create housing which is affordable by any standard. If built as proposed, it would irrevocably change the character of the Port Norfolk community, and would detract from the quality of life. The traffic generated would further complicate traffic issues in the entire Neponset area and beyond. It would also adversely affect the surrounding environment, which has been nurtured over decades for the enjoyment of all citizens of the Commonwealth. The process of Imagine Boston 2030 identified locations throughout the City which are appropriate for housing development. Port Norfolk is excluded from that list because it has presently insurmountable issues with infrastructure which are impossible to resolve in the foreseeable future. 9.16 9.17

We believe that in this instance the comprehensive project submitted under Article 80 may actually be employed to circumvent effective review of the component parts. The proponents promote a project which represents an accumulation of smaller projects, which would individually be rejected out of hand. The combination of forbidden uses, the failure to respect the neighborhood context, and the environmental impact should result in the rejection of any part of the proposal. We respectfully request that the Boston Planning and Development Agency issue a Scoping Determination which 9.18

addresses the many serious issues raised by this proposal, which we believe should ultimately result in denial of approval.

The opinion is increasingly expressed by real estate pundits that neighborhood associations and their individual members are obstructionists. A review of the record would show that the Port Norfolk Neighborhood Association has historically worked with property owners and businesses to achieve a reasonable balance, and in a clear majority of cases, requested variances have been supported when in harmony with the character of the neighborhood. Article 65 Section 65-6 of the Zoning Code states:

"This Article has been developed with the extensive participation of the Dorchester Planning and Zoning Advisory Committee, civic associations, business groups, and residents. The role of community participation in determining appropriate land use regulations and zoning is critical to the success of any zoning article or development plan. To continue that process, the Boston Redevelopment Authority shall continue to involve the Dorchester Planning and Zoning Advisory Committee, or its successor organization, if any, and Dorchester civic associations, residents, and business and trade groups in an ongoing role in advising the City on land use planning for Dorchester."

Thank you for your consideration of our position relative to this proposal.

Very Truly Yours,

John J. Lyons
President

Attachment: Port Norfolk Civic Association committee letter

October 1st, 2017
Brian Golden, Director
Boston Planning & Development Agency
City Hall, 9th Floor
One City Hall Square,
Boston, MA 02201

Re: 24 Ericsson Street, Dorchester, Neponset Wharf Project

Dear Director Golden,

This letter is in response to the proposed Neponset Wharf Project at 24 Ericsson Street by City Point Capital. My name is Jason Berry. I am a homeowner in the Port Norfolk neighborhood and I am on the IAG for this project. I am strongly opposed to the project in its current form. I have outlined my comments and concerns in the following letter.

Document Outline –

1. Size, Scope & Density
2. Environmental Impact
    a. ACEC Status
    b. Dredging
    c. Height and Size of Structures
    d. Wave Fence Removal
    e. Reconfigured Docks and Piers
    f. Pedestrian Bridge
3. Phased Project with No Overall Plan
4. Traffic & Parking
5. Building Height, Design & Style
6. Fire & Safety
7. Infrastructure & Construction

Document Content –

1. Size, Scope & Density

The project is too large and aggressive for the neighborhood. It has too many units, the buildings are too big and there are too many different uses being proposed (residential, hotel, restaurant, marina storage & service, reconfigured docks, new fishing pier, bait shop, kayak facilities, public restrooms). It would overwhelm all aspects of the neighborhood and cause irreparable damage. The Port Norfolk neighborhood is a small peninsula with access, infrastructure and size limitations. A smaller, more focused project is better suited to the neighborhood.

10.1

2. Environmental Impact

a) ACEC Status

The project is in the on the Neponset River Estuary, an Area of Critical Environment Concern (ACEC). From CMR 12.00 - "ACECs are those areas within the Commonwealth where unique clusters of natural and human resource values exist and which are worthy of a high level of concern and protection." The project in its current form is at odds with the intent of the ACEC provisions. 10.2

b) Dredging

The project plan claims it involves maintenance dredging and improvement dredging is not anticipated. I believe more attention should be given to the dredging license, the extent of dredging and the distinction between improvement and maintenance. The possibility of any improvement dredging in a prohibited ACEC area should not exist. 10.3

The project is in an intertidal area and as such is required to evaluate approaches and practical steps for avoidance when possible and minimization if avoidance is not possible. The project in its current form aggressively expands the scope of the marina. There is a functioning marina currently on the site. The most practical approach for avoidance/minimization would be to keep marina operations consistent with the current scale which can be accomplished without dredging. 10.4

Dredging would impact the "substantial soft-shell clam beds are located at the mouth of the river" [reference 1]. The Neponset River Watershed suffers from "Legacy toxins (i.e., PCB-laced soil and groundwater from a former industrial property leaches toxins into the river)" [reference 2]. 10.5

Reference 1 - http://www.mass.gov/eea/agencies/dcr/conservation/ecology-acec/neponset-river-estuary.html
Reference 2 - https://www.neponset.org/your-watershed/issues/

c) Height and Size of Structures

The size of the proposed structures will have an adverse effect on the surrounding ecosystem and will decrease the quality of the Tenean beach experience. The height will add shade to Pine Neck Creek and Tenean Beach. The shaded area will change water temperatures impacting wide life and vegetation. The size of the structures will impact an area heavily populated with birds. 10.6

d) Wave Fence Removal

The project calls for the removal of the in-water Tenean beach wave fence. Increased wave action from the removal of the fence could cause erosion issues at Tenean Beach and should be studied. The fence removal should be evaluated consistent with dredging given it will disturb the ocean floor. Removing the wave fence creates an unnecessary risk in an ACEC. 10.7

e) Reconfigured Docks and Piers

The project calls for the reconfiguration of existing with docks with the addition of a new boardwalk/fishing pier. This work should be evaluated consistent with dredging given it will disturb the ocean floor. Reconfiguring docks and adding new in water structures creates an unnecessary risk in an ACEC. 10.8

f) New Pedestrian Bridge Over Pine Neck Creek

The proposed pedestrian foot bridge between the site and Tenean beach will be placed over Pine Neck Creek. The creek ecosystem has improved over the years and will be set back by this structure. This work should be evaluated consistent with dredging given it will disturb the ocean floor. Adding a new pedestrian foot bridge creates an unnecessary risk in an ACEC. 10.9

3. Phased Project with No Overall Plan

Concerns have been expressed about the developer's future plans for adjacent parcels which would have a significant impact on the current project proposal. The developer should be required to respond in writing to any statements made in the press regarding other parcels in the neighborhood. The developer should be required to produce any letters of intent, purchase & sale agreements or other documents relating to other parcels in the neighborhood. 10.10

A plan should be established for the entire neighborhood that has the support of the city, the residents and current business owners. Going through the Article 80 process only to find additional adjacent parcels should have been included will be a misuse of city resources and a waste of time for all those involved.

4. Traffic & Parking

The Port Norfolk neighborhood is already near maximum capacity as it relates to traffic and parking. There are only two access points to the neighborhood (Conley Street and Redfield Street) both with serious limitations. The neighborhood contains no main roads and consists primarily of three parallel side streets.

In addition to individual residences, the neighborhood is home to a large electrical contractor (SullyMac) and very popular restaurant with a function hall (Venezia). The Joseph Finnegan Park recently opened and is drawing additional traffic as it becomes more utilized. A 37,000 square foot industrial building at 12 Ericsson Street recently began leasing and will draw more traffic when occupied. Any traffic plan must take into account existing rate of growth in traffic. 10.11

The traffic generated by the proposed project should attempt to remain consistent with the traffic patterns of the existing business on the lot, the MarineMax Russo Boston. The project should benchmark any proposed traffic changes against the current traffic patterns of the existing business. 10.12

5. Building Height, Design & Style

The height, design and style is not consistent with the neighborhood. Port Norfolk is a small seaside neighborhood with a lot of history that the project should embrace. I personally think the Boston Harbor Distillery is an excellent example of a design style that fits the neighborhood. The developer is applying a design consistent with current projects in the South Boston Seaport area that are not appropriate for this neighborhood. 10.13

The height of the proposed structures should use the existing structures on the lot and in the neighborhood as a reference point. The increased height will make the beach less desirable for visitors given the reduced sunlight, obstructed views and decreased ocean breezes. 10.14

6. Fire & Safety

There are two proposed access points to the project - (1) the corner of Lawley and Ericsson to the left of 12 Ericsson and (2) between the Winery and 12 Ericsson on the right. Both passageways are between buildings with limited space and do not currently have sidewalks.

More work needs to be done to ensure that these passageways have the capacity to provide streets and safe sidewalks to the project. The limited access and size of the project also create emergency access concerns that need to be addressed. 10.15

Recent events in Boston and other areas of the country have raised concerns regarding the fire safety of wood-framed "Type 3-A" construction. If the project plans on using this construction technique the safety impact needs to be addressed. 10.16

The new Joseph Finnegan Park and continually expanding Neponset bike trail are sending more pedestrians and cyclists down Water Street to the intersection at Water, Lawley and Conley Street. The current safety and function of that area for pedestrians and cyclists needs to be remedied before any projects move forward. 10.17

7. Infrastructure & Construction

The street in front of 55 Lawley Street is prone to flooding. During high tide events water comes up from through the street drains. Many residents in the area have existing sewer issues. Parts of the neighborhood are constructed on fill. The existing buildings are old and structures are prone to vibrations. This project will overwhelm the existing infrastructure in the neighborhood and damage existing structures. 10.18 10.19

Because of the small streets and tight corners the neighborhood already experiences issues with larger trucks being unable to maneuver. The project plan should not rely on bringing construction materials and equipment by truck down Lawley, Port Norfolk and Walnut Streets. 10.20

Please call [redacted]) or email [redacted] with any questions. I can be reached via mail at 67 Lawley Street, Dorchester MA 02122.

Thank you,
Jason Berry

September 19, 2017

Maria Lyons
176 Walnut Street
Dorchester, Ma 02122

Brian Golden
Director
Boston Planning & Development Agency
City Hall, 9th Floor
One City Hall Square
Boston, Ma 02201

Regarding: 24 Erickson Street, Dorchester, Neponset Wharf Project

Dear Director Golden,

This letter is in response to the proposed Plan for the Neponset Wharf Project by City Point Capital. I am an IAG Member for the Neponset Wharf Project and I am strongly opposed to the Neponset Wharf Project. I have been a science teacher for 37 years with a Biology Degree from Boston University and have lived in Dorchester my entire life, the last 36 years in Port Norfolk. I am an active member of the Neponset Greenway Council and the Neponset Watershed Association and serve as the Environmental Chairperson for the Port Norfolk Civic Association. I have enjoyed working with the DCR on projects along the Neponset River especially the completion of the Joseph P. Finnegan Park at Port Norfolk. I believe that I am someone, along with many neighbors, who knows the area well and I am a strong supporter of the Neponset River ACEC. For these reasons, my comments are lengthy, but necessary.

Below is a summary of impacts to the Port Norfolk neighborhood, to the Neponset River Area of Critical Environmental Concern and the Dorchester Waterfront. The Plan for the Neponset Wharf Project is extremely deficient of information and misleading. The responses to the questions about possible impacts only refers to the actual site of the project and there is no regard to the surrounding neighborhoods or the ACEC. They are ignoring much of the Massachusetts Wetlands Act, River Act and ACEC Regulations especially in regards to sensitive environmental areas surrounding the site. The Plan also has no regard for the BRA Plan for Port Norfolk or the Port Norfolk Waterfront Service Zoning Code and is ignoring the character and history of the Port Norfolk neighborhood. Many times I have read criticisms of the term “character of the neighborhood” as being vague and useless. The Port Norfolk, historic seaside, Neponset River ACEC Character is real, unique to the city and needs to be protected and preserved by the BPDA. The plan shows little respect for the ACEC environment or the Port Norfolk Neighbors.

In Regards To…

Size, Scope and Use - Project will overwhelm the Port Norfolk Neighborhood and Dorchester Waterfront. Port Norfolk peninsula is all at one level, 2-3 stories and trees. An 86 ft. high project will

11.1

stick up like a sore thumb, negatively changing the Dorchester Waterfront views from the hills of Dorchester and from the water looking in. If you ride around U Mass, Boston, and look towards Port Norfolk and Neponset you will see a few small building but mostly a neighborhood of trees, wildlife and the beautiful Blue Hills in the background. Travelling along Rte. 93 in the Port Norfolk area offers the best views of Dorchester Bay and Boston Harbor along this highway. A massive building project in Port Norfolk will destroy these unique, historic views. The project will destroy the character of the Port Norfolk Neighborhood. 150 condos and 25 room hotel will double population of entire Port Norfolk neighborhood. Restaurant, 75 boat marina, retail and other planned structures will change the character from quiet seaside neighborhood to an overhyped destination. The developers themselves stated that they wanted to make this a huge destination at the very first meeting with Port Norfolk neighbors. There will be nothing to stop them from filing for liquor and entertainment licenses after project is built. The end of the Port Norfolk Peninsula, already is vibrant enough with a large restaurant, 4 function rooms, and 4 bars. We already are negatively affected by the amount of incoming traffic, speeding in our streets and patrons who been drinking exiting. Doubling the existing population will strain infrastructure and utilities. Proposed projects will harm Neponset River Area of Critical Environmental Concern (ACEC) during construction and after. 11.1

Design – Large box designs of steel are incompatible with historic Port Norfolk Neighborhood homes and buildings and natural ACEC area. Any reflective surfaces across from Tenean Beach will reflect the afternoon sunlight directly into the eyes of the public trying to enjoy beach. We are not a Downtown Seaport Waterfront. We are a small neighborhood within a critical environment. Port Norfolk is a very special place and needs to have special considerations by the BPDA. The Boston Design Commission has directed City Point Planners to listen to the neighborhood and to respect the story of Port Norfolk. 11.2

Traffic and Parking- Port Norfolk is a small peninsula. Adding 1,500 cars a day through small neighborhood streets is unacceptable, only way in and out is through Morrissey Boulevard, already difficult to access. There is no plan offered because there is no possible solution. Ideas such as ride sharing in a rich condo development and ferries in a shallow river are not reasonable. Plan only providing 185 parking spots. 150+75+25+Restaurant+visitors+workers does not add up to 185. The plan does not add in cars from marina, 75 boats, or visitors. The overflow parking from the site will compete for already scarce, neighborhood spaces with the local residents. 1,500 cars a day in and out will add air pollution to the area. 11.3

Height, Sky Dome, and Shade – Plan only addresses sky dome from Erikson Street. Two 86ft high buildings and other massive buildings, will block view of sky dome and ocean from Tenean Beach, Rte. 93, Dorchester Neighborhoods, Venezia Harborwalk and block ocean breeze onto Tenean Beach and into the neighborhood. The beautiful views of sunrises and sunsets across the end of the Port Norfolk Peninsula will be blocked. A visit to Marina Bay shows the results of blocking the sun and sky. With the addition of their most recent building project, the public boardwalk is now in shade by mid-afternoon and the view of the sunset is gone. Large buildings in Port Norfolk will block birds moving back and forth to feed and nest between Squantum point Park and Pine Neck Creek and flights by Migratory Birds. Project will add shade to Pine Neck Creek and Tenean Beach, changing temperature of water, impacting wildlife and enjoyment by humans. The residents of Port Norfolk witness the wildlife and birds all the time and respect the ACEC. The developers do not. 11.4

Sewage – A 1,245 to 27,956 Gallons/day increase to an old, already problematic sewer system will cause more backup into homes. Most of Port Norfolk is a flat sea level peninsula, hampering flow. Who will pay for clean-up, new sewer system and individual hookups to homes if current system breaks down? 11.5

Dredging and Larger Marina - They have not found a previous dredging permit. What will be maintenance - what will be improvement? How will determination be made if no permit record is found? Improvement dredging in an ACEC is forbidden. Port Norfolk Yacht Club members believe it has been approximately 30 years since last dredging. Much of the site has refilled with PCB contaminated mud up to the level of land in Pine Neck Creek. The surrounding area is now an ACEC and has changed back into a natural area considerably. This need to be taken into consideration. Resuming large amount of dredging in a now ACEC area will impact the adjoining shellfish beds at Buckley's Bar (off of Squantum Point Park), mudflats, marshes, Tenean Beach, Victory Road Park and the wildlife that feeds and nests there by covering them with mud and releasing PCBs into the water. There is no completely safe way to dredge contaminated mud. Deep dredging across from Tenean Beach could cause erosion of beach, creek, and harm marsh by changing current patterns and wave actions. More boats means more pollution such as from oil, gasoline, wastes leaks. Presently there is only about 15-20 boats on site. New private wharfs in an ACEC are forbidden. Are the proposed wharfs considered replacement or improvement? Plan seems to be proposing much larger docks than those that are currently at the site. 11.6

Fence Removal from dock in water across from Tenean Beach – Removing the fence could cause increased wave action that could cause erosion of Tenean Beach. Professional evaluation of existing conditions and modeling of proposed changes must be required. 11.7

Runoff from Property – The Plan states that runoff will be reduced due to more of the site being unpaved. The Plan does not take into account that adding cars, trucks, boats and dogs to the site will increase the pollutants in the runoff water into an ACEC area. Also, the Planers have no knowledge of the weather conditions in the area. When there is a heavy storm in Port Norfolk, the wind is most often coming from the Northeast. The precipitation, rain or snow, comes sideways down our streets, not straight down to the ground. Large building along the edge of Port Norfolk will catch the rain and snow and build up at the site. This will increase the runoff from the site. 11.8

Bridge – Building a bridge across Pine Neck Creek will destroy marshes at Pine Neck Creek, ACEC, and would facilitate the use of Tenean Beach parking as ancillary parking for a private development. Visitors to Neponset Wharf, marina, restaurant patrons will take up spaces of the public using the beach, playground, courts and Neponset Greenway. The scenic view from the end of Pine Neck Creek, along the Neponset Greenway Trail, to downtown Boston, is also a popular artists' spot that would be blocked by a bridge. The bridge to Tenean would cut off only a minute of travel around Pine Neck Creek. Not worth the environmental problems it will cause. A better plan would have the Harborwalk extend all the way from Venezia to Tenean along the edge of the waterfront. 11.9

Biking and Walking– The Plan seems to be proposing the idea that the project will somehow promote the use of bicycles and walking in the area. The Neponset Greenway Trail goes through the neighborhood via Taylor, to Water, to Conley Street. It connects Joseph Finnegan Park to Tenean Beach. Adding 1,500 cars a day will make riding through the area considerably more dangerous, especially at the ends of the streets going down to the project along Water Street. Walking in and out of the site will be through narrow openings where there is little or no room for sidewalks causing unsafe walking conditions. 11.10

Open space, Public view - The developer's report on open space and view is misleading. They say they are providing 2 acres of open space but much of public open space is unusable, under buildings or alongside buildings. It is not clear if they are also counting streets and sidewalks. 40% of Port Norfolk already is open space. We value open space, but the open space offered is questionable and does not compensate for the height and size of the buildings that will diminish the quality of the open space we already have. The best view, next to Venezia, is reserved for private use. The plan is for a flat roof boat storage building, attached to a non-water dependent use building. This could easily be changed into an inappropriate, private, loud, open air bar/ entertainment spot after it is built. The music from an open air bar in Marina Bay used to travel into Port Norfolk, Neponset and all the way over to South Boston, disturbing residents and wildlife. The offered public view is of the Xway and LNG tank and they would be destroying the public view from Tenean Beach, Rte. 93, Dorchester Hills, Victory Road Park and Dorchester Bay. A small additional space and degraded view does not justify the harmful impacts of this project. Their Plan, construed to obtain a Chap 91 license is disingenuous. 11.11

Construction – Noise and vibrations due to construction of a large project and trucks going by will impact neighborhood and ACEC wildlife. Will pile drivers be needed? There is a substantial threat that construction could cause damage to historic homes and buildings, old streets that are sinking, and water and sewer pipes especially since much of Port Norfolk is on filled land, known to increase impact of vibrations. Noise will scare away birds in ACEC, nesting and feeding near site. Noise will disturb neighbors in Port Norfolk and Neponset. 11.12

Hazardous Wastes - The Plan states that they have found hazardous wastes on the site but it does not elaborate sufficiently on where, amount or type. Will they be removing hazardous wastes? If so what is the procedure and how will they protect the ACEC environment and the neighborhood from contamination. Have they tested entire site for Hazardous wastes? 11.13

Public Amenities – The offered public amenities are redundant in the area, inappropriate for area, or harmful to ACEC and neighborhood, and will increase traffic even more with no parking. They are being offered to obtain licenses with no thought of need or workability. Do not justify negative impacts regarding Chapter 91 Laws, Wetlands Act, neighborhood zoning or ACEC. Neighborhood and greater Dorchester does not need them!

Kayak launch – Will launch into a mudflat area, no water large parts of each day with tides.
Public will have to pay for kayak storage.
A more useful and appropriate Kayak launch already exist in nearby Neponset 2 Park.

Fishing - Fish in Neponset River have high levels of PCBs, should not be eaten.
Fishing Pier already exists next to Joseph Finnegan Port Norfolk Park.
Fishing gear, lines, and hooks could entangle birds and children, wash up on Beach and marshes. 11.14

Beach Sand area - Tenean Beach is right across Pine Neck Creek from project. If they remove seawall to create a beach the project site will easily flood.

Playground and courts – Large playground, basketball and tennis courts are at Tenean Beach.

Dog Park – Adding a dog park beside Tenean beach will increase bacteria level at Tenean Beach beyond the unacceptable current levels. This should not be allowed.

Fire Safety- There are concerns about fire safety. Entrances into and through Port Norfolk are already difficult. Entrances into this site are narrow and multi- angled. Will large fire equipment be able to reach all sides of the buildings proposed on the site? How many fire Vehicles can even fit down the streets of Port Norfolk and into the site. If the parking lots at Venezia, the Winery and the Boston Distillery are filled and overflowing, the usual case, the situation becomes even more dangerous. 11.15

Waterfront Development/Marina- The Neponset Wharf Plan proposes to retain the marina at the site. However, they only seem to be providing for docking and storage. This site is one of the few sites left in Boston Harbor where there is a full marina capable of boat sales, service and repairs. It is not an underutilized property. The unused space is necessary to move large boats. Large buildings on the site will hamper the movement of boats in and out of the water, diminishing the use of the property as a working marina. A full working marina should be preserved. 11.16

Boston Zoning Code and Port Norfolk BRA Report– Project ignores Dorchester Port Norfolk Neighborhood Waterfront Service District Zoning- max height 35FT, no hotel, no restaurant, no retail. Housing is conditional but refers back to Port Norfolk Neighborhood Zoning which is 5,000 sq. ft. lots, single family. The BRA and the Port Norfolk Neighborhood worked together for many years to develop the Port Norfolk Plan and Zoning. Nothing has changed, they should not be ignored. Allowing this project will set a bad precedent for entire Dorchester Waterfront. Many years ago, Dorchester lost its waterfront when the train tracks and Rte. 93 were built. The DCR has been working for many years to restore the Dorchester Waterfront. With the designation of the Neponset River ACEC and the creations of parks, they have been quite successful. This project would be the beginning of creating a wall of condos between Dorchester and its waterfront. The Dorchester Waterfront Zoning Code and the BRA Plan for Port Norfolk is meant to protect Dorchester from projects such as the Neponset Wharf. Project needs to be cut down. They should be offering a much smaller project in size, height and density or none at all, and keep it a complete working marina. No hotel, restaurant or retail allowed. 11.17

Plan is inconsistent with ACEC Management Plan- The Neponset Wharf Plan states that it is consistent with the Management Plan for the Neponset River ACEC. They have taken one idea, that the site remain a waterfront use area. They ignore the rest of the Management Plan. There is no proposal in the ACEC for building large buildings, excessive dredging or oversized wharfs. All Massachusetts Wetlands and River Acts need to be respected to the highest level. Harming wetlands by contamination, covering with mud, changing flow and tidal patterns, possible erosion, noise, shading, blocking of bird flight paths is not respecting these laws. The ACEC Management Plan also states that if there is a proposal at the site, that it should be consistent with the Local Zoning and character of the neighborhood. Clearly this plan does not abide by these directives. The very idea of this project goes against the spirit and intent of the ACED designation. 11.18

Plan is inconsistent with Imagine Boston 2030 – The Neponset Wharf Plan states that its proposal is consistent with the Imagine Boston 2030 Plan. First of all, the Imagine Boston 2030 Plan is not a legal document. It is a vision that some people have for the city. The Imagine Boston 2030 Plan has no mention of the Port Norfolk neighborhood. We are not designated as an area for future, possible development. We are not a Transit-Oriented Neighborhood. In fact we have very poor public service, an infrequent bus line that brings you backwards to the T, not towards Boston. The imagine Boston 2030 states that any development be consistent and respectful of the character of the neighborhood in which it is proposed. We are not a downtown waterfront. The Neponset Wharf Project will be a drastic, 11.19

negative change to the look and quality of life within the Port Norfolk Neighborhood and detrimental to the ACEC and to the Dorchester Waterfront. 11.19

Economic Injustice – Tenean Beach is the Poor Man's Beach. It would not be right if rich people get to sit in their condos and enjoy their view while the public at Tenean Beach, Dorchester neighborhoods and travelers on Rte. 93 have to look at 86ft high monstrous buildings. The quality of the experience when using Tenean Beach, the Neponset Greenway, Victory Road Park, and Dorchester Bay will be diminished. 11.20

Environmental Injustice - The designation of an area as an ACEC raises it to the highest standards of protection from any project in or around it. The ACEC mandate for all private and public agencies is to "Do No Harm". The Neponset Wharf sits directly in the Neponset River ACEC. The BPDA needs to recognize the uniqueness of the area and its high need for protection.

In the Neponset River ACEC the designation is working. Much of the area is returning to the natural marshes, mudflats, shellfish, and buffer zones needed for the health of the Boston Harbor and the ocean wildlife. Some of the bird observations from this summer have included egrets, great blue herons, night herons, bitterns, cormorants, swans, swallows, red wing blackbirds, and various ducks, gulls and sandpipers. This should not be jeopardized! The area must be protected for the sake of the environment and its wildlife and for the children of Dorchester to experience and learn about valuable estuary ecology. The quality of our existing parks and recreation areas should not be diminished. 11.21

Once again, we are not a downtown waterfront district, the Seaport or Marina Bay. We are a small, unique, historically planned, seaside neighborhood within an Area of Critical Environmental Concern. The BPDA might want to read a report from the Boston Landmarks Commission on Port Norfolk.

http://www.dorchesteratheneum.org/page.php?id=636

We deserve special considerations for protection and preservation from the BPDA concerning any proposal in Port Norfolk, the Neponset River ACEC or anywhere along the Dorchester Waterfront.

Thank you for taking the time to read these comments

Sincerely,

Maria Lyons

Port Norfolk Civic Association
Environmental Chairperson
Neponset Greenway Council Member
Neponset Watershed Association Member

Regarding Proposed Development for 24 Ericsson St Dorchester MA.

1) My name is Stewart Roach. I am the owner of Norwood Yacht Sales, Inc., located at Marina Bay in Quincy. I grew up in the boat business. My father owned Norwood Marine, and my family owned this boat yard from ____ to _____ .

2) The reason I am here tonight is to voice my objection to the re-zoning of another property that currently is zoned for marine use. The property has been a boat yard since the late 1800's, first as the Lawley Shipyard; then Victor Tracy; then Norwood Marine; and now Marine Max. Currently, the Boston Police and Environmental Police boats get hauled and serviced here. I fear that under the proposed development, the boats here will simply be "eye candy" to the condo owners, and that the developers will have no concern as to where the boats will get stored or serviced in the future. 12.1

3) Over the years we all have watched marinas such as The Hingham Shipyard, Admiral's Hill Marina, Boston Yacht Sales once on the Neponset River on Hilltop Street, disappear. Now a car dealer parks cars at the Old Quincy ship yard. Due to the new condo development at Marina Bay, it has lost storage for 150 boats, as well as parking and convenient access to the marina. It looks like the ship yard at East Boston Pier Marina will be the next to fall. In the Boston area there are becoming increasingly fewer and fewer places to haul and store a boat. One can't even launch a small sail or power boat, or easily park their vehicle, anywhere on the water front. 12.2

4) I encourage the City to recognize and appreciate the steps that Florida took in the late 1990's and 2000's to protect the boat yards in south Florida, as the state realized turning every marina into a condo development was hurting its 4 billion dollar boat business. Florida realized it did not want to give up the tax revenue the boat business generates, nor the abundance of jobs it

creates for both low and highly skilled workers. In Massachusetts, every time a boat changes hands, it generates 6.25% of its value for the Commonwealth.

5) Boats in Boston are owned not only by the wealthy. In fact, the majority of boats owners in Boston are low to middle class workers who have made a few bucks and can afford their dream of owning a boat and escaping to the water. In the long run, developments like the one proposed put upward pressure on the cost of owning a boat and also limit access to the water. 12.3

6) I hope the City does not allow this project to go through. If it does however, my question is will the City recognize that there needs to be some land set aside, designated for marine use that provides not only dockage, but also significant space and sufficient hoist capability for servicing boats in the area. 12.4

7) Hingham Ship yard is prime example of the terrible result of allowing a marine property to be re-zoned. Did we really need a movie theater and a CVS on the water front?

8) In conclusion, there are fewer and boat yards and marinas in the Boston area that have the ability to haul and service boats. Once an area designated for water dependent usage - like the site of the proposed development - is destroyed, it is gone for good. Furthermore, considering the recent hurricane tragedies in other parts of the country along the water, the City needs to consider and identify places to haul pleasure and commercial boats in case of an emergency. 12.5

STEWART ROACH, PRESIDENT
NORWOOD YACHT SALES
NORTH QUINCY, MA

J. Edward Roche AIA
158 Walnut Street
Dorchester, Massachusetts 02122

Hon. Brian Golden, Executive Director Boston Planning and Development Authority
1 Scollay Square
Boston City Hall
Boston, MA 02114

cc. Tim Czerwienski Project Manager BPDA
cc. David Carlson Boston Civic Design Commission.

Re: Port Norfolk Proposed Development
Ericson St. Dorchester Waterfront 02122
Public Comments BPDA review article 85.

Dear Director Golden

Greetings! I write in relation to the BPDA comment period ending October 1, 2017 regarding the proposed development; To assist BPDA in its evaluations of this project I reference **the then BRA Plan for Port Norfolk" dated 1990 called Exhibit A and the Metropolitan District Commissions (now DCR) publication titled "History and guidelines: restoration of Dorchester's shores "**. 1. May 1989. (see Appendix.2)

The BRA zoning / urban design and related studies that identified and addressed the many peculiar problems and opportunities associated with developing this historical site and aspects of vehicular traffic ,zoning compliance , non-water dependent use proposals, environmental conditions , project scale and the site, and infrastructure limitations are but a few of the all considering factors in the review process and should be addressed, singularly and holistically in the context of the Peninsula known as Port Norfolk..

Observations: Past efforts and recommendations by City Planners of Boston and Norfolk county Commission.

Director Golden:

Hello sir: as a preservationist: we appeal to you to consider an important piece of **Architectural archeology** information that has been recently re- discovered stemming from the current review of planning, Article 85 review and 'subject development process, stemming from the Boston Civic Design Commissions comments at the September meeting of the commission at City Hall.

Port Norfolk, perhaps overlooked because of its isolation as a peninsula and affected by long depressed periods of land use and lack of jobs it has, from the 1940s onwards, been considered a forgotten, and not overly attractive place to live along with the attraction of the original job generators long gone. That said, not until 1990 BRA efforts, was not **a planning** area of interest, **nor understood** and its **history overlooked by** the planners of those time periods thru today and forgotten by most!

Change of Government and its effect on Port Norfolk

To understand Port Norfolk you need to know, when the Port peninsula was built in 1850 or so it was part of **Norfolk county**. **In 1872 Dorchester was annexed** to the City of Boston and thus became part of Suffolk County: **20 plus years after the port was substantially built out, then, under the governance of Norfolk County. see photos in appendix 2**

The peninsula, then known as Pine Neck, in the early days of Boston's settlement, was an important source of food products beginning with the salt hay fields that were parceled into 10' wide lots used by local farmers inland to feed the livestock of the city.

In the eastern most prominent waterfront of then Norfolk county **(hence the name "Port Norfolk") attracted the counties and regional attention in the early 1800s** when prominent local developers hired local Engineer / Architect **Luther Briggs (later resident of Walnut St.)** and Company to develop and implement a "**planned community development plan on Pine Neck** creek "followed later by the old colony rail line.

This unique planned environment designed with a flow of harmony with the peninsula's topography, consisted of live and work buildings designed in a modern harmony with new streets and infrastructure designed to its time; After Dorchester's annexation to the city and perhaps treated as an orphan after it lost its shine, was forgotten place, by the city of Boston government for over 100 yrs. See appendix 5

The peninsulas unique urban design plan and layout was recently rediscovered jointly during a presentation by small homeowners who while presenting our comments of the project overview, in the context of history of the port, and a dialogue and discussion of the architectural and planning context of the entire peninsula, took place with the design professional members of the esteemed **Boston Civic Design Commission.**

The homeowner's presentation focused on the great architectural design of residences and commercial waterfront buildings of the 1850s that interwove the residential areas of the Port with the working waterfront buildings of the ports waterside. **The first "planned community "in the Norfolk County town of Dorchester, later the city of Boston, located on this peninsula.**

: The urban planners, urban designers, architects and engineers may note and may want to review an excellent publication regarding this time of the peninsulas history and produced by the

Metropolitan District Commission (now DCR) titled History and guidelines, restoration of Dorchester's shores. 1. May 1989. Attached.

The attached illustration of the waterside of the port, circa 1890 illustrates these points:

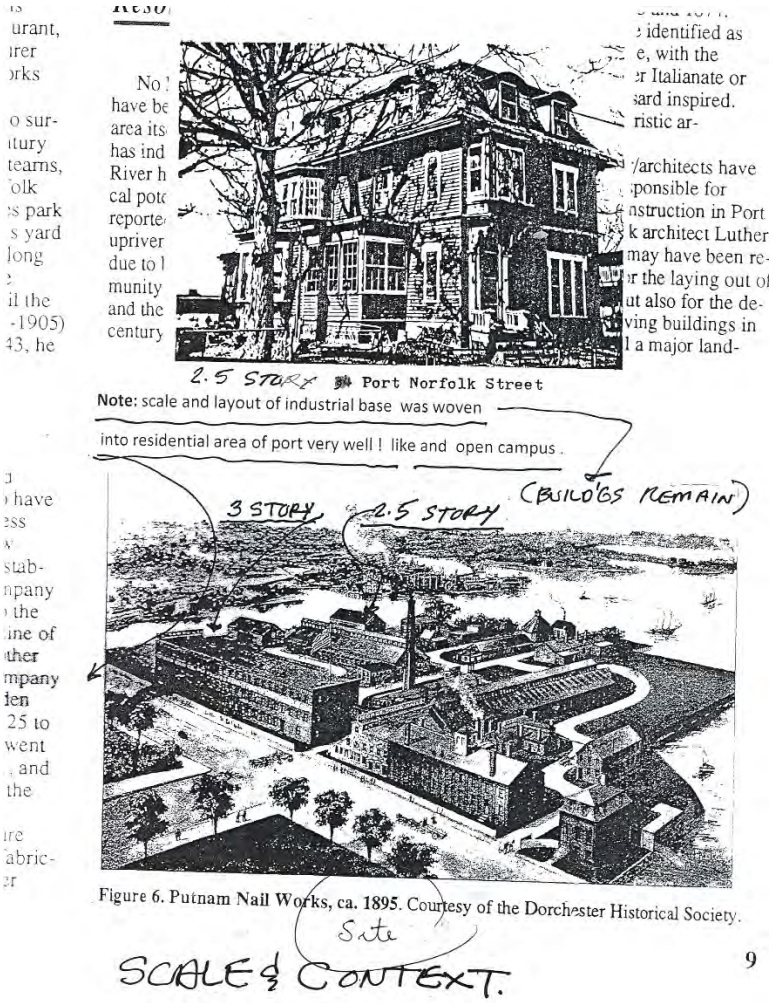


Figure 6. Putnam Nail Works, ca. 1895. Courtesy of the Dorchester Historical Society.

9

The top photo of existing **home on Port Norfolk St. represents** Luther Briggs attention to period residential detail and followed thru with the beautiful industry buildings that he and others designed on the waterside; **creating a near utopian peninsula** <u>of Living places in harmony with work places</u>**. <u>See appendix 6.</u>**

The multi architectural style residences, (most of which still exist today) were matched in a style and scale of the commercial buildings waterside that were equally beautiful in style and mass and in communion with the scale of the existing residential component of the port and created this amazing fabric that was created, unheard of, before this time in our city's history.

We certainly hope the staff planners , urban designers and architects of the Boston Planning and Development Agency, The BCDC and the city of Boston will consider this unique to Boston historical context by working with the proponent to developing a plan that is **preserving and enhancing the connections of this historical residential / workplace neighborhood in the City**, and ensure that proponents plans follows the general guidelines of the vision base planning, urban design principles established by Briggs of the Norfolk county developers of 1840 , the BRA plan of 1990 and the zoning that was put in place thru this documents.. As it was designed to be in the beginning, with all its overtaxing limitations I t is a wonderful place to live!

Example: For consideration and the next steps in prelude to the Article 85 Large project review by BPDA:

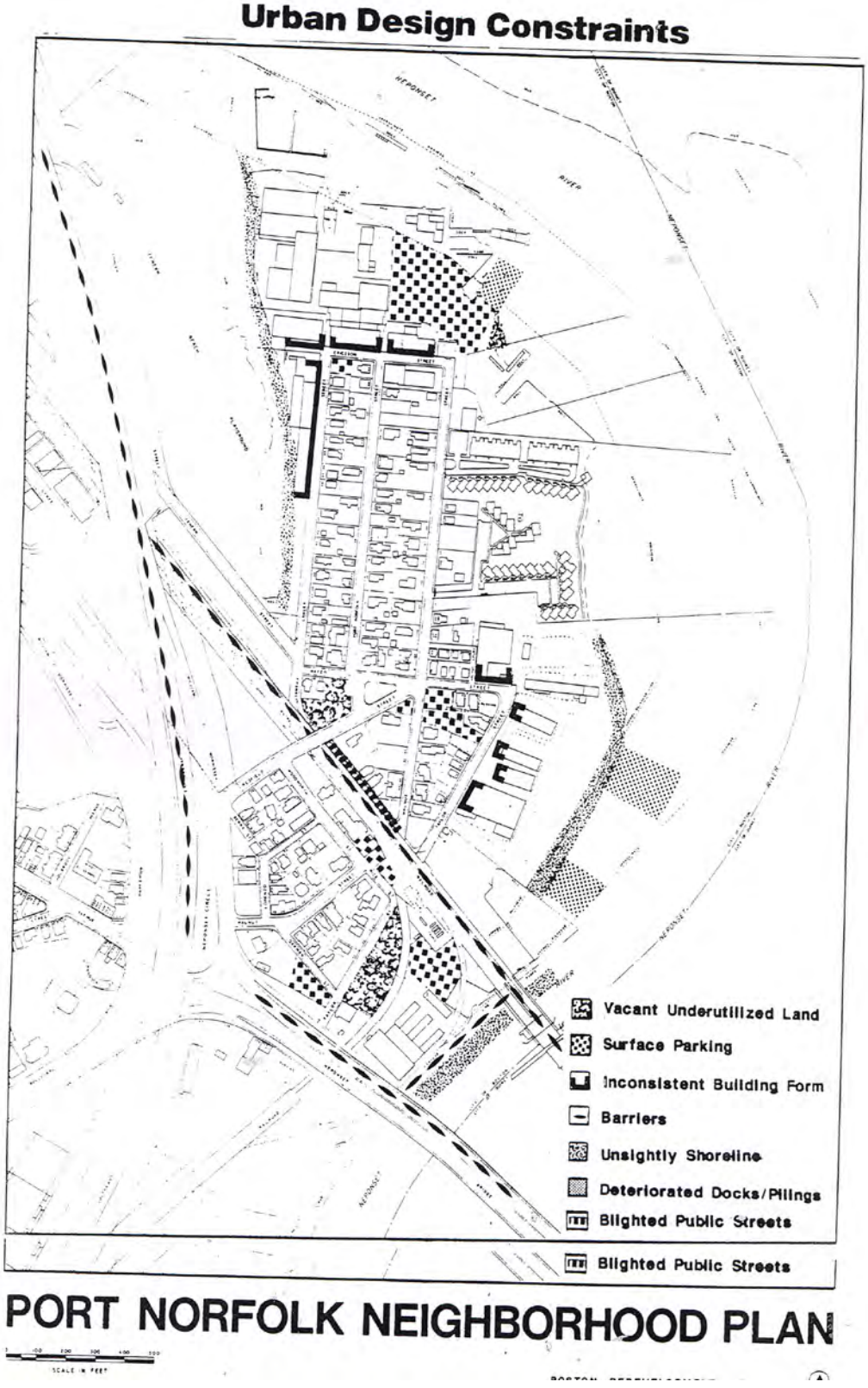
1.That the BPDA and the city of Boston related departments recognize the need for a full-blown comprehensive plan for Port Norfolk / Neponset like the BPDAs efforts at Glovers Corner Dorchester and **past planning efforts at Charlestown navy yard**. The plan boundaries may extend say ¼ mile on the compass from the common at Port Norfolk again designed by the brilliant planners of the 1840s.

2. Though the 1990 BRA plan for the port was a very good start by the BRA in the rezoning that occurred throughout Dorchester, the people involved in this effort, including the writer, at that time did not understand the underlying brilliant master plan of the peninsula, right under our noses buried in the portals of the past of Norfolk county.

13.1

3, **The Reason** /The most important consideration in the creation of new planning guidelines or an IPOD are that there are a number of remaining significant parcels of land throughout the Ports ocean and river sides that are in flux by an apparent development shell game with unknown but publicly stated options for additional development after this phase is built , hence the overwhelming need for review of these additional parcels , **the peninsula cannot be further picked off parcel by parcel** According to the whims of the market place.

We will not allow the commercial and residential historic architectonics of the waterside port to be overrun with unsympathetic non-water dependent development that is incompatible with the residential context partner.


Urban Design Constraints
Vacant Underutilized Land
Surface Parking
Inconsistent Building Form
Barriers
Unsightly Shoreline
Deteriorated Docks/Pilings
Blighted Public Streets
Blighted Public Streets
PORT NORFOLK NEIGHBORHOOD PLAN

Preceding page: a need for a comprehensive plan for Port Norfolk / Neponset like the BPDAs efforts at Glovers Corner Dorchester and past planning efforts at Charlestown navy yard

The urban planners, urban designers, architects and engineers of BPDA may want to review an excellent publication regarding this time and produced by the Metropolitan District Commission (now DCR) titled History and guidelines, restoration of Dorchesters shores. 1. May 1989.

1 LAND USE AND ZONING

The areas of comment for present and future are as follows. It must be clear that this critique is not intended to cast negativity on this development proposal as there will be many benefits to development at this site in terms of renewed infrastructure, traffic improvements, jobs for the neighborhood and the city and with beautiful buildings that reflect and bolster the historic context and history of this site.

These comments are intended to point out the importance that the development team recognize the historical importance and ties of the waterfront efforts and plans that this neighborhood, the Boston Redevelopment Authority and City and State Government **designed not so long ago**, not to be redundant, but most unfortunately what was lost in this effort is a lack of history of the original plans for development of the peninsula when Dorchester was part of Norfolk county.

On the plus side along with the iPod established by BRA this effort has been a proven success in evaluation of all projects that are proposed for this neighborhood as this one will be as well.

The development parcel is in a Waterfront services zone: as such uses in this zone are to be water dependent uses, the only use proposed that is water dependent is the Marina, the plan for the marina is under review and is viewed as a favorable water dependent use .as historically the site a water dependent manufacturing site and buildings related to ship yard ship building. As such the commerce generally arrived over the waterfront.

Note that all infrastructure, street widths, sewers, water etal in Port Norfolk were developed in and around 1830 to 1870, no improvements or increase in capacity over 175 years of use and are in poor condition (see planning report.) This is a major consideration that must be recognized and addressed in a project of this type and scale 13.2

The development parcel is in a Waterfront services zone: as such uses in this zone are to be water dependent uses, the only use proposed that is water dependent is the Marina. 13.3

LAND USE AND ZONING

The Port Norfolk area comprises the entire peninsula including the Area past subject to Interim Planning Overlay District(IPOD) zoning controls. The peninsula, totaling 114 acres, is in the Dorchester section of Boston and bounded on the north and east by Dorchester Bay and the Neponset River, and on the west by Morrissey Boulevard and the Southeast Expressway and on the south by the Neponset Bridge.

The purpose of the proposed Waterfront Service Sub district for Port Norfolk is to preserve water- dependent uses, and particularly for establishments that repair, service and sell commercial and pleasure boats, with adequate piers, docks and land necessary for the repair, maintenance and sale of such vessels and their parts, and for the temporary storage of such vessels, while awaiting servicing or related maritime work.

Public agency participation

As the site is the prime tenant and effector of this "Area **of Critical environmental concern** "The Commonwealths public agencies: MEPA, CZM, DCR and the city of Boston will have a profound effect on this developments effect on the port i.e.: it is estimated with new acquisitions DCR Land controlled amounts to more than 36% of the peninsula, notwithstanding the beach and adjacent areas.

Development of Exhibit A "Boston Redevelopment Authority Plan for Port Norfolk 1990"

In 1982 much attention though unwanted was brought to the port by a horrific fire in March of 1980, fast forward the City of Boston s new administration in 1984 sought to address this long forgotten and vulnerable neighborhood with the City of Boston 's first IPOD and Development Guidelines for districts and neighborhoods. This effort led to the production of the BRAs first ever neighborhood plan for this neighborhood in Dorchester. The results of this planning effort are reflected in the final zoning for Port Norfolk and the document entitled the **Port Norfolk Neighborhood Plan**.

What is lacking in the proposed development plan is the proponent's ignorance and lack of understanding this historic connection between the site and the neighborhood as exhibited in the original illustrated plan. The proposed development has totally disregarded the BRA plan, zoning, and basic planning principles. Shamefully, there has been no effort to weave this project into the existing residential neighborhood context either by intent or ignorance. Do better. 13.4

The community planning process of 1990 gave special attention to the
Unique characteristics of each neighborhood and provides community group
With a significant role in shaping future land-use controls.
The results of this planning effort are reflected in the final zoning for Port Norfolk and the document entitled the Port Norfolk Neighborhood Plan and general waterfront zoning and limits.

The final zoning defines the land use regulations and serves as a guide for future development in Port Norfolk. Some of the guidelines for Development:

To encourage new development which is compatible with the
Predominant building types. To do no harm to the existing ports residential component
appendix E1 and E2

To maintain the predominate height and massing of the existing
Residential areas; See **appendix E1 and E2**

To encourage new development which is compatible with existing?
Residential area and opens and maintains view corridors to the water;

To encourage the design of phased developments to minimize
Impacts on existing residential development; and

To promote compatible uses, without increasing peak hour traffic delays
Transportation and Parking:

- To discourage large, paved parking lots in new developments and
- Encourage covered parking on landscaped parking areas; and
- To minimize the impact of heavy traffic on adjacent residential streets.

The Port Norfolk Neighborhood recommendations evolved out of an in-depth, Comprehensive planning analysis of the Port Norfolk community, as required by the Interim Planning Overlay District (IPOD). Public input had been actively solicited During the planning process and will continue to be sought during the adoption and plan implementation phases. Neighborhood Plan recommendations were Drafted in the context of several major goals, including the following:
Insuring that any new development is compatible with
Placing height limits along with waterfront parcel zoning:

Waterfront Service Sub district (W-1): Create a new zoning sub district for

Port Norfolk, the Waterfront Service Sub district, and map to cover waterfront

Properties in the northern section of Port Norfolk. This sub strict does the Following:

Establishes a floor area ratio of 1. 0 and a height limit of 35 feet.
Promotes water-dependent services uses.
Replaces portions of the Waterfront Industrial district
Conditionally permits uses that are not water-dependent, including

Residential uses, are restricted to 25% of the allowable FAR and 35% of the Lot area.

Parking

Short-term Improvements: Short-term parking is limited to those that can be Accomplished by regulations, signs, and pavement markings, along with minor Physical changes. (See Figure G). Since the roadways in the study area come Under the jurisdiction of both the City of Boston and the DCR Commission good interagency cooperation is required. Such improvements Could include the following, and depend on detail approval of relevant agencies;

Parking Controls- Review parking regulations on local Port Norfolk streets with the objective of prohibiting parking on one side of one-way streets if the roadway width is less than 26 feet, and on two-way streets, if the width fails below 36 feet. Woodworth Street should be considered for parking restrictions in the short-term. Existing parking regulations on Lawley and Walnut Streets should be enforced more actively.

Signing- Provide guide signing to encourage greater use of Tenean Street for access to and from the area, and to help direct internal traffic, including trucks, to non-residential areas by the most acceptable routing.

Intersection Controls- Introduce a longer all-red internal into the signal phasing at Neponset Circle to create additional gaps for traffic entry from Walnut Street. Install STOP or YEILD controls at internal intersections where it is obvious that the “rule of the road” does not apply.

Pedestrian Crossing- Provide clear, well – maintained pavement markings and supplementary signing. Maintain pedestrian activated signal along the existing series of Port Norfolk pedestrian crossings.

DCRs future focus on the Morrissey Boulevard corridor, including Neponset Circle, and on the extensive parkland acquired in recent years:

With the acquisition by DCR of the former Shaffer Paper and Power's Marina sites and the construction of the shoreline walkway, the developers of The Estuary condominiums, waterfront public access in now a reality. Including

Tenean Beach and two smaller parks, open space and parkland.

2. TRANSPORTATION AND PARKING

The overall conclusions for the proposed land use program are that any significant t additional t existing development will require a shift of traffic away from the critical. Walnut St Intersection with Neponset circle.

The City of Boston regulates the use of streets under its jurisdiction and establishes parking and traffic controls yet the DCR controls the primary outlet for these streets and plans on reducing the existing vehicular flow lanes from 3 to 2 north and south. This conflict needs to be addressed by joint efforts of both agencies.

There is a traffic study in Exhibit A that defines the current traffic capacity of the 3 streets of port Norfolk walnut, port Norfolk and Lawley that access Port Norfolk including Morrissey Blvd interchanges. In **summary, the current traffic capacity rating of these streets and Neponset circle as of 1990 were rated as "F" (failure**). Nothing has changed other than the generation of more cars and less capacity to handle them 13.5

The proposed traffic count of this development states that 1500 new trips will be generated from the project. And does not consider future developments of the site along with new occupancies that have taken place since 2000. 13.6

It is critically important to note the DCR has a traffic improvement plan under design that will REDUCE Morrissey Blvd traffic lanes from 3 to 2 North /Southbound. Lanes with numerous changes to turning lanes, a nonsensical plan to create a 2-way traffic flow at the Neponset circle that will further distress traffic flows.

The health factor considerations of the traffic backups and traffic idling times which are already severe during rush hour a will be further exacerbated by reduced capacity of this major connector and its impact on Port Norfolk streets is currently not being considered by DCR and proponents of this project. 13.7

Recently a new multi acre park, with direct pedestrian connections to Harbor Park and downtown was opened in port Norfolk in June of 2016. The pedestrian friendly park is fully accessible without any barriers to the waterfront, the downside is that the **popular park has** generated extensive new auto traffic to surrounding streets as no provisions for park parking were made in the design of the new park. This feature needs to be factored in by the development team, DCR and MEPA. 13.8

There are public safety development issues for the Port with a project of this scale and given its isolation it is a major point of concern: The port has seen tragic consequences of its geographical isolation

Going back to the great fire of 1980 at Shaffer Paper Property where a hazardous material transfer station was located with its operation unknown to the neighborhood, along with a city that didn't care what went on here. There was a massive fire with flames 200' into the air, in windy March, it was determined that if the wind was blowing Easterly that night significant property loss would have occurred …that site was owned and operated by the same company that burned half of Chelsea down in 1978. … That plant is now a public park;

Again on another occasion in 2004 while a new access bridge was under construction and Redfield Street access road was closed. …… a neighbor went into cardiac arrest, 911 was called ……. The ambulance got lost trying to find a way in due to the bridge off Neponset circle being closed. Was delayed for half an hour and our neighbor died waiting for help ……the

Port is located at the end of a crowded peninsula, with woefully inadequate traffic capacity and access ways of modern times, exacerbated by existing dimensional roadway restraints

Relatedly, the plan recorded before the sale to the current owners does not provide for access

Through the restaurant waterside property. Whatever construction ultimately takes place, it appears that visitors, including emergency vehicles, will only have access through the 20' passageway.

Between the Winery and the Nail Factory/Ice Cream Factory. That means access down Port

Norfolk Street, occurs by making a 90 degree turn from Ericsson; the other access point is at the

Lawley Street end, which requires two 90 degree turns if entering straight from Lawley, or three

from Ericsson. As we all know, Lawley is barely passable for automobiles.

Currently, emergency vehicles approach on Walnut, and can cut across

the restaurant lot to access the marina. If the next project includes building on the existing restaurant lot, the only means of fighting a fire on the peninsulas marina / proposed housing site may be the fire boat, which takes time to arrive and may be limited by tides. a permanent easement which would keep an emergency lane open with any future development. 13.9

This should literally send the designers back to the drawing board. This is not pure speculation. Articles in the newspapers and other websites have stated that the developer has "rights" to

develop the restaurant property. The present owner will only acknowledge that the proponents only plan to develop and manage his section of marina.

13.9

These facts further demand the need for a comprehensive planning effort that accounts for these Numerous impediments to responsible development.

The Port Norfolk Road capacity for vehicular traffic, rated "F" was based on traffic studies completed in 1985. Nothing has improved since then, traffic has gotten worse, nor have there been any changes to neighborhood infrastructure

Access to and from Port Norfolk

Traffic access and egress have become more and more difficult as arterial traffic has grown on Morrissey Boulevard and through Neponset Circle. This traffic through Neponset Circle makes pedestrian access to the adjacent part of Dorchester almost unachievable.

Internal traffic, parking and circulation

Internal traffic conditions are problematic, with conflicts between truck and automobile circulation. Increases in parking demands for curb space on the narrow streets is also an issue.

Negative impacts of highway and rapid transit system

The noise and environmental degradation resulting from the Southeast Expressway and the MBTA right-of-way have negatively impacted the Port Norfolk community. Although these regional systems cut through the area, mass transit services available to Port Norfolk residents and employees are poor, making auto use essential.

How can you expect to develop and double the population without addressing the capacity of the existing roadways?

case in point, based on a preliminary analysis the existing housing density vs. the proposed new housing density is estimated that currently there is a total of 185* dwelling units on the peninsula for a total of 262,305 sf of living area vs the proposed development of 150 housing units and 25 hotel units for a total of 175 new dwelling units encompassing 218000. Sq. ft. of living area effectively doubling the # of residences with no upgrading of the street capacity and utility infrastructure notwithstanding the proposed restaurant and expansion of the marina.

Simplistically stated based on the existing zoning **residential development would be capped at 44 new residential units. however, with caps demanded under chapter 91, 25% of the available area is allowed yielding 11 new units of housing.** 13.10

C. Existing Parking and Circulation Conditions (See Figure A in report).

The street network in the Port Norfolk study area is divided into two distinct sectors by the MBTA right- of -way. Redfield Street is the only roadway connecting the northern and southern sectors of Port Norfolk.

D. **Levels of Service Analysis**

The most critical access point for Port Norfolk is for Walnut Street traffic trying to enter Neponset Circle, with its very high (over 4,500 vehicles per AM peak hour) arterial volumes, complex movements and lack of signal control for Walnut Street vehicles.

To give a measure of LOS for present and future traffic levels on walnut Street, capacity analyses were calibrated by HMM Associates on the 1985 vehicle delay study done by Segal DiSarcina Associates for the Port Norfolk Condominium EIR. The analyses were done 1985,1987 and a future year with a theoretical doubling of Walnut Street traffic. Due to the complexity of the traffic lanes and movements, the HMM Associates results can only be considered approximate.

These tables indicate that both AM and PM levels of service are less than acceptable for urban conditions. The PM average delay (19 seconds), which results in level of service of D, is one-third the delay during the AM peak period (60 seconds).

Traffic at Neponset Circle is highest at that time, and the level of service drops to a level E. Doubling the traffic would result in a level of service of F (Worst) for both AM and PM peak periods. As the delay increased, motorists would seek other routes to exit Port Norfolk, such as on Tenean Beach Street and Taylor Street.

Our suspicion is that the current proposal under review is Phase 1 of an unknown number of. ND future developments

Developer future Options need to be taken into consideration and the peninsula be planned holistically not piecemeal parcel by parcel! **PNCA** Has requested that the BPDA explain how the review process can be considered valid and Complete, when the ultimate objective may be to complete a project which is thrice the Size of the current proposal. In the alternative, we need a definitive statement of the long term 13.11

Intentions of all the parties involved. **Though restaurant ownership cannot be compelled to**

Release the right to develop their property., there is a limit to what can be built in total without
Creating chaotic conditions for the peninsula.

There is a limit to the scale of development that the peninsula infrastructure can handle, we can work with the development team to find the Balance. 13.11

3 PARKS AND OPEN SPACE

Recently a new 9-acre park, with direct connections to Harbor Park has been developed in port Norfolk that is fully accessible without any barriers to the waterfront, the downside is that the popular park has generated extensive new auto traffic to surrounding streets as no provisions for park parking were made in the design of the new park

Zoning Section 65-34. **Establishment of Greenbelt Protection Overlay Districts**

This Section 65-34 establishes a Greenbelt Protection District (GPOD) in the Dorchester Neighborhood District. The following Greenbelt Roadways and their adjacent areas between the boundary lines shown on Maps 5A, 5B and 5E are designated as Greenbelt Protection Overlay Districts:

1. **Morrissey Boulevard GPOD**

Any lot(s) within a GPOD is subject to the provision of the Article and Code applicable to the sub district within which it is located and to the provisions of Article 29 (Greenbelt Protection Overlay District). Projects within said gpod are subject to review by City of Boston Parks Commission and others. 13.12

4 ENVRIONMENTAL ISSUES

The Peninsulas sewer system was constructed in or about 1870. Prior to this individual property owners had to tie in their own lines. It is not known if these lines are still in use.

That said nothing much has changed with this since an upgrade of water lines in 2004 and to our knowledge it remains a combined CSO system with continuing problems. It needs to be 13.13

recognized and inspected in that this problem is perhaps contributing to water quality affecting the use of Tenean beach. Over time because of lack of maintenance and being the lowest point in the BostonWSewer system deposits within the pipes reduce the undersized capacity further. 13.13

For major projects in the area BWSC requires developers to separate the sanitary and storm water sewer systems, no indication from the ENR that this is proposed. 13.14

The major environmental problems which affect the Port Norfolk Neighborhood includes noise, siltation and inadequate sewer capacity. There are

Three major sources of noise: vehicular traffic on the Southeast Expressway, MBTA traffic on a fixed rail right-of -way, and Logan Airport air traffic.

Regional transportation systems isolate and bisect the neighborhood.

The Southeast Expressway Cuts Port Norfolk off from the rest of the City.
The MBTA Red Line bisects Port Norfolk, creating a limited number of
Vehicular access points, noise and visual blight.

A century-old sewer system does not meet modern standards.

The combined sewer system in Port Norfolk does not meet
Contemporary standards for storm and wastewater system s.
Consequently, the combined sewer overflows negatively affect the
water quality surrounding Port Norfolk. In addition, the storm drains a
Tenean Beach negatively affects that bathing area. The antiquated
Sewer system occasionally results in surcharging. The conditions
Would be expensive to correct but modification could be required
To allow for additional large-scale development. 13.15

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Contaminated material from Boston Harbor. In terms of sewer problems, there is a combined storm water and sanitary system, which overflows during peak
Storm water periods, occasionally causing sewage backups in Port Norfolk
Residences.

Larger development projects could be required to separate portions of the sanitary and storm water sewer system. Such separation will lessen the impact of new construction in the area and assist in the overall goal of cleaning up the Harbor. 13.16

Existing sewer system - Lawley St. has seen numerous instances of failure and probably will need to be replaced soon, the impact of a development of this scale on the existing utility and roadway systems is unknown and needs to be assessed and inspected. 13.17

The Port Norfolk waterfront is an ACEC.

5 Historical PRESERVATION AND HOUSING 2017

The residential areas of the Port have survived relatively intact with a scale of homes generally 2. 5 stories in height of varying architectural styles and is of a pleasant scale and is in an architectural overlay district created by new zoning plan in 1990. Most new projects are very responsive to this existing vocabulary and fabric. Although it is a design schematic presented it appears that the development team has either no understanding or knowledge of the exhibit A and its related tried and true planning guidelines or has chosen to ignore this and developed a plan that is completely out of character with this historic neighborhood and abutting structures. An observation is that the development team, in most all the projects of the proposed type and scale to be developed in a historic neighborhood would have proven experience and demonstrated an ability to understand the spirit of BRA 1990 plan and make an educated attempt to weave a project of this type and scale into this neighborhood by reinforcing the existing historical context with a plan that is responsive. It does not appear that the present plan attempts to do so.

The built environment of the port began in the year 1850. The context for most development and architectural sty les was established by prominent Dorchester Architect Luther Briggs also a resident of the port. Briggs established 7 different architectural styles, while diverse, the similarity in materials and scale makes the community s architecture harmonious, pleasant and beautiful, importantly the buildings developed on the waterside were visibly similar in scale, mass, and design of the residences landside

The ports architecture and scale has been recognized by the City of Boston Landmarks Commission as to be designated an architectural conservation district to make sure that future developments continue to be woven into this successful fabric by design, this is incorporated into the zoning guidelines which the proponent has completely ignored. 13.18

6 URBAN DESIGN GUIDELINES / recommendations

<u>Urban Design Concepts</u>

For purposes of calculating the area of a lot, the Zoning Code excludes "…any salt-water area below the mean high-tide line". The land under water therefore cannot be used in calculating the floor area of a development.

F. Constraints and Opportunities

Constraints:

Port Norfolk has a well-established land use and street pattern.
The original land use pattern was based on the 19th century need for
to have water access and for housing to be close to employment.
Current seaport industrial uses require large tracts of land for container
Break-bulk operations and deep-water access, neither of which Port Norfolk offers. The expansion of the industrial area to meet modern port requirements would encroach upon the residential area. Similarly, the street pattern and widths (20' and 24') are 19th century in origin and do no lend themselves to modification without major, undesirable neighborhood disruption and private land takings for expansion. These conditions result in limited street capacity and conflicts in land use, if industrial uses remain adjacent to residences.
Regional transportation systems isolate and bisect the neighborhood.
The Southeast Expressway Cuts Port Norfolk off from the rest of the City.
The MBTA Red Line bisects Port Norfolk, creating a limited number of
Vehicular access points, noise and visual blight.
A century-old sewer system does not meet modern standards.
The combined sewer system in Port Norfolk does not meet
contemporary standards for storm and wastewater system s.
Consequently, the combined sewer overflows negatively affect the water quality s surrounding Port Norfolk. In addition, the storm drains a
Tenean Beach negatively affects that bathing area. The antiquated
Sewer system occasionally results in surcharging. The conditions
would be expensive to correct but modification could be required
To allow for additional large-scale development.

.

Opportunities

The existing wood-frame, low -rise housing has architectural and historic significance.

Much of the Port Norfolk housing stock was built prior to 1860 and Displays an interesting range of 19th century style. The Boston Landmarks Commission Survey, conducted in 1978, recommended that Port Norfolk be designated as an Architectural Conservation District.

13.19

Interestingly and telling of the Cities lack of understanding of the history of the planned neighborhood encompassing the residential and industrial components linked together.

Irrespective of such designation, recognition of the neighborhood's architectural heritage should guide adjacent development. Protection and enhancement of the existing housing stock are highly desirable, as in maintenance of the predominant height and density. Of the waterside buildings. 13.19

Urban Design Guidelines

Mitigate the negative impacts that non-residential activity might have on existing housing. And infrastructure.

Discourage new or expanded non-water related uses on waterfront parcels.

Preserve the scale and quality of the existing residential area. And new waterside buildings.

Urban Design/ Architectural Guidelines possible next steps.

The development team needs to express their understanding of accepting the long-standing BRA Plan and make a statement on their vision and commitment to the plans and the community objectives in truly making buildings that will be a beautiful addition to Dorchester's /Boston waterfront and respect the history of the milieu dating back to 1600s as sites of the establishment of the nation's first commercial / residential waterfront planning area 13.20

Suggestion on design approaches that are more compatible with the fabric of the neighborhood. As such future developments should be modelled on the existing character of the neighborhood and from waterfront communities elsewhere in new England and layout of the original waterside development. New buildings should be sensitive to traditional building forms, heights, massing's and relate to the waterfront and recognize constraints of original narrow local street patterns. 13.21

The PNCA residents' concerns focus on preserving the historic residential character and architectonics of the community and on better utilizing the waterfront for water dependent and public uses. ; the density of the existing housing is relatively low and could be impacted heavily by high density future uses …….... case in point , based on a preliminary analysis the existing density vs. the proposed new housing density is estimated that currently there is a total of 185 dwelling units on the peninsula for a total of 262,305 sf of living area vs the proposed development of 150 housing units and 25 hotel units for a total of 175 new dwelling units encompassing 218000. Sq. ft. of living area effectively doubling the # of residences with no 13.22

upgrading of the street capacity and utility infrastructure notwithstanding the proposed restaurant and expansion of the marina.

That said to quantity other conflicts and constraints include the following:

The Southeast expressway retaining walls and constant drones and helicoptero traffic are an unwelcome neighbor; The MBTA tracks divide our neighborhood and present another wall of nuisance noise etal,

the proponent would add 3 new buildings of 8 stories in a presently compatible site of all structures, all heights under 40' by effectively walling off the neighborhood visually and physically with barriers and the incomprehensible new structures clashing with the scale, mass, height and precedent architectural character of the port neighborhood. 13.23

We are Suggesting a neighborhood / development team design charrette to solicit ideas from residents. The development architect should engage an experienced architectural colleague with expertise in historic preservation in Boston / Dorchester context to lead this charrette. It is hopeful that this effort will lead to a workable plan that addresses the myriad of challenges the limitations of the peninsula present. and hopefully to come to a design that is fluidly compatible with defining how the design of new elements and structures to not conflict with this historic neighborhood, the present plan seriously conflicts with this objective. 13.24

Thank you for this opportunity to comment on this project. I support and hope your efforts to plan wisely for this historic peninsula!

Sincerely yours

J. Edward Roche AIA and Family.
Neighborhood resident

APPENDIX * Appendices omitted for file size

1. NEIGHBORHOOD PLAN BOSTON REDEVELPMENT AUTHORITY 1990

2. “HISTORY OF DORCHESTER SHORES “MDC 1989.

3. E-1 / E2 SKETCH SHOWING MASS AND SCALE PROPOSED AND EXISTING NEIGHBORHOOD.

4. CHARLESTOWN NAVY YARD – VIEW CIRCA LATE 1800.

5. VIEW OF DEMOLITION SITE CIRCA 2005

6. VIEW OF PINE NECK CREEK FROM TENEAN ST. RECENT PHOTO

September 19, 2017
Brian Golden
Director
Boston Planning & Development Agency
City Hall, 9th Floor
One City Hall Square
Boston, Ma 02201

Regarding: 24 Erickson Street, Dorchester, Neponset Wharf Project

Dear Director Golden,
As a resident of the Port Norfolk neighborhood in Dorchester, I am strongly opposed to the Neponset Wharf Project as proposed by City Point Realty. There are multiple issues regarding the Port Norfolk neighborhood, regional planning and the environment. The project creates problems with traffic, sewage, height, density, use, proposed dredging, and the potential effect on wildlife. There is an overall disregard for the character of the Port Norfolk neighborhood, the Neponset River ACEC, the Dorchester Waterfront, the Zoning Code provisions for the Port Norfolk Waterfront Service District, and the Port Norfolk BRA Plan.

1/3/4/5/10

I am sure this Plan would devastate my area

Ben Tamble

Name:
Address: 172 Walnut St (63yrs)
~~Email~~:

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1/3/4/5/10

This project will create a major traffic problem To people trying to get in and out of the neighborhood not to mention trying to get into my own driveway.

Bernadette Griffin

Name: Bernadette Griffin
Address: 55 Port Norfolk ST. APT I
Email:

Tim Czerwienski <tim.czerwienski@boston.gov>

24 Ericsson Street Project

Barbara heiss [redacted] Tue, Oct 3, 2017 at 8:04 PM
To: Tim.Czerwienski@boston.gov

Dear Tim:

As a resident of the Port Norfolk neighborhood for over 14 years,
I've become quite fond of my adopted community here and cherish the peaceful residential area I now call home. I have attended several neighborhood meetings to learn more about the proposed project, and while I am not adverse to new construction, I feel the current proposal is not in the best interests of the Port Norfolk neighborhood. The size of the project is too large, the proposed structures too tall, but most of all the burden of the additional traffic would severely impact and destroy the residential area. Currently we must pull aside or stop going down a side street altogether to make way for oncoming cars because many people have to park in the streets themselves. Large vehicles give one no choice - imagine the stress all the additional vehicles will add to the mix if the proposal goes through as designed -IMPOSSIBLE! When there is significant snow, there is only ONE lane, huge snow piles, and very little room to maneuver -tough enough with the current number of vehicles without adding a hundred or more! If there was an emergency requiring either a fire truck or ambulance they would have a real challenge trying to get to the crisis with the CURRENT traffic flow -again a large project of this size would impede public safety ten times - it makes no sense. There is no mitigation that could be acceptable with a project of this size.. The impact to the residential neighborhood, not to mention the environment and the roadways would be prohibitive. Come back with a considerably smaller footprint and we may be willing to consider some changes that would be more in keeping with the historical character of the Port. Better still, what we could really use is a comprehensive master plan for the Port BEFORE oversized projects like this one end up on our doorstep. Thank you,

3/4

8

Barbara Heiss

Sent from my iPad

My Name is Bruce Tankle
I am writing in regards of the
Waterway and community impact
that would be put on us. We've
lived in this section of dorchester
We're proud to call it home.
With the building of your
project would add a burden
of traffic problems that are
pretty sad already. This is
a residential zoned area. With
some of the Trucks, Boats, Yachts. 4
Functions down at the the Street.
Between One hundred to Fo hundred
and twenty. Trying to get out of
the area is horrendise. Adding
more is suicide. I appose said
project, but yet i'm only one man.
If all the other residents think!!
Is that what it will come to.
I hope not. 90 units and parking.
Thats all!!!!!!

Bruce Tankle
172 Walnut St.
Dorchester Mass. 02122

Tim Czerwienski <tim.czerwienski@boston.gov>

Neponset Wharf Project- Resudent letter

Christine Cummings [redacted] Sun, Oct 1, 2017 at 10:37 PM
To: tim.czerwienski@boston.gov

To Whom it may concern,

Hello!
I am a current resident of Port Norfolk, at 140 Walnut St. I am writing regarding concern of the Neponset Wharf project. I have resided here since March 2005, with my husband, who was born and raised in this residence (42years).
Being a resident for over a decade personally, I have been a proud resident of the port, with many perks of the neighborhood. The walk along the river, adjoining Venezia, the access to Tenean beach, and the closed off access to the neighborhood (only 2ways in and out). We have the Pope John Paul Park, which has expanded and now includes the walking/biking trail right across the street from my home. It has brought many people to the area, which is what I'd like to address in this email. The neighborhood has seen its rise in population, with the addition of single homes, renovated to condos, and the town homes being built at the end of Walnut St. With the rise in population, comes the rise of traffic. There are very few roads within this neighborhood (see reference above, addressing the 2 ways in and out),which can only handle the capacity of which we are at, currently. The infrastructure of the neighborhood simply cannot handle the traffic caused by 195 parking spots- not to mention the overflow of cars with visitors, or even multiple cars per unit. Even if the traffic was alleviated by the addition of another road (which would destroy Tenean beach and the wild life there), how does one ensure the safety of the traffic? We have chosen to raise our 2 daughters in this neighborhood, since it is one of the few left that does not see heavy traffic, as Neponset Ave, Ashmont St, and the like, have currently. With in influx of cars, and the traffic at Neponset Circle, it will honestly be a nightmare during the morning and evening commute. The decision to build these condos will be forcing out the families who have chosen this neighborhood and have lived here for 40+ years. 4
Please keep this in mind-these condos will change this small, family-friendly neighborhood to something such as Southie and the south end- a parking nightmare and impassible roads, equalling a daily headache coming home. I don't want to relocate- I love my home and I love my neighborhood. Please don't force our young family to relocate- because these condos will force out the current residents.
Thank you for your time, and please carefully consider the drastic repercussions of this decision.
Sincerely,
Christine Cummings
140 Walnut St
Dorchester Ma

September 19, 2017
Brian Golden
Director
Boston Planning & Development Agency
City Hall, 9th Floor
One City Hall Square
Boston, Ma 02201

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Dear Director Golden,

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1/3/4/5/10

This project will ruin the lives of the residents and character of the neighborhood

Charles Harrington

Name: charles Harrington
Address: 55 Port Norfolk St.
Email: [redacted]

September 19, 2017
Brian Golden
Director
Boston Planning & Development Agency
City Hall, 9th Floor
One City Hall Square
Boston, Ma 02201

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As a resident of the Port Norfolk neighborhood in Dorchester, I am strongly opposed to the Neponset Wharf Project as proposed by City Point Realty. There are multiple issues regarding the Port Norfolk neighborhood, regional planning and the environment. The project creates problems with traffic, sewage, height, density, use, proposed dredging, and the potential effect on wildlife. There is an overall disregard for the character of the Port Norfolk neighborhood, the Neponset River ACEC, the Dorchester Waterfront, the Zoning Code provisions for the Port Norfolk Waterfront Service District, and the Port Norfolk BRA Plan.

1/3/4/5/10

The proposed project is way to big and nothing but a headache To the residents.

Debra Frederico
Name:
Address: 55 Port Norfolk ST
Email: Dor. MA. 02122

Brian Golden, Director
Boston Planning and Development Agency
Ninth Floor, Boston City Hall
One City Hall Plaza
Boston, MA 02201

September 22, 2017

Dear Director Golden,

As a member of the Port Norfolk neighborhood in Dorchester for more than twenty years, it is extremely disheartening to me that we are still discussing the monstrous project known by the developers as the Neponset Wharf Project at 24 Ericson Street. This neighborhood is very small, a peninsula completely surrounded by water. There are only three streets, and we are already over-run by cars, trucks, and other vehicles, people, and noise. The antiquated water and sewer systems are long since overburdened, and it is now impossible to get in or out of the small neighborhood by car. In fact, we lost one of our neighbors to fire when the emergency vehicles could not get in. The detrimental impacts to wildlife and the environment are legion and have been well addressed by others.

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This project would double or even triple the population of the neighborhood with the addition of 150 condo units and a 25 room "boutique" hotel, plus commercial enterprises, a fishing wharf, boats, a 95-space parking tower, and many other things. In short, this project would destroy our neighborhood.

Until recently, this has been an old neighborhood, characterized by the varied architecture, large yards and ample green space, wildlife including many species of birds, and wild flowers, chipmunks, squirrels, etc. People were born here and stayed here to raise their own families due to the peace and quiet, and family-oriented personality of the neighborhood, the gardens, the 'neighborliness'. This has also been an extremely low-crime area as the monthly police reports through the years will attest. We are proud to be the lowest in crime year in and year out, and the first and only planned neighborhood in Boston with our unique and varied architectural homes.

A further concern, one which may overshadow all others, is the fact that we are now in a flood zone. The ocean is rising, and we are already experiencing floods which we have never seen before. Moreover, the DCR plans to remove two lanes from Morrissey Boulevard, a project which will require much time, and which seems seriously ill-considered, due to the impacts on all who live or work along Morrissey Boulevard, as well as commuters from the south shore. Where will the water go when these additional structures are put in? Where will the trash, the sewage, and the fishing lines and debris go? Where will the people go when they can't get out to work in the morning or return home in the evening? These are already big problems; how can we add to them? And how can we possibly consider adding to them in such an oversized way?

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I can only pray that reason will prevail and the developers will find a more suitable site. Tiny Port Norfolk will never be that site. Even if the area along the ocean where they propose to build were not a protected wetland, and were not subject to deadly flooding, and were instead an ideal site to build, there would still be the insurmountable problems of ancient water and sewer lines, of getting in and out of the neighborhood, the significant overcrowding due to the already allowed zoning variances and multiple housing units, and the harmful impacts to wildlife and the environment. Fire concerns remain a significant issue, as is reaching any neighborhood person in crisis and getting out again. There are too many issues to bring up in one letter, but I hope very much that you will consider all of the ramifications of the proposed project and reject it for what it is - monstrously inappropriate for this neighborhood.

Sincerely,

Donna L. Bishop

Donna R. Bishop, MPH, PhD
39 Lawley Street
Dorchester, MA 02122
[redacted]

September 19, 2017
Brian Golden
Director
Boston Planning & Development Agency
City Hall, 9th Floor
One City Hall Square
Boston, Ma 02201

Regarding: 24 Erickson Street, Dorchester, Neponset Wharf Project

Dear Director Golden,

As a resident of the Port Norfolk neighborhood in Dorchester, I am strongly opposed to the Neponset Wharf Project as proposed by City Point Realty. There are multiple issues regarding the Port Norfolk neighborhood, regional planning and the environment. The project creates problems with traffic, sewage, height, density, use, proposed dredging, and the potential effect on wildlife. There is an overall disregard for the character of the Port Norfolk neighborhood, the Neponset River ACEC, the Dorchester Waterfront, the Zoning Code provisions for the Port Norfolk Waterfront Service District, and the Port Norfolk BRA Plan.

1/3/4/5/10

Definitely overbuilding area to small

Name:
Address:
Email:

Frank Kodzis
157 Walnut Street
Dorchester, MA 02122
[redacted]

September 27, 2017

Hon. Brian Golden, Executive Director Boston Planning and Development Authority
1 Solley Square
Boston City Hall
Boston, MA 02114

Subject: Opposition to development by the CPC Ericsson Street LLC; Neponset Wharf

Dear Director Golden,

I have been a resident of Port Norfolk since 1960, 57 years in the neighborhood. It is a great neighborhood to grow up in and raise a family. It is a highly desirable place to live knowing it has the lowest crime in the entire city and families help one another. The Neponset Wharf project will destroy a whole community with its size and complexity. The uniqueness of the area and the isolation from the rest of Neponset is like no other in the city. There are only two access roads in and out and both are difficult to if not dangerous to mitigate at rush hour. In the core of the neighborhood there are three main streets leading to the propose development. These streets are narrow by design with parking allowed on one side thus allowing one vehicle to transverse at a time. The situation at present is horrible for the residents as they must maneuver and weave their way down the streets to their homes. The safety of children is of the highest concern as they cross to street and play nearby. When the Venezia Restaurant has a function you could wait up to 5 minutes for their traffic to exit the street before you could proceed down. The developers are estimating an increase of traffic of approximately 1750 vehicles per day. This would be compounded to the restaurant function traffic. More importantly it would be 24 hours a day. This is a serious public safety flaw that needs to be address. 4

The critical response of Fire, EMS and Police to render assistance appropriately is time. The quicker the units can respond the quicker the resolution of the emergency will end in a good way. The realistic scenario would be that a fire or medical response is needed in any of the streets leading down to the development or worse into the development. Vehicles traveling up the street would prevent the emergency apparatus traveling down. Thus a loss of time, multiplied if many vehicles were traveling up the street. We have lost one member of our neighborhood because of a delay response of an ambulance. It was directly related to the access into the neighborhood. One life is too many and there will be more if the size of this project allowed to move forward. I can attest to this situation not only because I have seen and experience this situation over 57 years in the neighborhood but as a professional. 8

I am a retired Deputy Fire Chief in Boston, Fire Marshal for the city for 5years. It was my function as Fire Marshal to review street plans, recommend and give expert testimony of the hazards and remediate the solutions. I have also served on a number of state fire prevention boards that had to deal with this type of situation. I have work in the most difficult sections of the city to navigate apparatus, Beacon Hill, Charlestown and the North End. My professional understanding comes from actual emergency responses to situations such that would happen in Port Norfolk. I cannot overstate the seriousness of the delayed response. It is imperative that the traffic needs to be resolved before any further project development goes forward. Lives are at risk. Responsible planning is the key. My biggest fear as Fire Marshal was wondering when I went home at night, did I make the right decision today or did I put someone in harm's way. Knowing I did my best to protect the residences and citizens of Boston was my mission. It helped me sleep just a little bit better.

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I am against the development of any high rises in project (two 85ft). It is out of character with the neighborhood in addition to blocking views of the harbor. I am absolutely against a hotel in the project. This would create a 24 hour business. It does not belong in a residential neighborhood. The 175 condo units far out exceed the land building ratio. There are only 185 homes in the Port Norfolk. The developer wants 175 condos on only 10% of the land of the area of Port Norfolk. All these items are clearly out of the scope of the 1990 rezoning plan (IPOD). There are problems with water and sewer in Port Norfolk now. The developer has not addressed how their project will affect the neighborhood system.

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I have attended all the community meeting and the developer has never asked for input from the community; what and how should the project be built. They are seeking variances and I would think it would be crucial before putting a plan forth that the affected residences input would be sought. They had a choice to purchase or not to purchase the property. Their problems should not be the community problem, they had a choice. Please do not allow them to destroy our neighborhood, our community, away of life.

Respectfully Submitted
Frank Kodzis

Geoffrey R. Bok
169-6 Walnut Street
Dorchester, MA 02122
Tel: [redacted]
Email: [redacted]

October 3, 2017

By Email Only

Mr. Brian Golden
Director
Boston Planning & Development Agency
City Hall, 9th Floor
One City Hall Square
Boston, MA 02201

RE: Neponset Wharf Project - 24 Ericsson Street, Dorchester

Dear Director Golden:

I write to provide comments on the Neponset Wharf Project which is proposed to be built in the Port Norfolk neighborhood of Dorchester. As a matter of background, I am a lifelong resident of Boston. My wife and I have owned and resided in our Walnut Street home in Port Norfolk since 1990.

For many reasons detailed below it would be hard to image a worse or more inappropriate location for the Neponset Wharf Project than at the end of the Port Norfolk peninsula in Dorchester. Accordingly, I write in strong opposition to this project.

1. The Port Norfolk neighborhood cannot handle the dramatic increase in vehicle traffic through the neighborhood that this project will produce.

As an initial note, it is important to realize that the project is proposed to be at the very end of the Port Norfolk peninsula in Dorchester, which means that all of the vehicle traffic to and from the project will need to travel through the narrow streets of the Port Norfolk neighborhood. There simply is no way to avoid driving through the neighborhood to reach the project.

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The project proposes to build 150 residential units, plus a 25-room hotel, a restaurant, a 75-slip marina, a boat storage facility, and various amenities. At a recent public meeting, the architect for the developers stated that all of the residential units probably would be 2 bedroom units, or at least that the project overall would average 2 bedrooms per residential unit. Given the location of the Port Norfolk neighborhood well outside of the core of the City with extremely limited MBTA transportation access, the occupants of the 150 residential units reasonably will have a total of at least 300 cars (i.e.,

an average of 2 cars per residential unit). This average of 2 cars per unit is consistent with the number of cars per residence owned by other residents of other 2 bedroom condominiums in the neighborhood, such as in the Estuary at Port Norfolk at which I live. It is also consistent with the average of 2 cars per housing unit throughout Port Norfolk.

In addition, these 150 residential units at the project inevitably would product additional vehicle traffic by guests visiting these residential units, by school buses serving the children residing in the units, by trash and recycling trucks, by workers serving the residents of these units, etc.

Moreover, the non-residential components of the proposed project inevitably will generate additional vehicle traffic to and from the project. The 25-room hotel will have both guests (who will access the hotel by rental car, taxi, Uber/Lyft or a friend's car) and hotel workers, as well as be served by supply companies and trades people who will need to drive to the hotel. Similarly, a 75-slip marina will generate traffic, especially in the April to October boating season, from people wanting to access the boats in the slips, as well as traffic over the winter months to the boat storage facility. The restaurant and other amenities proposed for the project will generate still more vehicle traffic, including people driving to the project to enjoy a meal at the restaurant or the snack bar, to fish on the fishing pier, to enjoy the view, etc. It would be reasonable to assume that in addition to the 300+ cars going to and from the residential units each day (perhaps multiple times per day), the non-residential unit portions of the project would result in at least another 100 vehicles traveling through the neighborhood each day to access the project. 4

The project's developers will probably claim that people will access their project by public transportation, but that is totally unrealistic. There is no MBTA stop, or commuter rail stop, within walking distance of Port Norfolk. There is no MBTA bus service inside Port Norfolk. The closest MBTA bus stop is in Neponset Circle and offers very limited bus service (especially outside of rush hours) to Fields Corner Station only. It is even difficult to get an Uber or Lyft ride in Port Norfolk, as these ride sharing services rarely come into Port Norfolk.

Traffic currently leaving or accessing Port Norfolk is very slow, congested and often dangerous.

First of all, there are only two ways in or out of Port Norfolk – over the Redfield Street bridge or by way of the road past DCR Tenean Beach Park. The former route currently is massively crowded, slow and backlogged every morning (and at other peak times) on Woodworth Street as cars park on both sides of this two-way street that is the only way out of Port Norfolk after one crosses the Redfield Street bridge. The portion of Walnut Street near Neponset Circle has the same problem of being a two way street with only one drivable lane. People on these streets have to pull their cars over whenever a car approaches from the opposite direction, and the problems are even worse at times as school buses and trucks use this route to leave Port Norfolk (especially if they want to access I-93 North, Quincy, or the Ashmont or Lower Mills areas of Dorchester). Turning

into Neponset Circle from Walnut Street is next to impossible at any time of the day and can be very dangerous due to their being no traffic light cycle in Neponset Circle to allow a safe exit from Walnut Street into Neponset Circle (especially if one wants to go around Neponset Circle to access Neponset Avenue, Gallivan Boulevard or the bridge to Quincy.

The other exit out of Port Norfolk is hardly better, in that it goes onto northbound Morrissey Boulevard, which usually has cars driving at such a high speed and in such a high volume that it can take many minutes of waiting to be able to join the traffic (often in a dangerous manner), all this is without the benefit of a traffic light. Morrissey Boulevard is also a highly congested road once one gets north of Conley or Tenean Streets (the two access roads from Port Norfolk onto Morrissey Boulevard) and this congestion will only get worse with the Commonwealth's proposed reduction in the number of vehicle traffic lanes on this road.

Perhaps even more importantly, only three narrow streets run inside the neighborhood from the Redfield Street bridge or from Conley Street (by way of Tenean Beach) to the proposed project location – Lawley, Port Norfolk and Walnut Streets. All three streets are narrow and have parked cars on them. Port Norfolk Street is so narrow as to be one way, while the other two streets are two way streets but are not wide enough for two cars to pass each other in a location where a car is parked. The net result is that, just like with Woodworth Street and the portion of Walnut Street near Neponset Circle, traffic jams up and the only way to get through is to pull over to let other cars going the other way pass. During heavy traffic periods it can take quite a while to drive just one block on any of these streets. Adding hundreds of new vehicles to this traffic pattern will result in total gridlock.

In fact, the neighborhood's vehicle grid lock will be even worse than one might otherwise think if this project is built, since (as detailed below), the project clearly does not have enough on-site parking spaces. Thus, this project will result in 100 or more additional cars being parked on the streets of the neighborhood, especially along Lawley, Port Norfolk and Walnut Streets. 4

The problem is made worse by the large restaurant and event facility – the Venezia – just to the east of the proposed project location. The Venezia produces massive vehicle traffic, often with drivers who may be over the proper blood alcohol limit, through Port Norfolk many times per week. These drivers are not used to the slow give and take necessary for driving down Port Norfolk's currently overcrowded roads, and displays of road rage are not uncommon.

The problem is even worse after a major snow storm, when much traffic can be all but blocked on many neighborhood streets for days at a time. This problem typically occurs between 10-14 days per winter.

Obviously, the actual construction of the project would have a massive negative impact on the neighborhood and its traffic, as all of the construction trucks and supply deliveries would have to access the project site by way of the neighborhood's narrow and

overcrowded streets. For example, currently when a large boat is transported by a truck from the current marina site all traffic in the Port Norfolk neighborhood essentially is stopped in order to allow the truck to be able to move.

One partial "solution" to the traffic problems would be to ban on street parking in some or all of Port Norfolk, but this is totally unrealistic and unreasonable since almost all housing units in the neighborhood do not have off street parking for their vehicles and since (as noted below) the project inevitably will result in many additional vehicles needing to park on neighborhood streets. 4

Finally, and most importantly, the traffic problems are not simply issues of resident inconvenience and delay, but matters of critical public safety. There are no police or fire stations in Port Norfolk. Thus, all public safety personnel and vehicles have to access and depart the neighborhood by the same overcrowded roads used by the residents. Even now, fire trucks, police cars and ambulances can be delayed trying to drive down Port Norfolk's crowded streets to respond to emergency calls. With all the additional traffic generated by this proposed project, the inevitably additional driving delays will be life threatening. 8

2. <u>The project does not have adequate on-site parking.</u>

The project proposes to provide a total of 185 parking spaces. As noted above, 185 spaces are not enough parking for the 150 residential units alone, let alone for the 25 room hotel, the 75-slip marina, the boat storage facility, the restaurant and snack bar, and the various public access facilities such as the fishing pier. Inevitably, 100, 200 or more cars will need to park at times in the already overcrowded on street parking in the Port Norfolk neighborhood. There is not space for these cars to park on the neighborhood's already crowded streets. Even if there were, this additional parking would make the traffic on Port Norfolk's narrow streets grind to a virtual standstill as there would not be places for a car to pull over between parked cars to let cars going the other way pass by. 4

At a minimum, to build in this location where there is extremely limited on street parking and no nearby off site public parking lots, the project should be required to show that it has sufficient on-site parking for all of the vehicles accessing the site, including resident, guest and visitor vehicles. To be clear, this is not an unreasonable requirement; the nearby Estuary at Port Norfolk condominium complex has parking spaces for all of the vehicles that access it, and thus does not burden the neighborhood's on street parking at any time.

3. <u>The Port Norfolk neighborhood's infrastructure cannot handle a dramatic increase in demand for utilities.</u>

Port Norfolk currently has an ancient and grossly overloaded utility infrastructure. The proposed project's demand for water, sewer, electricity and gas lines simply cannot be met without a massive upgrading of this infrastructure. Of course, any such upgrading 6

would inevitably mean closing streets, making the traffic and parking problems in Port Norfolk much worse. 6

4. The Port Norfolk neighborhood cannot handle the dramatic increase in population and density that this project would bring.

The current project's 150 residential units would almost double the number of residential units in the Port Norfolk neighborhood. This would result in a drastic change in the character of the neighborhood. Moreover, the project's buildings (which apparently would provide approximately 307,000 square feet of total building area) are not consistent with the size, type, density or height of other residential buildings in the neighborhood. 3

The project's developers point at the (limited) public open space that this project will provide, while ignoring the fact that the neighborhood already has more than enough open space in that there already are two large DCR parks located in the neighborhood, as well as a walking path along the Neponset River providing the neighborhood with safe access to the larger Pope John Paul Park and other upstream parkland along the Neponset River.

5. The project is not appropriate from an environmental point of view and is grossly inconsistent with prior planning studies.

As other commenters on this project have noted, this project is not appropriate from an environmental and planning point of view in that it totally ignores the character of the Port Norfolk neighborhood, the Neponset River ACEC, the Dorchester waterfront, the Port Norfolk Waterfront Service Zoning Code and the Port Norfolk BRA Plan. In the interests of brevity, I agree with and join in comments on these topics made by others in opposition to this project. 10

Conclusion

Quite simply, the proposed project might have a great design if it were built elsewhere – such as next to the current Marina Bay complexes in nearby North Quincy – but (as noted above) this project is totally inappropriate in its proposed location at the end of the narrow and crowded Port Norfolk peninsula. Many projects can be made acceptable through mitigation measures or minor reductions in scale, but the proposed project is so fundamentally flawed at its current location as to make this impossible. The BPDA should not approve this project.

Thank you.

Geoffrey R. Bok

September 19, 2017
Brian Golden
Director
Boston Planning & Development Agency
City Hall, 9th Floor
One City Hall Square
Boston, Ma 02201

Regarding: 24 Erickson Street, Dorchester, Neponset Wharf Project

Dear Director Golden,

As a resident of the Port Norfolk neighborhood in Dorchester, I am strongly opposed to the Neponset Wharf Project as proposed by City Point Realty. There are multiple issues regarding the Port Norfolk neighborhood, regional planning and the environment. The project creates problems with traffic, sewage, height, density, use, proposed dredging, and the potential effect on wildlife. There is an overall disregard for the character of the Port Norfolk neighborhood, the Neponset River ACEC, the Dorchester Waterfront, the Zoning Code provisions for the Port Norfolk Waterfront Service District, and the Port Norfolk BRA Plan.

1/3/4/5/10

We don't need a hotel we already have three within one mile. the project is too Big

Halina Konko

Name:
Address: 19 PORT NORFOLK st
Email: [redacted]

Tim Czerwienski <tim.czerwienski@boston.gov>

24 ericsson street

Irene Lannon [redacted] Sun, Sep 24, 2017 at 6:26 AM
To: "tim.czerwienski@boston.gov" <tim.czerwienski@boston.gov>

Dear Mr. Czerwienski,

As a resident of the Port Norfolk neighborhood in Dorchester, I am writing to voice my opposition to the Neponset Wharf Project as currently proposed by City Point Realty.

I have become aware of many issues regarding the Port Norfolk neighborhood, established regional plans, and particularly, the environment. 1

The project will create significant problems with: traffic-drastically changing the tempo, increase already existing sewerage issues, height violations, congestion/density/use, and proposed dredging effects on wildlife. 3/4/1

My sense from the developers is an overall disregard for the character of the Port Norfolk neighborhood, the Neponset River ACEC, the Dorchester waterfront, the Zoning Code provisions for the Port Norfolk Waterfront Service District, and the Port Norfolk BRA Plan.

Port Norfolk is not South Boston.

Thank you,

Irene Lannon
94 Walnut Street

Tim Czerwienski <tim.czerwienski@boston.gov>

24 ericsson street

Irene Lannon [redacted] Sat, Sep 30, 2017 at 2:34 PM
To: Tim Czerwienski <tim.czerwienski@boston.gov>

Hi Tim,

I would like to add comments on another issue related to this project.

At Thursday's meeting Frank Kodzis spoke of something dear to my heart: accessibility of emergency equipment.

I bought my property in Port Norfolk two years ago after being displaced by a 1:30am fire in the condo building I was living in in South Boston. Fortunately there was only property loss.

Shortly after moving to the Port I was home and heard fire engines approaching close by. I went onto my front porch to see where they were heading. They were turning onto Walnut Street and to my amazement they could not pass. I watched the firemen get off the trucks and WALK carrying their equipment to get past cars parked on the sidewalk that were blocking their access. I believe the incident was a medical call and not a fire, but being a nurse I know the importance even a few seconds can make in saving lives.
I reported this incident to the Boston Police and they sent out notifications re: parking on the sidewalk but neighbors continue to park on sidewalks. 8

My point here is we are ALREADY compromised in terms of safety and access for emergency vehicles. Adding any more traffic or congestion to this area severely impacts our safety.

Thank you, Irene Lannon
[Quoted text hidden]

October 1, 2017

Brian Golden, Director
Boston Planning & Development Agency
9th Floor Boston City Hall
One City Square
Boston, MA 02201

Re: 24 Ericsson Street, Dorchester

Dear Director Golden:

I am opposed to the proposed development, for 24 Ericsson Street, Dorchester. The current proposal is extremely excessive and is contrary to the Port Norfolk IPOD/BRA plan.

My major concerns are traffic impacts and the scale of project as proposed – especially height & density.

3/4

In my opinion, the development as proposed is an attempt to put twenty-five pounds of potatoes into a three-pound bag.

Thank you for your attention to this most serious neighborhood concern.

Sincerely,

Joseph P. McDermott
158 Walnut Street
unit 2 rear
Dorchester, MA 02122

[redacted]

September 19, 2017
Brian Golden
Director
Boston Planning & Development Agency
City Hall, 9th Floor
One City Hall Square
Boston, Ma 02201

Regarding: 24 Erickson Street, Dorchester, Neponset Wharf Project

Dear Director Golden,

As a resident of the Port Norfolk neighborhood in Dorchester, I am strongly opposed to the Neponset Wharf Project as proposed by City Point Realty. There are multiple issues regarding the Port Norfolk neighborhood, regional planning and the environment. The project creates problems with traffic, sewage, height, density, use, proposed dredging, and the potential effect on wildlife. There is an overall disregard for the character of the Port Norfolk neighborhood, the Neponset River ACEC, the Dorchester Waterfront, the Zoning Code provisions for the Port Norfolk Waterfront Service District, and the Port Norfolk BRA Plan.

1/3/4/5/10

The project is way too big. We don't need another hotel theres three hotels within one mile.

Linda Korman

Name: Linda Korman
Address: 119 Walnut St.
Email: [redacted]

Tim Czerwienski <tim.czerwienski@boston.gov>

COMMENT LETTER (I just saw I typed email address incorrectly yesterday , please add to your comment letter collection, if you still can)

Maloney , Lauren E [redacted] Mon, Oct 2, 2017 at 5 31 PM
To: "tim.czerwienski@boston.gov" <tim.czerwienski@boston.gov>

Boston Planning & Development Agency

Attn: Tim Czerwienski
One City Hall, Ninth Floor
Boston, Massachusetts 02201

To Whom it May Concern,

This letter is in response to the PNF filed by City Point Capital for 24 Ericsson St (Neponset Wharf). I am strongly opposed to many components of the Neponset Wharf project. I understand the need for an increase of housing units in the city of Boston, but I also believe this should happen through careful, proper planning. The size and location of the site are not appropriate for such a large development and the developer is willing to sacrifice the quality of an entire neighborhood to accommodate the project, which is quite telling. This development team is blatantly disregarding rules, laws and codes that have been put in place to avoid such overdevelopment. This site sits on an Area of Critical Environmental Concern, this designation should be taken into consideration with every step of the planning process. This 10
particular site is limited to marine-dependent business with residential as a conditional-use. Reasonably, a marina and residential units should be built on the site. Port Norfolk does not need a hotel; as described by the development team, the hotel would patronized by individuals using the marina. Why anyone would take his /her boat to a hotel, is totally beyond me, you'd just stay on your boat. Port Norfolk does not need another restaurant/bar. At a meeting with the development team; attendees were handed a list of over 30 amenities with instructions to rate amenities by what you'd like to see in the development, it was quite insulting. The neighbors in Port Norfolk do not need or want any amenities, we 3
have plenty of open space. Providing access to the waterfront is more than enough for the Dorchester residents, Port Norfolk should NOT be made into a destination. Logistically, the neighborhood would not be able to handle a drastic increase in traffic. Neponset wharf would double daily traffic in the neighborhood. There are only 2 ways in and out, Port Norfolk streets received a failing grade when a traffic study over 20 years ago, nothing has changed since then, except 4
traffic has increased. Please consider requesting the development team make significant changes (downscaling) this project, utilizing the Port Norfolk Development Plan as a guide.

Sincerely,

Lauren Maloney

contains patient information, please contact the Partners Compliance HelpLine at http://www.partners.org/complianceline . If the e-mail was sent to you in error but does not contain patient information, please contact the sender and properly dispose of the e-mail.

September 19, 2017
Brian Golden
Director
Boston Planning & Development Agency
City Hall, 9th Floor
One City Hall Square
Boston, Ma 02201

Regarding: 24 Erickson Street, Dorchester, Neponset Wharf Project

Dear Director Golden,

As a resident of the Port Norfolk neighborhood in Dorchester, I am strongly opposed to the Neponset Wharf Project as proposed by City Point Realty. There are multiple issues regarding the Port Norfolk neighborhood, regional planning and the environment. The project creates problems with traffic, sewage, height, density, use, proposed dredging, and the potential effect on wildlife. There is an overall disregard for the character of the Port Norfolk neighborhood, the Neponset River ACEC, the Dorchester Waterfront, the Zoning Code provisions for the Port Norfolk Waterfront Service District, and the Port Norfolk BRA Plan.

1/3/4/5/10

Any increase in traffic and population, in a small congested area such as the port is only asking for a greater burden for the residents of this neighborhood.

Name: Michael Kerman
Address: 119 Walnut St
Email: [redacted]

September 19, 2017
Brian Golden
Director
Boston Planning & Development Agency
City Hall, 9th Floor
One City Hall Square
Boston, Ma 02201

Regarding: 24 Erickson Street, Dorchester, Neponset Wharf Project

Dear Director Golden,

As a resident of the Port Norfolk neighborhood in Dorchester, I am strongly opposed to the Neponset Wharf Project as proposed by City Point Realty. There are multiple issues regarding the Port Norfolk neighborhood, regional planning and the environment. The project creates problems with traffic, sewage, height, density, use, proposed dredging, and the potential effect on wildlife. There is an overall disregard for the character of the Port Norfolk neighborhood, the Neponset River ACEC, the Dorchester Waterfront, the Zoning Code provisions for the Port Norfolk Waterfront Service District, and the Port Norfolk BRA Plan.

1/3/4/5/10

I oppose the project. It will be a decrease to the nice neighborhood we now have. I lived here since 1960. My husband was born here

Name:
Address: 147 Walnut St Dorchester, Mass 02122
Email:

September 19, 2017
Brian Golden
Director
Boston Planning & Development Agency
City Hall, 9th Floor
One City Hall Square
Boston, Ma 02201

BRA
'17 SEP 28 AM9:34:30

Regarding: 24 Erickson Street, Dorchester, Neponset Wharf Project

Dear Director Golden,

As a resident of the Port Norfolk neighborhood in Dorchester, I am strongly opposed to the Neponset Wharf Project as proposed by City Point Realty. There are multiple issues regarding the Port Norfolk neighborhood, regional planning and the environment. The project creates problems with traffic, sewage, height, density, use, proposed dredging, and the potential effect on wildlife. There is an overall disregard for the character of the Port Norfolk neighborhood, the Neponset River ACEC, the Dorchester Waterfront, the Zoning Code provisions for the Port Norfolk Waterfront Service District, and the Port Norfolk BRA Plan.

1/3/4/5/10

Name: PETER FOLGER
Address: 134 WALNUT ST.
Email: BOSTON MA. 02122

September 19, 2017
Brian Golden
Director
Boston Planning & Development Agency
City Hall, 9th Floor
One City Hall Square
Boston, Ma 02201

BRA
'17 SEP 28 AM9:34:02

Regarding: 24 Erickson Street, Dorchester, Neponset Wharf Project

Dear Director Golden,

As a resident of the Port Norfolk neighborhood in Dorchester, I am strongly opposed to the Neponset Wharf Project as proposed by City Point Realty. There are multiple issues regarding the Port Norfolk neighborhood, regional planning and the environment. These include problems concerning traffic, sewage, height, density, use, dredging, and the wildlife. There is an overall disregard for the character of the Port Norfolk neighborhood, the Neponset River ACEC, the Dorchester Waterfront, the Port Norfolk Waterfront Service Zoning Code and the Port Norfolk BRA Plan.

1/3/4/5/10

Name Patricia Keenan
Signature
Address 87 Walnut St #3
E-Mail [redacted]

September 19, 2017
Brian Golden
Director
Boston Planning & Development Agency
City Hall, 9th Floor
One City Hall Square
Boston, Ma 02201

Regarding: 24 Erickson Street, Dorchester, Neponset Wharf Project

Dear Director Golden,
As a resident of the Port Norfolk neighborhood in Dorchester, I am strongly opposed to the Neponset Wharf Project as proposed by City Point Realty. There are multiple issues regarding the Port Norfolk neighborhood, regional planning and the environment. The project creates problems with traffic, sewage, height, density, use, proposed dredging, and the potential effect on wildlife. There is an overall disregard for the character of the Port Norfolk neighborhood, the Neponset River ACEC, the Dorchester Waterfront, the Zoning Code provisions for the Port Norfolk Waterfront Service District, and the Port Norfolk BRA Plan.

1/3/4/5/10

This project will have a total negative effect on this neighborhood!

Robert Goodwill

Name: ROBERT GOODWILL
Address: 169 WALNUT ST #3
Email: [redacted]

September 29, 2017

Susan Roche
158 Walnut Street
Dorchester, Massachusetts 02122

Hon. Brian Golden
Executive Director Boston Planning and Development Agency
City Hall, 9th Floor
One City Hall
Boston, MA 0221

cc. Mayor Martin Walsh
cc. City Councilor Frank Baker
cc. City Councilor Annisa esabi George
Sen. Linda Dorcena Forry
Rep. Dan Hunt
BPDA proj manager Tim Czerwienski

Re: Port Norfolk Proposed Development Neponset Wharf
24 Erickson St. Dorchester Waterfront 02122

Dear Director Golden and elected officials representing Dorchester

Thank you for the opportunity to submit comments regarding the Neponset Wharf project in the Port Norfolk neighborhood of Dorchester.

First, I would like to say that I personally welcome development to the area in question. It has long been neglected, and the opportunity to develop and enhance the property would be beneficial to the neighborhood. However, this proposed project is very, very concerning for many reasons that I would like to state.

1.

Overall design of the project: The overall design of the property is completely out of context with the neighborhood and exhibits a gross lack of understanding of the present and past design of this peninsula . . The proposed buildings have nothing to do with the overall architecture of the neighborhood and appears to have been designed by someone who has never stepped foot in original urban design layout of Port Norfolk !

Quite frankly, the designer does not understand or sadly cares less abut the aesthetics of our neighborhood. We do not need a dog park, and we do not need a playground. This should not be a destination with the traffic that comes with that. We have those at Tenean Beach;

and the 36 % of the parks in the port ….these amenities are simply ploys to satisfy illegal development of the ch 91 protected shorefront , and honestly those so-called amenities were meant as appeasements for the neighborhood. While I am not an architect, I do understand the importance of a cohesive neighborhood in relation to architecture. If the project in question were redesigned to more appropriately fit into the neighborhood it would be welcomed. 5

2. Traffic: I understand this issue has been raised several times. But I would like to reiterate that concern. Currently, we have an overabundance of traffic in the neighborhood, especially on the weekends. I would like to express my deep concern about the excessive speed in which non-residents travel down these already jammed, narrow streets. We have young children exiting Finnegan Park and drivers speeding down Walnut Street appear to have little regard for the safety of children or other residents of Port Norfolk. With that in mind, having an addition of a 25-room hotel, 150 new townhomes are extremely troubling and overwhelming. Marinas and Hotels are 24/7 businesses, our neighborhood cannot possibly accommodate that kind of traffic. You can see the effects of hotel traffic in downtown Boston, what kind of effect will that have on a small neighborhood with only three narrow streets? 4

3. Public safety and construction: it is premature to address but to hopefully avoid the mess accomadating this project . We have enough nuisances around us that contribute to our right to privacy and the quiet enjoyment of the limited hours when we are undistbured by the Railways – 2, airplane nosie and traffic , commercial traffic from bus tours , restrarnt gatherings aoll entering primarily on the stret right outside my frong door….. my husband gets up at 5am to enjoy a short period of peace from these annoyances to enjoy our otherwise wonderful neighborhood. How will the developers handle construction equipment? During each meeting, I have asked that question, without receiving an answer. Port Norfolk is comprised of three very narrow streets, which can be challenging to enter and egress on a good day let alone a day with snow or heavy traffic from the Venezia Restaurant, adjacent to the property in question. We really can't face bulldozers and dump trucks every time we try to go to work in morning. A question that has been asked several times is in regard to first responders. What will happen when fire, police or ambulances are called during the construction process? 7

I want, again, to express my appreciation for this opportunity to state concerns for this Project. Again, while I am not opposed to development; the present size and scope of the Neponset Wharf project and impact is not conducive to the Port Norfolk neighborhood. In any way , shape or manner ; I would welcome a redesign that included more appropriate architecture, urban design, absent a hotel, restaurant and destination type facilities such as dog parks.

I feel this development is not realistically respectful of the site and the neighborhood and is overwhelming to our small streets and creates another barrier between the water and the residents. Never in its 167-year history has seen a project as overwhelming, out of scale, and has no architectural relationship or continuity with the surrounding and impacted neighborhood. It is very ugly !!!!!!!!!!!!!

These concerns have been raised several times with the developers, and each time, none of the very specific questions asked have been answered.

I respectfully request your consideration to this matter.

Thank you for your time, interest and attention to this project.

Sincerely,

Susan Roche
158 Walnut St.
Dorchester, MA 02122

Impacted family property owner and resident

cc. Mayor Martin Walsh
cc. City Councilor Frank Baker
cc. City Councilor Annisa esabi George
Sen. Linda Dorcena Forry
Rep. Dan Hunt
BPDA proj manager Tim Czerwienski

September 28, 2017

Boston Planning and Development Agency
Honorable Mayor Martin J. Walsh

I have resided in Port Norfolk for the past fifty eight years. I have seen a lot of the good and bad during this time. I wish to express my grave concerns in the scope of this project and the impact it will have on this very close nit neighborhood. The project as submitted is too large and frankly not wanted by anyone. I have talked to the residents here whether they are renters, owners or people that visit family still here. This project would overwhelm this small peninsular we call home in more ways than one. The traffic is horrendous now with the Venenzia, winery, distillery and the two existing boat yards, along with the old Seymours ice cream building being redone with the few tenants already in and I'm sure more to come. The parties that are putting this forth have no idea of the hardship this will place on the residents who have helped make this the great neighborhood it is and always has been if you ask me. Let me point out some of the major concerns. I am sure you have already heard about the infrastructure in which this project would have to tap into cannot handle it. We are hearing from many residents close to the entrance of these locations that are having flooding and back up problems they never had before the newer business came in. Walnut Street, Port Norfolk Street and Lawley Street seem to be sinking with cracking in many spots, also, the traffic getting in and out is horrendous along with the added parking Monday and Friday about 30 to 50 cars in the vicinity of 50 Redfield Street, this is a direct overload from their already full parking lot. I have not used this exit onto Morrissey Boulevard in years in the morning simply because it is too dangerous. Their proposal for one hundred fifty condo's along with a hotel and restaurant. Marina will cripple traffic coming in and out, this is not predicting this is a fact. Walnut Street, which currently has parking on both sides at certain times of the day and weekends, let me point out this is something the development team did not even know until I told them at one of the meet and greets they had. For that reason I have been parking my car out front during the hours it is legal. This does two things, it slows

3

4

6

4

traffic down and please note, it makes it almost impossible for the buses or other large vehicles to get by to their respective destinations. Simply put if they come back with a more neighborhood friendly proposal of just condominium and drop the restaurant and boutiques and utilize there Marina "Boat Yard" that is something I could except. We the residents of Port Norfolk are not Marina Bay nor do we wish to be. As their team pointed out, this project doesn't work for the residents only the developers and owners, I have never thought of moving elsewhere to live but if this project goes through as presented that is an option I have discussed with my wife already.

Sincerely,

Steven Tankle
170 Walnut Street
Dorchester, MA

24 Ericsson Street Public Comments via website form 2017-10-06

Date	Name	Organization	Address	Opinion	Comments
10/1/2017	Freda Manning		97 Walnut St., Dorchester MA 02122	Oppose	September 28, 2017 Brian Golden Director Boston Planning & Development Agency City Hall, 9th Floor One City Hall Square Boston, MA 02201 Regarding: 24 Erickson St, Dorchester, Neponset Wharf Project Dear Director Golden, I have lived in Port Norfolk for over 50 years. I am opposed to this project for many reasons. We have always fought to make our section of Dorchester better. The Neponset Wharf project brings with it so many obstacles for the neighborhood to deal with not just for now but, forever should it go through. I do not understand how monstrosities of this size allowed to be built all over the city. The size of this project is too grand in many ways. I worry about the height and design not conforming to the neighborhood. The parking spaces for the 150 units and 25 hotel rooms are not adequate. Lack of parking already exists on this peninsula. The excess cars will burden are streets even more. Crowded streets are not very accommodating to emergency apparatus trying to get to us, this is a major concern, especially with the new construction fires which have been too frequent recently. 4/5 Will our streets hold up to the additional traffic? Will our utilities, water, sewer, electric, gas be able to support such a 6

					structure. We are one of the oldest areas in Boston and I am sure are utilities structures are too.	6
					This size this project almost doubles our current homes in Port Norfolk. It will no longer be our little neighborhood. I cannot see how doubling our population with just one project is a good thing. We are a peninsula. We only have 2 ways to exit. One is onto Morrisey Blvd. at Walnut Street and Neponset Circle the other is by Tenean Beach and during peak travel times we struggle already to exit. Traffic is backed up to the lights on the Quincy bridge from the on ramp of the expressway every weekday morning from about 7 to about 10 a.m.. We fought for delayed lights at the circle so both red lights to be longer at the same time to allow us to escape but, now traffic is so bad that it is only useful at off peak times. We should have asked already to have a painted road in front of Walnut St. at Neponset Circle stating not to block Walnut street. At off peak times people fly down the bridge and boulevard and we usually have to wait for that delayed light to get out. Now add in the fact that Morrissey Blvd. design change and loss of lanes on both sides we will have cars backed up to the beach. We will be struggling to get out our only 2 exits. The MBTA bus drivers already hate us because of our stop and how difficult it is to get in and out at Neponset Circle for them.	4
					With the completion of the park in our back yards we can see birds that we rarely saw before. I fear the height of these buildings will change this because it is and obstruction for the birds.	1
					The even greater fear I have is if this is allowed it will open the door and everyone feeling they can build oversized buildings on every lot in Port Norfolk.	
					The Project says it will offer all sorts of amenities for the area. This again makes it a destination and more traffic no parking. Mention of a restaurant is a concern too again making it a destination more traffic and no parking.	3

					We have enough green space in our little piece of Dorchester. The beach and new park are more than enough for us. I heard that we are almost 40% open space. I know that if projects put in open space it often allows them to have taller buildings. Give us the air space not green space. Stay within the code set forth for our area of 35 feet. We do not need another Marina Bay. We do not need to look like downtown. We can easily access these areas if we choose so we do not need it at the end of our street. Looking forward and hope the project is downsized to meet current code. Thank you, Freda Manning 97 Walnut St. Dorchester, MA 02122"
10/1/2017	James Manning		97 Walnut St., Dorchester MA 02122	Oppose	I have lived in Port Norfolk for since 1989. I am opposed to this project. My concerns are traffic, inadequate parking, size of project, age of our infrastructure able to support such a project and emergency vehicles access on already congested streets. The Neponset Wharf project brings too many challenges for our neighborhood. The number of units being requested is almost equal to the amount of structures that exist here. If this is allowed then every piece of undeveloped property will be requesting oversized building on undersized lots. We have adequate green space in Port Norfolk. The beach, the center common and new park are more than enough for us. We do not need more green space or amenities that will attract more traffic and parking problems on our already strained streets. The size of this project must be reduced considerably.

					Please do not allow this oversized project. Thank you, James Manning 97 Walnut St. Dorchester, MA 02122
9/30/2017	Edward McCarthy		157 Walnut St, Boston MA 02122	Oppose	To Whom it May Concern: I am writing today to voice my opposition to the proposed "Neponset Wharf" project. The project as proposed would be detrimental to this neighborhood and the greater community at large. As a resident of the City and this neighborhood, I have a vested interest in the long term viability of the City and particularly this neighborhood. It is my home; it is where I am raising my family. This community is where I work and where my child goes to school. It is where my wife's family has lived for well over a century. In short, this community is part of me as sure as I am part of it. I believe that as a resident of this neighborhood I also have some responsibility in ensuring that this neighborhood survives for my son and others who will no doubt take my place in the future. This project, if built as proposed, would cause irreparable harm to this neighborhood. It would forever alter the neighborhood and destroy the fabric with which our community is built. In short, it is something I cannot in good conscience stand ideally by and allow to happen. There are many reasons why I believe this to be the case. First, the scale of the project is so overwhelming and so utterly preposterous. We are a small, mostly residential neighborhood, made up of single and two family dwellings. This project would overnight more than double the population of this small peninsula and subjugate current residents to the will of new. It short, as residents our voices would be silenced and our ability to control our own destiny severely diminished.

					Secondly, this project would create an unfair burden on the residents of this community. As a neighborhood on a peninsula, the means of ingress and egress are already limited. Neponset Circle is already well past capacity and is extremely challenging to navigate, even during non-peak times. This project seeks to, based on the limited information put forth by the developer, to increase the number of daily trip on our neighborhood streets in the order of multiple hundreds a day. They literally have no realistic plan to mitigate this. None. The only suggestion they have thus far have put forth is to bulldoze our neighborhood beach and build a bridge across it. Their planning is, in a word, underwhelming. Third, we are not, never have been, and should never be an exclusive enclave for the rich and powerful. We are generally middle class people, who work extremely hard for what little satisfaction we can gain from living in the community of our choice. This project is not being developed for the betterment of this neighborhood or this City, rather, it is an attempt to inject what a marginally successful development company believes to be profitable for themselves. The city need housing, however, it does not need any more luxury mid-rise condominiums or five star marinas. It needs affordable housing for working families. A city future and prosperity is based on people residing here, raising families, working here, and becoming part of the community here. It does not need development companies deciding who should live in a community through economic exclusion. In closing, this project would be a detriment to this community. It would forever alter the resident's lives and impact negatively their quality of life. It is not the community's role to make developers successful or profitable; rather, it is our obligation to ensure that our communities remain viable, safe, and vibrant. We, as community members, must ensure that development is in line with building a stronger community. This project falls well short of that goal and for that reason I strongly disagree with this, or any project being built in any	4 11

					manner that is inconsistent with that goal.	
9/29/2017	Daniel Roche	student	158 Walnut St., Dorchester MA 02122	Oppose	Hello, I am a 24 yr. old architecture student from the Port. I grew up on Walnut St. and have called it home my entire life. I understand that the city is under pressure at the moment to build housing, however the proposal for Ericsson Street in my opinion is overtly out of scale, insensitive to my neighbors, and could pose pragmatic issues for the peninsula in the years to follow if the development is built. First of all, the architects of the project have not done their due diligence to meet with my neighbors in order to hear their concerns and come to a compromise. I visited a presentation of theirs at City Hall in August 2017- I found their work and overall attitude to be unprofessional and ignorant to existing site conditions. Second, the Port has one means of egress. If the Port were to double its residency count, it would pose severe traffic congestion. Growing up on Walnut St., I was never able to walk or play safely on the street due to traffic entering and exiting the Venezia Restaurant. Adding this new development would only further decrease pedestrian enjoyment of the neighborhood. Thirdly, and perhaps the issue I am most concerned about: gentrification. I am not against development, however many of the people from my community have lived there for generations upon generations and I believe its important that they can continue to live there in the future. As a young person in school, someday I would like to move back to Dorchester-which will hopefully be a place where my current neighbors and friends can still afford to call home. Port Norfolk is a very special place to me, and I hope it remains an inclusive neighborhood for everyone- a place where everyone can afford	4 11

					to live- not just a privileged few. Thank you for your time. I am currently studying urban design as well as architecture at the moment, so if I can be of any help to the design process of this project in order to come to a compromise, I would be more than happy to assist. Sincerely, Daniel Roche	
9/28/2017	Stephen White	Port Norfolk Yacht Club	179-181 Walnut street, Dorchester MA 02122	Oppose	We are writing to express our support of the Port Norfolk Civic Association, and their concerns regarding the proposed development of the area formally known as Russo's Marina located at 24 Erickson Street Dorchester. This area of the Neponset River is in an estuary and an area of critical and environmental concern. It is the transition area between the land and the sea and between freshwater and salt water, the environment within the estuary can be seriously impacted by human activities. Estuaries are the breeding grounds for species of migrating fish and are an important habitat for a diverse number of wildlife that rely on the marshland. Increased boat traffic and automobile traffic will greatly impact all native life forms (aquatic, avian and human). Other government agencies and organizations share these concerns for the Neponset River.for example the MWRA and the Neponset Watershed Association , the Neponset Greenway Council and the Army corps of Engineers A project of this magnitude will have a tremendous impact on this neighborhood. There will be a marked increase in traffic by both construction and personal vehicles. And even after the construction has finished traffic will be affected by the number of apartments, the hotel, the restaurant and public access. As residents of the neighborhood since 1923 we have been	1 3/4/5

					very involved in the development of the area (i.e. Finnegan Park and the bike tail) we share the same concerns for the development of the area as the Port Norfolk Civic Association	3/4/5
9/25/2017	Christopher Schill		34 Port Norfolk St, 2 Dorchester, MA 02122	Oppose	I strongly oppose the current proposal for the Neponset Wharf project. It's completely out of scale for the neighborhood. I've seen nothing to address traffic, parking or utility concerns, all of which are already challenges in Port Norfolk. The proponents own traffic team admitted mass transit as current is not adequate for supporting any such proposal. Boston seems to be in a pattern of overdevelopment when it comes to harbor sites which is incredibly disheartening and disrespectful to communities who have lived here generations. Given the recent hurricanes I would think proposals and scale would be re-evaluated.	3/4/5
8/24/2017	Karen Russo	Port Norfolk St -Resident	55 Port Norfolk St, 2 Boston, MA 02122	Oppose	Tim, This project is too large for this small residential neighborhood. It would greatly diminishes the integrity of our already fragile infrastructure, our public services, the light of the sunshine on our beach (exactly why you go to the beach) and takes away the neighborhood views of the water. Venezia restaurant located next door to this project will also have their sites on developing land they are currently using as parking space. We cannot sustain this growth, it's bad for us. I don't trust this developer as he has proven over and over again he's not interested in doing the right thing. Sincerely, Karen	3/4
8/5/2017	Beliza Veras-Moriarty		55 Pleasant Hill Avenue Mattapan, MA 02126	Oppose	There is no need for this in this quiet family centered street. This will negatively impact this neighborhood. People bought their homes here for exactly the way it is. It is not fair to that neighborhood.	
8/2/2017	Stewart Roach	Norwood Yacht Sales, Inc.	308 VICTORY RD, SUITE #5	Oppose	I strongly oppose this proposed development. I fear that more and more properties originally zoned for Marine Use are being	

			North Quincy, MA 02171		rezoned to build condominiums. The City has done nothing to assure the boaters that there will be sufficient boat hauling and storage facilities in the future. There needs to be some strictly Marine use facility in the Boston Area that can haul big and small boats and store them. Too, many boat yards have become parks and restaurants without any respect for the sales tax boat sales generate and the good maritime jobs that boat yards provide. Stop gobbling up water dependent use facilities. The land should be left zone for Marine Use only and developers promising some Marine facility is only using that to get the property rezoned. In the event of a hurricane or need for water access, the City needs to take a long hard look at providing more Marine Use property .	Refer to comment letter
8/1/2017	JoAnn Innello	PNC Assoc	6 Port Norfolk St Dorchester, MA 02122	Oppose	I am not in favor of this project. This project is too big for this area, I can't believe anyone who has been in the Port Norfolk area could support a project of this size. We simple can not handle the amount of traffic it will bring. I take care of a handicapped family member who constantly requires medical attention how am I suppose to get out if I have an emergency especially at rush hour. Has any first responders police, fire, ems been notified? What happens if we have a fire how would the fire dept get here intraffic? When our bridge was under construction we had a death in the port because the first responders could not get through in traffic. We have a very small area to leave the port, on a normal day it is hard to get out of the port I can't imagine what would happen with 300 more cars. Please stop this project NOW.	3/4/8
7/28/2017	Marion Bok		Bok Unit 6 Dorchester, MA 02122	Oppose	I oppose the current design. I am not against any development of the parcel but the current design is not in keeping with the character of the neighborhood and posses signifiant safety concerns to the people residing and working in Port Norfolk. As designed, the number of proposed condominium units and hotel space is in excess of what the neighborhood's current infrastructure can handle. The neighborhood does not have adequate public transportation. As a result, the fast majority of all unit owners, boat owners/users, hotel guest, and	3/4/8

					employees/service providers will need to use private cars. The existing sewer and water pipes have ongoing problems handling the current load much less the addition of such a large project. The developers are proposing an 8 story building. Does the local fire station have the equipment to respond to a fire? Will the fire trucks and other emergency vehicles be able to respond in a timely manner given the increased traffic on the small streets?	
7/17/2017	Frank Kodzis	Resident	157 Walnut Street Dorchester, MA 02122	Oppose	Deeply concerned with the current congested streets and traffic. The magnitude of this project will be a further degradation of traffic in the neighborhood. Strongly opposed to the construction of the hotel. The hotel is not part of the water front zoning of the neighborhood. The neighborhood is 90 percent residential and the hotel would bring a 24 hour operation .	3/4
7/13/2017	Jeanne DuBois	JADuBois Associates	15 Heathcote St. Roslindale, MA 02131	Neutral	As former 20 year Executive Director of Dorchester Bay EDC, I'm concerned about the speed of gentrification. Any mixed income here? What about the required 13% affordables?	11
7/13/2017	Stewart Roach	Norwood Yacht Sales, Inc.	308 Victory Road North Quincy, MA 02171	Oppose	To whom it may concern, I am deeply concerned with the proposed development at 24 Ericsson st and how it will impact the marine industry in the long run. The property should be protected under Chapter 91 for water dependent use. Throughout the city and surrounding areas we have seen a shrinkage of boat yards (Places that can actually store boats on land and service boats and provide jobs in the marine field). Every time a boat changes ownership the state receives 6.25% of the sale price. I think the city has to look into what happened in Ft. Lauderdale and Miami as boat yards got turned into condo's and one day realized they were destroying an industry that supports jobs and makes up a 5 billion business in South Florida. We have watched yards such as Hingham Ship Yard, Admirals Hill Marine/Chelsea, Scituate boat yards, all go the way of condo's and the pleasure and commercial boats simply become eye candy for the condo owners. There are very few places that can store boats and	Refer to comment letter

					service boats in the Boston Area. If the City does permit this development to go through they need to dedicate water front space somewhere for boat storage in the near future with Big Boat hoist capabilities. If the city wants to see a mess, I encourage them to visit Marina Bay in Quincy on a weekend when the marina is full and condo owners have visitors. There is NO PARKING. Please keep in mind there are plenty of marinas. THERE ARE FEWER AND FEWER BOAT STORAGE AND SERVICE YARDS IN THE CITY. 24 Ericcson st is the last place that offers a 70 ton hoist and storage. Please don't let go the way of condominiums. Boston Police boats, U Mass boats all get serviced at 24 Ericsson st. We really don't need another condo development taking another boat yard away. Once it is gone you can't get it back.