South Bay
Dorchester, Massachusetts

Draft Project Impact Report
Volume 2

January 22, 2016

submitted to the **Boston Redevelopment Authority**
submitted by **Allstate Road (Edens), LLC**

prepared by **Fort Point Associates, Inc.**

in association with
Stantec
Bohler Engineering
MDM Transportation
OLIN
DLA Piper
McPhail
RW Sullivan Engineering
Tech Environmental, Inc.
Novus Environmental
Cerami Associates
Soden Sustainability Consulting

Fort Point Associates, Inc.
Urban Planning Environmental Consulting Project Permitting

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TRANSPORTATION TECHNICAL APPENDIX

The Transportation Technical Appendix is available under separate cover.

Appendix B

CLIMATE CHANGE PREPAREDNESS AND RESILIENCY CHECKLIST

Climate Change Preparedness and Resiliency Checklist for New Construction

In November 2013, in conformance with the Mayor's 2011 Climate Action Leadership Committee's recommendations, the Boston Redevelopment Authority adopted policy for all development projects subject to Boston Zoning Article 80 Small and Large Project Review, including all Institutional Master Plan modifications and updates, are to complete the following checklist and provide any necessary responses regarding project resiliency, preparedness, and to mitigate any identified adverse impacts that might arise under future climate conditions.

For more information about the City of Boston's climate policies and practices, and the 2011 update of the climate action plan, *A Climate of Progress*, please see the City's climate action web pages at http://www.cityofboston.gov/climate

In advance we thank you for your time and assistance in advancing best practices in Boston.

Climate Change Analysis and Information Sources:

1. Northeast Climate Impacts Assessment (www.climatechoices.org/ne/)
2. USGCRP 2009 (http://www.globalchange.gov/publications/reports/scientific-assessments/us-impacts/)
3. Army Corps of Engineers guidance on sea level rise (http://planning.usace.army.mil/toolbox/library/ECs/EC11652212Nov2011.pdf)
4. Proceeding of the National Academy of Science, "Global sea level rise linked to global temperature", Vermeer and Rahmstorf, 2009 (http://www.pnas.org/content/early/2009/12/04/0907765106.full.pdf)
5. "Hotspot of accelerated sea-level rise on the Atlantic coast of North America", Asbury H. Sallenger Jr*, Kara S. Doran and Peter A. Howd, 2012 (http://www.bostonredevelopmentauthority.org/planning/Hotspot of Accelerated Sea-level Rise 2012.pdf)
6. "Building Resilience in Boston": Best Practices for Climate Change Adaptation and Resilience for Existing Buildings, Linnean Solutions, The Built Environment Coalition, The Resilient Design Institute, 2103 (http://www.greenribboncommission.org/downloads/Building_Resilience_in_Boston_SML.pdf)

Checklist

Please respond to all of the checklist questions to the fullest extent possible. For projects that respond "Yes" to any of the D.1 – Sea-Level Rise and Storms, Location Description and Classification questions, please respond to all of the remaining Section D questions.

Checklist responses are due at the time of initial project filing or Notice of Project Change and final filings just prior seeking Final BRA Approval. A PDF of your response to the Checklist should be submitted to the Boston Redevelopment Authority via your project manager.

Please Note: When initiating a new project, please visit the BRA web site for the most current Climate Change Preparedness & Resiliency Checklist.

A.1 - Project Information

Project Name:	**South Bay**
Project Address Primary:	**101 Allstate Road, Dorchester, MA**
Project Address Additional:	
Project Contact (name / Title / Company / email / phone):	**Keith Hague, Director of Preconstruction, Allstate Road (Edens), LLC, khague@edens.com, 617-369-6609**

A.2 - Team Description

Owner / Developer:	**Allstate Road (Edens), LLC**
Architect:	**Stantec**
Engineer (building systems):	**RW Sullivan Engineering**
Sustainability / LEED:	**Soden Sustainability Consulting**
Permitting:	**Fort Point Associates, Inc.**
Construction Management:	**Lee Kennedy Co. Inc**
Climate Change Expert:	**NA**

A.3 - Project Permitting and Phase

At what phase is the project – most recent completed submission at the time of this response?

PNF / Expanded PNF Submission	**Draft** / Final **Project Impact Report Submission**	BRA Board Approved	Notice of Project Change
Planned Development Area	BRA Final Design Approved	Under Construction	Construction just completed:

A.4 - Building Classification and Description

List the principal Building Uses:	**Retail, Assembly (cinema), Parking, Residential-Multi-unit, Hotel**
List the First Floor Uses:	**Retail, Restaurants, Residential Lobbies, Cinema Lobby, Parking Garage Lobby, Apartment entries, Hotel Lobby, Hotel Rooms**

What is the principal Construction Type – select most appropriate type?

Wood Frame on Concrete Base ('Podium')	Masonry	**Steel Frame w/ Conc Deck (Retail & Cinema)**	**Concrete (Parking Structure)**

Describe the building?

Site Area:	**463,110** *SF*	Building Area:	**730,000** *SF*
Building Height:	**up to 65'-0" (occupiable space)** *Ft.*	Number of Stories:	**2 to 6** ***Flrs.***
First Floor Elevation (reference Boston City Base):	**19'-10" to 25'-0"** *Elev.*	Are there below grade spaces/levels, if yes how many:	***Yes*** */ No / Number of Levels* **–**

				1 (Garage area only)

A.5 - Green Building

Which LEED Rating System(s) and version has or will your project use (by area for multiple rating systems)?

Select by Primary Use:	**New Construction**	Core & Shell	Healthcare	Schools
	Retail	Homes Midrise	Homes	Other
Select LEED Outcome:	Certified	**Silver**	Gold	Platinum

Will the project be USGBC Registered and / or USGBC Certified?

Registered:	*Yes / **No***	Certified:	*Yes / **No***

A.6 - Building Energy

What are the base and peak operating energy loads for the building?

Electric:	***1535 (A), 2528 (B), 3029 (C), 3415 (D), 752 (E)*** *(kW)*	Heating:	***35*** *(MMBtu/hr)*
What is the planned building Energy Use Intensity:	***17.3 (A), 45 (B), 10 (C), 10 (D), 15.2 (E)*** *(kbut/SF or kWh/SF)*	Cooling:	***1825*** *(Tons/hr)*

What are the peak energy demands of your critical systems in the event of a service interruption?

Electric:	***o(zero) at Bldgs A, B, C, D; TBD on Bldg. E*** *(kW)*	Heating:	**o(zero) at Bldgs A, B, C, D; TBD on Bldg. E** *(MMBtu/hr)*
		Cooling:	**o(zero) at Bldgs A, B, C, D; TBD on Bldg. E** *(Tons/hr)*

What is nature and source of your back-up / emergency generators?

Electrical Generation:	**None on Bldgs A, B, C, D; TBD on Bldg E** *(kW)*		Fuel Source:	**TBD**
System Type and Number of Units:	Combustion Engine	Gas Turbine	Combine Heat and Power	*(Units)*

B - Extreme Weather and Heat Events

Climate change will result in more extreme weather events including higher year round average temperatures, higher peak temperatures, and more periods of extended peak temperatures. The section explores how a project responds to higher temperatures and heat waves.

B.1 - Analysis

What is the full expected life of the project?

Select most appropriate:	10 Years	25 Years	50 Years	**75 Years**

What is the full expected operational life of key building systems (e.g. heating, cooling, ventilation)?

Select most appropriate:	10 Years	**25 Years**	50 Years	75 Years

What time span of future Climate Conditions was considered?

Select most appropriate:	10 Years	25 Years	50 Years	**75 Years**

Analysis Conditions - What range of temperatures will be used for project planning – Low/High?

7 / 87.6 *Deg.*

What Extreme Heat Event characteristics will be used for project planning – Peak High, Duration, and Frequency?

87.6 *Deg.*	***2.9*** *Days*	***3*** *Events / yr.*

What Drought characteristics will be used for project planning – Duration and Frequency?

45-60 *Days*	***1*** *Events / yr.*

What Extreme Rain Event characteristics will be used for project planning – Seasonal Rain Fall, Peak Rain Fall, and Frequency of Events per year?

44 *Inches / yr.*	***4.6*** *Inches*	***0.1*** *Events / yr.*

What Extreme Wind Storm Event characteristics will be used for project planning – Peak Wind Speed, Duration of Storm Event, and Frequency of Events per year?

105 MPH *Peak Wind*	***3 secs*** *Hours*	***0.02*** *Events / yr.*

B.2 - Mitigation Strategies

What will be the overall energy performance, based on use, of the project and how will performance be determined?

Building energy use below code:	***20%***
How is performance determined:	**Energy Modeling on Bldg B, Prescriptive on Bldg A; TBD on Bldgs. C, D, E**

What specific measures will the project employ to reduce building energy consumption?

Select all appropriate:	High performance building envelop	**High performance lighting & controls**	Building day lighting	EnergyStar equip. / appliances
	High performance HVAC equipment	Energy recovery ventilation	No active cooling	No active heating
Describe any added measures:	**TBD**			

What are the insulation (R) values for building envelop elements?

Roof:	***(varies dep on Bldg) Bldg B: R = 30; Other bldgs. R=20c.i. min.***	Walls / Curtain Wall Assembly:	***(varies dep on Bldg) Bldg B: R = 22 / 2.85 wall avg; R-13 min***

			others
Foundation:	*R* = ***7.5c.i.***	Basement / Slab:	*R* = ***15 for 36 below***
Windows:	***(varies dep on Bldg) Bldg B:*** *R* = ***2.85*** */ U =* ***0.35 avg; U=0.38 fixed, U=0.45 operable for other bldgs***	Doors:	***(varies dep on Bldg) Bldg B:*** *R*=***1.42*** */ U =****0.70; U=0.37 other bldgs***

What specific measures will the project employ to reduce building energy demands on the utilities and infrastructure?

	On-site clean energy / CHP system(s)	Building-wide power dimming	Thermal energy storage systems	Ground source heat pump
	On-site Solar PV	On-site Solar Thermal	Wind power	**None**
Describe any added measures:				

Will the project employ Distributed Energy / Smart Grid Infrastructure and /or Systems?

Select all appropriate:	**Connected to local distributed electrical**	Building will be Smart Grid ready	Connected to distributed steam, hot, chilled water	Distributed thermal energy ready

Will the building remain operable without utility power for an extended period?

	*Yes / **No***	If yes, for how long:	*Days*
If Yes, is building "Islandable?	**No**		
If Yes, describe strategies:			

Describe any non-mechanical strategies that will support building functionality and use during an extended interruption(s) of utility services and infrastructure:

Select all appropriate:	**Solar oriented – longer south walls**	Prevailing winds oriented	External shading devices	Tuned glazing,
	Building cool zones	**Operable windows**	Natural ventilation	Building shading
	Potable water for drinking / food preparation	Potable water for sinks / sanitary systems	Waste water storage capacity	High Performance Building Envelop
Describe any added measures:				

What measures will the project employ to reduce urban heat-island effect?

Select all appropriate:	High reflective paving materials	**Shade trees & shrubs**	**High reflective roof materials**	Vegetated roofs
Describe other strategies:				

What measures will the project employ to accommodate rain events and more rain fall?

Select all appropriate:	**On-site retention systems & ponds**	**Infiltration galleries & areas**	vegetated water capture systems	Vegetated roofs
Describe other strategies:				

What measures will the project employ to accommodate extreme storm events and high winds?

Select all appropriate:	Hardened building structure & elements	**Buried utilities & hardened infrastructure**	Hazard removal & protective landscapes	Soft & permeable surfaces (water infiltration)
Describe other strategies:				

C - Sea-Level Rise and Storms

Rising Sea-Levels and more frequent Extreme Storms increase the probability of coastal and river flooding and enlarging the extent of the 100 Year Flood Plain. This section explores if a project is or might be subject to Sea-Level Rise and Storm impacts.

C.1 - Location Description and Classification:

Do you believe the building to susceptible to flooding now or during the full expected life of the building?

*Yes / **No***

Describe site conditions? **Site is within a low risk flood zone (Zone X, Unshaded)**

Site Elevation – Low/High Points:	*Boston City Base **17'/25'** Elev.(Ft.)*
Building Proximity to Water:	***3400 +/-** Ft*

Is the site or building located in any of the following?

Coastal Zone:	*Yes / **No***	Velocity Zone:	*Yes / **No***
Flood Zone:	*Yes / **No***	Area Prone to Flooding:	*Yes / **No***

Will the 2013 Preliminary FEMA Flood Insurance Rate Maps or future floodplain delineation updates due to Climate Change result in a change of the classification of the site or building location?

2013 FEMA Prelim. FIRMs:	*Yes / **No***	Future floodplain delineation updates:	*Yes / **No***

What is the project or building proximity to nearest Coastal, Velocity or Flood Zone or Area Prone to Flooding?

***2000 +/-** Ft.*

If you answered YES to any of the above Location Description and Classification questions, please complete the following questions. Otherwise you have completed the questionnaire; thank you!

C - Sea-Level Rise and Storms

This section explores how a project responds to Sea-Level Rise and / or increase in storm frequency or severity.

C.2 - Analysis

How were impacts from higher sea levels and more frequent and extreme storm events analyzed:

Sea Level Rise:	*Ft.*	Frequency of storms:	*per year*

C.3 - Building Flood Proofing

Describe any strategies to limit storm and flood damage and to maintain functionality during an extended periods of disruption.

What will be the Building Flood Proof Elevation and First Floor Elevation:

Flood Proof Elevation:	*Boston City Base Elev.(Ft.)*	First Floor Elevation:	*Boston City Base Elev. (Ft.)*

Will the project employ temporary measures to prevent building flooding (e.g. barricades, flood gates):

	Yes / No	If Yes, to what elevation	*Boston City Base Elev. (Ft.)*
If Yes, describe:			

What measures will be taken to ensure the integrity of critical building systems during a flood or severe storm event:

Systems located above 1st Floor.	Water tight utility conduits	Waste water back flow prevention	Storm water back flow prevention

Were the differing effects of fresh water and salt water flooding considered:

Yes / No

Will the project site / building(s) be accessible during periods of inundation or limited access to transportation:

Yes / No	If yes, to what height above 100 Year Floodplain:	*Boston City Base Elev. (Ft.)*

Will the project employ hard and / or soft landscape elements as velocity barriers to reduce wind or wave impacts?

	Yes / No
If Yes, describe:	

Will the building remain occupiable without utility power during an extended period of inundation:

Yes / No	If Yes, for how long:	*days*

Describe any additional strategies to addressing sea level rise and or sever storm impacts:

C.4 - Building Resilience and Adaptability

Describe any strategies that would support rapid recovery after a weather event and accommodate future building changes that respond to climate change:

Will the building be able to withstand severe storm impacts and endure temporary inundation?

Select appropriate:	*Yes / No*	Hardened / Resilient Ground Floor Construction	Temporary shutters and or barricades	Resilient site design, materials and construction

Can the site and building be reasonably modified to increase Building Flood Proof Elevation?

Select appropriate:	*Yes / No*	Surrounding site elevation can be raised	Building ground floor can be raised	Construction been engineered

Describe additional strategies:	

Has the building been planned and designed to accommodate future resiliency enhancements?

Select appropriate:	*Yes / No*	Solar PV	Solar Thermal	Clean Energy / CHP System(s)
		Potable water storage	Wastewater storage	Back up energy systems & fuel
Describe any specific or additional strategies:				

Thank you for completing the Boston Climate Change Resilience and Preparedness Checklist!

For questions or comments about this checklist or Climate Change Resiliency and Preparedness best practices, please contact: John.Dalzell.BRA@cityofboston.gov

Appendix C

ACCESSIBILITY CHECKLIST

Accessibility Checklist
(to be added to the BRA Development Review Guidelines)

In 2009, a nine-member Advisory Board was appointed to the Commission for Persons with Disabilities in an effort to reduce architectural, procedural, attitudinal, and communication barriers affecting persons with disabilities in the City of Boston. These efforts were instituted to work toward creating universal access in the built environment.

In line with these priorities, the Accessibility Checklist aims to support the inclusion of people with disabilities. In order to complete the Checklist, you must provide specific detail, including descriptions, diagrams and data, of the universal access elements that will ensure all individuals have an equal experience that includes full participation in the built environment throughout the proposed buildings and open space.

In conformance with this directive, all development projects subject to Boston Zoning Article 80 Small and Large Project Review, including all Institutional Master Plan modifications and updates, are to complete the following checklist and provide any necessary responses regarding the following:

- improvements for pedestrian and vehicular circulation and access;
- encourage new buildings and public spaces to be designed to enhance and preserve Boston's system of parks, squares, walkways, and active shopping streets;
- ensure that persons with disabilities have full access to buildings open to the public;
- afford such persons the educational, employment, and recreational opportunities available to all citizens; and
- preserve and increase the supply of living space accessible to persons with disabilities.

We would like to thank you in advance for your time and effort in advancing best practices and progressive approaches to expand accessibility throughout Boston's built environment.

Accessibility Analysis Information Sources:

1. Americans with Disabilities Act – 2010 ADA Standards for Accessible Design
    a. http://www.ada.gov/2010ADAstandards_index.htm
2. Massachusetts Architectural Access Board 521 CMR
    a. http://www.mass.gov/eopss/consumer-prot-and-bus-lic/license-type/aab/aab-rules-and-regulations-pdf.html
3. Boston Complete Street Guidelines
    a. http://bostoncompletestreets.org/
4. City of Boston Mayors Commission for Persons with Disabilities Advisory Board
    a. http://www.cityofboston.gov/Disability
5. City of Boston – Public Works Sidewalk Reconstruction Policy
    a. http://www.cityofboston.gov/images_documents/sidewalk%20policy%200114_tcm3-41668.pdf
6. Massachusetts Office On Disability Accessible Parking Requirements
    a. www.mass.gov/anf/docs/mod/hp-parking-regulations-mod.doc
7. MBTA Fixed Route Accessible Transit Stations
    a. http://www.mbta.com/about_the_mbta/accessibility/

Project Information

Article 80 | ACCESSIBILTY CHECKLIST

Project Name:	**South Bay**
Project Address Primary:	**101 Allstate Road, Dorchester, MA**
Project Address Additional:	
Project Contact (name / Title / Company / email / phone):	**Keith Hague, Director of Preconstruction, Allstate Roads (Edens), LLC, khague@edens.com, 617-369-6609**

Team Description

Owner / Developer:	**Allstate Road (Edens), LLC**
Architect:	**Stantec**
Engineer (building systems):	**RW Sullivan Engineering**
Sustainability / LEED:	**Soden Sustainability Consulting**
Permitting:	**Fort Point Associates, Inc.**
Construction Management:	**Lee Kennedy Co. Inc**

Project Permitting and Phase

At what phase is the project – at time of this questionnaire?

PNF / Expanded PNF Submitted	**Draft** / Final **Project Impact Report Submitted**	BRA Board Approved
BRA Design Approved	Under Construction	Construction just completed:

Building Classification and Description

Article 80 | ACCESSIBILTY CHECKLIST

What are the principal Building Uses - select all appropriate uses?

	Residential – One to Three Unit	**Residential - Multi-unit, Four +**	Institutional	Education
	Commercial	Office	**Retail**	**Assembly**
	Laboratory / Medical	Manufacturing / Industrial	Mercantile	Storage, Utility and **Other (Parking)**
First Floor Uses (List)	**Retail, Restaurants, Residential Lobbies, Cinema Lobby, Parking Garage Lobby, Apartment and Live/work entries, Hotel Lobby, Hotel Rooms**			

What is the Construction Type – select most appropriate type?

Wood Frame on Concrete Base ('Podium')	Masonry	**Steel Frame w/ Conc Deck (Retail & Cinema)**	**Concrete (Parking Structure)**

Describe the building?

Site Area:	**463,110** *SF*	Building Area:	**730,000** *SF*
Building Height:	**Varies, highest is 65'-0"** *Ft.*	Number of Stories:	**2 to 6 , highest is 65'-0"** *Flrs.*
First Floor Elevation:	**19-10" to 25'-0"** *Elev.*	Are there below grade spaces:	***Yes*** / No **-1 (garage area only)**

Assessment of Existing Infrastructure for Accessibility:

This section explores the proximity to accessible transit lines and proximate institutions such as, but not limited to hospitals, elderly and disabled housing, and general neighborhood information. The proponent should identify how the area surrounding the development is accessible for people with mobility impairments and should analyze the existing condition of the accessible routes through sidewalk and pedestrian ramp reports.

Provide a description of the development neighborhood	**The South Bay project is a mixed-use, transit-oriented development proposed in Dorchester on 10.63 acres of largely vacant,**

and identifying characteristics.	**commercial/industrial land and surface parking lots to the south of the existing South Bay Center. The Project site is roughly bounded by the existing South Bay Center on the northwest, Enterprise Street on the southwest, Boston Street and a residential neighborhood on the southeast, and West Howell Street and hotel properties on the northeast. Massachusetts Avenue runs on the west side and the Southeast Expressway (I-93) runs on the east side.**
List the surrounding ADA compliant MBTA transit lines and the proximity to the development site: Commuter rail, subway, bus, etc.	**The Project Site is well-connected to Massachusetts Avenue and the Southeast Expressway and forms of alternative transportation such as MBTA train, subway, bus lines, and the South Bay-Andrew Station shuttle operated by the Proponent. The site is a short walk from commuter rail service at Newmarket Station and subway and bus service at Andrew Station.**
List the surrounding institutions: hospitals, public housing and elderly and disabled housing developments, educational facilities, etc.	**The Project Site is proximate to the following among other facilities:** **Hospitals- Boston Medical Center** **Housing Developments- 24 Bellflower Street** **Schools- Boston Collegiate Charter School, William E. Russell School, the Pope John Paul Catholic Academy, Roger Clap Innovation School**
Is the proposed development on a priority accessible route to a key public use facility? List the surrounding: government buildings, libraries, community centers and recreational facilities and other related facilities.	**It is unknown whether the Project Site is on a priority accessible route.** **The Project Site is proximate to the following among other facilities:** **Government Buildings- Parks and Recreation Department** **Parks- Clifford Playground**

Surrounding Site Conditions – Existing:

This section identifies the current condition of the sidewalks and pedestrian ramps around the development site.

Are there sidewalks and pedestrian ramps existing at the development site?	**Yes.**

If yes above, list the existing sidewalk and pedestrian ramp materials and physical condition at the development site.	**The existing sidewalks and pedestrian ramps are in fair condition.**
Are the sidewalks and pedestrian ramps existing-to-remain? **If yes,** have the sidewalks and pedestrian ramps been verified as compliant? **If yes,** please provide surveyors report.	**No. The Proponent will replace all sidewalks and pedestrian ramps adjacent to and within the Project site.**
Is the development site within a historic district? **If yes,** please identify.	**No.**

Surrounding Site Conditions – Proposed

This section identifies the proposed condition of the walkways and pedestrian ramps in and around the development site. The width of the sidewalk contributes to the degree of comfort and enjoyment of walking along a street. Narrow sidewalks do not support lively pedestrian activity, and may create dangerous conditions that force people to walk in the street. Typically, a five foot wide Pedestrian Zone supports two people walking side by side or two wheelchairs passing each other. An eight foot wide Pedestrian Zone allows two pairs of people to comfortable pass each other, and a ten foot or wider Pedestrian Zone can support high volumes of pedestrians.

Are the proposed sidewalks consistent with the Boston Complete Street Guidelines? See: www.bostoncompletestreets.org	**Yes.**
If yes above, choose which Street Type was applied: Downtown Commercial, Downtown Mixed-use, Neighborhood Main, Connector, Residential, Industrial, Shared Street, Parkway, Boulevard.	**Along Main Street, which is a Shared Street, sidewalks will include concrete surfaces with flush curbs to enhance accessibility and reinforce the shared-street concept, artful landscaping, and creative bench and lighting designs.** **The remainder of the Project Site is a combination of Neighborhood Residential and Industrial Streets which provide the required Pedestrian and Greenscape/Furnishing Zones as detailed below.**
What is the total width of the	**Main Street: Pedestrian Zone varies from 10'-0" to 22'-0".**

proposed sidewalk? List the widths of the proposed zones: Frontage, Pedestrian and Furnishing Zone.	**Furnishing Zone varies from 8'-0" to 20'-0".** **New Road: Pedestrian Zone is a minimum of 5'-0", but, is generally 8'-0" or wider; Furnishing Zone varies from 4'-6" to 6'-0".** **West Howell Street: Pedestrian Zone varies from 8'-0" to 10'-0"; Furnishing Zone varies from 4'-0" to 4'-6".** **Newmarket Pathway: Pedestrian is 8'-0"; Furnishing Zone is 4'-6".** **Promenade: Pedestrian Zone is 12'-0"; Furnishing Zone is 18'-0".** **New Road: Pedestrian Zone varies from 8'-0" to 12'-0"; Furnishing Zone is 4'-0".** **Buildings D and E Access Road: Pedestrian Zone varies from 5'-0" to 8'-0"; Furnishing Zone is 1'-6".**
List the proposed materials for each Zone. Will the proposed materials be on private property or will the proposed materials be on the City of Boston pedestrian right-of-way?	**Concrete sidewalks will be installed both on private property and existing rights-of-way.**
If the pedestrian right-of-way is on private property, will the proponent seek a pedestrian easement with the City of Boston Public Improvement Commission?	**No, the Proponent does not presently anticipate seeking a pedestrian easement with the City of Boston Public Improvement Commission, but, the Proponent anticipates that all private ways on the project site will comply with applicable requirements related to accessibility.**
Will sidewalk cafes or other furnishings be programmed for the pedestrian right-of-way?	**NA**
If yes above, what are the proposed dimensions of the sidewalk café or furnishings and what will the right-of-way clearance be?	**NA**

Proposed Accessible Parking:

See Massachusetts Architectural Access Board Rules and Regulations 521 CMR Section 23.00 regarding accessible parking requirement counts and the Massachusetts Office of Disability Handicap Parking Regulations.

What is the total number of parking spaces provided at the development site parking lot or garage?	**There will be 1,095 spaces on site (surface lots and street parking) and in structured garage areas.**
What is the total number of accessible spaces provided at the development site?	**Building A Garage = 13 spaces, Building C Garage = 6 spaces, Building D Garage = 5 spaces, At-grade site parking= 9 spaces** **Total of 33, accessible spaces will be provided; Reference Diagrams 1 through 7.** **10 spaces will be van accessible: 2 at Building A (garage), 2 at Building C (garage), 1 at Building D (garage), and 5 at-grade site parking.**
Will any on street accessible parking spaces be required? **If yes,** has the proponent contacted the Commission for Persons with Disabilities and City of Boston Transportation Department regarding this need?	**Yes, on-street accessible parking along the project driveways will be provided. Reference Diagrams for locations.**
Where is accessible visitor parking located?	**In public garage and on-street parking. Reference Diagrams 1 through 4.**
Has a drop-off area been identified? **If yes,** will it be accessible?	**Yes, accessible drop-off areas will be provided along Main Street and at Building E. Reference Diagram 7.**
Include a diagram of the accessible routes to and from the accessible parking lot/garage and drop-off areas to the development entry locations. Please include route distances.	**Reference Diagrams 1-7.**

Circulation and Accessible Routes:

The primary objective in designing smooth and continuous paths of travel is to accommodate persons of all abilities that allow for universal access to entryways, common spaces and the visit-ability* of neighbors.

**Visit-ability – Neighbors ability to access and visit with neighbors without architectural barrier limitations*

Provide a diagram of the accessible route connections through the site.	**See Diagram 5.**
Describe accessibility at each entryway: Flush Condition, Stairs, Ramp Elevator.	**The entries to all buildings will have a flush condition.**
Are the accessible entrance and the standard entrance integrated?	**Yes.**
If no above, what is the reason?	
Will there be a roof deck or outdoor courtyard space? **If yes,** include diagram of the accessible route.	**Yes. Please reference Diagram 6.**
Has an accessible routes way-finding and signage package been developed? **If yes,** please describe.	**Yes, a wayfinding concept is attached to this submission.**

Accessible Units: (If applicable)

In order to facilitate access to housing opportunities this section addresses the number of accessible units that are proposed for the development site that remove barriers to housing choice.

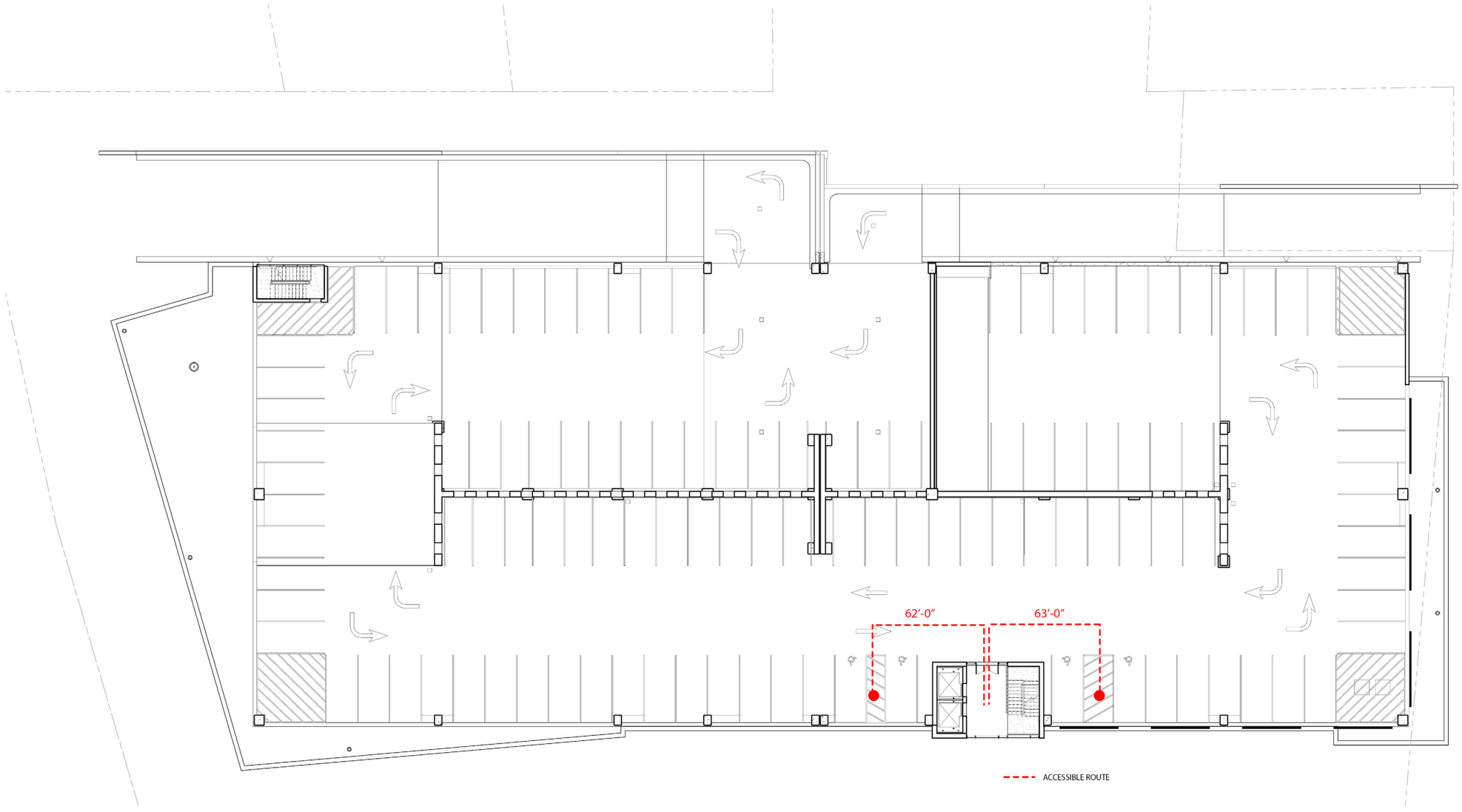
What is the total number of proposed units for the development?	**475**

Article 80 | ACCESSIBILTY CHECKLIST

How many units are for sale; how many are for rent? What is the market value vs. affordable breakdown?	**475 units will be for rent.** **13% of the market rate units will be affordable or 61 units.**
How many accessible units are being proposed?	**5% (24 Units)**
Please provide plan and diagram of the accessible units.	**This is currently under design and will be submitted to the Commission as the design advances.**
How many accessible units will also be affordable? If none, please describe reason.	**5% of the 61 required Group 2 (accessible) affordable units, or 8 units will be provided.**
Do standard units have architectural barriers that would prevent entry or use of common space for persons with mobility impairments? Example: stairs at entry or step to balcony. **If yes,** please provide reason.	**No**
Has the proponent reviewed or presented the proposed plan to the City of Boston Mayor's Commission for Persons with Disabilities Advisory Board?	**The Proponent presented the Project to the Commission on September 24, 2015.**
Did the Advisory Board vote to support this project? **If no,** what recommendations did the Advisory Board give to make this project more accessible?	**No, the Commission did not yet formally vote to support the Project. The Commission suggested the Proponent develop wayfinding signage concepts for the Project and to encourage its future tenants to offer jobs to people with disabilities.**

Thank you for completing the Accessibility Checklist!

For questions or comments about this checklist or accessibility practices, please contact:

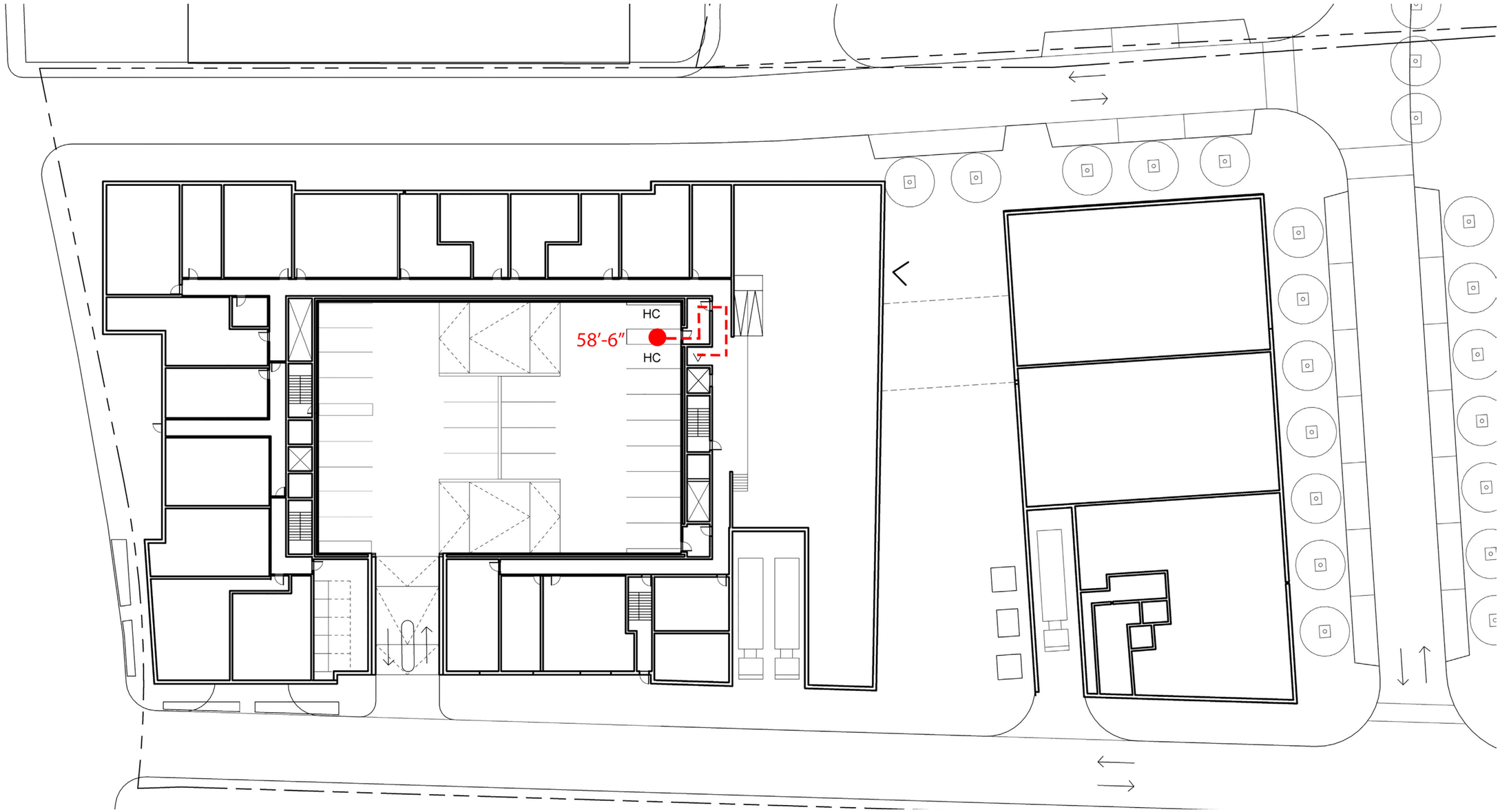


PROJECT # 14149.00/218420324

PUBLIC PARKING GARAGE ACCESSIBILTY

SOUTH BAY EXPANSION ACCESSIBILTY CHECKLIST

DIAGRAM 1

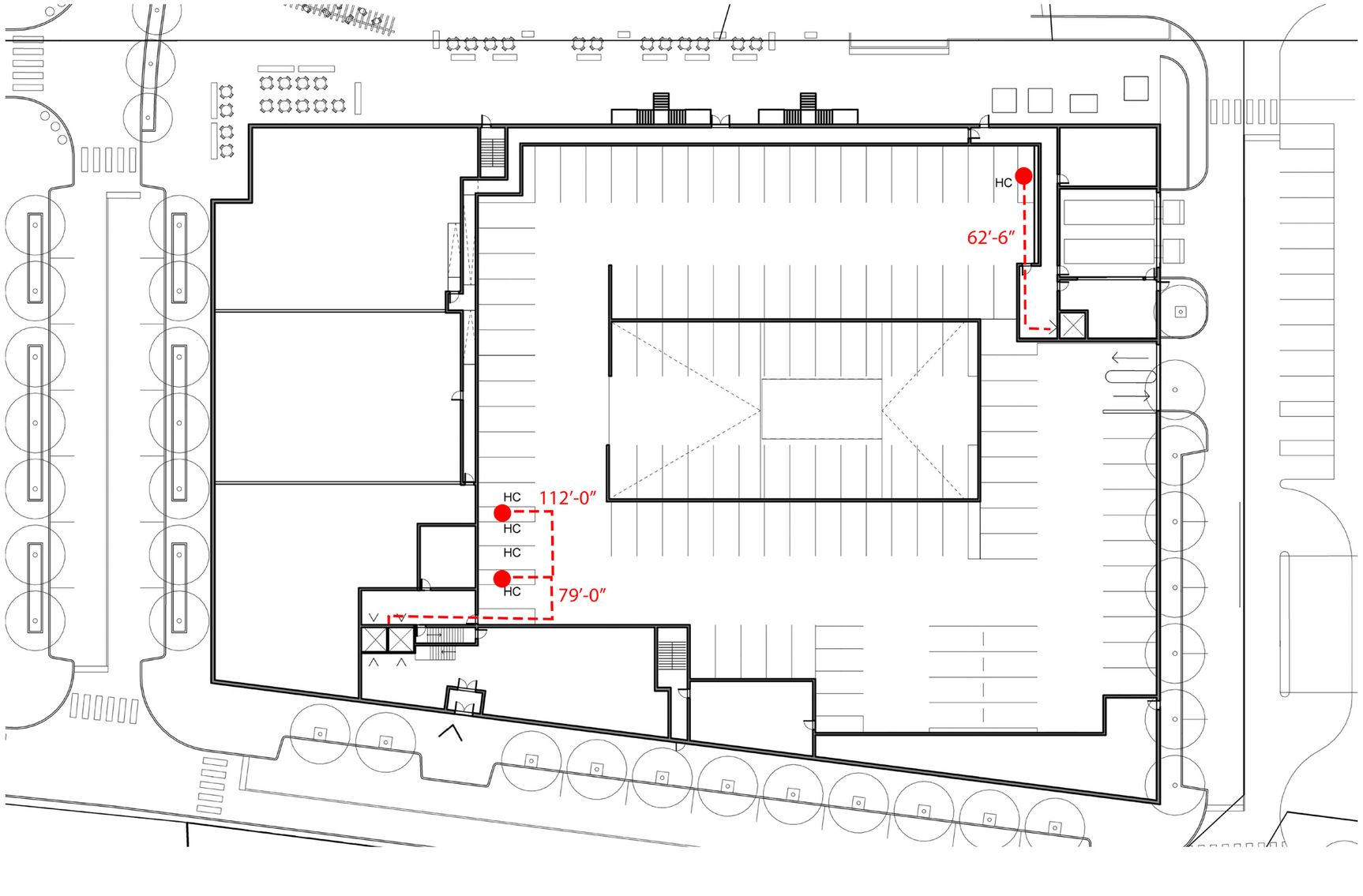


EDENS

RESIDENTIAL BUILDING C PARKING GARAGE ACCESSIBILTY

SOUTH BAY EXPANSION ACCESSIBILTY CHECKLIST

DIAGRAM 2

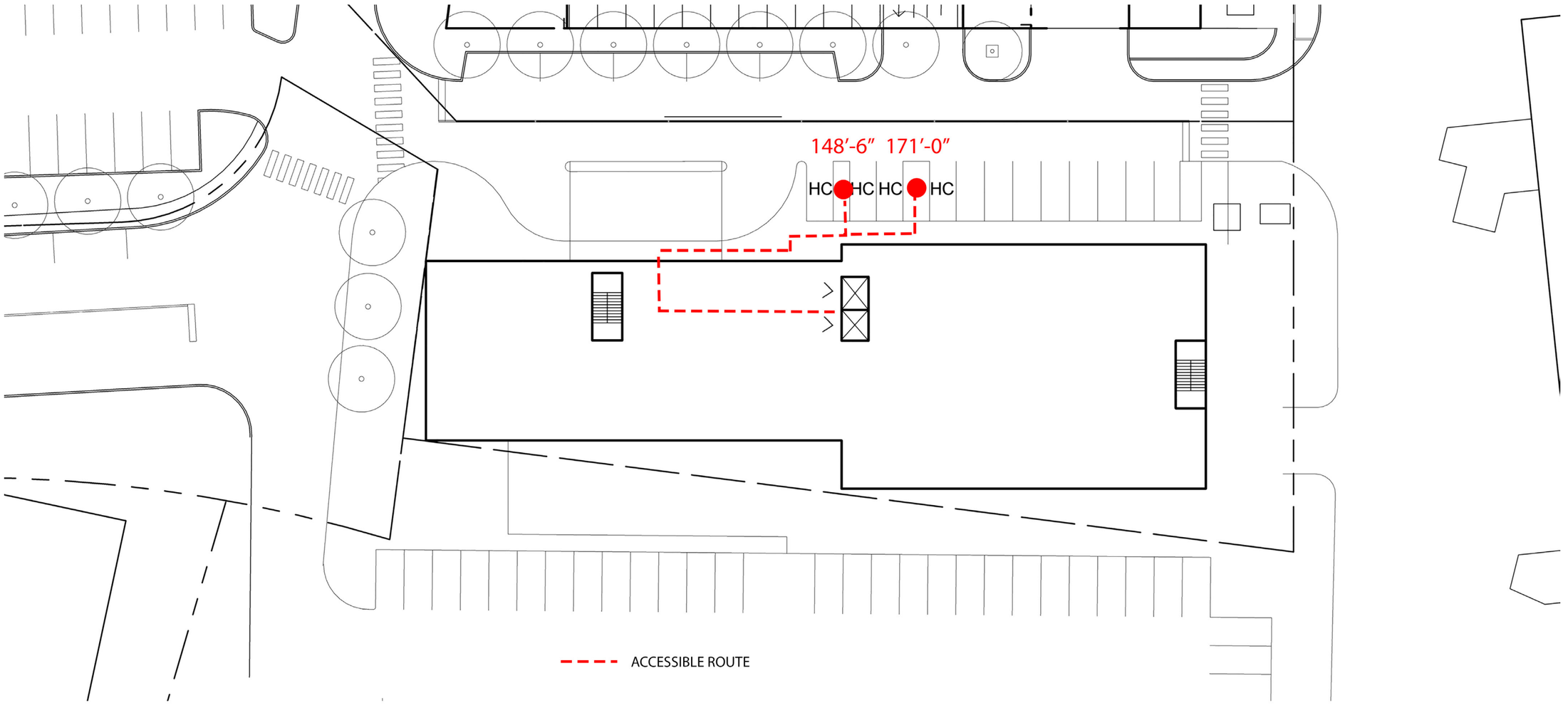


PROJECT # 14149.00/218420324

RESIDENTIAL BUILDING D PARKING GARAGE ACCESSIBILTY

SOUTH BAY EXPANSION ACCESSIBILTY CHECKLIST

DIAGRAM 3



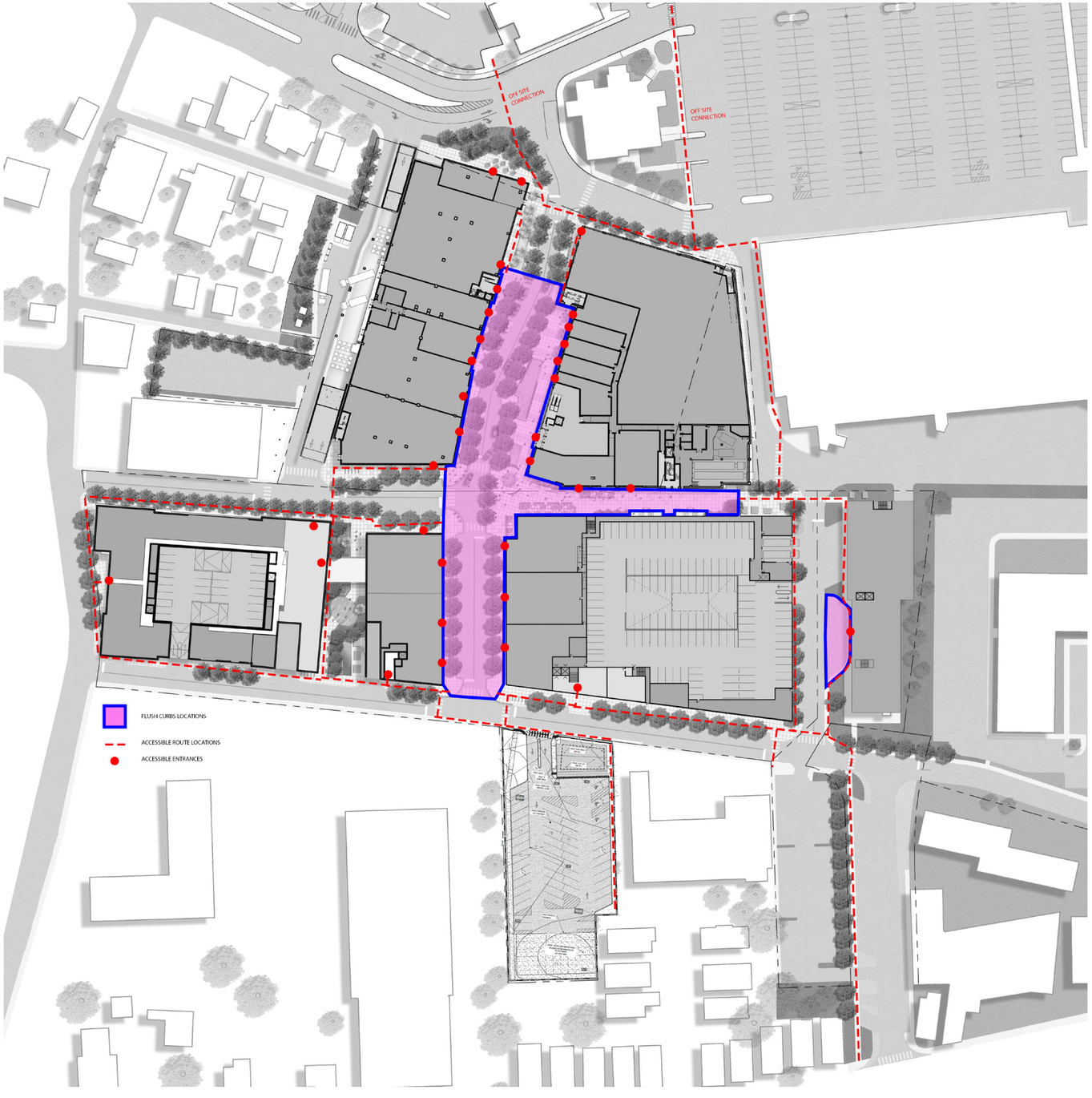
EDENS

PROJECT # 14149.00/218420324

HOTEL BUILDING E PARKING ACCESSIBILTY

SOUTH BAY EXPANSION ACCESSIBILTY CHECKLIST

DIAGRAM 4

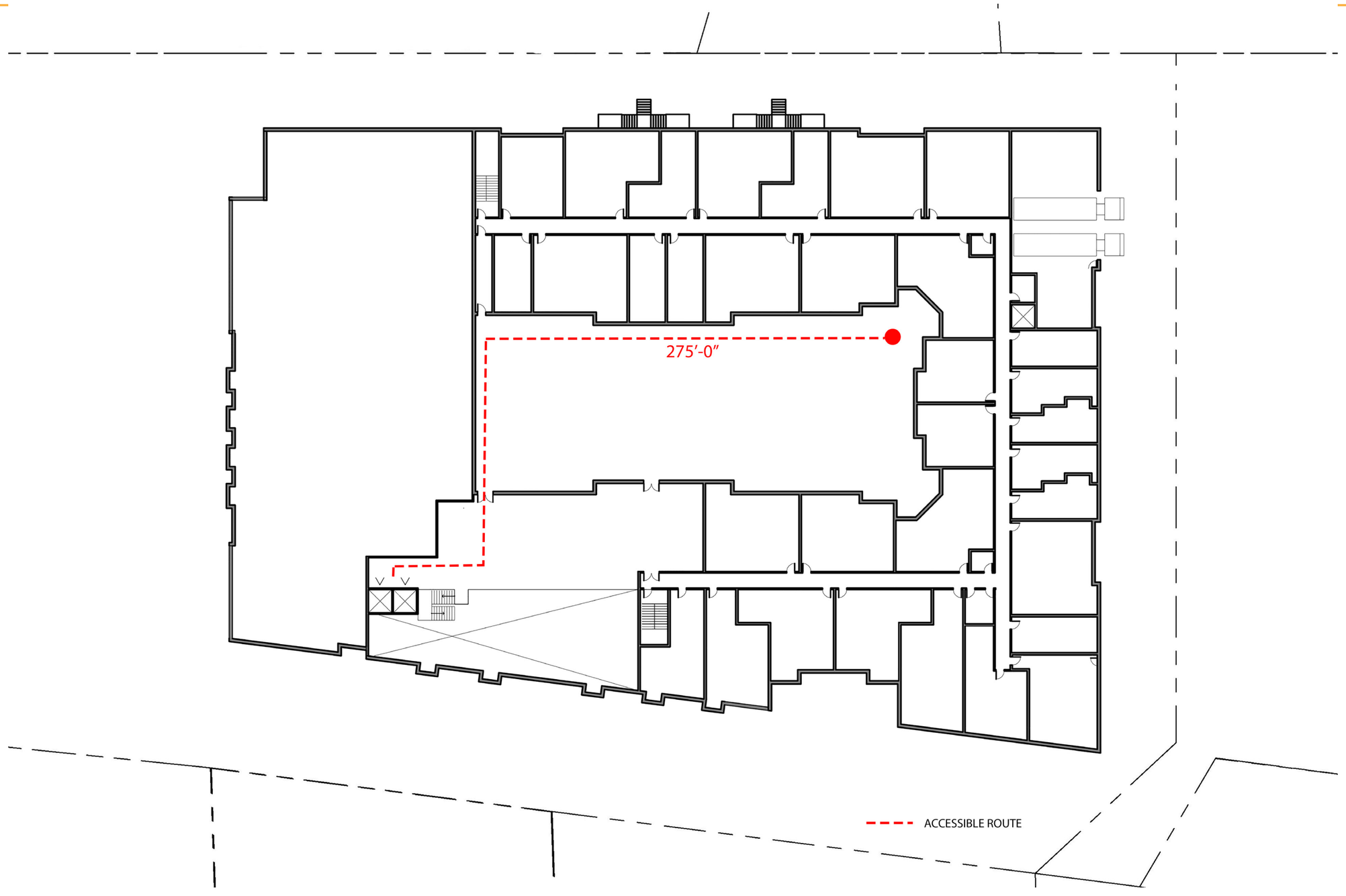


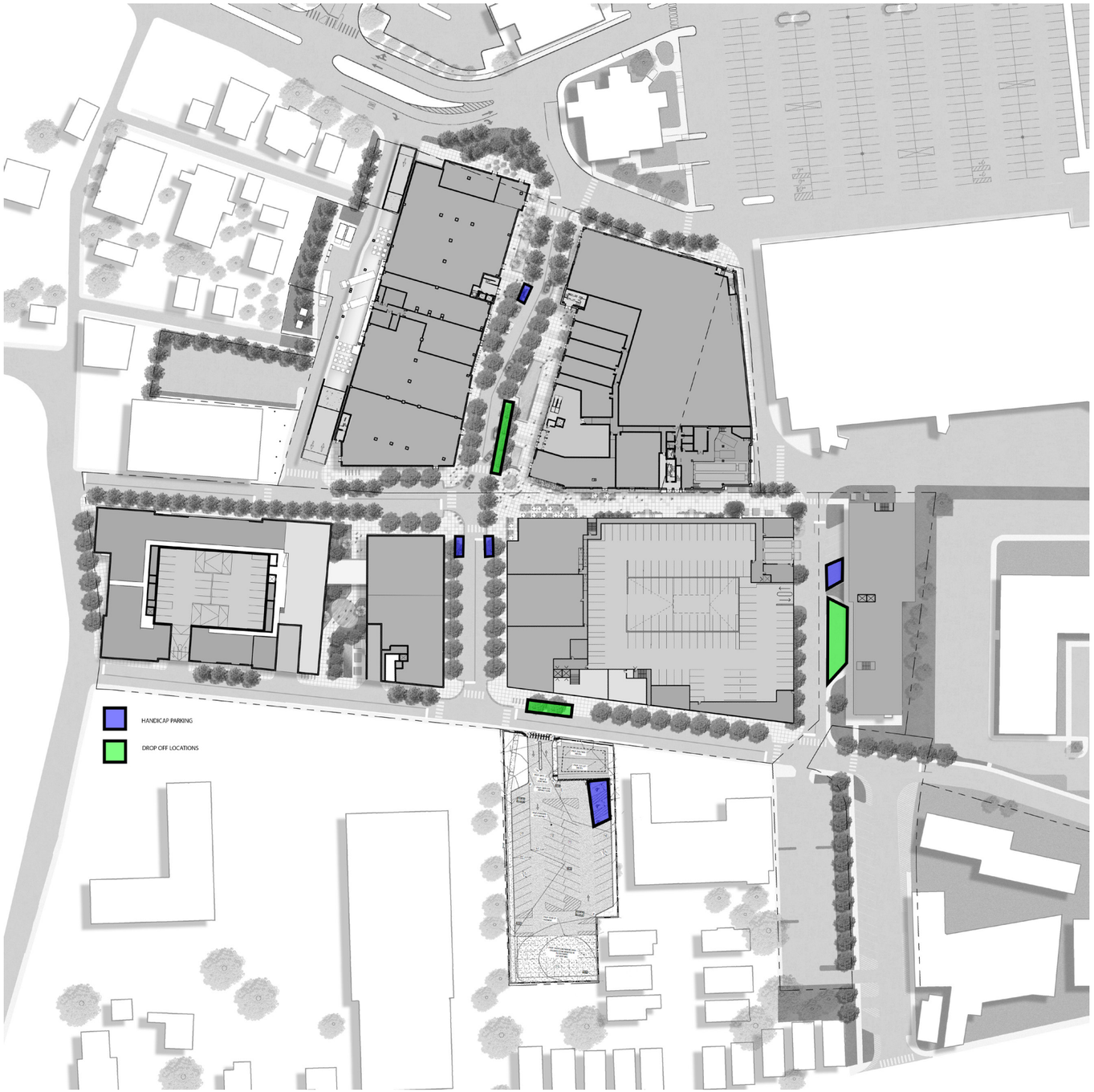
PROJECT # 14149.00/218420324

SITE ACCESSIBLE ROUTES

SOUTH BAY EXPANSION ACCESSIBILTY CHECKLIST

DIAGRAM 5


275'-0"
ACCESSIBLE ROUTE



PROJECT # 14149.00/218420324

SITE SURFACE HANDICAP PARKING & DROP OFF LOCATIONS

SOUTH BAY EXPANSION ACCESSIBILTY CHECKLIST

DIAGRAM 7

EDENS Design Guidelines for Public Space Wayfinding and Accessibility

EDENS appreciates the importance of wayfinding and orientation measures that exceed the implementation of signage. The success of EDENS' retail is intimately tied to the quality, efficiency, and accessibility of its public space. Following are design standards for the South Bay Project to guide functional, comfortable, easily-navigated, public space for all users to benefit from and enjoy.

Generous, Direct, Unobstructed Pedestrian Ways

- More easily navigated by all
- Enhances clear visual communication
- Independent buffer zone between pedestrian-only sidewalks and carriage way consisting of trees, landscaping, furnishings, and street signage
- Independent retail zone along storefronts for exterior displays, cafe seating, and sidewalk signs

Design for Visual Language

- Ample space for those using sign language to converse while walking, uninterrupted
- Sufficient space for comfortable, multi-directional pedestrian passage
- Public space accommodates conversations among larger groups through radial arrangement

Design for Sensory Reach

- Simple street-tree and landscaping concept emphasizes orderly arrangement with transparency at eye-level while walking or seated
- Allow for greater comfort and safety
- Visual connection to other spaces and landmarks
- Greater ease in orientation to landmarks while in crowds

Control of Light

- Mitigation of glare and shadows through abundant use of street trees
- Consistent architectural and landscape lighting for high ambient brightness
- Near double the standard of average ambient light level in parking deck to enhance comfort and safety

Attention to Walksurfaces

- Use of cast-in-place concrete as the primary sidewalk paving for simple, safe foot traffic
- Flush curbs between the sidewalk and drive surface along Main Street to facilitate crossings without stepping up onto or down from curbs
- Tactile warning pavers at all crossings and flush curbs to signify a change in location
- Maximum 2 percent slope for the majority of the site

Orientation Landmarks

- Facilitate navigation when in crowds

Clear, Consistent Tenant and Wayfinding Signage

Generous, Direct, Unobstructed Pedestrian Ways

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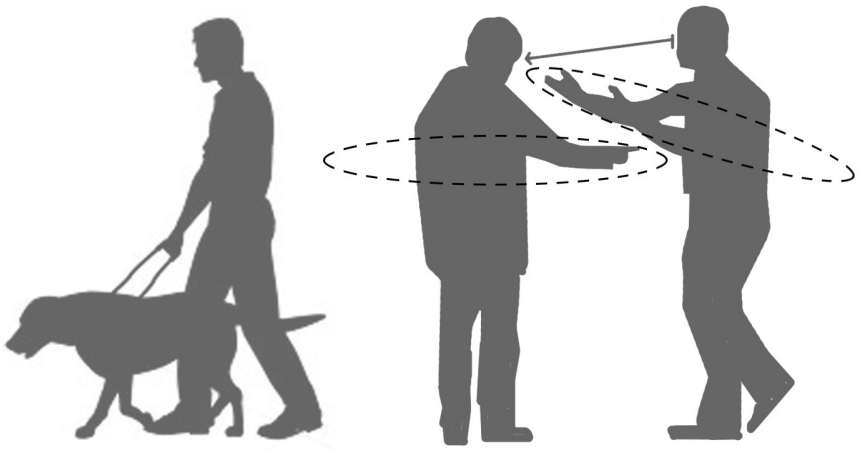

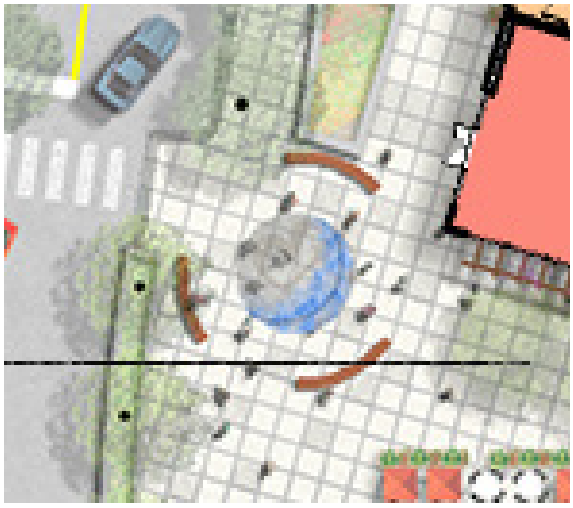

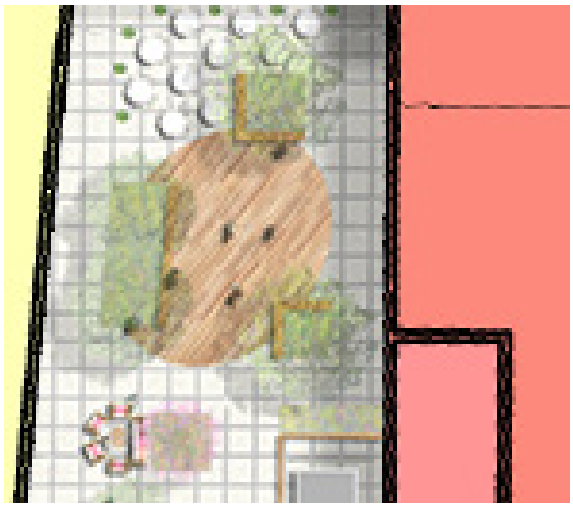

Design for Sensory Reach

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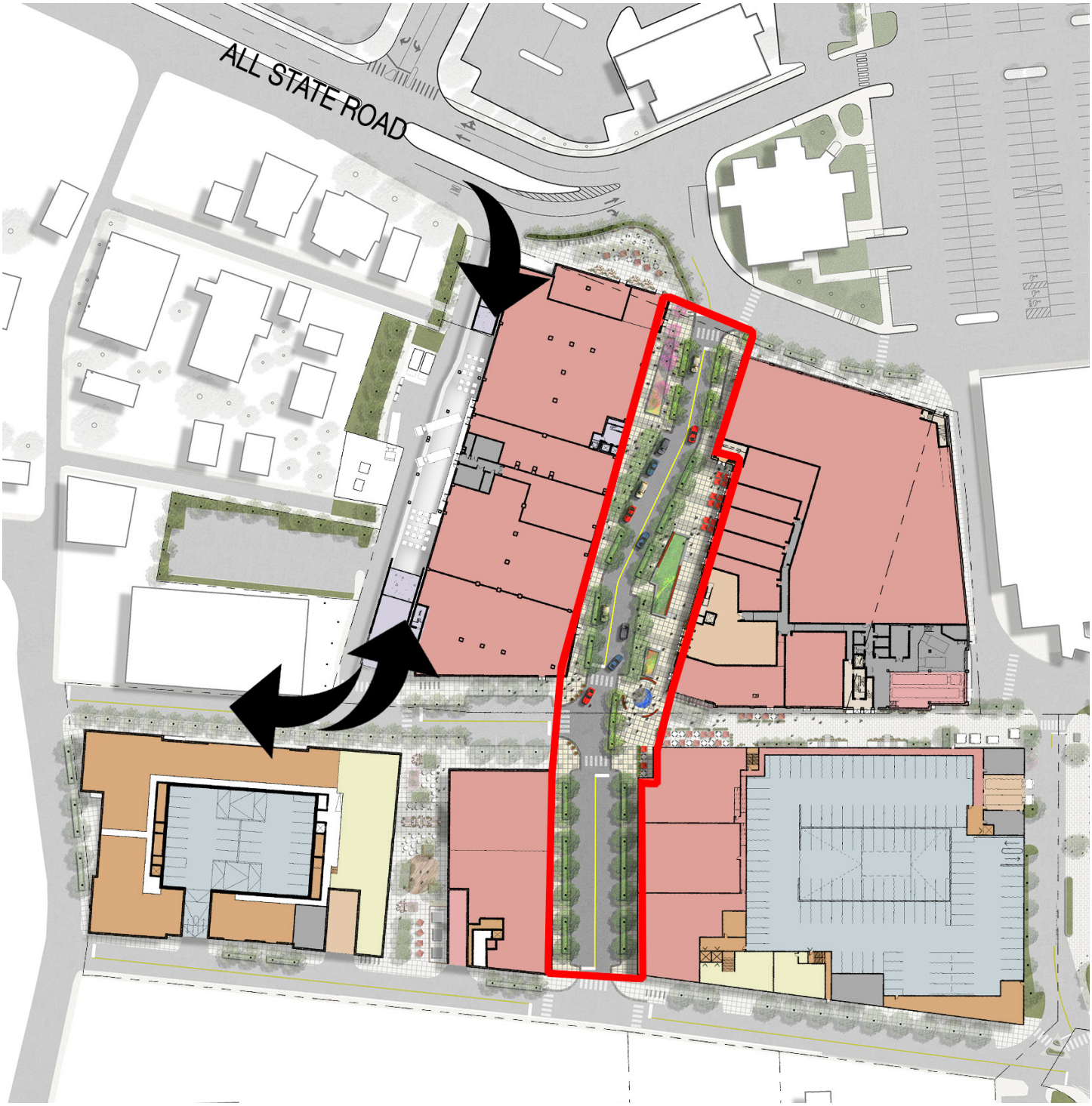
-Flush curbs between the sidewalk and drive surface along Main Street to facilitate crossings without stepping up onto or down from curbs
-Tactile warning pavers at all crossings and flush curbs to signify a change in location
-Maximum 2 percent slope for the majority of the site

Limitation and Calming of Vehicular Traffic on Main Street

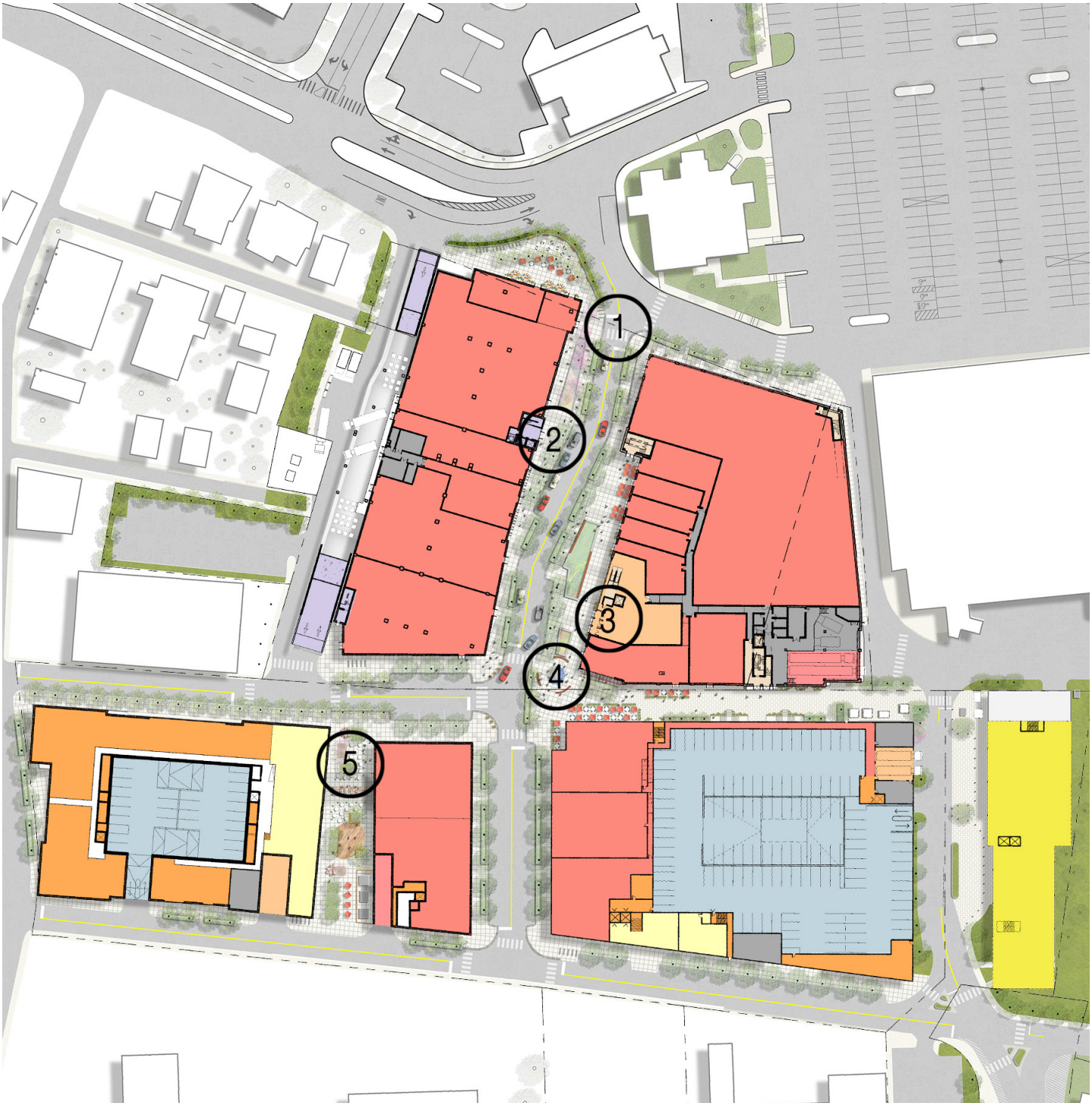
-The Project's site plan design incorporates measures to reduce the need for vehicular use of Main Street
-Parking garage access is provided directly from All State Road prior to the intersection with Main Street, thereby significantly reducing the amount of vehicular use
-Garage egress and secondary ingress are provided from New Road which is accessible to surrounding major thoroughfares without the need to use Main Street, further reducing vehicular traffic
-The design of Main Street itself involves two slight bends that calm traffic and force a reduction in speed in order to navigate
-Main Street can be closed to all vehicular traffic during major events to remove pedestrian interface with the automobile entirely



Orientation Landmarks

- Facilitate navigation when in crowds

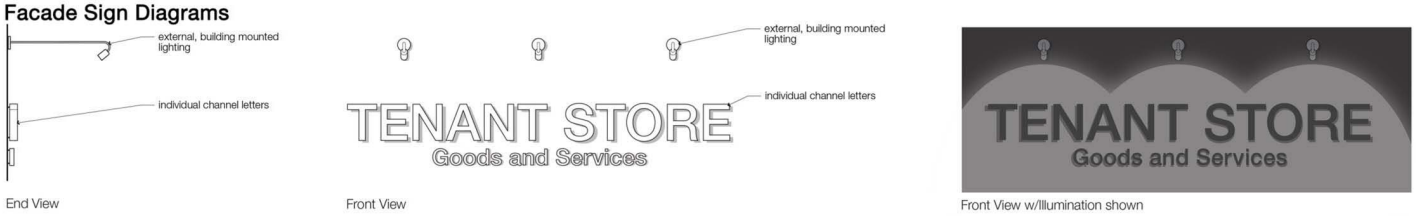
1. Primary entrance and view toward existing South Bay Center
2. Parking Garage pedestrian entrance and elevators marked by architectural projection and signage
3. Prominent cinema entry and signage
4. Fountain and gathering space at center of Project
5. Bridge element on route to residential building lobby and courtyard



Clear, Consistent Tenant and Wayfinding Signage

- Appropriate character height and size for location and height above grade
- Use of contrasting surfaces and characters
- Simple illumination of building signs

Facade Sign Diagrams

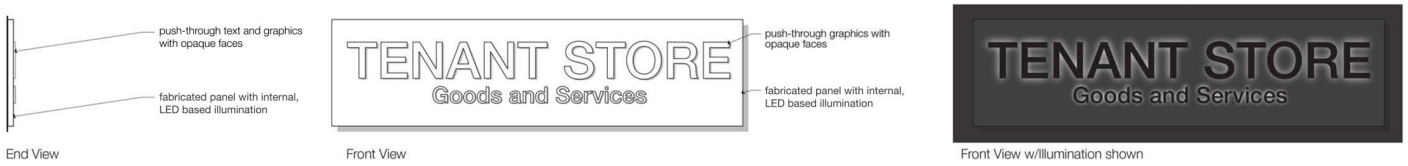


End View | Front View | Front View w/Illumination shown

1 Channel Letters w/ External Illumination
SCALE: None

End View | Front View | Front View w/Illumination shown

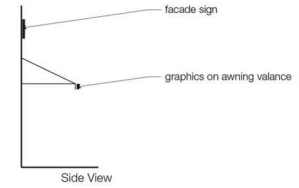
2 Reverse Channel Letters w/ Halo Illumination
SCALE: None



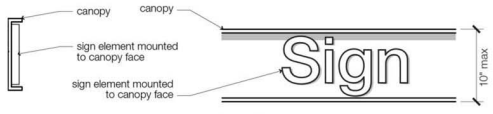
End View | Front View | Front View w/Illumination shown

3 Panel Sign w/Push-Through Text and Graphics
SCALE: None

Awning and Canopy Sign Diagrams



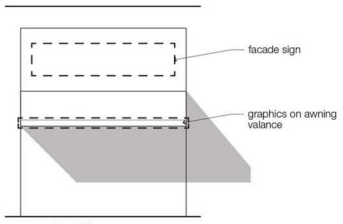
Side View



Front View

Canopy Sign Diagram
SCALE: None

Signs may occur at building canopys.



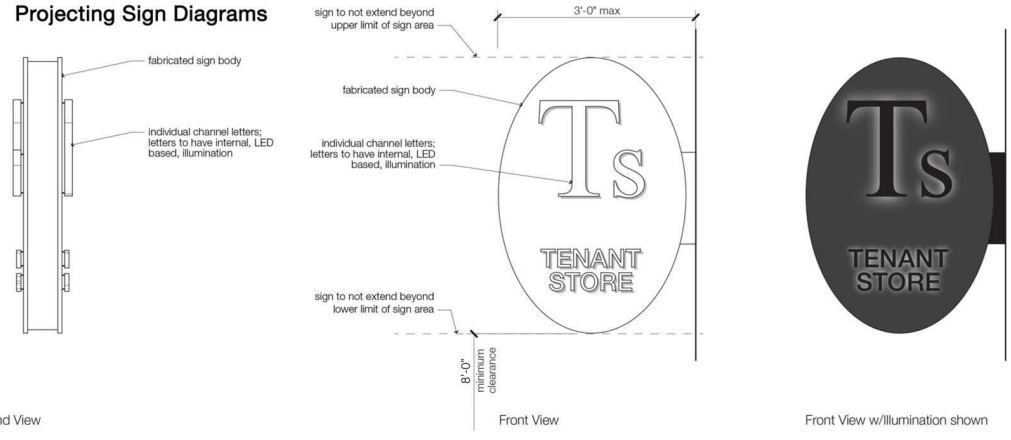
Front View

Awning Sign Diagram
SCALE: None

Awning Colors

Black | Natural | Charcoal Gray | Green | Blue | Taupe

Projecting Sign Diagrams



End View | Front View | Front View w/Illumination shown

Clear, Consistent Tenant and Wayfinding Signage

- Appropriate character height and size for location and height above grade

abcdefghijklmnopqrstuvwxyz

1234567890!@#$%&();:’”,.?'"

1 Font Set
Helvetica Neue LT Std
45 Light

abcdefghijklmnopqrstuvwxyz

1234567890!@#$%&();:’”,.?'"

2 Font Set
Helvetica Neue LT Std
55 Roman

abcdefghijklmnopqrstuvwxyz

1234567890!@#$%&();:’”,.?'"

3 Font Set
Helvetica Neue LT Std
65 Medium

4 Type Size Measurement
No Scale

“visitor’s entrance 8'-10"”

Please note the difference between foot/inch marks and apostrophe/quotation marks.

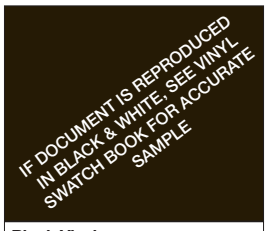
5 Typesetting
No Scale

Clear, Consistent Tenant and Wayfinding Signage

Use of contrasting surfaces and characters

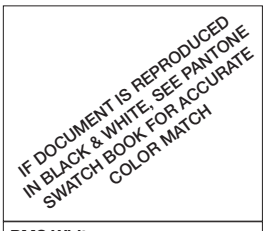
PMS Black 3 C
Paint to match with satin finish

C1



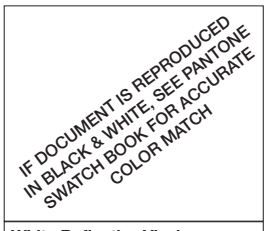
Black Vinyl
3M 7725-12, Avery A9081-0, or equal

C2



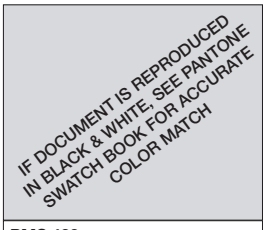
PMS White
Paint to match with satin finish

C3



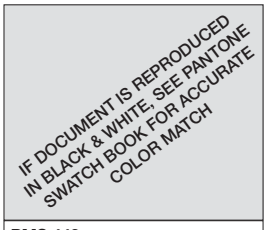
White Reflective Vinyl
3M 5100R, Avery A7801-R, or equal

C4



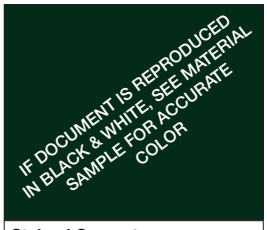
PMS 430
Paint to match with satin finish

C8



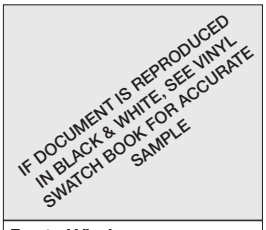
PMS 443
Paint to match with satin finish

C9



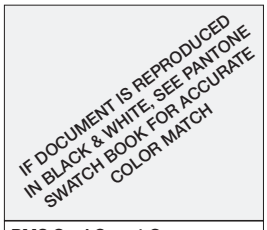
Stained Concrete
Color to match PMS Black 3

M1



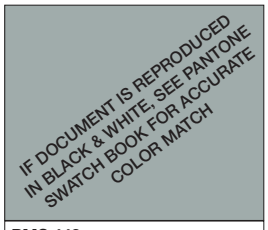
Frosted Vinyl
3M 7725SE-324, Avery A5862-S, or equal

M2



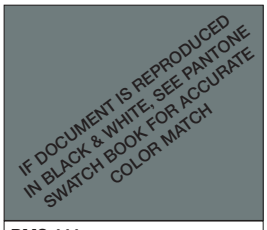
PMS Cool Gray 1 C
Paint to match with satin finish

C5



PMS 442
Paint to match with satin finish

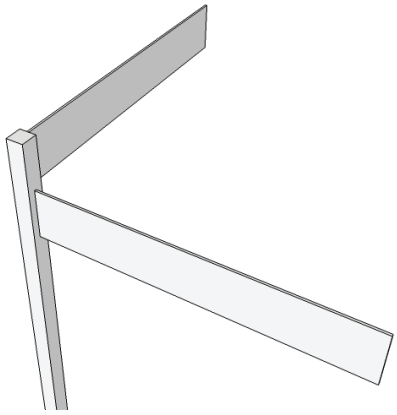
C6



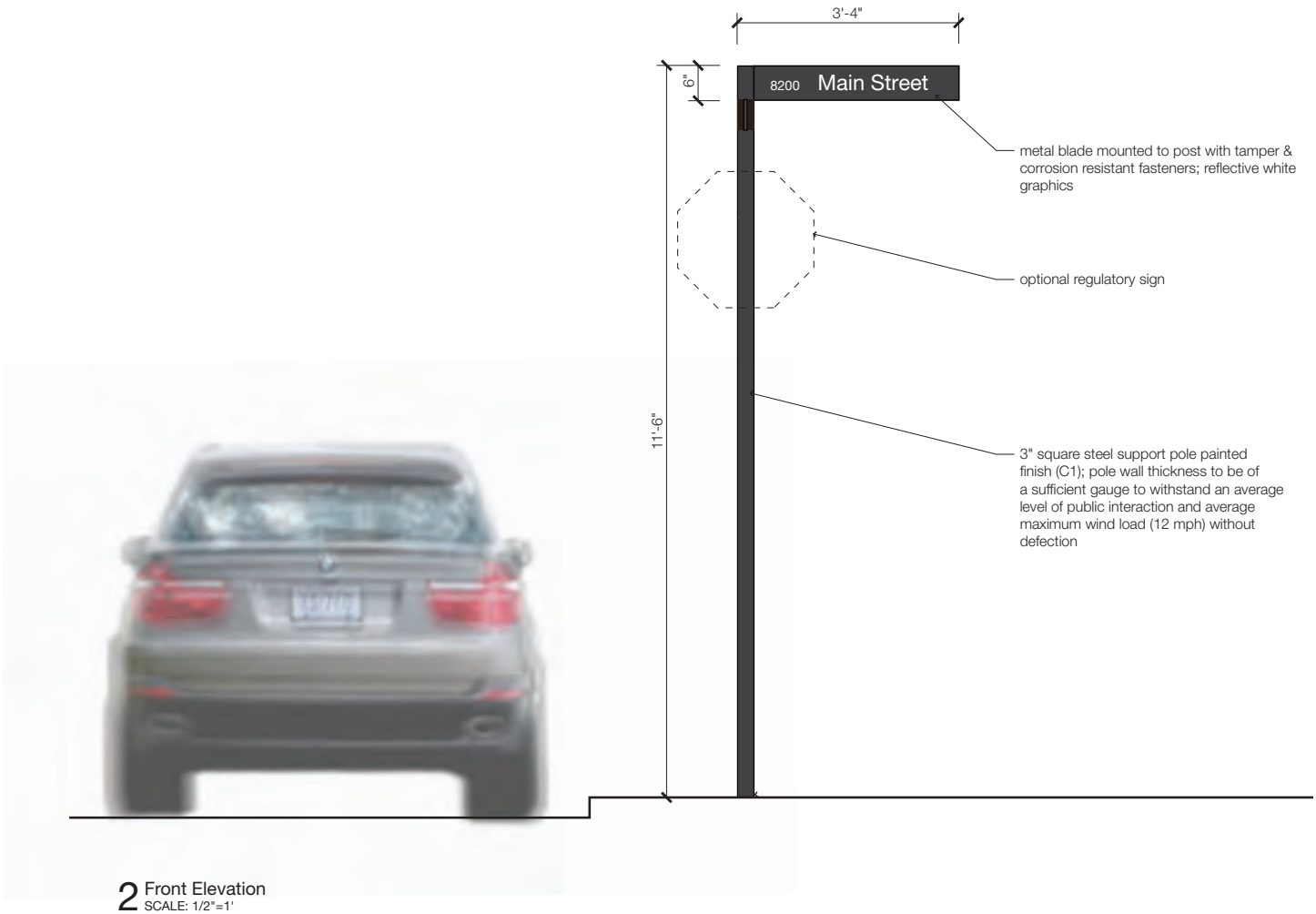
PMS 444
Paint to match with satin finish

C7

Clear, Consistent Tenant and Wayfinding Signage

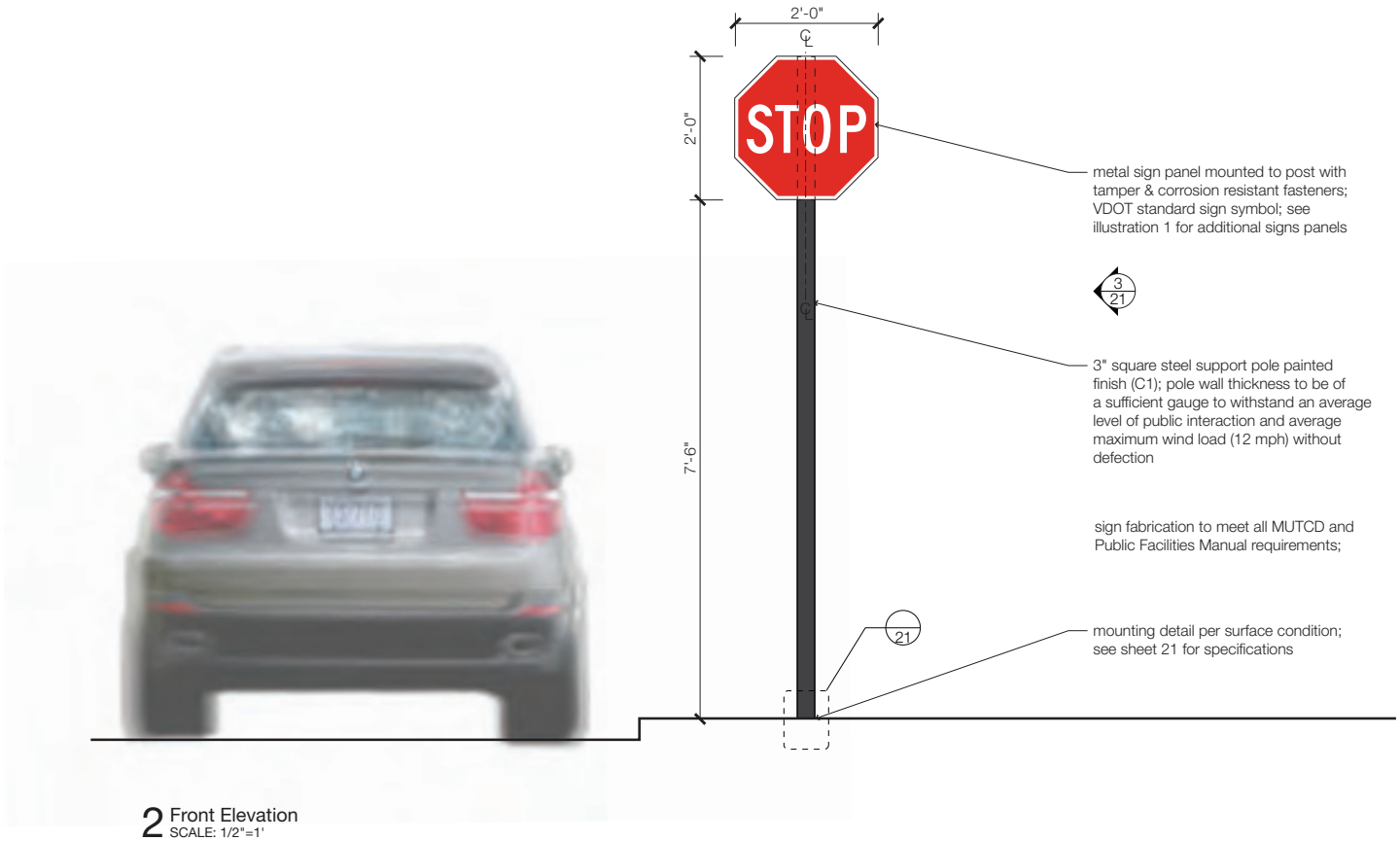


1 Perspective Diagram
SCALE: none

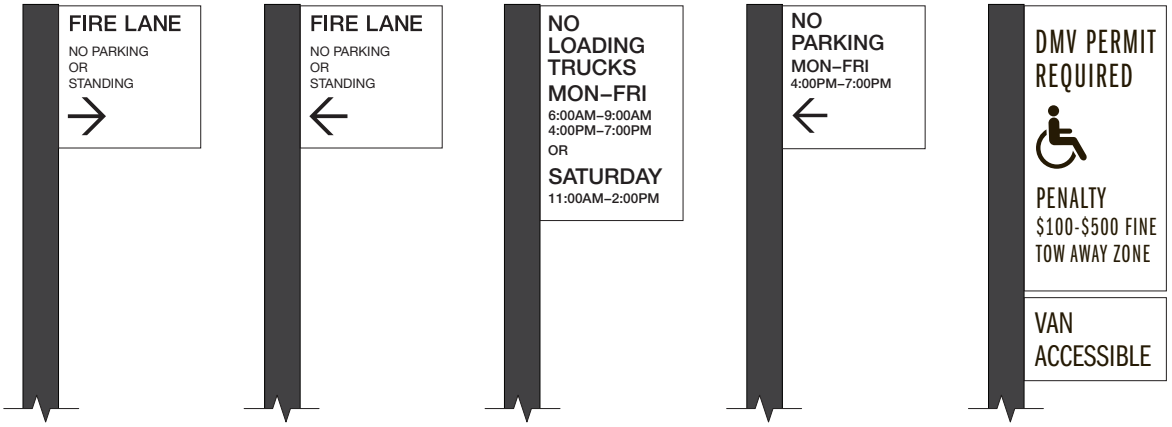


2 Front Elevation
SCALE: 1/2"=1'

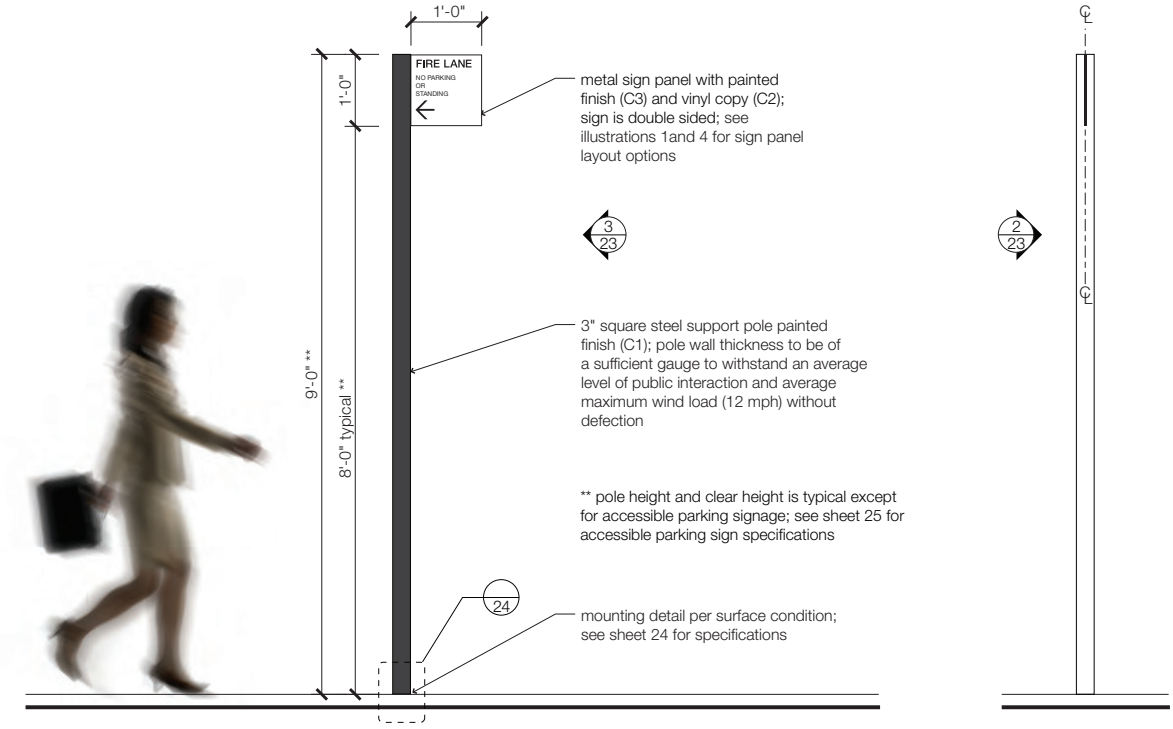
1 Additional Regulatory Signs
SCALE: 1/2"=1'



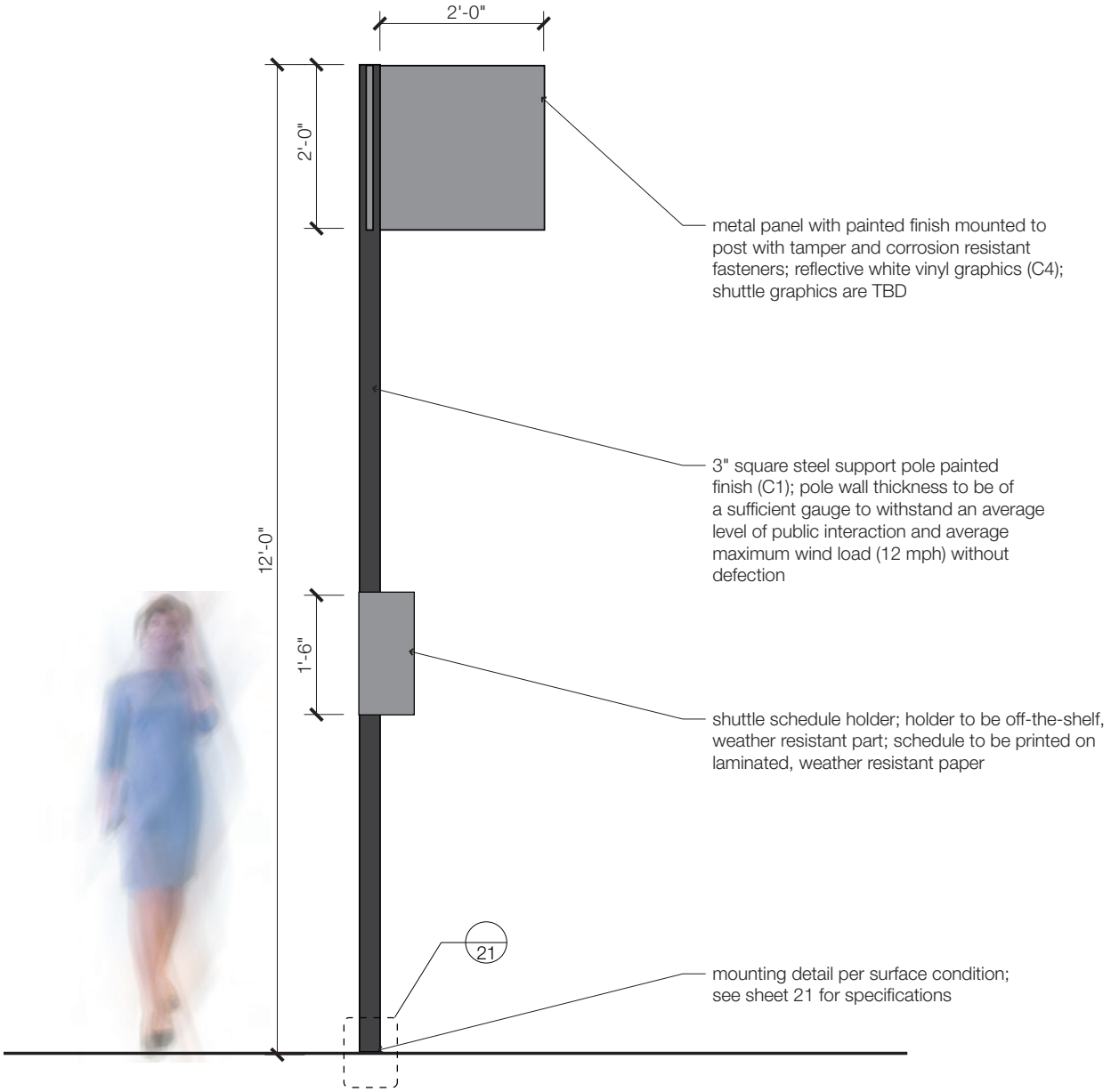
2 Front Elevation
SCALE: 1/2"=1'



1 Panel Layout Option A
SCALE: 1"=1'



Clear, Consistent Tenant and Wayfinding Signage



1 Front Elevation
SCALE: 1/2"=1'

Appendix D

WIND STUDY

150 Research Lane, Suite 105
Guelph, ON, N1G 4T2
226.706.8080 | www.novusenv.com

Date: December 18, 2015

To: EDENS
7200 Wisconsin Avenue, Suite 400
Bethesda, MD 20814

Re: **Pedestrian Wind Assessment**
South Bay
Boston, MA
Novus Project # 15-0290

Credit: Stantec

Novus Team:

Engineer:	Jenny Vesely, P. Eng.
Senior Specialist:	Tahrana Lovlin, MAES, P. Eng.

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1.0 INTRODUCTION

Novus Environmental Inc. (Novus) was retained by EDENS to conduct a pedestrian wind assessment for the South Bay development in Dorchester, Massachusetts. This report is in support of the Draft Project Impact Report (DPIR) review with the Boston Redevelopment Authority (BRA).

1.1 Existing Site Condition

The site is located at 110 Allstate Road, just east of Massachusetts Avenue. The site is currently occupied by an aggregate facility, a few low-rise commercial buildings and parking lots. **Figure 1** provides an aerial view of the site and immediate study area.

Immediately surrounding the proposed development are low-rise (one to three storey) commercial and residential buildings in all directions. Beyond the immediate surroundings is the Southeast Expressway to the east, single dwelling residential properties to the northeast through south to northwest, and low-rise commercial buildings to the northwest through north to northeast. Just under a mile to the east of the proposed site is the waterfront.

Both existing buildings and approved development projects in the surrounding area were considered for the No Build and Build Configurations. For this assessment no approved developments were identified within the study area, other than the recently approved low rise building near the intersection of Willow Court and Allstate Road.

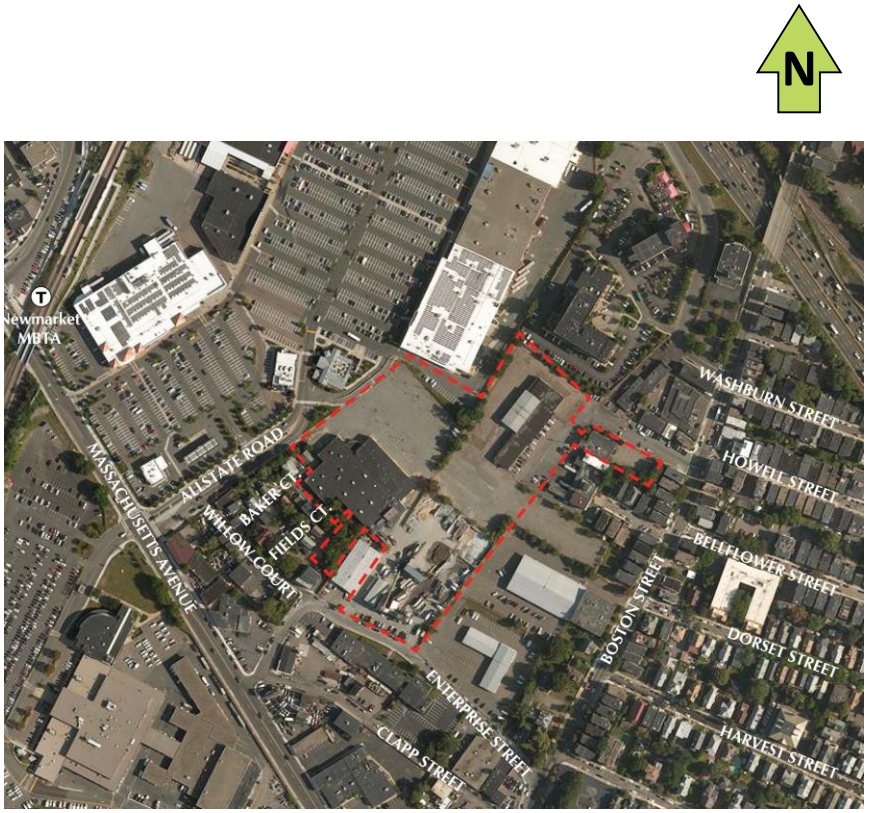


Figure 1: Context Plan
Credit: Bing Maps, Fort Point Associates, Inc., 2015

1.2 Proposed Development

The proposed development includes five buildings (**Figure 2**). Building A will be a parking garage, five storeys tall (approximately 65 ft) with retail space at grade. Building B will be a movie theatre, with retail at grade and is two storeys tall (approximately 60 ft). Building C is a six storey residential building (approximately 65 ft tall). Building D is also residential and six storeys tall (approximately 60 ft tall), with an outdoor courtyard, including a pool, at Level 2, and an outdoor amenity space at Level 3. Building E is a 130 room hotel, and is six storeys in height (approximately 65 ft tall).

References to the proposed development will use construction north, which is approximately 20 degrees clockwise off true north. Discussions of wind direction will refer to true north.

1.3 Areas of Interest

Areas of interest for pedestrian wind conditions include those areas which pedestrians are expected to use on a frequent basis. Typically these include sidewalks, main entrances, transit stops, plazas and parks. The nearest transit stops are located along Massachusetts Avenue and Boston Street, all of which are too far away to be influenced by the proposed development.

The main entrance to the lobby of Building A is located on the north facade. There are also retail entrances located along the west, north and east facades of the building, and service entrances located on the south facade.

The main entrance to the cinema is located on the south facade of Building B. There are retail entrances located along the south and east facades of the building.

The entrance to the residential lobby of Building C is located on the north side of the southern building (entrance is from the courtyard). There is also a lobby entrance for the retail portion at the east side of the northern building.

The main lobby entrance to Building D is located on the east facade of the building. There are also retail entrances located along the south facade. Building D also has an outdoor amenity space included a pool in the courtyard at Level 2, and an outdoor amenity space at Level 3.

The main entrance to Building E is located on the south facade of the building. The entrances and outdoor amenity spaces associated with each of the buildings are identified on **Figure 3**. Note that Construction North differs by True North by approximately 20°.

Figure 2: Rendering of Proposed Development
Credit: Stantec

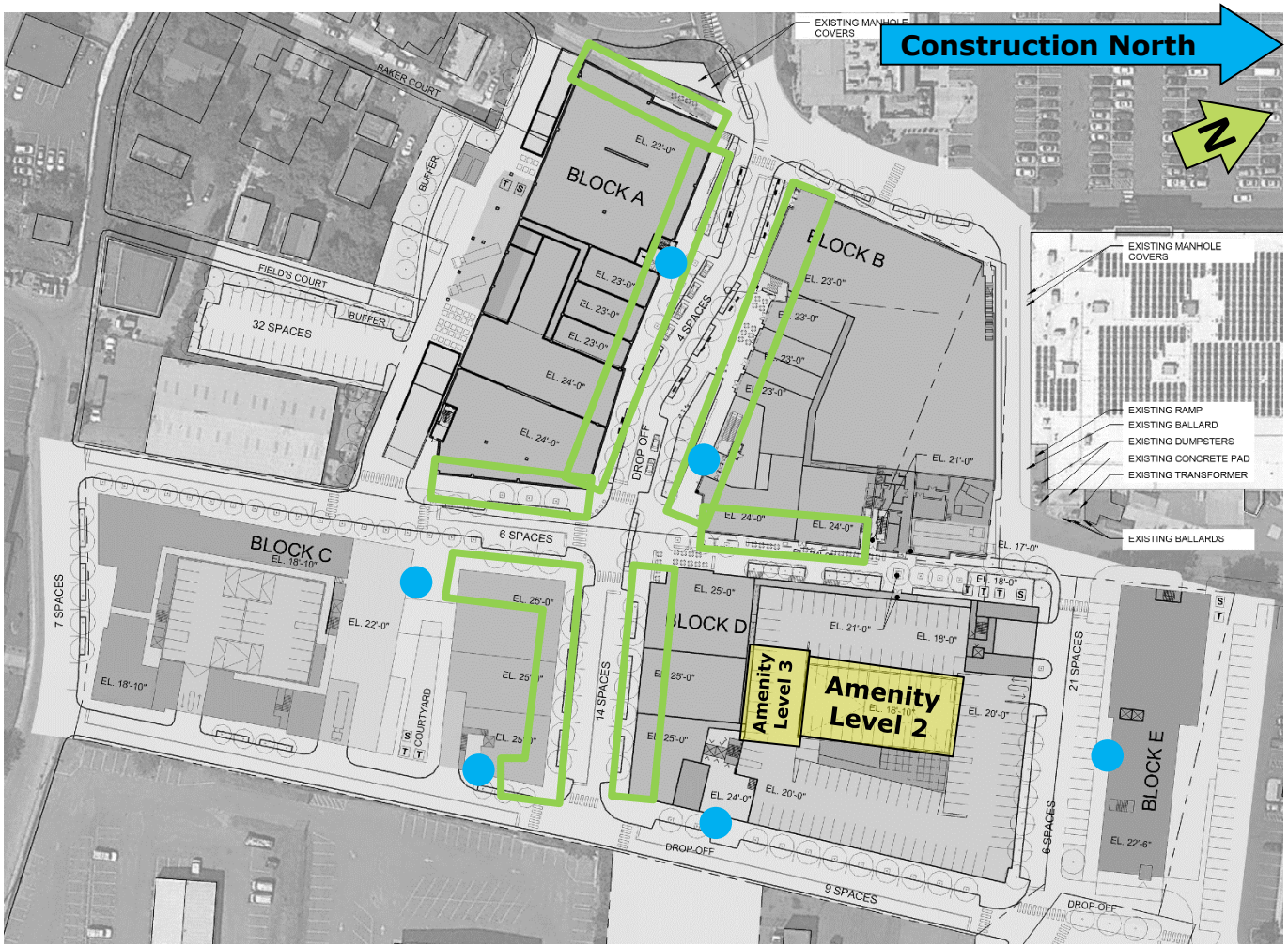


Figure 3: Areas of Interest

2.0 APPROACH

A qualitative study was conducted using computational fluid dynamics (CFD). As with any simulation, there are some limitations with this modeling technique, specifically in the ability to simulate the turbulence, or gustiness, of the wind. Nonetheless, CFD analysis remains a useful tool to identify potential wind issues, especially when assessing mean wind speeds. This CFD-based mean wind speed assessment employs a comparable analysis methodology to that used in wind tunnel testing. The results of CFD modelling are an excellent means of readily identifying relative changes in wind conditions associated with different site configurations or with alternative built forms.

2.1 Methodology

Wind comfort conditions for areas of interest were predicted on and around the development site to identify potentially problematic windy areas. A 3D model of the proposed development as well as floor plans were provided by the project architect, Stantec, on November 4, 2015. A view of the 3D model used in the computer wind comfort analysis is shown in **Figure 4**. This model included surrounding buildings within approximately 1600 ft from the study site. The simulations were performed using CFD software by Meteodyn Inc.

The entire 3D space throughout the modeled area is filled with a three-dimensional grid. The CFD virtual wind tunnel calculates wind speed at each one of the 3D grid points. The upstream "roughness" for each test direction is adjusted to reflect the various upwind conditions and wind characteristics encountered around the actual site. Wind speeds for a total of 16 compass directions were assessed. Although wind speeds are calculated throughout the entire modeled area, wind comfort conditions were plotted for a smaller area within approximately two blocks of the development site to reduce computational run time.

Wind flows were predicted for both the No Build, as well as the Build Configurations, for comparison purposes. The CFD-predicted wind speeds for all test directions and grid points were then combined with historical wind climate data for the region to predict the occurrence of wind speeds in the pedestrian realm, and to compare against the BRA wind comfort criteria and their Effective Gust Guideline. The analysis of wind conditions was undertaken for all four seasons (spring, summer, autumn, winter), however only the annual results are presented within the main body of this report. Results for individual seasons can be found in **Appendix A**.

Results are presented through discussion of the wind conditions along major streets and the areas of interest. The comfort criteria are based on predictions of localized wind forces combined with frequency of occurrence. Climate issues that influence a person's overall "thermal" comfort, (e.g., temperature, humidity, wind chill, exposure to sun or shade, etc.) are not considered in the comfort rating.

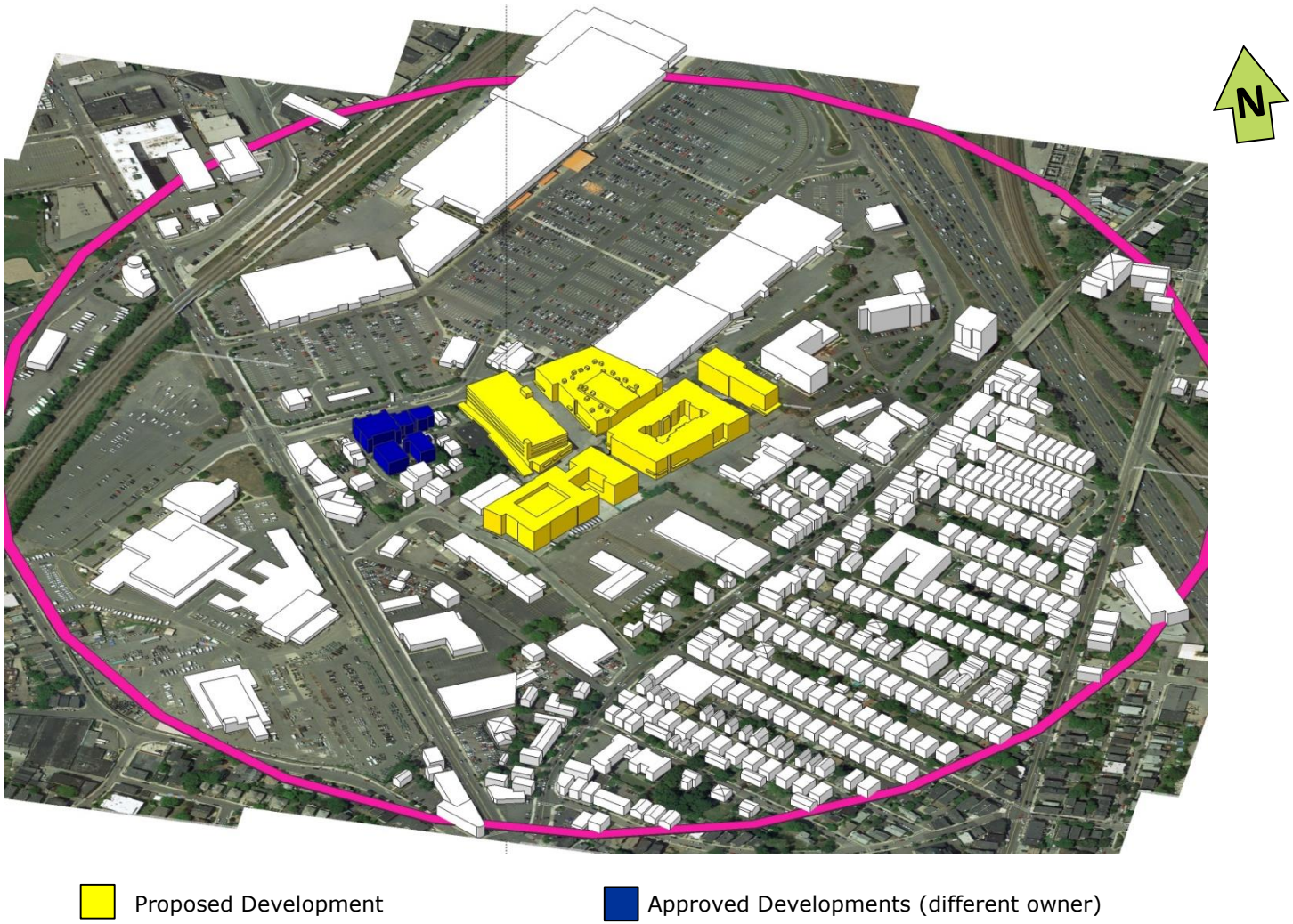


Figure 4: Massing Model

2.2 Wind Climate

Wind data recorded at Boston Logan International Airport for the period 1981 to 2011 were obtained and analysed to create a wind climate model for the seasonal extremes. Annual and seasonal wind distribution diagrams ("wind roses") are shown in **Figure 5a**. These diagrams illustrate the percentage of time wind blows from the 16 main compass directions. Of main interest are the longest peaks that identify the most frequently occurring wind directions. The annual wind rose indicates that wind approaching from the west-northwest, northwest and southwest directions are most prevalent. The seasonal wind roses readily show how the prevalent winds shift throughout the year.

The directions from which stronger winds (e.g., > 19 mph) approach are also of interest as they have the highest potential of creating problematic wind conditions, depending upon site exposure and the building configurations. The wind roses in **Figure 5a** also identify the directional frequency of these stronger winds, as indicated in the figure's legend colour key. On an annual basis, strong winds occur from the northwesterly and southwesterly sectors. All wind speeds and directions were included in the wind climate model.

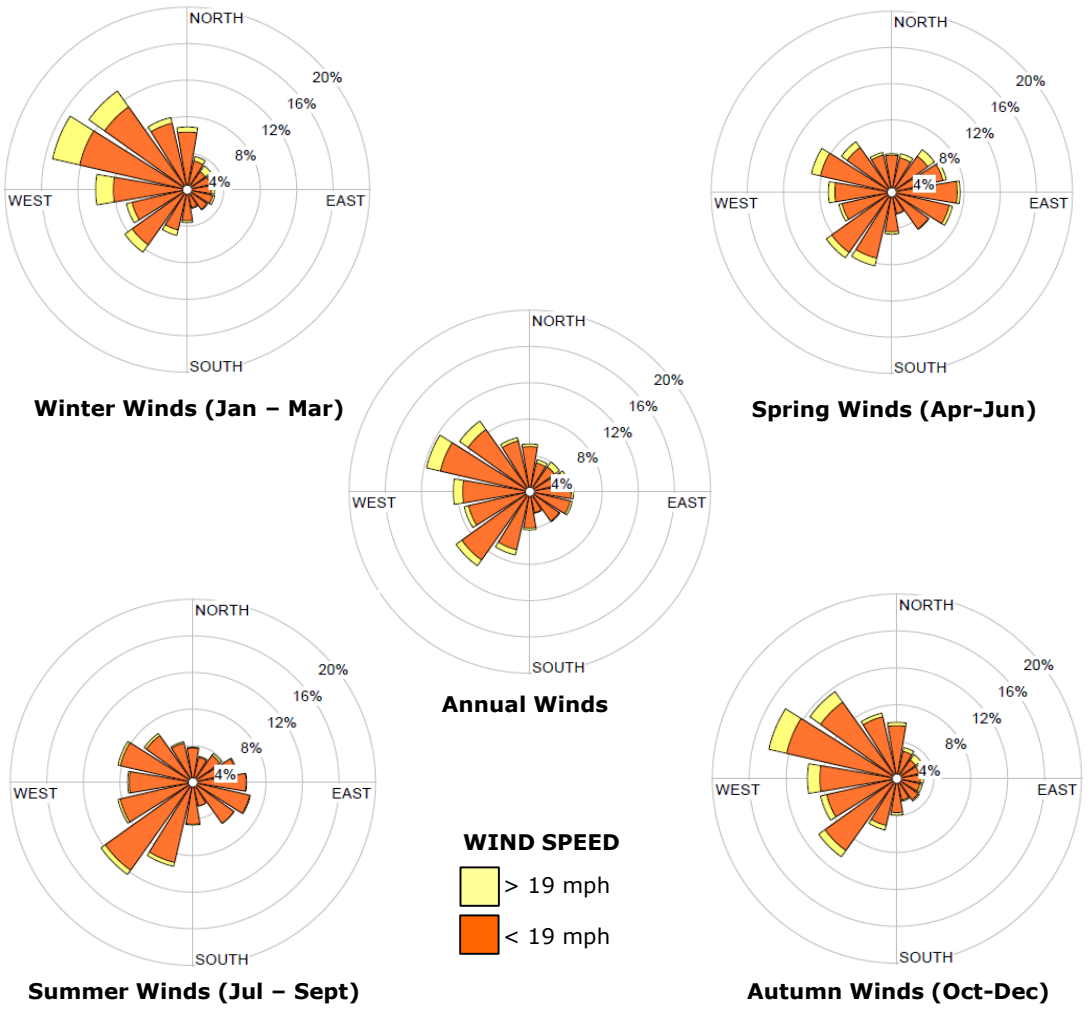
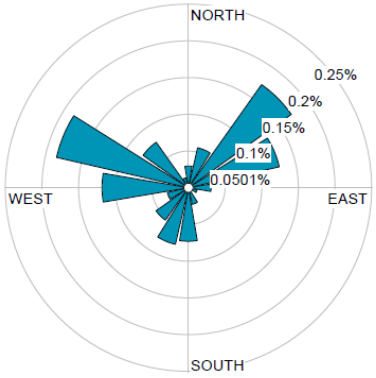


Figure 5a: Wind Roses for Boston Logan International Airport (1981-2011)

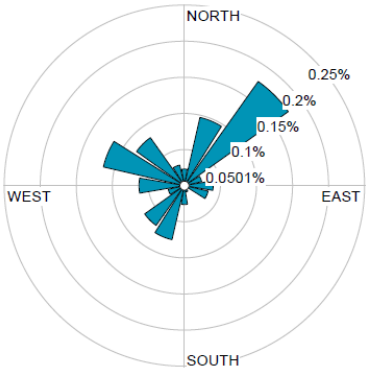
The thirty years of data were also analysed to generate wind roses that illustrate directionality associated with the BRA 1% wind criterion.

The mean wind speeds that occur 1% of the time were determined for each season and on an annual basis. The directional distribution is plotted in the wind roses shown in **Figure 5b**.

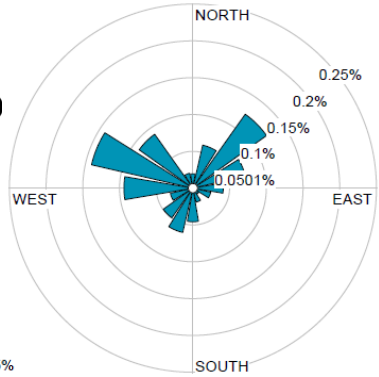
The annual wind rose indicates that for wind speeds above the 1% threshold of 27 mph, winds approached most frequently from the west-northwest and northeast. In the spring, the 1% wind speed threshold is 26 mph and the dominant direction is northeast. In the summer season the 1% threshold wind speed is 21 mph and southwesterly winds prevail. The autumn 1% wind speed threshold is 21 mph and the most frequently occurring direction is west-northwest. During the winter the 1% threshold wind speed is highest at 28 mph, wherein the west-northwest and northeast winds prevail.



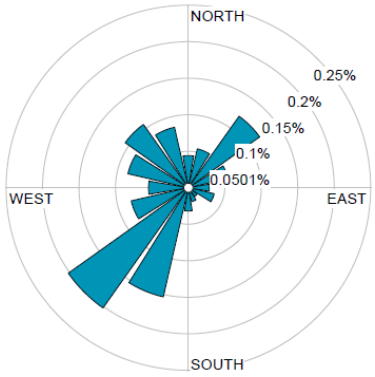
Winter Winds (Jan – Mar)
(1% threshold of 28 mph)



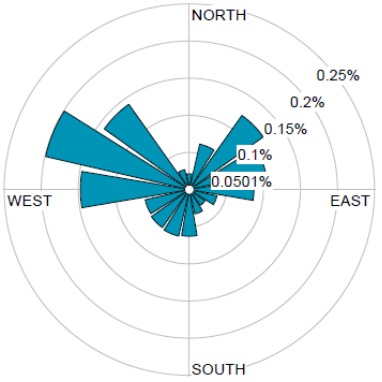
Spring Winds (Apr-Jun)
(1% threshold of 26 mph)



Annual Winds
(1% threshold of 27 mph)



Summer Winds (Jul – Sept)
(1% threshold of 21 mph)



Autumn Winds (Oct-Dec)
(1% threshold of 27 mph)

Figure 5b: Wind Roses for Boston Logan International Airport (1981-2011)
Winds Exceeded 1% of the Time

3.0 PEDESTRIAN WIND CRITERIA

The wind comfort conditions are discussed in terms of being acceptable for certain pedestrian activities and are based on wind force. Pedestrian activity, wind chill, clothing, humidity and exposure to direct sun, for example, all affect pedestrian (thermal) comfort; however, these influences are not considered in the BRA wind comfort criteria.

The criteria for wind comfort and safety used in this assessment are based on those adopted by the BRA for assessing pedestrian level winds. This criteria is based on the work of Melbourne. Information regarding the criteria can be found in **Section 7 – References**.

The wind comfort criteria, which is based on predicted hourly mean wind speeds being exceeded 1% of the time, are summarized in **Table 1**. A second method adopted by the BRA for evaluating wind comfort is a guideline based on effective gust wind speed. The effective gust velocity (defined as the mean hourly wind speed + 1.5 times the root mean square variation about the mean wind speed) of 31 mph should not be exceeded more than 1% of the time (approximately 18 hours per year). The BRA effective gust guideline is shown in **Table 2**.

The simulation of turbulence in CFD modeling has inherent challenges in terms of simulating turbulent flow conditions. The CFD software used in this study includes turbulence modelling which allowed for an effective gust analysis. The results of the CFD wind comfort analysis remain qualitative, but they do provide insight into relative changes between the No Build and Build Configurations. In summary, wind tunnel simulations remain the best tool to quantify wind effects associated with turbulence and (effective) gust.

Table 1: BRA Wind Comfort Criteria

Activity	Comfort Ranges for Mean Wind Speed Criteria Exceeded 1% of the Time		Melbourne Criteria Wind Category
Sitting	≤ 12mph	≤ 5 m/s	1
Standing	12 to ≤ 15 mph	> 5 ≤ 7 m/s	2
Walking	15 to ≤ 19 mph	7 to ≤ 8.5 m/s	3
Uncomfortable	19 and ≤ 27 mph	8.5 to ≤ 12 m/s	4
Unacceptable - Dangerous	> 27 mph	> 12 m/s	5

Table 2: BRA Effective Gust Guideline

Acceptability	Exceeded 1% of the Time *(Mean Wind Speed + 1.5 Times Root Mean Square)*	
Meets Guidelines	≤ 31 mph	≤ 13.9 m/s

Note: Mean wind speed criteria based on Melbourne criteria.

4.0 WIND COMFORT RESULTS

Figures 6a through **8** present graphical images of the wind comfort conditions on an annual basis around the proposed development. The "comfort zones" shown are based on an integration of wind speed and frequency for all 16 wind directions tested with the seasonal wind climate model. The comfort zones relate directly to the BRA's 1% wind criteria categories, and, although this CFD assessment is qualitative in nature, the analysis method to derive the resultant wind comfort categories follows typical wind tunnel-based practices.

There are generally accepted wind comfort levels that are desired for various pedestrian uses. For example, for public sidewalks, wind comfort suitable for **walking** would be desirable year-round. For main entrances and transit stops, wind conditions conducive to **standing** would be preferred throughout the year, but can be difficult to achieve in regions where winter winds are inherently harsh. For amenity spaces, wind conditions suitable for **sitting** and/or **standing** are generally desirable during the summer months. The most stringent category of **sitting** is considered appropriate for cafes and dedicated seating areas, while for public parks **sitting** and/or **standing** would be appropriate in the summer.

As the following analysis conveys, the proposed project generally improves the overall wind and effective gust conditions of the site. Wind conditions in the pedestrian-utilized areas are generally conducive to promenading and outdoor dining programed for the public space. Wind conditions on the surrounding streets and properties are nominally influenced.

This assessment does not account for the presence of mature trees throughout the area, thus wind comfort conditions, particularly for months when foliage is present, would tend to be milder than those predicted.

4.1 Existing Wind Conditions

The existing site is currently occupied by an aggregate facility, a few low-rise commercial buildings and parking lots. At the existing aggregate facility and commercial buildings, wind conditions are generally suitable to leisurely walking or better on an annual basis (**Figure 7a**). However, dangerous wind conditions occur at some of the corners of the existing commercial buildings. In the vacant areas and parking lots of the existing site, wind conditions are uncomfortable, annually.

4.2 Building A

Building A consists of a parking structure, with retail space at grade. At the main lobby entrance to Building A, wind conditions are conducive to sitting or standing annually (**Figure 6**). At the retail entrances located along the west, north and east facades of the building, wind conditions are suitable to standing or sitting annually (**Figure 7b**). These wind conditions are suitable for building entrances.

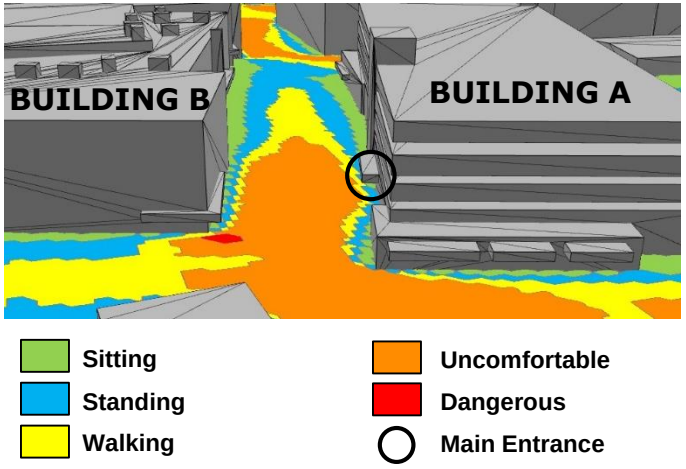


Figure 6: Wind Conditions at Entrances – Annual

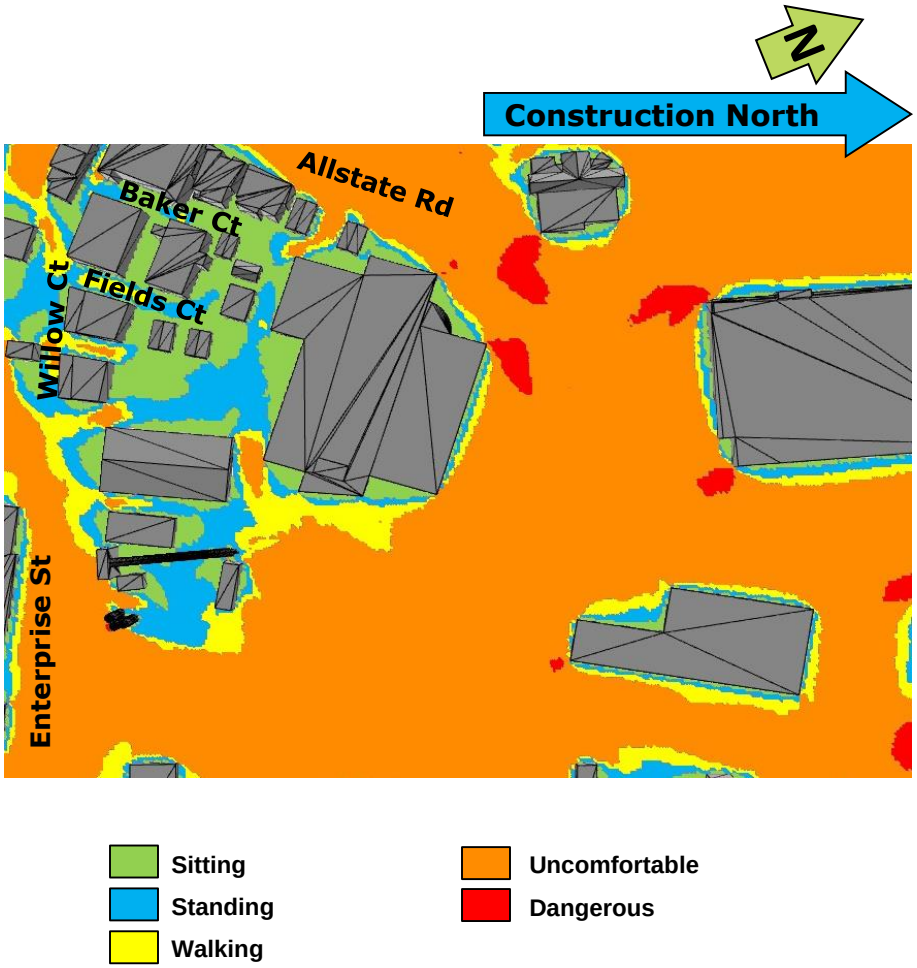


Figure 7a: No Build Configuration – Grade Level – Annual

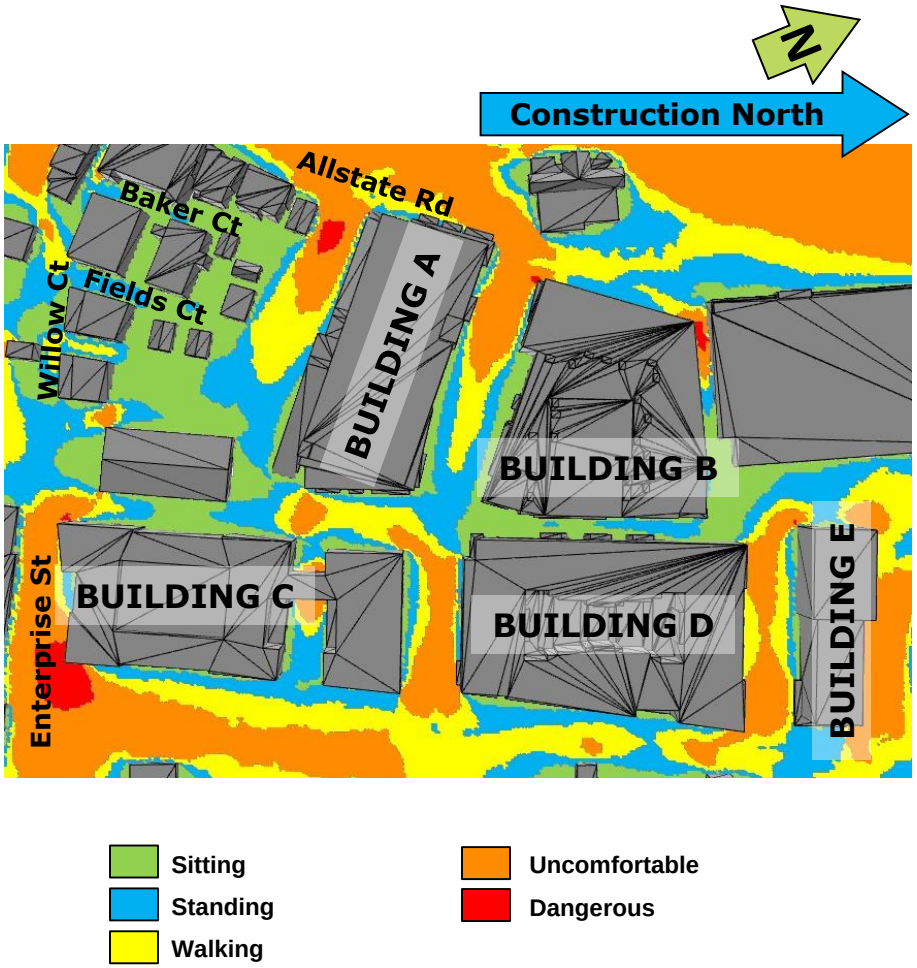


Figure 7b: Build Configuration – Grade Level – Annual

4.3 Building B

Building B contains retail space and a cinema, with retail entrances along the south and east facades. The main entrance is located near the southwest corner of the building (**Figure 3**). Wind conditions in all of these areas are comfortable for sitting or standing annually, which is suitable (**Figure 7b**).

In limited areas at the southwest and northwest corners of the building, wind conditions are uncomfortable and/or dangerous annually, as defined by the BRA. These local accelerations are due to the prevailing northwesterly winds interacting with the west facade, and being redirected to the corners. Of note, the dangerous wind conditions as defined by the BRA occur at the northwest corner; these wind flows are an existing issue due to the channeling of northwesterly and southwesterly winds between Building B and the existing commercial building (**Figure 7a**). We recommend avoiding locating entrances at these two corners; instead, architectural or landscaping features should be included deter pedestrians from lingering in these areas. In addition, the design team should consider including landscaping along the entire west facade of Building B to provide a disruption to the wind flows.

4.4 Building C

Building C is mainly residential, with a retail component in the northern portion of the building. At the main residential entrance, wind conditions are comfortable for standing annually, which is ideal (**Figure 7b**). At the retail entrances along the east facade of the north building, wind conditions are also conducive to standing, which is suitable. Wind conditions around the majority of the perimeter of the building are comfortable for walking or better on an annual basis.

The exceptions are between the two buildings within the pedestrian courtyard (**Figure 8**). In the center of the courtyard, beneath the overpass, wind conditions are uncomfortable or dangerous, as defined by the BRA (**Figure 8**). Here, accelerated wind flows are due to the channeling of strong northeasterly winds beneath the overpass. To improve wind conditions along the walkway, we recommend including wind mitigation features such as dense landscaping to disrupt these horizontal wind flows. In addition, entrances should not be located in the vicinity to promote transient usage of the area. Also, at the southeast corner of the south building of Building C, wind conditions are dangerous annually (**Figure 7b**). In this area, the design team should consider potential methods to deter pedestrians from lingering in the space; alternatively, wind control measures should be considered.

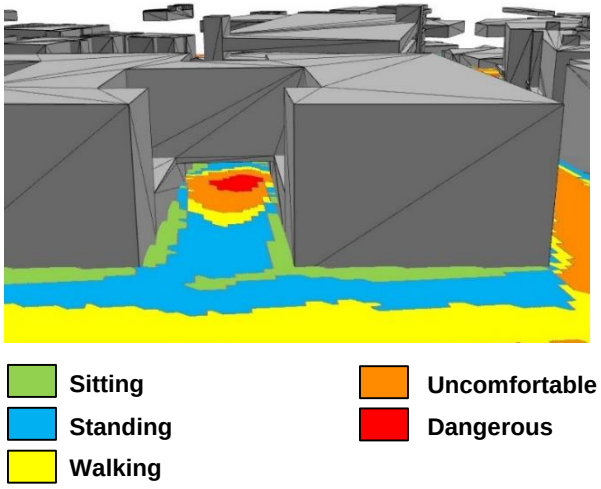


Figure 8: Wind Conditions around Building C – Annual

4.5 Building D

Building D is a residential building, with retail space on a portion of the ground floor. At the main entrance, wind conditions are comfortable for sitting annually. At the retail entrances along the south facade, wind conditions are suitable for standing or walking. These wind conditions are considered appropriate for the intended usage.

On Level 2 of Building D, there is an outdoor courtyard including a pool (**Figure 9a**). The courtyard, including the pool, is comfortable for sitting throughout the year, as the area is completely sheltered by the mass of the building. These wind conditions are ideal for a pool area.

Similarly, the outdoor amenity terrace on Level 3 is also comfortable for sitting, on an annual basis (**Figure 9b**).

4.6 Building E

Building E is a hotel building. At the main entrance, on the south facade, wind conditions are comfortable for standing, annually (**Figure 7b**). These wind conditions are considered appropriate for the intended usage.

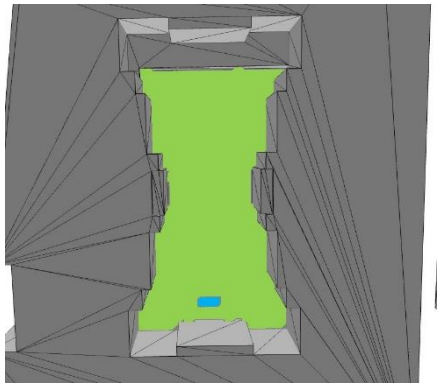


Figure 9a: Wind Conditions on Level 2 Terrace (Building D) Annual

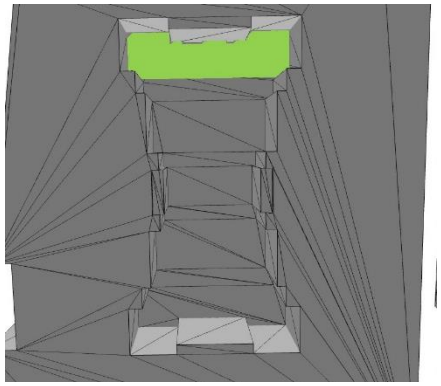


Figure 9a: Wind Conditions on Level 3 Terrace (Building D) Annual

4.7 On-Site Walkways

Generally, wind conditions on the sidewalks along building facades and storefronts are comfortable for standing or walking on an annual basis. However, in the central portions of some of the east/west vehicular ways, wind conditions are uncomfortable on an annual basis (**Figure 7b**). These stronger wind flows are not a concern, as pedestrians will not be lingering in these areas, but rather passing through as they cross the street. The presence of street trees, as proposed by the project, is a positive design feature, as the trees will aid in disrupting the strong wind flows along the sidewalks. The design team could consider the use of marcescent trees to provide protection in both the summer and winter seasons.

At a few of the building corners, wind conditions are dangerous on an annual basis (**Figure 7b**). These wind conditions and recommendations for mitigation have been discussed in the previous sections.

It is important to note that in the No Build Configuration, much of the site is already uncomfortable (Figure 7a), as it was open and exposed. In general, the project improves the local wind conditions on the site.

4.8 Surrounding Streets

In the No Build Configuration, wind conditions to the south of the site and along Baker Court and Fields Court are generally suitable for walking or better, on an annul basis, along the sidewalks. Along Willow Court and Enterprise Street, wind conditions range from comfortable for standing on the west end of the Willow Court, to uncomfortable along Enterprise Street near the aggregate facility. Along Allstate Road, to the west of the development, wind conditions are comfortable for walking south of the proposed site, and uncomfortable along the north section of the road. At the southeast corner of the Olive Garden, wind conditions are dangerous.

In the Build Configuration, the wind conditions on Baker Court, Fields Court, Willow Court, and Enterprise Street are generally similar those of the No Build Configuration.

Along Allstate Road, wind conditions are also similar to the No Build Configuration, therefore suitable to walking or uncomfortable. The dangerous wind conditions at the southeast corner of the Olive Garden are improved to be uncomfortable in the Build Configuration.

In general, the wind conditions on the surrounding streets remain similar to the existing conditions or show a slight improvement.

5.0 EFFECTIVE GUST RESULTS

BRA utilizes an effective gust guideline to assess developments in terms of their potential to exceed a 31 mph effective gust wind speed, which the BRA considers as a threshold of acceptance. The results of this analysis are presented in **Figures 10a** and **10b** on an annual basis for the No Build and Build Configurations.

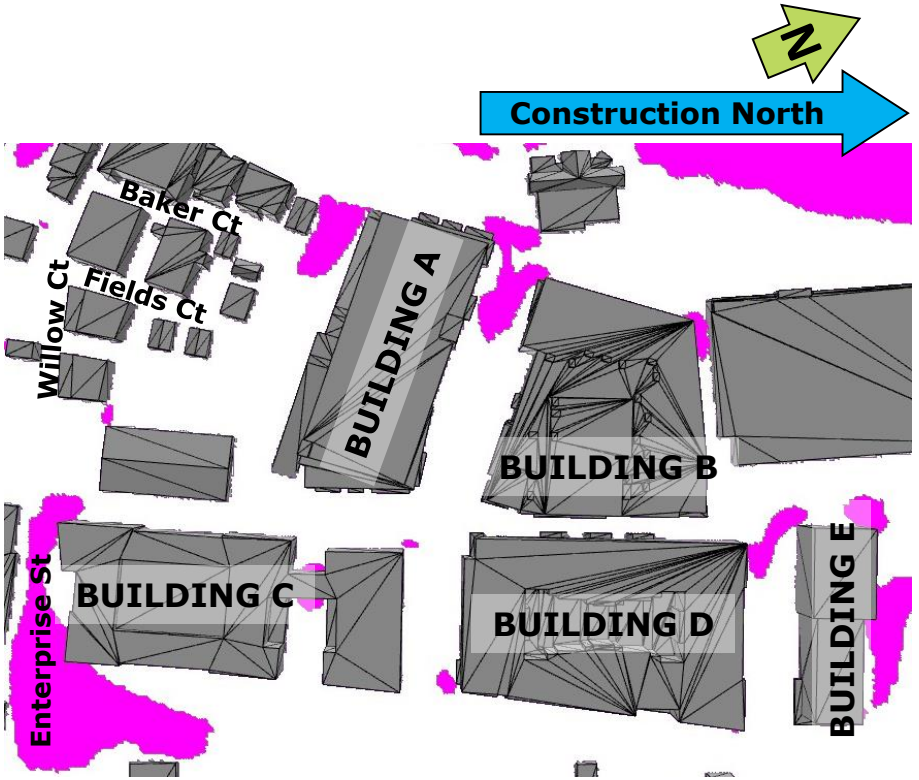
In the No Build Configuration, the wind gust guideline is exceeded in all of the parking lots and open spaces (**Figure 10a**). These areas also include Enterprise Street and Allstate Road.

In the Build Configuration, wind conditions are improved as the proposed development provides protection for itself and the surroundings (**Figure 10b**). Wind conditions are improved along Allstate Road, as the wind gust guideline is exceeded only near the corners of Buildings A and B. Along Enterprise Street, the wind gust guideline is still exceeded near Building C, although not exacerbated. Onsite, there are small areas where the effective gust guideline is exceeded, including some building corners, or where wind is channeled between buildings.

Overall, the area where the gust guideline is exceeded is greatly reduced in the Build Configuration in comparison to the No Build Configuration.

Exceeds BRA Effective Gust Guideline

Figure 10a: No Build Configuration – Grade – Annual



Exceeds BRA Effective Gust Guideline

Figure 10b: Build Configuration – Grade – Annual

6.0 CONCLUSIONS & RECOMMENDATIONS

The annual pedestrian wind conditions predicted for the proposed South Bay development in Boston have been assessed through numerical modelling techniques. Based on the results of our assessment, the following conclusions and recommendations have been reached:

- The main entrances to each of the buildings are suitable for the intended usage.
- Wind conditions at the various retail entrances to the buildings are suitable for the intended usage on an annual basis.
- On the sidewalks throughout the site, wind conditions are generally suitable to walking on an annual basis. Uncomfortable wind conditions inevitably occur in pockets near some building corners. The presence of street trees will aid in disrupting wind flow along the sidewalks. The design team could consider the use of marcescent trees to provide protection in both the summer and winter seasons.
- Wind conditions on the sidewalks surrounding the site show negligible differences between the two configurations in terms of comfort. Dangerous wind conditions, as defined by the BRA, occur in a small area along Enterprise Street in the vicinity of Building C.
- The BRA effective gust guideline was exceeded in both the No Build and Build Configurations. The total area that exceeds the guideline is reduce significantly in the Build Configuration, as the new development provides blockage from the previously open exposure in the No Build Configuration.

7.0 ASSESSMENT APPLICABILITY

This assessment is based on computer modeling techniques and provides a qualitative overview of the pedestrian wind comfort conditions on and surrounding the proposed development site. Any subsequent alterations to the design may influence these findings, possibly requiring further review by Novus.

Should you have any questions or concerns, please do not hesitate to contact the undersigned.

Sincerely,
Novus Environmental Inc.

Jenny Vesely, P. Eng.
Engineer – Microclimate

Tahrana Lovlin, MAES, P.Eng.
Specialist - Microclimate

8.0 REFERENCES

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Dupont, G., Clarenc, T., and Leyronnas, P. (2009) "UrbaWind Use of a CFD model for modeling the wind in Urban Area". International Small Wind Conference 2009, Watford, UK.

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Appendix A

Pedestrian Wind Comfort Analysis
Spring (April – June)
Summer (July – September)
Autumn (October – December)
Winter (January – March)

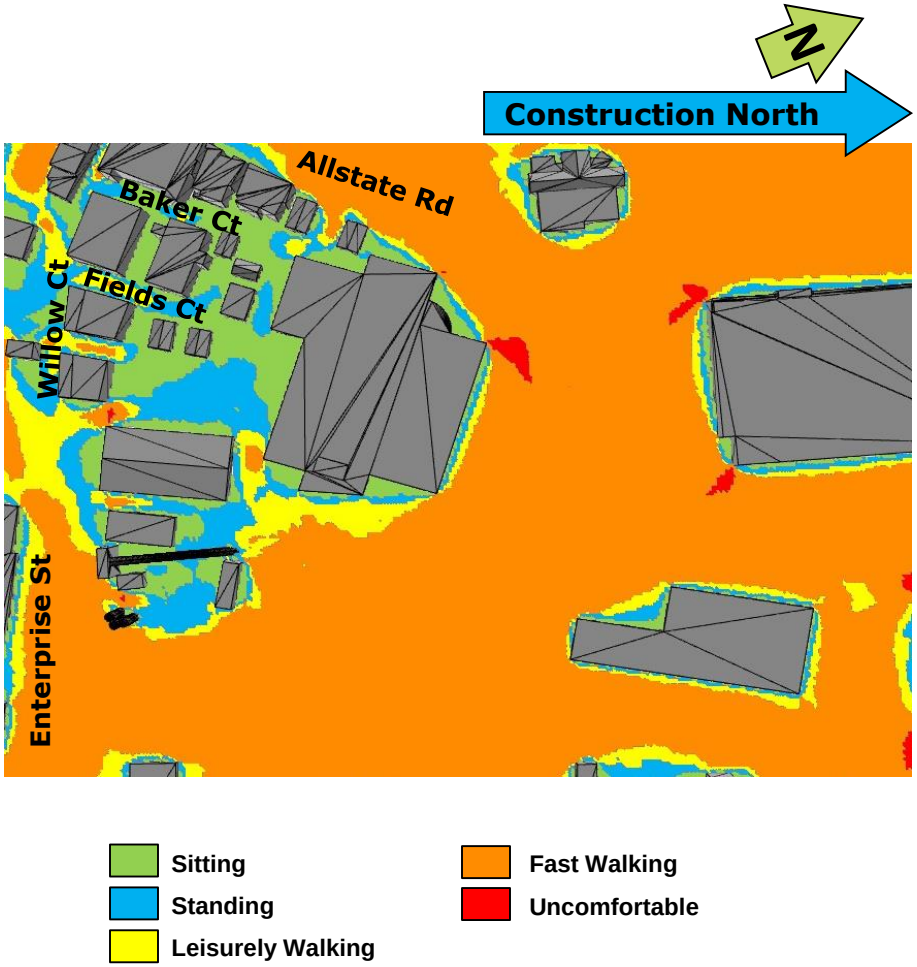

Figure A1a: No Build Configuration – Grade – Spring

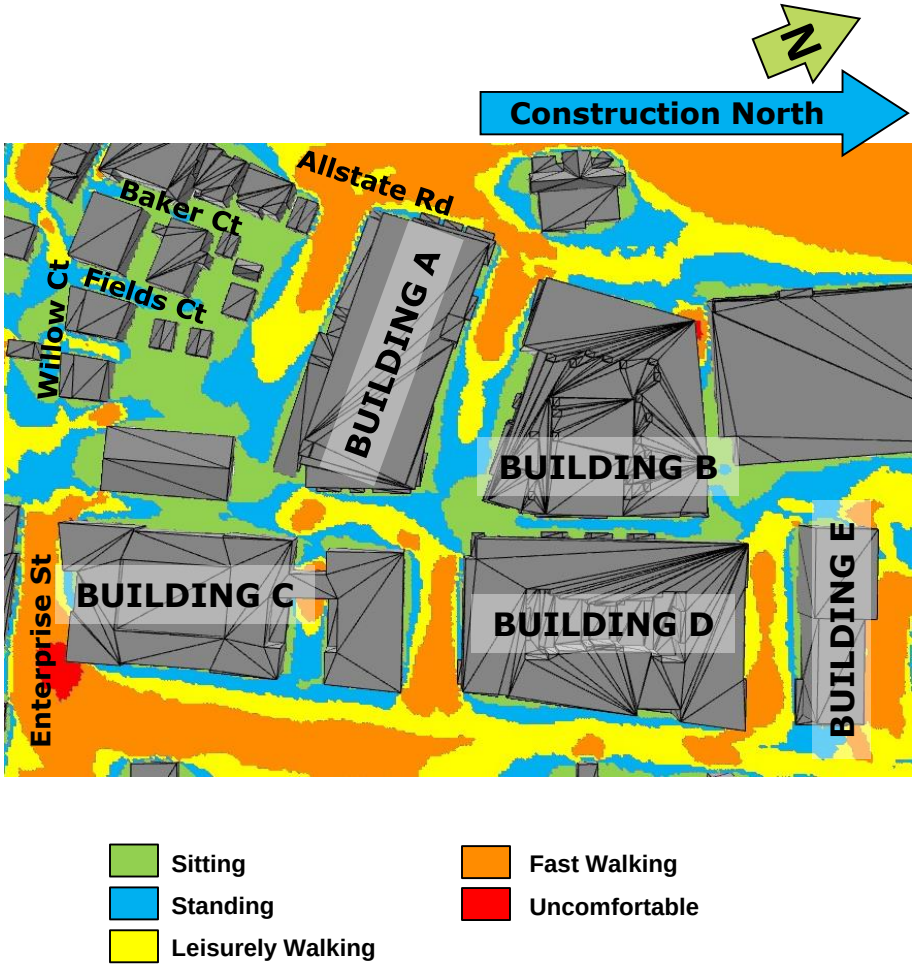

Figure A1b: Build Configuration – Grade – Spring

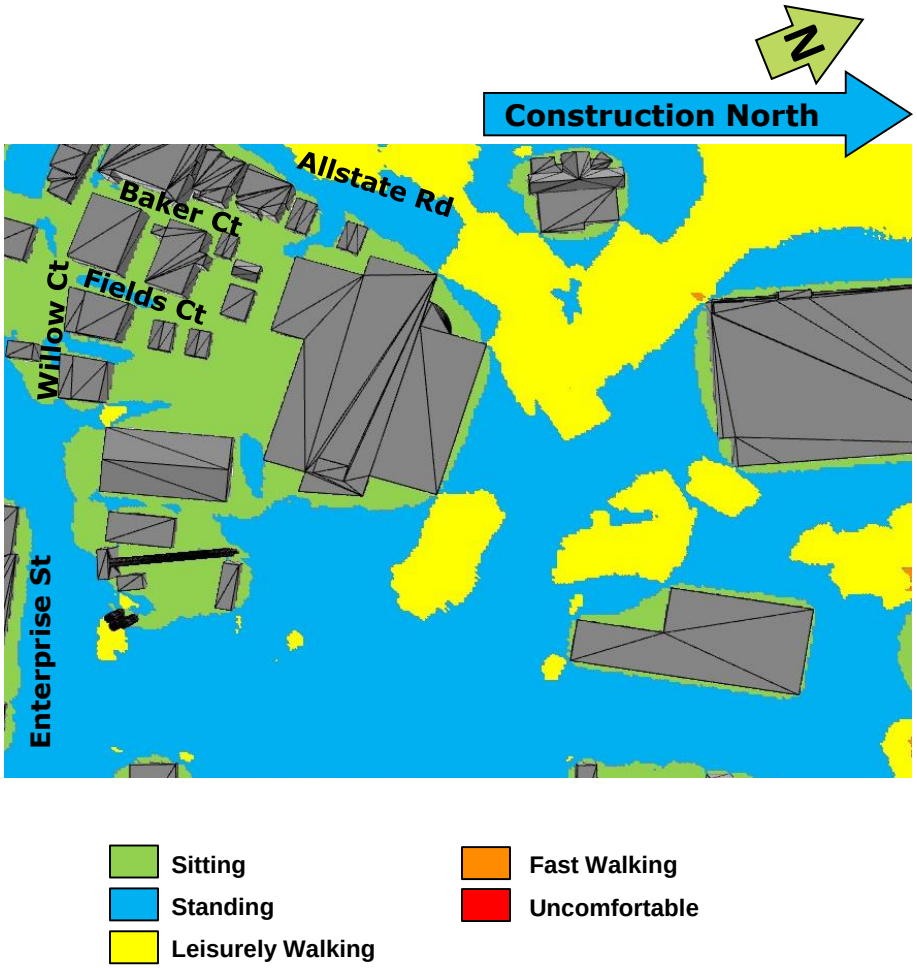

Figure A2a: No Build Configuration – Grade – Summer

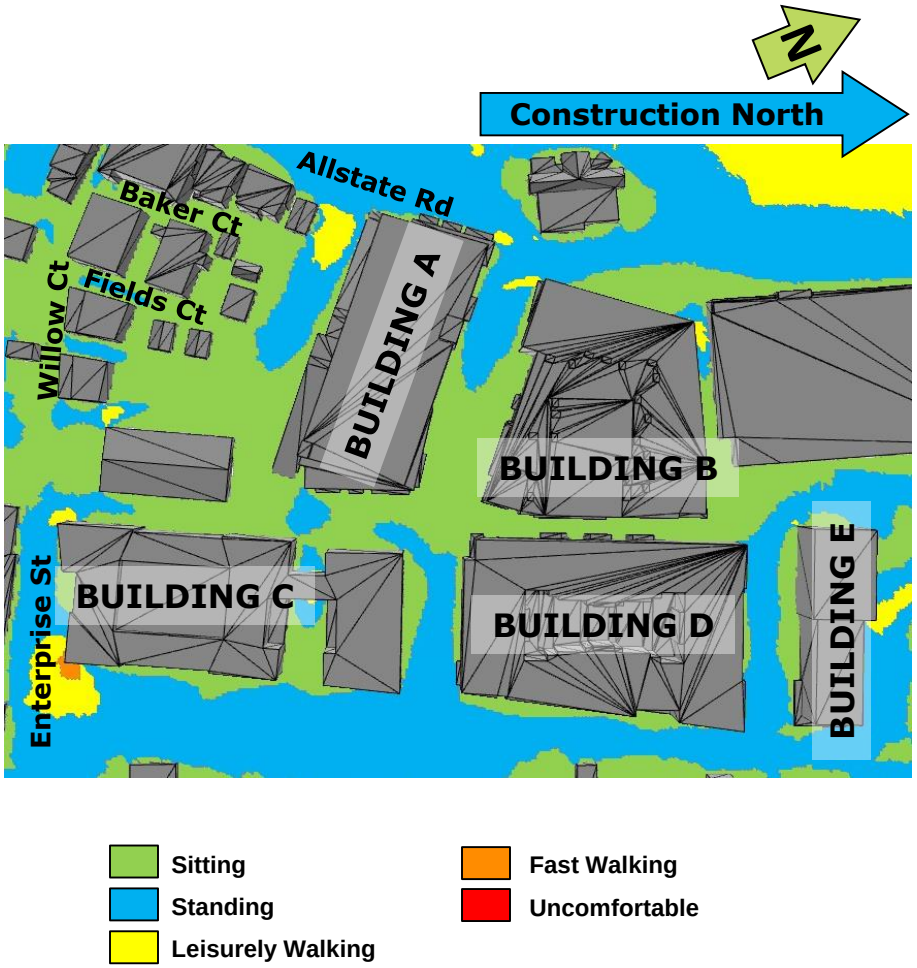

Figure A2b: Build Configuration – Grade – Summer

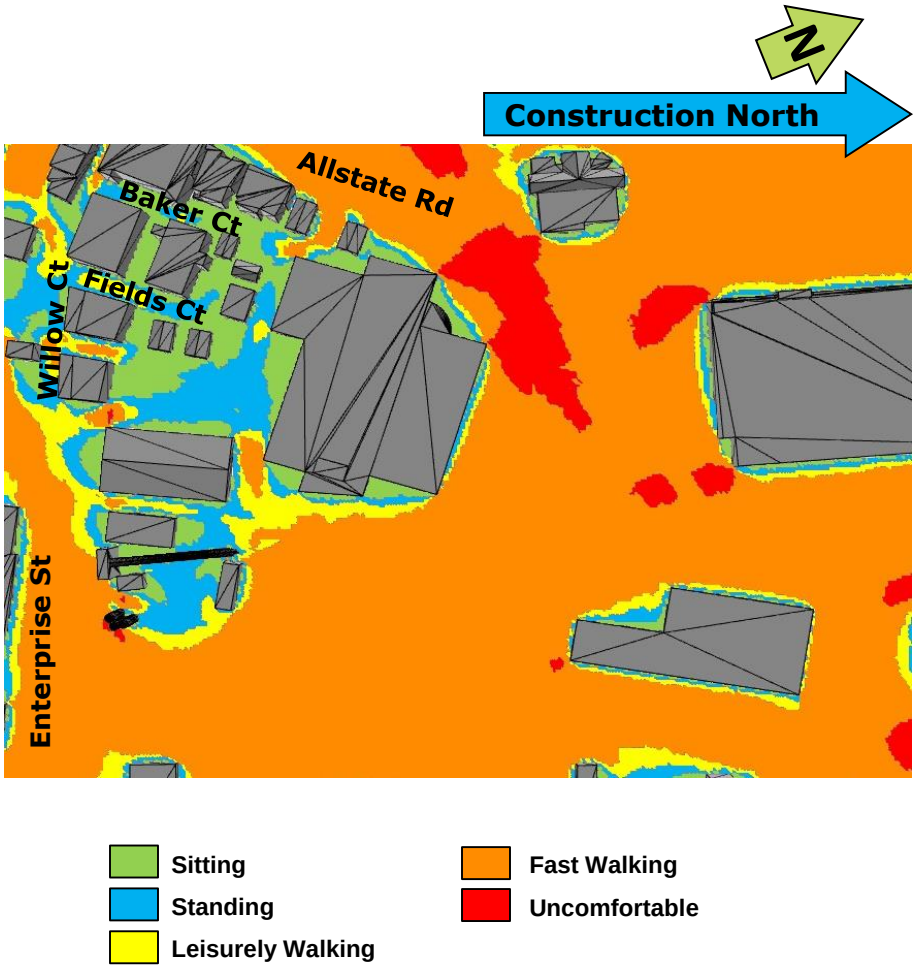

Figure A3a: No Build Configuration – Grade – Autumn

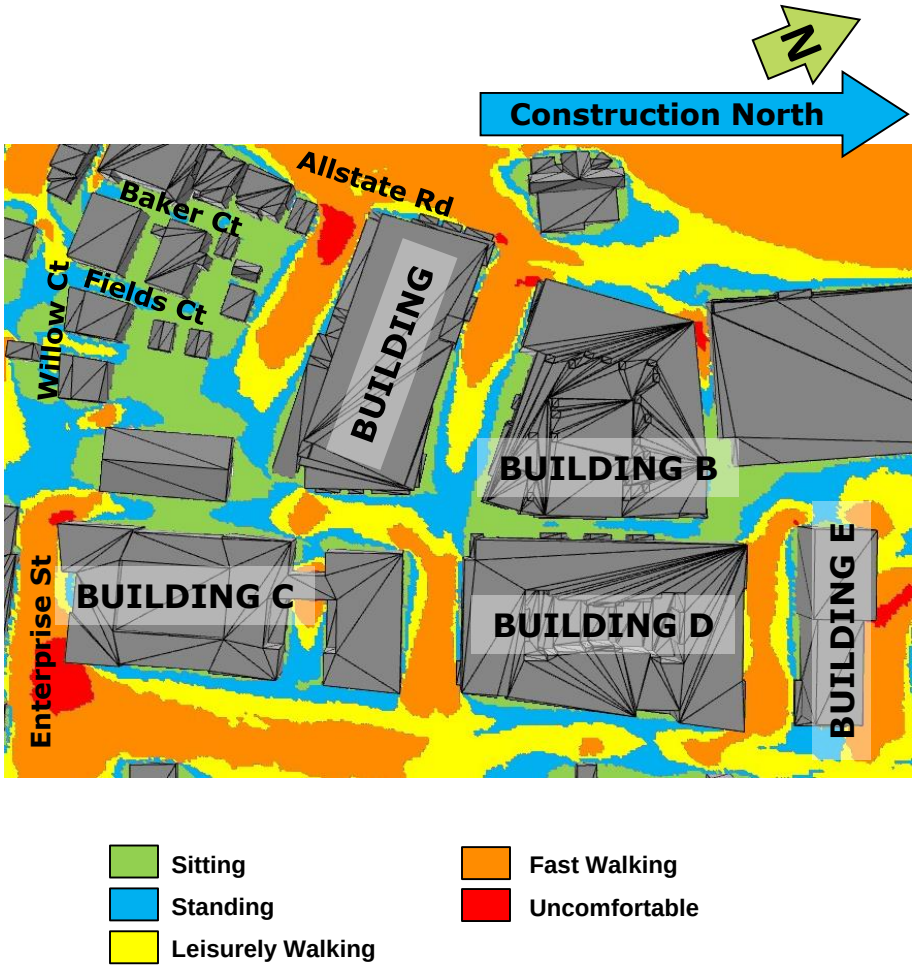

Figure A3b: Build Configuration – Grade – Autumn

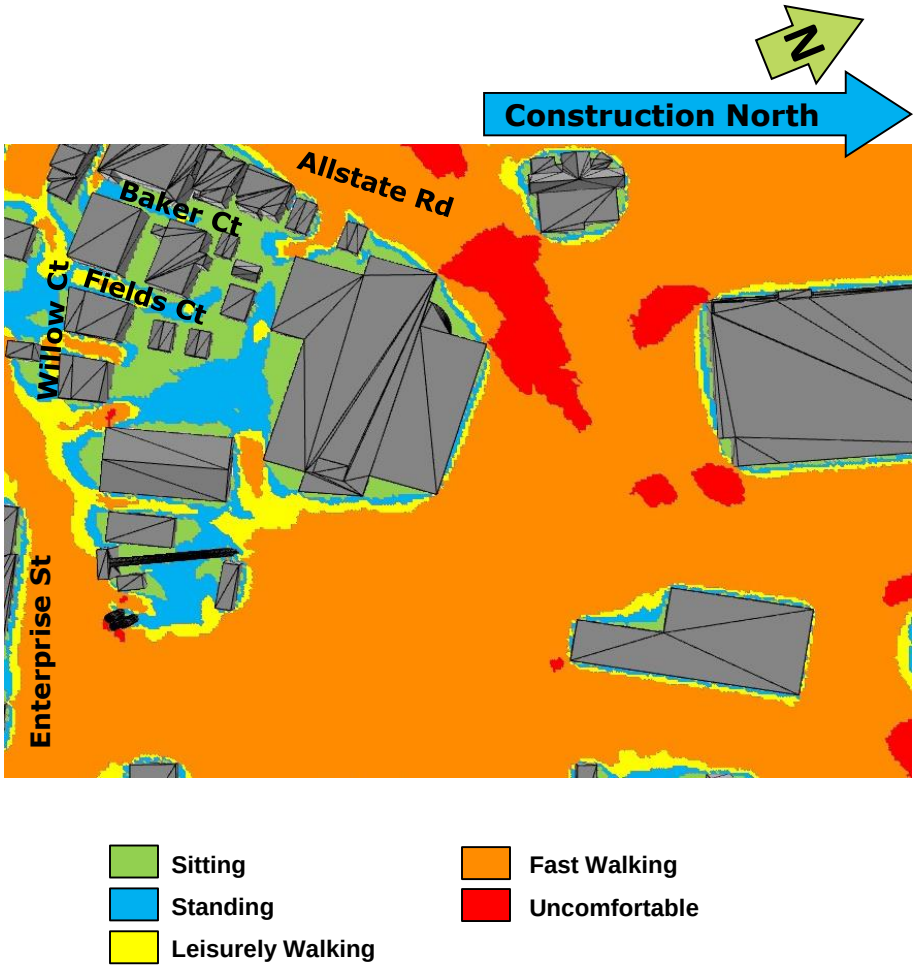

Figure A4a: No Build Configuration – Grade – Winter

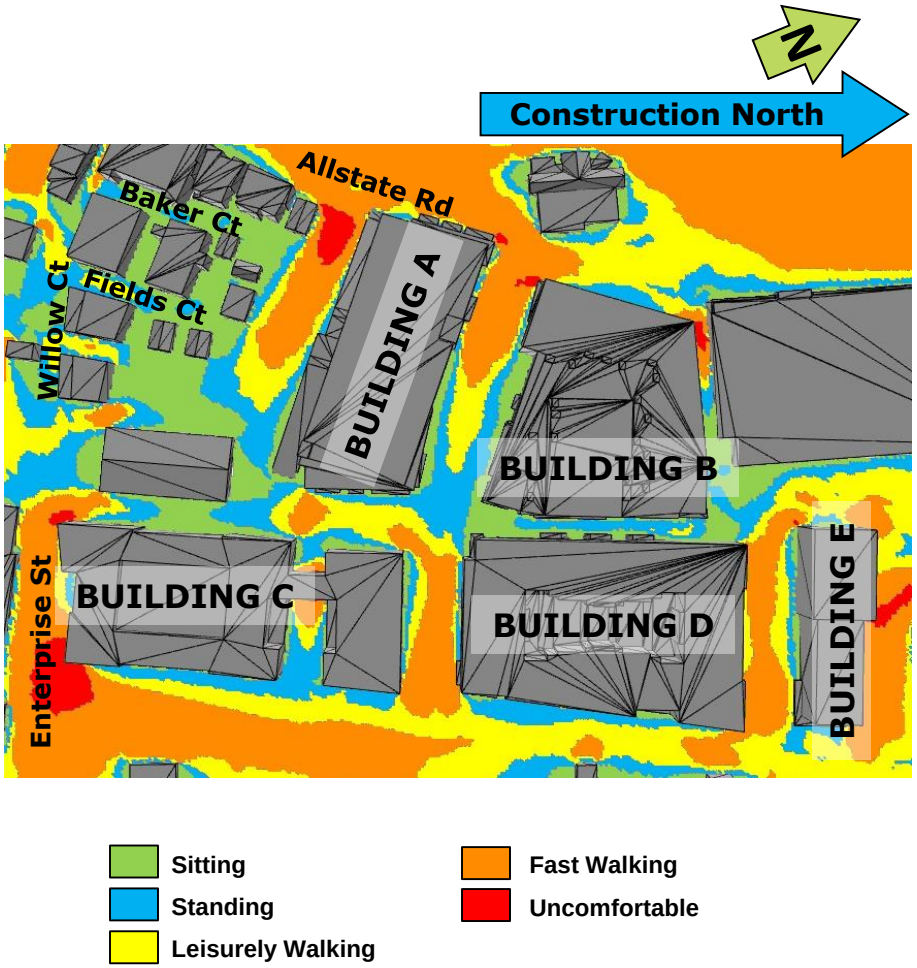

Figure A4b: Build Configuration – Grade – Winter

Appendix E

NOISE STUDY

Cerami

2000 L Street, NW, Suite 600 Washington DC 20036
202 580 6312 ceramiassociates.com

January 6, 2016

Ryan Lorey
Edens
7200 Wisconsin Avenue, Suite 400
Bethesda, MD 20814

Edens South Bay Expansion
Environmental Noise Impact Study
C&A #22608

Dear Ryan,

The following memo provides the results of our environmental impact study for the Edens South Bay Expansion project located in Boston, Massachusetts.

1.0 EXECUTIVE SUMMARY

Edens South Bay expansion will reside in a lot adjacent to commercial and residential areas. Five buildings are projected to be constructed at the site. The analysis of the existing conditions and future conditions need to meet the Massachusetts Department of Environmental Protection (DEP) criteria, Boston Noise Code, and House and Urban Development (HUD) code.

Based on the stringent conditions designed for the noise model, it can be concluded that the development of these five building will meet the Boston Noise Code, the DEP criteria and HUD code at all locations except for the Building A Loading Dock and Mechanical Equipment Yards. In order to meet the requirements, we have recommended that one of the following mitigation measures be provided:

- Two diesel truck capacity for the Loading Dock during day time hours and "No Idle" signage for trucks in the Loading Dock during night time hours – We note that when trucks arrive and depart, code will be exceeded for a brief period of time.
  OR
- A minimum 13-foot high solid barrier wall along the property line in this location

2.0 TERMINOLOGY

The following provides definitions for the various terms used throughout this study.

Noise is defined as a nuisance or unwanted sound.

dB is a non-dimensionalized unit and is the logarithmic ratio of a known unit divided by the reference unit.

dB(A) is a non-dimensionalized unit that is A-weighted, and is used in most standards for noise control for humans.

Hz, Hertz, is the unit used to define frequency in cycles per second.

$\mathbf{L_{dn}}$ is the day/night level, reported in dB.

Sound pressure level (SPL) is a non-dimensionalized unit and is the logarithmic ratio of a known sound pressure divided by the reference sound pressure. The referenced pressure is most commonly 20µPa in air at 20°C. It is reported in dB re 20 µPa, unless otherwise specified.

Sound power level is a non-dimensionalized unit and is the logarithmic ratio of a known sound power divided by the reference sound power. The reference power is most commonly 1 pW. It is reported in dB re 1 pW, unless otherwise specified.

Tonal condition is specified by the state of Massachusetts as any octave band sound pressure level that exceeds the two adjacent center frequency SPL by 3 dB.

3.0 REGULATIONS AND PROJECT CRITERIA

3.1 Massachusetts Commonwealth

Edens South Bay is under the jurisdiction of Massachusetts Commonwealth. Under the Massachusetts Commonwealth, Edens is required to meet noise guidelines in order to construct any residential buildings. The following criteria need to be met: Massachusetts Department of Environmental Protection (DEP) Criteria[1] and House and Urban Development (HUD)[2]

3.2 Boston

The South Bay Expansion development is located in the city of Boston, and therefore must comply with the Boston Noise Code[3]. The regulations for noise control in Boston requires noise levels in residential and industrial districts to be within specific octave band sound pressure levels during day time and all other times, shown in **Appendix A Table 01**. The Boston Noise code states all properties within the community must adhere to the noise code at their respective property line. Further, the code does not apply to noise levels within the property line.

South Bay is adjacent to a residential lot, and will encompass retail, residential buildings, and a hotel in the development expansion. The environmental noise model for this expansion site is compared to the Boston code for residential areas. It is assumed that the expansion site, including retail and residential properties, are under the Boston code for Residential area.

3.3 House and Urban Development (HUD)

HUD specifies guidelines for noise levels impacting the housing development. The current acceptable noise level for this specified area is shown in **Table 01**. The expansion of Edens South Bay will have to meet the acceptable L_{dn}, in order to qualify for permit.

Table 01: HUD Acceptability of Day/Night Levels (dBA)

HUD Acceptability	L_{dn}(dBA)
Acceptable	Under 65
Normally unacceptable	$65 < L_{dn} < 75$
Unacceptable	Above 75

3.4 Massachusetts DEP Criteria

The Massachusetts DEP regulation mandates noise levels to meet a certain change in noise level. The addition of noise from the future developments should not increase the existing noise levels by 10 dBA. In addition, the source of any equipment cannot produce a tonal condition.

4.0 EXISTING CONDITIONS

The existing site of South Bay contains commercial buildings and nearby residential buildings. Measurements were taken to confirm the upholding of the Boston Noise Code and the HUD criteria for residential developments.

4.1 Baseline Noise Environment

The area surrounding Edens South Bay have commercial and residential buildings, including shops, restaurants, and single family homes. The temperature during the measurement period was an average of 50 ^{o}F, cloudy, partly raining, with a relative humidity of 90%.

4.2 Methodology

An NTI sound level measuring device was used to measure the noise level at the existing site location. The NTI outputs the L_{10}, $L_{50,}$ L_{90}, L_{Aeq}, and the octave band center frequency levels in dBA. The measurements were taken in the morning, in the afternoon, and at nighttime at three different locations. These measurements were taken for 30 minutes in each site location for both daytime and nighttime. Another measurement was taken for 24 hours, as required by HUD. The location of the seven measurements are described in **Table 02.** These seven locations are illustrated in **Appendix A Figure 01**.

Table 02: Baseline Noise Measurement Locations

Location	Description
1	Parking lot adjacent to Building B
2	Parking Lot adjacent to Verizon and Boston St
3	Fields Ct and future Service Rd
4	Baker Ct and future Service Rd
5	Allstate Rd near KanMan Market
6	Insersection of W Howell and Boston St
7	Future Hotel site

4.3 Equipment

Mechanical equipment is located within close proximity to all commercial and residential building. This includes dedicated outdoor air supply (DOAS) units, air cooled condenser units, and generators. In addition, there was construction equipment located in the current lot of the South Bay Expansion site.

4.4 Baseline Noise Levels

Three of the six measurement locations are specified below for daytime and other times in **Table 03** and **Table 04**, as specified by the Boston Noise Code and the HUD noise guidelines, respectively. The measurements highlighted in red represent noise levels exceeding the Boston Noise Code noise levels.

Table 03: Measure Sound Pressure Levels (dB re: 20 µPA) at Three Locations

Frequency	Location 1		Location 2		Location 3	
	Daytime	Other Times	Daytime	Other Times	Daytime	Other Times
31.5 Hz	68 dB	67 dB	67 dB	61 dB	68 dB	56 dB
63 Hz	71 dB	73 dB	72 dB	67 dB	68 dB	57 dB
125 Hz	63 dB	71 dB	61 dB	59 dB	55 dB	52 dB
250 Hz	58 dB	59 dB	56 dB	56 dB	52 dB	46 dB
500 Hz	53 dB	55 dB	49 dB	50 dB	48 dB	41 dB
1 kHz	50 dB	58 dB	49 dB	62 dB	46 dB	41 dB
2 kHz	45 dB	55 dB	45 dB	48 dB	42 dB	38 dB
4 kHz	38 dB	49 dB	38 dB	45 dB	38 dB	32 dB
8 kHz	30 dB	40 dB	30 dB	34 dB	29 dB	29 dB
LAeq	56 dBA	56 dBA	55 dBA	62 dBA	52 dBA	46 dBA

Table 04: Measured L_{10}, L_{50}, and L_{90} (dB re: 20 µPA) at Three Locations

Frequency	Location 1		Location 2		Location 3	
	Daytime	Other Times	Daytime	Other Times	Daytime	Other Times
L_{10}	57 dBA	57 dBA	56 dBA	57 dBA	53 dBA	48 dBA
L_{50}	55 dBA	56 dBA	53 dBA	51 dBA	51 dBA	43 dBA
L_{90}	53 dBA	55 dBA	51 dBA	49 dBA	49 dBA	41 dBA

The overall SPL at location two exceeds the L_{Aeq} of the Boston code by 2 dBA. The octave band SPLs also exceed at all frequency bands except for 31.5 Hz. Currently, the existing noise data does not meet the Boston Noise Code for residential area in the octave band SPL and the A-weighted SPL during daytime and all other times.

The 24-hour survey measurement was conducted on the existing roof of a South Bay building, shown in **Appendix A Figure 01**. The measurement outputted a day/night sound pressure level of 61 dBA. This does meet the HUD criterion of a normally acceptable level.

5.0 PREDICTION OF FUTURE NOISE CONDITIONS

The 50% and 75% Design Development drawings were provided from the client for Buildings A and B, respectively. In addition, five *SketchUp* computer software models were provided to designate the five future retail and residential Buildings. The minimal number and locations of cooling units and trucks have been provided for building A and B. The cooling units and trucks are currently located on the northwest side of the future retail lot of the drawing set.

Due to the preliminary stages of design, several assumptions on the equipment and locations on and around all five buildings were made during the modeling process, including data on idling trucks, garage units, and DOAS units.

Computer Aided Noise Abatement (CadnaA), a computer software modeling tool, was used to predict the propagation of sound for the proposed design conditions.

5.1 Sources of Noise

The sources of noise are as follows:

1. Dedicated Outdoor Air Supply (DOAS) units on all buildings
2. Garage intake and exhaust units for Buildings C and D
3. Generators on Buildings C, D, and E with sound rated enclosures rated for 65dBA at 23 ft.
4. Cooling condenser units for retail fit-outs
5. Up to three idling trucks on the loading dock of Building A

Due to the beginning stages of design, assumptions on mechanical equipment have been made. Note, for the cooling condenser unit, octave band frequency sound power data were not provided by the manufacturer for 31.5 Hz and 63 Hz. These assumed mechanical equipment do not create a pure tone condition at any frequency band and thus comply with the Massachusetts DEP regulation.
Appendix B Figure 01 defines the locations of the noise sources.

5.2 Comparison to Regulations & Project Criteria

Several scenarios were taken into account in this model, with and without barriers.
Appendix B Table 01 provide detailed modeled output data.

A. Design Scenario

The modeled proposed scenario includes all equipment operating on and around Buildings A through E, and the receiver locations positioned 1 through 7 (where existing measurements were taken. Note that the Boston Noise Code does not apply to sound levels within the property line of the development. As the sound propagates towards the property line, only three of the seven locations have noise levels were modeled to be outside of the Boston Noise Code requirements. We note this modeled scenario is a worst case scenario. If three trucks are idling in the Loading Dock and all the mechanical equipment is operating shown on the design documents, the noise levels within Baker Rd, Willow Ct and Fields Ct survey locations are not anticipated to meet the Boston Noise Code during night time hours. In addition, the noise levels modeled at the Service Rd location do not meet day time requirements. Modeled noise levels are shown below in **Table 05**. Values highlighted in red exceed either the daytime or night time noise code.

Table 05: Modeled Sound Pressure Levels of Future Conditions*

Location	Boston Noise Code Requirement		Model Output
	Daytime	Other Times	
Building B Roof	60 dBA	50 dBA	60 dBA**
Willow/Fields Ct			56 dBA
Baker Rd			55 dBA
Service Rd			61 dBA
Boston St			33 dBA
Allstate Rd			38 dBA
Future Hotel Location			31 dBA

*All mechanical equipment operation with three diesel trucks idling in Building A Loading Dock
**Within property line and not required to meet Boston Noise Code

The Massachusetts DEP Criteria requires the noise level change from existing conditions to future conditions to be less than 10 dBA. **Table 06** illustrates the difference between the measured existing conditions and calculations of future conditions.

Table 06: Predicted Sound Level Impacts (dBA)

Measured L90	Modeled Noise Level	Change
46 dBA	54 dBA	+8

An increase of 8 dBA allows the building development to meet the Massachusetts DEP Criteria.

B. Mitigation Recommendation

The minimal distance from the noise sources near the Loading Dock of Building A to the property line does not allow the Boston Noise Code to be met based on the current design. We recommend one of the following mitigation measures to be in compliance with the Noise Code.

- Two truck capacity for the Loading Dock during day time hours and "No Idle" signage for trucks in the Loading Dock during night time hours – We note that when trucks arrive and depart, noise levels will not be in compliance of the noise code for a brief period of time. We anticipate this to be acceptable as the Service Rd is a thoroughfare.

Table 07: Modeled Sound Pressure Levels with "No Idle Signage"

Location	Boston Noise Code		Modeled Output
	Daytime	Other Times	
Willow/Fields Ct	60 dBA	50 dBA	50 dBA
Baker Rd			50 dBA
Service Rd			50 dBA

OR

- A minimum 13 foot in height solid barrier wall along the property line that extends the entire distance of the Loading Dock and Mechanical Equipment Yard.

Table 08: Modeled Sound Pressure Levels with 13-ft High Barrier Wall

Location	Boston Noise Code		Modeled Output
	Daytime	Other Times	
Willow/Fields Ct	60 dBA	50 dBA	46 dBA
Baker Rd			42 dBA
Service Rd			45 dBA

Because the Proponent views a large, solid wall as a security concern, potential surface for graffiti vandalism, and because of its immediate proximity to neighbors, the Proponent opts to mitigate noise with "No Idle" signage and policy with capacity limitation enforced by management operations. The proposed trees and landscaping along the property line will help to further shield neighbors from loading dock operation, but not from an acoustical standpoint.

6.0 CONCLUSIONS

The Edens South Bay Expansion project proposes to add five buildings to the existing lot located within the city of Boston, Massachusetts, and will have retail and commercial areas within the development. The noise levels emitted from any source need to comply with the Boston Noise Code, HUD criteria, and Massachusetts DEP regulations at the property line.

The anticipated future noise levels bordering the Edens South Bay Expansion were modeled based on the expected mechanical noise sources and diesel trucks in the Loading Dock of Building A. With all assumed equipment operating, including diesel trucks, the noise levels meet the Boston Noise Code's overall A-weighted SPL along Boston St and Allstate Rd, but do not adhere to the Boston Noise Code requirements along Baker Rd, Willow Ct, and Field Ct.

By implementing "No Idling" signage and limiting the capacity of diesel trucks operationally in the Building A Loading Dock, we have modeled a reduction in the noise levels propagating to the nearby neighborhoods and residential streets to satisfy the overall A-weighted noise level Boston requires for a residential zone. These streets include Boston St, Willow Ct, Fields Ct, Allstate Rd, and Service Rd. In addition, the hotel, within the property line, does not produce noise exceeding the noise level granted by the Boston Noise Code.

This concludes our comments at this time. We welcome further involvement in the process where requested.

Very truly yours,
Cerami & Associates, Inc.

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Robert Ricchi / Fort Point Associates
Christopher Pollock / Cerami
Geoffrey Sparks / Cerami

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1. Massachusetts Department of Environmental Protection. DEP Criteria. DEP. Bureau of Waste Prevention. February, 2003.

2. Federal Register, Department of Housing and Urban Development (24 CFR Part 51) Environmental Criteria and Standards, Vol. 44, No. 135.

3. City of Boston. State of Massachusetts. City of Boston Air pollution control commission. Regulations for the control of noise in the city of Boston.

Appendix A – City of Boston Regulations

Table A-01: Boston Noise Code Octave Band Max SPL During Daytime and Other Times

Frequency [Hz]	Residential		Residential/Industrial	
	Daytime [dB]	Other Times [dB]	Daytime [dB]	Other Times [dB]
31.5	76	68	76	72
63	75	67	78	71
125	69	61	73	65
250	62	52	68	57
500	56	46	62	51
1k	50	40	56	45
2k	45	33	51	39
4k	40	28	47	34
8k	38	26	44	32
LAeq	60 dBA	50 dBA	65 dBA	55 dBA

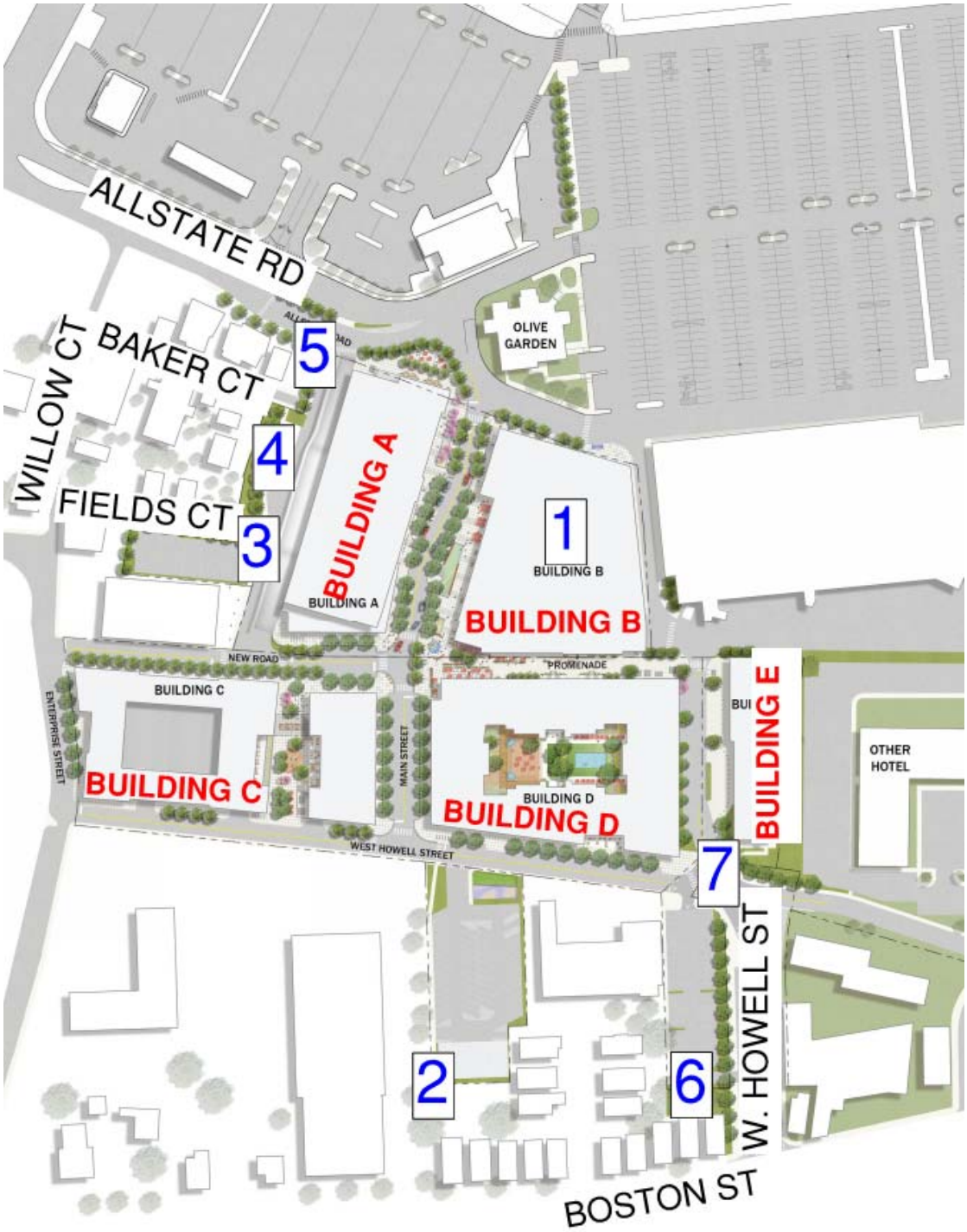

Figure A-01 Existing Survey Measurement Locations

Appendix B – Environmental Noise Modeling

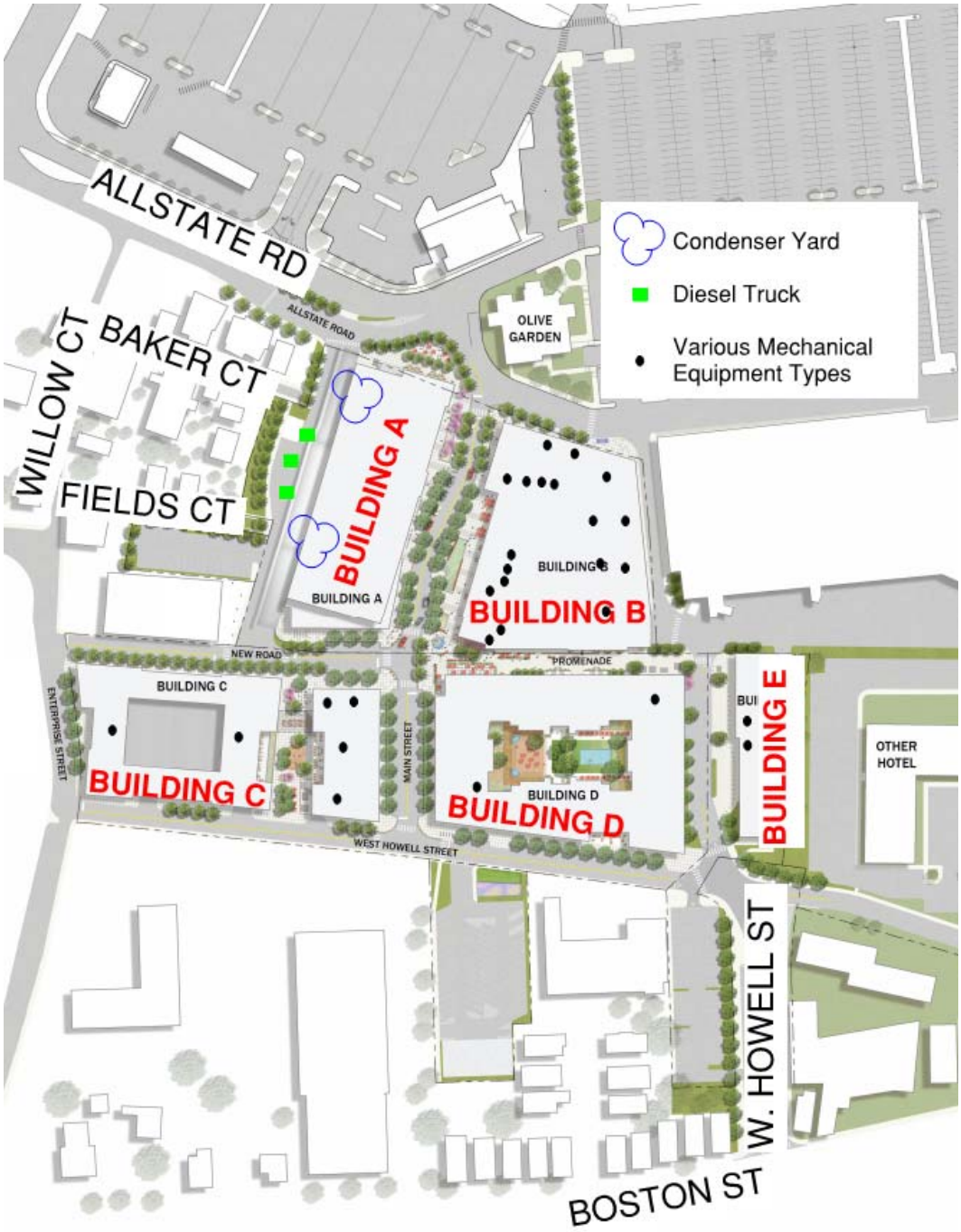

Figure B-01. Modeled Noise Source Locations

Figure B-02. Recommended Location of 13-foot Solid Barrier Wall

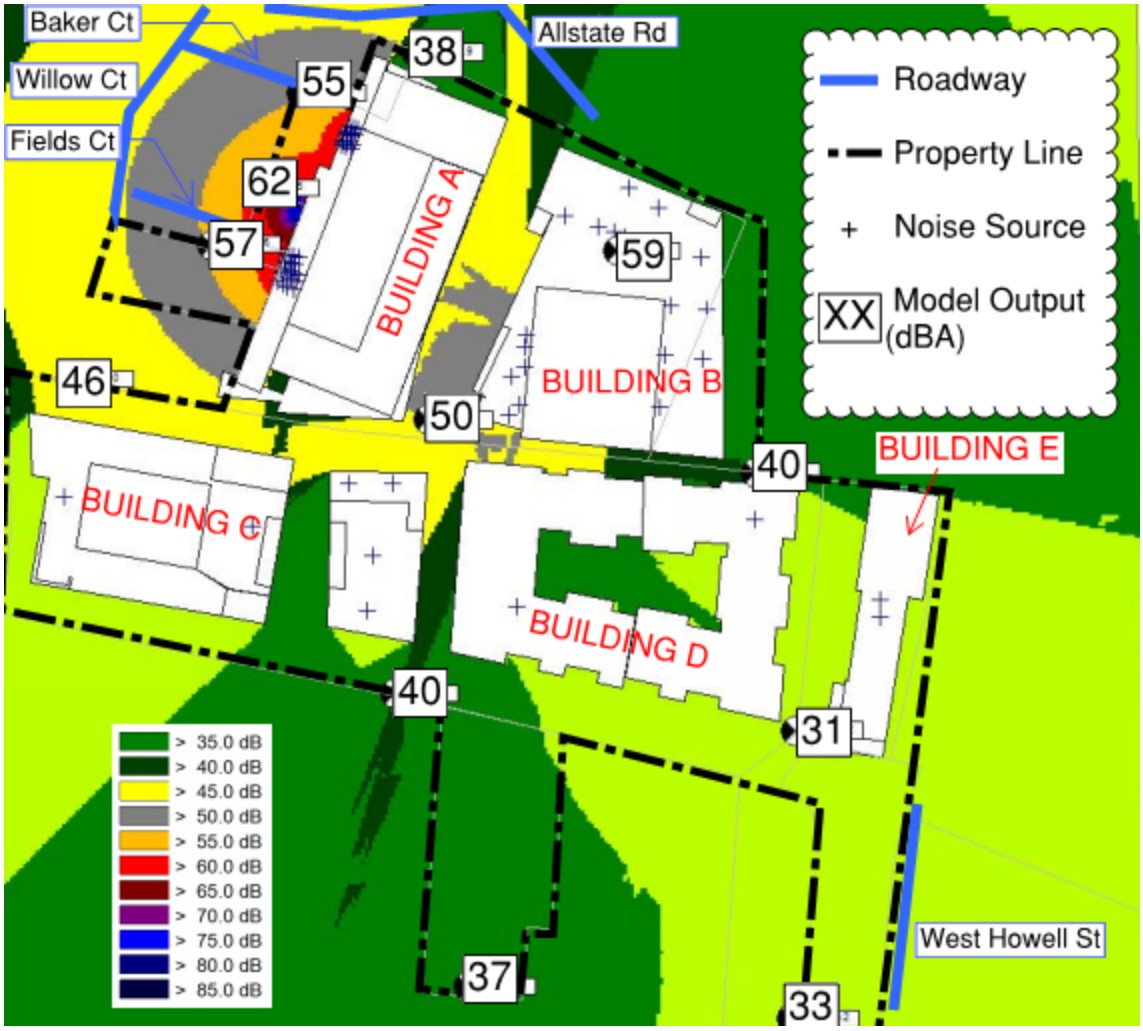

Figure B-03: Sound Propagation From The Modeled Noise Sources With No Noise Mitigation Measures Provided

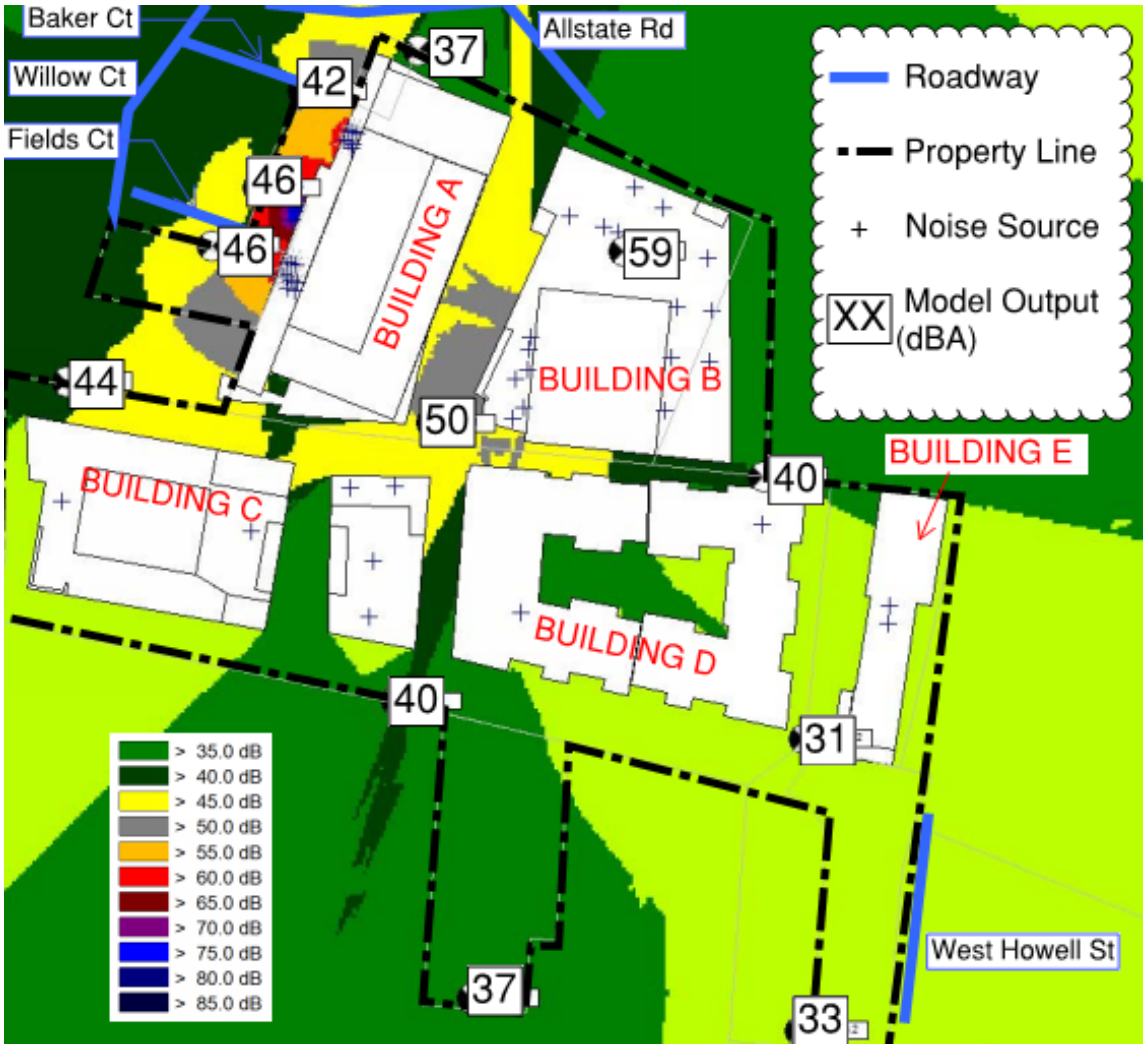

Figure B-04: Sound Propagation From The Modeled Noise Sources With 13-Foot Tall Barrier

Table B-01: CadnaA Model Outputs at Service Rd Property Line

Modeled Condition	Modeled A-Weighted Equivalent Sound Pressure Level (dBA)	
	As Designed Refer to Figure B-03	With Barrier Wall Refer to Figure B-04
Half of Equipment Operational	48 dBA	40 dBA
All Equipment Operational	50 dBA	43 dBA
Half Equipment & 1 Diesel Truck	56 dBA	41 dBA
All Equipment & 1 Diesel Trucks	58 dBA	43 dBA
Half Equipment & 2 Diesel Trucks	59 dBA	41 dBA
All Equipment & 2 Diesel Trucks	60 dBA	43 dBA
Half Equipment & 3 Diesel Trucks	61 dBA	42 dBA
All Equipment & 3 Diesel Trucks	62 dBA	44 dBA

Cells shaded in Red are not in compliance with the Boston Noise Code during daytime (60 dBA) or night time hours (50 dBA).

Appendix F

AIR QUALITY REPORT

AIR QUALITY IMPACT ANALYSIS FOR SOUTH BAY

BOSTON, MASSACHUSETTS

December 2015

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AIR QUALITY IMPACT ANALYSIS FOR

SOUTH BAY

BOSTON, MASSACHUSETTS

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APPENDIX A: AIR QUALITY

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1.0 SUMMARY OF RESULTS

1.1 Introduction

Air quality impact analyses were performed for the South Bay (the "Project"), a mixed-use development between Massachusetts Avenue and the Southeast Expressway in the South Bay section of Boston. The Project consists of approximately 170,000 square feet (sf) of new commercial building space (retail and cinema), a 90,000 sf hotel, and 475 multi-family residential units. The use and size of the five buildings are as follows:

- Building A 41,000 sf retail
- Building B 105,100 sf cinema, retail
- Building C 232,070 sf multi-family residential, retail
- Building D 259,950 sf multi-family residential, retail
- Building E 90,000 sf hotel

These analyses consisted of 1) an evaluation of existing air quality; 2) an evaluation of potential carbon monoxide (CO) impacts from the operation of the Project's fuel combustion and parking garages, and 3) a microscale CO analysis for intersections in the Project area that meet the BRA criteria for requiring such an analysis.

1.2 Stationary Sources

The Project will include roof-top fuel combustion equipment that will emit air pollutants to the atmosphere when operating. Fuel combustion equipment for the Project will include gas-fired boilers, furnaces and hot water heaters. The objective of this analysis was to determine the maximum CO concentrations from fuel combustion equipment and parking garages at the closest sensitive receptors surrounding the Project. These closest sensitive receptors include: nearby existing buildings, and pedestrians at ground level anywhere near the Project. CO emissions from motor vehicles operating inside the garage were calculated and the CO concentrations inside the garage and surrounding the Project were based on Saturday morning peak traffic periods. CO emissions from fuel combustion equipment and garages were modeled using a U.S. EPA-approved air model.

Worst-case concentrations of CO from the fuel combustion equipment and parking garages were predicted for locations around the building with using AERMOD model (Version 15181) in screening-mode. The AERMOD model in screening-mode was used to predict the maximum concentration of CO by modeling the fuel combustion equipment and parking garages emissions as a volume using worst-case meteorological conditions for an urban area. The screening-mode option

simulates modeling results predicted by AERSCREEN. The predicted concentrations presented here represent the worst-case air quality impacts from the fuel combustion equipment and garages at all locations on and around the Project. AERMOD predicted one-hour average concentrations of air pollutants.

AERMOD predicted that the maximum one-hour CO concentration from the fuel combustion equipment and parking garages will be 0.022 ppm (24.77 $\mu g/m^3$). This concentration represents the maximum CO concentration at any location surrounding the Project. The maximum predicted eight-hour CO concentration was determined to be approximately 0.02 ppm. With the background concentration added, the peak, total, one-hour and eight-hour CO impacts from the fuel combustion equipment, at any location around the building, will be no larger than 2.22 ppm and 1.62 ppm, respectively. These maximum predicted total CO concentrations (fuel combustion equipment and parking garage plus background) are safely in compliance with the NAAQS. This analysis demonstrates that the operation of the fuel combustion equipment will not have an adverse impact on air quality.

1.3 Microscale Analysis

The Boston Redevelopment Authority (BRA) and DEP typically require a microscale air quality analysis for any intersection in the Project study area where the level of service (LOS) is expected to deteriorate to D and the proposed project causes a 10% increase in traffic or where the level of service is E or F and the project contributes to a reduction in LOS. For such intersections, a microscale air quality analysis is required to examine the carbon monoxide (CO) concentrations at sensitive receptors near the intersection.

A microscale CO air quality analysis was performed for three intersections to predict the maximum one-hour and eight-hour CO concentrations for sensitive receptors at the two intersections in the Project area that meet the BRA selection criteria. The analysis was performed for three cases: 2015 Existing, 2021 No-Build, and 2021 Build using the latest version of the U.S. EPA CAL3QHC model[1] (Version 2.0, dated October 1995). Estimation of CO levels at the intersections that meet the BRA/DEP selection criteria under the 2021 Build scenario provides a good indication of whether the project will interfere with the maintenance of the NAAQS for CO. Since CO levels are highest near intersections where the worst traffic congestion occurs, compliance with the NAAQS at these intersections and receptors protects public health elsewhere in the community.

The maximum predicted CO impacts for the 2021 No-Build and Build cases are less than those predicted for the 2015 Existing Case. This is a result of the lower CO emission rates for motor vehicles predicted by the MOVES2014 model for 2021, compared to 2015. The reduction in motor

[1] U.S. EPA, User's Guide to CAL3QHC Version 2.0: A Modeling Methodology for Predicting Pollution Concentrations Near Roadway Intersections, Office of Air Quality Planning and Standards, September 1995.

vehicle CO emission rates is primarily a result of the improved motor vehicle emission controls and occurs as newer vehicles with lower CO emissions replace older vehicles on the road. The maximum predicted CO impacts for the 2021 Build case is less than those predicted for the 2021 No-Build Case due to proposed Travel Demand Management (TDM) measures provided by MDM Transportation Consultants, Inc. The results show that the project will not have a significant impact on the air quality at the analyzed intersections.

The maximum predicted one-hour and eight-hour CO concentrations, including background concentrations of CO, for the 2015 Existing case are 2.60 ppm and 1.96 ppm, respectively. For the 2021 No-Build case, the maximum predicted one-hour and eight-hour CO concentrations, including background concentrations of CO, are 2.50 ppm and 1.87 ppm, respectively For the 2021 Build case, the maximum predicted one-hour and eight-hour CO concentrations, including conservative background concentrations of CO, are 2.40 and 1.78 ppm, respectively.

These maximum air quality impacts are predicted to occur at receptor #5 near Southampton St at Preble St/Dorchester Ave/Dorchester St/Boston St (Andrew Square) intersection for all modeling scenarios. These results demonstrate that the project will not have an adverse impact on air quality at the most congested intersections in the project area.

1.4 Total Project Air Quality Results

The worst-case air quality impacts at the Project site can be conservatively represented by the highest predicted CO concentration at the intersection of Southampton Street at Preble Street/Dorchester Avenue, which is adjacent to the Project site. Adding in the impacts from the fuel combustion equipment and parking garages to the background concentration, the conservative estimate of the worst-case total one-hour and eight-hour CO impacts at the Project site will be 2.42 ppm and 1.80 ppm, respectively. These values are safely in compliance with the NAAQS for CO and indicate that the Project will not have an adverse impact on local air quality.

2.0 EXISTING AIR QUALITY

The City of Boston is currently classified as being in attainment of the Massachusetts and National Ambient Air Quality Standards ("NAAQS") for all of the criteria air pollutants except ozone (see **Table 1.** These air quality standards have been established to protect the public health and welfare in ambient air, with a margin for safety.

The Massachusetts Department of Environmental Protection ("DEP") currently operates air monitors in various locations throughout the city. The closest, most representative DEP monitors for carbon monoxide (CO), sulfur dioxide (SO_2), nitrogen dioxide (NO_2), fine particulate matter ($PM_{2.5}$), coarse particulate matter (PM_{10}), and lead are located at Dudley Square on Harrison Avenue, Boston, MA.

Table 2 summarizes the DEP air monitoring data, for the most recent available, complete three-year period (2012-2014) that are considered to be representative of the project area. **Table 2** shows that the existing air quality in the Project area is generally much better than the NAAQS. The highest impacts relative to a NAAQS are for ozone and $PM_{2.5}$. Ozone is a regional air pollutant on which the small amount of additional traffic generated by this Project will have an insignificant impact. The Project's operations will not have a significant impact on local $PM_{2.5}$ concentrations.

TABLE 1
MASSACHUSETTS AND
NATIONAL AMBIENT AIR QUALITY STANDARDS (NAAQS)

Pollutant	Averaging Time	NAAQS (µg/m3)
SO_2	1-hour[P]	196[a]
CO	1-hour[P] 8-hour[P]	40,000[b] 10,000[b]
NO_2	1-hour[P] Annual[P/S] (Arithmetic Mean)	188[c] 100
PM10	24-hour[P/S]	150
$PM_{2.5}$	24-hour[P/S] Annual[P/S] (Arithmetic Mean)	35[d] 12[e,f]
O_3	8-hour[P/S]	137[g]
Pb	Rolling 3-Month Avg.P/S Calendar QuarterP/S (Arithmetic Mean)	0.15 1.5

P = primary standard; S = secondary standard.

[a] 99th percentile 1-hour concentrations in a year (average over three years).

[b] One exceedance per year is allowed.

[c] 98th percentile 1-hour concentrations in a year (average over three years).

[d] 98th percentile 24-hour concentrations in a year (average over three years).

[e] Three-year average of annual arithmetic means.

[f] As of March 18, 2012, the U.S. EPA lowered the $PM_{2.5}$ annual standard from 15 ug/m^3 to 12 ug/m^3.

[g] Three-year average of the annual 4th-highest daily maximum 8-hour ozone concentration must not exceed 0.070 ppm (137 ug/m^3) (effective December 28, 2015) and the annual PM_{10} standard was revoked in 2006.

TABLE 2
REPRESENTATIVE EXISTING AIR QUALITY IN THE PROJECT AREA

Pollutant, Averaging Period	Monitor Location	Value (□g/m^3)	NAAQS (□g/m^3)	Percent of NAAQS
CO, 1-hour	Harrison Avenue, Boston	2,519	40,000	6%
CO, 8-hour	Harrison Avenue, Boston	1,832	10,000	18%
NO_2, 1-hour	Harrison Avenue, Boston	90.9	188	48%
NO_2, Annual	Harrison Avenue, Boston	32.8	100	33%
Ozone, 8-hour	Harrison Avenue, Boston	125	137	91%
PM_{10}, 24-hour	Harrison Avenue, Boston	37	150	25%
$PM_{2.5}$, 24-hour	Harrison Avenue, Boston	16.4	35	36%
$PM_{2.5}$, Annual	Harrison Avenue, Boston	8.4	12	69%
Lead, Quarterly	Harrison Avenue, Boston	0.017	1.5	1.1%
SO_2, 1-hour	Harrison Avenue, Boston	30.5	196	16%

Source: MassDEP, http://www.mass.gov/dep/air/priorities/aqreports.htm., downloaded July 22, 2015.

Notes:

(1) Annual averages are highest measured during the most recent three-year period for which data are available (2012 - 2014). Values for periods of 24-hours or less are highest; second-highest over the three-year period unless otherwise noted.

(2) The eight-hour ozone value is the 3-year average of the annual fourth-highest values, the 24-hour $PM_{2.5}$ value is the 3-year average of the 98th percentile values, the annual $PM_{2.5}$ value is the 3-year average of the annual values – these are the values used to determine compliance with the NAAQS for these air pollutants.

(3) The one-hour NO_2 value is the 3-year average of the 98th percentile values and the one-hour SO_2 value is the 3-year average of the 99th percentile values.

(4) The one-hour ozone standard was revoked by the US EPA in 2005; the annual PM_{10} standard was revoked in 2006, and the 3-hour SO_2 standard was revoked by the US EPA in 2010.

3.0 AIR QUALITY MODELING METHODLODGY AND RESULTS

Air quality dispersion modeling analyses consisted of: 1) an evaluation of potential carbon monoxide (CO) impacts from the operation of the Project's fuel combustion and parking garage, and 2) a microscale CO analysis for intersections in the Project area that meet the BRA criteria for requiring such an analysis. Emissions calculations and modeling approach for both air dispersion modeling analyses are presented below.

3.1 Fuel Combustion Equipment and Parking Garages

The Project will include roof-top fuel combustion equipment that will emit air pollutants to the atmosphere when operating. Fuel combustion equipment for the Project will include gas-fired boilers, furnaces and hot water heaters. The objective of this analysis was to determine the maximum CO concentrations from fuel combustion equipment and parking garages at the closest sensitive receptors surrounding the Project. These closest sensitive receptors include nearby existing buildings, and pedestrians at ground level anywhere near the Project. CO emissions from motor vehicles operating inside the garage were calculated and the CO concentrations inside the garage and surrounding the Project were based on Saturday morning peak traffic periods. CO emissions from fuel combustion equipment and garages were modeled using an U.S. EPA-approved air model.

Worst-case concentrations of CO from the fuel combustion equipment and parking garages were predicted for locations around the building by using AERMOD model (Version 15181) in screening-mode. The AERMOD model in screening-mode was used to predict the maximum concentration of CO by modeling the fuel combustion equipment and parking garages emissions as a volume, using worst-case meteorological conditions for an urban area. The screening-mode option simulates modeling results predicted by AERSCREEN. The predicted concentrations presented here represent the worst-case air quality impacts from the fuel combustion equipment and garages at all locations on and around the Project. AERMOD predicted one-hour average concentrations of air pollutants.

3.1.1 Fuel Combustion Equipment

The Project will include fuel combustion equipment that will emit air pollutants to the atmosphere when operating. Fuel combustion equipment for the Project will have gas-fired heating furnaces with have a thermal efficiency of 90% in Buildings A and E. Buildings B, C and D will have condensing boilers to supply hot water heating in those buildings with a thermal efficiency of 97%. Each building will include hot water heaters that have a thermal efficiency of 80%, except for Building E.

EPA's AP-42 document was used to determine the uncontrolled CO emission rate for the gas-fired furnaces and boilers. The gas-fired equipment maximum heat input capacities were calculated for

each building based on their size and energy demand on a monthly basis, as presented in **Table 3**. Using a CO emission factor of 0.084 lb/MMBtu,[2] the maximum total CO emissions from each building is presented in Table 3 in lbs/month and grams per second. The grams per second emissions rates for each building were included in AERMOD. This calculation conservatively assumes that all of the gas-fired fuel combustion equipment is operating simultaneously at its full design capacity.

TABLE 3
MAXIMUM HEAT INPUT CAPACITY AND CARBON MONOXIDE EMISSIONS

Building ID.	Maximum Heat Input Capacity/Month (MMBtu)	Maximum Monthly Emission (lbs/month)	Maximum Emission Rate (g/s)
A	15.7	1.3	0.0002
B	94.0	7.7	0.0013
C	260.1	21.4	0.0037
D	291.4	24.0	0.0041
E	165.9	13.7	0.0024

Assuming a heating value of 1,020 Btu/cubic foot of natural

3.1.2 Parking Garages

Parking for the Project is designed to be tucked away from view in structures with retail spaces and residences wrapped around them. Approximately 1,000 spaces will be in three garages for Buildings A, C and D. Building A will have a six-story parking garage, with retail at the ground floor. The parking garage for Building C will be six stories above ground and story below ground. The parking garage will be not visible from surrounding streets, except for its entrance along West Howell Street Extension. Building D will have a parking garage on the first floor of the building.

Building A parking garage is an open-concept garage, which will require no mechanical ventilation.

Building C parking garage will have one level of underground parking and six levels above ground, which will require mechanical ventilation for the entire garage since it is fully surrounded by Building C. The garage ventilation system will be designed to provide adequate dilution of the motor vehicle emissions before they are vented outside. The design of the garage ventilation system will meet all building code requirements. Full ventilation of the garage will require fans that will

2 US EPA, "Compilation of Air Pollutant Emission Factors, AP-42, Fifth Edition Volume I: Stationary Point and Area Sources", Table 1.4-1, January 1995 (revised July 1998).

supply a maximum flow of approximately 86,000 cubic feet per minute (cfm) of fresh air. This quantity of air is designed to meet the building code and will be more than adequate to dilute the emissions inside the parking garage to safe levels before they are vented outside. It was assumed that ventilation would occur at the top of the garage.

Building D parking garage on the first floor is assumed to be enclosed and will require mechanical ventilation. The garage ventilation system will be designed to provide adequate dilution of the motor vehicle emissions before they are vented outside. The design of the garage ventilation system will meet all building code requirements. Full ventilation of the garage will require fans that will supply a maximum flow of approximately 61,000 cubic feet per minute (cfm) of fresh air. This quantity of air is designed to meet the building code and will be more than adequate to dilute the emissions inside the parking garage to safe levels before they are vented outside. It was assumed that ventilation would occur on the north side of the building adjacent to the garage entrance.

Since Buildings C and D garages are enclosed, they will include carbon monoxide monitors capable of detecting carbon monoxide levels between 0-1,000 ppm. The ventilation for the parking garages will only occur when the sensors indicate a need to ventilate, which will result in energy savings, both from reduced fan operation, and potentially also from any related heating or cooling costs. Sensors will be spaced accordingly to ensure proper coverage, and each sensor will be placed where the highest concentration of CO is expected: elevators, stairwells, offices, hallways, between adjacent parking aisles, and at roadway intersections within the garage.

The peak one-hour entering and exiting traffic volumes for each of the garages are shown in **Table 4**. Building A peak hour traffic volume is predicted for Saturday midday, and Buildings C and D peak hour traffic volume are predicted for weekday afternoon.

TABLE 4
PEAK HOUR GARAGE TRAFFIC VOLUMES

Garage Location	Entering (vehicles/hour)	Exiting (vehicles/hour)	Total (vehicles/hour)
Building A	191	206	397
Building C	40	24	64
Building D	40	25	65

Source: MDM Transportation Consultants, Inc.

The U.S. Environmental Protection Agency (EPA) MOVES2014 emission factor model was used to calculate single vehicle idling CO emissions rates. The inputs to the MOVES2014 model followed the latest guidance from the DEP and were performed for the future traffic year of 2021. The CO emission rate calculated by MOVES2014, for idling vehicles was 1.042 grams per hour (gph) for each entering and exiting vehicle. MOVES2014 model output is provided in the **Appendix A**.

To determine the maximum one-hour CO emissions inside each garage, it was necessary to estimate the amount of time each motor vehicle will be in the parking garage with its engine running. To be conservative, it was assumed that every car entering or leaving the garage will be operating during that peak hour.

The peak one-hour CO emission rates for each parking garage were calculated to be the following: Building A – 0.115 g/s; Building C – 0.019 g/s, and Building D – 0.017 g/s for the peak hour. The emission rate calculations for each garage are presented in **Appendix A**.

3.1.3 Stationary Sources Air Quality Results

The results of the air quality analysis for locations outside and around the buildings are summarized in **Table 5**. The results in **Table 5** represent all outside locations on and near the Project Site, including nearby building air intakes and nearby residences. **Appendix A** contains the AERMOD model output.

AERMOD predicted that the maximum one-hour CO concentration from the fuel combustion equipment and parking garages will be 0.022 ppm (24.77 $\mu g/m^3$). This concentration represents the maximum CO concentration at any location surrounding the Project.

The maximum predicted eight-hour CO concentration at any ambient (outside) location will be significantly smaller than the one-hour prediction. This is because 1) the average number of vehicles entering and exiting the garage over the peak eight-hour period will be significantly less than the peak one-hour values used to predict the peak one-hour CO impact, 2) all fuel combustion equipment is operating at their maximum load simultaneously, and 3) the worst-case meteorological conditions used to predict the peak one-hour impact will not persist for eight consecutive hours. AERSCREEN guidance allows the maximum eight-hour CO impact to be conservatively estimated by multiplying the maximum one-hour impact by a factor of 0.9 (i.e. the eight-hour impact is 90% of the one-hour impact). The maximum predicted eight-hour CO concentration was determined to be approximately 0.02 ppm (0.02 ppm x 0.9).

The U.S. EPA has established National Ambient Air Quality Standards (NAAQS) to protect the public health and welfare in ambient air, with a margin for safety. The NAAQS for CO are 35 ppm for a one-hour average and 9 ppm for an eight-hour average. The Commonwealth of Massachusetts

has established the same standards for CO. The CO background values of 2.2 ppm for a one-hour period and 1.6 ppm for an eight-hour period, were added to the maximum predicted fuel combustion ambient impacts to represent the CO contribution from other, more distant, sources. With the background concentration added, the peak, total, one-hour and eight-hour CO impacts from the fuel combustion equipment, at any location around the building, will be no larger than 2.22 ppm and 1.62 ppm, respectively. These maximum predicted total CO concentrations (fuel combustion equipment and parking garage plus background) are safely in compliance with the NAAQS. This analysis demonstrates that the operation of the fuel combustion equipment will not have an adverse impact on air quality.

TABLE 5
FUEL COMBUSTION EQUIPMENT AND PARKING GARAGE
AIR QUALITY IMPACTS

Location	Peak Predicted One-Hour Impact (ppm)	One-Hour NAAQS (ppm)	Peak Predicted Eight-Hour Impact (ppm)	Eight-Hour NAAQS (ppm)
Ambient Air Near Garage	2.22	35	1.62	9 (NAAQS)

NAAQS = Massachusetts and National Ambient Air Quality Standards for CO (ppm = parts per million)
* Representative of maximum CO impact at all nearby residences, buildings, and sidewalks.

3.2 Microscale CO Analysis for Selected Intersections

The Boston Redevelopment Authority (BRA) and DEP typically require a microscale air quality analysis for any intersection in the Project study area where the level of service (LOS) is expected to deteriorate to D and the proposed project causes a 10% increase in traffic or where the level of service is E or F and the project contributes to a reduction in LOS. For such intersections, a microscale air quality analysis is required to examine the carbon monoxide (CO) concentrations at sensitive receptors near the intersection.

A microscale CO air quality analysis was performed to predict the maximum one-hour and eight-hour CO concentrations for sensitive receptors at the three intersections in the Project area that meet the BRA selection criteria. The analysis was performed for three cases: 2015 Existing, 2021 No-Build, and 2021 Build. Estimation of CO levels at the intersections that meet the BRA/DEP selection criteria under the 2021 Build scenario provides a good indication of whether the project will interfere with the maintenance of the NAAQS for CO. Since CO levels are highest near

intersections where the worst traffic congestion occurs, compliance with the NAAQS at these intersections and receptors protects public health elsewhere in the community.

3.2.1 Dispersion Model

The latest version of the U.S. EPA CAL3QHC model3 (Version 2.0, dated October 1995) was used to predict maximum one-hour CO concentrations at each intersection from both moving and idling vehicles. This model includes the U.S. EPA CALINE-3 dispersion model,[4] along with methods for estimating queue lengths and the contribution of emissions from idling vehicles at intersections. **Appendix A** contains the CAL3QHC model output.

3.2.2 Meteorological Inputs

The following meteorological parameters were selected for the CAL3QHC modeling, in accordance with U.S. EPA and Massachusetts DEP guidance:

- Roughness Length: 108 cm (single-family residential)
- Mixing Height: 1,000 meters
- Wind Speed: 1.0 m/s (minimum)
- Wind Direction: 360^{o} in 10^{o} increments
- Stability Class: Class D.

3.2.3 Intersections

Nineteen intersections were included in the transportation study area, and each of these intersections was considered for a microscale CO air quality analysis. **Table 6** shows a summary of the 2021 Build LOS analysis for each intersection. The Project will generate a total of 224 motor vehicle trips during the weekday morning peak traffic period, 504 motor vehicle trips during the weekday afternoon peak traffic period, and 544 motor vehicle trips during the Saturday peak traffic period. Based on data presented in Table 6, three intersections meet the DEP/BRA criteria for a microscale analysis:

1. #7 – Massachusetts Avenue at Enterprise Street
2. #11 – Boston Street at West Howell Street/Howell Street
3. #13 – Southampton Street at Preble Street/Dorchester Avenue/Dorchester Street/Boston Street (Andrew Square)

[3] U.S. EPA, User's Guide to CAL3QHC Version 2.0: A Modeling Methodology for Predicting Pollution Concentrations Near Roadway Intersections, Office of Air Quality Planning and Standards, September 1995.

[4] California Department of Transportation, CALINE-3, A Versatile Dispersion Model for Predicting Air Pollutant Levels Near Highways and Arterial Streets, FHWA/CA/TL-79/23, Sacramento, CA, November 1979.

TABLE 6
SUMMARY OF BUILD CASE LEVEL OF SERVICE

Intersection	Build LOS (AM/PM/Sat.)	Requires Analysis?
1 - Massachusetts Ave at Mass Ave Connector/Melnea	D/D/D	NO*
2 - Massachusetts Ave at Magazine St – signalized	A/B/B	NO
3 - Massachusetts Ave at Shirley St – signalized	C/C/B	NO
4 - Massachusetts Ave at South Bay Ctr – unsignalized	B/C/C	NO
5 - Massachusetts Ave at Allstate Rd – signalized	C/B/C	NO
6 - Allstate Rd at South Bay Ctr Loop Rd – signalized	A/A/B	NO
7 - Massachusetts Ave at Enterprise St – unsignalized	D/F/E	YES
8 - Massachusetts Ave at Columbia Rd/Boston St –	E/F/F (1%)	NO
9 - Columbia Rd at Dorchester Ave – signalized	D/F/E (2%)	NO
10 - Boston St at Enterprise St – unsignalized	B/B/B	NO
11 - Boston St at West Howell St/Howell St – unsignalized	D/D/D (250%)	YES
12 - Boston St at Frontage Rd/Washburn St – signalized	B/A/A	NO
13 - Southampton St at Preble St/Dorchester Ave/Dorchester St/Boston St (Andrew Square) – signalized	F/E/E	YES
14 - Southampton St at I-93 NB Off-ramp/Frontage Rd	D/D/C (5%)	NO
15 - Frontage Road at South Bay Ctr – unsignalized	A/A/B	NO
16 - Frontage Road at South Bay Ctr/Southampton St –	C/C/C	NO
17 - Southampton St at South Bay Ctr/Public Storage Dwy	B/B/C	NO
18 - Frontage Rd SB at South Boston By-pass – signalized	A/A/A	NO
19 - Frontage Rd NB at South Boston By-pass – signalized	B/B/B	NO

The LOS shown represents the overall delay at each signalized intersection and the worst approach at the unsignalized intersection.
*Project does not contribute to reduction in level of service.

Source: MDM Transportation Consultants, Inc.

3.2.4 Receptors

Receptors are the locations where the CAL3QHC model predicts CO concentrations. Receptors were placed at regular intervals along each modeled roadway where the public could have access.

These receptors conservatively cover all of the locations where the general public may have frequent and prolonged access to the ambient air at each intersection. Figures 1 through 3 in **Appendix A** show the locations of the receptors that were modeled at each of the three analyzed intersections. Following U.S. EPA guidance, all receptors were placed at a height of 1.8 meters and were located at least 3 meters from roadway curbsides.

3.2.5 Modeled Roadways

Each roadway approach was modeled as a 1,000 meter free-flow (moving vehicles) line source. The width of each free-flow link was set equal to the roadway width (excluding the parking areas) plus 3 meters on each side. Composite CO emission rates, in units of grams per mile, were applied to each free-flow link.

Each roadway approach with traffic signal control was also modeled as a queue link (vehicles waiting for a traffic signal to turn green). The width of each queue link was modeled as the actual approach lane width. The length of each queue was calculated by the CAL3QHC model. A CO emission factor based on vehicles queuing , in grams per hour, was applied to each queue link.

The CAL3QHC model requires the input of signal timing for signalized intersections. Only the Southampton St at Preble St/Dorchester Ave/Dorchester St/Boston St (Andrew Square) intersection is signalized and was modeled as being signalized for all three cases. Signal timings for peak periods were provided by MDM Transportation Consultants, Inc. and are shown in the **Appendix A.**

For the two unsignalized intersections, CAL3QHC does not have explicit treatment of stop signs, and provides no specific guidance on their treatment. For the purposes of this study, a "free flow link" was established in CAL3QHC for the "queuing" of vehicles with coordinates in the middle of the lane at the stop sign, and then back along the roadway until reaching the point where the average number of vehicles waiting, ends. A vehicle queue space of 25 feet was used as a default. Emission factors for this "queuing" free flow link was set at an average vehicle speed of 5.0 mph (using EPA's MOVES2014 model).

3.2.6 Eight-Hour Average CO Concentrations

Peak eight-hour CO concentrations from roadway traffic were calculated by multiplying the model predicted one-hour CO values (without an added background concentration) by a persistence factor of 0.7.[5] The persistence factor takes into account that the intensity of the traffic during the peak eight-hour period will be less than that which will occur during the peak one-hour period. It also takes into account that the worst-case meteorological conditions (i.e. low wind speed blowing

[5] U.S. EPA, Guideline for Modeling Carbon Monoxide from Roadway Intersections, EPA-454/R-92-005, Office of Air Quality Planning and Standards, November 1992.

directly from the source to the receptor), corresponding to the peak one-hour concentrations, will not persist for an entire eight-hour period.

3.2.7 Background CO Concentrations

The one-hour and eight-hour traffic-related CO concentrations predicted by the CAL3QHC model were added to conservative one-hour and eight-hour background CO concentrations of 2.2 parts of CO ppm and 1.6 ppm, respectively, for the existing case. Background concentrations for the year 2021will likely be lower than the existing background CO concentrations. To be conservative, the same background concentrations were used for the 2021 No-Build and Build cases. The sums of the CAL3QHC modeled CO concentrations plus background were compared to the NAAQS for CO.

3.2.8 CO Emission Factors

The U.S. Environmental Protection Agency (EPA) MOVES2014 emission factor model was used to calculate CO emissions factors. The inputs to the MOVES2014 model followed the latest guidance from the DEP and were performed for the existing (2015) and future (2021) traffic years. Both free flow and idling emissions factors were calculated for each traffic year. The free flow emission rate for vehicles traveling on the roadways was based on a vehicle speed of 30 mph for all of the modeled roadways. The free flow CO emission rates for a traffic speed of 30 mph were predicted to be 3.04 grams/mile in 2015 and 2.07 grams/mile in 2021. The CO emission rate calculated by MOVES2014 for queuing vehicles was 7.15 grams per hour (gph) in 2015, and 4.45 in 2021. These emission rates apply to wintertime conditions when motor vehicle CO emissions are greatest due to cold temperatures. MOVES2014 model output is provided in the **Appendix A**.

3.2.9 Microscale CO Modeling Results

The microscale air quality analysis predicted maximum one-hour and eight-hour CO concentrations for sensitive receptors for three intersections in the project area that meet the BRA/DEP selection criteria. The highest predicted CO concentrations for the one-hour and eight-hour periods, which consist of the sum of the maximum predicted impacts from intersection traffic and a background CO concentration, are summarized in **Tables 7 and 8.** The results in these tables do not represent typical air pollution levels in the project area. Rather, they represent the highest concentrations that could exist during the joint occurrence of worst-case meteorology and peak roadway traffic.

2015 Existing Case: The maximum predicted one-hour and eight-hour CO concentrations, including background concentrations of CO, for the 2015 Existing case are 2.60 ppm and 1.96 ppm, respectively. These maximum air quality impacts are predicted to occur at receptor #5 Southampton

St at Preble St/Dorchester Ave/Dorchester St/Boston St (Andrew Square) intersection (see the Figure 3 in **Appendix A**), and are in compliance with the NAAQS for CO.

TABLE 7
MAXIMUM PREDICTED ONE-HOUR CO CONCENTRATIONS (PPM)

Intersection	2015 Existing	2021 No-Build	2021 Build
Massachusetts Ave at Enterprise St – unsignalized	2.50	2.40	2.40
Boston St at West Howell St/Howell St – unsignalized	2.40	2.30	2.30
Southampton St at Preble St/Dorchester Ave/Dorchester St/Boston St (Andrew Square) – signalized	2.60	2.50	2.40
NAAQS	**35**	**35**	**35**

Note: Maximum predicted one-hour concentrations include background concentrations. The added one-hour average background CO concentration is 2.2 ppm in 2015 and 2021.

2021 No-Build Case: For the 2021 No-Build case, the maximum predicted one-hour and eight-hour CO concentrations, including background concentrations of CO, are 2.50 ppm and 1.87 ppm, respectively These maximum air quality impacts are predicted to occur at receptor #5 Southampton St at Preble St/Dorchester Ave/Dorchester St/Boston St (Andrew Square) intersection (see the Figure 3 in **Appendix A**). These maximum concentrations are slightly less than those predicted for the 2015 Existing case and comply with the one-hour and eight-hour NAAQS for CO.

2021 Build Case: For the 2021 Build case, the maximum predicted one-hour and eight-hour CO concentrations, including conservative background concentrations of CO, are 2.40 and 1.78 ppm, respectively. These maximum concentrations are the same or less than those predicted for the 2015 Existing case and the 2021 No-Build case. The predicted CO impacts at all receptors are safely in compliance with the one-hour and eight-hour NAAQS for CO. These maximum air quality impacts are predicted to occur at receptor #5 near Southampton St at Preble St/Dorchester Ave/Dorchester St/Boston St (Andrew Square) intersection (see Figure 3 in **Appendix A**). These results demonstrate that the project will not have an adverse impact on air quality at the most congested intersections in the project area.

TABLE 8
MAXIMUM PREDICTED EIGHT-HOUR CO CONCENTRATIONS (PPM)

Intersection	2015 Existing	2021 No-Build	2021 Build
Massachusetts Ave at Enterprise St – unsignalized	1.87	1.78	1.78
Boston St at West Howell St/Howell St – unsignalized	1.78	1.68	1.68
Southampton St at Preble St/Dorchester Ave/Dorchester St/Boston St (Andrew Square) – signalized	1.96	1.87	1.78
NAAQS	**9**	**9**	**9**

Note: Maximum predicted eight-hour concentrations include background concentrations. The added eight-hour average background CO concentration is 1.6 ppm in 2015 and 2021.

The maximum predicted CO impacts for the 2021 No-Build and Build cases are less than those predicted for the 2015 Existing Case. This is a result of the lower CO emission rates for motor vehicles predicted by the MOVES2014 model for 2021, compared to 2015. The reduction in motor vehicle CO emission rates is primarily a result of the improved motor vehicle emission controls, and occurs as newer vehicles with lower CO emissions replace older vehicles on the road. The maximum predicted CO impacts for the 2021 Build case are the same or less than those predicted for the 2021 No-Build Case due to proposed Travel Demand Management (TDM) measures provided by MDM Transportation Consultants, Inc. The results show that the project will not have a significant impact on the air quality at the analyzed intersections.

3.3 Total Project Air Quality Results

The worst-case air quality impacts at the Project site can be conservatively represented by the highest predicted CO concentration at the intersection of Southampton Street at Preble Street/Dorchester Avenue, which is adjacent to the Project site. Adding in the impacts from the fuel combustion equipment and parking garages to the background concentration, the conservative estimate of the worst-case total one-hour and eight-hour CO impacts at the Project site will be 2.42 ppm and 1.80 ppm, respectively. These values are safely in compliance with the NAAQS for CO and indicate that the Project will not have an adverse impact on local air quality.

4.0 CONCLUSIONS

The microscale CO air quality dispersion modeling analysis clearly indicates that the worst-case traffic generated by the South Bay project will not cause or contribute to any violations of the NAAQS for CO, and will not significantly affect air quality. Total CO impacts at the intersections with the largest delays and at the Project site, including the impacts from the fuel combustion equipment and parking garages, are predicted to be safely in compliance with the NAAQS for CO.

APPENDIX A

AIR QUALITY

STATIONARY SOURCE MODELING INFORMATION

South Bay

	Building Area		Building Height		Vol. Source	Lateral Dist	Sigma Y	Sigma Z	CO Emiss
Building ID	**Area (ft2)**	**Area (m2)**	**Hgt (ft)**	**Hgt (m)**	**Hgt (m)**	**(m)**	**(m)**	**(m)**	**(g/s)**
Building A	82,800	7,696	65	19.81	9.9	87.73	20.40	9.215	0.0002
Building B	108,800	10,113	65	19.81	9.9	100.56	23.39	9.215	0.013
Building C	53,500	4,973	65	19.81	9.9	70.52	16.40	9.215	0.0037
Building D	58,700	5,456	65	19.81	9.9	73.87	17.18	9.215	0.0041
Building E	15,000	1,394	65	19.81	9.9	37.34	8.68	9.215	0.0024

Model Constants

Single volume source initial lateral dimension,	4.30	AERMOD user guide table 3-1
Elevated source on building, initial vertical dimension	2.15	AERMOD user guide table 3-1

Summary of eQUEST Modeling for South Bay
from Job 3982

Estimated Gas Consumption by Month (MMBtu)
Cumulative Mitigation Alternative
Space Heaters

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Building A	1.2	1.4	-	-	0.1	0.1	-	0.1	0.1	-	-	5.2	8.1
Building B	45.4	40.2	8.4	17.8	17.0	5.0	-	1.5	9.8	22.6	12.5	64.7	244.9
Building C	1.0	1.5	0.0	-	-	-	-	-	-	-	-	3.6	6.1
Building D	0.0	0.2	-	-	-	-	-	-	-	-	-	1.0	1.2
Building E	-	-	-	-	-	-	-	-	-	-	-	-	0.0

Estimated Gas Consumption by Month (MMBtu)
Cumulative Mitigation Alternative
Hot Water

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Building A	11.1	10.4	11.5	10.9	10.6	9.5	9.2	8.8	8.5	9.1	9.4	10.4	119.4
Building B	31.3	29.1	32.3	30.7	29.7	26.7	25.9	24.7	23.9	25.6	26.4	29.3	335.6
Building C	247.3	233.9	260.1	247.4	231.8	203.7	190.2	178.6	171.1	187.6	197.3	227.6	2576.6
Building D	277.0	262.0	291.4	277.1	259.6	228.2	213.0	200.0	191.7	210.2	221.0	254.9	2886.1
Building E	160.0	149.4	165.9	158.0	152.7	137.6	133.1	127.4	122.8	131.7	136.0	150.7	1725.3

Estimated Gas Consumption by Month (MMBtu)
Cumulative Mitigation Alternative
Total

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total	Max
Building A	12.3	11.8	11.5	10.9	10.6	9.6	9.2	8.9	8.5	9.1	9.4	15.7	127.4	15.7
Building B	76.7	69.3	40.7	48.5	46.7	31.7	25.9	26.2	33.7	48.2	38.9	94.0	580.5	94.0
Building C	248.3	235.4	260.1	247.4	231.8	203.7	190.2	178.6	171.1	187.6	197.3	231.2	2582.7	260.1
Building D	277.0	262.2	291.4	277.1	259.6	228.2	213.0	200.0	191.7	210.2	221.0	255.9	2887.3	291.4
Building E	160.0	149.4	165.9	158.0	152.7	137.6	133.1	127.4	122.8	131.7	136.0	150.7	1725.3	165.9

Estimated CO Emission by Building

EF = 84 lb/MMSCF (AP 42, Table 1.4-1)
HV = 1020 Btu/CF

	Monthly		Per Second	
Building A	1.3	lb/mo	0.0002	g/sec
Building B	7.7	lb/mo	0.0013	g/sec
Building C	21.4	lb/mo	0.0037	g/sec
Building D	24.0	lb/mo	0.0041	g/sec
Building E	13.7	lb/mo	0.0024	g/sec

South Bay - Building A Parking Garage

Open Garage Emissions Calculations

Inputs	Area	Height	Volume	
Garage (ft^3)	25,875	15	388,125	
Calculated Ventilation (acfm)	38,813			based on 6 air changes/hr per MA Building Code 780 CMR 405.4
Calculated Ventilation (m3/min)	1,099			
MOVES Idling Emission Factor (g/s)	2.89E-04			
Peak Hour (morning) (vph)	397	Sat Midday		
Peak Hour (afternoon) (vph)	341			
Modeling Emission Rate (AM) (g/s)	**0.1149**	6.894567		
Modeling Emission Rate (PM) (g/s)	**0.0987**	5.922033		

AERMOD Volume Source Modeling Parameters

Building Height (m)	19.81	(average building height)
Area of Building (m)	2,405	
Sigma Y (m) (BL/2.15)	**11.4**	
Sigma Z (m) (BH/4.3)	**4.61**	
Height of Volume Source Center (m)	**9.91**	

South Bay - Building C Parking Garage

Underground Garage Emissions Calculations

Inputs	Area	Height	Volume	
Garage (ft^3)	57,016	15	855,240	
Calculated Ventilation (acfm)	85,524			based on 6 air changes/hr per MA Building Code 780 CMR 405.4
Calculated Ventilation (m3/min)	2,422			
MOVES Idling Emission Factor (g/s)	2.89E-04			
Peak Hour (morning) (vph)	56	Midday Sat.		
Peak Hour (afternoon) (vph)	64			
Modeling Emission Rate (AM) (g/s)	**0.0162**	0.972533		
Modeling Emission Rate (PM) (g/s)	**0.0185**	1.111467		
Garage CO AM Concentration (ppm)	**0.35**			
Garage CO PM Concentration (ppm)	**0.40**			

AERMOD Volume Source Modeling Parameters

Building Height (m)	19.81	(average building height)
Area of Building (m)	5,299	
Sigma Y (m) (BL/2.15)	**16.9**	
Sigma Z (m) (BH/4.3)	**4.61**	
Height of Volume Source Center (m)	**9.91**	

South Bay - Building D Parking Garage

Underground Garage Emissions Calculations

Inputs	Area	Height	Volume	
Garage (ft^3)	40,600	15	609,000	
Calculated Ventilation (acfm)	60,900			based on 6 air changes/hr per MA Building Code 780 CMR 405.4
Calculated Ventilation (m3/min)	1,725			
MOVES Idling Emission Factor (g/s)	2.89E-04			
Peak Hour (morning) (vph)	58	Midday Sat.		
Peak Hour (afternoon) (vph)	65			
Modeling Emission Rate (AM) (g/s)	**0.0168**	1.007267		
Modeling Emission Rate (PM) (g/s)	**0.0188**	1.128833		
Garage CO AM Concentration (ppm)	**0.51**			
Garage CO PM Concentration (ppm)	**0.57**			

AERMOD Volume Source Modeling Parameters

Building Height (m)	19.81	(average building height)
Area of Building (m)	3,773	
Sigma Y (m) (BL/2.15)	**14.3**	
Sigma Z (m) (BH/4.3)	**4.61**	
Height of Volume Source Center (m)	**9.91**	

CAL3QHC MODELING RESULTS

JOB: #7 - MASS AVE AND ENTERPRISE ST RUN: 2015 BASELINE 1-HR AM PEAK

DATE : 12/18/15
TIME : 12:53:33

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 108. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 0.0 PPM

LINK VARIABLES

LINK DESCRIPTION	* LINK COORDINATES (FT)				*	LENGTH	BRG	TYPE	VPH	EF	H	W	V/C	QUEUE
	* X1	Y1	X2	Y2	*	(FT)	(DEG)			(G/MI)	(FT)	(FT)		(VEH)
1. SB APPROACH	* 773775.7	********	774038.3	********	*	483.	147.	AG	445.	3.0	0.0	30.0		
2. SB DEPARTURE	* 774038.3	********	774697.0	********	*	1229.	148.	AG	424.	3.0	0.0	30.0		
3. NB APPROACH	* 774720.5	********	774059.1	********	*	1233.	328.	AG	763.	3.0	0.0	30.0		
4. NB DEPARTURE	* 774059.0	********	773799.4	********	*	481.	327.	AG	928.	3.0	0.0	30.0		
5. WB APPROACH	* 774238.3	********	774067.6	********	*	309.	214.	AG	203.	3.0	0.0	20.0		
6. EB DEPARTURE	* 774069.8	********	774244.8	********	*	317.	33.	AG	59.	3.0	0.0	20.0		
7. WB QUEUE L/R	* 774085.2	********	774126.7	********	*	75.	34.	AG	203.	7.1	0.0	20.0		

DATE : 12/18/15
TIME : 12:53:33

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. 7A	774069.2	********	5.9
2. 7B	774018.3	********	5.9
3. 7C	773970.5	********	5.9
4. 7D	773916.7	********	5.9
5. 7E	773963.8	********	5.9
6. 7F	774019.1	********	5.9
7. 7G	774094.9	********	5.9
8. 7H	774167.0	********	5.9
9. 7I	774222.9	********	5.9
10. 7J	774153.9	********	5.9
11. 7K	774095.3	********	5.9
12. 7L	774162.6	********	5.9
13. 7M	774222.6	********	5.9
14. 7N	774191.7	********	5.9
15. 7O	774132.7	********	5.9

JOB: #7 - MASS AVE AND ENTERPRISE ST RUN: 2015 BASELINE 1-HR AM PEAK

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15
0.	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10.	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20.	0.0	0.0	0.0	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30.	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40.	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
50.	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
60.	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70.	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80.	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90.	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100.	0.0	0.0	0.0	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
110.	0.0	0.0	0.0	0.2	0.2	0.1	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120.	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130.	0.0	0.0	0.0	0.2	0.1	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140.	0.0	0.0	0.0	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0
150.	0.1	0.2	0.1	0.1	0.0	0.1	0.1	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
160.	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
170.	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
180.	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
190.	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
200.	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
210.	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
220.	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
230.	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
240.	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
250.	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
260.	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0
270.	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0
280.	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
290.	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
300.	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
310.	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
320.	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
330.	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0
340.	0.0	0.0	0.0	0.2	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
350.	0.0	0.0	0.0	0.2	0.2	0.2	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
360.	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAX	0.1	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0
DEGR.	50	150	150	0	0	0	0	0	140	140	150	0	0	0	0

THE HIGHEST CONCENTRATION OF 0.20 PPM OCCURRED AT RECEPTOR REC4 .

JOB: #7 - MASS AVE AND ENTERPRISE ST RUN: 2021 NO-BUILD 1-HR AM PEAK

DATE : 12/18/15
TIME : 12:54:35

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 108. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 0.0 PPM

LINK VARIABLES

LINK DESCRIPTION	* LINK COORDINATES (FT)				*	LENGTH	BRG	TYPE	VPH	EF	H	W	V/C	QUEUE
	* X1	Y1	X2	Y2	*	(FT)	(DEG)			(G/MI)	(FT)	(FT)		(VEH)
1. SB APPROACH	* 773775.7	********	774038.3	********	*	483.	147.	AG	457.	2.1	0.0	30.0		
2. SB DEPARTURE	* 774038.3	********	774697.0	********	*	1229.	148.	AG	436.	2.1	0.0	30.0		
3. NB APPROACH	* 774720.5	********	774059.1	********	*	1233.	328.	AG	784.	2.1	0.0	30.0		
4. NB DEPARTURE	* 774059.0	********	773799.4	********	*	481.	327.	AG	949.	2.1	0.0	30.0		
5. WB APPROACH	* 774238.3	********	774067.6	********	*	309.	214.	AG	203.	2.1	0.0	20.0		
6. EB DEPARTURE	* 774069.8	********	774244.8	********	*	317.	33.	AG	59.	2.1	0.0	20.0		
7. WB QUEUE L/R	* 774085.2	********	774129.5	********	*	80.	34.	AG	203.	4.4	0.0	20.0		

DATE : 12/18/15
TIME : 12:54:35

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. 7A	774069.2	********	5.9
2. 7B	774018.3	********	5.9
3. 7C	773970.5	********	5.9
4. 7D	773916.7	********	5.9
5. 7E	773963.8	********	5.9
6. 7F	774019.1	********	5.9
7. 7G	774094.9	********	5.9
8. 7H	774167.0	********	5.9
9. 7I	774222.9	********	5.9
10. 7J	774153.9	********	5.9
11. 7K	774095.3	********	5.9
12. 7L	774162.6	********	5.9
13. 7M	774222.6	********	5.9
14. 7N	774191.7	********	5.9
15. 7O	774132.7	********	5.9

JOB: #7 - MASS AVE AND ENTERPRISE ST RUN: 2021 NO-BUILD 1-HR AM PEAK

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15
0.	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
50.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
60.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
110.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130.	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140.	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150.	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
160.	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
170.	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
180.	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
190.	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0
200.	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0
210.	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0
220.	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
230.	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
240.	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
250.	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
260.	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
270.	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0
280.	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0
290.	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0
300.	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
310.	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
320.	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
330.	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
340.	0.0	0.0	0.0	0.1	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
350.	0.0	0.0	0.0	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
360.	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAX	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
DEGR.	150	160	150	350	350	340	130	0	150	150	150	0	0	0	0

THE HIGHEST CONCENTRATION OF 0.20 PPM OCCURRED AT RECEPTOR REC6 .

JOB: #7 - MASS AVE AND ENTERPRISE ST RUN: 2021 BUILD 1-HR AM PEAK

DATE : 12/18/15
TIME : 12:54:14

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 108. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 0.0 PPM

LINK VARIABLES

LINK DESCRIPTION	* LINK COORDINATES (FT)				*	LENGTH	BRG	TYPE	VPH	EF	H	W	V/C	QUEUE
	* X1	Y1	X2	Y2	*	(FT)	(DEG)			(G/MI)	(FT)	(FT)		(VEH)
1. SB APPROACH	* 773775.7	********	774038.3	********	*	483.	147.	AG	459.	3.0	0.0	30.0		
2. SB DEPARTURE	* 774038.3	********	774697.0	********	*	1229.	148.	AG	437.	3.0	0.0	30.0		
3. NB APPROACH	* 774720.5	********	774059.1	********	*	1233.	328.	AG	791.	3.0	0.0	30.0		
4. NB DEPARTURE	* 774059.0	********	773799.4	********	*	481.	327.	AG	954.	3.0	0.0	30.0		
5. WB APPROACH	* 774238.3	********	774067.6	********	*	309.	214.	AG	209.	3.0	0.0	20.0		
6. EB DEPARTURE	* 774069.8	********	774244.8	********	*	317.	33.	AG	68.	3.0	0.0	20.0		
7. WB QUEUE L/R	* 774085.2	********	774141.9	********	*	102.	34.	AG	209.	7.1	0.0	20.0		

JOB: #7 - MASS AVE AND ENTERPRISE ST RUN: 2021 BUILD 1-HR AM PEAK

DATE : 12/18/15
TIME : 12:54:14

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. 7A	774069.2	********	5.9
2. 7B	774018.3	********	5.9
3. 7C	773970.5	********	5.9
4. 7D	773916.7	********	5.9
5. 7E	773963.8	********	5.9
6. 7F	774019.1	********	5.9
7. 7G	774094.9	********	5.9
8. 7H	774167.0	********	5.9
9. 7I	774222.9	********	5.9
10. 7J	774153.9	********	5.9
11. 7K	774095.3	********	5.9
12. 7L	774162.6	********	5.9
13. 7M	774222.6	********	5.9
14. 7N	774191.7	********	5.9
15. 7O	774132.7	********	5.9

JOB: #7 - MASS AVE AND ENTERPRISE ST RUN: 2021 BUILD 1-HR AM PEAK

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15
0.	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10.	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20.	0.0	0.0	0.0	0.2	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30.	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40.	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
50.	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
60.	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70.	0.1	0.0	0.0	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80.	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90.	0.0	0.0	0.0	0.2	0.2	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100.	0.0	0.0	0.0	0.2	0.2	0.1	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
110.	0.0	0.0	0.0	0.2	0.2	0.1	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120.	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130.	0.0	0.0	0.0	0.2	0.1	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140.	0.0	0.0	0.0	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0
150.	0.1	0.2	0.1	0.1	0.0	0.1	0.1	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
160.	0.1	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
170.	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
180.	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
190.	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.1
200.	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
210.	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
220.	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
230.	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
240.	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
250.	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
260.	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0
270.	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0
280.	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
290.	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
300.	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
310.	0.1	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
320.	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
330.	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0
340.	0.0	0.0	0.0	0.2	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
350.	0.0	0.0	0.0	0.2	0.2	0.2	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
360.	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAX	0.1	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.1
DEGR.	50	150	150	0	0	0	0	0	140	140	150	0	0	0	190

THE HIGHEST CONCENTRATION OF 0.20 PPM OCCURRED AT RECEPTOR REC4 .

JOB: #7 - MASS AVE AND ENTERPRISE ST RUN: 2015 BASELINE 1-HR PM PEAK

DATE : 12/18/15
TIME : 12:54:51

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 108. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 0.0 PPM

LINK VARIABLES

LINK DESCRIPTION	* LINK COORDINATES (FT)				*	LENGTH	BRG	TYPE	VPH	EF	H	W	V/C	QUEUE
	* X1	Y1	X2	Y2	*	(FT)	(DEG)			(G/MI)	(FT)	(FT)		(VEH)
1. SB APPROACH	* 773775.7	********	774038.3	********	*	483.	147.	AG	861.	3.0	0.0	30.0		
2. SB DEPARTURE	* 774038.3	********	774697.0	********	*	1229.	148.	AG	811.	3.0	0.0	30.0		
3. NB APPROACH	* 774720.5	********	774059.1	********	*	1233.	328.	AG	562.	3.0	0.0	30.0		
4. NB DEPARTURE	* 774059.0	********	773799.4	********	*	481.	327.	AG	670.	3.0	0.0	30.0		
5. WB APPROACH	* 774238.3	********	774067.6	********	*	309.	214.	AG	139.	3.0	0.0	20.0		
6. EB DEPARTURE	* 774069.8	********	774244.8	********	*	317.	33.	AG	81.	3.0	0.0	20.0		
7. WB QUEUE L/R	* 774085.2	********	774104.5	********	*	35.	34.	AG	139.	7.1	0.0	20.0		

DATE : 12/18/15
TIME : 12:54:51

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. 7A	774069.2	********	5.9
2. 7B	774018.3	********	5.9
3. 7C	773970.5	********	5.9
4. 7D	773916.7	********	5.9
5. 7E	773963.8	********	5.9
6. 7F	774019.1	********	5.9
7. 7G	774094.9	********	5.9
8. 7H	774167.0	********	5.9
9. 7I	774222.9	********	5.9
10. 7J	774153.9	********	5.9
11. 7K	774095.3	********	5.9
12. 7L	774162.6	********	5.9
13. 7M	774222.6	********	5.9
14. 7N	774191.7	********	5.9
15. 7O	774132.7	********	5.9

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15
0.	0.0	0.0	0.0	0.2	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10.	0.0	0.0	0.0	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20.	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30.	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40.	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
50.	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
60.	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70.	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80.	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90.	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100.	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
110.	0.0	0.0	0.0	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120.	0.0	0.0	0.0	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130.	0.0	0.0	0.0	0.2	0.1	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140.	0.0	0.0	0.0	0.1	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150.	0.2	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.2	0.2	0.1	0.0	0.0	0.0	0.0
160.	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.0	0.0	0.0	0.0
170.	0.2	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.0	0.0	0.0	0.0
180.	0.1	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.0	0.0	0.0	0.0
190.	0.0	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.0	0.0	0.0	0.0
200.	0.0	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0	0.0	0.0	0.0	0.0
210.	0.0	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0	0.0	0.0	0.0	0.0
220.	0.1	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0	0.0	0.0	0.0	0.0
230.	0.1	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0
240.	0.1	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0
250.	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.0	0.0	0.0	0.0	0.0
260.	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.0	0.0	0.0	0.0	0.0
270.	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0	0.0	0.0	0.0	0.0
280.	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0	0.0	0.0	0.0	0.0
290.	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.0	0.0	0.0	0.0
300.	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.2	0.0	0.0	0.0	0.0
310.	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.2	0.0	0.0	0.0	0.0
320.	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
330.	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
340.	0.0	0.0	0.0	0.2	0.2	0.3	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
350.	0.0	0.0	0.0	0.2	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
360.	0.0	0.0	0.0	0.2	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAX	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.1	0.2	0.2	0.2	0.0	0.0	0.0	0.0
DEGR.	150	160	170	0	0	340	130	0	150	150	160	0	0	0	0

THE HIGHEST CONCENTRATION OF 0.30 PPM OCCURRED AT RECEPTOR REC6 .

JOB: #7 - MASS AVE AND ENTERPRISE ST RUN: 2021 NO-BUILD 1-HR PM PEAK

DATE : 12/18/15
TIME : 12:55:23

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 108. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 0.0 PPM

LINK VARIABLES

LINK DESCRIPTION	* LINK COORDINATES (FT)				*	LENGTH	BRG	TYPE	VPH	EF	H	W	V/C	QUEUE
	* X1	Y1	X2	Y2	*	(FT)	(DEG)			(G/MI)	(FT)	(FT)		(VEH)
1. SB APPROACH	* 773775.7	********	774038.3	********	*	483.	147.	AG	878.	2.1	0.0	30.0		
2. SB DEPARTURE	* 774038.3	********	774697.0	********	*	1229.	148.	AG	828.	2.1	0.0	30.0		
3. NB APPROACH	* 774720.5	********	774059.1	********	*	1233.	328.	AG	575.	2.1	0.0	30.0		
4. NB DEPARTURE	* 774059.0	********	773799.4	********	*	481.	327.	AG	683.	2.1	0.0	30.0		
5. WB APPROACH	* 774238.3	********	774067.6	********	*	309.	214.	AG	139.	2.1	0.0	20.0		
6. EB DEPARTURE	* 774069.8	********	774244.8	********	*	317.	33.	AG	81.	2.1	0.0	20.0		
7. WB QUEUE L/R	* 774085.2	********	774106.0	********	*	37.	34.	AG	139.	4.4	0.0	20.0		

JOB: #7 - MASS AVE AND ENTERPRISE ST RUN: 2021 NO-BUILD 1-HR PM PEAK

DATE : 12/18/15
TIME : 12:55:23

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. 7A	774069.2	********	5.9
2. 7B	774018.3	********	5.9
3. 7C	773970.5	********	5.9
4. 7D	773916.7	********	5.9
5. 7E	773963.8	********	5.9
6. 7F	774019.1	********	5.9
7. 7G	774094.9	********	5.9
8. 7H	774167.0	********	5.9
9. 7I	774222.9	********	5.9
10. 7J	774153.9	********	5.9
11. 7K	774095.3	********	5.9
12. 7L	774162.6	********	5.9
13. 7M	774222.6	********	5.9
14. 7N	774191.7	********	5.9
15. 7O	774132.7	********	5.9

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15
0.	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10.	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20.	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30.	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40.	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
50.	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
60.	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70.	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80.	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90.	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100.	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
110.	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120.	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130.	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140.	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150.	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0
160.	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0
170.	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0
180.	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
190.	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
200.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
210.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
220.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
230.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
240.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
250.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
260.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
270.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
280.	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
290.	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
300.	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
310.	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0
320.	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
330.	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
340.	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
350.	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
360.	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAX	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0
DEGR.	160	160	160	0	0	0	0	0	150	150	310	0	0	0	0

THE HIGHEST CONCENTRATION OF 0.10 PPM OCCURRED AT RECEPTOR REC4 .

JOB: #7 - MASS AVE AND ENTERPRISE ST RUN: 2021 BUILD 1-HR PM PEAK

DATE : 12/18/15
TIME : 12:55: 9

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 108. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 0.0 PPM

LINK VARIABLES

LINK DESCRIPTION	* LINK COORDINATES (FT)				*	LENGTH	BRG	TYPE	VPH	EF	H	W	V/C	QUEUE
	* X1	Y1	X2	Y2	*	(FT)	(DEG)			(G/MI)	(FT)	(FT)		(VEH)
1. SB APPROACH	* 773775.7	********	774038.3	********	*	483.	147.	AG	879.	2.1	0.0	30.0		
2. SB DEPARTURE	* 774038.3	********	774697.0	********	*	1229.	148.	AG	845.	2.1	0.0	30.0		
3. NB APPROACH	* 774720.5	********	774059.1	********	*	1233.	328.	AG	582.	2.1	0.0	30.0		
4. NB DEPARTURE	* 774059.0	********	773799.4	********	*	481.	327.	AG	747.	2.1	0.0	30.0		
5. WB APPROACH	* 774238.3	********	774067.6	********	*	309.	214.	AG	224.	2.1	0.0	20.0		
6. EB DEPARTURE	* 774069.8	********	774244.8	********	*	317.	33.	AG	93.	2.1	0.0	20.0		
7. WB QUEUE L/R	* 774085.2	********	774144.7	********	*	107.	34.	AG	224.	4.4	0.0	20.0		

JOB: #7 - MASS AVE AND ENTERPRISE ST RUN: 2021 BUILD 1-HR PM PEAK

DATE : 12/18/15
TIME : 12:55: 9

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. 7A	774069.2	********	5.9
2. 7B	774018.3	********	5.9
3. 7C	773970.5	********	5.9
4. 7D	773916.7	********	5.9
5. 7E	773963.8	********	5.9
6. 7F	774019.1	********	5.9
7. 7G	774094.9	********	5.9
8. 7H	774167.0	********	5.9
9. 7I	774222.9	********	5.9
10. 7J	774153.9	********	5.9
11. 7K	774095.3	********	5.9
12. 7L	774162.6	********	5.9
13. 7M	774222.6	********	5.9
14. 7N	774191.7	********	5.9
15. 7O	774132.7	********	5.9

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15
0.	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10.	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20.	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30.	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40.	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
50.	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
60.	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70.	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80.	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90.	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100.	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
110.	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120.	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130.	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140.	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150.	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0
160.	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0
170.	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0
180.	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0
190.	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
200.	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
210.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
220.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
230.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
240.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
250.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
260.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
270.	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
280.	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
290.	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
300.	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
310.	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0
320.	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
330.	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
340.	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
350.	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
360.	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAX	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0
DEGR.	160	160	160	0	0	0	0	0	150	150	310	0	0	0	0

THE HIGHEST CONCENTRATION OF 0.10 PPM OCCURRED AT RECEPTOR REC4 .

JOB: #7 - MASS AVE AND ENTERPRISE ST RUN: 2015 BASELINE 1-HR SAT PEAK

DATE : 12/18/15
TIME : 12:55:38

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 108. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 0.0 PPM

LINK VARIABLES

LINK DESCRIPTION	* LINK COORDINATES (FT)				*	LENGTH	BRG	TYPE	VPH	EF	H	W	V/C	QUEUE
	* X1	Y1	X2	Y2	*	(FT)	(DEG)			(G/MI)	(FT)	(FT)		(VEH)
1. SB APPROACH	* 773775.7	********	774038.3	********	*	483.	147.	AG	658.	3.0	0.0	30.0		
2. SB DEPARTURE	* 774038.3	********	774697.0	********	*	1229.	148.	AG	616.	3.0	0.0	30.0		
3. NB APPROACH	* 774720.5	********	774059.1	********	*	1233.	328.	AG	777.	3.0	0.0	30.0		
4. NB DEPARTURE	* 774059.0	********	773799.4	********	*	481.	327.	AG	876.	3.0	0.0	30.0		
5. WB APPROACH	* 774238.3	********	774067.6	********	*	309.	214.	AG	119.	3.0	0.0	20.0		
6. EB DEPARTURE	* 774069.8	********	774244.8	********	*	317.	33.	AG	62.	3.0	0.0	20.0		
7. WB QUEUE L/R	* 774085.2	********	774097.6	********	*	22.	34.	AG	119.	7.1	0.0	20.0		

DATE : 12/18/15
TIME : 12:55:38

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. 7A	774069.2	********	5.9
2. 7B	774018.3	********	5.9
3. 7C	773970.5	********	5.9
4. 7D	773916.7	********	5.9
5. 7E	773963.8	********	5.9
6. 7F	774019.1	********	5.9
7. 7G	774094.9	********	5.9
8. 7H	774167.0	********	5.9
9. 7I	774222.9	********	5.9
10. 7J	774153.9	********	5.9
11. 7K	774095.3	********	5.9
12. 7L	774162.6	********	5.9
13. 7M	774222.6	********	5.9
14. 7N	774191.7	********	5.9
15. 7O	774132.7	********	5.9

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15
0.	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10.	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20.	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30.	0.0	0.0	0.0	0.2	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40.	0.0	0.0	0.0	0.2	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
50.	0.0	0.0	0.0	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
60.	0.0	0.0	0.0	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70.	0.0	0.0	0.0	0.2	0.2	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80.	0.0	0.0	0.0	0.2	0.2	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90.	0.0	0.0	0.0	0.2	0.2	0.0	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100.	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
110.	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120.	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130.	0.0	0.0	0.0	0.2	0.1	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140.	0.0	0.0	0.0	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0
150.	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0
160.	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.1	0.0	0.0	0.0	0.0
170.	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.1	0.0	0.0	0.0	0.0
180.	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
190.	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
200.	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
210.	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
220.	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
230.	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
240.	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
250.	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
260.	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0
270.	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0
280.	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
290.	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
300.	0.1	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
310.	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
320.	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
330.	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
340.	0.0	0.0	0.0	0.2	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
350.	0.0	0.0	0.0	0.2	0.2	0.2	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
360.	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAX	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.0	0.0	0.0	0.0
DEGR.	160	150	150	0	0	0	0	0	160	160	150	0	0	0	0

THE HIGHEST CONCENTRATION OF 0.20 PPM OCCURRED AT RECEPTOR REC4 .

JOB: #7 - MASS AVE AND ENTERPRISE ST RUN: 2021 NO-BUILD 1-HR SAT PEAK

DATE : 12/18/15
TIME : 12:56:22

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 108. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 0.0 PPM

LINK VARIABLES

LINK DESCRIPTION	* LINK COORDINATES (FT)				*	LENGTH	BRG	TYPE	VPH	EF	H	W	V/C	QUEUE
	* X1	Y1	X2	Y2	*	(FT)	(DEG)			(G/MI)	(FT)	(FT)		(VEH)
1. SB APPROACH	* 773775.7	********	774038.3	********	*	483.	147.	AG	669.	2.1	0.0	30.0		
2. SB DEPARTURE	* 774038.3	********	774697.0	********	*	1229.	148.	AG	627.	2.1	0.0	30.0		
3. NB APPROACH	* 774720.5	********	774059.1	********	*	1233.	328.	AG	791.	2.1	0.0	30.0		
4. NB DEPARTURE	* 774059.0	********	773799.4	********	*	481.	327.	AG	890.	2.1	0.0	30.0		
5. WB APPROACH	* 774238.3	********	774067.6	********	*	309.	214.	AG	119.	2.1	0.0	20.0		
6. EB DEPARTURE	* 774069.8	********	774244.8	********	*	317.	33.	AG	62.	2.1	0.0	20.0		
7. WB QUEUE L/R	* 774085.2	********	774097.6	********	*	22.	34.	AG	119.	4.4	0.0	20.0		

JOB: #7 - MASS AVE AND ENTERPRISE ST RUN: 2021 NO-BUILD 1-HR SAT PEAK

DATE : 12/18/15
TIME : 12:56:22

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. 7A	774069.2	********	5.9
2. 7B	774018.3	********	5.9
3. 7C	773970.5	********	5.9
4. 7D	773916.7	********	5.9
5. 7E	773963.8	********	5.9
6. 7F	774019.1	********	5.9
7. 7G	774094.9	********	5.9
8. 7H	774167.0	********	5.9
9. 7I	774222.9	********	5.9
10. 7J	774153.9	********	5.9
11. 7K	774095.3	********	5.9
12. 7L	774162.6	********	5.9
13. 7M	774222.6	********	5.9
14. 7N	774191.7	********	5.9
15. 7O	774132.7	********	5.9

JOB: #7 - MASS AVE AND ENTERPRISE ST RUN: 2021 NO-BUILD 1-HR SAT PEAK

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15
0.	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10.	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20.	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
50.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
60.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90.	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100.	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
110.	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120.	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130.	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140.	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150.	0.1	0.0	0.1	0.1	0.0	0.1	0.1	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
160.	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
170.	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
180.	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
190.	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0
200.	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0
210.	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0
220.	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
230.	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
240.	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0
250.	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
260.	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
270.	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0
280.	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0
290.	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0
300.	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
310.	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
320.	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
330.	0.0	0.1	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
340.	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
350.	0.0	0.0	0.0	0.1	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
360.	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAX	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0
DEGR.	150	160	150	0	350	350	0	0	150	150	150	0	0	0	0

THE HIGHEST CONCENTRATION OF 0.20 PPM OCCURRED AT RECEPTOR REC5 .

JOB: #7 - MASS AVE AND ENTERPRISE ST RUN: 2021 BUILD 1-HR SAT PEAK

DATE : 12/18/15
TIME : 12:55:54

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 108. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 0.0 PPM

LINK VARIABLES

LINK DESCRIPTION	* LINK COORDINATES (FT)				*	LENGTH	BRG	TYPE	VPH	EF	H	W	V/C	QUEUE
	* X1	Y1	X2	Y2	*	(FT)	(DEG)			(G/MI)	(FT)	(FT)		(VEH)
1. SB APPROACH	* 773775.7	********	774038.3	********	*	483.	147.	AG	673.	2.1	0.0	30.0		
2. SB DEPARTURE	* 774038.3	********	774697.0	********	*	1229.	148.	AG	644.	2.1	0.0	30.0		
3. NB APPROACH	* 774720.5	********	774059.1	********	*	1233.	328.	AG	799.	2.1	0.0	30.0		
4. NB DEPARTURE	* 774059.0	********	773799.4	********	*	481.	327.	AG	955.	2.1	0.0	30.0		
5. WB APPROACH	* 774238.3	********	774067.6	********	*	309.	214.	AG	205.	2.1	0.0	20.0		
6. EB DEPARTURE	* 774069.8	********	774244.8	********	*	317.	33.	AG	78.	2.1	0.0	20.0		
7. WB QUEUE L/R	* 774085.2	********	774128.1	********	*	78.	34.	AG	205.	4.4	0.0	20.0		

DATE : 12/18/15
TIME : 12:55:54

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. 7A	774069.2	********	5.9
2. 7B	774018.3	********	5.9
3. 7C	773970.5	********	5.9
4. 7D	773916.7	********	5.9
5. 7E	773963.8	********	5.9
6. 7F	774019.1	********	5.9
7. 7G	774094.9	********	5.9
8. 7H	774167.0	********	5.9
9. 7I	774222.9	********	5.9
10. 7J	774153.9	********	5.9
11. 7K	774095.3	********	5.9
12. 7L	774162.6	********	5.9
13. 7M	774222.6	********	5.9
14. 7N	774191.7	********	5.9
15. 7O	774132.7	********	5.9

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15
0.	0.0	0.0	0.0	0.2	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10.	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20.	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
50.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
60.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90.	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100.	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
110.	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120.	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130.	0.0	0.0	0.0	0.1	0.1	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140.	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150.	0.1	0.0	0.1	0.1	0.0	0.1	0.1	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
160.	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
170.	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
180.	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
190.	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
200.	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0
210.	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0
220.	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
230.	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
240.	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0
250.	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
260.	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
270.	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0
280.	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0
290.	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
300.	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
310.	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
320.	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
330.	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
340.	0.0	0.0	0.0	0.1	0.1	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
350.	0.0	0.0	0.0	0.2	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
360.	0.0	0.0	0.0	0.2	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAX	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0
DEGR.	150	160	150	0	0	0	0	0	150	150	150	0	0	0	0

THE HIGHEST CONCENTRATION OF 0.20 PPM OCCURRED AT RECEPTOR REC4 .

JOB: #11 - BOSTON ST AND HOWELL ST RUN: 2015 BASELINE 1-HR AM PEAK

DATE : 12/18/15
TIME : 13:53:14

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 108. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 0.0 PPM

LINK VARIABLES

LINK DESCRIPTION	* LINK COORDINATES (FT)				*	LENGTH	BRG	TYPE	VPH	EF	H	W	V/C	QUEUE
	* X1	Y1	X2	Y2	*	(FT)	(DEG)			(G/MI)	(FT)	(FT)		(VEH)
1. NB APPROACH	* 775296.2	********	775396.3	********	*	289.	20.	AG	459.	3.0	0.0	20.0		
2. NB DEPARTURE	* 775396.1	********	775599.2	********	*	647.	18.	AG	405.	3.0	0.0	20.0		
3. SB APPROACH	* 775579.6	********	775376.6	********	*	663.	198.	AG	418.	3.0	0.0	20.0		
4. SB DEPARTURE	* 775375.0	********	775274.4	********	*	302.	199.	AG	378.	3.0	0.0	20.0		
5. EB DEPARTURE	* 775414.2	********	775960.0	********	*	582.	110.	AG	82.	3.0	0.0	20.0		
6. WB DEPARTURE	* 775377.5	********	775008.3	********	*	421.	299.	AG	37.	3.0	0.0	20.0		
7. EB APPROACH	* 774998.8	********	775369.6	********	*	425.	119.	AG	25.	3.0	0.0	20.0		

JOB: #11 - BOSTON ST AND HOWELL ST RUN: 2015 BASELINE 1-HR AM PEAK

DATE : 12/18/15
TIME : 13:53:14

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. 11A	775347.3	********	5.9
2. 11B	775321.7	********	5.9
3. 11C	775288.4	********	5.9
4. 11D	775339.8	********	5.9
5. 11E	775375.3	********	5.9
6. 11D	775400.0	********	5.9
7. 11F	775419.8	********	5.9
8. 11G	775599.8	********	5.9
9. 11H	775738.3	********	5.9
10. 11I	775747.5	********	5.9
11. 11J	775615.1	********	5.9
12. 11K	775429.1	********	5.9
13. 11L	775472.9	********	5.9
14. 11M	775522.4	********	5.9
15. 11N	775475.0	********	5.9
16. 11O	775429.4	********	5.9
17. 11P	775367.6	********	5.9
18. 11Q	775282.3	********	5.9
19. 11R	775189.2	********	5.9
20. 11S	775152.7	********	5.9
21. 11U	775254.6	********	5.9

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	* 0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
10.	* 0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
20.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0
30.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0
40.	* 0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
50.	* 0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
60.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
70.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
110.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
170.	* 0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
180.	* 0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
190.	* 0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
200.	* 0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
210.	* 0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
220.	* 0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
230.	* 0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
240.	* 0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
250.	* 0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
260.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
270.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
280.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
290.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

300.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
310.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
320.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
330.	*	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
340.	*	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
350.	*	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
360.	*	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
MAX	*	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0
DEGR.	*	0	40	0	0	0	10	0	0	0	0	0	0	0	0	30	20	30	0	0	0

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC21
0.	0.0
10.	0.0
20.	0.0
30.	0.0
40.	0.0
50.	0.0
60.	0.0
70.	0.0
80.	0.0
90.	0.0
100.	0.0
110.	0.0
120.	0.0
130.	0.0
140.	0.0
150.	0.0
160.	0.0
170.	0.0
180.	0.0
190.	0.0
200.	0.0
210.	0.0
220.	0.0
230.	0.0
240.	0.0
250.	0.0
260.	0.0
270.	0.0
280.	0.0
290.	0.0
300.	0.0
310.	0.0
320.	0.0
330.	0.0
340.	0.0
350.	0.0
360.	0.0
MAX DEGR.	0.0 0

THE HIGHEST CONCENTRATION OF 0.10 PPM OCCURRED AT RECEPTOR REC4 .

JOB: #11 - BOSTON ST AND HOWELL ST RUN: 2015 BASELINE 1-HR AM PEAK

DATE : 12/18/15
TIME : 13:53:14

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 108. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 0.0 PPM

LINK VARIABLES

LINK DESCRIPTION	* LINK COORDINATES (FT)				*	LENGTH	BRG	TYPE	VPH	EF	H	W	V/C	QUEUE
	* X1	Y1	X2	Y2	*	(FT)	(DEG)			(G/MI)	(FT)	(FT)		(VEH)
1. NB APPROACH	* 775296.2	********	775396.3	********	*	289.	20.	AG	459.	3.0	0.0	20.0		
2. NB DEPARTURE	* 775396.1	********	775599.2	********	*	647.	18.	AG	405.	3.0	0.0	20.0		
3. SB APPROACH	* 775579.6	********	775376.6	********	*	663.	198.	AG	418.	3.0	0.0	20.0		
4. SB DEPARTURE	* 775375.0	********	775274.4	********	*	302.	199.	AG	378.	3.0	0.0	20.0		
5. EB DEPARTURE	* 775414.2	********	775960.0	********	*	582.	110.	AG	82.	3.0	0.0	20.0		
6. WB DEPARTURE	* 775377.5	********	775008.3	********	*	421.	299.	AG	37.	3.0	0.0	20.0		
7. EB APPROACH	* 774998.8	********	775369.6	********	*	425.	119.	AG	25.	3.0	0.0	20.0		

JOB: #11 - BOSTON ST AND HOWELL ST RUN: 2015 BASELINE 1-HR AM PEAK

DATE : 12/18/15
TIME : 13:53:14

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. 11A	775347.3	********	5.9
2. 11B	775321.7	********	5.9
3. 11C	775288.4	********	5.9
4. 11D	775339.8	********	5.9
5. 11E	775375.3	********	5.9
6. 11D	775400.0	********	5.9
7. 11F	775419.8	********	5.9
8. 11G	775599.8	********	5.9
9. 11H	775738.3	********	5.9
10. 11I	775747.5	********	5.9
11. 11J	775615.1	********	5.9
12. 11K	775429.1	********	5.9
13. 11L	775472.9	********	5.9
14. 11M	775522.4	********	5.9
15. 11N	775475.0	********	5.9
16. 11O	775429.4	********	5.9
17. 11P	775367.6	********	5.9
18. 11Q	775282.3	********	5.9
19. 11R	775189.2	********	5.9
20. 11S	775152.7	********	5.9
21. 11U	775254.6	********	5.9

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	* 0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
10.	* 0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
20.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0
30.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0
40.	* 0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
50.	* 0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
60.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
70.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
110.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
170.	* 0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
180.	* 0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
190.	* 0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
200.	* 0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
210.	* 0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
220.	* 0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
230.	* 0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
240.	* 0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
250.	* 0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
260.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
270.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
280.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
290.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

300.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
310.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
320.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
330.	*	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
340.	*	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
350.	*	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
360.	*	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
MAX	*	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0
DEGR.	*	0	40	0	0	0	10	0	0	0	0	0	0	0	0	30	20	30	0	0	0

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC21
0.	0.0
10.	0.0
20.	0.0
30.	0.0
40.	0.0
50.	0.0
60.	0.0
70.	0.0
80.	0.0
90.	0.0
100.	0.0
110.	0.0
120.	0.0
130.	0.0
140.	0.0
150.	0.0
160.	0.0
170.	0.0
180.	0.0
190.	0.0
200.	0.0
210.	0.0
220.	0.0
230.	0.0
240.	0.0
250.	0.0
260.	0.0
270.	0.0
280.	0.0
290.	0.0
300.	0.0
310.	0.0
320.	0.0
330.	0.0
340.	0.0
350.	0.0
360.	0.0
MAX DEGR.	0.0 0

THE HIGHEST CONCENTRATION OF 0.10 PPM OCCURRED AT RECEPTOR REC4 .

JOB: #11 - BOSTON ST AND HOWELL ST RUN: 2021 BUILD 1-HR AM PEAK

DATE : 12/18/15
TIME : 13:46:41

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 108. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 0.0 PPM

LINK VARIABLES

LINK DESCRIPTION	* LINK COORDINATES (FT)				*	LENGTH	BRG	TYPE	VPH	EF	H	W	V/C	QUEUE
	* X1	Y1	X2	Y2	*	(FT)	(DEG)			(G/MI)	(FT)	(FT)		(VEH)
1. NB APPROACH	* 775296.2	********	775396.3	********	*	289.	20.	AG	476.	2.1	0.0	20.0		
2. NB DEPARTURE	* 775396.1	********	775599.2	********	*	647.	18.	AG	474.	2.1	0.0	20.0		
3. SB APPROACH	* 775579.6	********	775376.6	********	*	663.	198.	AG	449.	2.1	0.0	20.0		
4. SB DEPARTURE	* 775375.0	********	775274.4	********	*	302.	199.	AG	420.	2.1	0.0	20.0		
5. EB DEPARTURE	* 775414.2	********	775960.0	********	*	582.	110.	AG	84.	2.1	0.0	20.0		
6. WB DEPARTURE	* 775377.5	********	775008.3	********	*	421.	299.	AG	50.	2.1	0.0	20.0		
7. EB APPROACH	* 774998.8	********	775369.6	********	*	425.	119.	AG	103.	2.1	0.0	20.0		
8. EB QUEUE L/R	* 775361.5	********	775333.2	********	*	33.	299.	AG	103.	4.4	0.0	20.0		

JOB: #11 - BOSTON ST AND HOWELL ST RUN: 2021 BUILD 1-HR AM PEAK

DATE : 12/18/15
TIME : 13:46:41

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. 11A	775347.3	********	5.9
2. 11B	775321.7	********	5.9
3. 11C	775288.4	********	5.9
4. 11D	775339.8	********	5.9
5. 11E	775375.3	********	5.9
6. 11D	775400.0	********	5.9
7. 11F	775419.8	********	5.9
8. 11G	775599.8	********	5.9
9. 11H	775738.3	********	5.9
10. 11I	775747.5	********	5.9
11. 11J	775615.1	********	5.9
12. 11K	775429.1	********	5.9
13. 11L	775472.9	********	5.9
14. 11M	775522.4	********	5.9
15. 11N	775475.0	********	5.9
16. 11O	775429.4	********	5.9
17. 11P	775367.6	********	5.9
18. 11Q	775282.3	********	5.9
19. 11R	775189.2	********	5.9
20. 11S	775152.7	********	5.9
21. 11U	775254.6	********	5.9

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) *	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	*	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10.	*	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
40.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
50.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
60.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
110.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
190.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
200.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
210.	*	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
220.	*	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
230.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
240.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
250.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
260.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
270.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
280.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
290.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

300.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
310.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
320.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
330.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
340.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
350.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
360.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
MAX	*	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0
DEGR.	*	0	0	0	0	0	210	0	0	0	0	0	0	0	0	0	30	0	0	0	0

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC21
0.	0.0
10.	0.0
20.	0.0
30.	0.0
40.	0.0
50.	0.0
60.	0.0
70.	0.0
80.	0.0
90.	0.0
100.	0.0
110.	0.0
120.	0.0
130.	0.0
140.	0.0
150.	0.0
160.	0.0
170.	0.0
180.	0.0
190.	0.0
200.	0.0
210.	0.0
220.	0.0
230.	0.0
240.	0.0
250.	0.0
260.	0.0
270.	0.0
280.	0.0
290.	0.0
300.	0.0
310.	0.0
320.	0.0
330.	0.0
340.	0.0
350.	0.0
360.	0.0
MAX DEGR.	0.0 0

THE HIGHEST CONCENTRATION OF 0.10 PPM OCCURRED AT RECEPTOR REC7 .

JOB: #11 - BOSTON ST AND HOWELL ST RUN: 2015 BASELINE 1-HR PM PEAK

DATE : 12/18/15
TIME : 13:53:37

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 108. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 0.0 PPM

LINK VARIABLES

LINK DESCRIPTION	* LINK COORDINATES (FT)				*	LENGTH	BRG	TYPE	VPH	EF	H	W	V/C	QUEUE
	* X1	Y1	X2	Y2	*	(FT)	(DEG)			(G/MI)	(FT)	(FT)		(VEH)
1. NB APPROACH	* 775296.2	********	775396.3	********	*	289.	20.	AG	397.	3.0	0.0	20.0		
2. NB DEPARTURE	* 775396.1	********	775599.2	********	*	647.	18.	AG	380.	3.0	0.0	20.0		
3. SB APPROACH	* 775579.6	********	775376.6	********	*	663.	198.	AG	539.	3.0	0.0	20.0		
4. SB DEPARTURE	* 775375.0	********	775274.4	********	*	302.	199.	AG	494.	3.0	0.0	20.0		
5. EB DEPARTURE	* 775414.2	********	775960.0	********	*	582.	110.	AG	69.	3.0	0.0	20.0		
6. WB DEPARTURE	* 775377.5	********	775008.3	********	*	421.	299.	AG	21.	3.0	0.0	20.0		
7. EB APPROACH	* 774998.8	********	775369.6	********	*	425.	119.	AG	28.	3.0	0.0	20.0		

JOB: #11 - BOSTON ST AND HOWELL ST RUN: 2015 BASELINE 1-HR PM PEAK

DATE : 12/18/15
TIME : 13:53:37

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. 11A	775347.3	********	5.9
2. 11B	775321.7	********	5.9
3. 11C	775288.4	********	5.9
4. 11D	775339.8	********	5.9
5. 11E	775375.3	********	5.9
6. 11D	775400.0	********	5.9
7. 11F	775419.8	********	5.9
8. 11G	775599.8	********	5.9
9. 11H	775738.3	********	5.9
10. 11I	775747.5	********	5.9
11. 11J	775615.1	********	5.9
12. 11K	775429.1	********	5.9
13. 11L	775472.9	********	5.9
14. 11M	775522.4	********	5.9
15. 11N	775475.0	********	5.9
16. 11O	775429.4	********	5.9
17. 11P	775367.6	********	5.9
18. 11Q	775282.3	********	5.9
19. 11R	775189.2	********	5.9
20. 11S	775152.7	********	5.9
21. 11U	775254.6	********	5.9

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	*	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	*	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0
10.	*	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
20.	*	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0
30.	*	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0
40.	*	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0
50.	*	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0
60.	*	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0
70.	*	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
80.	*	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
90.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
100.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
110.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
120.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
130.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
140.	*	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
150.	*	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
160.	*	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
170.	*	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
180.	*	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
190.	*	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
200.	*	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
210.	*	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
220.	*	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
230.	*	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
240.	*	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
250.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
260.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
270.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
280.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
290.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

```
 300.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.0   0.0   0.0
 310.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.0   0.0   0.0
 320.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.0   0.0   0.0
 330.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.0   0.0   0.0
 340.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.1   0.1   0.0   0.0   0.0
0.0   0.0   0.0
 350.  *   0.0   0.0   0.0   0.1   0.1   0.0   0.1   0.0   0.0   0.0   0.0   0.1   0.1   0.1   0.0   0.0   0.0
0.0   0.0   0.0
 360.  *   0.0   0.0   0.0   0.1   0.1   0.1   0.1   0.0   0.0   0.0   0.0   0.2   0.2   0.1   0.0   0.0   0.0
0.0   0.0   0.0
 ------*----------------------------------------------------------------------------------------------------
--------------
 MAX   *   0.1   0.1   0.1   0.1   0.1   0.1   0.1   0.0   0.0   0.0   0.0   0.2   0.2   0.1   0.1   0.1   0.1
0.0   0.0   0.0
 DEGR. *   20    30    40     0     0     0     0     0     0     0     0     0     0     0    20    20    20
0     0     0
```

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC21
0.	0.0
10.	0.0
20.	0.0
30.	0.0
40.	0.0
50.	0.0
60.	0.0
70.	0.0
80.	0.0
90.	0.0
100.	0.0
110.	0.0
120.	0.0
130.	0.0
140.	0.0
150.	0.0
160.	0.0
170.	0.0
180.	0.0
190.	0.0
200.	0.0
210.	0.0
220.	0.0
230.	0.0
240.	0.0
250.	0.0
260.	0.0
270.	0.0
280.	0.0
290.	0.0
300.	0.0
310.	0.0
320.	0.0
330.	0.0
340.	0.0
350.	0.0
360.	0.0
MAX DEGR.	0.0 0

THE HIGHEST CONCENTRATION OF 0.20 PPM OCCURRED AT RECEPTOR REC12.

JOB: #11 - BOSTON ST AND HOWELL ST RUN: 2021 NO-BUILD 1-HR PM PEAK

DATE : 12/18/15
TIME : 13:53:50

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 108. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 0.0 PPM

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT)				*	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
	*	X1	Y1	X2	Y2	*									
1. NB APPROACH	*	775296.2	********	775396.3	********	*	289.	20.	AG	409.	2.1	0.0	20.0		
2. NB DEPARTURE	*	775396.1	********	775599.2	********	*	647.	18.	AG	391.	2.1	0.0	20.0		
3. SB APPROACH	*	775579.6	********	775376.6	********	*	663.	198.	AG	554.	2.1	0.0	20.0		
4. SB DEPARTURE	*	775375.0	********	775274.4	********	*	302.	199.	AG	508.	2.1	0.0	20.0		
5. EB DEPARTURE	*	775414.2	********	775960.0	********	*	582.	110.	AG	71.	2.1	0.0	20.0		
6. WB DEPARTURE	*	775377.5	********	775008.3	********	*	421.	299.	AG	21.	2.1	0.0	20.0		
7. EB APPROACH	*	774998.8	********	775369.6	********	*	425.	119.	AG	28.	2.1	0.0	20.0		

JOB: #11 - BOSTON ST AND HOWELL ST RUN: 2021 NO-BUILD 1-HR PM PEAK

DATE : 12/18/15
TIME : 13:53:50

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. 11A	775347.3	********	5.9
2. 11B	775321.7	********	5.9
3. 11C	775288.4	********	5.9
4. 11D	775339.8	********	5.9
5. 11E	775375.3	********	5.9
6. 11D	775400.0	********	5.9
7. 11F	775419.8	********	5.9
8. 11G	775599.8	********	5.9
9. 11H	775738.3	********	5.9
10. 11I	775747.5	********	5.9
11. 11J	775615.1	********	5.9
12. 11K	775429.1	********	5.9
13. 11L	775472.9	********	5.9
14. 11M	775522.4	********	5.9
15. 11N	775475.0	********	5.9
16. 11O	775429.4	********	5.9
17. 11P	775367.6	********	5.9
18. 11Q	775282.3	********	5.9
19. 11R	775189.2	********	5.9
20. 11S	775152.7	********	5.9
21. 11U	775254.6	********	5.9

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
10.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
20.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
40.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
50.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
60.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
110.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
180.	* 0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
190.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
200.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
210.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
220.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
230.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
240.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
250.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
260.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
270.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
280.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
290.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

300.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
310.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
320.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
330.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
340.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
350.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
360.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
MAX	*	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0
DEGR.	*	0	180	0	0	0	0	0	0	0	0	0	10	0	0	30	30	0	0	0	0

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC21
0.	0.0
10.	0.0
20.	0.0
30.	0.0
40.	0.0
50.	0.0
60.	0.0
70.	0.0
80.	0.0
90.	0.0
100.	0.0
110.	0.0
120.	0.0
130.	0.0
140.	0.0
150.	0.0
160.	0.0
170.	0.0
180.	0.0
190.	0.0
200.	0.0
210.	0.0
220.	0.0
230.	0.0
240.	0.0
250.	0.0
260.	0.0
270.	0.0
280.	0.0
290.	0.0
300.	0.0
310.	0.0
320.	0.0
330.	0.0
340.	0.0
350.	0.0
360.	0.0
MAX DEGR.	0.0 0

THE HIGHEST CONCENTRATION OF 0.10 PPM OCCURRED AT RECEPTOR REC13.

JOB: #11 - BOSTON ST AND HOWELL ST RUN: 2021 BUILD 1-HR PM PEAK

DATE : 12/18/15
TIME : 13:46:59

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 108. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 0.0 PPM

LINK VARIABLES

LINK DESCRIPTION	* LINK COORDINATES (FT)				*	LENGTH	BRG	TYPE	VPH	EF	H	W	V/C	QUEUE
	* X1	Y1	X2	Y2	*	(FT)	(DEG)			(G/MI)	(FT)	(FT)		(VEH)
1. NB APPROACH	* 775296.2	********	775396.3	********	*	289.	20.	AG	439.	2.1	0.0	20.0		
2. NB DEPARTURE	* 775396.1	********	775599.2	********	*	647.	18.	AG	457.	2.1	0.0	20.0		
3. SB APPROACH	* 775579.6	********	775376.6	********	*	663.	198.	AG	615.	2.1	0.0	20.0		
4. SB DEPARTURE	* 775375.0	********	775274.4	********	*	302.	199.	AG	565.	2.1	0.0	20.0		
5. EB DEPARTURE	* 775414.2	********	775960.0	********	*	582.	110.	AG	80.	2.1	0.0	20.0		
6. WB DEPARTURE	* 775377.5	********	775008.3	********	*	421.	299.	AG	55.	2.1	0.0	20.0		
7. EB APPROACH	* 774998.8	********	775369.6	********	*	425.	119.	AG	103.	2.1	0.0	20.0		
8. EB QUEUE L/R	* 775361.5	********	775314.7	********	*	54.	299.	AG	103.	4.4	0.0	20.0		

JOB: #11 - BOSTON ST AND HOWELL ST RUN: 2021 BUILD 1-HR PM PEAK

DATE : 12/18/15
TIME : 13:46:59

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. 11A	775347.3	********	5.9
2. 11B	775321.7	********	5.9
3. 11C	775288.4	********	5.9
4. 11D	775339.8	********	5.9
5. 11E	775375.3	********	5.9
6. 11D	775400.0	********	5.9
7. 11F	775419.8	********	5.9
8. 11G	775599.8	********	5.9
9. 11H	775738.3	********	5.9
10. 11I	775747.5	********	5.9
11. 11J	775615.1	********	5.9
12. 11K	775429.1	********	5.9
13. 11L	775472.9	********	5.9
14. 11M	775522.4	********	5.9
15. 11N	775475.0	********	5.9
16. 11O	775429.4	********	5.9
17. 11P	775367.6	********	5.9
18. 11Q	775282.3	********	5.9
19. 11R	775189.2	********	5.9
20. 11S	775152.7	********	5.9
21. 11U	775254.6	********	5.9

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
10.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
20.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0
30.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0
40.	* 0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
50.	* 0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
60.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
70.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
110.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
170.	* 0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
180.	* 0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
190.	* 0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
200.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
210.	* 0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
220.	* 0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
230.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
240.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
250.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
260.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
270.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
280.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
290.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

300.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
310.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
320.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
330.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
340.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
350.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
360.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
MAX	*	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0
DEGR.	*	180	40	0	0	0	210	0	0	0	0	0	0	0	0	30	20	30	0	0	0

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC21
0.	0.0
10.	0.0
20.	0.0
30.	0.0
40.	0.0
50.	0.0
60.	0.0
70.	0.0
80.	0.0
90.	0.0
100.	0.0
110.	0.0
120.	0.0
130.	0.0
140.	0.0
150.	0.0
160.	0.0
170.	0.0
180.	0.0
190.	0.0
200.	0.0
210.	0.0
220.	0.0
230.	0.0
240.	0.0
250.	0.0
260.	0.0
270.	0.0
280.	0.0
290.	0.0
300.	0.0
310.	0.0
320.	0.0
330.	0.0
340.	0.0
350.	0.0
360.	0.0
MAX DEGR.	0.0 0

THE HIGHEST CONCENTRATION OF 0.10 PPM OCCURRED AT RECEPTOR REC7 .

JOB: #11 - BOSTON ST AND HOWELL ST RUN: 2015 BASELINE 1-HR SAT PEAK

DATE : 12/18/15
TIME : 13:54: 9

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 108. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 0.0 PPM

LINK VARIABLES

LINK DESCRIPTION	* LINK COORDINATES (FT)				*	LENGTH	BRG	TYPE	VPH	EF	H	W	V/C	QUEUE
	* X1	Y1	X2	Y2	*	(FT)	(DEG)			(G/MI)	(FT)	(FT)		(VEH)
1. NB APPROACH	* 775296.2	********	775396.3	********	*	289.	20.	AG	372.	3.0	0.0	20.0		
2. NB DEPARTURE	* 775396.1	********	775599.2	********	*	647.	18.	AG	315.	3.0	0.0	20.0		
3. SB APPROACH	* 775579.6	********	775376.6	********	*	663.	198.	AG	489.	3.0	0.0	20.0		
4. SB DEPARTURE	* 775375.0	********	775274.4	********	*	302.	199.	AG	429.	3.0	0.0	20.0		
5. EB DEPARTURE	* 775414.2	********	775960.0	********	*	582.	110.	AG	65.	3.0	0.0	20.0		
6. WB DEPARTURE	* 775377.5	********	775008.3	********	*	421.	299.	AG	75.	3.0	0.0	20.0		
7. EB APPROACH	* 774998.8	********	775369.6	********	*	425.	119.	AG	23.	3.0	0.0	20.0		

JOB: #11 - BOSTON ST AND HOWELL ST RUN: 2015 BASELINE 1-HR SAT PEAK

DATE : 12/18/15
TIME : 13:54: 9

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. 11A	775347.3	********	5.9
2. 11B	775321.7	********	5.9
3. 11C	775288.4	********	5.9
4. 11D	775339.8	********	5.9
5. 11E	775375.3	********	5.9
6. 11D	775400.0	********	5.9
7. 11F	775419.8	********	5.9
8. 11G	775599.8	********	5.9
9. 11H	775738.3	********	5.9
10. 11I	775747.5	********	5.9
11. 11J	775615.1	********	5.9
12. 11K	775429.1	********	5.9
13. 11L	775472.9	********	5.9
14. 11M	775522.4	********	5.9
15. 11N	775475.0	********	5.9
16. 11O	775429.4	********	5.9
17. 11P	775367.6	********	5.9
18. 11Q	775282.3	********	5.9
19. 11R	775189.2	********	5.9
20. 11S	775152.7	********	5.9
21. 11U	775254.6	********	5.9

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	*	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	*	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
10.	*	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
20.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0
30.	*	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0
40.	*	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0
50.	*	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0
60.	*	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
70.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
80.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
110.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
150.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
160.	*	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
170.	*	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
180.	*	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
190.	*	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
200.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
210.	*	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
220.	*	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
230.	*	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
240.	*	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
250.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
260.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
270.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
280.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
290.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

300.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
310.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
320.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
330.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
340.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
350.	*	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
360.	*	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
MAX	*	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0
DEGR.	*	30	30	0	0	210	210	0	0	0	0	0	0	0	0	30	20	30	0	0	0

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC21
0.	0.0
10.	0.0
20.	0.0
30.	0.0
40.	0.0
50.	0.0
60.	0.0
70.	0.0
80.	0.0
90.	0.0
100.	0.0
110.	0.0
120.	0.0
130.	0.0
140.	0.0
150.	0.0
160.	0.0
170.	0.0
180.	0.0
190.	0.0
200.	0.0
210.	0.0
220.	0.0
230.	0.0
240.	0.0
250.	0.0
260.	0.0
270.	0.0
280.	0.0
290.	0.0
300.	0.0
310.	0.0
320.	0.0
330.	0.0
340.	0.0
350.	0.0
360.	0.0
MAX DEGR.	0.0 0

THE HIGHEST CONCENTRATION OF 0.10 PPM OCCURRED AT RECEPTOR REC4 .

JOB: #11 - BOSTON ST AND HOWELL ST RUN: 2021 NO-BUILD 1-HR SAT PEAK

DATE : 12/18/15
TIME : 13:54:18

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 108. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 0.0 PPM

LINK VARIABLES

LINK DESCRIPTION	* LINK COORDINATES (FT)				*	LENGTH	BRG	TYPE	VPH	EF	H	W	V/C	QUEUE
	* X1	Y1	X2	Y2	*	(FT)	(DEG)			(G/MI)	(FT)	(FT)		(VEH)
1. NB APPROACH	* 775296.2	********	775396.3	********	*	289.	20.	AG	383.	2.1	0.0	20.0		
2. NB DEPARTURE	* 775396.1	********	775599.2	********	*	647.	18.	AG	325.	2.1	0.0	20.0		
3. SB APPROACH	* 775579.6	********	775376.6	********	*	663.	198.	AG	502.	2.1	0.0	20.0		
4. SB DEPARTURE	* 775375.0	********	775274.4	********	*	302.	199.	AG	441.	2.1	0.0	20.0		
5. EB DEPARTURE	* 775414.2	********	775960.0	********	*	582.	110.	AG	67.	2.1	0.0	20.0		
6. WB DEPARTURE	* 775377.5	********	775008.3	********	*	421.	299.	AG	75.	2.1	0.0	20.0		
7. EB APPROACH	* 774998.8	********	775369.6	********	*	425.	119.	AG	23.	2.1	0.0	20.0		

JOB: #11 - BOSTON ST AND HOWELL ST RUN: 2021 NO-BUILD 1-HR SAT PEAK

DATE : 12/18/15
TIME : 13:54:18

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. 11A	775347.3	********	5.9
2. 11B	775321.7	********	5.9
3. 11C	775288.4	********	5.9
4. 11D	775339.8	********	5.9
5. 11E	775375.3	********	5.9
6. 11D	775400.0	********	5.9
7. 11F	775419.8	********	5.9
8. 11G	775599.8	********	5.9
9. 11H	775738.3	********	5.9
10. 11I	775747.5	********	5.9
11. 11J	775615.1	********	5.9
12. 11K	775429.1	********	5.9
13. 11L	775472.9	********	5.9
14. 11M	775522.4	********	5.9
15. 11N	775475.0	********	5.9
16. 11O	775429.4	********	5.9
17. 11P	775367.6	********	5.9
18. 11Q	775282.3	********	5.9
19. 11R	775189.2	********	5.9
20. 11S	775152.7	********	5.9
21. 11U	775254.6	********	5.9

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
40.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
50.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
60.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
110.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
190.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
200.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
210.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
220.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
230.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
240.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
250.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
260.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
270.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
280.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
290.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

300.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
310.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
320.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
330.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
340.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
350.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
360.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAX	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
DEGR.	*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	30	0	0	0	0

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC21
0.	0.0
10.	0.0
20.	0.0
30.	0.0
40.	0.0
50.	0.0
60.	0.0
70.	0.0
80.	0.0
90.	0.0
100.	0.0
110.	0.0
120.	0.0
130.	0.0
140.	0.0
150.	0.0
160.	0.0
170.	0.0
180.	0.0
190.	0.0
200.	0.0
210.	0.0
220.	0.0
230.	0.0
240.	0.0
250.	0.0
260.	0.0
270.	0.0
280.	0.0
290.	0.0
300.	0.0
310.	0.0
320.	0.0
330.	0.0
340.	0.0
350.	0.0
360.	0.0
MAX DEGR.	0.0 0

THE HIGHEST CONCENTRATION OF 0.10 PPM OCCURRED AT RECEPTOR REC16.

JOB: #11 - BOSTON ST AND HOWELL ST RUN: 2021 BUILD 1-HR SAT PEAK

DATE : 12/18/15
TIME : 13:47:21

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 108. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 0.0 PPM

LINK VARIABLES

LINK DESCRIPTION	* LINK COORDINATES (FT)				*	LENGTH	BRG	TYPE	VPH	EF	H	W	V/C	QUEUE
	* X1	Y1	X2	Y2	*	(FT)	(DEG)			(G/MI)	(FT)	(FT)		(VEH)
1. NB APPROACH	* 775296.2	********	775396.3	********	*	289.	20.	AG	401.	2.1	0.0	20.0		
2. NB DEPARTURE	* 775396.1	********	775599.2	********	*	647.	18.	AG	402.	2.1	0.0	20.0		
3. SB APPROACH	* 775579.6	********	775376.6	********	*	663.	198.	AG	551.	2.1	0.0	20.0		
4. SB DEPARTURE	* 775375.0	********	775274.4	********	*	302.	199.	AG	495.	2.1	0.0	20.0		
5. EB DEPARTURE	* 775414.2	********	775960.0	********	*	582.	110.	AG	67.	2.1	0.0	20.0		
6. WB DEPARTURE	* 775377.5	********	775008.3	********	*	421.	299.	AG	101.	2.1	0.0	20.0		
7. EB APPROACH	* 774998.8	********	775369.6	********	*	425.	119.	AG	113.	2.1	0.0	20.0		
8. EB QUEUE L/R	* 775361.5	********	775328.8	********	*	38.	299.	AG	113.	4.4	0.0	20.0		

JOB: #11 - BOSTON ST AND HOWELL ST RUN: 2021 BUILD 1-HR SAT PEAK

DATE : 12/18/15
TIME : 13:47:21

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. 11A	775347.3	********	5.9
2. 11B	775321.7	********	5.9
3. 11C	775288.4	********	5.9
4. 11D	775339.8	********	5.9
5. 11E	775375.3	********	5.9
6. 11D	775400.0	********	5.9
7. 11F	775419.8	********	5.9
8. 11G	775599.8	********	5.9
9. 11H	775738.3	********	5.9
10. 11I	775747.5	********	5.9
11. 11J	775615.1	********	5.9
12. 11K	775429.1	********	5.9
13. 11L	775472.9	********	5.9
14. 11M	775522.4	********	5.9
15. 11N	775475.0	********	5.9
16. 11O	775429.4	********	5.9
17. 11P	775367.6	********	5.9
18. 11Q	775282.3	********	5.9
19. 11R	775189.2	********	5.9
20. 11S	775152.7	********	5.9
21. 11U	775254.6	********	5.9

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) *	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
10.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
20.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
40.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
50.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
60.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
110.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
180.	*	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
190.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
200.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
210.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
220.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
230.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
240.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
250.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
260.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
270.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
280.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
290.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

300.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
310.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
320.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
330.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
340.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
350.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
360.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
MAX	*	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0
DEGR.	*	0	180	0	0	0	0	0	0	0	0	0	0	0	0	30	30	0	0	0	0

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC21
0.	0.0
10.	0.0
20.	0.0
30.	0.0
40.	0.0
50.	0.0
60.	0.0
70.	0.0
80.	0.0
90.	0.0
100.	0.0
110.	0.0
120.	0.0
130.	0.0
140.	0.0
150.	0.0
160.	0.0
170.	0.0
180.	0.0
190.	0.0
200.	0.0
210.	0.0
220.	0.0
230.	0.0
240.	0.0
250.	0.0
260.	0.0
270.	0.0
280.	0.0
290.	0.0
300.	0.0
310.	0.0
320.	0.0
330.	0.0
340.	0.0
350.	0.0
360.	0.0
MAX DEGR.	0.0 0

THE HIGHEST CONCENTRATION OF 0.10 PPM OCCURRED AT RECEPTOR REC12.

JOB: #13 - ANDREW SQUARE RUN: 2015 BASELINE 1-HR AM PEAK

DATE : 12/18/15
TIME : 13:18:56

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 108. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 0.0 PPM

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. EB QUEUE L	775881.3	********	775756.6	********	129.	285.	AG	24.	100.0	0.0	10.0	0.56	6.5
2. EB QUEUE T/R	775876.8	********	775765.9	********	115.	285.	AG	23.	100.0	0.0	10.0	0.45	5.8
3. EB APPROACH	775477.4	********	775934.9	********	473.	105.	AG	394.	3.0	0.0	30.0		
4. WB QUEUE L/T/R	776026.8	********	776380.6	********	362.	102.	AG	53.	100.0	0.0	20.0	1.09	18.4
5. WB APPROACH	776398.4	********	775961.8	********	447.	282.	AG	414.	3.0	0.0	30.0		
6. NB QUEUE L/T/R	775984.5	********	775986.7	********	111.	179.	AG	46.	100.0	0.0	20.0	0.47	5.7
7. NB APPROACH	775992.8	********	775983.5	********	482.	359.	AG	371.	3.0	0.0	30.0		
8. SB QUEUE L/T/R	775956.2	********	775956.8	********	56.	1.	AG	46.	100.0	0.0	20.0	0.24	2.8
9. SB APPROACH	775959.8	********	775955.1	********	380.	181.	AG	186.	3.0	0.0	30.0		
10. NEB QUEUE L/T/R	775919.3	********	775760.1	********	402.	203.	AG	52.	100.0	0.0	20.0	1.10	20.4
11. NEB APPROACH	775741.9	********	775951.4	********	531.	23.	AG	445.	3.0	0.0	30.0		
12. SWB QUEUE L/T/R	776024.2	********	776276.1	********	302.	57.	AG	53.	100.0	0.0	20.0	1.09	15.3
13. SWB APPROACH	776316.1	********	775990.1	********	391.	237.	AG	333.	3.0	0.0	30.0		
14. WB DEPARTURE	775949.7	********	775479.5	********	485.	284.	AG	883.	3.0	0.0	30.0		
15. EB DEPARTURE	775965.5	********	776392.4	********	435.	101.	AG	199.	3.0	0.0	30.0		
16. SB DEPARTURE	775962.3	********	775975.7	********	510.	178.	AG	110.	3.0	0.0	30.0		
17. NB DEPARTURE	775979.8	********	775979.5	********	370.	360.	AG	393.	3.0	0.0	30.0		
18. SWB DEPARTURE	775922.8	********	775725.5	********	511.	203.	AG	237.	3.0	0.0	30.0		
19. NEB DEPARTURE	775986.2	********	776325.3	********	410.	56.	AG	321.	3.0	0.0	30.0		

DATE : 12/18/15
TIME : 13:18:56

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
1. EB QUEUE L	150	115	4.0	205	1900	11.57	2	3
2. EB QUEUE T/R	150	111	4.0	189	1900	11.57	2	3
4. WB QUEUE L/T/R	150	127	6.0	414	1900	11.57	2	3
6. NB QUEUE L/T/R	150	110	7.0	371	1900	11.57	2	3
8. SB QUEUE L/T/R	150	110	7.0	186	1900	11.57	2	3
10. NEB QUEUE L/T/R	150	125	7.0	445	1900	11.57	2	3
12. SWB QUEUE L/T/R	150	129	7.0	333	1900	11.57	2	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. 13A	775873.9	********	5.9
2. 13B	775862.4	********	5.9
3. 13C	775814.2	********	5.9
4. 13D	775771.2	********	5.9
5. 13E	775823.5	********	5.9
6. 13F	775869.9	********	5.9
7. 13G	775918.7	********	5.9
8. 13H	775943.9	********	5.9
9. 13I	775953.0	********	5.9
10. 13J	775949.6	********	5.9
11. 13K	776012.8	********	5.9
12. 13L	776003.2	********	5.9
13. 13M	776002.8	********	5.9
14. 13N	776010.0	********	5.9
15. 13O	776120.9	********	5.9
16. 13P	776280.6	********	5.9
17. 13Q	776294.7	********	5.9
18. 13R	776145.4	********	5.9
19. 13S	776019.1	********	5.9
20. 13T	776164.0	********	5.9
21. 13U	776268.6	********	5.9
22. 13V	776234.1	********	5.9
23. 13W	776132.1	********	5.9
24. 13X	776003.4	********	5.9
25. 13Y	775995.7	********	5.9
26. 13Z	775995.0	********	5.9
27. 13AA	775939.4	********	5.9
28. 13BB	775940.4	********	5.9
29. 13CC	775921.4	********	5.9
30. 13DD	775756.0	********	5.9
31. 13EE	775577.7	********	5.9
32. 13FF	775558.4	********	5.9
33. 13GG	775744.1	********	5.9

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	*	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	*	0.0	0.0	0.0	0.0	0.3	0.3	0.2	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.1
10.	*	0.0	0.0	0.0	0.0	0.3	0.3	0.2	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.1
20.	*	0.0	0.0	0.0	0.0	0.3	0.3	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.1	0.1
30.	*	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.0	0.0	0.1	0.1
40.	*	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.1	0.2
50.	*	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.0
60.	*	0.0	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0
70.	*	0.0	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0
80.	*	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0
90.	*	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0
100.	*	0.0	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0
110.	*	0.0	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.1	0.0
120.	*	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.2	0.0
130.	*	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.2	0.0
140.	*	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.1	0.0
150.	*	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.1	0.0
160.	*	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.1	0.0
170.	*	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.1	0.0
180.	*	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.2	0.1	0.0	0.0
190.	*	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.1	0.0	0.0	0.2	0.1	0.0	0.0
200.	*	0.1	0.1	0.1	0.0	0.1	0.2	0.1	0.0	0.0	0.0	0.0	0.1	0.2	0.1	0.0	0.0	0.2	0.1	0.0	0.0
210.	*	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.1	0.0	0.0	0.0	0.1	0.3	0.1	0.0	0.0	0.2	0.1	0.1	0.0
220.	*	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.1	0.0	0.0	0.0	0.0	0.3	0.2	0.0	0.0	0.2	0.2	0.1	0.0
230.	*	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.1	0.0	0.0	0.0	0.0	0.3	0.2	0.0	0.0	0.2	0.2	0.0	0.0
240.	*	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.1	0.1	0.0	0.0	0.0	0.2	0.1	0.0	0.0	0.3	0.2	0.0	0.0
250.	*	0.0	0.0	0.0	0.0	0.3	0.3	0.2	0.1	0.1	0.0	0.0	0.0	0.2	0.1	0.0	0.0	0.3	0.3	0.0	0.2
260.	*	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.3	0.3	0.1	0.2
270.	*	0.0	0.0	0.0	0.0	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.3	0.3	0.1	0.1
280.	*	0.0	0.0	0.0	0.0	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.3	0.1	0.1	0.1
290.	*	0.0	0.0	0.0	0.0	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.1

300.	*	0.1	0.0	0.0	0.0	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.1
310.	*	0.1	0.0	0.0	0.0	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.2	0.0	0.1	0.1	0.0	0.0	0.0	0.1
320.	*	0.2	0.0	0.0	0.0	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.1	0.2	0.0	0.1	0.1	0.0	0.0	0.0	0.1
330.	*	0.1	0.0	0.0	0.0	0.3	0.3	0.2	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.1
340.	*	0.0	0.0	0.0	0.0	0.3	0.3	0.2	0.0	0.0	0.0	0.1	0.2	0.2	0.0	0.1	0.1	0.0	0.0	0.0	0.1
350.	*	0.0	0.0	0.0	0.0	0.3	0.3	0.2	0.0	0.0	0.0	0.0	0.2	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.1
360.	*	0.0	0.0	0.0	0.0	0.3	0.3	0.2	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.1
MAX	*	0.2	0.1	0.1	0.1	0.3	0.3	0.3	0.1	0.1	0.0	0.1	0.2	0.3	0.2	0.1	0.1	0.3	0.3	0.2	0.2
DEGR.	*	320	60	40	30	0	0	210	40	10	0	340	340	210	30	0	0	120	110	120	40

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33
0.	* 0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
10.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
20.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.1
30.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.1
40.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
50.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.1
60.	* 0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.2
70.	* 0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.2	0.3
80.	* 0.0	0.0	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.4
90.	* 0.0	0.1	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.3
100.	* 0.0	0.1	0.2	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.2
110.	* 0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0
120.	* 0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0
130.	* 0.0	0.1	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
140.	* 0.0	0.1	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
150.	* 0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
160.	* 0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
170.	* 0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0
180.	* 0.0	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.2	0.1	0.1	0.0	0.0
190.	* 0.0	0.1	0.2	0.0	0.1	0.1	0.0	0.0	0.2	0.1	0.1	0.0	0.0
200.	* 0.0	0.2	0.2	0.0	0.1	0.1	0.0	0.0	0.2	0.1	0.1	0.0	0.0
210.	* 0.0	0.2	0.2	0.0	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.0	0.0
220.	* 0.0	0.2	0.1	0.0	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.0	0.0
230.	* 0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0
240.	* 0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0
250.	* 0.2	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0
260.	* 0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0
270.	* 0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.2	0.1	0.0	0.0
280.	* 0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0
290.	* 0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1
300.	* 0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
310.	* 0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
320.	* 0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2
330.	* 0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
340.	* 0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
350.	* 0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
360.	* 0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
MAX	* 0.2	0.2	0.2	0.2	0.1	0.1	0.0	0.0	0.2	0.2	0.1	0.2	0.4
DEGR.	* 250	200	80	80	110	180	0	0	180	270	100	70	80

THE HIGHEST CONCENTRATION OF 0.40 PPM OCCURRED AT RECEPTOR REC33.

JOB: #13 - ANDREW SQUARE RUN: 2021 NO-BUILD 1-HR AM PEAK

DATE : 12/18/15
TIME : 13:19:33

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 108. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 0.0 PPM

LINK VARIABLES

LINK DESCRIPTION	* LINK COORDINATES (FT) *				*	LENGTH	BRG	TYPE	VPH	EF	H	W	V/C	QUEUE
	* X1	Y1	X2	Y2	*	(FT)	(DEG)			(G/MI)	(FT)	(FT)		(VEH)
1. EB QUEUE L	* 775881.3	********	775753.0	********	*	133.	285.	AG	14.	100.0	0.0	10.0	0.57	6.7
2. EB QUEUE T/R	* 775876.8	********	775763.0	********	*	118.	285.	AG	14.	100.0	0.0	10.0	0.46	6.0
3. EB APPROACH	* 775477.4	********	775934.9	********	*	473.	105.	AG	405.	2.1	0.0	30.0		
4. WB QUEUE L/T/R	* 776026.8	********	776433.3	********	*	416.	102.	AG	31.	100.0	0.0	20.0	1.12	21.1
5. WB APPROACH	* 776398.4	********	775961.8	********	*	447.	282.	AG	425.	2.1	0.0	30.0		
6. NB QUEUE L/T/R	* 775984.5	********	775986.8	********	*	114.	179.	AG	27.	100.0	0.0	20.0	0.48	5.8
7. NB APPROACH	* 775992.8	********	775983.5	********	*	482.	359.	AG	381.	2.1	0.0	30.0		
8. SB QUEUE L/T/R	* 775956.2	********	775956.8	********	*	57.	1.	AG	27.	100.0	0.0	20.0	0.24	2.9
9. SB APPROACH	* 775959.8	********	775955.1	********	*	380.	181.	AG	190.	2.1	0.0	30.0		
10. NEB QUEUE L/T/R	* 775919.3	********	775725.9	********	*	488.	203.	AG	31.	100.0	0.0	20.0	1.14	24.8
11. NEB APPROACH	* 775741.9	********	775951.4	********	*	531.	23.	AG	460.	2.1	0.0	30.0		
12. SWB QUEUE L/T/R	* 776024.2	********	776321.3	********	*	356.	57.	AG	32.	100.0	0.0	20.0	1.12	18.1
13. SWB APPROACH	* 776316.1	********	775990.1	********	*	391.	237.	AG	343.	2.1	0.0	30.0		
14. WB DEPARTURE	* 775949.7	********	775479.5	********	*	485.	284.	AG	910.	2.1	0.0	30.0		
15. EB DEPARTURE	* 775965.5	********	776392.4	********	*	435.	101.	AG	204.	2.1	0.0	30.0		
16. SB DEPARTURE	* 775962.3	********	775975.7	********	*	510.	178.	AG	112.	2.1	0.0	30.0		
17. NB DEPARTURE	* 775979.8	********	775979.5	********	*	370.	360.	AG	404.	2.1	0.0	30.0		
18. SWB DEPARTURE	* 775922.8	********	775725.5	********	*	511.	203.	AG	243.	2.1	0.0	30.0		
19. NEB DEPARTURE	* 775986.2	********	776325.3	********	*	410.	56.	AG	331.	2.1	0.0	30.0		

DATE : 12/18/15
TIME : 13:19:33

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
1. EB QUEUE L	150	115	4.0	211	1900	6.93	2	3
2. EB QUEUE T/R	150	111	4.0	194	1900	6.93	2	3
4. WB QUEUE L/T/R	150	127	6.0	425	1900	6.93	2	3
6. NB QUEUE L/T/R	150	110	7.0	381	1900	6.93	2	3
8. SB QUEUE L/T/R	150	110	7.0	190	1900	6.93	2	3
10. NEB QUEUE L/T/R	150	125	7.0	460	1900	6.93	2	3
12. SWB QUEUE L/T/R	150	129	7.0	343	1900	6.93	2	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. 13A	775873.9	********	5.9
2. 13B	775862.4	********	5.9
3. 13C	775814.2	********	5.9
4. 13D	775771.2	********	5.9
5. 13E	775823.5	********	5.9
6. 13F	775869.9	********	5.9
7. 13G	775918.7	********	5.9
8. 13H	775943.9	********	5.9
9. 13I	775953.0	********	5.9
10. 13J	775949.6	********	5.9
11. 13K	776012.8	********	5.9
12. 13L	776003.2	********	5.9
13. 13M	776002.8	********	5.9
14. 13N	776010.0	********	5.9
15. 13O	776120.9	********	5.9
16. 13P	776280.6	********	5.9
17. 13Q	776294.7	********	5.9
18. 13R	776145.4	********	5.9
19. 13S	776019.1	********	5.9
20. 13T	776164.0	********	5.9
21. 13U	776268.6	********	5.9
22. 13V	776234.1	********	5.9
23. 13W	776132.1	********	5.9
24. 13X	776003.4	********	5.9
25. 13Y	775995.7	********	5.9
26. 13Z	775995.0	********	5.9
27. 13AA	775939.4	********	5.9
28. 13BB	775940.4	********	5.9
29. 13CC	775921.4	********	5.9
30. 13DD	775756.0	********	5.9
31. 13EE	775577.7	********	5.9
32. 13FF	775558.4	********	5.9
33. 13GG	775744.1	********	5.9

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) * REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	* 0.0	0.0	0.0	0.0	0.3	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1
10.	* 0.0	0.0	0.0	0.0	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1
20.	* 0.0	0.0	0.0	0.0	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1
30.	* 0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.1
40.	* 0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.1
50.	* 0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
60.	* 0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
70.	* 0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
80.	* 0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0
90.	* 0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
100.	* 0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0
110.	* 0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0
120.	* 0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0
130.	* 0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0
140.	* 0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0
150.	* 0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0
160.	* 0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
170.	* 0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
180.	* 0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
190.	* 0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.0
200.	* 0.0	0.1	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.0
210.	* 0.0	0.0	0.0	0.0	0.1	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.0
220.	* 0.0	0.0	0.0	0.0	0.3	0.3	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.0
230.	* 0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.0
240.	* 0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.0
250.	* 0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.0
260.	* 0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.1
270.	* 0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.1
280.	* 0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.1
290.	* 0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1

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 300.  *   0.0   0.0   0.0   0.0   0.1   0.1   0.1   0.1   0.0   0.0   0.0   0.0   0.1   0.0   0.0   0.1   0.0
0.0   0.0   0.1
 310.  *   0.0   0.0   0.0   0.0   0.1   0.1   0.1   0.1   0.0   0.0   0.0   0.0   0.1   0.0   0.0   0.1   0.0
0.0   0.0   0.1
 320.  *   0.0   0.0   0.0   0.0   0.1   0.1   0.1   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.0   0.1   0.0
0.0   0.0   0.1
 330.  *   0.0   0.0   0.0   0.0   0.1   0.1   0.1   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.1   0.1   0.0
0.0   0.0   0.1
 340.  *   0.0   0.0   0.0   0.0   0.1   0.1   0.1   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.1   0.1   0.0
0.0   0.0   0.1
 350.  *   0.0   0.0   0.0   0.0   0.1   0.1   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.0
0.0   0.0   0.1
 360.  *   0.0   0.0   0.0   0.0   0.3   0.1   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.0
0.0   0.0   0.1
 ------*-------------------------------------------------------------------------------------------------------
--------------
 MAX   *   0.1   0.1   0.1   0.1   0.3   0.3   0.1   0.1   0.0   0.0   0.0   0.0   0.1   0.1   0.1   0.1   0.1
0.1   0.1   0.1
 DEGR. *  160    70    40    40     0   220     0    70     0     0     0     0   190    50    40     0   100
100    30     0
```

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) *	REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33
0.	*	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10.	*	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20.	*	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
50.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
60.	*	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
70.	*	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80.	*	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90.	*	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100.	*	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
110.	*	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0
120.	*	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
130.	*	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
140.	*	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
150.	*	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
160.	*	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
170.	*	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
180.	*	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
190.	*	0.0	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.0
200.	*	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
210.	*	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
220.	*	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
230.	*	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
240.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
250.	*	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
260.	*	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0
270.	*	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0
280.	*	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
290.	*	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
300.	*	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
310.	*	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
320.	*	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
330.	*	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
340.	*	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
350.	*	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
360.	*	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAX	*	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.1	0.1	0.1	0.0	0.0
DEGR.	*	0	70	60	60	0	190	0	0	60	100	100	0	0

THE HIGHEST CONCENTRATION OF 0.30 PPM OCCURRED AT RECEPTOR REC5 .

JOB: #13 - ANDREW SQUARE RUN: 2021 BUILD 1-HR AM PEAK

DATE : 12/18/15
TIME : 13:19:20

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 108. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 0.0 PPM

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. EB QUEUE L	775881.3	********	775752.4	********	133.	285.	AG	14.	100.0	0.0	10.0	0.58	6.8
2. EB QUEUE T/R	775876.8	********	775758.9	********	122.	285.	AG	14.	100.0	0.0	10.0	0.48	6.2
3. EB APPROACH	775477.4	********	775934.9	********	473.	105.	AG	413.	2.1	0.0	30.0		
4. WB QUEUE L/T/R	776026.8	********	776443.8	********	427.	102.	AG	31.	100.0	0.0	20.0	1.12	21.7
5. WB APPROACH	776398.4	********	775961.8	********	447.	282.	AG	427.	2.1	0.0	30.0		
6. NB QUEUE L/T/R	775984.5	********	775986.8	********	114.	179.	AG	27.	100.0	0.0	20.0	0.48	5.8
7. NB APPROACH	775992.8	********	775983.5	********	482.	359.	AG	381.	2.1	0.0	30.0		
8. SB QUEUE L/T/R	775956.2	********	775956.9	********	58.	1.	AG	27.	100.0	0.0	20.0	0.24	2.9
9. SB APPROACH	775959.8	********	775955.1	********	380.	181.	AG	193.	2.1	0.0	30.0		
10. NEB QUEUE L/T/R	775919.3	********	775606.5	********	789.	203.	AG	31.	100.0	0.0	20.0	1.28	40.1
11. NEB APPROACH	775741.9	********	775951.4	********	531.	23.	AG	517.	2.1	0.0	30.0		
12. SWB QUEUE L/T/R	776024.2	********	776357.4	********	399.	57.	AG	32.	100.0	0.0	20.0	1.15	20.3
13. SWB APPROACH	776316.1	********	775990.1	********	391.	237.	AG	350.	2.1	0.0	30.0		
14. WB DEPARTURE	775949.7	********	775479.5	********	485.	284.	AG	949.	2.1	0.0	30.0		
15. EB DEPARTURE	775965.5	********	776392.4	********	435.	101.	AG	205.	2.1	0.0	30.0		
16. SB DEPARTURE	775962.3	********	775975.7	********	510.	178.	AG	112.	2.1	0.0	30.0		
17. NB DEPARTURE	775979.8	********	775979.5	********	370.	360.	AG	404.	2.1	0.0	30.0		
18. SWB DEPARTURE	775922.8	********	775725.5	********	511.	203.	AG	262.	2.1	0.0	30.0		
19. NEB DEPARTURE	775986.2	********	776325.3	********	410.	56.	AG	349.	2.1	0.0	30.0		

JOB: #13 - ANDREW SQUARE RUN: 2021 BUILD 1-HR AM PEAK

DATE : 12/18/15
TIME : 13:19:20

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
1. EB QUEUE L	150	115	4.0	212	1900	6.93	2	3
2. EB QUEUE T/R	150	111	4.0	201	1900	6.93	2	3
4. WB QUEUE L/T/R	150	127	6.0	427	1900	6.93	2	3
6. NB QUEUE L/T/R	150	110	7.0	381	1900	6.93	2	3
8. SB QUEUE L/T/R	150	110	7.0	193	1900	6.93	2	3
10. NEB QUEUE L/T/R	150	125	7.0	517	1900	6.93	2	3
12. SWB QUEUE L/T/R	150	129	7.0	350	1900	6.93	2	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. 13A	775873.9	********	5.9
2. 13B	775862.4	********	5.9
3. 13C	775814.2	********	5.9
4. 13D	775771.2	********	5.9
5. 13E	775823.5	********	5.9
6. 13F	775869.9	********	5.9
7. 13G	775918.7	********	5.9
8. 13H	775943.9	********	5.9
9. 13I	775953.0	********	5.9
10. 13J	775949.6	********	5.9
11. 13K	776012.8	********	5.9
12. 13L	776003.2	********	5.9
13. 13M	776002.8	********	5.9
14. 13N	776010.0	********	5.9
15. 13O	776120.9	********	5.9
16. 13P	776280.6	********	5.9
17. 13Q	776294.7	********	5.9
18. 13R	776145.4	********	5.9
19. 13S	776019.1	********	5.9
20. 13T	776164.0	********	5.9
21. 13U	776268.6	********	5.9
22. 13V	776234.1	********	5.9
23. 13W	776132.1	********	5.9
24. 13X	776003.4	********	5.9
25. 13Y	775995.7	********	5.9
26. 13Z	775995.0	********	5.9
27. 13AA	775939.4	********	5.9
28. 13BB	775940.4	********	5.9
29. 13CC	775921.4	********	5.9
30. 13DD	775756.0	********	5.9
31. 13EE	775577.7	********	5.9
32. 13FF	775558.4	********	5.9
33. 13GG	775744.1	********	5.9

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) * REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	* 0.0	0.0	0.0	0.0	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1
10.	* 0.0	0.0	0.0	0.0	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1
20.	* 0.0	0.0	0.0	0.0	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.1
30.	* 0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.1
40.	* 0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.1
50.	* 0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
60.	* 0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
70.	* 0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
80.	* 0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
90.	* 0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
100.	* 0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0
110.	* 0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0
120.	* 0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0
130.	* 0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0
140.	* 0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0
150.	* 0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0
160.	* 0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
170.	* 0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
180.	* 0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
190.	* 0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.0
200.	* 0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.0
210.	* 0.0	0.0	0.0	0.0	0.2	0.3	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.0
220.	* 0.0	0.0	0.0	0.0	0.3	0.3	0.2	0.1	0.0	0.0	0.0	0.0	0.1	0.2	0.0	0.0	0.1	0.1	0.0	0.0
230.	* 0.0	0.0	0.0	0.0	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.0
240.	* 0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.0
250.	* 0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.0
260.	* 0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.1
270.	* 0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.1
280.	* 0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.1
290.	* 0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1

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 300.  *   0.0   0.0   0.0   0.0   0.1   0.1   0.1   0.1   0.0   0.0   0.0   0.0   0.1   0.0   0.0   0.1   0.0
0.0   0.0   0.1
 310.  *   0.0   0.0   0.0   0.0   0.1   0.1   0.1   0.1   0.0   0.0   0.0   0.0   0.1   0.0   0.0   0.1   0.0
0.0   0.0   0.1
 320.  *   0.0   0.0   0.0   0.0   0.1   0.1   0.1   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.0   0.1   0.0
0.0   0.0   0.1
 330.  *   0.0   0.0   0.0   0.0   0.1   0.1   0.1   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.1   0.1   0.0
0.0   0.0   0.1
 340.  *   0.0   0.0   0.0   0.0   0.1   0.1   0.1   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.1   0.1   0.0
0.0   0.0   0.1
 350.  *   0.0   0.0   0.0   0.0   0.2   0.1   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.0
0.0   0.0   0.1
 360.  *   0.0   0.0   0.0   0.0   0.2   0.2   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.0
0.0   0.0   0.1
 ------*-------------------------------------------------------------------------------------------------------
--------------
 MAX   *   0.1   0.1   0.1   0.1   0.3   0.3   0.2   0.1   0.0   0.0   0.0   0.0   0.1   0.2   0.1   0.1   0.1
0.1   0.1   0.1
 DEGR. *  160    70    40    40    10   210   220    70     0     0     0     0   190   220    40     0   100
100    20     0
```

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) *	REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33
0.	*	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10.	*	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20.	*	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30.	*	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
50.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
60.	*	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
70.	*	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80.	*	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
90.	*	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
100.	*	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
110.	*	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0
120.	*	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
130.	*	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
140.	*	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
150.	*	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
160.	*	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
170.	*	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
180.	*	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
190.	*	0.0	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.1	0.0	0.0
200.	*	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
210.	*	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
220.	*	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
230.	*	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
240.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
250.	*	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0
260.	*	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0
270.	*	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0
280.	*	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
290.	*	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
300.	*	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
310.	*	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
320.	*	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
330.	*	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
340.	*	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
350.	*	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
360.	*	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAX	*	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1
DEGR.	*	0	70	60	60	0	190	0	0	60	100	100	80	90

THE HIGHEST CONCENTRATION OF 0.30 PPM OCCURRED AT RECEPTOR REC5 .

JOB: #13 - ANDREW SQUARE RUN: 2015 BASELINE 1-HR PM PEAK

DATE : 12/18/15
TIME : 13:19:51

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 108. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 0.0 PPM

LINK VARIABLES

LINK DESCRIPTION	* LINK COORDINATES (FT) *				* LENGTH	BRG	TYPE	VPH	EF	H	W	V/C	QUEUE
	* X1	Y1	X2	Y2 *	(FT)	(DEG)			(G/MI)	(FT)	(FT)		(VEH)
1. EB QUEUE L	* 775881.3	********	775739.7	******** *	146.	285.	AG	25.	100.0	0.0	10.0	0.71	7.4
2. EB QUEUE T/R	* 775876.8	********	775735.7	******** *	146.	285.	AG	24.	100.0	0.0	10.0	0.63	7.4
3. EB APPROACH	* 775477.4	********	775934.9	******** *	473.	105.	AG	457.	3.0	0.0	30.0		
4. WB QUEUE L/T/R	* 776026.8	********	776271.1	******** *	250.	102.	AG	55.	100.0	0.0	20.0	1.09	12.7
5. WB APPROACH	* 776398.4	********	775961.8	******** *	447.	282.	AG	274.	3.0	0.0	30.0		
6. NB QUEUE L/T/R	* 775984.5	********	775986.1	******** *	81.	179.	AG	44.	100.0	0.0	20.0	0.32	4.1
7. NB APPROACH	* 775992.8	********	775983.5	******** *	482.	359.	AG	280.	3.0	0.0	30.0		
8. SB QUEUE L/T/R	* 775956.2	********	775957.4	******** *	104.	1.	AG	44.	100.0	0.0	20.0	0.41	5.3
9. SB APPROACH	* 775959.8	********	775955.1	******** *	380.	181.	AG	361.	3.0	0.0	30.0		
10. NEB QUEUE L/T/R	* 775919.3	********	775788.9	******** *	329.	203.	AG	52.	100.0	0.0	20.0	1.07	16.7
11. NEB APPROACH	* 775741.9	********	775951.4	******** *	531.	23.	AG	409.	3.0	0.0	30.0		
12. SWB QUEUE L/T/R	* 776024.2	********	776427.7	******** *	484.	57.	AG	53.	100.0	0.0	20.0	1.18	24.6
13. SWB APPROACH	* 776316.1	********	775990.1	******** *	391.	237.	AG	389.	3.0	0.0	30.0		
14. WB DEPARTURE	* 775949.7	********	775479.5	******** *	485.	284.	AG	652.	3.0	0.0	30.0		
15. EB DEPARTURE	* 775965.5	********	776392.4	******** *	435.	101.	AG	272.	3.0	0.0	30.0		
16. SB DEPARTURE	* 775962.3	********	775975.7	******** *	510.	178.	AG	269.	3.0	0.0	30.0		
17. NB DEPARTURE	* 775979.8	********	775979.5	******** *	370.	360.	AG	329.	3.0	0.0	30.0		
18. SWB DEPARTURE	* 775922.8	********	775725.5	******** *	511.	203.	AG	305.	3.0	0.0	30.0		
19. NEB DEPARTURE	* 775986.2	********	776325.3	******** *	410.	56.	AG	343.	3.0	0.0	30.0		

DATE : 12/18/15
TIME : 13:19:51

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
1. EB QUEUE L	150	119	4.0	225	1900	11.57	2	3
2. EB QUEUE T/R	150	115	4.0	232	1900	11.57	2	3
4. WB QUEUE L/T/R	150	132	6.0	274	1900	11.57	2	3
6. NB QUEUE L/T/R	150	106	7.0	280	1900	11.57	2	3
8. SB QUEUE L/T/R	150	106	7.0	361	1900	11.57	2	3
10. NEB QUEUE L/T/R	150	126	7.0	409	1900	11.57	2	3
12. SWB QUEUE L/T/R	150	128	7.0	389	1900	11.57	2	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. 13A	775873.9	********	5.9
2. 13B	775862.4	********	5.9
3. 13C	775814.2	********	5.9
4. 13D	775771.2	********	5.9
5. 13E	775823.5	********	5.9
6. 13F	775869.9	********	5.9
7. 13G	775918.7	********	5.9
8. 13H	775943.9	********	5.9
9. 13I	775953.0	********	5.9
10. 13J	775949.6	********	5.9
11. 13K	776012.8	********	5.9
12. 13L	776003.2	********	5.9
13. 13M	776002.8	********	5.9
14. 13N	776010.0	********	5.9
15. 13O	776120.9	********	5.9
16. 13P	776280.6	********	5.9
17. 13Q	776294.7	********	5.9
18. 13R	776145.4	********	5.9
19. 13S	776019.1	********	5.9
20. 13T	776164.0	********	5.9
21. 13U	776268.6	********	5.9
22. 13V	776234.1	********	5.9
23. 13W	776132.1	********	5.9
24. 13X	776003.4	********	5.9
25. 13Y	775995.7	********	5.9
26. 13Z	775995.0	********	5.9
27. 13AA	775939.4	********	5.9
28. 13BB	775940.4	********	5.9
29. 13CC	775921.4	********	5.9
30. 13DD	775756.0	********	5.9
31. 13EE	775577.7	********	5.9
32. 13FF	775558.4	********	5.9
33. 13GG	775744.1	********	5.9

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM)	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	*	0.0	0.0	0.0	0.0	0.3	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1
10.	*	0.0	0.0	0.0	0.0	0.4	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1
20.	*	0.0	0.0	0.0	0.0	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.1
30.	*	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.0	0.0	0.0	0.1	0.2
40.	*	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.2
50.	*	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.2
60.	*	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0
70.	*	0.0	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0
80.	*	0.0	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0
90.	*	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
100.	*	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0
110.	*	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0
120.	*	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0
130.	*	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0
140.	*	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.0
150.	*	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.0
160.	*	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.0
170.	*	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.0
180.	*	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0
190.	*	0.1	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.2	0.0	0.0
200.	*	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.2	0.0	0.0
210.	*	0.0	0.0	0.0	0.0	0.2	0.3	0.3	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.2	0.1	0.0
220.	*	0.0	0.0	0.0	0.0	0.2	0.3	0.3	0.1	0.0	0.0	0.0	0.0	0.1	0.2	0.0	0.0	0.0	0.2	0.1	0.0
230.	*	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.1	0.0	0.0	0.0	0.0	0.2	0.2	0.0	0.0	0.0	0.2	0.0	0.0
240.	*	0.0	0.0	0.0	0.0	0.3	0.3	0.2	0.1	0.0	0.0	0.0	0.0	0.2	0.1	0.0	0.0	0.1	0.2	0.0	0.1
250.	*	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.2	0.1	0.0	0.0	0.1	0.2	0.0	0.2
260.	*	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.2	0.2	0.0	0.2
270.	*	0.0	0.0	0.0	0.0	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.2	0.2	0.1	0.1
280.	*	0.0	0.0	0.0	0.0	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.2	0.1	0.0	0.1
290.	*	0.0	0.0	0.0	0.0	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.1

300.	*	0.0	0.0	0.0	0.0	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.1		
310.	*	0.1	0.0	0.0	0.0	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.1		
320.	*	0.1	0.0	0.0	0.0	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.1		
330.	*	0.1	0.0	0.0	0.0	0.2	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.1		
340.	*	0.0	0.0	0.0	0.0	0.3	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.1		
350.	*	0.0	0.0	0.0	0.0	0.3	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.1		
360.	*	0.0	0.0	0.0	0.0	0.3	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1		
MAX	*	0.1	0.2	0.1	0.1	0.4	0.3	0.3	0.1	0.1	0.0	0.0	0.1	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.2		
DEGR.	*	50	190	40	30	10	0	210	40	250	0	0	190	230	30	0	290	260	120	120	30		

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33
0.	* 0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
10.	* 0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1
20.	* 0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.2
30.	* 0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.2
40.	* 0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.2
50.	* 0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.3
60.	* 0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.3
70.	* 0.0	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.3
80.	* 0.0	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.3
90.	* 0.0	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3
100.	* 0.0	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.2
110.	* 0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0
120.	* 0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0
130.	* 0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
140.	* 0.0	0.1	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
150.	* 0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.2	0.0	0.1	0.1	0.0	0.0
160.	* 0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.2	0.0	0.1	0.1	0.0	0.0
170.	* 0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.2	0.0	0.1	0.1	0.0	0.0
180.	* 0.0	0.1	0.1	0.0	0.0	0.1	0.0	0.1	0.0	0.1	0.1	0.0	0.0
190.	* 0.0	0.1	0.2	0.0	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.0	0.0
200.	* 0.0	0.2	0.2	0.0	0.2	0.1	0.0	0.0	0.1	0.1	0.1	0.0	0.0
210.	* 0.0	0.2	0.2	0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.0
220.	* 0.0	0.2	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
230.	* 0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
240.	* 0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
250.	* 0.2	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0
260.	* 0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0
270.	* 0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0
280.	* 0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
290.	* 0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1
300.	* 0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
310.	* 0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2
320.	* 0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
330.	* 0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
340.	* 0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
350.	* 0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
360.	* 0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
MAX	* 0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.2	0.3
DEGR.	* 250	70	70	70	200	180	160	150	10	100	100	80	50

THE HIGHEST CONCENTRATION OF 0.40 PPM OCCURRED AT RECEPTOR REC5 .

JOB: #13 - ANDREW SQUARE RUN: 2021 NO-BUILD 1-HR PM PEAK

DATE : 12/18/15
TIME : 13:20:11

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 108. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 0.0 PPM

LINK VARIABLES

LINK DESCRIPTION	* LINK COORDINATES (FT) *				* LENGTH	BRG	TYPE	VPH	EF	H	W	V/C	QUEUE
	* X1	Y1	X2	Y2 *	(FT)	(DEG)			(G/MI)	(FT)	(FT)		(VEH)
1. EB QUEUE L	* 775881.3	********	775735.3	******** *	151.	285.	AG	15.	100.0	0.0	10.0	0.73	7.7
2. EB QUEUE T/R	* 775876.8	********	775731.5	******** *	150.	285.	AG	14.	100.0	0.0	10.0	0.65	7.6
3. EB APPROACH	* 775477.4	********	775934.9	******** *	473.	105.	AG	471.	2.1	0.0	30.0		
4. WB QUEUE L/T/R	* 776026.8	********	776303.0	******** *	283.	102.	AG	33.	100.0	0.0	20.0	1.11	14.4
5. WB APPROACH	* 776398.4	********	775961.8	******** *	447.	282.	AG	281.	2.1	0.0	30.0		
6. NB QUEUE L/T/R	* 775984.5	********	775986.2	******** *	84.	179.	AG	27.	100.0	0.0	20.0	0.33	4.3
7. NB APPROACH	* 775992.8	********	775983.5	******** *	482.	359.	AG	288.	2.1	0.0	30.0		
8. SB QUEUE L/T/R	* 775956.2	********	775957.3	******** *	100.	1.	AG	27.	100.0	0.0	20.0	0.40	5.1
9. SB APPROACH	* 775959.8	********	775955.1	******** *	380.	181.	AG	343.	2.1	0.0	30.0		
10. NEB QUEUE L/T/R	* 775919.3	********	775807.0	******** *	283.	203.	AG	31.	100.0	0.0	20.0	1.04	14.4
11. NEB APPROACH	* 775741.9	********	775951.4	******** *	531.	23.	AG	423.	2.1	0.0	30.0		
12. SWB QUEUE L/T/R	* 776024.2	********	776481.9	******** *	548.	57.	AG	32.	100.0	0.0	20.0	1.22	27.9
13. SWB APPROACH	* 776316.1	********	775990.1	******** *	391.	237.	AG	401.	2.1	0.0	30.0		
14. WB DEPARTURE	* 775949.7	********	775479.5	******** *	485.	284.	AG	672.	2.1	0.0	30.0		
15. EB DEPARTURE	* 775965.5	********	776392.4	******** *	435.	101.	AG	280.	2.1	0.0	30.0		
16. SB DEPARTURE	* 775962.3	********	775975.7	******** *	510.	178.	AG	276.	2.1	0.0	30.0		
17. NB DEPARTURE	* 775979.8	********	775979.5	******** *	370.	360.	AG	340.	2.1	0.0	30.0		
18. SWB DEPARTURE	* 775922.8	********	775725.5	******** *	511.	203.	AG	315.	2.1	0.0	30.0		
19. NEB DEPARTURE	* 775986.2	********	776325.3	******** *	410.	56.	AG	354.	2.1	0.0	30.0		

DATE : 12/18/15
TIME : 13:20:11

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
1. EB QUEUE L	150	119	4.0	232	1900	6.93	2	3
2. EB QUEUE T/R	150	115	4.0	239	1900	6.93	2	3
4. WB QUEUE L/T/R	150	132	6.0	281	1900	6.93	2	3
6. NB QUEUE L/T/R	150	107	7.0	288	1900	6.93	2	3
8. SB QUEUE L/T/R	150	107	7.0	343	1900	6.93	2	3
10. NEB QUEUE L/T/R	150	125	7.0	423	1900	6.93	2	3
12. SWB QUEUE L/T/R	150	128	7.0	401	1900	6.93	2	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. 13A	775873.9	********	5.9
2. 13B	775862.4	********	5.9
3. 13C	775814.2	********	5.9
4. 13D	775771.2	********	5.9
5. 13E	775823.5	********	5.9
6. 13F	775869.9	********	5.9
7. 13G	775918.7	********	5.9
8. 13H	775943.9	********	5.9
9. 13I	775953.0	********	5.9
10. 13J	775949.6	********	5.9
11. 13K	776012.8	********	5.9
12. 13L	776003.2	********	5.9
13. 13M	776002.8	********	5.9
14. 13N	776010.0	********	5.9
15. 13O	776120.9	********	5.9
16. 13P	776280.6	********	5.9
17. 13Q	776294.7	********	5.9
18. 13R	776145.4	********	5.9
19. 13S	776019.1	********	5.9
20. 13T	776164.0	********	5.9
21. 13U	776268.6	********	5.9
22. 13V	776234.1	********	5.9
23. 13W	776132.1	********	5.9
24. 13X	776003.4	********	5.9
25. 13Y	775995.7	********	5.9
26. 13Z	775995.0	********	5.9
27. 13AA	775939.4	********	5.9
28. 13BB	775940.4	********	5.9
29. 13CC	775921.4	********	5.9
30. 13DD	775756.0	********	5.9
31. 13EE	775577.7	********	5.9
32. 13FF	775558.4	********	5.9
33. 13GG	775744.1	********	5.9

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) * REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	* 0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.1
10.	* 0.0	0.0	0.0	0.0	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.1
20.	* 0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1
30.	* 0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
40.	* 0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1
50.	* 0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.1
60.	* 0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0
70.	* 0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0
80.	* 0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
90.	* 0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100.	* 0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
110.	* 0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0
120.	* 0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0
130.	* 0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0
140.	* 0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0
150.	* 0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0
160.	* 0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0
170.	* 0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
180.	* 0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
190.	* 0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
200.	* 0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.0	0.0
210.	* 0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.0
220.	* 0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.0
230.	* 0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.0
240.	* 0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.0
250.	* 0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.0
260.	* 0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.1
270.	* 0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.1
280.	* 0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.1
290.	* 0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.1

```
 300.  *   0.0   0.0   0.0   0.0   0.1   0.1   0.1   0.1   0.0   0.0   0.0   0.0   0.1   0.0   0.0   0.1   0.0
0.0   0.0   0.1
 310.  *   0.0   0.0   0.0   0.0   0.1   0.1   0.1   0.1   0.0   0.0   0.0   0.0   0.1   0.0   0.0   0.1   0.0
0.0   0.0   0.1
 320.  *   0.0   0.0   0.0   0.0   0.1   0.1   0.1   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.0   0.1   0.0
0.0   0.0   0.1
 330.  *   0.0   0.0   0.0   0.0   0.1   0.1   0.1   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.1   0.1   0.0
0.0   0.0   0.1
 340.  *   0.0   0.0   0.0   0.0   0.1   0.1   0.1   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.1   0.1   0.0
0.0   0.0   0.1
 350.  *   0.0   0.0   0.0   0.0   0.1   0.1   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.1   0.0
0.0   0.0   0.1
 360.  *   0.0   0.0   0.0   0.0   0.1   0.1   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.1   0.0
0.0   0.0   0.1
 ------*-------------------------------------------------------------------------------------------------------
--------------
 MAX   *   0.1   0.1   0.1   0.1   0.3   0.2   0.1   0.1   0.0   0.0   0.0   0.0   0.1   0.1   0.1   0.1   0.1
0.1   0.1   0.1
 DEGR. *  160    70    40    40    10   220     0   220     0     0     0     0   210    50     0     0   160
100    30     0
```

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33
0.	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10.	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20.	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30.	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40.	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
50.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
60.	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1
70.	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1
80.	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
90.	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2
100.	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
110.	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
120.	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
130.	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
140.	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
150.	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
160.	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
170.	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
180.	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
190.	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
200.	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
210.	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
220.	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
230.	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
240.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
250.	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
260.	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
270.	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
280.	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
290.	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
300.	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
310.	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
320.	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
330.	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
340.	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
350.	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
360.	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAX	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.2
DEGR.	0	60	60	60	0	0	0	160	60	110	110	90	90

THE HIGHEST CONCENTRATION OF 0.30 PPM OCCURRED AT RECEPTOR REC5 .

JOB: #13 - ANDREW SQUARE RUN: 2021 BUILD 1-HR PM PEAK

DATE : 12/18/15
TIME : 13:20: 2

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 108. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 0.0 PPM

LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (FT) X1	Y1	X2	Y2	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. EB QUEUE L	775881.3	********	775724.0	********	163.	285.	AG	15.	100.0	0.0	10.0	0.79	8.3
2. EB QUEUE T/R	775876.8	********	775722.4	********	160.	285.	AG	14.	100.0	0.0	10.0	0.69	8.1
3. EB APPROACH	775477.4	********	775934.9	********	473.	105.	AG	504.	2.1	0.0	30.0		
4. WB QUEUE L/T/R	776026.8	********	776334.9	********	316.	102.	AG	33.	100.0	0.0	20.0	1.13	16.0
5. WB APPROACH	776398.4	********	775961.8	********	447.	282.	AG	287.	2.1	0.0	30.0		
6. NB QUEUE L/T/R	775984.5	********	775986.3	********	88.	179.	AG	28.	100.0	0.0	20.0	0.39	4.5
7. NB APPROACH	775992.8	********	775983.5	********	482.	359.	AG	288.	2.1	0.0	30.0		
8. SB QUEUE L/T/R	775956.2	********	775957.5	********	116.	1.	AG	28.	100.0	0.0	20.0	0.51	5.9
9. SB APPROACH	775959.8	********	775955.1	********	380.	181.	AG	379.	2.1	0.0	30.0		
10. NEB QUEUE L/T/R	775919.3	********	775725.8	********	488.	203.	AG	30.	100.0	0.0	20.0	1.10	24.8
11. NEB APPROACH	775741.9	********	775951.4	********	531.	23.	AG	556.	2.1	0.0	30.0		
12. SWB QUEUE L/T/R	776024.2	********	776590.1	********	678.	57.	AG	32.	100.0	0.0	20.0	1.29	34.5
13. SWB APPROACH	776316.1	********	775990.1	********	391.	237.	AG	424.	2.1	0.0	30.0		
14. WB DEPARTURE	775949.7	********	775479.5	********	485.	284.	AG	711.	2.1	0.0	30.0		
15. EB DEPARTURE	775965.5	********	776392.4	********	435.	101.	AG	289.	2.1	0.0	30.0		
16. SB DEPARTURE	775962.3	********	775975.7	********	510.	178.	AG	275.	2.1	0.0	30.0		
17. NB DEPARTURE	775979.8	********	775979.5	********	370.	360.	AG	399.	2.1	0.0	30.0		
18. SWB DEPARTURE	775922.8	********	775725.5	********	511.	203.	AG	367.	2.1	0.0	30.0		
19. NEB DEPARTURE	775986.2	********	776325.3	********	410.	56.	AG	373.	2.1	0.0	30.0		

DATE : 12/18/15
TIME : 13:20: 2

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
1. EB QUEUE L	150	119	4.0	250	1900	6.93	2	3
2. EB QUEUE T/R	150	115	4.0	254	1900	6.93	2	3
4. WB QUEUE L/T/R	150	132	6.0	287	1900	6.93	2	3
6. NB QUEUE L/T/R	150	112	7.0	288	1900	6.93	2	3
8. SB QUEUE L/T/R	150	112	7.0	379	1900	6.93	2	3
10. NEB QUEUE L/T/R	150	121	7.0	556	1900	6.93	2	3
12. SWB QUEUE L/T/R	150	128	7.0	424	1900	6.93	2	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. 13A	775873.9	********	5.9
2. 13B	775862.4	********	5.9
3. 13C	775814.2	********	5.9
4. 13D	775771.2	********	5.9
5. 13E	775823.5	********	5.9
6. 13F	775869.9	********	5.9
7. 13G	775918.7	********	5.9
8. 13H	775943.9	********	5.9
9. 13I	775953.0	********	5.9
10. 13J	775949.6	********	5.9
11. 13K	776012.8	********	5.9
12. 13L	776003.2	********	5.9
13. 13M	776002.8	********	5.9
14. 13N	776010.0	********	5.9
15. 13O	776120.9	********	5.9
16. 13P	776280.6	********	5.9
17. 13Q	776294.7	********	5.9
18. 13R	776145.4	********	5.9
19. 13S	776019.1	********	5.9
20. 13T	776164.0	********	5.9
21. 13U	776268.6	********	5.9
22. 13V	776234.1	********	5.9
23. 13W	776132.1	********	5.9
24. 13X	776003.4	********	5.9
25. 13Y	775995.7	********	5.9
26. 13Z	775995.0	********	5.9
27. 13AA	775939.4	********	5.9
28. 13BB	775940.4	********	5.9
29. 13CC	775921.4	********	5.9
30. 13DD	775756.0	********	5.9
31. 13EE	775577.7	********	5.9
32. 13FF	775558.4	********	5.9
33. 13GG	775744.1	********	5.9

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) * REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	* 0.0	0.0	0.0	0.0	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.1
10.	* 0.0	0.0	0.0	0.0	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.1
20.	* 0.0	0.0	0.0	0.0	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.1
30.	* 0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.1
40.	* 0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.1
50.	* 0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.1
60.	* 0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0
70.	* 0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0
80.	* 0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0
90.	* 0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100.	* 0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
110.	* 0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
120.	* 0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0
130.	* 0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0
140.	* 0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0
150.	* 0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0
160.	* 0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0
170.	* 0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0
180.	* 0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0
190.	* 0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0
200.	* 0.0	0.1	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.0
210.	* 0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.0
220.	* 0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.0
230.	* 0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.0
240.	* 0.0	0.0	0.0	0.0	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.0
250.	* 0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.0
260.	* 0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.1
270.	* 0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.1
280.	* 0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.1
290.	* 0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.1

300.	*	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.1
310.	*	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.1
320.	*	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.1
330.	*	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.1
340.	*	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.1
350.	*	0.0	0.0	0.0	0.0	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.1
360.	*	0.0	0.0	0.0	0.0	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.1
MAX	*	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
DEGR.	*	160	80	50	40	0	0	210	60	0	0	0	0	200	50	0	0	120	100	30	0

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33
0.	* 0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10.	* 0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20.	* 0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
30.	* 0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40.	* 0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
50.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
60.	* 0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1
70.	* 0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1
80.	* 0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2
90.	* 0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2
100.	* 0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
110.	* 0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
120.	* 0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
130.	* 0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
140.	* 0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
150.	* 0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.0	0.0
160.	* 0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.0	0.0
170.	* 0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
180.	* 0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
190.	* 0.0	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
200.	* 0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
210.	* 0.0	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
220.	* 0.0	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
230.	* 0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
240.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
250.	* 0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
260.	* 0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
270.	* 0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
280.	* 0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
290.	* 0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
300.	* 0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
310.	* 0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
320.	* 0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
330.	* 0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
340.	* 0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
350.	* 0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
360.	* 0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAX	* 0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.2
DEGR.	* 0	60	60	60	210	190	0	150	20	110	110	80	80

THE HIGHEST CONCENTRATION OF 0.20 PPM OCCURRED AT RECEPTOR REC5 .

JOB: #13 - ANDREW SQUARE RUN: 2021 BUILD 1-HR PM PEAK

DATE : 12/18/15
TIME : 13:20: 2

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 108. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 0.0 PPM

LINK VARIABLES

LINK DESCRIPTION	* LINK COORDINATES (FT) *				*	LENGTH	BRG	TYPE	VPH	EF	H	W	V/C	QUEUE
	* X1	Y1	X2	Y2	*	(FT)	(DEG)			(G/MI)	(FT)	(FT)		(VEH)
1. EB QUEUE L	* 775881.3	********	775724.0	********	*	163.	285.	AG	15.	100.0	0.0	10.0	0.79	8.3
2. EB QUEUE T/R	* 775876.8	********	775722.4	********	*	160.	285.	AG	14.	100.0	0.0	10.0	0.69	8.1
3. EB APPROACH	* 775477.4	********	775934.9	********	*	473.	105.	AG	504.	2.1	0.0	30.0		
4. WB QUEUE L/T/R	* 776026.8	********	776334.9	********	*	316.	102.	AG	33.	100.0	0.0	20.0	1.13	16.0
5. WB APPROACH	* 776398.4	********	775961.8	********	*	447.	282.	AG	287.	2.1	0.0	30.0		
6. NB QUEUE L/T/R	* 775984.5	********	775986.3	********	*	88.	179.	AG	28.	100.0	0.0	20.0	0.39	4.5
7. NB APPROACH	* 775992.8	********	775983.5	********	*	482.	359.	AG	288.	2.1	0.0	30.0		
8. SB QUEUE L/T/R	* 775956.2	********	775957.5	********	*	116.	1.	AG	28.	100.0	0.0	20.0	0.51	5.9
9. SB APPROACH	* 775959.8	********	775955.1	********	*	380.	181.	AG	379.	2.1	0.0	30.0		
10. NEB QUEUE L/T/R	* 775919.3	********	775725.8	********	*	488.	203.	AG	30.	100.0	0.0	20.0	1.10	24.8
11. NEB APPROACH	* 775741.9	********	775951.4	********	*	531.	23.	AG	556.	2.1	0.0	30.0		
12. SWB QUEUE L/T/R	* 776024.2	********	776590.1	********	*	678.	57.	AG	32.	100.0	0.0	20.0	1.29	34.5
13. SWB APPROACH	* 776316.1	********	775990.1	********	*	391.	237.	AG	424.	2.1	0.0	30.0		
14. WB DEPARTURE	* 775949.7	********	775479.5	********	*	485.	284.	AG	711.	2.1	0.0	30.0		
15. EB DEPARTURE	* 775965.5	********	776392.4	********	*	435.	101.	AG	289.	2.1	0.0	30.0		
16. SB DEPARTURE	* 775962.3	********	775975.7	********	*	510.	178.	AG	275.	2.1	0.0	30.0		
17. NB DEPARTURE	* 775979.8	********	775979.5	********	*	370.	360.	AG	399.	2.1	0.0	30.0		
18. SWB DEPARTURE	* 775922.8	********	775725.5	********	*	511.	203.	AG	367.	2.1	0.0	30.0		
19. NEB DEPARTURE	* 775986.2	********	776325.3	********	*	410.	56.	AG	373.	2.1	0.0	30.0		

JOB: #13 - ANDREW SQUARE RUN: 2021 BUILD 1-HR PM PEAK

DATE : 12/18/15
TIME : 13:20: 2

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
1. EB QUEUE L	150	119	4.0	250	1900	6.93	2	3
2. EB QUEUE T/R	150	115	4.0	254	1900	6.93	2	3
4. WB QUEUE L/T/R	150	132	6.0	287	1900	6.93	2	3
6. NB QUEUE L/T/R	150	112	7.0	288	1900	6.93	2	3
8. SB QUEUE L/T/R	150	112	7.0	379	1900	6.93	2	3
10. NEB QUEUE L/T/R	150	121	7.0	556	1900	6.93	2	3
12. SWB QUEUE L/T/R	150	128	7.0	424	1900	6.93	2	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. 13A	775873.9	********	5.9
2. 13B	775862.4	********	5.9
3. 13C	775814.2	********	5.9
4. 13D	775771.2	********	5.9
5. 13E	775823.5	********	5.9
6. 13F	775869.9	********	5.9
7. 13G	775918.7	********	5.9
8. 13H	775943.9	********	5.9
9. 13I	775953.0	********	5.9
10. 13J	775949.6	********	5.9
11. 13K	776012.8	********	5.9
12. 13L	776003.2	********	5.9
13. 13M	776002.8	********	5.9
14. 13N	776010.0	********	5.9
15. 13O	776120.9	********	5.9
16. 13P	776280.6	********	5.9
17. 13Q	776294.7	********	5.9
18. 13R	776145.4	********	5.9
19. 13S	776019.1	********	5.9
20. 13T	776164.0	********	5.9
21. 13U	776268.6	********	5.9
22. 13V	776234.1	********	5.9
23. 13W	776132.1	********	5.9
24. 13X	776003.4	********	5.9
25. 13Y	775995.7	********	5.9
26. 13Z	775995.0	********	5.9
27. 13AA	775939.4	********	5.9
28. 13BB	775940.4	********	5.9
29. 13CC	775921.4	********	5.9
30. 13DD	775756.0	********	5.9
31. 13EE	775577.7	********	5.9
32. 13FF	775558.4	********	5.9
33. 13GG	775744.1	********	5.9

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	* 0.0	0.0	0.0	0.0	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.1
10.	* 0.0	0.0	0.0	0.0	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.1
20.	* 0.0	0.0	0.0	0.0	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.1
30.	* 0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.1
40.	* 0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.1
50.	* 0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.1
60.	* 0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0
70.	* 0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0
80.	* 0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0
90.	* 0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100.	* 0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
110.	* 0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
120.	* 0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0
130.	* 0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0
140.	* 0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0
150.	* 0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0
160.	* 0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0
170.	* 0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0
180.	* 0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0
190.	* 0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0
200.	* 0.0	0.1	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.0
210.	* 0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.0
220.	* 0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.0
230.	* 0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.0
240.	* 0.0	0.0	0.0	0.0	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.0
250.	* 0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.0
260.	* 0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.1
270.	* 0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.1
280.	* 0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.1
290.	* 0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.1

```
 300.  *   0.0   0.0   0.0   0.0   0.1   0.1   0.1   0.1   0.0   0.0   0.0   0.0   0.1   0.0   0.0   0.1   0.0
0.0   0.0   0.1
 310.  *   0.0   0.0   0.0   0.0   0.1   0.1   0.1   0.1   0.0   0.0   0.0   0.0   0.1   0.0   0.0   0.1   0.0
0.0   0.0   0.1
 320.  *   0.0   0.0   0.0   0.0   0.1   0.1   0.1   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.0   0.1   0.0
0.0   0.0   0.1
 330.  *   0.0   0.0   0.0   0.0   0.1   0.1   0.1   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.1   0.1   0.0
0.0   0.0   0.1
 340.  *   0.0   0.0   0.0   0.0   0.1   0.1   0.1   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.1   0.1   0.0
0.0   0.0   0.1
 350.  *   0.0   0.0   0.0   0.0   0.2   0.2   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.1   0.0
0.0   0.0   0.1
 360.  *   0.0   0.0   0.0   0.0   0.2   0.2   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.1   0.0
0.0   0.0   0.1
 ------*-------------------------------------------------------------------------------------------------------
--------------
 MAX   *   0.1   0.1   0.1   0.1   0.2   0.2   0.2   0.1   0.0   0.0   0.0   0.0   0.1   0.1   0.1   0.1   0.1
0.1   0.1   0.1
 DEGR. *  160    80    50    40     0     0   210    60     0     0     0     0   200    50     0     0   120
100    30     0
```

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33
0.	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10.	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20.	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
30.	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40.	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
50.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
60.	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1
70.	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1
80.	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2
90.	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2
100.	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
110.	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
120.	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
130.	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
140.	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
150.	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.0	0.0
160.	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.0	0.0
170.	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
180.	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
190.	0.0	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
200.	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
210.	0.0	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
220.	0.0	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
230.	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
240.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
250.	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
260.	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
270.	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
280.	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
290.	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
300.	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
310.	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
320.	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
330.	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
340.	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
350.	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
360.	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAX	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.2
DEGR.	0	60	60	60	210	190	0	150	20	110	110	80	80

THE HIGHEST CONCENTRATION OF 0.20 PPM OCCURRED AT RECEPTOR REC5 .

JOB: #13 - ANDREW SQUARE RUN: 2021 NO-BUILD 1-HR SAT PEAK

DATE : 12/18/15
TIME : 13:20:47

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 108. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 0.0 PPM

LINK VARIABLES

	LINK DESCRIPTION	* LINK COORDINATES (FT)				*	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
		* X1	Y1	X2	Y2	*									
1.	EB QUEUE L	* 775881.3	********	775752.1	********	*	134.	285.	AG	15.	100.0	0.0	10.0	0.63	6.8
2.	EB QUEUE T/R	* 775876.8	********	775759.9	********	*	121.	285.	AG	14.	100.0	0.0	10.0	0.51	6.1
3.	EB APPROACH	* 775477.4	********	775934.9	********	*	473.	105.	AG	401.	2.1	0.0	30.0		
4.	WB QUEUE L/T/R	* 776026.8	********	776408.2	********	*	391.	102.	AG	32.	100.0	0.0	20.0	1.17	19.8
5.	WB APPROACH	* 776398.4	********	775961.8	********	*	447.	282.	AG	324.	2.1	0.0	30.0		
6.	NB QUEUE L/T/R	* 775984.5	********	775986.6	********	*	105.	179.	AG	27.	100.0	0.0	20.0	0.42	5.3
7.	NB APPROACH	* 775992.8	********	775983.5	********	*	482.	359.	AG	359.	2.1	0.0	30.0		
8.	SB QUEUE L/T/R	* 775956.2	********	775957.1	********	*	78.	1.	AG	27.	100.0	0.0	20.0	0.31	4.0
9.	SB APPROACH	* 775959.8	********	775955.1	********	*	380.	181.	AG	266.	2.1	0.0	30.0		
10.	NEB QUEUE L/T/R	* 775919.3	********	775776.1	********	*	361.	203.	AG	31.	100.0	0.0	20.0	1.09	18.4
11.	NEB APPROACH	* 775741.9	********	775951.4	********	*	531.	23.	AG	414.	2.1	0.0	30.0		
12.	SWB QUEUE L/T/R	* 776024.2	********	776357.4	********	*	399.	57.	AG	32.	100.0	0.0	20.0	1.15	20.3
13.	SWB APPROACH	* 776316.1	********	775990.1	********	*	391.	237.	AG	351.	2.1	0.0	30.0		
14.	WB DEPARTURE	* 775949.7	********	775479.5	********	*	485.	284.	AG	856.	2.1	0.0	30.0		
15.	EB DEPARTURE	* 775965.5	********	776392.4	********	*	435.	101.	AG	298.	2.1	0.0	30.0		
16.	SB DEPARTURE	* 775962.3	********	775975.7	********	*	510.	178.	AG	113.	2.1	0.0	30.0		
17.	NB DEPARTURE	* 775979.8	********	775979.5	********	*	370.	360.	AG	324.	2.1	0.0	30.0		
18.	SWB DEPARTURE	* 775922.8	********	775725.5	********	*	511.	203.	AG	195.	2.1	0.0	30.0		
19.	NEB DEPARTURE	* 775986.2	********	776325.3	********	*	410.	56.	AG	335.	2.1	0.0	30.0		

DATE : 12/18/15
TIME : 13:20:47

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
1. EB QUEUE L	150	118	4.0	207	1900	6.93	2	3
2. EB QUEUE T/R	150	114	4.0	194	1900	6.93	2	3
4. WB QUEUE L/T/R	150	131	6.0	324	1900	6.93	2	3
6. NB QUEUE L/T/R	150	107	7.0	359	1900	6.93	2	3
8. SB QUEUE L/T/R	150	107	7.0	266	1900	6.93	2	3
10. NEB QUEUE L/T/R	150	126	7.0	414	1900	6.93	2	3
12. SWB QUEUE L/T/R	150	129	7.0	351	1900	6.93	2	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. 13A	775873.9	********	5.9
2. 13B	775862.4	********	5.9
3. 13C	775814.2	********	5.9
4. 13D	775771.2	********	5.9
5. 13E	775823.5	********	5.9
6. 13F	775869.9	********	5.9
7. 13G	775918.7	********	5.9
8. 13H	775943.9	********	5.9
9. 13I	775953.0	********	5.9
10. 13J	775949.6	********	5.9
11. 13K	776012.8	********	5.9
12. 13L	776003.2	********	5.9
13. 13M	776002.8	********	5.9
14. 13N	776010.0	********	5.9
15. 13O	776120.9	********	5.9
16. 13P	776280.6	********	5.9
17. 13Q	776294.7	********	5.9
18. 13R	776145.4	********	5.9
19. 13S	776019.1	********	5.9
20. 13T	776164.0	********	5.9
21. 13U	776268.6	********	5.9
22. 13V	776234.1	********	5.9
23. 13W	776132.1	********	5.9
24. 13X	776003.4	********	5.9
25. 13Y	775995.7	********	5.9
26. 13Z	775995.0	********	5.9
27. 13AA	775939.4	********	5.9
28. 13BB	775940.4	********	5.9
29. 13CC	775921.4	********	5.9
30. 13DD	775756.0	********	5.9
31. 13EE	775577.7	********	5.9
32. 13FF	775558.4	********	5.9
33. 13GG	775744.1	********	5.9

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) * REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	* 0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1
10.	* 0.0	0.0	0.0	0.0	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.1
20.	* 0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.1
30.	* 0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.1
40.	* 0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.1
50.	* 0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
60.	* 0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
70.	* 0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
80.	* 0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0
90.	* 0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
100.	* 0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0
110.	* 0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0
120.	* 0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0
130.	* 0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0
140.	* 0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0
150.	* 0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0
160.	* 0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
170.	* 0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
180.	* 0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
190.	* 0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.1	0.0
200.	* 0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.1	0.0
210.	* 0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.1	0.0
220.	* 0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.1	0.0
230.	* 0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.0
240.	* 0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.0
250.	* 0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.0
260.	* 0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.0
270.	* 0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.0
280.	* 0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.0
290.	* 0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0

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 300.  *   0.0   0.0   0.0   0.0   0.1   0.1   0.1   0.1   0.0   0.0   0.0   0.0   0.1   0.0   0.0   0.1   0.0
0.0   0.0   0.1
 310.  *   0.0   0.0   0.0   0.0   0.1   0.1   0.1   0.1   0.0   0.0   0.0   0.0   0.1   0.0   0.0   0.1   0.0
0.0   0.0   0.1
 320.  *   0.0   0.0   0.0   0.0   0.1   0.1   0.1   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.0   0.1   0.0
0.0   0.0   0.1
 330.  *   0.0   0.0   0.0   0.0   0.1   0.1   0.1   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.1   0.1   0.0
0.0   0.0   0.1
 340.  *   0.0   0.0   0.0   0.0   0.1   0.1   0.1   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.1   0.1   0.0
0.0   0.0   0.1
 350.  *   0.0   0.0   0.0   0.0   0.1   0.1   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.1   0.0
0.0   0.0   0.1
 360.  *   0.0   0.0   0.0   0.0   0.1   0.1   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.0
0.0   0.0   0.1
 ------*-------------------------------------------------------------------------------------------------------
--------------
 MAX   *   0.1   0.1   0.1   0.1   0.3   0.1   0.1   0.1   0.0   0.0   0.0   0.0   0.1   0.1   0.1   0.1   0.1
0.1   0.1   0.1
 DEGR. *  160    70    40    40    10     0     0   220     0     0     0     0   190    50    10     0   110
100    20     0
```

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) *	REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33
0.	*	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10.	*	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20.	*	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30.	*	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
50.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
60.	*	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
70.	*	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80.	*	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90.	*	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
100.	*	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
110.	*	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0
120.	*	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
130.	*	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
140.	*	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
150.	*	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
160.	*	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
170.	*	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
180.	*	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
190.	*	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
200.	*	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
210.	*	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
220.	*	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
230.	*	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
240.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
250.	*	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
260.	*	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
270.	*	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
280.	*	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
290.	*	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
300.	*	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
310.	*	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
320.	*	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
330.	*	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
340.	*	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
350.	*	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
360.	*	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAX	*	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.1
DEGR.	*	0	70	60	60	0	0	0	0	60	100	100	0	90

THE HIGHEST CONCENTRATION OF 0.30 PPM OCCURRED AT RECEPTOR REC5 .

JOB: #13 - ANDREW SQUARE RUN: 2021 BUILD 1-HR SAT PEAK

DATE : 12/18/15
TIME : 13:20:36

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 108. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 0.0 PPM

LINK VARIABLES

LINK DESCRIPTION	* LINK COORDINATES (FT) *				*	LENGTH	BRG	TYPE	VPH	EF	H	W	V/C	QUEUE
	* X1	Y1	X2	Y2	*	(FT)	(DEG)			(G/MI)	(FT)	(FT)		(VEH)
1. EB QUEUE L	* 775881.3	********	775740.9	********	*	145.	285.	AG	15.	100.0	0.0	10.0	0.68	7.4
2. EB QUEUE T/R	* 775876.8	********	775751.4	********	*	130.	285.	AG	14.	100.0	0.0	10.0	0.55	6.6
3. EB APPROACH	* 775477.4	********	775934.9	********	*	473.	105.	AG	433.	2.1	0.0	30.0		
4. WB QUEUE L/T/R	* 776026.8	********	776450.6	********	*	434.	102.	AG	32.	100.0	0.0	20.0	1.19	22.0
5. WB APPROACH	* 776398.4	********	775961.8	********	*	447.	282.	AG	332.	2.1	0.0	30.0		
6. NB QUEUE L/T/R	* 775984.5	********	775986.6	********	*	107.	179.	AG	27.	100.0	0.0	20.0	0.44	5.4
7. NB APPROACH	* 775992.8	********	775983.5	********	*	482.	359.	AG	359.	2.1	0.0	30.0		
8. SB QUEUE L/T/R	* 775956.2	********	775957.1	********	*	82.	1.	AG	27.	100.0	0.0	20.0	0.34	4.1
9. SB APPROACH	* 775959.8	********	775955.1	********	*	380.	181.	AG	274.	2.1	0.0	30.0		
10. NEB QUEUE L/T/R	* 775919.3	********	775791.6	********	*	322.	203.	AG	31.	100.0	0.0	20.0	1.05	16.4
11. NEB APPROACH	* 775741.9	********	775951.4	********	*	531.	23.	AG	479.	2.1	0.0	30.0		
12. SWB QUEUE L/T/R	* 776024.2	********	776346.5	********	*	386.	57.	AG	32.	100.0	0.0	20.0	1.13	19.6
13. SWB APPROACH	* 776316.1	********	775990.1	********	*	391.	237.	AG	370.	2.1	0.0	30.0		
14. WB DEPARTURE	* 775949.7	********	775479.5	********	*	485.	284.	AG	903.	2.1	0.0	30.0		
15. EB DEPARTURE	* 775965.5	********	776392.4	********	*	435.	101.	AG	306.	2.1	0.0	30.0		
16. SB DEPARTURE	* 775962.3	********	775975.7	********	*	510.	178.	AG	113.	2.1	0.0	30.0		
17. NB DEPARTURE	* 775979.8	********	775979.5	********	*	370.	360.	AG	342.	2.1	0.0	30.0		
18. SWB DEPARTURE	* 775922.8	********	775725.5	********	*	511.	203.	AG	244.	2.1	0.0	30.0		
19. NEB DEPARTURE	* 775986.2	********	776325.3	********	*	410.	56.	AG	339.	2.1	0.0	30.0		

DATE : 12/18/15
TIME : 13:20:36

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
1. EB QUEUE L	150	118	4.0	225	1900	6.93	2	3
2. EB QUEUE T/R	150	114	4.0	208	1900	6.93	2	3
4. WB QUEUE L/T/R	150	131	6.0	332	1900	6.93	2	3
6. NB QUEUE L/T/R	150	109	7.0	359	1900	6.93	2	3
8. SB QUEUE L/T/R	150	109	7.0	274	1900	6.93	2	3
10. NEB QUEUE L/T/R	150	123	7.0	479	1900	6.93	2	3
12. SWB QUEUE L/T/R	150	128	7.0	370	1900	6.93	2	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. 13A	775873.9	********	5.9
2. 13B	775862.4	********	5.9
3. 13C	775814.2	********	5.9
4. 13D	775771.2	********	5.9
5. 13E	775823.5	********	5.9
6. 13F	775869.9	********	5.9
7. 13G	775918.7	********	5.9
8. 13H	775943.9	********	5.9
9. 13I	775953.0	********	5.9
10. 13J	775949.6	********	5.9
11. 13K	776012.8	********	5.9
12. 13L	776003.2	********	5.9
13. 13M	776002.8	********	5.9
14. 13N	776010.0	********	5.9
15. 13O	776120.9	********	5.9
16. 13P	776280.6	********	5.9
17. 13Q	776294.7	********	5.9
18. 13R	776145.4	********	5.9
19. 13S	776019.1	********	5.9
20. 13T	776164.0	********	5.9
21. 13U	776268.6	********	5.9
22. 13V	776234.1	********	5.9
23. 13W	776132.1	********	5.9
24. 13X	776003.4	********	5.9
25. 13Y	775995.7	********	5.9
26. 13Z	775995.0	********	5.9
27. 13AA	775939.4	********	5.9
28. 13BB	775940.4	********	5.9
29. 13CC	775921.4	********	5.9
30. 13DD	775756.0	********	5.9
31. 13EE	775577.7	********	5.9
32. 13FF	775558.4	********	5.9
33. 13GG	775744.1	********	5.9

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) *	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	*	0.0	0.0	0.0	0.0	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1
10.	*	0.0	0.0	0.0	0.0	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.1
20.	*	0.0	0.0	0.0	0.0	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.1
30.	*	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.1
40.	*	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.1
50.	*	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
60.	*	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
70.	*	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
80.	*	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
90.	*	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
100.	*	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0
110.	*	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0
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160.	*	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
170.	*	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
180.	*	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
190.	*	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.0
200.	*	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.0
210.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.0
220.	*	0.0	0.0	0.0	0.0	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.0
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260.	*	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.1
270.	*	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.1
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0.0   0.0   0.1
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0.0   0.0   0.1
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0.0   0.0   0.1
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0.0   0.0   0.1
 360.  *   0.0   0.0   0.0   0.0   0.2   0.2   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.0
0.0   0.0   0.1
 ------*-------------------------------------------------------------------------------------------------------
--------------
 MAX   *   0.1   0.1   0.1   0.1   0.2   0.2   0.1   0.1   0.0   0.0   0.0   0.0   0.1   0.1   0.1   0.1   0.1
0.1   0.1   0.1
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100    30     0
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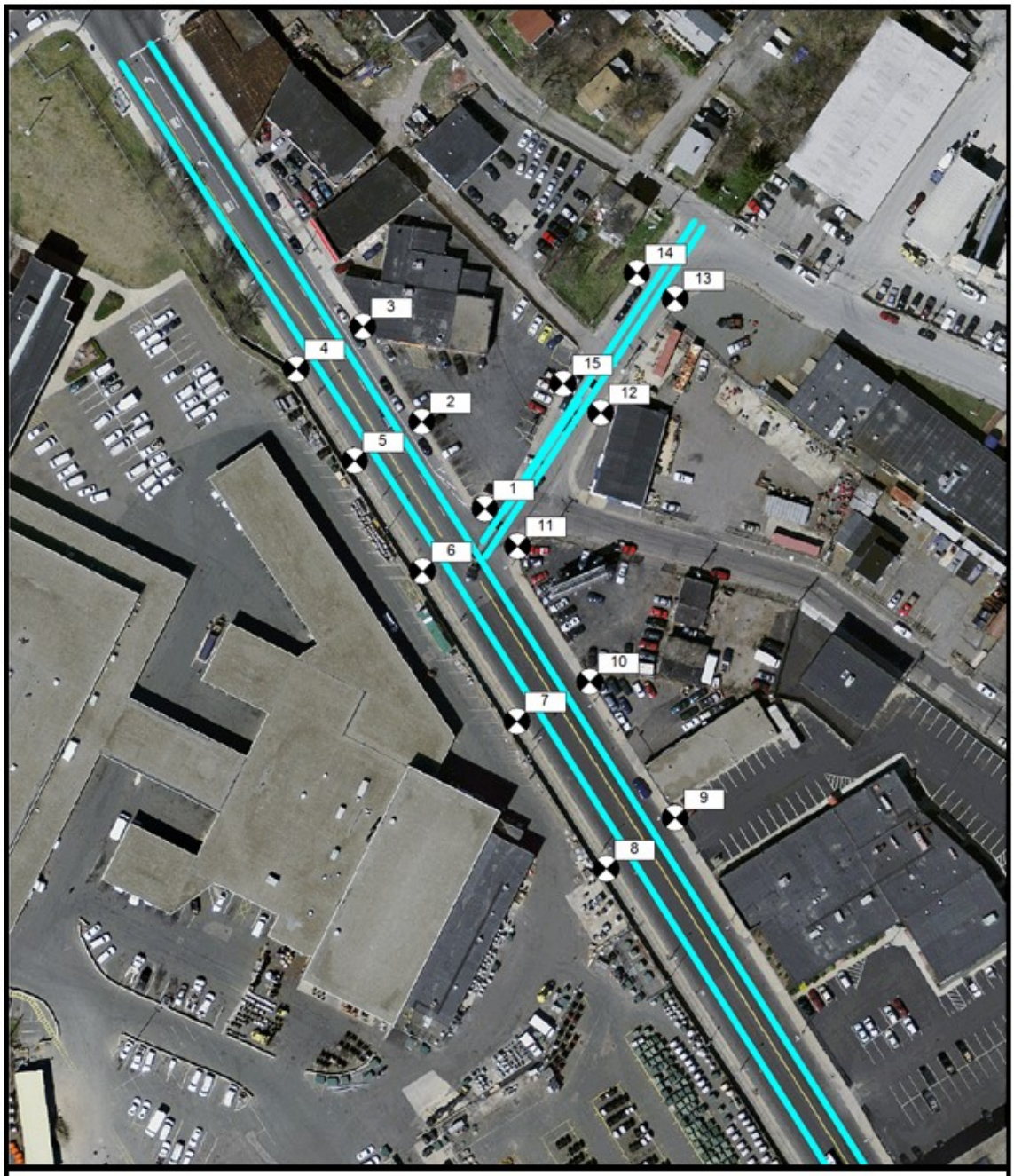

Figure 1

7 - Massachusetts Ave at Enterprise St
Existing and Future No Build & Build Conditions
Roadway Links and Receptors

TECH environmental
FOCUSED KNOWLEDGE. REAL SOLUTIONS.

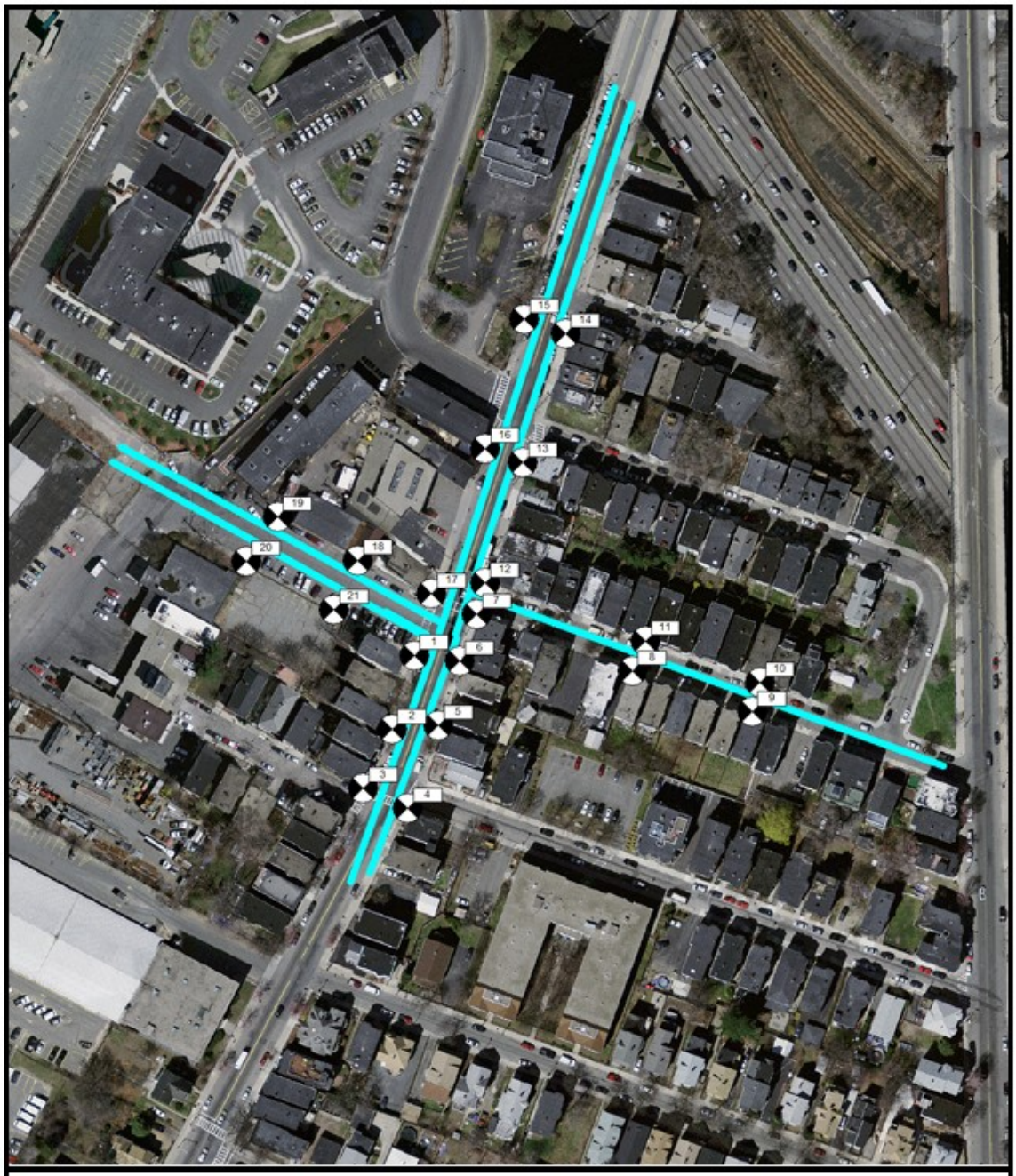

Figure 2

11 - Boston St at West Howell St/Howell St
Existing and Future No Build & Build Conditions
Roadway Links and Receptors

TECH environmental
FOCUSED KNOWLEDGE. REAL SOLUTIONS.

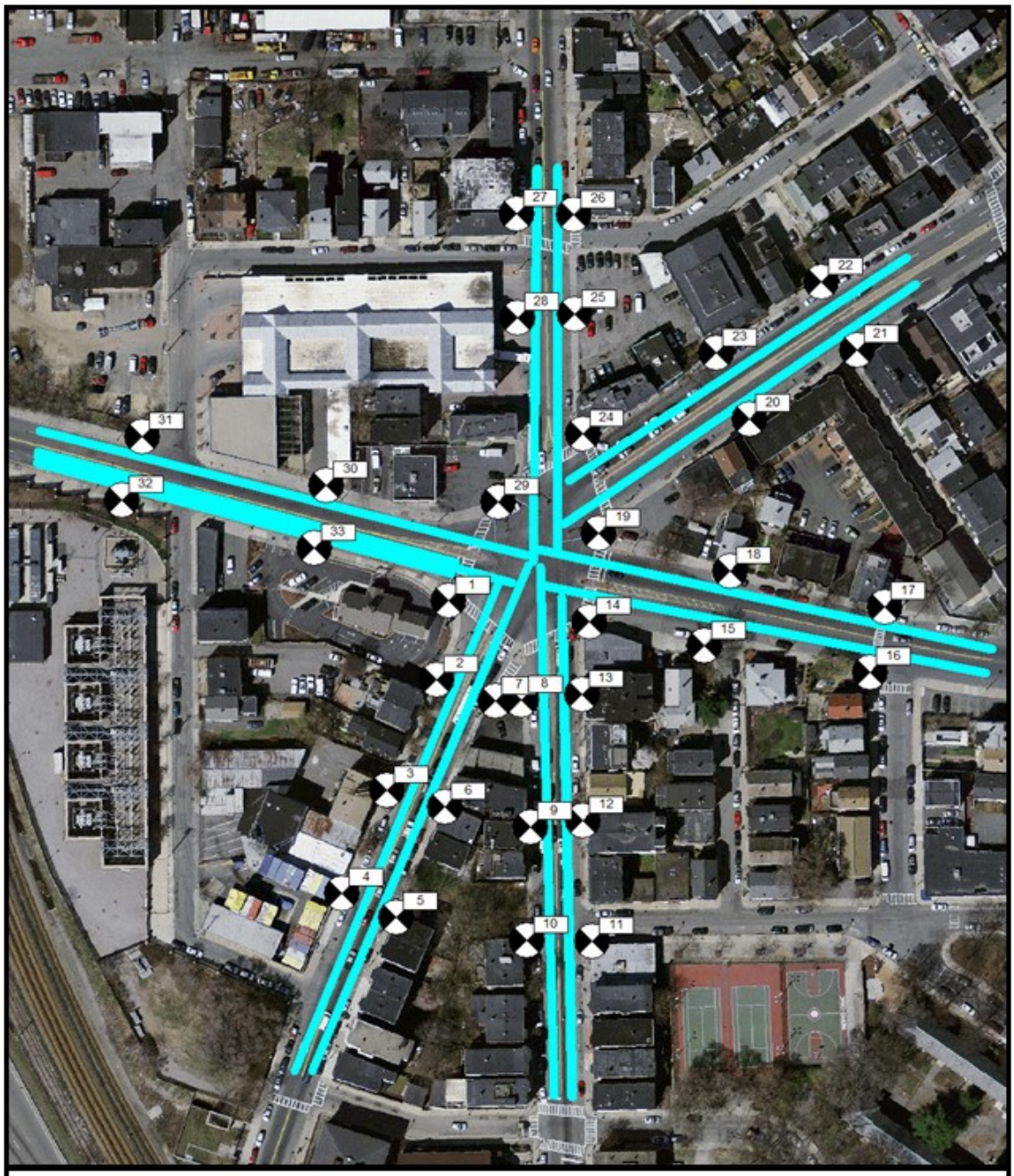

Figure 3

13 - Southampton St at Preble St/Dorchester
Existing and Future No Build & Build Conditions
Roadway Links and Receptors

TECH environmental
FOCUSED KNOWLEDGE. REAL SOLUTIONS.

Appendix G

DRAFT GREEN BUILDING SUBMISSION

South Bay

Buildings A, B, C, D, E

Boston, MA

DRAFT Green Building Submission for LEED Certifiability

DPIR Submission January 8, 2016

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charting your path to EFFICIENT and HEALTHY buildings

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PROJECT SUMMARY

Sustainability informs every design decision. Enduring and efficient buildings conserve embodied energy and preserve natural resources. The South Bay Project embraces the opportunity to positively influence the urban environment. Its urban location takes advantage of existing infrastructure while convenient access to mass transportation will reduce dependence on single occupant vehicle trips and minimize transportation impacts. The Proponent and the Project design team are committed to an integrated design approach and is using the LEED for New Construction 2009, and Neighborhood Development 2009 rating system and intends to meet certification as presented in **draft checklists at the end of this section.** This rating will exceed Boston's Green Building standard. The LEED rating system tracks the sustainable features of the project by achieving points in following categories: Sustainable Sites; Water Efficiency; Energy and Atmosphere; Materials and Resources; Indoor Environmental Quality; and Innovation and Design Process.

Building A- 5 story Garage over 1 story of 41,000 SF Retail

Building B- Cinema 59800 over 1 story of 45,300 SF Retail-

Building C-Retail 12,470 SF Residential 219,600 SF

Building D Retail 14,000 SF Residential 245,950 SF

The residential buildings will have the same systems and materials so we will submit one report and checklist for both buildings.

Building E – Hotel 90,000 SF

SUSTAINABLE SITES

The development of sustainable sites is at the core of sustainable design. The sustainable sites credit category encourages development on previously developed land, minimizing a building's impact on ecosystems and waterways, regionally appropriate landscaping, smart transportation choices, stormwater runoff management, and reduction of erosion, light pollution, heat island effect, and pollution related to construction and site maintenance.

Master Site Credits- The entire project scope will meet the following credits

Sustainable Sites

SSp1 - Construction Activity Pollution Prevention (Construction Credit)

- Required and provided

SSc1 – Site Selection

- Prime farmland as defined citation in 7CFR657.5.
- Previously undeveloped land whose elevation is lower than 5 feet above the elevation of the 100-year flood as defined by FEMA.
- Land that is specifically identified as habitat for any species on Federal or State threatened or endangered lists
- Within 100 feet of any wetlands as US Code of Fed. Regulations and isolated wetlands or areas of special concern identified by state or local rule, OR within setback distances from wetlands prescribed in state or local regulations, as defined by local or state rule or law, whichever is more stringent.
- Previously undeveloped land that is within 50 feet of a water body that supports or could support fish, recreation or industrial use, consistent with the terminology of the Clean Water Act.
- Land which prior to acquisition for the project was public parkland, unless land of equal or greater value as parkland is accepted in trade by the public landowner.

SOUTH BAY has not been developed on any of these restricted sites

SSc2 - Development Density and Community Connectivity

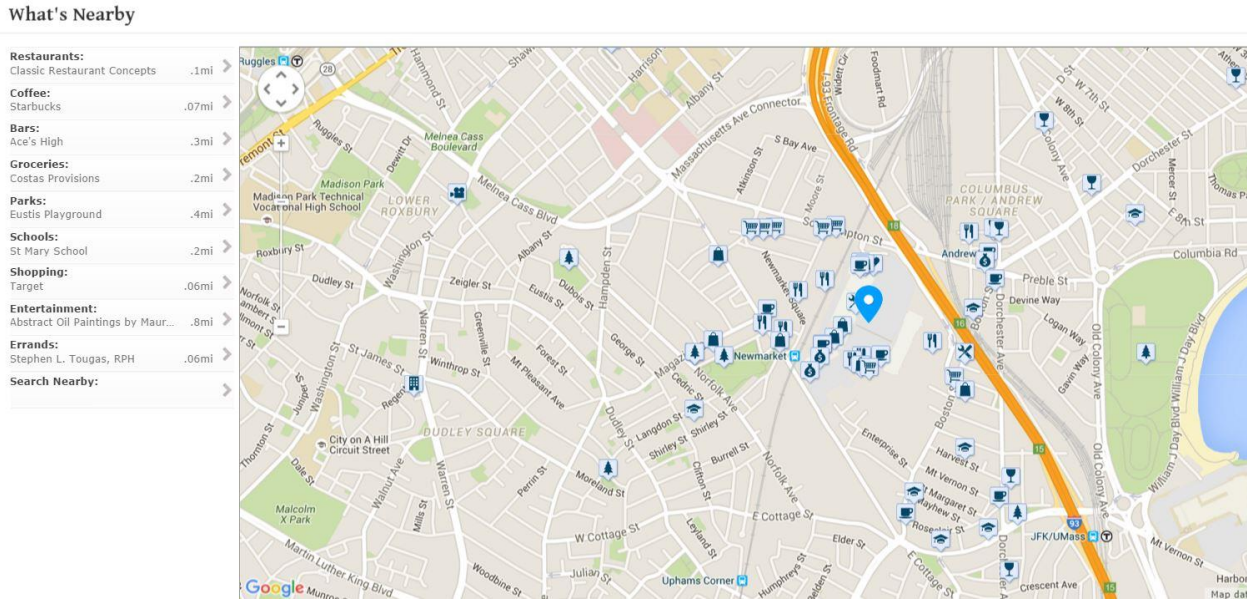
OPTION 2: Community Connectivity

The project must meet the following criteria:

- Is located on a previously developed site
- Is within ½ mile of a residential area or neighborhood with an average density of 10 units per acre
- Is within ½ mile of at least 10 basic services (2 of the 10 services can be anticipated within a year; 1 of 10 can be located within the project itself)
- Has pedestrian access between the building and the services

SOUTH BAY meets the above criteria for Option 2. It is:

- Is within ½ mile of a residential area or neighborhood with an average density of 10 units per acre
- Is within ½ mile, with pedestrian access, of at least 10 services.



1. Restaurant- Classic Restaurant Concepts .1mile
2. Restaurant- Olive Garden .2 mile
3. Pharmacy – Target-.07
4. Bank- Citizens .2mile
5. Hardware- Home Depot .06mile
6. Convenience market- Costas Provisions .2 miles
7. Supermarket Stop and shop .2 mile
8. Park- Eustis Playground- .4 mile
9. School- St Mary's- .2mile
10. Laundry- Lazybones .4 mile

SSc3 Brownfield Redevelopment

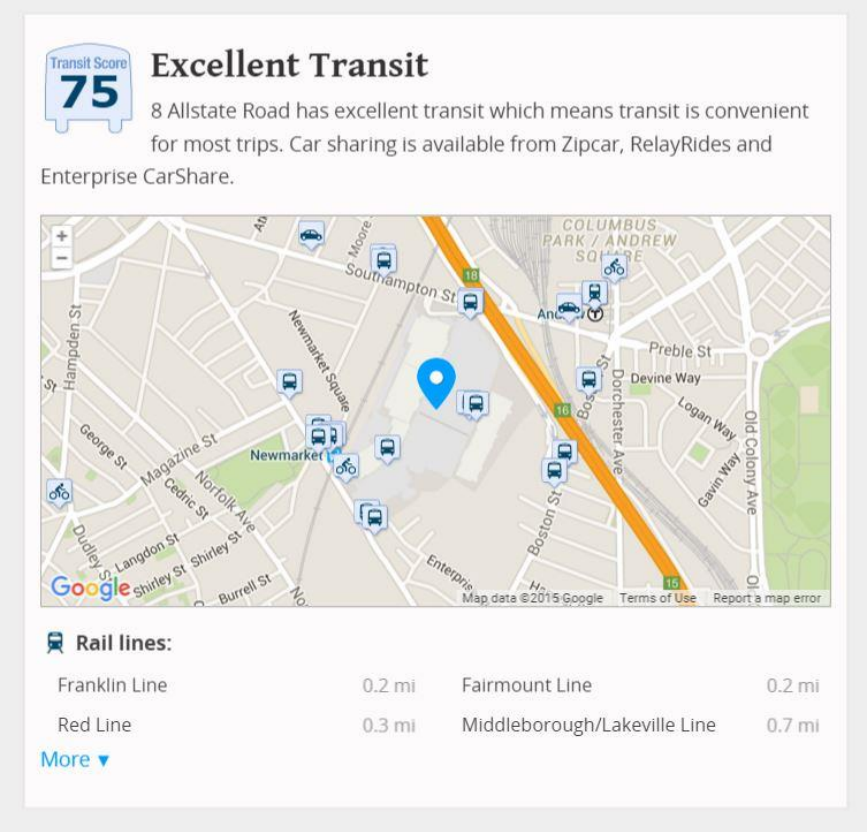
OPTION 1 Develop on a site documented as contaminated (by means of an ASTM E1903-97 Phase II Environmental Site Assessment or a local Voluntary Cleanup Program)

The project anticipates achieving.

SSc4.1 - Alternative Transportation, Public Transportation Access

OPTION 1

Locate project within ½ mile walking distance of existing or planned commuter rail or subway station.



There are 3 subway lines that are provided within .3 miles of the site in addition to many bus lines. The project will reserve an innovation and design credit for exemplary performance for 4.1 in the ID credit category.

SSc4.2 - Alternative Transportation, Bicycle Storage and Changing Rooms

CASE 1: COMMERCIAL OR INSTITUTIONAL PROJECTS

Provide secure bicycle racks and/or storage within 200 yards of a building entrance for 5% or more of all building users (measured at peak periods)

Provide shower and changing facilities in the building, or within 200 yards of a building entrance, for 0.5% of full-time equivalent (FTE) occupants.

CASE 2: RESIDENTIAL PROJECTS

Provide covered storage facilities for securing bicycles for 15% or more of building occupants.

- Residents-15% Covered Bike Racks Required=
- Building Staff- 5% Bike Racks required, .5% showers required
- Transients- 5% Bike Racks required

Project plans to comply for all building, final calcs will be provided once occupancy is confirmed.

SSc4.3: Alternative Transportation - Low-emitting and fuel-efficient vehicles

OPTION 1: PREFERRED OR DISCOUNTED PARKING

Provide preferred parking for low-emitting and fuel-efficient vehicles2 for 5% of the total vehicle parking capacity of the site. Providing a discounted parking rate is an acceptable substitute for preferred parking for low-emitting/fuel-efficient vehicles. OPTION 2: ALTERNATIVE FUEL

Install alternative-fuel fueling stations for 3% of the total vehicle parking capacity of the site. Liquid or gaseous fueling facilities must be separately ventilated or located outdoors.

TOTAL PARKING PROVIDED- ***Project plans to comply for all buildings, required spots below***

- Building A Retail 41,000 SF–610 parking spaces 14 ada (***31 low emitting required)***
- Building B- 105,100 SF-
- Building C- 299,456 GSF – 169 spaces 6 ada (***26 low emitting required)***
- Building D 259,950 GSF 140 spaces 5 ada (***21 low emitting required*****)**
- Building E 90,000 SF 71 spaces 3 ada (***4 low emitting required***)

SSc4.4 - Alternative Transportation, Parking Capacity

Size parking capacity to meet, but not exceed, minimum local zoning requirements

Parking capacity meets, but not exceeds, minimum local zoning requirements

Provide infrastructure and support programs to facilitate shared vehicle use such as carpool drop-off areas, designated parking for vanpools, car-share services, ride boards and shuttle services to mass transit.

- ***Retail/Cinema: 172,570 GSF- 690 spaces required, 688 spaces provided***
- ***Residential: 465,550 GSF- 310 spaces required, 309 spaces provided***
- ***Hotel: 90,000 GSF- 65 spaces required, 71 spaces provided***

SSc5.2 – Site Development, Maximize Open Space

CASE 3 - Sites with Zoning Ordinances but No Open Space Requirements

Provide vegetated open space equal to 20% of the project's site area.

The total site area for SOUTH BAY provides over 20% as open space.

- Green Area (exclude the 5'x5' tree pit) total of 34,086 SF
- Pedestrian Hardscape (Including the detectable warning strip) Total of 69,505 SF
- Site area (total SF) – 429,267 SF
- ***Total open space provided- 103,591 SF***
- ***Total open space required – 85,853 SF***

Credit 6.1 Stormwater Design—Quantity Control
Credit 6.2 Stormwater Design—Quality Control

OPTION 1. DESIGN STORMS CASE 1. SITES WITH EXISTING IMPERVIOUSNESS 50% OR LESS
Implement a stormwater management plan that prevents the post development peak discharge rate and quantity from exceeding the predevelopment peak discharge rate and quantity for the 1- and 2-year 24-hour design storms.

Implement a stormwater management plan that results in a 25% decrease in the volume of stormwater runoff from the 2-year 24-hour design storm.

Both credits will are currently being assessed for compliance for the entire site area

SSc7.1 - Heat Island Effect, Non-Roof

OPTION 2
Place a minimum of 50% of parking spaces under cover3. Any roof used to shade or cover parking must have an SRI of at least 29, be a vegetated green roof or be covered by solar panels that produce energy used to offset some nonrenewable resource use.

919 of 1068 spaces are provided in the garage with a complaint SRI roof

SSc7.2 - Heat Island Effect, Roof

Low-Slope (<2:12) -- Greater than 75% of the roof surface (excluding equipment) shall have a Solar Reflectance Index (SRI) equal to or greater than 78.

All roofing will be compliant

SSc8 - Light Pollution Reduction

FOR INTERIOR LIGHTING
Reduce the input power (by automatic device) of all nonemergency interior luminaires with a direct line of sight to any openings in the envelope (translucent or transparent) by at least 50% between 11 p.m. and 5 a.m. After-hours override may be provided by a manual or occupant sensing device provided the override lasts no more than 30 minutes.

FOR EXTERIOR LIGHTING- Light areas only as required for safety and comfort. Exterior lighting power densities shall not exceed those specified in ANSI/ASHRAE/IESNA Standard 90.1-2007 with Addenda for the documented lighting zone. Justification shall be provided for the selected lighting zone. Lighting controls for all exterior lighting shall comply with section 9.4.1.3 of ANSI/ASHRAE/IESNA Standard 90.1-2007, without amendments.

The project will investigate possible compliance during CD

WATER EFFICIENCY

Buildings are major users of our potable water supply and conservation of water preserves a natural resource while reducing the amount of energy and chemicals used for sewage treatment. The goal of the Water Efficiency credit category is to encourage smarter use of water, inside and out. Water reduction is typically achieved through more efficient appliances, fixtures and fittings inside and water-wise landscaping outside. To satisfy the requirements of the Water Use Reduction Prerequisite and credit, the project will incorporate water conservation strategies that include low flow plumbing fixtures for water closets and faucets. Further, drought tolerant plant species will be specified in landscaped areas to eliminate the requirement for irrigation in most areas and satisfy the requirements for the

WEc1 -- Water Efficient Landscaping

OPTION 1: REDUCE BY 50% (2 POINTS)

Reduce potable water consumption for irrigation by 50% from a calculated midsummer baseline case or using the month with the highest irrigation demand.

The landscaping proposed is composed of native or regionally adapted vegetation and reduces potable water by more than 50%.

The site will reduce 50% of potable water use for irrigation at a minimum, every effort will be made to eliminate irrigation where possible.

WE P1 & WE Credit 3- Water Use Reduction, 30%, 35%, 40% Reduction (4 points)

Employ strategies that in aggregate use less water than the water use baseline calculated for the building (not including irrigation). The minimum water savings percentage for each point threshold is as follows:

% Reduction	Points
30%	2
35%	3
40%	4

- Building A Retail 41,000 SF–Anticipated 35% reduction
- Building B- Retail & Cinema- Anticipated 35% reduction
- Building C- Retail and Residential - Anticipated 40% reduction
- Building D Retail & Residential Anticipated 40% reduction
- Building E Hotel- Anticipated 40% reduction

ENERGY AND ATMOSPHERE

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

The Project will exceed the ASHRAE 90.1-2007 standard for Minimum Energy Performance through a variety of measures. Further, no chlorofluorocarbon (CFC) based refrigerants will be used in the project to reduce ozone depletion in the atmosphere and satisfy the Fundamental Refrigeration Management prerequisite. Fundamental Commissioning of Building Energy Systems will be performed to ensure that systems are operating at peak efficiency. In addition, Enhanced Commissioning will assess the performance of energy and water systems during the first days of building operation and can help to bring additional efficiency to the systems for the life of the building.

EAp2 - Minimum Energy Performance & EAc1 - Optimize Energy Performance

- Building A Retail 41,000 SF–Anticipated 25% reduction
- Building B- Retail & Cinema- Anticipated 25% reduction
- Building C- Retail and Residential - Anticipated 20% reduction
- Building D Retail & Residential Anticipated 20% reduction
- Building E Hotel- Anticipated 25% reduction

EAp1 - Fundamental Building Systems Commissioning (Construction Credit) All Buildings

Commissioning process activities will be completed for all buildings and the following energy-related systems, at a minimum:

- ✓ **Heating, ventilating, air conditioning and refrigeration (HVAC&R) systems (mechanical and passive) and associated controls.**
- ✓ **Lighting and daylighting controls.**
- ✓ **Domestic hot water systems.**
- ✓ **Renewable energy systems (wind, solar, etc.).**

EAp3 - Fundamental Refrigerant Management

Zero use of CFC-based refrigerants in new base building HVAC&R and fire suppression systems.

All projects will be designed without the use of CFC or HCFC refrigerants, all new mechanical equipment uses R-410A refrigerant.

EAc3 Enhanced Commissioning (Construction Credit)

Implement, or have a contract in place to implement, the following additional commissioning process activities in addition to the requirements of EA Prerequisite 1: Fundamental Commissioning of Building Energy Systems and in accordance with the LEED Reference

Guide for Green Building Design and Construction, 2009 Edition:

- The CxA must report results, findings and recommendations directly to the owner.
- The CxA must conduct, at a minimum, 1 commissioning design review of the owner's project requirements basis of design, and design documents prior to the mid-construction documents phase and back-check the review comments in the subsequent design submission.
- The CxA must review contractor submittals applicable to systems being commissioned for compliance with the owner's project requirements and basis of design. This review must be concurrent with the review of the architect or engineer of record and submitted to the design team and the owner.
- The CxA or other project team members must develop a systems manual that provides future operating staff the information needed to understand and optimally operate the commissioned systems.
- The CxA or other project team members must verify that the requirements for training operating personnel and building occupants have been completed.
- The CxA must be involved in reviewing the operation of the building with operations and maintenance (O&M) staff and occupants within 10 months after substantial completion.
- A plan for resolving outstanding commissioning-related issues must be included.

Enhanced Commissioning will be performed for the following projects.

- Building B- Retail & Cinema
- Building E Hotel

Enhanced Commissioning will be considered for the following projects.

- Building A Retail & Garage
- Building C- Retail and Residential
- Building D Retail & Residential

EAc4 Enhanced Refrigerant Management

OPTION 2

Select refrigerants and HVAC&R that minimize or eliminate the emission of compounds that contribute to ozone depletion and global warming. The base building HVAC&R equipment must comply with the formula, which sets a maximum threshold for the combined contributions to ozone depletion and global warming potential.

Each of the projects will need to calculate this once final equipment is selected.

EAc5- Measurement and Verification

OPTION 3 (1 POINT)

Meet MPR 6 through compliance Option 1: Energy and Water Data Release Form. Projects must register an account in ENERGY STAR's Portfolio Manager tool and share the project file with the USGBC master account.

All projects will comply with option 3.

EAc6 – Green Power (Construction Credit)

Provide at least 35% (70% for EP) of the building's electricity from renewable sources by engaging in a renewable energy contract for a period of at least 2 years. Renewable sources are as defined by the Center for Resource Solutions (CRS) Green-e products certification requirements.
OPTION 1 - Determine the Baseline Electricity Use- Use the annual electricity consumption from the results of EA Credit 1.

All projects anticipate pursuing Green Power

MATERIALS AND RESOURCES

The project includes recycling facilities within the building for the convenience of the occupants in accordance with the requirements of the Storage and Collection of Recyclables prerequisite. A Demolition and Construction Waste Management Plan will be implemented to divert construction waste material from landfills per the Construction Waste Management credit. Building materials will be specified based on their recycled content and proximity of extraction and manufacturing locations to the project site such that points will be achieved in each of the Recycled Content and Regional Materials credits.

MRp1 -- Storage & Collection of Recyclables

Provide an easily accessible area that serves the entire building and is dedicated to the collection and storage of non-hazardous materials for recycling, including (at a minimum) paper, corrugated cardboard, glass, plastics and metals.

All SOUTH BAY buildings will have a dedicated recycling area as a part of the trash collection for the building. The project at a minimum is collecting paper, corrugated cardboard, glass, plastics and metals. An independent third party service will be taking the single stream recycled material to an off-site facility.

MRc2 Construction Waste Management (construction credit)

Recycle and/or salvage at least 50% of non-hazardous construction and demolition debris. Develop and implement a construction waste management plan that, at a minimum, identifies the materials to be diverted from disposal and whether the materials will be sorted on-site or co-mingled. Excavated soil and land-clearing debris do not contribute to this credit. Calculations can be done by weight or volume, but must be consistent throughout. The minimum percent diversion is as follows: 50% - 1 pt; 75% - 2 pts; 95% - 1 EP point.

All projects will develop and implement a construction waste management plan that, at a minimum will recycle 75% of construction waste.

MRc4 Recycled Content (Construction Credit)

Use materials with recycled content such that the sum of post-consumer recycled content plus one-half of the pre-consumer content constitutes at least 10% or 20%, based on cost, of the total value of the materials in the project. The minimum percentage materials recycled for each point is as follows: 10% - 1 pt; 20% - 2 pts; 30% for EP point. The recycled content value of a material assembly must be determined by weight. The recycled fraction of the assembly is then multiplied by the cost of assembly

to determine the recycled content value. Mechanical, electrical and plumbing components and specialty items such as elevators must not be included in this calculation. Only include materials permanently installed in the project. Furniture may be included if it is included consistently in MR Credits 3–7.

All SOUTH BAY projects plan to use materials with recycled content such that the sum of post-consumer recycled content plus one-half of the pre-consumer content constitutes at least 10% and possibly 20%, based on cost, of the total value of the materials in the project. Total materials cost and manufacturer's cut sheets showing recycled content will be included in the construction submission.

MRc5 Regional Materials (Construction Credit)

Use building materials or products that have been extracted, harvested or recovered, as well as manufactured, within 500 miles of the project site for a minimum of 10% or 20%, based on cost, of the total materials value. If only a fraction of a product or material is extracted/harvested/recovered and manufactured locally, then only that percentage (by weight) must contribute to the regional value. The minimum percentage of regional materials for each point is as follows: 10% - 1 pt; 20% - 2 pts; 30% - EP point. Mechanical, electrical and plumbing components and specialty items such as elevators and equipment must not be included in this calculation. Only include materials permanently installed in the project. Furniture may be included, providing it is included consistently in MR Credits 3–7.

All SOUTH BAY projects plan to use building materials or products that have been extracted, harvested or recovered, and manufactured, within 500 miles of the project site, for 10%-20% of the total materials value.

MRc7 Certified Wood (Construction Credit)

Use a minimum of 50% (based on cost) of wood-based materials and products that are certified in accordance with the Forest Stewardship Council's principles and criteria, for wood building components. These components include at a minimum, structural framing and general dimensional framing, flooring, sub-flooring, wood doors and finishes.

Projects A, B , and E are planning on pursuing this credit.

- Building A Retail & Garage – Will meet for retail through mechanical ventilation, garage will be open air.
- Building B- Retail & Cinema- Will meet with mechanical ventilation
- Building E Hotel- Will meet with mechanical ventilation

INDOOR ENVIRONMENTAL QUALITY

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

During construction, an indoor air quality management plan will be implemented to prevent contamination of mechanical systems and absorptive materials. Material specifications will include only low-emitting interior finishes for paints, flooring, and wood to preserve indoor air quality. Occupants will also have control over lighting and their thermal environment. The project shall be designed to meet or exceed the rates as per ASHRAE 62.1-2007 "Ventilation for Acceptable Indoor Air Quality" and will have access to daylight and views.

EQp1 Minimum IAQ Performance

Meet the minimum requirements of Sections 4 through 7 of ASHRAE 62.1-2007. Mechanical ventilation systems must be designed using the Ventilation Rate Procedure or the applicable local code, whichever is more stringent. Naturally ventilated buildings must comply with ASHRAE 62.1-2007, paragraph 5.1.

SOUTH BAY is designed to comply with the intent of this credit by meeting minimum requirements of ASHRAE 62-2007 Table 6-1 the "Minimum Ventilation Rates in Breathing Zone" or the code, whichever is greater. The required ventilation for the project meets or exceeds the amount ventilation air required by the standard in all cases and in some cases much more to account for anticipated usage.

- Building A Retail & Garage – Will meet for retail through mechanical ventilation, garage will be open air.
- Building B- Retail & Cinema- Will meet with mechanical ventilation
- Building C- Retail and Residential - Will meet for retail with mechanical ventilation, residential will be mixed mode.
- Building D Retail & Residential- Will meet for retail with mechanical ventilation, residential will be mixed mode.
- Building E Hotel- Will meet with mechanical ventilation

EQp2 Environmental Tobacco Smoke (ETS) Control

CASE 1: All Projects

OPTION 1

❑ Prohibit smoking in the building.

❑ Locate any exterior designated smoking areas at least 25 feet away from entries, outdoor air intakes and operable windows. Provide signage to allow smoking in designated areas.

Smoking is not permitted in any building. There are no dedicated exterior smoking areas

EQc2 Increased Ventilation

OPTION 1. ASHRAE STANDARD 62.1-2007 OR NON-U.S. EQUIVALENT

Calculations for mechanically ventilated buildings will be provided in the Green Building Report

EQc3.1 Construction IAQ Management Plan, (Construction Credit)

Develop and implement an Indoor Air Quality (IAQ) Management Plan for the construction and pre-occupancy phases of the building as follows:

- During construction meet or exceed the recommended Control Measures of the SMACNA IAQ Guidelines for Occupied Buildings under Construction, 2nd edition 2007, ANSI/SMACNA 008-2008 (chapter 3).
- Protect stored on-site or installed absorptive materials from moisture damage.
- If permanently installed air handlers are used during construction, filtration media with a Minimum Efficiency Reporting Value (MERV) of 8 must be used at each return air grille, as determined by ASHRAE 52.2-1999. Replace all filtration media immediately prior to occupancy.

All SOUTH BAY projects will follow all of the above requirements for implementing and documentation of SMACNA, and installation and replacement of filtration media prior to occupancy.

EQc3.2 Construction IAQ Management Plan, Pre-Occupancy (Construction Credit)

Develop an IAQ management plan and implement it after all finishes have been installed and the building has been completely cleaned before occupancy.

OPTION 1

Flushout: Install new filtration media and supply a total air volume of 14,000 cubic feet of outdoor air per square foot of floor area while maintaining an internal temperature of at least 60°F and relative humidity no higher than 60%

All projects plan to be flushed out prior to occupancy.

EQc4.1 Low-Emitting Materials, Adhesives & Sealants (construction credit)

1 Point

Adhesives and sealants used on the interior of the building (i.e. inside of the weatherproofing system and applied on-site) must comply with the following criteria:

- Adhesives, sealants and sealant primers must comply with the South Coast Air Quality Management District (SCAQMD) Rule #1168. VOC limits must be conforming to those listed in Reference Guide table.
- Aerosol Adhesives must comply with standards of Green Seal Standard for Commercial Adhesives, listed in Reference Guide table.

All SOUTH BAY projects plan to comply with the above requirements for adhesives and sealants.

EQc4.2 Low-Emitting Materials, Paints (construction credit)

Paints and coatings used on the interior of the building (i.e. inside of the weatherproofing system and applied on-site) must comply with the following criteria:

- Architectural paints and coatings applied to interior walls and ceilings must not exceed the VOC content limits established in Green Seal Standard GS-11 Paints, 1st edition.

- Anti-corrosive and anti-rust paints applied to interior ferrous metal substrates must not exceed the VOC content limit of 250 g/L established in Green Seal Standard GC-03, Anti-Corrosive Paints, 2nd edition.
- Clear wood finishes, floor coatings, stains, primers, and shellacs applied to interior elements must not exceed the VOC content limits established in South Coast Air Quality Management District (SCAQMD) Rule 113, Architectural Coatings.

All SOUTH BAY projects plan to comply with the above requirements for paints.

EQc4.3 Low-Emitting Materials, Flooring Systems (Construction Credit)

To comply with this credit, all interior carpet must meet the requirements of the Carpet and Rug Institute's Green Label Plus program, and all carpet cushion must meet the requirements of the Capet and Rug Institute Green Label program. Additionally, all carpet adhesive must meet the VOC limit of 50 g/L.

All SOUTH BAY projects plan to comply with the above requirements for flooring systems.

EQc4.4 Low-Emitting Materials, Composite Wood & Agrifiber Products (Construction Credit)

Composite products and laminating adhesives shall have no added urea-formaldehyde resins.

All South Bay projects plan to prioritize use of no added urea formaldehyde but cannot commit to achieving this for all wood products.

EQc5 Indoor Chemical & Pollutant Source Control

Design to minimize and control the entry of pollutants into buildings and later cross-contamination of regularly occupied area through the following strategies:

- Employ permanent entryway systems at last ten feet long in the primary direction of travel to capture dirt and particulates entering the building at regularly used exterior entrances.
- Sufficiently exhaust each space where hazardous gases or chemicals may be present or used (e.g. garages, housekeeping and laundry areas, science laboratories, prep rooms, art shops, shops of any kind, and copying and printing rooms) to create negative pressure with respect to adjacent spaces when the doors to the room are closed.
- In mechanically ventilated buildings, install new air filtration media in regularly occupied areas prior to occupancy; these filters must provide a minimum efficiency reporting value (MERV) of 13 or higher. Filtration should be applied to process both return and outside air that is delivered as supply air.
- Provide containment (i.e. a closed container for storage for off-site disposal in a regulatory compliant storage area, preferably outside the building) for appropriate disposal of hazardous liquid wastes in places where water and chemical concentrate mixing occurs (e.g. housekeeping, janitorial and science laboratories).

- ***Building A Retail & Garage – Will meet requirement***
- ***Building B- Retail & Cinema- Will meet requirements***
- ***Building C- Retail and Residential - Will evaluate***
- ***Building D Retail & Residential- Will evaluate***
- ***Building E Hotel-Will meet requirements***

EQc6.1 Controllability of Systems, Lighting

Provide individual lighting controls for 90% (minimum) of the building occupants to enable adjustments to suit individual task needs and preferences.

Provide lighting system controls for all learning spaces, including classrooms, laboratories, art rooms, gymnasiums, etc., to enable adjustments to suit group needs and preferences.

- ***Building A Retail & Garage – Will not meet requirement***
- ***Building B- Retail & Cinema- Will not meet requirements***
- ***Building C- Retail and Residential - Will comply***
- ***Building D Retail & Residential- Will comply***
- ***Building E Hotel-Will Comply***

EQc6.2 Controllability of Systems, Thermal Comfort

Provide individual comfort controls for 50% (minimum) of the building occupants to enable adjustments (for workspaces in school projects) to meet individual needs and preferences. Operable windows may be used in lieu of controls for occupants located 20 feet inside and 10 feet to either side of the operable part of a window.

Provide comfort control systems for all shared multi-occupant spaces to enable adjustments that meet group needs and preferences. Conditions for thermal comfort are described in ASHRAE Standard 55-2004.

- ***Building A Retail & Garage – Will not meet requirement***
- ***Building B- Retail & Cinema- Will not meet requirements***
- ***Building C- Retail and Residential - Will comply***
- ***Building D Retail & Residential- Will comply***
- ***Building E Hotel-Will Comply***

EQc7.1 Thermal Comfort, Design

Design HVAC systems and the building envelope to meet requirements of ASHRAE Standard 55-2004. Demonstrate design compliance in accordance with the Section 6.1.1 documentation.

- ***Building A Retail & Garage – Will meet requirement***
- ***Building B- Retail & Cinema- Will meet requirements***
- ***Building E Hotel-Will meet requirements***
- ***Building C- Retail and Residential - Will evaluate***
- ***Building D Retail & Residential- Will evaluate***

EQ c7.2 Thermal Comfort Verification

Achieve IEQ Credit 7.1: Thermal Comfort—Design & Agree to conduct a thermal comfort survey of building occupants (adults and students of grades 6 and above) within 6 to 18 months after occupancy. This survey should collect anonymous responses about thermal comfort in the building, including an assessment of overall satisfaction with thermal performance and identification of thermal comfort problems. Agree to develop a plan for corrective action if the survey results indicate that more than 20% of occupants are dissatisfied with thermal comfort in the building. This plan should include measurement of relevant environmental variables in problem areas in accordance with ASHRAE Standard 55-2004 (with errata but without addenda).

- ***Building A Retail & Garage – Will meet requirement***
- ***Building B- Retail & Cinema- Will meet requirements***
- ***Building E Hotel-Will meet requirements***
- ***Building C- Retail and Residential - Will evaluate based on 7.1***
- ***Building D Retail & Residential- Will evaluate based on 7.1***

Eqc8.2 Daylight and Views- Views 95% of Spaces

Achieve a direct line of sight to the outdoor environment via vision glazing between 30 inches and 90 inches (between 0.8 meters and 2.3 meters) above the finish floor for building occupants in 90% of all regularly occupied areas.

- ***Building A Retail & Garage – Will meet requirement***
- ***Building E Hotel-Will meet requirement***

INNOVATION AND DESIGN PROCESS-

The Innovation in Design and Innovation in Operations credit categories provide additional points for projects that use new and innovative technologies, achieve performance well beyond what is required by LEED credits, or utilize green building strategies that are not specifically addressed elsewhere in LEED. This credit category also rewards projects for including a LEED Accredited Professional on the team to ensure a holistic, integrated approach to design, construction, operations and maintenance. The team will determined which Innovation Credits will be pursued for each project as the design progresses.

Innovation in Design: EP Green Power

Innovation in Design: EP Alternative Transportation

Innovation in Design: Education Plan

Innovation in Design: Energy Star Appliances

Innovation in Design: TBD

Prerequisite Compliance Narrative

The project will demonstrate compliance with a minimum of certified for LEED ND. Detailed information on the specific credits will be provided once the project begins to finalize site plans.

SLL Prerequisite 1: Smart Location

Required Intent To encourage development within and near existing communities and public transit infrastructure. To encourage improvement and redevelopment of existing cities, suburbs, and towns while limiting the expansion of the development footprint in the region to appropriate circumstances. To reduce vehicle trips and vehicle distance travelled. To reduce the incidence of obesity, heart disease, and hypertension by encouraging daily physical activity associated with walking and bicycling. Requirements FOR ALL PROJECTS Either (a) locate the project on a site served by existing water and wastewater infrastructure or (b) locate the project within a legally adopted, publicly owned, planned water and wastewater service area, and provide new water and wastewater infrastructure for the project.

AND OPTION 1. Infill Sites Locate the project on an infill site.

South Bay is an infill site

SLL Prerequisite 2: Imperiled Species and Ecological Communities Conservation

Required Intent To conserve imperiled species and ecological communities. Requirements FOR ALL PROJECTS Consult with the state Natural Heritage Program and state fish and wildlife agencies (or a local equivalent for projects outside the United States) to determine whether species listed as threatened or endangered under the federal Endangered Species Act, the state's endangered species act, or species or ecological communities classified by NatureServe as GH (possibly extinct), G1 (critically imperiled), or G2 (imperiled) have been or are likely to be found on the project site because of the presence of suitable habitat and nearby occurrences (local equivalent standards for threatened and endangered species may be used by projects outside the U.S. if the site area is not covered by NatureServe data). If the consultations are inconclusive and site conditions indicate that imperiled species or ecological communities could be present, using a qualified biologist, perform biological surveys using accepted methodologies during appropriate seasons to determine whether such species or communities occur or are likely to occur on the site.

Site meets OPTION 1. Sites without Affected Species or Ecological Community The prerequisite is satisfied if the consultation and any necessary biological surveys determine that no such imperiled species or ecological communities have been found or have a high likelihood of occurring.

SLL Prerequisite 3: Wetland and Water Body Conservation

To preserve water quality, natural hydrology, habitat, and biodiversity through conservation of wetlands and water bodies. Requirements Limit development effects on wetlands, water bodies, and surrounding buffer land according to the requirements below.

Site meets OPTION 1. Sites with No Wetlands, Water Bodies, Land within 50 Feet (15 meters) of Wetlands, or Land within 100 Feet (30 meters) of Water Bodies Locate the project on a site that includes no wetlands, no water bodies, no land within 50 feet (15 meters) of wetlands, and no land within 100 feet (30 meters) of water bodies.

SLL Prerequisite 4: Agricultural Land Conservation

To preserve irreplaceable agricultural resources by protecting prime and unique soils on farmland and forestland from development.

FOR ALL PROJECTS Locate the project on a site that is not within a state or locally designated agricultural preservation district, unless any changes made to the site conform to the requirements for development within the district (as used in this requirement, "district" does not equate to land-use zoning). AND

OPTION 1. Protected Soils Not Impacted Locate the project development footprint such that it does not disturb prime soils, unique soils, or soils of state significance as identified in a state Natural Resources Conservation Service soil survey.

OR OPTION 2. Infill Sites Locate the project on an infill site.

OR OPTION 3. Sites Served by Transit Comply with SLL Prerequisite 1, Option 3, Transit Corridor or Route with Adequate Transit Service.

Site meets option 1,2,3

SLL Prerequisite 5: Floodplain Avoidance

Required Intent To protect life and property, promote open space and habitat conservation, and enhance water quality and natural hydrological systems. Requirement

Site meets OPTION 1. Sites without Floodplains Locate on a site that does not contain any land within a 100-year high- or moderate-risk floodplain as defined and mapped by the Federal Emergency Management Agency (FEMA) (or a local equivalent for projects outside the U.S.) or a state or local floodplain management agency., whichever is more recent. For projects in places without legally adopted flood hazard maps or legal designations, locate on a site that is entirely outside any floodplain subject to a 1% or greater chance of flooding in any given year

Neighborhood Pattern and Design (NPD)

Prerequisite 1 Walkable Streets

Design and build the project to achieve all of the following:

a. For 90% of new building frontage, a principal functional entry on the front facade faces a public space, such as a street, square, park, paseo, or plaza, but not a parking lot, and is connected to sidewalks or equivalent provisions for walking. The square, park, or plaza must be at least 50 feet wide at a point perpendicular to each entry.

b. At least 15% of existing and new street frontage within and bordering the project has a minimum building-height-to-street-width ratio of 1:3 (i.e., a minimum of 1 foot of building height for every 3 feet of street width). Nonmotorized rights-of-way may be counted toward the 15% requirement, but 100% of such spaces must have a minimum building-height-to-street-width ratio of 1:1. Projects with bordering street frontage must meet only their proportional share of the height-to-width ratio (i.e., only on the project side of the street). Street frontage is measured in linear feet. Building height is measured to eaves or the top of the roof for a flat-roof structure, and street width is measured facade to facade. For block frontages with multiple heights and/or widths, use average heights or widths weighted by each segment's linear share of the total block distance. Alleys and driveways are excluded.

c. Continuous sidewalks or equivalent all-weather provisions for walking are provided along both sides of 90% of streets or frontage within the project, including the project side of streets bordering the project. New sidewalks, whether adjacent to streets or not, must be at least 8 feet wide on retail or mixed-use blocks and at least 4 feet wide on all other blocks. Equivalent provisions for walking include woonerfs and allweather-surface footpaths. Alleys, driveways, and reconstructed existing sidewalks are excluded from these calculations.

d. No more than 20% of the street frontages within the project are faced directly by garage and service bay openings. CONFIRM Projects in a designated historic district subject to review by a local historic preservation entity are exempt from (b), (c), and (d) if approval for compliance is not granted by the review body. Projects in historic districts listed in or eligible for listing in a state register or the National Register of Historic Places that are subject to review by a state historic preservation office or the National Park Service are exempt from (b), (c), and (d) if approval for compliance is not granted.

Project Plan will confirm compliance in the Final Green Building Submission

NPD Prerequisite 2: Compact Development

OPTION 1. Projects in Transit Corridors

For projects with existing and/or planned transit service (i.e., service with the funding commitments specified in SLL Prerequisite 1, Smart Location) that meets or exceeds

the 2-point threshold in SLL Credit 3, Locations with Reduced Automobile Dependence,

Option 1, build at the following densities, based on the walk distances to the transit service specified in SLL Credit 3:

a. For residential components located within the walk distances: 12 or more dwelling units per acre of buildable land available for residential uses.

b. For residential components falling outside the walk distances: 7 or more dwelling units per acre of buildable land available for residential uses.

c. For nonresidential components located within the walk distances: 0.80 floor-area ratio (FAR) or greater of buildable land available for nonresidential uses.

d. or nonresidential components falling outside the walk distances: 0.50 FAR or greater of buildable land available for nonresidential uses.

If the project location is served by a transit agency that has specified guidelines for minimum service densities that are greater than the densities required by this prerequisite, the project must achieve those service densities instead.

OR
OPTION 2. All Other Projects
Build any residential components of the project at a density of 7 dwelling units per acre of buildable land available for residential uses.
AND
Build any nonresidential components of the project at a density of 0.50 FAR or greater of buildable land available for nonresidential uses.

Density of Project
Step 1. Determine the total number of residential dwelling units and the total nonresidential square footage in the project.
Step 2. Determine the total buildable land for residential and nonresidential development.
Step 3. Calculate residential density in dwelling units per acre

Project Plan will confirm compliance in the Final Green Building Submission

NPD PREREQUISITE 3 Connected and Open Community
OPTION 1. Projects with Internal Streets
Design and build the project such that its internal connectivity is at least 140 intersections per square mile. All streets and sidewalks that are counted toward the connectivity must be available for general

public use and not gated. Gated areas are not considered available for public use, with the exception of education and health care campuses and military bases where gates are used for security purposes.
AND
Design and build the project with at least one through-street and/or nonmotorized right-of-way intersecting or terminating at the project boundary at least every 800 feet, or at existing abutting street intervals and intersections, whichever is the shorter distance. Nonmotorized rights-of-way may count for no more than 20% of the total. This does not apply to portions of the boundary where connections cannot be made because of physical obstacles, such as prior platting of property, construction of existing buildings or other barriers, slopes over 15%, wetlands and water bodies, railroad and utility rights-of-way, existing limited-access motor vehicle rights-of-way, and parks and dedicated open space.

Project Plan will confirm compliance in the Final Green Building Submission

Green Infrastructure and Buildings (GIB)

Prerequisite 1 Certified Green Building

Design, construct, or retrofit one whole building within the project to be certified through

LEED for New Construction, all building projects will be LEED Certifiable

Minimum Building Energy Efficiency GIB PREREQUISITE 2

All building will meet a minimum of 20% energy cost reduction as required by the Stretch code

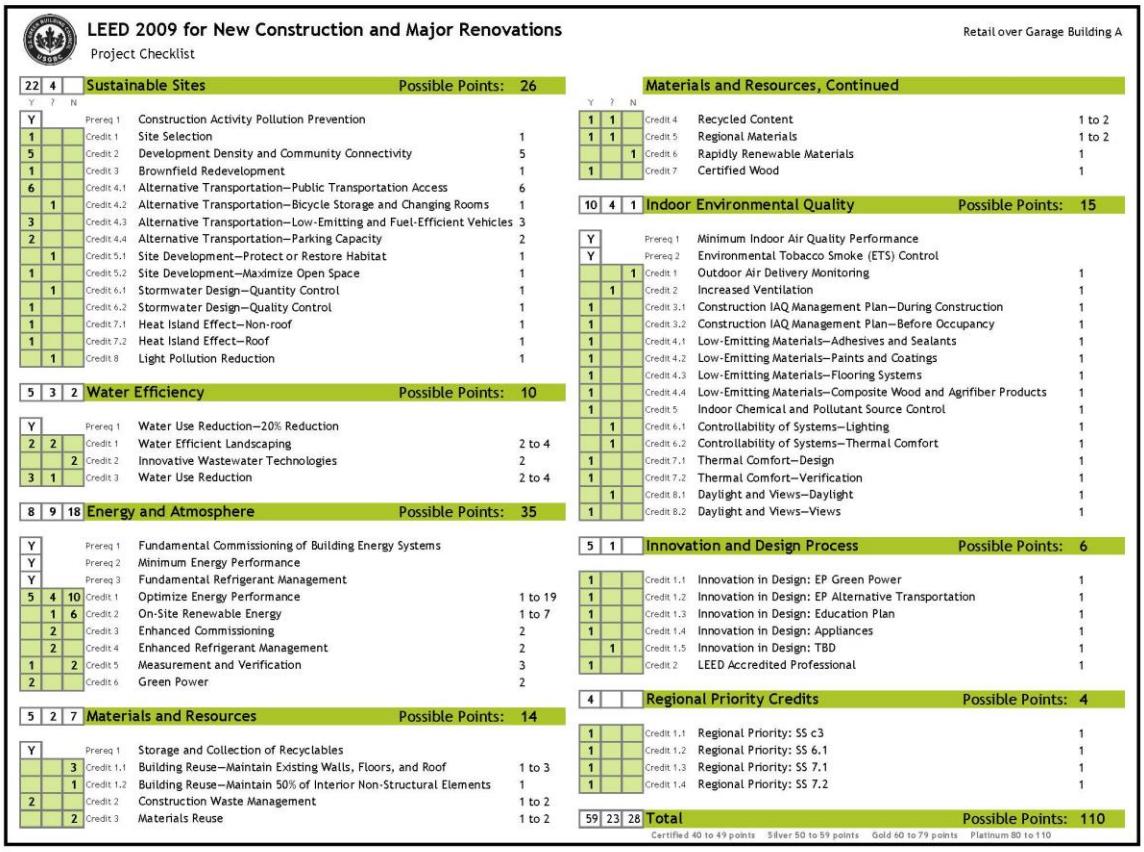
Minimum Building Water Efficiency GIB PREREQUISITE 3

All Building will meet and exceed the 20% reduction requirement

Prerequisite 4 Construction Activity Pollution Prevention

All projects will meet the requirement through LEED BD&C

LEED SCORECARDS



LEED 2009 for New Construction and Major Renovations

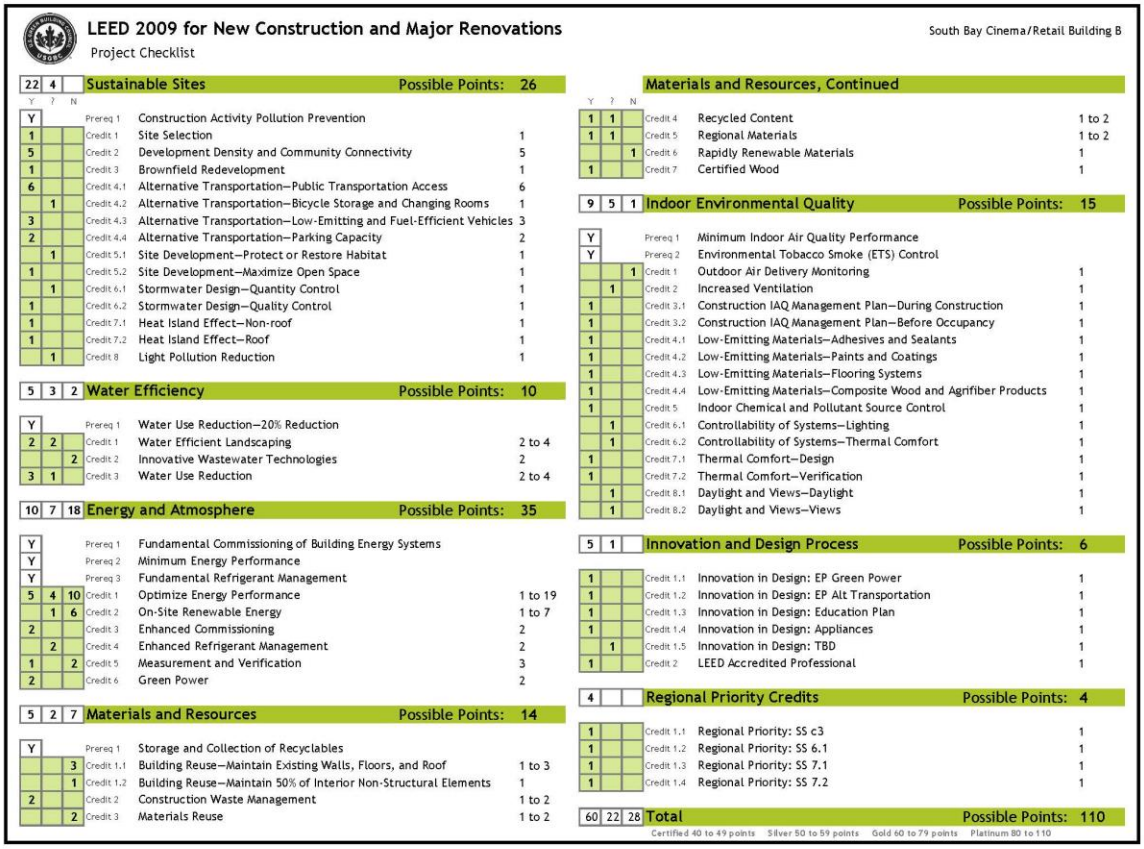
Project Checklist

Retail over Garage Building A

Y	?	N			
22	4		**Sustainable Sites**	**Possible Points:**	**26**
Y			Prereq 1	Construction Activity Pollution Prevention	
1			Credit 1	Site Selection	1
5			Credit 2	Development Density and Community Connectivity	5
1			Credit 3	Brownfield Redevelopment	1
6			Credit 4.1	Alternative Transportation—Public Transportation Access	6
	1		Credit 4.2	Alternative Transportation—Bicycle Storage and Changing Rooms	1
3			Credit 4.3	Alternative Transportation—Low-Emitting and Fuel-Efficient Vehicles	3
2			Credit 4.4	Alternative Transportation—Parking Capacity	2
	1		Credit 5.1	Site Development—Protect or Restore Habitat	1
1			Credit 5.2	Site Development—Maximize Open Space	1
	1		Credit 6.1	Stormwater Design—Quantity Control	1
1			Credit 6.2	Stormwater Design—Quality Control	1
1			Credit 7.1	Heat Island Effect—Non-roof	1
1			Credit 7.2	Heat Island Effect—Roof	1
	1		Credit 8	Light Pollution Reduction	1
5	3	2	**Water Efficiency**	**Possible Points:**	**10**
Y			Prereq 1	Water Use Reduction—20% Reduction	
2	2		Credit 1	Water Efficient Landscaping	2 to 4
		2	Credit 2	Innovative Wastewater Technologies	2
3	1		Credit 3	Water Use Reduction	2 to 4
8	9	18	**Energy and Atmosphere**	**Possible Points:**	**35**
Y			Prereq 1	Fundamental Commissioning of Building Energy Systems	
Y			Prereq 2	Minimum Energy Performance	
Y			Prereq 3	Fundamental Refrigerant Management	
5	4	10	Credit 1	Optimize Energy Performance	1 to 19
	1	6	Credit 2	On-Site Renewable Energy	1 to 7
	2		Credit 3	Enhanced Commissioning	2
	2		Credit 4	Enhanced Refrigerant Management	2
1		2	Credit 5	Measurement and Verification	3
2			Credit 6	Green Power	2
5	2	7	**Materials and Resources**	**Possible Points:**	**14**
Y			Prereq 1	Storage and Collection of Recyclables	
		3	Credit 1.1	Building Reuse—Maintain Existing Walls, Floors, and Roof	1 to 3
		1	Credit 1.2	Building Reuse—Maintain 50% of Interior Non-Structural Elements	1
2			Credit 2	Construction Waste Management	1 to 2
		2	Credit 3	Materials Reuse	1 to 2

Y	?	N			
			Materials and Resources, Continued		
1	1		Credit 4	Recycled Content	1 to 2
1	1		Credit 5	Regional Materials	1 to 2
		1	Credit 6	Rapidly Renewable Materials	1
1			Credit 7	Certified Wood	1
10	4	1	**Indoor Environmental Quality**	**Possible Points:**	**15**
Y			Prereq 1	Minimum Indoor Air Quality Performance	
Y			Prereq 2	Environmental Tobacco Smoke (ETS) Control	
		1	Credit 1	Outdoor Air Delivery Monitoring	1
	1		Credit 2	Increased Ventilation	1
1			Credit 3.1	Construction IAQ Management Plan—During Construction	1
1			Credit 3.2	Construction IAQ Management Plan—Before Occupancy	1
1			Credit 4.1	Low-Emitting Materials—Adhesives and Sealants	1
1			Credit 4.2	Low-Emitting Materials—Paints and Coatings	1
1			Credit 4.3	Low-Emitting Materials—Flooring Systems	1
1			Credit 4.4	Low-Emitting Materials—Composite Wood and Agrifiber Products	1
1			Credit 5	Indoor Chemical and Pollutant Source Control	1
	1		Credit 6.1	Controllability of Systems—Lighting	1
	1		Credit 6.2	Controllability of Systems—Thermal Comfort	1
1			Credit 7.1	Thermal Comfort—Design	1
1			Credit 7.2	Thermal Comfort—Verification	1
	1		Credit 8.1	Daylight and Views—Daylight	1
1			Credit 8.2	Daylight and Views—Views	1
5	1		**Innovation and Design Process**	**Possible Points:**	**6**
1			Credit 1.1	Innovation in Design: EP Green Power	1
1			Credit 1.2	Innovation in Design: EP Alternative Transportation	1
1			Credit 1.3	Innovation in Design: Education Plan	1
1			Credit 1.4	Innovation in Design: Appliances	1
	1		Credit 1.5	Innovation in Design: TBD	1
1			Credit 2	LEED Accredited Professional	1
4			**Regional Priority Credits**	**Possible Points:**	**4**
1			Credit 1.1	Regional Priority: SS c3	1
1			Credit 1.2	Regional Priority: SS 6.1	1
1			Credit 1.3	Regional Priority: SS 7.1	1
1			Credit 1.4	Regional Priority: SS 7.2	1
59	23	28	**Total**	**Possible Points:**	**110**

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



LEED 2009 for New Construction and Major Renovations

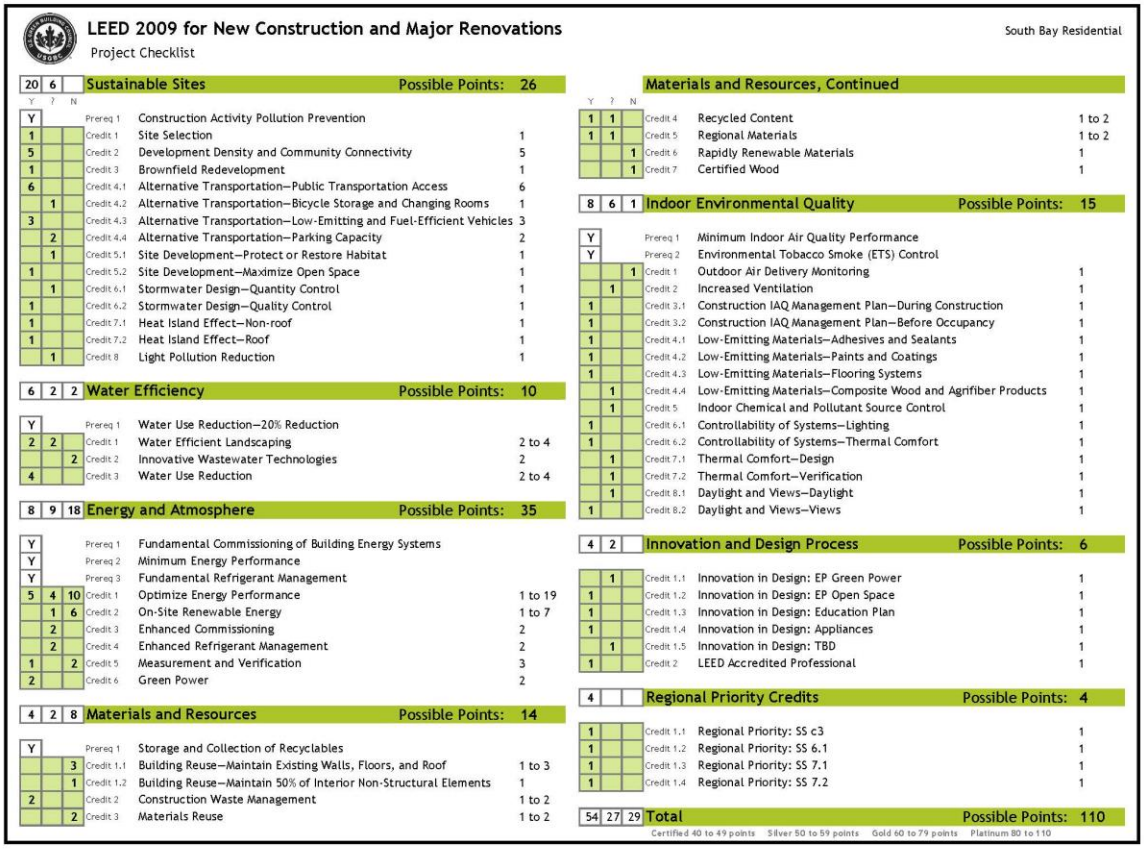
Project Checklist

South Bay Cinema/Retail Building B

Y	?	N			
22	4		**Sustainable Sites**	**Possible Points:**	**26**
Y			Prereq 1	Construction Activity Pollution Prevention	
1			Credit 1	Site Selection	1
5			Credit 2	Development Density and Community Connectivity	5
1			Credit 3	Brownfield Redevelopment	1
6			Credit 4.1	Alternative Transportation—Public Transportation Access	6
	1		Credit 4.2	Alternative Transportation—Bicycle Storage and Changing Rooms	1
3			Credit 4.3	Alternative Transportation—Low-Emitting and Fuel-Efficient Vehicles	3
2			Credit 4.4	Alternative Transportation—Parking Capacity	2
	1		Credit 5.1	Site Development—Protect or Restore Habitat	1
1			Credit 5.2	Site Development—Maximize Open Space	1
	1		Credit 6.1	Stormwater Design—Quantity Control	1
1			Credit 6.2	Stormwater Design—Quality Control	1
1			Credit 7.1	Heat Island Effect—Non-roof	1
1			Credit 7.2	Heat Island Effect—Roof	1
	1		Credit 8	Light Pollution Reduction	1
5	3	2	**Water Efficiency**	**Possible Points:**	**10**
Y			Prereq 1	Water Use Reduction—20% Reduction	
2	2		Credit 1	Water Efficient Landscaping	2 to 4
		2	Credit 2	Innovative Wastewater Technologies	2
3	1		Credit 3	Water Use Reduction	2 to 4
10	7	18	**Energy and Atmosphere**	**Possible Points:**	**35**
Y			Prereq 1	Fundamental Commissioning of Building Energy Systems	
Y			Prereq 2	Minimum Energy Performance	
Y			Prereq 3	Fundamental Refrigerant Management	
5	4	10	Credit 1	Optimize Energy Performance	1 to 19
	1	6	Credit 2	On-Site Renewable Energy	1 to 7
2			Credit 3	Enhanced Commissioning	2
	2		Credit 4	Enhanced Refrigerant Management	2
1		2	Credit 5	Measurement and Verification	3
2			Credit 6	Green Power	2
5	2	7	**Materials and Resources**	**Possible Points:**	**14**
Y			Prereq 1	Storage and Collection of Recyclables	
		3	Credit 1.1	Building Reuse—Maintain Existing Walls, Floors, and Roof	1 to 3
		1	Credit 1.2	Building Reuse—Maintain 50% of Interior Non-Structural Elements	1
2			Credit 2	Construction Waste Management	1 to 2
		2	Credit 3	Materials Reuse	1 to 2

Y	?	N			
			Materials and Resources, Continued		
1	1		Credit 4	Recycled Content	1 to 2
1	1		Credit 5	Regional Materials	1 to 2
		1	Credit 6	Rapidly Renewable Materials	1
1			Credit 7	Certified Wood	1
9	5	1	**Indoor Environmental Quality**	**Possible Points:**	**15**
Y			Prereq 1	Minimum Indoor Air Quality Performance	
Y			Prereq 2	Environmental Tobacco Smoke (ETS) Control	
		1	Credit 1	Outdoor Air Delivery Monitoring	1
	1		Credit 2	Increased Ventilation	1
1			Credit 3.1	Construction IAQ Management Plan—During Construction	1
1			Credit 3.2	Construction IAQ Management Plan—Before Occupancy	1
1			Credit 4.1	Low-Emitting Materials—Adhesives and Sealants	1
1			Credit 4.2	Low-Emitting Materials—Paints and Coatings	1
1			Credit 4.3	Low-Emitting Materials—Flooring Systems	1
1			Credit 4.4	Low-Emitting Materials—Composite Wood and Agrifiber Products	1
1			Credit 5	Indoor Chemical and Pollutant Source Control	1
	1		Credit 6.1	Controllability of Systems—Lighting	1
	1		Credit 6.2	Controllability of Systems—Thermal Comfort	1
1			Credit 7.1	Thermal Comfort—Design	1
1			Credit 7.2	Thermal Comfort—Verification	1
	1		Credit 8.1	Daylight and Views—Daylight	1
	1		Credit 8.2	Daylight and Views—Views	1
5	1		**Innovation and Design Process**	**Possible Points:**	**6**
1			Credit 1.1	Innovation in Design: EP Green Power	1
1			Credit 1.2	Innovation in Design: EP Alt Transportation	1
1			Credit 1.3	Innovation in Design: Education Plan	1
1			Credit 1.4	Innovation in Design: Appliances	1
	1		Credit 1.5	Innovation in Design: TBD	1
1			Credit 2	LEED Accredited Professional	1
4			**Regional Priority Credits**	**Possible Points:**	**4**
1			Credit 1.1	Regional Priority: SS c3	1
1			Credit 1.2	Regional Priority: SS 6.1	1
1			Credit 1.3	Regional Priority: SS 7.1	1
1			Credit 1.4	Regional Priority: SS 7.2	1
60	22	28	**Total**	**Possible Points:**	**110**

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



LEED 2009 for New Construction and Major Renovations

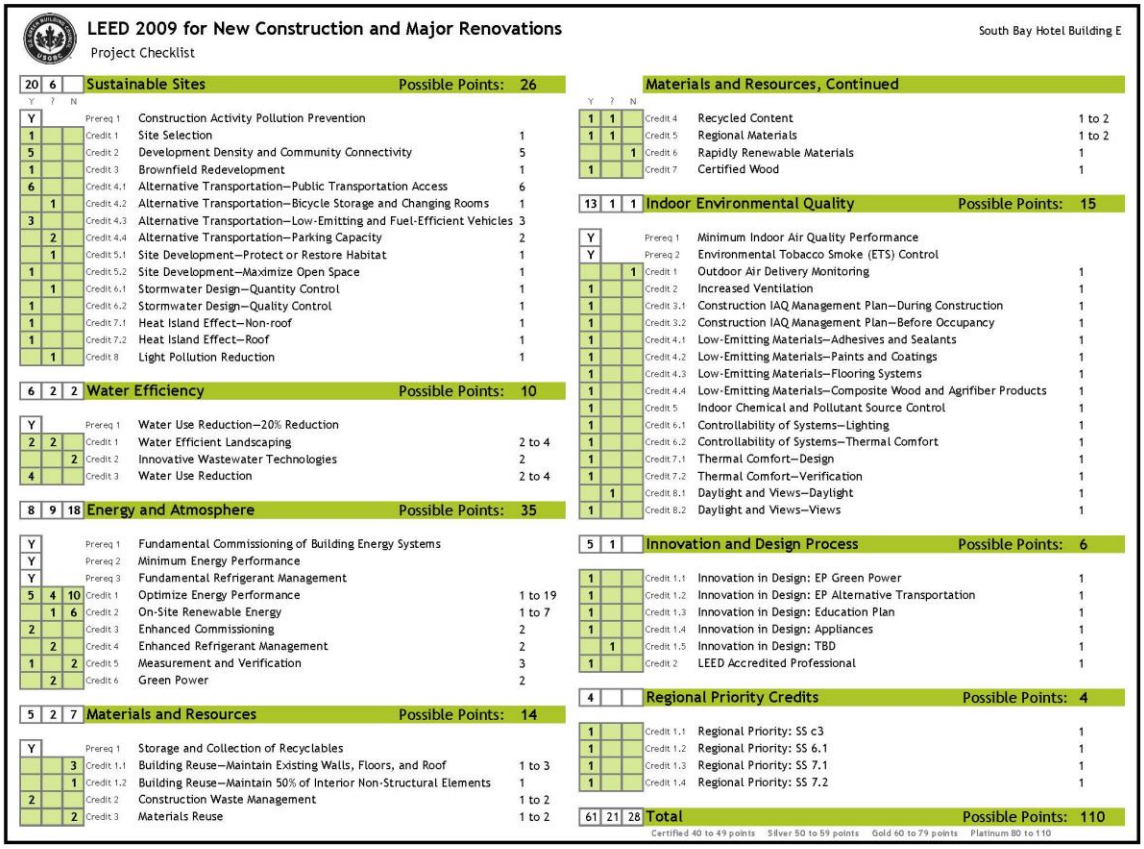
Project Checklist

South Bay Residential

Y	?	N			
20	6		**Sustainable Sites**	**Possible Points:**	**26**
Y			Prereq 1	Construction Activity Pollution Prevention	
1			Credit 1	Site Selection	1
5			Credit 2	Development Density and Community Connectivity	5
1			Credit 3	Brownfield Redevelopment	1
6			Credit 4.1	Alternative Transportation—Public Transportation Access	6
	1		Credit 4.2	Alternative Transportation—Bicycle Storage and Changing Rooms	1
3			Credit 4.3	Alternative Transportation—Low-Emitting and Fuel-Efficient Vehicles	3
	2		Credit 4.4	Alternative Transportation—Parking Capacity	2
	1		Credit 5.1	Site Development—Protect or Restore Habitat	1
1			Credit 5.2	Site Development—Maximize Open Space	1
	1		Credit 6.1	Stormwater Design—Quantity Control	1
1			Credit 6.2	Stormwater Design—Quality Control	1
1			Credit 7.1	Heat Island Effect—Non-roof	1
1			Credit 7.2	Heat Island Effect—Roof	1
	1		Credit 8	Light Pollution Reduction	1
6	2	2	**Water Efficiency**	**Possible Points:**	**10**
Y			Prereq 1	Water Use Reduction—20% Reduction	
2	2		Credit 1	Water Efficient Landscaping	2 to 4
		2	Credit 2	Innovative Wastewater Technologies	2
4			Credit 3	Water Use Reduction	2 to 4
8	9	18	**Energy and Atmosphere**	**Possible Points:**	**35**
Y			Prereq 1	Fundamental Commissioning of Building Energy Systems	
Y			Prereq 2	Minimum Energy Performance	
Y			Prereq 3	Fundamental Refrigerant Management	
5	4	10	Credit 1	Optimize Energy Performance	1 to 19
	1	6	Credit 2	On-Site Renewable Energy	1 to 7
	2		Credit 3	Enhanced Commissioning	2
	2		Credit 4	Enhanced Refrigerant Management	2
1		2	Credit 5	Measurement and Verification	3
2			Credit 6	Green Power	2
4	2	8	**Materials and Resources**	**Possible Points:**	**14**
Y			Prereq 1	Storage and Collection of Recyclables	
		3	Credit 1.1	Building Reuse—Maintain Existing Walls, Floors, and Roof	1 to 3
		1	Credit 1.2	Building Reuse—Maintain 50% of Interior Non-Structural Elements	1
2			Credit 2	Construction Waste Management	1 to 2
		2	Credit 3	Materials Reuse	1 to 2

Y	?	N			
			Materials and Resources, Continued		
1	1		Credit 4	Recycled Content	1 to 2
1	1		Credit 5	Regional Materials	1 to 2
		1	Credit 6	Rapidly Renewable Materials	1
		1	Credit 7	Certified Wood	1
8	6	1	**Indoor Environmental Quality**	**Possible Points:**	**15**
Y			Prereq 1	Minimum Indoor Air Quality Performance	
Y			Prereq 2	Environmental Tobacco Smoke (ETS) Control	
		1	Credit 1	Outdoor Air Delivery Monitoring	1
	1		Credit 2	Increased Ventilation	1
1			Credit 3.1	Construction IAQ Management Plan—During Construction	1
1			Credit 3.2	Construction IAQ Management Plan—Before Occupancy	1
1			Credit 4.1	Low-Emitting Materials—Adhesives and Sealants	1
1			Credit 4.2	Low-Emitting Materials—Paints and Coatings	1
1			Credit 4.3	Low-Emitting Materials—Flooring Systems	1
	1		Credit 4.4	Low-Emitting Materials—Composite Wood and Agrifiber Products	1
	1		Credit 5	Indoor Chemical and Pollutant Source Control	1
1			Credit 6.1	Controllability of Systems—Lighting	1
1			Credit 6.2	Controllability of Systems—Thermal Comfort	1
	1		Credit 7.1	Thermal Comfort—Design	1
	1		Credit 7.2	Thermal Comfort—Verification	1
	1		Credit 8.1	Daylight and Views—Daylight	1
1			Credit 8.2	Daylight and Views—Views	1
4	2		**Innovation and Design Process**	**Possible Points:**	**6**
	1		Credit 1.1	Innovation in Design: EP Green Power	1
1			Credit 1.2	Innovation in Design: EP Open Space	1
1			Credit 1.3	Innovation in Design: Education Plan	1
1			Credit 1.4	Innovation in Design: Appliances	1
	1		Credit 1.5	Innovation in Design: TBD	1
1			Credit 2	LEED Accredited Professional	1
4			**Regional Priority Credits**	**Possible Points:**	**4**
1			Credit 1.1	Regional Priority: SS c3	1
1			Credit 1.2	Regional Priority: SS 6.1	1
1			Credit 1.3	Regional Priority: SS 7.1	1
1			Credit 1.4	Regional Priority: SS 7.2	1
54	27	29	**Total**	**Possible Points:**	**110**

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



LEED 2009 for New Construction and Major Renovations

Project Checklist

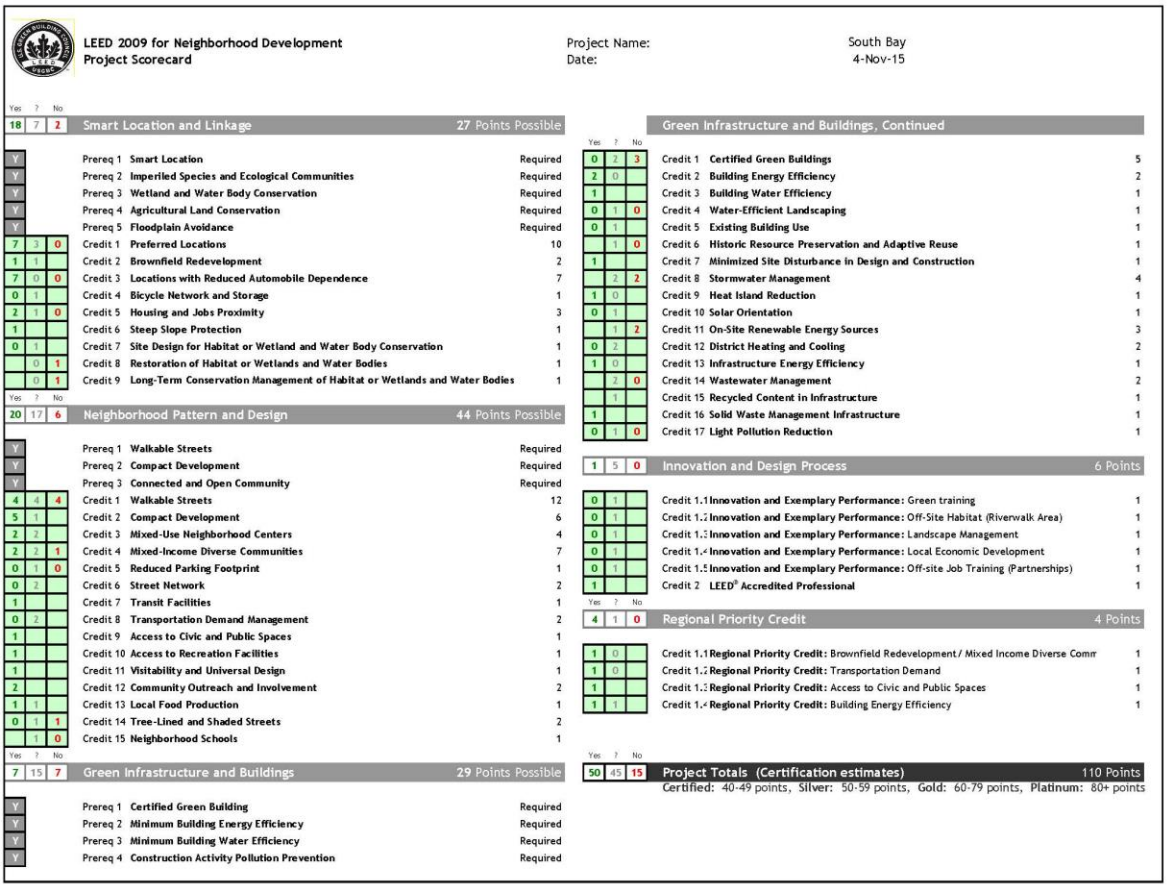
South Bay Hotel Building E

Y	?	N			
20	6		**Sustainable Sites**	**Possible Points:**	**26**
Y			Prereq 1	Construction Activity Pollution Prevention	
1			Credit 1	Site Selection	1
5			Credit 2	Development Density and Community Connectivity	5
1			Credit 3	Brownfield Redevelopment	1
6			Credit 4.1	Alternative Transportation—Public Transportation Access	6
	1		Credit 4.2	Alternative Transportation—Bicycle Storage and Changing Rooms	1
3			Credit 4.3	Alternative Transportation—Low-Emitting and Fuel-Efficient Vehicles	3
	2		Credit 4.4	Alternative Transportation—Parking Capacity	2
	1		Credit 5.1	Site Development—Protect or Restore Habitat	1
1			Credit 5.2	Site Development—Maximize Open Space	1
	1		Credit 6.1	Stormwater Design—Quantity Control	1
1			Credit 6.2	Stormwater Design—Quality Control	1
1			Credit 7.1	Heat Island Effect—Non-roof	1
1			Credit 7.2	Heat Island Effect—Roof	1
	1		Credit 8	Light Pollution Reduction	1
6	2	2	**Water Efficiency**	**Possible Points:**	**10**
Y			Prereq 1	Water Use Reduction—20% Reduction	
2	2		Credit 1	Water Efficient Landscaping	2 to 4
		2	Credit 2	Innovative Wastewater Technologies	2
4			Credit 3	Water Use Reduction	2 to 4
8	9	18	**Energy and Atmosphere**	**Possible Points:**	**35**
Y			Prereq 1	Fundamental Commissioning of Building Energy Systems	
Y			Prereq 2	Minimum Energy Performance	
Y			Prereq 3	Fundamental Refrigerant Management	
5	4	10	Credit 1	Optimize Energy Performance	1 to 19
	1	6	Credit 2	On-Site Renewable Energy	1 to 7
2			Credit 3	Enhanced Commissioning	2
	2		Credit 4	Enhanced Refrigerant Management	2
1		2	Credit 5	Measurement and Verification	3
	2		Credit 6	Green Power	2
5	2	7	**Materials and Resources**	**Possible Points:**	**14**
Y			Prereq 1	Storage and Collection of Recyclables	
		3	Credit 1.1	Building Reuse—Maintain Existing Walls, Floors, and Roof	1 to 3
		1	Credit 1.2	Building Reuse—Maintain 50% of Interior Non-Structural Elements	1
2			Credit 2	Construction Waste Management	1 to 2
		2	Credit 3	Materials Reuse	1 to 2

Y	?	N			
			Materials and Resources, Continued		
1	1		Credit 4	Recycled Content	1 to 2
1	1		Credit 5	Regional Materials	1 to 2
		1	Credit 6	Rapidly Renewable Materials	1
1			Credit 7	Certified Wood	1
13	1	1	**Indoor Environmental Quality**	**Possible Points:**	**15**
Y			Prereq 1	Minimum Indoor Air Quality Performance	
Y			Prereq 2	Environmental Tobacco Smoke (ETS) Control	
		1	Credit 1	Outdoor Air Delivery Monitoring	1
1			Credit 2	Increased Ventilation	1
1			Credit 3.1	Construction IAQ Management Plan—During Construction	1
1			Credit 3.2	Construction IAQ Management Plan—Before Occupancy	1
1			Credit 4.1	Low-Emitting Materials—Adhesives and Sealants	1
1			Credit 4.2	Low-Emitting Materials—Paints and Coatings	1
1			Credit 4.3	Low-Emitting Materials—Flooring Systems	1
1			Credit 4.4	Low-Emitting Materials—Composite Wood and Agrifiber Products	1
1			Credit 5	Indoor Chemical and Pollutant Source Control	1
1			Credit 6.1	Controllability of Systems—Lighting	1
1			Credit 6.2	Controllability of Systems—Thermal Comfort	1
1			Credit 7.1	Thermal Comfort—Design	1
1			Credit 7.2	Thermal Comfort—Verification	1
	1		Credit 8.1	Daylight and Views—Daylight	1
1			Credit 8.2	Daylight and Views—Views	1
5	1		**Innovation and Design Process**	**Possible Points:**	**6**
1			Credit 1.1	Innovation in Design: EP Green Power	1
1			Credit 1.2	Innovation in Design: EP Alternative Transportation	1
1			Credit 1.3	Innovation in Design: Education Plan	1
1			Credit 1.4	Innovation in Design: Appliances	1
	1		Credit 1.5	Innovation in Design: TBD	1
1			Credit 2	LEED Accredited Professional	1
4			**Regional Priority Credits**	**Possible Points:**	**4**
1			Credit 1.1	Regional Priority: SS c3	1
1			Credit 1.2	Regional Priority: SS 6.1	1
1			Credit 1.3	Regional Priority: SS 7.1	1
1			Credit 1.4	Regional Priority: SS 7.2	1
61	21	28	**Total**	**Possible Points:**	**110**

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

cc



LEED 2009 for Neighborhood Development
Project Scorecard

Project Name: South Bay
Date: 4-Nov-15

Yes	?	No	Smart Location and Linkage	27 Points Possible
18	7	2		
Y			Prereq 1 **Smart Location**	Required
Y			Prereq 2 **Imperiled Species and Ecological Communities**	Required
Y			Prereq 3 **Wetland and Water Body Conservation**	Required
Y			Prereq 4 **Agricultural Land Conservation**	Required
Y			Prereq 5 **Floodplain Avoidance**	Required
7	3	0	Credit 1 **Preferred Locations**	10
1	1		Credit 2 **Brownfield Redevelopment**	2
7	0	0	Credit 3 **Locations with Reduced Automobile Dependence**	7
0	1		Credit 4 **Bicycle Network and Storage**	1
2	1	0	Credit 5 **Housing and Jobs Proximity**	3
1			Credit 6 **Steep Slope Protection**	1
0	1		Credit 7 **Site Design for Habitat or Wetland and Water Body Conservation**	1
	0	1	Credit 8 **Restoration of Habitat or Wetlands and Water Bodies**	1
	0	1	Credit 9 **Long-Term Conservation Management of Habitat or Wetlands and Water Bodies**	1

Yes	?	No	Neighborhood Pattern and Design	44 Points Possible
20	17	6		
Y			Prereq 1 **Walkable Streets**	Required
Y			Prereq 2 **Compact Development**	Required
Y			Prereq 3 **Connected and Open Community**	Required
4	4	4	Credit 1 **Walkable Streets**	12
5	1		Credit 2 **Compact Development**	6
2	2		Credit 3 **Mixed-Use Neighborhood Centers**	4
2	2	1	Credit 4 **Mixed-Income Diverse Communities**	7
0	1	0	Credit 5 **Reduced Parking Footprint**	1
0	2		Credit 6 **Street Network**	2
1			Credit 7 **Transit Facilities**	1
0	2		Credit 8 **Transportation Demand Management**	2
1			Credit 9 **Access to Civic and Public Spaces**	1
1			Credit 10 **Access to Recreation Facilities**	1
1			Credit 11 **Visitability and Universal Design**	1
2			Credit 12 **Community Outreach and Involvement**	2
1	1		Credit 13 **Local Food Production**	1
0	1	1	Credit 14 **Tree-Lined and Shaded Streets**	2
	1	0	Credit 15 **Neighborhood Schools**	1

Yes	?	No	Green Infrastructure and Buildings	29 Points Possible
7	15	7		
Y			Prereq 1 **Certified Green Building**	Required
Y			Prereq 2 **Minimum Building Energy Efficiency**	Required
Y			Prereq 3 **Minimum Building Water Efficiency**	Required
Y			Prereq 4 **Construction Activity Pollution Prevention**	Required

Yes	?	No	Green Infrastructure and Buildings, Continued	
0	2	3	Credit 1 **Certified Green Buildings**	5
2	0		Credit 2 **Building Energy Efficiency**	2
1			Credit 3 **Building Water Efficiency**	1
0	1	0	Credit 4 **Water-Efficient Landscaping**	1
0	1		Credit 5 **Existing Building Use**	1
	1	0	Credit 6 **Historic Resource Preservation and Adaptive Reuse**	1
1			Credit 7 **Minimized Site Disturbance in Design and Construction**	1
	2	2	Credit 8 **Stormwater Management**	4
1	0		Credit 9 **Heat Island Reduction**	1
0	1		Credit 10 **Solar Orientation**	1
	1	2	Credit 11 **On-Site Renewable Energy Sources**	3
0	2		Credit 12 **District Heating and Cooling**	2
1	0		Credit 13 **Infrastructure Energy Efficiency**	1
	2	0	Credit 14 **Wastewater Management**	2
	1		Credit 15 **Recycled Content in Infrastructure**	1
1			Credit 16 **Solid Waste Management Infrastructure**	1
0	1	0	Credit 17 **Light Pollution Reduction**	1

			Innovation and Design Process	6 Points
1	5	0		
0	1		Credit 1.1 **Innovation and Exemplary Performance:** Green training	1
0	1		Credit 1.2 **Innovation and Exemplary Performance:** Off-Site Habitat (Riverwalk Area)	1
0	1		Credit 1.3 **Innovation and Exemplary Performance:** Landscape Management	1
0	1		Credit 1.4 **Innovation and Exemplary Performance:** Local Economic Development	1
0	1		Credit 1.5 **Innovation and Exemplary Performance:** Off-site Job Training (Partnerships)	1
1			Credit 2 **LEED® Accredited Professional**	1

Yes	?	No	Regional Priority Credit	4 Points
4	1	0		
1	0		Credit 1.1 **Regional Priority Credit:** Brownfield Redevelopment / Mixed Income Diverse Comm	1
1	0		Credit 1.2 **Regional Priority Credit:** Transportation Demand	1
1			Credit 1.3 **Regional Priority Credit:** Access to Civic and Public Spaces	1
1	1		Credit 1.4 **Regional Priority Credit:** Building Energy Efficiency	1

Yes	?	No	Project Totals (Certification estimates)	110 Points
50	45	15		

Certified: 40-49 points, **Silver:** 50-59 points, **Gold:** 60-79 points, **Platinum:** 80+ points

Appendix H

BRA SCOPING DETERMINATION

BOSTON REDEVELOPMENT AUTHORITY

SCOPING DETERMINATION
SOUTH BAY TOWN CENTER

SUBMISSION REQUIREMENTS
FOR DRAFT PROJECT IMPACT REPORT (DPIR)

PROPOSED PROJECT:	SOUTH BAY TOWN CENTER
PROJECT SITE:	101 ALLSTATE ROAD, DORCHESTER LOCATED SOUTH OF THE EXISTING SOUTH BAY SHOPPING CENTER, BAKER AND FIELDS COURT TO THE WEST, SOUTHEAST EXPRESSWAY (I-93) TO THE EAST, AND NEWMARKET COMMUTER RAIL STATION TO THE NORTH
PROPONENT:	ALLSTATE ROAD (EDENS), LLC
DATE:	OCTOBER 6, 2015

The Boston Redevelopment Authority ("BRA") is issuing this Scoping Determination pursuant to Section 80B-5 of the Boston Zoning Code ("Code"), in response to a Project Notification Form ("PNF") which Allstate Road (Edens), LLC (the "Proponent"), filed for the South Bay Town Center project on August 3, 2015. Notice of the receipt by the BRA of the PNF was published in the Boston Herald on August 5, 2015, which initiated a public comment period with a closing date of September 8, 2015. The comment period was later extended by mutual consent through September 21, 2015.

Pursuant to Section 80B-5.3 of the Code, a Scoping Session was held on August 19, 2015 with the City's public agencies, where the proposal was reviewed and discussed. The PNF was sent to the City's public agencies pursuant to Section 80A-2 of the Code.

On February 11, 2015, the Proponent filed a Letter of Intent in accordance with the Executive Order regarding Provision of Mitigation by Development Projects in Boston for the construction of a transited oriented, mixed-use development on largely vacant commercial/industrial land and surface parking lots to the south of the existing South Bay Center in Dorchester (the "Proposed Project").

Written comments in response to the PNF received by the BRA from agencies of the City of Boston are included in **Appendix A** and must be answered in their entirety. Written comments in response to the PNF received by the BRA from the public are included in **Appendix B** and must be answered in their entirety. Written comments in response to the PNF received by the

BRA from the Impact Advisory Group ("IAG") are included in **Appendix C** and must be answered in their entirety. The DPIR should include complete responses to all comments included in **Appendices A, B and C** within the framework of the criteria outlined in the Scoping Determination.

Comments received by the BRA from agencies and departments of the City of Boston are included in **Appendix A** and must be answered in their entirety.

Specifically, they are:

- Patrick Hoey, Boston Transportation Department
- Matthew Martin, Boston Redevelopment Authority
- John Sullivan, Boston Water and Sewer Commission
- Carrie Marsh, Boston Parks and Recreation Department
- Jack Dempsey, Boston Fire Department
- Frank Baker, Boston City Council, District 3
- Maura Zlody, Boston Environment Department

Public comments received by the BRA during the comment period are included in **Appendix B** and must be answered in their entirety.

Impact Advisory Group member comments received by the BRA during the comment period are included in **Appendix C** and must be answered in their entirety.

Specifically, they are:

- Joan Tighe, Eastman/Elder Streets Neighborhood Association/South Bay Town Center Impact Advisory Group Member
- Ramon Suero, South Bay Town Center Impact Advisory Group Member
- India Minchoff, South Bay Town Center Impact Advisory Group Member
- South Bay Town Center Impact Advisory Group: Eileen Boyle, Susan Capachione, Neil Janulewicz, Pattie McCormick, India Minchoff, Desmond Rohan, Millie Rooney, Susan Sullivan, Earl Taylor, Joan Tighe, Linda Zablocki

The Scoping Determination requests information that the BRA requires for its review of the Proposed Project in connection with Article 80 of the Code, Development Review and Approval and other applicable sections of the Code.

I. PROJECT DESCRIPTION

The site of the proposed development consists of approximately 9.9 acres of land located to the south of the existing South Bay Center in the Dorchester neighborhood of Boston and is comprised of surface parking lots, vacant commercial/retail buildings, and the Aggregate Concrete plant (the "Project Site"). The Project Site is directly south of the South Bay Center, a big box shopping center arranged around large surface parking lots. A neighborhood of multi-family homes lies to the south of the Project Site along Boston Street and residential dwellings flank the west of the site along Baker and Fields Courts. Office buildings and additional surface

parking lie farther west along Enterprise Street and Massachusetts Avenue. To the east of the Project Site is an area of hotels and small businesses, the Southeast Expressway (I-93), and the South Boston neighborhood. MBTA Commuter Rail service is a short walk north at Newmarket Station and Red Line subway service is available to the east at Andrews Station.

The Proposed Project, as described in the PNF, includes approximately 113,000 square feet of retail and dining space, a twelve screen cinema, approximately 475 residential units, a hotel with approximately 130 rooms, new public spaces, streetscape upgrades, and associated parking. The Proposed Project is designed in five main buildings, A through E, each containing mixed-uses, with the exception of Building E, which includes a proposed hotel. The anticipated project program consists of approximately 1,036,000 square feet of new construction.

II. PREAMBLE

The Proposed Project is being reviewed pursuant to Article 80, Development Review and Approval, which sets forth a comprehensive procedure for project review of the following components: transportation, environmental protection, urban design, historic resources, infrastructure systems, site plan, tidelands, and Development Impact Project, if any. The Proponent is required to prepare and submit to the BRA a Draft Project Impact Report ("DPIR") that meets the requirements of the Scoping Determination by detailing the Proposed Project's impacts and proposed measures to mitigate, limit or minimize such impacts. The DPIR shall contain the information necessary to meet the specifications of Section 80B-3 (Scope of Large Project Review; Content of Reports) and Section 80B-4 (Standards for Large Project Review Approval), as required by the Scoping Determination. After submitting the DPIR, the Proponent shall publish notice of such submittal as required by Section 80A-2. Pursuant to Section 80B-4(c) (i) (3), the BRA shall issue a written Preliminary Adequacy Determination ("PAD") within ninety (90) days. Public comments, including the comments of public agencies, shall be transmitted in writing to the BRA no later than fifteen (15) days prior to the date by which the BRA must issue its PAD. The PAD shall indicate the additional steps, if any, necessary for the Proponent to satisfy the requirements of the Scoping Determination. If the BRA determines that the DPIR adequately describes the Proposed Project's impacts and, if appropriate, proposed measures to mitigate, limit or minimize such impacts, the PAD will announce such a determination and that the requirements of further review are waived pursuant to Section 80B-5.4(c) (iv). Section 80B-6 requires the Director of the BRA to issue a Certification of Compliance indicating the successful completion of the Article 80 development review requirements before the Commissioner of Inspectional Services can issue any building permit for the Proposed Project.

III. REVIEW/SUBMISSION REQUIREMENTS

In addition to full-size scale drawings, 15 copies of a bound booklet and an electronic copy (PDF format) containing all submission materials reduced to size 8-1/2" x 11", except where otherwise specified are required. The electronic copy should be submitted to the BRA via the following website: https://attachments.bostonredevelopmentauthority.org/. The booklet should be printed on both sides of the page. In addition, an adequate number of copies must be available for community review. A copy of this scoping determination should be included in the booklet for reference. 1

A. General Information

1. Applicant/Proponent Information
   a. Development Team

      (1) Names

         (a) Proponent (including description of development entity and type of corporation, and the principals thereof)
         (b) Attorney
         (c) Project consultants and architects

      (2) Business address, telephone number, FAX number and e-mail, where available for each

      (3) Designated contact for each

   b. Legal Information

      (1) Legal judgements or actions pending concerning the Proposed Project

      (2) History of tax arrears on property owned in Boston by Applicant

      (3) Evidence of site control over project area, including current ownership and purchase options, if any, for all parcels in the Proposed Project, all restrictive covenants and contractual restrictions affecting the Proponent's right or ability to accomplish the Proposed Project, and the nature of the agreements for securing parcels not owned by the Applicant.

      (4) Nature and extent of any and all public easements into, through, or surrounding the site.

2. Project Area

   a. An area map identifying the location of the Proposed Project
   b. Description of metes and bounds of project area or certified survey of the project area.
   c. Current zoning

3. Project Description and Alternatives

a. The DPIR shall contain a full description of the Proposed Project and its components, including, its size, physical characteristics, development schedule, costs, and proposed uses. This section of the DPIR shall also present analysis of the development context of the Proposed Project. Appropriate site and building plans to illustrate clearly the Proposed Project shall be required.
b. A description of alternatives to the Proposed Project that were considered shall be presented and primary differences among the alternatives, particularly as they may affect environmental and traffic/transportation conditions, shall be discussed.

4. Public Benefits 6

a. Anticipated employment levels including the following:
   (1) Estimated number of construction jobs
   (2) Estimated number of permanent jobs
b. Current and/or future activities and program which benefit adjacent neighborhoods of Boston and the city at large, such as, child care programs, scholarships, internships, elderly services, education and job training programs, etc.
c. Other public benefits, if any, to be provided.

5. Community Process 7

a. A list of meetings held and proposed with interested parties, including public agencies, abutters, and business and community groups.
b. Names and addresses of project area owners, abutters, and any community or business groups which, in the opinion of the applicant, may be substantially interested in or affected by the Proposed Project.

B. REGULATORY CONTROLS AND PERMITS 8

An updated listing of all anticipated permits or approvals required from other municipal, state or federal agencies, including a proposed application schedule shall be included in the DPIR.

A statement on the applicability of the Massachusetts Environmental Policy Act (MEPA) should be provided. If the Proposed Project is subject to MEPA, all required documentation should be provided to the BRA, including, but not limited to, a copy of the Environmental Notification Form, decisions of the secretary of Environmental Affairs, and the proposed schedule for coordination with BRA procedure.

C. TRANSPORTATION COMPONENT 9

The analysis included in the DPIR must utilize as its framework the scope as outlined in the comments of the Boston Transportation Department ("BTD"), dated September 21, 2015 and included in **Appendix A.**

D. ENVIRONMENTAL PROTECTION COMPONENT

The DPIR must address the comments of the Boston Environment Department, dated October 6, 2015, included in **Appendix A** and must include the most up to date Article 37/Interagency Green Building Committee documents.

Shadow

A shadow analysis shall be required for existing and build conditions for the hours 9:00 a.m., 12:00 noon, and 3:00 p.m. for the vernal equinox, summer solstice, autumnal equinox, and winter solstice and for 6:00 p.m. during the summer and autumn. It should be noted that due to time differences (daylight savings vs. standard), the autumnal equinox shadows would not be the same as the vernal equinox shadows and therefore separate shadow studies are required for the vernal and autumnal equinoxes. 10

The shadow impact analysis must include net new shadow as well as existing shadow and must clearly show the incremental impact of the proposed new building. For purposes of clarity, new shadow should be shown in a dark, contrasting tone distinguishable from existing shadow. The shadow impact study area shall include, at a minimum, the entire area to be encompassed by the maximum shadow expected to be produced by the Proposed Project (i.e., at the winter solstice). The build condition(s) shall include all buildings under construction and any proposed buildings anticipated to be completed prior to completion of the Proposed Project. Shadow from all existing buildings within the shadow impact study area shall be shown. A North arrow shall be provided on all figures and street names shall be clearly identified.

Particular attention shall be given to existing or proposed public open spaces, plazas, park areas, sidewalks, pedestrian areas and walkways, adjacent to, and in the vicinity of the Proposed Project. Design or other mitigation measures to minimize or avoid any adverse shadow impact must be identified.

The above shadow analysis shall be required for any alternative required to be studied in accordance with Scoping Determination as well as the preferred development option.

Wind

A qualitative analysis of the potential pedestrian level wind impacts shall be required for the DPIR. This analysis shall determine potential pedestrian level winds adjacent to and in the vicinity of the project site and shall identify any areas where wind velocities are expected to exceed acceptable levels, including the Authority's guideline of an effective gust velocity of 31 mph not to be exceeded more than 1% of the time. 11

The qualitative analysis shall evaluate the effects of the major winds for the Boston area, including northwest, southwest, and easterly storm (northeast, east, southeast) winds, as well as annual winds. The evaluation shall include, in addition to the BRA's effective gust criterion, an analysis of the Melbourne comfort criteria for the locations tested. Tables presenting the wind

analysis data and maps clearly indicating analysis locations, anticipated wind flow patterns, existing and future anticipated Melbourne comfort categories and actual wind speeds shall be included in the assessment.

For areas where wind speeds are projected to exceed acceptable levels, measures to reduce wind speeds and to mitigate potential adverse impacts shall be identified.

12

Daylight

A daylight analysis for both build and no-build conditions shall be conducted by measuring the percentage of skydome that is obstructed by the Proposed Project building and evaluating the net change in obstruction. If alternative massing studies are requested as part of the Article 80 development review process, daylight analysis of such alternatives shall also be conducted for comparison. The study should treat the following elements as controls for data comparison: existing conditions, the context of the area, and the as-of-right background zoning envelope.

Solar Glare

13

An evaluation of potential solar glare impact is required, if the project incorporates the substantial use of glass-facades.

As applicable, this analysis must measure potential reflective glare from the building onto potentially affected streets and public open spaces in order to determine the potential for visual impairment or discomfort due to reflective spot glare. Mitigation measures to eliminate any adverse reflective glare must be identified. Technical data used for the analysis must be included.

Air Quality

14

Existing and projected future air quality in the project vicinity is expected to conform to the National Ambient Air Quality Standards (NAAQS) and U.S. Department of Housing and Urban Development (HUD) requirements for residential and other sensitive receptors.

However, a microscale air quality (carbon monoxide) analysis is required for any intersection (including the proposed garage entrances/exits) where level of service (LOS) is expected to deteriorate to D and the Proposed Project causes a 10 percent increase in traffic, or where the level of service is E or F and the Proposed Project contributes to a reduction of LOS. The methodology and parameters of the traffic-related air quality analysis, if required, must be approved in advance by the Boston Redevelopment Authority and the Massachusetts Department of Environmental Protection, and shall be consistent with U.S. EPA guidance (e.g., *Guideline For Modeling Carbon Monoxide From Roadway Intersections*, US Environmental Protection Agency, Office of Air Quality Planning and Standards, Technical Support Division; Research Triangle Park, NC; EPA-454/R-92-005; November 1992). The results of the air quality analysis shall be compared to the Massachusetts State Implementation Plan to determine project compliance with the Plan. Mitigation measures to eliminate or avoid any violation of air quality standards must be described.

An indirect source air quality analysis of the operation of the proposed modular system parking garage should be prepared to determine potential air quality impacts on nearby sensitive receptors and compliance with air quality standards, as applicable. Emissions should be

estimated using appropriate U.S. EPA guidance. The EPA SCREEN3 model should be used to calculate maximum CO impacts from the garage at the various sensitive receptors. CO monitors shall be required for any enclosed parking garage. A description of the monitors and operation of the monitors is required.

A description of the project's heating and mechanical systems and of the parking garage ventilation system, including location of intake and exhaust vents and specifications, and an analysis of the impact on pedestrian level air quality and on any sensitive receptors from operation of the heating, mechanical, and exhaust systems, including the building's emergency generator, shall be required. Measures to avoid any violation of air quality standards shall be described, and sidewalk vents for the garages are prohibited.

Solid and Hazardous Wastes

The presence of any contaminated soil or groundwater and any underground storage tanks at the project site shall be evaluated and remediation measures to ensure their safe removal and disposal shall be described. 15

If asbestos, asbestos-containing materials, lead paint or other hazardous compounds (e.g., PCBs) are identified during the demolition, renovation or removal activities, the handling and disposal must be in compliance with Massachusetts Department of Environmental Protection, the Boston Public Health Commission and the Inspectional Services Department guidelines and requirements

In addition, the DPIR shall quantify and describe the generation, storage, and disposal of all solid wastes from the construction and operation of the Proposed Project. In addition, measures to promote the reduction of waste generation and encourage recycling, particularly for paper, plastics, glass, metals, and other recyclable products, and compliance with the City's recycling program, shall be described.

Noise

The DPIR shall establish the existing noise levels at the project site and vicinity based upon a noise-monitoring program. Calculations of future noise levels after project completion (based on appropriate modeling), and demonstrated compliance with the Design Noise Levels established by the U.S. Department of Housing and Urban Development for residential and other sensitive receptors, and with all other applicable Federal, State, and City of Boston noise criteria and regulations shall be required. 16

An analysis of the potential noise impacts from project-generated traffic, from the project's mechanical and exhaust systems, as well as the effects of aircraft flyover noise (from Logan Airport), and compliance with applicable regulations of the City of Boston and Commonwealth of Massachusetts shall be required. A description of the project's mechanical and exhaust systems and their proposed location shall be included. Measures to minimize and eliminate adverse noise impacts on nearby sensitive receptors, including the project itself, from traffic noise and mechanical systems shall be described.

17

Storm Water Management

The DPIR shall contain an evaluation of the project site's existing and future storm water drainage and storm water management practices. The DPIR shall illustrate existing and future drainage patterns from the project site and shall describe and quantify existing and future storm water runoff from the site and the Proposed Project's impacts on site drainage. The analysis should be performed based on 2-, 10-, 25- and 100- year rainfall events based on a 24-hour duration. The Proposed Project's storm water management system, including best management practices to be implemented, measures proposed to control and treat storm water runoff and to maximize on-site retention of storm water, measures to prevent groundwater contamination, measures to prevent harbor pollution, and compliance with the Commonwealth's Storm Water Management Policies, also shall be described. The DPIR shall describe the project area's storm water drainage, to which the project will connect, including the location of storm water drainage facilities and ultimate points of discharge.

If the project involves the disturbance of one acre or more of land, a National Pollution Discharge Elimination System (NPDES) General Permit for Construction consistent with the requirements of U.S. Environmental Protection Agency, the Massachusetts Department of Environmental Protection and the Boston Water and Sewer Commission will be required. If such permit is required, a storm water pollution prevention plan must be prepared and submitted prior to commencing construction. A copy of the plan should be provided to the BRA.

Geotechnical Impact/Groundwater

18

To the extent not provided in the PNF, an analysis of existing sub-soil conditions at the project site, groundwater levels, potential for ground movement and settlement during excavation and foundation construction, and potential impact on adjacent buildings, utility lines, and the roadways shall be required. This analysis shall also include a description of the foundation construction methodology (e.g., underground garage if applicable, pier pilings), the amount and method of excavation, and measures to prevent any adverse effects on adjacent buildings, utility lines, roadways and the harbor.

Maintaining groundwater levels in the City of Boston is required. Consultation with the Boston Groundwater Trust regarding potential groundwater impacts in areas influenced by tidal fluctuations is recommended. Measures to ensure that groundwater levels will be maintained and will not be lowered during or after construction shall be described. If on-going pumping is required, the metering of discharge must be conducted with oversight by the Boston Water and Sewer Commission. Levels reported shall be based on Boston City Base (BCB).

Construction Impacts

As applicable, a construction impact analysis shall include a description and evaluation of the following:

(a) Potential dust and pollutant emissions and mitigation measures to control these emissions, including participation in the Commonwealth's Clean Construction Initiative.

19

(b) Potential noise generation and mitigation measures to minimize increase in noise levels. 20

(c) Location of construction staging areas and construction worker parking; measures to encourage carpooling and/or public transportation use by construction workers. 21

(d) Construction schedule, including hours of construction activity. 22

(e) Access routes for construction trucks and anticipated volume of construction truck traffic. 23

(f) Construction methodology (including foundation and piling construction), amount and method of excavation required, disposal of the excavated material, description of foundation support, maintenance of groundwater levels, and measures to prevent any adverse effects or damage to adjacent structures and infrastructure. 24

(g) Method of demolition of existing buildings on the site and disposal of the demolition waste, as applicable. 25

(h) Potential for the recycling of construction and demolition debris, including asphalt from existing parking lots. 26

(I) Identification of best management practices to control erosion and to prevent the discharge of sediments and contaminated groundwater or storm water runoff into the City's drainage system during the construction period. 27

(j) Coordination of project construction activities with other major construction projects being undertaken in the project vicinity at the same time, including scheduling and phasing of individual construction activities. 28

(k) Impact of project construction on rodent populations and description of the proposed rodent control program, including frequency of application and compliance with applicable City and State regulatory requirements. 29

(l) Measures to protect the public safety. 30

Rodent Control

Compliance with city and state rodent control program requirements must be ensured. Rodent inspection monitoring and treatment, if necessary, should be carried out before, during and at the completion of the construction period. Extermination for rodents shall be required for issuance of permits for demolition, excavation, foundation and basement rehabilitation. Licensed exterminators shall indicate before and during construction activity whether or not rodent activity is identified. Compliance with this policy will be monitored by the Rodent Control Unit of the Inspectional Services Department 31

Sustainable Design

32

The Proponent must analyze project impacts on the surrounding environment that are attributable to forecasted climate conditions over the full duration of the expected life of the project. Utilizing the best available science, identify changes in the climate and environment and how such changes will affect the project's environmental impacts including the survivability, integrity and safety of the project and its inhabitants. Climate change conditions may include, but not be limited to, sea-level rise, higher maximum and mean temperatures, more frequent and longer extreme heat events, more frequent and longer droughts, more sever freezing rain and heavy rainfall events, and increased wind gusts. Include analysis of secondary and cascading impacts including more frequent and longer interruptions of utility services including electrical, gas, and telecommunication systems, and disruptions of transportation systems and networks.

The Proponent must incorporate Climate Change Preparedness and Resiliency strategies into all relevant components of the project such as Transportation, Infrastructure Systems, Environmental Protection, Urban Design, Landscape, Sustainable Development, Historic Resources, and Tidelands.

33

The Proponent must submit an updated and final Climate Change Preparedness and Resiliency Checklist along with a written response to the IGBC. The Final Climate Change Preparedness and Resiliency Checklist and Response must be submitted in conjunction with the submittal of the Final Design and Approval package for review by the IGBC. No Final Design Approval/ Article 80 documents shall be authorized by the BRA until the final Climate Change Preparedness and Resiliency Checklist and Response have been reviewed by the IGBC.

34

E. URBAN DESIGN COMPONENT

The DPIR must address the comments of the BRA's Urban Design Department included in **Appendix A**. In addition to this, the standard list of urban design materials should be included in the DPIR for the Proposed Project, included in **Appendix E**.

35

F. INFRASTRUCTURE SYSTEMS COMPONENT

The DPIR must address the comments of the Boston Water and Sewer Commission ("BWSC"), dated September 8, 2015 included in **Appendix A**. An infrastructure impact analysis must be performed. The standard scope for infrastructure analysis is outlined in the letter submitted by the BWSC.

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G. DEVELOPMENT IMPACT PROJECT COMPONENT

Based on the square footage and uses outlined in the Project Notification Form, the Proposed Project will be subject to and be required to enter into a Development Impact Project ("DIP or Linkage") agreement. A full analysis of square footage and uses should be submitted in the DPIR. See below for a breakdown of payment based on the anticipated project program (Table 2-1) in the PNF (square feet and payment are approximate):

37

Housing Linkage:

DIP Uses:	263,000 square feet
Exclusion:	-100,000 square feet
	163,000 square feet
	X $ 8.34
	$1,359,420

Jobs Linkage:

DIP Uses:	263,000 square feet
Exclusion:	-100,000 square feet
	163,000 square feet
	X $1.67
	$ 272,210

H. PUBLIC NOTICE

The Proponent will be responsible for preparing and publishing in one more newspapers of general circulation in the City of Boston a Public Notice of the submission of the Draft Project Impact Report (DPIR) to the BRA as required by Section 80A-2. This Notice shall be published within five (5) days after the receipt of the DPIR by the BRA. Therefore, public comments shall be transmitted to the BRA within seventy five (75) days of the publication of this Notice. Sample forms of the Public Notice are attached as **Appendix D**. 38

Following publication of the Public Notice, the Proponent shall submit to the BRA a copy of the published Notice together with the date of publication.

I. AFFORDABLE HOUSING

As indicated in the PNF, the affordable units for the Proposed Project will be located on-site. The number of units to be created, the incomes of the households to be reached, and the unit sizes and mix must be consistent with BRA policy regarding affordable housing. 39

City Comment Letter

	Scoping Determination- Boston Redevelopment Authority
1	The proponent will adhere to BRA submission requirements.
2	The Proponent's information is found in Section 1.2. The Project Team is listed in Section 1.10.
3	See Section 1.2.
4	See Figures 1-4 though 1-10 for Project Site surveys and Section 1.3 for a Project Site description. See Section 1.7 for Project zoning.
5	See Section 1.4 for a Project description and alternatives.
6	See Chapter 2, Public Benefits.
7	See Chapter 3, Community Process.
8	See Table 1-1, Anticipated Project Approvals. A copy of the ENF was already provided. A copy of the forthcoming DEIR will also be provided to the BRA.
9	See responses to Letter 1.
10	See Section 5.3 and Figures 5-2 through 5-7.
11	See Section 5.2, Figure 5-1, and Appendix D.
12	See Section 5.4 and Figures 5-8 through 5-9.
13	See Section 5.5.
14	See Section 5.6.
15	See Section 5.10 and Section 5.11.1.
16	See Section 5.7 and Appendix E.
17	See Section 8.4.
18	See Section 5.10.
19	See Section 5.11.6.
20	See Section 5.11.7.
21	See Section 5.11.5.
22	See Section 5.11.3.
23	See Section 5.11.4.
24	See Section 5.11.1.
25	See Section 5.11.1.
26	See Section 5.11.1.
27	See Section 5.11.8.

28	See Section 5.11.4.
29	See Section 5.12.
30	See Section 5.11.12.
31	See Section 5.12.
32	See Chapter 6, Sustainability and Appendix G, Green Building Report.
33	See Chapter 6, Sustainability and Appendix B, Climate Change Preparedness and Resiliency checklist.
34	See Appendix B, Climate Change Preparedness and Resiliency checklist.
35	See Chapter 7, Urban Design and responses to Letters 2 and 50.
36	See Chapter 8, Infrastructure. See responses to Letter.
37	See Section 1.8.
38	The Proponent will submit a Public Notice to the *Boston Herald* in accordance with BRA policies.
39	See Section 1.5.

Appendix I

RESPONSE TO COMMENTS

Responses to Comments on the Project Notification Form

City Comment Letters

Letter 1	Boston Transportation Department, Patrick E. Hoey
Letter 2	Boston Redevelopment Authority, Matthew Martin
Letter 3	Boston Water and Sewer Commission, John Sullivan
Letter 4	Boston Parks and Recreation Department, Carrie Marsh
Letter 5	City Council District 3, Frank Baker
Letter 6	Boston Environment Department, Maura Zlody
Letter 7	Boston Fire Department, Jack Dempsey

Private Citizen and Organization Comment Letters

South Bay Town Center Impact Advisory Group Member Letters	
Letter 8	South Bay Town Center Impact Advisory Group - Eileen Boyle, Susan Capachione, Neil Janulewicz, Pattie McCormick, India Minchoff, Desmond Rohan, Millie Rooney, Susan Sullivan, Earl Taylor, Joan Tighe, Linda Zablocki
Letter 9	Ramon Suero
Letter 10	India Minchoff
Letter 11	Joan Tighe, Eastman/Elder Streets Neighborhood Association

Other Community Member Letters	
Letter 12	Petition with 81 Signatures (circulated and presented by India Minchoff)
Letter 13	Stephen Kuzma
Letter 14	Bill Endicott
Letter 15	Janice Geary
Letter 16	Kenneth Osherow
Letter 17	Erin Devanney
Letter 18	Isaque Rezende
Letter 19	Travis Stewart
Letter 20	Joseph O'Neill
Letter 21	Josh Marquis
Letter 22	Residents of 46 Mount Vernon St #3, Dorchester - Lindsay Marquis/Josh Marquis/Edmond Gordon
Letter 23	Maria Terova
Letter 24	Brenda Norton
Letter 25	Jeffery Barranco
Letter 26	Peter Suchcicki
Letter 27	Lucia Grochowska Littlefield
Letter 28	Paul MacLelland
Letter 29	Marlea Mesh
Letter 30	Sarah Heffernen

Letter 31	Kathy Burger
Letter 32	John Lowe
Letter 33	Fe Matos
Letter 34	Leesticie Santore
Letter 35	Jose Benavides
Letter 36	William Lee
Letter 37	Paul Creeden
Letter 38	Paula Walsh
Letter 39	Ruby Derome
Letter 40	Ann Langone
Letter 41	Gordon Beebe
Letter 42	Kenneth Cronin
Letter 43	Billy Trabucco
Letter 44	Matthew McAloon
Letter 45	Tim Vhay
Letter 46	Bernadette Diamond
Letter 47	Karen Clemens
Letter 48	Patty Greene

Additional City Comment Letters and Scoping Determination Appendix

Letter 49	Interagency Green Building Commission
Letter 50	Submission Requirements for Design Development and Contract Documents Submissions

BOSTON
TRANSPORTATION
DEPARTMENT

ONE CITY HALL SQUARE • ROOM 721
BOSTON, MASSACHUSETTS 02201
617-635-4680 • FAX 617-635-4295

September 21st, 2015

Raul Duverge
Boston Redevelopment Authority
Boston City Hall
Boston, MA 02201

RE: **"South Bay Town Center" Dorchester - Project Notification Form**

Dear Mr Duverge,

Thank you for the opportunity to comment on the *Project Notification Form* for the development proposal located on largely vacant, commercial/industrial land adjacent to the South Bay Shopping Center. In close proximity to the Newmarket MBTA commuter station and Southampton Street connection to Interstate 93, the project is also adjacent to the residential Dorchester/South Boston "Polish Triangle" neighborhood. The development team proposes *a mixed use program of approximately 475 residential units, approximately 113,000 square feet of retail and dining space, a 12 screen cinema, a hotel with approximately 130 rooms, and associated structured parking garage.*

The Boston Transportation Department has reviewed the proponent's Project Notification Form and submits the following comments and concerns:

Site Plan

- Please include a 1"-20' scale development site plan in advance of the submission of the draft transportation access plan agreement. Site plans must also be made available to the City's Public Improvement Commission in advance of any necessary PIC action. 1
- Site plan for BTD review shall include depiction of proposed streetscape, public and private way layout including Enterprise Street, Allstate Road, West Howell Street and the intersection of West Howell Street and West Howell Street Extension. Please include all proposed parking regulations and pavement markings. 2
- A design for West Howell Street from Boston Street to the Scrub a Dub car wash is imperative and should include improved pedestrian accommodation and a consistent cross section. The proponent must also be cognizant of the existing business operations without designing the public way exclusively for private business. 3
- Ped ramp and streetscape design must comply with federal ADA requirements and adhere to City of Boston Complete Streets Guidelines. 4

Parking

- The parking inventory and analysis submitted in Project Notification from was incomplete. (see BTD Access Plan Guidelines attached) 5
- BTD understands that the existing South Bay parking supply is tied to tenant lease agreements but it appears excessive to be proposing over 1,000 additional parking spaces when there are already over 1,000 surface lot spaces available during peak shopping periods. BTD recommends the developer work with the existing land owner on a master plan for the future of the site location and what the parking requirement will be overall. 6
- What are the parking ratios based on land use and square footage? It's not clear in the PNF or any included table. How many dedicated for residential units, hotel, retail and how managed? 7
- BTD discourages the use of surface lots and angled parking for internal streets and parcels and ask that the proponent follow urban design guidelines per the BRA and prior planning as it relates to parking.(i.e. Citizens Connect to South Bay) 8
- Any proposed changes to the existing on street parking regulations must be reviewed and approved by BTD and have no detrimental effect on existing residential supply. 9
- It is expected that the developer will also include up to 5% of the garage spaces for EV charging. 10

Vehicle Site Access and Circulation

- BTD asks that every effort be made to acquire easements/ROW necessary to develop a new connection to serve the proposed site from the eastern segment of Boston Street near Holiday Inn Express to the proposed West Howell Street Extension. It is our belief that connecting these roadways would serve to alleviate pressure on the residential stretch of Boston Street and mitigate additional volumes generated by the project. Please include a comparative analysis of Boston Street volumes/operations for build/no build. 11
- BTD asks that the developer consider Boston Street from the Fortress and West Howell Street from Boston Street to West Howell Extension be one way pairs to simplify pattern, approach conflicts and potential queuing issues. 12
- BTD recommends the project team enhance and/or create a gateway at Enterprise Street/Mass Ave and the Enterprise Street corridor in order to channel volume (particularly residential) away from Allstate Road/Mass Ave main entrance. 13
- Based on the preliminary site plans and PNF schematics it looks as if the internal roadways are too narrow in places and do not meet City standards (ex. West Howell Street Ext. & New Road) Please revise. 14
- The proposed intersection of West Howell Street and West Howell Street Extension has several geometric anomalies and must be re-imagined. There appears to be a confluence of vehicular travel lanes, driveways, port cochere, ped crossings and parking lot access drives that would not operate safely or efficiently here. 15
- Consider ways to enhance the ped/bike connection between Newmarket MBTA station platforms and the project site. Either by public right of way or through the South Bay Center itself. (infrastructure, pavement markings, signage, etc) Consider same strategy for Andrew Square MBTA station and bus routes through the site given the substantial increase in ped and bike trips being generated by the project. 16

Study Area Intersection/Area Signal Operations

- BTD appreciates the exhaustive technical analysis performed by the project team and the accumulation of valuable traffic count data for nineteen individual intersections and associated roadways. The methodology used was sound and incorporated BTD mode split application and ITE trip generation rates per best practices.

BOSTON TRANSPORTATION DEPARTMENT
ONE CITY HALL SQUARE / ROOM 721 • BOSTON, MA 02201 • 617-635-4680

- That being said, the addition of over 240 weekday morning peak hour trips and over 550 weekday evening peak hour trips (as well as over 620 midday Saturday trips) will require significant mitigation. In summary, the City (and the surrounding neighborhood) will be faced with having to manage/absorb an additional 7,200 vehicular trips (8,400 Saturday) each day within its transportation system and roadway network with limited resources.
- Understanding that these trips are distributed through a variety of intersections, it seemed a bit curious that there was no discernable difference in overall LOS in 2021 Build with the exception being the extended delay at already failing majors. (Edward Everett, Andrew, Columbia/Dot) In many cases however, the queue analysis did demonstrate discernable differences in queue length in the 2012 Build scenario. Further discussion/review with BTD planning & engineering is required to clarify. 17
- In addition to (and in coordination with) the proponents recommendations for offsetting the project impacts, the City has begun compiling a list of improvements that it believes will help us to better manage the additional vehicular, ped and bike trips and genrally improve the aesthetic of the neighborhood. Tentative list below: 18

  - Signal interconnect between Washburn/Boston Street and Edward Everett Square.
  - Signal warrant analysis Enterprise/Mass Ave
  - Signal optimization and evaluate possible geometric improvements at Mass Ave/Newmarket Sq.
  - Design and construction for Columbia Road/Dorchester Ave intersection improvements.
  - Connect Allstate Road/Mass Ave signal to BTD central computer system.
  - Upgrade signals at Boston St. and Harvest St and install signal interconnect cable.
  - Install interconnect conduit/cable from Allstate Rd to Newmarket Sq and to Columbia Rd.
  - West Howell Extension too narrow for two way operations (one-way for now and expand under future development?)
  - Intersection of West Howell/West Howell Ext/Building E Drive needs modified design to create better alignment
  - West Howell Street (existing public way) Improvements must be to City standard
  - West Howell Extension must be a Public Roadway
  - Project assumes a robust transit mode share, that needs to be sustained to limit traffic impacts. Transit mitigation should include:
    1. Modify routing of existing shuttle service to Andrew Station to better serve the new site and add service as needed to meet project demand
    2. Explore with MBTA additional stops for existing routes within South Bay Mall to better serve the future project
  - Design project to allow for the option to provide a connection for Baker Court and Fields Court
  - Refrain from building proposed surface lots adjacent to Fields Court and West Howell until demand is proven
  - Sponsor a Hubway Station if determined feasible in working with Boston Bikes
  - Provide car sharing services

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Sidewalk Improvements

- Newly constructed pedestrian ramps must also have the opposite side landings rebuilt in order to meet compliance. Please include in scope of work if not included in current site plans. 19
- A minimum 48" clearance is required along new walkways. Street furniture, plantings, control boxes and etc must not prohibit or infringe upon the clear zone. 20
- Will the project include any additional street lighting or other illumination in order to enhance public safety? 21
- Sustainable design inclusive of porous pavers and other City approved storm water management best practices are encouraged. Please visit bostoncompletestreets.org for guidelines. 22
- BTD asks that the proponent partner with the IAG, Mayor's office, and area civic/neighborhood associations to assist with area quality of life efforts including but limited to; participation in annual/bi-annual plantings, maintenance of area landscape, neighborhood cleanups, trash receptacle placement, and public safety meetings. 23

Bicycle Accommodations

- Please clarify that the proposed ratio for 475 bike storage spaces is in accordance with the City's most recent Bike Guidelines. It appears that only accounts for residential units. (attached) for the mix of land uses as well as the number of employees, square footage etc. 24
- If yes, bike racks should be City standard and black not galvanized steel. 25
- Contribute/assist City with plan for future protected bike lanes on Mass Avenue per Boston Bikes Network Plan 26
- If possible, please allow for shower accommodations for bike commuters as part of the commercial component.
- BTD recommends the proponent take every opportunity to collaborate with BTD and Boston Bikes to enhance bicycle accommodations in the district, including pavement markings and sponsorship of additional Hubway stations. 27

Loading & Service

- The ceasing of the Aggregate Concrete operations adjacent to the site location is obviously a welcome community benefit/quality of life improvement. Can the proponent quantify the net new truck trips/deliveries associated with the development? 28
- Internal to the site, can the proponent detail where will loading operation/docks and screening will affect the nearest residential or existing commercial abutters? 29
- BTD agrees that use of Southampton Street for delivery access makes the most sense

Construction Management Plans

- The City requires the proponent submit a Construction Management Plan to BTD. The CMP will detail the schedule, staging, parking and other impacts of the construction activities.

Transportation Access Plan Agreement

- As required by the Article 80 process, the proponent will prepare and submit a Transportation Access Plan Agreement (TAPA) for review by BTD. The TAPA is a legally binding agreement between the developer and the City of Boston.
- The TAPA will specifically address the assessment of overall traffic impacts and mitigation adequacy, assessment of construction impacts and mitigation, monitoring of traffic impacts and management of loading and deliveries and Transportation Demand Management

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In conclusion, thank you again for the opportunity to comment on the Project Notification Form submittal for the South Bay Town Center Project. This is clearly an ambitious project with the potential for significant public benefit in terms of needed housing creation, economic development, infrastructure improvements and revitalization of a vacant and underutilized parcels. A project of this magnitude also comes with a series of transportation and quality of life concerns that we hope were presented fairly and equitably in the body of the letter. BTD looks forward to continued partnership with the development team in order make sure the City and the neighborhood interests are given full consideration.

If you have any questions please feel free to contact me at 617-635-2454

Sincerely,

Patrick E. Hoey
Senior Transportation Planner
BTD Policy and Planning

Cc: Vineet Gupta, Director, BTD Planning
John DeBenedictis, Director, BTD Engineering
Don Burgess, Supervising Traffic Engineer
Ed Hesford, BTD Engineering
David Cotter, MONS
Bill Egan, PWD Engineering
James Fitzgerald, Senior Planner, BRA
Frank Baker, City Council

Filename:southbaycenterpnf

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Letter 1	Boston Transportation Department, Patrick E. Hoey
1	A 1″-20′ scale development site plan will be provided to the City's Public Improvement Commission in advance of the submission of the draft Transportation Access Plan Agreement.
2	A site plan will be provided to BTD for review including the depiction of proposed streetscape, public and private way layout including Enterprise Street, Allstate Road, West Howell Street, and the intersection of West Howell Street and West Howell Extension.
3	A design for West Howell Street from Boston Street to the Scrub-a-Dub car wash has been prepared following extensive consultation with the BRA and BTD which includes a two-way and one-way option; refer to Section 4.6.2 for a full discussion of design options.
4	The pedestrian and streetscape design will comply with federal ADA requirements and shall adhere to City of Boston Complete Streets Guidelines.
5	An updated parking inventory per the BTD Access Plan Guidelines is included in the Section 4.5.
6	The Proponent will work with the South Bay Center with respect to a master plan of what the future parking requirements will be for the South Bay Center. However, parking supply requirements for the commercial component of the Project must comply with existing tenant lease and retailer agreements for the South Bay Center to be advisable. A more detailed discussion of Project parking supply and projected demand is included in Section 4.5.
7	Section 4.5 presents a detailed discussion of parking supply and demand for the Project. As proposed there are approximately 1,095 parking spaces proposed; 374 apartment spaces (309 spaces in residential garages and 65 held "in reserve" within the commercial parking garage) and 721 commercial spaces. The commercial spaces will be shared spaces and will include structured, surface lot, and on-street parking. In summary, the proposed parking ratios include 0.65 per residential unit, 3.7 per 1,000 gross square feet for the retail and cinema, and 0.5 per room for the hotel.
8	The use of the surface lots will be minimized, but are required to satisfy the parking ratio for the Project Site. Angled parking is not proposed except the planned one-way West Howell Street option which will replace non-standard head-in parking along the public way. Angled spaces are proposed along West Howell Street to maximize public benefit and availability of public parking based on input received from the adjacent neighborhood. This parking is not included in the parking ratio for the Project Site.

9	The proposed changes in parking along Enterprise Street, West Howell Street and Massachusetts Avenue have been reviewed with the City through the ongoing Article 80 process during several working sessions and have been shown in the DPIR to not have a detrimental effect on existing residential parking supply.
10	The Proponent agrees to reserve a total of 4 garage spaces for EV charging; additional reserved spaces may be provided should actual demand/use of these EV spaces warrant following occupancy of the Project.
11	The Proponent has worked closely with the City to develop design options for West Howell Street and West Howell Extension and will grant any required easements under the control of the Proponent to develop a new connection between West Howell Extension and the Frontage Road. However, the Proponent does not control the land at the existing hotel. The Section 4.6 provides a detailed discussion of design options for the West Howell Street and West Howell Street Extension intersection that includes operational analyses with and without the cross-connection.
12	The Proponent has provided a design of West Howell Street in the DPIR that converts West Howell Street to a one-way inbound (away from Boston Street) should the City secure all required easements for Proponent to construct the "Connector Road" between West Howell Extension and Frontage Road.
13	Enterprise Street between Massachusetts Avenue and the Project Site will be re-designed to Complete Streets standards and will be promoted to facilitate site access that channels some volume away from the Allstate Road/Massachusetts Avenue main entrance to South Bay Center. See Section 4.6.
14	West Howell Street extension and New Road will be designed to Complete Street standards on the Site side of the roadway. It is the understanding that as properties on the southern side of West Howell Extension are redeveloped the Complete Street standards will be implemented on the southern side of the roadway by others.
15	Design options for the intersection of West Howell Street and West Howell Street Extension have been developed and presented in Section 4.6 based on several working sessions with the BRA and BTD. The design options provide a Complete Streets compliant design that also minimizes vehicular conflict points, accommodates commercial activity from adjoining businesses including the car wash, and maximizes public parking.
16	The Section 4.6 includes a conceptual improvement plan for the walkway traversing the South Bay Center to enhance pedestrian safety and provide a desirable and direct pedestrian path to Newmarket Station. The Proponent has also consulted with the MBTA operations staff to relocate several bus stop locations to provide enhanced operations as described in more detail in Section 4.6.

17	The trip distribution and level of service has been extensively discussed with BTD planning and engineering staff and the Proponent has prepared an extensive mitigation package that will minimize impacts to off-site locations. The design of access and circulation for the Project encourages use of existing "gateways" at South Bay Center that serves to reduce impacts to neighborhood streets as reflected in the trip distribution and analysis results presented in the DPIR. While some limited queue impact is quantifiable at major intersections including Andrew Square and Andrew Everett Square, Project impacts to delay and operations at these locations are not significant and do not independently warrant further mitigation by the Proponent. The Proponent is advancing off-site improvements and is working with the City to design access to the Site that notably reduces traffic impact to Boston Street via a connector roadway to Frontage Road as described in more detail under Section 4.6.
18	See list below (a through p) for responses to suggested actions. a) Signal interconnect between Washburn/Boston Street and Edward Everett Square. Response: The Proponent will install a traffic signal interconnection between the traffic signal at the Plaza along the Frontage Road to Boston Street (pending MassDOT approval and access agreement). b) Signal warrant analysis Enterprise/Mass Ave. Response: The Proponent proposes geometric improvements at this intersection that will accommodate primary turning movements without the need for signal control. Applicable warrants for signal control are not met. c) Signal optimization and evaluate possible geometric improvements at Mass Ave/Newmarket Sq. Response: The Proponent has evaluated signal phasing and lane marking options for this location in Section 4.6. The City is currently coordinating coordinated operation with the signal at Allstate Road. d) Design and construction for Columbia Road/Dorchester Ave intersection improvements. Response: Project impacts at this location are inconsequential and do not independently warrant improvements at this location. The Proponent has committed to providing a conceptual improvement plan and will conduct a Road Safety Audit to determine safety and operational improvement initiatives to be implemented by others. e) Connect Allstate Road/Mass Ave signal to BTD central computer system. Response: The City is advancing plans to connect this intersection to the Advance Traffic Control System (ATCS). The City will also provide an updated phasing and timing plan for Mass Ave at Allstate Road which will provide coordinated traffic signal timing with the signalized intersections to the north along Mass Ave. Implementation is anticipated prior to opening of the Project.

	f) Install interconnect conduit/cable from Allstate Rd to Newmarket Sq. and to Columbia Rd. Response: Signal conduit was installed in 2005 between Allstate Road and Newmarket Square as part of the Mass Ave corridor improvements sponsored by The Proponent for the Stop & Shop approvals, allowing for future signal interconnect. As discussed with the BTD, EDENS does not propose to run conduit/cable to Columbia Road as this signal is already on the ATCS. g) West Howell Extension too narrow for two way operations (one-way for now and expand under future development?). Response: The West Howell Extension design provides for two-way travel to ensure truck activity remains within the development and outside the surrounding neighborhood street system. Inclusion of bicycle lanes and other Complete Streets design features are subject to future development of the adjoining Verizon property which is beyond control of the Applicant. h) Intersection of West Howell/West Howell Ext/Building E Drive needs modified design to create better alignment. Response: The Proponent has modified the design to reduce vehicle/pedestrian conflict points and to improve the alignment and re-locate the Hotel (Building E) Porte Cochere in consultation with BTD. i) West Howell Street (existing public way) improvements must be to City standard. Response: The Proponent is working with the City to determine an appropriate roadway cross-section that will meet City standards including curbside parking, bicycle accommodation, sidewalk improvements, and travel lanes. j) West Howell Extension must be a Public Roadway. Response: Based on consultation with PIC, this roadway will remain a private roadway subject to easement that allows for public use. k) Modify routing of existing shuttle service to Andrew Station to better serve the new site and add service as needed to meet project demand. Response: A shuttle stop will be incorporated at the Site that integrates with existing shuttle service to Andrew Square. Expansion of the shuttle operating hours to later evening is also be considered to allow enhanced access to MBTA services at Andrew Square for the movie theatre. In addition, The Proponent is working with their residential development partner to provide a new shuttle service (on a trial basis) to Newmarket Square utilizing a smaller shuttle vehicle. l) Explore with MBTA additional stops for existing routes within South Bay Mall to better serve the future project. Response: The Proponent will continue to consult with MBTA as requested. To date the Proponent has meet with MBTA staff to discuss relocated stop locations within and

	adjacent to the South Bay Center. See Section 4.6.4. m) Design project to allow for the option to provide a connection for Baker Court and Fields Court. Response: Current design allows for future connections to Baker Court and Fields Court from Allstate Road through the property should the City and adjoining property owners deem this acceptable. n) Refrain from building proposed surface lots adjacent to Fields Court and West Howell until demand is proven. Response: These surface lots are needed to satisfy community concerns, comply with city parking requirements, as well as to comply with reciprocal easement agreements the Proponent has with its existing South Bay tenants. o) Sponsor a Hubway Station if determined feasible in working with Boston Bikes. Response: After evaluation of existing Hubway locations within a ½ mile radius of the development, it was determined that the existing (3) stations (located at Newmarket Station, Edward Everett Square and Andrew Square) are within a 5-minute walking distance from the Project Site and currently have reserve capacity on a regular basis. Therefore, it was concluded that existing nearby Hubway facilities are expected to meet demands after completion of this development. If this demand changes in the future, the Proponent commits to designating an area on its property for the placement of an additional station. The Proponent further commits to constructing an enhanced pedestrian connection from the proposed development to Newmarket Station. p) Provide car sharing services. Response: The Proponent will work with Zipcar for dedicated spaces within its property.
19	Newly constructed pedestrian ramps will be in compliance with City standards and are incorporated in the current concept plans presented in Section 4.6. These concepts will be brought to sufficient engineering detail for PIC approval following the Article 80 process to ensure compliance with City standards.
20	A minimum 48″ clearance will be provided along all walkways for ADA compliance; most proposed sidewalks are at least 6 feet wide and many are 10 feet wide (or more) including those along Main Street and those proposed along the west side of West Howell Street.
21	The Project will include street lighting along all internal roadways and will provide illumination around its buildings and garages. The Project is not proposing to replace any public street lighting.
22	Sustainable design will be used where appropriate; specific materials of construction

	will be reviewed with the City during the PIC design review and approval process.
23	The Proponent will work with the IAG, Mayor's office, and area civic/neighborhood associations to assist with area quality of life efforts.
24	The Proponent will provide space to accommodate up to 475 bicycles for the residential units. The Proponent will also provide space to accommodate up to 105 additional bicycles strategically located throughout the Project Site to satisfy the City's requirements.
25	The bicycle racks specified for the Project will comply with the City standards.
26	The Proponent will provide a Complete Streets design for all Project roadways, which will complement the future protected bike lanes on Massachusetts Avenue per the Boston Bikes Network Plan.
27	The Proponent will collaborate with BTD and Boston Bikes as appropriate to enhance bicycle accommodations in the area. The Proponent will reserve space for a potential future Hubway station.
28	Elimination of the Aggregate operations at the Project Site will reduce the truck traffic in the area, specifically along the Boston Street by approximately 100 trucks per day and a net reduction of approximately 85 trucks per day from the Project area.
29	Box truck loading will occur adjacent to the Baker Court/Field Court neighborhood; the area will be fully screened from the neighbors. Box truck loading will also occur along West Howell Extension for one of the residential buildings and one of the retail buildings which will be visible from the Verizon property and Foley Fish commercial properties. The primary commercial loading zone will be adjacent to the existing South Bay Center loading area for Panera Bread. Truck circulation as designed will be fully accommodated on-site with the exception of a short section of Enterprise Street. The Project will result in a significant reduction in truck trips along Boston Street compared to the current use of the Project Site by Aggregate Industries.

MEMORANDUM

TO: RAUL DUVERGE, PROJECT MANAGER

FROM: MATTHEW MARTIN, URBAN DESIGNER

SUBJECT: URBAN DESIGN COMMENTS FOR SCOPING DETERMINATION FOR SOUTH BAY TOWN CENTER

Streets & Connections

- The existing street network for both the existing South Bay Center Mall and the surrounding Dorchester neighborhood is currently at or above capacity in many locations. Many of the existing roads within the Mall and surrounding hotels are a patchwork of driveways and parking lot access roads that are less efficient than city streets. It will be critical to the success of this project that new city streets and new connections to existing roads allow for better circulation for traffic bound for the new development as well as the surrounding area. New streets will need to be built to meet BTD Complete Streets standards. 1
- While the project as proposed creates attractive spaces that foster good pedestrian connectivity within the site, the current plan falls short in extending those connections beyond the Town Center and into the existing Mall. While a path has been identified that leads to the new New Market train station, further improvements to sidewalks and landscape should be made strengthen that connection. Improved pedestrian connections have been made to the Hotel site but don't extend beyond as new development is anticipated near the existing hotels and this design should allow for existing and new hotel occupants to easily access the Town Center by foot. 2
- There are a number of concerns related to the proposed intersection where West Howell St. and the West Howell extension meets in front of the proposed hotel (Building E). This intersection as proposed has entrances to both the parking lot next to Foley Fish, the parking area/driveway that services building D and E, the drop-off location for Building E, the connection to the Courtyard and Holiday Inn hotels, and of course the West Howell extension itself. Locating so many traffic outlets in such a small area is a concern, and the unusual nature of these access points further complicates the area and will make it difficult for drivers to navigate this area. The number of access points must be reduced and distributed over a larger area in order to better disperse traffic and make the area more navigable. The overall siting of Building E also needs to be part of the overall discussion in improving this intersection, including the currently 3

undesignated parcel within Edens control. A siting change that allows for better alignment of the access driveway serving building D and West Howell would help create a more conventional intersection there and aid in making the intersection more navigable. The proposed changes to the Hotels and new streets associated with that will also influence the future thinking about the Building E site.

Buildings

- Although the developer has made strides to reduce the size and scale of the proposed buildings, nearly all of the buildings proposed are the same or similar heights. The uniform height, particularly for buildings C and D, makes it more challenging to have this development feel more like a collection of individual buildings, rather than a large scale complex of buildings. Further efforts to distinguish the buildings, particularly on a block by block basis, should be made, including variation in building height. 4
- While the developer's emphasis on creating a high quality design for the ground floor levels of the development are very much appreciated, further focus on improving the façade design for the largest parking garage (Building A) and also parts of Building B should be made. These are the two largest buildings in the proposal, and further study must be made to add complexity and interest to these buildings. The current design for the garage leaves the large parking floor plates exposed, creating an oversized scale to a building that should deflect attention rather than attract it. The curved nature of Main Street and the large sitting areas on either side enhance direct views of Building A from multiple vantage points, ensuring that much more than just the base of this building will be highly visible from the heart of the Town Center. The elevations of these buildings along Allstate Road should also be reconsidered. 5
- Previous designs show loading for the retail portion of building C occurring within the courtyard that separates the two distinct sides of building C. This courtyard has been described as an attractive landscaped space that will serve as important open space, particularly for residents of Building C. A further explanation of the plan for loading to serve the retail tenants facing Main Street should be forthcoming. Special attention should be paid to explaining how a loading area and recreational area can coexist. 6

Parking

- The existing parking ratio for the South Bay Center Mall is 4 spaces for every 1,000 square feet of retail space, a ratio that all agree is far more than necessary for the Mall. The total number of spaces to be constructed on the Town Center land is 1,066. Some of these spaces have been accommodated on surface parking lots next to Building E and also on a lot shown as "employee parking" next to Fields Court. Edens also has site

control over another parcel of land that has not been designated for any use next to Foley Fish. Further details regarding the plan for this land should be forthcoming. The existing parking both at the Mall and proposed is more than adequate for the program proposed. The parking lot next to Fields Court is of particular concern as it occupies land adjacent to a residential neighborhood and creates an unattractive edge condition. This lot also creates parking for a relatively small number of vehicles and should be reconsidered altogether. The size and number of surface parking lots should be kept to an absolute minimum.

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Letter 2	Boston Redevelopment Authority, Matthew Martin
1	The Project's roadways and connections to existing City roadways shall adhere to City of Boston Complete Streets Guidelines.
2	The Project has been designed under the constraints of reciprocal easement agreements from existing tenants and retail owners of the South Bay Center that limit alterations on that property. See Section 7.3. The Proponent has committed to working with the BRA and area landowners on a proposed Boston Street Bypass Road, which will contain sidewalks for pedestrian travel to the Project Site. See Section 2.5.
3	After consultation with the BRA, BTD, and the community, this area has been redesigned. See Section 7.7.1.
4	The Project Team designed the Project under the constraint of a maximum 65 feet in building height. The Project architect has designed the building massing and materials to showcase some variety by raising the parapets at the corners of the residential blocks, and setting back portions of the elevations to further diminish the appearance of their height, but the Project will not be economically feasible if any buildings lose rentable floors.
5	The Project architect has been working with BRA and the BCDC and has revised the facade of Building A by connecting the retail along Allstate Road visually to the garage floors above as well as by adding a cornice that includes a decorative faux wood element. The architect has also revised the design of Building B, particularly in the Promenade, to include more retail storefront along its length and place linear lighting elements on the south façade of the movie theater to activate that area. See Chapter 7 figures.
6	Loading for the Building C retail tenants is within the Building B Loading Dock. Loading for Building C residential is as shown, adjacent to the courtyard, but is not accessed from the courtyard.
7	The Proponent has proposed additional parking to satisfy community concerns, a dog park, and a tot lot on the finger lot.
8	The proposed surface lot adjacent to Fields Court would contain 27 spaces and will be screened from neighboring parcels by plantings. This lot is needed to satisfy community concerns, comply with City parking requirements, as well as to comply with reciprocal easement agreements the Proponent has with its existing South Bay Center tenants.

Boston Water and Sewer Commission

980 Harrison Avenue
Boston, MA 02119
617-989-7000
Fax: 617-989-7718

September 8, 2015

Mr. Raul Duverge, Project Assistant
Boston Redevelopment Authority
One City Hall Square
Boston, MA 02201

Re: South Bay Mixed Use Town Center, Project Notification Form

Dear Mr. Duverge:

The Boston Water and Sewer Commission (Commission) has reviewed the Project Notification Form (PNF) for the South Bay Mixed Use Town Center Project. The project site comprises 9.9 acres bounded by the South Bay Shopping Center and Allstate Road to the north, West Howell Street to the south, South Bay Center and Courtyard Hotel to the east and Enterprise Street and residential dwellings between Baker Court and Fields Court to the west.

Currently the project site contains several commercial, industrial and retail uses including a supermarket, the Aggregate Concrete plant, a single family home and parking lots. The proponent proposes to redevelop the entire site and raze all of the existing buildings. The project will construct five new buildings. These buildings will contain a 12-screen cinema, a 130-room hotel, and approximately 475 residential apartment units. About 113,000 square feet of retail space will be located at the ground level of these buildings.

The project will build three parking garages containing 919 spaces. The proponent also proposes to provide 147 surface parking spaces.

The proponent estimates that the project will generate sewage flows of about 146,370 gallons per day and demand 161,010 gallons per day (gpd) of domestic water.

Stormwater

The redevelopment of this site presents an opportunity to improve the quality of the stormwater discharged into Fort Point Channel. Recently, the Commission separated the sewers serving the project site. Storm drains direct stormwater flows to the Commission's Dorchester Brook Conduit which eventually discharges into the Fort Point Channel. The proponent should contact Mr. Phil Larocque at the Commission to discuss the measures that will be needed to mitigate the impact of the project's stormwater on the Fort Point Channel.

The following pages contain general comments as well as specific comments for water, wastewater and stormwater concerns:

General Comments

1. Prior to demolition of any buildings, all water, sewer and storm drain connections to the buildings must be cut and capped at the main pipe in accordance with the Commission's requirements. The proponent must then complete a Termination Verification Approval Form for a Demolition Permit, available from the Commission and submit the completed form to the City of Boston's Inspectional Services Department before a demolition permit will be issued. 1

2. All new or relocated water mains, sewers and storm drains must be designed and constructed at proponent's expense. They must be designed and constructed in conformance with the Commission's design standards, Water Distribution System and Sewer Use Regulations, and Requirements for Site Plans. To assure compliance with the Commission's requirements, the proponent must submit a site plan and a General Service Application to the Commission's Engineering Customer Service Department for review and approval. To assure compliance, these documents should be submitted when the new water and wastewater systems and the proposed service connections designs are 50 percent complete. The site plan should include the locations of new, relocated and existing water mains, sewers and drains which serve the site, proposed service connections as well as water meter locations. 2

3. The Department of Environmental Protection (DEP), in cooperation with the Massachusetts Water Resources Authority and its member communities, are implementing a coordinated approach to flow control in the MWRA regional wastewater system, particularly the removal of extraneous clean water (e.g., infiltration/ inflow (I/I)) in the system. In April of 2014, the Massachusetts DEP promulgated new regulations regarding wastewater. The Commission has a National Pollutant Discharge Elimination System (NPDES) Permit for its combined sewer overflows and is subject to these new

regulations [314 CMR 12.00, section 12.04(2)(d)]. This section requires all new sewer connections with design flows exceeding 15,000 gpd to mitigate the impacts of the development by removing four gallons of infiltration and inflow (I/I) for each new gallon of wastewater flow. In this regard, any new connection or expansion of an existing connection that exceeds 15,000 gallons per day of wastewater shall assist in the I/I reduction effort to ensure that the additional wastewater flows are offset by the removal of I/I. Currently, a minimum ratio of 4:1 for I/I removal to new wastewater flow added. The Commission supports the policy, and will require proponent to develop a consistent inflow reduction plan. The 4:1 requirement should be addressed at least 90 days prior to activation of water service and will be based on the estimated sewage generation provided on the project site plan. 3

4. The design of the project should comply with the City of Boston's Complete Streets Initiative, which requires incorporation of "green infrastructure" into street designs. Green infrastructure includes greenscapes, such as trees, shrubs, grasses and other landscape plantings, as well as rain gardens and vegetative swales, infiltration basins, and paving materials and permeable surfaces. The proponent must develop a maintenance plan for the proposed green infrastructure. For more information on the Complete Streets Initiative see the City's website at http://bostoncompletestreets.org/ 4

5. The proponent should be aware that the US Environmental Protection Agency issued a draft Remediation General Permit (RGP) for Groundwater Remediation, Contaminated Construction Dewatering, and Miscellaneous Surface Water Discharges. If groundwater contaminated with petroleum products, for example, is encountered, the proponent will be required to apply for a RGP to cover these discharges. 5

6. If the project site is located within Boston's Groundwater Conservation Overlay District (GCOD). The district is intended to promote the restoration of groundwater and reduce the impact of surface runoff. Projects constructed within the GCOD are required to include provisions for retaining stormwater and directing the stormwater to the groundwater table for recharge. 6

7. The proponent is advised that the Commission will not allow buildings to be constructed over any of its water lines. Also, any plans to build over Commission sewer facilities are subject to review and approval by the Commission. The project must be designed so that access, including vehicular access, to the Commission's water and sewer lines for the purpose of operation and maintenance is not inhibited. 7

8. It is the proponent's responsibility to evaluate the capacity of the water, sewer and storm drain systems serving the project site to determine if the systems are adequate to meet

future project demands. With the site plan, the proponent must include a detailed capacity analysis for the water, sewer and storm drain systems serving the project site, as well as an analysis of the impacts the proposed project will have on the Commission's water, sewer and storm drainage systems. 8

Water

9. The proponent is required to obtain a Hydrant Permit for use of any hydrant during the construction phase of this project. The water used from the hydrant must be metered. The proponent should contact the Commission's Operations Division for information on how to obtain a Hydrant Permit. 9

10. The proponent must provide separate estimates of peak and continuous maximum water demand for residential, commercial, industrial, irrigation of landscaped areas, and air-conditioning make-up water for the project with the site plan. Estimates should be based on full-site build-out of the proposed project. The proponent should also provide the methodology used to estimate water demand for the proposed project. 10

11. The proponent should explore opportunities for implementing water conservation measures in addition to those required by the State Plumbing Code. In particular the proponent should consider outdoor landscaping which requires minimal water. If the proponent plans to install in-ground sprinkler systems, the Commission recommends that timers, soil moisture indicators and rainfall sensors be installed. The use of sensor-operated faucets and toilets in common areas of buildings should also be considered. 11

12. The Commission utilizes a Fixed Radio Meter Reading System to obtain water meter readings. If a new water meter is needed for the proposed project, the Commission will provide a Meter Transmitter Unit (MTU) and connect the device to the meter. For information regarding the installation of MTUs, the proponent should contact the Commission's Meter Installation Department. 12

Wastewater and Stormwater

13. The proponent fully investigate methods for retaining stormwater on-site before the Commission will consider a request to discharge stormwater to the Commission's system. The site plan should indicate how storm drainage from roof drains will be handled and the feasibility of retaining their stormwater discharge on-site. Under no circumstances will stormwater be allowed to discharge to a sanitary sewer. 13

14. In conjunction with the site plan and General Service Application, the proponent will be required to submit a Stormwater Pollution Prevention Plan. The plan must: 14

- Identify specific best management measures for controlling erosion and preventing the discharge of sediment, contaminated stormwater or construction debris to the Commission's drainage system when construction is underway.

- Include a site map which shows, at a minimum, existing drainage patterns and areas used for storage or treatment of contaminated soils, groundwater or stormwater, and the location of major control or treatment structures to be utilized during construction.

- Specifically identify how the project will comply with the Department of Environmental Protection's Performance Standards for Stormwater Management both during construction and after construction is complete.

15. The proponent will be required to obtain coverage under the EPA's NPDES General Permit for Construction. A copy of the Notice of Intent and the pollution prevention plan prepared pursuant to the Permit should be provided to the Commission, prior to the commencement of construction. 15

If one acre of land or more is disturbed, then the proponent will be required to obtain an NPDES General Permit for Construction from the Environmental Protection Agency and the Massachusetts Department of Environmental Protection. The proponent is responsible for determining if such a permit is required and for obtaining the permit.

If such a permit is required, then a copy of the permit and any pollution prevention plan prepared pursuant to that permit should be provided to the Commission's Engineering Services Department, prior to the commencement of construction. The pollution prevention plan submitted pursuant to a NPDES Permit may be submitted in place of the pollution prevention plan required by the Commission provided the Plan addresses the same components identified above.

16. The Commission requires oil traps on drains within an enclosed parking garage. Discharges from oil traps must be directed to the sanitary sewer and not to a storm drain. The requirements for oil traps are provided in the Commission's Requirements for Site Plans. 16

17. In accordance with the Commission's Sewer Use Regulations, grease traps will be required in any restaurant or commercial kitchen. The proponent is advised to consult with Mr. Richard Fowler, Supervisor for the Commission's Grease Trap Program, prior to preparing plans for a restaurant or commercial kitchen. 17

18. The Commission requests that the proponent install a permanent "Don't Dump, Drains to Boston Harbor" castings next to any new or modified catch basin installed as part of this project. 18

19. If the proponent seeks to discharge dewatering drainage to the Commission's collection system, they will be required to obtain a Drainage Discharge Permit from the Commission's Engineering Customer Service Department prior to discharge. 19

20. The Commission requires that existing stormwater and sanitary sewer service connections, which are to be re-used by the proposed project, be dye tested to confirm they are connected to the appropriate system. 20

Thank you for the opportunity to comment on this project.

Yours truly,

John P. Sullivan, P.E.
Chief Engineer

JPS/pwk

c.

Keith Hague – Allstate Road, LLC
M. Zlody – Boston Environment
P. Laroque, BWSC

Letter 3	Boston Water and Sewer Commission, John Sullivan
1	Prior to demolition of any buildings, the Proponent will obtain a General Service Application (GSA) from Boston Water and Sewer Commission (BWSC) and upon issuance of GSA, will cap all existing water, sewer and drain connections from the existing buildings.
2	The Proponent agrees to construct and finance all new and relocated water mains, sanitary sewers, and storm drains.
3	The Proponent will address the 4:1 removal ratio for wastewater at least 90 days prior to the activation of water service. Please see Section 8.2.3 for additional information on proposed sanitary sewer connections.
4	Within the public right-of-way, the Project shall comply with the City of Boston's Complete Streets Initiative. The Project will incorporate elements from the Complete Streets Initiative into the design of internal site driveways. Please see Section 4.6 for additional information regarding compliance with the Complete Streets guidelines.
5	If groundwater contaminated with petroleum products or other contaminated discharges subject to the RGP are encountered the Proponent will apply for a Remediation General Permit with the EPA.
6	The Project Site does not fall within the City's defined Groundwater Conservation Overlay District; therefore, the proposed stormwater management system will be designed to comply with BWSC design requirements. The Project will provide groundwater recharge through underground stormwater storage chambers for greater than or equal to one (1) inch of rainfall across the project site. See Section 8.4.2 for additional information on proposed storm drainage system. The Proponent will continue to work with BWSC to ensure that the Commission's design requirements are fully met.
7	The Proponent will relocate any existing water lines within the proposed building footprint at its own expense.
8	Please see Sections 8.2–8.4 for an evaluation of existing infrastructure capacities to serve future Project demands.
9	The Proponent will obtain a hydrant permit from BWSC prior to the commencement of construction activities.
10	Please see Section 8.3.2 for a description of the methodology used to estimate the water demand for the Project.
11	Please see Section 6.2.3, for a description of additional water savings measures expected for the Project.
12	The Proponent will contact BWSC Commissioner's Meter Installation department regarding information on Meter Transmitter Unit connection.
13	See Section 8.4.2 for additional information on proposed storm drainage system.
14	The Proponent will submit Site Plans, a General Service Application, and a detailed stormwater management plan to BWSC Commissioner's Engineering Customer Service Department. See Section 8.4.2 for additional information on proposed storm drainage system.

15	The Project's construction activities will disturb greater than one acre and thus will require a NPDES General Permit for Construction under the EPA 2012 Construction General Permit. The Proponent will prepare a Stormwater Pollution Prevention Plan (SWPPP) for the Project and apply for a NPDES General Permit for Construction prior to the commencement of construction activities.
16	The Proponent will provide an oil and grease separators for enclosed parking garages prior to connection into the municipal sanitary sewer system. See Section 8.2.3 for additional information on proposed sanitary sewer connections.
17	The Proponent will install grease traps for all Project uses that include food service in accordance with the Commission's Sewer Use Regulations. The Proponent will meet with Mr. Fowler prior to preparing plans for restaurants and commercial kitchens.
18	The Proponent will obtain "Do Not Dump: Drains to Boston Harbor" plaques from BWSC for installation adjacent to all proposed catch basin inlets.
19	All dewatering discharges will be properly permitted and managed in compliance with BWSC requirements as well as other state and federal requirements.
20	The Proponent will conduct dye testing on all existing sanitary sewer and stormwater service connections that are proposed for reuse in redevelopment.

BOSTON

Martin J. Walsh, Mayor

October 1, 2015

Ms. Teresa Polhemus
Boston Redevelopment Authority
One City Hall Square
Boston, MA 02201

RE: South Bay Town Center, Article 80 Large Project Review

Dear Ms. Polhemus;

The Boston Parks Department is responding to the Article 80 review for the development at the South Bay Town Plaza in Roxbury. This project is a mixed use project with 728,120 sf in five buildings on a 9.9 acres site. It includes 475 units, 113,000 sf of retail and restaurant space, a 12 screen cinema, a hotel with 130 rooms and approximately 1020 parking spaces in structured lots.

This letter includes comments on issues relevant to the Article 80 review.

Open Space Requirements

The project is located in the Dorchester Neighborhood / South Bay Community Commercial Zoning Subdistrict. That zoning requires 50 sf of minimum usable onsite open space per dwelling unit, or 23,750 sf of onsite open space minimum to serve the residential development. It is not clear how much open space will be provided onsite for the dwelling units, though the PNF indicates that a public courtyard will serve residential Building C, and a private courtyard will serve residential Building D. The project will seek a Planned Unit Development (PDA) approval. At a minimum, open space requirements of the current zoning should be met. 1

Impacts to Clifford Playground

Open space has been proposed specifically for the residential buildings in the form of publicly accessible and private courtyards for passive use. There will be 475 units that are studio to 3 bedrooms. The unit mix can be estimated to generate about 660 residents minimum. It is presumed that the residents will utilize Clifford Playground for their active recreational needs.

The developer has indicated in the scoping session that pets would be allowed in the units. An onsite dog recreational space should be provided to accommodate this use. 2

Traffic Volume

The PNF notes that currently the daily traffic volume on Massachusetts Avenue adjacent to the project is approximately 19,630 vehicles per day (vpd) during a typical weekday and 19,670 vpd on a Saturday. The proposed development is estimated to generate approximately 6,601 new vehicle trips on a weekday and 7,612 new vehicle trips on a Saturday. This represents an increase of 33% vehicle trips per day on weekdays, and 39% vehicle trips per day on a Saturday.

Boston Parks and Recreation Department
1010 Massachusetts Ave., Boston, MA 02118 / Tel.: 617-635-4505 / Fax: 617-635-3173

Efforts should be made to ensure that the project does not detract, and rather enhances the pedestrian, bicycle and vehicular access to Clifford Playground, an active recreational area. Traffic volume impacts of the project on access to the park should be analyzed. 3

Traffic Queues

The PNF states that the mixed-use development generally results in similar vehicle queues in both the Build Condition and the No-Build Condition. It is unclear how the addition of a 33-39% increase in vehicle trips per day will not impact queueing lengths.

There is currently congestion along Massachusetts Avenue during the day, particularly in the area between Theodore Glynn Way and the South Bay Plaza which is along Clifford Playground. It is anticipated that an increase of 33-39% in vehicle trips per day will increase this congestion. This queueing should be evaluated to understand the impacts on users of Clifford Playground. 4

Level of Service

The PNF indicates that there will be virtually no change in the level of service at intersections near Clifford Playground between the current condition and the 2021 buildout. It is unclear how the project will increase vehicle trips but will not impact the level of service at intersections.

More information is needed on the impacts of increased traffic in the vicinity of Clifford Playground, particularly at the intersections of Massachusetts Avenue and Magazine Street, Massachusetts Avenue and Shirley Street, and Massachusetts Avenue and Allstate, as well as along Norfolk Avenue in the vicinity of the playground. 5

Air Quality

The Parks Department is concerned about potential air quality issues that may be generated by increased traffic congestion around Clifford Playground. A meso-scale analysis should be done. 6

Mitigation

The Parks Department respectfully requests that any community benefits that are negotiated for the development should consider the mitigation of impacts to Clifford Playground. 7

Please contact me if you have questions at 617-961-3074 or carrie.marsh@boston.gov.

Sincerely,

Carrie Marsh, Executive Secretary
Boston Parks and Recreation Commission

cc: Christopher Cook, Commissioner, Boston Parks and Recreation Department
Liza Meyer, Chief Landscape Architect, Boston Parks and Recreation Department
Raul Duverge, Project Manager, Boston Redevelopment Authority

Letter 4	Boston Parks and Recreation Commission, Carrie Marsh
1	The Project engineer calculated the Project provides approximately 2.6 acres (113,464 sf) of open space, excluding the interior courtyard in Building D. Since the PNF was filed, the Proponent has added a dog park and tot lot near the proposed residential housing units. See Section 7.7 for some descriptions and graphics of open spaces across the Project Site.
2	A dog park will be provided in the former finger lot off West Howell Extension.
3	The traffic volume increases along Massachusetts Avenue are projected to be 130 vehicles per hour (vph) or less adjacent to the Clifford Park area. The Project will have a minimal impact on the access to the Park. Pedestrian access to Clifford Park will be enhanced by a new landscaped sidewalk connection between the Project and the park that will run through the existing South Bay Center. In addition, traffic has been analyzed and improvements are being incorporated along Massachusetts Avenue and at the Shirley/Newmarket intersection. These improvements include revised lane designations and signal interconnections between Newmarket and Allstate Road signals to connect these two signals to the City's Advance Traffic Controls System (ATCS). This work will give BTD the ability to video monitor and adjust the timing of this signal for improved traffic flow in real time in the event of emergency impacts or periodically as traffic patterns change throughout the year. The Boston Police Department will also have access to the data collected by this camera to help improve security along Mass Ave for those pedestrians walking to and from Newmarket Station.
4	The traffic queuing along Massachusetts Avenue has been analyzed and is summarized in the Transportation chapter. The Project has been shown to increase queuing along Massachusetts Avenue near the park by two vehicles or less during the peak hours.
5	The capacity analysis provided in the Transportation chapter indicates a nominal impact to the intersections along Massachusetts Avenue adjacent to the park. The Project will have minimal traffic impacts along Norfolk Avenue.
6	The microscale CO air quality dispersion modeling analysis completed by Tech Environmental and included in Section 5.6 indicates that the worst-case traffic generated by the Project will not cause or contribute to any violations of the NAAQS for CO and will not significantly affect air quality. Total CO impacts at the intersections with the largest delays and at the Project Site, including the impacts from the fuel combustion equipment and parking garages, are predicted to be safely in compliance with the NAAQS for CO. The analysis included the Massachusetts Ave/Shirley Street and Massachusetts Ave/Magazine Street intersections.
7	The Proponent will commit to a $10,000 donation to fund the design initiatives currently being contemplated by the Parks Department to redesign the park.

FRANK BAKER
BOSTON CITY COUNCILOR
DISTRICT 3

August 25, 2015

Mr. Raul Duverge
Boston Redevelopment Authority
One City Hall, Ninth Floor
Boston, MA 02201

Dear Raul,

I would like to take this opportunity to express my support for the South Bay Town Center Project. The mix of dining, shopping, entertainment and housing will reinvigorate the neighborhood and make South Bay an exciting destination for nearby residents and visitors.

As this project moves forward, one of my primary concerns is the safety of nearby residents and those visiting the center. In the project notification form (PNF) for the development, there are some safety measures included that apply to the construction process and future roadways around the center. Construction methodologies that enhance public safety, such as barricades and pedestrian walkways, are important steps that will be taken, according to the PNF. I would also like to applaud the developer for working to improve traffic and intersection safety, with measures like improved signage and pavement markers. 1

However, I am concerned that the PNF did not include plans to incorporate security cameras and security officers into the finished development. These measures are crucial in deterring crime and ensuring that the future South Bay Town Center will be a safe place for families to live, shop and dine. It is my hope that future plans will include further measures to enhance public safety. 2

As you know, the City of Boston is constantly struggling to provide adequate parking for its residents. Large developments such as this inevitably bring more vehicle traffic to the area, so it is important the Edens provides sufficient parking for their residential and commercial spaces, so the surrounding community is not further burdened. Measures to mitigate the need for vehicle parking, such as expanded Zipcar availability and encouraging

BOSTON CITY HALL, ONE CITY HALL SQUARE, BOSTON, MASSACHUSETTS, 02201
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the use of bicycles by adding bicycle racks and Hubway stations, may also ease the stress on the surrounding community. 3

The community has also expressed concerns that this development will increase the traffic flow on surrounding streets. While the traffic operations analysis outlined in the PNF indicated that the intersections in the surrounding areas will primarily operate at the same level of service with the development, further mitigation measures may be necessary to appease the surrounding community. Encouraging the use of public transportation and increasing the availability of shuttle buses may be ways to decrease traffic and parking demand for the development. 4

In addition to these mitigating options, I would like to stress the importance of creating a connection from Boston Street extension to the South Bay development, for travelers exiting the Southeast Expressway. A new road between ScrubaDub and the hotels leading directly onto Edens' planned "New Road" would alleviate traffic concerns on the already busy Boston Street. 5

To ensure that the future South Bay development will be an asset to the neighborhood for years to come, I urge the developers to build with quality, durable materials. The community deserves structures that will remain usable and aesthetically pleasing despite inevitable wear and tear. 6

Finally, residents and City officials have stressed the importance of adding green spaces to the construction plans. Unfortunately, the current South Bay shopping mall provides little in the way of landscaping and greenery. I urge the developers to create a more inviting and environmentally conscious space with their addition to South Bay by enhancing the plans for trees, grassy spaces and other green landscaping opportunities. 7

The Edens development at South Bay is well on its way to being a positive and dynamic addition to the neighborhood. Addressing the concerns outlined above will make the project better suited to earn community support now and for years to come.

Sincerely,

Frank Baker

Frank Baker
Boston City Council, District 3

Letter 5	Boston City Councilor, Frank Baker
1	See Section 1.6 for a discussion of the Project's security plan.
2	To further alleviate the community's concern about parking, the Proponent will provide an additional 65 parking spaces in the retail parking structure for the use of South Bay residents and their guests in the event the parking that is included in the residential buildings is not sufficient to meet their needs. The 65 retail parking spaces that are displaced will be relocated onto the finger lot on the Project Site's southwest. If it is determined, one year after the completion of construction, that these additional residential spaces are not needed, the use of this finger lot can cease being a parking lot and the Proponent can pursue other development opportunities for this land with the condition the Proponent commits to maintaining a dog park/tot lot of equal size in an alternate location should the location shown on the current plans no longer be feasible.
3	In addition to the numerous traffic improvements incorporated into this development, the Proponent will extend its current free shuttle service from the project to the Newmarket Station, providing an alternative to walking to the train by resident commuters of the Project. The hours of the existing free shuttle service to Andrew Square will also be expanded to accommodate the later hours associated with the restaurants and the cinema. The Proponent will also provide a dedicated area for Zipcar spaces within its property as well as an enhanced pedestrian connection from the proposed development to Newmarket Station.
4	The Proponent recognizes the benefit of having a direct connection from the Boston Street off-ramp into the development, as well as an enhanced access to the existing hotels, without having to travel on Boston Street. This connection, currently referred to as the Boston Street Bypass Road, has been incorporated into the design of the Project and will include a sidewalk to promote access to the property from the hotels and other existing sidewalk networks. The Proponent will commit to the construction of the Boston Street Bypass Road. There are several related items such as private and public easements, MassDOT permits, and funding issues beyond the Proponent's control that need to be finalized before this road can be constructed. In the event these items are not resolved prior to Project completion, West Howell Street may be temporarily opened as two-way and converted to one way once all outstanding issues are resolved. West Howell Street has been designed to accommodate this conversion without the requirement of further construction work. The conversion can be completed with line striping only.
5	The information contained in our DPIR filing will demonstrate a commitment to quality construction materials including; brick, cement board siding, and metal panels. See Chapter 7 figures.
6	Additional green and open spaces have been added to the Project including a dog park and tot lot at the southeast side of West Howell Extension at the finger lot, along Main Street, and at the plaza in front of Building A.

CITY OF BOSTON
THE ENVIRONMENT DEPARTMENT

Boston City Hall, Room 709 • Boston, MA 02201 · 617/635-3850 · FAX: 617/635-3435

October 6, 2015

Brian Golden, Director
Boston Redevelopment Authority
Boston City Hall, Room 925
Boston, MA 02201
Attention: Raul Duverge

Re: South Bay Town Center
Project Notification Form

Dear Director Golden:

The City of Boston Environment Department has reviewed the Project Notification Form (PNF) for the above-referenced project and hereby submits the following comments.

The Proponent, Allstate Road (Edens) LLC, proposes to construct what is described as a transit-oriented, mixed-use neighborhood. The project is the following five buildings on ten parcels (~9.9 acres) adjacent to the South Bay Center: a 610-space parking garage with ground-floor retail, a 12-screen cinema, 475 units in two residential buildings with a combined 309 parking spaces, and a 130-key hotel. Edens owns developable land adjacent to the project site. Parcel addresses are on Allstate Road, Baker Court, Enterprise Street, Fields Court and West Howell Street. West Howell Street is to be extended, two new streets and service road constructed.

The project is subject to Boston Zoning Article 37, Green Buildings. The PNF includes the following LEED checklists:

- LEED 2009 for Neighborhood Development showing 50 points, in the Silver category.
- LEED 2009 for New Construction and Major Renovations for Building E, the hotel, showing 45 points, in the Certifiable category.
- LEED 2009 for New Construction and Major Renovations for Buildings C and D, the residences, showing 48 points, in the Certifiable category.
- LEED 2009 for New Construction and Major Renovations for Building B, the cinema with retail, showing 47 points, in the Certifiable category.

No Climate Change Preparedness and Resiliency Checklist or LEED checklist for the parking garage with retail are provided.

We suggest that credit determinations begin with the intent that the project can be built to LEED Platinum standards. As credits are assessed for implementation from that perspective, the reasons for choosing and not choosing credits can be clearly explained as can a description of the ways in which chosen credits will be implemented. 1

We also suggest the use of LEED for Existing Buildings: Operations and Maintenance (LEED EBOM) once the buildings are occupied. EBOM can help to create standards for sustainable buildings.

Article 37 and Climate Change Preparedness and Resiliency review will be conducted by the Interagency Green Building Committee.

The following environmental issues should be addressed in detail in the Draft Project Impact Report (DPIR):

Energy Conservation and On-site Generation
The overall energy goal for the project should be to reduce energy demand to the greatest extent possible, and then produce as much of the energy demand through on-site alternative/renewable generation. 2

Reducing the intensity of energy use can be accomplished by metering and sub metering to provide information to facility managers about the ways in which behavior influences cost and, subsequently, conservation. For residential projects, individual metering should be easily incorporated.

The use of Energy Star products in units and building systems and the aforementioned sub- metering for heating, electricity and water can also be used as a means to provide information to residential and commercial users about cost and conservation. 3

The evaluation of combined heat and power and district energy should include how neighbors and other users may also be served. This is particularly important when creating a new neighborhood with the potential for its expansion.

Water Conservation and Reuse
The use of potable water increases the maintenance and life-cycle costs for building operations. Efficiency measures such as using alternative water sources for non-potable applications, the use of Energy Star products in units and building systems, and participation in the WaterSense program are options that can result in water efficiency.

The project should minimize to the greatest extent possible the efficiency of water use by capturing and reusing all rainwater hitting roofs and used in building systems/operations. Landscaping shall be designed to minimize or eliminate the use of irrigation from potable water. 4

Stormwater and Heat Island
Figure 1-2, Aerial View of Existing Site, and Figure 2-1, Oblique View of Existing Site, show that the site is surrounded by significant amounts of asphalt surface and virtually no porous materials or greenspace. Site plans for the built project show trees but no greenspace for recreation, stormwater retention and heat island prevention. 5

The use of porous paving materials, the provision of greenspace, areas for dog walking/recreation and the installation of Mutt Mitt (or comparable) stations are crucial for environmental and aesthetic reasons and will assist the Proponent in maximizing the project's value to tenants or owners by providing green attributes.

We request the permanent installation of plaques at storm drains that bear the warning "Don't Dump - Drains to Boston Harbor."

Noise
The location of loading and service areas should be clearly described and shown on drawings. We strongly recommend that these areas be fully enclosed as a means to minimize noise impacts on residents. If they will not be enclosed, a plan to minimize noise should be described. 6

External mechanical equipment and locations should be described, their noise generation identified and mitigation detailed. The mitigated noise levels should be calculated and identified.

Assessment of ambient sound should be conducted and levels take into account when making decisions about envelope and windows.

Idling
A plan for ensure compliance with state and local anti-idling laws should be described. 7

Transportation Demand Management
We suggest discussions with car-sharing companies the potential for providing spaces for the service. 8

Exemplary Green Performance
A considerably high level of performance can distinguish this project from others as a model for sustainability and green building. Exceeding Code minima, instituting new green measures based upon LEED EBOM and using various opportunities to market a green building are examples of exemplary performance. 9

Thank you for the opportunity to comment. We look forward to the DPIR.

Sincerely,

Maura T. Zlody
Senior Environmental Policy Analyst

cc: Austin Blackmon, Chief of Environment, Energy and Open Space
Anthony Gilardi, Chief of Staff, Environment, Energy and Open Space

Letter 6	Boston Environment Department, Maura Zlody
1	The Proponent aims for a LEED-certifiable project at the Silver level.
2	The Proponent will comply with the City's wish that buildings be designed to at least be solar-ready.
3	The Proponent will specify the use of Energy STAR appliances in residential units and will consider sub metering tenant utilities.
4	The Proponent will consider stormwater capture and reuse options.
5	A courtyard at Building C will provide some Project green space in addition to other open spaces spread throughout the Project Site including a dog park and tot lot. The Project engineer will consider the use of pervious pavements where they would be most appropriate on the Project Site. Don't Dump plaques will be installed per BWSC's requirements.
6	See Section 5.7 for an assessment of noise conditions and mitigation.
7	The Proponent will comply with City and state anti-idling regulations.
8	The Proponent will work with Zipcar to provide car sharing spaces on the Project Site.
9	See Chapter 6, Sustainability. The Proponent will submit an updated Green Building Report as the design advances.

Mr. Raul Duverge
Boston Redevelopment Authority
One City Hall Square
Boston, MA 02201-1007

September 29, 2015

Dear Mr. Duverge

Regarding the Project Notification Form for the First Amendment to Development proposed South Bay Town Center project Notification Form Scoping session submitted September 29, 2015 to the BRA the Boston Fire Department requires the following issues addressed by a qualified individual.

1. Emergency vehicle site access to the new buildings as well as existing buildings that might be affected. 1
2. Impact on availability and accessibility of hydrant locations for new buildings as well as for any existing buildings that might be impacted. 2
3. Impact on availability and accessibility to siamese connection locations for new buildings as well as for any existing buildings that might be impacted. 3
4. Impact that a transformer vault fire or explosion will have on the fire safety of the building. Particularly as it relates to the location of the vault. 4
5. Need for Boston Fire Department permit requirements as outlined in the Boston Fire Prevention Code, the Massachusetts Fire Prevention Regulations (527 CMR), and the Massachusetts Fire Prevention Laws (MGL CH148). 5
6. For projects involving air-supported structures, it is critical that the impact of the design has on fire safety relative to the interaction of the area underneath the structure to the structure as well as to the interaction of the structure to the area underneath the structure. 6

These items should be analyzed for all phases of the construction as well as the final design stage. This project will need permits from the Boston Fire Department as well as the Inspectional Services Department.

Respectfully,

Jack Dempsey
Fire Marshal

Cc: Paul Donga, FPE, Plans Unit, BFD

Letter 7	Boston Fire Department, Jack Dempsey
1	The Project will not adversely affect emergency vehicle access to the surrounding existing buildings. See Figure 8-8, Fire Truck Simulation Plan.
2	Existing hydrants on and surrounding the Project Site are proposed to remain or will be relocated to a suitable nearby location. The Proponent will continue to work with the Boston Fire Department to ensure a safe and coordinated design. See Figure 8-8, Fire Truck Simulation Plan.
3	Siamese connections for the proposed buildings will be located in proximity to existing or proposed fire hydrants in accordance with the State Building Code. Siamese connections located on the surrounding existing buildings have not been adversely affected by the Project.
4	All the transformers are exterior, pad-mounted transformers at-grade and the locations meet the National Electrical Code as well as all required local codes including utility standards. The Project's buildings do not have an interior vault or utility transformer room.
5	The Project Team will review BFD permit requirements as further Project specifications are made.
6	The Project does not have any air-supported structures.

South Bay Town Center
Impact Advisory Group

September 21, 2015

Boston Redevelopment Authority
One City Hall Square
Boston, MA 02201-1007

Re: South Bay Town Center, 101 Allstate Road, Dorchester, Massachusetts

Dear Sir or Madam:

The members of the Impact Advisory Group ("IAG") respectfully submit this comment letter in response to the Project Notification Form ("PNF") dated August 3, 2015, submitted by Allstate Road (Edens), LLC (the "Proponent"), for the mixed-use development proposed for 101 Allstate Road, Dorchester (the "Project" or "South Bay Town Center").

In preparing this comment letter, the IAG has carefully reviewed the PNF, documents the Proponent provided before the PNF, and other materials. Members of the IAG have had preliminary discussions on the proposed project with members of the community and elected officials but it should be noted there has only been one IAG community meeting as of the date of this letter which occurred prior to the release of the PNF. The IAG has also met to discuss the proposed project amongst themselves, and some members have attended the community meetings sponsored by Edens.

In short, the IAG agrees that the Proponent must address and rectify several areas of concern, as described in more detail in Section II below. For example, there is serious concern from members of the IAG and the community at large about the traffic flowing into and out of the South Bay Town Center. Traffic in the area is already a major issue in the neighborhood, especially on Boston Street. The traffic anticipated from the movie theatre, retail, and restaurant uses will likely make that major traffic problem worse.

In addition to rectifying each of the items in Section II below, the IAG agrees that the Proponent must also provide the mitigation package described in Section III below. To be clear, the Proponent must be required to correct the items in Section II and provide the mitigation package in Section III.

I. PROJECT DESCRIPTION

The Proponent proposes to build a mixed-use development on an approximately 9.9 acre site that is spread across 10 different parcels. As described in the PNF, the Project would include a 12 screen movie theatre, 475 dwelling units, 130 hotel rooms, and approximately 113,000 sf of retail and restaurant space.

The Project would also include a total of 1,066 parking spaces. 147 parking spaces would be located in surface lots and along the new roadways -- 70 spaces dedicated to the 130 room hotel, 32 spaces dedicated for parking for employees working in the retail stores, restaurants, movie theatre and hotel, and 45 spaces that would not be dedicated to any particular use.

The other 919 parking spaces would be in three different garages within the South Bay Town Center. 309 parking spaces will be located in two different garages in the residential buildings, and will be dedicated to the 475 proposed residential units – *i.e.* only parking spaces per residential unit. The final 610 parking spaces would be a third, stand alone garage (the "Commercial Garage"). These spaces would provide parking for the movie theatre, retail stores, and restaurants.

II. AREAS OF CONCERN

The IAG has identified the following areas of concern in the PNF for the South Bay Town Center, which the Proponent must address and rectify.

TRAFFIC / PARKING / SAFETY

1. The Proponent has not adequately addressed the traffic flow for vehicles. For example:

   a. The use of West Howell Street as a main entry point is hazardous and the plans do not address how the volume of potential vehicle flow will be handled without creating increased traffic bottlenecks throughout the entire neighborhood. The Proponent must adequately address how the volume of traffic flow will be handled on West Howell 1

   b. The Boston Street offramp from 93 South can't handle the increased volume of traffic. The Proponent must work with the BRA to create a new roadway from the Boston Street offramp to the new Town Center without the utilization of Boston Street proper. 2

   c. Enterprise and Clapp Streets are also not designed for two way traffic flow. This needs to be addressed to prohibit vehicle traffic exiting the Town Center from using these roads as major access points 3

   d. The Proponent must provide improvements to the egress from Route 93 South. The egress must be redesigned to encourage vehicle traffic to use Route 93S as an outlet from the development and the South Bay Shopping Center. The current markings are inefficient, and the Proponent's own traffic study confirms that this egress is currently underutilized. 4

2. Because the Proponent has failed to adequately address the traffic flow, the IAG requests that the BRA conduct an additional traffic study to review the street light timing throughout the neighboring communities with a particular focus on Andrew Square, Edward Everett Square, the intersection of Massachusetts Avenue and Allstate Road, and along Columbia Road to Interstate 93. The IAG requests an independent recommendation on how the timing of lights and movement of traffic can be best accommodated with the increased traffic volume projected for the South Bay Town Center, along with the increased traffic volume projected for other major developments in the area, including but not limited to the Maxwell building on East Cottage and 235 Old Colony Avenue. To the extent additional traffic study is necessary to provide or supplement any of the projected traffic volume, the Proponent must provide those traffic studies. 5

3. The Proponent has also not adequately addressed pedestrian traffic flow. For example:

   a. Enterprise and Clapp Streets lack proper sidewalks. Proper 6-foot sidewalks that meet the accessibility requirements by law must be provided by the Proponent. 6

   b. The Proponent must evaluate and provide improvements to pedestrian access from Southampton Street. 7

   c. The Proponent should evaluate vehicle traffic on the new "Main Street" and make this street more conducive to pedestrians and their safety. 8

   d. The Proponent must replace and install lighting improvements along Boston Street to provide a safe walking path to and from the MBTA stations at night. In addition to providing safe lighting, the light structures must be of identical or better materials than those materials used for lighting along the new streets of Town Center. This is especially important for the increased hotel visitors who are travelling to and from Andrew Square. 9

   e. The Proponent must provide the "Blue Light" system within its development, along Massachusetts Avenue to Newmarket Station, and along Southampton Street to Andrew Square Station. 10

   f. The Proponent must commit to continuously trimming all trees that block lighting on Southampton Street and Boston Street – as well as all new streets within the South Bay Town Center. The Proponent must provide a written maintenance schedule and a contact for the community to report street lighting that is blocked by trees. 11

4. The Proponent must be required to increase security both on foot and in car. This includes visible security personnel or paid police details at the cinema for weekend, holiday and new releases so that traffic will utilize the Massachusetts Avenue, Southampton Street, and 93S outlets to exit the South Bay Town Center. 12

5. The Proponent's proposed parking ratio of less than 1 car per unit will likely exacerbate the parking problems in the neighborhood. Given the demonstrated recent issues with the MBTA, such a ratio likely may not meet the parking demand from the residential units. To off-set the parking impact:

   a. The Proponent must enter into a binding and enforceable agreement to allow residents who live in the neighboring communities to park in the Commercial Garage during snow emergencies, at no cost to area residents. 13

   b. Parking dedicated for the residential use within the South Bay Town Center must be available to all residents of the development, at no additional charge to them. The Proponent and its residential real estate partner (whom the Proponent has not yet identified) may not dedicate, assign, sell, transfer, or lease a particular parking space for particular residents. The Proponent and its residential real estate partner cannot impose any fee on top of monthly rent for a parking space. The Proponent and its residential real estate partner cannot sell or transfer a specific parking space to particular tenants. 14

c. The Proponent must provide dedicated Zipcar and Hubway areas to encourage less vehicle traffic. 15

6. The Proponent must comply with all state and federal laws and guidelines, including but not limited to all fair housing laws and their design and construction provisions, as well as state guidelines. The IAG specifically requests that the Proponent provide written confirmation that it has complied with the laws and guidelines regarding accessibility (including parking spots). 16

7. The Proponent must commit in writing to work with the IAG and the community to address the traffic flow, as the review process for the South Bay Town Center continues. 17

DENSITY / SHADOWING

8. At 475 residential rental units, the residential component of the South Bay Town Center is too dense with no ownership. The Proponent must reevaluate the scope of the residential component, and provide a new proposal to allow for less massing in the area. The IAG agrees that 350 units would be more appropriate for this project coupled with a commitment that 50% are owner occupied units managed by a management company. 18

9. The IAG encourages the Proponent to make half of the units' rentals and half condominiums, as ownership will help encourage residents' investment in our community. The development can still be managed by one management company allowing for the same level of oversight. 19

10. There is concern regarding the shadowing impacts of Garage "A" on the neighborhood located behind the garage in the area of Fields and Willow Court. The Proponent must study the shadows created by the garage. If it creates an adverse impact on the directly abutting neighborhood, the Proponent must provide an alternate proposal with a lesser shadow impact. Additionally, the exterior of the garage should be aesthetically changed so that it is not a simple concrete structure especially at the back of the building facing into the neighborhood. 20

11. The Proponent must sign a binding written agreement prohibiting the leasing or construction of any billboards or commercial signage on Boston and Enterprise Streets. All commercia 21

12. The Proponent must provide the IAG with more detailed plans for the parcel just east of Building D known as the "finger" parcel as presented by Edens. 22

CONSTRUCTION REQUIREMENTS

13. The Proponent must commit to comply with the Boston Residence Jobs Policy which requires that on private development projects over 100,000 sq. ft., 50 % of workers are Boston residents, 25% are minorities and 10% are women. 23

14. The Proponent must commit to spend a minimum of 35% of pre-construction/construction costs or any agreed upon equivalent with businesses located 24

within a 5 mile radius of the Town Center. We encourage discussions with Newmarket Business Association to align these interests with the Proponent.

15. The Proponent must consult with the City and provide a thorough rodent abatement at the project site and within __ mile radius from the construction site, throughout the whole construction process. 25

16. The Proponent must provide a community relations office located on site in order to address community concerns with the South Bay Shopping Center and the development, including but not limited to concerns that arise during any construction process. It is the expectation of the IAG this office will be permanent post construction. 26

17. The Proponent and its contractors are prohibited from parking construction vehicles on Boston Street during any phase of construction 27

III. MITIGATION PACKAGE

Because of the significant impacts the construction process and the development will create upon the community, in addition to addressing each of the issues above, the IAG requires the Proponent to provide the following mitigation package:

- The Proponent must pay an upfront lump sum donation to the community of either 1% of the estimated cost of construction or $850,000, whichever is higher. 28
- In addition to the initial donation, the Proponent must provide an annual $25,000 donation to the community each year thereafter. 29
- All donations shall be made to a charitable trust to be named and created. These donations will be utilized to make community improvements, maintain our local parks and historical sites and fund donations to art, youth, economic and educational programs as the trust do decides based on a rigorous application process. 30
- The IAG also asks the Proponent and its commercial tenants to implement internship opportunities for local high school/undergraduates to expose them about community development, architecture and construction as the project commences. This program would be similar to the "Building a Building" program created for the Brighton Aberdeen project. 31

* * *

The IAG thanks the Boston Redevelopment Authority and its staff in advance for giving the areas of concern and the mitigation package the IAG has recommended in this letter very serious consideration.

The IAG also reserves the right to raise additional areas of concern, and the right to revise the requested mitigation package, as the BRA's review of the South Bay Town Center continues. Accordingly, the IAG strongly recommends that the BRA hold the Proponent to all requirements of Article 80 and Article 80B of the Boston Zoning Code, without waiving any requirements. We look forward to our review of the DPIR document that the developer has committed to submit for this project and further discuss this development and its impact to the community.

Additionally, the IAG is hereby on record in requesting that the Proponent be required to submit to and comply with the Massachusetts Environmental Policy Act ("MEPA") review, without waiver of any MEPA requirements by any department, agency, commission, or other subsection of the City or state. The IAG is especially concerned that the Project go through the rigors of MEPA review, because several commercial industries either exist or once conducted business using contaminants on one or more of the parcels to be used within the project.

The undersigned members of the IAG, which constitute a majority of the group, are in agreement with the language of this document.

Very truly yours,

IAG for South Bay Town Center –

Eileen Boyle, Columbia/Savin Hill Civic Association
Susan Capachione, Eastman/Elder Neighborhood Association
Neil Janulewicz, John W. McCormack Civic Association
Pattie McCormick, Andrew Square Civic Association
India Minchoff, John W. McCormack Civic Association
Desmond Rohan, Columbia/Savin Hill Civic Assocaition
Millie Rooney, John W. McCormack Civic Association
Susan Sullivan, New Market Business Association
Earl Taylor, Dorchester Historical Society
Joan Tighe, Eastman /Elder Neighborhood Association
Linda Zablocki, Andrew Square Civic Association

cc: City Council President Bill Linehan
City Councilor Frank Baker
Representative Nick Collins
Representative Dan Hunt
Representative Evandro Carvalho
Senator Linda Dorcena-Forry

IAG Comment Letters

Letter 8	South Bay Town Center Impact Advisory Group
1	Based on extensive analysis between the Project Team, BTD, and BRA, the proposed access road through West Howell will be revised to one-way direction in from Boston Street. This reconfiguration will be designed to meet City of Boston standards including Complete Streets elements and will retain curbside parking for use by the public, thereby better accommodating pedestrians/bicycles, existing business operations along the street, neighborhood parking access, and creating a safe and efficient vehicular circulation. This reconfiguration incorporates a raised table intersection at its connection with the proposed hotel driveway, West Howell Extension, and the Boston Street Bypass Road, which greatly enhances the pedestrian street crossings while calming traffic. These improvements, coupled with a significant increase in landscape area and sidewalk enhancements, will provide an important pedestrian connection between the Project and the adjoining neighborhoods.
2	The traffic signal at this Boston Street intersection was updated by the City in 2013 and will continue to operate at a very efficient overall level of service B without any further modification; however, the Proponent recognizes the benefit of having a direct connection from the Boston Street off-ramp into the development, as well as an enhanced access to the existing hotels, without having to enter onto Boston Street. This connection, currently referred to as the Boston Street Bypass Road, has been incorporated into the design of this project, and will include a sidewalk to promote access to the property from the hotels and other existing sidewalk networks. The Proponent will construct the Boston Street Bypass Road. There are several related items such as private and public easements, MassDOT permits, and funding issues beyond the Proponent's control that need to be finalized before this road can be constructed. In the event these items are not resolved prior to Project completion, West Howell Street may be temporarily opened as two-way and converted to one way once all outstanding issues are resolved. West Howell Street has been designed to accommodate this conversion without the requirement of further construction work. The conversion can be completed with line striping only.
3	To address this concern, a traffic island and associated signage has been incorporated into the design of Enterprise Street to restrict the flow of traffic. This restriction will prevent vehicles traveling west on West Howell Extension from making a left turn and will also prevent vehicles traveling south on Enterprise from continuing to Boston Street beyond West Howell Extension.
4	The existing conditions have been further evaluated and several opportunities for improvement have been identified. These opportunities include replacing existing green directional signs with highly visible “I-93” directional signs that conform to current highway standards (standard interstate signs) and pavement markings leading to the south and northbound Expressway ramps.
5	The Project Team has completed an extensive evaluation of 19 surrounding intersections, including 13 traffic signals. As a result of this evaluation and comments from the community, the Proponent has identified and commits to completing the

	following improvements: • Install the necessary underground conduit and cables needed to complete a connection between the South Bay/I-93S signal and the signal at Boston Street/Washburn Street to incorporate the signal into the BTD's Advance Traffic Control System (ATCS), including a camera system on the Washburn signal. This work will give BTD the ability to video monitor and adjust the timing of this signal for improved traffic flow in real time in the event of emergency impacts or periodically as traffic patterns change throughout the year. The Boston Police Department (BPD) will also have access to the data collected by this camera to help improve security along Boston Street for residents and for those pedestrians walking to and from Andrew Station. • Complete an analysis of the alternative lane designations at Mass Ave/Shirley Street intersection to determine if an adjustment should be made to the line striping/lane designation and signal phasing to help improve the flow of traffic and safety at this intersection. • Complete a conceptual design study for the intersection of Dorchester Avenue and Columbia Road to improve both vehicular and pedestrian flow. • In addition to the above improvements, the Project Team and BTD area coordinating and are in the process of upgrading the traffic signal equipment at Allstate Road which will be upgraded with equipment to incorporate this location into the City's ATCS and will update signal timing/operations for coordinated control with the signal at Newmarket and Shirley Streets. This equipment upgrade will improve traffic flow on Allstate Road relative to existing conditions and will also allow real-time monitoring of traffic flow by the City. To further improve the operation of this intersection, the MBTA has agreed to eliminate the bust stop located at the southwest side of the Mass Ave/Allstate Road intersection and combine it with the bus stop located a few hundred feet to the south on Mass Ave. This will eliminate the traffic conflicts caused by the bus stop being so close to the intersection. • Complete a post-construction monitoring study to evaluate the traffic and compare to that estimated in the PNF/DPIR to determine if adjustments need to be made. This data will be shared with BTD for use with their ATCS to make any necessary adjustments based on actual build conditions. The monitoring study shall include driveways serving the Project and the ten (10) impacted signalized intersections included in the PNF. Monitoring shall be conducted 6 months after initial project occupancy and annually thereafter for a period of 5 years
6	By removing existing utility poles along its property frontage, the Proponent commits

	to constructing new code-compliant sidewalks along the northeast side of Enterprise Street from its property to Massachusetts Avenue. Since there is not enough right-of-way to do the same from the Proponent's property to Boston Street or along Clapp Street, this can be accomplished by the City requiring abutting property owners to construct sidewalks on their property once future redevelopment of abutting properties occurs. This approach has been approved by BTD, BRA, and DPW and has been implemented for all proposed developments along Willow, Baker, and Fields Courts.
7	The Proponent commits to the following work to improve pedestrian access to Southampton Street: • Replace existing crushed stone sidewalk with concrete at Southampton Street driveway. • Re-stripe crosswalks at the Southampton Street intersection at South Bay driveway. • Relocate MBTA bus stop north to the existing sidewalk and crosswalk that connects to the east side of Target.
8	As the primary pedestrian focus of the project, Main Street is thoughtfully planned to provide a shared-street concept and enhance pedestrian use, enjoyment, and safety. The project's site plan design incorporates measures to reduce the need for vehicular use of Main Street. Parking garage access is provided directly from Allstate Road prior to the intersection with Main Street, thereby significantly reducing the amount of vehicular use. Garage egress and secondary ingress are also provided from New Road which is accessible to surrounding major thoroughfares without the need to use Main Street, further reducing vehicular traffic. The design of Main Street itself involves two slight bends that calm traffic by forcing a reduction in speed in order to navigate. The streetscape design includes a zone of trees, landscaping, and furnishings along Main Street between pedestrian sidewalks and the carriage way, in addition to some on-street parallel parking, to provide a buffer for pedestrian comfort and safety. Further, the sidewalk edge is lined with tactile warning pavers to clearly signify a change from pedestrian-only to shared-street zones in an accessibility-compliant manner. These various design measures serve to reduce vehicular use, calm traffic movement, and create a pedestrian-friendly environment. This thoughtfully planned design will also allow the Proponent to periodically close the street for events such as farmer's markets, crafts fairs, holiday fairs, and community events.
9	The Proponent commits to installing new light poles and fixtures along West Howell Street, Boston Street Bypass Road, West Howell Extension, and along the Project Site at Enterprise Street, where applicable. The number and spacing of the light poles along Boston Street are consistent with Complete Streets Guidelines although there are a few fixtures that are not working and need replacement. The adequacy of the

	fixtures could be improved with lens cleaning and re-lamping or replacement with brighter fixtures and trimming the trees around the fixtures that currently shield the light. These issues have been reviewed with Councilor Frank Baker's office who has been working with the City to replace light fixtures throughout Dorchester with brighter and energy-efficient LED fixtures. Councilor Baker is working with DPW to complete upgrades to Boston Street lighting.
10	A Blue Light system as well as video cameras will be installed throughout our parking garage (Building A) for enhanced security. In addition, the Proponent will implement an extensive, GPS-based on-site security operation, including video cameras, security officers equipped with body cameras, and BPD details. All public streets outside of the Project will remain under the jurisdiction of the BPD. A Blue Light system is not currently being implemented by the BPD on the streets outside the Project Site.
11	The Proponent commits to the maintenance of all trees throughout the Project Site, including all streets within property boundaries in order to minimize impacts on both lighting and security camera operation. Maintenance of trees on public ways beyond the Project Site is under the jurisdiction of the DPW. Councilor Baker is working with DPW to address issues of tree trimming on public streets.
12	Enhanced security and police details will be provided for the Project. Interior police details will be provided by individual tenants (i.e. AMC on an as-needed basis). Police details for traffic circulation will also be provided during high volume events if it is determined to be necessary.
13	In the interest of making sure the surrounding streets are safe for our neighbors and for the patrons of South Bay during snow storms, the Proponent commits to making 50 parking spaces available free of charge in the retail parking garage (Building A) for 50 residents of the Polish Triangle on a first-come, first-served annual basis. The spaces will only be available during posted snow emergencies announced by the City. Residents interested in this public benefit will be required to register their vehicle and obtain a parking sticker on a yearly basis.
14	Based on historic data compiled by the Project Team, separating parking costs from unit rental costs results in a 10–20% decrease in parking demand when compared to costs that are not separated. The Project's residential developer will keep the parking costs separate. Alternatively, to further alleviate the community's concern for parking, the Proponent will provide an additional 65 parking spaces in the retail parking structure for the use of South Bay residents and their guests in the event that parking that is included in the residential buildings is not sufficient to meet their needs. The 65 retail parking spaces that are displaced will be relocated onto the finger lot on the Project Site's southwest. If it is determined, one year after the completion of construction, that these additional residential spaces are not needed, the use of this finger lot can cease being a parking lot and the Proponent can pursue other development opportunities for this land with the condition the Proponent commits to maintaining a dog park/tot lot of equal size in an alternate location should the location shown on the current plans no longer be feasible.

	When determining is the additional parking is needed, the Proponent will include one parking space for each residential parking permit obtained by the residents of the South Bay Project in its calculations, if applicable.
15	The Proponent will provide a dedicated area for Zipcar spaces within its property. After evaluation of existing Hubway locations within a ½ mile radius of the development, it was determined that the existing (3) stations (located at Newmarket Station, Edward Everett Square and Andrew Square) are within a 5-minute walking distance from the Project Site and currently have reserve capacity on a regular basis. Therefore, it was concluded that existing nearby Hubway facilities are expected to meet demands after completion of this development. If this demand changes in the future, the Proponent commits to designating an area on its property for the placement of an additional station. The Proponent further commits to constructing an enhanced pedestrian connection from the proposed development to Newmarket Station. The Proponent will also commit to extending its current shuttle service from the Project to the Newmarket Station, providing an alternative to walking to this location by resident commuters and visitors to the Project Site.
16	The Proponent will comply with all relevant City, state, and federal regulations regarding accessibility.
17	The Proponent agrees to continue working with the IAG, the community, BTD and the BRA to address the traffic flow in and around the Project Site.
18	The residential unit count has been drastically reduced from its original design of 550 units to the current count of 475, based on the community's concerns related to density and parking. A further reduction will render this Project economically infeasible to both the Proponent and its residential partner. The Project fits entirely within the South Bay Community Commercial (CC) Subdistrict which permits the establishment of Planned Development Areas (PDAs). The City has established PDAs in this CC Subdistrict to encourage economic development in the Dorchester. PDAs provide more flexible dimensional regulations, including Floor Area Ratios, and Building Height to accomplish this. The Project will not exceed any of these dimensional regulations, including those related to density, and the Proponent will not be seeking any zoning variances. As a compromise the Proponent has agreed to add additional residential parking in the former finger lot. See item 5b above.
19	After further review of our ground lease ownership structure, the Proponent has determined that owner-occupied units are not feasible.
20	See DPIR Section 5.3 and Figures 5-2 through 5-7. These demonstrate that shadow impacts to surrounding areas outside the Project Site are minor. The garage has been located to allow for a landscape buffer of 30 feet or more in

	depth along the property line between Baker and Fields Courts. This landscape buffer will contain a screen fence along the loading area curb line as well as fast growing evergreen trees in the remaining area between the fence and the neighboring properties. The garage has been revised from its original design by internalizing the circulation ramps to allow the structure above the first level to be located an additional 30 feet away from the adjacent residential properties. To put this in context, the garage will be 80 feet further away from the adjacent residential properties than the existing Kam Man building is today. Additionally, the Proponent changed the color of the garage structure from a grey concrete appearance to a vibrant white and added details at the section of the garage located closest to the residential property on the north side of Baker Court to soften its appearance.
21	The Proponent agrees to prohibit the leasing or construction of any billboards on Boston Street or Enterprise Streets.
22	Future use of the finger lot, in the event residential parking is not needed, is not known at this time. See item 5b above.
23	The Proponent will comply with the requirements of the Boston Residents Jobs Policy.
24	The Proponent will commit to this request.
25	The Proponent agrees to implement an extensive rodent control operation well in advance of any demolition activities in compliance with all state and city rodent control requirements and as monitored by the Rodent Control Unit of the Inspectional Services Department (ISD). This includes inspection, monitoring, and treatment before, during, and at the completion of construction.
26	The Proponent will have full time on-site construction representatives throughout the construction phase and will provide and distribute contact information for applicable company representatives. In addition, the Proponent will communicate all construction activities, schedules, and project updates throughout the construction phase. Upon full completion of the Project, a website will be maintained to connect to the community and share pertinent information related to events, new store and restaurant openings, store information and hours, and contact information as well as to provide a means of communicating ideas, asking questions, or raising concerns related to the operation of South Bay. The Proponent will also continue to maintain an on-site security office for the management of all security related issues.
27	The Proponent will file a Construction Management Plan with BTD and will ensure adequate parking is provided on-site for all construction personnel/vehicles throughout the entire construction phase.
28	See Section 2.6 for community benefits and proposed mitigation.

29	The Proponent commits to establishing a yearly fund in the amount of $10,000 to be managed by the Proponent and used for donations to a pre-established list of organizations within a 1 mile radius of South Bay. A “miscellaneous” category will be included in this list to capture any new organizations or events on a yearly basis. This fund will remain in perpetuity.
30	The Proponent will commit to a Jobs Contribution Grant in the estimated amount of $271,000, per the requirements outlined in section 80B-7 of Article 80 zoning regulations. This payment is mitigation for impacts of large-scale real estate developments projects and provides for related job training for low and moderate income people.

September 16th, 2015

Dear Raul Duverge,

My name is Ramon Suero and I live at 26 Elder St, Dorchester MA. I am also a member of the Impact Advisory Group (IAG) for the South Bay Town Center Project. As a resident of the neighborhood and someone who has worked at all of the hotels in the neighborhood I know the neighborhood and the existing project well. The developer has been open to all my ideas and has held numerous meetings with the community.

This project will provide over 1,000 on-site parking spaces which is good because parking in the area can be tough. The project will also eliminate industrial truck traffic, which currently has over 100 trucks coming into the area each day. In addition, I suggested that the developer make sure the hotel has a shuttle to and from public transportation; which they have assured me they will have. Some other thoughts I had would be a shuttle to JFK and T cards for hotel employees so that it would cut down on traffic and parking. The existing hotels in the South Bay Center already do this.

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I support this project because the developer has been thoughtful in incorporating the suggestions of myself and other IAG members. I support the approval of this project and thank you for allowing the community and I to have a voice.

Sincerely,

Ramon Suero

Letter 9	IAG Member- Ramon Suero
1	The hotel partner will be required to provide a shuttle to public transportation.
2	The hotel partner would include the JFK/UMass station in its shuttle route if the demand deems it necessary.
3	This hotel partner will be required to provide MBTA passes to its employees.

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By Hand Delivery

September 21, 2015

Raul Duverge
Boston Redevelopment Authority
One City Hall Plaza, 9th Floor
Boston, MA 02201

RE: Comment Letter
South Bay Shopping Center – Expansion Proposal
8 Allstate Road, Dorchester, MA

Dear Mr. Duverge,

The within correspondence is my comment to the Project Notification Form ("PNF") filed by Edens for the proposed development/expansion of the South Bay Shopping Center in Dorchester. I live at 131 Boston Street and work at 123 Boston Street. I am also a member of the Impact Advisory Group.

I have attended public meetings where Edens has presented and discussed the proposed project on the site and have also read the PNF. As a matter of procedure, I note that Edens has not presented to the McCormack Civic Association membership (which membership resides in the area most affected by the proposed development) or at an IAG meeting since its submission of the PNF. Nevertheless, the period for public comment on the PNF expires today. I ask that you note my objection to having a comment period expire without the requiring Edens to present and discuss the details of the PNF to the community. I believe this is fundamentally unfair and will inevitably result in many community members being uninformed about the details of the PNF as well as their opportunity to comment on the plans detailed therein. I am aware that an IAG meeting is scheduled for September 29, 2015, and I request that the BRA reopen the comment period after the IAG meeting so as to permit interested residents the opportunity to submit their comments after the meeting.

As you may know, at the few meetings held by Edens prior to the PNF submission, it has been represented by Edens representatives, as well as by members of the BRA, that Edens' proposal was in its beginning phases and that the concerns of the communities impacted by the proposal would be addressed. Unfortunately, a review of the PNF demonstrates that no modifications have been implemented based on the most significant concerns raised: namely, the roadways and overall scale of the project.

The proposed project clearly seeks to utilize Boston Street, via West Howell Street, as a major artery for ingress and egress to the new development (as well as the existing establishments located within the mall). While the BRA's goal may be connectivity between the Polish Triangle and the

proposed development, the vast majority of the residents of the Polish Triangle, myself included, have expressed an objection to Boston Street being transformed into an access way. The congestion on Boston Street is already heavy and causes a burden to our community. Direct access by shoppers, renters, and moviegoers will act to increase the traffic and pollution in the Polish Triangle. I both live and work in the Polish Triangle because it is centrally located to highway entrances and Boston and because it provides the feel of a suburban neighborhood. 1 2

There is little doubt that the areas which Edens seeks to develop have been underutilized. However, the tradeoff does not need to be the loss of a neighborhood. Both the scale of the proposed development and its accessibility from Boston Street will adversely impact the Polish Triangle. 3

I am attaching hereto an alternative designation for the contemplated West Howell Street Extension and the continuation of West Howell Street where Building D and E intersect behind the South Bay Center (Panera Bread). This alternative is not ideal as it still permits ingress and egress into the proposed expansion from Boston Street for hotel guests and the occupants of Building D. It does, however, restrict the access of the retail customers and moviegoers. As you can see from the attached, access onto Boston Street from the West Howell Street Extension and from West Howell Street will be limited to Foley Fish, Building D and E occupants, and authorized commercial vehicles (e.g., trash removal services, emergency services, etc…). The retail customers and moviegoers, however, would not have access to the West Howell Street Extension or to West Howell Street from inside the mall and, thus, Boston Street would not be utilized by them for egress. 4

While not demonstrated on the attached, the same travel restriction could easily be implemented on Enterprise Street where it intersects with the "New Road". This would result in Building C retaining ingress and egress to Boston Street but would prohibit direct egress by the retail customers and moviegoers onto Boston Street.

Edens has repeatedly stated at the public hearings that it envisions the Boston Street access point to be predominately pedestrian. This representation has been made despite the direct vehicular access being presented in its plans. At a minimum, the restrictions discussed above would require mall customers to exit through the mall's existing access points and therefore limit the number of new vehicles on Boston Street. The bottom line here is that Edens must develop traffic patterns that will not burden the Polish Triangle. 5

In short, I oppose the present design of the proposed development and request that the BRA not grant its approval to the project. Edens, if it desires, can present plans to suit the concerns of residents in the existing neighborhoods that will be impacted by its development on the proposed site. The land upon which Edens proposes to develop is located in a desirable area of Dorchester and there should be little doubt that less intrusive development can be accomplished.

Very truly yours,

India L. Minchoff

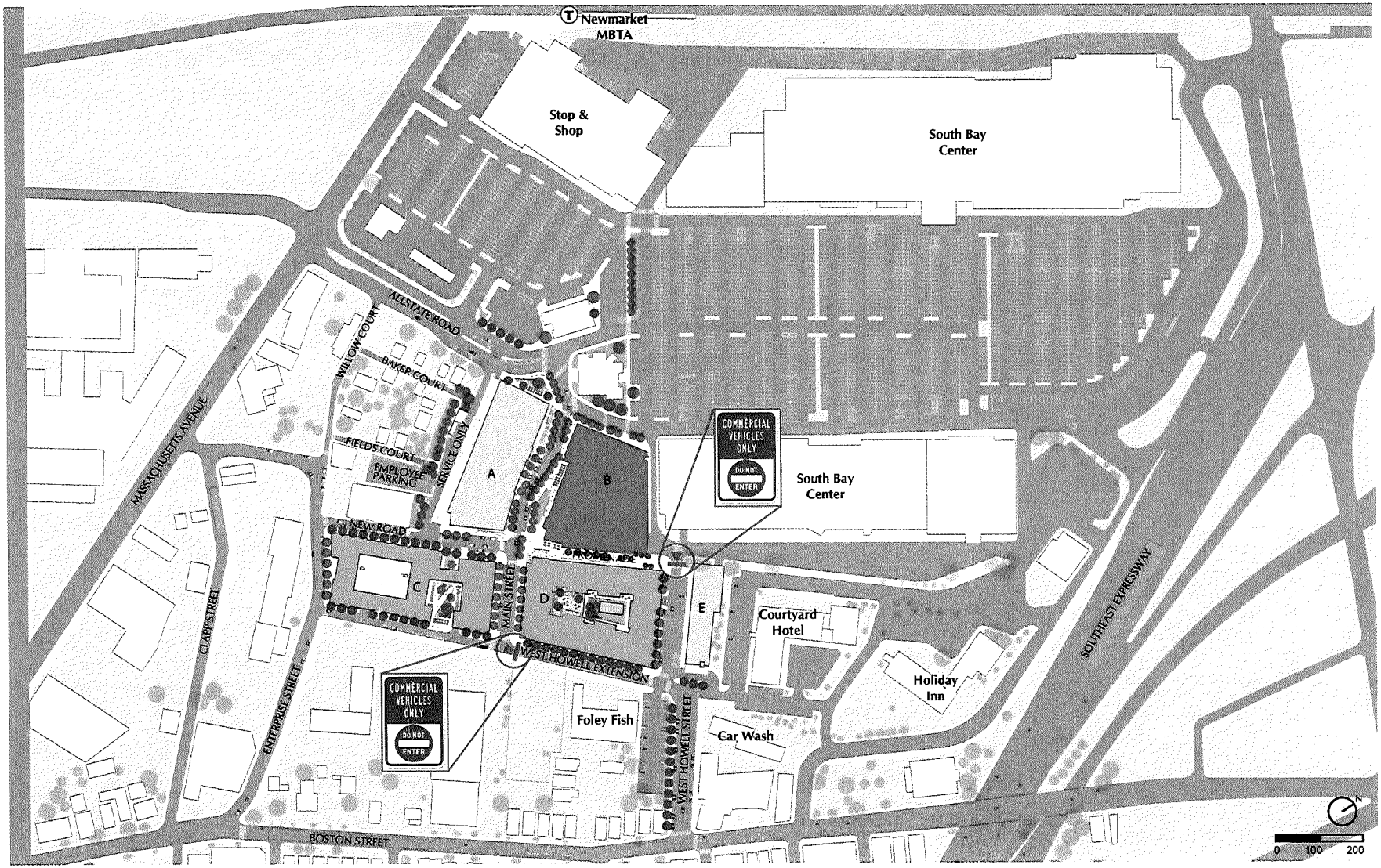

Figure 1-3
Project Site Plan
Source: ADD Inc, now with Stantec, 2015

Letter 10	IAG Member- India Minchoff
	Despite the traffic study showing minimal impact to Boston Street, the Proponent understands the concern residents have with the existing traffic on Boston Street and the desire to further minimize Project impacts. To accomplish this, West Howell Street would be revised to a one-way direction in from Boston Street. This reconfiguration will be designed to meet City of Boston standards including Complete Streets elements and will retain curbside parking for use by the public, thereby better accommodating pedestrians/bicycles, existing business operations along the street, neighborhood parking access, and creating a safe and efficient vehicular circulation. This reconfiguration incorporates a raised table intersection at its connection with the proposed hotel driveway, West Howell Extension, and the Boston Street Bypass Road, which greatly enhances the pedestrian street crossings while calming traffic. These improvements, coupled with a significant increase in landscape area and sidewalk enhancements, will provide an important pedestrian connection between the Project and the adjoining neighborhoods.
1	The Proponent also recognizes the benefit of having a direct connection from the Boston Street off-ramp into the development, as well as an enhanced access to the existing hotels, without having to enter Boston Street. This connection, currently referred to as the Boston Street Bypass Road, has been incorporated into the design of this project and will connect the Boston Street off ramp with West Howell Street and will include a sidewalk to promote access to the property from the hotels and other existing sidewalk networks. The Proponent will construct the Boston Street Bypass Road. There are several related items such as private and public easements, MassDOT permits, and funding issues beyond the Proponent's control that need to be finalized before this road can be constructed. In the event these items are not resolved prior to Project completion, West Howell Street may be temporarily opened as two-way and converted to one way once all outstanding issues are resolved. West Howell Street has been designed to accommodate this conversion without the requirement of further construction work. The conversion can be completed with line striping only.
2	The microscale CO air quality dispersion modeling analysis completed by Tech Environmental and included in this DPIR clearly indicates that the worst-case traffic generated by the South Bay project will not cause or contribute to any violations of the NAAQS for CO, and will not significantly affect air quality. Total CO impacts at the intersections with the largest delays and at the Project site, including the impacts from the fuel combustion equipment and parking garages, are predicted to be safely in compliance with the NAAQS for CO.
3	The traffic analysis, which takes Project scale and uses into account, demonstrates that there will be minimal traffic impacts to the Polish Triangle. Eliminating the truck traffic and pollution associated with an operating concrete plant coupled with the

	redevelopment of a long blighted and vacant property as well as completing the numerous pedestrian and traffic improvements proposed for this project will provide significant positive benefits to the residents of the Polish Triangle.
4	Among numerous other options, the proposed design was reviewed at length with the BTD and BRA. Some elements of this design, including restricting access to Boston Street from West Howell and from West Howell into South Bay by making West Howell one way in and creating a one way, counterclockwise circulation around the existing buildings on the south side of South Bay have been incorporated into the Project design.
5	The proposed one-way revisions to West Howell, the addition of the Boston Street Bypass Road, and the traffic flow restrictions incorporated into the Enterprise Street design will all help to limit the number of new vehicles on Boston Street.

EASTMAN/ELDER STREETS NEIGHBORHOOD ASSOCIATION
25 Eastman Street ◆ Dorchester, MA 02125
617/436-5754 (voice) ◆ joane234@aol.com (email)

September 21, 2015

Brian Golden, Director
Boston Redevelopment Authority
One City Hall Square
Boston, MA 02201-1007

Re: South Bay Town Center, 101 Allstate Road, Dorchester, Massachusetts

Dear Mr. Golden:

Thank you for the opportunity to comment on the proposed South Bay Town Center project. Two of our members, Joan Tighe and Susan Capachione, serve on the BRA's Impact Advisory Group (IAG) for the project. Our concerns center primarily on three aspects of the project: traffic impacts, density and environmental review.

1. Traffic Impacts

This proposed project will have a huge impact on traffic on Massachusetts Avenue as well as the safety of cyclists and pedestrians. With the influx of residents in the proposed 475 housing units as well as patrons of the new movie theatre, shops, and a new garage with 619 parking spaces, traffic woes will dramatically increase.

The problems with the traffic related to the current South Bay Center are legendary in our neighborhood. First, exiting the Center via All State Road during the day is often difficult, especially if you want to make a left hand turn on Mass Ave. The wait to make the turn can be two or three lights due to volume. A redesign of the timing of the traffic lights must be undertaken. 1

Even more egregious is the traffic control at the intersection of Mass Avenue, Shirley Street, and Newmarket Square. The City changed the traffic light pattern several years ago. It added right turn lane and light going north on Mass Avenue to Newmarket Square by the Newmarket Station. However, nothing was done to control traffic turning left at the same intersection. A high volume of cars turn left on Shirley Street heading over to Norfolk Avenue and Dudley Street. Consequently, cars on Mass Ave turning left jockey with cars heading south on Mass Avenue to either make the turn or continue going south while the light is green. The result is constant back-ups on both Mass Ave sides of the intersection. Also, drivers use the Mass Avenue entrance to the Metro Credit Union drive-through ATMS on the north side of the street to make left turns to avoid the backup, causing additional problems. These situations must be 2

addressed in a redesign of the intersection to better accommodate the cars, cyclists, and pedestrians.

We also share the concerns of our neighbors in the McCormick Civic Association about traffic impacts on Boston Street but they are in a better position to address them.

2. Density

The developer is proposing 475 apartments in two residential buildings, to be marketed primarily to millennials and seniors. This is too dense. We support a reduction of the number of units to 350. Furthermore, we request that the developer: 3

- Make half of the units' rentals and half condominiums, as ownership will help encourage residents' investment in our community 4
- Place a deed restriction on the condominium units that requires that the owner live in the unit to avoid absentee owners renting to unvetted tenants. 5
- Increase the number of 3-bedroom units to make room for more families in the development. 6

3. Environmental Review

Lastly, we request that the developer be required to submit to and comply with the Massachusetts Environmental Policy Act (MEPA) review, without waiver of any MEPA requirements by any department, agency, commission, or other subsection of the City or state. We are especially concerned that the Project go through the rigors of MEPA review, because several commercial industries either exist or once conducted business using contaminants on one or more of the parcels to be used within the project. 7

Respectfully submitted,

Joan Tighe
For the Eastman/Elder Streets Neighborhood Association

CC: City Council President Bill Linehan
City Councilor Frank Baker
Representative Evandro Carvalho
Representative Nick Collins
Representative Dan Hunt
Senator Linda Dorcena-Forry

Letter 11	IAG Member- Joan Tighe for Eastman/Elder Streets Neighborhood Association
1	BTD is in the process of upgrading the signal equipment at Allstate Road to incorporate this location into the City's ATCS and will update signal timing/operations for coordinated control with the signal at Newmarket and Shirley Streets. This equipment upgrade will improve traffic flow on Allstate Road relative to existing conditions and will also allow real-time monitoring of traffic flow by the City. To further improve the operation of this intersection, the MBTA has agreed to relocate its bus stop in front of Eversource further south along Massachusetts Avenue. This will eliminate the traffic conflicts caused by the bus stop being so close to the intersection.
2	In addition to the above ATCS improvements, following initial consultation with BTD, the northbound Massachusetts Avenue approach to the signalized intersection of Massachusetts Avenue at Newmarket Square has been evaluated to determine feasibility and operational benefits to alternative lane assignments. As shown in the DPIR analysis results, the best option for the intersection is to be marked as designated as a shared left/through travel lane and a shared through/right turn lane. See Alternative A as conceptually shown in Figure 4-42.
3	The residential unit count has been drastically reduced from its original design of 550 units to the current count of 475, based on the communities concerns related to density and parking. A further reduction will render this Project economically infeasible to both the Proponent and its residential partner. Alternatively, to further alleviate the communities concern for parking, the Proponent will provide an additional 65 parking spaces in the retail parking structure for the use of South Bay residents and their guests in the event the parking that is included in the residential buildings is not sufficient to meet their needs. The 65 retail parking spaces that are displaced will be relocated onto the finger lot on the Project Site's southwest. If it is determined, one year after the completion of construction, that these additional residential spaces are not needed, the use of this finger lot can cease being a parking lot and the Proponent can pursue other development opportunities for this land with the condition the Proponent commits to maintaining a dog/tot park of equal size in an alternate location should the location shown on the current plans no longer be feasible.
4	After review of the ground lease ownership structure, the Proponent has determined that owner-occupied units are not feasible.
5	See response previous response.
6	The number of 3 bedroom units has been increased to 12 from 8.
7	The Project is currently being reviewed by MEPA. See Section 1.9.1.

INDIA L. MINCHOFF
131 BOSTON STREET, 1ST FLOOR
BOSTON, MA 02125
617/740-7340
india@russominchofflaw.com

By Hand Delivery

September 21, 2015

Raul Duverge
Boston Redevelopment Authority
One City Hall Plaza, 9th Floor
Boston, MA 02201

RE: South Bay Shopping Center – Expansion Proposal
8 Allstate Road, Dorchester, MA

Enclosed please find the comments of a number of area residents who have expressed their opposition to the presently designs relating to the development of South Bay Shopping Center. To be precise, there are 5 attached pages with a total of 81 signatures.

Very truly yours,

India L. Minchoff

We the below hereby oppose the present design for the development of the South Bay Shopping Center which calls for a 12 screen movie theater which will operate beyond midnight, 475 residential units, a new hotel and a number of additional commercial businesses. We believe the planned development will be a burden on the "Polish Triangle" due to significantly increased traffic, pollution, and crime among other concerns. We are not against development for the proposed site but oppose the present plans without modification to suit the neighborhood.

NAME	**ADDRESS**
Vincent Rietdyk	42 Howell Street
[illegible]	32 ——— #1
Stanley F. Sadowski	25 Howell St. #3
Maryann Sadowski	25 Howell St. #1
Bill Paskell	22 Howell St #2
Krystyna Jarmark	27 Howell St #1
Richard Tomaski	29 Howell St 3
Stella Tomasko	29 Howell St 3
Sean Galligan	22 Howell St. #3
Jen C[illegible]	22 Howell ST #3
Kate Gladkiszewski	13 Howell St #2
S. Dillon Ridgely	160 Boston #1
Anna Netzel [illegible]	194 BOSTON STREET #1
Joyce Ellis	179 Boston St. Dor. Ma.
Henryka Netzel	194 Boston St #2
Tracy Fils-Aime	194 Boston St. #3
Jeff Joseph	194 Boston St. #3
David Gibbons	194 Boston St #1
[illegible]	192 Boston St
Adam V. Russo	123 Boston St

We the below hereby oppose the present design for the development of the South Bay Shopping Center which calls for a 12 screen movie theater which will operate beyond midnight, 475 residential units, a new hotel and a number of additional commercial businesses. We believe the planned development will be a burden on the "Polish Triangle" due to significantly increased traffic, pollution, and crime among other concerns. We are not against development for the proposed site but oppose the present plans without modification to suit the neighborhood.

NAME	ADDRESS
Aileen DeRuchie Murphy	135 Boston St.
[illegible]	9 W. Bellflower St
Patricia Stewart	10 W Bellflower St.
[illegible]	24 Bellflower St
[illegible]	17 Bellflower St. #3
Jan Wosiak	44 St. Margaret St
Eleanore Grochowska	38 Washburn St.
Lucia Grochowska [illegible]	38 Washburn St
Janet Zawacki	126 Boston St Dor
Vicky Holland	126 Boston St Dor.
Pawel [illegible]	44 St Margaret St
Joe Perez	61 Roseclair St. Dor
Maija Brewer	123 Boston St #3 Boston
Ryan Longnelly	123 Boston St Apt 3 Dorchester
[illegible]	130 Boston St Apt 1
[illegible]	172 Boston St unit 2
Karen Foley	130 Boston St Apt 2
Pauline Walsh	137 Boston St. #1
Molly MacDonald	130 Boston St
[illegible]	135 Boston St Boston MA #2
Denise [illegible]	137 Boston St. Dorchester #2
Ken Lang	141 Boston St Dorchester #3

We the below hereby oppose the present design for the development of the South Bay Shopping Center which calls for a 12 screen movie theater which will operate beyond midnight, 475 residential units, a new hotel and a number of additional commercial businesses. We believe the planned development will be a burden on the "Polish Triangle" due to significantly increased traffic, pollution, and crime among other concerns. We are not against development for the proposed site but oppose the present plans without modification to suit the neighborhood.

NAME	ADDRESS
Nathan DeRacher	135 Boston Street
Shason Gleeson	135 Boston St.
Masano Murata	135 Boston St.
Noburaki Muramatsu	135 BOSTON ST.
Mika Tandun	123 Boston St #2
Shichao Hu	34 Washburn St #1
Mike Lynch	34 Washburn St. #1
Jessica Lunn	34 Washburn St #2
Steven Lunn	34 Washburn St #2
Alice G. Gromczynski	30 Washburn St. #1
Maura Dickey	24 Washburn St. #1
Aleigh Welch	24 Washburn St. #1
Munir Kapadia	14 Washburn St #2
Harvard Thompson	10 Washburn St.
DATK	10 WASHBURN ST
Miles	11 WASHBURN ST #1
Barry Giblin	164 Boston ST
Amy Sutton	104 Boston St. #1
Zach Nicolay	96 Boston St. #1
Katelyn Persoage	96 Boston St #1
	114 BOSTON

We the below hereby oppose the present design for the development of the South Bay Shopping Center which calls for a 12 screen movie theater which will operate beyond midnight, 475 residential units, a new hotel and a number of additional commercial businesses. We believe the planned development will be a burden on the "Polish Triangle" due to significantly increased traffic, pollution, and crime among other concerns. We are not against development for the proposed site but oppose the present plans without modification to suit the neighborhood.

NAME	ADDRESS
Wojdnicki	4 Dawes st Apt 1
Ed Reko	810 Dorchester Ave
Laura MacLean	46 Mount Vernon St
[illegible]	40 Mayfield st
[illegible]	46 Mount Vernon St

We the below hereby oppose the present design for the development of the South Bay Shopping Center which calls for a 12 screen movie theater which will operate beyond midnight, 475 residential units, a new hotel and a number of additional commercial businesses. We believe the planned development will be a burden on the "Polish Triangle" due to significantly increased traffic, pollution, and crime among other concerns. We are not against development for the proposed site but oppose the present plans without modification to suit the neighborhood.

NAME	**ADDRESS**
ALEX Bryson	131 Boston St #3
Chris Opila	15 West Bellflower
India Mischoff	131 Boston St #1
S Zroch	31 Bellflower #1
DUSTIN DELISLE	10 BELLFLOWER ST. #5
[illegible]	5 W. HOWELL ST.
Christopher Lisek	160 Boston St
[illegible]	" "

Private Citizen Comment Letters

Letter 12	Petition with 81 Signatures
1	The proposed one-way revisions to West Howell, the addition of the Boston Street Bypass Road and the traffic flow restrictions incorporated into the Enterprise Street design will all help to limit the number of new vehicles on Boston Street.
2	The microscale CO air quality dispersion modeling analysis completed by Tech Environmental and included in this DPIR clearly indicates that the worst-case traffic generated by the South Bay project will not cause or contribute to any violations of the NAAQS for CO, and will not significantly affect air quality. Total CO impacts at the intersections with the largest delays and at the Project site, including the impacts from the fuel combustion equipment and parking garages, are predicted to be safely in compliance with the NAAQS for CO.
3	To address this concern a Blue Light system as well as video cameras will be installed throughout our parking garage (Building A) for enhanced security. In addition, the Proponent will implement an extensive, GPS-based on-site security operation, including video cameras, security officers equipped with body cameras, and BPD details.

STEPHEN J. KUZMA
LAW OFFICE
75 FEDERAL STREET 17th Floor
BOSTON, MASSACHUSETTS 02110

TELEPHONE (617) 338-3020
FACSIMILE (617) 426-2102

By Hand Delivery

September 21, 2015

Raul Duverge
Boston Redevelopment Authority
One City Hall Plaza, 9th Floor
Boston, MA 02201

RE: Comment Letter
South Bay Shopping Center – Expansion Proposal
8 Allstate Road, Dorchester, MA

Dear Mr. Duverge,

I write in opposition to the present proposal to expand the South Bay Shopping Center in Dorchester. I own property in the "Polish Triangle" and believe that the project will adversely affect me and my neighborhood in causing additional pollution, traffic and congestion to an already overburdened Boston Street. The Edens' representatives have engaged in a campaign of misrepresentations to the neighborhood which will be detailed at a later time. Further, they have not made a single significant compromise to allay the fears or concerns that my neighbors have alerted them to. Their representations regarding West Howell Street and measurements of same are woefully inaccurate. 1,2

The most vocal supporters of the Edens' project have engaged in homophobic rants against me for simply being in opposition to this project. The Edens group, the BRA and Mayor's office have been largely unresponsive to the neighborhood's concerns. Our local representative Frank Baker gave the project his blessing without even viewing the development plans.

I now call upon the BRA at a minimum to protect the interests of the Polish Triangle and suggest pragmatic reasonable changes to the development.

Very Truly Yours,

Stephen J. Kuzma

Letter 13	Stephen Kuzma
1	The microscale CO air quality dispersion modeling analysis completed by Tech Environmental and included in this DPIR clearly indicates that the worst-case traffic generated by the South Bay project will not cause or contribute to any violations of the NAAQS for CO, and will not significantly affect air quality. Total CO impacts at the intersections with the largest delays and at the Project site, including the impacts from the fuel combustion equipment and parking garages, are predicted to be safely in compliance with the NAAQS for CO.
2	The proposed one-way revisions to West Howell, the addition of the Boston Street Bypass Road and the traffic flow restrictions incorporated into the Enterprise Street design will all help to limit the number of new vehicles on Boston Street.

Letter 14- Community Member Bill Endicott

Raul Duverge <raul.duverge@boston.gov>

South Bay Town Center

1 message

Bill Endicott <william.endicott@gmail.com> Tue, Sep 22, 2015 at 7:25 AM
To: raul.duverge@boston.gov

Good Morning Mr. Duverge,

I am writing this morning to relay my family's strong support for the proposed South Bay Town Center project in Dorchester. As a resident, and homeowner in the neighborhood (my family resides on Mt. Vernon St.) I am truly excited by the prospect of the food, entertainment, and retail offerings that will be provided by the new project to the area. These amenities will be a great addition to the neighborhood, and for us are only a short walk away. In addition I do feel strongly as a homeowner who has seen property values rise significantly in the neighborhood in recent years, the addition of this project will only help to further support that trend as it makes the Polish Triangle a n even more desirable place to live. Thank you for your time and consideration, I look forward to learning more about the project going forward.

Regards,

Bill Endicott
617-438-0382

Letter 14	Bill Endicott
	No response required.

Letter 15- Community Member Janice Geary

Raul Duverge <raul.duverge@boston.gov>

Project Comment Submission: South Bay Mixed-Use Town Center Project

1 message

no-reply@boston.gov <no-reply@boston.gov> Mon, Sep 21, 2015 at 8:53 PM
To: BRAWebContent@cityofboston.gov, Raul.Duverge@boston.gov

CommentsSubmissionFormID: 500

Form inserted: 9/21/2015 8:52:54 PM

Form updated: 9/21/2015 8:52:54 PM

Document Name: South Bay Mixed-Use Town Center Project

Document Name Path: /Development/Development Projects/South Bay Mixed-Use Town Center Project

Origin Page Url: /projects/development-projects/south-bay-mixed-use-town-center-project

First Name: Janice

Last Name: Geary

Organization: McCormack Civic Association

Email: civicjan@yahoo.com

Street Address: 17 Washburn Street

Address Line 2:

City: Dorchester

State: MA

Phone: (617) 319-9604

Zip: 02125

Comments: I support the project. However, I do have concerns with this PIF in its current state. They are as follows: - TRAFFIC: A Howell Street Entrance to/from Boston Street creates additional safety concerns for residents in this area and they are not adequately addressed in this plan. The interior traffic flow does incorporate traffic calming but were dead end streets are proposed as throughways into and out of the marketplace and equal consideration should be made for the neighborhood streets. - GREEN SPACE : there is not enough Green Space contributed to the 'surrounding' areas. I realize that this isn't a public property but the neighborhoods inherit more traffic, pollution and noise. Pedestrian spaces that can be enjoyed by peripheral residents should be added. -PARKING: the number of parking spaces for the apartment residents is inappropriate; there should be twice as many. A residential restriction should be applied to cars registered to the property so as not to tax the parking from the existing residents. 1 2 3 4

PMContact: Raul.Duverge@Boston.gov

Letter 15	Janice Geary
1	Based on extensive analysis between the Project Team, BTD, and BRA, the proposed access through West Howell will be revised to one-way direction in from Boston Street. This reconfiguration will be designed to meet City of Boston standards including Complete Streets elements and will retain curbside parking for use by the public, thereby better accommodating pedestrians/bicycles, existing business operations along the street, neighborhood parking access, and creating a safe and efficient vehicular circulation. This reconfiguration incorporates a "raised table" intersection at its connection with the proposed hotel driveway, West Howell Extension, and the Boston Street Bypass Road, which greatly enhances the pedestrian street crossings while calming traffic. These improvements, coupled with a significant increase in landscape area and sidewalk enhancements, will provide an important, safe pedestrian connection between the Project and the adjoining neighborhoods.
2	Additional green and open spaces have been added to the Project including a dog park and tot lot at the southeast side of West Howell Extension at the finger lot, along Main Street, and at the plaza in front of Building A.
3	To further alleviate the communities concern for parking, the Proponent will provide an additional 65 parking spaces in the retail parking structure for the use of South Bay residents and their guests in the event the parking that is included in the residential buildings is not sufficient to meet their needs. The 65 retail parking spaces that are displaced will be relocated onto the finger lot on the Project Site's southwest. If it is determined, one year after the completion of construction, that these additional residential spaces are not needed, the use of this finger lot can cease being a parking lot and the Proponent can pursue other development opportunities for this land with the condition the Proponent commits to maintaining a dog park/tot lot of equal size in an alternate location should the location shown on the current plans no longer be feasible.
4	After review with City officials, there is no mechanism that would allow or enforce this proposed restriction.

Letter 16- Community Member Kenneth Osherow

Raul Duverge <raul.duverge@boston.gov>

South Bay Project

1 message

Kenneth Osherow <ken@athomeboston.com> Mon, Sep 21, 2015 at 5:20 PM
To: raul.duverge@boston.gov

Dear Raul:

I am a big advocate for the South Bay Town Center Project. I think you know what I'm talking about, the proposed expansion of South Bay with more stores, coffee shops, a movie theatre, apartments and restaurants!!! Looking forward to the outdoor mall ...walking the tree lined streets and having a lot of variety of places for us to explore!

The BRA needs to hear from me and my neighbors! I am in full support for the Edens project for the South Bay Town Center Project and feel this will be a great addition to the neighborhood.

Kenneth Osherow
17 Castle Rock Street
Dorchester, MA 02125
Neighborhood Resident
Owner, McKenna's Cafe
Owner Savin Bar and Kitchen
Owner, Savin Scoop
Owner, At Home Real Estate Group

Letter 16	Kenneth Osherow
	No response required.

Letter 17- Community Member Erin Devanney

Raul Duverge <raul.duverge@boston.gov>

Project Comment Submission: South Bay Mixed-Use Town Center Project

1 message

no-reply@boston.gov <no-reply@boston.gov> Mon, Sep 21, 2015 at 2:14 PM
To: BRAWebContent@cityofboston.gov, Raul.Duverge@boston.gov

CommentsSubmissionFormID: 498

Form inserted: 9/21/2015 2:14:02 PM

Form updated: 9/21/2015 2:14:02 PM

Document Name: South Bay Mixed-Use Town Center Project

Document Name Path: /Development/Development Projects/South Bay Mixed-Use Town Center Project

Origin Page Url: /projects/development-projects/south-bay-mixed-use-town-center-project

First Name: Erin

Last Name: Devanney

Organization:

Email: erin.devanney@gmail.com

Street Address: 76 Baxter Street

Address Line 2:

City: South Boston

State: MA

Phone: (860) 930-4277

Zip: 02127

Comments: Hi, the new project expanding the South Bay Shopping area sounds like just the addition the area needs. With the growing population in Southie, new restaurants and retail will be highly utilized.

PMContact: Raul.Duverge@Boston.gov

Letter 17	Erin Devanney
	No response required.

Letter 18- Community Member Isaque Rezende

Raul Duverge <raul.duverge@boston.gov>

Support for South Bay Mixed-Use Town Center Project

1 message

Isaque Rezende <isaque.rezende@gmail.com> Mon, Sep 21, 2015 at 3:40 PM
To: raul.duverge@boston.gov

Mr. Durverge:

This email shall serve as a show of firm support for the proposed South Bay Mixed-Use Town Center Project.

I have a attended 2 community meetings regarding this project and sit among the leadership of the Annapolis Neighborhood Association which is near the proposed site.

I see the many local benefits this project provides to the immediate area. Not only will it improve the quality of life for surrounding residents but it will beautify a blighted area in the community. I would love to have this type of development join our community.

There are serious concerns around traffic by abutters of the proposed site. I would like the concerns address and met with careful consideration. I would like West Howell Street strongly considered as an entrance to the proposed site as it would keep traffic down on Mass Ave. 1

Again, this project is welcome by many in the community and I, for one, would like my support taken into account as this project unfolds.

Thanks
Isaque Rezende

Letter 18	Isaque Rezende, Annapolis Neighborhood Association
1	West Howell Street has been incorporated into the Project as a limited access point.

Letter 19- Community Member Travis Stewart

Raul Duverge <raul.duverge@boston.gov>

Project Comment Submission: South Bay Mixed-Use Town Center Project

1 message

no-reply@boston.gov <no-reply@boston.gov> Mon, Sep 21, 2015 at 11:24 AM
To: BRAWebContent@cityofboston.gov, Raul.Duverge@boston.gov

CommentsSubmissionFormID: 496

Form inserted: 9/21/2015 11:24:19 AM

Form updated: 9/21/2015 11:24:19 AM

Document Name: South Bay Mixed-Use Town Center Project

Document Name Path: /Development/Development Projects/South Bay Mixed-Use Town Center Project

Origin Page Url: /projects/development-projects/south-bay-mixed-use-town-center-project

First Name: Travis

Last Name: Stewart

Organization: Resident

Email: travis_j_stewart@yahoo.com

Street Address: 10 Howell St

Address Line 2: #6

City: Dorchester

State: MA

Phone: (617) 462-5100

Zip: 02125

Comments: I live in the Polish Triangle. I am in support of this development. My first concern is for the West Howell and Boston Street intersection. If this intersection remains in the project, there needs to be serious traffic changes due not only because of the new use, but also for the Scrub-a-Dub Car Wash traffic problem we already have to deal with. The car wash traffic currently backs up traffic onto Boston St. My second concern is the current traffic lights timing schedule for all the lights in our neighborhood and surrounding areas. I would like to see if there could a traffic light study done for our entire area. To help with the timing of lights to help reduce traffic jams and backups. As you all have heard over and over again....traffic issues are one of the top concerns. I appreciate your time and understanding, thank you. 1 2 3

PMContact: Raul.Duverge@Boston.gov

Letter 19	Travis Stewart
1	Based on extensive analysis between the Project Team, BTD, and BRA, the proposed access through West Howell will be revised to one-way direction in from Boston Street. This reconfiguration will be designed to meet City of Boston standards including Complete Streets elements and will retain curbside parking for use by the public, thereby better accommodating pedestrians/bicycles, existing business operations along the street (such as Scrub-a-dub), neighborhood parking access, and creating a safe and efficient vehicular circulation. This reconfiguration incorporates a raised table intersection at its connection with the proposed hotel driveway, West Howell Extension, and the Boston Street Bypass Road, which greatly enhances the pedestrian street crossings while calming traffic. These improvements, coupled with a significant increase in landscape area and sidewalk enhancements, will provide an important pedestrian connection between the Project and the adjoining neighborhoods.
2	See previous response.
3	The Project Team conducted an extensive analysis of area intersections and signals. Please see Chapter 4, Transportation.

Letter 20- Community Member Joseph O'Neill

Raul Duverge <raul.duverge@boston.gov>

Project Comment Submission: South Bay Mixed-Use Town Center Project

1 message

no-reply@boston.gov <no-reply@boston.gov> Mon, Sep 21, 2015 at 11:55 AM
To: BRAWebContent@cityofboston.gov, Raul.Duverge@boston.gov

CommentsSubmissionFormID: 497

Form inserted: 9/21/2015 11:55:29 AM

Form updated: 9/21/2015 11:55:29 AM

Document Name: South Bay Mixed-Use Town Center Project

Document Name Path: /Development/Development Projects/South Bay Mixed-Use Town Center Project

Origin Page Url: /projects/development-projects/south-bay-mixed-use-town-center-project

First Name: Joseph

Last Name: O'Neill

Organization:

Email: PolishTriangle@Gmail.com

Street Address: 28 Howell Street

Address Line 2:

City: Dorchester

State: MA

Phone: (978) 398-2697

Zip: 02125

Comments: As a lifelong Polish Triangle resident (50 plus years) I am appalled by the lack of transparency and advocacy from 'our' elected officials regarding the South Bay Expansion Proposal! The elected officials have the not listen to our concerns about OUR neighborhood. Myself and my fellow Polish Triangle neighbors will remember this betrayal every time we go to the polls now and in the future. Thank you.

PMContact: Raul.Duverge@Boston.gov

Letter 20	Joseph O'Neill
	No response required.

Letter 21- Community Member Josh Marquis

Raul Duverge <raul.duverge@boston.gov>

South Bay Town Center

1 message

Josh Marquis <jmarquis15@gmail.com> Mon, Sep 21, 2015 at 1:33 PM
To: raul.duverge@boston.gov

Hi Raul,

My name is Josh Marquis and I am a resident on 46 Mt. Vernon Street in Dorchester, MA.

I am writing to you to fully supprt the new South Bay Town Center project! This area is in a much needed rennovation and the project would only benefit our neighborhood. The amenities added are also in walking distance from our location which would be fantastic.

Please let me know how else I can help support this project.

Warm regards,
Josh Marquis

Letter 21	Josh Marquis
	No response required.

Letter 22- Community Member Residents of 46 Mt Vernon

Raul Duverge <raul.duverge@boston.gov>

South Bay Town Center

1 message

Lindsay Marquis <linzmarquis@gmail.com> Sun, Sep 20, 2015 at 10:33 PM
To: "raul.duverge@boston.gov" <raul.duverge@boston.gov>

Hi there,

We are writing to support the new Town Center project slated for South Bay!

Many thanks,

The residents of 46 Mount Vernon Street #3, Dorchester:
(Lindsay Marquis
Josh Marquis
Edmond Gordon)

Letter 22	Residents of 46 Mount Vernon Street
	No response required.

Letter 23- Community Member Maria Terova

Raul Duverge <raul.duverge@boston.gov>

Support for the Town Center project for South Bay- 8 Allstate Road

1 message

Terova, Maria (US - Boston) <mterova@deloitte.com> Sat, Sep 19, 2015 at 11:32 PM
To: "raul.duverge@boston.gov" <raul.duverge@boston.gov>

Hi Raul,

My name is Maria Terova and I am the owner of a condominium in Mount Vernon street, close proximity to the South Bay shopping center.

The purpose of this email is to show my support of the new Town Center project in the South Bay. After learning about the proposed project, I believe that it will improve the neighborhood overall, and I fully support this development.

Thank you!

Maria Terova

617-866-3314

Letter 23	Maria Terova
	No response required.

Letter 24- Community Member Brenda McCormack

Raul Duverge <raul.duverge@boston.gov>

Project Comment Submission: South Bay Mixed-Use Town Center Project

1 message

no-reply@boston.gov <no-reply@boston.gov> Sun, Sep 20, 2015 at 7:28 AM
To: BRAWebContent@cityofboston.gov, Raul.Duverge@boston.gov

CommentsSubmissionFormID: 493

Form inserted: 9/20/2015 7:28:16 AM

Form updated: 9/20/2015 7:28:16 AM

Document Name: South Bay Mixed-Use Town Center Project

Document Name Path: /Development/Development Projects/South Bay Mixed-Use Town Center Project

Origin Page Url: /projects/development-projects/south-bay-mixed-use-town-center-project

First Name: Brenda

Last Name: Norton

Organization: Mc Cormack Civic Assn

Email: norton.brenda@yahoo.com

Street Address: 149 Boston St.

Address Line 2:

City: Dorchester

State: MA

Phone: (617) 288-4978

Zip: 02125

Comments: Ideas for mitigation/community benefits for south bay Provide 20 dedicated Zipcar spaces. Bike racks for 100 bikes. Fund a traffic study by the developer covering the timing of all street lights within a 3 mile radius of the development.Provide $90,000to the Dorchester Historical society or provide construction services to repair and repaint house. *****West Howell & West Bellflower egresss should be restricted to pedestrian traffic only. *****Construction Hours 8am to 5pm Monday to Friday only. *****My biggest concern is the traffic on Boston St. ,which is already overburdened without the project even beginning ***** This project too intrusive into our neighborhood. the only one benefiting is the eden co.not us. 1 2 3 4 5 6 7

PMContact: Raul.Duverge@Boston.gov

Letter 24	Brenda McCormack
1	The Proponent will provide a dedicated area for Zipcar spaces within its property
2	The Proponent will provide space to accommodate up to 475 bicycles for the residential units. The Proponent will also provide space to accommodate up to 105 additional bicycles strategically located throughout the Project Site to satisfy the City's requirements.
3	The Project Team has completed an extensive evaluation of 19 surrounding intersections, including 13 traffic signals. As a result of this evaluation and comments from the community, the Proponent has identified and commits to completing the following improvements: • Install the necessary underground conduit and cables needed to complete a connection between the South Bay/I-93S signal and the signal at Boston Street/Washburn Street to incorporate the signal into the BTD's Advance Traffic Control System (ATCS), including a camera system on the Washburn signal. This work will give BTD the ability to video monitor and adjust the timing of this signal for improved traffic flow in real time in the event of emergency impacts or periodically as traffic patterns change throughout the year. The Boston Police Department (BPD) will also have access to the data collected by this camera to help improve security along Boston Street for residents and for those pedestrians walking to and from Andrew Station. • Complete an analysis of the alternative lane designations at Massachusetts Avenue/Shirley Street intersection to determine if an adjustment should be made to the line striping/lane designation and signal phasing to help improve the flow of traffic and safety at this intersection. • Complete a conceptual design study for the intersection of Dorchester Avenue and Columbia Road to improve both vehicular and pedestrian flow. • In addition to the above improvements, the Project Team and BTD area coordinating and are in the process of upgrading the traffic signal equipment at Allstate Road which will be upgraded with equipment to incorporate this location into the City's ATCS and will update signal timing/operations for coordinated control with the signal at Newmarket and Shirley Streets. This equipment upgrade will improve traffic flow on Allstate Road relative to existing conditions and will also allow real-time monitoring of traffic flow by the City. To further improve the operation of this intersection, the MBTA has agreed to eliminate the bust stop located at the southwest side of the Mass Ave/Allstate Road intersection and combine it with the bus stop located a few hundred feet to the south on Mass Ave. This will eliminate the traffic conflicts caused by the bus stop being so close to the intersection.

	• Complete a post-construction monitoring study to evaluate the traffic and compare to that estimated in the PNF/DPIR to determine if adjustments need to be made. This data will be shared with BTD for use with their ATCS to make any necessary adjustments based on actual build conditions. The monitoring study shall include driveways serving the Project and the ten (10) impacted signalized intersections included in the PNF. Monitoring shall be conducted 6 months after initial Project occupancy and annually thereafter for a period of 5 years.
4	The Proponent commits to establishing a yearly fund in the amount of $10,000 to be managed by the Proponent and used for donations to a pre-established list of organizations within a 1 mile radius of South Bay. A "miscellaneous" category will be included in this list to capture any new organizations or events on a yearly basis. This fund will remain in perpetuity. A donation can be made to the DHS through this fund, if requested.
5	Although West Howell will not be restricted to pedestrian only, the one way revision, raised table intersection, expanded sidewalks, and landscaping will help to calm traffic and create a safer pedestrian circulation. The Proponent is not proposing any connection or revision to West Bellflower Street for this Project.
6	Normal construction work hours will be from 7:00 AM to 6:00 PM, Monday through Friday, along with any approved exceptions.
7	The Project has been designed to minimize impacts to Boston Street. Please see Section 4.6 for a discussion of recommendations to reduce Project impacts to the neighborhood.

Letter 25- Community Member Jeffrey Barranco

Raul Duverge <raul.duverge@boston.gov>

South Bay Project

1 message

barranco.jeff@gmail.com <barranco.jeff@gmail.com> Sun, Sep 20, 2015 at 7:17 PM
To: raul.duverge@boston.gov

Raul, and the BRA members,

I am writing to voice my support of the South Bay Center proposed project.

As a 20 year resident of this area of Dorchester, I can tell you that this new South Bay would be welcomed and supported.

I've lived 3 years on Boston Street, 12 years on Salcombe Street, Jones Hill and now 5 years on Trescott Street, in the Columbia/Annapolis Neighborhood Association. I have always participated in my neighborhood associations.

I sell real estate for At Home Real Estate Group in Savin Hill. I understand what an enormous and positive impact this project will have for Dorchester, and Boston as a whole.

Boylston Street in the Fenway has survived and thrived with five new major buildings, numerous new businesses and residential population. We have the room. This should happen.

Please, support this project for our neighborhood and feel free to call me with any questions.

Thank you,

Jeffrey Chase Barranco

617.939.7987

Sent from my Verizon Wireless 4GLTE smartphone

Letter 25	Jeffrey Barranco
	No response required.

Letter 26- Community Member Peter Suchcicki

Raul Duverge <raul.duverge@boston.gov>

Project Comment Submission: South Bay Mixed-Use Town Center Project

1 message

no-reply@boston.gov <no-reply@boston.gov> Sun, Sep 20, 2015 at 9:33 PM
To: BRAWebContent@cityofboston.gov, Raul.Duverge@boston.gov

CommentsSubmissionFormID: 494

Form inserted: 9/20/2015 9:33:02 PM

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Document Name: South Bay Mixed-Use Town Center Project

Document Name Path: /Development/Development Projects/South Bay Mixed-Use Town Center Project

Origin Page Url: /projects/development-projects/south-bay-mixed-use-town-center-project

First Name: Peter

Last Name: Suchcicki

Organization: McCormasck Civic Association

Email: peter.suchcicki@gmail.com

Street Address: 17 Bellfower Street

Address Line 2:

City: Dorchester

State: MA

Phone: (413) 636-6743

Zip: 02125

Comments: Hello, As a resident of 17 Bellflower Street, and a member of the executive board of the McCormack Civic Association, I have serious concerns with the current project. I love the development of the proposed area, but I find it unnecessary to include a movie theater, which truly changes the nature and character of the neighborhood. The development should look to alternatives such as a grocery store rather than a movie theater. A movie theater with movies running late into the night is a grave concern for many residents. There are plenty of movie theaters, including Braintree, Boston Common, Assembly Row, and new theaters in the Seaport. Is it really necessary or prudent to add more theaters, and to an area that that is retail oriented, not entertainment oriented? The housing development is very dense for our neighborhood. I understand the city has a housing shortage, and needs to build more housing, but, I find it troubling to have ~500 apartments without adequate parking. As much as the studies show that today's residents don't need/want cars, I disagree. I believe that as you move further from a city's core, people want and NEED their own cars. Developments in South Boston, South End,and the Fens are very different than developments in Dorchester, and to assume the same parking trends in all the different neighborhoods is irresponsible. I also find it unnecessary to have Boston Street as an access way to the new development. I think the developers should work harder to acquire the "Bubbles Car Wash," and do it right, than to create an accessway from Boston Street which is already overburdened as it is. I hope this development takes place, and I am looking forward to the benefits it will provide to the community, I just hope that it can be done in a thoughtful way and one that does not cause detrimental consequences to the

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neighborhood. Thanks and regards, Peter

PMContact: Raul.Duverge@Boston.gov

Letter 26	Peter Suchcicki
1	The cinema is a critical component of the Project and makes the Project financially feasible.
2	The residential unit count has been reduced from its original design of 550 units to the current count of 475, based on the community's concerns related to density and parking. A further reduction will render this Project economically infeasible to both the Proponent and its residential partner.
3	To further alleviate the communities concern for parking, the Proponent will provide an additional 65 parking spaces in the retail parking structure for the use of South Bay residents and their guests in the event the parking that is included in the residential buildings is not sufficient to meet their needs. The 65 retail parking spaces that are displaced will be relocated onto the finger lot on the Project Site's southwest. If it is determined, one year after the completion of construction, that these additional residential spaces are not needed, the use of this finger lot can cease being a parking lot and the Proponent can pursue other development opportunities for this land with the condition the Proponent commits to maintaining a dog park/tot lot of equal size in an alternate location should the location shown on the current plans no longer be feasible.
4	The proposed one-way revisions to West Howell, the addition of the Boston Street Bypass Road and the traffic flow restrictions incorporated into the Enterprise Street design will all help to limit the number of new vehicles on Boston Street.
5	The Proponent has no plans to acquire the Scrub-a-Dub parcel.

Letter 27- Community Member Lucia Grochowska

Raul Duverge <raul.duverge@boston.gov>

South Bay Mixed-Use Town Center

1 message

Lucia Grochowska Littlefield <lucgro47@gmail.com> Mon, Sep 21, 2015 at 9:33 AM
To: raul.duverge@boston.gov, Lucia Grochowska Littlefield <lucgro47@gmail.com>

Dear Raul,

Trying to get this info to the BRA through the web site has been an extremely frustrating process. I was NOT able to do it through the web site after multiple attempts and many hours on my Chromebook.

One concern is the proposal to eliminate head-on parking on W. Howell St. This would eliminate about tow thirds of the available parking spaces in this congested area. Folks have parked this way for decades due to limited parking. It is critical to maintain these spaces. There is talk of a proposed dedicated lane on W. Howell St. for the car wash. There are already traffic issues with the car wash especially on weekends. A dedicated lane would add to the problem. Is there any way to have vehicles enter the car wash off the ramp alongside the car wash and then enter the car wash through the back? The congestion on Boston St. increases daily! Traffic start up this area around 1:30-2:00 pm. 1 2

Andrew Sq.. Boston St., Dorchester Avenue, Massachusetts avenue, Columbia Road and many of the side streets in the Polish Triangle are already affected and dealing with increased traffic.I will rarely drive down Mass. Ave. from the Boston Medical area after 2 PM as it is already a parking lot with bumper to bumper traffic. I usually would have to sit through 3 or 4 red lights before I could cross onto Columbia Rd. 3

I will NOT shop in the Mall during the Holiday Season due to the same reason. The traffic is horrific.

I've driven around for 20-30 minutes trying to find a parking space on snow days.With the growing rehab of three deckers to either HIGH rental units or condo conversions the influx of "more roommates" to share the high rent has further brought in additional vehicles to our community. If you can't get back to your street by 4 PM you can be certain there won't be a spot to park near by. 4

Having visitors OR handymen coming to work is also a problem due to lack of spaces. If a worker parks his car near the work site they will almost always get a ticket. I've seen cars on the street that do not have resident permit parking and some get tickets and some do not. How does this happen?? We cannot get visitor permits for workers when they are on a home project. It is very frustrating.

Another concern for the South Bay Town Center is overflow parking from their area into our limited, precious residential parking spaces. What guarantees will there be to prevent this from happening?? There will also be traffic issues and noise concerns in the evening and at night when the theatres let out. These must be resolved prior to building the complex. The neighborhood needs a plan and a guarantee to minimize if not eliminate these concerns. 5

Green spaces in this area do not exist. The adjoining South Bay Mall is an ugly piece of tarred space. It is filled with litter. What could be done to prevent the same situation from happening at the Center Project? Green space would be a welcome sight with trees, floral beds and benches and water bubblers for people and pets. Perhaps a dog park for our pets could fit into the plan?!?! 6

Again, I cannot state the importance of enough parking spaces for the local members of the Polish Triangle. Something needs to done to address this ongoing need. You need to realize that this is already a constant problem.

I am not against development I just want you to realize that there are major issues already and something MUST be negotiated to NOT eliminate any of our existing residential spaces. You really need to listen to our concerns and work with the communities that will be most affected by the influx of traffic and noise and added pollution. 7

I have spent hours trying to send this through the comments area on the web site and EVERY time I hit the submit button the reply I receive this "The entered values cannot be saved. Please see the fields for details". However there are NO details to be seen and I called the BRA this morning to complain about this problem. I still had over 200 text spaces available.

Thank you. Lucia

Letter 27	Lucia Grochowska Littlefield
1	The current head-in parking is a non-standard design for a public way. The Proponent proposes angled spaces along West Howell Street to maximize public benefit and availability of public parking based on input received from the adjacent neighborhood.
2	See Section 4.6 for a discussion of Project area improvements, including West Howell Street.
3	The Project Team has completed an extensive evaluation of 19 surrounding intersections, including 13 traffic signals. As a result of this evaluation and comments from the community, the Proponent has identified and commits to completing the following improvements: • Install the necessary underground conduit and cables needed to complete a connection between the South Bay/I-93S signal and the signal at Boston Street/Washburn Street to incorporate the signal into the BTD's Advance Traffic Control System (ATCS), including a camera system on the Washburn signal. This work will give BTD the ability to video monitor and adjust the timing of this signal for improved traffic flow in real time in the event of emergency impacts or periodically as traffic patterns change throughout the year. The Boston Police Department (BPD) will also have access to the data collected by this camera to help improve security along Boston Street for residents and for those pedestrians walking to and from Andrew Station. • Complete an analysis of the alternative lane designations at Massachusetts Avenue/Shirley Street intersection to determine if an adjustment should be made to the line striping/lane designation and signal phasing to help improve the flow of traffic and safety at this intersection. • Complete a conceptual design study for the intersection of Dorchester Avenue and Columbia Road to improve both vehicular and pedestrian flow. • In addition to the above improvements, the Project Team and BTD area coordinating and are in the process of upgrading the traffic signal equipment at Allstate Road which will be upgraded with equipment to incorporate this location into the City's ATCS and will update signal timing/operations for coordinated control with the signal at Newmarket and Shirley Streets. This equipment upgrade will improve traffic flow on Allstate Road relative to existing conditions and will also allow real-time monitoring of traffic flow by the City. To further improve the operation of this intersection, the MBTA has agreed to eliminate the bust stop located at the southwest side of the Mass Ave/Allstate Road intersection and combine it with the bus stop located a few hundred feet to the south on Mass Ave. This will eliminate the traffic conflicts

	caused by the bus stop being so close to the intersection. Complete a post-construction monitoring study to evaluate the traffic and compare to that estimated in the PNF/DPIR to determine if adjustments need to be made. This data will be shared with BTD for use with their ATCS to make any necessary adjustments based on actual build conditions. The monitoring study shall include driveways serving the Project and the ten (10) impacted signalized intersections included in the PNF. Monitoring shall be conducted 6 months after initial Project occupancy and annually thereafter for a period of 5 years.
4	In the interest of making sure the surrounding streets are safe for our neighbors and for the patrons of South Bay during snow storms, the Proponent commits to making 50 parking spaces available free of charge in the retail parking garage (Building A) for 50 residents of the Polish Triangle on a first-come, first-served annual basis. The spaces will only be available during posted snow emergencies announced by the City. Residents interested in this public benefit will be required to register their vehicle and obtain a parking sticker on a yearly basis. The Proponent has made additional efforts to provide more parking for future Project residents such as providing 65 new retail spaces on the finger lot adjacent to West Howell Extension and reserving 65 spaces in the retail parking garage for residents if determined to be necessary.
5	The Proponent will hire security staff to monitor the property and will hire Boston Police details for certain events. Security staff will monitor various conditions, including patron noise.
6	Additional green and open spaces have been added to the project including a dog park and tot lot adjacent to West Howell Extension at the finger lot, along Main Street, and at the plaza in front of building A.
7	The microscale CO air quality dispersion modeling analysis completed by Tech Environmental and included in this DPIR clearly indicates that the worst-case traffic generated by the South Bay project will not cause or contribute to any violations of the NAAQS for CO, and will not significantly affect air quality. Total CO impacts at the intersections with the largest delays and at the Project site, including the impacts from the fuel combustion equipment and parking garages, are predicted to be safely in compliance with the NAAQS for CO.

Letter 28- Community Member Paul MacLelland

Raul Duverge <raul.duverge@boston.gov>

South Bay development project

Paul Maclelland <pjmaclelland@gmail.com> Fri, Sep 18, 2015 at 4:59 PM
To: raul.duverge@boston.gov

Hi Raul,

Just wanted to drop you a note to let you know that we (my wife, our friends and neighbors) are so excited about the additional development at South Bay Plaza. Living in South Boston, we are lucky to have a plaza so close to us. That being said, because of the current state of that particular neighborhood, I won't allow my wife to go to the plaza after dark - and that's a common feeling among most folks that I know who shop there. 1

This development is exactly what that area needs - bring in some more retail, restaurants, and housing - that area has been in demise way too long and I really think this expansion is going to have a positive ripple effect across the entire surrounding neighborhoods.

Thanks,

Paul MacLelland
43 M Street
S. Boston

Letter 28	Paul MacLelland
1	A Blue Light system as well as video cameras will be installed throughout our parking garage (Building A) for enhanced security. In addition, the Proponent will implement an extensive, GPS-based on-site security operation, including video cameras, security officers equipped with body cameras, and BPD details. See Section 1.6.

Letter 29- Community Member Marlea Mesh

Raul Duverge <raul.duverge@boston.gov>

Edens Project at South Bay, Dorchester

1 message

Mesh, Marlea <marlea.mesh@nemoves.com> Fri, Sep 18, 2015 at 10:15 AM
To: raul.duverge@boston.gov

Hi Raul:
As a realtor doing business in this area for the past 20 years and a long term resident of Dorchester I am totally in support of this very exciting project. I think it will be a great addition to our neighborhood. This location with proximity to public transportation, major roadways, beaches and more is becoming more desirable each year. I can't wait to see the finished product!.

Marlea Mesh, REALTOR
Coldwell Banker Residential Brokerage
60 Adams Street
Milton, MA 02186
617-818-1695 (cell)
617-696-4430 (office)
617-696-0679 (fax)
Marlea.Mesh@NEMoves.com
www.NewEnglandMoves.com/marlea.mesh
www.cbcworldwide.com/mmesh
Click here for all your real estate needs

Letter 29	Marlea Mesh
	No response required.

Letter 30- Community Member Sarah Heffernen

Raul Duverge <raul.duverge@boston.gov>

South Bay Town Center Project

1 message

sarahheffernan@comcast.net <sarahheffernan@comcast.net> Fri, Sep 18, 2015 at 10:02 AM
To: raul.duverge@boston.gov

Hi Raul

I am writing to you to let you know that I have been to many meetings about the South Bay EXPANSION and just to give you my opinion ....CAN'T WAIT!!

WOW!! FINALLY we are going to get a great shopping and dining area WITHIN walking distance from us! So excited!

I have been to the meetings and discussion groups and I think you know there is a small handful of some negative ninnys in the group! I listen to their arguments but I have to say I think this project will truly benefit everyone and really improve our neighborhood.

I can't wait for the movie theater and more restaurants! I am so excited. I think the BRA will see that this project is going to be a bonus for everyone! Looking forward to the future!

Sarah Heffernan
Dorchester
781.724.7602

Sent from XFINITY Connect Mobile App

Letter 30	Sarah Heffernen
	No response required.

Letter 31- Community Member Kathy Burger

Raul Duverge <raul.duverge@boston.gov>

Edens project for the South Bay Town Center Project.

1 message

burger.k@comcast.net <burger.k@comcast.net> Fri, Sep 18, 2015 at 9:40 AM
To: raul.duverge@boston.gov

Hi Mr. Duverge,

I am writing to let you and the BRA know that I support the Edens project for the South Bay Town Center Project. I live in Savin Hill and frequently use the South Bay shopping area currently. It would be great to have more stores and a movie theater so close to home.

Thank you.
Kathy Burger
224 Savin Hill Ave
Dorchester, MA 02125

Letter 31	Kathy Burger
	No response required.

Letter 32- Community Member John Lowe

Raul Duverge <raul.duverge@boston.gov>

South Bay Expansion

1 message

Jlowe <jwilliamlowe@yahoo.com> Wed, Sep 16, 2015 at 6:38 PM
To: "raul.duverge@boston.gov" <raul.duverge@boston.gov>

Hello Raul, I wanted to weigh in regarding the Southbay expansion project as a resident of Dorchester living on Boston Street. I am very excited for this project I think that having a place to go that is similar to other places in Boston is very important to our neighborhood. The ability to go to multiple restaurants, shops, movies within walking distance to my home is something I'm looking forward to. I hope you consider having multiple areas of access as an important feature to this project as not to over burden one area or another. If there are multiple ways in and out of the project, it will help reduce any type of bottle neck issues. Again, I am very excited for this to happen near my home. 1
Thank you, John Lowe, Boston Street

Sent from my iPhone

Letter 32	John Lowe
1	See Section 4.1.1 for a description of site access.

Dear BRA Project Manager Raul Diverge,

My name is Fe Matos and I reside at 4 Mt. Cushing Terrace, Dorchester. Thank you for involving the community of Dorchester as new developments such as the South Bay Town Center come into our neighborhood. The South Bay Center will bring local jobs to the community and provide more affordable housing. While I would always like to see more, this is a good starting place. We need to figure out how to make new developments work for local residents in all aspects. The project does have adequate measures for parking and traffic, which can be a major concern of residents as well. 1 2

I appreciate the opportunity to comment on the South Bay Center.

Thank you,

FE MATOS 9/15/2015

Fe Matos

Letter 33	Fe Matos
1	To further alleviate the communities concern for parking, the Proponent will provide an additional 65 parking spaces in the retail parking structure for the use of South Bay residents and their guests in the event the parking that is included in the residential buildings is not sufficient to meet their needs. The 65 retail parking spaces that are displaced will be relocated onto the finger lot on the Project Site's southwest. If it is determined, one year after the completion of construction, that these additional residential spaces are not needed, the use of this finger lot can cease being a parking lot and the Proponent can pursue other development opportunities for this land with the condition the Proponent commits to maintaining a dog park/tot lot of equal size in an alternate location should the location shown on the current plans no longer be feasible.
2	The proposed one-way revisions to West Howell, the addition of the Boston Street Bypass Road and the traffic flow restrictions incorporated into the Enterprise Street design will all help to limit the number of new vehicles on Boston Street.

Dear BRA Raul Diverge,

As a resident of the Dorchester area near the South Bay retail area, I am in support of the new construction. We need more development in the area that respects the community and our needs. The project has plans to make sure that it will be able to handle the new cars coming into the area by providing over 1,000 parking spots and using shuttle services.

The project is also one of the few retail outlets where people from Boston can shop for all their needs, making it convenient for us. Thank you for reading and considering my comment.

Best, Leesticie Santore

28 Logan Way Apt. 770
South Boston MA, 02127

Letter 34	Leesticie Santore
	No response required.

Dear Raul Diverge,

I live in Dorchester, close to the South Bay center. Recently, I read that the center is adding a lot more buildings to it. I often go to South Bay to shop because of how convenient and cheap it is there. Adding even more to it will be great so that people have more options. I know people who work there and having more jobs for local people will be good as well.

I don't see parking or traffic being big problems, because of the shuttles, buses, and big parking lot available. I hope you keep working with the project and with the community to make sure the new South Bay center is built and benefits Dorchester.

Thank you,

JOSE R. BENAVIDES
10 - ELDER ST # 3
DORCHESTER MA, 02125

Letter 35	Jose Benavides
	No response required.

Dear Raul Diverge,

My name is William Lee and I am a resident of 4 Mt. Cushing Terrace in Dorchester. I am in support of the new South Bay Center and believe it will be of benefit for Dorchester. We need more places where local residents can get good jobs, and we need more affordable housing like the 61 units offered by the Center.

The Center is also mitigating transit issues by having an adequate amount of parking in the Center and offering shuttle services. Any new development needs to make sure it incorporates community suggestions and I appreciate the BRA for listening and involving the local Dorchester community.

Sincerely,

William Lee

9-15-15

Letter 36	William Lee
	No response required.

Letter 37- Community Member Paul Creeden

Raul Duverge <raul.duverge@boston.gov>

Project Comment Submission: South Bay Mixed-Use Town Center Project

1 message

no-reply@boston.gov <no-reply@boston.gov> Tue, Sep 15, 2015 at 6:36 PM
To: BRAWebContent@cityofboston.gov, Raul.Duverge@boston.gov

CommentsSubmissionFormID: 491

Form inserted: 9/15/2015 6:36:01 PM

Form updated: 9/15/2015 6:36:01 PM

Document Name: South Bay Mixed-Use Town Center Project

Document Name Path: /Development/Development Projects/South Bay Mixed-Use Town Center Project

Origin Page Url: /projects/development-projects/south-bay-mixed-use-town-center-project

First Name: Paul

Last Name: Creeden

Organization: McCormack Civic Member

Email: pcreeden@comcast.net

Street Address: 18 Saint Margaret St

Address Line 2:

City: Dorchester

State: MA

Phone: (617) 943-9456

Zip: 02125

Comments: 1. I support the proposal that West Howell St egress should be pedestrian only. 2. I suggest Enterprise Street be made one way from the proposed egress from the development (Right Turn Only) toward Massachusetts Ave.. I would support a change of direction of Willow Court from Enterprise to Allstate Rd. as well to increase easy traffic flow out of the development. 3. If not, I propose speed bumps on Enterprise St between Boston St and the development egress. 4. I support the idea of widened sidewalk(s) on Enterprise St.. 5. If traffic can exit the development toward Boston St, I propose a 4-way pedestrian crosswalk and on-demand crosswalk light at the intersection of Boston St and Enterprise St..

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PMContact: Raul.Duverge@Boston.gov

Letter 37	Paul Creeden
1	Although West Howell will not be restricted to pedestrian only, the one way revision, raised table intersection, expanded sidewalks, and landscaping will all help to calm traffic and create a safe pedestrian circulation.
2	To address this concern, a traffic island and associated signage has been incorporated into the design of Enterprise Street to restrict the flow of traffic. This restriction will prevent vehicles traveling west on West Howell Extension from making a left turn and will also prevent vehicles traveling south on Enterprise from continuing to Boston Street beyond West Howell Extension.
3	Although speed bumps are not a standard city design element and are not incorporated into the Project, the addition of a traffic flow restriction on Enterprise Street will help to calm traffic on that street.
4	Incorporating the traffic flow restriction on Enterprise Street will result in an increased level of service at the Boston Street/Enterprise Street intersection.

Letter 38- Community Member Paula Walsh

Raul Duverge <raul.duverge@boston.gov>

Project Comment Submission: South Bay Mixed-Use Town Center Project

no-reply@boston.gov <no-reply@boston.gov> Tue, Sep 15, 2015 at 1:56 PM
To: BRAWebContent@cityofboston.gov, Raul.Duverge@boston.gov

CommentsSubmissionFormID: 490

Form inserted: 9/15/2015 1:56:03 PM

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Document Name: South Bay Mixed-Use Town Center Project

Document Name Path: /Development/Development Projects/South Bay Mixed-Use Town Center Project

Origin Page Url: /projects/development-projects/south-bay-mixed-use-town-center-project

First Name: paula

Last Name: walsh

Organization: resident on boston st

Email: pollie63@gmail.com

Street Address: 137 boston street

Address Line 2:

City: dorchester

State: MA

Phone: (617) 818-3238

Zip: 02125

Comments: I have not attended the recent community meetings about this project but I have a few concerns. My major concern is how are you going to handle the major rat problem while your building? In this neighborhood we already have a rat problem due to recent home purchases and the construction to do these houses over so every time someone does any construction in this area recently and we are already overwhelmed with rats and it would have to be pre-treated before construction starts and it would need continuous treatment throughout the entire job. My back yard is next to fence of where u will begin construction and my yard will be loaded with these rodents and this is my worst fear. My other concern is parking because it's already very difficult to find parking in this neighborhood as people park their cars all day and walk to Andrew Station to go to work. It's very frustrating with no parking as it stands now. My other concern is I feel the traffic is going to be a major problem because the traffic in morning and afternoon on boston street is already bad and this extra traffic will be horrible. I'm hoping you can possibly get a few residents of people that actually live in this neighborhood to keep in touch with throughout the entire process of building this project so we can voice our opinion throughout the entire process and I would like to take part in this process if possible. Thank you and please don't hesitate to contact me. Paula Walsh

1 2 3

PMContact: Raul.Duverge@Boston.gov

Letter 38	Paula Walsh
1	The Proponent agrees to implement an extensive rodent control operation well in advance of any demolition activities in compliance with all state and city rodent control requirements and as monitored by ISD's Rodent Control Unit. This includes inspection, monitoring, and treatment before, during, and at the completion of construction.
2	To further alleviate the communities concern for parking, the Proponent will provide an additional 65 parking spaces in the retail parking structure for the use of South Bay residents and their guests in the event the parking that is included in the residential buildings is not sufficient to meet their needs. The 65 retail parking spaces that are displaced will be relocated onto the finger lot on the Project Site's southwest. If it is determined, one year after the completion of construction, that these additional residential spaces are not needed, the use of this finger lot can cease being a parking lot and the Proponent can pursue other development opportunities for this land with the condition the Proponent commits to maintaining a dog park/tot lot of equal size in an alternate location should the location shown on the current plans no longer be feasible.
3	The proposed one-way revisions to West Howell, the addition of the Boston Street Bypass Road and the traffic flow restrictions incorporated into the Enterprise Street design will all help to limit the number of new vehicles on Boston Street.

Letter 39- Community Member Ruby Derome

Raul Duverge <raul.duverge@boston.gov>

Project Comment Submission: South Bay Mixed-Use Town Center Project

1 message

no-reply@boston.gov <no-reply@boston.gov> Tue, Sep 15, 2015 at 8:00 AM
To: BRAWebContent@cityofboston.gov, Raul.Duverge@boston.gov

CommentsSubmissionFormID: 489

Form inserted: 9/15/2015 7:59:45 AM

Form updated: 9/15/2015 7:59:45 AM

Document Name: South Bay Mixed-Use Town Center Project

Document Name Path: /Development/Development Projects/South Bay Mixed-Use Town Center Project

Origin Page Url: /projects/development-projects/south-bay-mixed-use-town-center-project

First Name: Ruby

Last Name: Derome

Organization:

Email: rderome54@aol.com

Street Address: 42 Dorset st.

Address Line 2:

City: Dorchester

State: MA

Phone: (617) 436-1872

Zip: 02125

Comments: I have talked with several of my neighbors and we all object to the so. Bay expansion we have a lot of elderly neighbors our concerns , heavier traffic,crime,theft,noise,and we feel that we will not be able to walk to the mall,and our own neighborhood .Please consider our concerns we have enough negative issues already and don't need anything else to impact our neighborhood. Think of the people and not revenue 1 2 3 4

PMContact: Raul.Duverge@Boston.gov

Letter 39	Ruby Derome
1	The proposed one-way revisions to West Howell, the addition of the Boston Street Bypass Road, and the traffic flow restrictions incorporated into the Enterprise Street design will all help to limit the number of new vehicles on Boston Street.
2	An expansive pedestrian connection has been incorporated into the project with wide landscaped sidewalks along West Howell, Boston Bypass Road, Enterprise Street and throughout the project site.
3	The Proponent agrees to implement an extensive rodent control operation well in advance of any demolition activities in compliance with all state and city rodent control requirements and as monitored by ISD's Rodent Control Unit. This includes inspection, monitoring, and treatment before, during, and at the completion of construction.
4	A Blue Light system as well as video cameras will be installed throughout our parking garage (Building A) for enhanced security. In addition, the Proponent will implement an extensive, GPS-based on-site security operation, including video cameras, security officers equipped with body cameras, and BPD details.

Letter 40- Community Member Ann Langone

Raul Duverge <raul.duverge@boston.gov>

Project Comment Submission: South Bay Mixed-Use Town Center Project

no-reply@boston.gov <no-reply@boston.gov> Thu, Sep 10, 2015 at 5:20 PM
To: BRAWebContent@cityofboston.gov, Raul.Duverge@boston.gov

CommentsSubmissionFormID: 487

Form inserted: 9/10/2015 5:20:19 PM

Form updated: 9/10/2015 5:20:19 PM

Document Name: South Bay Mixed-Use Town Center Project

Document Name Path: /Development/Development Projects/South Bay Mixed-Use Town Center Project

Origin Page Url: /projects/development-projects/south-bay-mixed-use-town-center-project

First Name: Ann

Last Name: Langone

Organization:

Email: ann.langone@gmail.com

Street Address: 14 Mayhew St

Address Line 2:

City: Dorchester

State: MA

Phone: (617) 288-7565

Zip: 02125

Comments: I am very unhappy about this plan because it puts the South Bay Mall right at my doorstep. South Bay already impacts the neighborhood negatively in multiple ways. Traffic on Boston Street and at Edward Everett square is already a nightmare. An expanded mall will only increase traffic here. West Howell Street egress should be restricted to pedestrian traffic only and there must be traffic calming and widened sidewalks on Enterprise and Clapp Streets. The current South Bay Mall is loaded with trash. We need a clear and comprehensive plan to keep the area clean and vermin free. An expanded mall will only make things worse. The current South Bay Mall is a magnet for crime and often unsafe. The Mall management has never addressed this issue with any success and we need to see a clear and comprehensive plan for security-- 24 hour security that is real and does not rely on the public calling 911. The Mall has a responsibility to maintain safety and to mitigate the many negative impacts a large development like this will have on our neighborhood. 1 2 3 4

PMContact: Raul.Duverge@Boston.gov

Letter 40	Ann Langone
1	The proposed one-way revisions to West Howell, the addition of the Boston Street Bypass Road and the traffic flow restrictions incorporated into the Enterprise Street design will all help to limit the number of new vehicles on Boston Street. Although West Howell is not restricted to pedestrian only, the one way revision, raised table intersection, expanded sidewalks, and landscaping will all help to calm traffic and create a safe pedestrian circulation.
2	A Blue Light system as well as video cameras will be installed throughout our parking garage (Building A) for enhanced security. In addition, the Proponent will implement an extensive, GPS-based on-site security operation, including video cameras, security officers equipped with body cameras, and BPD details.
3	The Proponent agrees to implement an extensive rodent control operation well in advance of any demolition activities in compliance with all state and city rodent control requirements and as monitored by the Rodent Control Unit of the Inspectional Services Department (ISD). This includes inspection, monitoring, and treatment before, during, and at the completion of construction.
4	By removing existing utility poles along its property frontage, the Proponent commits to constructing new code-compliant sidewalks along the northeast side of Enterprise Street from its property to Massachusetts Avenue. Since there is not enough right-of-way to do the same from the Proponent's property to Boston Street or along Clapp Street, this can be accomplished by the City requiring abutting property owners to construct sidewalks on their property once future redevelopment of abutting properties occurs.

Letter 41- Community Member Gordon Beebe

Raul Duverge <raul.duverge@boston.gov>

Project Comment Submission: South Bay Mixed-Use Town Center Project

1 message

no-reply@boston.gov <no-reply@boston.gov> Fri, Sep 4, 2015 at 9:09 PM
To: BRAWebContent@cityofboston.gov, Raul.Duverge@boston.gov

CommentsSubmissionFormID: 479

Form inserted: 9/4/2015 9:08:07 PM

Form updated: 9/4/2015 9:08:07 PM

Document Name: South Bay Mixed-Use Town Center Project

Document Name Path: /Development/Development Projects/South Bay Mixed-Use Town Center Project

Origin Page Url: /projects/development-projects/south-bay-mixed-use-town-center-project

First Name: Gordon

Last Name: Beebe

Organization:

Email: Gordon.beebe@yahoo.com

Street Address: 5 Dorset Street

Address Line 2:

City: Dorchester

State: MA

Phone: (617) 283-9139

Zip: 02125

Comments: Good evening, Our neighborhood desperately needs services and commercial development such as this. It will benefit those of us who live here by introducing new restaurants, shops and entertainment options not currently available. It will also help reduce the amount of anti-social behavior that now flourishes in parts of the neighborhood that are currently devoid of pedestrian/vehicle traffic. Please, in your recommendations, encourage convenient pedestrian access points from Boston Street and other street in the neighborhood. Thank you for your time and consideration.

PMContact: Raul.Duverge@Boston.gov

Letter 41	Gordon Beebe
	No response required.

Letter 42- Community Member Kenneth Cronin

Raul Duverge <raul.duverge@boston.gov>

Project Comment Submission: South Bay Mixed-Use Town Center Project

1 message

no-reply@boston.gov <no-reply@boston.gov> Sat, Sep 5, 2015 at 6:34 PM
To: BRAWebContent@cityofboston.gov, Raul.Duverge@boston.gov

CommentsSubmissionFormID: 480

Form inserted: 9/5/2015 6:34:20 PM

Form updated: 9/5/2015 6:34:20 PM

Document Name: South Bay Mixed-Use Town Center Project

Document Name Path: /Development/Development Projects/South Bay Mixed-Use Town Center Project

Origin Page Url: /projects/development-projects/south-bay-mixed-use-town-center-project

First Name: Kenneth

Last Name: Cronin

Organization:

Email: Kennethcronin35@gmail.com

Street Address: Dorset st

Address Line 2:

City: Dorchester

State: MA

Phone: (617) 947-5546

Zip: 02125

Comments: This project is what this neighborhood needs. That dead area between my street and South Bay center is a waste land in the heart of our city. It will make this area safer and we need restaurants that are walkable, something like Assembly Row, people love that place.

PMContact: Raul.Duverge@Boston.gov

Letter 42	Kenneth Cronin
	No response required.

Letter 43- Community Member Billy Trabucco

Raul Duverge <raul.duverge@boston.gov>

FW: Follow-up...

1 message

Billy Trabucco <leetra2000@hotmail.com> Wed, Aug 19, 2015 at 6:41 PM
To: "raul.duverge@boston.gov" <raul.duverge@boston.gov>
Cc: Billy Trabucco <leetra2000@hotmail.com>

Hello Raul... Please read the email below... I believe you may appreciate my honest candor.

I will reach out to you via the phone very soon...

Respectfully,
Billy Trabucco

From: leetra2000@hotmail.com
To: khague@edens.com
CC: leetra2000@hotmail.com
Subject: Follow-up...
Date: Mon, 17 Aug 2015 16:53:22 -0400

Dear Keith,

You are a gentleman, and I wanted to thank you for taking the time to meet me today at Panera Bread (sorry for me insisting that I buy my own lunch) to look at the latest rendition of the proposed expansion plans for the South Bay Mall. I want to thank you for making an effort to come up with an alternate West Howell Street approach... I am "open" to the new "2-way Cul-de-sac " approach, but not fully committed... I would like to hear the feedback from my neighbors (for I will not betray them). That being said, I am still 100% against a full blown
2-way entrance via West Howell Street to the proposed expansion area... and that position will not change for many, 1
many reasons... **Safety, Traffic, Diminished quality of life, Massive loss of parking spaces (350+) in our neighborhood, etc...**

However, I want to commit in writing my 100% support for an alternate development concept...
and that would be:

- 2 New additional big box stores... i.e., BJ's & Lowes
- 3 to 4 New high end restaurants
- (however no residential units and no movie theater) 2,3

By the way, commercial spaces generate a huge amount of property tax revenue for the city

In closing Keith, I hope you can appreciate my integrity and straight-forward approach... that being said, I ask you to convey my earlier statement I made at lunch to ALL concerned with this expansion proposal... and that is: I will not tolerate any retribution of ANY kind towards me, my family or my neighbors... I am not against development, and I have a voting record to prove it... however, I will not be pressured, manipulated or intimidated into going along with a development that will be extremely detrimental to a community that I have worked hard for, and lived in my entire life.

Respectfully submitted,
Billy Trabucco

Letter 43	Billy Trabucco
1	Based on extensive analysis between the Project Team, BTD, and BRA, the proposed access through West Howell will be revised to one-way direction in from Boston Street. This reconfiguration will be designed to meet City of Boston standards including Complete Streets elements and will retain curbside parking for use by the public, thereby better accommodating pedestrians/bicycles, existing business operations along the street, neighborhood parking access, and creating a safe and efficient vehicular circulation. This reconfiguration incorporates a raised table intersection at its connection with the proposed hotel driveway, West Howell Extension, and the Boston Street Bypass Road, which greatly enhances the pedestrian street crossings while calming traffic. These improvements, coupled with a significant increase in landscape area and sidewalk enhancements, will provide an important pedestrian connection between the Project and the adjoining neighborhoods.
2	The success of this Project lies in its ability to create an active environment throughout the day. Including mixed uses such as residential, cinema, hotel, restaurant, and retail accomplishes this goal. A lively, populated mixed use environment will help to deter crime and other unsafe activity.
3	The cinema is a critical component to making the Project financially feasible.

Letter 44- Community Member Matthew McAloon

Raul Duverge <raul.duverge@boston.gov>

Project Comment Submission: South Bay Mixed-Use Town Center Project

1 message

no-reply@boston.gov <no-reply@boston.gov> Wed, Aug 19, 2015 at 5:08 PM
To: BRAWebContent@cityofboston.gov, Raul.Duverge@boston.gov

CommentsSubmissionFormID: 472

Form inserted: 8/19/2015 5:07:22 PM

Form updated: 8/19/2015 5:07:22 PM

Document Name: South Bay Mixed-Use Town Center Project

Document Name Path: /Development/Development Projects/South Bay Mixed-Use Town Center Project

Origin Page Url: /projects/development-projects/south-bay-mixed-use-town-center-project

First Name: matthew

Last Name: mcaloon

Organization: John W. McCormick Civic Assoc.

Email: mmcaloon@fedex.com

Street Address: 46 Mount Vernon St unit 1

Address Line 2:

City: Dorchester

State: MA

Phone: (774) 226-5546

Zip: 02125

Comments: The access to the site via West Howell St. will have too much of an impact on Boston St.....Rework the two current entances (Mass Ave and Allstate Rd) to handle the additional traffic of this new development. 1
Public Saftey conerns exist at Southbay according to the Police...How will Edens , BPD and Private Security develop a plan to improve the safety of South Bay and the new development? The BRA needs to develop a matster plan for the remaining parcels around this development before they approve this extenstion of South Bay!!!!!! 2

PMContact: Raul.Duverge@Boston.gov

Letter 44	Matthew McAloon
1	The proposed one-way revisions to West Howell, the addition of the Boston Street Bypass Road and the traffic flow restrictions incorporated into the Enterprise Street design will all help to limit the number of new vehicles on Boston Street.
2	A Blue Light system as well as video cameras will be installed throughout our parking garage (Building A) for enhanced security. In addition, the Proponent will implement an extensive, GPS-based on-site security operation, including video cameras, security officers equipped with body cameras, and BPD details.

Letter 45- Community Member Tim Vhay

Raul Duverge <raul.duverge@boston.gov>

Project Comment Submission: South Bay Mixed-Use Town Center Project

no-reply@boston.gov <no-reply@boston.gov> Fri, Aug 14, 2015 at 3:54 PM
To: BRAWebContent@cityofboston.gov, Raul.Duverge@boston.gov

CommentsSubmissionFormID: 467

Form inserted: 8/14/2015 3:54:17 PM

Form updated: 8/14/2015 3:54:17 PM

Document Name: South Bay Mixed-Use Town Center Project

Document Name Path: /Development/Development Projects/South Bay Mixed-Use Town Center Project

Origin Page Url: /projects/development-projects/south-bay-mixed-use-town-center-project

First Name: Tim

Last Name: Vhay

Organization:

Email: tmv47@cornell.edu

Street Address: 27 Huntington Rd

Address Line 2:

City: Milton

State: MA

Phone: (617) 999-8003

Zip: 02186

Comments: I am a transportation engineer with experience in bicycle infrastructure and intersection/roadway design. This project looks like it could be a really great thing, except for one major flaw in the plans. If your 1
stated goals are true, then pedestrian safety and promotion of alternative, active transportation modes will be key to the development. These goals could be better reached by including bicycle facilities in your streetscape improvements-- at present there are none, other than bike racks in a few locations. How would a cyclist safely get to those locations? I, for one, do not know. To improve things for cyclists: 1) Enterprise St. and West Howell 2
are to be redone to conform with complete streets: do this to the max, do everything you can to encourage cycling and discourage driving. 2) There is a vehicular cyclist in one of your streetscape renders. This is a big 3
no-no: vehicular cycling should never be used, particular in new developments that claim to encourage alternative transportation methods. 3) 11' driving lanes are unnecessarily wide for a small, curving road like Main St: drop these down to 9' and put in a 4' bike lane instead (the bare minimum) on curb opposite from parking. 4) Drop one side of parking from West Howell and New Road-- there is, after all, a massive parking garage and 4
surface parking lots close by, and zero bike facilities along those two streets. Turn the newly vacated lane into a bikes-only zone. 5) The 9' parking lanes and 10' driving lanes elsewhere on West Howell are excessive. If you can't drop a parking lane, at the very least drop one foot across the board along West Howell and create a 5' bike 5
lane. 6) Create center pedestrian islands on all crossings where pedestrians must cross more than one lane of traffic. These are extraordinarily effective. At the very least, a reflective "Yield to Pedestrians in Crosswalk" bollard could be put in place. 7) Locate traffic lights (for signalized intersections) on the corner of the intersection

closest to entering vehicles. This forces the driver to look at the curb right in front of him/her for the light, meaning he stops before the stop line and will see pedestrians trying to cross the street right in front of him. 8) You might also seek out a new Hubway stop on the development site for residents to get to the Commuter Rail/Indigo Line quickly but without needing to drive a car. These changes are important because we live in a city that is slowly coming around to the realization that cars cannot be our future, particularly in urban neighborhoods. Your bicycle counts show that around 200 cyclists pass through the area every day. Your Build expectations predict plenty of new traffic, inculding bicycles, joining the streets. Why not prepare for them? Compared to the average city, your predicted percentages of road users who will NOT be driving is fairly high. Build it-- bike lanes, cycletracks, and bicycle paths-- and they will come. 6

PMContact: Raul.Duverge@Boston.gov

Letter 45	Tim Vhay
1	The Proponent will provide space to accommodate up to 475 bicycles for the residential units. The Proponent will also provide space to accommodate up to 105 additional bicycles strategically located throughout the Project Site to satisfy the City's requirements.
2	Enterprise and West Howell Streets have been designed in conformance with Complete Streets standards.
3	The cyclist shown in renderings is for display purposes only and does not depict how the Proponent encourages all cyclists to ride their bicycles.
4	The Project has been designed to meet Complete Street standards.
5	Although the Proponent strives to accommodate bicycles as best as possible, Main Street is the primary pedestrian focus of the Project and is thoughtfully planned to provide a shared-street concept and enhance pedestrian use, enjoyment, and safety. The Project's site plan design incorporates measures to reduce the need for vehicular use of Main Street. Parking garage access is provided directly from Allstate Road prior to the intersection with Main Street, thereby significantly reducing the amount of vehicular use. Garage egress and secondary ingress are also provided from New Road which is accessible to surrounding major thoroughfares without the need to use Main Street, further reducing vehicular traffic. The design of Main Street itself involves two slight bends that calm traffic by forcing a reduction in speed in order to navigate. The streetscape design includes a zone of trees, landscaping, and furnishings along Main Street between pedestrian sidewalks and the carriage way, in addition to some on-street parallel parking, to provide a buffer for pedestrian comfort and safety. Further, the sidewalk edge is lined with tactile warning pavers to clearly signify a change from pedestrian-only to shared-street zones in an accessibility-compliant manner. These various design measures serve to reduce vehicular use, calm traffic movement, and create a pedestrian-friendly environment. This thoughtfully planned design will also allow the Proponent to periodically close the street for events such as farmer's markets, crafts fairs, holiday fairs, and community events.
6	After evaluation of existing Hubway locations within a ½ mile radius of the development, it was determined that the existing (3) stations (located at Newmarket Station, Edward Everett Square and Andrew Square) are within a 5-minute walking distance from the Project Site and currently have reserve capacity on a regular basis. Therefore, it was concluded that existing nearby Hubway facilities are expected to

	meet demands after completion of this development. If this demand changes in the future, the Proponent commits to designating an area on its property for the placement of an additional station. The Proponent further commits to constructing an enhanced pedestrian connection from the proposed development to Newmarket Station. The Proponent will also commit to extending its current shuttle service from the Project to the Newmarket Station, providing an alternative to walking to this location by resident commuters and visitors to the Project Site.

Letter 46- Community Member Bernadette Diamond

Raul Duverge <raul.duverge@boston.gov>

(no subject)

bernadette diamond <geoberdan@icloud.com> Fri, Sep 18, 2015 at 11:19 AM
To: "raul.duverge@boston.gov" <raul.duverge@boston.gov>

I am writing you to expressly support for the South Bay expansion project I think it will be a huge asset and improvement for the neighbor hood please help this project go through
Thanks
Bernadette

Sent from my iPhone

Letter 46	Bernadette Diamond
	No response required.

Letter 47- Community Member Karen Clemens

Raul Duverge <raul.duverge@boston.gov>

South Bay Project

Karen Clements <kec153@gmail.com> Fri, Sep 18, 2015 at 11:20 AM
To: raul.duverge@boston.gov

Dear Mr. Duverge:

I wanted to voice my support of the South Bay Town Center Project. As a life long resident of Dorchester, I believe this expansion would bring much needed access to venues which are lacking in our neighborhood. The project developers and management groups are sincere in their intent to improve the area and bring to this section of Boston/Dorchester the atmosphere of family life which is lacking at present.

Karen E. Clements
Savin Hill

Letter 47	Karen Clemens
	No response required.

Letter 48- Community Member Patty Greene

Raul Duverge <raul.duverge@boston.gov>

Edens Project

Patty Greene <pmg@alexandraconstruction.com> Fri, Sep 18, 2015 at 11:22 AM
To: "raul.duverge@boston.gov" <raul.duverge@boston.gov>

Hi Raul,

I live in Savin Hill & have lived there most of my 58 years!

Edens project for the South Bay Town Center Project sounds like a great project & would

really help the neighborhood...along with other local areas.

Please know that I am in full support of the project.

Regards,

Patty Greene

Saxton St.

Dorchester

Letter 48	Patty Greene
	No response required.

Martin J. Walsh
Mayor

Article 37 Interagency Green Building Committee

October 29, 2015

Mr. Keith Hague
Director of Preconstruction
Allstate Road (Edens)
LLC c/o EDENS 21
Custom House Street
Boston, MA 02110

Re: South Bay Town Center, Boston
Article 37 Boston Zoning Code, Green Buildings

Dear Mr. Hague:

The Boston Interagency Green Building Committee (IGBC) has reviewed, the Project Notification Form (PNF) together with supplemental documentation submitted on September 23, 2015, which includes three LEED checklists, a Sustainability Narrative and Climate Change Preparedness and Resiliency Checklist, for compliance with Boston Zoning Article 37, Green Buildings.

The PNF indicates that the project, now in the design stage, will use the following LEED rating systems for the three buildings required to demonstrate compliance with Article 37:

1. The IGBC accepts the LEED 2009 for New Construction and Major Renovations rating system selected for the South Bay Hotel and encourages Allstate Road (Eden), LLC (the "Proponent") to continue to research methods to include the points indicated in the "maybe" category, into the project design and add to the current score of 61 (LEED Gold). 1
2. The IGBC accepts the LEED 2009 for New Construction and Major Renovations rating system for the South Bay Mixed Use Building and encourages the Proponent to continue to research methods to include the points indicated in the "maybe" category, into the project design and add to the current score of 58 (LEED Silver) and achieve LEED Gold. 2
3. The IGBC accepts the LEED 2009 for New Construction and Major Renovations rating system for the South Bay Residential Building and encourages the Proponent to continue to research methods to include the points indicated in the "maybe" category, into the project design and add to the current score of 58 (LEED Silver) and achieve LEED Gold. 3

In support of the City of Boston's Greenhouse (GHG) emissions reduction goals, the IGBC requests that: 4

- The project fully utilize utility and state-funded energy efficiency and clean/renewable energy programs to minimize energy use and adverse environmental impacts.

- The project include strategies to reduce energy usage to by 20% (in all three of the above listed buildings) or more below the ASHRAE 90.1-2010 baseline including a feasibility study of viable renewable energy technologies and/or clean energy systems for the project. 5
- As planning proceeds, please provide through your Boston Redevelopment Authority (BRA) Project Manager your preliminary and then comprehensive energy modeling data and information on utility assistance and support, including technical assistance and building energy modeling, afforded to the project throughout the design process. 6

The IGBC notes that the commitment to fulfilling the Boston Public Health Commission's Green Building Credits furthers the City's efforts to both reduce GHG emissions and improve the health of residents.

For projections of sea level rise, the City of Boston currently relies on the 2013 report of the Massachusetts Office of Coastal Zone Management – *Sea Level Rise: Understanding and Applying Trends and Future Scenarios for Analysis and Planning* – and suggests at least the Intermediate High or High scenarios depending upon building use. 7

Please note that prior to the Inspectional Services Department's (ISD) issuance of a building permit, all projects must demonstrate compliance with Article 37 and have obtained approval of the requisite submissions from the IGBC. In order to demonstrate compliance, the IGBC requires that you submit a Draft Green Building Report (draft Report). The draft Report shall provide a comprehensive narrative describing in detail proposed strategies and paths that will be used to meet LEED prerequisites and achieve the selected credits. 8

Please follow up with your BRA Project Manager if you have questions.

Interagency Green Building Committee

Letter 49	Interagency Green Building Commission
1	The Project Team will target as many points as possible and anticipates a minimum of Silver certifiability, but hopes to clarify additional credits currently shown in the "?" category of the LEED checklists for a Gold level.
2	The Project Team will target as many points as possible and anticipates a minimum of Silver certifiability, but hopes to clarify additional credits currently shown in the "?" category of the LEED checklists for a Gold level.
3	The Project Team will target as many points as possible and anticipates a minimum of Silver certifiability, but hopes to clarify additional credits currently shown in the "?" category of the LEED checklists for a Gold level.
4	The Proponent will be pursuing both commercial and residential utility incentives.
5	The Project will reduce energy use by 20% at a minimum.
6	The Proponent will provide energy modeling data in the final Green Building Report.
7	The Project Team considered future sea level rise in Project design, but the Project is located approximately 3,400 feet from water. See the Appendix B, Climate Change Preparedness and Resiliency Checklist for New Construction.
8	The draft Green Building Report is included in Appendix G.

APPENDIX E
SUBMISSION REQUIREMENTS FOR DESIGN DEVELOPMENT AND CONTRACT DOCUMENTS SUBMISSIONS

1. Written description of program elements and space allocation (in square feet) for each element, as well as Project totals. 1
2. Neighborhood plan, elevations and sections at an appropriate scale (1"=100' or larger as determined by the BRA) showing relationships of the proposed project to the neighborhood context: 2
    a. massing
    b. building height
    c. scaling elements
    d. open space
    e major topographic features
    f. pedestrian and vehicular circulation
    g. land use
3. Sketches and diagrams to clarify design issues and massing options. 3
4. Eye-level perspective (reproducible line or other approved drawings) showing the proposal (including main entries and public areas) in the context of the surrounding area. Views should display a particular emphasis on important viewing areas such as key intersections, pathways, or public parks/attractions. Some of these viewpoints have already been suggested and used in presentations to the public including views from the existing South Bay Center into the Town Center along Allstate Road, views from along Main Street looking back to South Bay Center, views from Boston St. looking down West Howell toward the Town Center, and views from Baker Court looking toward Building A. Long-ranged (distanced) views of the proposed project must also be studied to assess the impact on the skyline or other view lines. Perspectives otherwise should focus on viewpoints that the public will experience. The BRA should approve the view locations before analysis is begun. View studies should be cognizant of light and shadow, massing and bulk. 4 5
5. Additional aerial or skyline views of the project, if and as requested. 6
6. Site sections at 1"=20' or larger (or other scale approved by the BRA) showing relationships to adjacent buildings and spaces. 7
7. Site plan(s) at an appropriate scale (1"=20' or larger, or as approved by the BRA) showing: 8
    a. general relationships of proposed and existing adjacent buildings and open spaces
    b. open spaces defined by buildings on adjacent parcels and across streets
    c. general location of pedestrian ways, driveways, parking, service areas, streets, and major landscape features
    d. pedestrian, handicapped, vehicular and service access and flow through the parcel and to adjacent areas
    e. survey information, such as existing elevations, benchmarks, and utilities
    f. phasing possibilities
    g. construction limits

8. Study model at 1" = 16' or 1" = 20' showing preliminary concept of setbacks, cornice lines, fenestration, facade composition, etc. 9

9. Drawings at an appropriate scale (e.g., 1":16'0", or as determined by BRA) describing architectural massing, facade design and proposed materials including: 10
   a. building and site improvement plans
   b. neighborhood elevations, sections, and/or plans showing the development in the context of the surrounding area
   c. sections showing organization of functions and spaces, and relationships to adjacent spaces and structures
   d. preliminary building plans showing ground floor and typical upper floor(s).
   e. phasing, if any, of the Proposed Project

10. A written and/or graphic description of the building materials and its texture, color, and general fenestration patterns is required for the proposed development. 11

11. Electronic files containing a digital 3D model describing the site and Proposed Project. 12

12. Full responses, which may be in the formats listed above, to any urban design-related issues raised in preliminary reviews or specifically included in the BRA scoping determination, preliminary adequacy determination, or other document requesting additional information leading up to BRA Board action, inclusive of material required for Boston Civic Design Commission review. 13

13. Proposed schedule for submission of all design or development-related materials. 14

14. Diagrammatic sections through the neighborhood (to the extent not covered in item #2 above) cutting north-south and east-west at the scale and distance indicated above. 15

15. True-scale three-dimensional graphic birds eye representations of the area indicated above either as aerial perspective or isometric views showing all buildings, streets, parks, and natural features. 16

A. Phase II Submission: Design Development

1. Written description of the Proposed Project. 17

2. Site sections. 18

3. Site plan showing: 19

   a. Relationship of the proposed building and open space and existing adjacent buildings, open spaces, streets, and buildings and open spaces across streets.

   b. Proposed site improvements and amenities including paving, landscaping, and street furniture.

   c. Building and site dimensions, including setbacks and other dimensions subject to zoning requirements.

4. Dimensional drawings at an appropriate scale (e.g., 1" = 8') developed from approved schematic design drawings which reflect the impact of proposed structural and mechanical systems on the appearance of exterior facades, interior public spaces, and roofscape including: 20

   a. Building plans

   b. Preliminary structural drawings

   c. Preliminary mechanical drawings

   d. Sections

   e. Elevations showing the Proposed Project in the context of the surrounding area as required by the Authority to illustrate relationships or character, scale and materials.

5. Large-scale (e.g., 3/4" = 1'-10") typical exterior wall sections, elevations and details sufficient to describe specific architectural components and methods of their assembly. 21

6. Outline specifications of all materials for site improvements, exterior facades, roofscape, and interior public spaces. 22

7. Eye-level perspective drawings showing the Proposed Project in the context of the surrounding area. 23

8. Samples of all proposed exterior materials. 24

9. Complete photo documentation of above components including major changes from initial submission to the Proposed Project approval. 25

Phase III Submission: Contract Documents

1. Final written description of the Proposed Project. 26

2. A site plan showing all site development and landscape details for lighting, paving, planting, street furniture, utilities, grading, drainage, access, service, and parking. 27

3. Complete architectural and engineering drawings and specifications. 28

4. Full-size assemblies (at the project site) of exterior materials and details of construction. 29

5. Eye-level perspective drawings or presentation model that accurately represents the Proposed Project, and a rendered site plan showing all adjacent existing and proposed structures, streets and site improvements. 30

6. Site and building plan at 1" - 100' for Authority's use in updating its 1" = 100" photogrammetric map sheets. 31

Phase IV Submission: Construction Inspection

1. All contract addenda, proposed change orders, and other modifications and revisions of approved contract documents, which affect site improvements, exterior facades, roofscape, and interior public spaces shall be submitted to the BRA prior to taking effect. 32

2. Shop drawings of architectural components, which differ from or were not fully described in contract documents. 33

Letter 50	Submission Requirements for Design Development and Contract Documents Submissions
1	See Section 1.4.1, Preferred Alternative, for a written description of program elements. See Table 7-1 for space allocations.
2	See Figure 1-15, Project Site Plan. For illustration of the Project's relationship to the neighborhood, see Figure 7-2 Project Site Plan, Figures 7-16 though 7-17 for Project Views. See Figures 7-13 through 7-15, Project Approach Views for long range perspective views of the Project's relationship to the neighborhood context. See 4-5 for Primary Pedestrian Desire Lines and Figure 4-18 through 4-20 for vehicular traffic.
3	See Figures 7-16 though 7-17 for Project Views for Project massing.
4	See Figures 7-32 through 7-33, 7-37 through 7-40, 7-45 through 7-48, and 7-52 for eye-level perspective views of key intersections and public pathways and attractions.
5	See Figures 7-13 through 7-15, Project Approach Views for long range perspective views.
6	Aerial/skyline views- See Figures 7-13 through 7-15, Project Approach Views for long range perspective views.
7	See Figures 1-19 through 1-20, Project Views.
8	See Figures 1-4 through 1-10 for Survey Plans, and Figures 1-15 though 1-17 for Project and Site Plans. See Section 1.7 for a summary of construction phasing.
9	The Project architect has created a physical model and reviewed it with the BRA and BCDC.
10	See Figure 7-29, 7-30, 7-34, 7-35, 7-41, 7-42, 7-43, 7-49, 7-50, and 7-53, Building Elevations for massing, facade design, and materials. Figures 1-15 though 1-17 for Project and Site Plans.
11	See Figure 7-25, Proposed Materials.
12	The Proponent will provide an electronic file of digital model when requested.
13	See Chapter 7, Urban Design.
14	The Proponent will work with the BRA design staff to create this schedule.
15	See Figure 1-18 through 1-19, Project Views.
16	See Figure 1-18 through 1-19, Project Views.
Phase II Submission	

17	The Proponent will supply this as required as part of a future Phase II Submission.
18	The Proponent will supply this as required as part of a future Phase II Submission.
19	The Proponent will supply this as required as part of a future Phase II Submission.
20	The Proponent will supply this as required as part of a future Phase II Submission.
21	The Proponent will supply this as required as part of a future Phase II Submission.
22	The Proponent will supply this as required as part of a future Phase II Submission.
23	The Proponent will supply this as required as part of a future Phase II Submission.
24	The Proponent will supply this as required as part of a future Phase II Submission.
25	The Proponent will supply this as required as part of a future Phase II Submission.
Phase III Submission: Contract Documents	
26	The Proponent will supply this as required as part of a future Phase III Submission.
27	The Proponent will supply this as required as part of a future Phase III Submission.
28	The Proponent will supply this as required as part of a future Phase III Submission.
29	The Proponent will supply this as required as part of a future Phase III Submission.
30	The Proponent will supply this as required as part of a future Phase III Submission.
31	The Proponent will supply this as required as part of a future Phase III Submission.
Phase IV Submission: Construction Inspection	
32	The Proponent will supply this as required as part of a future Phase IV Submission.
33	The Proponent will supply this as required as part of a future Phase IV Submission.