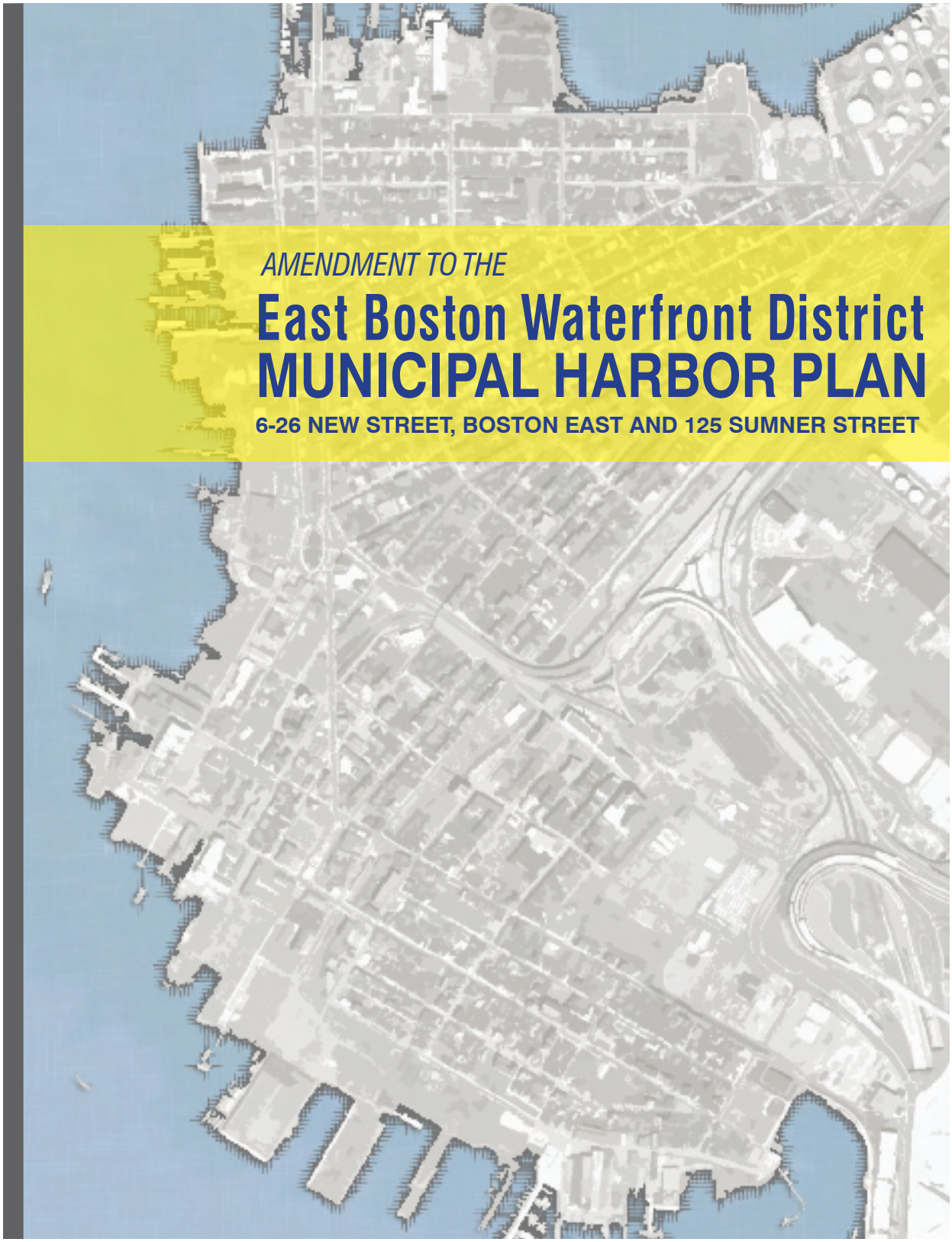

AMENDMENT TO THE

East Boston Waterfront District MUNICIPAL HARBOR PLAN

6-26 NEW STREET, BOSTON EAST AND 125 SUMNER STREET

Draft prepared by The Cecil Group

May 15, 2008

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1. INTRODUCTION AND OVERVIEW

The *East Boston Waterfront Municipal Harbor Plan* (EBMHP) was prepared as a comprehensive planning framework to guide the development of the East Boston's Inner Harbor waterfront. The plan is intended to respond to the City's and the community's vision for the waterfront while conforming to the objectives of the Commonwealth's *Waterways Regulations* (310 CMR 9.00). Completed and submitted to the Secretary of Environmental Affairs in March of 2002, the EBMHP was prepared in accordance with 301CMR 23.00, *Review and Approval of Municipal Harbor Plans*, which allows cities and communities to submit plans that promote the development of waterfront areas in ways that conform to the state's policy goals and objectives while reflecting the local vision for the future of the area, subject to the Secretary's review and approval. More detailed information on the regulations, their purpose and application is provided in *Section 1.3* below.

The EBMHP was approved in July 15, 2002. In his *Decision on The City of Boston's East Boston Waterfront District Municipal Harbor Plan (Decision)*, the Secretary of Environmental Affairs stated that site-specific substitute provisions and amplifications for properties located along New and Border Street would be addressed in an Amendment to the original EBMHP, pending completion of a Designated Port Area (DPA) boundary review by the Massachusetts Office of Coastal Zone Management (CZM). A *Designation Decision for the East Boston Designated Port Area (Designation Decision)* was issued on April 23, 2003, which excluded the land area of a parcel identified as 4-26 New Street and other areas from the DPA. This *East Boston Waterfront District Municipal Harbor Plan Amendment (MHP Amendment)* addresses the proposed site-specific substitute provisions for two of the properties located in the area in which the boundary review was conducted: 6-26 New Street and 102-104 Border Street (Boston East). The respective owners of these parcels have submitted plans for redevelopment to the City of Boston and relevant state authorities. This *MHP Amendment* also offers a substitute provision for a third subject property, 125 Sumner Street, which is currently in the early planning stages. In addition, implementation guidance aimed at ensuring that these projects are in conformance with the policy goals and objectives of the *Waterways Regulations* while maintaining consistency with the community's vision for the future is offered in *Sections 7* and *8* of this document. *Figure 1-1, East Boston Waterfront: MHP Study Area,* following this section, shows the configuration of the East Boston waterfront and the relative location of the three subject properties within the overall EBMHP study area.

The EBMHP recognized the complexity and variety of existing conditions along its extensive municipal harbor planning area. Several sub-areas with their own particular character and planning issues were identified along the waterfront. The 6-26 New Street and Boston East project sites are located in the Traditional Working Waterfront (South Border Street) sub-area, which has a rich historical background in shipbuilding and associated industrial activities. These sites, which are adjacent to existing residential areas, have not been used for such activities for at least the past fifty years. The 125 Sumner Street project site is located in the Neighborhood Extension (West) sub-area, which is adjacent to existing residential areas and has been identified in the EBMHP as representing an opportunity to expand the existing Sumner Street neighborhood to the waterfront. *Figure 1-2, East Boston Municipal Harbor Plan Sub-Areas* (EBMHP Figure 1-5) shows the EBMHP planning boundary and the relative location of the Traditional Working Waterfront and the Neighborhood Extension sub-area within the overall district.

The community's vision for the East Boston waterfront is based on the *East Boston Master Plan,* a comprehensive planning process conducted by the BRA and completed in April 2000, which involved extensive community participation. Part of the community's desire was to establish a basis to manage and promote growth in a coherent and controlled way. Prior to the preparation of the master plan, and during recent years, the East Boston waterfront has become more attractive to new development because of its advantaged location, proximity to the downtown and prime views of the harbor.

1.1 Purpose of this Amendment

The Secretary's *Decision* noted that the EBMHP submission only addressed substitutions and amplifications for two specific parcels at that time – Hodge Boiler Works and Clippership Wharf. The initial Notice to Proceed with the preparation of the EBMHP had envisioned that the planning process would cover all properties within the planning area and would include a DPA Master Plan. However, it was determined that a DPA Boundary Review would be required before further planning for the properties within the DPA could proceed.

The purpose of the boundary review was to evaluate the subject lands and waters for conformance with the Designation Standards established in 301 CMR 25.04, and to determine if changes were necessary in order to preserve and enhance the capacity of the DPA to accommodate water-dependent industrial uses. The land area under review included the intersection of New and Sumner Streets and encompassed the area between the waterfront and Border Street all the way to the Shore Plaza apartment complex, near the intersection of Border and Connor Streets.

CZM initiated the boundary review in December 2001. In order for planning for Hodge Boiler Works and Clippership Wharf to continue, CZM recommended to the City of Boston that an amendment to the Municipal Harbor Plan (MHP) at the conclusion of the DPA Boundary Review would be a viable way to move the process forward, an approach that the City agreed to follow. Consequently, this *MHP Amendment* addresses site-specific substitute provisions and offsetting benefits for the 6-26 New Street, Boston East, and 125 Sumner Street project sites, together with implementation guidance aimed at ensuring that the proposed development projects are responsive and consistent with overall municipal harbor planning goals.

1.1.1 Proposed Substitutions, Offsets and Amplifications

Municipal harbor plans serve to inform and guide state agency actions affecting the implementation of waterway management programs at the local level. Approved plans provide direct assistance to DEP in making regulatory decisions pursuant to Chapter 91. Through the MHP mechanism, certain categories of numeric regulatory standards may be adjusted to a degree and in a manner that is responsive to municipal objectives and priorities, harbor specific conditions and other site, local and regional circumstances. Substitute regulatory provisions ("substitutions") may be established if they meet the relevant public interests. In some cases, the substitute provision may directly meet the public interests. In other cases, additional public benefits may be provided as a condition of Chapter 91 license approval offsetting the presumed public detriment that might be associated with a substitution ("offsets"). The planning process associated with municipal harbor plans also includes a mechanism to establish special standards that are more restrictive or provide for more public benefits than would occur through compliance with the Chapter 91 regulatory standards that would otherwise apply ("amplifications").

This *MHP Amendment* contains several site-specific substitutions and offsets, and one amplification (fully described in *Section 7*). These provisions separately and specifically address conditions associated with each of the three subject project sites: 6-26 New Street, Boston East and 125 Sumner Street. The EBMHP provides an approved framework of General Policies that directs the site-specific substitutions and offsets. All of the provisions contained in this *MHP Amendment* are consistent with the established General Policies, which also help serve to implement related planning policies and actions to enhance the East Boston waterfront.

1.1.2 MHP Planning Area

The planning area for this *MHP Amendment* consists exclusively of the three project sites shown in *Figure 1-3, MHP Amendment Planning Area,* which can be found at the end of this section. Detailed information on existing conditions and proposed development for each of these project sites is provided in *Section 4* of this document.

The Boston East project site includes the parcel located at 102-148 Border Street. In 2007, the owner of the property, the City's Department of Neighborhood Development, requested a reconfiguration of the DPA in order to consolidate two small DPA zones located on separate ends of the site into a single DPA on the south portion of the property. The north portion of the site would then be available for nonwater-dependent use. This reconfiguration of the project site has recently been approved, and the substitute provisions and offsets addressed by this MHP Amendment apply only to the non-DPA portion of the East Boston project site. More details on DPA compliance and proposed improvements are included in *Section 5* of this document.

1.2 City of Boston Municipal Harbor Plan Overview

The first *Municipal Harbor Plan (MHP)* for the City of Boston was prepared in 1990 by the BRA, and approved by the state Secretary of Environmental Affairs in 1991. The plan was the culmination of a long planning process led by the City in conjunction with the Harborpark Advisory Committee, public agencies and members of the community. It was effective for five years. In 1996, the BRA requested additional time to file its renewal, and the Secretary corresponded stating that the plan will remain in effect until the City renews it. Also known as the Harborpark Plan, this document provides a planning and regulatory basis consistent with the City goals and vision for public access and development along the waterfront.

In the years that followed, the BRA filed and received approval for the *East Boston Waterfront District Municipal Harbor Plan* (in 2002), *South Boston Waterfront District Municipal Harbor Plan* (in 2000) and the *Fort Point Downtown Waterfront Municipal Harbor Plan* (in 2002 and 2003), as well as for several other *Municipal Harbor Plan* amendments. These documents and the corresponding planning processes have served to develop and elaborate the City's planning goals for distinctive areas within the waterfront. General goals aim at creating a mix of uses that will foster and support daily and year-round waterfront activation, public access along the water through a public "Harborwalk" that extends along the entire harbor, access and connections to water transportation, public programming of interior and open spaces along the water, and active ground floor uses. The proposed extension and location of the Harborwalk along East Boston is shown in *Figure 1-4, East Boston Municipal Harbor Plan: Harborwalk* (EBMHP Figure 8-5) at the end of this section.

1.3 Massachusetts General Laws Chapter 91 and the Municipal Harbor Plan Regulations

Two sets of state regulations ensure the protection, care and supervision of public access and interests along the Commonwealth's shoreline and tidelands: Chapter 91 (310 CMR 9.00 *Waterways Regulations*) and regulations implementing the municipal harbor planning process (301 CMR 23.00 *Review and Approval of Municipal Harbor Plans*). Chapter 91 sets standards for the protection of the Commonwealth's and public's interests along the waterfront, including the preservation of public access and the capacity to accommodate water-dependent uses. The municipal harbor planning process allows cities and towns to adjust the state and local regulatory frameworks to best fulfill both state and local purposes by jointly approving a MHP.

The Executive Office of Energy and Environmental Affairs (EOEEA) and the Department of Environmental Protection (DEP) are the Massachusetts agencies in charge of overseeing and protecting the rights of the Commonwealth and its citizens along the water. Chapter 91 provides the regulatory framework and ensures that tideland uses are either water-dependent or serve a public purpose. DEP has the authority to grant licenses that prescribe terms and conditions for the use and development of tidelands and former tideland areas (Chapter 91 licenses).

Chapter 91 applies to all waterways and filled tideland areas lying between the "present or historic high water mark, whichever is farther landward, and the seaward limit of state jurisdiction". However, the Commonwealth recognizes that each particular harbor and municipality has unique characteristics and

needs that may deserve and require a special approach. Municipal harbor planning regulations set procedural standards to guide and promote the development of municipally-based harbor plans that also incorporate fundamental state policies and national coastal policies governing the area of jurisdiction. These are developed in consultation with DEP and CZM.

As part of its MHP, a town or city may propose substitute provisions to replace specific use limitations or dimensional standards specified by Chapter 91. The MHP needs to substantiate the need for these substitutions, and demonstrate that the public interests and objectives are comparable or achieved better with the proposed provisions than with the original Chapter 91 standards. The substitute provisions, subject to the Secretary of Environmental Affairs' approval, will be applied to the review and evaluation of Chapter 91 License applications within the corresponding harbor planning area. MHP regulations (301 CMR 23.00) also establish criteria for the evaluation and approval of substitute provisions.

1.4 The City of Boston MHP and the Secretary of Environmental Affairs Decisions

The Secretary's approval of a MHP includes a written determination that it be consistent with Harbor Planning Guidelines developed by CZM, other CZM policies, and Chapter 91 principles and objectives. This written determination may also articulate conditions for approval that should be met as part of the plan's implementation.

The Secretary of Environmental Affairs issued his *Decision on the City of Boston's East Boston Waterfront District Municipal Harbor Plan (Decision)* on July 15, 2002. The Secretary's *Decision* offered a detailed explanation of the reasons and rationale supporting his approval, as well as specific conditions to be met. With particular relevance to this *MHP Amendment*, the following edited excerpts from the Secretary's *Decision* underscore important baseline conditions and requirements:

- While the East Boston DPA does not include the backland support areas needed for large-scale container port operations that are available in other parts of the harbor, it is well-suited for tug-boat, marine construction, vessel repair, industrial welding, boating supply businesses, and other support services critical to port activities.

- In addition to providing open space areas that at a minimum will meet the requirements of the Waterways Regulations, the EBMHP has adopted programming strategies that will connect new areas of urban open space and parkland with existing areas, furthering the City of Boston's goals focusing on public enjoyment of the waterfront.

- It is critical that the existing mechanisms, such as the formal Chapter 91 licensing process and the planning process associated with municipal harbor plans, promote public access to the waterfront. The implementation of many of the public benefits associated with the EBMHP will further these access interests and will contribute to the creation of a waterfront that is truly accessible.

- Visual access is an important component of any MHP. Through attention to the design and placement of proposed development, view corridors, pedestrian ways, and streets will create direct links to the water's edge, providing not only physical access but also visual access.

- The availability of water transit service, which will activate and improve accessibility to the East Boston Waterfront while capitalizing on the transportation potential of the Harbor's presently underutilized waterways.

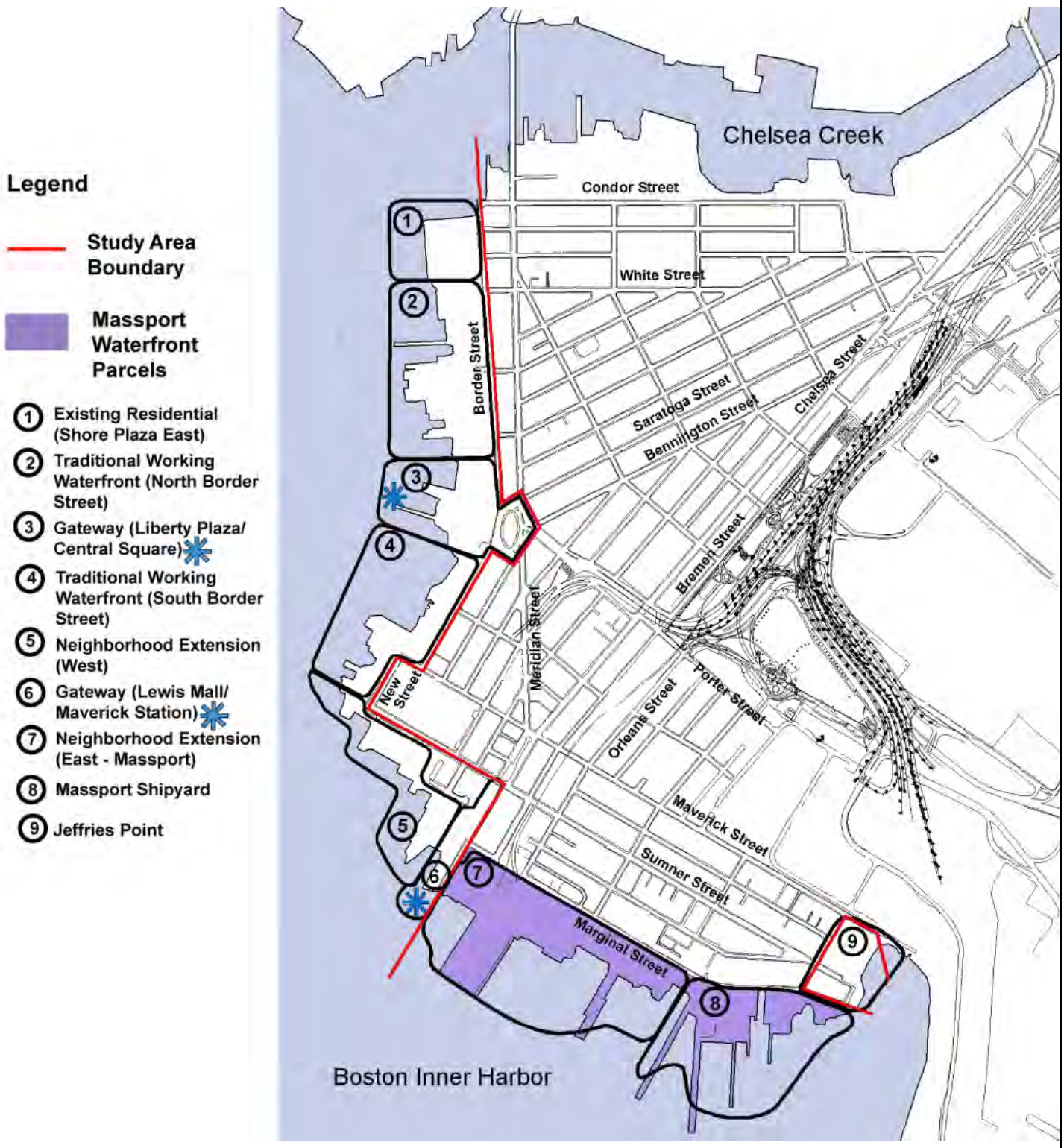
- Much of the East Boston waterfront consists of land that is generally inaccessible to the public and largely underutilized in terms of economic potential. The MHP represents a unique

opportunity to support public and private efforts to revitalize the East Boston waterfront in a manner that takes advantage of the existing infrastructure.

The Secretary's *Decision* also anticipated that the amendment required for the 6-26 New Street and Boston East project sites (this *MHP Amendment*) would reflect similar goals in order that appropriate balances between competing public and private interests are achieved in a predictable and consistent manner.

East Boston Municipal Harbor Plan Amendment

Figure 1-1
East Boston Waterfront: MHP Study Area



East Boston Municipal Harbor Plan Amendment

Figure 1-2
East Boston Municipal Harbor Plan
Sub-Areas

East Boston Municipal Harbor Plan Amendment

Figure 1-3
MHP Amendment Planning Area

East Boston Municipal Harbor Plan Amendment

Figure 1-4
East Boston Municipal Harbor Plan
Harborwalk

2. PROCESS FOR APPROVAL AND IMPLEMENTATION

The City of Boston and The Commonwealth of Massachusetts have established processes for the review and approval of an amendment to an existing Municipal Harbor Plan (MHP).

2.1 The Public Process for the Municipal Harbor Plan

An amendment to the City's Municipal Harbor Plan, in this case the *East Boston Waterfront Municipal Harbor Plan* (EBMHP), is prepared by the Boston Redevelopment Authority (BRA). This includes the participation of its Municipal Harbor Planning Advisory Committee (MHPAC) in reviewing a draft amendment during its preparation and prior to review and adoption by the Board of the BRA.

A parallel adoption process by the Commonwealth, which allows the Secretary of Energy and Environmental Affairs to approve an amendment to an Approved Plan (301 CMR 23.06(1)), is formalized within the regulations for the review and approval of municipal harbor plans (301 CMR 23.00, the *"MHP Regulations"*). This process includes review of the City's submittal, public notice and distribution, public comment and a public hearing, and issuance of a written decision by the Secretary of Environmental Affairs.

The standards for approval that should be met by this *MHP Amendment* stipulate that:

- The plan be consistent with all applicable CZM Policies.
- The plan be consistent with the policy objectives and regulatory principles contained in 310 CMR 9.00 (Chapter 91). Where substitute provisions are provided for discretionary and applicable portions of §9.51(3)(a) through (e), §9.52(1)(b)(1) or §9.53(2)(b) and (c), the provisions should accomplish comparable regulatory purposes (subject to the Secretary's determination).
- The plan include all feasible measures to achieve compatibility with the plans and planned activities of all state agencies owning real property or responsible for the implementation and development of plans within the harbor planning area.
- The plan include enforceable implementation commitments to ensure that all measures will be taken to offset the effect of any plan requirement less restrictive than those contained in Chapter 91 (in a timely and coordinated manner).

The draft *MHP Amendment* will be reviewed by the City's MHPAC in meetings that will be open to the public. During these meetings the public may pose questions or make comments to the proposed plan elements and measures. Upon approval of this *MHP Amendment* by the City and the Commonwealth, the substitute provisions and offsetting provisions will be implemented as a condition on local and state approvals.

The procedure outlined in 301 CMR 23.04 also contains provisions for further public comment and a public hearing to be conducted by CZM, which afford additional opportunities for public input on this document.

2.2 Use and Density Regulations

The *City of Boston Zoning Code* regulates land use and density for all new projects within the City boundaries. Accordingly, the proposed New Street, Boston East and Sumner Street developments will need to obtain all the necessary zoning approvals based on the use and dimensional requirements

established by zoning, in addition to conforming to the requirements of this *MHP Amendment* and any other conditions set forth by the Secretary of Environmental Affairs as part of his approval decision.

In order for this to be possible, the substitute provisions contained in the *MHP Amendment* and the zoning provisions that apply to the subject project sites must be consistent. If necessary, the City will incorporate zoning changes to ensure conformity with the approved *MHP Amendment*.

The proposed 6-26 New Street and Boston East development projects are currently undergoing Large Project Review in accordance with *Article 80* of the Zoning Code. Large Project reviews are defined by the standards and process under *Article 80B*. This review is required when a project:

- Adds one or more buildings of at least 50,000 square feet (sf).
- Changes an institutional building by at least 100,000 sf.
- Is a rehab project of at least 100,000 sf.
- Is required by the zoning district where the project is found.

The standards for Large Project review include design and mitigation requirements. If approved by these reviews, the projects may include uses that are forbidden or conditional within the underlying district.

The proposed 125 Sumner Street development is in the early planning stages at this point.

The underlying zoning requirements for these project sites are established by *Article 53* of the Zoning Code *(East Boston Neighborhood District).*

2.2.1 Article 53 – East Boston Neighborhood District

Article 53 recognizes that in accordance with Chapter 91, certain projects located in tidelands require a license from DEP, and establishes that a Section 18 Recommendation, stating whether a project would serve a proper public purpose and would not be detrimental to the public's rights in tidelands, shall be made by the BRA for any project requiring a Chapter 91 license and located in the East Boston Neighborhood District.

To this effect, *Section 53-13* of *Article 53* identifies a series of criteria and requirements to guide decisions on Section 18 Recommendations. Most of these requirements are consistent with Chapter 91 provisions. *Article 53* also establishes six types of waterfront subdistricts, each with own particular requirements. Two of the subject properties of this *MHP Amendment* are located in the Waterfront Commercial District (6-26 New Street and Boston East). The third subject property (125 Sumner Street) is located in the Waterfront Residential District.

The proposed developments for 6-26 New Street and Boston East are in general compliance with the use requirements of the Waterfront Commercial District. However, both projects will require zoning relief from some dimensional standards such as building height and Floor Area Ratio (FAR). 125 Sumner Street is also anticipated to need some type of zoning relief from dimensional standards such as building height and FAR. The City and the BRA will work to ensure that any zoning approval or necessary change for the subject properties will be in conformity with the approved *MHP Amendment* and all its provisions.

2.2.2 Urban Design Guidelines

Article 53, Section 53-19, Waterfront Development Review establishes urban design guidelines for the review of proposed projects pursuant to the Urban Design Component of Large Project Review. Approval by the BRA of any project subject to Large Project review must comply with these guidelines and the guidelines contained in *Sections 7* and *8* of the EBMHP.

(a) New development and rehabilitation shall reinforce the traditional pattern, height, and massing of the urban waterfront.

(b) Buildings and spaces shall direct views and pedestrian movements toward the water.

(c) Buildings on Piers shall be sited so as to reinforce the geometry of the Pier, and buildings near the water's edge shall not be massed so as to create a continuous wall along the water's edge.

(d) Inland buildings shall reinforce the City's street pattern and avoid continuous walls parallel to the water's edge by maintaining view and access corridors, especially at cross-streets.

(e) Buildings shall be sited to provide view and access corridors toward the open water and to preserve views from Public Access Facilities and Open Space areas at the Ends of Piers.

(f) Building elements on a site shall generally step down in height toward the water's edge.

(g) Open areas and buildings at or near the Ends of Piers shall offer opportunities for public views of the water and public amenities that attract the public to the water's edge.

(h) Building massing shall enhance the air flow channels created by sea breezes that are beneficial to air quality in the City.

(i) Open spaces, building entrances, shopfronts, shop windows, shop entrances, terraces, gardens, arcades, and similar elements shall be designed to enhance pedestrian activity, access to, and enjoyment of the waterfront. Blank walls, without windows or entrances facing onto pedestrian areas, shall be avoided to the extent practicable in building designs.

(j) Facade treatment, building materials, and design details shall complement the traditional character of Boston's historic waterfront development patterns.

(k) Setbacks, corner treatments, and other design details shall be used to minimize the sense of bulk of structures. Ornamental and decorative elements appropriate to the urban and historical waterfront context are encouraged.

(l) Roofs of buildings shall be designed to minimize the visibility of roof structures and penthouses normally built above the roof and not designed to be used for human occupancy.

(m) A Proposed Project should promote and enhance the quality of the pedestrian environment, by means such as:

(a) pedestrian pathways connecting to the waterfront and, where appropriate, linking the waterfront and mass transit stations;

(b) spaces accommodating pedestrian activities and public art;

(c) use of materials, landscaping, public art, lighting, and furniture that enhance the pedestrian and waterfront environment;

(d) pedestrian systems that encourage more trips on foot to replace vehicular trips;

(e) other attributes that improve the pedestrian environment and pedestrian access to the waterfront and Boston Harbor; and

(f) appropriate management and maintenance of pedestrian access within the Proposed Project.

(n) In addition to the foregoing, design features of a Proposed Project shall take into consideration the characteristics of the site and its location in the East Boston Neighborhood District and provide opportunities for special amenities, such as panoramic views of the Harbor, and shall enhance and reinforce any historic qualities of existing structures.

3. HISTORIC AND PLANNING BACKGROUND

Planning initiatives for East Boston have addressed issues and opportunities for the waterfront in great detail over the years. Brief summaries of some of the most relevant studies for municipal harbor planning of the Waterfront District are provided in this section. The summaries have been compiled with special emphasis on those particular aspects or provisions that directly apply to the subject properties of this *MHP Amendment*.

3.1 History of the East Boston Waterfront

East Boston is located on what were originally five islands in Boston Harbor. Noddles Island, the largest of the five, was granted in 1633 to Samuel Maverick, who owned it until 1650. The island then passed through a number of hands until 1670, when it was acquired by Colonel Samuel Shrimpton, whose descendents owned it until the 1830s.

What is now East Boston was the scene of an early engagement of the American Revolution. On May 27, 1775, a patriot force was sent to gather livestock from Noddles and Breed's Islands, the latter now Orient Heights. After burning a barn of salt hay, killing three cows and fifteen horses, and driving off 400 sheep, the patriots were driven back by British reinforcements. The British sent an armed schooner and marines to Chelsea Creek to cut off the patriots' retreat, but, after an all-night fight, the latter drove back the British, burned the schooner, and took the guns—engagements known as the Battles of Noddles Island and Chelsea Creek.

In 1833 Gen. William Hyslop Sumner, a Shrimpton descendent, formed the East Boston Company to develop Noddles Island as a new residential and industrial section of the city. The company laid out the street grid that still exists and began to sell house lots. The company also initially provided a ferry to connect East Boston with the main part of the city. In 1838 the Eastern Railroad began service between Boston and Salem, entering Boston through East Boston on tracks that ran the length of Bremen Street and ferrying its passengers across the harbor.

From 1840 to about 1865 East Boston was a significant waterfront industrial center, especially for shipbuilding. Shipyards were located on the Border Street waterfront, most notably that of Donald McKay, whose clipper ships sailed to California in record times. There were also a number of related industries such as graving (dry) docks, mast yards, and marine railways. On the Marginal Street waterfront was the Cunard Wharf, which from 1840 to 1847 was the only American terminus of the Cunard line, and the Grand Junction Wharves, which provided access for a number of railroads to the deep water wharves in East Boston. The wooden shipbuilding industry declined after the panic of 1857, though some of the East Boston shipyards then produced iron-hulled ships, ship boilers, and marine engines.

East Boston has always been populated by immigrants. In the early years of its development these immigrants were primarily Canadian and American skilled workers who worked in the shipyards. Then, beginning in the 1850s, there was an enormous influx of Irish. In the 1890s Eastern European Jews began to arrive in large numbers, and by 1905 East Boston was reportedly the largest Jewish community in New England. The Jews began to move out shortly thereafter and, beginning about 1905, were replaced by Italians who first moved across from the North End and then arrived directly from Italy. East Boston is still predominantly Italian, though there are now many recent immigrant groups such as Vietnamese and Latinos.

East Boston has been affected by many transportation developments. In 1904 a trolley tunnel, now the Blue Line, opened under the harbor, reducing passenger use of the ferries. The ferries continued to be important for carrying vehicles, however, until a vehicular tunnel, the Sumner, opened in 1934, leading

to the closing of the North Ferry in 1938. (The South Ferry continued to operate until 1952.) A second vehicular tunnel, the Callahan, opened in 1961. But the transportation development that has had the biggest impact on East Boston is the airport. Opened in 1923 on an area being filled for a port development, the airport was greatly expanded between 1943 and 1946 by filling over Governors and Apple Islands and large expanses of flats. The airport was expanded again in the late 1960s when the Bird Island Flats were filled.

These developments adversely affected the role of the East Boston Harbor. The East Boston waterfront was no longer the community's industrial engine. Numerous maritime and waterfront industries changed use; the few that continue to function appear today as part of the historic marine industry continuum. The existing waterfront industries have had to adapt to constraints of existing conditions, including continuing residential development and transportation connection limitations imposed by existing street network and traffic conditions.

Nevertheless, economic and cultural changes of East Boston's Harbor and related neighborhoods present many opportunities for a modern waterfront today. Current water-dependent industrial uses include tugboat operations, shipyard, layover for tugs, barges and water transportation vessels, fish gear distribution, lobster trap storage, pilot operations, and water transportation services. The now vacant and underutilized parcels along East Boston's harbor and potential links into East Boston are important to the City of Boston's future and therefore should be developed to meet East Boston's needs within the context of the entire Boston Harbor.

3.1.1 Recent Developments

In the last few years, a significant transformation has taken place on the blocks adjacent to this *MHP Amendment* planning area. Maverick Landing, a redevelopment of a former public housing development, has brought 396 new rental units, 305 of which will be affordable, across the street from the proposed 6-26 New Street and Boston East project sites. Replacing the old Maverick Gardens housing project, there are now 316 townhouse-style units in 20 three-story low-rise structures and one six-story building at the adjoining Carlton Wharf site, and a new community center. These improvements have greatly contributed to enhance the neighborhood context and its overall quality of living.

The Boston Housing Authority selected Trinity East Boston Development Limited Partnership (a collaboration between Trinity Financial and the East Boston Community Development Corporation) as the developer for Maverick Gardens. These two entities have partnered again to develop Boston East, a parcel owned by the City's Department of Neighborhood Development and one of the subject project sites under this *MHP Amendment*. As one of its important contributions to the community and the accessibility of the East Boston waterfront, Carlton Wharf extended the Harborwalk along the waterfront edge of the property, which connects to LoPresti Park and provides a commanding view of the harbor and downtown Boston, benches, lighting and an interpretive display.

3.2 Transportation Update

The EBMHP, completed in 2002, provides an overview of transportation in East Boston. The EBMHP built on the land and water transportation recommendations of the *East Boston Master Plan*, which are centered on the concept of strengthening pedestrian and vehicular circulation, along, to and from the water and enhancing water transportation along the harbor.

This section provides an update on transportation efforts and projects in East Boston.

3.2.1 Ted Williams Tunnel

The completion of the I-90/I-93 interchange now allows connection from Logan Airport to the Central Artery and I-90 via the Ted Williams Tunnel. The four-lane tunnel is no longer restricted to commercial vehicles; unrestricted use (with the exception of hazardous cargo) began in January 2003.

3.2.2 Boston Transportation Department Study

The City of Boston's Transportation Department (BTD) is currently working on a transportation study for East Boston that would include proposed improvements in locations such as Central Square.

3.2.3 Bremen Street Park

Bremen Street Park, a three-mile linear park, was developed as a Central Artery/Tunnel mitigation measure. The new park extends the East Boston Greenway from Prescott Street to Marginal Street, connecting East Boston to the waterfront. The park replaces a 1,300 space parking lot, which was transferred to the airport premises therefore reducing neighborhood traffic impacts.

3.2.4 MBTA Blue Line Improvements

Airport Station

The new MBTA Blue Line Airport station opened June 2004 and provides convenient access to both Logan Airport and the East Boston neighborhood. Travelers can easily access Massport's bus service to Logan's terminals. Pedestrian entrances are provided on both sides of the station, connecting to East Boston. The station improvements include enlarged fare collection turnstiles, new elevators and escalators, flight status monitor displays, and longer platforms to accommodate 6-car trains.

Maverick Station

Maverick Station construction began in the Fall of 2005 and includes station modernization, the lengthening of platforms for 6-car trains, and accessibility for all with the addition of elevators and escalators at the Maverick Square head house and the new Lewis Mall head house.

In September 2007, the new Lewis Mall entrance was opened to the public. The Maverick Square entrance is currently under construction and scheduled to be completed in late Fall 2008. Maverick Square will be reconstructed to include new parking, crosswalks, lighting, signage, traffic signals, water and drainage piping, and landscaping. A dedicated busway will be installed for the MBTA buses.

3.3 The City of Boston Municipal Harbor Plan *(Harborpark Plan)*, 1990

The City of Boston, through the BRA, initiated its harbor planning efforts with the submittal of a *Municipal Harbor Plan* for a portion of the waterfront in October 1990. This plan, which the Secretary of Environmental Affairs approved in May 1991, was effective for five years. Through correspondence beginning in 1996, the BRA requested additional time to file its renewal, and the Secretary concurred, stating that the MHP would remain in full force and effect until such time as the City renews it. Because the size and complexity of Boston Harbor made it difficult to develop a single plan to address the varying needs, functions, and characteristics of the different waterfront areas that constitute Boston Harbor, the BRA has divided the harbor into eight harbor planning districts: Charlestown Waterfront, Charlestown Navy Yard, North Station Waterfront, Downtown/North End Waterfront, South Boston Waterfront, Dorchester Bay/Neponset River Waterfront, East Boston Waterfront, and the Boston Harbor Islands.

Some of the initial baseline planning and design requirements of the *Harborpark Plan* (including those for the Harborwalk) have been consistently carried over to East Boston and the rest of the harbor planning districts by the BRA through the design review and zoning processes.

The Harborwalk is a continuous public walkway along the City's waterfront edge. The Harborwalk System connects the City's neighborhoods to the harbor, leading to recreational, cultural and historic attractions, and direct connections to public transit, including water transportation facilities. Nearly 38 miles of Harborwalk either have been completed or are under construction. When completed, the Harborwalk will stretch over 47 miles linking Dorchester to East Boston.

3.4 The East Boston Master Plan, 2000

This plan, published in April 2000, was conducted by the BRA through a community-based process including the advisory Planning Coordinating Group and community public meetings. It provides a comprehensive framework for East Boston's future.

The *East Boston Master Plan* (the *Master Plan*) describes how new growth and economic development can occur within East Boston, while providing a framework for preserving the neighborhoods and their resources. The *Master Plan* identifies a vision for the future as well as an understanding of East Boston's unique physical environment and historic resources.

The *Master Plan* addresses five specific geographic sub-areas (Focus Areas), to which six planning elements are applied in order to develop specific recommendations. The planning elements include open space and public environment, land use, historic resources and heritage, transportation and parking, development guidance, and regulatory environment. The East Boston waterfront was one of the planning Focus Areas.

The *Master Plan* identifies the Inner Harbor waterfront as having great development potential given its rich history, its strategic location for maritime activities, and its excellent views of downtown Boston and Charlestown. It recommends maintaining the maritime use and maritime port activities along the waterfront. The *Master Plan* brings all these pieces together to create a cohesive vision for the waterfront that balances the community's desire for increased open space, waterfront access and cultural activities with private sector development interest and regional demand for port-related activities, which will help to revitalize the current underutilized conditions.

The *Master Plan* also provides a framework for enlivening and integrating the Inner Harbor waterfront into the community fabric in a meaningful way. It presents recommendations for a diversity of land use activities, pedestrian and vehicle access, and open space and cultural opportunities. Recommendations include regulatory and urban design guidelines intended to protect the public interest in and access to the community's waterfront resources.

The following is a summary of *Master Plan* recommendations for the Boston Inner Harbor that are directly applicable to the 6-26 New Street, Boston East and 125 Sumner Street project sites, the subject properties of this *MHP Amendment*:

3.4.1. Land Use

- Expand the mix of uses on the waterfront to include additional residential, retail/commercial and cultural uses coexisting with present marine industrial, residential and institutional uses.
- Increase the quality of residential use on the waterfront by building new housing on Pier 1, Clippership Wharf, Boston East and other waterfront properties that become available for

development, while improving Shore Plaza East and other residential uses adjacent to the waterfront.
- Maintain maritime uses and port services including those at the Shipyard, and along the Inner Harbor waterfront.
- Promote cultural/institutional uses that reflect the heritage of the community. A cultural foundation should be formed and housed in a temporary facility as a first step toward the creation of a museum on the waterfront.

3.4.2. Open Space and Public Environment

- Expand Harborwalk to connect the waterfront open space system and public environment. The existing East Boston Harborwalk, which runs from the Harborside Hyatt Hotel to Porzio Park, should be extended in conjunction with the new parks and new activities developed on the waterfront to extend along the Inner Harbor up through Chelsea Creek. (From LoPresti Park, Harborwalk would extend along the waterfront of properties located along New Street accommodating any DPA limitations of those properties to the Boston East site, then connect with the existing Harborwalk at Liberty Plaza).
- Create waterfront pocket parks and public access. In connection with future redevelopment at Pier 1, Clippership Wharf, and the Boston East site, pocket parks and public access rights-of-way should be an integral part of the site design.
- Upgrade existing public waterfront open space. Public spaces such as Porzio Park, LoPresti Park, and the Umana/Barnes School property should be enhanced to be part of a cohesive waterfront open space network.
- Facilitate public access and use of the waterfront. Privately owned harbor properties where waterfront space is unused, such as Clippership Wharf, Pier 1, New Street Properties, Liberty Plaza, Shore Plaza East, and Hodge Boiler Works, present opportunities to continue the Harborwalk. Properties within the DPA may have limitations because of safety reasons.

3.4.3. Historic Resources and Heritage

- Undertake projects designed to illustrate East Boston's rich history. These could range from historic markers and exhibit panels mounted along the Harborwalk, to interpretive landscapes designed to be integrated into the waterfront park system, to a cultural waterfront facility such as a museum with community space and exhibits, modeled after the BRA's North End Historic Piers program.
- Establish historic districts to include the contiguous waterfront areas where the density of historic maritime features and waterfront integrity is high.
- Adopt historic waterfront guidelines that would not only protect significant structures but would also ensure the contextual respectfulness of new development.

3.4.4. Transportation

- Designate a continuous "Waterfront Way" with a signature streetscape treatment along existing streets and new sections created within and between the development parcels.
- Create a continuous pedestrian system linking the Greenway to the Harborwalk (including passage through the East Boston Shipyard).
- Provide additional landings for water transportation services, servicing and layover.

3.4.5. Waterfront Access – Landside

- Integrate a new street system while developing contiguous large parcels to allow for improved vehicular flow.
- Connect a new street pattern to the existing East Boston street system to preserve public use of and access to the waterfront.
- Develop and maximize use of non-auto modes of transportation including water shuttles, bicycles, walking, buses, a waterfront trolley, and the Blue Line.
- Improve transit service and access to accommodate new waterfront development when it occurs. Extra peak hour service should be added on the Blue Line, as development intensifies, by turning trains around at Maverick Square.
- Allow on-street parking on new streets.
- Create a connected pedestrian circulation system along Harborwalk, the Greenway, and connecting streets and sidewalks.
- Upgrade the existing waterfront street network from Marginal Street to Condor Street and designate it as East Boston's "Waterfront Way" with a signature streetscape design.

3.4.6. Water Access - Waterside

- Provide water transportation facilities (such as public ferry terminals for scheduled services, water taxis/cultural loop, and charter use) at key sites along the waterfront including the expanded Logan South, existing Lewis Mall, and a new terminal at the Liberty Plaza/Central Square waterfront. Commuter shuttle services with associated landside improvements to facilitate access and passenger drop-off/pick-up may be added from Lewis Mall and Liberty Plaza once an adequate volume of ridership is established.
- Create additional space for public landings for small vessels at ferry terminals.
- Develop docks and landings for water taxis and small boats at several existing and new locations.
- Additional sites may be added as part of a new development such as Clippership Wharf and Boston East sites. Such docks would provide a touch-and-go landing for smaller private and commercial vessels.
- Allow space for vessel support services (particularly ship repair and maintenance services) and layover berthing along the waterfront at a variety of East Boston pier sites, which would add to the East Boston economy by providing maritime employment.

3.4.7. Development Guidance

- Maximize views by designating the Harborwalk to be barrier-free, limiting fences only for safety purposes, and creating structures and shelters that are transparent and screen-like.
- Develop unified and unique lighting and signage consistent with Harborwalk and waterfront street frontage that celebrate East Boston's waterfront heritage.
- Create building blocks compatible in scale and character with the waterfront and adjacent neighborhoods.
- Make street access an extension of the existing street pattern.
- Screen and landscape undesirable uses (such as surface utilities, parking lots, and/or parking garages) with trees, shrubs, and other plantings. Parking garages should include street level retail frontage and other public spaces.

- Respect setbacks at the edge of the water, which would include designing plazas or parks with street furniture and landscaping consistent with City Harborwalk standards, taking advantage of the waterfront views.
- Provide municipal services when developing larger parcels. The developer should address additional city service needs such as fire, police, schools, etc.

3.4.8. Regulatory Framework

- Provide for public access to and along the waterfront through extension and enhancement of the Harborwalk and creation of new public open spaces.
- Require proper public purpose of projects within tidelands including conserving the capacity for water-dependent use through such measures as height and setback limits.
- Preserve maritime industrial uses within the Designated Port Areas.
- Continue and promote port service activities along the Inner Harbor.
- Provide water transportation facilities.

3.4.9. Master Plan Recommendations: Boston East DPA

In addition to the recommendations for the items listed above, the East Boston Master Plan suggests specific uses for two DPA waterfront sites. At the time when the *Master Plan* was completed, the north and south ends of the Boston East site were located within two different sections of the DPA, while the central portion of the site lied outside any of the DPA sections. The *Master Plan* recommended that housing be developed on this site, which would require modification or removal of the DPA classification, since residential use is not permitted in a DPA. Recently, the City of Boston's Department of Neighborhood Development proposed and obtained a DPA reconfiguration to replace the two separate DPA zones by one consolidated DPA located on the south portion of the site (Refer to *Section 5, Designated Port Area Compliance* of this *MHP Amendment* for additional information).

3.5 Boston Inner Harbor Passenger Water Transportation Plan

This study, conducted by the BRA in 1999, addresses the water transportation potential in the Inner Harbor, focusing on Downtown, South Boston, Charlestown, and East Boston. The plan identifies pre-schematic concept plans and detailed recommendations for locating new terminals and expanding the existing ones. It also makes recommendations for appropriate types of services for the different locations.

The study provides a comprehensive framework for water transportation planning throughout the Inner Harbor that served to guide the EBMHP. The first goal of this plan is to develop a state-of-the-art 21st century ferry system with an expanded and enhanced terminal and service network. Terminal sites were prioritized according to functionality, with secondary terminals providing space for the Inner Harbor network as opposed to those serving longer distance, larger commuter ferries. Specific findings and recommendations for East Boston include the following:

- Scheduled year round commuter transit ferry services, including inner and outer harbor routes have the potential to nearly triple in the next decade (up to 3.8 million annual riders by 2009).

- There are ferry infrastructure needs in the Inner Harbor districts to accommodate existing community needs and waterfront development growth. East Boston will need new and expanded terminals to serve expected new residential growth as well as cultural and open space expansion.

- A coordination of public and private efforts will be needed to expand ferry services, building on the cooperation that has been demonstrated in efforts such as the *East Boston Master Plan*.

- Intermodal passenger connections need to be established from the inner harbor ferry network, including pedestrian, bicycle, transit and other modes. New Harborwalk connections and an increase in waterfront activities and destinations will create major new markets for ferry connections and neighborhood gateways.

- An action plan is needed so that implementation of high priority projects can begin at once, and that midterm terminal needs can be identified in advance and reserved for future expansion.

Among the proposed ferry terminal sites, a new terminal facility is proposed for Liberty Plaza, Central Square as a secondary site (midterm priority).

3.6 The East Boston Waterfront District Municipal Harbor Plan (EBMHP)

The EBMHP was completed in 2002 and built upon the work done during the *East Boston Master Plan* planning process. The goals of the EBMHP are consistent with a two-tier set of goals developed with the participation of the MHPAC to guide the MHP development process.

Goals related to the water's edge:

- Preserve and promote water-dependent industrial uses.
- Preserve and promote water-dependent uses where appropriate.
- Provide full and appropriate utilization of the Inner Harbor waterfront.
- Maintain and improve the quality of life and the public's enjoyment of the waterfront.
- Preserve, protect and enhance public access to and use of the waterfront.
- Diversify water and land transportation linkages.
- Support compatible economic development consistent with Chapter 91 principles.

Additional goals:

- Promote housing to meet community needs.
- Reinforce existing commercial and business centers.
- Reconnect neighborhoods through better access and pedestrian pathways.
- Preserve, maintain and enhance historic residential neighborhoods and natural resources.
- Address overall community access to parking.

The City filed a Request for Notice to Proceed for the EBMHP in accordance with CZM's regulations, (301 CMR 23.00) on December 28, 2000. On March 12, 2001, CZM's Director issued the *Notice to Proceed*, which included certain stipulations concerning the development and approval of the plan.

At the time the Request for Notice to Proceed was filed, it was the BRA's intention to include a DPA Master Plan in the EBMHP. As a result of preliminary analysis, it soon became evident that there were questions about the existing DPA boundary that needed to be addressed. In response to this need and a request for review filed by a property owner, CZM initiated a Boundary Review study in mid-December, 2001 that evaluated the East Boston DPA boundary.

The EBMHP was approved in July 15, 2002. In his Approval Decision *(Decision)*, the Secretary of Environmental Affairs stated that site-specific substitute provisions and amplifications for properties

located along New and Border Street would be addressed in an Amendment to the original EBMHP, pending completion of the DPA boundary review that had been initiated in 2001.

The *Designation Decision* that followed the DPA boundary review (2003) excluded the land area of the 6-26 New Street project site from the DPA. This *MHP Amendment* addresses site-specific substitute provisions and amplifications for two properties along New and Border Street, as initially anticipated in the Secretary's *Decision* (More information on the MHP planning process and related *Decisions* can be found in *Sections 1* and *5* of this document).

In advancing the goals of the MHP planning process for East Boston, the EBMHP sets important guidelines and requirements to guide future growth and new development. These are described in *Chapters 7* and *8* and include the following:

- Planning and Urban Design Guidelines.
- Standards and Guidelines for the Shoreline.
- Standards and Guidelines for the Watersheet.

Additional important principles of special relevance to this *MHP Amendment* include the following:

3.6.1 Harborwalk

The proposed Harborwalk extension along the East Boston Waterfront is shown in *Figure 1-4 (Figure 8-5* of the EBMHP). Property owners are required to complete the Harborwalk along the seaward edge of their properties in accordance with the Harborwalk standards developed by the BRA, although exceptions can be considered where physical constraints of the site prevent compliance.

Although Chapter 91 regulations require a minimum walkway width of ten feet, the City's Harborwalk standards require a minimum width of 12 feet (10 clear). A substitute provision is included in *Section 7* of this *MHP Amendment* to address such requirement.

Some portions of the Harborwalk should integrate larger open space areas such as public plazas, civic spaces, fishing platforms and other water-based activity areas. The Harborwalk should be located within a site's setback or Water-Dependent Use Zone, and the exact dimensions of the Harborwalk as a component of the setback will be determined through the Article 80 review process (refer to *Section 2.2 Use and Density Regulations* for more information on Article 80).

There are DPA areas that may not be suitable for public access. In these areas it is recommended that the Harborwalk continue along the street sidewalk (Waterfront Way) or an appropriate alternative link around the DPA, and that viewing of DPA activities be encouraged through the use of view platforms or educational markers wherever possible. The Waterfront Way has been identified as a signed, improved pedestrian route along the first landside streets in the waterfront district. It represents an important component of the neighborhood open space network in that it provides a compatible transition between the non-DPA parcels, the water-dependent industrial parcels, other industrial properties, and the residential community.

For the subject properties of this *MHP Amendment*, the following specific considerations are made:

- The DPA areas along New Street may not be appropriate for waterfront Harborwalk, depending upon the water-dependent activities occurring. A signed connection should be provided along the New Street Waterfront Way pedestrian route, linking the existing LoPresti Park Harborwalk to a new Harborwalk extension at the Boston East site if a waterfront Harborwalk is not feasible.

Additional goals for open space and public access improvements in this area of the Traditional Working Waterfront include the following:

- Preserve the water view corridor of Decatur Street to provide a strong Maverick Street connection with the waterfront.

- Encourage viewing facilities at opportune points at or adjacent to DPA areas to allow public viewing of waterfront industry activities.

3.7 Study of Cultural, Civic and Non-Profit Facilities of Public Accommodation in Boston

This study, prepared in 2005, is aimed at understanding how Facilities of Public Accommodation (FPAs) can avoid privatization of the waterfront and ensure physical and visual enjoyment of the water's edge while demand for market-rate waterfront space is sometimes insufficient to fill the spaces created under the regulatory framework.

The study focused on the analysis of the network of public spaces on the waterfront in relation to the spatial needs of Boston's cultural, civic, educational and nonprofit organizations. The study identified how much space currently exists and how much is projected to come on line in the next fifteen years.

According to findings for East Boston, waterfront development in recent years has increased the number of FPA space to the 3rd highest of any Boston waterfront district (approximately 98,500 sf). However, given the high population of the neighborhood, this amounts to the lowest square footage per capita (2.56 per person). This finding seems to indicate that there could be support for the creation of more cultural and nonprofit FPAs in East Boston.

The study recommends the following type of uses for cultural and non-profit FPAs in East Boston:

- A one-of-a-kind destination that helps define the role of the waterfront past and present in a unique way (immigration experience, maritime museum in a permanent structure, special events enjoying the view of Boston)
- Educational uses (boat building, adult education)
- Cultural uses (artist live/work spaces, cultural institutions, museums)
- Health and fitness uses (indoor winter play space, outdoor recreational space)
- Maritime and industrial uses (community boating, community yacht club, community meetings spaces)

3.8 Facilities of Public Accommodation, Commercial Retail and Restaurant Market Demand and Supply Analysis

Completed in September 2006, this study evaluates the market demand for commercial FPA space within Boston's Water's Edge Districts (WED). A detailed market supply and demand analysis was completed for each district to understand how much space the market can reasonably be expected to absorb over the next 25 years and what conditions are necessary for that space to be economically viable and sustainable in the long term.

The study also analyzed a number of existing and proposed projects. The analysis served to demonstrate that the presence of market demand alone is not sufficient for new commercial FPA space to succeed. The proximity to and nature of a site's direct demand sources, the quality, maturity and walk-ability of the site's physical environment, the programming of other on site uses, the availability of parking and/or

accessibility to public transit, the project design and the underlying business economics all have a profound affect on whether and what kind of ground floor commercial uses can succeed in a particular project or WED location. The following is a list of guiding principles gleaned from our examination of development analogues.

Location

Projects with direct adjacencies to major demand generators such as visitor attractions, major office towers, hotels or convention centers, dense residential neighborhoods, transit stations, etc. will enjoy better opportunities for retail success. These connections to identifiable demand sources are especially important for waterside retail, as 50% of the traditionally defined radial catchment area is over water (and therefore wholly unproductive). The relative isolation of locations like the East Boston waterfront, the Charlestown Navy Yard and the 100 Acres have been, and will continue to prove challenging for retail developments in the future.

Access and Visibility

Retail spaces do best when they can be seen directly from the street and feel easily accessible on foot without barriers such as escalators, elevators, major street crossings, bridges, walls, fences, etc. The removal of the Central Artery and the completion of the Greenway improvements promises to make the Downtown and North End WED's some of the most attractive retail areas in the city.

Critical Mass/Scale

Retail spaces do best when they are part of a larger retail environment. Single spaces rarely do well unless they are occupied by destination users (restaurants and some specialty stores) or are targeted and sized to meet the specific demands of onsite users. The development of Waterside Place for example in the Seaport District can be expected to have a strong positive effect on retail development potentials in that vicinity creating a magnet for demand and for new business development.

Environmental Quality

Great retail needs great streets. The quality of the pedestrian environment is critically important to the success of urban retail. Retail succeeds best in a mature, active, pedestrian-scaled, walk-able attractive urban design environment. This helps to explain the success of retail in places like the North End and Back Bay and the relative dearth of retail along the downtown waterfront and in the Seaport to date, which are far from the mature environments even after 30 years of active redevelopment. The completion of the Rose Kennedy Greenway and the build-out of Fan Pier, the former McCourt site and Waterside Place will have a profound impact on the environmental quality and retail potentials of these areas. Large development areas like the 100 Acres must also be prepared for a long and incremental maturation process.

Design

Projects that open their ground floor commercial areas to the street and invite traffic in from the outside rather than insulating and isolating it for the benefit of onsite users alone, will enjoy broader exposure to potential consumers and greater potential for long term retail success.

Development Density and Land Use

With few exceptions, most urban retail development is oriented toward convenience retail (food, drug, miscellaneous retail) and restaurant demand and is aimed at meeting the daily needs of onsite and walk-

zone proximate residents, employees and visitors. For this reason, the density and diversity of surrounding developments is critical to the success of urban retail and helps to explain the success of retail environments such as Quincy Market, Downtown Crossing and Prudential/Copley Place. Projects that can only effectively reach their onsite consumers, or that are located in areas where only one demand source dominates (like for example at 470 Atlantic Avenue or Burrough's Wharf) will have severely constrained retail potentials.

A rule of thumb for measuring the relationship between office, hotel and housing development and supportable ground floor retail is presented below. As these measures indicate, it takes a tremendous amount of surrounding development density to support retail at even a modest scale.

- 1,000 sf of Office = Support for ≈ 10 sf of restaurant space = Support for ≈ 15 sf of miscellaneous retail space

- 1 Residential Unit = Support for ≈ 20 sf of convenience goods retail space = Support for ≈ 30 sf of shoppers goods retail space

- 1 Hotel Room = Support for ≈ 100 sf of shoppers goods retail space = Support for ≈ 140 sf of restaurant space

Development Timing

Retail follows other development, it does not lead. Emerging neighborhoods have a particularly difficult time establishing successful retail, and most depend on subsidy and/or missionary entrepreneurs in the short to mid-term. This has been a significant factor for commercial endeavors in the Charlestown Navy Yard and in the Seaport and is likely to be particularly troublesome for areas such as the 100 Acres and the East Boston waterfront.

3.8.1 East Boston WED

While the calculations explicitly assume that existing commercial spaces are supported by current levels of demand, we strongly suspect that this is not the case in the Navy Yard and in East Boston and that some portion of the development growth in these WED's will be required to promote and sustain the viability of the existing supply. Adding more commercial space to these already sensitive locations has the potential to diffuse the demand and destabilize existing businesses here.

According to the analysis of existing and proposed retail and restaurant FPA in the East Boston waterfront indicates that there may be up to 58,000 sf of excess supply by 2030 if the current trends of supply and demand continue. This finding seems to indicate that there may not be sufficient market support for the creation of new commercial FPAs in East Boston, other than the ones already proposed.

3.9 Port of Boston Economic Development Plan

Completed in 1996, this plan was jointly prepared by the BRA and the Massachusetts Port Authority (Massport). The purpose of the study was to identify economic opportunities and strategies to strengthen the port areas of East Boston, South Boston and Charlestown. The study recognizes that the East Boston waterfront is particularly suited to the "smaller-scale maritime services on which basic port industries rely –pilots, tug boats, barges, fleet servicing, lightering support, fueling, pump out, and harbor launches."

The scale of the area and its proximity to Inner Harbor locations provides an excellent location for marine service and support industries. Several properties are active in marine service and support, including Boston Towing and Transportation located in the East Boston DPA. The plan also remarks that the East Boston waterfront could also "support mixed-use commercial and residential development given the

synergy between the port, the residential neighborhood, and area businesses and the dramatic views of downtown."

Some of the important priority actions for implementation relative to East Boston include the following:

- Create a Maritime District from Central Square to Porzio Park, promoting public access and supporting marine service businesses.
- Integrate East Boston into an Inner Harbor water transit system.
- Support community planning efforts to strengthen connections within the community and access to the waterfront.

4.1 6-26 New Street – Project Description

The New Street project is proposed for the site located at 6 – 26 New Street, at the intersection of New Street and Sumner Street in East Boston. This site is situated on the southwestern corner of the East Boston waterfront along the east side of Boston Inner Harbor. It is bound by New Street to the east, LoPresti Park to the south, Boston Harbor to the west, and the Boston Towing and Transportation property to the north. The total acreage is 3.93, of which 2.0 acres are watersheet.

4.1.1 Existing Conditions

The site was historically used for multiple commercial and industrial purposes, including cold storage and as the site of confectionary companies. Past uses also included fish packing ,storage and ice manufacturing (detailed information on the past history of the site is provided in *Section 9* and *Appendix 1* of this document). For the past 40 years, the site has remained mainly underutilized. The buildings are currently used intermittently for office and storage space.

On the waterside of the site, there are two solid-fill wharves that have a mix of granite and concrete seawalls, and approximately 27,000 square feet of dilapidated timber pile areas. The timber pile area extends approximately 170 feet beyond the existing wharves. Both the wharves and piers are inaccessible to the public from the land or from the water. Due to security concerns, the current owners have installed a fence and guard rail that separate the decaying wharves and piers from the rest of the site. The extension of existing wharves and timber pile areas is shown in *Figure 4-1, New Street: Existing Conditions Plan* at the end of this section.

Four adjacent brick and concrete buildings currently exist on the landside of the site. The buildings are 1, 3, 5, and 9-stories in height. A continuous street wall along New Street is formed by the 3 and 9-story buildings, which are currently vacant, and the 5-story building. The 5-story building has one and two-story portions in the back that have loading bays. It is in need of significant repair and many of its windows and other openings have been filled in. There is also a 1-story concrete block structure that houses the boiler plant for the complex.

The useable site area not occupied by buildings is currently covered in asphalt and concrete paving. The entire site area is surrounded by an 8-foot high chain link fence topped by razor wire and by a 3-foot high guard rail, of the type typically found along highways. In front of the three buildings along New Street there is a public sidewalk that changes from 7 to 10 feet in width as the road widens. There are currently no street trees or landscaping areas along the sidewalk. The street wall created by the existing buildings currently cuts off views to the harbor from the interior of the Maverick Landing neighborhood. Views of existing conditions are shown in *Figure 4-2, New Street: Photographs of Existing Conditions*.

4.1.2 The Surrounding Area

The site is situated in an area that was historically industrial and commercial but is now becoming increasingly residential. This area of East Boston has been the subject of recent revitalization efforts focused on expanding public open space and public access to and along the waterfront. To the north is the Boston Towing and Transportation property, which has active piers with docking tug boats, numerous 1-story sheds, and a 50-foot tall industrial building that wraps around the outside corner of the intersection of Maverick and New streets. Across New Street to the east, is the recently created Maverick Landing site, which consists of four city blocks with 3-story townhouse buildings and a 6-story, 65-foot high apartment building at the corner of Maverick Street and New Street. To the south and southeast of the site is LoPresti Park, which offers views of Boston Harbor from Zakim Bridge to the Institute of Contemporary Art (ICA) Museum. Other residential developments in the immediate area include

Carlton Wharf, and three permitted but not yet constructed projects: Clippership Wharf, Hodge Boiler Works and Pier One. Five blocks down Sumner Street to the East is Maverick Square and the Maverick MBTA Station.

4.1.3 Project Overview

The proposed New Street Project includes residential and commercial development as well as public open space, public access along the waterfront and the restoration of the DPA for a marine terminal related facility. The site will house two residential buildings, a restaurant, a two-story parking structure, and a recreational and commercial boating area that will utilize the existing pier and wharves. Maintained landscaping, drop-off and parking areas, and public walkways are also a part of the plan.

The owner of the site submitted an Expanded Environmental Notification Form (ENF) and Project Notification Form (PNF) to the BRA and the Executive Office of Energy and Environmental Affairs, in order to initiate the Article 80 process and the MEPA environmental review process. This submittal presented the project staged in two phases, with a proposal to secure a "Phase I Waiver" for portions of the redevelopment, so that certain work and improvements can proceed while the MEPA and MHP review processes take place. These proposed two phases of development are shown in *Figures 4-3, New Street: Proposed Site Plan – Phase I* and *4-4*, *New Street: Proposed Site Plan – Phase II (Full Build)*.

The existing 9-story building will be redeveloped with additional stories outside of Chapter 91 and MHP jurisdiction. This building will contain approximately 148 one and two-bedroom residential units. The existing 5-story structure is in need of extensive repairs and will not be retained as part of the proposed plan. A new, 6-story residential building will be constructed in a similar location on the site, next to the existing 9-story building. This building will contain either approximately 62 one and two-bedroom units or approximately 106 hotel or extended stay units. It will also contain a one-story restaurant or similar commercial enterprise on the ground floor facing the water, and a two-level underground parking structure. Unlike the current layout of the site, the new plan will separate the two main buildings with sidewalks and landscaping, thereby avoiding a continuous street wall and allowing views of the harbor from the street and the nearby Maverick Landing development.

A two-story parking structure is proposed for the north side of the property, situated between the twelve-story residential building and the industrial Boston Towing and Transportation property. Both parking facilities on the property could potentially utilize vehicle stackers – hydraulic lift systems that provide space for two parked vehicles – for larger capacity parking. Fifteen additional parking spaces are proposed: five near the restaurant and ten on the south side of the site. Depending on the use of stackers within the two parking structures, there will be approximately 164 to 240 total parking spaces on the site. The plan also incorporates one vehicle drop-off area near the restaurant and one along New Street in front of the two residential buildings. The proposed buildings are illustrated in Figures *4-5, 4-6* and *4-7*, which show building sections and a perspective rendering of the proposed development as it will be seen from the water.

The total gross floor area for the project is approximately 225,919 sf with a total floor-area-ratio (FAR) of approximately 2.6. The combined building footprint will be 40,598 sf, which will occupy approximately 47% of the upland lot area. Table 2-1 on the next page outlines the complete building program.

Table 4-1. New Street Building Program

Building	Bldg Footprint (sf)	Gross Square Footage	Lot Area (sf)	FAR	Bldg. Height[1]	Lot Coverage	Garage Parking Spaces	Parking On-Site
New Building	14,200	68,900	N/A	N/A	69'	N/A	71-121	15
Redeveloped Building	12,650	143,271	N/A	N/A	162'	N/A	0	0
Parking Garage	12,748	12,748	N/A	N/A	16'	N/A	78-104	0
Taxi Waiting Area	1,000	1,000	N/A	N/A	20'	N/A	0	0
Total	40,598	225,919	87,180	2.6	N/A	47%	149-225	15

1. Height is measured from grade.

The proposed restaurant will measure approximately 5,400 sf, with indoor and outdoor seating that will be designed to take advantage of the waterfront views of Boston harbor and the Boston skyline. The restaurant is intended to help activate the area and encourage the public to take advantage of the site's waterfront location and amenities. In total, the restaurant area and public parking will provide approximately 8,000 sf of facilities of public accommodation (FPA) on the ground level floor of the new mid-rise residential building to attract the general public to the waterfront.

The waterside of the property will have to be dredged and cleared of in-water obstructions in order to be useable. The New Street project includes the restoration of the watersheet area so that it can support water-dependent uses and help activate the waterfront in this section of East Boston. The northern half of the watersheet is in the DPA while the southern side is not. The program for the non-DPA watersheet is for a small recreational marina. The program for the DPA watersheet includes a multi-use marine terminal that could accommodate water taxi service to different points on the harbor.

The New Street Project includes the extension of the existing Harborwalk, which currently ends at the southern edge of the property in LoPresti Park. A 12-foot wide (10-foot clear), 500-foot long Harborwalk will be built along the waterside perimeter of the property. It will connect with the existing Harborwalk in LoPresti Park and continue north along the edge of the wharves to the end of the northern wharf. Benches will be provided along this new section of the Harborwalk so that people can easily enjoy the panoramic views of Boston Harbor. Appropriate, low-height vegetation will be planted along the Harborwalk and in portions of the public open space. Additionally, the proponent will work with the Boston Parks Department to improve pedestrian access to the Harborwalk through LoPresti Park from the sidewalk on Sumner Street.

As recommended in the EBMHP, the Harborwalk and connecting walkways will be accessible to the public 24 hours per day, seven days per week. The Harborwalk is also planned to link to the inland portion that will connect along New Street and Border Street to the planned Harborwalk at the Boston East site on the north side of the Boston Towing and Transportation site.

4.1.4 Public Impact and Benefits

Due to its location directly adjacent to LoPresti Park, with panoramic views of the downtown Boston skyline and Charlestown, the New Street Project site is well-suited to public and residential use. It is located in an area of East Boston that has gradually shifted from largely industrial and commercial uses to more residential ones. Though 6-26 New Street borders the industrial Boston Towing and Transportation property to the north, it is located in a largely residential area. The proposed project fits the current residential nature of the surrounding area and complements the Maverick Landing apartment buildings adjacent to it by offering views to the harbor from the street and by providing a visual

connection to the street. In terms of public accessibility to the waterfront, the New Street Project would clearly be a significant improvement to the area.

The proposed project is consistent with current plans for this area of East Boston, as stated in the *East Boston Master Plan* and the EBMHP. These two plans recommend improving public access to the waterfront, strengthening residential neighborhoods, and encouraging new commercial growth. Additional discussion of public benefits is provided under the sections of this MHP Amendment that review Chapter 91 compliance and proposed substitutions and offsetting benefits (*Sections 6* and *7* of this document).

4.2 Boston East – Project Description

The Boston East project is proposed for the site located at 102-148 Border Street in East Boston. The site is situated on the southwestern edge of the East Boston waterfront along the west side of Boston Inner Harbor. The site is bordered by Boston Inner Harbor to the west; a property at 170 Border Street to the north; Atlantic Works, Wigglesworth Machinery, and Boston Towing and Transportation properties to the south; and Border Street to the east. The total acreage is 14.2, of which 10.8 acres are watersheet.

4.2.1 Existing Conditions

The 102-148 Border Street site is comprised of filled tidelands and a shallow watersheet area along the eastern side of Boston Harbor. It was historically used for marine industrial uses, including shipbuilding, ship and engine repair, dry docks, coal storage, and as the site of a carriage factory (detailed information on the past uses and history of the site is provided in *Section 9* and *Appendix 1* of this document). The site is currently vacant and has been so for the past thirty years. There are various debris and miscellaneous building remnants on the site, including entrance posts, an outfall pipe, and bulkheads. Along the water's edge there are two dilapidated heavy lumber marine railways, the remains of several building footprints, and approximately 25,000 square feet of old timber piling areas that extend over 250 feet beyond the high water mark. The site is currently surrounded on the landside by a fence, rendering it inaccessible to both vehicles and pedestrians. The existing site conditions are illustrated in *Figure 4-8, Boston East: Existing Conditions Plan*, and *4-9, Boston East: Photographs of Existing Conditions*.

4.2.2 The Surrounding Area

The Boston East site is located on the waterside of Border Street on the western edge of East Boston. The landside of the property is a large, narrow strip of land that borders the Boston Inner Harbor. The location of the site along the harbor provides panoramic views of Charlestown, the Tobin and Zakim bridges, and portions of the Boston skyline. Like the New Street site described above, the Boston East site is situated in an area that was historically industrial and commercial but is now becoming increasingly residential. Though the area directly north of the site houses several industrial buildings, the rest of the neighborhood is largely residential and commercial. Central Square and the Liberty Plaza shopping area lie to the north. Immediately south of the site is a recently renovated building, Atlantic Works, which houses a daycare center, artist studios and the Atlantic Works Gallery. To the southeast is the new Maverick Landing mixed-income development and LoPresti Park, which borders the harbor. In the area southeast of the site, several residential developments are currently proposed, including Clippership Wharf, Hodge Boiler Works, New Street, and Pier One. Maverick Station and Maverick Square are a few blocks from the site.

4.2.3 Project Overview

The proposed Boston East project includes two distinct development areas, a Designated Port Area (DPA) and a non-DPA zone. The non-DPA portion of the site will be redeveloped to contain a seven-story residential building with 196 housing units, facilities of public accommodation (FPA) including a community art gallery (the McKay Community Gallery), interpretive historical exhibits and displays, and

artist live/work units. The project will also include public open space areas and Harborwalk along the waterfront on the west side of the site. Figures *4-10* and *4-11,* at the end of this section, show the proposed site plan for the non-DPA portion of the project site, and its relationship to the site plan for the DPA and the entire project site.

The proposed residential building will be situated on the area of the site north of Decatur Street, creating a visual corridor from Decatur Street to the waterfront, which is consistent with the recommendations of *East Boston Master Plan* and the EBMHP. The residential building will be split into two wings framing an open space that will slope down to the waterfront and Harborwalk. These two wings will be connected by an archway along Border Street that is meant to encourage access to the Harborwalk from the street. A community gallery and artist live/work units are proposed for the southern wing of the building. The community art gallery will face the waterfront at the end of the southern wing of the building. Perspective renderings of the proposed development from different points of view are shown in *Figures 4-12, 4-13* and *4-14*.

The proposed project includes basic site improvements to the DPA portion of the site. The future development of the DPA portion of the Boston East site should include maritime water-dependent uses that are appropriate to both the small scale of the parcel and the context of the East Boston Neighborhood. Depending on the future maritime water-dependent use, Harborwalk along the waterfront should be incorporated into the design if possible. If perimeter Harborwalk access is not possible, point access should be incorporated into the design of the site.

A public maritime interpretive area is proposed along the Harborwalk near the entrance to the community art gallery. This area will be visible and accessible from Decatur Street and will provide public access to the waterfront. It will be designed to commemorate the site's maritime history with interpretive exhibits that may extend into the harbor, addressing the existing remnants of the historic marine railway. Seating and activity areas will be located along the water's edge.

The total gross floor area for the project is 215,005 sf. The building footprint will be 36,800 sf, which occupies approximately 44% of the site. A total of 141 parking spaces will be located beneath the residential building. The following table outlines the proposed building program.

Table 4-2. Boston East Building Program

Location	Bldg Footprint (sf)	GSF	Lot Area (sf)	FAR	Building Height	Lot Coverage	Garage Parking Spaces	Parking On-Site
Residential And FPA	36,800	215,0059	84,218	2.63	85'	44%	141	0

4.2.4 Public Impact

Following requirements and guidelines established by the EBMHP, recent revitalization efforts in this area of East Boston have focused on the expansion of open space, the improvement of housing developments, and increased public access to and along the waterfront.

The proposed project is consistent with these efforts. The proposed design has been crafted to encourage public access through the site, both to and along the waterfront and from Border Street. The public amenities that will be provided include, but are not limited to the following: landscaped public open space; Facilities of Public Accommodation (FPA) in the form of interpretive exhibits, artist live/work

units accessible to the public at determined times during the year, and the community gallery on the first floor of the residential building; a 12-foot wide (10-foot clear) Harborwalk that will extend along the site's entire waterfront; and an interpretive maritime area that will commemorate the site's extensive maritime history in the vicinity of the DPA. Altogether, approximately 9,000 sf of FPAs are proposed to attract public to the waterfront and the proposed Harborwalk extension along the water.

As recommended in the EBMHP, the proposed Harborwalk is designed to connect back to Border Street, providing a landside link between waterfront Harborwalk sections. Open space and seating areas along the Harborwalk will provide viewing areas for pedestrians to view Charlestown, the Zakim and Tobin bridges, and vessel activity on Boston Inner Harbor. The Harborwalk and open space areas will be open and accessible to the public 24 hours a day, seven days a week.

The proposed project is consistent with current plans for this area of East Boston, as stated in the *East Boston Master Plan* and the EBMHP. These two plans recommend improving public access to the waterfront, strengthening residential neighborhoods, and encouraging new commercial growth. The EBMHP has made specific recommendations for the Boston East site, including developing housing on the site, extending the Harborwalk, along its waterfront, and removing or reconfiguring the DPA. The proposed project complies with the provisions of the plan by providing housing, open space, public access to the waterfront, and views through and from the site.

Additional discussion of public benefits is provided under *Sections 6* and *7* of this *MHP Amendment,* the sections that review Chapter 91 compliance and proposed substitutions and offsets.

4.2.5 Boston East Disposition Process

In March 2004, the City of Boston's Department of Neighborhood Development (DND) began a series of community meetings focused on the redevelopment of the Boston East site. The community expressed their preference for a range of uses in this location, including: green space, an East Boston heritage and ship building museum, parking, an eco-tourism destination, Harborwalk extension, harbor patrol, water taxi, restoration of the marine railway, beach, cruise ship dock, large yacht slips, boat repair, artist live/work/gallery space, mini-offices and mixed use. DND continued the community process through June 2004 with the help of a steering committee consisting of interested community members.

The culmination of the community process resulted in support for DND to issue a Request for Qualifications (RFQ) to gauge interest in developing the site. DND issued the RFQ in December 2004 and received one complete response from Trinity Financial/East Boston Community Development Corporation. The respondent presented to the East Boston community in May 2005.

Following the RFQ process, DND issued a Request for Proposals (RFP) in August 2006 for the development of the Boston East site. Three of four proposals received were complete and accepted for consideration (Trinity Financial, Border Street Partners, LLC and Global Partners). The top two ranked applicants, Trinity Financial and Border Street Partners, LLC, presented their proposals to the community in November 2006, after which Trinity Financial was tentatively designated as the developer by the Public Facilities Commission on November 29, 2006. The designation runs through November 29, 2008.

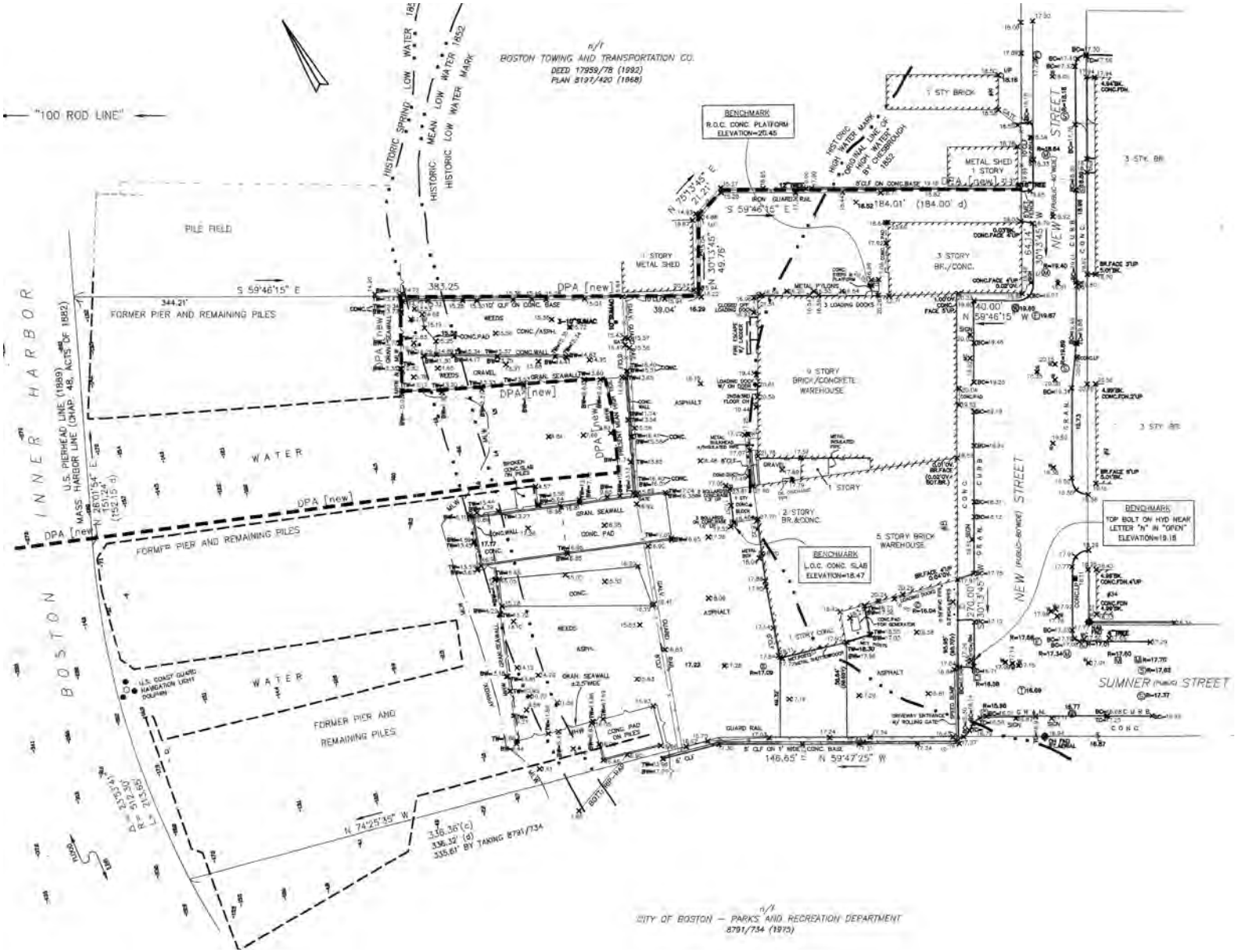
4.3 125 Sumner Street – Project Description

125 Sumner Street is a parcel owned by the Boston Housing Authority, which comprises 41,955 square feet of land (approximately 0.96 acres). It is currently occupied by 20 three- and four-bedroom affordable apartments. *Figure 4-15, 125 Sumner Street: Existing Conditions* shows the location of the parcel and

existing buildings on the site as recorded in a recent aerial photograph. Additional views are provided in *Figure 4-16, 125 Sumner Street: Photographs of Existing Conditions*.

The parcel is located more than 100 feet away from the shoreline and is separated from the water by a roadway and another parcel. However, it is located on Commonwealth Tidelands and therefore subject to Chapter 91 requirements for facilities of public accommodation (FPAs).

This parcel has been proposed for redevelopment, including the provision of additional affordable and market rate housing units. The project is in very early planning stages, and it is unclear at this point what the final project size and total number of units will be. However, a substitute provision for FPA requirements is included in *Section 7* of this *MHP Amendment* in anticipation of the proposed program of uses.

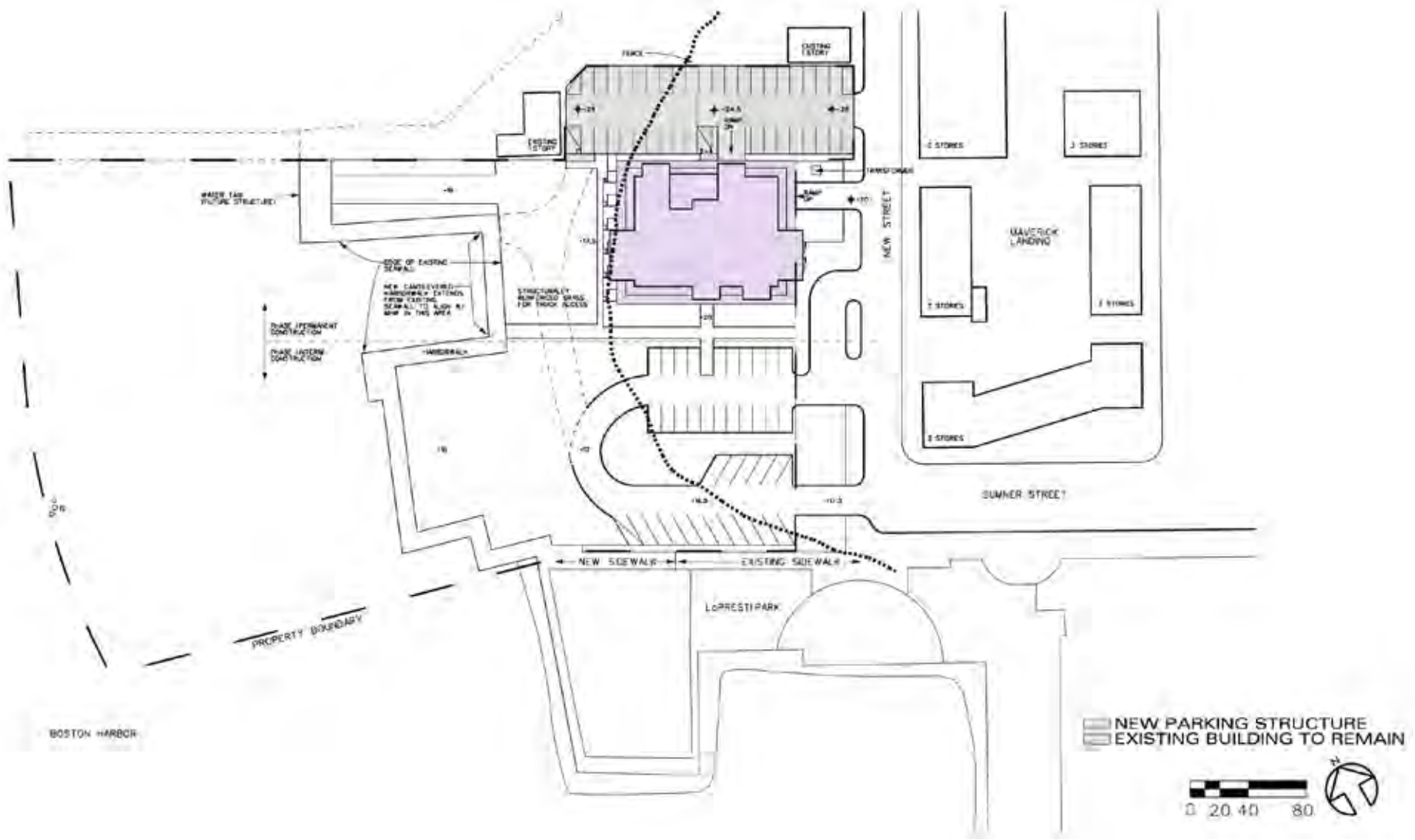


East Boston Municipal Harbor Plan Amendment
NEW STREET

Figure 4-1
Existing Conditions Plan

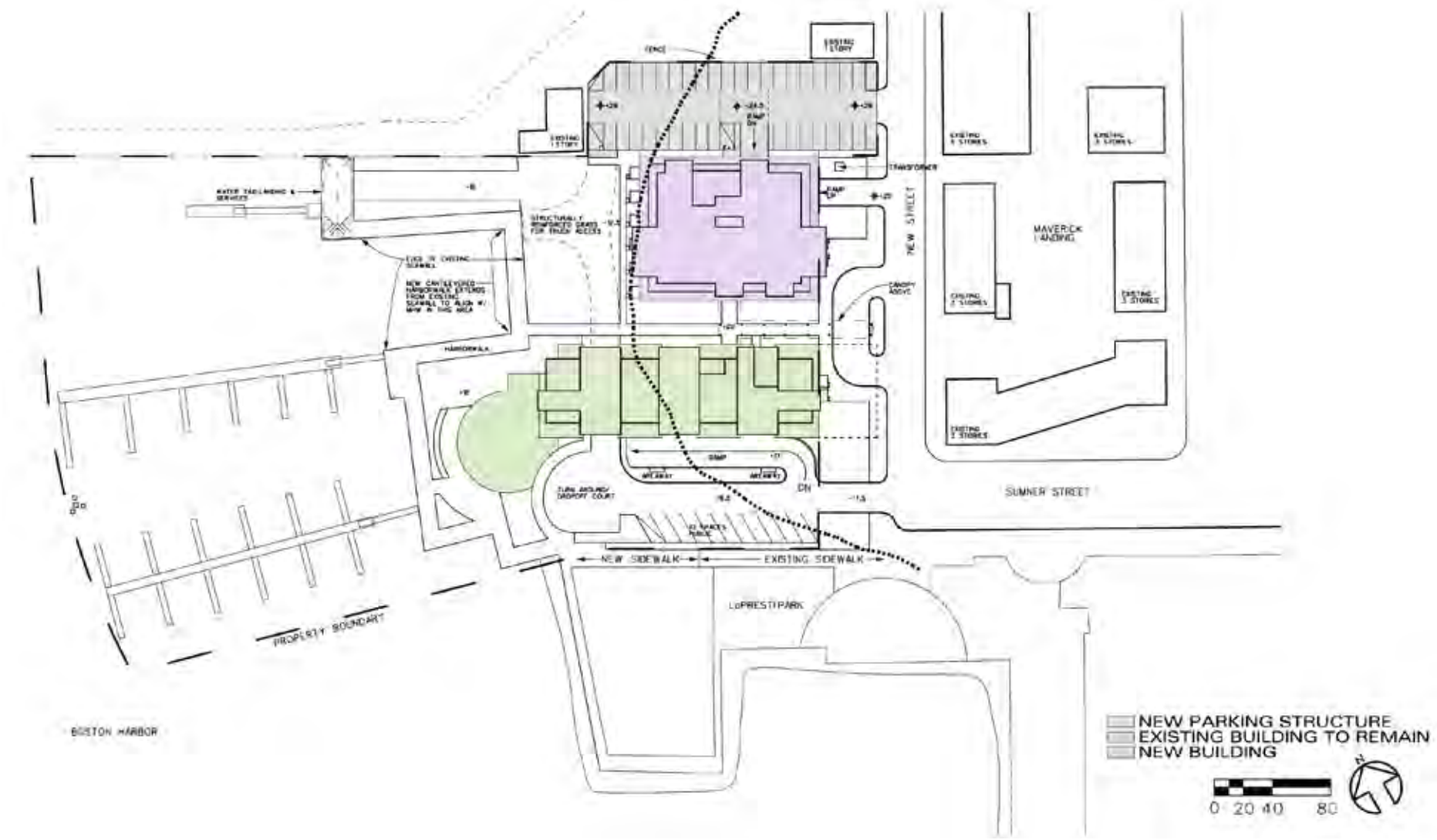
East Boston Municipal Harbor Plan Amendment
NEW STREET

Figure 4-2
Photographs of Existing Conditions



East Boston Municipal Harbor Plan Amendment
NEW STREET

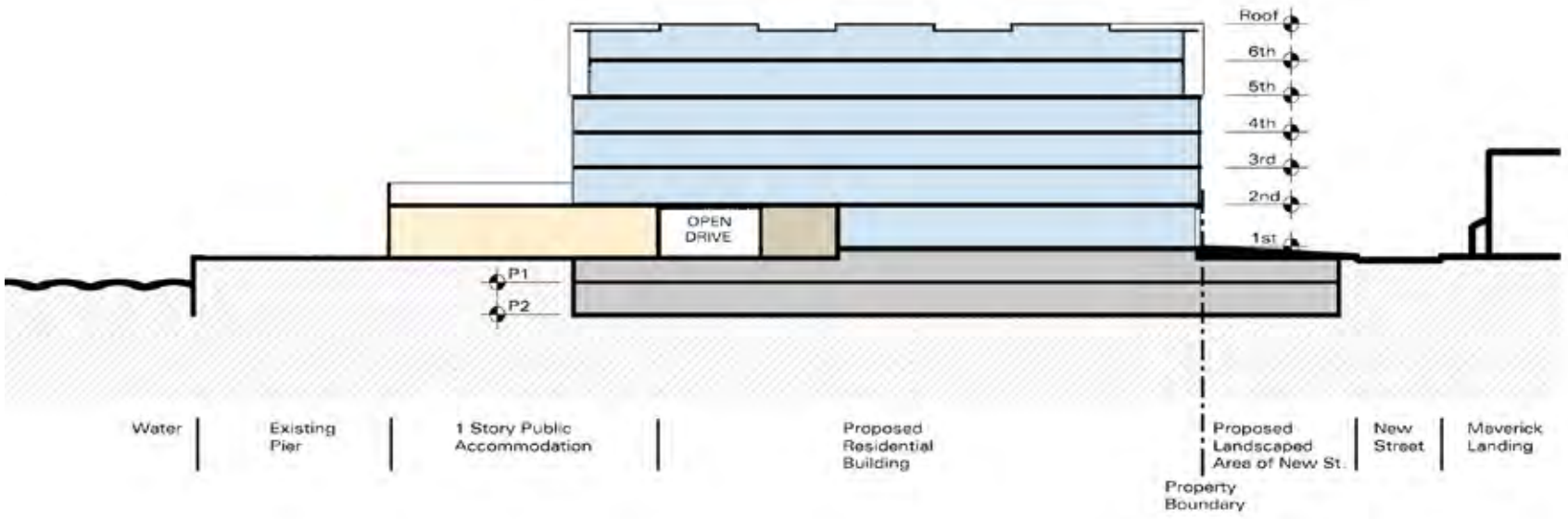
Figure 4-3
Proposed Site Plan - Phase I



Depicted marina is for illustrative purposes only

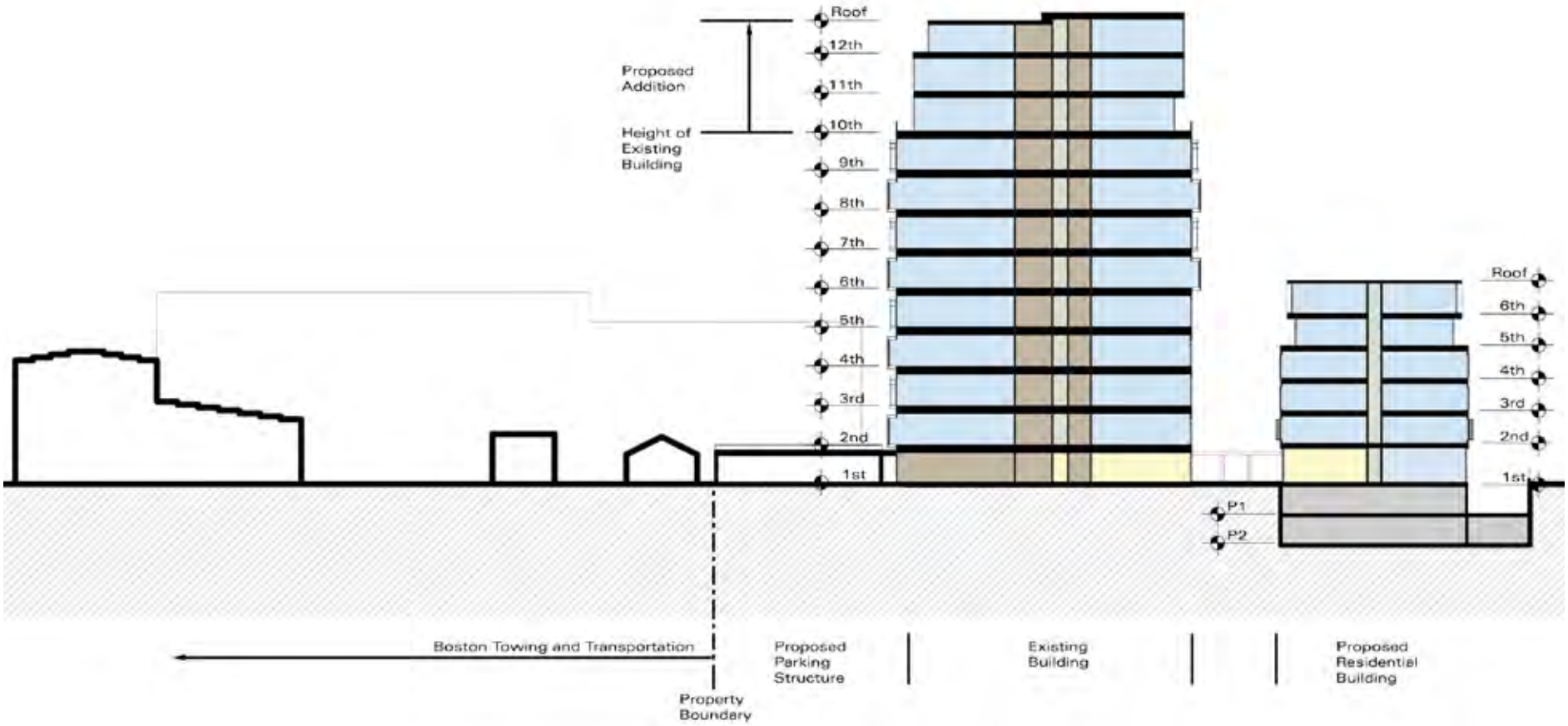
East Boston Municipal Harbor Plan Amendment
NEW STREET

Figure 4-4
Proposed Site Plan - Phase II



East Boston Municipal Harbor Plan Amendment
NEW STREET

Figure 4-5
Proposed Building Sections
West/East

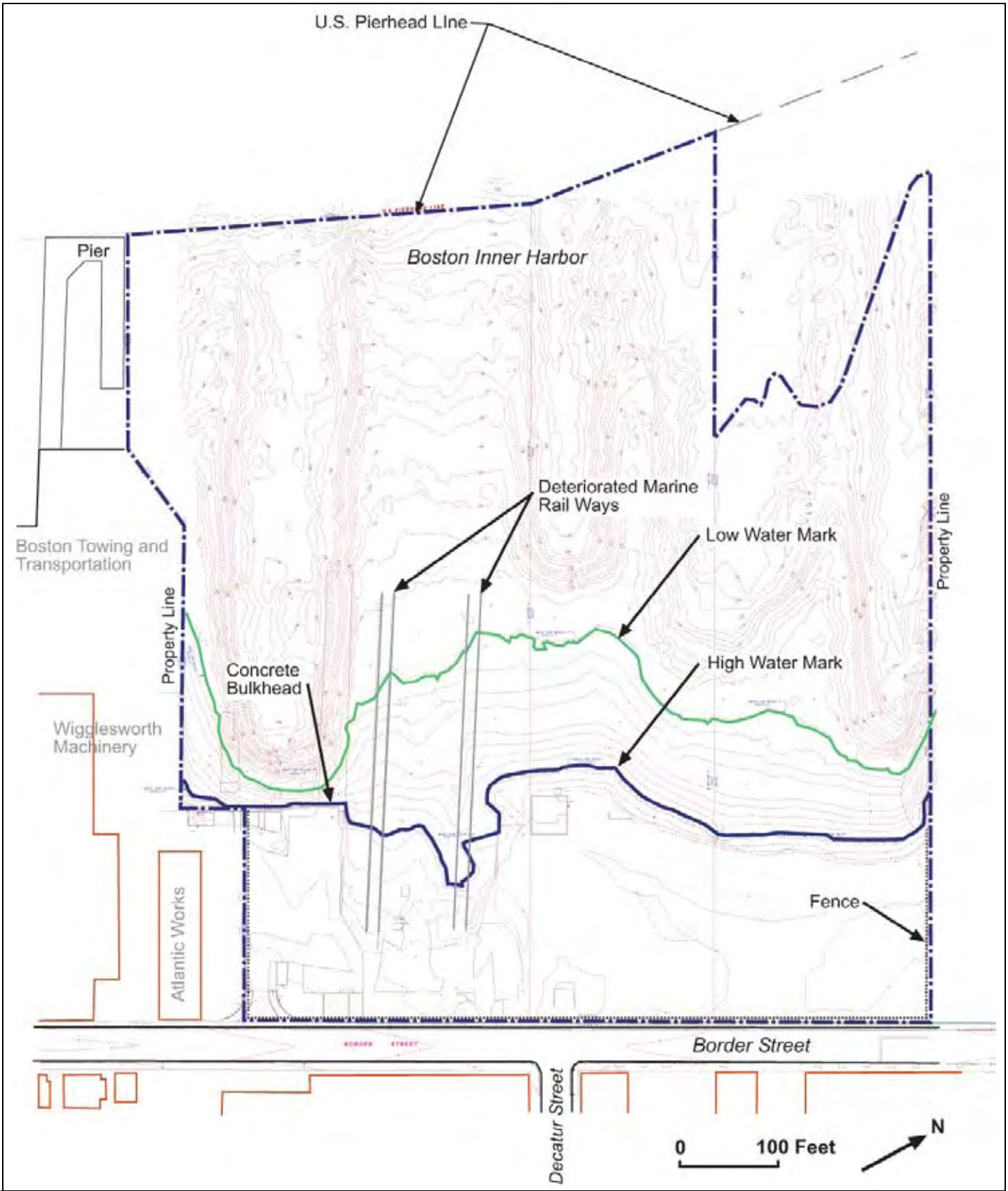


East Boston Municipal Harbor Plan Amendment
NEW STREET

Figure 4-6
Proposed Building Sections
North/South

East Boston Municipal Harbor Plan Amendment
NEW STREET

Figure 4-7
Rendering of Proposed Development



East Boston Municipal Harbor Plan Amendment
BOSTON EAST

Figure 4-8
Existing Conditions Plan

East Boston Municipal Harbor Plan Amendment
BOSTON EAST

Figure 4-9
Photographs of Existing Conditions

East Boston Municipal Harbor Plan Amendment
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Figure 4-10
Proposed Site Plan

East Boston Municipal Harbor Plan Amendment
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Figure 4-11
Proposed Site Plan and Adjacent DPA

East Boston Municipal Harbor Plan Amendment
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Figure 4-12
Rendering of Proposed Developement
(Looking North)

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Figure 4-13
Rendering of Proposed Development
(Looking East)

East Boston Municipal Harbor Plan Amendment
BOSTON EAST

Figure 4-14
Rendering of Proposed Development
(Looking West)

East Boston Municipal Harbor Plan Amendment
125 SUMNER STREET

Figure 4-15
Existing Conditions

East Boston Municipal Harbor Plan Amendment
125 SUMNER STREET

Figure 4-16
Photographs of Existing Conditions

5. DESIGNATED PORT AREA COMPLIANCE

Following the Secretary's *Decision* approving the EBMHP, the Massachusetts Office of Coastal Zone Management (CZM) initiated a boundary review of three of the four sub-areas of the East Boston DPA. The results of this review are summarized in the *Designation Decision for the East Boston Designated Port Area (Designation Decision)*, a document issued by the Executive Office of Environmental Affairs (EOEA) and CZM on April 23, 2003. As described in the document, three property owners informally requested that their properties be removed from the DPA. One of these properties was 6-26 New Street. The review process concluded with a report that determined that the DPA boundary should be modified, and the *Designation Decision* established conditions to be met by future development in the newly formed parcels, with specific requirements for 6-26 New Street.

The results of the boundary review and decision are graphically illustrated in *Figure 5-1, Revised DPA Boundary* at the end of this section.

5.1 6-26 New Street

The Secretary of Environmental Affairs recommended in his *Decision* the completion of a DPA Boundary Review for the New Street project site and then the preparation of an amendment to the MHP with site-specific substitutions and amplifications as part of the implementation of the EBMHP (requirements that are being addressed with this *MHP Amendment*).

Prior to the review, the DPA boundary bisected the landside of the New Street parcel and one of the existing buildings. As part of the *Designation Decision,* the DPA designation was removed from all the land area of the 6-26 New Street parcel site, but the waterside portion of the site previously contained within the DPA was maintained under DPA designation.

The *Designation Decision* established the following requirements on the redevelopment of the site:

- Removal or restoration of all on-site piles (both DPA and non-DPA watersheet areas).
- Site-wide reconstruction of all deteriorated sections of the bulkhead.
- Inclusion of a permanent vehicular access route from New or Sumner Street to the DPA and Water-Dependent Use Zone (WDUZ) in the design of any future project that will be included in any future Chapter 91 license review process.
- Provision of language in lease forms or deeds indicating the prior existence of nearby water-dependent industrial facilities with operational characteristics as enumerated in 310 CMR 9.51(1).
- Development of any nonwater-dependent facilities in a manner that prevents significant conflicts in operation between their uses and those of the nearby water-dependent facilities, as required by 310 CMR 9.51(1).

The *Designation Decision* also required that <u>one</u> of the following options to upgrade the existing infrastructure be implemented as part of the redevelopment of the site:

- Construction of a permanent pile supported pier in the DPA.
- Installation of floating docks capable of berthing vessels of a type and size common to marine industrial use.

- Restoration of the DPA portion of the site to a level that will allow the area to be accessible for vessel berthing at the existing neighboring dock.

In order to comply with these requirements, the 6-26 New Street development project proposes the following:

- All the pile fields will be removed.
- The seawalls and adjacent surfaces were repaired in March 2007.
- A permanent vehicle access route will be created to preserve the capacity for vehicular access to the DPA portion of the site (the access road takes place through a 14-foot high passageway through the proposed midrise building).
- Language to indicate the presence of nearby water-dependent industrial facilities and activities will be included in all residential lease forms or condominium deeds.
- The design of the proposed nonwater-dependent buildings and facilities will prevent conflicts with water-dependent industrial uses by placing a two-level parking structure as a "buffer" between the new residential buildings and the adjacent DPA, and using double-glazed windows to minimize noise.
- A multi-use marine terminal will be provided in the DPA portion of the site, to serve marine service vessels and commercial passenger vessel operations (listed as a water-dependent industrial uses under 310 CMR 9.12 (2)(b).
- Proposed site improvements will allow the DPA waterside area to be accessible to vessels berthing at the existing neighboring dock.

5.2 Boston East

After the *Designation Decision,* the Boston East project site remained restricted by two DPA zones occupying the north and the south portions of the site. Subsequently, the City applied for a reconfiguration of the DPA to consolidate the area on the south portion of the site, adjacent to 80 Border Street.

This reconfiguration has been recently approved, allowing for a more efficient land use allocation of water-dependent maritime uses within the site. Special provisions in the design of the DPA area for nonwater-dependent use will be incorporated as described in *Sections 6* and *7* of this document, in order to prevent conflicts with water-dependent uses in the DPA. These will include measures such as the use of double-glazed windows and the location of facilities of public accommodation as a "buffer" between the DPA and proposed residential units.

As required for 6-26 New Street, language to indicate the presence of nearby water-dependent industrial facilities and activities will be included in all residential lease forms or condominium deeds for Boston East.

5.2.1 Consideration of Public Access

DPA regulations do not require the provision of pedestrian access along the water's edge. Often, the types of water-dependent uses that are located in a DPA involve the use of heavy equipment and machinery that could pose significant safety hazards for pedestrians. This is an important reason why public access along the water is not supported by the regulations governing DPAs (301 CMR 25.00).

To the extent that future uses in the DPA portion of the Boston East site would allow safe and practical public access along the water's edge, it is proposed through this *MHP Amendment* that consideration be given to the possibility of extending Harborwalk access through the DPA portion of the site. This would be particularly desirable if the existing remnants of the marine railway, located within the reconfigured boundaries of the DPA, are preserved as historical artifacts. The extension of the Harborwalk to the proximity of these remnants would also allow an opportunity for the provision of historical interpretation exhibits and displays related to the site's history as a shipping facility and shipbuilding grounds. Additional information on historical resources and interpretive guidance along the Harborwalk and other East Boston open spaces under Chapter 91 jurisdiction is provided in *Appendix 1 – Historical Research and Interpretation*.

Figure 5-2, at the end of this section, indicates potential locations and opportunities for the extension of public access into the DPA portions of the Boston East site, should the future DPA use be such that it would not pose safety hazards to pedestrians.

5.3 Compatibility with Non-DPA Uses

On October 24, 2007 the BRA held an MHP Advisory Committee meeting specifically focused on East Boston DPAs and maritime water-dependent uses. Representatives from Lombardo Company (Liberty Plaza), Wigglesworth Machinery, Boston Towing and Transportation, and other entities who own property in the East Boston DPA attended the meeting. The discussion was very productive as it was the first time all of these property owners were in the same room and able to discuss common issues.

Some of the identified issues and concerns were the following:

- The East Boston DPA sites are small sites that are mixed in with, and surrounded by residential neighborhoods. This makes it very difficult to run maritime industrial operations which may produce noise, odors, etc. (this type of operations can be seen as a nuisance…even though historically they were located there first and represent a long-term feature of the waterfront). However, all of the representatives of water-dependent uses along New and Border Streets indicated that they welcome the development of new residential and mixed use projects along the waterfront.

- Vehicular access to these small East Boston DPA parcels is significantly constrained by the small neighborhood streets which make large truck access challenging and the difficulty of identifying truck routes to the waterfront which are acceptable to East Boston residents.

- Capital investments in maritime equipment are difficult to come by – tug boats are very expensive, and consequently it is almost impossible to invest in building and site improvements. East Boston maritime industrial operations are burdened with very small sites and old buildings that are not easy or "smart" to invest in.

- Property owners in the DPA that do not currently have a water-dependent use have a hard time finding such uses that can pay acceptable rents. The East Boston parcels are among the least desirable for maritime users due to water depths, lack of truck access and small parcel sizes. In addition, they are competing with Massport, which can afford subsidies.

- Some of these property owners would like to see another review of the DPA boundary and would like to be removed from its limits. The five year restriction on reconsideration of DPA boundary changes will soon expire and will provide an opportunity to reexamine the boundaries.

As part of this *MHP Amendment*, we are providing preliminary design guidelines for compatibility between DPA and non-DPA uses. These guidelines could be expanded and refined as part of future municipal harbor planning initiatives as other needs may arise.

5.3.1 Guidelines for Compatibility

As the Secretary's *Decision* stated, the East Boston DPA lacks the necessary backlands and transportation access to accommodate large scale bulk freight operations. However, the DPA is home to smaller water-dependent marine industrial operations on relatively small parcels, such as Boston Tow, marine construction, marine support services, fishing, etc. These water-dependent industrial uses are mixed in with, and surrounded by nonwater-dependent uses, which could potentially result in conflicts of adjacency among the different uses and their functional activities.

Both the development and enjoyment of the waterfront and the viability of the working port are important harbor planning priorities. In order to minimize and avoid as much conflict as possible between water-dependent and nonwater-dependent uses, the following are standards for coexistence based on the particular needs of the 6-26 New Street and Boston East project sites.

- Use Allocation – Facilities of Public Accommodation: Uses that are less susceptible of conflicting with water-dependent marine industrial activities shall be allocated at the ground level of the common boundary separating projects containing nonwater-dependent uses from a DPA. FPAs, such as retail, commercial uses and cultural activities are likely to be more compatible with marine industrial operations than residential uses and, therefore, the placement of FPAs as transitional uses along the edge or boundary of a site adjacent to a DPA will serve to reduce the potential for conflicts due to the occurrence of industry-related effects that would more adversely impact residential uses. In the case of 6-26 New Street, a parking structure is proposed along the DPA boundary to create a transition between marine industrial and residential uses. In the case of Boston East, artist live/work units, which are classified as industrial uses in the zoning code, will be located at the ground level of the nonwater-dependent use building along the side adjacent to the DPA portion of the site for similar reasons.

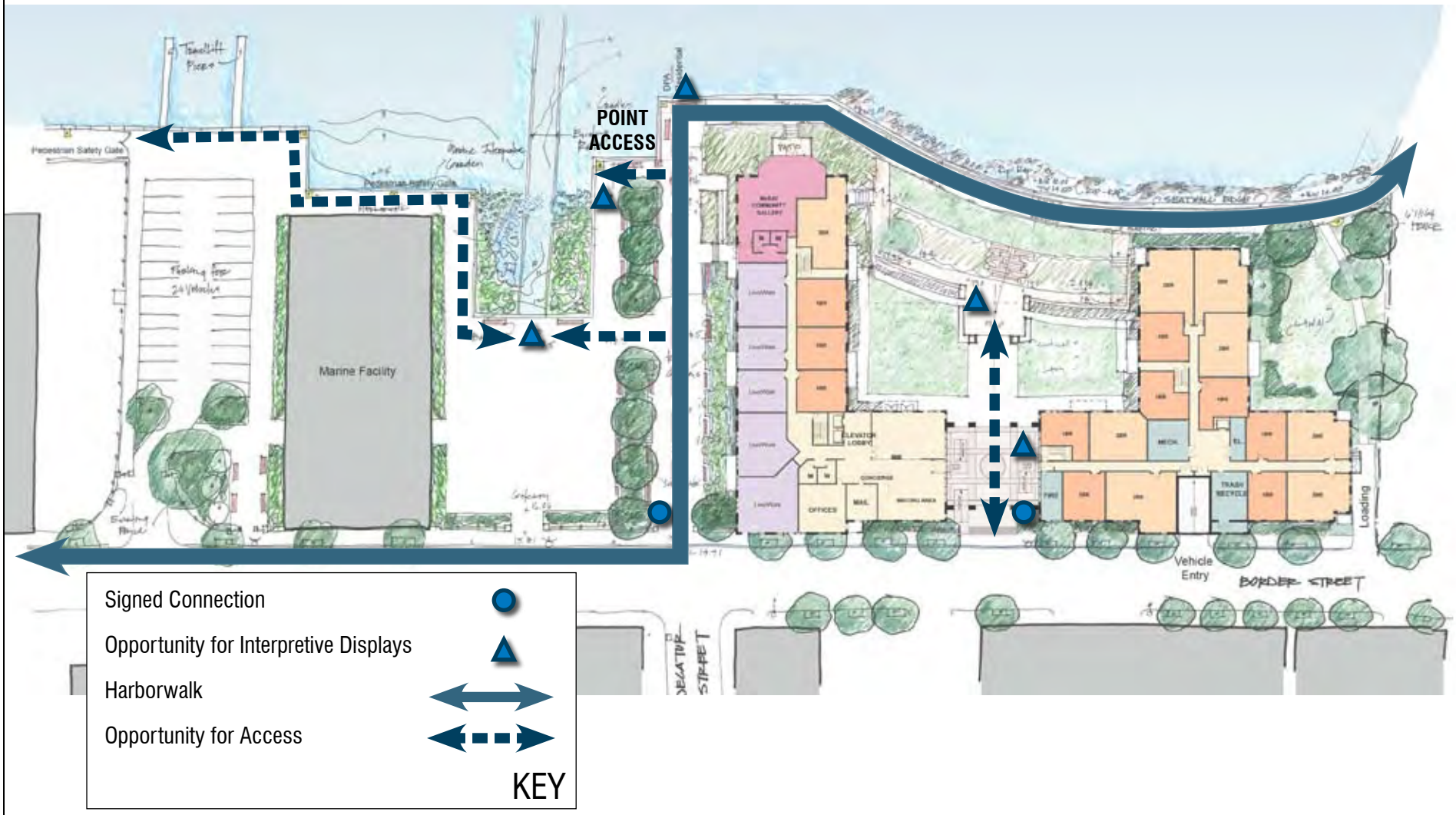
- Buffering - Open Space and Landscaping: The provision of open space and landscaping acting as a "buffer" between nonwater-dependent uses and a DPA is encouraged as a way to mitigate potential conflicts of adjacency. Both the New Street and Boston East developments provide open space and landscaping treatments along residential edges facing the DPA.

- Disclosure Language in Leases and Ownership Documents: Language will be incorporated in the sales and leasing documents for each of the components of 6-26 New Street and Boston East providing disclosure of the commitment of the projects to public accessibility, water-dependent activities, active programming, and 4-season day and evening events throughout the projects' indoor and outdoor public spaces, and the noise and activity levels that may be associated with DPA uses.

- Use of Appropriate Construction Materials: New nonwater-dependent buildings located in the vicinity of a DPA should employ double-glazed windows, sound insulation and other appropriate construction materials as required to mitigate potential adverse impacts of neighboring water-dependent and marine industrial activities.

East Boston Municipal Harbor Plan Amendment

Figure 5-1
Revised East Boston DPA Boundary



East Boston Municipal Harbor Plan Amendment
BOSTON EAST

Figure 5-2
Potential Opportunities for Access and Interpretive Displays

6.1 Chapter 91 Jurisdiction

The Waterways regulations distinguish among several categories of tidelands and the associated public rights within them. In general, Chapter 91 protects the public's rights for the active use for water-dependent uses associated with flowed tidelands. The Commonwealth also protects the public's rights for access to and from the flowed tidelands through its regulation of private tidelands. Accordingly, there are higher standards for historic Commonwealth tidelands than private tidelands, and even higher standards for existing flowed tidelands.

Under Chapter 91 jurisdiction, any construction, project or alteration of fill or structures requires written authorization from the Department of Environmental Protection (DEP) in the form of a license or permit, unless it has been authorized by a previous grant or license. "Trust lands" are the geographic areas subject to licensing and permitting under Chapter 91 jurisdiction. For practical purposes, areas subject to Chapter 91 jurisdiction are those located seaward of the historic or present high water mark, whichever is further landward.

The New Street and Boston East project sites are located in an area of East Boston where, according to the EBMHP, the landside boundary of Chapter 91 jurisdiction has been generally defined as running along the first public way. In this case, the first public way has been identified as Border Street, turning west along Maverick Street and south along New Street (refer to *Figure 1-2, East Boston Municipal Harbor Plan Sub-Areas* at the end of *Section1* for boundary location). Accordingly, the entire Boston East site is included within Chapter 91 jurisdiction. Similarly, 125 Sumner Street is located seaward of the first public way and therefore included within Chapter 91 jurisdiction, although the parcel is separated from the shoreline by another parcel and a roadway easement (see *Figure 4-15, 125 Sumner Street: Existing Conditions* at the end of *Section 4*).

In the particular case of the 6-26 New Street project site, further investigation of historic maps indicates that the Historic High Water Mark runs west of New Street roughly bisecting the landside project area in two portions, of which only one is subject to Chapter 91 jurisdiction. More details about tideland jurisdiction and compliance with Waterways regulations for the subject properties of this *MHP Amendment* are provided below.

6.2 Compliance with Regulations – 6-26 New Street

The line of jurisdiction for this site was established by DEP in 2002, following a Request for Determination of Applicability, and is based on the Chesbrough Plan of 1852. Accordingly, approximately 60% of the land area is located on filled tidelands and the other 40% comprises uplands not subject to Chapter 91 jurisdiction (see *Figure 6-1, New Street: Chapter 91 Jurisdiction*).

In total, the project site comprises approximately 3.93 acres (171,131 sf), of which approximately 84,547 sf are flowed tidelands, 50,434 sf are filled tidelands, and 36,150 sf are upland not subject to Chapter 91 jurisdiction. The flowed tidelands are those waters that are seaward of the existing high water mark, in the case of New Street these consist of the water portions of the site. The existing 9-story building (except for a small corner) and most of the other existing structures on the site are located outside of Chapter 91 jurisdiction.

Based on the Chesbrough Plan, the Historic Low Water Mark runs parallel to the waterside edges of the existing wharves and several feet inland from the current project shoreline (see *Figure 6-2, New Street: Historic Shoreline and Authorizations*). As a result, an estimated 1,000 sf of the project site area are located on Commonwealth tidelands. These were once flowed tidelands that have since been filled. The rest of

the landside area subject to Chapter 91 jurisdiction is located on private tidelands, which include land and filled tidelands located between the historic high and low water marks.

6.2.1 Chapter 91 Authorizations and Licenses

All of the existing piers and fill were previously authorized or licensed. A summary list of these authorizations is provided in *Figure 6-2*, which also shows the locations of former piers and remaining piles (*source: Gunther Engineering*).

Initial Authorizations allowed wharves to be maintained and extended to specific Harbor Commission Lines (Chapter 244 of 1848 and Chapter 267 of 1871). Subsequent Chapter 91 licenses allowed the owner to maintain, dredge, construct walls, and fill over the tidewaters (Licenses #118 in 1915, #154 in 1915 and #200 in 1916).

6.2.2 Chapter 91 Standards

The 6-26 New Street development project will comply with the requirements of Chapter 91 as described in this section, and through proposed substitute provisions and offsetting benefits discussed in *Section 7* of this *MHP Amendment*.

- §9.15 Extended Term Chapter 91 License – The proponent will request a Chapter 91 license with an extended fixed term of 99 years consistent with the approval criteria contained in 310 CMR 9.15(1)(b). Such an extension is warranted for a number of reasons, including the expected life of the improvements to be developed at the project site by the proponent, the proponent's financing requirements, the project's consistency with the *MHP* (as it is anticipated to be amended) and the long-term nature of the uses proposed for the project.

- §9.31(1) Basic License and Permit Requirements – No license or permit shall be issued for any project subject to Chapter 91 jurisdiction unless the project complies with the provisions of 9.32 to 9.40 (described below).

- §9.32 Categorical Restrictions on Fill and Structures – None of the proposed site uses or improvements is categorically restricted in previously filled tidelands.

- §9.33 Environmental Protection Standards – All projects must comply with the applicable environmental regulatory programs of the Commonwealth. Regulatory programs specifically applicable to this project and the status of the project with respect to those programs are summarized below.

    - The Massachusetts Environmental Policy Act (MEPA) – A Project Notification Form and Expanded Environmental Notification Form was submitted to the Massachusetts Executive Office of Environmental Affairs MEPA Office in September 2007.

    - The Massachusetts Wetlands Protection Act – A Notice of Intent will be filed with the Boston Conservation Commission.

    - The Massachusetts Clean Water Act – Sewer connection permits will be filed with the Massachusetts Department of Environmental Protection and the Boston Water and Sewer Commission.

    - The Massachusetts Historical Commission Act – The project will seek a Determination of No Adverse Effect on historical resources.

- Coastal Zone Management Consistency Review – The project's compliance with the Coastal Zone Management Act is described in *Section 10* of this document.

- §9.34 Conformance with Municipal Zoning and Harbor Plans – This *MHP Amendment* and the 6-26 New Street project will comply with City of Boston zoning and all aspects of the existing EBMHP, including associated conditions that are applicable to this area of the harbor.

    - Municipal Zoning – The site is currently zoned as Waterfront Commercial, which allows the development of multifamily residential uses, open space, restaurants and waterfront service uses, such as recreational boating and marinas. Hotel uses are conditional. The proposed project may require zoning relief from some dimensional requirements such as building height and FAR. In order to ensure that the project is in conformance with both zoning and the *MHP Amendment*, the City is proposing to amend Article 53 of the Zoning Code to allow for Planned Development Areas (PDAs) for projects which are consistent with the approved Municipal Harbor Plan. The project is also subject to Article 80 Development Review and Approval.
    - Municipal Harbor Plan – The proposed project will comply with MHP requirements through the proposed substitute provisions and offsetting benefits discussed in *Section 7* of this document.

- §9.35 Standards to Preserve Water-Related Public Rights – The regulations are designed to preserve the public's right to navigation, free passage over and through the water and access to Town Landings. The proposed New Street development has no seaward components extending beyond the limits of its project site area and watersheet boundaries. The project will implement the public's right to pedestrian passage over private tidelands by extending the Harborwalk along the water's edge and providing waterfront public open space. A management plan will be developed during the Chapter 91 licensing process, and subsequent to the approval of the MHP Amendment, that is specific to the site as ultimately designed and that implements the regulatory standards presented in §9.35. This plan will detail the institution of the public access components, including interpretive elements, the components of the public access plan, and public signage. The plan will also detail the management responsibilities, including the identification and responsibilities of the plan manager and administrator.

- §9.36 Standards to Protect Water-Dependent Uses – The regulations at Section 9.36 are designed to protect any water-dependent uses occurring at or near the site. This includes water-dependent uses within the five years prior to the filing of the license application. There are no water-dependent uses currently occurring at this site, and there have not been water-dependent uses occurring within the previous five years. The proposed improvements will allow for the continuous use of water-dependent industrial uses in the adjacent DPA. The public access will be preserved and expanded.

- §9.37 Engineering Construction Standards – All structures will be designed and constructed in a manner that is structurally sound and will be certified by a Registered Professional Engineer.

- §9.38 Use Standards for Recreational Boating Facilities – The regulations identify specific requirements for the patronage, operation and maintenance of recreational boating facilities. These standards, which are principally applicable to Commonwealth tidelands, differentiate between public and private recreational boating facilities. The project proposes an approximately 36-slip marina that will comply with the requirements of this section.

- §9.39 Standards for Marinas, Boatyards and Boat Ramps – This section specifies design standards for marinas and docking facilities. The proposed marina will comply with the requirements of this section.

- §9.40 Standards for Dredging and Dredged Material Disposal – Approximately 2,300 cubic yards of material will have to be dredged to support the proposed marina. Dredging and disposal activities will be done in conformance with the requirements of this section.

- §9.31(2) Proper Public Purpose Requirement – No license or permit shall be issued by the Department for any project on tidelands, except for water-dependent use projects located entirely on private tidelands, unless said project *"serves a proper public purpose which provides greater benefit than detriment to the rights of the public in said lands."* For nonwater-dependent use projects, this requirement is met if the project *"complies with the standards for conserving and utilizing the capacity of the project site to accommodate water-dependent use, according to the applicable provisions of 310 CMR 9.51 through 9.52; and complies with the additional standard for activating Commonwealth tidelands for public use, according to the applicable provisions of 310 CMR 9.53"*. If located in the coastal zone, the project should also comply with the policies of the Massachusetts Coastal Zone Management Program according to 310 CMR 9.54. Proposed project compliance with these provisions is summarized in *Table 6-1* below.

- §9.51 Conservation of Capacity for Water-Dependent Use – Nonwater--dependent use projects that include fill or structures on any tidelands may not unreasonably diminish the capacity of the tidelands to accommodate future water-dependent uses (see *Table 6-1*).

- §9.53 Commonwealth Tidelands – These regulations establish criteria that are applicable to those portions of the project that are within Commonwealth tidelands and that are nonwater--dependent uses (see *Table 6-1*).

- §9.54 Consistency with Coastal Zone Management Policies – A description of the project's consistency with the Coastal Zone Management Program polices is presented in *Section 10* of this *MHP Amendment.*

Table 6-1. 6-26 New Street – Summary of Existing Conditions and MHP Amendment Compliance with Chapter 91 Regulations

Regulation Reference	Requirements or Standard	Compliance: Existing Conditions	Compliance: MHP Amendment
310 CMR 9.51	**Conservation of Capacity for Water-dependent Use**		
9.51(1)	Prevention of significant conflict	Areas of the site that in the past were available for water-dependent use are closed to the public due to the presence of unsafe and dilapidated wharves, piers and pile fields along most of the shoreline.	The proposed site plan allocates buildings, roadway and surface parking in ways such that they reopen and allow for public access to the water-dependent use zone and DPA watersheet, preventing significant conflict. Project is locating parking as a buffer use to the adjacent DPA. Project will also include language in lease forms or deeds describing the prior existence of nearby water-dependent industrial facilities with operational characteristics as enumerated at 310CMR 9.51 (1).
9.51(2)	Compatibility of redevelopment with water-dependent uses	Not applicable to existing conditions.	New buildings and permanent structures are designed to prevent significant incompatibility with water-dependent uses. Project complies with a *Designation Decision* and Chapter 91 license requirement for permanent vehicular access to the DPA by providing a passageway through a new building (14-foot vertical clearance).
9.51(3)(a)	Preservation of open water area	Not applicable to existing conditions.	Project complies – no new pile-supported structures for nonwater-dependent uses are proposed.
9.51(3)(b)	Setbacks for nonwater-dependent facilities of private tenancy (FPT)	Existing buildings do not conform to current setback requirements; however, they are "grandfathered" under the regulations.	Project will comply as proposed in this amendment, through a substitute provision to allow the location of approximately 1,200 sf of interior and exterior nonwater-dependent facilities of private tenancy (FPT) within 100 feet of the project shoreline. The provision of an expanded FPA in an equivalent amount (approximately 1,200 sf) is proposed as an offsetting public benefit.

Table 6-1. 6-26 New Street – Summary of Existing Conditions and MHP Amendment Compliance with Chapter 91 Regulations

Regulation Reference	Requirements or Standard	Compliance: Existing Conditions	Compliance: MHP Amendment
9.51(3)(c)	Building setbacks from a water-dependent use zone	Existing buildings comply with requirements.	Project complies with water-dependent use setbacks.
9.51 (3)(d)	Open space	Existing buildings and site comply with requirements.	Project complies, with more open space on tidelands than required by the standard (50% required; approximately 72% provided).
9.51(3)(e)	Height standards and related impacts on public use or access	The existing nine story building exceeds the current 55 foot height limit; however, it is "grandfathered" under the regulations.	Project will comply as proposed in this amendment, through a substitute provision allowing a new 69' high building within 100' landward of the high water mark, and related offsetting benefits. Appurtenant to the nine story building redevelopment project only, façade treatments, fenestration, and exterior or enclosed balconies will be allowed up to the top of the current structure.
310 CMR 9.52	**Utilization of the Shoreline for Water-dependent Purposes**		
9.52	Use of shoreline for water-dependent purposes	Site is not in compliance due to unsafe and dilapidated conditions along the shoreline.	Project complies through the provision of public access along the water's edge, and new water-dependent facilities.
9.52(1)(a)	One or more facilities to generate water-dependent activity	Existing conditions do not comply.	Project will meet the required standard with the provision of a multi-use marine terminal (to serve marine service vessels and commercial passenger vessel operations) in the northern portion of the site (north wharf), and a proposed marina in the southern portion of the property.
9.52(1)(b)	Provision of pedestrian access network	Existing conditions do not comply.	Project will meet the required standard with multiple open space and sidewalk improvements, including the construction of a Harborwalk along the water's edge that will include an enhanced width of 12 feet (10 feet clear) in keeping with a substitute provision.

Table 6-1. 6-26 New Street – Summary of Existing Conditions and MHP Amendment Compliance with Chapter 91 Regulations

Regulation Reference	Requirements or Standard	Compliance: Existing Conditions	Compliance: MHP Amendment
310 CMR 9.53	**Activation of Commonwealth Tidelands**		
9.53(2)(a)	Water-based facility to promote water-based activity	Not applicable to existing conditions.	Project will meet the required standard by providing a multi-use marine terminal (to serve marine service vessels and commercial passenger vessel operations) and a proposed marina, both of which will have access through Commonwealth tidelands.
9.53(2)(b)	Exterior open space for public recreation	Not applicable to existing conditions.	Project will comply with requirements by providing open space for active and passive recreation in amounts well in excess to the square footage of all the Commonwealth tidelands on the project site, and above the requirements of 9.51(3)(d). Open space will be equipped with amenities in accordance with guidance provided in *Sections 8* and *9* of this *MHP Amendment*.
9.53(2)(c)	Facilities of Public Accommodation	Not applicable to existing conditions.	The project includes no nonwater-dependent use buildings on Commonwealth tidelands, therefore, no minimum standards for the provision of FPA apply for the purposes of this article.
9.53(2)(d)	Management plan for on-site facilities offering water-related benefits	Not applicable to existing conditions.	Project will comply in accordance with guidance provided in *Sections 8* and *9* of this *MHP Amendment*.
310 CMR 9.54	**Consistency with MCZM Policies**		
9.54	Consistency with all policies of the Massachusetts Coastal Zone Management Program (310 CMR 9.13(2)	Existing conditions do not comply.	Project will be consistent with all policies as proposed in this amendment.

6.3 Compliance with Regulations – Boston East

The Boston East site comprises approximately 14.2 acres and is entirely located within Chapter 91 jurisdiction. The site includes flowed tidelands and filled tidelands. Based on the Chesbrough Plan of 1852, the landside portion of the site is located landward of the Historic Low Water Mark and based on general definitions the site could be considered as located on private tidelands. However, since the site is owned by the City of Boston, it is considered to be entirely located within Commonwealth tidelands (see *Figure 6-3, Boston East: Chapter 91 Jurisdiction*).

At the time when the planning process for Boston East started, the project site included two DPA zones, located on the north and south portions of the site. The proponent has obtained a reconfiguration and consolidation of the DPA in the south portion of the site, in order to create more suitable parcels for maritime and residential use as part of the redevelopment of the site. The DPA reconfiguration has been approved in November 2007, and is shown in *Figure 6-4, Boston East: Revised DPA Boundary* at the end of this section.

Proposed uses for the DPA portion of the site will be water-dependent industrial uses in conformance with DPA requirements and consistent with the Waterfront Commercial zoning of the property. A summary of uses allowed under Waterfront Commercial zoning is provided in *Section 2.2, Use and Density Regulations*.

For the purposes of Chapter 91 compliance and substitute provisions proposed by this *MHP Amendment*, the analysis that follows is focused on the non-DPA portion of the project site. This is the area where nonwater-dependent uses will be located, including residential development and facilities of public accommodation (FPA).

6.2.1 Chapter 91 Authorizations and Licenses

All of the existing piers and fill on the site have been previously licensed. State authorizations were issued between 1885 and 1937 for structures and fill, and to extend the Harbor Commissioners Line. These licenses were issued to fill over the tidewaters, construct walls, foundations, piers and railways, dredge, maintain and repair existing improvements.

6.2.2 Chapter 91 Standards

The Boston East development project will comply with the requirements of Chapter 91 as described in this section, and through substitute provisions and offsetting benefits discussed in *Section 7* of this document.

- §9.15 Extended Term Chapter 91 License – The proponent will request a Chapter 91 license with an extended fixed term of 99 years consistent with the approval criteria contained in 310 CMR 9.15(1)(b). Such an extension is warranted for a number of reasons, including the expected life of the improvements to be developed at the project site by the proponent, the proponent's financing requirements, the project's consistency with the *MHP* (as it is anticipated to be amended) and the long-term nature of the uses proposed for the project.

- §9.31(1) Basic License and Permit Requirements – No license or permit shall be issued for any project subject to Chapter 91 jurisdiction unless the project complies with the provisions of 9.32 to 9.40 (described below).

- §9.32 Categorical Restrictions on Fill and Structures – None of the proposed site uses or improvements is categorically restricted in previously filled tidelands.

- §9.33 Environmental Protection Standards – All projects must comply with the applicable environmental regulatory programs of the Commonwealth. Regulatory programs specifically applicable to this project and the status of the project with respect to those programs are summarized below.

    - The Massachusetts Environmental Policy Act (MEPA) – A Project Notification Form and Expanded Environmental Notification Form was submitted to the Massachusetts Executive Office of Environmental Affairs MEPA Office in October 2007.

    - The Massachusetts Wetlands Protection Act – The project proposes activities in wetland resource areas. A Notice of Intent will be filed with the Boston Conservation Commission.

    - The Massachusetts Clean Water Act – Sewer connection permits will be filed with the Massachusetts Department of Environmental Protection and the Boston Water and Sewer Commissions.

    - The Massachusetts Historical Commission Act – The project will seek a Determination of No Adverse Effect on historical resources.

    - Coastal Zone Management Consistency Review – The project's compliance with the Coastal Zone Management Act is described in *Section 10* of this document.

- §9.34 Conformance with Municipal Zoning and Harbor Plans – This *MHP Amendment* and the Boston East project will comply with City of Boston zoning and all aspects of the existing EBMHP, including associated conditions that are applicable to this area of the harbor.

    - Municipal Zoning – The site is currently zoned as Waterfront Commercial, which allows the development of multifamily residential uses, open space, restaurants and waterfront service uses. The proposed project may require zoning relief from some dimensional requirements such as building height and FAR. In order to ensure that the project is in conformance with both zoning and the *MHP Amendment*, the City is proposing to amend Article 53 of the Zoning Code to allow for Planned Development Areas (PDAs) for projects which are consistent with the approved Municipal Harbor Plan. The project is also subject to Article 80 Development Review and Approval.

    - Municipal Harbor Plan – The proposed project will comply with MHP requirements through several substitute provisions and offsetting benefits discussed in *Section 7* of this document. These substitution provisions are aimed at obtaining relief of Chapter 91 requirements regarding building height, water-dependent use zone and setbacks, and ground floor use.

- §9.35 Standards to Preserve Water-Related Public Rights – The regulations are designed to preserve the public's right to navigation, free passage over and through the water and access to Town Landings. The non-DPA portion of the proposed Boston East development has no seaward components extending beyond its shoreline. This is due in part to the shallow depths of water on this portion of the watersheet. The project will implement the public's right to pedestrian passage over Commonwealth tidelands by extending the Harborwalk along the water's edge and providing waterfront public open space. A management plan will be developed during the Chapter 91 licensing process, and subsequent to the approval of the MHP Amendment, that is specific to the site as ultimately designed and that implements the regulatory standards presented in §9.35. This plan will detail the institution of the public access components, including interpretive elements, the components of the public access plan, and public signage.

The plan will also detail the management responsibilities, including the identification and responsibilities of the plan manager and administrator.

- §9.36 Standards to Protect Water-Dependent Uses – The regulations at Section 9.36 are designed to protect any water-dependent uses occurring at or near the site. This includes water-dependent uses within the five years prior to the filing of the license application. There are no water-dependent uses currently occurring at this site, and there have been no water-dependent uses occurring within the previous five years. The proposed improvements will allow for the continuous use of water-dependent industrial uses in the adjacent DPA. The public access will be preserved and expanded.

- §9.37 Engineering Construction Standards – All structures will be designed and constructed in a manner that is structurally sound and will be certified by a Registered Professional Engineer.

- §9.38 Use Standards for Recreational Boating Facilities – The regulations identify specific requirements for the patronage, operation and maintenance of recreational boating facilities. The development program for Boston East does not include recreational boating facilities.

- §9.39 Standards for Marinas, Boatyards and Boat Ramps – This section specifies design standards for marinas and docking facilities. The development program for Boston East does not include recreational boating facilities.

- §9.40 Standards for Dredging and Dredged Material Disposal – No dredging is anticipated as part of improvements to the non-DPA portion of the Boston East site.

- §9.31(2) Proper Public Purpose Requirement – No license or permit shall be issued by the Department for any project on tidelands, except for water-dependent use projects located entirely on private tidelands, unless said project *"serves a proper public purpose which provides greater benefit than detriment to the rights of the public in said lands."* For nonwater-dependent use projects, this requirement is met if the project *"complies with the standards for conserving and utilizing the capacity of the project site to accommodate water-dependent use, according to the applicable provisions of 310 CMR 9.51 through 9.52; and complies with the additional standard for activating Commonwealth tidelands for public use, according to the applicable provisions of 310 CMR 9.53"*. If located in the coastal zone, the project should also comply with the policies of the Massachusetts Coastal Zone Management Program according to 310 CMR 9.54. The proposed Boston East project compliance with these provisions is summarized in *Table 6-2* below.

- §9.51 Conservation of Capacity for Water-Dependent Use – Nonwater--dependent use projects that include fill or structures on any tidelands may not unreasonably diminish the capacity of the tidelands to accommodate future water-dependent uses (see *Table 6-2*).

- §9.53 Commonwealth Tidelands – These regulations establish criteria that are applicable to those portions of the project that are within Commonwealth tidelands and that are nonwater--dependent uses (see *Table 6-2*).

- §9.54 Consistency with Coastal Zone Management Policies – A description of the project's consistency with the Coastal Zone Management Program polices is presented in *Section 10* of this document.

Table 6-2. Boston East – Summary of Existing Conditions and MHP Amendment Compliance with Chapter 91 Regulations

Regulation Reference	Requirements or Standard	Compliance: Existing Conditions	Compliance: MHP Amendment
310 CMR 9.51	**Conservation of Capacity for Water-dependent Use**		
9.51(1)	Prevention of significant conflict	Areas of the site that in the past were dedicated to water-dependent use are unusable due to the presence of dilapidated pile fields and the deteriorated remnants of marine railways, particularly on the south portion of the watersheet (which is included in Sub-area Three of the East Boston DPA). The north portion is in general too shallow to allow for boating access.	The proposed site plan allocates nonwater-dependent facilities, roadway and open space in ways such that they will not interfere with future DPA operations by concentrating nonwater-dependent facilities in the north portion of the site. The project will reopen and allow for public access to the water-dependent use zone by extending the Harborwalk. Project is locating open space as a buffer between the residential/mixed-use building and the adjacent DPA. Standards will be established in the MHP regarding sound insulation and other means to diminish potential conflicts. The proponent will include language in all residential lease forms and condominium deeds that describes the existence, in close proximity to the buildings, of water-dependent industrial facilities and associated activities.

Table 6-2. Boston East – Summary of Existing Conditions and MHP Amendment Compliance with Chapter 91 Regulations

Regulation Reference	Requirements or Standard	Compliance: Existing Conditions	Compliance: MHP Amendment
9.51(2)	Compatibility of redevelopment with water-dependent uses	Not applicable to existing conditions.	New buildings and permanent structures are designed to prevent significant incompatibility with water-dependent uses. The separation of nonwater-dependent facilities and water-dependent marine uses through the DPA reconfiguration, and the provision of public Harborwalk access along the water will protect the utility and adaptability of the site for water-dependent purposes. The proposed FPAs are located to serve as transitional uses between the DPA and non-DPA portions of the site.
9.51(3)(a)	Preservation of open water area	Not applicable to existing conditions.	Project complies – no new pile-supported structures for nonwater-dependent uses are proposed.
9.51(3)(b)	Setbacks for nonwater-dependent facilities of private tenancy (FPT)	Not applicable to existing conditions.	Project will comply as proposed in this *MHP Amendment*, through a substitute provision to permit the reconfiguration of FPA space within 100 feet of the project shoreline to locations that provide a more appropriate buffer to the DPA in accordance with guidance elsewhere in the *MHP Amendment*.

Table 6-2. Boston East – Summary of Existing Conditions and MHP Amendment Compliance with Chapter 91 Regulations

Regulation Reference	Requirements or Standard	Compliance: Existing Conditions	Compliance: MHP Amendment
9.51(3)(c)	Building setbacks from a water-dependent use zone	Not applicable to existing conditions.	Project will comply as proposed in this amendment, through a substitute provision to allow the reconfiguration of the water-dependent use zone (WDUZ). The reconfigured WDUZ will allow a minimum setback from the project shoreline of 25 feet for buildings containing nonwater-dependent uses, as shown in the proposed site plan, while maintaining the same overall area (approximately 22,806 sf) as required under Chapter 91. This will be achieved by allocating wider WDUZ setbacks in different areas of the site, including areas contiguous and adjacent to the proposed DPA and in an amount that offsets the proposed changes.
9.51 (3)(d)	Open space	Not applicable to existing conditions.	Project complies, with more open space on tidelands than required by the standard (50% required; approximately 56% provided).
9.51(3)(e)	Height standards and related impacts on public use or access	Not applicable to existing conditions.	Project will comply as proposed in this amendment, through a substitute provision allowing a maximum building height of 85 feet, and as shown in the proposed massing and building stepping. As a result, net new shadow impacts caused by the project will amount to approximately 4,202 sf of net new shadow. The provision of approximately 2,101 sf of open space in addition to the standard requirement is proposed as an offsetting benefit (1 sf of exterior public open space for every 2 sf of net new shadow).

Table 6-2. Boston East – Summary of Existing Conditions and MHP Amendment Compliance with Chapter 91 Regulations

Regulation Reference	Requirements or Standard	Compliance: Existing Conditions	Compliance: MHP Amendment
310 CMR 9.52	**Utilization of the Shoreline for Water-dependent Purposes**		
9.52	Use of shoreline for water-dependent purposes	Site is not in compliance due to unsafe and dilapidated conditions along the shoreline.	Project will comply through the provision of public access along the water's edge (Harborwalk).
9.52(1)(a)	One or more facilities to generate water-dependent activity	Site is not in compliance due to unsafe and dilapidated conditions along the shoreline.	Project proposes public access and opportunities for shore-based fishing and recreation along the Harborwalk. Additional provisions will include one or more of the following: • Water access improvements/investment in DPA facilities. • Site improvements to the DPA. • Provisions or contributions to off-site facilities.
9.52(1)(b)	Provision of pedestrian access network	Not applicable to existing conditions.	Project will meet the required standard with multiple open space and sidewalk improvements, including the construction of a Harborwalk along the water's edge that will include an enhanced minimum width of 12 feet (10 feet clear) in keeping with a substitute provision. A public marine interpretive area will also be created, possibly addressing the remnants of the historic marine railway.

Table 6-2. Boston East – Summary of Existing Conditions and MHP Amendment Compliance with Chapter 91 Regulations

Regulation Reference	Requirements or Standard	Compliance: Existing Conditions	Compliance: MHP Amendment
310 CMR 9.53	**Activation of Commonwealth Tidelands**		
9.53	Activation of Commonwealth tidelands for public use (except in a DPA)	Not applicable to existing conditions.	Project proposes shore based recreational fishing along the Harborwalk, provision of open space for active and passive recreation, and provision of facilities of public accommodation (FPA).
9.53(2)(a)	Water-based facility to promote water-based activity	Not applicable to existing conditions.	Project proposes shore based recreational fishing and passive recreation along the water's edge. Additional provisions will include one or more of the following: • Water access improvements/investment in DPA facilities. • Site improvements to the DPA. • Provisions or contributions to off-site facilities.
9.53(2)(b)	Exterior open space for public recreation	Not applicable to existing conditions.	Project will comply with requirements by providing open space for active and passive recreation amounting to at least half the square footage of all the Commonwealth tidelands on the project site, and above the requirements of 9.51(3)(d). Open space will be equipped with amenities such as benches, lighting, trash receptacles, etc., in accordance with guidance provided in *Sections 8* and *9* of this *MHP Amendment*. This will include interpretive elements specifically related to the history of the site and the East Boston waterfront.

Table 6-2. Boston East – Summary of Existing Conditions and MHP Amendment Compliance with Chapter 91 Regulations

Regulation Reference	Requirements or Standard	Compliance: Existing Conditions	Compliance: MHP Amendment
9.53(2)(c)	Facilities of Public Accommodation	Not applicable to existing conditions.	Project will comply as proposed in this *MHP Amendment*, through a substitute provision to permit FPTs to occupy up to 75% of the ground floor (excluding upper floor accessory uses) in Commonwealth tidelands which are publicly owned. A minimum of 25% of the ground floor (excluding upper floor accessory uses) will be devoted to civic and cultural facilities, as part of offsetting public benefits, including but not limited to: artist live/work and artist work space units (certified through the BRA's artist certification process) which is open to the public no less than two times per year, gallery, exhibition space, teaching space, maritime history interpretive exhibit space, community meeting room, and community center.
9.53(2)(d)	Management plan for on-site facilities offering water-related benefits	Not applicable to existing conditions.	Project will comply in accordance with guidance provided in *Sections 8* and *9* of this *MHP Amendment*.
9.53(3)(d)	Consideration of nonwater-related benefits that accrue to the public in a reasonably direct manner	Not applicable to existing conditions.	The project will provide direct public benefits to the community by addressing needs for mixed-income residential development, and reutilizing an idle waterfront property.
310 CMR 9.54	**Consistency with MCZM Policies**		
9.54	Consistency with all policies of the Massachusetts Coastal Zone Management Program (310 CMR 9.13(2)	Existing conditions do not comply.	Project will be consistent with all policies as proposed in this *MHP Amendment*.

6.3 Compliance with Regulations – 125 Sumner Street

As previously indicated, the 125 Sumner Street project site is located seaward of the first public way and therefore included within Chapter 91 jurisdiction. Furthermore, the parcel is owned by the Boston Housing Authority, a public entity, and therefore it is located on Commonwealth tidelands. However, the parcel is located more than 100 feet away from the East Boston shoreline and separated from the water by another parcel and a roadway easement (see *Figure 4-15, 125 Sumner Street: Existing Conditions* at the end of *Section 4* for geographical reference). As a result, some of the Chapter 91 requirements associated with preservation of the capacity of the site for water-dependent uses (such as the provision of a water-dependent use zone) are not directly applicable to this property.

6.3.1 Chapter 91 Standards

Plans for the redevelopment of the 125 Sumner Street project site are still in early stages. However, it is anticipated that the redevelopment program will primarily consist of residential uses. The proposed development project will comply with the requirements of Chapter 91 as described in this section, and through a substitute provision discussed in *Section 7* of this document.

- §9.15 Extended Term Chapter 91 License – The proponent will request a Chapter 91 license with an extended fixed term of 99 years consistent with the approval criteria contained in 310 CMR 9.15(1)(b). Such an extension is warranted for a number of reasons, including the expected life of the improvements to be developed at the project site by the proponent, the proponent's financing requirements, the project's consistency with the *MHP* (as it is anticipated to be amended) and the long-term nature of the uses proposed for the project.

- §9.31(1) Basic License and Permit Requirements – No license or permit shall be issued for any project subject to Chapter 91 jurisdiction unless the project complies with the provisions of 9.32 to 9.40 (described below).

- §9.32 Categorical Restrictions on Fill and Structures – None of the proposed site uses or improvements is categorically restricted in previously filled tidelands.

- §9.33 Environmental Protection Standards – The proposed redevelopment will comply with all applicable environmental regulatory programs of the Commonwealth.

- §9.34 Conformance with Municipal Zoning and Harbor Plans – This *MHP Amendment* and the 125 Sumner Street redevelopment will comply with City of Boston zoning and all aspects of the existing EBMHP, including associated conditions that are applicable to this area of the harbor.

    - Municipal Zoning – The proposed project may require zoning relief from some dimensional requirements such as building height and FAR. If necessary, the City will incorporate zoning changes or will provide zoning relief to the project in order to ensure conformity with the approved *MHP Amendment*.
    - Municipal Harbor Plan – The proposed project will comply with MHP requirements through a substitute provision aimed at obtaining relief of Chapter 91 requirements regarding ground floor use.

- §9.35 Standards to Preserve Water-Related Public Rights – The regulations are designed to preserve the public's right to navigation and free passage over and through the water. The 125 Sumner Street project site does not have shoreline access and therefore, it is not subject to the requirements of this section or sections §9.38, §9.39 and §9.40.

- §9.36 Standards to Protect Water-Dependent Uses – The regulations at Section 9.36 are designed to protect any water-dependent uses occurring at or near the site. The proposed redevelopment program is not anticipated to interfere with water-dependent uses on nearby parcels.

- §9.37 Engineering Construction Standards – All structures will be designed and constructed in a manner that is structurally sound and will be certified by a Registered Professional Engineer.

- §9.31(2) Proper Public Purpose Requirement – No license or permit shall be issued by the Department for any project on Commonwealth tidelands unless said project *"serves a proper public purpose which provides greater benefit than detriment to the rights of the public in said lands."* For nonwater-dependent use projects, this requirement is met if the project *"complies with the standards for conserving and utilizing the capacity of the project site to accommodate water-dependent use, according to the applicable provisions of 310 CMR 9.51 through 9.52; and complies with the additional standard for activating Commonwealth tidelands for public use, according to the applicable provisions of 310 CMR 9.53"*. The proposed 125 Sumner Street redevelopment will comply with the provisions of 310 CMR 9.53 through a proposed substitution described in *Section 7*.

6.4 License Terms: Special Requirements

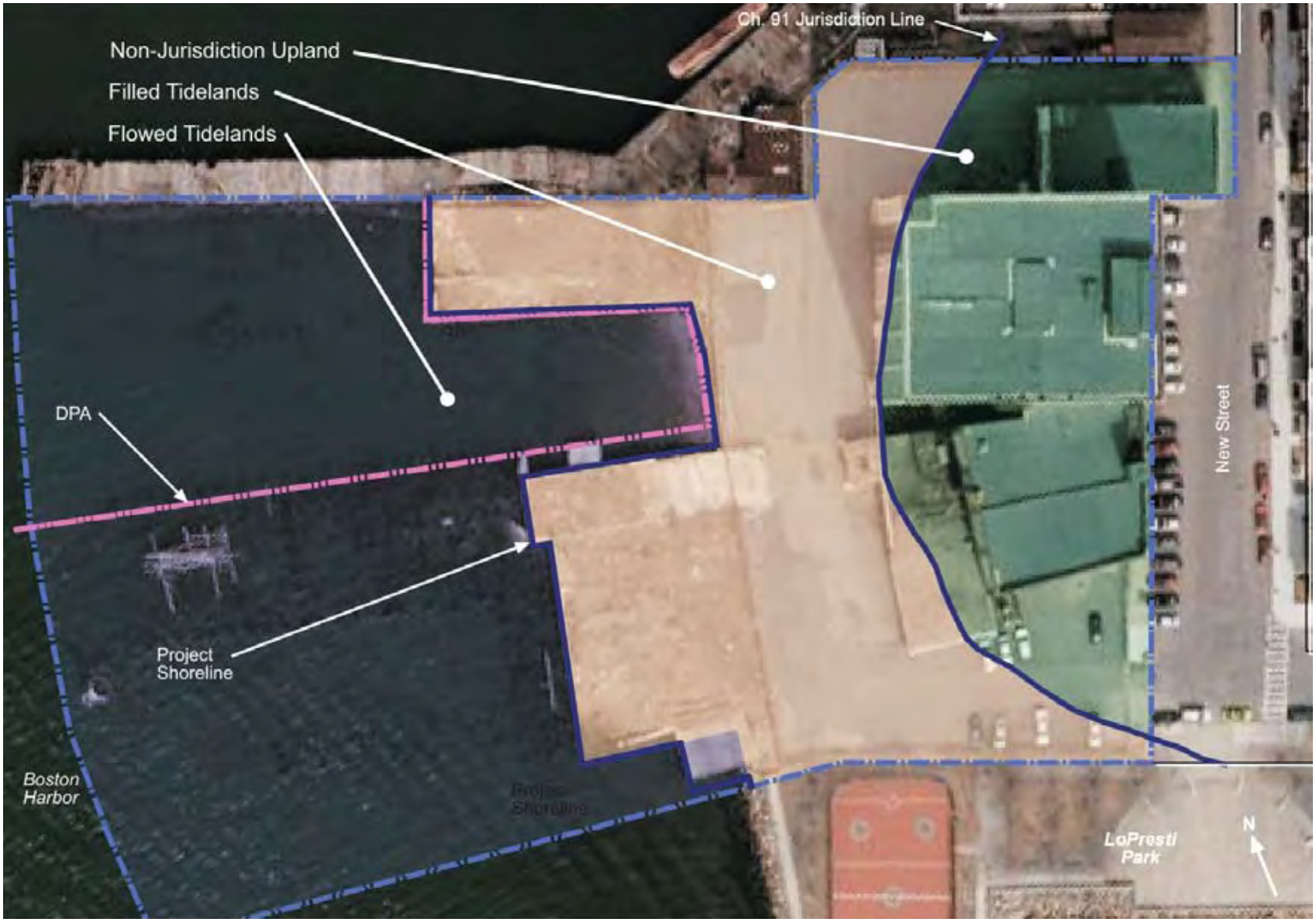
This *MHP Amendment* anticipates license applications for extended license terms, which are necessary for project financing and conveyances of condominium units. The City supports extended license terms of 99 years. This support is based on a review of the applicable criteria listed in 310 CMR 9.15. Important public goals linked to the extension of the license term include:

- Consistency with the EBMHP - Such an extension is consistent with the purposes articulated in the *East Boston Waterfront District Municipal Harbor Plan* and this *MHP Amendment.*

- The City is seeking long-term redevelopment of this area that will require construction of buildings and improvements with expected lives consistent with the maximum licensable period.

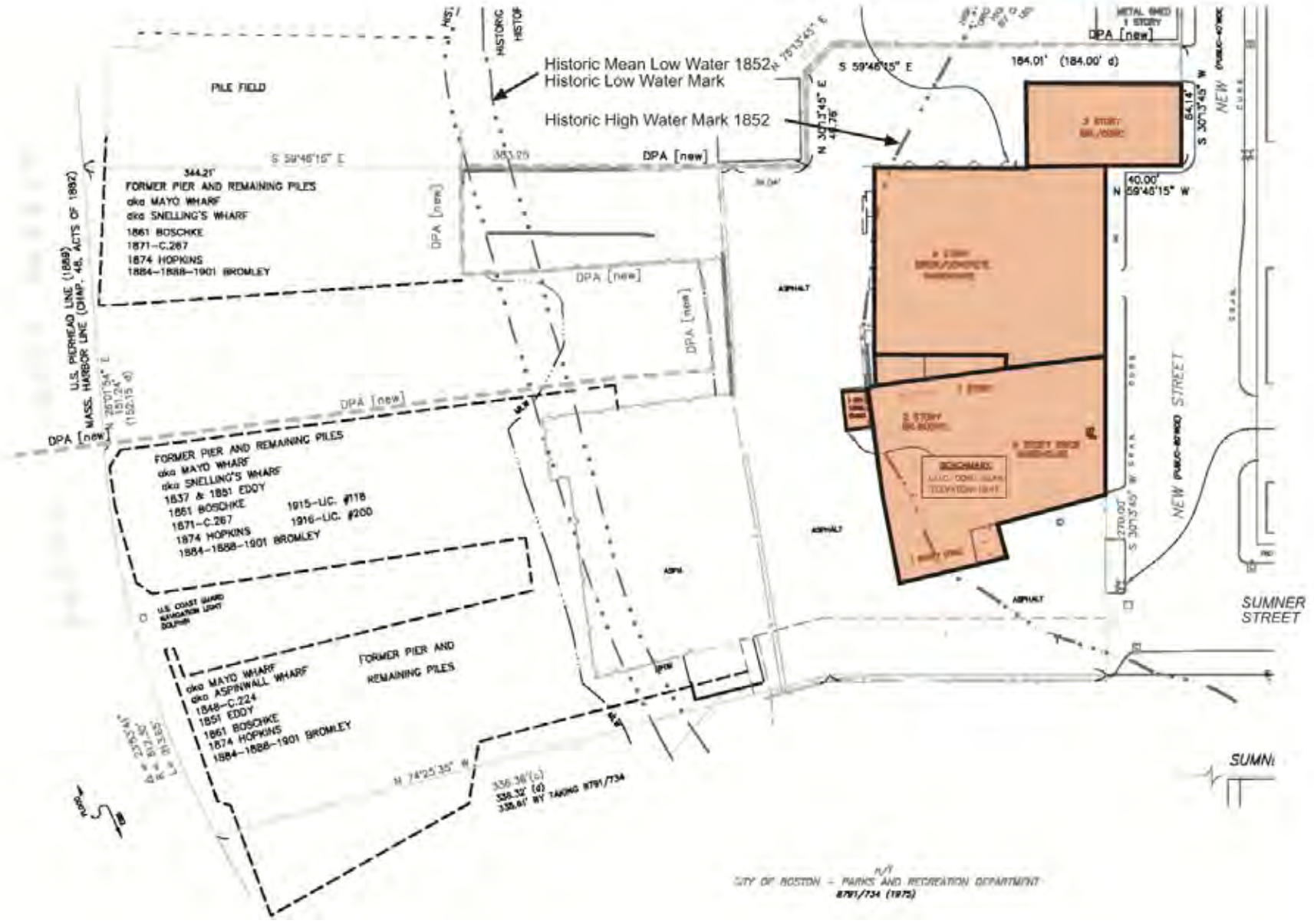
- The reinvestment sought in this area of the harbor will require secure financing that is anticipated to be contingent upon extended licensing of a maximum term.

If DEP determines that additional public benefits above those directly provided through the implementation of the project are required for extended license terms, such benefits should be directed to support and be consistent with City waterfront plans including the *Boston Inner Harbor Passenger Water Transportation Plan*.



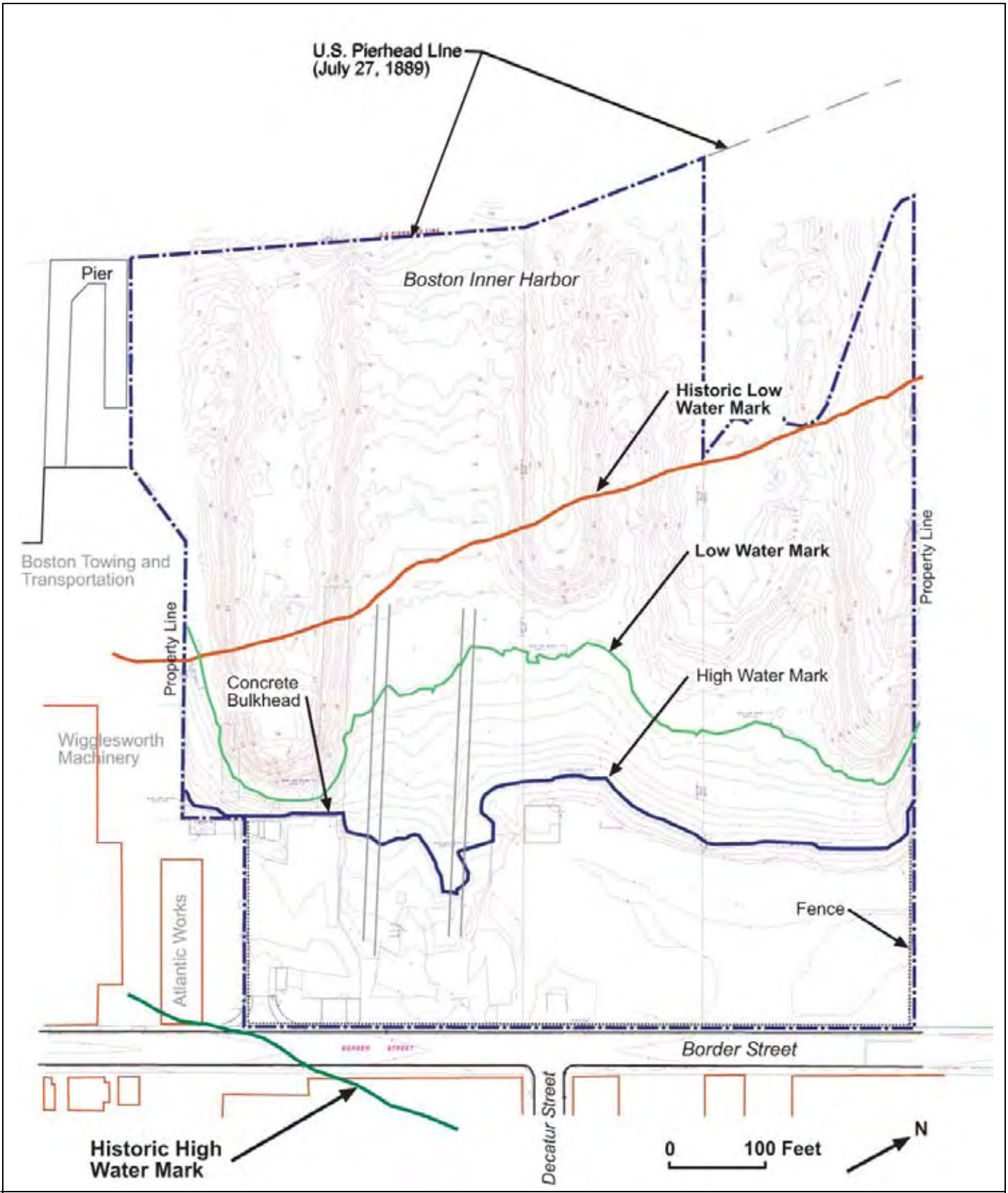
East Boston Municipal Harbor Plan Amendment
NEW STREET

Figure 6-1
Chapter 91 Jurisdiction



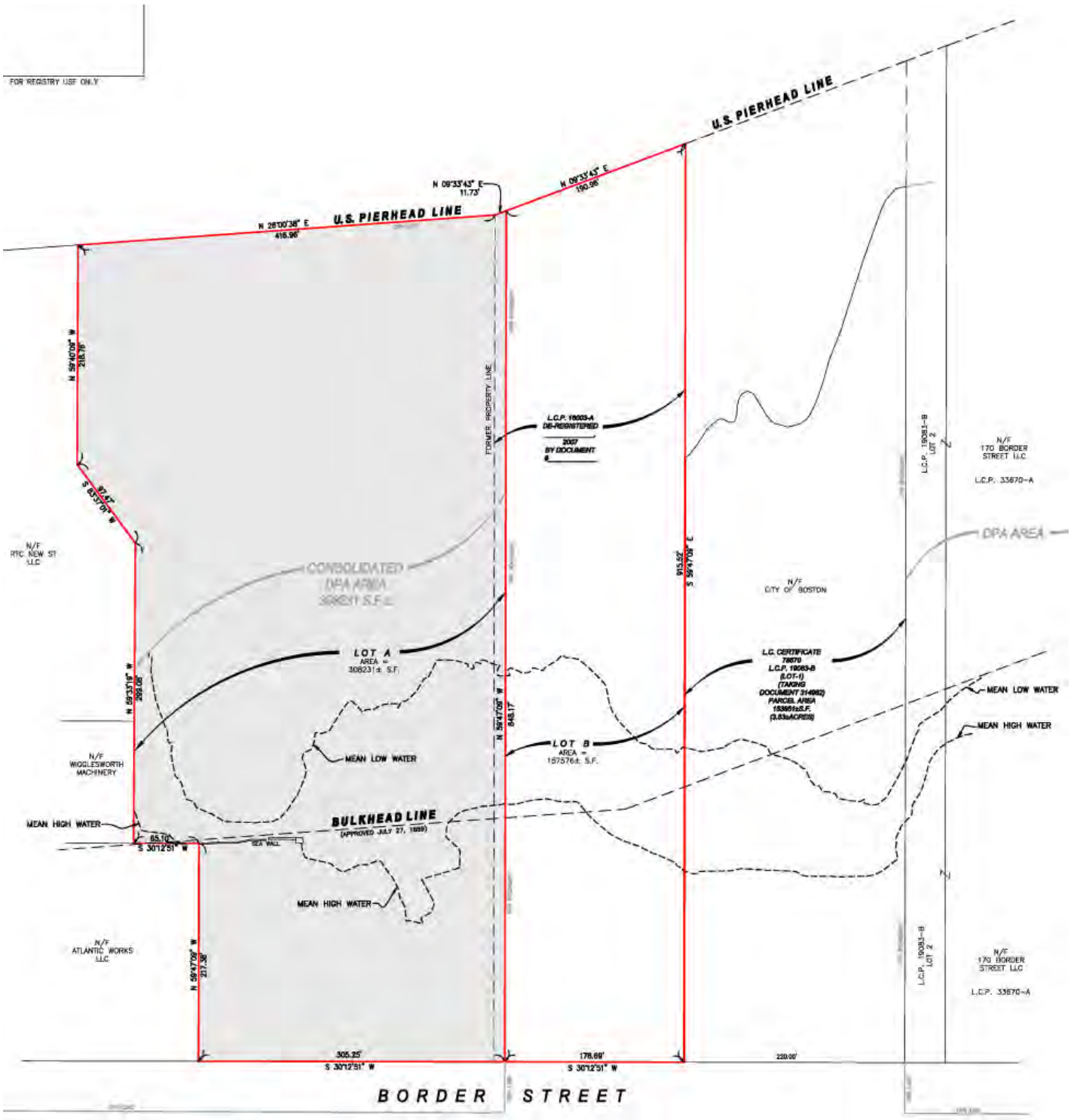
East Boston Municipal Harbor Plan Amendment
NEW STREET

Figure 6-2
Historic Shoreline and Authorizations
(source: Gunther Engineering)



East Boston Municipal Harbor Plan Amendment
BOSTON EAST

Figure 6-3
Chapter 91 Jurisdiction



East Boston Municipal Harbor Plan Amendment
BOSTON EAST

Figure 6-4
Revised DPA Boundary

7.1 Overview

Through the municipal harbor planning mechanism, certain categories of numeric regulatory standards may be adjusted to a degree and in a manner that is responsive to municipal objectives and priorities, harbor specific conditions and other site, local and regional circumstances. This section of the *MHP Amendment* provides several substitute regulatory provisions ("substitutions") that meet the relevant public interests. In some cases, the substitute provision directly meets the public interests. In other cases, additional public benefits may be provided as a condition of Chapter 91 license approval offsetting the presumed public detriment that might be associated with a substitution ("offsets"). The following discussion demonstrates that the substitute provisions meet or are more effective than the comparable *Waterways Regulation* requirements. For each substitution, there are written and graphical analyses and data illustrating compliance with the public interests that are protected by the *Waterways Regulations*. As with the original East Boston Municipal Harbor Plan, all building heights referenced herein shall be measured in accordance with the City of Boston zoning code.

The planning process associated with the preparation of a MHP also provides an opportunity to tailor the public benefits that will be required to best meet the public needs for access and use of the area of the harbor in question through the use of "amplifications" (301 CMR 23.05(3)(b)). These are provisions that amplify upon any discretionary requirement of the *Waterways Regulations*, and are complementary in effect with the regulatory principles underlying such requirement.

This section of the *MHP Amendment* begins with a general description of the policy framework associated with the substitute provisions, offsets and amplification, and lists the particular provisions of Chapter 91 regulations that are being addressed. The specific measures for each of the three subject project sites are then described, accompanied with the appropriate analyses.

7.2 Substitutions and the EBMHP General Policies

The EBMHP established a framework for substitute provisions and offsetting public benefits for future projects within this portion of the Boston Harbor through General Policies. The General Policies are composed of a series of goals and objectives for this area of the harbor drawn from the City's *East Boston Master Plan* (2000) and its recommendations. The EBMHP anticipated that specific substitute provisions, related offsets and amplifications would subsequently be established for eligible sites within the East Boston Waterfront District. The amendment process provides this opportunity for 6-26 New Street, Boston East and 125 Sumner Street, and anticipates the Chapter 91 licensing process associated with them.

The proposed substitute provisions, related offsetting benefits and amplification are either consistent with or help to implement the following recommendations of the *East Boston Master Plan*:

<u>Land Use</u>

- Expand the mix of uses on the waterfront to include additional residential, retail/commercial and cultural uses coexisting with present marine industrial, residential and institutional uses.

- Increase the quality of residential use on the waterfront by building new housing on Boston East and other waterfront properties that become available for development.

Open Space and Public Environment

- Expand Harborwalk to connect the waterfront open space system and public environment. The existing East Boston Harborwalk should be extended in conjunction with the new parks and new activities developed on the waterfront so that it would extend from LoPresti Park along the waterfront of properties located along New Street accommodating any DPA limitations of those properties to the Boston East site.

- Create waterfront pocket parks and public access. In connection with future redevelopment at the Boston East site, pocket parks and public access rights-of-way should be an integral part of the site design.

- Facilitate public access and use of the waterfront. Privately owned harbor properties where waterfront space is unused, such as New Street properties present opportunities to continue the Harborwalk within the limitations associated with the DPA.

Historic Resources and Heritage

- Undertake projects designed to illustrate East Boston's rich history.

Transportation

- Provide additional landings for water transportation services, servicing, and layover.

Water Access - Waterside

- Develop docks and landings for water taxis and small boats.

Development Guidance

- Maximize views by designating the Harborwalk to be barrier-free, limiting fences only for safety purposes, and creating structures and shelters that are transparent and screen-like.

- Create building blocks compatible in scale and character with the waterfront and adjacent development parcels as well as existing neighborhoods.

- Respect setbacks at the edge of the water, which would include designing plazas or parks with street furniture and landscaping consistent with City Harborwalk standards, taking advantage of the waterfront views.

Regulatory Framework

- Provide for public access to and along the waterfront through extension and enhancement of the Harborwalk and creation of new public open spaces.

- Require proper public purpose of projects within tidelands including conserving the capacity for water-dependent use through such measures as height and setback limits.

- Preserve maritime industrial uses within the Designated Port Areas.

7.3 Substitute Provision for Public Access Network

The required minimum width of the public access along the waterfront will be increased through a substitute provision applicable to both 6-26 New Street and Boston East. The minimum width of the public access network as required in 310 CMR 9.52(1)(b) is 10 feet; it will be increased to 12 feet (10 feet clear). This substitute standard is consistent with the City's Harborwalk width standard of 12 feet that is required along other portions of the waterfront. The entire accessway will be open to the public on a 24-hour day, 7-day week basis. This dimensional provision does not require an offsetting public benefit, as there is no public detriment.

7.4 Substitutions, Offsets and Amplification for 6-26 New Street

7.4.1 Substitutions

7.4.1.1 Setbacks for Nonwater-dependent Facilities of Private Tenancy (310 CMR 9.51(3)(b))

This *MHP Amendment* revises the setbacks for nonwater-dependent facilities of private tenancy (FPT) at the ground level within the 6-26 New Street Development site as follows:

- Setbacks – A total area no greater than 1,200 square feet of nonwater-dependent facilities of private tenancy (FPT) at the ground level will be allowed to be located within 100 feet of the project shoreline, but no less than 70 feet from the project shoreline.

The configuration and location of this site presents an opportunity to provide this relatively small scale adjustment in the setback requirement that allows a limited amount of FPT to extend approximately 25 feet towards the project shoreline to accommodate the southwest corner of the proposed new parking structure, a small portion of the northwest corner of the redeveloped existing building and adjacent exterior space. This is a practical accommodation that is balanced by offsetting provisions described in *Section 7.4.2*.

The following additional guidance should be taken into account during the Chapter 91 licensing process relative to this substitute provision.

- Location of setbacks - The location of the reduced setbacks of FPT from the project shoreline will be substantially the same as shown on *Figure 7-1, New Street: Chapter 91 Compliance* at the end of this section.

7.4.1.2 Height Standards and Related Impacts on Public Use or Access (310 CMR 9.51(3)(e))

Chapter 91 regulations establish building height limits as a method of ensuring that the ground level environment be conducive to water-dependent uses and public access to tidelands. Substitute measures that provide alternate provisions that meet this purpose and are tailored to the circumstances of the particular harbor area are permitted. This *MHP Amendment* revises the applicable Chapter 91 regulations on building height within the 6-26 New Street Development site as follows:

- The height of new buildings for nonwater-dependent use shall be permitted to extend to a maximum height of 69 feet within 100 feet landward of the high water mark in locations as generally indicated in the plans and diagrams provided within this *MHP Amendment*.

- The heights for any portion of new buildings within Chapter 91 jurisdiction will be constrained to those heights indicated in the plans and diagrams provided within this *MHP Amendment*.

These revised height standards represent a modification of the standards that would apply to Chapter 91 licensing in the absence of an approved municipal harbor plan, contained in 310 CMR 9.51(3)(e) and represented in *Figure 7-2, New Street: Proposed Building Massing and Height*. The standard regulations would allow building volumes to rise to 55 feet within 100 feet of the project shoreline, and then extend higher at a ratio of one additional foot of height for each additional 2 feet of setback landwards. Applying these standards to the New Street project site, the limits of Chapter 91 jurisdiction are largely less than 100 feet away from the project shoreline, so a 55-foot height limit would apply to the majority of the site. There are two small areas where the allowable height limits would rise above the 55-foot limit; one is at the northerly portion of the site, and one is near the southwest corner of the proposed new building. In addition, provision is made for façade treatments, fenestration, and exterior or enclosed balconies with the development of the nine story building to make a more rational building design. Technically, a new façade outboard of the concrete frame, balconies and fenestrations could not be added to the nine story building above the existing 55 foot height restriction. This *MHP Amendment* seeks to clarify that these architectural treatments would be allowed up to the top of the current nine story building.

The refined standards described in this *MHP Amendment* reflect planning considerations intended to further reinforce compatibility with the historic context of this part of the harbor. The height limits for new buildings contained in this *MHP Amendment* are well below the height of existing buildings on the site and help to accomplish the following recommendations of the *East Boston Master Plan*:

- Increase the quality of residential use on the waterfront by building new housing on waterfront properties that become available for development.

- Create building blocks compatible in scale and character with the waterfront and adjacent development parcels as well as existing neighborhoods.

The new building height is consistent with the taller buildings in the surrounding community and has been reviewed by the Boston Civic Design Commission and the Boston Redevelopment Authority to help ensure an appropriate urban design relationship in both the height and the massing of the buildings. The maximum building height is also below a maximum standard of 80 feet that was established for other sites within the East Boston Waterfront District that were addressed in the EBMHP.

Two different types of analysis have been undertaken to consider the implications of the substitute provision on the capacity of the pedestrian level environment to support water-dependent uses (including public access) that are appropriate to this area of the harbor. The first evaluated the shadow conditions and the second considered the wind conditions relative to the environment that would be provided if the standard Chapter 91 height limits were employed.

Shadow Analysis

A shadow analysis was performed for the building envelopes at the 6-26 New Street project site defined by the substitute provisions for buildable areas and height limits. This shadow analysis provides the basis for considering the maximum potential extent of detrimental net new shadow that would occur, using the methodologies that have been adopted for municipal harbor planning along Boston Harbor. This study employed a standard methodology based on the BRA's shadow impact policy for evaluation of shadow impacts along the Boston Harbor waterfront. In keeping with the methodology that has been employed by DEP and CZM, the shadow analysis compares proposed against Chapter-91 compliant conditions. The date of October 23 is employed as representative of seasonal conditions during which such shadow impacts might reasonably be considered a detriment.

The BRA has selected October 23 as the most appropriate date to evaluate shadow impacts on the pedestrian environment. The rationale for selecting October 23 is based on both the sun's position as well

as the seasonal needs of pedestrians. Important dates in understanding sun access are the summer and winter solstices (June 21 and December 21), and the spring and autumn equinoxes (March 21 and September 21). An analysis of June 21 can be useful for understanding what type of sun access is provided on a summer day. June 21, however, receives more sun access than any other day of the year and therefore is not useful for setting shadow standards, since every other day of the year will receive less sun access and greater shadows. As the shortest day of the year, December 21 is not useful for setting standards because the sun is located at an angle that casts large shadows for any structure, including low-rise buildings.

In a climate such as Boston's, sun access is most important in the shoulder seasons of spring and fall, when radiation from the sun is capable of compensating for cool air temperatures. The BRA considered but rejected basing sun/shadow standards on either the spring or autumn equinox (March 21 or September 21). Sun/shadow impacts will be the exact same on either of these days, with a one-hour difference resulting from the fact that March 21 is in Eastern Standard Time and September 21 is in Eastern Daylight Time. Autumn, however, is when Boston is at its best. September 21 is the beginning of the autumn season and a time when the climate is very suitable for outdoor activities. As a result, the BRA determined that it is more appropriate to base sun/shadow standards at the end of what are traditionally considered the "outdoor months", when people often seek opportunities to spend time out-of-doors before the weather turns colder. For these reasons, the BRA has used October 23rd as the appropriate date to study shadow impacts and as a base for establishing shadow standards - a traditional practice that the BRA continues with this *MHP Amendment*. Shadow impacts are assessed on both the land and the adjacent watersheet.

The following conditions were evaluated:

- Proposed Shadows: Conditions associated with the substitute provisions in this *MHP Amendment*.

- Chapter 91 Building Shadow: Conditions associated with the standard provisions of Chapter 91 as they might be applied to the 6-26 New Street Development site.

Shadow impacts are evaluated at incremental times throughout the day in order to identify net new shadows of at least one hour duration. The results of the hourly shadow analysis are presented in *Appendix 2 – New Street Shadow Studies*.

Associated calculations for the analysis discussed above result in a net reduction of total net shadow for this project site, meaning that the proposed building massing and height will cast smaller areas of shadow lasting longer than one hour than buildings with the same footprint at the maximum building height allowed under Chapter 91 (Chapter 91 Building Shadow).

Because of the orientation of the developable land along this portion of the Inner Harbor, early morning conditions indicate that there will be small additional areas of shadow associated with the substitute provisions along the ramp leading to the proposed northern marina slips and along the Boston Tow pier that is immediately adjacent to the site. As the morning sun moves higher in the sky, smaller incremental areas track across open water until about 11 AM, when limited portions of the Harborwalk and adjacent open space will receive shadow. By early afternoon (1 PM), the incremental shadow has moved into portions of the publicly accessible open space on the site. However, by mid-afternoon, the sun angle has shifted so that the incremental shadows, to the extent that they may exist, appear to be cast inland, in areas that are either outside of the Chapter 91 jurisdiction or within limited portions of the adjacent DPA. For the purposes of the shadow analysis, these incremental additional shadows due to the proposed building massing are counterbalanced by incremental reductions in area relative to the shadows that would be produced by a fully build-out Chapter 91 building.

In general, the analysis of shadows within the *MHP Amendment* planning area indicates that there are no significant negative effects due to additional shadow. There are also benefits associated with the massing and building heights that will result from implementing the related substitution, by limiting the heights on the seaward portions of the new structures to heights well below that which could be achieved by employing the standard building height limits contained in 310 CMR 9.51(3)(e).

Wind Analysis

An analysis of probable wind conditions at the ground level was prepared for the 6-26 New Street project site by Frank H. Durgin, P.E. and is included in this document as *Appendix 3 – New Street Wind Studies*. An overall assessment was completed in 2006, and an additional assessment of wind impacts due to changes to the original design was made in 2007. *Appendix 3* includes the results of both studies. The qualitative analysis is based on categories of wind conditions that have been employed by the BRA since the 1980's and are listed below:

1. Comfortable for Long Periods of Standing or Sitting
2. Comfortable for Short Periods of Standing and Sitting
3. Comfortable for Walking
4. Uncomfortable for Walking
5. Dangerous and Unacceptable

This approach includes categories that are comfortable for activities such as walking or more passive uses (Category 3 and below). These categories are supportive of the activities planned for this portion of the harbor and other planning and policy goals. The evaluation system includes categories rated as uncomfortable (Category 4 and above) that would be inconsistent with the intended ground level environment.

The analysis concludes that the effect of constructing the 6-26 New Street development will likely result in conditions that are appropriate for all of the pedestrian activities planned for the site so that it will be conducive to public access and uses. The number of changed conditions that would occur relative to existing conditions is very small, and on the balance the project would result in improved wind conditions at the ground level within the areas of Chapter 91 jurisdiction and nearby locations. The study notes that the ground level environment is likely to benefit from the sheltering effects provided by the buildings relative to the walkways and open space.

Overall, no significant adverse shadow or wind effects were found through this analysis and, therefore, no offsetting public benefits are required for this substitution. An amplification is sought to procure additional public benefit through the enhancement of other conditions on the ground level environment (other than wind and shadow) that are conducive to water-dependent activity and public access appropriate to this particular area of the harbor. This amplification calls for the provision of historical and interpretive elements along the Harborwalk and waterfront open space consistent with the General Policies of the EBMHP (see *Section 7.4.3* below for more details) Additional historical research information and guidance for the location of historical and interpretive elements along the East Boston waterfront is provided in *Section 9* and *Appendix 1* of this *MHP Amendment*.

7.4.2 Offsetting Public Benefits

7.4.2.1 Setbacks for Nonwater-dependent Facilities of Private Tenancy (310 CMR 9.51(3)(b))

The reduction of the setback requirement for nonwater-dependent facilities of private tenancy (FPT) would have the marginal effect of reducing the capacity of the tidelands to accommodate public uses. As a result, the following offsetting public benefit will be required for the 6-26 New Street project site:

- For the gross floor area of FPT that are located within 100 feet of the project shoreline, at least an equivalent area of facilities of public accommodation (FPA) will be provided on the site, expanding the location of FPA beyond 100 feet of the project shoreline.

This public benefit directly and proportionally offsets the substitute provision. The following additional guidance should be taken into account during the Chapter 91 licensing process relative to this substitute provision so that the offsetting FPA space is located where it will provide greater benefit:

- Location of offsetting FPA - The location of the FPA will be substantially the same as shown on *Figure 7-1, Chapter 91 Compliance*.

7.4.3 Amplification

As mentioned earlier in this section, the MHP mechanism promotes long-term, comprehensive, and municipally based planning of harbors and other waterways areas in a manner that incorporates fully state tidelands policy objectives. One of the primary benefits associated with the state MHP planning process is the flexibility provided to communities to tailor the *Waterways Regulations* in a manner that achieves a local vision for its waterfront through the use of "amplifications" (301 CMR 23.05(3)(b)). A state-approved MHP brings greater flexibility to the application of numerous *Waterways* requirements that are discretionary in nature by allowing municipalities to amplify or strengthen them in accordance with local conditions. MHPs with proposed amplifications must clearly identify the corresponding *Waterways* discretionary requirement to which it applies, the nature and intent of the proposed clarification, and any guidance to DEP that may be helpful with regard to future licensing decision. When a project conforms to a state-approved MHP, DEP will adhere to the greatest reasonable extent with any guidance provided by the municipality regarding the desired application of the "amplification" to the licensing process.

7.4.3.1 Activation of Commonwealth Tidelands for Public Use (310 CMR 9.53(2)(b))

This *MHP Amendment* revises the applicable Chapter 91 regulations relative to the location and distribution of public open space amenities and features for the 6-26 New Street project site as follows:

- The location of open space features that serve to activate the public open space on the site may be distributed within both Commonwealth and private tidelands in a manner that will enhance interest, access and use as generally depicted within the plans and diagrams provided within this *MHP Amendment*.

- Additional activation of the Harborwalk and waterfront open space will be provided through the use of historic interpretive elements and exhibits. Guidance on the contents, format and appropriate location of historic exhibits and displays is provided in *Section 9* and *Appendix 1 – Historical Research and Interpretation* of this document.

This amplification recognizes that the area of public open space occupying Commonwealth tidelands is relatively small and constrained to the outermost portions of the piers and wharves at the site. The standard for public activation of the waterfront is greater for Commonwealth tidelands than for private tidelands. However, it will be more beneficial to public access and active use of the public open space and pedestrian network if the open space amenities are distributed along the water's edge in locations most conducive to enjoyment. This provision simply provides guidance in the Chapter 91 licensing so that the design of amenities and features such as historic interpretive elements encompasses the entire area of publicly-accessible open space, and does not artificially concentrate amenities and features in a small portion of the site.

These additional contributions to public benefit will enhance those conditions at the ground level environment that are conducive to improved public access by attracting more people to the waterfront.

These contributions are consistent with General Policies set by the EBMHP and are considered site-specific requirements. In particular, this amplification is consistent with Cultural Heritage policies to integrate interpretive and educational elements/facilities into waterfront developments and improvements.

Table 7-1, on the next page, summarizes the proposed substitutions, offsets and amplification for the 6-26 New Street project site.

Table 7-1. 6-26 New Street – Summary of Chapter 91 Substitute Provisions, Offsetting Public Benefits and Amplification

Regulatory Provision	Standard Requiring Substitution	Proposed Substitution	Offsetting Public Benefits
310 CMR 9.51(3)(b) **Setbacks for Nonwater-dependent Facilities of Private Tenancy (FPT)**	*"nonwater-dependent facilities of private tenancy shall not be located on any pile-supported structures on flowed tidelands, nor at the ground level of any filled tidelands within 100 feet of a project shoreline…"*	Up to approximately 1,200 square feet of interior and exterior nonwater-dependent facilities of private tenancy (FPT) will be allowed to be located within 100 feet of the project shoreline, but not less than 70 feet from the project shoreline.	At least an equivalent area of facilities of public accommodation (FPA) will be provided and incorporated into other FPA space on the site, expanding the location of FPAs beyond 100 feet of the project shoreline. This public benefit directly and proportionally offsets the substitute provision.
310 CMR 9.51(3)(e) **Height Standards and Related Impacts on Public Use or Access**	*"new or expanded buildings for nonwater-dependent use shall not exceed 55 feet in height if located over the water or within 100 feet landward of the high water mark; at greater landward distances, the height of such buildings shall not exceed 55 feet plus one-half foot for every additional foot of separation from the high water mark"*	The height of new buildings for nonwater-dependent use shall not exceed 69 feet within 100 feet landward of the high water mark in locations as generally indicated in the plans and diagrams. Appurtenant to the nine story building redevelopment project, façade treatments, fenestration, and exterior or enclosed balconies will be allowed up to the top of the existing structure.	The analysis of shadow and wind impacts associated with this substitution indicates that there will be no significant adverse effects, but rather an overall reduction of net new shadow with respect to the shadows that would be cast by a baseline Chapter 91-compliant building volume. No offsetting public benefit is required.
310 CMR 9.52(b)(1) **Public Access Network**	*"…walkways and related facilities along the entire length of the water-dependent use zone; wherever feasible, such walkways shall be adjacent to the project shoreline and, except as otherwise provided in a municipal harbor plan, shall be no less than ten feet in width…"*	The minimum standard will be widened to 12 feet (10 feet clear). These enhancements shall replace the existing standard of 10 feet.	The substitution directly benefits the public through enhanced access (open 24 hours/7 days per week); no offsetting public benefit is required.

Regulatory Provision	Standard	Amplification
310 CMR 9.53(2)(b) **Activation of Commonwealth Tidelands for Public Use**	*"the project shall include exterior open spaces for active or passive public recreation, examples of which are parks, plazas and observations areas; such open spaces shall be located at or near the water to the maximum reasonable extent…"*	The location of open space features that serve to activate the public open space on the site may be distributed within both Commonwealth and private tidelands in a manner that will enhance interest, access and use. Additional activation of the Harborwalk and waterfront open space will be provided through the use of historic interpretive elements and displays. The particular type and location of exhibits will be appropriate to this particular location in the harbor, and will follow guidance provided in *Section 9* and *Appendix 1* of this *MHP Amendment*.

7.5 Substitutions and Offsets for Boston East

7.5.1 Substitute Provisions

7.5.1.1 Building Setbacks from a Water-Dependent Use Zone (310 CMR 9.51(3)(c))

Chapter 91 regulations establish building setbacks as a method of ensuring that portions of tidelands adjacent to the water's edge are reserved for present or future water-dependent uses. Substitute measures that provide alternate provisions that meet the purposes of the Water-Dependent Use Zone (WDUZ) and are tailored to the circumstances of the particular harbor area are permitted. This *MHP Amendment* revises the applicable Chapter 91 regulations on WDUZ setbacks for the Boston East project site as follows:

- A reconfigured WDUZ will be established that will allow a minimum setback from the project shoreline of 25 feet for buildings containing nonwater-dependent uses for limited portions of the project as shown in the plans and diagrams contained in the *MHP Amendment*.

- Additional setbacks will be created on other portions of the site to create a broader WDUZ while maintaining at least the same overall area (approximately 22,806 square feet) that would have been provided in lieu of this substitute provision, and will be located on the south portion of the site adjacent to the DPA as shown in *Figure 7-3, Boston East: Chapter 91 Compliance – Proposed WDUZ and FPA* at the end of this section.

This provision acknowledges that the practical site layout of the buildings would narrow the WDUZ in two locations as shown in *Figure 7-3*. However, the substitute provision provides for a more useful location of the WDUZ so that it is aligned with, and contiguous to the DPA.

There is no net public detriment due to this realignment of WDUZ-related setback requirements. As a result, there is no requirement for offsetting benefits.

7.5.1.2 Height Standards and Related Impacts on Public Use or Access (310 CMR 9.51(3)(e))

This *MHP Amendment* revises the applicable Chapter 91 regulations on building height within the Boston East project site as follows:

- The height of new or expanded buildings for nonwater-dependent use shall not exceed 85 feet for those locations shown in the plans and diagrams provided within this *MHP Amendment*.

- Where the project is lower than the heights that would otherwise be allowable under the standard Chapter 91 height limitations, the building will be constrained to those heights indicated in the plans and diagrams provided within this *MHP Amendment*.

The relevant height standards and projected building heights for the Boston East site are indicated in *Figure 7-4, Boston East: Proposed Building Massing and Height*. The standard Chapter 91 height limits, applied above the proposed building footprints result in a stepped diagram in which building heights are constrained to 55 feet within a line that is 100 feet from the project shoreline. Landward, the stepping climbs at a rate of 1 vertical foot for each 2 horizontal feet. The proposed building massing is shown in the middle of the figure and a comparison with the proposed massing is depicted at the right side of the figure. This diagram indicates that portions of the building nearest the water's edge will exceed the standard limits, while portions of the building further landward are lower than Chapter 91 standard limits. It should also be noted that there are portions of the site that could accommodate building volumes and remain compliant with Chapter 91 regulations, such as the site area between the two

projecting building wings that form a courtyard on the seaward side of the site. These unbuilt site areas represent a reduction in the project height from Chapter 91 limits.

The substitute height provision described in this *MHP Amendment* reflects planning considerations intended to further reinforce compatibility with the historic context of this part of the Harbor. The proposed substitution is consistent with the following recommendations of the *East Boston Master Plan*:

- Increase the quality of residential use on the waterfront by building new housing on Boston East and other waterfront properties that become available for development.

- Create building blocks compatible in scale and character with the waterfront and adjacent development parcels as well as existing neighborhoods.

The building heights are consistent with the taller buildings in the surrounding community and the project is under review by the Boston Civic Design Commission and the Boston Redevelopment Authority to help ensure an appropriate urban design relationship in both the height and the massing of the buildings. The maximum building heights are also generally consistent with the maximum height limits that have been established for other sites within the East Boston Waterfront District and that were addressed in the EBMHP.

Two different types of analysis have been undertaken to consider the implications of the substitute provision on the capacity of the pedestrian level environment to support water-dependent uses (including public access) that are appropriate to this area of the harbor. The first evaluated the shadow conditions and the second considered the wind conditions relative to the environment that would be provided if the standard Chapter 91 height limits were employed.

Shadow Analysis

A shadow analysis was performed for the building envelopes at the Boston East project site defined by the substitute provisions for buildable areas and height limits. This shadow analysis provides the basis for considering the maximum potential extent of detrimental net new shadow that would occur, using the methodologies that have been adopted for municipal harbor planning along Boston Harbor. This study employed the standard methodology that is described in detail in the preceding similar discussion for the 6-26 New Street project site (*Section 7.4.1.2* above).

Shadow impacts are evaluated at incremental times throughout the day, in order to determine ground or watersheet areas that will have new shadows of at least one hour duration. The results of the hourly shadow analysis are presented in *Appendix 4 – Boston East Shadow Studies*.

Associated calculations for the analysis discussed above for the Boston East project site result in the generation of an estimated total of 4,202 square feet of net new shadows by the proposed buildings relative to the shadows that would be produced by a fully build-out Chapter 91-compliant building.

The project is composed of several building masses that have a generally western orientation on the developable land along this portion of the Boston Harbor. As a result, early morning conditions indicate that there will be additional areas of shadow associated with the substitute provisions in the watersheet to the west of the site. As the morning sun moves higher in the sky, the incremental shadow approaches the shoreline and covers portions of the Harborwalk and adjacent open space. By early afternoon the incremental shadow has moved further onto the site, with some remnants along Harborwalk segments. However, by late afternoon, the sun angle has shifted considerably so that the incremental shadows are both smaller and extending inland, out of Chapter 91 jurisdiction.

In general, the analysis of shadows within the *MHP Amendment* planning area indicates that there are some pedestrian level effects due to additional shadow. There are also benefits associated with the massing and building heights that will result from implementing the related substitution, by limiting the heights on some portions of the building to heights that are lower than those which could be achieved using the standard building height limits contained in 310 CMR 9.51(3)(e).

Wind Analysis

An analysis of probable wind conditions at the ground level was prepared for the Boston East Development project site. This analysis was prepared by Frank H. Durgin, P.E. and is included in this document as *Appendix 5 – Boston East Wind Studies*. The methodology was the same as described in the similar analysis for the 6-26 New Street development project.

The analysis concludes that the effect of constructing the Boston East development will likely result in wind conditions that are appropriate for all of the pedestrian activities planned for the site so that it will be conducive to public access and uses. The analysis considered 46 locations for either existing or build conditions. None of the locations is estimated to have pedestrian level winds (PLWs) that exceed the BRA guideline wind speed. No location is predicted to have dangerous winds as often as once a year, and no location is predicted to have PLWs higher than Category 3, which is comfortable for walking.

The study notes the ground level environment is likely to benefit from the sheltering effects provided by the buildings relative to the walkways and open space although winds are slightly increased near the corners of the proposed building.

7.5.1.3 Facilities of Public Accommodation (310 CMR 9.53(2)(c)) and Setbacks for nonwater-dependent facilities of private tenancy (FPT) (310 CMR 9.51 (3)(b))

Chapter 91 regulations establish requirements to activate those portions of the waterfront that are categorized as Commonwealth tidelands, which apply to the entire Boston East site. Among the standard provisions are requirements that interior ground level uses include facilities of public accommodation (FPA). Substitute measures that provide alternate provisions that meet the purposes of activating Commonwealth tidelands for public use, and are tailored to the circumstances of the particular harbor area are permitted. Additionally, the regulations restrict nonwater-dependent facilities of private tenancy within 100 feet of the project shoreline. Substitute measures that provide alternate provisions that meet the purposes of avoiding privatization and are tailored to the circumstances of the particular harbor area are permitted. This *MHP Amendment* revises the applicable Chapter 91 regulations on FPA for the Boston East project site as follows:

- Permit FPTs to occupy up to 75% of the ground floor (excluding upper floor accessory uses).

- Permit the reconfiguration of FPA space within 100 feet of the project shoreline to locations that provide a more appropriate buffer to the DPA in accordance with guidance elsewhere in the *MHP Amendment*.

The provision of FPAs as described in this substitute provision is intended to help implement the applicable EBMHP General Policies and recommendations of the *East Boston Master Plan*, including the following:

- Expand the mix of uses on the waterfront to include additional residential, retail/commercial and cultural uses coexisting with present marine industrial, residential and institutional uses.

- Expand Harborwalk to connect the waterfront open space system and public environment. The existing East Boston Harborwalk should be extended in conjunction with the new parks and new activities developed on the waterfront so that it would extend from LoPresti Park along the waterfront of properties located along New Street accommodating any DPA limitations of those properties to the Boston East site.

The extent and type of FPAs has been tailored to the conditions along this portion of the waterfront. The total amount of FPA provided is less than that which would be required under standard Chapter 91 provisions. The total amount of FPA's would typically be calculated as the ground floor area located on Commonwealth tidelands exclusive of upper floor accessory services, which would occupy up to 25% of the ground floor.

The BRA has conducted a comprehensive study of FPA feasibility along Boston Harbor and established that modifications in standard Chapter 91 regulations will be required along various portions of the waterfront, including the East Boston waterfront, in order to adjust the provision of certain types of uses in response to market trends and potential demand. This site is among those where such adjustments are appropriate. This substitute provision will reduce the amount of required FPAs in ways that are consistent with findings of market conditions and economic feasibility for this area of the harbor.

As a result of these adjustments, and in view of the fact that the total amount of FPA will be less than that which might otherwise be provided without a substitute provision, additional offsetting benefits will also be required, as described below.

7.5.2 Offsetting Public Benefits

7.5.2.1 Height Standards and Related Impacts on Public Use or Access (310 CMR 9.51(3)(e))

Offsetting public benefits are sought relative to the marginal increase in net new shadow that would occur relative to Chapter 91 standard height limits. Offsetting benefits will include:

- Provision of at least 2,100 square of open space in addition to the standard open space requirement, in order to offset approximately 4,202 square of net new shadow.

The provision of additional open space for public access and use has been employed in similar circumstances along Boston Harbor through the MHP mechanism. The calculation of offsetting benefit employs an established precedent that provides a ratio of 1 additional square foot of exterior public open space for every 2 square feet of net new shadow. The following additional guidance should be taken into account during the Chapter 91 licensing process relative to this substitute provision so that the area of offsetting open space is not perceived or used as private.

- Open space amenities and access – The open space provided as an offsetting benefit should include improved paved access, amenities such as benches and special landscape features, and a bocce court in the vicinity of the northern courtyard area shown on *Figure 7-5, Boston East: Proposed Open Space Offsetting Benefit*.

- Restriction on private use of the open space – Open space as defined by 310 CMR 9.51(3)(d) and open space provided as an offset may not be used for patios, gardens or other improvements that effectively extend private residential uses into the space.

7.5.2.2 Facilities of Public Accommodation (310 CMR 9.53(2)(c))

To offset the public detriment associated with the substitute provision of FPA described in *Section 7.5.1.3* above, the following benefits will be provided:

- A minimum of 25% of the ground floor (excluding upper floor accessory uses) will be devoted to civic and cultural facilities including but not limited to: artist live/work and artist work space units (certified through the BRA's artist certification process) which is open to the public no less than two times per year, gallery, exhibition space, teaching space, maritime history interpretive exhibit space, community meeting room, and community center. These facilities will be located within the ground floor to effectively promote public use and enjoyment of the project site. The facilities will be managed and programmed to establish the project site as a year-round locus of public activity.

The project will devote interior space to facilities of public accommodation (FPA) in an amount over 25% of the ground floor area of the proposed buildings containing facilities of private tenancy excluding upper floor accessory services. The project will be required to accommodate FPAs that activate the ground floor level of the building and include the following elements:

- A community gallery as cost free space reserved for public benefit, including public restrooms.

- Approximately 2,500 square feet of open area within the proposed archway of the building facing Border Street, animated by historic exhibits and interpretive displays that will contribute to attract the public to the waterfront.

- Artist live/work units with associated requirements for public access.

The location of these facilities is shown in *Figure 7-3, Boston East: Chapter 91 Compliance – Proposed WDUZ and FPA* at the end of this section.

In particular, this offset provides for the subsidization of publicly accessible community gallery space and associated public restrooms. It provides for special installations of interpretive signage, artwork or other elements through a planned system of historic interpretation, as described within this *MHP Amendment*. It also provides artist live/work units consistent with BRA and City policies, expanding a practical method to provide for this important community component and the vitality it provides.

Table 7-2 on the next page summarizes the proposed substitutions and offsets for Boston East.

Table 7-2. Boston East – Summary of Chapter 91 Substitute Provisions and Offsetting Public Benefits

Regulatory Provision	Standard Requiring Substitution	Proposed Substitution	Offsetting Public Benefits
310 CMR 9.51 (3)(b)	*"nonwater-dependent facilities of private tenancy shall not be located on any pile-supported structures on flowed tidelands, nor at the ground level of any filled tidelands within 100 feet of a project shoreline…"*	Permit the reconfiguration of FPA space within 100 feet of the project shoreline to locations that provide a more appropriate buffer to the DPA in accordance with guidance elsewhere in the *MHP Amendment*.	A minimum of 25% of the ground floor (excluding upper floor accessory uses) shall be devoted to civic and cultural facilities including but not limited to: artist live/work and artist work space (certified through the BRA's artist certification process) which is open to the public not less than two times per year, gallery, exhibition space, teaching space, maritime history interpretive exhibit space, community meeting room, and community center. These facilities will be located within the ground floor to effectively promote public use and enjoyment of the project site. The facilities will be managed and programmed to establish the project site as a year-around locus of public activity.
310 CMR 9.51(3)(c) Building Setbacks from a Water-Dependent Use Zone	*"new or expanded buildings for nonwater-dependent use, and parking facilities at or above grade for any use, shall not be located within a water-dependent use zone;.. the width of said zone shall be determined as follows: 1. Along portions of a project shoreline other than the edges of piers and wharves, the zone extends for the lesser of 100 feet or 25% of the weighted average distance from the present high water mark to the landward lot line of the property, but not less than 25 feet…"*	A reconfigured WDUZ will be established that will allow a minimum setback from the project shoreline of 25 feet for buildings containing nonwater-dependent uses, as shown in plans and diagrams, while maintaining at least the same overall area (approximately 22,806 sf) than the standard requirement.	The reconfigured WUDZ will be achieved by allocating wider setbacks in different areas of the site that are contiguous to the adjacent proposed DPA area and in an amount that offsets the proposed change.

Regulatory Provision	Standard Requiring Substitution	Proposed Substitution	Offsetting Public Benefits
310 CMR 9.51(3)(e) **Height Standards and Related Impacts on Public Use or Access**	*"new or expanded buildings for nonwater-dependent use shall not exceed 55 feet in height if located over the water or within 100 feet landward of the high water mark; at greater landward distances, the height of such buildings shall not exceed 55 feet plus one-half foot for every additional foot of separation from the high water mark"*	The height of new or expanded buildings for nonwater-dependent use shall not exceed 85 feet, as shown in the proposed massing and building stepping diagrams.	Offsetting public benefits are sought relative to the marginal increase in net new shadow that would occur relative to standard height limits. Offsetting benefits will include: • Provision of at least 2,201 sf of open space in addition to the standard requirement to offset approximately 4,202 sf of net new shadow (1 sf of additional public open space for every 2 sf of net new shadow). • Open space will include paved access, amenities such as benches and special landscape features, and a bocce court, and it will be designed to promote public access and use.
310 CMR 9.52(b)(1) **Public Access Network**	*"…walkways and related facilities along the entire length of the water-dependent use zone; wherever feasible, such walkways shall be adjacent to the project shoreline and, except as otherwise provided in a municipal harbor plan, shall be no less than ten feet in width…"*	The minimum standard will be widened to 12 feet (10 feet clear). These enhancements shall replace the existing standard of 10 feet.	The substitution directly benefits the public through enhanced access (open 24 hours/7 days per week); no offsetting public benefit is required.
310 CMR 9.53(2)(c) **Activation of Commonwealth Tidelands for Public Use**	*"the project shall devote interior space to facilities of public accommodation, other than public parking, with special consideration given to facilities that enhance the destination value of the waterfront by serving significant community needs…such space shall be at least equal in amount to the square footage of all Commonwealth tidelands on the project site within the footprint of buildings containing nonwater-dependent facilities of private tenancy;"*	Permit FPTs to occupy up to 75% of the ground floor (excluding upper floor accessory uses).	A minimum of 25% of the ground floor (excluding upper floor accessory uses) shall be devoted to civic and cultural facilities including but not limited to: artist live/work and artist work space (certified through the BRA's artist certification process) which is open to the public no less than two times per year, gallery, exhibition space, teaching space, maritime history interpretive exhibit space, community meeting room, and community center. These facilities will be located within the ground floor to effectively promote public use and enjoyment of the project site. The facilities will be managed and programmed to establish the project site as a year-round locus of public activity.

7.6 Substitution for 125 Sumner Street

As earlier mentioned in previous sections, 125 Sumner Street represents an opportunity for future development and has been identified by its owner, the Boston Housing Authority, as being in the initial planning stages. The project site is currently underutilized and disconnected to the streetscape and water's edge. Redevelopment of the site may give an opportunity to make street access an extension of the existing street pattern as called for in the *East Boston Master Plan*. The entire property is publicly owned and located on Commonwealth tidelands.

7.6.1 Substitute Provision (310 CMR 9.53(2)(c))

This *MHP Amendment* revises the applicable Chapter 91 regulations on FPA (310 CMR 9.53(2)(c)) for 125 Sumner Street as follows

- Permit FPTs to occupy up to 75% of the ground floor (excluding upper floor accessory uses).

The provision of FPAs as described in this substitute provision is intended to help implement the applicable EBMHP General Policies and recommendations of the *East Boston Master Plan*, such as the expansion of the mix of uses on the waterfront to include additional residential, retail/commercial and cultural uses coexisting with present marine industrial, residential and institutional uses.

7.6.2 Offsetting Public Benefits

To offset the public detriment associated with the substitute provision of FPA described above, the following benefits will be provided:

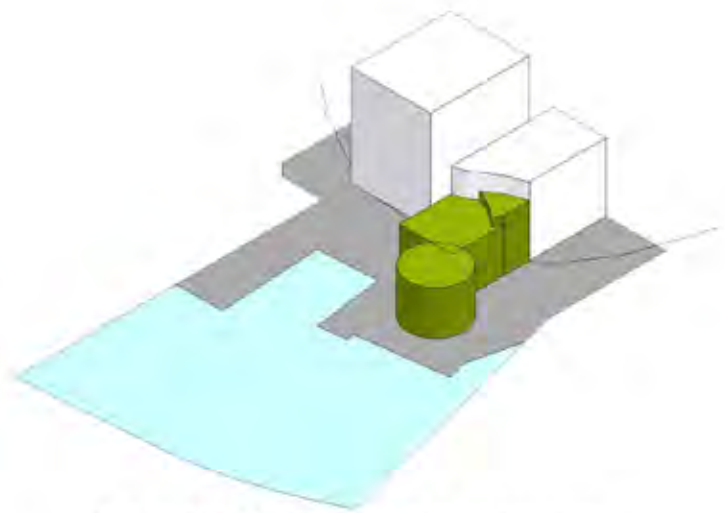
- A minimum of 25% of the ground floor (excluding upper floor accessory uses) shall be devoted to civic and cultural facilities including but not limited to: artist live/work and artist work space (certified through the BRA's artist certification process) which is open to the public no less than two times per year, gallery, exhibition space, teaching space, maritime history interpretive exhibit space, community meeting room, and community center. These facilities will be located within the ground floor to effectively promote public use and enjoyment of the project site. The facilities will be managed and programmed to establish the project site as a year-round locus of public activity.

The proposed substitute provision and offsetting benefits are consistent with current BRA and City policies to promote the creation of artist live/work units, civic and cultural facilities to effectively promote public use and enjoyment of publicly owned Commonwealth tidelands. This MHP Amendment proposes that this approach be extended to other publicly owned Commonwealth tidelands in East Boston and other parts of the harbor when appropriate.

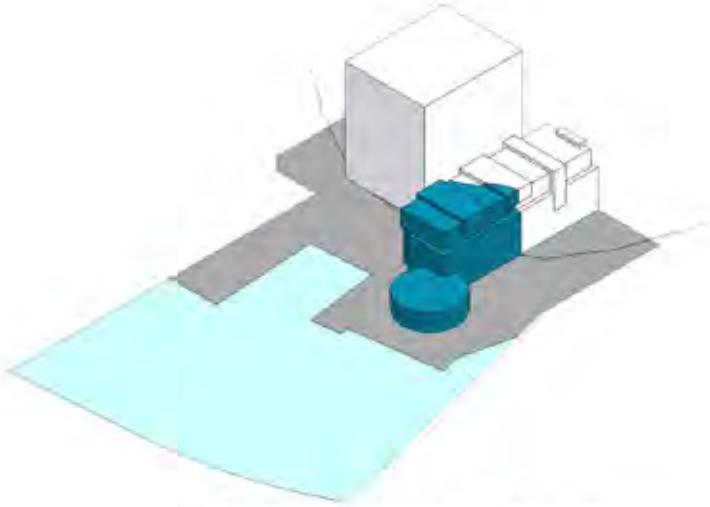
Figure 7-6, East Boston Municipal Harbor Plan: Commonwealth Tidelands (EBMHP Figure 9-1)at the end of this section shows the location of Commonwealth tidelands in East Boston (in the illustration, Commonwealth tidelands include tideland areas located seaward of the estimated low water mark based on the E.S. Chesbrough map of 1852, as well as publicly owned land subject to Chapter 91 jurisdiction).

East Boston Municipal Harbor Plan Amendment
NEW STREET

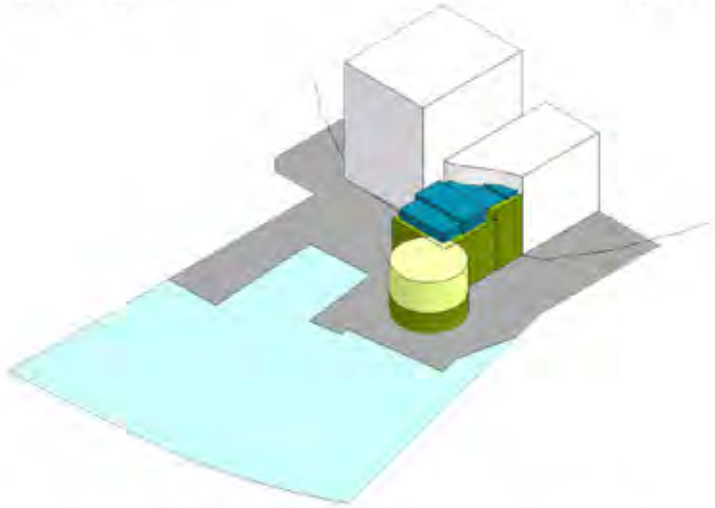
Figure 7-1
Chapter 91 Compliance



Chapter 91 Compliant Massing
55 feet stepping up to 65 feet.



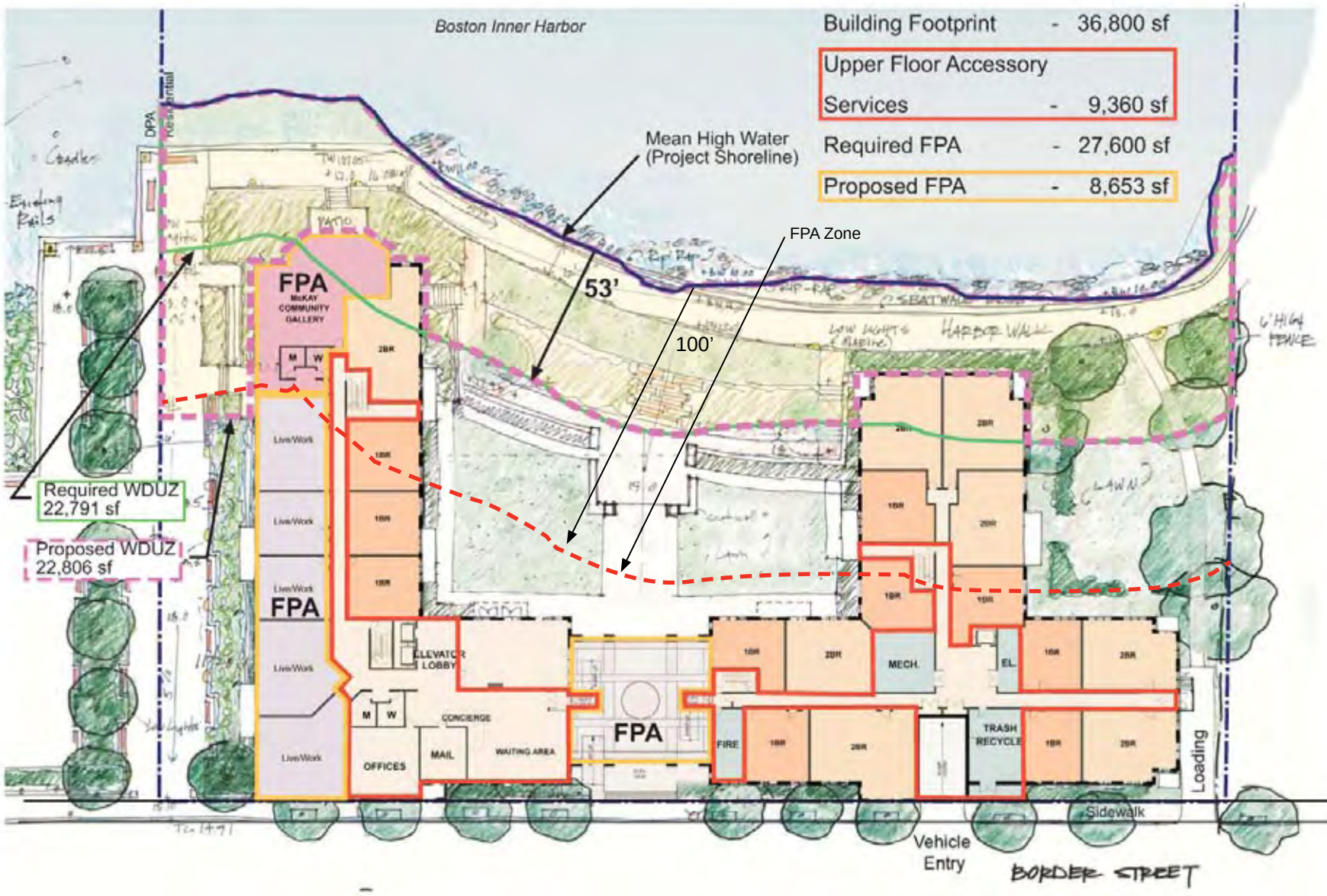
Proposed Project Massing
69 feet height at 28 feet setback



Chapter 91 Compliant and Proposed Massing

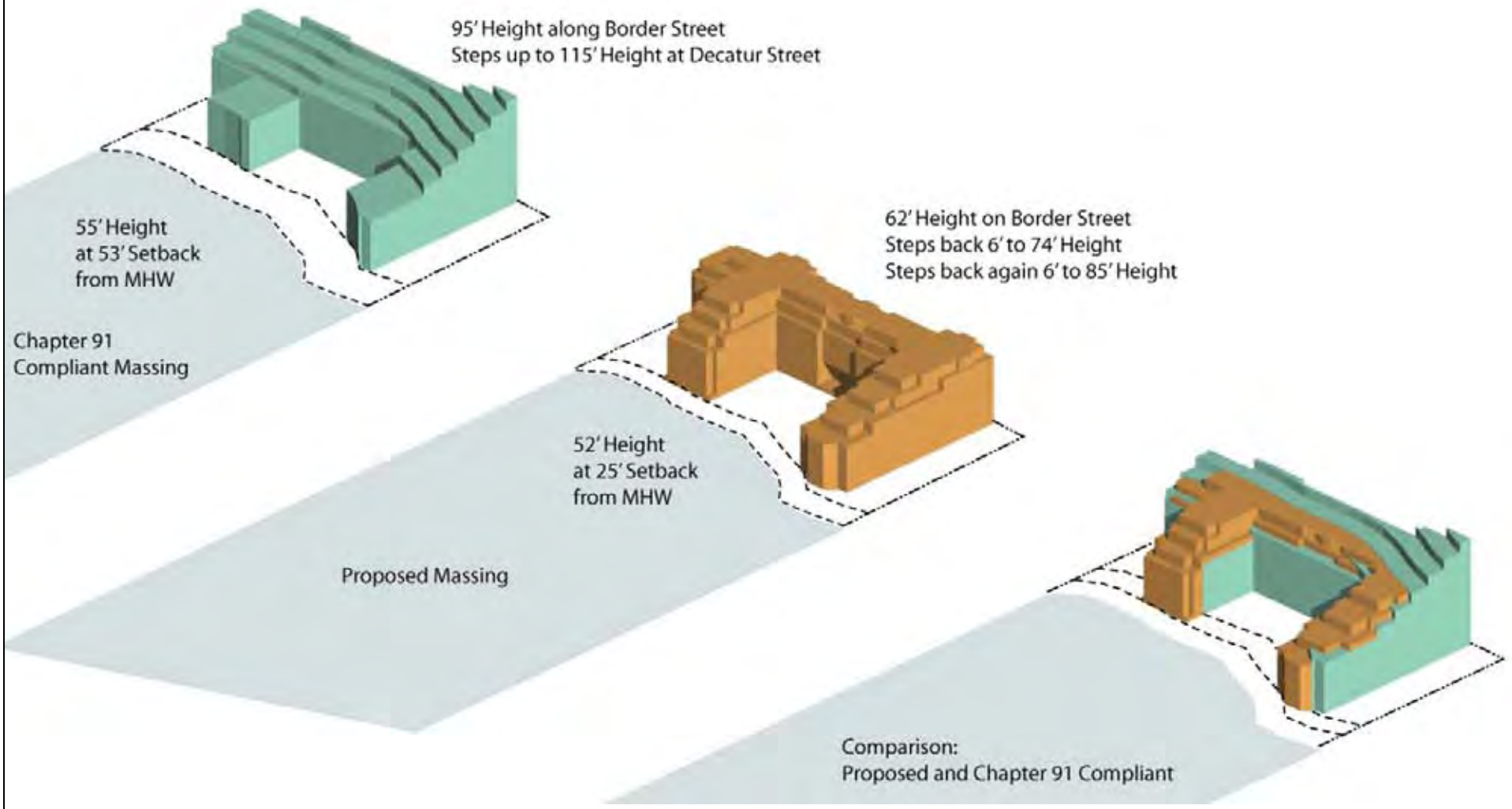
East Boston Municipal Harbor Plan Amendment
NEW STREET

Figure 7-2
Proposed Building Massing and Height



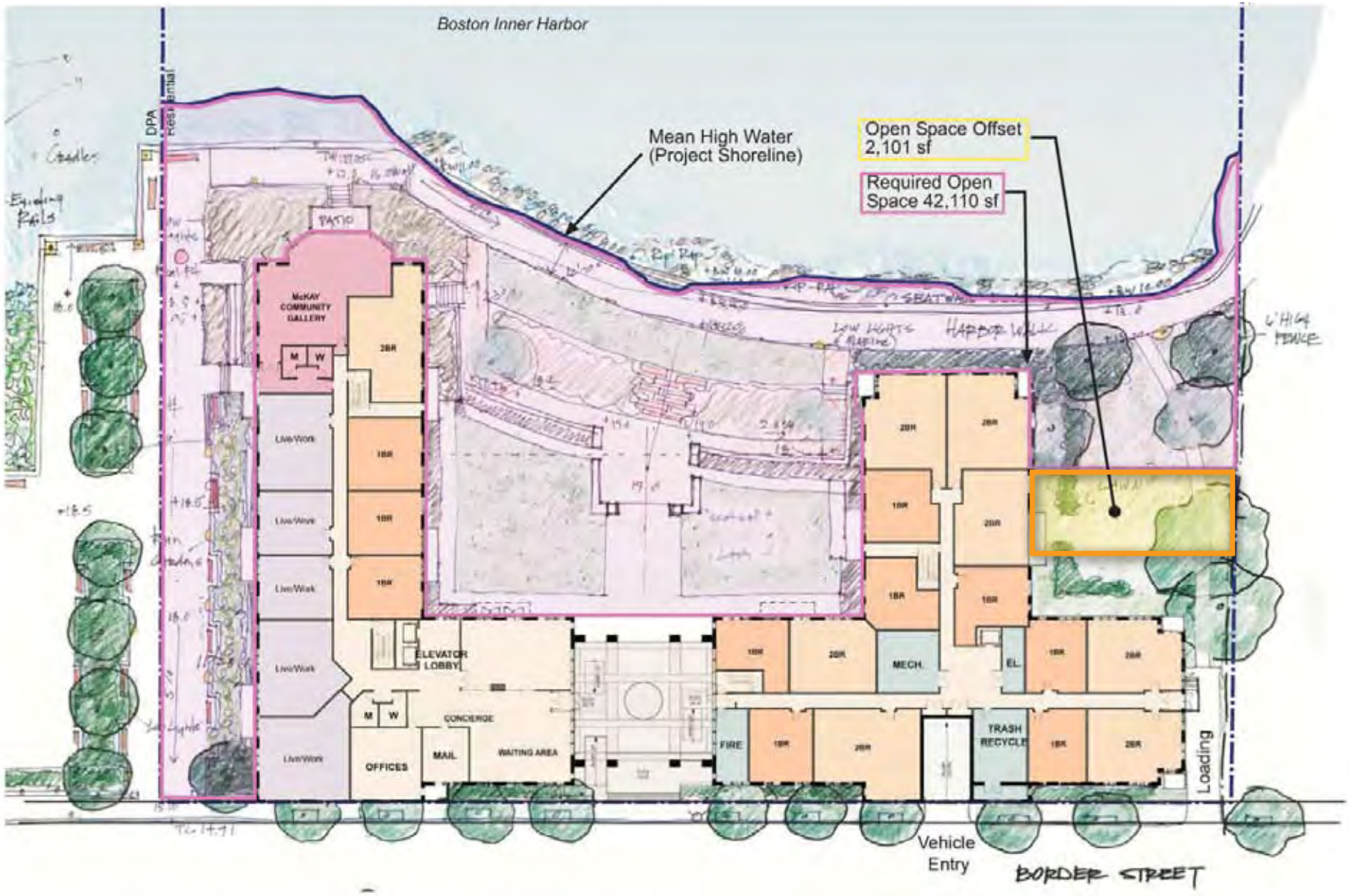
East Boston Municipal Harbor Plan Amendment
BOSTON EAST

Figure 7-3
Chapter 91 Compliance
Proposed WDUZ and FPA



East Boston Municipal Harbor Plan Amendment
BOSTON EAST

Figure 7-4
Proposed Building Massing and Height



East Boston Municipal Harbor Plan Amendment
BOSTON EAST

Figure 7-5
Proposed Open Space Offsetting Benefit

East Boston Municipal Harbor Plan Amendment

Figure 7-6
East Boston Municipal Harbor Plan
Commonwealth Tidelands

8. OPEN SPACE AND PUBLIC ACCESS GUIDANCE

This section provides guidance for improvements and uses associated with open space and public access in this *MHP Amendment* planning area. The intent of this section is to support the *Waterways Regulations* by optimizing public access to the waterfront, promoting water-dependent uses, and helping to ensure quality redevelopment within the MHP planning area trust lands. The following goals and guidelines are consistent with the *Waterways Regulations* and ensure that development along the waterfront provides the public with extensive quality open space and meaningful access to the waterfront. This section conforms to the purpose of the state approved municipal harbor plans as stated in 301 CMR 23.01(2), *Review and Approval of Municipal Harbor Plans*. The goals and guidelines will provide guidance to EOEEA agencies, particularly the Department of Environmental Protection, in matters relating to waterways regulation through the Chapter 91 licensing process.

Some of these open space goals, guidelines and requirements were developed as part of other municipal harbor plans in East Boston and South Boston and are incorporated in this submittal because of their general relevance to the overall harbor; however, they have been modified to suit the characteristics of this particular *MHP Amendment* planning area.

Figures 8-1, East Boston Municipal Harbor Plan: Open Space Concept Plan (EBMHP Figure 8-3)*, 8-2, East Boston Municipal Harbor Plan: Historic and Educational Programming* (EBMHP Figure 8-9), and *8-3, East Boston Municipal Harbor Plan: Informational and Directional Signage* (EBMHP Figure 8-11) are included at the end of this section as a reminder of important open space and public access guidance concepts and locations recommended for improvements in the original EBMHP.

8.1 Open Space and Public Access Guidelines

The term "open space" can be broadly defined to include both public and private space and can describe a variety of different types and scales of spaces, from plazas, walkways and parks to driveways, streets, and roads. This *MHP Amendment* establishes an open space network system to guide property owners in the development of their property and to guide DEP in issuing Chapter 91 licenses for these parcels. These proposed guidelines are consistent with the *Boston Parks and Recreation Department's Open Space Plan 2002- 2006, "Part 5 Resource Protection Mission."*

Design and programming of open spaces must be consistent with the MHP, helping to create a highly accessible and well-maintained open space network that is supported by an array of public amenities and that is characterized by an ease of movement. The open space network should be a unified, cohesive system that celebrates and enhances the waterfront while respecting its water-dependent abutters. The elements of the open space network include the following:

- Public access and view corridors to the Harbor
- Harborwalk
- Programming and activation of public spaces
- Public space amenities
- 24-hour public access
- Maintenance and implementation standards

8.1.1 Public Access and View Corridors to the Harbor

Public access usually consists of pedestrian access to and along the waterfront, but can also be used to describe access by bicycles, rollerblades, and other recreational means where sufficient area exists to ensure

compatibility with pedestrian uses. Historically, the general public has had inadequate public access to the waterfront in East Boston. Providing such access remains a challenge because some large parcels of land along the waterfront are vacant, underutilized or dedicated to marine industrial uses. A primary goal of the open space network system is to ensure that workers, residents, and visitors enjoy the benefits of public access to the waterfront. Because several properties along this section of the waterfront are undergoing changes, the guidelines of this plan are designed to meet this challenge and achieve compatibility between the varying interests and needs of the waterfront's users.

8.1.2 Harborwalk

The centerpiece of the City's goal to provide public access to the waterfront is the Harborwalk. From the initiation of the Harborpark concept by the BRA in the early 1980s, when the City first set the goal of creating a continuous 47-mile waterfront walkway along Boston Harbor, the City has been working diligently in partnership with private developers, property owners and Harbor advocates to improve waterfront sites and to realize this goal.

Site-Specific Harborwalk Guidelines

- The Harborwalk should connect effortlessly to other pedestrian systems and be universally accessible from other public ways, bridges, adjacent land uses and redevelopment sites.
- The Harborwalk should provide unobstructed access along the Boston Inner Harbor and to adjoining open space.
- The Harborwalk should be universally accessible and connected to vertical access to the watersheet and docking facilities at key points along the Boston Inner Harbor.
- The Harborwalk should embrace the universal design principles to not only meet accessibility code requirements but also to create an environment that welcomes people of all ages and abilities throughout individual Harborwalk sections and at the water's edge.

Although the Waterways Regulations require a minimum walkway width of ten (10) feet, the City's Harborwalk standards require a minimum walkway width of 12 feet (10 feet clear). Whenever possible, a wider Harborwalk should be created.

Harborwalk Signage Guidelines

The City's Harborwalk signage program is another important component of the Harborwalk. The signage program is a graphic system developed to direct people to and along the Harborwalk and to nearby public amenities, such as a water transit facility or public restrooms, to parks and open spaces, cultural venues, and historic exhibits – in essence to help pedestrians make the most of their waterfront experience. Property owners will be required to incorporate appropriate Harborwalk signage throughout their sites in conformance with the Waterways Regulations 310 CMR 9.35(5)(b). Signage is particularly important and should be continued along the inland connections to the Harborwalk and along the Harbor. The Harborwalk signage for East Boston should:

- Incorporate the City's standards and Harborwalk signage requirements.
- Include, where appropriate, tactile signage and contextual maps to surrounding areas.
- Communicate effectively and be readable.
- Be visible to all and include a tactile element.
- Be highly recognizable, with contrasting background for text, consistent, and identifiable.

- Be attractive, durable and functional.
- Reinforce circulation patterns that improve the visitor experience.
- Complement architectural character of East Boston.
- Complement other abutting and nearby landscaping efforts.

8.1.3 Interior Public Spaces

A system of enclosed open spaces open to the public with amenities and interpretive elements, where appropriate, should be incorporated in the form of pedestrian ways and public corridors to provide alternative protected routes during foul weather.

In new development, additional space for public use should be provided whenever possible and appropriate, especially along retail and commercial uses to encourage them to "spill" out from the indoors to outdoors and promote activity without overwhelming the areas provided for public use, creating pedestrian flow choke points, or obstructing free access and use of the waterfront. For example, providing furnished areas available for plaza spaces adjacent to buildings allows outdoor café seating or small performance spaces as well as free street furniture for sitting and viewing without requiring users to pay for the view. To be an integral part of the master plan design, the design of public open space, interior spaces, and pedestrian ways should be focused on the diverse abilities of the public.

New space for public enjoyment should be of a type, size, and character appropriate to its use and context, particularly within large developments. Historic interpretation and art features should be encouraged in spaces for public use. Food service, performing arts, civic activities, and recreation facilities should also be accommodated where appropriate. Special features such as arcades, building overhangs, promontories, fountains, facade lighting, and environmental art should be encouraged.

8.1.4 Public Space Amenities

In order to maximize the public's use and enjoyment of the waterfront, a mix of public amenities should be located throughout the site. Residents and visitors must have places to purchase ferry tickets, access a phone booth, use a public restroom, call a water taxi, purchase snacks, rent small watercraft or fishing gear and to buy bait, and to enjoy the harbor. Other amenities include interpretive features and signage, historic exhibits and displays, temporary and permanent art, binoculars, picnic tables, and "Mutt Mitt" stations. Boaters should have access to shower facilities. Not every use is appropriate for every site, nor is this intended as an exhaustive list, but these are the types of public amenities that are critical. Also, given New England weather patterns, it is important to have protected areas where the public can wait for water transit or just relax and enjoy the Harbor, helping to activate the waterfront during periods of less hospitable climate. In some instances, these supporting amenities will be located within the ground floor of a larger development. In other instances, it may be appropriate to place some or a combination of these amenities in small structures located within a site's open space areas. For example, wind and shade structures in strategic locations can help to extend the appeal of being close to or on the water later in the season. Some of these structures could be erected on a seasonal basis.

Some amenities, such as showers for boaters and restroom facilities, might be directly accessible from docks. It is important, however, that these small structures do not comprise a significant portion of a site's open space. Some of those visitor services amenities, such as restrooms including a family/unisex restroom, should be opened to the larger public. Within private developments abutting the Harbor, covered public facilities and internal passageways, including elevators and stairs, should remain open to the public 24 hours a day and offer public amenities. In considering open space design and programming, decisions must be made in the larger context of the design and programming of the entire site's exterior and interior public areas. Determination of the appropriate number, size, and design of these types of structures will be left to the City's Article 80 development review process.

8.1.5 Creative Programming of Open Space and Other Public Areas

Creative programming for open space and other public areas focusing on low or no-cost events can contribute greatly to the activation of a site. The term "programming" can mean many different things, from providing amenities that support passive recreation to hosting special events, such as a waterfront festival. The East Boston Waterfront District can accommodate a range of programming options that will engage both the land and the edges of the water.

Emphasis should be placed on the following aspects:

- Ensuring that the waterfront provides basic amenities such as seating, lighting and places for refreshments and restrooms, including a family/unisex restroom, to accommodate the public as well as facilities for boaters where appropriate.

- Ensuring that the infrastructure can accommodate periodic events that serve to introduce residents and visitors to the accessibility of the waterfront and encourage them to return any time on their own.

- The waterfront should not be overly programmed to a degree that the tranquility and beauty of the urban harbor are spoiled, and freedom to sit and read, fish, or watch vessels go by is hindered.

Developers submitting plans for proposed projects subject to the City of Boston's Article 80 Large Project Review process should be required to develop programming strategies for their sites that will provide the public with an assortment of program options, from passive recreation to special events, and to take into account the infrastructure needs of the entire range of options. Developers of smaller projects that are not subject to the Article 80 Large Project review process should be encouraged to develop strategies that will attract the public to the water's edge. Though property owners may wish to develop programs that reflect the unique characteristics of their sites, to the extent feasible, individual programming efforts should be coordinated and managed to maximize the overall impact of such activities and improvements, to activate the watersheet and to attract the public to the area.

In addition to providing for special event programming where appropriate, property owners also will be required to incorporate more passive recreational elements into their projects. Such elements should focus on providing cultural, educational and/or historic programming and uses that will enhance the waterfront area and draw people at all times of the year and in all kinds of weather, such as those elements discussed below. For larger sites, an integrated combination of new cultural, educational and historic programming may be appropriate, while owners of smaller sites may be required to incorporate only one or two such elements into their projects. Appropriate number and scale of these programming elements will be reviewed and determined during the Article 80 review process. Facilities of Public Accommodation required by Waterways Regulations for nonwater-dependent uses located in Commonwealth Tidelands play an important role in activating the waterfront.

Landside Public Realm Guidelines

- Encourage active waterfront use such as fishing, boating, outdoor exhibits, viewing areas, binoculars, and land and water transportation.

- Provide informal sitting and viewing areas.

- Provide a variety of public space amenities such as seating, tables, and shade shelters, heated waiting areas, bathrooms, performance space, and trash receptacles.

- Avoid the installation of fixed, obstructing structures and amenities and provide flexibility to allow for large events and public gathering during watersheet festivals.
- Provide native salt-tolerant plant species, shade trees and year-round vegetation.
- Coordinate landscaping and the design of public spaces along the East Boston waterfront.
- Coordinate furniture, signage and lighting along the Harborwalk with developers.
- Activate pedestrian plazas along the East Boston waterfront and through-blocks and alleys with ground floor shops, and concessions for food, beverage and other vendors.

8.1.6 24-Hour Public Access

All pedestrian open space areas established within the *MHP Amendment* planning area must be open and accessible to the public 24 hours per day in accordance with the Waterways Regulations 310 CMR 9.35 (a) and (c). No gates, fences or barriers may be placed on the open space in a manner that would impede or discourage the free flow of pedestrian movement, except in order to accommodate construction and maintenance of buildings and related improvements on adjacent parcels. Only temporary access restrictions in pedestrian open space areas, as may be required in emergencies, special events, or in connection with construction or maintenance, are permitted, and then only if such interference is minimized to the extent reasonably practicable and consistent with public safety, and such barriers are in place no longer than necessary.

It is important to ensure that segments of the Harborwalk that are open-air passageways through buildings remain open 24 hours per day, seven days a week, and that covered, open spaces and amenities such as bathrooms and phones are available for public use during most hours, seven days a week, and do not become privatized.

8.1.7 Management and Implementation Standards

In order to ensure that a site's interior and exterior public areas are maintained at a level that will ensure that these areas remain attractive, safe, and accessible to the public, the submittal of this *MHP Amendment* requires the preparation of a Management Plan in accordance with Waterways Regulation 310 CMR 9.35(5).

The following baseline standards were developed by a sub-committee of the Municipal Harbor Plan Advisory Committee during the preparation of the *South Boston Waterfront District Municipal Harbor Plan (South Boston MHP)* study in 2000. Although originally intended for South Boston, these baseline standards address aspects of maintenance that are applicable to other redevelopment projects and initiatives along the Harbor:

- Create a maintenance plan for the Harbor public spaces on waterside and landside.
- Maintenance of private space opened to the public would be the responsibility of private owners.
- Ensure that the Harbor is cleaned up and that debris is removed regularly.
- Coordinate private security and safety of private space available for public use including floating docks.

8.2 Requirements for Open Space and Public Access Plan Submittals

In order to enable the BRA to adequately review a development plan and ensure that open space and other spaces available for public use serve the public's access to and enjoyment of the waterfront, any plan

subject to Article 80 Large Project Review will be required to submit an Open Space and Public Access Plan to the BRA.

The Open Space and Public Access Plan should include plans, drawings, specifications, descriptions of open space and exterior and interior public spaces and uses, and descriptions of proposed management measures and access-related rules and regulations, if any, sufficient to permit the BRA to do the following:

- Determine the compliance of the plan with guidelines consistent in this chapter.
- Determine compliance with interim or final zoning adopted for the area.
- Make a Section 18 Recommendation.

8.3 Sustainability

Development in the East Boston Waterfront should incorporate currently available economic and manageable sustainable technologies in order to reduce pollution, energy costs and impacts on the environment. Such projects should also be guided by Transit-Oriented principles whenever applicable. New and renovated developments within this planning area should strive for LEED certification or, at least for being LEED certifiable.

As part of Article 80 review, the City of Boston is requiring that all eligible projects for Large Project Review be subject to the requirements of Article 37 of the Boston Zoning Code. The purposes of Article 37 are to ensure that major building projects are planned, designed, constructed, and managed to minimize adverse environmental impacts, conserve natural resources, promote sustainable development and enhance the quality of life in Boston.

Any proposed project subject to the provisions of Article 37 shall be "LEED Certifiable" under the most appropriate LEED building rating system. *Leadership in Energy and Environmental Design* (LEED) is a Green Building Rating System developed by the U.S. Green Building Council (USGBC). The system provides a list of standards for environmentally sustainable construction that allow to define "green building" by establishing a common standard of measurement, and promoting integrated, whole-building design practices. The LEED rating system addresses six major areas of environmental concern:

- Sustainable Sites (14 possible points toward certification)
- Water Efficiency (5)
- Energy and Atmosphere (17)
- Materials and Resources (13)
- Indoor Environmental Quality (15)
- Innovation and Design Process (4, plus 1 for having a LEED-accredited professional on the design team)

LEED certification is obtained from USGBC after submitting an application documenting compliance with the requirements of the rating system. Different versions of the rating system are available for specific project types. Each LEED version has a slightly varied scoring system, but for LEED CS for example (core and shell buildings, including the total building minus tenant fit-outs), the system allows for up to 69 points toward certification. Buildings can qualify for four levels of certification:

- Certified - 26 points
- Silver - 33 points

- Gold - 39 points
- Platinum - 52 points

Under Article 37 of the Boston Zoning Code, "LEED Certifiable" is any structure planned, designed and constructed to achieve the level "certified" using the LEED building rating system most appropriate for the proposed project.

To complement LEED standards, the City of Boston has established its own system of "Green Building Credits" based on needs and categories specific to the City's local communities. These categories include the following: Modern Grid (energy conservation), Historic Preservation, Groundwater Recharge and Modern Mobility (transportation). LEED certifiable projects under this article may be awarded up to four points towards certification, by means of complying with one criteria or requirement from each of the four categories.

8.4 Universal Accessibility

The City of Boston has a longstanding commitment to accessibility through Universal Design principles. Accordingly, transportation, open space, access to the Harbor, pedestrian facilities and residential, civic and commercial buildings should be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design. The following outcome standards are organized according to the seven principles of universal design, and provide specific guidance regarding space usability.

8.4.1 Equitable Use

The design is equally useful, appealing and safe for all users.

- Harborwalk provides for safe enjoyment of all users by differentiating areas for pedestrians, cyclists and users of other recreational equipment.

- All indoor and outdoor paths of travel are stable, firm and slip resistant regardless of the weather. Rough and/or irregularly shaped bricks, cobbles, and crushed stone are not suitable walk surfaces but may be used as decorative borders or to identify areas where pedestrians are not welcome. If used, imprinted asphalt or concrete and boardwalk require the use of premium materials including wearing and subsurfaces to prevent horizontal and vertical changes such as pillowing, warping, and cracks of more than 1/4". Such materials also require a continuous high level of maintenance and regular replacement.

- Street furniture accommodates differing abilities and sizes of users and is placed at distances convenient for people with limited stamina or mobility.

- Street furniture does not enter the path of travel.

- Standard street furniture toilets are unisex, fully accessible, clearly labeled through instructional symbols, self-cleaning, usable by children and adults, and designed for comfort and security of any user.

- Benches are offered in multiple designs and heights, some with backs, arms and some without. Benches, seat walls, and perched seating should be spaced at most 175 feet apart. Seating, including seat walls should be designed to allow persons utilizing mobility aids to sit alongside their companions. Designs should also include places where older residents can perch or lean and some locations should offer protection from the weather or sun

- To maximize weather protection for users, transportation shelter designs should not have openings between individual wall panels or between walls and the ground/roof. Shelters should also have enough width to accommodate scooters and wheelchairs. Heater elements are encouraged.

- Pedestrian signal timing at crosswalks is set to allow all users to cross the street safely during a walk signal, including small children and people using wheelchairs and canes, generally moving at 3 feet per second.

- Pedestrian signals include accessible audible features as recommended by the *US Access Board's Pedestrian Rights of Way 2005 Draft* (chirping bird features are not allowed).

- Vertical transportation options (stairs, elevators, escalators) are visible from lobby and are included in a single signage system.

- At least one restroom in each area of public accommodation is fully accessible and unisex to allow companion care and comfort for a diversity of users. Said restroom should also provide baby changing facilities.

- Sliding/pocket doors are encouraged as a means of entry.

- All building design, construction, interior design, maintenance and management is attentive to providing the best possible indoor air quality by minimizing the use of potential contaminants and maximizing mitigating measures such as ventilation.

- Retail businesses should display merchandise at varying and easy to reach heights, as well as allow a clear width of 3'6" for ease of movement throughout interior.

- Housing units are designed for aging in place and thus do not require future adaptation.

8.4.2 Flexibility in Use

The design accommodates a wide range of individual preferences and abilities.

- Design sidewalks wide enough to be used as gathering spaces without impeding other pedestrians.

- Intersections use multi-sensory (sight, sound, touch) indicators for safe crossing.

- Include multi-sensory elements (sight, sound, touch) in landscape features outdoors and indoors.

- Include counters at varying heights to allow transactions and comfortable sightlines for a variety of standing and seated users at outdoor vending places and indoor food outlets.

- Offer options of unfixed seats in restaurants and bars and, if using a high stool option, provide standard height seating also.

- Restaurant bars that are of standing height should feature a lowered section for shorter stature customers.

- Offer tactile (raised letters and Braille) and/or audio option for accessing information at historical markers and interpretive signage along the Harborwalk.

- Make lighting in places of public accommodation adjustable in brightness for areas in which visitors require task lighting (e.g., registration, menu reading, lip-reading).

8.5.3 Simple and Intuitive Use

Design is easy to understand, regardless of user's experience, knowledge, language skills, or current concentration level.

- Standardize signs and symbols for public parking places throughout the district or development area.

- Install digital or two-dimensional district maps with clear indications of landmarks, routes and public restrooms; include audio and tactile options.

- Create visual *and* tactile markers to direct visitors to destination sites.

8.5.4 Perceptible Information

The design communicates necessary information effectively to the user, regardless of ambient conditions or the user's sensory abilities.

- A uniform and legible system of wayfinding includes signs with standard fonts, size and color, use of landmarks as cues to orientation, and standardization of symbols and terminology throughout the district.

- Clear schedules and fares are posted for all water recreation and transportation vehicles at the waiting area and installed at a height readable by a seated person.

- Lobbies and public spaces will be designed to maximize acoustical conditions that minimize ambient noise and enhance voice clarity.

- Define edges out of doors, especially at the Harbor's edge and on docks by adding a change in texture and/or color or by illuminating the outer edge.

8.5.5 Tolerance for Error

The design minimizes hazards and the adverse consequences of accidental or unintended actions.

- Pedestrian crossings include wide flush curbs and bollards instead of narrow minimally dimensioned curb cuts.

- Design sidewalks with standard 'zones' for curb, furnishings, pedestrians, and frontage. In doing so, ensure that driveway aprons do not introduce cross-slopes into the sidewalk's path of travel and minimize curb returns at driveway aprons to 2 feet or less.

- Minimize glare on large vertical glass surfaces, delineate doors with color contrast, and mark surface with designs to indicate presence of transparent surface.

- Install mirrors at entry and exit points to parking garages as well as visual and sound alarms to alert pedestrians passing entries and exits.

- Select stable matte finishes for indoor flooring and minimize glare.

- Install handrails and guardrails on the landside of flat docks for stability and safety for adults and children.

8.5.6 Low Physical Effort

The design can be used effectively and comfortably and with a minimum of fatigue.

- Exterior doors will be a minimum of 36" wide and designed to allow easy opening with a minimum of strength and no need to grip.

- Each exterior public entrance will include automatic door openers, preferably via an electric eye on the main door.

- Eliminate obstructions in front of mirrors in public restrooms and provide mirrors for people seated or of short stature.

- Provide both wind and rain shelter and seating at public transit stops for ground and water transportation. Shelters shall provide suitable locations to post large print schedules and route maps.

- Design street crossings with protected median areas to allow safe crossing for pedestrians at multi-lane, two-way arteries. Where possible, raised crosswalks or intersections should be utilized.

- Access to the watersheet may be achieved by a permanently fixed 1:12 fixed ramp from landside to within 10' of the mean tide level. From there, an 80-100 foot gangway can be installed in order for the docking facility to meet the proposed *Americans with Disability Act Accessibility Guidelines for Buildings and Facilities (ADAAG)* regulations. While at certain extreme times the slope may exceed 1:12, the design will be easily and safely accessed by all in a variety of weather conditions.

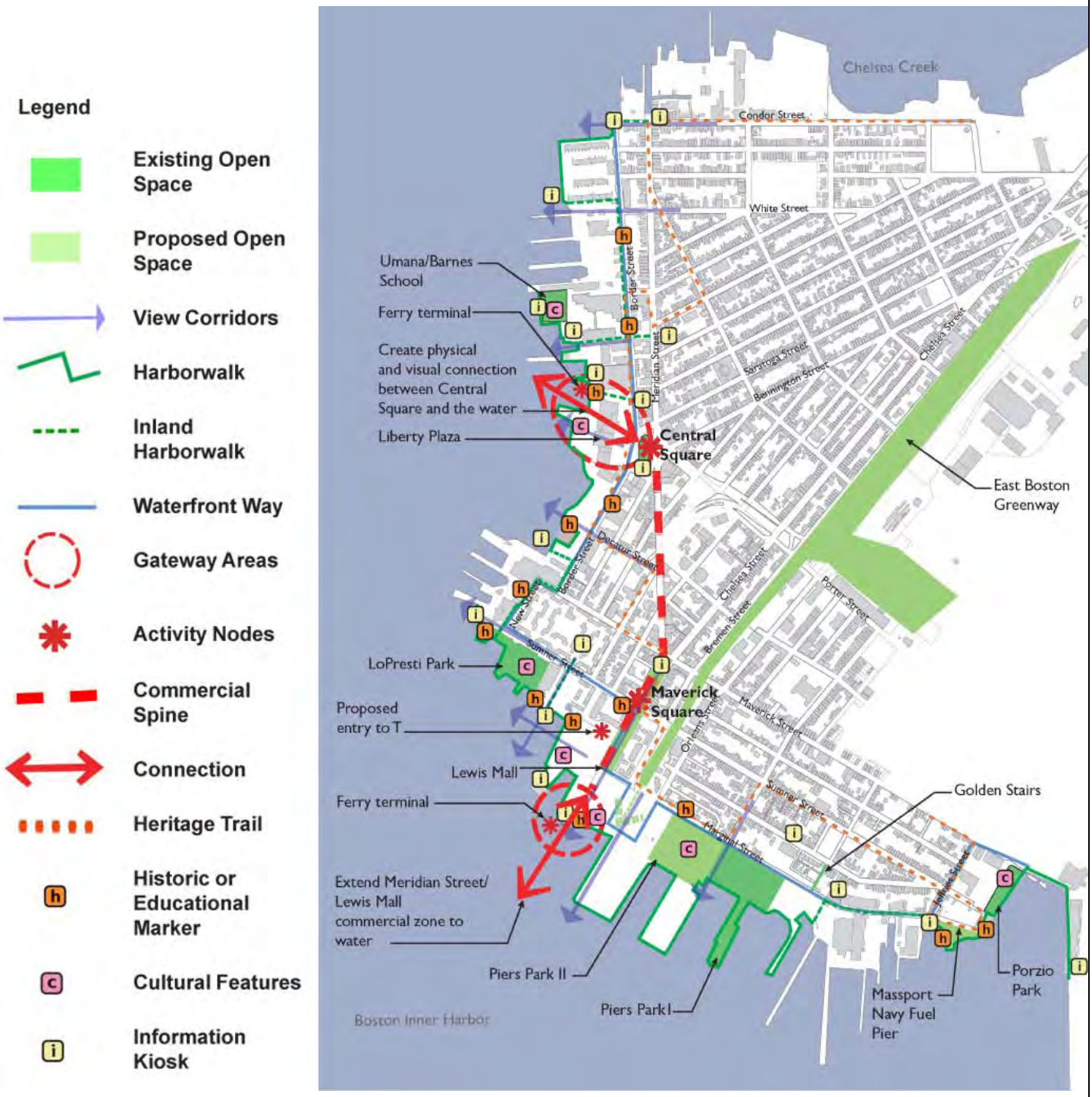
8.5.7 Size and Space for Approach and Use

Appropriate size and space is provided for approach, reach, manipulation, and use regardless of user's body size, posture, or mobility.

- Design all public spaces with sufficient turn-around space for strollers, scooters, crutches, wheelchairs, walkers and guide dogs.

- Distribute accessible seating in all venues, including entertainment and sports venues, to permit choice of seating at varying heights and distances for all users without forfeiting line of sight.

- Create pedestrian access corridors between destinations and parking or public transportation sites that do not use stairs but level access or elevators.



East Boston Municipal Harbor Plan Amendment

Figure 8-1
East Boston Municipal Harbor Plan
Open Space Concept Plan

East Boston Municipal Harbor Plan Amendment

Figure 8-2
East Boston Municipal Harbor Plan
Historic and Educational Programming

East Boston Municipal Harbor Plan Amendment

Figure 8-3
East Boston Municipal Harbor Plan
Informational and Directional Signage

9. IMPLEMENTATION GUIDANCE

This section provides guidance for the implementation of this *MHP Amendment*. This information is assembled to provide additional direction in the application and issuance of Chapter 91 licenses for the subject redevelopment sites.

9.1 Guidance for Additional Public Benefits

The Chapter 91 licensing process is intended to ensure that the public benefits associated with the use of private or Commonwealth tidelands are in balance with the detriments to the public rights that are articulated in the *Waterways Regulations* (310 CMR 9.00). The existing regulations and the requirements that are modified in this *MHP Amendment* have been established to set standards that will accomplish this balance through a process of licensing that will take into account the entire area as well as the requirements associated with individual projects.

In many cases, the existing and modified standards provide for well-defined measures that must be directly incorporated into the design, use, operation and management of the projects themselves. In some cases, however, public benefits may take the form of off-site contributions to the public benefit.

This *MHP Amendment* recommends that future offsite public benefits associated with Chapter 91 licenses for this area of the harbor be directed to the implementation of the *Boston Inner Harbor Passenger Water Transportation Plan* (January 2000), the *Port of Boston Economic Development Plan* (March 1996), or improvements to public access and public open space along the East Boston Waterfront, including LoPresti Park. Both plans underscored the importance of the East Boston Waterfront District within the overall economic structure of the Boston Inner Harbor, and the need to improve water transportation in order to advance economic development and revitalization goals. LoPresti Park plays an important role for the neighborhood in providing visual and physical access to the water.

The *Boston Inner Harbor Passenger Water Transportation Plan* identified strategic points for the location of water transportation terminals within the East Boston Waterfront District, which included Liberty Plaza in Central Square, just a few blocks north from this *MHP Amendment* planning area. The plan identifies criteria to guide site selection for future terminals, as well as provides design guidelines for future ferry landings to accommodate the needs of various ferry operators and provide universal access. Some of these guidelines may be applicable to the design of the marine terminal related facility proposed as part of the New Street development, as well as water-dependent transportation and marine related facilities in the East Boston DPA.

The *Port of Boston Economic Development Plan* specifically lists in its implementation section the need for the following priority actions to strengthen the Waterfront Commercial District at Central Square:

- Seek funding for capital improvement in piers and bulkheads in the Central Square area in order to promote development of the Boston East site and Central Square waterfront parcels.

- Maintain and expand water taxi and water transportation access points for the East Boston waterfront at several locations, including Central Square.

LoPresti Park is heavily used and will require both ongoing maintenance and capital improvements in coming years. This direction is intended to include future payments, provision of in-kind improvements, services, and other benefits. Sources for potential public benefits include, but are not limited to:

- Payments, if any, that may be associated with extended Chapter 91 license terms.

9.2 Guidance for Historical Interpretation

The analysis conducted to support the planning process for this *MHP Amendment* included extensive historical research of East Boston's maritime industrial history, and the opportunities that this rich background provides for historical interpretation. Research has been focused at two levels:

- Investigation of the past history of the two larger project sites subject to this amendment.
- Investigation of the rich historical background of the entire East Boston waterfront, and association of the facts found within several categories or historical "themes".

This section covers results and findings from historical research specifically focused on 6-26 New Street and Boston East. Preliminary results from the investigation of historical information for the entire East Boston waterfront area, and suggestion of themes for historical interpretation are provided in *Appendix 1* to this document.

Appendix 1 – Historical Research and Interpretation provides additional reference information for use in the planning, design and licensing of projects in East Boston for which additional public benefits are required in the form of historical exhibits and interpretive displays. This information will be complemented with additional research, organized and compiled in a report for use and reference in future municipal harbor planning initiatives.

9.2.1 6-26 New Street – Historical Sites

The 6-26 New Street parcel, which is bounded by New Street on the east, LoPresti Park on the south, Boston Harbor on the west, and Boston Towing and Transportation on the north, has been the site of a number of historical developments.

- In 1851 there was a mast dock and graving (dry) dock on the property (*Figure 9-1*)—both shipbuilding-related.
- By 1888 the existing seawall had been constructed around perimeter of wharves whose remnants also still exist.
- In 1888, De Butts & Daggett's Fish Packers occupied the northernmost wharf, the one that now abuts the Boston Tow property. The central part of the property was owned by Atlantic Dye Wood, which had a number of frame storage sheds and a brick boiler house on it. In addition, a brick distillery was being built in the area where a proposed 1-story shed is shown on the New Street Project Site Plan – Full Build. And the area to be developed as public parking was occupied by a shipwright and rigger (*Figure 9-2*). The last were clearly related to the Shipbuilding theme but more research is needed to determine whether the other enterprises on the New Street parcel in 1888 were related to the Shipping or to the Other Industries themes.
- In 1900 the north side of the property was still being used for fish packing, this time by L. Pickert Fish Company. The central part was by this time owned by Merchants Ware House Company, which used the various sheds for storage. The shipwright and rigger were still in the building on the south side of the property (*Figure 9-3*).
- In 1908 the Boston Cold Storage Company built the present 3- and 5-story buildings on the site and in 1912 added the 9-story structure. The company froze and stored fish, but research is needed to determine whether this was for shipping. Boston Cold Storage reportedly left the site in 1920; the 1927 Sanborn map describes the buildings as "lofts" as says the northernmost 3-story structure was built in 1915 (*Figure 9-4*).

- In 1927 the L. Pickert Fish Company was still on the northern wharf, and the southern wharves were occupied by the Bay State Fishing Company, which had ice manufacturing, cold storage, and packing facilities (see *Figure 9-4*). Again, more research is needed to determine whether these industries were shipping-related.

- By 1950 General Seafoods Company, Inc. owned the former Pickert and Bay State properties, but they were apparently vacant (*Figure 9-5*). Starting about this time the Boston Cold Storage buildings were occupied by a succession of candy companies, among them the Deran Confectionary Company, and this use continued until the 1980s, a use that falls under the Other Industries theme.

It is recommended that historical interpretation at the New Street project site focus on the past industrial use of this property, and how these past uses contributed to the present experience of residents and visitors to the area. More research is needed about the industries themselves and what relation they had to the overall themes.

9.2.2 Boston East – Historical Sites

The Boston East site is very important in the history of shipbuilding in East Boston.

- In 1834 the site was occupied by the East Boston Timber Company. The company failed in 1840, and the large stock of timber it left on the waterfront reportedly stimulated East Boston's wooden shipbuilding industry.

- In 1847 Samuel Hall built his East Boston Dry Dock company on the part of the Boston East parcel south of Decatur Street. The works included a sectional dry dock, a floating dry dock, one of the earliest marine railways, and a floating box dock. The dry docks were designed by Phineas Burgess, a noted marine facilities engineer, using the most advanced steam-powered technology. By 1851 Hall also had another shipyard on the part of the parcel north of Decatur Street (*Figure 6*).

- In 1888 the East Boston Dry Dock Company was still on the section of the Boston East parcel south of Decatur Street and George McQuesten and Company – Lumber Yard and Mills occupied the section north of Decatur Street (*Figure 7*). More research is needed on both these industries as well as whether the McQuesten operation was related to shipbuilding.

- In 1900 both the East Boston Dry Dock and McQuesten were still on the Boston East parcel, the latter with a large "log yard" at the end of its wharf. In addition, the wharf between them—just north of Decatur Street—was a coal wharf of the C. W. York Company, which also had a kindling wood factory at the base of the wharf on Border Street. Next to that factory was the Bennett & Lacey Carriage Factory (*Figure 8*).

- In 1902 the Atlantic Boiler Works purchased the East Boston Dry Dock Company. It constructed new floating dry docks and marine railways and by 1922 was the largest private ship repair dock in Boston. That year it merged with the Bertlesen & Petersen Company and built a large steel floating dry dock. Many of these improvements can be seen on the 1927 Sanborn map (*Figure 9*).

- In 1927 the section of the Boston East site north of Decatur Street was occupied by the Burton Furber Coal Company, on the site of the former C. W. York Company, and by the Federal Lumber Company, on the shoreward end of the former McQuesten property whose wharves no longer existed (demolished? burned?; see *Figure 9*). More research is needed.

- In 1928 the Bethlehem Shipbuilding Corporation purchased the part of the Atlantic Works on the Boston East parcel and operated the shipyard until about 1950 (*Figure 10*). More research is needed on the subsequent history of this part of the parcel.

- In 1950 the section of the Boston East parcel north of Decatur Street was occupied by the United Stevedoring Corporation of New England on the former coal company lot and by Daigle & McMillan Company – Machine Shop and Ship Work on the lumber company lot (see *Figure 10*). More research is needed about these companies, their possible relation to the overall historical themes, and the subsequent history of this section of the Boston East parcel.

It is recommended that historical interpretation for the Boston East development focus on the rich and important role of the area south of Decatur Street in the history of shipbuilding in East Boston. Historical interpretation should also include the industries that occupied the section of Boston East north of Decatur Street.

Figure Sources

Figure 9-1 – Detail from R.H. Eddy, *Plan of East Boston, . . .* (Boston: Tappan & Bradford's Lithography, 1851).

Figure 9-2 – Detail from Pl. 146, *Boston, Massachusetts. Volume 5: East Boston, Charlestown.* (New York: Sanborn Map and Publishing Co., 1888).

Figure 9-3 – Detail from Pl. 42, *Insurance Maps of Boston, Massachusetts. Volume 5: East Boston, Charlestown*. (New York: Sanborn-Perris Map Co., 1900).

Figure 9-4 – Detail from Pl. 502, *Insurance Maps of Boston, Massachusetts. Volume 5: East Boston, Charlestown.* (New York: Sanborn Map Co., 1927).

Figure 9-5 – Detail from Pl. 502, *Insurance Maps of Boston, Massachusetts. Volume 5: East Boston, Charlestown.* (New York: Sanborn Map Co., 1950).

Figure 9-6 – Detail from R.H. Eddy, *Plan of East Boston, . . .* (Boston: Tappan & Bradford's Lithography, 1851).

Figure 9-7 – Detail from Pls. 146 and 152, *Boston, Massachusetts. Volume 5: East Boston, Charlestown.* (New York: Sanborn Map and Publishing Co., 1888).

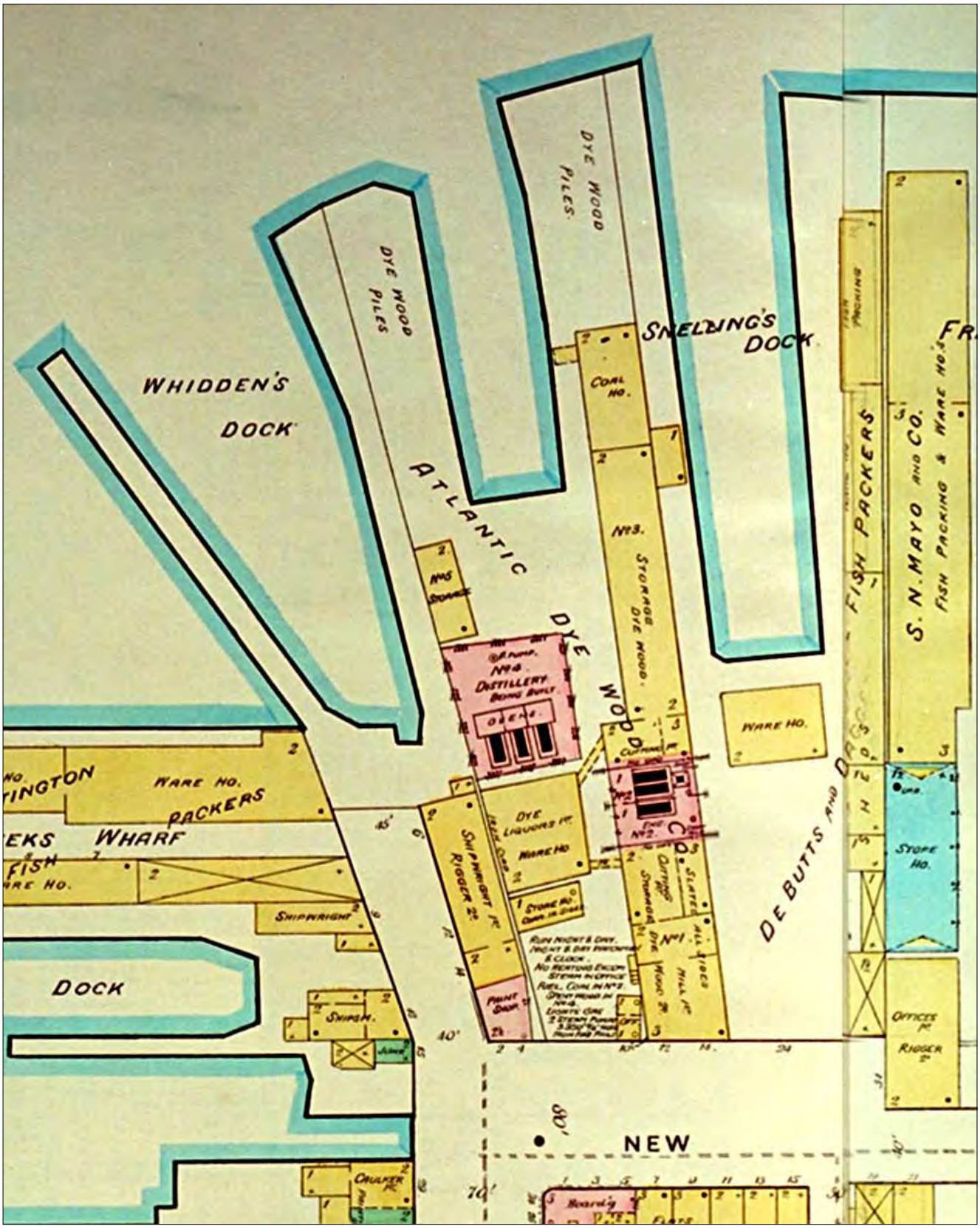
Figure 9-8 – Detail from Pls. 42 and 1, *Insurance Maps of Boston, Massachusetts. Volume 5: East Boston, Charlestown*. (New York: Sanborn-Perris Map Co., 1900).

Figure 9-9 – Detail from Pls. 502 and 503, *Insurance Maps of Boston, Massachusetts. Volume 5: East Boston, Charlestown.* (New York: Sanborn Map Co., 1927).

Figure 9-10 – Detail from Pls. 502 and 503, *Insurance Maps of Boston, Massachusetts. Volume 5: East Boston, Charlestown.* (New York: Sanborn Map Co., 1950).

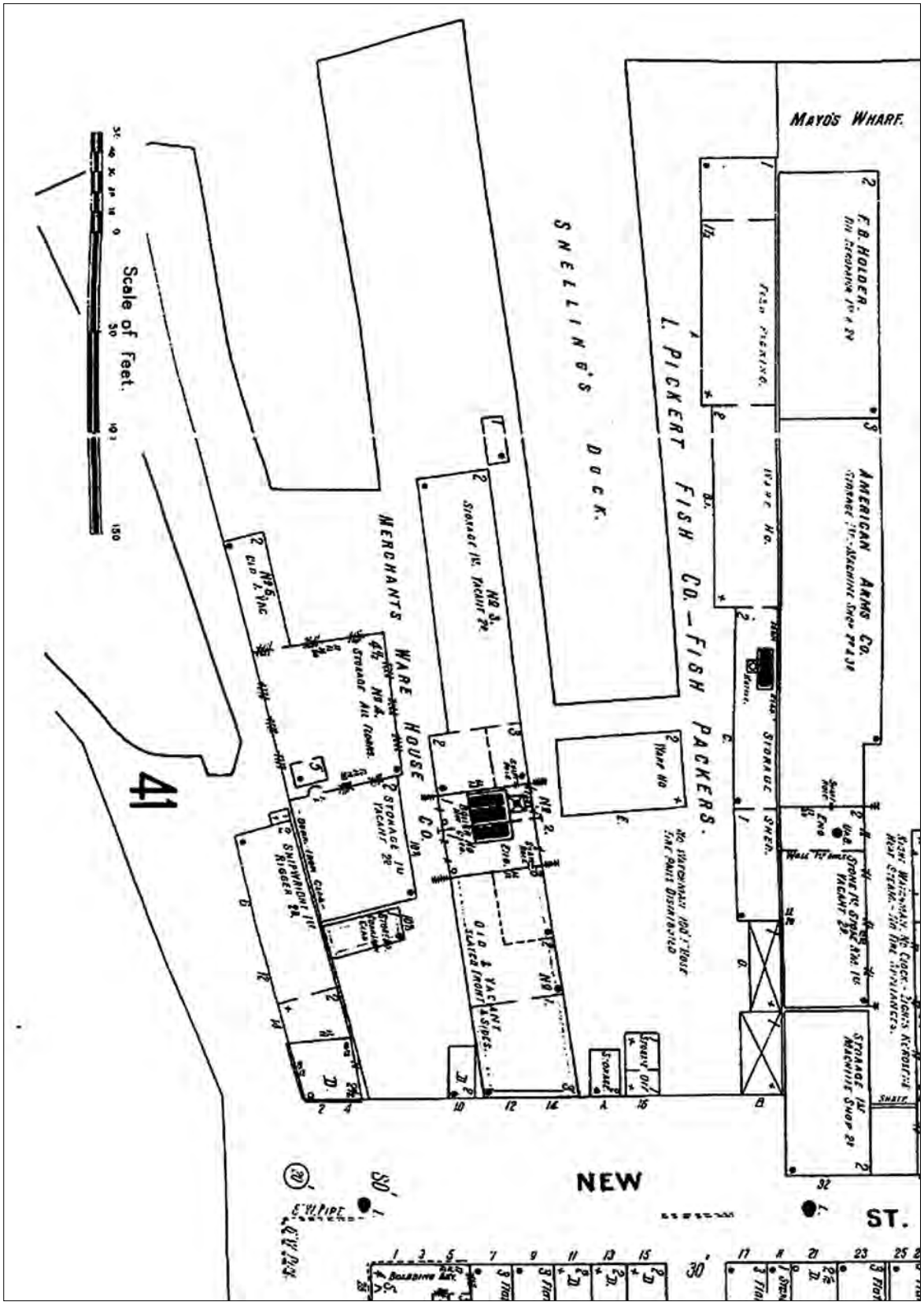
East Boston Municipal Harbor Plan Amendment
New Street Historical Sites

Figure 9-1
Detail of Tappan & Bradford Map, 1851



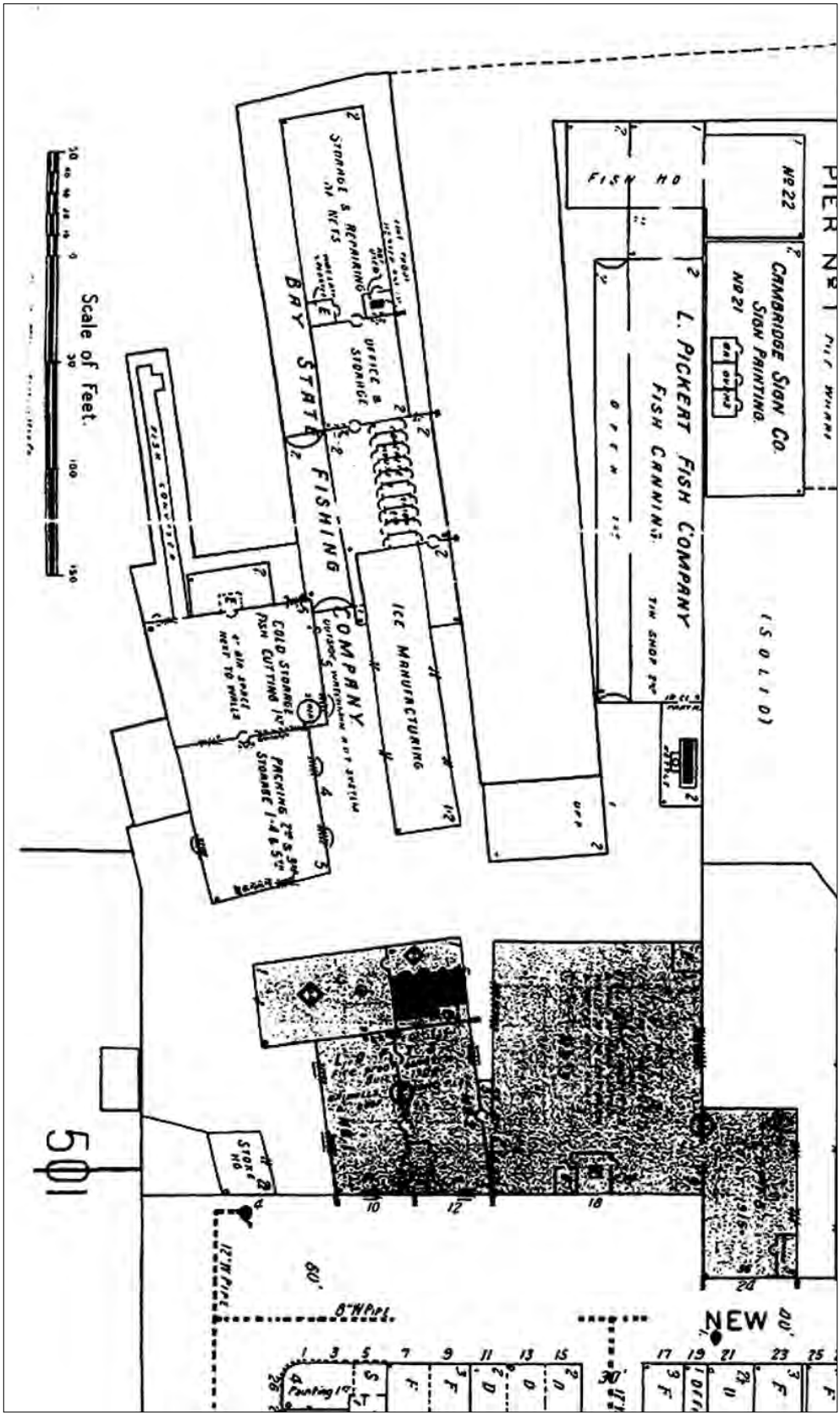
East Boston Municipal Harbor Plan Amendment
New Street Historical Sites

Figure 9-2
Detail of Sanborn Map, 1888



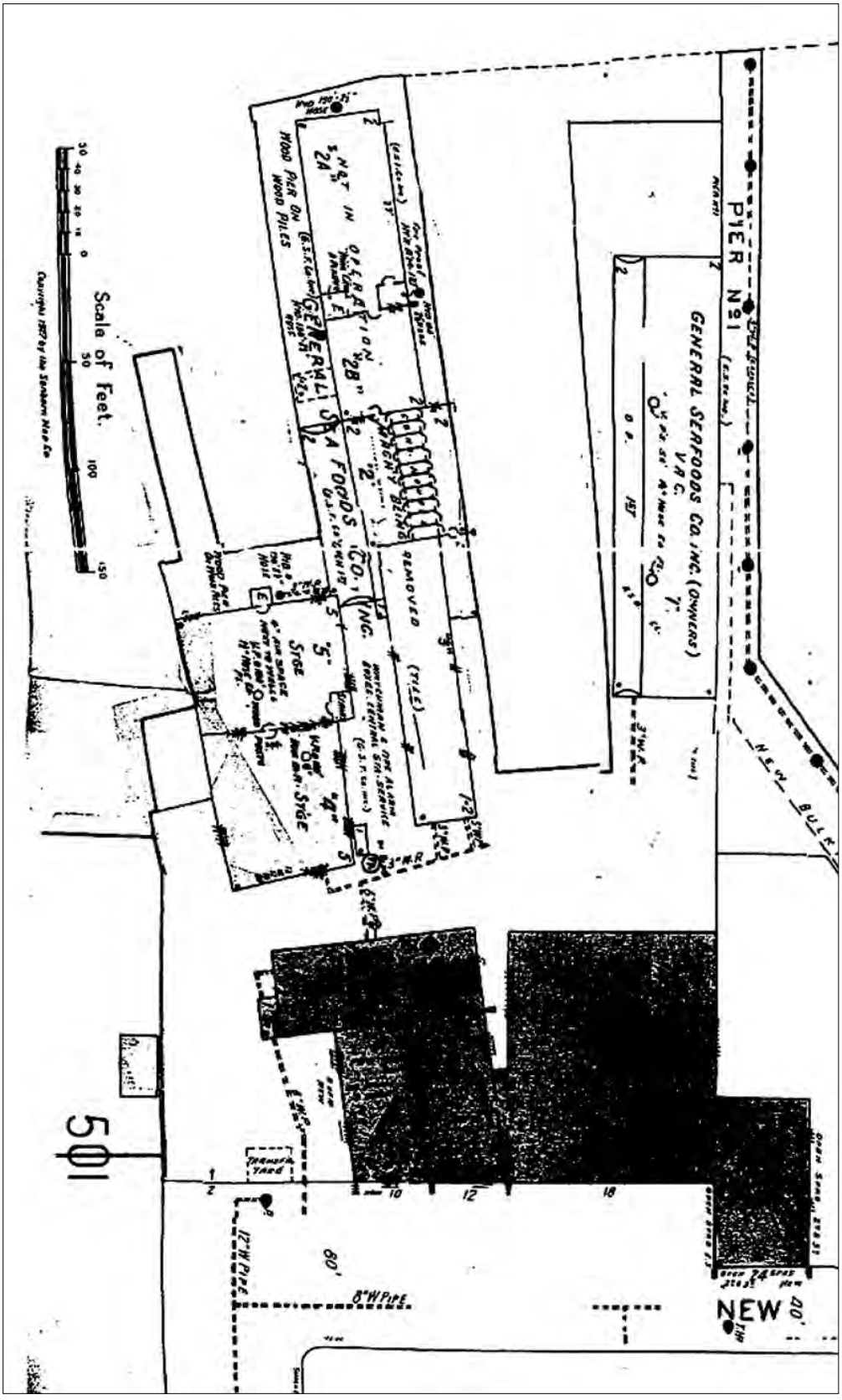
East Boston Municipal Harbor Plan Amendment
New Street Historical Sites

Figure 9-3
Detail of Sanborn-Perris Map, 1900



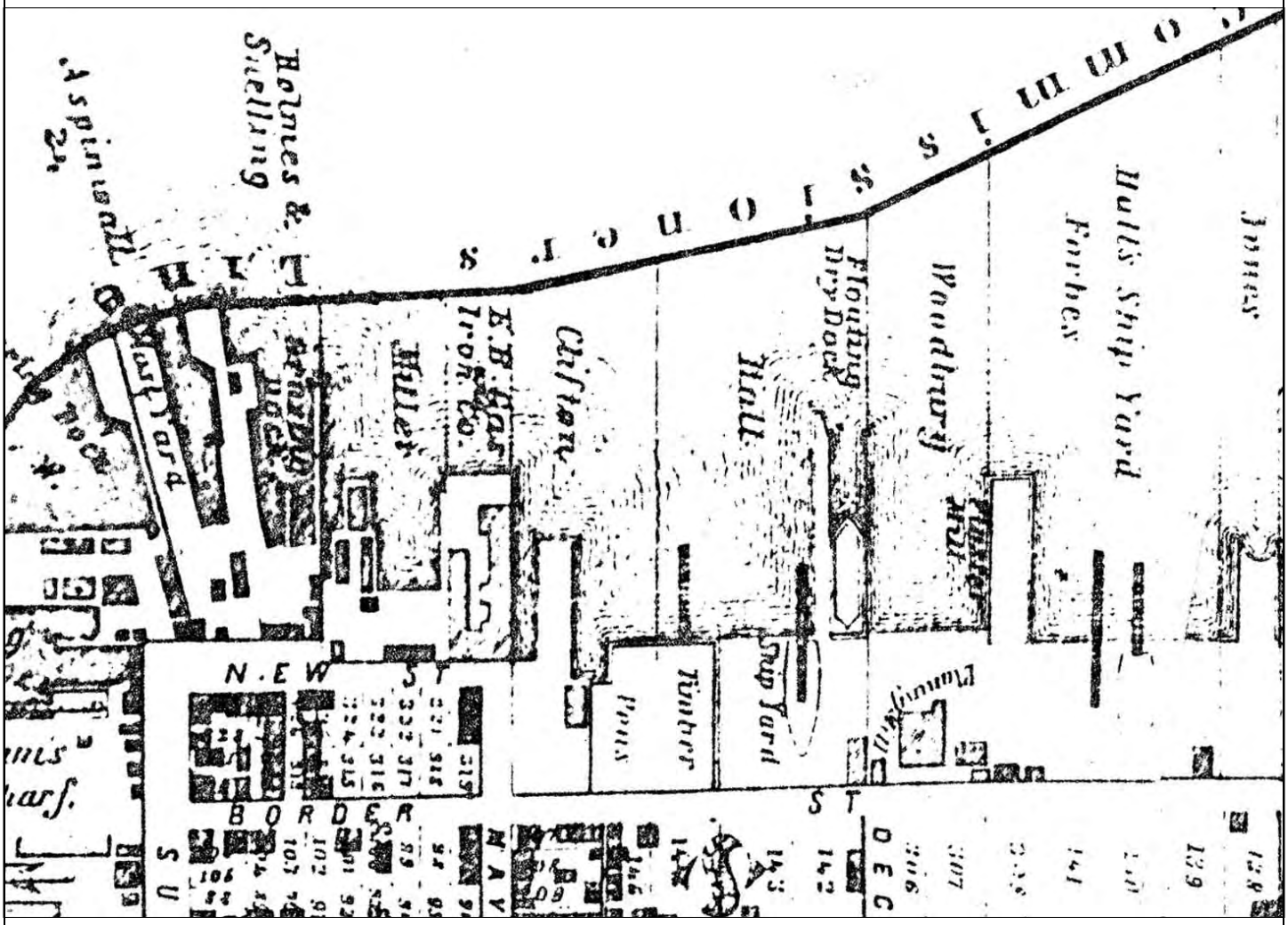
East Boston Municipal Harbor Plan Amendment
New Street Historical Sites

Figure 9-4
Detail of Sanborn Map, 1927



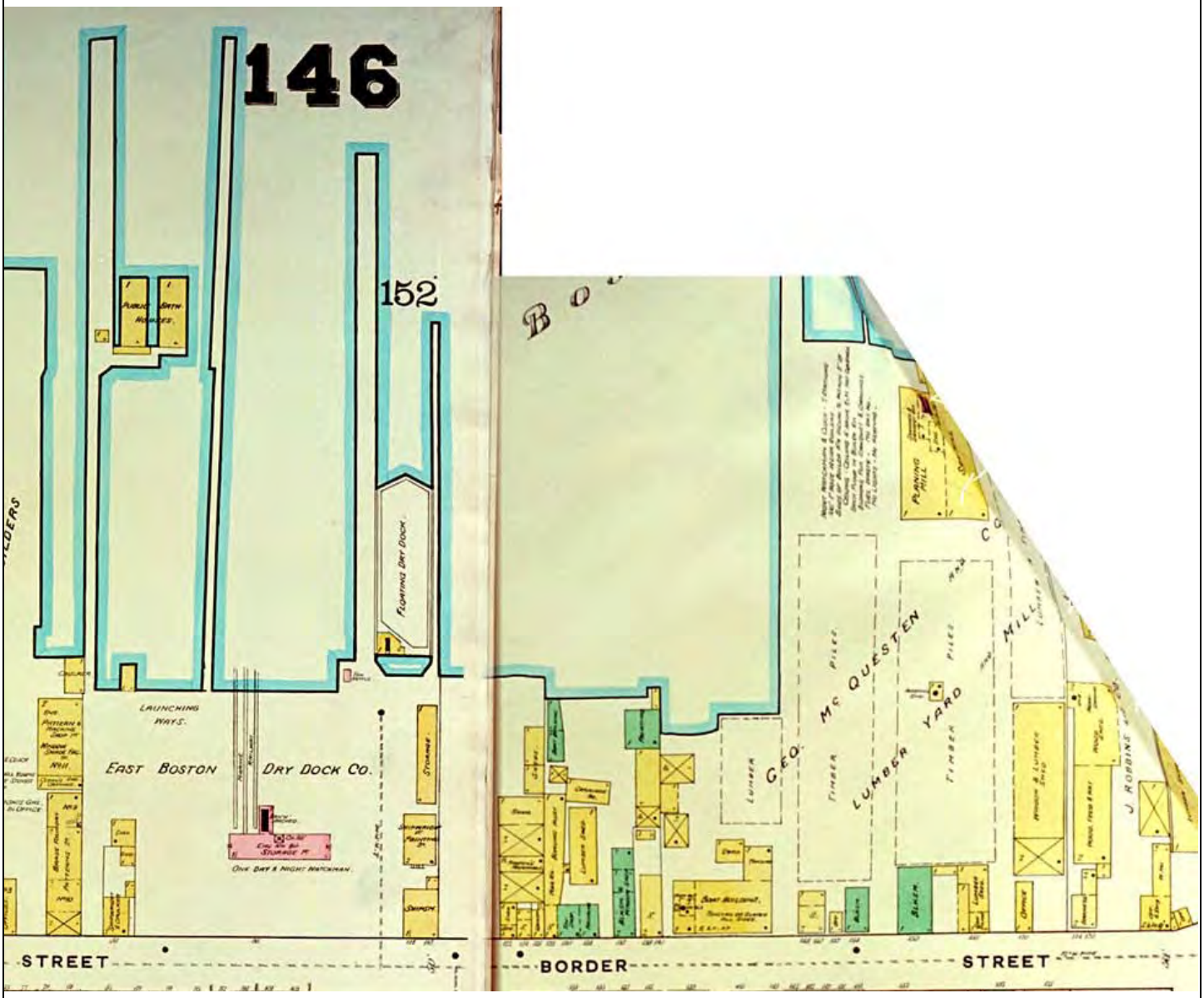
East Boston Municipal Harbor Plan Amendment
New Street Historical Sites

Figure 9-5
Detail of Sanborn Map, 1950



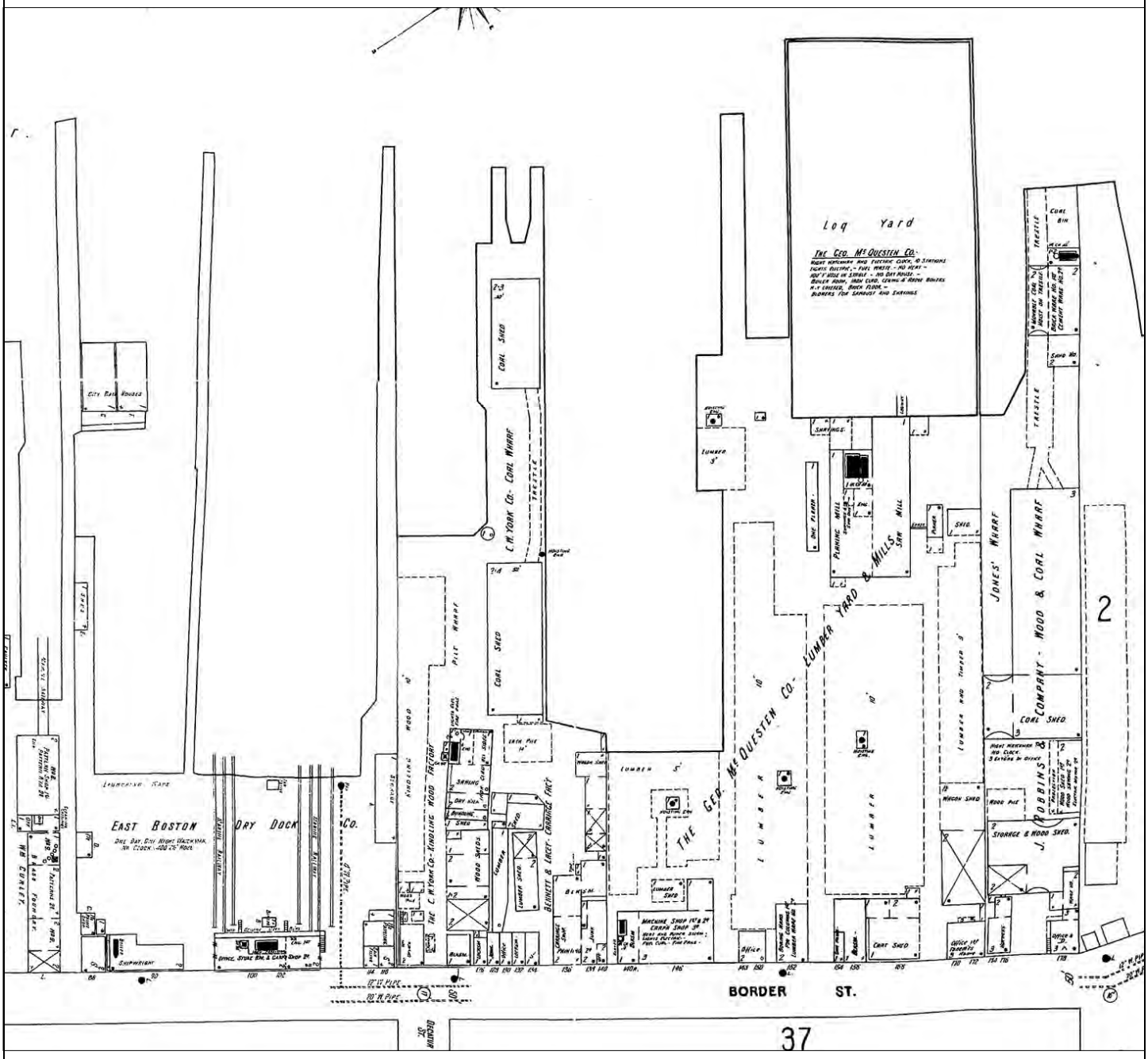
East Boston Municipal Harbor Plan Amendment
Boston East Historical Sites

Figure 9-6
Detail of Tappan & Bradford Map, 1851



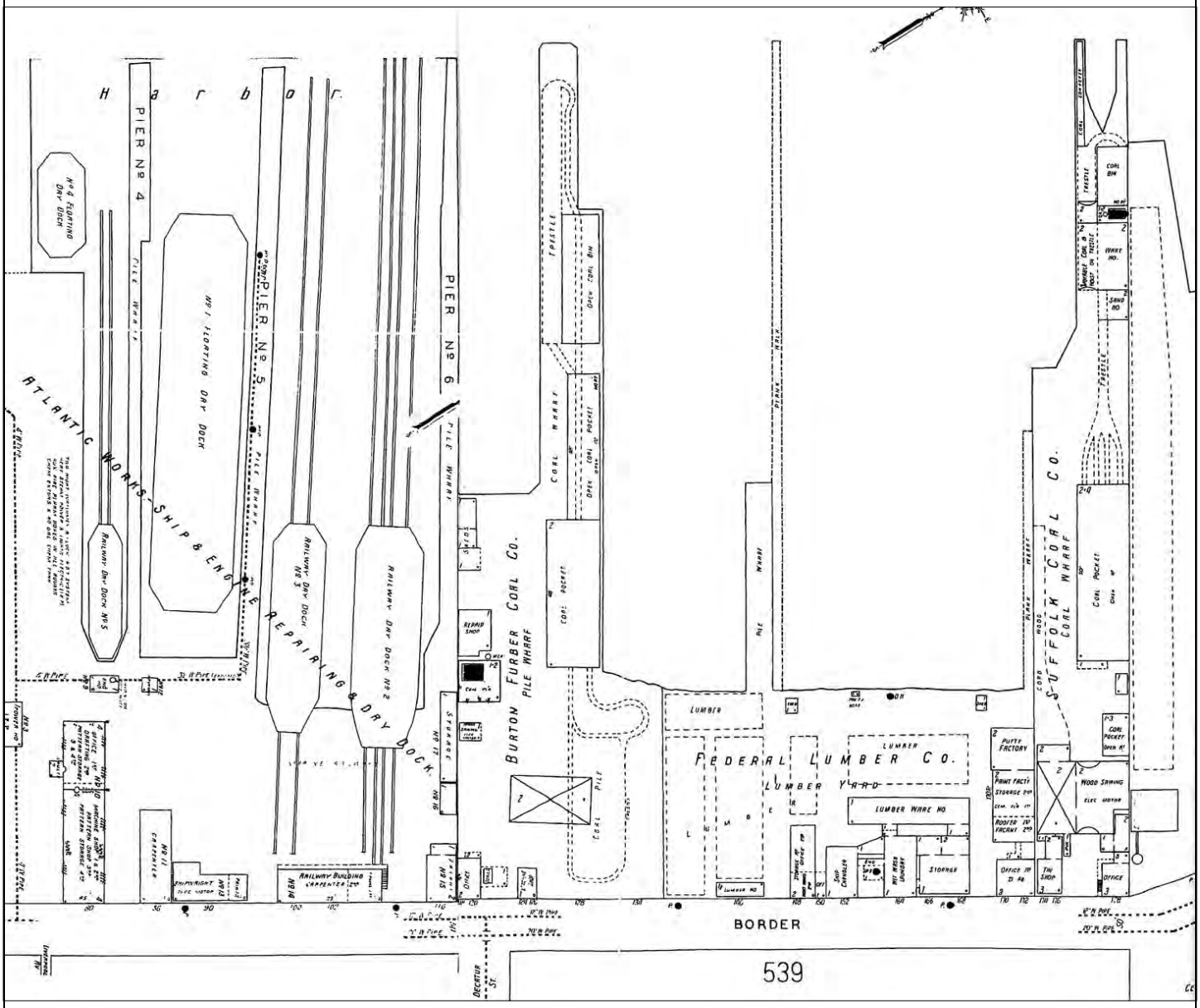
East Boston Municipal Harbor Plan Amendment
Boston East Historical Sites

Figure 9-7
Detail of Sanborn Map, 1888



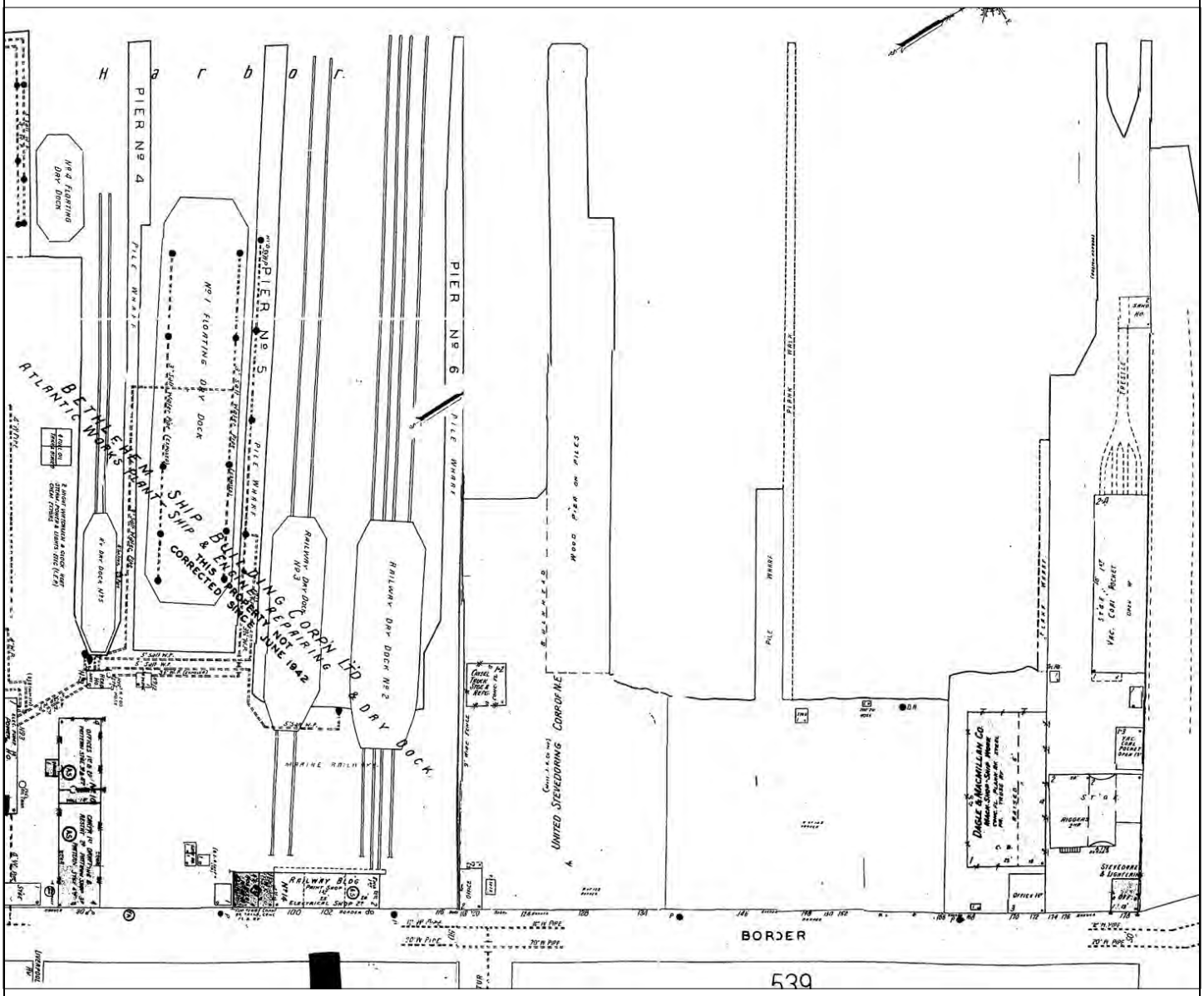
East Boston Municipal Harbor Plan Amendment
Boston East Historical Sites

Figure 9-8
Detail of Sanborn-Perris Map, 1900



East Boston Municipal Harbor Plan Amendment
Boston East Historical Sites

Figure 9-9
Detail of Sanborn Map, 1927



East Boston Municipal Harbor Plan Amendment
Boston East Historical Sites

Figure 9-10
Detail of Sanborn Map,1950

10. CONSISTENCY WITH COASTAL ZONE MANAGEMENT POLICIES AND PRINCIPLES

The Massachusetts Coastal Zone Management Program (CZM) Plan lists policies with an effective date of March 11, 1997, which CZM enforces through existing Massachusetts statutes and their implementing regulations. In addition, the CZM Program Plan lists management principles, which are not enforceable through existing state statutes and regulations. The list of the CZM policies and principles is presented below together with separate findings on the consistency of the proposed New Street and Boston East development projects.

10.1 New Street Development

10.1.1 Water Quality

Water Quality Policy #1 *- Ensure that point-source discharges in or affecting the coastal zone are consistent with federally approved state effluent limitations and water quality standards.*

Current conditions on the New Street Development site include stormwater discharges to the Harbor, a portion as point discharges at pipe outlets and a portion as non-point source in sheet flow. Proposed conditions will:

- Reduce total impervious surface (100% existing impervious proposed to be reduced to 76% impervious)
- Include a green roof on the building to reduce roof runoff and send the remaining roof runoff to drywells,
- Include a stormwater treatment within the collection system (sumps at catch basins and a treatment unit), and
- Control all site runoff from impervious surfaces.

A portion of the open space runoff is proposed to flow into the harbor as sheet flow. While the new stormwater drainage system discharge pipes will be point sources, treatment and system design will improve the quality of the discharge.

Water Quality Policy #2 *- Ensure that nonpoint pollution controls promote the attainment of state surface water quality standards in the coastal zone.*

The New Street Development project has proposed the use of Best Management Practices to control erosion and sedimentation, and the treatment of stormwater from vehicular travel surfaces according to DEP stormwater management policies. Additional site alterations, noted above, will improve the water quality of stormwater runoff from the site.

Water Quality Policy #3 *- Ensure that activities in or affecting the coastal zone conform to applicable state and federal requirements governing subsurface waste discharges.*

Recharge of a portion of the stormwater from the 'green' roof runoff through drywells on site is proposed. No other subsurface waste discharge is proposed in the New Street Development plans.

10.1.2 Habitat

Habitat Policy #1 *- Protect coastal resource areas including salt marshes, shellfish beds, dunes, beaches, barrier beaches, salt ponds, eelgrass beds, and fresh water wetlands for their important role as natural habitats.*

The New Street Development proposal includes a marina and marine terminal related facility on the watersheet located within the original footprint of the former piers. A 100 sf area for a fish run is the only habitat resource identified at the site that will be impacted. A coastal resource map has been prepared and submitted for review. The map indicates that the impact of the project on the fish run resource area will probably come as a result of the new pilings installed for the waterside structures. In comparison, the new construction will reduce the impact of the former piers. A coastal beach area is presumed to be impacted by changes in the shoreline structures and the construction of a new seawall up to the mean high water (MHW) mark at the midpoint of the property shorefront.

Habitat Policy #2 *- Restore degraded or former wetland resources in coastal areas and ensure that activities in coastal areas do not further wetland degradation but instead take advantage of opportunities to engage in wetland restoration.*

The New Street Development project will include construction that could impact coastal resources including construction for the marina, marine terminal related facility and Harborwalk. All construction will follow Best Management Practices to minimize and avoid impacts to coastal resources from water side and land side construction. In addition, the abandoned piers will be removed from the coastal resource areas.

10.1.3 Protected Areas

Protected Areas Policy #1 *- Preserve, restore, and enhance complexes of coastal resources of regional or statewide significance through the Areas of Critical Environmental Concern program.*

The New Street Development project is not located within an Area of Critical Environmental Concern; therefore this policy does not apply.

Protected Areas Policy #2 *- Protect state and locally designated scenic rivers and state classified scenic rivers in the coastal zone.*

The New Street Development project is not located within state and locally designated scenic rivers or state classified scenic rivers; therefore this policy does not apply.

Protected Areas Policy #3 *- Ensure that proposed developments in or near designated or registered historic districts or sites respect the preservation intent of the designation and that potential adverse effects are minimized.*

The site is identified on the Inventory of Historic and Archaeological Assets of the Commonwealth and in the MACRIS database. The historic building is not identified on the site plan but will be demolished. No off-site historic buildings will be impacted by the development.

10.1.4 Coastal Hazards

Coastal Hazards Policy #1 *- Preserve, protect, restore, and enhance the beneficial functions of storm damage prevention and flood control provided by natural coastal landforms, such as dunes, beaches, barrier beaches, coastal banks, land subject to coastal storm flowage, salt marshes, and land under the ocean.*

The proposed new residential or hotel building will extend into the floodplain/ land subject to storm flowage. The proposed one-story FPA building is fully within the floodplain. Because this has been identified as an A2 FEMA flood zone, floodproofing will probably be the only remedy required.

Coastal Hazards Policy #2 *- Ensure construction in water bodies and contiguous land areas will minimize interference with water circulation and sediment transport. Approve permits for flood or erosion control projects only when it has been determined that there will be no significant adverse effects on the project site or adjacent or downcoast areas.*

It is proposed that all construction and demolition associated with the development of the New Street Development project will follow Best Management Practices and use proper methods to control sedimentation and erosion. Removal of the abandoned pilings will improve water circulation and sediment transport. No flood or erosion control projects are associated with the development.

Coastal Hazards Policy #3 *- Ensure that state and federally funded public works projects proposed for location within the coastal zone will:*

- *not exacerbate existing hazards or damage natural buffers or other natural resources,*
- *be reasonably safe from flood and erosion related damage, and*
- *not promote growth and development in hazard-prone or buffer areas, especially in Velocity zones and ACECs, and*
- *not be used on Coastal Barrier Resource Units for new or substantial reconstruction of structures in a manner inconsistent with the Coastal Barrier Resource/Improvement Acts.*

The New Street Development does not involve the use of public funds; therefore this policy does not apply.

Coastal Hazards Policy #4 *- Prioritize public funds for acquisition of hazardous coastal areas for conservation or recreation use, and relocation of structures out of coastal high hazard areas, giving due consideration to the effects of coastal hazards at the location to the use and manageability of the area.*

The New Street Development does not involve the use of public funds; therefore this policy does not apply.

10.1.5 Port and Harbor Infrastructure

Ports Policy #1 *- Ensure that dredging and disposal of dredged material minimize adverse effects on water quality, physical processes, marine productivity and public health.*

Dredging is proposed for the marina and marine terminal related facility areas. Use of Best Management Practices during the temporary dredging activities will minimize impacts to water quality. Dredging for the marine terminal related facility is within the DPA and supports this compatible commercial use.

Ports Policy #2 *- Obtain the widest possible public benefit from channel dredging, ensuring that designated ports and developed harbors are given highest priority in the allocation of federal and state dredging funds. Ensure that this dredging is consistent with marine environment policies.*

The New Street Development does not involve channel dredging; therefore this policy does not apply.

Ports Policy #3 *- Preserve and enhance the capacity of Designated Port Areas (DPAs) to accommodate water-dependent industrial uses, and prevent the exclusion of such uses from tidelands and any other DPA lands over which a state agency exerts control by virtue of ownership, regulatory authority, or other legal jurisdiction.*

The area designated as the DPA at the project site will be improved with the removal of the abandoned pilings and dredging of the accumulated sediments. The marine terminal related facility will be located in the DPA, while the marina will be located outside the DPA. These proposed elements are consistent with DPA standards.

Ports Management Principle #1 *- Encourage, through technical and financial assistance, expansion of water-dependent uses in designated ports and developed harbors, re-development of urban waterfronts, and expansion of visual access.*

The New Street Development proposes a new marina, a marine terminal related facility, and extension of the Harborwalk. Changes in on-site building configurations will alter views from the street, but two viewing areas are proposed to improve visual access on the site.

10.1.6 Public Access

Public Access Policy #1 *- Ensure that developments proposed near existing public recreation sites minimize their adverse effects.*

The proposed project will link this section of the Harborwalk with the public LoPresti Park, provide a marina for public use, and provide facilities of public accommodation linked to the public park. These will serve to further the public use and enjoyment of the public open space.

Public Access Management Principle #1 *- Improve public access to coastal recreation facilities and alleviate auto traffic and parking problems through improvements in public transportation. Link existing coastal recreation sites to each other or to nearby coastal inland facilities via trails for bicyclists, hikers, and equestrians, and via rivers for boaters.*

The proposed Harborwalk connecting to LoPresti Park will provide a new link to this waterfront park. A marine terminal related facility is proposed to provide an alternative to automobile transportation that could link the site to other coastal recreation areas.

Public Access Management Principle #2 *- Increase capacity of existing recreation areas by facilitating multiple use and by improving management, maintenance and public support facilities. Resolve conflicting uses whenever possible through improved management rather than through exclusion of uses.*

Substitutions and offsetting public benefits will include 750 ft of new public access including construction of 500 ft for the Harborwalk, which links the site and site activities to LoPresti Park thereby expanding the interaction between the public park and the site. Private management, maintenance, and operation of the facilities of public accommodation and open spaces on the site will ensure the long-term capacity of these facilities.

Public Access Management Principle #3 *- Provide technical assistance to developers of private recreational facilities and sites that increase public access to the shoreline.*

The City of Boston and the BRA will provide technical assistance to developers of the recreational facilities through the design review processes associated with Article 80.

Public Access Management Principle #4 *- Expand existing recreation facilities and acquire and develop new public areas for coastal recreational activities. Give highest priority to expansions or new acquisitions in regions of high need or limited site availability. Assure that both transportation access and the recreational facilities are compatible with social and environmental characteristics of surrounding communities.*

The New Street Development site is not currently available for public access. The site had all land area removed from the DPA and has been rezoned for Waterfront Commercial (2006). New private funds associated with the project will improve the site with a marine terminal related facility within the DPA, a recreational marina outside the DPA, 500 ft of the Harborwalk, an additional 250 ft of public access from the street, and 8,000 sq ft within the building for facilities of public accommodation. These elements are compatible with the EBMHP.

Access to the site from public transit is provided by the MBTA at the Maverick Station and five local bus service routes, approximately 1000 ft down Sumner Street or Maverick Street. Consequently, there is a walking distance relationship between these transit facilities, LoPresti Park, and the public access and Harborwalk on the site.

The New Street Development proposal is consistent with the overall land use characteristics of the neighborhood with residential and mixed use development.

10.1.7 Energy

Energy Policy #1 *- For coastally dependent energy facilities, consider siting in alternative coastal locations. For non-coastally dependent energy facilities, consider siting in areas outside of the coastal zone. Weigh the environmental and safety impacts of locating proposed energy facilities at alternative sites.*

The New Street Development is not an energy project; therefore this policy does not apply.

Energy Management Principle #1 *- Encourage energy conservation and the use of alternative sources such as solar and wind power in order to assist in meeting the energy needs of the Commonwealth.*

The New Street Development project includes consideration for energy conservation and seeks to optimize energy performance over the basic code requirements by increasing efficiency by 10.5% in the existing building renovation and by 17.5% in the new buildings. While solar and wind power are not considered feasible at this site, the installation of a green roof is proposed to improve energy efficiency of the buildings and reduce roof stormwater runoff.

10.1.8 Ocean Resources

Ocean Resources Policy #1 *- Support the development of environmentally sustainable aquaculture, both for commercial and enhancement (public shellfish stocking) purposes. Ensure that the review process regulating aquaculture facility sites (and access routes to those areas) protects ecologically significant resources (salt marshes, dunes, beaches, barrier beaches, and salt ponds) and minimizes adverse impacts upon the coastal and marine environment.*

The New Street Development does not involve aquaculture; therefore this policy does not apply.

Ocean Resources Policy #2 *- Extraction of marine minerals will be considered in areas of state jurisdiction, except where prohibited by the MA Ocean Sanctuaries Act, where and when the protection of fisheries, air and marine water quality, marine resources, navigation and recreation can be assured.*

The New Street Development does not involve extraction of marine minerals; therefore this policy does not apply.

Ocean Resources Policy #3 *- Accommodate offshore sand and gravel mining needs in areas and in ways that will not adversely affect shorelines areas due to alteration of wave direction and dynamics, marine resources and navigation. Mining of sand and gravel, when and where permitted, will be primarily for the purpose of beach nourishment.*

The New Street Development does not involve offshore sand and gravel mining; therefore this policy does not apply.

10.1.9 Growth Management

Growth Management Principle #1 *- Encourage, through technical assistance and review of publicly funded development, compatibility of proposed development with local community character and scenic resources.*

No public funds are being provided to the New Street Development project. The City of Boston and the BRA will provide technical assistance through the design review and zoning approval processes.

Growth Management Principle #2 *- Ensure that state and federally funded transportation and wastewater projects primarily serve existing developed areas, assigning highest priority to projects that meet the needs of urban and community development centers.*

The New Street Development project does not include state or federal funds for transportation or wastewater projects; therefore this policy does not apply.

Growth Management Principle #3 *– Encourage the revitalization and enhancement of existing development centers in the coastal zone through technical assistance and federal and state financial support for residential, commercial and industrial development.*

The East Boston Master Plan and East Boston Municipal Harbor Plan policies recommend elements of the New Street Development plan. The New Street Development revitalizes an existing, underutilized waterfront area with the addition of residential units, commercial development, new publicly accessible space on the waterfront, a link in the Harborwalk, a connection to a public park, and a link by a marine terminal related facility which would include water transportation to other areas of the Harbor.

10.2 Boston East Development Project

10.2.1 Water Quality

Water Quality Policy #1 *- Ensure that point-source discharges in or affecting the coastal zone are consistent with federally approved state effluent limitations and water quality standards.*

The proposed wastewater collection system will connect to the City system. The stormwater will be collected in a closed drainage system that will connect to the 60" separated stormwater collector being constructed by the Boston Water and Sewer Commission. All discharges will conform to the DEP Stormwater Management Policy, which includes structural and mechanical measures for stormwater prior to discharge.

Water Quality Policy #2 *- Ensure that nonpoint pollution controls promote the attainment of state surface water quality standards in the coastal zone.*

The Boston East project has proposed to file for a NPDES permit from the EPA and implement a Stormwater Pollution Prevention Plan during construction; to treat runoff from all vehicular travel surfaces, to use long-term Best Management Practices to control erosion and sedimentation, and to treat all stormwater according to DEP stormwater management policies.

Water Quality Policy #3 *- Ensure that activities in or affecting the coastal zone conform to applicable state and federal requirements governing subsurface waste discharges.*

No subsurface discharge is proposed in the Boston East project plans; therefore this policy does not apply.

10.2.2 Habitat

Habitat Policy #1 *- Protect coastal resource areas including salt marshes, shellfish beds, dunes, beaches, barrier beaches, salt ponds, eelgrass beds, and fresh water wetlands for their important role as natural habitats.*

The Boston East Development project site includes a coastal beach resource area. A 7,500 sf portion of this resource area, predominantly above the Mean High Water mark, will be filled to allow construction along the shoreline, including the Harborwalk. Best Management Practices will be used during construction on both the landside and waterside to minimize any impacts to the resources.

Habitat Policy #2 *- Restore degraded or former wetland resources in coastal areas and ensure that activities in coastal areas do not further wetland degradation but instead take advantage of opportunities to engage in wetland restoration.*

The Boston East Development project includes the restoration of the coastal beach and land under ocean resource areas through the removal of abandoned pilings remaining from previous uses.

10.2.3 Protected Areas

Protected Areas Policy #1 *- Preserve, restore, and enhance complexes of coastal resources of regional or statewide significance through the Areas of Critical Environmental Concern program.*

The Boston East project is not located within an Area of Critical Environmental Concern; therefore this policy does not apply.

Protected Areas Policy #2 *- Protect state and locally designated scenic rivers and state classified scenic rivers in the coastal zone.*

The Boston East project is not located on a state or locally designated scenic river; therefore this policy does not apply.

Protected Areas Policy #3 *- Ensure that proposed developments in or near designated or registered historic districts or sites respect the preservation intent of the designation and that potential adverse effects are minimized.*

The Boston East site is identified as a 19th and 20th century shipbuilding site, but has been vacant since the 1950's. A historical interpretive area is proposed under the entrance structure providing public access.

Other interpretive facilities will be provided along the Harborwalk. No off-site historic buildings or sites will be adversely impacted by this development.

10.2.4 Coastal Hazards

Coastal Hazard Policy #1 *- Preserve, protect, restore, and enhance the beneficial functions of storm damage prevention and flood control provided by natural coastal landforms, such as dunes, beaches, barrier beaches, coastal banks, land subject to coastal storm flowage, salt marshes, and land under the ocean.*

The coastal beach on the Boston East Development site is presumed to provide storm damage prevention and flood control. A portion of this resource area will be filled to provide the proposed shoreline, which will include the Harborwalk and open space areas. The remainder of the coastal beach will be restored by cleaning debris, trash and derelict structures.

Coastal Hazard Policy #2 *- Ensure construction in water bodies and contiguous land areas will minimize interference with water circulation and sediment transport. Approve permits for flood or erosion control projects only when it has been determined that there will be no significant adverse effects on the project site or adjacent or downcoast areas.*

The Boston East Development project will involve removal of derelict structures within the harbor that impact circulation and sediment transport. The overall impact will be to improve water circulation. No flood or erosion control projects are proposed.

Coastal Hazard Policy #3 *- Ensure that state and federally funded public works projects proposed for location within the coastal zone will:*

- *not exacerbate existing hazards or damage natural buffers or other natural resources,*
- *be reasonably safe from flood and erosion related damage, and*
- *not promote growth and development in hazard-prone or buffer areas, especially in Velocity zones and ACECs, and*
- *not be used on Coastal Barrier Resource Units for new or substantial reconstruction of structures in a manner inconsistent with the Coastal Barrier Resource/Improvement Acts.*

The Boston East Development project does not directly involve the use of public funds. Supporting public infrastructure improvements will be made for the separated stormwater system to be constructed by the BWSC, into which the stormwater from Boston East will discharge.

Coastal Hazard Policy #4 *- Prioritize public funds for acquisition of hazardous coastal areas for conservation or recreation use, and relocation of structures out of coastal high hazard areas, giving due consideration to the effects of coastal hazards at the location to the use and manageability of the area.*

The Boston East Development does not involve the use of public funds; therefore this policy does not apply.

10.2.5 Port and Harbor Infrastructure

Ports Policy #1 *- Ensure that dredging and disposal of dredged material minimize adverse effects on water quality, physical processes, marine productivity and public health.*

The Boston East Development project does not involve dredging; therefore this policy does not apply.

Ports Policy #2 *- Obtain the widest possible public benefit from channel dredging, ensuring that designated ports and developed harbors are given highest priority in the allocation of federal and state dredging funds. Ensure that this dredging is consistent with marine environment policies.*

The Boston East Development project does not involve channel dredging; therefore this policy does not apply.

Ports Policy #3 *- Preserve and enhance the capacity of Designated Port Areas (DPAs) to accommodate water-dependent industrial uses, and prevent the exclusion of such uses from tidelands and any other DPA lands over which a state agency exerts control by virtue of ownership, regulatory authority, or other legal jurisdiction.*

The non-DPA portion of the Boston East Development project will not adversely impact the adjacent DPA and therefore will permit the future use of the DPA for water-dependent commercial and industrial uses.

Ports Management Principle #1 *- Encourage, through technical and financial assistance, expansion of water-dependent uses in designated ports and developed harbors, re-development of urban waterfronts, and expansion of visual access.*

The non-DPA portion of the Boston East Development project will not adversely impact the adjacent DPA and therefore will permit the future use of the DPA for water-dependent commercial and industrial uses. Visual access to the adjacent DPA will be provided by the proposed Harborwalk.

10.2.6 Public Access

Public Access Policy #1 *- Ensure that developments proposed near existing public recreation sites minimize their adverse effects.*

The public recreation facilities near the site include the Harbor and the proposed open space and Harborwalk. Visual and physical access to these elements will be provided by the proposed Harborwalk and public access connections from the public street, and enhanced with the proposed outdoor seating areas.

Public Access Management Principle #1 *- Improve public access to coastal recreation facilities and alleviate auto traffic and parking problems through improvements in public transportation. Link existing coastal recreation sites to each other or to nearby coastal inland facilities via trails for bicyclists, hikers, and equestrians, and via rivers for boaters.*

The Boston East Development site is within approximately 1500 ft of the MBTA Blue Line subway and bus station at Maverick Square. The regional bus lines along Meridian Street pass within approximately 400 ft of the site. Public access from Border Street to the waterfront is provided in the Boston East Development project.

Public Access Management Principle #2 *- Increase capacity of existing recreation areas by facilitating multiple use and by improving management, maintenance and public support facilities. Resolve conflicting uses whenever possible through improved management rather than through exclusion of uses.*

The Boston East project includes the construction of approximately 425 ft of the Harborwalk, providing a missing link, and improving the continuity and value of the Harborwalk in East Boston. Additional

community facilities include outdoor sitting areas and a proposed community gallery space, which will be visible and accessible from the street and Harborwalk.

Public Access Management Principle #3 *- Provide technical assistance to developers of private recreational facilities and sites that increase public access to the shoreline.*

The City of Boston and the BRA will provide technical assistance through the design review processes associated with Article 80 project review.

Public Access Management Principle #4 *- Expand existing recreation facilities and acquire and develop new public areas for coastal recreational activities. Give highest priority to expansions or new acquisitions in regions of high need or limited site availability. Assure that both transportation access and the recreational facilities are compatible with social and environmental characteristics of surrounding communities.*

The Boston East Development project includes the redevelopment of a vacant, industrial urban site located on Boston Inner Harbor in East Boston. The proposed public access facilities and facilities of public accommodation will allow this site to provide neighborhood amenities for the residents, as well as others.

Access to the site from public transit is provided by the MBTA at the Maverick Station and five local bus service routes, accessible from the site at a distance of approximately 1500 ft. Consequently, there is a walking distance relationship between these transit facilities and the public access and Harborwalk on the site.

This site was specifically recommended for housing in the East Boston Master Plan. The proposal is consistent with the overall land use characteristics of the neighborhood with residential and mixed use development.

10.2.7 Energy

Energy Policy #1 *- For coastally dependent energy facilities, consider siting in alternative coastal locations. For non-coastally dependent energy facilities, consider siting in areas outside of the coastal zone. Weigh the environmental and safety impacts of locating proposed energy facilities at alternative sites.*

Boston East Development is not an energy project; therefore this policy does not apply.

Energy Management Principle #1 *- Encourage energy conservation and the use of alternative sources such as solar and wind power in order to assist in meeting the energy needs of the Commonwealth.*

The Boston East Development project includes consideration for energy conservation and seeks to optimize energy performance over the basic code requirements by increasing efficiency by 24.5% in the new buildings, according to the LEED Checklist. Solar and wind power were not considered feasible for this site and project type.

10.2.8 Ocean Resources

Ocean Resources Policy #1 *- Support the development of environmentally sustainable aquaculture, both for commercial and enhancement (public shellfish stocking) purposes. Ensure that the review process regulating aquaculture facility sites (and access routes to those areas) protects ecologically significant resources (salt marshes, dunes, beaches, barrier beaches, and salt ponds) and minimizes adverse impacts upon the coastal and marine environment.*

The Boston East Development does not involve aquaculture; therefore this policy does not apply.

Ocean Resources Policy #2 *- Extraction of marine minerals will be considered in areas of state jurisdiction, except where prohibited by the MA Ocean Sanctuaries Act, where and when the protection of fisheries, air and marine water quality, marine resources, navigation and recreation can be assured.*

The Boston East Development does not involve extraction of marine minerals; therefore this policy does not apply.

Ocean Resources Policy #3 *- Accommodate offshore sand and gravel mining needs in areas and in ways that will not adversely affect shorelines areas due to alteration of wave direction and dynamics, marine resources and navigation. Mining of sand and gravel, when and where permitted, will be primarily for the purpose of beach nourishment.*

The Boston East Development does not involve offshore sand and gravel mining; therefore this policy does not apply.

10.2.9 Growth Management

Growth Management Principle #1 *- Encourage, through technical assistance and review of publicly funded development, compatibility of proposed development with local community character and scenic resources.*

The Boston East Development project is consistent with the East Boston Master Plan, which recommended housing for the non-DPA portion of the site.

Growth Management Principle #2 *- Ensure that state and federally funded transportation and wastewater projects primarily serve existing developed areas, assigning highest priority to projects that meet the needs of urban and community development centers.*

The site is within approximately 1500 ft of the MBTA Blue Line Maverick Station and bus station at Maverick Square. The regional bus lines along Meridian Street pass within approximately 400 ft to the site.

Growth Management Principle #3 *- Encourage the revitalization and enhancement of existing development centers in the coastal zone through technical assistance and federal and state financial support for residential, commercial and industrial development.*

The Boston East Development project includes the redevelopment of a vacant, industrial urban site located on Boston Inner Harbor in East Boston. It also involves redevelopment of dilapidated shoreline structures in order to support recreational, commercial, and water-dependent uses. The proposed development is privately funded.

APPENDIX 1 – HISTORICAL RESEARCH AND INTERPRETATION

The analysis that was conducted to support the planning process for this *MHP Amendment* included extensive historical research of East Boston's maritime industrial history, and the opportunities that this rich background provides for historical interpretation.

This section covers preliminary results from the investigation of historical information for the entire East Boston waterfront area, with could be used to inform the planning, design and licensing of projects in East Boston for which additional public benefits are required in the form of historical exhibits and interpretive displays. This information will be complemented with additional research, organized and compiled in a separate report for use and reference in future municipal harbor planning initiatives.

A1.1 Overall Themes

Most of the historical sites on the East Boston waterfronts, including those sites on the New Street and Boston East parcels, can be grouped into several overarching historical themes. These themes help organize the individual sites into frameworks that explain their relation to other historical sites and to the development of East Boston. The overall themes suggested for this study are:

- Shipping (freight and passenger)
- Shipbuilding and related industries
- Other industries
- Railroads (freight and passenger)
- Ferries and tunnels
- Immigration
- East Boston history

The following discussion will explain the relevance of each of these themes to the development of East Boston's waterfronts and then will identify the specific historical sites on the New Street and Boston East parcels, pointing out the overall themes to which these sites are related.

A1.1.1 Shipping (Freight and Passenger)

The Marginal, Sumner, and Border Street waterfronts in East Boston originally had the advantage, in comparison with most other waterfronts in Boston, of fronting on a relatively narrow margin of tidal flats. This meant that wharves could be extended to deep water rather easily, making East Boston a deepwater port. By the early 1850s, less than twenty years after the development of East Boston had begun, there were substantial wharves on the Marginal and Sumner Street waterfronts, many of them utilized for shipping. Prominent among the early shipping wharves were those of the Grand Junction Railroad off Marginal Street (now Piers Park) and of the Cunard Line, whose wharf was between Orleans and Cottage Streets, approximately along the east side of present Pier 1. The Cunard Line had begun service in 1840 with Boston as its only American port—grateful Boston business men built a large pier for it on the Marginal Street waterfront. In 1847, however, the line shifted its American port to New York City because the latter was more ice-free during the winter. Cunard did have passenger service at its East Boston wharf in the late nineteenth and early twentieth centuries, but more research is needed on the extent to which Cunard carried the Eastern European Jewish and Italian immigrants who poured into Boston during this period. The Grand Junction was chartered in 1847 and by the early 1850s had filled in a large area in front of Marginal Street and constructed a number of wharves. In 1869 the Grand Junction was taken over by the Boston & Albany, and that railroad operated extensive grain elevators on the Marginal Street site in the late nineteenth and early twentieth centuries. The Border Street waterfront

did not have as many shipping wharves, perhaps because this waterfront was devoted primarily to shipbuilding from the 1840s on or because the tidal flats extend out further here.

A1.1.2 Shipbuilding and Related Industries

East Boston was the center of Boston's wooden shipbuilding industry in the 1840s and 50s—the heyday of the clipper ships. Shipyards and related industries lined the Border and Sumner Street waterfronts. Notable among these were Donald McKay's yard on Border Street between Monmouth and Eutaw and Samuel Hall's East Boston Dry Dock Company on the present Boston East site. After the wooden shipbuilding industry was ended by the panic of 1857 and the rise of iron-hulled steamships, East Boston continued to be a locus of ship construction and repair. In the later nineteenth century, there were shipyards with marine railways and drydocks not only on the Border and Sumner Street waterfronts but also Simpson's Dry Dock Company on Marginal Street on the site of the present Massport shipyard and a yard on Condor Street. In addition, there were a number of shipbuilding-related industries on the waterfront, such as the Atlantic Works, which built marine steam engines and iron-hulled vessels at its site on Border Street, and Hodge Boiler Works, which manufactured ship boilers and moved from Liverpool to Sumner Street in 1902. Ship repair continued to be an important East Boston waterfront industry in the twentieth century. The Atlantic Works purchased the former East Boston Dry Dock Company site on Border Street in 1902 and by 1922, with a number of floating dry docks and marine railways, was the largest private ship repair facility in Boston. In 1928 Bethlehem Shipbuilding purchased both the Atlantic Works and the Simpson sites and operated both shipyards during World War II. More recently, General Ship Corporation operated a repair facility at the site of the original Donald McKay yard on Border Street. The only remaining shipyard now in East Boston is Massport's on the site of the former Simpson/Bethlehem yard on Marginal Street.

A1.1.3 Other Industries

In addition to industries related to shipbuilding, a number of other industries were located near the waterfront on Border and Condor Streets. On Border Street, there was a node of businesses associated with house construction between Maverick Street and Central Square of which two buildings survive (McLaren's Shop and Sawmill at 135–139 and Chase's Carpentry Shop at 161–163). Between Central Square and Condor Street were a 1903 paint factory and c. 1890 car house of the West End Street Railway. On Condor Street were a variety of industries including an iron foundry, a company that manufactured wood and steel tackle blocks (more research is need to determine if this was a shipbuilding-related industry), a pottery, a sash and door factory, and a power station and car barn of the Boston Elevated Railway Company. In contrast to the other waterfronts, there do not seem to have been non-shipbuilding industries near the Marginal Street (Jeffries Point) waterfront, perhaps the East Boston Company originally prohibited manufacturing or business on Jeffries Point house lots.

A1.1.4 Railroads

In 1838 the Eastern Railroad began service between Boston and Salem (extended to Portland in 1842), entering the city through East Boston on tracks that ran the length of Bremen Street to the waterfront (now the Greenway) and then ferrying its passengers across the harbor to the North End. In 1847 the Grand Junction Railroad was chartered, originally to connect the freight yards of the Boston & Maine in Somerville with the wharves on the East Boston waterfront. The Grand Junction entered East Boston over a bridge just upriver from the Chelsea Street Bridge and then used the Eastern's tracks. By 1851 the Grand Junction had filled and constructed a large wharf complex on the Marginal Street waterfront (now Piers Park). The Eastern changed its route in 1854 to enter Boston through Charlestown and the Grand Junction went bankrupt in 1856. In 1869, however, the Grand Junction merged with the Boston & Albany and the latter then used the tracks through East Boston. In the late nineteenth and early twentieth centuries, the Boston & Albany operated extensive grain elevators on the Marginal Street waterfront. Most recently, the rail alignment through East Boston was used by Conrail. Meanwhile, in 1875 the Boston, Revere Beach & Lynn (BRB&L) Railroad, a narrow gauge, had opened to serve Lynn

residents in competition with the Eastern and to encourage the development of Revere. The BRB&L brought its passengers from Rowe's Wharf in Boston across the harbor by ferry. Passengers then boarded trains that ran through a tunnel under Jeffries Point and across the Basin on some of the same alignment as today's Blue Line. The BRB&L finally closed in 1940.

A1.1.5 Ferries and Tunnels

When the East Boston Company began to develop East Boston in 1833, it provided ferry service across the harbor between East Boston and the main part of the city. The ferry originally ran between Lewis Wharf in the North End and Lewis Street in East Boston. In 1843, however, after the Eastern Railroad had become a co-owner of the ferry, it built a new wharf for the ferry in the North End at what is today's Pilot House. In 1853 a rival ferry, called the People's Ferry, started service between the foot of Border Street in East Boston and Lincoln's Wharf in the North End. After a ruthless fare war, the People's Ferry closed in 1863, but service on this route reopened in 1868 when it was acquired by the other ferry company. In 1870 the city took over both ferry lines, the one at Border Street known as the North Ferry and the one at Lewis Street as the South Ferry. After years of dispute about fares, in 1887 the city set the passenger fare at one cent. Thereafter, both the North and South Ferry were sometimes called the "Penny Ferry." Meanwhile, the Boston, Revere Beach and Lynn (BRB&L) Railroad, which opened in 1875, ran a ferry to carry its passengers across the harbor between Rowe's Wharf in downtown Boston and a wharf in East Boston on the site of the present marina on Marginal Street. From that point, the railroad ran through a tunnel constructed under Jeffries Point before emerging north of Everett Street and then proceeding across the Basin. The BRB&L ferry continued to operate until the railroad closed in 1940.

By the early twentieth century there was a demand for faster transportation between East Boston and the main part of the city. A trolley tunnel was thus built under the harbor, opening in 1904. On the East Boston side, the tunnel ran right under the South Ferry wharf, emerging in Maverick Square. Although the tunnel reduced passenger use of the ferries, they were still needed to carry vehicles between East Boston and downtown. In 1934, however, a vehicular tunnel—the Sumner—was built across the harbor, this time running right underneath the North Ferry wharf on the East Boston side. The tunnel reduced use of the ferries and the North Ferry closed in 1938. The South Ferry continued to operate until 1952. In 1961 a second tunnel, the Callahan, opened next to the Sumner to provide two additional traffic lanes, enabling each tunnel to become one-way.

A1.1.6 Immigration

Like the rest of Boston, East Boston was populated by immigrants. In the 1840s, the early years of its development, these immigrants were primarily Canadian skilled workers, many of whom worked in the shipbuilding industry. In the 1850s there was an enormous influx of Irish, and by 1855, 23 percent of the population of East Boston had been born in Ireland. The Irish spread from Jeffries Point into the Central Square, Eagle Hill, and Harborview areas, and dominated East Boston politics and life through the 1880s. In the 1890s, Eastern European Jews began to arrive in large numbers, settling first on Jeffries Point and then in the Porter/Chelsea Street area. By 1905 they reportedly constituted the largest Jewish community in New England, but many moved to Chelsea after the 1908 fire there. They were replaced by Italians, who began moving across from the North End in large numbers about 1905 and later came directly from Italy. The Italians reportedly settled first on Jeffries Point and then spread out; by 1915 they comprised 27 percent of the population and were centered in the area bounded by Cottage, Sumner, Havre, and Gove Streets. Various historical sites are associated with the immigration to East Boston, most of them located on Marginal Street: the Immigration Building (1912), Golden Stairs, and Immigrants Home (1912 though reportedly established in 1881).

A1.1.7 East Boston History

Although the above themes cover many important facets of East Boston's history, none explain the overall history of East Boston and how the themes relate to it. It is therefore recommended that at the two proposed ferry landings and major gateways to Harborwalk—Lewis Landing and behind Liberty Plaza—there be interpretive panels about East Boston history. These panels should explain the early history of Noddles Island, the formation of the East Boston Company in 1833 to develop it as a new residential and industrial section of the city, and its subsequent development.

APPENDIX 2 – 6-26 NEW STREET: SHADOW STUDIES

Chapter 91 Massing

Proposed Project Massing

Proposed Massing w/ Chapter 91 Comparison

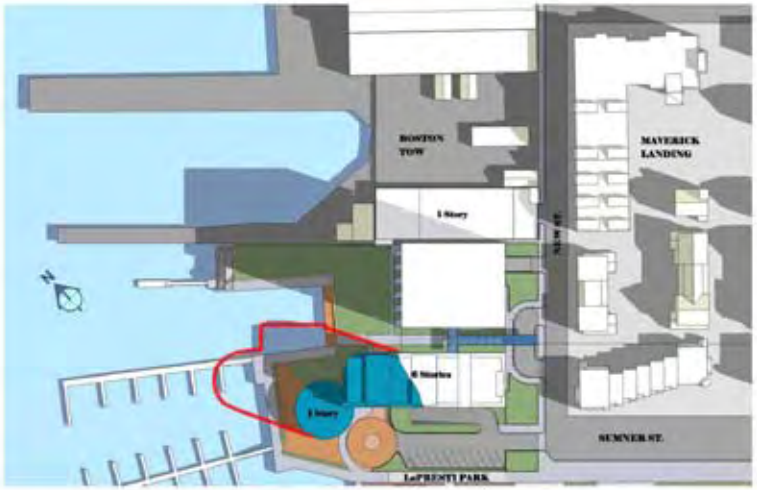
Chapter 91 shadows

East Boston Municipal Harbor Plan Amendment
NEW STREET

Figure A2-1
Shadow Studies: 9am, October 23

Chapter 91 Massing

Proposed Project Massing



Proposed Massing w/ Chapter 91 Comparison

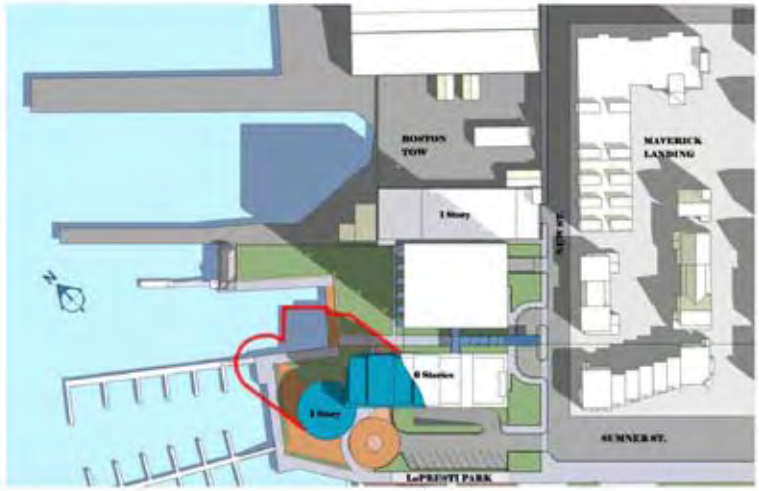
Chapter 91 shadows

East Boston Municipal Harbor Plan Amendment
NEW STREET

Figure A2-2
Shadow Studies: 10am, October 23

Chapter 91 Massing

Proposed Project Massing



Proposed Massing
w/ Chapter 91
Comparison

Chapter 91 shadows

East Boston Municipal Harbor Plan Amendment
NEW STREET

Figure A2-3
Shadow Studies: 11am, October 23

Chapter 91 Massing

Proposed Project Massing

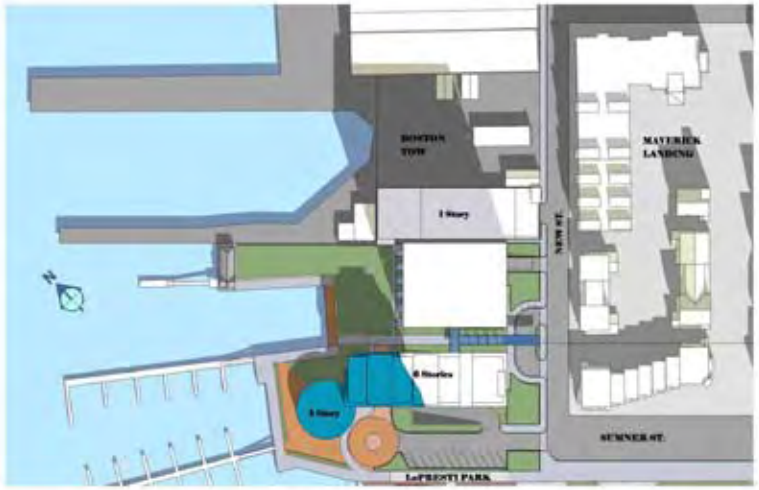
Proposed Massing
w/ Chapter 91
Comparison

Chapter 91 shadows

East Boston Municipal Harbor Plan Amendment
NEW STREET

Figure A2-4
Shadow Studies: 12pm, October 23

Chapter 91 Massing



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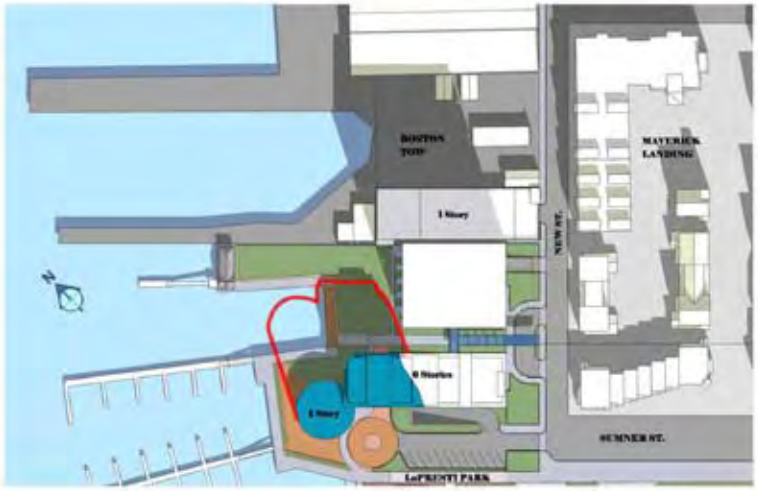
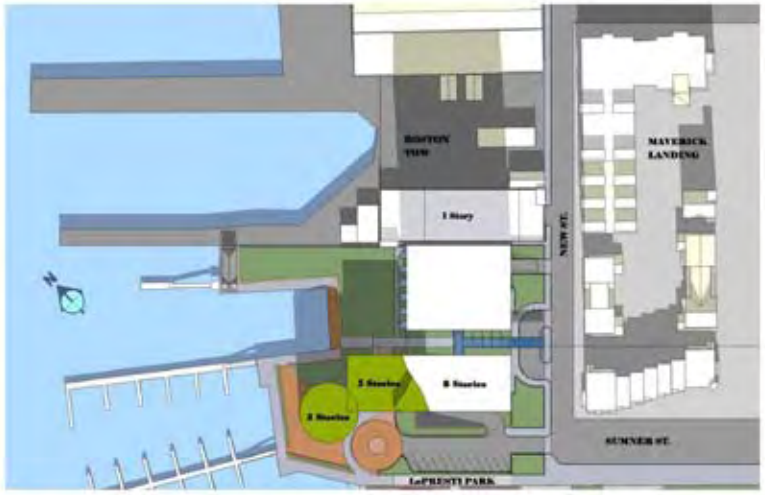


Proposed Massing
w/ Chapter 91
Comparison

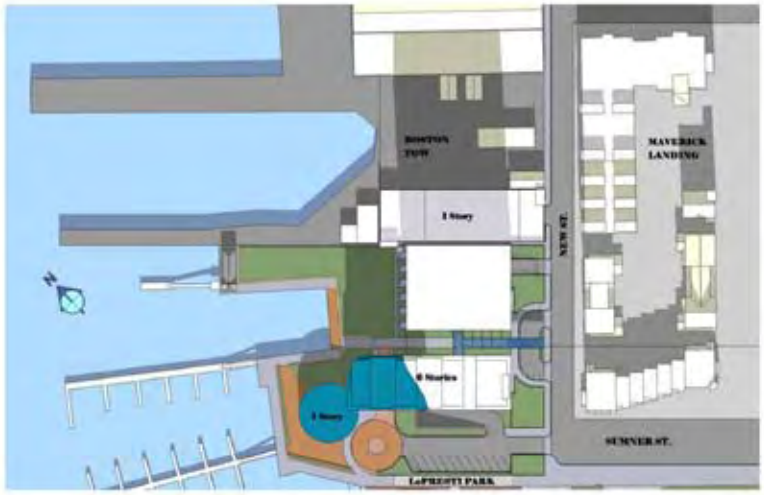
Chapter 91 shadows

East Boston Municipal Harbor Plan Amendment
NEW STREET

Figure A2-5
Shadow Studies: 1pm, October 23



Chapter 91 Massing



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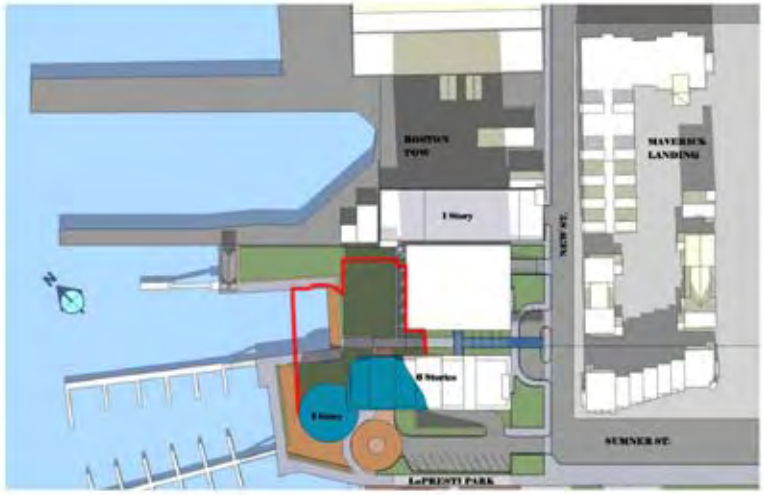


Proposed Massing
w/ Chapter 91
Comparison

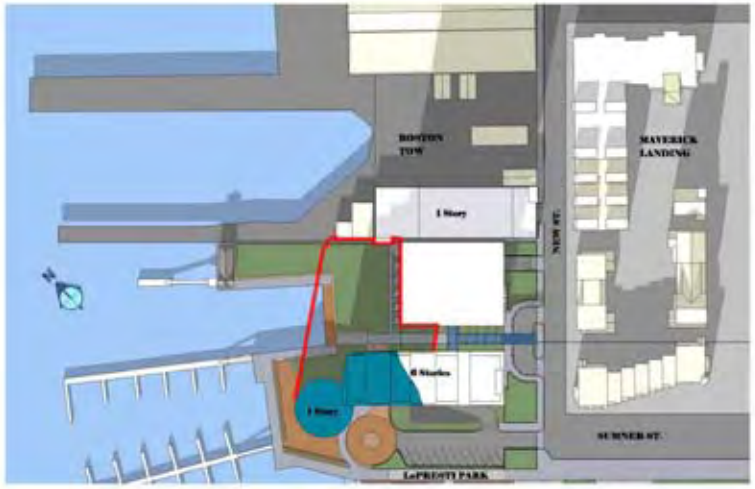
Chapter 91 shadows

East Boston Municipal Harbor Plan Amendment
NEW STREET

Figure A2-6
Shadow Studies: 2pm, October 23

Chapter 91 Massing

Proposed Project Massing



Proposed Massing
w/ Chapter 91
Comparison

Chapter 91 shadows

East Boston Municipal Harbor Plan Amendment
NEW STREET

Figure A2-7
Shadow Studies: 3pm, October 23

Chapter 91 Massing

Proposed Project Massing

Proposed Massing
w/ Chapter 91
Comparison

Chapter 91 shadows

East Boston Municipal Harbor Plan Amendment
NEW STREET

Figure A2-8
Shadow Studies: 4pm, October 23

APPENDIX 3 – 6-26 NEW STREET: WIND STUDIES

Frank H. Durgin, P.E.
10 Littlefield Road
Chebeague Island, ME 04017
June 22, 2007

Re: Wind Assessment for New Build at New Street

Richard Jabba
Fort Point Associates
286 Congress Street, 6th floor
Boston, MA 02110

Dear Richard,

You asked me to assess the effects of the New Build plans for the New Street Development on my 2006 assessment of the pedestrian Level Winds (PLWs).

From the various plans you sent I note the following significant changes between the 2006 plans and the new ones:

The 70-foot building has been shortened at its Harbor end;
A circular restaurant has been added at the Harbor end of the 70-foot building;
There now is a vehicular passage through the 70-foot building near the restaurant end with a sidewalk on the restaurant side of the passage; and
The wharf near the restaurant has been shortened so that the Harborwalk has been moved in that area

Each of the above changes has affected the some the PLW assessments I made in 2006. I have chosen to reassess the PLWs at 15 of the 56 locations I chose in 2006 and to add five new ones (57-62-see table 1 and figures 1 and 2). 2006 locations 23, 25, and 30 have been moved. The five new or moved locations cover the vehicular passageway (locations 25, 58, and 60), the main entrance to the restaurant (location 61), and the harbor side of the restaurant where it is proposed to have outdoor access and seating (locations 30, 59, and 62).

The annual estimates of PLW Categories for existing and New Build conditions are presented in Figures 3 and 4 and those for NW, SW, Storm and annual winds are listed in Table 1.

None of the locations considered is estimated to have PLWs that exceed the BRA guideline wind speed. In none is predicted to have winds exceeding Category 3 (comfortable for walking).Nor is any location estimated to have

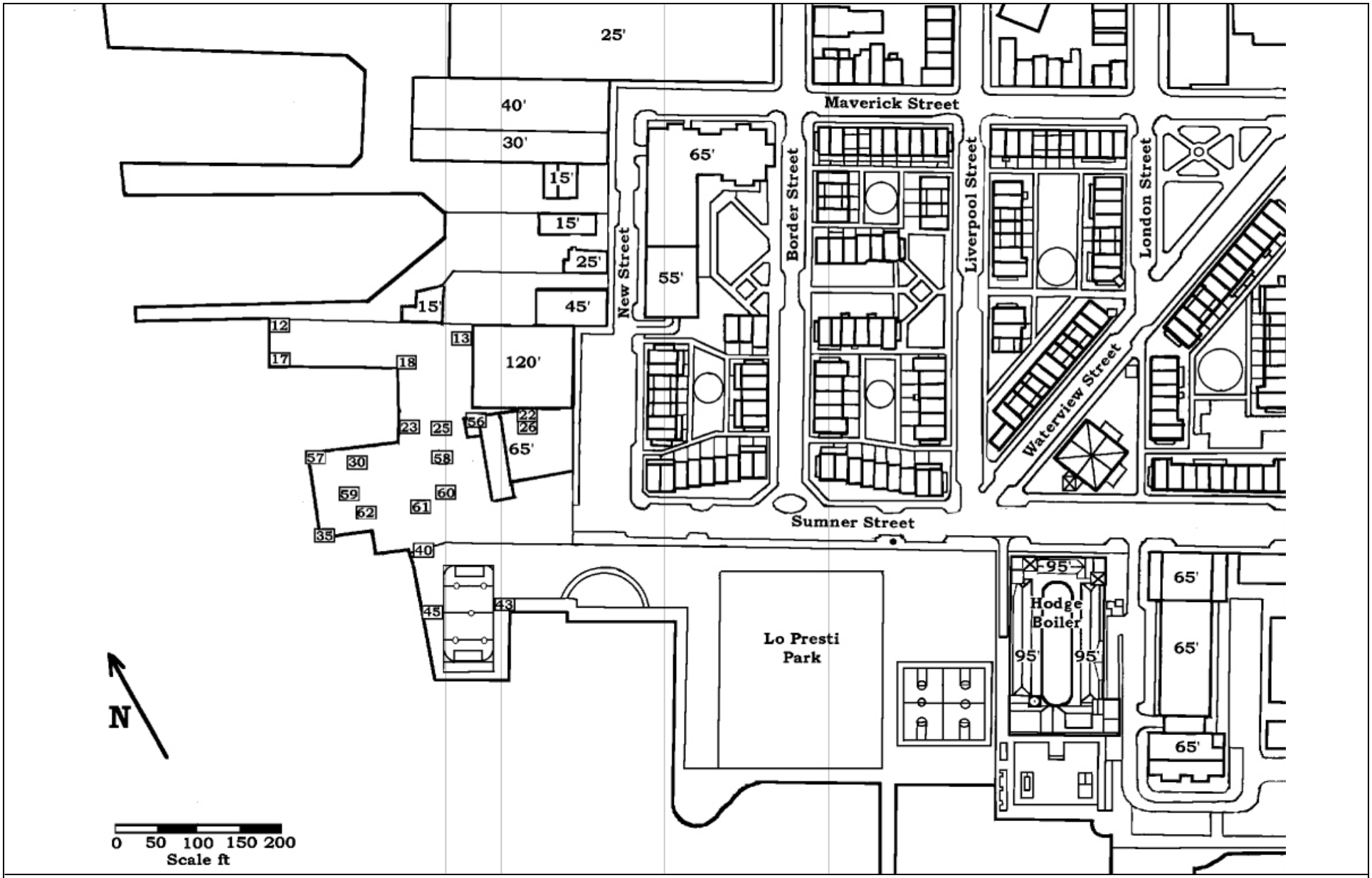
dangerous winds as often as once a year. The winds at the main entrance to the restaurant are estimated to be inn PLW Category 2 (Acceptable for short periods of standing or sitting) for all the wind conditions considered.

The annual PLWs at locations 30, 59, and 62 are estimated to be in Category 3. In general, this is too windy for having tables for sitting and eating. To give you an idea of how often these locations could be used for outside table sitting, I estimated how often Category 1 (Comfortable for long periods of sitting or standing) would be exceeded at each location (about 90% at location 30 and about 85% at locations 59 and 62).

I hope this covers all the questions that might arise due to the proposed changes. If you have any questions please feel free to call or e-mail me.

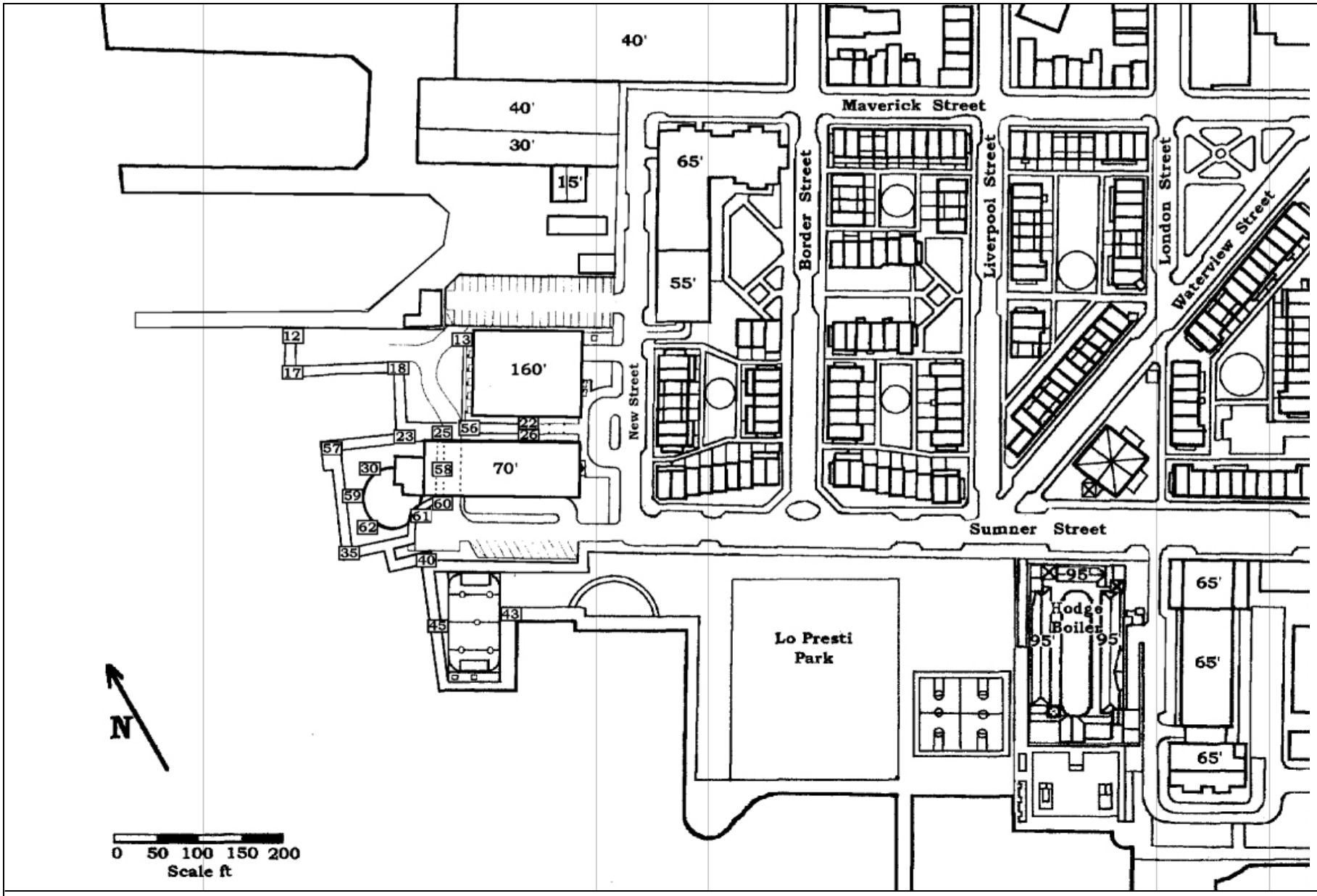
Yours

Frank H. Durgin, P.E.



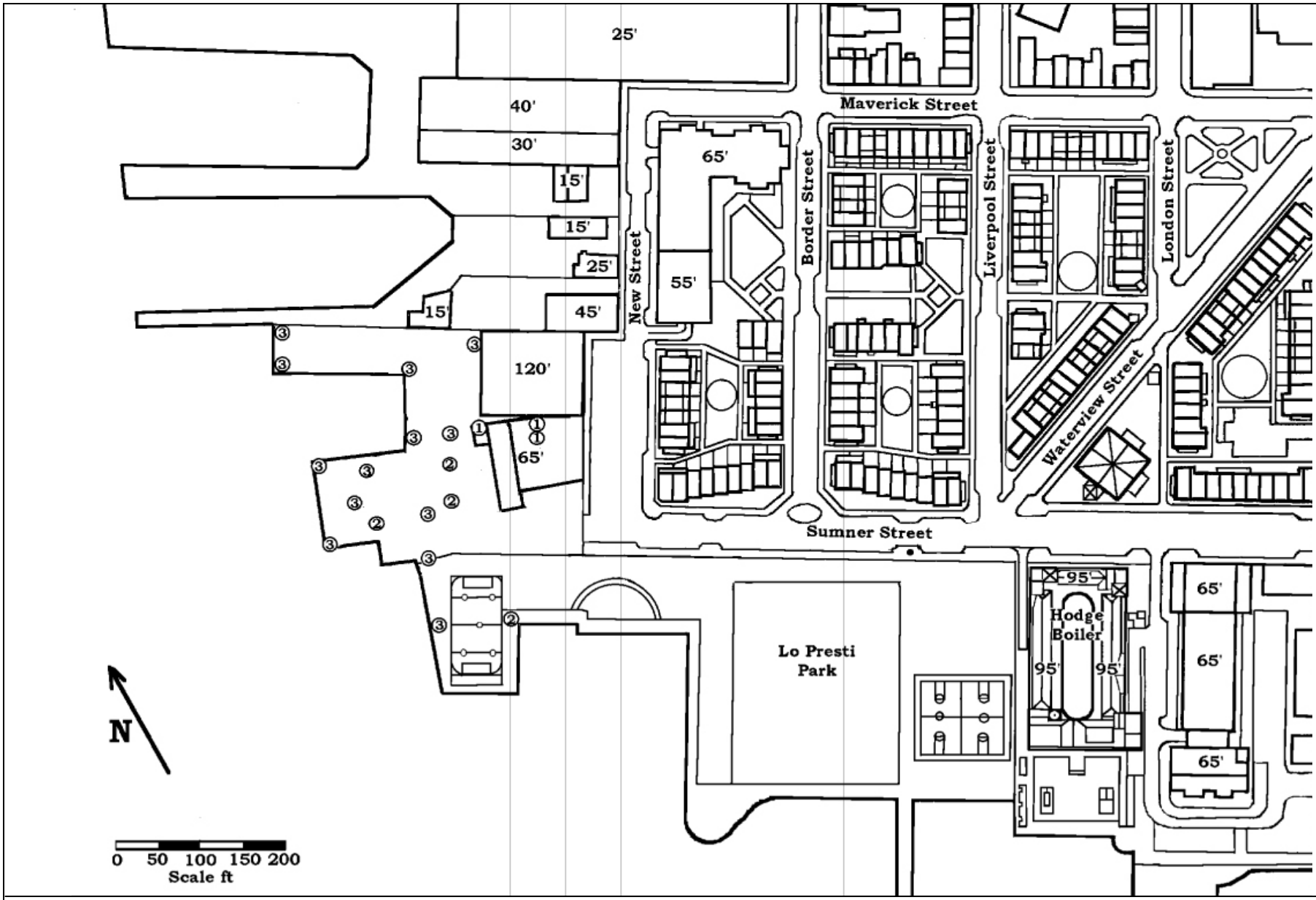
East Boston Municipal Harbor Plan Amendment
NEW STREET WIND STUDIES

Figure A3-1
PLW Location Numbers for Existing Conditions



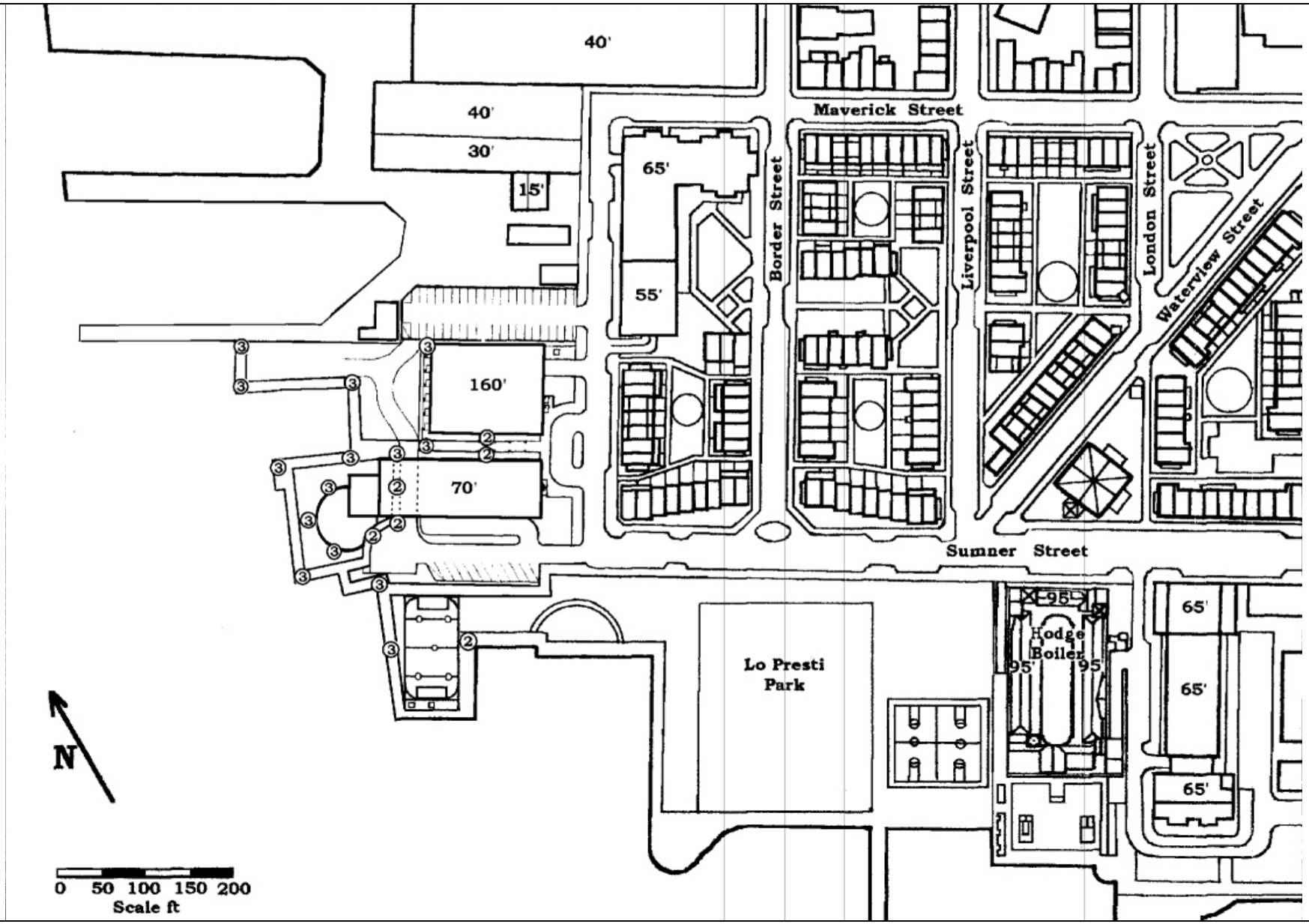
East Boston Municipal Harbor Plan Amendment
NEW STREET WIND STUDIES

Figure A3-2
PLW Location Numbers for New Build Conditions



East Boston Municipal Harbor Plan Amendment
NEW STREET WIND STUDIES

Figure A3-3
Estimated Annual Categories for Existing Conditions



East Boston Municipal Harbor Plan Amendment
NEW STREET WIND STUDIES

Figure A3-4
Annual Categories for the New Build Configuration

A QUALITATIVE ASSESSMENT OF PEDESTRIAN LEVEL WINDS FOR THE PROPOSED NEW STREET BUILDINGS IN EAST BOSTON, MASSACHUSETTS

BY FRANK H. DURGIN, P.E.

1.0 SUMMARY

A qualitative assessment has been made to determine the effect of the proposed New Street buildings in East Boston, Massachusetts, on pedestrian level winds (PLWs) in their vicinity, as well as the winds in the Inner Harbor. Results are obtained for both existing and build conditions for NW, SW, easterly storm, and annual winds.

None of the fifty-six locations considered for either existing or build conditions is estimated to have PLWs that exceed the Boston Redevelopment Authority (BRA) guideline wind speed of 31 mph oftener than once in 100 hours. In fact, no location is predicted to have PLWs higher than Category 3 (comfortable for walking) for either existing or build conditions for any of the wind conditions considered.

Overall, the addition of the new buildings tends to increase PLWs somewhat. Most of the increases occur as a result of the removal of the 45-ft building just NE of the existing 120-ft nine-story building. The gap between the twelve and proposed six-story buildings will be a little windy at times, especially at the harbor end.

Detailed results are presented in Figures 12-19 and Table 1 and are summarized in Table 2. For this assessment, it has been assumed that there is no landscaping for existing conditions and none associated with the new buildings.

2.0 INTRODUCTION

This is an assessment of the effect of the proposed New Street Buildings in East Boston, Massachusetts, on PLWs in their vicinity. The assessment is based on:

1 Topographic and planimetric survey maps of the area obtained from the BRA;

2 The results of five previous assessments done for proposed buildings at Maverick Gardens, Clippership Wharf, Lo Presti Park, Hodge Boiler, and Pier One [1, 2, 3, 4, and 5];

3 A three dimensional rendering of the proposed buildings dated July 25, 2006, obtained from Steffian Bradley Architects;

4 A map of the site showing entrances and pedestrian walks sent September 7, 2006, obtained from Steffian Bradley Architects;

5 An aerial photo of the site obtained from Fort Point Associates:

6 Several site visits to the area for the previous studies [1, 2, 3, 4, and 5] and one for this assessment;

7 Many photographs taken forth previous four assessments in References [1, 2, 3, 4, and 5] and eleven taken during the site visit for this study;

8 An evaluation of the urban context of the proposed project site;

9 A review of the Boston wind climate; and

10 The author's 36 years of experience dealing with PLWs.

The interaction of the wind with buildings and structures is very complicated and, at times, difficult to predict, especially for an urban area with a mixture of low-rise and mid-rise buildings. Thus this evaluation provides a qualitative assessment of PLWs.

3.0 LOCATION AND DESCRIPTION OF THE PROJECT AND SURROUNDING AREA

3.1 DESCRIPTION OF EXISTING CONDITIONS (Figure 1)

The site is on the Harbor side of New Street at the intersection of Sumner and New Streets. Currently, the site contains four buildings. There is a 45-ft three-story building near the NE end of the site that abuts on New Street. Next to it is a 120-ft nine-story building that is set back about 40 feet compared to the 45-ft building. Then there is a 65-ft six-story building attached to the nine-story building and set back the same as the nine-story building. Finally, behind and attached to the 65ft building, there is a one-story building and

shed (Figure 1). Approximate building heights of nearby buildings to the nearest 5 feet and the locations at which PLWs have been estimated are also shown in Figure 1.

3.2 DESCRIPTION OF BUILD CONDITIONS (Figure 2)

The 45-foot three-story building near the SW end of the site will be torn down and the area between the nine-story building and the northeast end of the site will become a parking lot. The nine-story building will remain and have three stories added, bringing the total height to about 160 feet. The remaining six- and one-story buildings will also be torn down. They will be replaced by a 70-foot six-story building 62 foot wide and 280 feet long, as shown in Figure 2. Note that the first story of the six-story building will be open at the NW end of the building. All of the 56 locations considered in this study are numbered in Figure 2.

The gap between the twelve- and six-story buildings will be about 35 feet, and the main entrance to both the twelve- and six-story buildings will be off the walkway in the gap between the two buildings at locations 22, 24, and 26.

The part of the site to the SW of the six-story building will be used for parking. Finally, the existing wharves will be replaced, and the one to the NW of the six-story building will be extended about 100 feet. A Harbor Walk along the rebuilt and extended wharves is planned. Locations 12, 17, 18, 23, 27, 34, and 40 are along that Harbor Walk. Much of the first floor of both buildings will be used for retail space.

Locations 1, 2, 19, 39, 50, and 53 are in Boston Inner Harbor in order to indicate any changes in winds there.

3.3 THE SURROUNDING AREA (Figures 1 and 2)

To the SE the heights to about ± 5 feet of the buildings at the Hodge Boiler site and Maverick Gardens Building B are indicated in Figures 1 and 2. The height of Maverick Gardens Building A, roughly E of the site, is also indicated. Most of the other buildings in Maverick Gardens are 20 to 30 feet tall. The heights of buildings to the NE of the New Street site are indicated in the figures. To the N, NW, W, SW, and S is the Boston Inner Harbor.

4.0 THE WIND CLIMATE

4.1 THE VARIATION OF WIND SPEED WITH HEIGHT

In general, the natural wind is unsteady (*i.e.,* it is gusty) and its average speed increases with height above the ground [6]. Figure 3 depicts how the average wind speed varies with height for different types of terrain. While generally it does not happen, when one puts up any building, the possibility exists that the building will bring the higher speed winds at the top of the building down to ground level.

Figure 4 shows schematically how an isolated building interacts with the wind. Because the wind speed increases with height, as the wind is forced to a stop at the upwind façade, the pressure recovered on that façade is higher near the top than at the bottom of the façade. As a result, the wind flows down the windward façade and forms the vortex upwind of the building shown in the figure. This vortex is stretched and accelerated as it goes around the two upwind lower corners, causing the accelerated flow in areas (A) shown on the left hand side of Figure 4. Similar accelerated areas also occur for winds blowing at the corners of the building (B in Figure 4). Because the proposed buildings are exposed to NW and SW winds coming off the Inner Harbor, they interact in ways similar to that shown in Figure 4. However, the open first floor at the harbor end of the six-story building reduces the amount the wind is accelerated around that end of the building.

Monolithic buildings (*i.e.,* those that do not change shape with height), if they are significantly taller than most of the surrounding buildings, almost invariably will be windy at their bases. This is the case for the proposed buildings. When there are many buildings of similar height in an area, they tend to shelter one another.

4.2 STATISTICAL DESCRIPTION OF THE BOSTON WIND CLIMATE

The project site is located about 1.3 miles W of Logan Airfield. Thus, the wind data from Logan Airfield usually used to define the winds for the Boston area is applicable. Figure 5 depicts a wind rose for Boston. The wind speeds are estimated at pedestrian level at the airport. The length of each line radiating from the center of the figure to the outermost crossing line is proportional to the total time the wind comes from that direction. The other lines crossing the radial lines indicate the frequency of winds less than 7, 10, and 15 mph. As noted in the figure, the wind rose is based on surface wind data from Logan Airfield taken from 1945 to 1965. Data from 1965 to 2005 is also available, but it is not believed to be as representative of the true winds in Boston. Many 25- to 40-story buildings have been built in the financial district of Boston since 1965. The financial district is just one mile SSW of Logan Airfield.

Figure 5 shows that the winds in Boston come primarily from the NW, W, and SW. Figures 6 through 9 show pedestrian level wind roses for Boston for winter (Dec., Jan., and Feb.), spring (Mar., Apr., and May), summer (Jun., Jul., and Aug.), and fall (Sept., Oct., and Nov.). These figures show that NW winds tend to occur during the colder months and SW winds during the warmer months. Spring and fall are transitional, but winds are stronger in the spring than in the fall. Strong easterly winds usually occur during storms when there is precipitation.

The average wind speed at Logan Airfield at 58 feet (the average height at which the data was taken) is 12.9 mph. At pedestrian height (*i.e.,* at chest height, 4.5 feet) it is about 8.6 mph. The average wind speeds at 58 and 4.5 feet at Logan Airfield for each month are shown in Figure 10. Seasonally, the average wind speed at pedestrian level is 9.4 mph in the winter, 9.2 mph in the spring, 7.4 mph in the summer, and 8.2 mph in the fall.

4.0 CRITERIA

Since the early 1980s, the BRA has used a guideline criterion for acceptable winds of not exceeding a 31 mph effective gust more often than once in one hundred hours. The effective gust is defined as the average wind speed plus 1.5 times the root mean square variation about the average. The effective gust can be shown to be about the fastest one-minute gust in an hour. When many locations are considered, the effective gust averages about 1.4 times the average hourly wind speed [6]. However, that ratio can vary widely from 1.4 for individual locations.

In 1978, Melbourne [7] developed probabilistic criteria for average and peak PLWs, which accounted for different types of pedestrian activity as well as the safety aspects of such winds. Durgin [6] suggested the use of an Equivalent Average which combines the effects of average, gusting, and peak winds and later [8 and 9] reinterpreted Melbourne's criteria to apply to Equivalent Average winds (Figure 11). The Equivalent Average used in this figure is similar to an hourly average, but combines the effects of steady and gusting winds. Five categories of PLWs are defined:

1) Comfortable for Long Periods of Standing or Sitting;[1]
2) Comfortable for Short Periods of Standing and Sitting;
3) Comfortable for Walking;
4) Uncomfortable for Walking;
5) Dangerous and Unacceptable.

These criteria are not absolute (any location can have dangerous winds in a major storm or hurricane). Rather, they imply that the location would have wind speeds such that the activity suggested could be undertaken comfortably most of the time, and would be perceived[2] as such, by most people who frequent the location. For example, the PLWs at Logan Airfield are in Category 4 (uncomfortable for walking) but near the dividing line between Category 4 and Category 3 (comfortable for walking) (see Figure 11). But they are well under the BRA 31 mph effective gust wind speed guideline (converted to an equivalent average wind), which is high in Category 4. Therefore, most people would probably perceive conditions in the open at Logan Airfield as marginally comfortable for walking.

6.0 PEDESTRIAN LEVEL WINDS AT THE SITE

6.1 INTRODUCTION

The objective of this study was to examine the effects of the proposed buildings on PLWs about the site, at nearby buildings, and in Boston Inner Harbor.

In the following sections, the effects of NW winter winds, SW summer winds, and easterly storm winds will be discussed for existing and build conditions. The results from NW, SW, and storm directions will be summarized by an estimated prediction of the annual PLW category at each location considered. When a PLW Category does not change, it does not mean the PLWs did not increase or decrease, but only that they did not change sufficiently for the PLW Category to change.

The estimated categories for all locations, wind directions, and annual winds for both existing and build conditions are shown in figures 12 to 19. The

[1] The numbering system for the Categories was reversed in December, 1999. Before December, 1999, the slowest winds were in Category 5 and the fastest in Category 1. Since the December, 1999, the slowest are in Category 1 and the fastest in Category 5.

[2] On a somewhat windy day, a person familiar with the location would choose not to go there for the specified activity.

results for all locations, wind directions, and annual winds are tabulated in Table 1 and summarized in Table 2. Table 2 indicates both the number of locations that will not change category and those that will change up or down one or two categories.

For the most part, the weather in New England is dominated by either large coastal storms (fall, winter, and spring) or the Bermuda High (summer). Typically, when a coastal storm occurs, it rains or snows for 4 to 12 hours, then it clears, and, as the storm moves to the NE, the winds blow from the NW for three or four days until the next weather system arrives. These storms and the NW winds following them occur mostly in the fall, winter, and spring. NW winds are particularly uncomfortable in the winter, when typically they occur on cold days. The Bermuda High is generally responsible for the SW winds that occur in the summer.

6.2.1 Northwest (Winter) Winds (Figures 12 & 13)

NW winds blow at the site off the Boston Inner Harbor (See figure 12). The results for NW winds include the effects of all winds blowing from W to N. The estimated categories for all locations for existing and build conditions for NW winds are shown in Figures 12 and 13 (also see Tables 1 & 2).

For NW winds, the PLW Category at forty-seven of the fifty-six locations considered do not change. The PLW Category increased by two at locations 14 and 56. This should not be surprising, as location 56 was originally under the six-story building, and location 14 is no longer sheltered from NW winds by the three-story building.. The PLW Category increased by one at five locations (8, 10, 15, 22, and 24). Locations 8, 10, and 15 are no longer sheltered by the three-story building. Location 22 was originally under the six-story building and location 24 was sheltered by the nine- and six-story buildings, but is now at the opening of the gap between the twelve- and six-story buildings. The PLW Category decreased by one at locations 30 and 32. Both these locations are somewhat sheltered by the new six-story building.

6.2.2 Southwest (Summer) Winds (Figures 14 & 15)

The prevailing winds in the summer are from the SW. SW winds also blow off the harbor at the site (Figure 14). The results for SW winds include effects of all winds blowing from S to W. The estimated categories for all locations for existing and build conditions are shown in Figures 14 and 15 (also see Tables 1 & 2).

For SW winds, the PLW Category does not change at forty-five of the fifty-six locations considered. The PLW Category does not increase by two at any location. It increases by one at locations 2, 7, 8, 14, 20, and 24. The increases at all these locations are caused, at least in part, by the removal of the three-

story building. The increase at location 20 is partly caused by the addition of the three stories to the nine-story building. The PLW Category decreases by one at locations 13, 18, 23, and 30. All of these decreases are caused by the presence of the new six-story building, which now shelters them. Finally, at location 25, the PLW Category decreases by two, because this location has gone from being totally exposed to totally sheltered.

6.2.3 Easterly Storm Winds (Figures 16 & 17)

Easterly winds occur about one third of the time. Light easterly winds occur as a storm starts or in the summer as a sea breeze. During the first four to twelve hours of a typical coastal storm, it rains or snows depending on the temperature. The wind is from the NE or SE depending on whether the center of the storm passes to the east or west of the city. The results for easterly storm winds includes the effects of all winds blowing from N to E to S (i.e., from the eastern side of the compass).

Since for strong easterly winds, it will generally be raining or snowing, and people expect it to be windy, the emphasis in evaluating the effect of the proposed buildings should be on entering or exiting buildings. The Categories for all easterly wind directions from N-E-S were estimated and have been combined to obtain a single result for easterly winds. Bear in mind that the total time the winds come from all of these easterly directions is about the same as the time the wind comes from either the NW or SW quadrants.

The estimated Categories for all locations for existing and build conditions are shown in Figures 16 and 17 (See Tables 1 & 2).

For easterly winds, PLW Categories at forty-eight of the fifty-six locations considered are estimated to remain unchanged. The PLW Category does not increase by two at any location. It increases by one at 6 locations (9, 14, 15, 20, 26, and 28). The increases at locations 9, 14, 15, 20, and 28 are all at least partially due to the removal of the three-story building. The increase at location 26 is of course due to the presence of the gap between the twelve- and six-story buildings. The PLW Category decreases by one at locations 35 and 40. In both cases, the decrease is caused by sheltering of the new six-story building.

6.2.4 Annual Winds

In the above discussion, only winds from three general wind directions are discussed. While those are important directions related to seasons and storms, one cannot infer the overall annual windiness at any location from those results. PLW Categories were estimated for the eight major wind directions (i.e., from the NE, E, SE, S, SW, W, NW, and N directions). Those estimated categories were then used with an eight compass point statistical

description of the Boston wind climate to estimate the overall annual category for each of the fifty-six locations considered. The resulting estimated categories for each location for existing and build conditions are listed in the last column in Tables 1 & 2. In comparing these annual estimates with those for the five specific directions, one must remember that the total occurrence of winds from the easterly directions is roughly equal to that for either NW or SW. These annual estimates are qualitative and must be treated as such.

For annual winds, forty-seven of the fifty-six locations considered are estimated not to change PLW Category. Of the other locations, the PLW Category is estimated to rise two Categories at locations 14 and 56. These increases occur for the same reasons stated in the section on NW winds. The PLW Category increases by one at 5 locations (7, 10, 16, 22, and 26). Increases at these locations were also noted for one or more of the individual directions considered above. Finally, the PLW Category decreased by one at locations 30 and 43.

7.0 SUMMARY AND CONCLUSIONS

A qualitative assessment has been made to determine the effect of the proposed New Street buildings in East Boston, Massachusetts, on PLWs in their vicinity, as well as the winds in the Inner Harbor. Results are obtained for both existing and build conditions for NW, SW, easterly storm, and annual winds.

None of the fifty-six locations considered for either existing or build conditions is estimated to have PLWs that exceed the Boston Redevelopment Authority (BRA) guideline wind speed of 31 mph oftener than once in 100 hours. In fact, no location is predicted to have PLWs higher than Category 3 (comfortable for walking) for either existing or build conditions for any of the wind conditions considered.

Overall, the addition of the new buildings tends to increase PLWs somewhat. Most of the increases occur as a result of the removal of the 45-ft building just NE of the existing 120-ft nine-story building. The gap between the twelve and proposed six-story buildings will be a little windy at times, especially at the harbor end.

Detailed results are presented in Figures 12-19 and Table 1 and are summarized in Table 2. For this assessment, it has been assumed that there is no landscaping for existing conditions and none associated with the new buildings.

8.0 REFERENCES

1) Durgin, F. H.. "A Qualitative Assessment of Pedestrian Level Winds for the Proposed Redevelopment of Maverick Gardens in East Boston, Massachusetts", November 9, 2001.

2) Durgin, F. H., "A Qualitative Assessment of Pedestrian Level Winds for Three Options of the Proposed Clippership Wharf Development in East Boston, Massachusetts", November 12, 2001.

3) Durgin, F. H. "A Qualitative Assessment of Pedestrian Level Winds for Lo Presti Park: Supplement to the Clippership Wharf Development Assessment ", November 12, 2001.

4) Durgin, F. H.. "A Qualitative Assessment Comparing the Effect of The Code-Limited Boston Municipal Harbor and Chapter 91 Hodge Boiler Works Buildings On Pedestrian Level Winds", February 26, 2002.

5) Durgin, F. H. "Second Qualitative Reassessment of Pedestrian Level Winds for The Proposed Pier One and Boston Harbor Shipyard And Marina Development In East Boston, Massachusetts", November 30, 2002.

6) Davenport, A.G., and Isyumov, N., "The Application of the Boundary Layer Wind Tunnel to the Prediction of Wind Loading", Proceedings of Intl. Seminar on Wind Effects on Buildings and Structures, Ottawa, Canada, September, 1967.

7) Melbourne, W.H., "Criteria for Environmental Wind Conditions", *Journal of Industrial Aerodynamics*, Vol.3, 1978, pp. 241-249.

8) Durgin, F.H., "Use of the Equivalent Average for Evaluating Pedestrian Level Winds", Presented at the Sixth U.S National Conf. On Wind Engineering, University of Houston, Houston, Texas, March 7-10, 1989, *Journal of Wind Engineering and Industrial Aerodynamics*, Vol. 36, pp. 817-828, 1990.

9) Durgin, F.H., "Pedestrian Level Wind Studies at the Wright Brothers Facility", Progress in Wind Engineering (Proc. of the 8th International Conference on Wind Engineering), New York, Elsevier, Part 4, 1992, pp. 2253-2264.

10) Durgin, F.H., "Pedestrian Level Wind Criteria Using the Equivalent Average", *Journal of Wind Engineering and Industrial Aerodynamics*, Vol. 66 (1997), pp. 215-226.

TABLE 1

ESTIMATED CATEGORIES FOR NW, SW, EASTERLY STORM, AND ANNUAL WINDS FOR EXISTING (Ex), AND BUILD (Bld) CONDITIONS

Loc	NW		SW		STORM		ANNUAL		Loc
No.	Ex	Bld	Ex	Bld	Ex	Bld	Ex	Bld	No.
1	3	3	3	3	3	3	3	3	1
2	1	1	1	2	1	1	1	1	2
3	1	1	2	2	2	2	2	2	3
4	2	2	2	2	1	1	2	2	4
5	3	3	3	3	3	3	3	3	5
6	2	2	2	2	2	2	2	2	6
7	1	1	1	2	2	2	1	2	7
8	1	2	1	2	2	2	2	2	8
9	2	2	2	2	1	2	2	2	9
10	2	3	1	1	2	2	2	3	10
11	1	1	2	2	2	2	2	2	11
12	3	3	3	3	3	3	3	3	12
13	2	2	3	2	2	3	3	3	13
14	1	3	1	2	1	2	1	3	14
15	1	2	2	2	2	2	2	2	15
16	1	1	1	1	2	2	1	2	16
17	3	3	3	3	3	3	3	3	17
18	3	3	3	2	3	3	3	3	18
19	3	3	3	3	3	3	3	3	19
20	1	1	1	2	1	2	2	2	20
21	1	1	2	2	1	1	2	2	21
22	1	2	1	1	1	1	1	2	22
23	3	3	3	2	2	2	3	3	23
24	1	2	1	2	2	2	2	2	24
25	3	3	3	1	2	2	3	3	25
26	1	3	1	1	1	2	1	2	26
27	3	3	3	3	3	3	3	3	27
28	2	2	2	2	1	2	2	2	28
29	1	1	2	2	2	2	2	2	29
30	3	2	3	2	2	2	3	2	30
31	1	1	2	2	1	1	2	2	31
32	3	2	3	3	1	1	3	3	32
33	2	2	3	3	1	1	2	2	33
34	3	3	3	3	3	3	3	3	34
35	3	3	3	3	3	2	3	3	35

TABLE 1 Cont'd

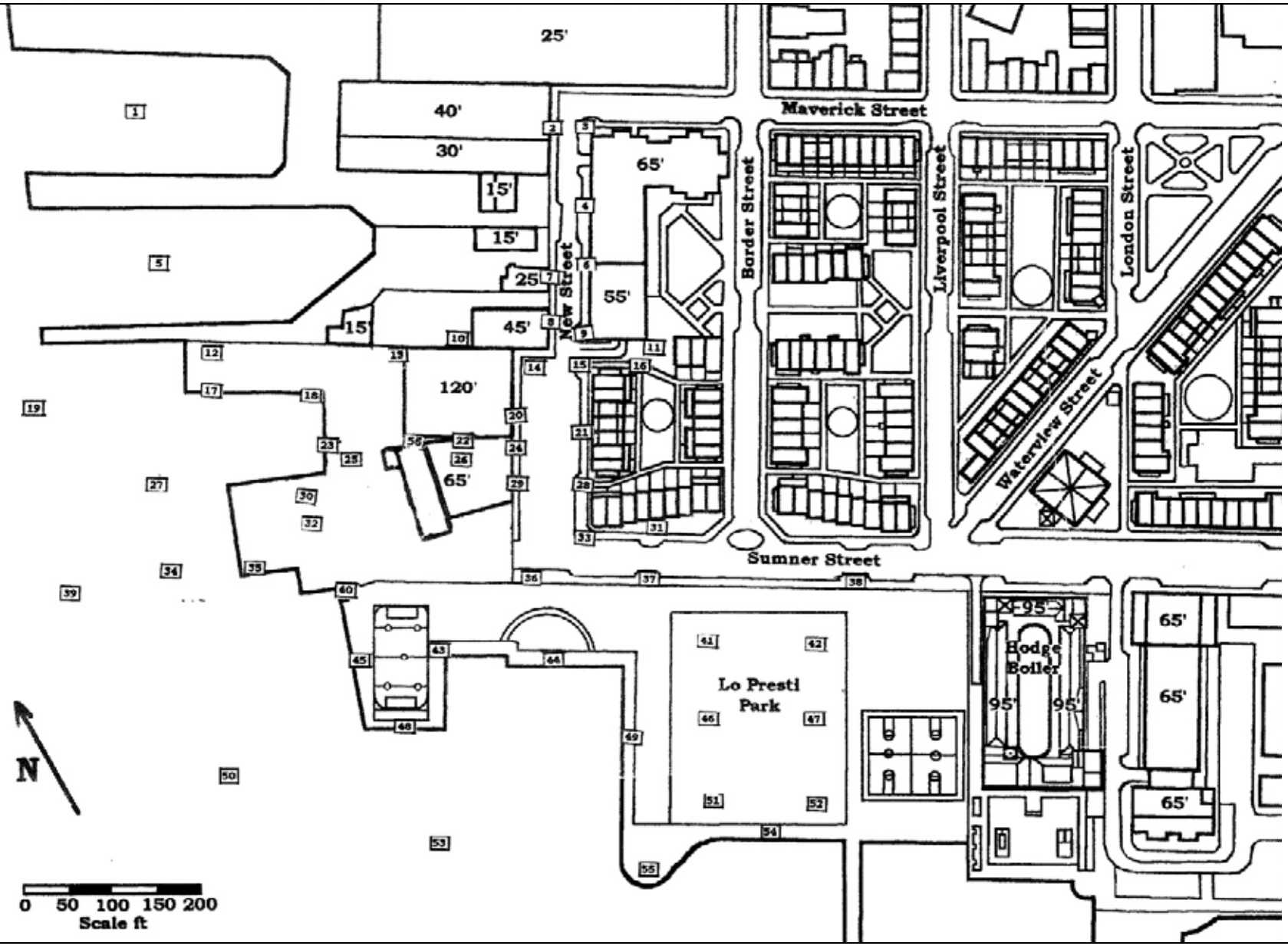
ESTIMATED CATEGORIES FOR NW, SW, EASTERLY STORM, AND ANNUAL WINDS FOR EXISTING (Ex), AND BUILD (Bld) CONDITIONS

Loc	NW		SW		STORM		ANNUAL		Loc
No.	Ex	Bld	Ex	Bld	Ex	Bld	Ex	Bld	No.
36	2	2	3	3	2	2	2	2	36
37	2	2	3	3	1	1	2	2	37
38	2	2	3	3	1	1	2	2	38
39	3	3	3	3	3	3	3	3	39
40	3	3	3	3	2	1	3	3	40
41	2	2	3	3	2	2	2	2	41
42	2	2	3	3	2	2	2	2	42
43	3	3	3	3	2	2	3	2	43
44	3	3	3	3	2	2	3	3	44
45	3	3	3	3	2	2	3	3	45
46	2	2	3	3	2	2	3	3	46
47	3	3	3	3	2	2	3	3	47
48	3	3	3	3	2	2	3	3	48
49	3	3	3	3	3	3	3	3	49
50	3	3	3	3	3	3	3	3	50
51	3	3	3	3	3	3	3	3	51
52	3	3	3	3	2	2	3	3	52
53	3	3	3	3	3	3	3	3	53
54	3	3	3	3	3	3	3	3	54
55	3	3	3	3	3	3	3	3	55
56	1	3	1	1	1	2	1	3	56

TABLE 2

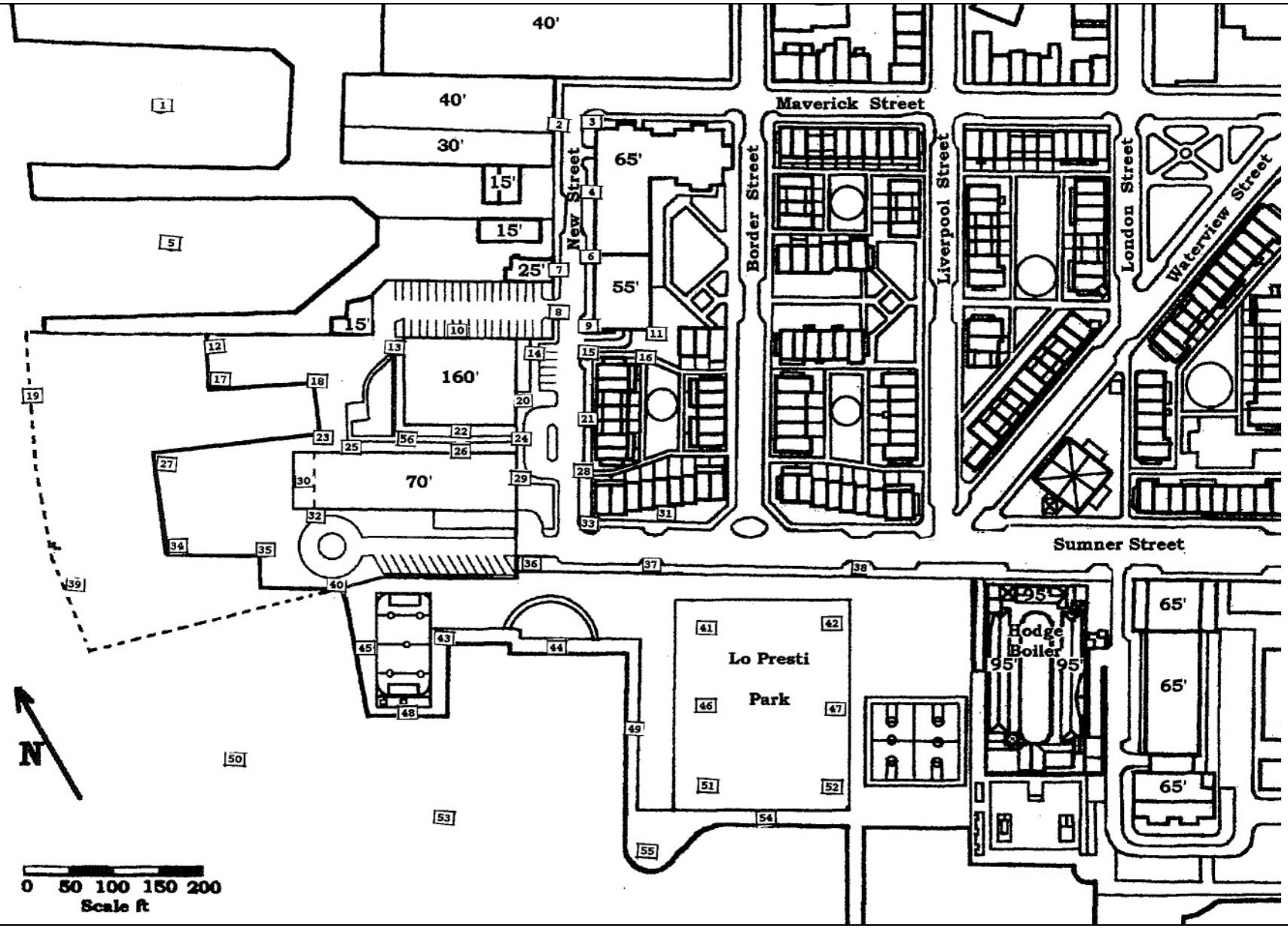
SUMMARY OF LOCATIONS THAT CHANGED CATEGORY BETWEEN EXISTING AND BUILD CONDITIONS

Direction	NW	SW	Storm	Annual
Up 2 Cat.	2	0	0	2
Up 1 Cat	5	6	6	5
No Change.	47	46	48	47
Down 1 Cat.	2	3	2	2
Down 2 Cat.	0	1	0	o



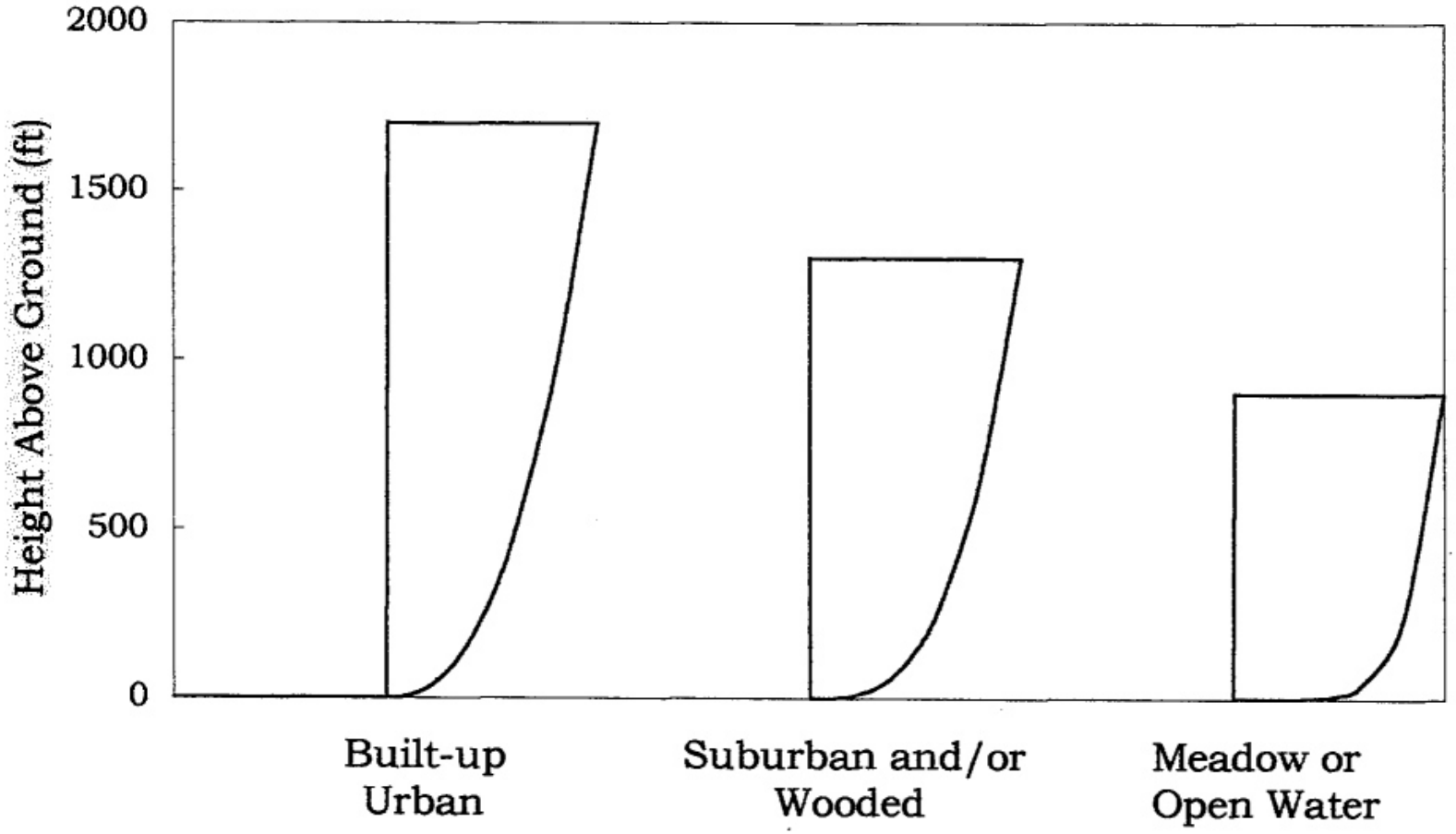
East Boston Municipal Harbor Plan Amendment
NEW STREET WIND STUDIES

Figure A3-5
Existing Conditions with Building Heights and PLW Location Numbers



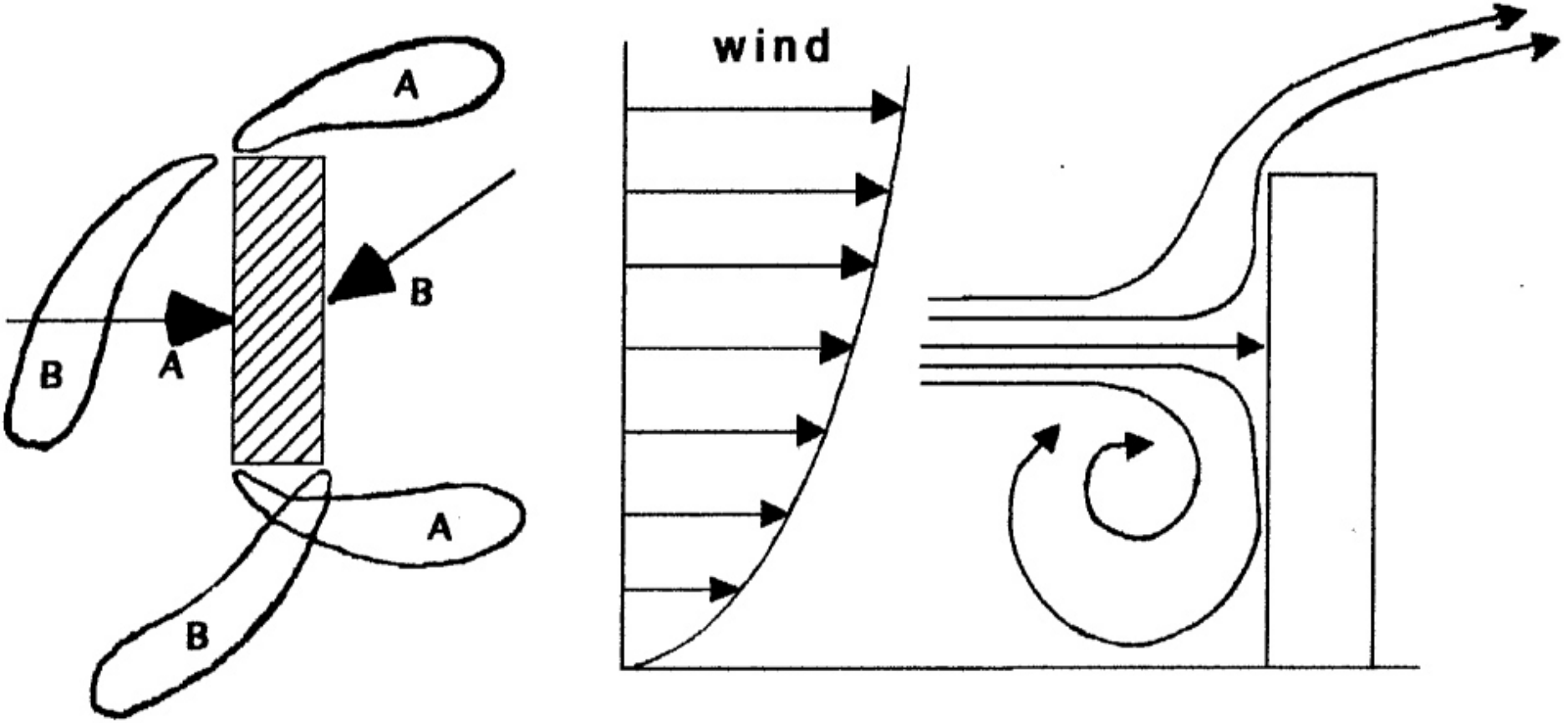
East Boston Municipal Harbor Plan Amendment
NEW STREET WIND STUDIES

Figure A3-6
Build Conditions with Building Heights
and PLW Location Numbers



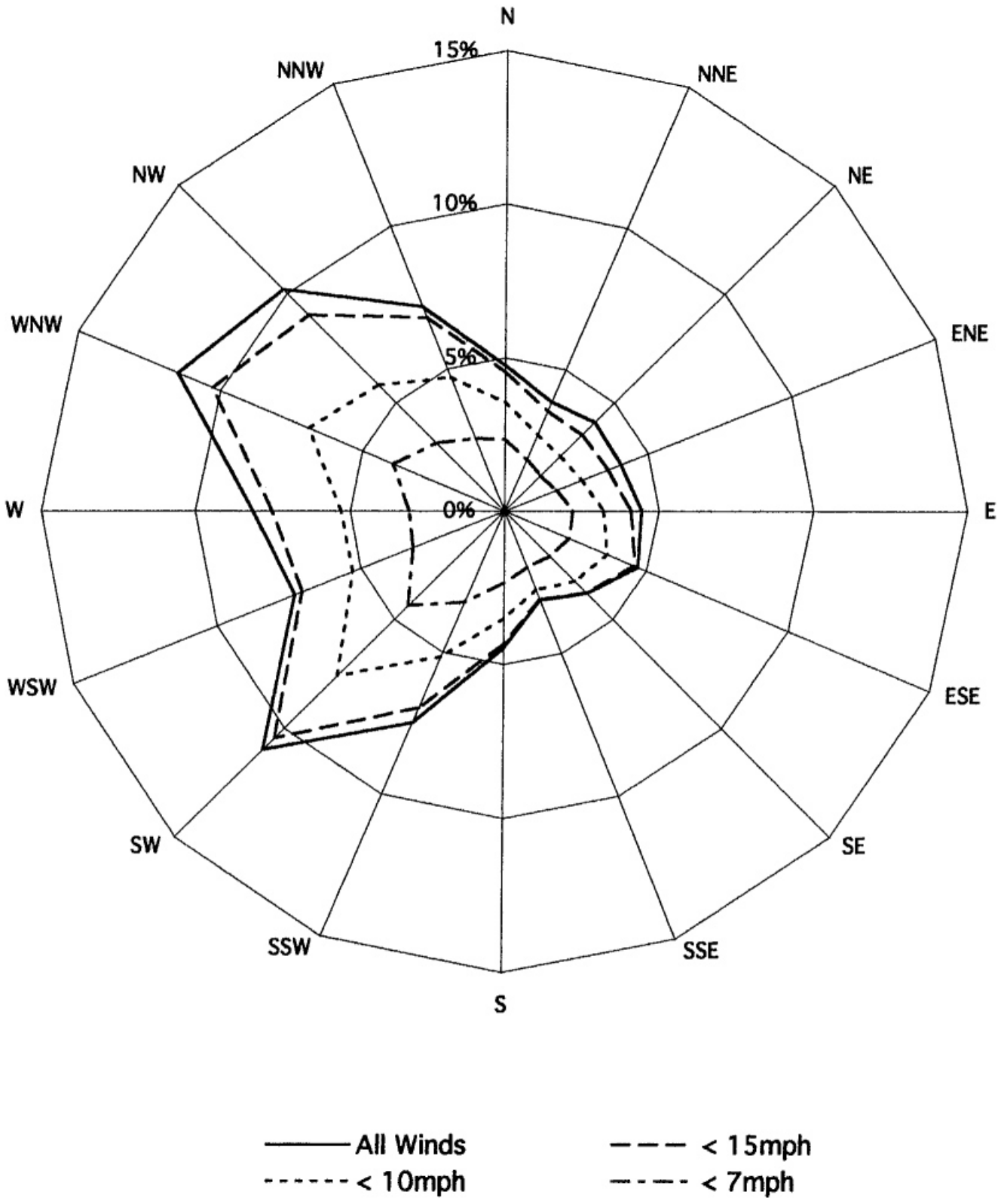
East Boston Municipal Harbor Plan Amendment
NEW STREET WIND STUDIES

Figure A3-7
Types of Earth's Boundary Layers After Davenport



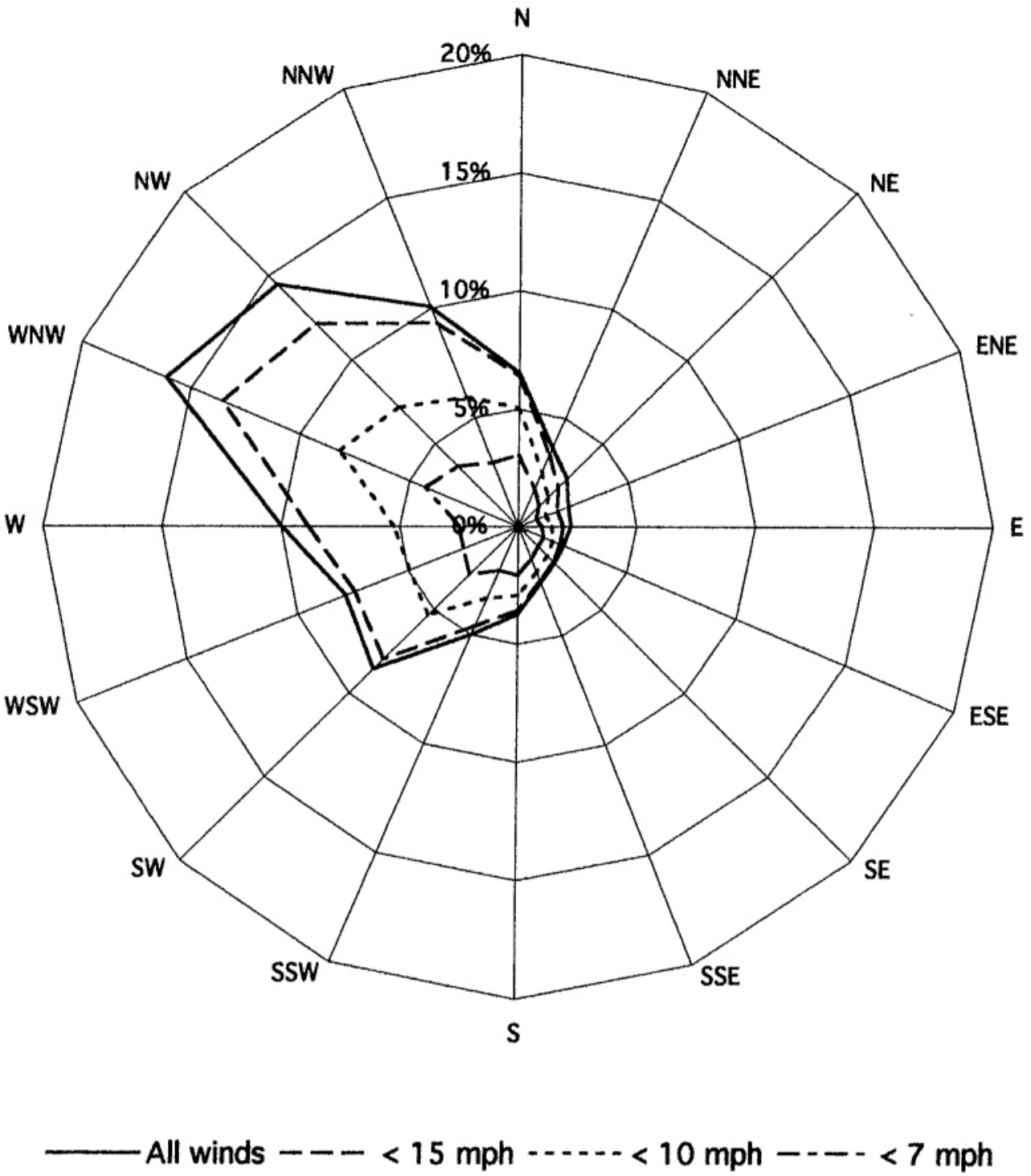
East Boston Municipal Harbor Plan Amendment
NEW STREET WIND STUDIES

Figure A3-8
Schematic of How the Wind Interacts
with an Isolated Building



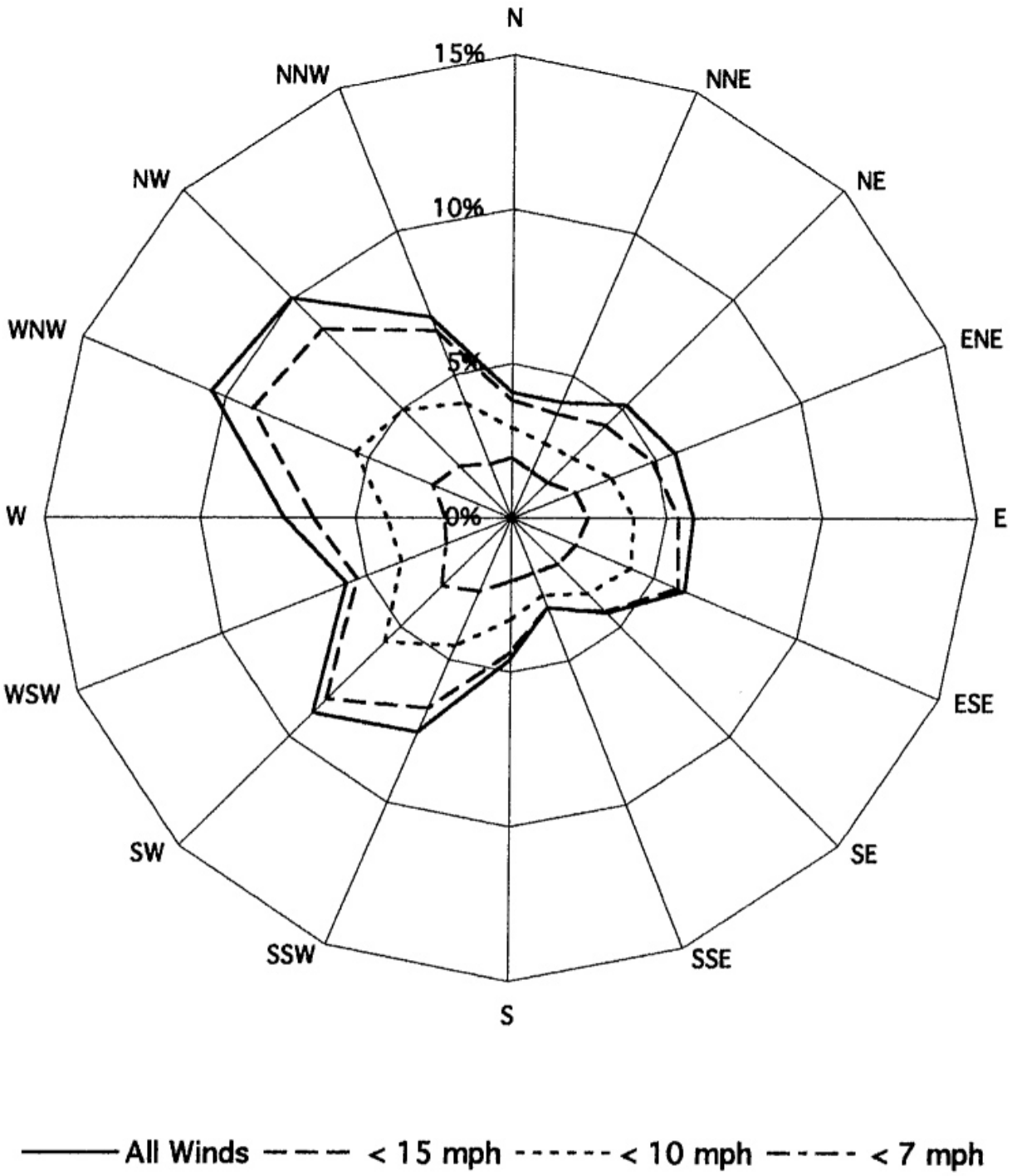
East Boston Municipal Harbor Plan Amendment
NEW STREET WIND STUDIES

Figure A3-9
Annual Pedestrian Level Wind Rose for Boston
Based on Surface Data from Logan Air Field 1945-1965



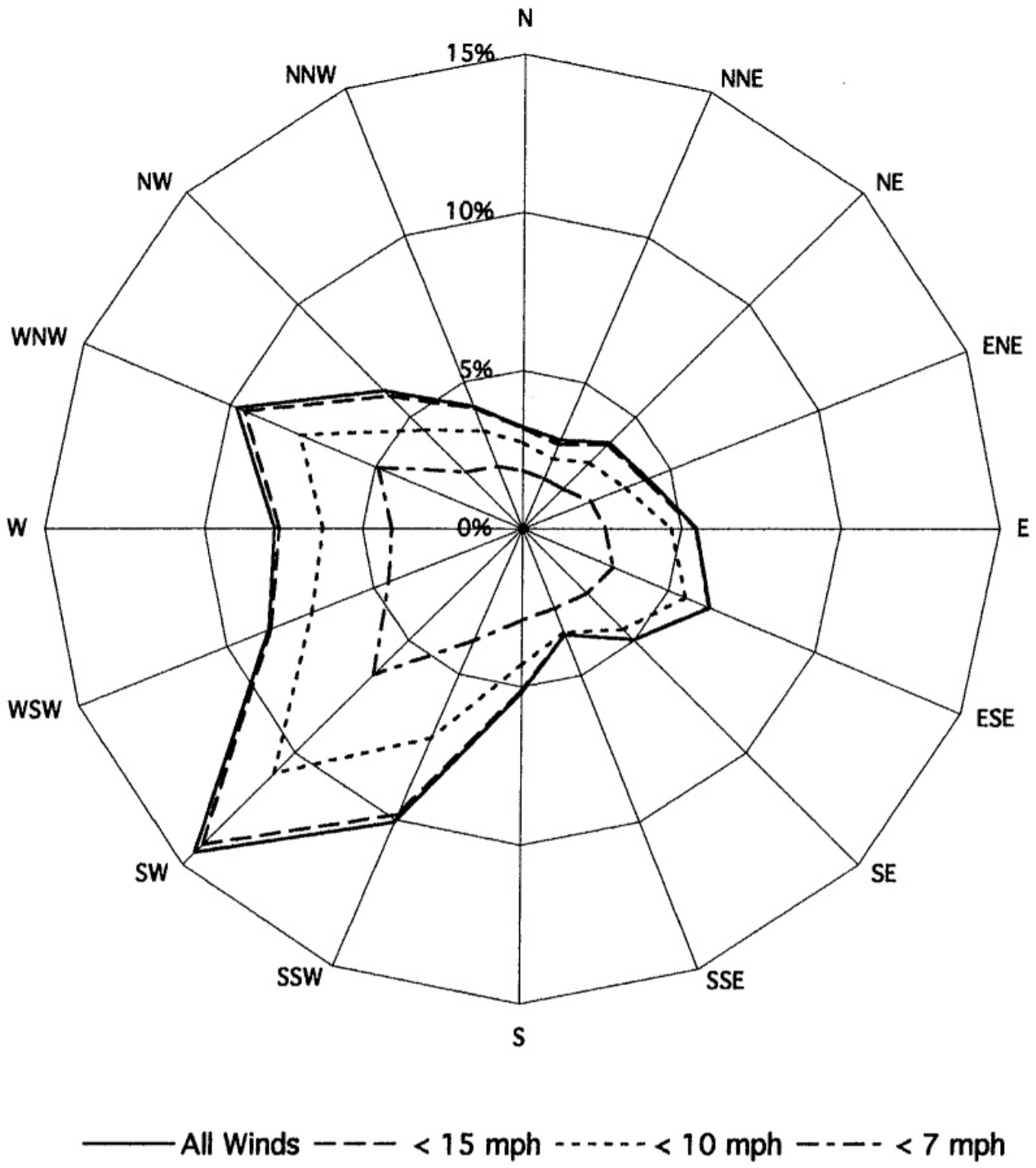
East Boston Municipal Harbor Plan Amendment
NEW STREET WIND STUDIES

Figure A3-10
Winter Pedestrian Level Wind Rose for Boston
Based on Surface Data from Logan Air Field 1945-1965



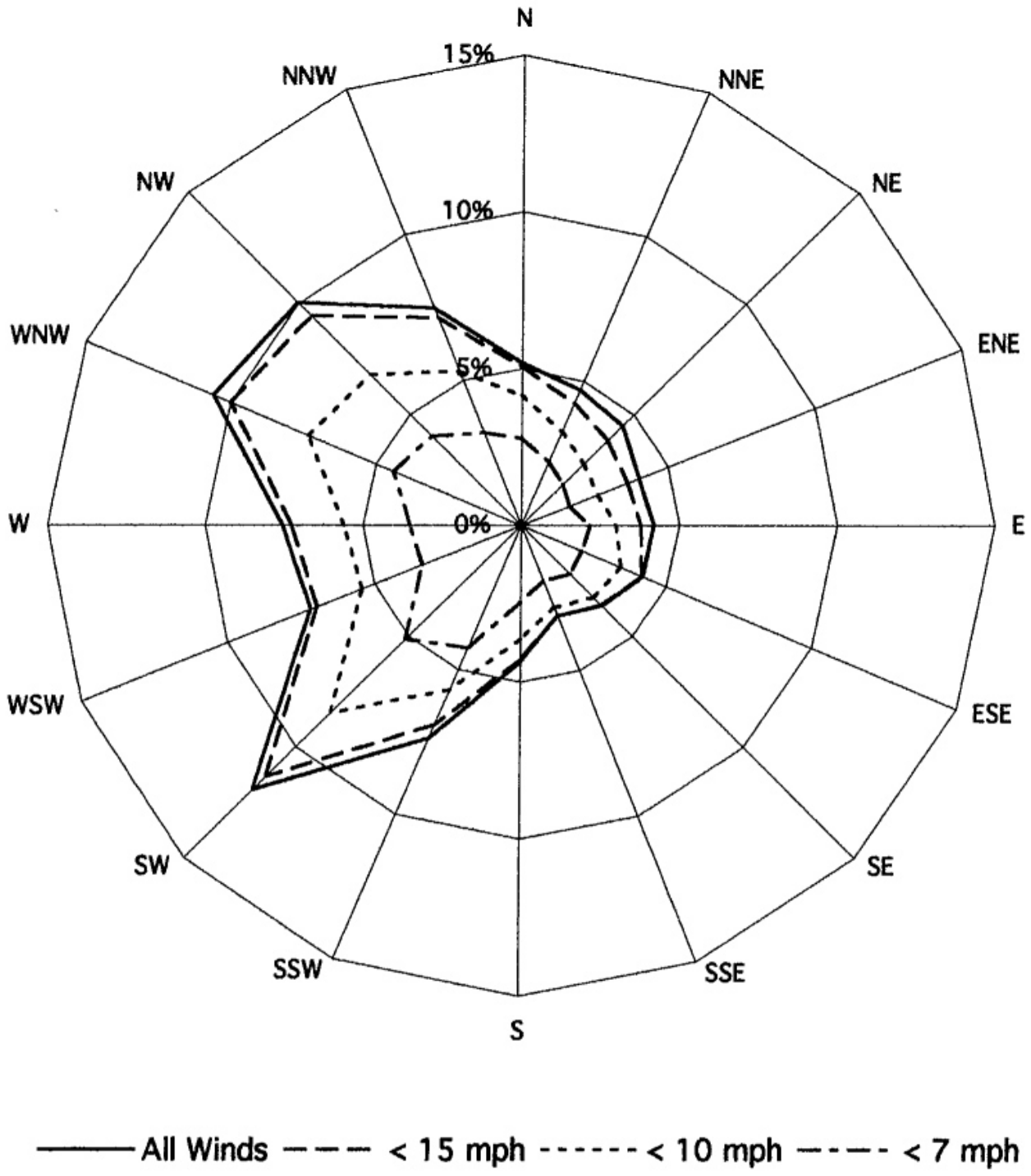
East Boston Municipal Harbor Plan Amendment
NEW STREET WIND STUDIES

Figure A3-11
Spring Pedestrian Level Wind Rose for Boston
Based on Surface Data from Logan Air Field 1945-1965



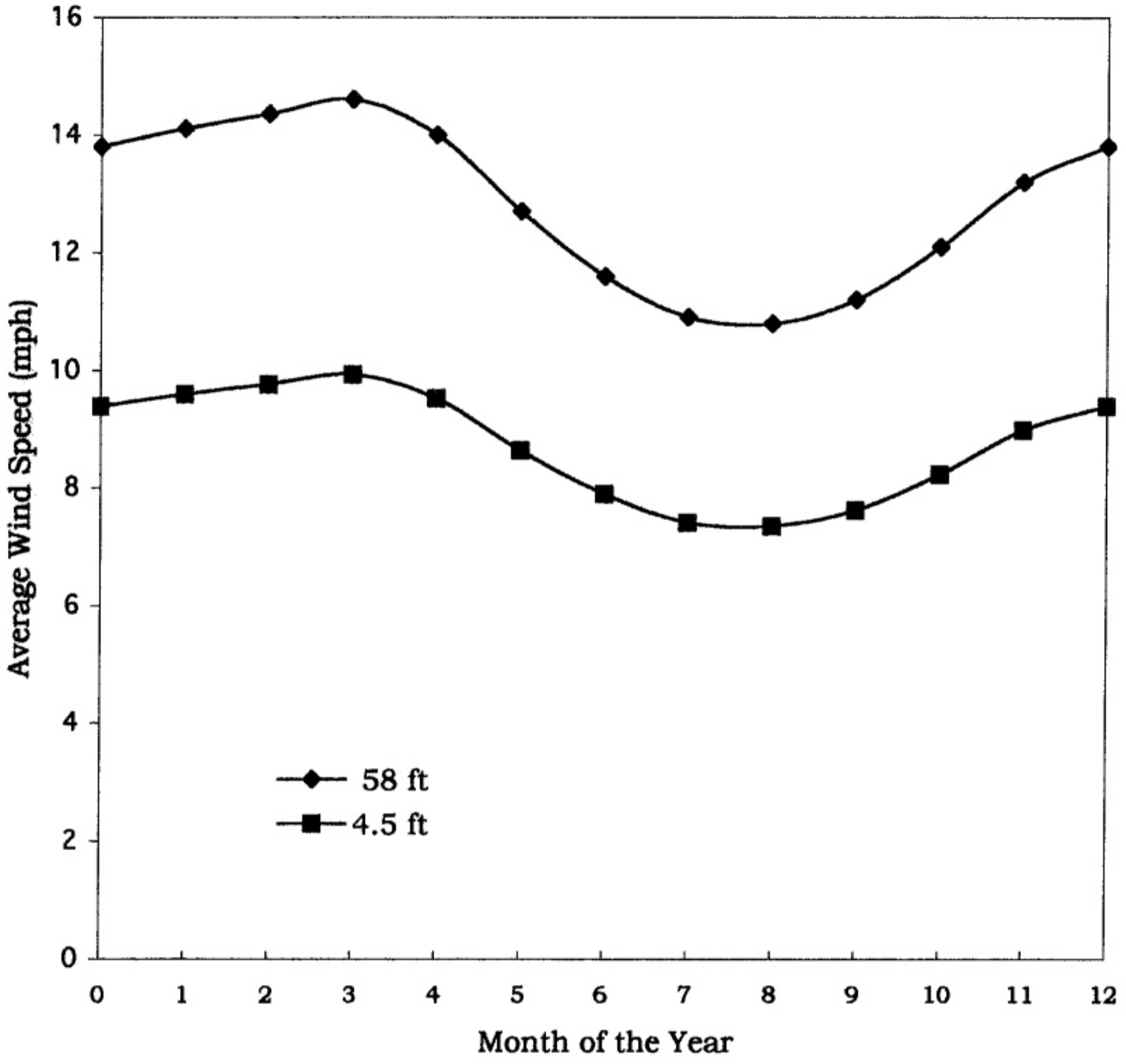
East Boston Municipal Harbor Plan Amendment
NEW STREET WIND STUDIES

Figure A3-12
Summer Pedestrian Level Wind Rose for Boston
Based on Surface Data from Logan Air Field 1945-1965



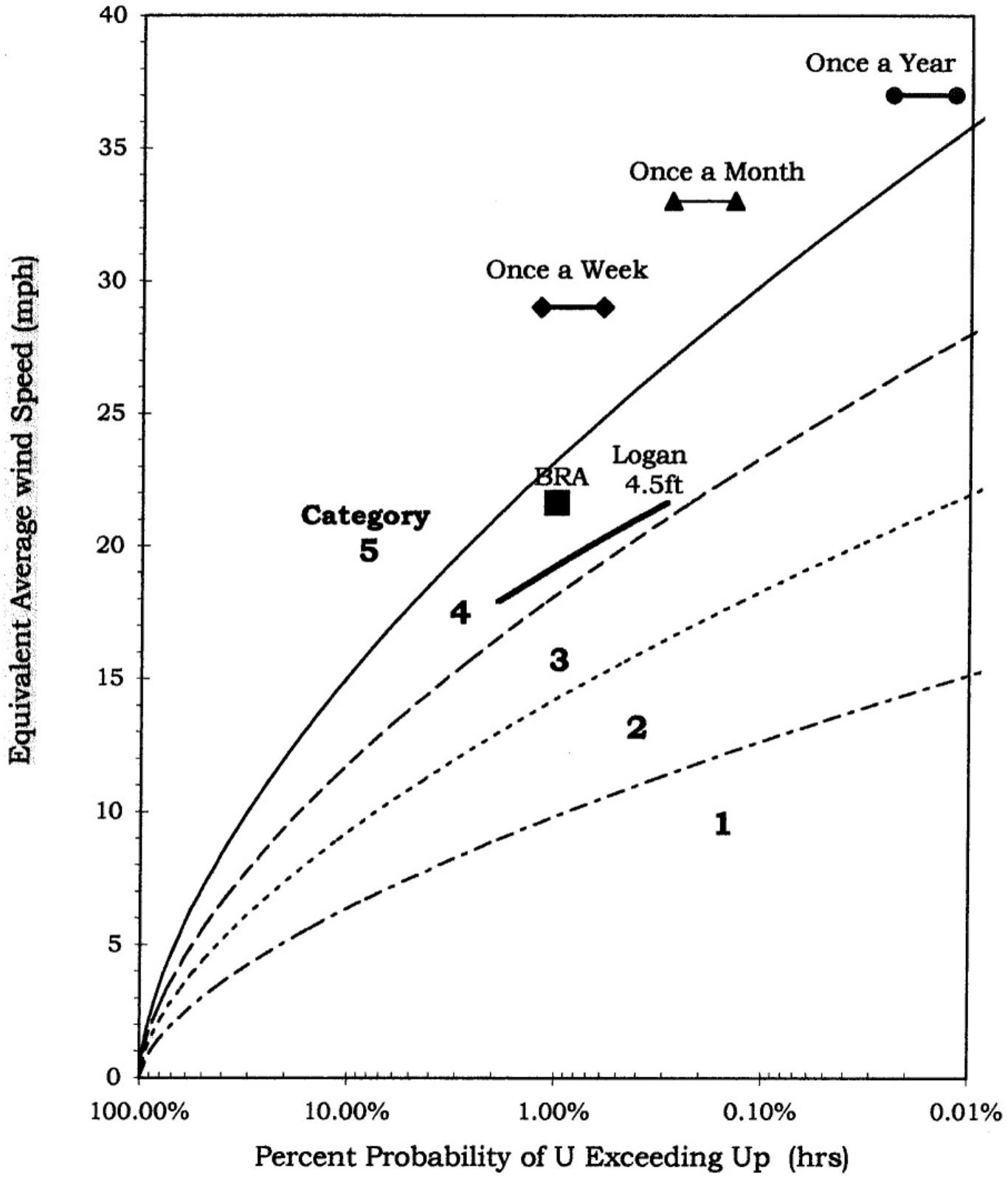
East Boston Municipal Harbor Plan Amendment
NEW STREET WIND STUDIES

Figure A3-13
Fall Pedestrian Level Wind Rose for Boston
Based on Surface Data from Logan Air Field 1945-1965



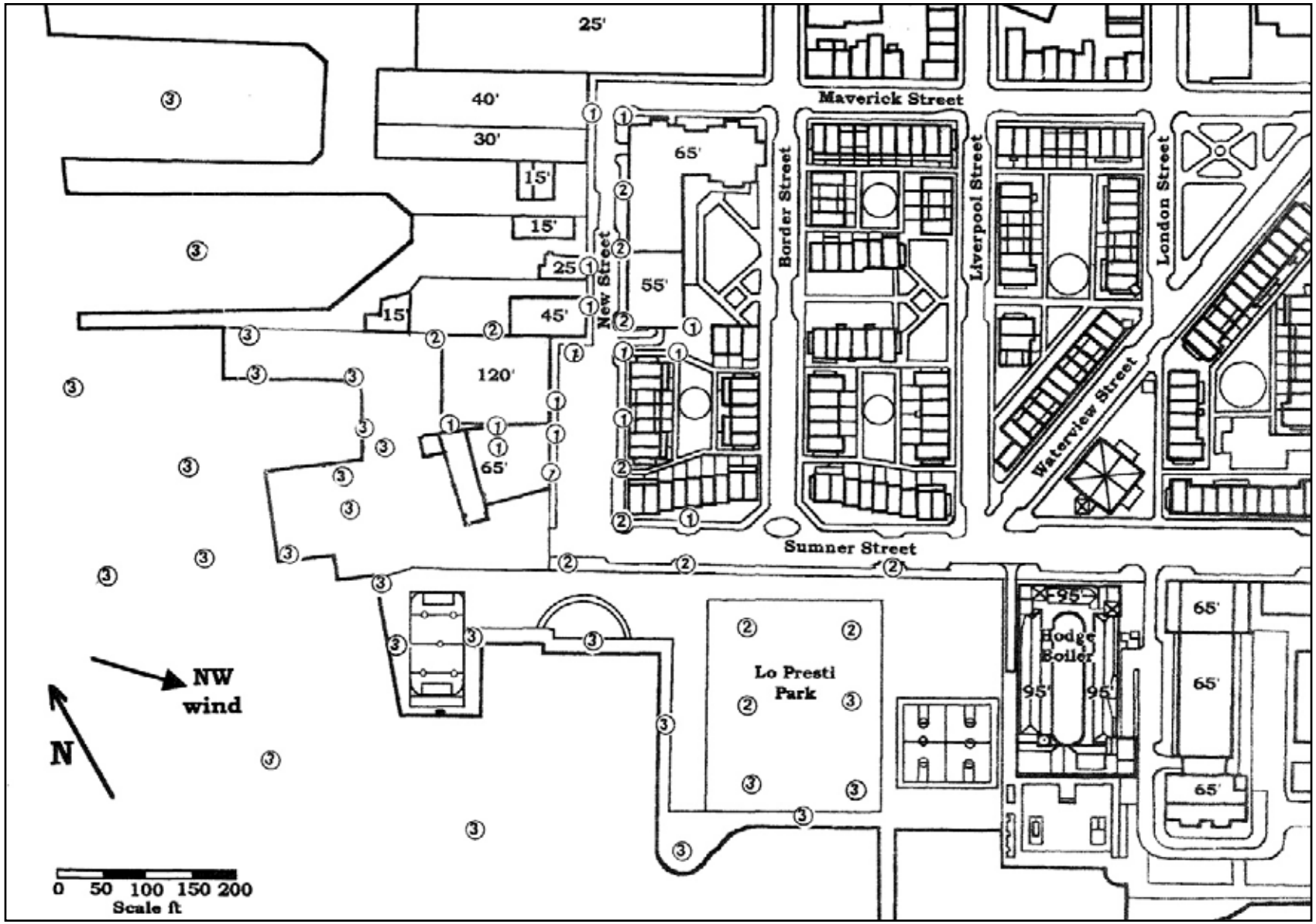
East Boston Municipal Harbor Plan Amendment
NEW STREET WIND STUDIES

Figure A3-14
Average Wind Speed at Logan Airfield
Based on Surface Data from 1945-1965



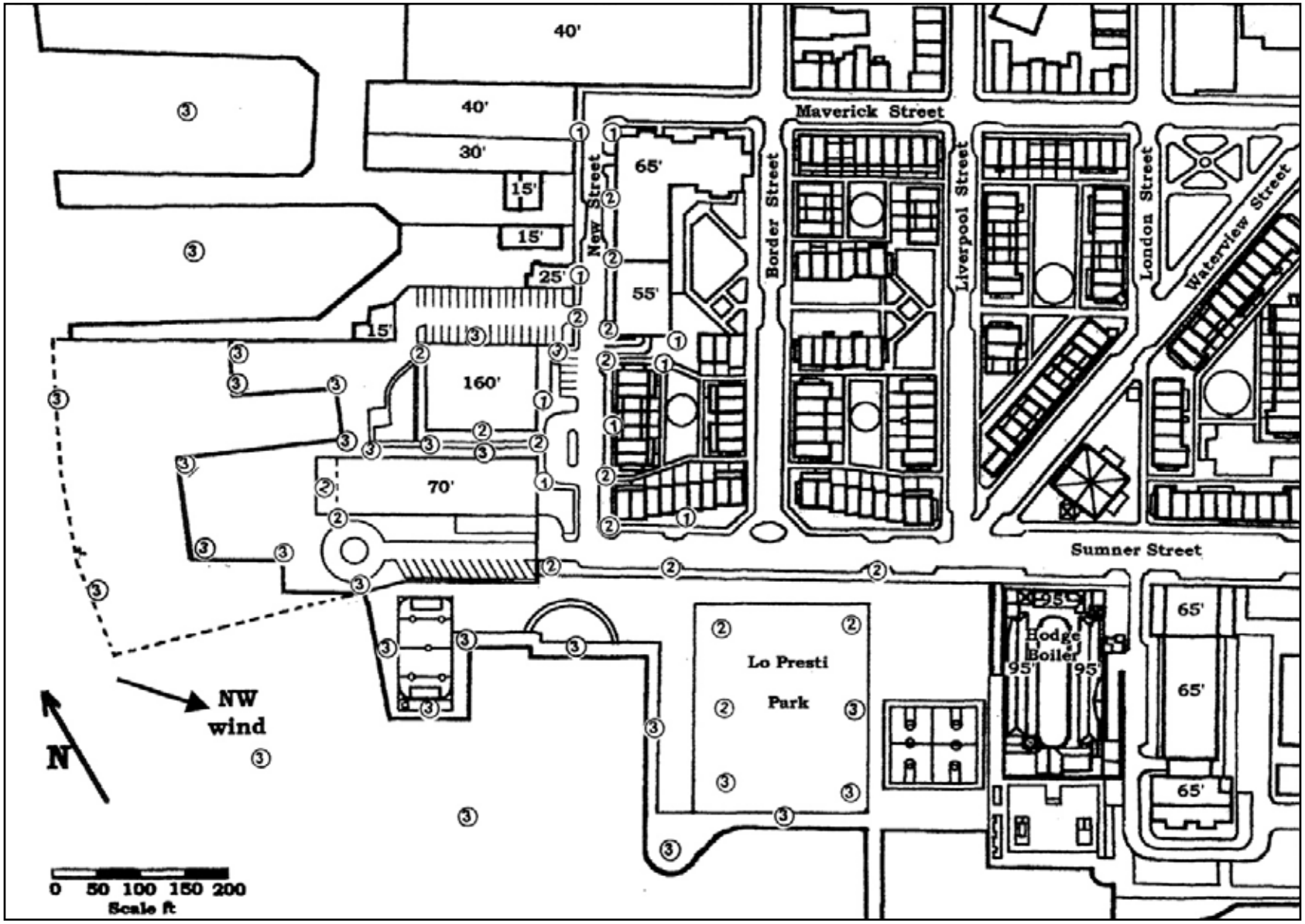
East Boston Municipal Harbor Plan Amendment
NEW STREET WIND STUDIES

Figure A3-15
Pedestrian Level Wind Criteria
for Equivalent Average Winds



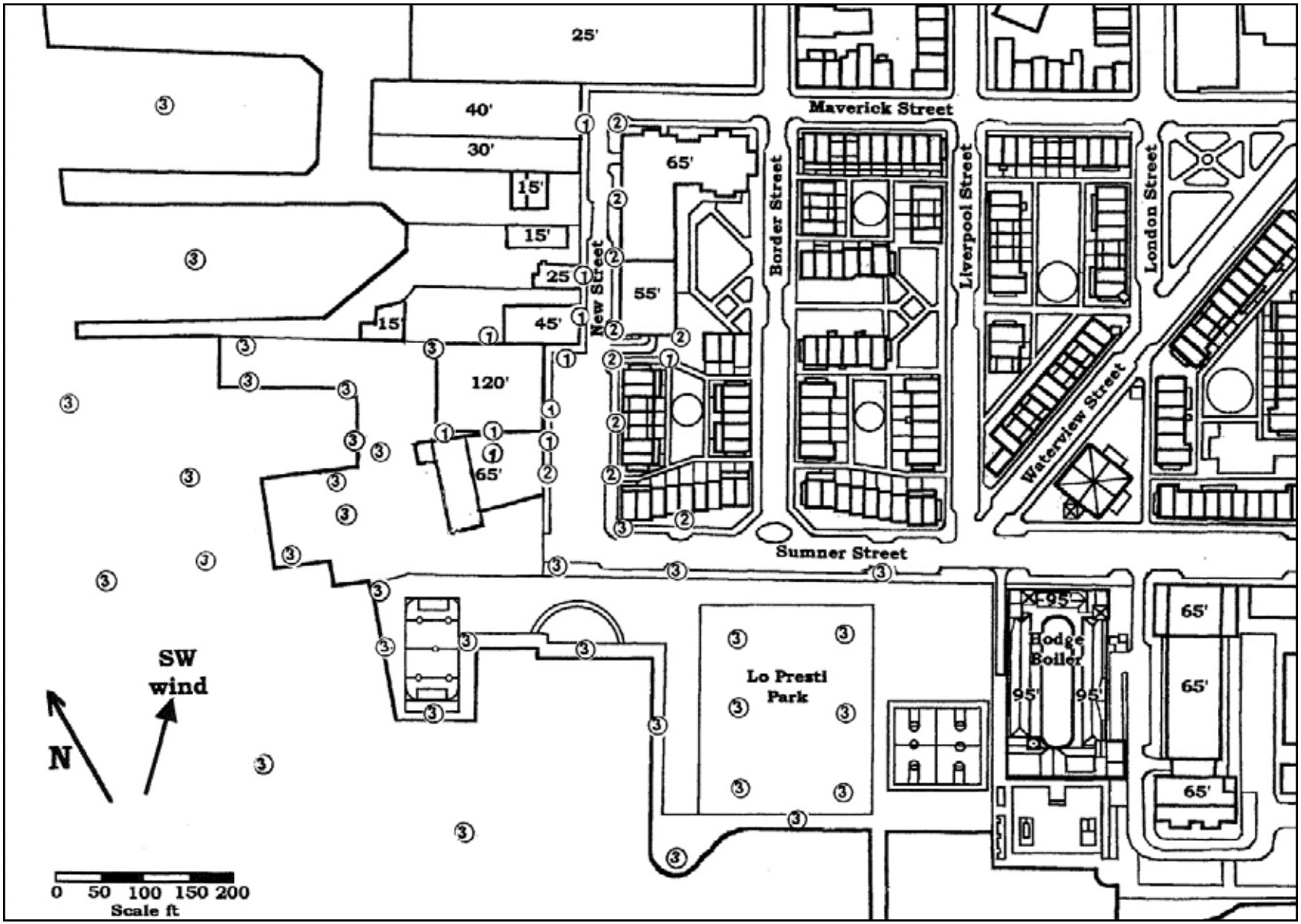
East Boston Municipal Harbor Plan Amendment
NEW STREET WIND STUDIES

Figure A3-16
Categories for Existing Conditions for NW Winds



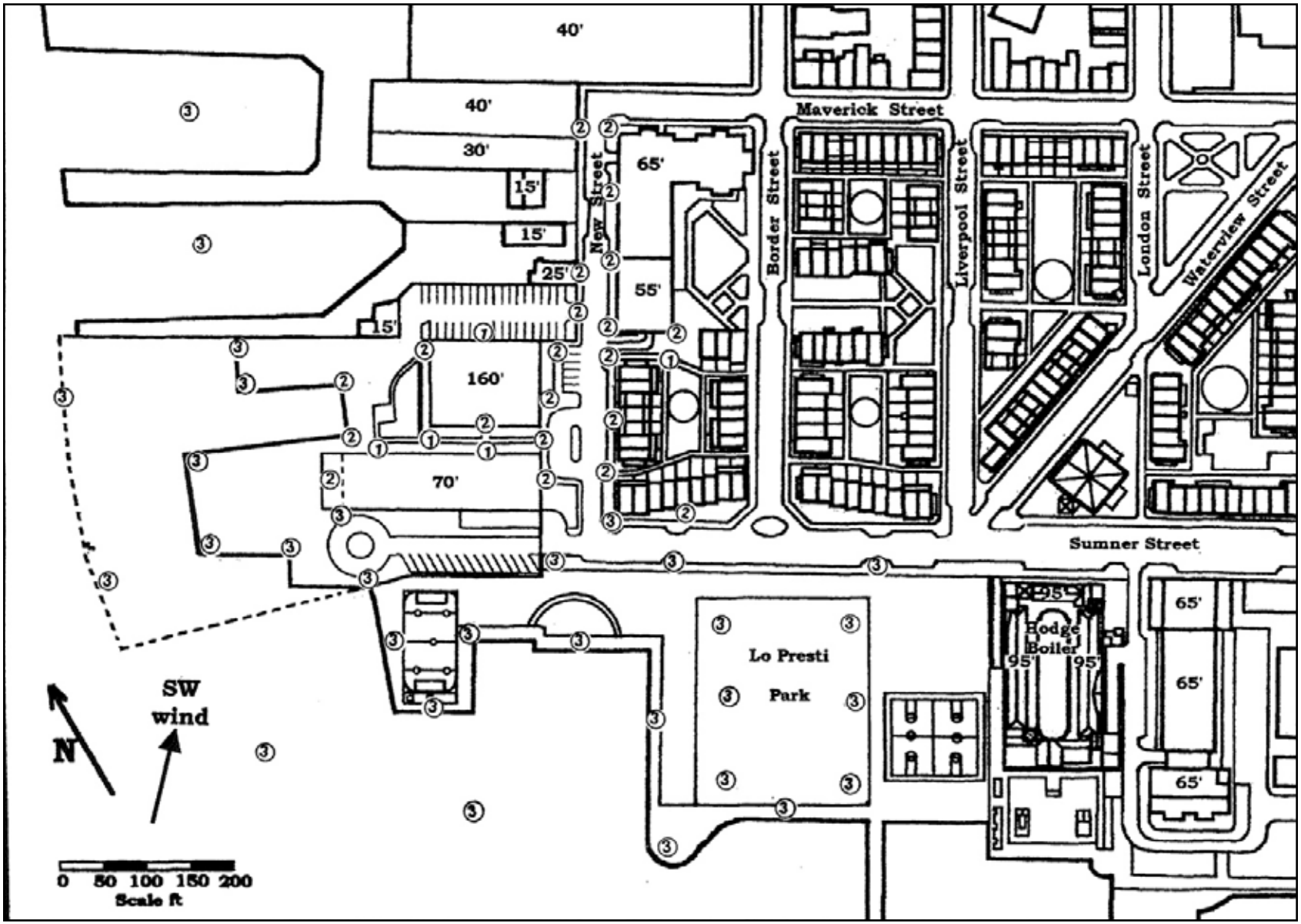
East Boston Municipal Harbor Plan Amendment
NEW STREET WIND STUDIES

Figure A3-17
Categories for Build Conditions
for NW Winds



East Boston Municipal Harbor Plan Amendment
NEW STREET WIND STUDIES

Figure A3-18
Categories for Existing Conditions
for SW Winds



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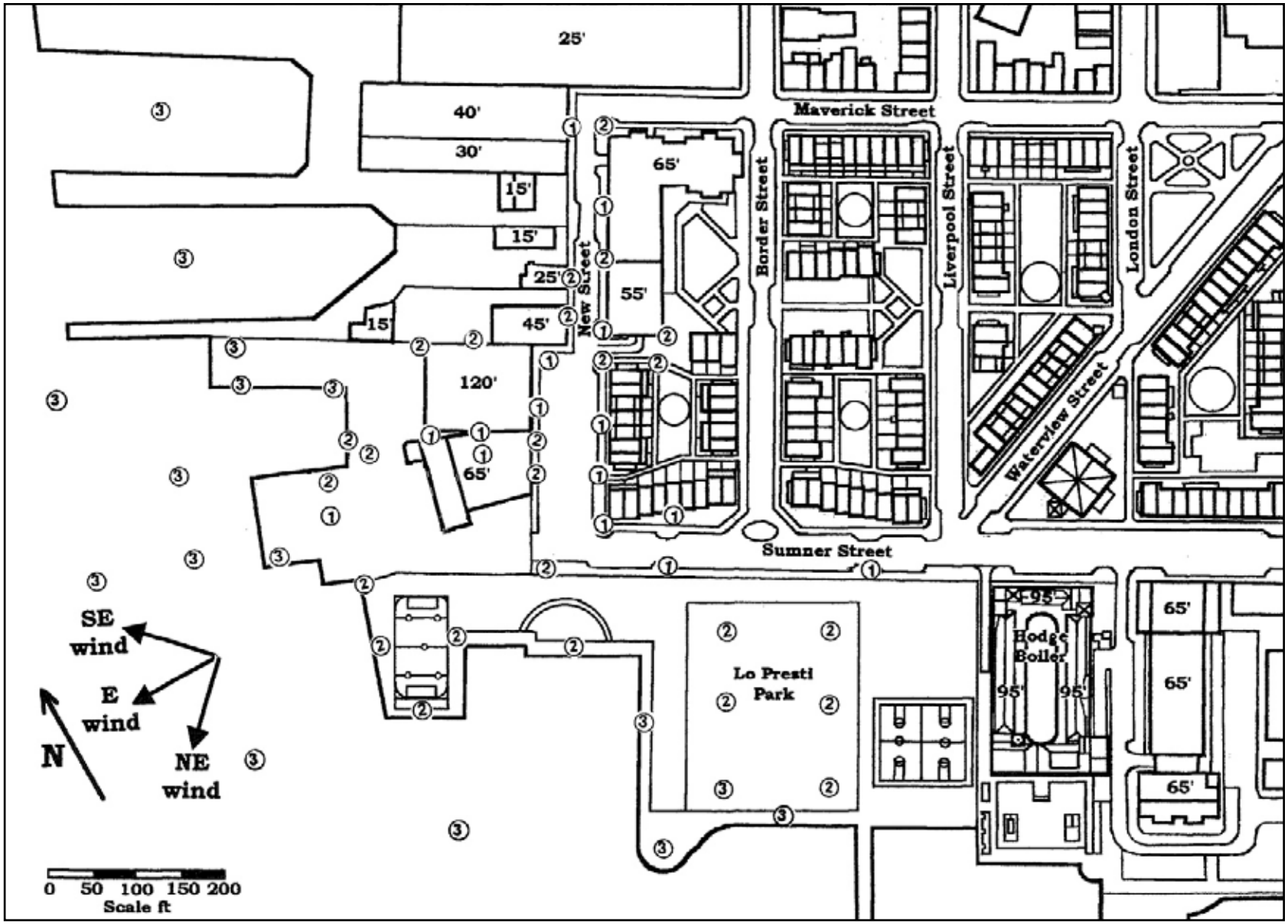
NEW STREET WIND STUDIES

Figure A3-19
Categories for Build Conditions
for SW Winds



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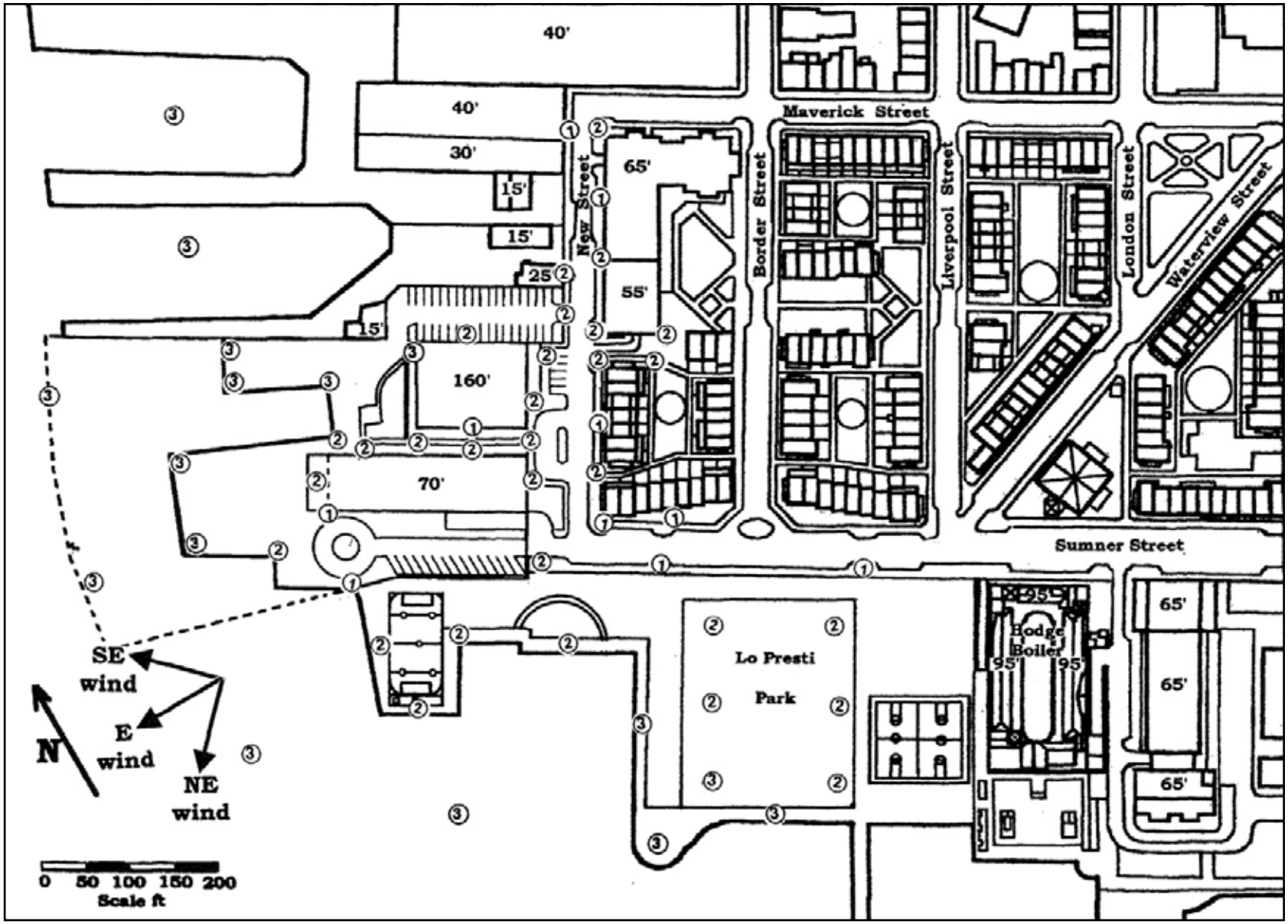
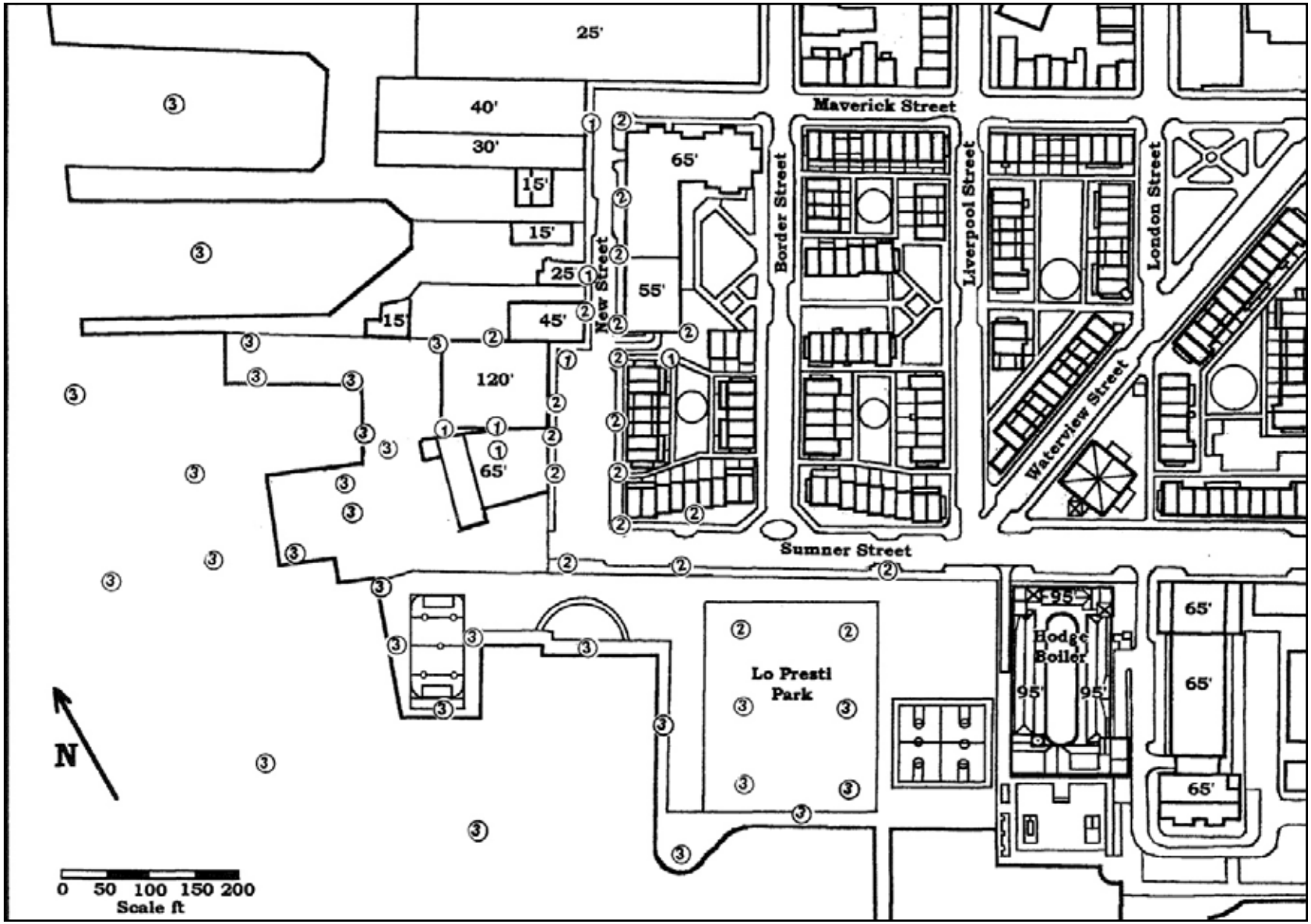
NEW STREET WIND STUDIES

Figure A3-20
Categories for Existing Conditions
for Easterly Storm Winds



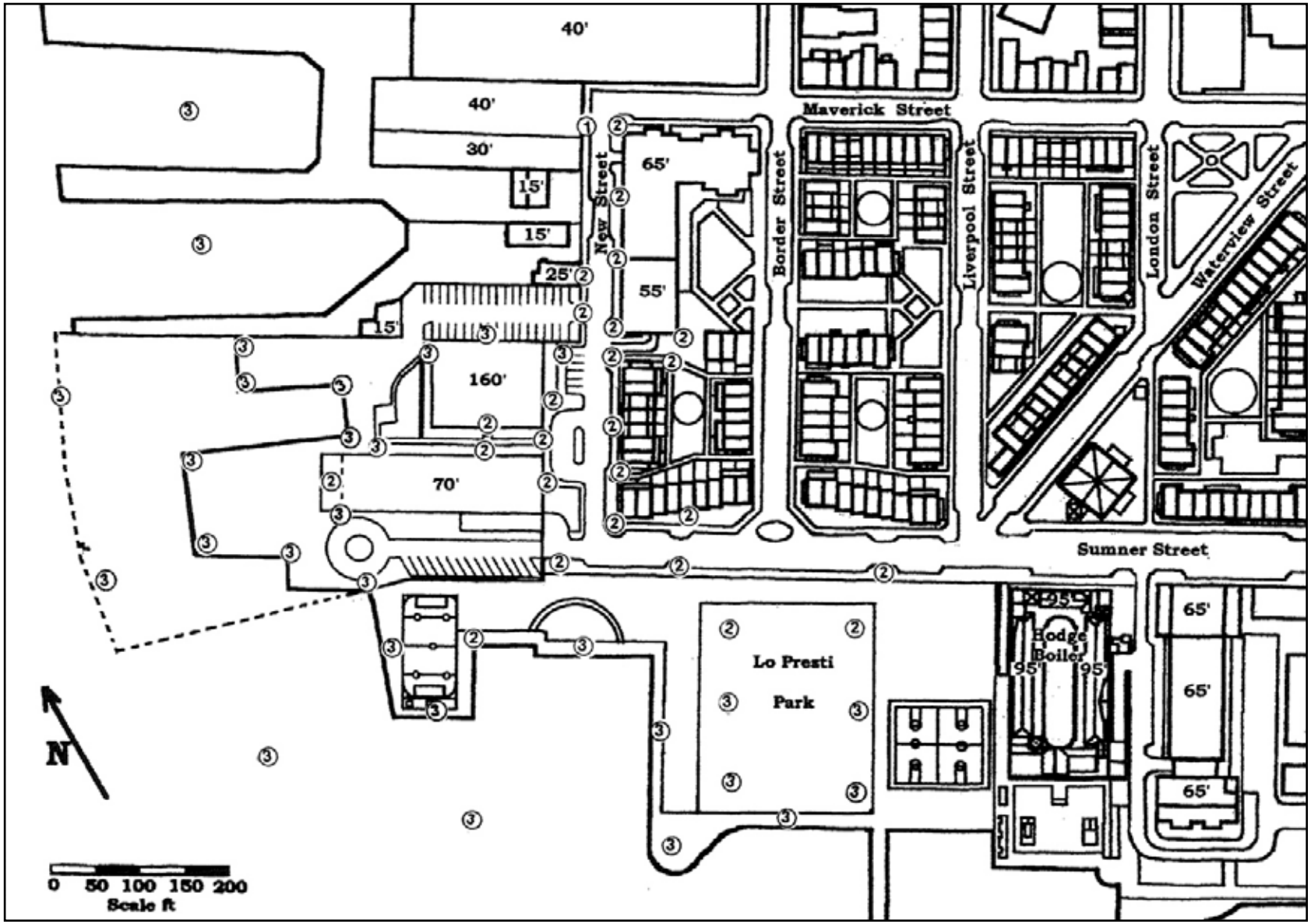
East Boston Municipal Harbor Plan Amendment
NEW STREET WIND STUDIES

Figure A3-21
Categories for Build Conditions
for Easterly Storm Winds



East Boston Municipal Harbor Plan Amendment
NEW STREET WIND STUDIES

Figure A3-22
Annual Categories for Existing Conditions



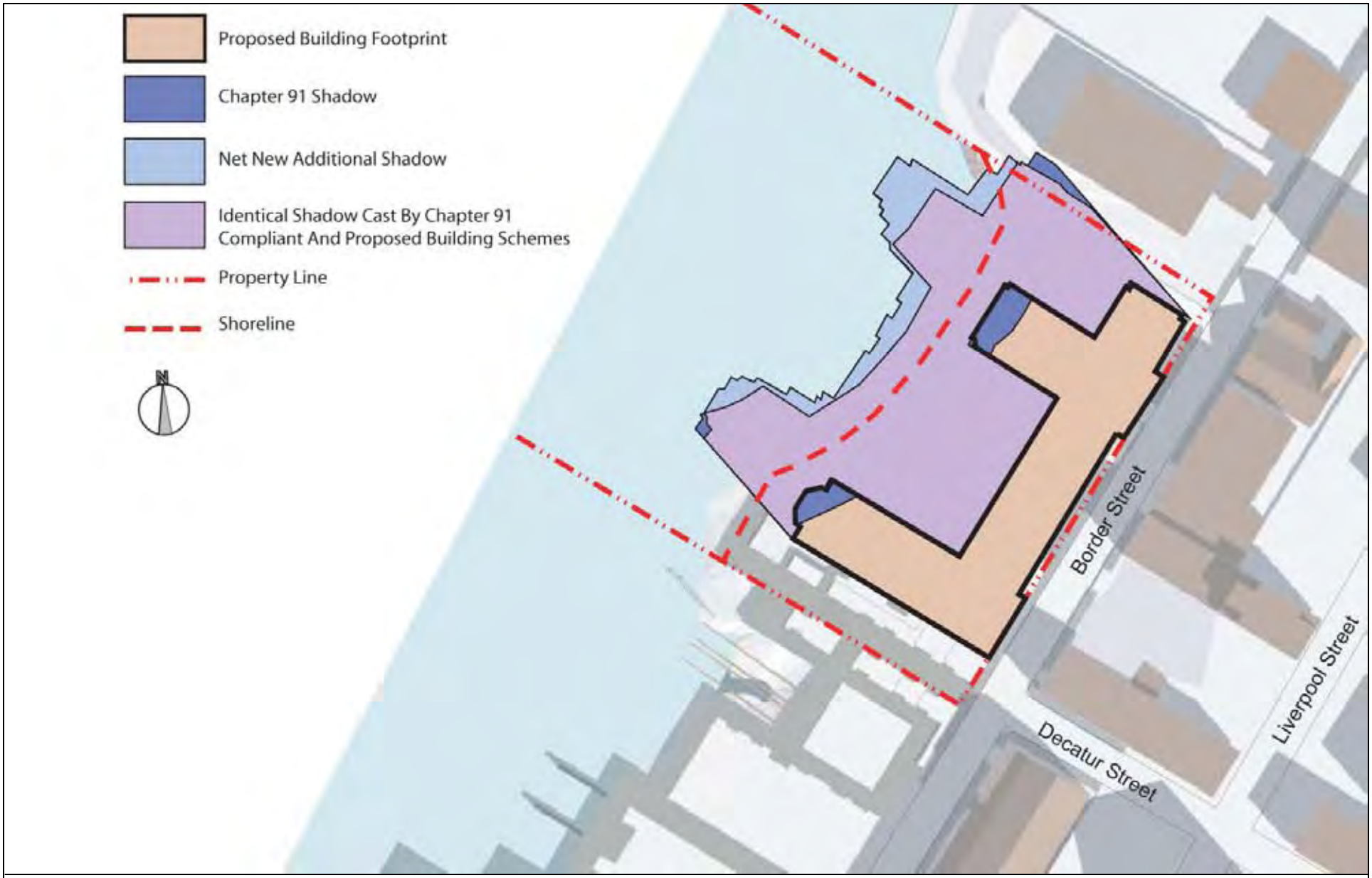
East Boston Municipal Harbor Plan Amendment
NEW STREET WIND STUDIES

Figure A3-23
Annual Categories for Build Conditions

APPENDIX 4 – BOSTON EAST: SHADOW STUDIES

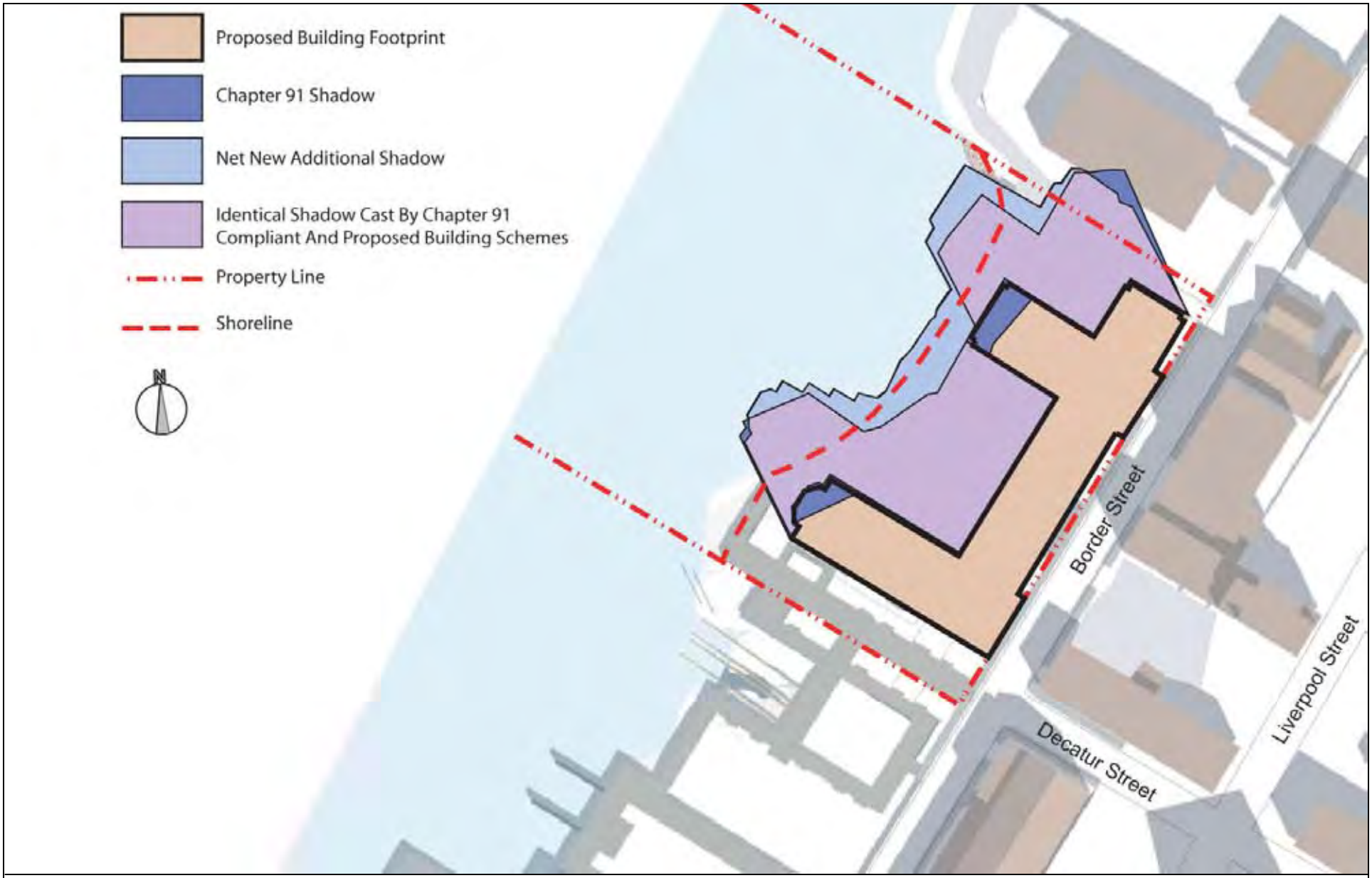
East Boston Municipal Harbor Plan Amendment
BOSTON EAST

Figure A4-1
Shadow Studies: 9am, October 23



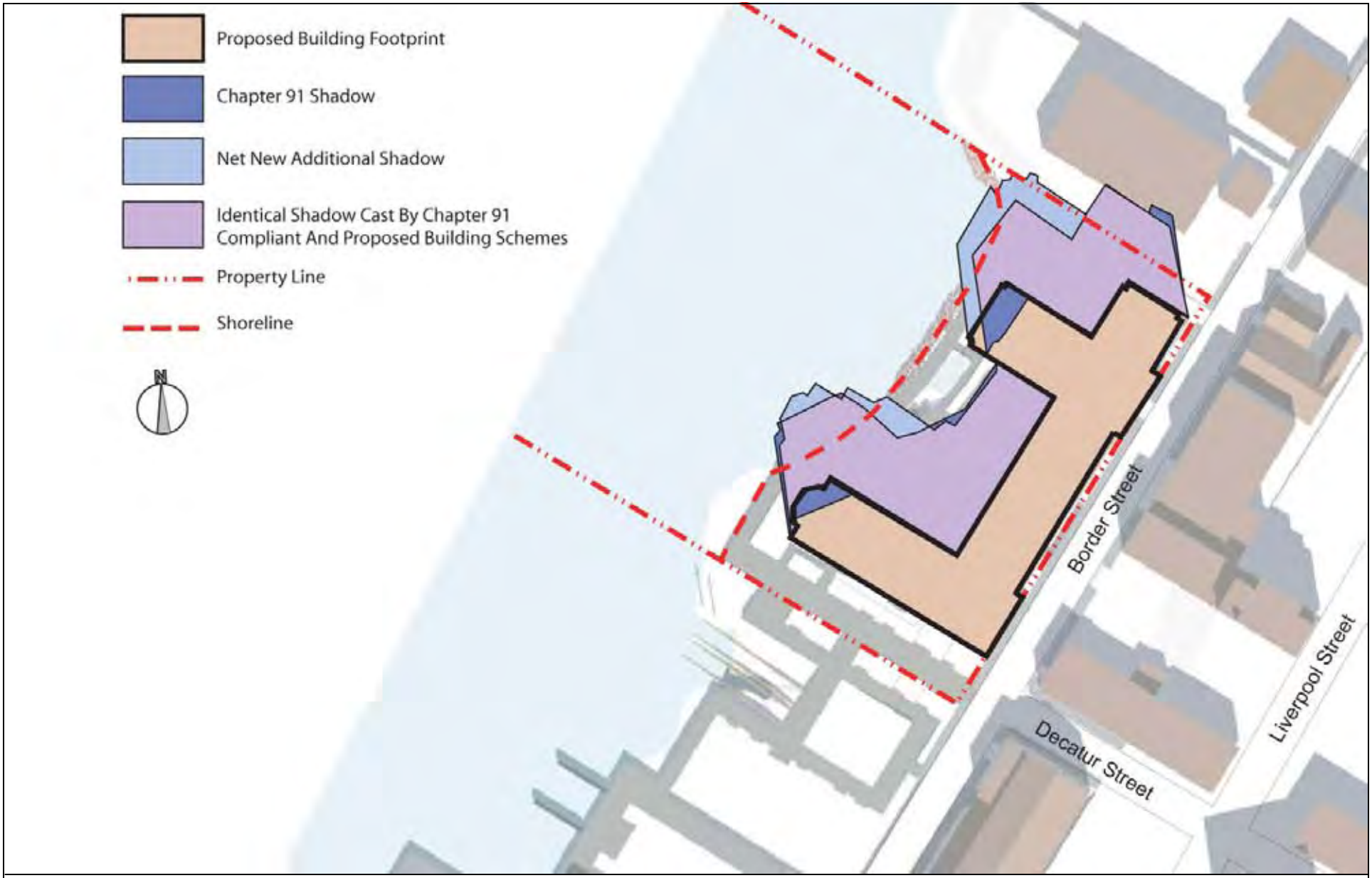
East Boston Municipal Harbor Plan Amendment
BOSTON EAST

Figure A4-2
Shadow Studies: 10am, October 23



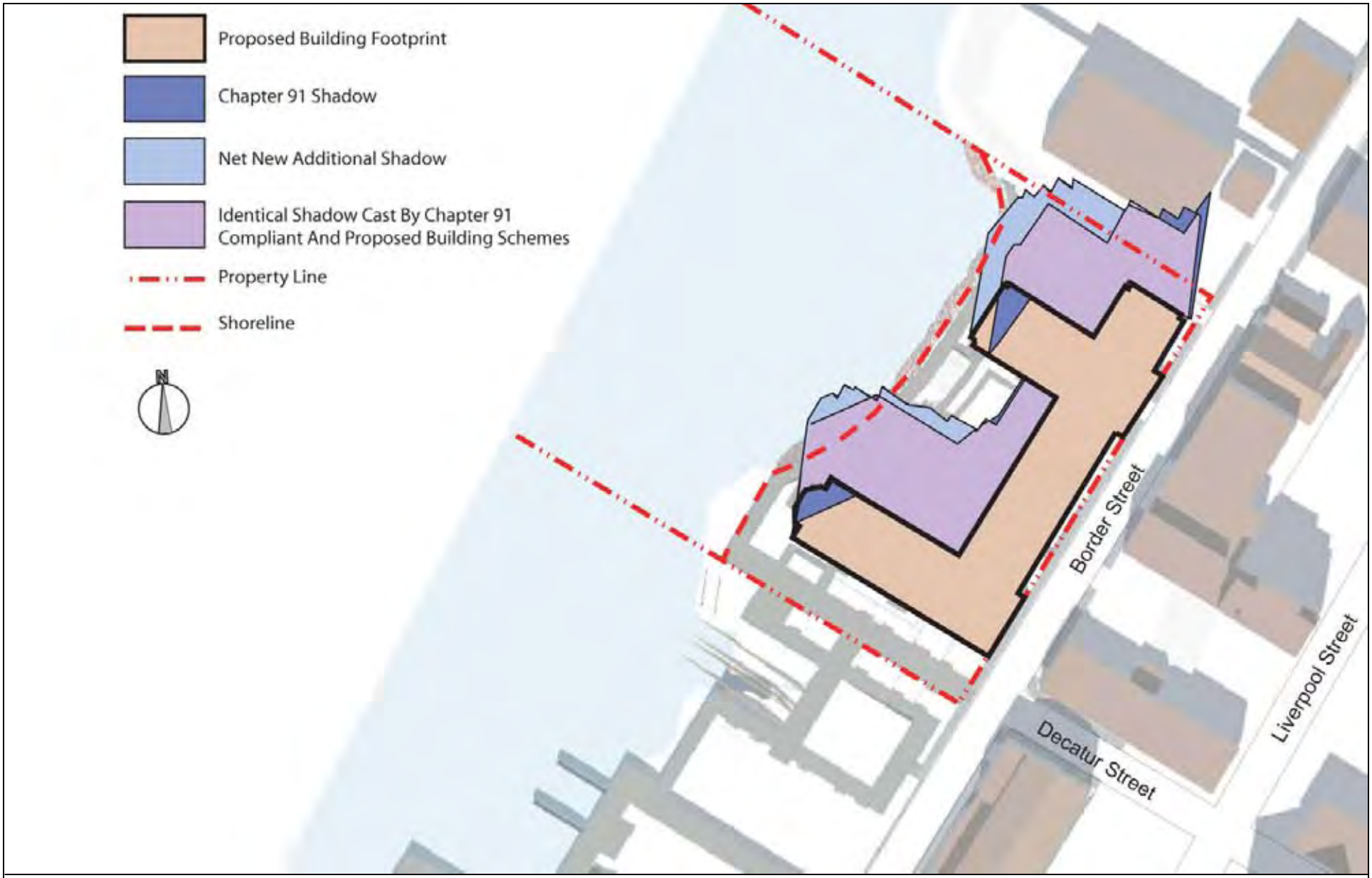
East Boston Municipal Harbor Plan Amendment
BOSTON EAST

Figure A4-3
Shadow Studies: 11am, October 23



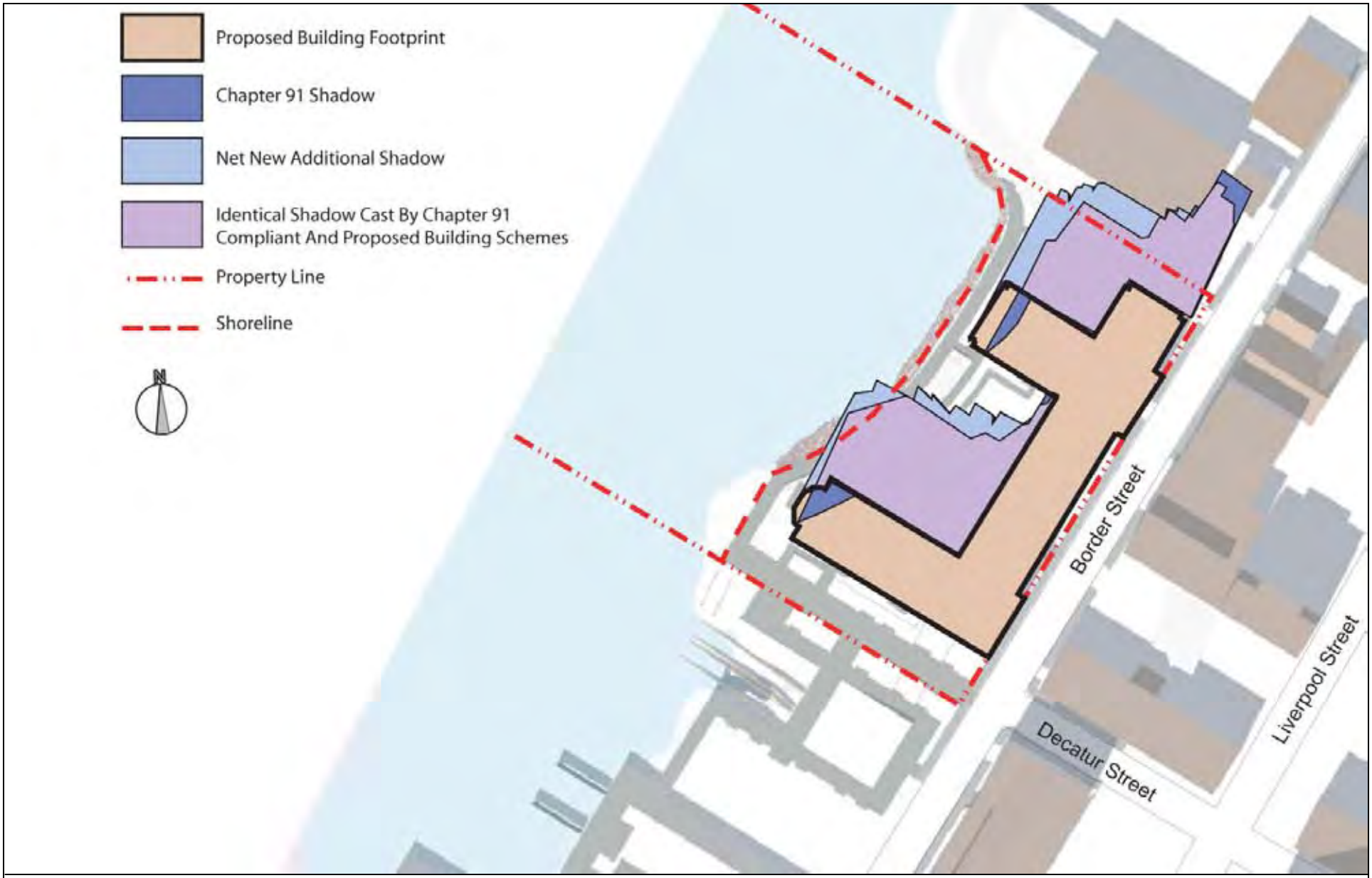
East Boston Municipal Harbor Plan Amendment
BOSTON EAST

Figure A4-4
Shadow Studies: 12pm, October 23



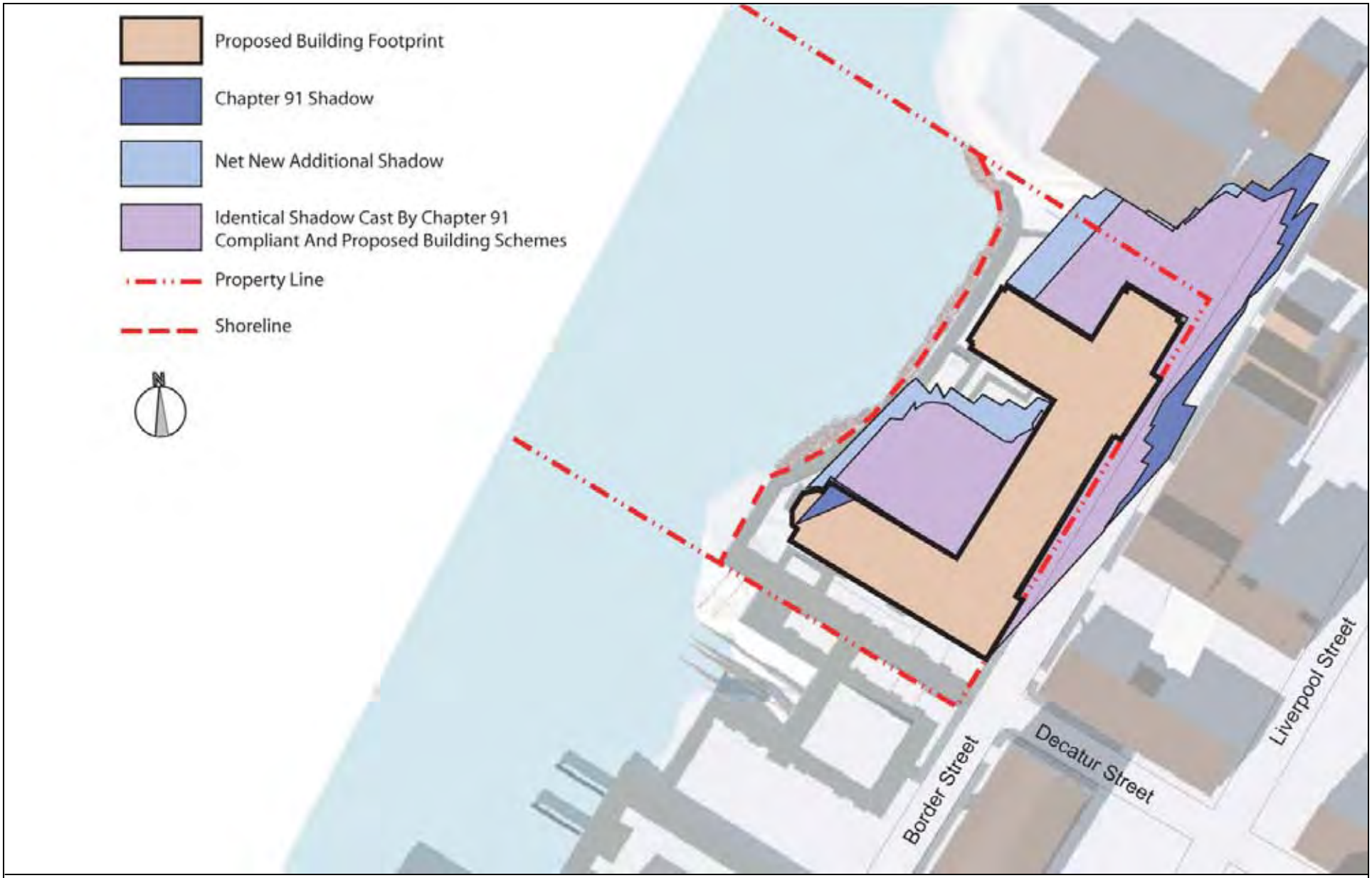
East Boston Municipal Harbor Plan Amendment
BOSTON EAST

Figure A4-5
Shadow Studies: 1pm, October 23



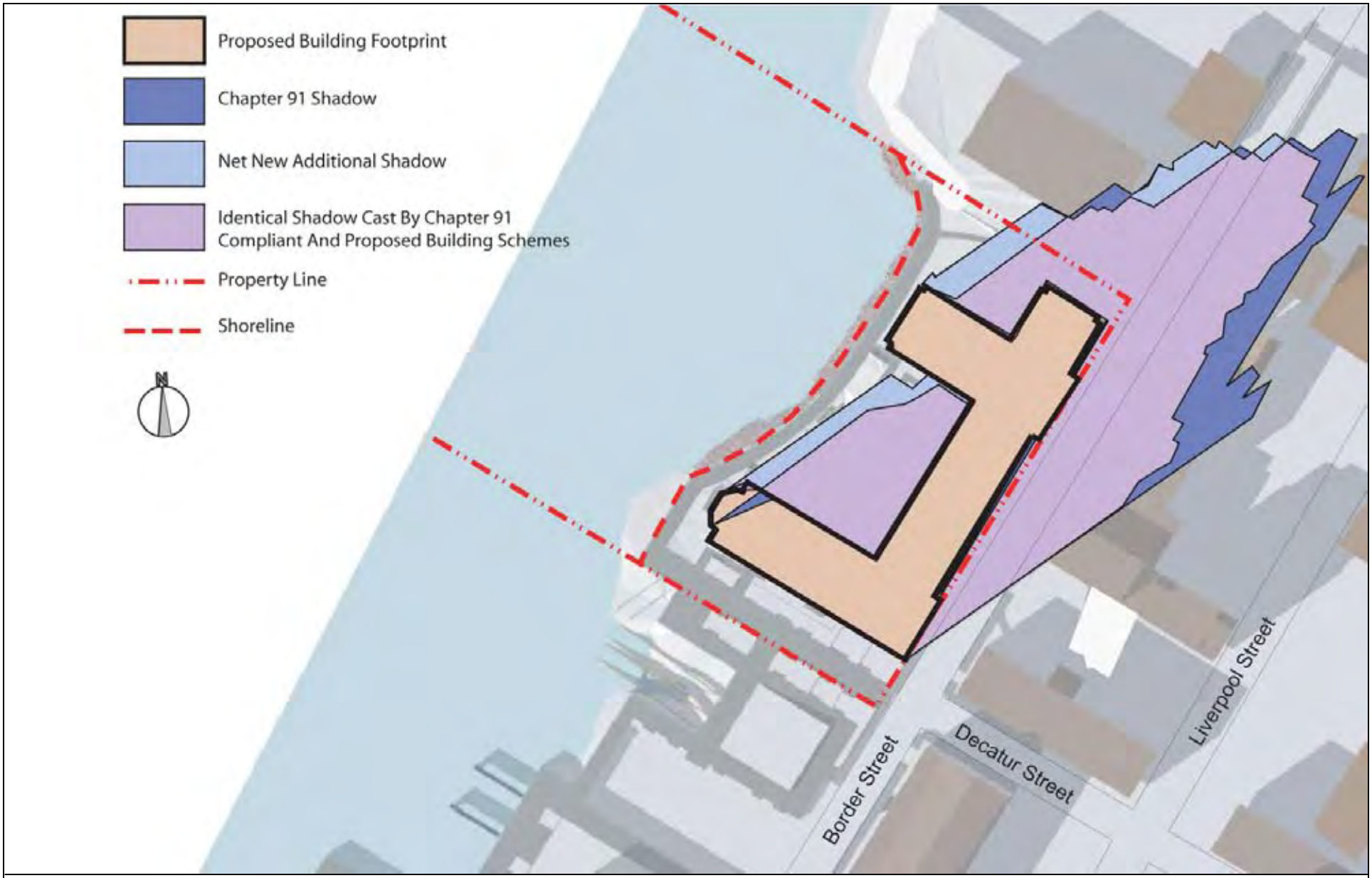
East Boston Municipal Harbor Plan Amendment
BOSTON EAST

Figure A4-6
Shadow Studies: 2pm, October 23



East Boston Municipal Harbor Plan Amendment
BOSTON EAST

Figure A4-7
Shadow Studies: 3pm, October 23



East Boston Municipal Harbor Plan Amendment
BOSTON EAST

Figure A4-8
Shadow Studies: 4pm, October 23

APPENDIX 5 – BOSTON EAST: WIND STUDIES

A QUALITATIVE ASSESSMENT OF PEDESTRIAN LEVEL WINDS FOR THE PROPOSED SEVEN-STORY BUILDING AND A MARINA AT 108-148 BORDER STREET IN EAST BOSTON, MASSACHUSETTS

BY FRANK H. DURGIN, P.E.

1.0 SUMMARY

A qualitative assessment has been made to determine the effect on pedestrian level winds (PLWs) of a proposed one-story Marina building and a seven-story residence building along the harbor side of Border Street in East Boston, Massachusetts. Results are obtained for both existing and build conditions for NW (winter), SW (summer), easterly storm, and annual winds.

None of the forty-six locations considered for either existing or build conditions is estimated to have PLWs that exceed the Boston Redevelopment Authority (BRA) guideline wind speed. No location is predicted to have dangerous winds as often as once a year. In fact, no location is predicted to have PLWs higher than Category 3 (comfortable for walking) for either existing or build conditions for any of the wind conditions considered.

Overall, the addition of the proposed buildings tends to reduce PLWs in the vicinity of the two buildings due to their sheltering affects, although winds are increased somewhat near the corners of the 80-foot building.

Detailed results are presented in Figures 12-19 and Table 1 and are summarized in Table 2. For this assessment, it has been assumed that there is no landscaping for existing conditions and none associated with the new building.

2.0 INTRODUCTION

This is an assessment of the effect of a proposed one-story Marina building and a seven-story residence building along the harbor side of Border Street in East Boston, Massachusetts, on PLWs in its vicinity. The assessment is based on:

1 A set of elevations and a site plan of the proposed buildings dated June 4 and 15 received June 20, 2007, from Fort Point Associates, Inc. (FPA);

2 A second updated site plan (no date) received from FPA July 24, 2007;

3 Heights of several tall buildings obtained from other studies done by the author for sites S of this site;

4 Twenty photographs taken during a site visit;

5 An evaluation of the urban context of the proposed project site;

6 A review of the Boston wind climate; and

7 The author's 36 years of experience dealing with PLWs.

The interaction of the wind with buildings and structures is very complicated and, at times, difficult to predict, especially for an urban area with a mixture of low-rise, and mid-rise buildings. Thus this evaluation provides a qualitative assessment of PLWs.

3.0 LOCATION AND DESCRIPTION OF THE PROJECT AND SURROUNDING AREA

3.1 DESCRIPTION OF EXISTING CONDITIONS (Figure 1)

The site is at 102-148 along the west side of Border Street in East Boston. Currently the site is empty except for shrubs and a few trees. .

The locations at which PLWs will be estimated are at the rectangles with numbers shown in Figure 1. These locations were chosen to be in areas of expected pedestrian activity.

3.2 DESCRIPTION OF BUILD CONDITIONS (Figure 2)

For build conditions, there will be an 80-foot, seven-story building near the NE end of the site, and a 24-foot one-story marina building near the SW end of the site (Figure 2). Again, the locations at which the PLW Categories will be estimated are at the numbered rectangles. Location 16 is in a pedestrian walkway under the seven-story building. It provides access to a terrace and the Harbor Walk from Border Street.

3.3 THE SURROUNDING AREA (Figures 1 and 2)

The area near this site has mostly one- to three-story buildings, although there are a few four-story buildings. The exceptions are the 65 foot Sumner Tunnel vent tower at the corner of London and Decatur Streets; the 65-foot building at the corner of Maverick and New Streets, and the 120-foot building on New Street. There is the permitted 95-foot Hodge Boiler Building on Sumner Street next to Lo Presti Park, but that is too far away to have a significant effect on PLWs at the site.

4.0 THE WIND CLIMATE

4.1 THE VARIATION OF WIND SPEED WITH HEIGHT

In general, the natural wind is unsteady (*i.e.,* it is gusty) and its average speed increases with height above the ground [1]. Figure 3 depicts how the average wind speed varies with height for different types of terrain. While generally it does not happen, when one puts up any building, the possibility exists that the building will bring the higher speed winds at the top of the building down to ground level.

Figure 4 shows schematically how an isolated building interacts with the wind. Because the wind speed increases with height, as the wind is forced to a stop at the upwind façade, the pressure recovered on that façade is higher near the top than at the bottom of the façade. As a result, the wind flows down the windward façade and forms the vortex upwind of the building shown in the figure. This vortex is stretched and accelerated as it goes around the two upwind lower corners, causing the accelerated flow in areas (A) shown on the left hand side of Figure 4. Similar accelerated areas also occur for winds blowing at the corners of the building (B in Figure 4). The proposed seven-story building is not strictly rectangular, but the wind near the exposed corners of the three wings will be accelerated in ways similar to that shown in figure 4.

Monolithic buildings (*i.e.,* those that do not change shape with height), if they are significantly taller than most of the surrounding buildings, almost invariably will be windy at their bases.

4.2 STATISTICAL DESCRIPTION OF THE BOSTON WIND CLIMATE

The project site is located about one mile W of Logan Airfield. Thus, the wind data from Logan Airfield usually used to define the winds for the Boston area is applicable. Figure 5 depicts a wind rose for Boston. The wind speeds are estimated at pedestrian level at the airport. The length of each line radiating from the center of the figure to the outermost crossing line is proportional to the total time the wind comes from that direction. The other lines crossing the radial lines indicate the frequency of winds less than 7, 10, and 15 mph. As noted in the figure, the wind rose is based on surface wind data from Logan Airfield taken from 1945 to 1965. Data from 1965 to 2005 is also available, but it is not believed to be as representative of the true winds in Boston. Many 25- to 40-story buildings have been built in the financial district of Boston since 1965. The financial district is just one mile SSW of Logan Airfield.

Figure 5 shows that the winds in Boston come primarily from the NW, W, and SW. Figures 6 through 9 show pedestrian level wind roses for Boston for winter (Dec., Jan., and Feb.), spring (Mar., Apr., and May), summer (Jun., Jul., and Aug.), and fall (Sept., Oct., and Nov.). These figures show that NW winds tend to occur during the colder months and SW winds during the warmer months. Spring and fall are transitional, but winds are stronger in the spring than in the fall. Strong easterly winds usually occur during storms when there is precipitation.

The average wind speed at Logan Airfield at 58 feet (the average height at which the data was taken) is 12.9 mph. At pedestrian height (*i.e.,* at chest height, 4.5 feet) it is about 8.6 mph. The average wind speeds at 58 and 4.5 feet at Logan Airfield for each month are shown in Figure 10. Seasonally, the average wind speed at pedestrian level is 9.4 mph in the winter, 9.2 mph in the spring, 7.4 mph in the summer, and 8.2 mph in the fall.

5.0 CRITERIA

Since the early 1980s, the BRA has used a guideline criterion for acceptable winds of not exceeding a 31 mph effective gust more often than once in one hundred hours. The effective gust is defined as the average wind speed plus 1.5 times the root mean square variation about the average. The effective gust can be shown to be about the fastest one-minute gust in an hour. When many locations are considered, the effective gust averages about 1.4 times the average hourly wind speed [3]. However, that ratio can vary widely from 1.4 for individual locations.

In 1978, Melbourne [2] developed probabilistic criteria for average and peak PLWs, which accounted for different types of pedestrian activity as well as the safety aspects of such winds. Durgin [3] suggested the use of an Equivalent Average which combines the effects of average, gusting, and peak winds and later [4 and 5] reinterpreted Melbourne's criteria to apply to Equivalent Average winds (Figure 11). The Equivalent Average used in this figure is similar to an hourly average, but combines the effects of steady and gusting winds. Five categories of PLWs are defined:

1) Comfortable for Long Periods of Standing or Sitting;[1]
2) Comfortable for Short Periods of Standing and Sitting;
3) Comfortable for Walking;
4) Uncomfortable for Walking;
5) Dangerous and Unacceptable.

It is now generally agreed that while unacceptable can be defined at a higher probability, (in this case 1% of the time), dangerous winds should be defined as a once a year event, that is, at the 0.01% level of probability. That criteria was investigated in this study and no location was estimated to have dangerous winds.

These criteria are not absolute (any location can have dangerous winds in a major storm or hurricane). Rather, they imply that the location would have wind speeds such that the activity suggested could be undertaken comfortably most of the time, and would be perceived[2] as such, by most people who frequent the location. For example, the PLWs at Logan Airfield are in Category 4 (uncomfortable for walking) but near the dividing line between Category 4 and Category 3 (comfortable for walking) (see Figure 11). But they are well under the BRA 31 mph effective gust wind speed guideline (converted to an equivalent average wind), which is high in Category 4. Therefore, most people would probably perceive conditions in the open at Logan Airfield as marginally comfortable for walking.

6.0 PEDESTRIAN LEVEL WINDS AT THE SITE

[1] The numbering system for the Categories was reversed in December, 1999. Before December, 1999, the slowest winds were in Category 5 and the fastest in Category 1. Since the December, 1999, the slowest are in Category 1 and the fastest in Category 5.

[2] On a somewhat windy day, a person familiar with the location would choose not to go there for the specified activity.

6.1 INTRODUCTION

The objective of this study was to examine the effect of a proposed one-story Marina building and a seven-story residence building along the harbor side of Border Street on PLWs about the site and at nearby buildings.

In the following sections, the effects of NW winter winds, SW summer winds, and easterly storm winds will be discussed for existing and build conditions. The results from NW, SW, and storm directions will be summarized by an estimated prediction of the annual PLW category at each location considered. When a PLW Category does not change, it does not mean the PLWs did not increase or decrease, but only that they did not change sufficiently for the PLW Category to change. Typically a Category covers 4 or 5 mph at the 1% probability level. Thus, when a PLW Category does change, it may be caused by just a small (1 mph or less) change in predicted PLW speed.

The estimated categories for all locations, wind directions, and annual winds for both existing and build conditions are shown in Figures 12 to 19. The results for all locations, wind directions, and annual winds are tabulated in Table 1 and summarized in Table 2. Table 2 indicates both the number of locations that will not change category and those that will change up or down one or two categories.

For the most part, the weather in New England is dominated by either large coastal storms (fall, winter, and spring) or the Bermuda High (summer). Typically, when a coastal storm occurs, it rains or snows for 4 to 12 hours, then it clears, and, as the storm moves to the NE, the winds blow from the NW for three or four days until the next weather system arrives. These storms and the NW winds following them occur mostly in the fall, winter, and spring. NW winds are particularly uncomfortable in the winter, when typically they occur on cold days. The Bermuda High is generally responsible for the SW winds that occur in the summer.

6.2.1 Northwest (Winter) Winds (Figures 12 & 13)

NW winds blow directly off the Inner Harbor at the Harbor Walk along the shoreline of the site Figure 13). The results for NW winds include the effects of all winds blowing from W to N. The estimated categories for all locations for existing and build conditions for NW winds are shown in Figures 12 and 13 (also see Tables 1 & 2).

For NW winds, the PLW Category at thirty-two of the forty-six locations considered does not change. The PLW Category did not increase at any location. The PLW Category decreased by one Category at 10 locations (12, 15, 17, 20, 23-25, 33, 36, and 40) due to these locations being sheltered by one or the other of the proposed buildings. At locations 21, 28, 41 and 43 the PLW

Category decreased by two because for N and W winds these locations are completely sheltered by the new buildings.

6.2.2 Southwest (Summer) Winds (Figures 14 & 15)

The prevailing winds in the summer are from the SW. SW winds blow nearly parallel to Border Street from Maverick to Decatur Street. The results for SW winds include effects of all winds blowing from S to W. The estimated categories for all locations for existing and build conditions are shown in Figures 14 and 15 (also see Tables 1 & 2).

For SW winds, the PLW Category does not change at twenty-nine of the forty-six locations considered. The PLW Category does not increase at any location considered. It decreases by one at fourteen locations (7, 9-13, 15, 20, 23, 31, 33, 40, 41, and 43), and by two at four locations (17, 21, 34, and 38). In every case the decrease is due to sheltering by one of the two proposed buildings.

6.2.3 Easterly Storm Winds (Figures 16 & 17)

Easterly winds occur about one third of the time. Light easterly winds occur as a storm starts or in the summer as a sea breeze. During the first four to twelve hours of a typical coastal storm, it rains or snows depending on the temperature. The wind is from the NE or SE depending on whether the center of the storm passes to the east or west of the city. The results for easterly storm winds includes the effects of all winds blowing from N to E to S (i.e., from the eastern side of the compass).

Since for strong easterly winds, it will generally be raining or snowing, and people expect it to be windy, the emphasis in evaluating the effect of the proposed added stories should be on entering or exiting buildings. The Categories for all easterly wind directions from N-E-S were estimated and have been combined to obtain a single result for easterly winds. Bear in mind that the total time the winds come from all of these easterly directions is about the same as the time the wind comes from either the NW or SW quadrants.

The estimated Categories for all locations for existing and build conditions are shown in Figures 16 and 17 (See Tables 1 & 2).

For easterly winds, PLW Categories at all twenty of the forty-six locations considered are estimated to remain unchanged. At five (10, 12, 23, 30, and 41), the PLW Category increases by one. Except for location 10 at the NE corner of the 80-foot building, these increases are due to the PLWs being accelerated along Border Street by the 80-foot building. For these easterly winds the PLW Category at 15 locations (11, 14, 16, 17, 22, 26, 27, 31, 34, 35, 37, 38, and 43-45) decreases by one and at six locations (13, 15, 21, 24, 25, and 40) the PLW

Category decreases by two. In every case, these decreases are due to sheltering of one of the two new buildings.

6.2.4 Annual Winds

In the above discussion, only winds from three general wind directions are discussed. While those are important directions related to seasons and storms, one cannot infer the overall annual windiness at any location from those results. PLW Categories were estimated at each location for the eight major wind directions (i.e., from the NE, E, SE, S, SW, W, NW, and N directions). Those estimated categories were then used with an eight compass point statistical description of the Boston wind climate to estimate the overall annual category for each of the forty locations considered. The resulting estimated categories for each location for existing and build conditions are listed in the last two columns in Table 1. In comparing these annual estimates with those for the five specific directions, one must remember that the total occurrence of winds from the easterly directions is roughly equal to that for either the NW or SW direction. These annual estimates are qualitative and must be treated as such.

For annual winds, thirty-two of the forty-six locations considered are estimated not to change PLW Category. The PLW Category is estimated to increase by one at location 28 at the S corner of the 80-foot building. At 13 locations (13, 15, 17, 20, 21, 23, 30, 33, 38, 40, 41, 43, and 44), the estimated PLW Category decreased by one.

7.0 SUMMARY AND CONCLUSIONS

A qualitative assessment has been made to determine the effect on PLWs of a proposed one-story Marina building and a seven-story residence building along the harbor side of Border Street in East Boston, Massachusetts. Results are obtained for both existing and build conditions for NW (winter), SW (summer), easterly storm, and annual winds.

None of the forty-six locations considered for either existing or build conditions is estimated to have PLWs that exceed the BRA guideline wind speed. No location is predicted to have dangerous winds as often as once a year. In fact, no location is predicted to have PLWs higher than Category 3 (comfortable for walking) for either existing or build conditions for any of the wind conditions considered.

Overall, the addition of the proposed buildings tends to reduce PLWs in the vicinity of the two buildings due to their sheltering affects, although winds are increased somewhat near the corners of the 80-foot building.

Detailed results are presented in Figures 12-19 and Table 1 and are summarized in Table 2. For this assessment, it has been assumed that there is no landscaping for existing conditions and none associated with the new building.

8.0 REFERENCES

1) Davenport, A.G., and Isyumov, N., "The Application of the Boundary Layer Wind Tunnel to the Prediction of Wind Loading", Proceedings of Intl. Seminar on Wind Effects on Buildings and Structures, Ottawa, Canada, September, 1967.

2) Melbourne, W.H., "Criteria for Environmental Wind Conditions", *Journal of Industrial Aerodynamics*, Vol.3, 1978, pp. 241-249.

3) Durgin, F.H., "Use of the Equivalent Average for Evaluating Pedestrian Level Winds", Presented at the Sixth U.S National Conf. On Wind Engineering, University of Houston, Houston, Texas, March 7-10, 1989, *Journal of Wind Engineering and Industrial Aerodynamics*, Vol. 36, pp. 817-828, 1990.

4) Durgin, F.H., "Pedestrian Level Wind Studies at the Wright Brothers Facility", Progress in Wind Engineering (Proc. of the 8th International Conference on Wind Engineering), New York, Elsevier, Part 4, 1992, pp. 2253-2264.

5) Durgin, F.H., "Pedestrian Level Wind Criteria Using the Equivalent Average", *Journal of Wind Engineering and Industrial Aerodynamics*, Vol. 66 (1997), pp. 215-226.

TABLE 1

ESTIMATED CATEGORIES FOR NW, SW, EASTERLY STORM, AND ANNUAL WINDS FOR EXISTING (Ex) AND BUILD (Bld) CONDITIONS

Loc	NW		SW		STORM		ANNUAL		Loc
No.	Ex	Bld	Ex	Bld	Ex	Bld	Ex	Bld	No.
1	3	3	3	3	3	3	3	3	1
2	3	3	2	2	3	3	3	3	2
3	3	3	2	2	3	3	3	3	3
4	3	3	3	3	2	2	3	3	4
5	2	2	2	2	2	2	2	2	5
6	3	3	3	3	3	3	3	3	6
7	3	3	3	2	2	2	3	3	7
8	3	3	3	3	3	3	3	3	8
9	2	2	3	2	1	1	2	2	9
10	3	3	3	2	2	3	3	3	10
11	3	3	3	2	3	2	3	3	11
12	2	1	3	2	1	2	2	2	12
13	3	3	3	2	3	1	3	2	13
14	3	3	3	3	3	2	3	3	14
15	3	2	3	2	3	1	3	2	15
16	3	3	3	3	3	2	3	3	16
17	3	2	3	1	3	2	3	2	17
18	3	3	3	3	3	3	3	3	18
19	3	3	3	3	3	3	3	3	19
20	3	2	3	2	2	2	3	2	20
21	3	1	3	1	3	1	3	2	21
22	3	3	3	3	3	2	3	3	22
23	3	2	3	2	1	2	3	2	23
24	3	2	3	3	3	1	3	3	24
25	3	2	3	3	3	1	3	3	25
26	3	3	3	3	3	2	3	3	26
27	3	3	3	3	3	2	3	3	27
28	3	1	3	3	2	2	2	3	28
29	2	2	1	1	2	2	2	2	29
30	3	2	3	3	1	2	3	2	30

TABLE 1 (Contd)

ESTIMATED CATEGORIES FOR NW, SW, EASTERLY STORM, AND ANNUAL WINDS FOR EXISTING (Ex) AND BUILD (Bld) CONDITIONS

Loc	NW		SW		STORM		ANNUAL		Loc
No.	Ex	Bld	Ex	Bld	Ex	Bld	Ex	Bld	No.
31	3	3	3	2	3	2	3	3	31
32	3	3	3	3	3	3	3	3	32
33	3	2	3	2	2	2	3	2	33
34	3	3	3	1	3	2	3	3	34
35	3	3	3	3	3	2	3	3	35
36	2	1	2	2	2	2	2	2	36
37	3	3	3	3	3	2	3	3	37
38	3	3	3	1	3	2	3	2	38
39	2	2	2	2	2	2	2	2	39
40	3	2	3	2	3	1	3	2	40
41	3	1	3	2	2	3	3	2	41
42	2	2	2	2	1	1	2	2	42
43	3	1	3	2	2	1	3	2	43
44	3	3	2	2	3	2	3	2	44
45	3	3	2	2	3	2	3	3	45
46	2	2	2	2	1	1	2	2	46

TABLE 2

SUMMARY OF LOCATIONS THAT CHANGED CATEGORY BETWEEN EXISTING AND BUILD CONDITIONS

Direction	NW	SW	Storm	Annual
Up 2 Cat.	0	0	0	0
Up 1 Cat	0	0	5	1
No Change.	32	28	20	32
Down 1 Cat.	10	14	15	13
Down 2 Cat.	4	4	6	0

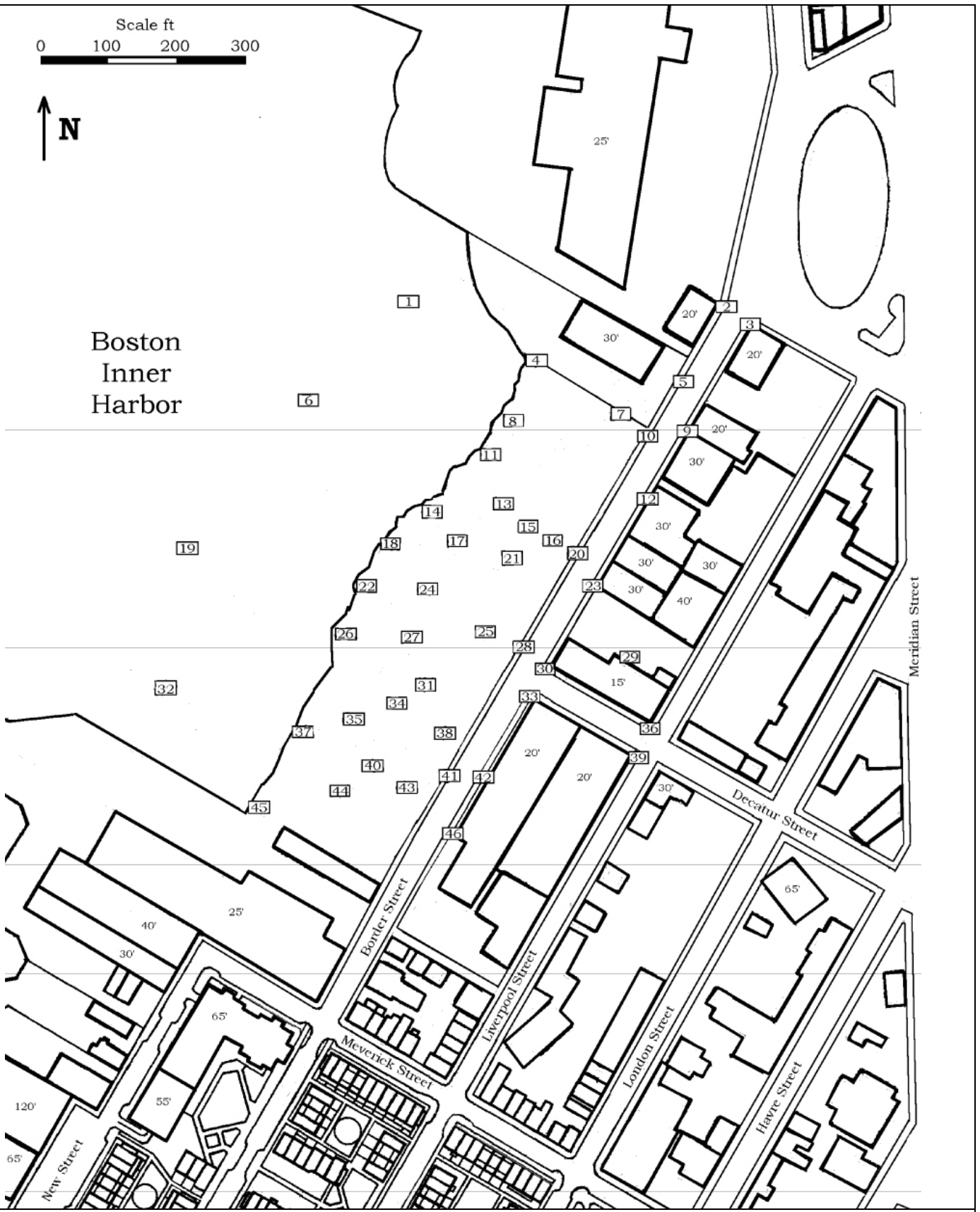


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Figure A5-1
Existing Conditions with Building Heights
and PLW Location Numbers

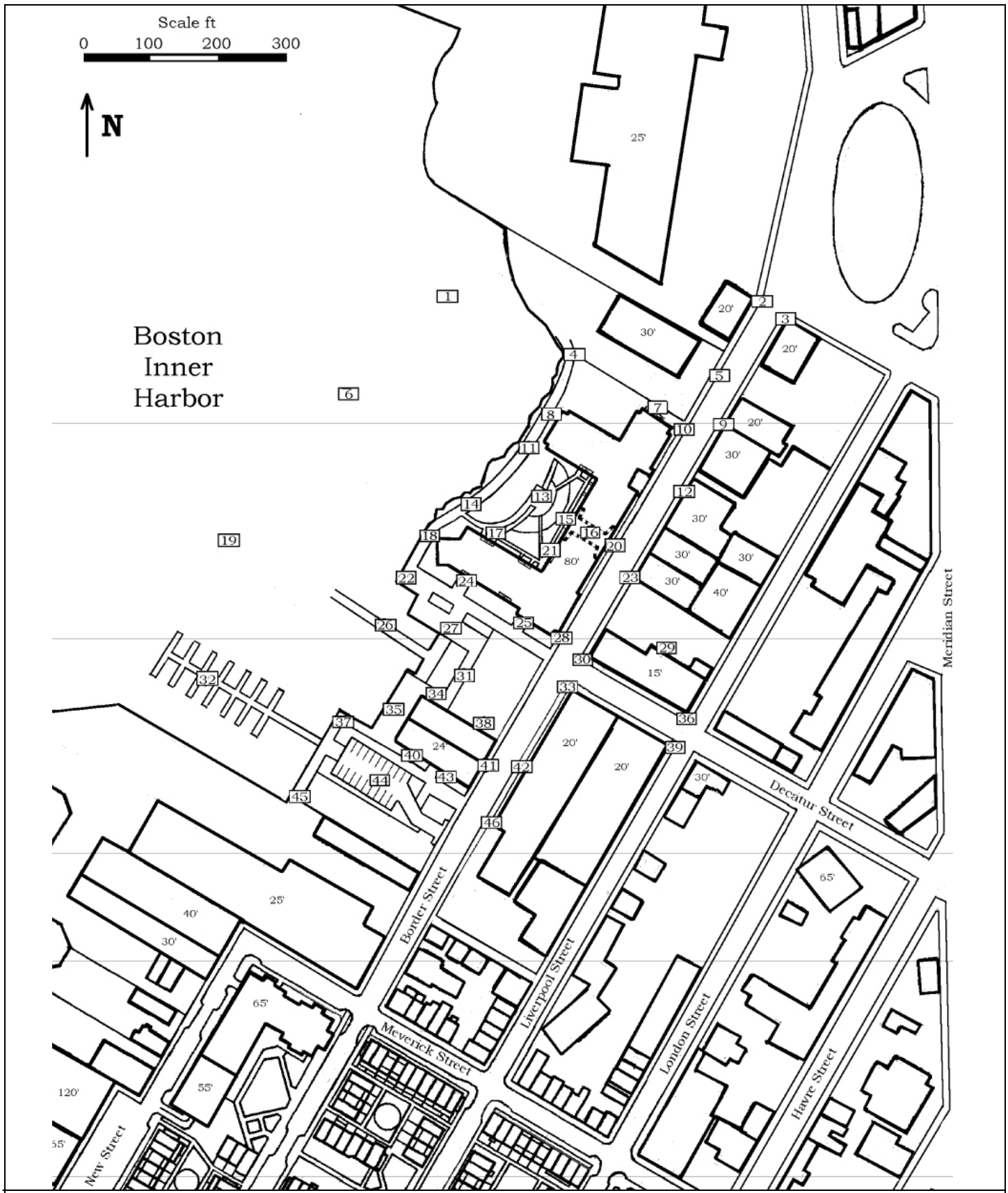

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Figure A5-2
Build Conditions with Building Heights
and PLW Location Numbers

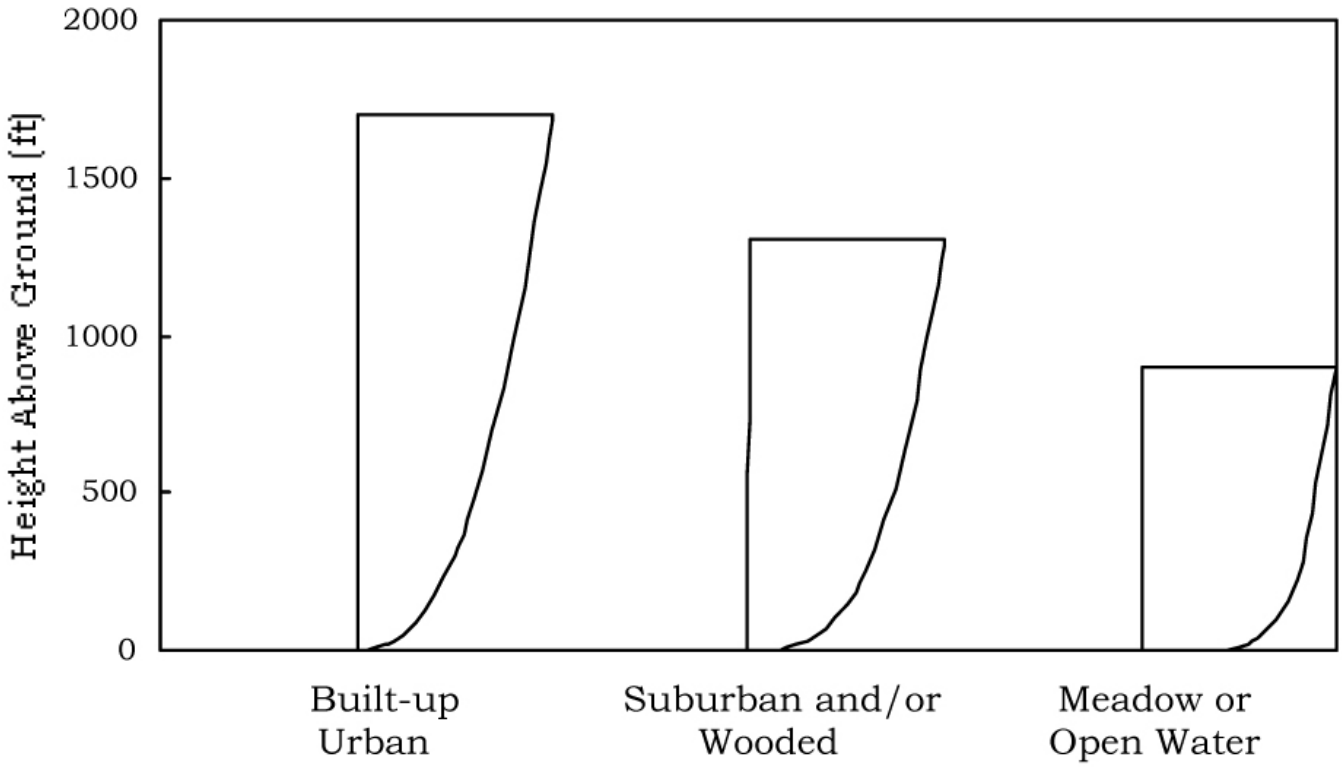

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Figure A5-3
Types of Earth's Boundary Layers
After Davenport

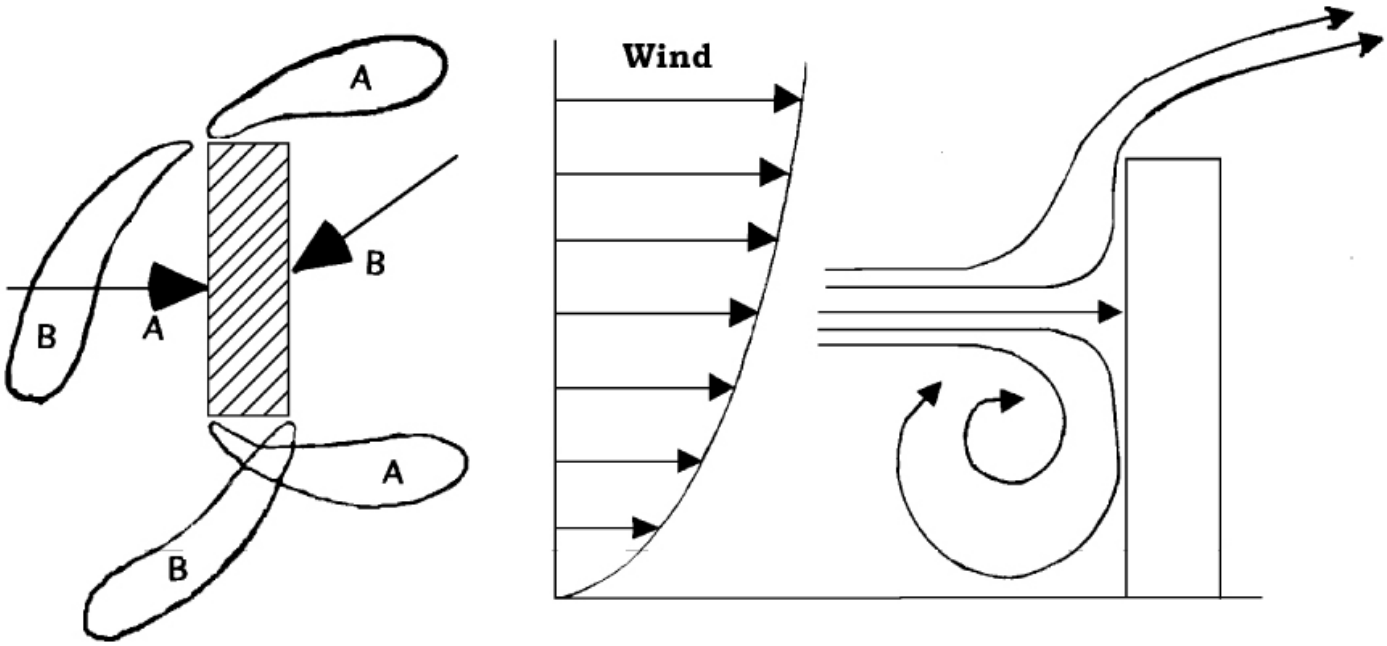

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Figure A5-4
Schematic of How the Wind Interacts With an Isolated Building

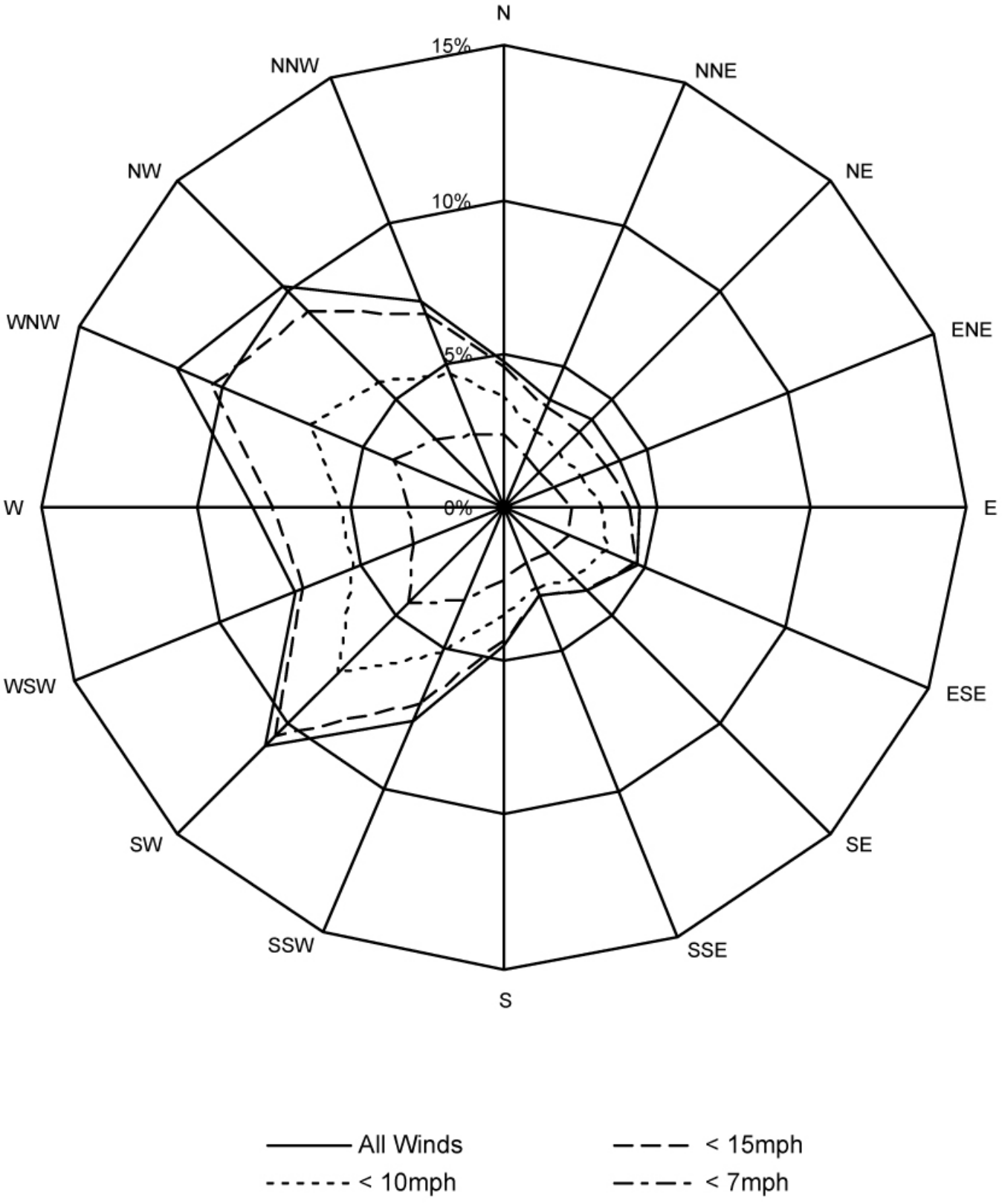

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Figure A5-5
Annual Pedestrian Level Wind Rose for Boston
Based on Surface Data from Logan Airfield 1945-1965

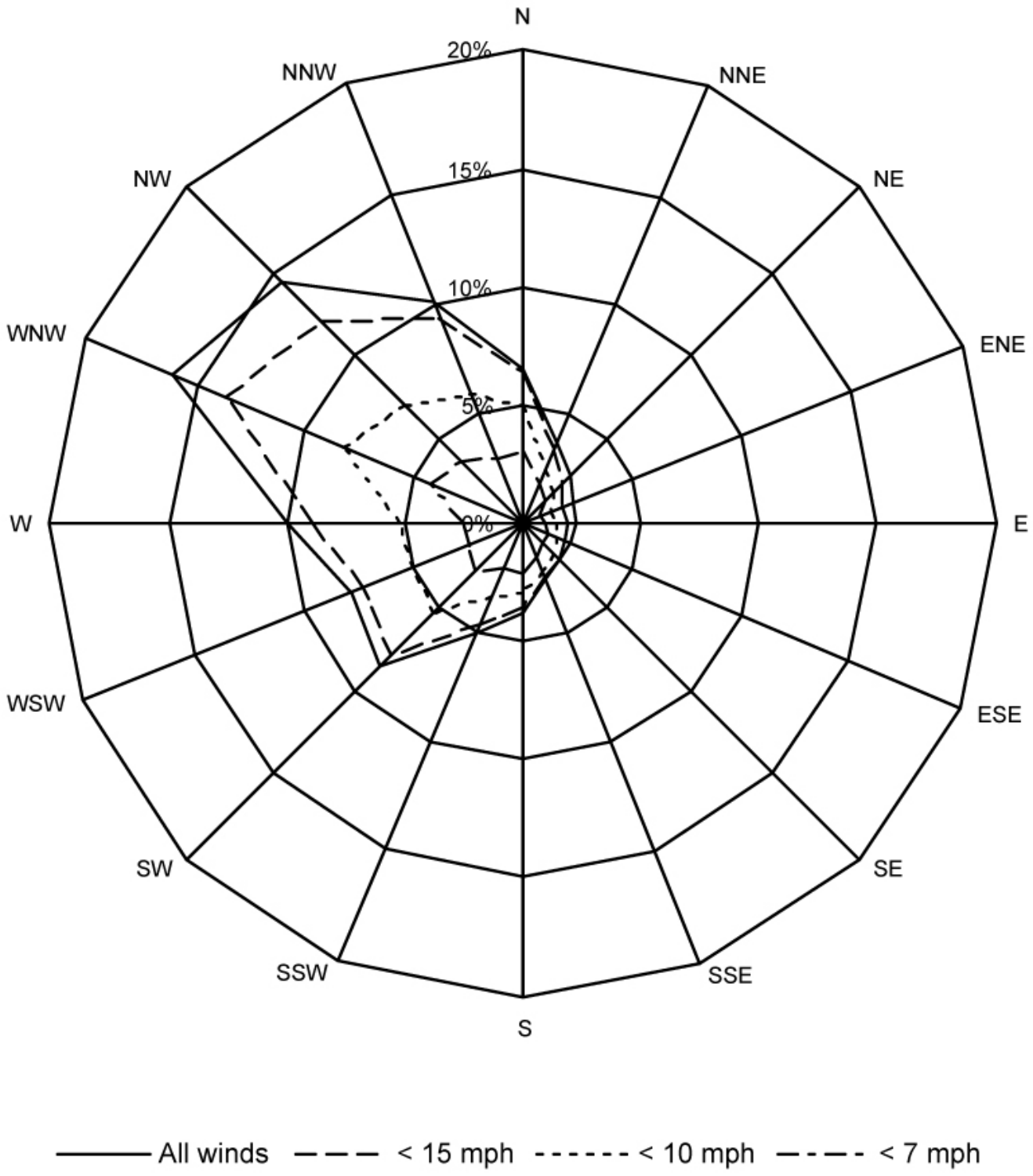

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Figure A5-6
Winter Pedestrian Level Wind Rose for Boston
Based on Surface Data from Logan Air Field 1945-1965

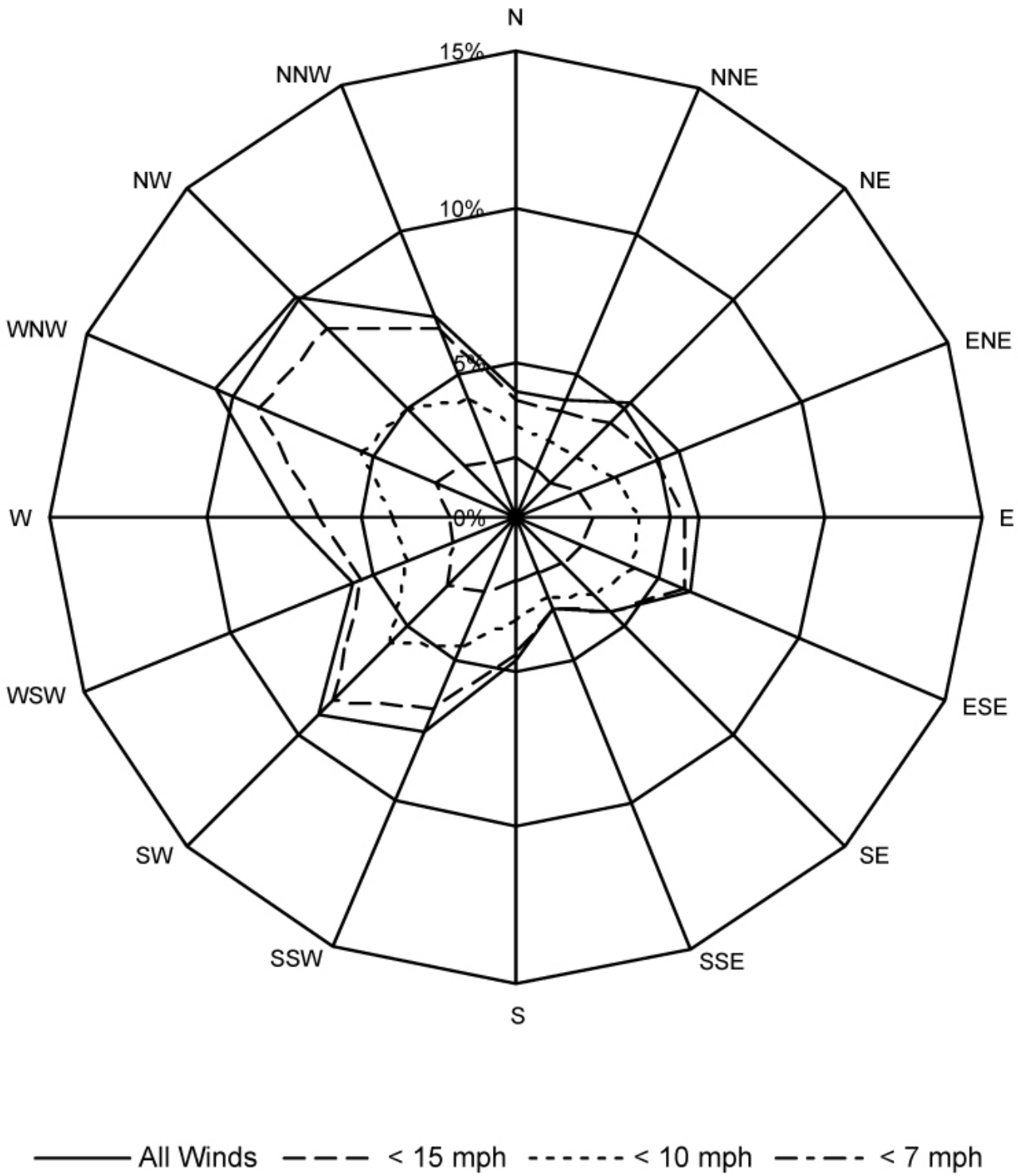

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Figure A5-7
Spring Pedestrian Level Wind Rose for Boston
Based on Surface Data from Logan Air Field 1945-1965

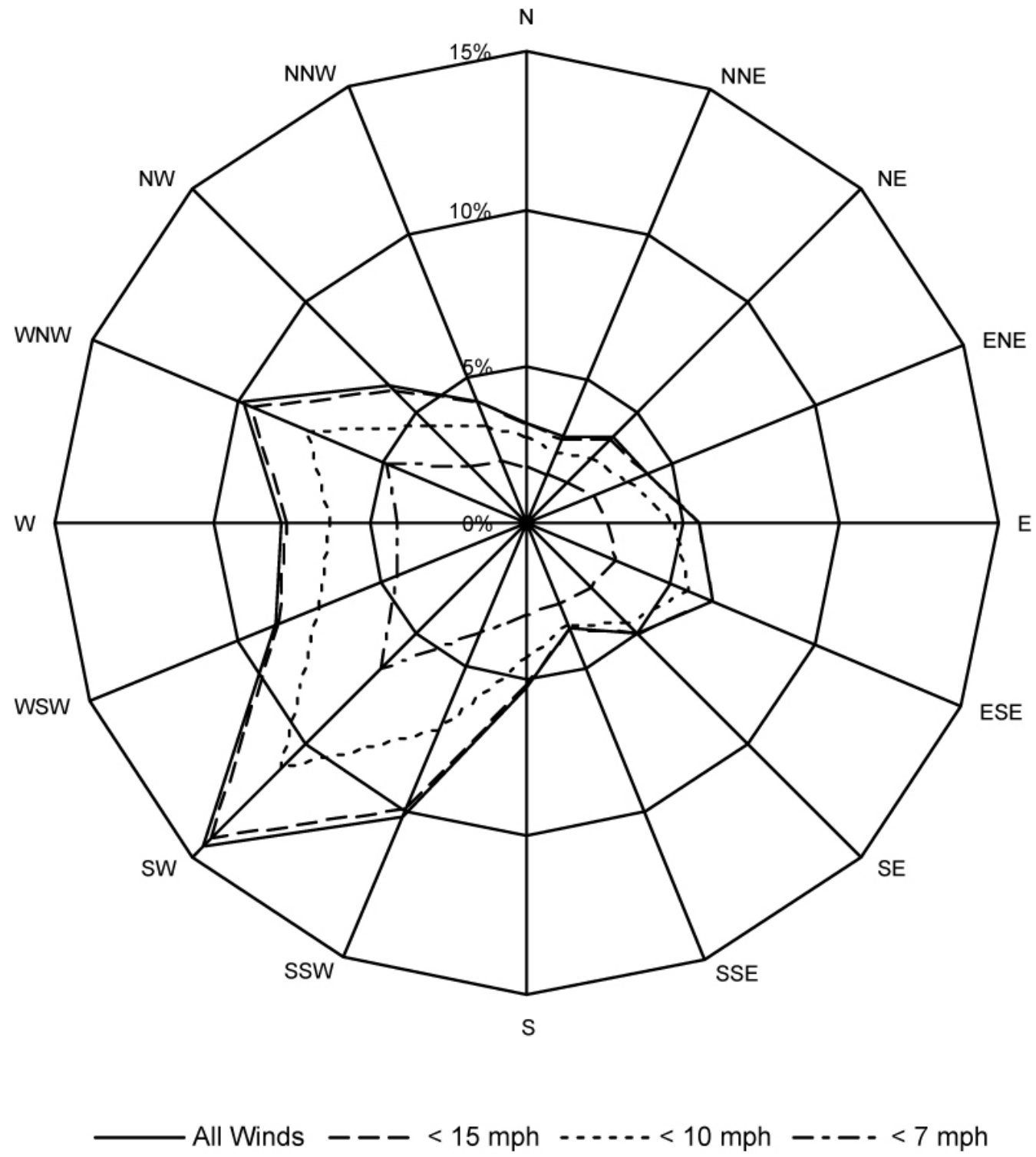

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Figure A5-8
Summer Pedestrian Level Wind Rose for Boston
Based on Surface Data from Logan Air Field 1945-1965

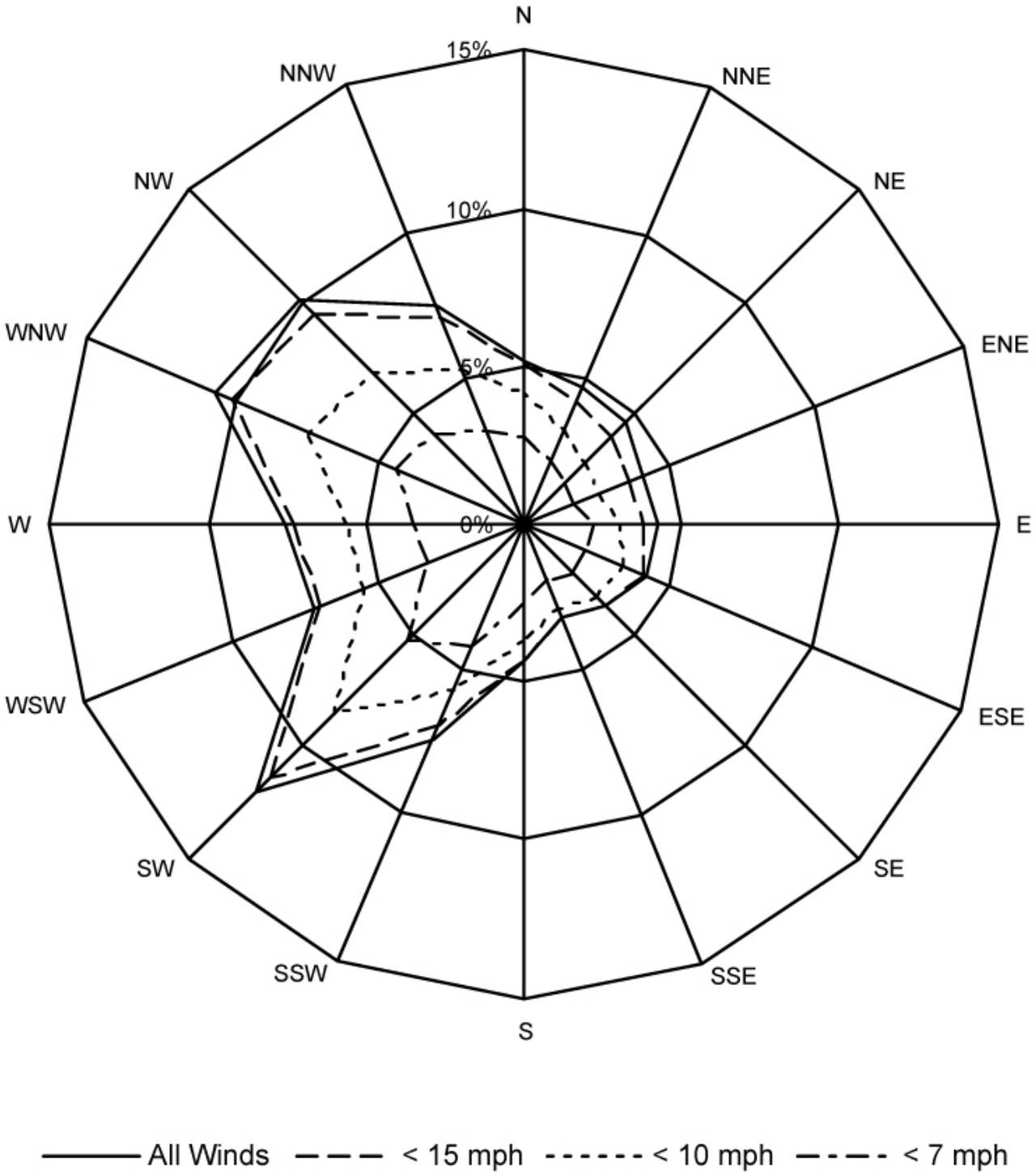

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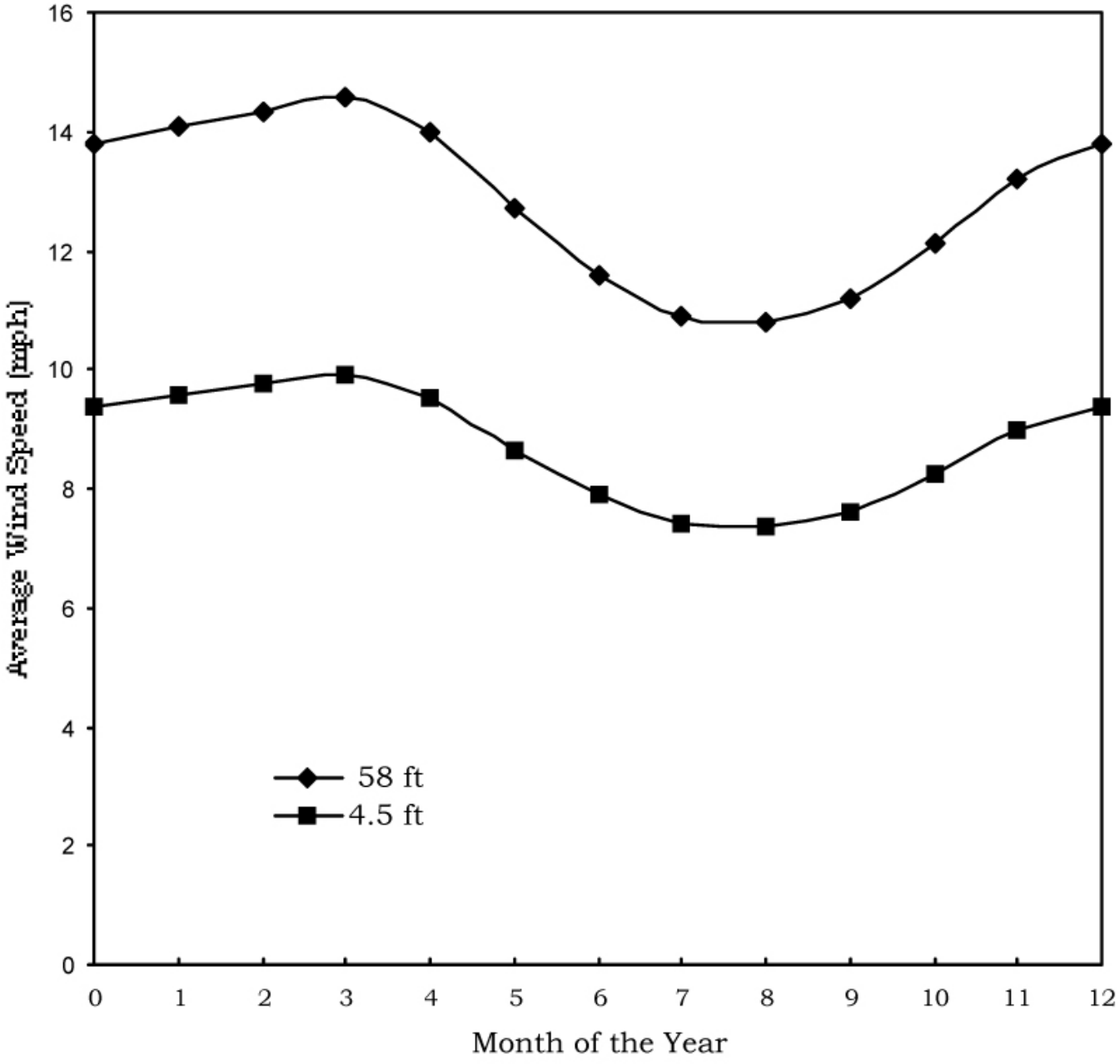
Figure A5-9
Fall Pedestrian Level Wind Rose for Boston
Based on Surface Data from Logan Air Field 1945-1965



Yearly Average is 12.9 mph at 58 feet

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Figure A5-10
Average Wind Speed at Logan Airfield
Based on Surface Data from 1945-1965

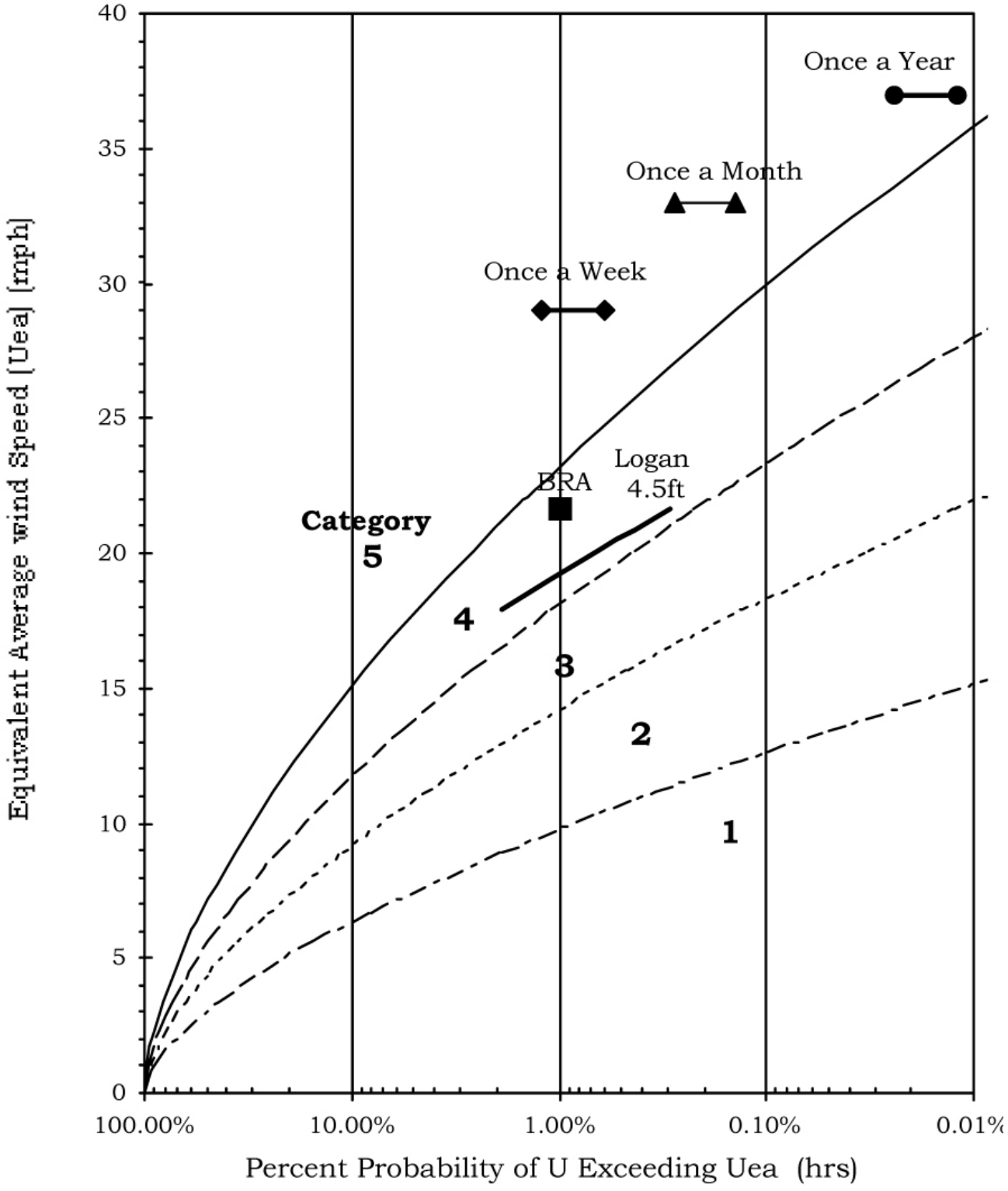

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Figure A5-11
Pedestrian Level Wind Criteria for Equivalent Average Winds

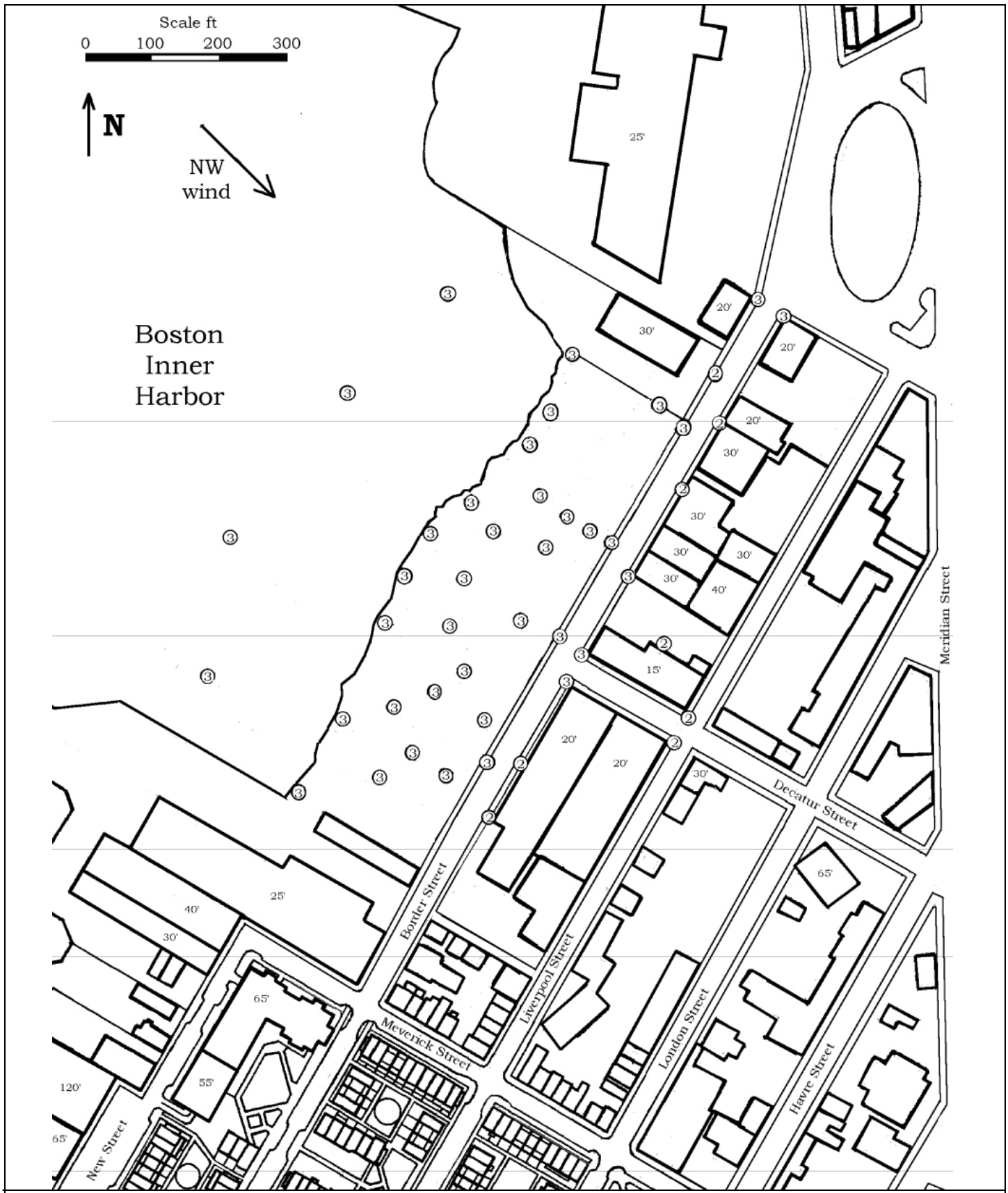

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Figure A5-12
Map of Existing Conditions with
PLW Categories for NW winds

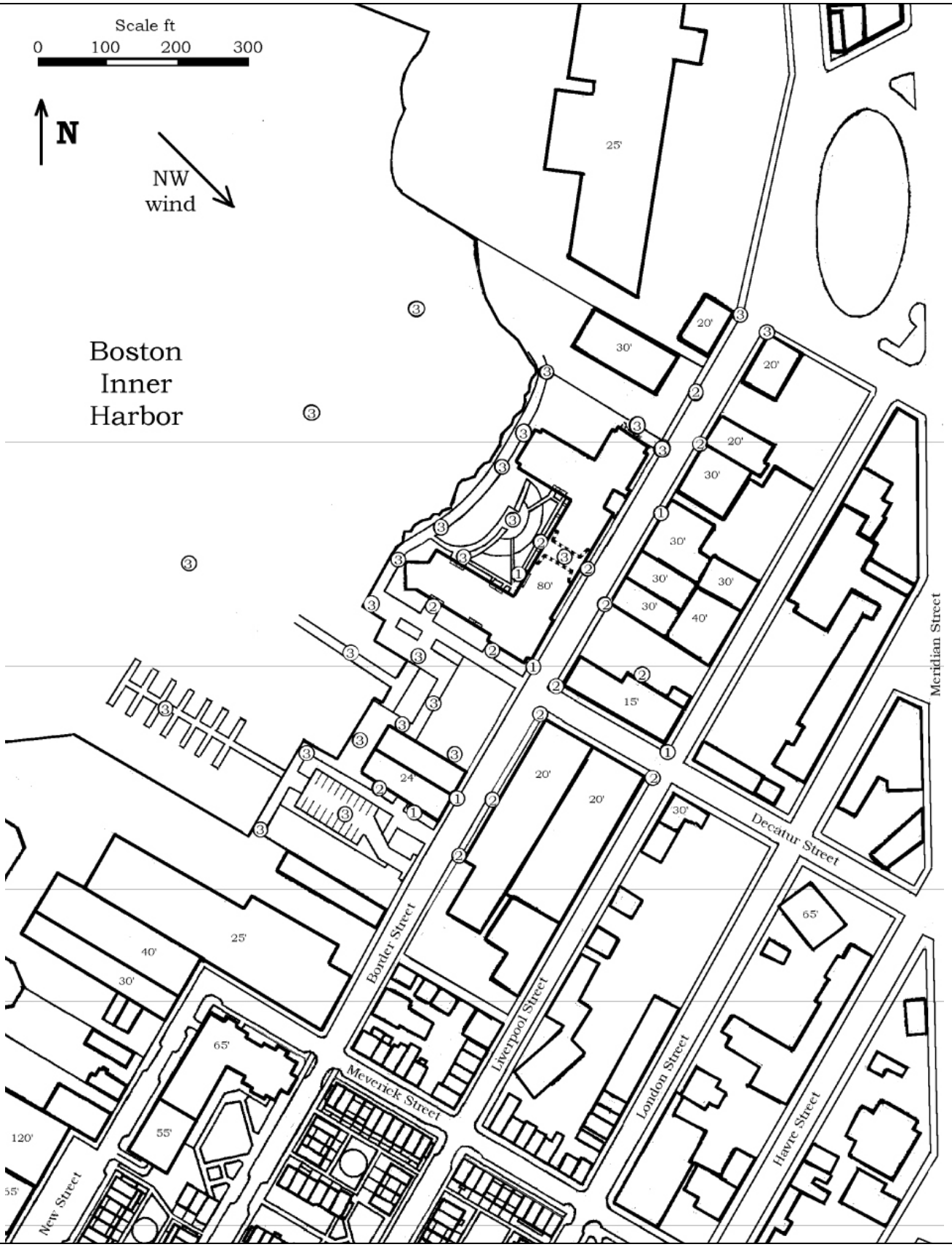

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Figure A5-13
Map of Build Conditions with
PLW Categories for NW Winds

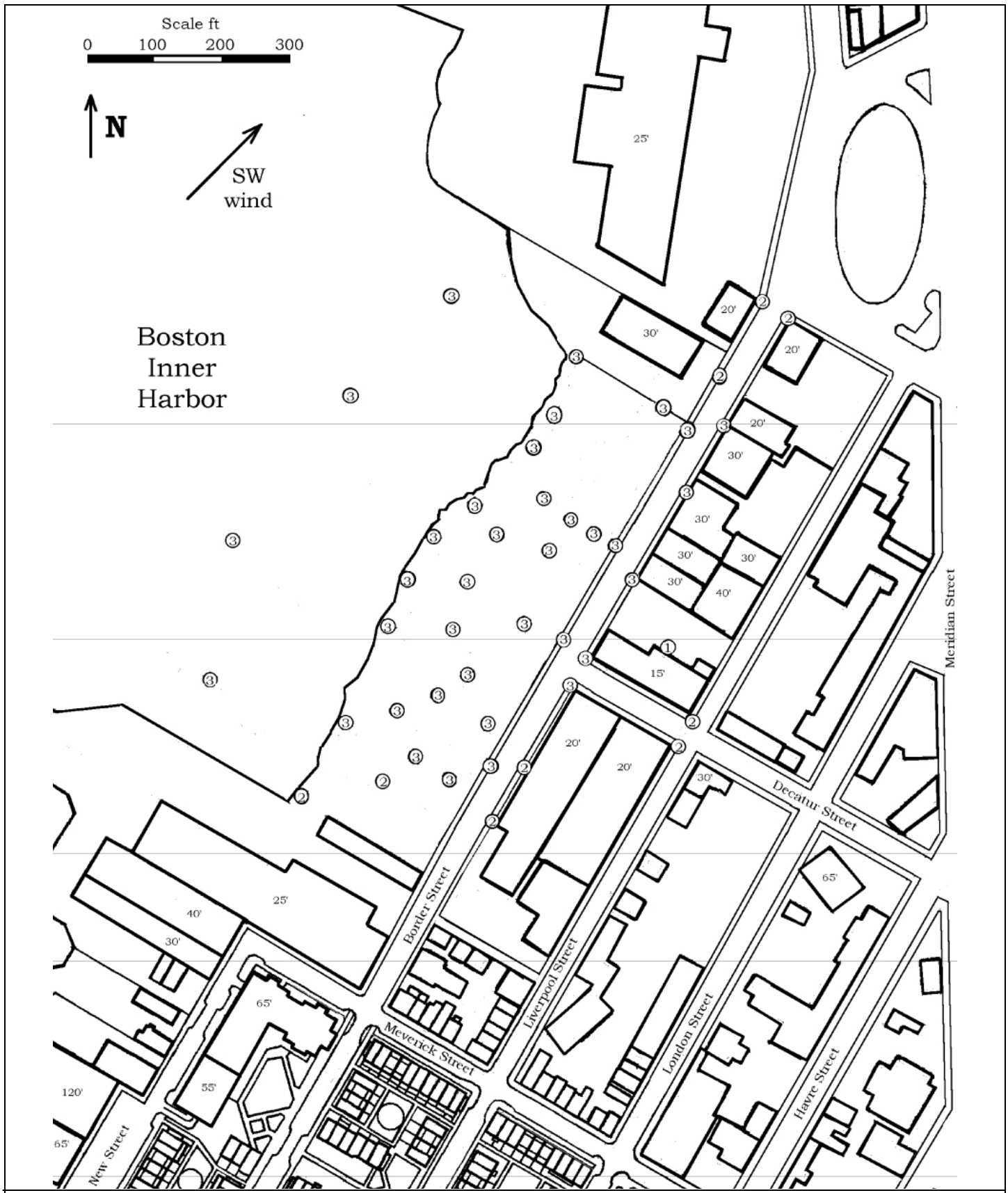

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Figure A5-14
Map of Existing Conditions with
PLW Categories for SW Winds

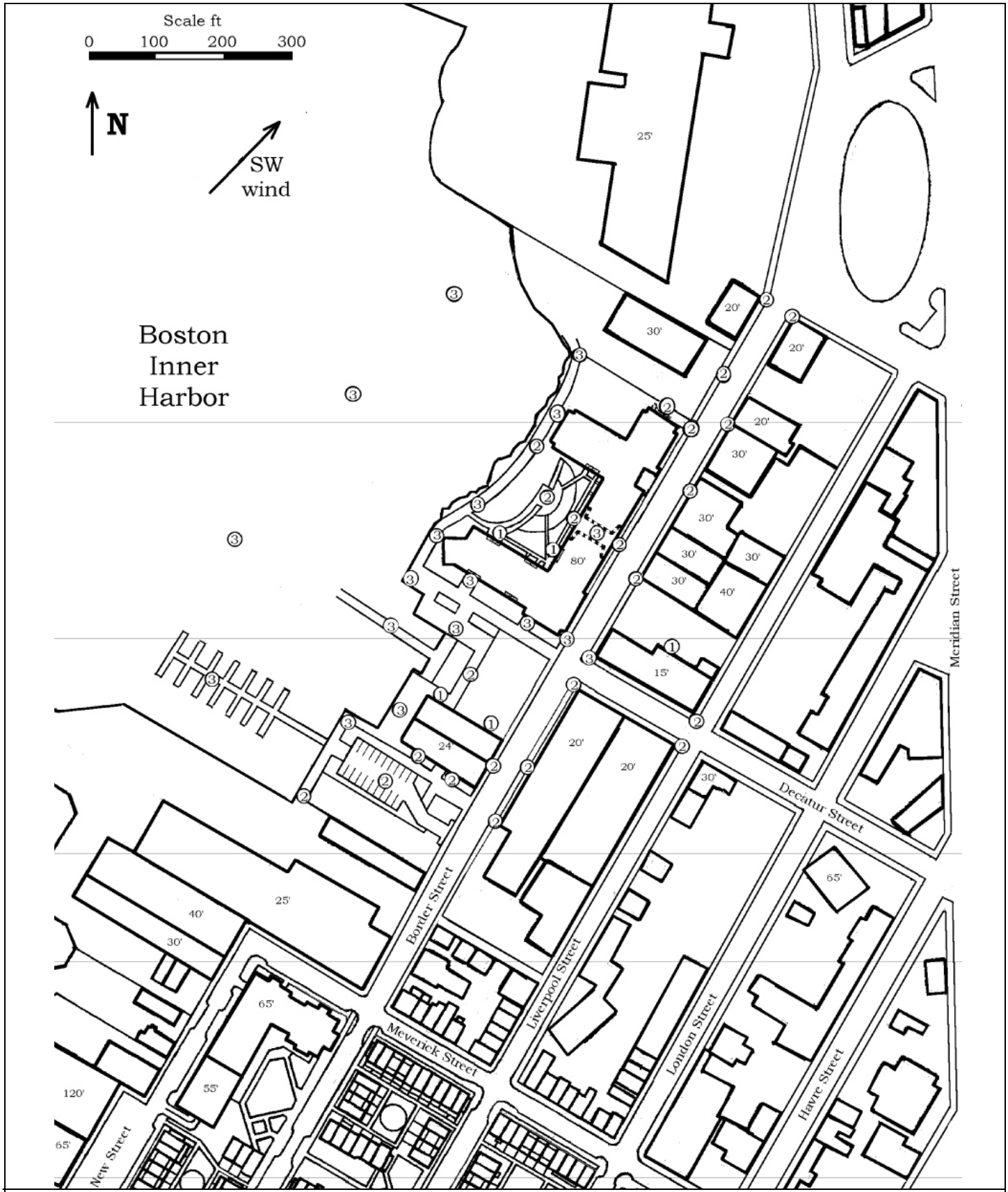

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Figure A5-15
Map of Build Conditions with
PLW Categories for SW Winds

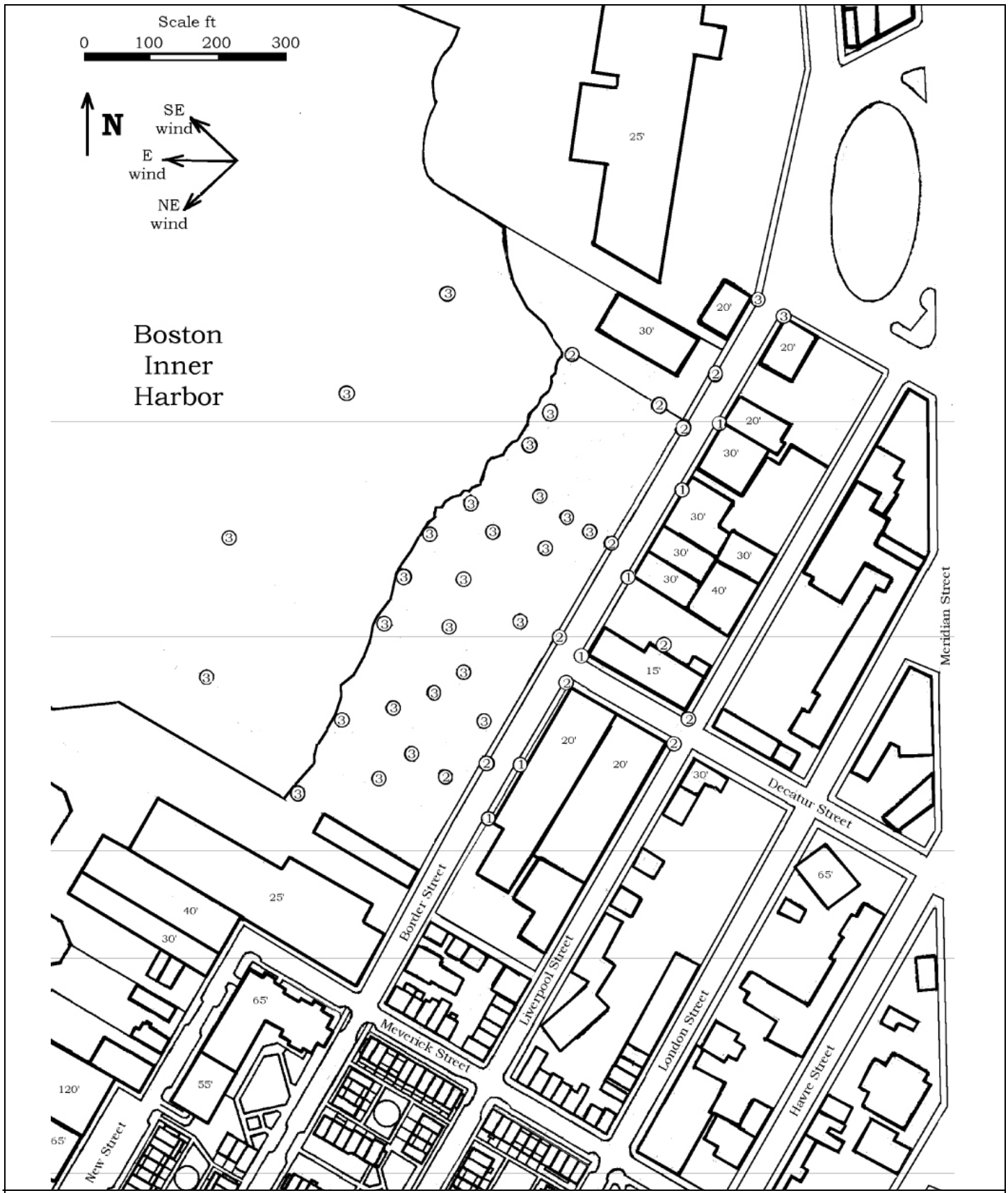

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Figure A5-16
Map of Existing Conditions with
PLW Categories for Easterly Storm Winds

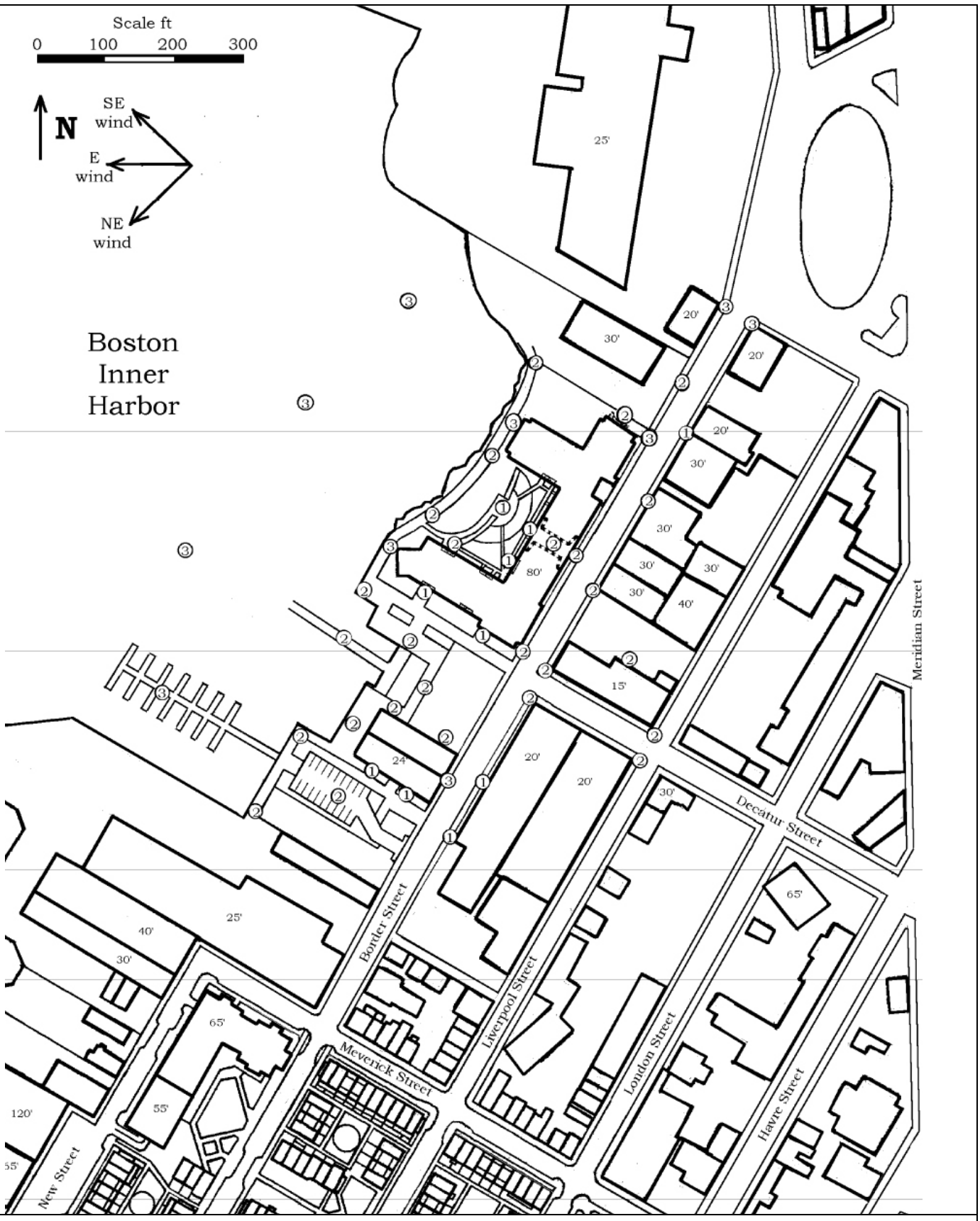

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Figure A5-17
Map of Build Conditions with
PLW Categories for Easterly Storm Winds

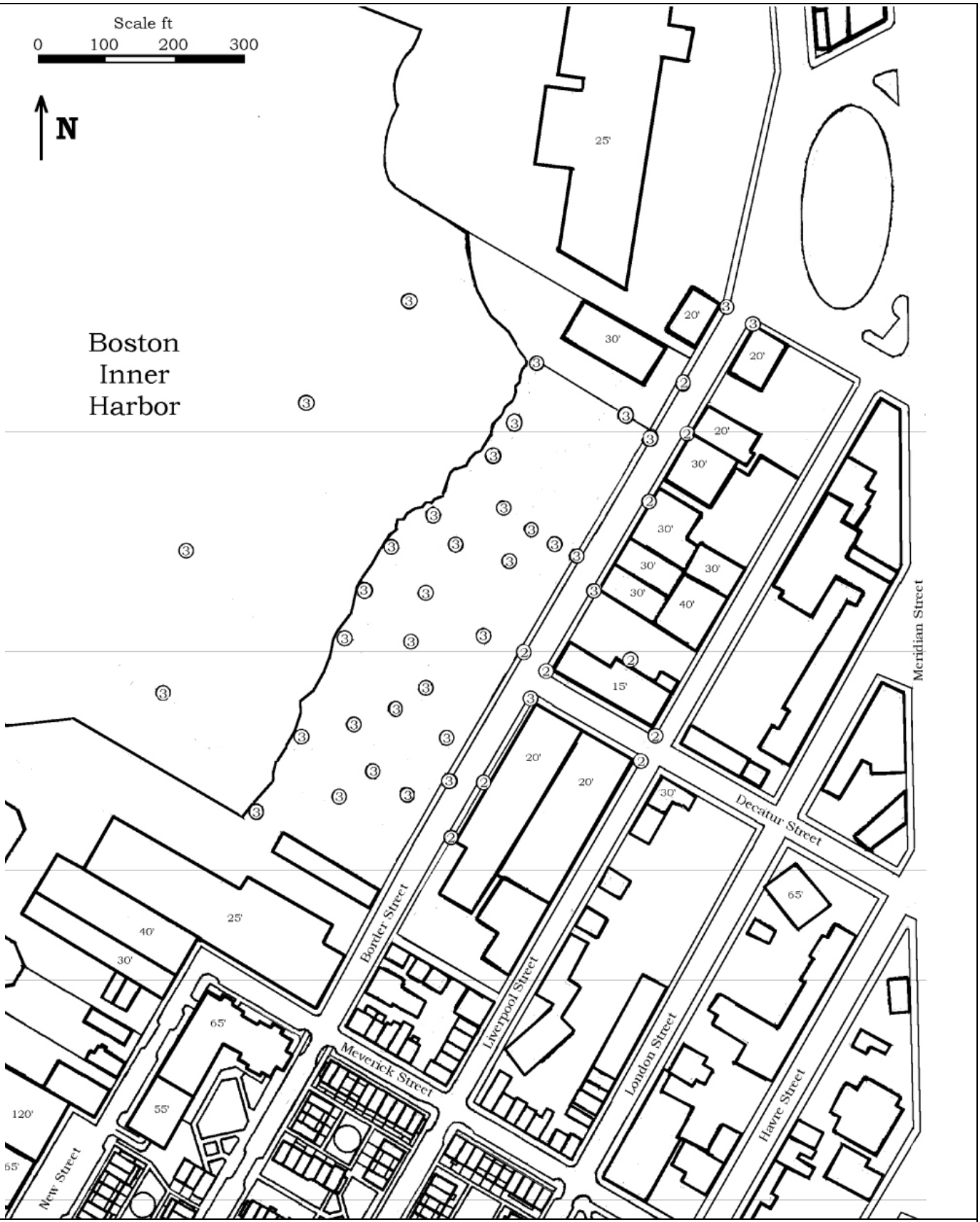

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Figure A5-18
Map of Existing Conditions with
PLW Categories for Annual Winds

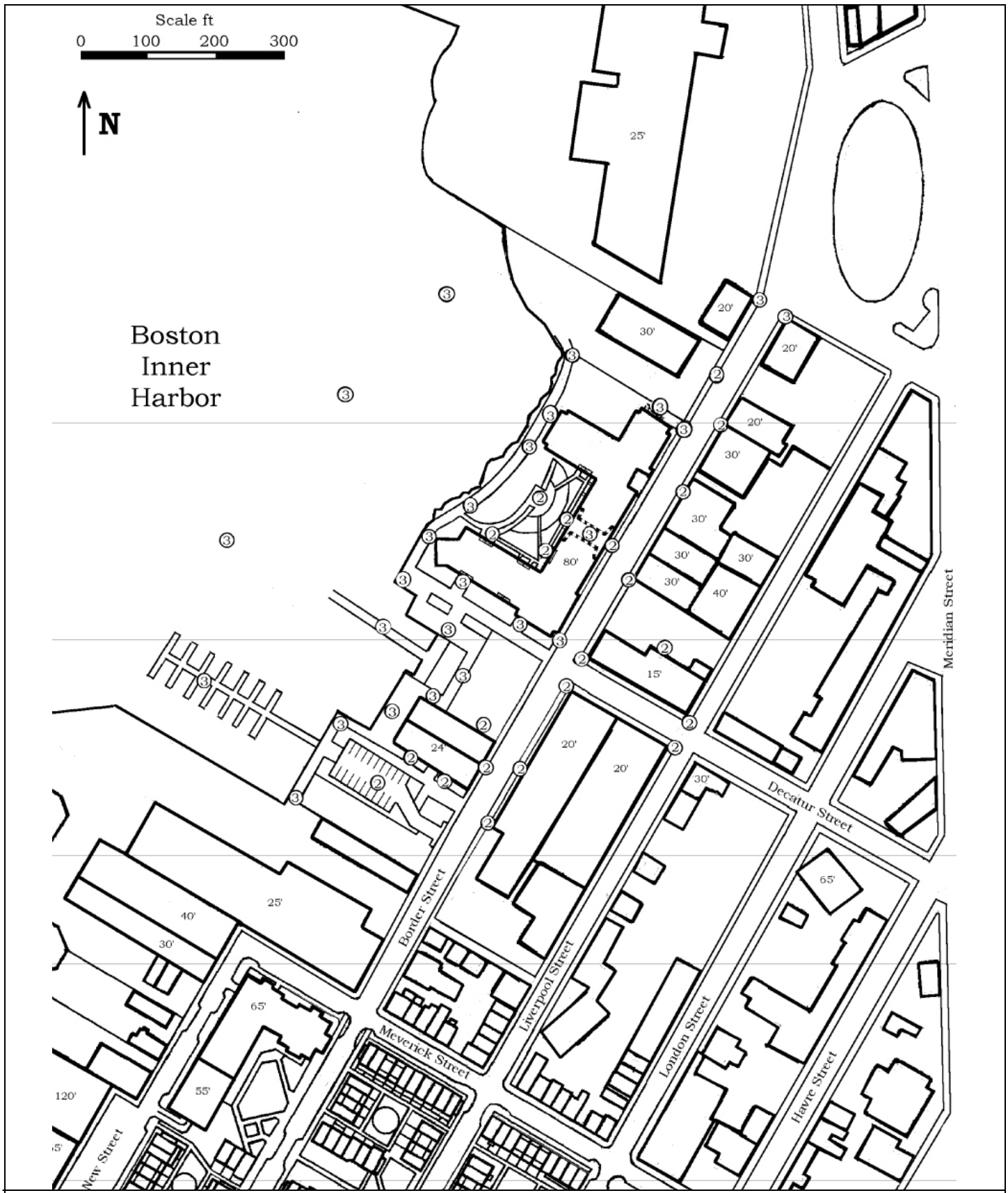

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Figure A5-19
Map of Build Conditions with
PLW Categories for Annual Winds