

Project Notification Form Environmental Notification Form Phase 1 Waiver Request



SEAPORT SQUARE IN SOUTH BOSTON

Submitted to:

Executive Office of Energy &
Environmental Affairs
MEPA Office
100 Cambridge Street, Suite 900
Boston, MA 02114

Boston Redevelopment Authority
One City Hall Square, 9th Floor
Boston, MA 02201

JUNE 2, 2008

Project Notification Form
Environmental Notification Form
Phase 1 Waiver Request

SEAPORT SQUARE

Submitted to:

BOSTON REDEVELOPMENT AUTHORITY
One City Hall Square
Boston, MA 02201

**EXECUTIVE OFFICE OF ENERGY AND
ENVIRONMENTAL AFFAIRS
MEPA OFFICE**
100 Cambridge Street, Suite 900
Boston, MA 02114

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In Association with:

ADD INC
CBT
GOULSTON & STORRS
HACIN + ASSOCIATES, INC.
HALEY & ALDRICH
HOWARD/STEIN-HUDSON ASSOCIATES
KOHN PEDERSEN FOX ASSOCIATES
NITSCH ENGINEERING
PERKINS EASTMAN
REED HILDERBRAND ASSOCIATES, INC.
TETRA TECH RIZZO

June 2, 2008



Morgan Stanley



prepared by : ADD Inc



SEAPORT SQUARE
IN SOUTH BOSTON

A New Neighborhood
in South Boston

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PHASE ONE WAIVER REQUEST

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Environmental Notification Form

Commonwealth of Massachusetts**Executive Office of Environmental
Affairs ■ MEPA Office****ENF Environmental
Notification Form***For Office Use Only
Executive Office of Environmental Affairs*

EOEA No.: _____

MEPA Analyst: _____

Phone: 617-626-_____

The information requested on this form must be completed to begin MEPA Review in accordance with the provisions of the Massachusetts Environmental Policy Act, 301 CMR 11.00.

| | | |
|---|---|--|
| Project Name: Seaport Square | | |
| Street: Generally bounded by Northern Avenue, Seaport Boulevard, Congress Street and Summer Street | | |
| Municipality: Boston | Watershed: Boston Harbor | |
| Universal Transverse Mercator Coordinates: UTM (Zone 19) 331526, 4690863 | Latitude: 42°21'06.4" N Longitude: 71°02'44.0" W | |
| Estimated commencement date: Third quarter 2009 | Estimated completion date: 2014 | |
| Approximate cost: \$3 billion | Status of project design: 5-10 %complete | |
| Proponent: Gale International, Morgan Stanley and W/S Development Associates, LLC | | |
| Street: One Post Office Square, Suite 3150 | | |
| Municipality: Boston | State: MA | Zip Code: 02109 |
| Name of Contact Person From Whom Copies of this ENF May Be Obtained: Corinne Snowdon | | |
| Firm/Agency: Epsilon Associates, Inc. | Street: 3 Clock Tower Place, Suite 250 | |
| Municipality: Maynard | State: MA | Zip Code: 01754 |
| Phone: (978) 897-7100 | Fax: (978) 897-0099 | E-mail: csnowdon@epsilonassociates.com |

Does this project meet or exceed a mandatory EIR threshold (see 301 CMR 11.03)?

☒ Yes ☐ No

Has this project been filed with MEPA before?

☐ Yes (EOEA No. _____) ☒ No

Has any project on this site been filed with MEPA before?

☐ Yes (EOEA No. _____) ☒ No

Is this an Expanded ENF (see 301 CMR 11.05(7)) requesting:

a Single EIR? (see 301 CMR 11.06(8)) ☐ Yes ☒ No

a Special Review Procedure? (see 301 CMR 11.09) ☐ Yes ☒ No

a Waiver of mandatory EIR? (see 301 CMR 11.11) ☐ Yes ☒ No

a Phase I Waiver? (see 301 CMR 11.11) ☒ Yes ☐ No

Identify any financial assistance or land transfer from an agency of the Commonwealth, including the agency name and the amount of funding or land area (in acres): Phase 1: None. Whole Project: Financial Assistance: Yes* (Project may seek financial assistance; agency and amount TBD. Land Transfer: Yes* (Project may involve land transfers from Boston Redevelopment Authority and/or MassHighway). Land area TBD.

Are you requesting coordinated review with any other federal, state, regional, or local agency?

☐ Yes (Specify _____) ☒ No

List Local or Federal Permits and Approvals:

FEDERAL

US EPA - National Pollution Discharge Elimination System

FAA - FAA Height Restriction Notice; Section 19 Determination

LOCAL:

Boston Redevelopment Authority – Article 80B Large Project Review; Article 80C Planned Development Area Review

Boston Zoning Commission – Article 80C Planned Development Area Approval

Boston Civic Design Commission – Review and Approval

Boston Air Pollution Control Commission – Parking Freeze Permits

Boston Water and Sewer Commission - Sewer Use Discharge Permit; Site Plan Approval; Construction Dewatering Permit; Sewer Extension/ Connection Permit; Stormwater Connection; Cross Connection/Backflow Prevention Permit; Hydrant Meter Permit; Construction Permit for Facilities; Termination Verification Permit

Boston Inspectional Services Department - Building and Occupancy Permits; Termination Verification Permit

Boston Public Improvement Commission - Acceptance of New Public Way or Private Way Open to Public Travel; Street and Sidewalk Occupation Permits; Tieback/Earth Retention license Agreement; Curb Cut; Subsurface/Surface Discontinuities; Specific Repair Plan Approval; Street Opening; Licenses for Awning or Projections

Boston Zoning Board of Appeal - Conditional Use Permits, variances, and Interim Planning Permit

Boston Conservation Commission – Notice of Intent

Boston Department of Public Works - Street Occupation Permit; Curb Cut Permit

Boston Transportation Department - Transportation Access Plan Agreement; Construction Management Plan

Boston Landmarks Commission - Article 85 Demolition Delay Review; Seaport Boulevard/Boston Wharf Road Protection Area

Boston Parks and Recreation Commission - Approval of Demolition and Construction within 100 feet of park or parkway

Boston Public Safety Commission, Committee on Licenses - Permit to erect and maintain parking garage; Flammable storage license

Boston Fire Department - Storage tank permit; Burner and permit for fuel oil; Cross connection backflow preventer; Approval for sprinkler systems; Permit for maintenance of fire protection/equipment; Permit for safe access to the site; Permit for welding and cutting equipment

Which ENF or EIR review threshold(s) does the project meet or exceed (see 301 CMR 11.03):

☐ Land
☐ Water
☐ Energy
☐ ACEC

☐ Rare Species
☒ Wastewater
☐ Air
☐ Regulations

☒ Wetlands, Waterways, & Tidelands
☒ Transportation
☐ Solid & Hazardous Waste
☒ Historical & Archaeological Resources

| Summary of Project Size & Environmental Impacts | | Existing | Change | Total | State Permits & Approvals |
|--|---|----------------|----------------------|------------------------|--|
| LAND | | | | | <input checked="" type="checkbox"/> Order of Conditions <input type="checkbox"/> Superseding Order of Conditions <input checked="" type="checkbox"/> Chapter 91 License <input type="checkbox"/> 401 Water Quality Certification <input checked="" type="checkbox"/> MHD or MDC Access Permit (if required) <input type="checkbox"/> Water Management Act Permit <input type="checkbox"/> New Source Approval <input checked="" type="checkbox"/> DEP or MWRA Sewer Connection/ Extension Permit <input checked="" type="checkbox"/> Other Permits (including Legislative Approvals) – Specify: DEP: Landlocked Tidelands Public Benefit Determination; Air Plan Approval (if required) MWRA: Sewer Use Discharge Permit; Construction Dewatering Permit MHC: State Register Review MAC: Height Restriction Notice (FAA notice) EOT: Compliance with Chapter 40, Section 54A MBTA: Approvals related to Silver Line facility |
| Total site acreage | Full Build Phase 1 | 23 1 | | | |
| New acres of land altered | Full Build Phase 1 | | 23 1 | | |
| Acres of impervious area | Full Build Phase 1 | 23 1 | -3 -0.2 | 20* 0.8 | |
| Square feet of new bordering vegetated wetlands alteration | | | 0 | | |
| Square feet of new other wetland alteration | | | 0 | | |
| Acres of new non-water dependent use of tidelands or waterways | Full Build Phase 1 | | 1.64 0.44 | | |
| STRUCTURES | | | | | |
| Gross square footage | Full Build Phase 1 | 8,000 2,400 | 6,492,000 196,300 | 6.5 million 198,700 | |
| Number of housing units | Full Build Phase 1 | 0 0 | 2500 110 | 2500 110 | |
| Maximum height (in feet) | Full Build Phase 1 | 35 35 | 205 81 | 240** 116 | |
| TRANSPORTATION | | | | | |
| Vehicle trips per day | Full Build – Unadjusted ITE adjusted for mode split | 7,294 7,294 | 91,822 7,366 | 99,116 14,660 | |
| | Phase 1 - Unadjusted ITE adjusted for mode split | 230 230 | 2,658 478 | 2,888 708 | |
| Parking spaces | Full Build Phase 1 | 3,647 115 | 2,853 -72 | 6,500 43 | |

* A significant portion of the site will include green roofs, which are not included as pervious area in this figure.

**Height as measured by the Boston Zoning Code to the last occupiable space.

| WASTEWATER | | | |
|--|----------|---------------------|---------------------|
| Gallons/day (GPD) of water use Full Build Phase 1 | 0 0 | 1,087,000 30,000 | 1,087,000 30,000 |
| GPD water withdrawal | 0 | 0 | 0 |
| GPD wastewater generation/ treatment Full Build Phase 1 | 350 0 | 987,650 27,000 | 988,000 27,000 |
| Length of water/sewer mains (in miles) | 0 | 0 | 0 |

CONSERVATION LAND: Will the project involve the conversion of public parkland or other Article 97 public natural resources to any purpose not in accordance with Article 97?

☐ Yes (Specify _____) ☒ No

Will it involve the release of any conservation restriction, preservation restriction, agricultural preservation restriction, or watershed preservation restriction?

☐ Yes (Specify _____) ☒ No

RARE SPECIES: Does the project site include Estimated Habitat of Rare Species, Vernal Pools, Priority Sites of Rare Species, or Exemplary Natural Communities?

☐ Yes (Specify _____) ☒ No

HISTORICAL /ARCHAEOLOGICAL RESOURCES: Does the project site include any structure, site or district listed in the State Register of Historic Place or the inventory of Historic and Archaeological Assets of the Commonwealth?

☒ Yes (Specify Chapel of Our Lady of Good Voyage) ☐ No

If yes, does the project involve any demolition or destruction of any listed or inventoried historic or archaeological resources?

Phase 1 does not include any structure, site or district listed in the State Register of Historic Places.

☒ Yes (Specify Chapel of Our Lady of Good Voyage) ☐ No

Phase 1 does not involve any demolition or destruction of any listed or inventoried historic or archeological resource.

AREAS OF CRITICAL ENVIRONMENTAL CONCERN: Is the project in or adjacent to an Area of Critical Environmental Concern?

☐ Yes (Specify _____) ☒ No

PROJECT DESCRIPTION: The project description should include **(a)** a description of the project site, **(b)** a description of both on-site and off-site alternatives and the impacts associated with each alternative, and **(c)** potential on-site and off-site mitigation measures for each alternative (*You may attach one additional page, if necessary.*)

Seaport Square

Full Build - Seaport Square will establish 20 new urban blocks in Boston's South Boston waterfront (see attached USGS Figure 1 for the location of the Project as well as Figure 1.1-1 of this PNF/ENF for the existing

condition). The Proponent will develop more than 23 acres of land, devoting approximately 36% (approximately eight acres) of the total land area to streets, sidewalks and public open space, and constructing 19 new buildings (see Figures 1.1-2 and 2.1-3 in this PNF/ENF for the proposed condition). The Project proposes to create three significant new urban places, including two new green open spaces, as well as significant landscape improvements to Seaport Boulevard, new streets, public sidewalks, and pedestrian ways. The program includes approximately 6.5 million square feet made up of 2.75 million square feet of residential, 1.25 million square feet of retail, 1.4 million square feet of office and research, 500,000 square feet of hotel, and 600,000 square feet of educational, civic, and cultural uses. A more detailed breakdown of the program can be found in Table 2.2-1 of this PNF/ENF. The Project also includes approximately 6,500 below-grade parking spaces. Every building, with the exception of the Chapel and the schools, will have retail uses at ground level to provide an inviting and animated pedestrian experience. Approximately 42% of the Project will be residential, the largest use within the Project, in keeping with the BRA's ongoing intention to create a neighborhood within the South Boston waterfront. See Chapter 1.0 of this PNF/ENF for a more detailed description of the Project and its benefits.

Phase 1 Waiver Blocks A, H and J - The Proponent is requesting a Phase 1 waiver for three Blocks to enable Seaport Square to provide early public benefits, including a waterfront way which will provide a Harborwalk connection, additional open space, and the relocation of Our Lady of Good Voyage Chapel, which will facilitate development of the remainder of the Project. With a combined floor area of less than 200,000 square feet (127,100 sf of residential, 46,600 sf of retail/entertainment space and a 25,000 sf chapel), the buildings on Blocks A, H, and J comprise only 3% of the Project's overall square footage (see Figure 2.7-1 in this PNF/ENF for a site plan of Blocks A, H and J). Blocks A, H and J will have positive impacts on the visual and pedestrian experience along the Harborwalk and Seaport Boulevard, with minimal transportation, wind, shadow and other environmental impacts.

Block A is a gateway site that will provide a missing connection to the Harborwalk as well as an inviting program of restaurants, retail, and housing that will energize a new pedestrian pathway around the existing Barking Crab restaurant. Block H creates a much-needed edge to Seaport Boulevard on its south side, and its two-story base of stores and restaurants are the first step in building the shopping promenade which will act as an anchor to the entire neighborhood. Block J relocates a neighborhood institution, Our Lady of Good Voyage Chapel, next to the Silver Line T station. The construction of a new Our Lady of Good Voyage Chapel is critical to allow for the future removal of the existing Chapel on Block D and construction of below-grade parking structures beneath Blocks B, C, and D (the present location of the Chapel). The Archdiocese is looking forward to the new Chapel on Block J to improve and expand its current ministry.

Together, the construction of these buildings on these three prominent sites will provide early public benefits, including street and sidewalk improvements, and will begin to knit the South Boston waterfront and Fort Point Channel areas together. See Section 2.7 of this PNF/ENF for a more detailed description of Phase 1 and its benefits.

Alternative Analysis - Prior to submitting this Plan, the Proponent had considered Project alternatives that included a greater amount of hotel and commercial uses, did not include a new road connecting Summer and Harbor Street, and had not fully realized the potential for open space at Seaport Square and Seaport Hill. However, in response to community needs, the Proponent has proposed a mixed-use Project that includes a

substantial residential component, supported and enhanced by open space and office/research, retail, civic and cultural uses.

The Boston Redevelopment Authority has convened five public meetings on the Seaport Square Project to provide South Boston residents and others with the opportunity to receive detailed presentations on the Project, and a chance to ask questions as well provide feedback. The Proponent has provided the following presentations at the Community meetings: project overview, public realm and landscape plan including LEED requirements, traffic analysis, as well as a final meeting to summarize public comments and Project responses to date.

During these well attended meetings (attendance estimated at 650 individuals) the Project Team responded to questions, listened to feedback, and took into consideration public comment resulting in a Project that is reflective of community concerns. For example, in response to the strong sentiments of residents and the City alike, calling for new housing in an early phase of the Project and in the Project overall, the Proponent is proposing early development of 110 residential units in Phase 1, as well as providing residential uses in 42% of the whole Project. The Proponent also proposes to connect a long-missing Harborwalk link as suggested by those looking for a connection from the Children's Museum to the Federal Courthouse.

Should the Proponent decide not to develop Seaport Square (the no-build alternative), the approximately 23 acre site currently composed of parking lots and fencing would continue in its present condition. Important Project benefits such as \$35 million in linkage funds to the City of Boston, as well as the generation of approximately \$40 million in property taxes, state and local hotel occupancy taxes and convention center finance fees would not be realized. The Project is also estimated to generate approximately \$25 million in annual sales taxes. The City of Boston residents would not see an increase in construction and long-term employment opportunities. Stormwater would continue to flow untreated into the Fort Point Channel as well as Boston Harbor. The Proponent's vision of a vibrant, sustainable residential neighborhood, an active commercial boulevard, new cultural and civic uses, as well as two new urban open spaces would not be realized.

Mitigation Measures - Seaport Square will be a Transit-Oriented Development which will provide significant improvements to the public realm, including two substantial public open spaces, new streets, extensive streetscaping and bicycle and pedestrian friendly areas. These improvements will transform an area which is now made up of parking lots into a new neighborhood within the South Boston waterfront with green open spaces, enlivened streets and retail establishments, pedestrian and bicycle ways, including new schools and civic uses.

Environmental sensitivity and long-term sustainability will shape everything about Seaport Square – from the methods and materials used in its construction, to the efficiencies built into the delivery of energy and water to its homes and businesses, to the thoughtful design of the city's streets, pedestrian walkways, open space, and its buildings, to the mandate for devoting over one third of its land to the public realm.

The Proponent will employ energy-efficient technologies; for example, green vegetated roofs will be planted on many buildings, and others will have reflective white roofs, leading to a reduction in the "heat island effect" commonly found in large urban areas. In addition, buildings will utilize high-performance glazing systems and possibly strategic shading, to reduce heat loss in winter and solar heat gain in summer. The

Project's sustainable design elements include the use of low emitting materials, including adhesives and sealants, paints, and carpet systems. Section 3.3.14 includes detailed information about the sustainable measures proposed.

The Proponent has committed to working toward LEED-ND Silver for the overall Project. In addition, the Proponent is targeting LEED-NC Silver standard on Blocks A and H. As construction on Block J is to be directed by the Archdiocese, the final design parameters of the building will continue to be developed. The materials used in construction and interiors will include local and recycled content, and construction waste will be recycled to the greatest possible extent. Low-VOC paints, finishes, and carpeting will be chosen, and the refrigerant systems in many buildings will minimize detrimental impact to the ozone layer and to greenhouse gas emissions. Buildings will be designed to take advantage of natural light, maximize open space, and minimize light pollution. Through efficient irrigation and plumbing fixtures, water conservation will be maximized. To improve overall efficiencies of delivered energy to discrete blocks, the feasibility of siting a central energy plant with cogeneration capabilities is being investigated.

The Project will contribute approximately \$35 million in linkage funds to the City of Boston, as well as generate approximately \$40 million in property taxes, state and local hotel occupancy taxes and convention center finance fees, and approximately \$25 million annually in sales tax revenue.

New civic, cultural and community contributions include:

- ◆ Performing Arts Center: An approximately 1,800 seat, 250,000-square foot facility designed for performance arts could be located on Summer Street. This performing arts center could be used by such arts institutions as the Boston Ballet or the Berklee College of Music, and will provide a new venue for performances to be enjoyed by both tourists and locals. Final determination is dependent on local demand and funding.
- ◆ Flexible Gallery Space: A flexible gallery space is proposed adjacent to the largest open space associated with the Project, Seaport Square Green. The Proponent envisions a space where neighboring artists can show their work, as well as a place for arts classes and community gathering, as well as coordination with the ICA. This arts space will increase community interest and connection to the area.
- ◆ Educational Facilities: To attract families to the site, a privately funded Pre-K -1 public pilot school for 200 children will be located within the Project. The Proponent has also committed to substantial annual scholarships for City residents to a new K-12 international school. After hours this space may be used for adult education programs or other continuing education needs open to City residents.
- ◆ Public Library: Seaport Square will include a new neighborhood branch of the Boston Public Library to serve area residents and complement the South Boston Branch Library.
- ◆ Catholic Chapel: A new facility will be constructed to relocate the existing Chapel (Our Lady of Good Voyage Chapel) to a site that is more conveniently located within the community, providing better access for churchgoers and greater visibility for the new Chapel.

The Project will also improve the existing infrastructure in the area, as well as create new infrastructure. Specific contributions include:

- ◆ **New Streets and Sidewalks:** \$25 million will be spent for new public streets and sidewalks. Improvements to existing public streets will be made and new streets will be constructed including Harbor Street, Autumn Lane, and Thompson Street. Based on conversations with BWSC, National Grid, NSTAR Electric, etc., there will be a need to upgrade distribution in the immediate area to serve the needs of the new neighborhood. Currently it is anticipated that some of this infrastructure will be funded by the Proponent and some will be funded by the utility company. Also, a feasibility study is underway to explore the viability of various types of co-generation and central energy plant alternatives. Final determination on energy systems and distribution methods will be developed as various schemes are refined.
- ◆ **New Pedestrian Connection:** As envisioned in the Fort Point Channel Watersheet Activation Plan, a new waterfront way will be created to connect the long-missing Harborwalk link between the Children's Museum and the Federal Courthouse. Restaurants and outdoor seating will enliven the area during day and evening hours.
- ◆ **Northern Avenue Bridge:** The Proponent will contribute \$5 million in infrastructure improvements for the Old Northern Avenue Bridge, including repainting, repaving, relighting and adding seasonal kiosks and public art, thereby assisting toward refurbishing this historic link and Gateway to the South Boston waterfront.
- ◆ **Bridging Grade to Summer Street:** An estimated \$10 million will be spent to construct Harbor Street which will bridge the grade separation from Summer Street and Seaport Hill, providing direct access from Summer Street to Seaport Square and the surrounding area.
- ◆ **Open Space and Landscape Improvements:** The Project includes \$25 million in open space and landscaping improvements, including two new open spaces, Seaport Square and Seaport Hill.
- ◆ **Public Art Trail:** An emphasis on public art venues is planned to celebrate and support the talent from the nearby neighborhood, drawing many to the site, strengthening connections from Fort Point Channel open spaces to the South Boston waterfront and Seaport Square green and supporting existing institutions, like the ICA and the Children's Museum.

In addition, Transportation Demand Management measures will be incorporated and are described in Section 3.1.4.2 of the PNF/ENF and in the Transportation Section, III of this ENF.

The proposed Project will comply with the MEPA Greenhouse Gas Emissions Policy and Protocol. A Greenhouse Gas analysis will be prepared for the Draft EIR/PIR.

LAND SECTION – all proponents must fill out this section

I. Thresholds / Permits

- A. Does the project meet or exceed any review thresholds related to **land** (see 301 CMR 11.03(1))
_____ Yes **X** No; if yes, specify each threshold:

II. Impacts and Permits

- A. Describe, in acres, the current and proposed character of the project site, as follows:

Full Build

| | <u>Existing</u> | <u>Change</u> | <u>Total</u> |
|--|-----------------|---------------|--------------|
| Footprint of buildings | <u>0.3</u> | <u>14.7</u> | <u>15</u> |
| Roadways, parking, and other paved areas | <u>22.7</u> | <u>-20.7</u> | <u>2</u> |
| Other altered areas (landscaping) | <u>0</u> | <u>6</u> | <u>6</u> |
| Undeveloped areas | <u>0</u> | <u>0</u> | <u>0</u> |

Phase 1

| | <u>Existing</u> | <u>Change</u> | <u>Total</u> |
|--|-----------------|---------------|--------------|
| Footprint of buildings | <u>0.09</u> | <u>0.65</u> | <u>0.74</u> |
| Roadways, parking, and other paved areas | <u>0.91</u> | <u>-0.85</u> | <u>0.06</u> |
| Other altered areas (landscaping) | <u>0</u> | <u>0.20</u> | <u>0.20</u> |
| Undeveloped areas | <u>0</u> | <u>0</u> | <u>0</u> |

- B. Has any part of the project site been in active agricultural use in the last three years?
_____ Yes **X** No; if yes, how many acres of land in agricultural use (with agricultural soils) will be converted to nonagricultural use?
- C. Is any part of the project site currently or proposed to be in active forestry use?
_____ Yes **X** No; if yes, please describe current and proposed forestry activities and indicate whether any part of the site is the subject of a DEM-approved forest management plan:
- D. Does any part of the project involve conversion of land held for natural resources purposes in accordance with Article 97 of the Amendments to the Constitution of the Commonwealth to any purpose not in accordance with Article 97? _____ Yes **X** No; if yes, describe:
- E. Is any part of the project site currently subject to a conservation restriction, preservation restriction, agricultural preservation restriction or watershed preservation restriction?
_____ Yes **X** No; if yes, does the project involve the release or modification of such restriction? _____ Yes _____ No; if yes, describe:
- F. Does the project require approval of a new urban redevelopment project or a fundamental change in an existing urban redevelopment project under M.G.L.c.121A? _____ Yes **X** No; if yes, describe:
- G. Does the project require approval of a new urban renewal plan or a major modification of an existing urban renewal plan under M.G.L.c.121B? _____ Yes **X** No; if yes, describe:
- H. Describe the project's stormwater impacts and, if applicable, measures that the project will take to comply with the standards found in DEP's Stormwater Management Policy:

The majority of the site currently consists of bituminous concrete used for vehicle surface parking. Stormwater flows from this area contain oil and grease pollutants from the vehicles. The stormwater throughout the site is discharged with varying degrees of treatment. Post-construction, the site will consist of buildings, streets, sidewalks, and landscaping. Project storm water flows will consist primarily of rooftop drainage and the runoff from paved surfaces. Since rooftop runoff is not subject to contaminant loading, this drainage will be discharged into

the storm drain system without pretreatment. Storm water originating from paved surfaces will receive pretreatment prior to entering the public system. Parking will occur in below-ground garages thereby eliminating the source of oil and grease in the stormwater.

Project activities located within the Buffer Zone to coastal wetland resource areas will be designed to comply with the new MassDEP Stormwater Management Redevelopment Standards.

- I. Is the project site currently being regulated under M.G.L.c.21E or the Massachusetts Contingency Plan? X Yes No; if yes, what is the Release Tracking Number (RTN)? RTN 3-13624 for Block M1/M2

Phase 1 does not include any land regulated under M.G.L. c.21E or the Massachusetts Contingency Plan.

- J. If the project site is within the Chicopee or Nashua watershed, is it within the Quabbin, Ware, or Wachusett subwatershed? Yes X No; if yes, is the project site subject to regulation under the Watershed Protection Act? Yes No

- K. Describe the project's other impacts on land:

The Project involves development of approximately 23 acres of land, most of which is currently used for surface parking, into a mixed use, smart growth development proximate to public transportation. The Project will include elements such as green roofs and landscaping which will improve the quality of water that infiltrates into the ground. In addition, the development will improve the surrounding area by including street-level retail throughout the Project and creating open spaces, a new public library, a performing arts center, and other amenities. See Section 1.0 of this PNF/ENF for a more detailed description of the Project benefits.

III. Consistency

- A. Identify the current municipal comprehensive land use plan and the open space plan and describe the consistency of the project and its impacts with that plan(s):

The City of Boston's Parks Department Open Space Plan 2002-2006 looks at public open space, including non-traditional open spaces such as urban wilds, community gardens, cemeteries, greenways, trails, thoroughfares, and harbor islands, as well as traditional parks, playgrounds, squares and malls. It also examines open lands under private ownership, such as non-profit institutions, so as to understand their role in the citywide open space system. The Project will enhance the pedestrian environment through new pedestrian connections to the Harborwalk and to open space areas created through the Project, as well as street-level retail that will improve aesthetic appearance and enhance commercial activity. In addition, the Project will include open space areas open to the public including Seaport Square and Seaport Hill.

- B. Identify the current Regional Policy Plan of the applicable Regional Planning Agency and describe the consistency of the project and its impacts with that plan:

Executive Order 385, "Planning for Growth" (EO 385), explicitly seeks to promote sustainable economic development in the Commonwealth of Massachusetts. The Project has been designed to meet the dual objectives of EO 385 of promoting economic activity which is supported by adequate infrastructure and which does not result in avoidable loss of environmental quality and resources. The Project is proximate to public transportation and is expected to generate relatively high levels of walking, transit and bicycle trips. The Project will not have an adverse impact on endangered or threatened natural resources.

This Project is consistent with MetroPlan 2000, the regional plan developed by the Metropolitan Area Planning Council (MAPC). MAPC is preparing MetroFuture, a new regional plan. The basic tenet of the plan is that concentrating development is economically and environmentally more practical than scattered growth. Concentrated development enhances transit use, ride sharing, and pedestrian traffic with resultant reduction in auto travel, traffic congestion, air pollution, and fuel consumption, and, in addition, reduces the pressure to develop open space and environmentally sensitive lands. This Project will redevelop an existing urban site that is currently used for surface parking, promote transit use and pedestrian and bicycle use, and will create new open space.

In addition, the Project is consistent with Massachusetts "smart growth" policies to locate residential development in proximate to public transportation and places of employment.

See Section 2.9 of this PNF/ENF for more information on consistency with planning in the area.

- C. Will the project require any approvals under the local zoning by-law or ordinance (i.e. text or map amendment, special permit, or variance)? X Yes No; if yes, describe: The Proponent intends to seek zoning relief required for the development of Phase 1 (Blocks A, H and J) from the Board of Appeal, and seek the adoption of a Planned Development Area (PDA) to achieve zoning compliance for the rest of the Project site.
- D. Will the project require local site plan or project impact review?
 X Yes No; if yes, describe:
The Project is undergoing simultaneous review by the BRA under Article 80B (Large Project Review) of the Boston Zoning Code.

RARE SPECIES SECTION

I. Thresholds / Permits

- A. Will the project meet or exceed any review thresholds related to **rare species or habitat** (see 301 CMR 11.03(2))? Yes X No; if yes, specify, in quantitative terms:
- B. Does the project require any state permits related to **rare species or habitat**? Yes X No

Neither the Full Build nor the Phase 1 Waiver Blocks will meet or exceed review thresholds related to Rare Species Protection.

- C. If you answered "No" to both questions A and B, proceed to the **Wetlands, Waterways, and Tidelands Section**. If you answered "Yes" to either question A or question B, fill out the remainder of the Rare Species section below.

II. Impacts and Permits

- A. Does the project site fall within Priority or Estimated Habitat in the current Massachusetts Natural Heritage Atlas (attach relevant page)? Yes No If yes,
1. Which rare species are known to occur within the Priority or Estimated Habitat (contact: Environmental Review, Natural Heritage and Endangered Species Program, Route 135, Westborough, MA 01581, allowing 30 days for receipt of information):
 2. Have you surveyed the site for rare species? Yes No; if yes, please include the results of your survey.
 3. If your project is within Estimated Habitat, have you filed a Notice of Intent or received an Order of Conditions for this project? Yes No; if yes, did you send a copy of the Notice of Intent to the Natural Heritage and Endangered Species Program, in accordance with the Wetlands Protection Act regulations? Yes No

- B. Will the project "take" an endangered, threatened, and/or species of special concern in accordance with M.G.L. c.131A (see also 321 CMR 10.04)? ____ Yes ____ No; if yes, describe:
- C. Will the project alter "significant habitat" as designated by the Massachusetts Division of Fisheries and Wildlife in accordance with M.G.L. c.131A (see also 321 CMR 10.30)? ____ Yes ____ No; if yes, describe:
- D. Describe the project's other impacts on rare species including indirect impacts (for example, stormwater runoff into a wetland known to contain rare species or lighting impacts on rare moth habitat):

WETLANDS, WATERWAYS, AND TIDELANDS SECTION

I. Thresholds / Permits

- A. Will the project meet or exceed any review thresholds related to **wetlands, waterways, and tidelands** (see 301 CMR 11.03(3))? X Yes ____ No; if yes, specify, in quantitative terms: The whole Project includes 1.64 acres of land subject to Chapter 91 licensing, Phase 1 includes 0.44 of an acre subject to Chapter 91 licensing.
- B. Does the project require any state permits (or a local Order of Conditions) related to **wetlands, waterways, or tidelands**? X Yes ____ No; if yes, specify which permit: An Order of Conditions from the Boston Conservation Commission is required for activities proposed within the Buffer Zone to coastal wetland resource areas. Portions of the Project site, including portions of the Phase 1 Waiver Blocks (A and a small portion of H), are within Chapter 91 jurisdiction and will require Chapter 91 licensing.
- C. If you answered "No" to both questions A and B, proceed to the **Water Supply Section**. If you answered "Yes" to either question A or question B, fill out the remainder of the Wetlands, Waterways, and Tidelands Section below.

II. Wetlands Impacts and Permits

- A. Describe any wetland resource areas currently existing on the project site and indicate them on the site plan: There are no wetland resource areas located on the Project site. Activities proposed on Block A of Phase 1 will be located within the Buffer Zone to Coastal Bank associated with the Fort Point Channel. The Coastal Bank is an armored vertical structure that is not a sediment source to down gradient beaches.
- B. Estimate the extent and type of impact that the project will have on wetland resources, and indicate whether the impacts are temporary or permanent:

| Coastal Wetlands | Area (in square feet) or Length (in linear feet) |
|---------------------------------------|--|
| Land Under the Ocean | 0 |
| Designated Port Areas | 0 |
| Coastal Beaches | 0 |
| Coastal Dunes | 0 |
| Barrier Beaches | 0 |
| Coastal Banks | 0 |
| Rocky Intertidal Shores | 0 |
| Salt Marshes | 0 |
| Land Under Salt Ponds | 0 |
| Land Containing Shellfish | 0 |
| Fish Runs | 0 |
| Land Subject to Coastal Storm Flowage | 0 |

Inland Wetlands

| | |
|------------------------------------|---|
| Bank | 0 |
| Bordering Vegetated Wetlands | 0 |
| Land under Water | 0 |
| Isolated Land Subject to Flooding | 0 |
| Bordering Land Subject to Flooding | 0 |
| Riverfront Area | 0 |

C. Is any part of the project

1. a limited project? ____ Yes X No
2. the construction or alteration of a dam? ____ Yes X No; if yes, describe:
3. fill or structure in a velocity zone or regulatory floodway? ____ Yes X No
4. dredging or disposal of dredged material? ____ Yes X No; if yes, describe the volume of dredged material and the proposed disposal site:
5. a discharge to Outstanding Resource Waters? ____ Yes X No
6. subject to a wetlands restriction order? ____ Yes X No; if yes, identify the area (in square feet):

D. Does the project require a new or amended Order of Conditions under the Wetlands Protection Act (M.G.L. c.131A)? X* Yes ____ No; (* for Phase 1 only) if yes, has a Notice of Intent been filed or a local Order of Conditions issued? ____ Yes X No; if yes, list the date and DEP file number: _____ Was the Order of Conditions appealed? ____ Yes ____ No. Will the project require a variance from the Wetlands regulations? ____ Yes X No

E. Will the project:

1. be subject to a local wetlands ordinance or bylaw? ____ Yes X No
2. alter any federally-protected wetlands not regulated under state or local law? ____ Yes X No; if yes, what is the area (in s.f.)? _____

F. Describe the project's other impacts on wetlands (including new shading of wetland areas or removal of tree canopy from forested wetlands): **No impacts to wetland resource areas are proposed. Development of Block A of Phase 1 will be located within the Buffer Zone to an armored Coastal Bank, in an area currently developed by pavement. Activities proposed within the Buffer Zone will be designed to comply with the Massachusetts Department of Environmental Protection Stormwater Management Redevelopment Standards.**

III. Waterways and Tidelands Impacts and Permits

A. Is any part of the project site waterways or tidelands (including filled former tidelands) that are subject to the Waterways Act, M.G.L.c.91? X Yes ____ No; if yes, is there a current Chapter 91 license or permit affecting the project site? ____ Yes X No; if yes, list the date and number: **Parts of both Phase 1 and the whole Project are subject to the Waterways Protection Act.**

B. Does the project require a new or modified license under M.G.L.c.91 X Yes ____ No; if yes, how many acres of the project site subject to M.G.L.c.91 will be for non-water dependent use?

Phase 1:

Current 0.44 Change 0 Total 0.44

Remaining Project:

Current 1.64 Change 0 Total 1.64

C. Is any part of the project

1. a roadway, bridge, or utility line to or on a barrier beach? ____ Yes X No; if yes, describe:
2. dredging or disposal of dredged material? ____ Yes X No; if yes, volume of dredged material _____

3. a solid fill, pile-supported, or bottom-anchored structure in flowed tidelands or other waterways? _____ Yes X No; if yes, what is the base area? _____
4. within a Designated Port Area? _____ Yes X No
- D. Describe the project's other impacts on waterways and tidelands: **The Project will promote public use and enjoyment of the South Boston waterfront and Fort Point Channel on a year-round basis with a new Harborwalk connection, retail space, restaurants, and other public realm improvements. See Section 3.2 for a Tidelands Analysis of Phase 1 and Section 3.2.5 of the PNF/ENF for the Public Benefit Determination.**

IV. Consistency:

- A. Is the project located within the Coastal Zone? X Yes _____ No; if yes, describe the project's consistency with policies of the Office of Coastal Zone Management: **The Project meets or exceeds all of the Massachusetts Coastal Zone Management Policies set forth in CMR 21.98. Because the Project site is currently comprised of parking lots, the changes associated with the Project will provide significant benefits over the current use. The Project will meet or exceed the policies of the Office of Coastal Zone Management and will be further detailed within the Draft Environmental Impact Report.**
- B. Is the project located within an area subject to a Municipal Harbor Plan? X Yes No; if yes, identify the Municipal Harbor Plan and describe the project's consistency with that plan: **The proposed Project is located within the area of the South Boston Municipal Harbor Plan (SBMHP), submitted by the BRA and approved by the Secretary of Environmental Affairs in 2000. Five Blocks within the Project site are subject to Chapter 91 licensing jurisdiction, including all of Block A, and portions of B, G, H and M making up approximately 1.64 acres of a total of 23 acres for the whole Project. The Seaport Square Project will meet the goals of the SBMHP by activating the South Boston waterfront and promoting the public's enjoyment of Fort Point Channel and the South Boston waterfront. Phase 1 is consistent with the SBMHP and may provide additional public benefits through open space than envisioned in the SBMHP.**

WATER SUPPLY SECTION

I. Thresholds / Permits

- A. Will the project meet or exceed any review thresholds related to **water supply** (see 301 CMR 11.03(4))? _____ Yes X No; if yes, specify, in quantitative terms:
- B. Does the project require any state permits related to **water supply**? _____ Yes X No; if yes, specify which permit:

Neither the Full Build nor the Phase 1 Waiver Blocks will meet or exceed review thresholds related to Water Supply.

- C. If you answered "No" to both questions A and B, proceed to the **Wastewater Section**. If you answered "Yes" to either question A or question B, fill out the remainder of the Water Supply Section below.

II. Impacts and Permits

- A. Describe, in gallons/day, the volume and source of water use for existing and proposed activities at the project site:

| | <u>Existing</u> | <u>Change</u> | <u>Total</u> |
|------------------------------------|-----------------|---------------|--------------|
| Withdrawal from groundwater | _____ | _____ | _____ |
| Withdrawal from surface water | _____ | _____ | _____ |
| Interbasin transfer | _____ | _____ | _____ |
| Municipal or regional water supply | _____ | _____ | _____ |

- B. If the source is a municipal or regional supply, has the municipality or region indicated that there is adequate capacity in the system to accommodate the project? ____ Yes ____ No
- C. If the project involves a new or expanded withdrawal from a groundwater or surface water source,
1. have you submitted a permit application? ____ Yes ____ No; if yes, attach the application
 2. have you conducted a pump test? ____ Yes ____ No; if yes, attach the pump test report
- D. What is the currently permitted withdrawal at the proposed water supply source (in gallons/day)? ____ Will the project require an increase in that withdrawal? ____ Yes ____ No
- E. Does the project site currently contain a water supply well, a drinking water treatment facility, water main, or other water supply facility, or will the project involve construction of a new facility? ____ Yes ____ No. If yes, describe existing and proposed water supply facilities at the project site:
- | | <u>Existing</u> | <u>Change</u> | <u>Total</u> |
|---|-----------------|---------------|--------------|
| Water supply well(s) (capacity, in gpd) | _____ | _____ | _____ |
| Drinking water treatment plant (capacity, in gpd) | _____ | _____ | _____ |
| Water mains (length, in miles) | _____ | _____ | _____ |
- F. If the project involves any interbasin transfer of water, which basins are involved, what is the direction of the transfer, and is the interbasin transfer existing or proposed?
- G. Does the project involve
1. new water service by a state agency to a municipality or water district? ____ Yes ____ No
 2. a Watershed Protection Act variance? ____ Yes ____ No; if yes, how many acres of alteration?
 3. a non-bridged stream crossing 1,000 or less feet upstream of a public surface drinking water supply for purpose of forest harvesting activities? ____ Yes ____ No
- H. Describe the project's other impacts (including indirect impacts) on water resources, quality, facilities and services:

III. Consistency -- Describe the project's consistency with water conservation plans or other plans to enhance water resources, quality, facilities and services:

WASTEWATER SECTION

I. Thresholds / Permits

- A. Will the project meet or exceed any review thresholds related to **wastewater** (see 301 CMR 11.03(5))? **X** Yes ____ No; if yes, specify, in quantitative terms:

The proposed development is estimated to generate approximately 988,000 gallons per day (gpd) of wastewater flows.

Phase 1, generating approximately 27,000 gallons per day, will not meet or exceed review thresholds related to wastewater.

- B. Does the project require any state permits related to **wastewater**? **X** Yes ____ No; if yes, specify which permit:

The proposed development will require a Sewer Connection Permit from the Department of Environmental Protection.

Phase 1 does not require state permits related to wastewater.

- C. If you answered "No" to both questions A and B, proceed to the **Transportation -- Traffic Generation Section**. If you answered "Yes" to either question A or question B, fill out the remainder of the Wastewater Section below.

II. Impacts and Permits

- A. Describe, in gallons/day, the volume and disposal of wastewater generation for existing and proposed activities at the project site (calculate according to 310 CMR 15.00):

| | <u>Existing</u> | <u>Change</u> | <u>Total</u> |
|---|-----------------|----------------|----------------|
| Discharge to groundwater (Title 5) | <u>0</u> | <u>0</u> | <u>0</u> |
| Discharge to groundwater (non-Title 5) | <u>0</u> | <u>0</u> | <u>0</u> |
| Discharge to outstanding resource water | <u>0</u> | <u>0</u> | <u>0</u> |
| Discharge to surface water | <u>0</u> | <u>0</u> | <u>0</u> |
| Municipal or regional wastewater facility | <u>350</u> | <u>987,650</u> | <u>988,000</u> |
| TOTAL | <u>350</u> | <u>987,650</u> | <u>988,000</u> |

- B. Is there sufficient capacity in the existing collection system to accommodate the project?
 X Yes No; if no, describe where capacity will be found:

- C. Is there sufficient existing capacity at the proposed wastewater disposal facility? X Yes No; if no, describe how capacity will be increased:

- D. Does the project site currently contain a wastewater treatment facility, sewer main, or other wastewater disposal facility, or will the project involve construction of a new facility?
 Yes X No. If yes, describe as follows:

| | <u>Existing</u> | <u>Change</u> | <u>Total</u> |
|---|-----------------------------|-----------------------------|-----------------------------|
| Wastewater treatment plant (capacity, in gpd) | <u> </u> | <u> </u> | <u> </u> |
| Sewer mains (length, in miles) | <u> </u> | <u> </u> | <u> </u> |
| Title 5 systems (capacity, in gpd) | <u> </u> | <u> </u> | <u> </u> |

- E. If the project involves any interbasin transfer of wastewater, which basins are involved, what is the direction of the transfer, and is the interbasin transfer existing or proposed?

The Project does not involve the interbasin transfer of wastewater.

- F. Does the project involve new sewer service by an Agency of the Commonwealth to a municipality or sewer district? Yes X No

- G. Is there any current or proposed facility at the project site for the storage, treatment, processing, combustion or disposal of sewage sludge, sludge ash, grit, screenings, or other sewage residual materials? Yes X No; if yes, what is the capacity (in tons per day):

| | <u>Existing</u> | <u>Change</u> | <u>Total</u> |
|-----------------------|-----------------------------|-----------------------------|-----------------------------|
| Storage | <u> </u> | <u> </u> | <u> </u> |
| Treatment, processing | <u> </u> | <u> </u> | <u> </u> |
| Combustion | <u> </u> | <u> </u> | <u> </u> |
| Disposal | <u> </u> | <u> </u> | <u> </u> |

- H. Describe the project's other impacts (including indirect impacts) on wastewater generation and treatment facilities:

It is anticipated that the existing infrastructure in the Project area has sufficient capacity to accommodate the Project flows.

III. Consistency -- Describe measures that the proponent will take to comply with federal, state, regional, and local plans and policies related to wastewater management:

Wastewater from the Project will discharge to the BWSC system. The Proponent will obtain all required permits that will regulate the flow and constituents of wastewater discharge. Compliance with the permit conditions will ensure conformance with wastewater management policies.

- A. If the project requires a sewer extension permit, is that extension included in a comprehensive wastewater management plan? ____ Yes ____ No; if yes, indicate the EOE number for the plan and describe the relationship of the project to the plan. N/A

TRANSPORTATION -- TRAFFIC GENERATION SECTION

I. Thresholds / Permits

- A. Will the project meet or exceed any review thresholds related to **traffic generation** (see 301 CMR 11.03(6))? X Yes ____ No; if yes, specify, in quantitative terms:

Phase 1 exceeds the ENF thresholds related to traffic generation, but does not exceed the mandatory EIR threshold. It is important to note that if adjusted trip generation rates (rather than Institute of Transportation Engineers' rates) were used, Phase 1 would not meet the ENF or EIR thresholds.

- B. Does the project require any state permits related to **state-controlled roadways**?
____ Yes X* No; if yes, specify which permit *seeking determination regarding highway access permit.

- C. If you answered "No" to both questions A and B, proceed to the **Roadways and Other Transportation Facilities Section**. If you answered "Yes" to either question A or question B, fill out the remainder of the Traffic Generation Section below.

II. Traffic Impacts and Permits

- A. Describe existing and proposed vehicular traffic generated by activities at the project site:

TOTAL PROJECT

| | <u>Existing*</u> | <u>Change</u> | <u>Total</u> |
|----------------------------------|------------------|---------------|---------------|
| Number of parking spaces | <u>3,647</u> | <u>2,853</u> | <u>6,500</u> |
| Number of vehicle trips per day: | | | |
| ♦ Adjusted for mode split | <u>7,294</u> | <u>17,366</u> | <u>24,660</u> |
| ♦ Unadjusted ITE | <u>7,294</u> | <u>91,822</u> | <u>99,116</u> |

Phase 1 – Parcels A, H, J

| | <u>Existing*</u> | <u>Change</u> | <u>Total</u> |
|----------------------------------|------------------|---------------|--------------|
| Number of parking spaces | <u>115</u> | <u>-72</u> | <u>43</u> |
| Number of vehicle trips per day: | | | |
| ♦ Adjusted for mode split | <u>230</u> | <u>478</u> | <u>708</u> |
| ♦ Unadjusted ITE | <u>230</u> | <u>2,658</u> | <u>2,888</u> |

*Vehicle trips per day for the parking lots were calculated based on the number of spaces, presuming one entering and one exiting trip per space.

ITE Land Use Code(s): 220 (Apartment); 230 (Residential Condominium/Townhouse); 310 (Hotel);

520 (Elementary School); 560 (Church); 710 (General Office Building); and 820 (Shopping Center). Trip generation for Performing Arts Center based on data from Boston's Opera House DPIR; November 1999.

Using ITE Land Use Codes 220 (Apartment); 230 (Residential Condominium/Townhouse); 520 (Elementary School); 560 (Church); 710 (General Office Building); and 820 (Shopping Center), and the special trip generation rates for the Performing Arts Center, the total Project will generate 99,116 vehicle trips per day.

Phase 1 will generate 2,888 vehicle trips per day.

However, ITE trip generation rates are generally based on suburban locations and do not represent a site such as the Seaport Square Project site which is located in an urban area, adjacent to the MBTA Silver Line Court House and World Trade Center stations with proximity to South Station, providing access to the Red Line and commuter rail.

To more accurately reflect the Project's urban location, adjusted trip generation rates were also calculated using factors supplied by the Boston Transportation Department. Adjusted trip rates apply area-specific mode split data to ITE unadjusted trip generation rates. A car occupancy factor is applied to the ITE rates to identify total person trips. The mode split data is then applied to person trips to estimate the transit, walk/bike, and auto trips. Vehicle occupancy rates are then applied to vehicle person trips to identify vehicle trips. Using these measures, the adjusted trip generation for the total Project is estimated to be 24,660 vehicle trips per day.

The adjusted daily trip generation for Phase 1 is estimated to be 708 trips per day.

B. What is the estimated average daily traffic on roadways serving the site?

A K Factor of 0.10 is applied to evening peak hour volumes counted in March 2007 to estimate the average daily trips (ADT). Approximately 10% of the daily trips will be distributed to Seaport Boulevard, 8% to Northern Avenue, 4% to Congress Street, 13% to Summer Street, 12% to D Street, 2% to South Boston Bypass Road, 8% to A Street, 26% to I-90/Ted Williams Tunnel, and 17% to I-93 to/from the south.

**TOTAL PROJECT
Unadjusted**

| Roadway | Existing | Change | Total |
|--------------------------|----------|--------|---------|
| Seaport Boulevard | 10,900 | 9,900 | 20,800 |
| Northern Avenue | 10,800 | 7,930 | 18,730 |
| Congress Street | 10,700 | 3,970 | 14,670 |
| Summer Street | 11,700 | 12,890 | 24,590 |
| A Street | 8,500 | 7,930 | 16,430 |
| D Street | 4,400 | 11,890 | 16,290 |
| South Boston Bypass Road | 2,900 | 1,980 | 4,880 |
| I-90/Ted Williams Tunnel | 72,000 | 25,770 | 97,770 |
| I-93 | 178,500 | 16,850 | 195,350 |

**TOTAL PROJECT
Adjusted**

| Roadway | Existing | Change | Total |
|-------------------|----------|--------|--------|
| Seaport Boulevard | 10,900 | 2,470 | 13,370 |
| Northern Avenue | 10,800 | 1,970 | 12,770 |
| Congress Street | 10,700 | 990 | 11,690 |
| Summer Street | 11,700 | 3,210 | 14,910 |

| | | | |
|--------------------------|---------|-------|---------|
| A Street | 8,500 | 1,970 | 10,470 |
| D Street | 4,400 | 2,960 | 7,360 |
| South Boston Bypass Road | 2,900 | 490 | 3,390 |
| I-90/Ted Williams Tunnel | 72,000 | 6,410 | 78,410 |
| I-93 | 178,500 | 4,190 | 182,690 |

**Phase 1 – Blocks A, H, J
Unadjusted**

| Roadway | Existing | Change | Total |
|--------------------------|----------|--------|---------|
| Seaport Boulevard | 10,900 | 289 | 11,189 |
| Northern Avenue | 10,800 | 231 | 11,031 |
| Congress Street | 10,700 | 116 | 10,816 |
| Summer Street | 11,700 | 375 | 12,075 |
| A Street | 8,500 | 231 | 8,731 |
| D Street | 4,400 | 347 | 4,747 |
| South Boston Bypass Road | 2,900 | 57 | 2,957 |
| I-90/Ted Williams Tunnel | 72,000 | 751 | 72,751 |
| I-93 | 178,500 | 491 | 178,991 |

**Phase 1 – Blocks A, H, J
Adjusted**

| Roadway | Existing | Change | Total |
|--------------------------|----------|--------|---------|
| Seaport Boulevard | 10,900 | 71 | 10,971 |
| Northern Avenue | 10,800 | 57 | 10,857 |
| Congress Street | 10,700 | 28 | 10,728 |
| Summer Street | 11,700 | 92 | 11,792 |
| A Street | 8,500 | 57 | 8,557 |
| D Street | 4,400 | 85 | 4,485 |
| South Boston Bypass Road | 2,900 | 14 | 2,914 |
| I-90/Ted Williams Tunnel | 72,000 | 184 | 72,184 |
| I-93 | 178,500 | 120 | 178,620 |

C. Describe how the project will affect transit, pedestrian and bicycle transportation facilities and services:

As a Transit Oriented Development project, the Project is expected to generate relatively high levels of walking, transit, and bicycle trips to the site. It is estimated that the Project will generate 42,251 net new daily transit trips.

Phase 1 will add 1,188 net new transit trips per day to transit lines. These trips are easily accommodated by existing MBTA service.

The Project will have positive impacts on pedestrian amenities by re-establishing the Seaport Boulevard, Northern Avenue, Boston Wharf Road, East Service Road, and Congress Street edges through the provision of sidewalks and large windows that will look into the retail shops. A new pedestrian/vehicular connection from Seaport Boulevard to Summer Street will be constructed by the Proponent.

Phase 1 - In Phase 1 of the Project, the Proponent will work with the City to incorporate Old Sleeper Street into public open space, allowing the Harborwalk to be connected between the Old Northern Avenue Bridge and Seaport Boulevard, currently a missing link in the Harborwalk. In addition, the site will be designed to allow for easy pedestrian access to and from the MBTA's Court House Silver Line station.

The Proponent will provide bicycle racks in secure, sheltered areas to encourage employees and customers to bike to the site. In addition, bicycle racks will be provided in the underground parking garages for use by building residents. The Proponent currently provides a low-cost bicycle rental program on-site. This service will continue after the Project is built.

See Section 3.1 of the PNF/ENF for more detailed transportation information.

III. Consistency -- Describe measures that the proponent will take to comply with municipal, regional, state, and federal plans and policies related to traffic, transit, pedestrian and bicycle transportation facilities and services:

The Project is consistent with the Journey to 2030: Transportation Plan of the Boston Region Metropolitan Planning Organization prepared by the Central Transportation Planning Staff, Access Boston 2000 – 2010 Mission Statement and Goals prepared by the City of Boston, and the Massachusetts Pedestrian Transportation Plan (1998). The Project complies with these plans in that it proposes growth within close proximity to transit; provides streetscape and lighting improvements; and supports an increase in walking trips, thereby reducing single-occupant vehicle trips in the area. Consistent with the Massachusetts Statewide Bicycle Transportation Plan, bicycle amenities will be incorporated into the Project.

The Project will be reviewed by the Boston Transportation Department (BTD) as part of the Article 80 Large Project Review Process. A full transportation analysis will be submitted as part of the Draft Project Impact Report/Environmental Impact Report. Based on the impacts from the Project, appropriate mitigation measures will be developed for review by BTD. The Project team will prepare a Transportation Access Plan Agreement (TAPA) for submission to BTD.

The TAPA will confirm the commitments to Transportation Demand Management (TDM) that will be outlined in the Article 80 Review of the Project. These TDM measures for the entire Project and Phase 1 could include:

TMA Participation: The Proponent is currently a member of the local Transportation Management Association (TMA) and will continue to support the TMA. They will work with the other members of the TMA to disseminate ride share/car pool information. The TMA members also provide “guaranteed ride home” service, publish a newsletter, and coordinate a “Transportation Day.”

Car-Sharing Service: The Proponent will provide spaces in one or more of its garages for car-sharing services. The Proponent is exploring providing 100 or more spaces in at least one garage, a hub for a car-sharing vehicle service.

Car Pool/Van Pool Parking: The Proponent will provide preferential parking spaces in one or more of its garages for employee/tenant car pools and van pools.

Transit Passes: The Proponent will participate in a transit pass program for tenants’ employees and residents through the TMA.

Orientation Packets: The Proponent will provide orientation packets to new residents containing information on the available transportation choices, including transit routes and schedules.

Transportation Coordinator: The Proponent will designate a transportation coordinator to manage loading and service activities and to provide alternative transportation materials to residents.

Bicycle Amenities: The Proponent will provide bicycle racks in secure, sheltered areas for residents and tenants’ employees. Additional bicycle parking will be provided on the sidewalks within the Project proximate to main building entrances. The Proponent currently operates a low-cost bicycle

rental program from the site. This program will continue upon completion of the Project.

Web Site: The Proponent will design and implement a Project web site. The web site will include public transportation information for residents and visitors.

Parking Pricing: The Proponent will charge market-rate public parking rates in the garages as a disincentive to use of single-occupancy vehicles.

ROADWAYS AND OTHER TRANSPORTATION FACILITIES SECTION

I. Thresholds

- A. Will the project meet or exceed any review thresholds related to **roadways or other transportation facilities** (see 301 CMR 11.03(6))? ____ Yes **X** No; if yes, specify, in quantitative terms:
- B. Does the project require any state permits related to **roadways or other transportation facilities**? ____ Yes **X*** No; if yes, specify which permit: * The Project is seeking determination regarding highway access permit; will require design approval of MBTA for connections to MBTA facilities.

The Phase 1 Waiver Blocks will not meet or exceed any review thresholds related to Roadways and other Transportation Facilities.

- C. If you answered "No" to both questions A and B, proceed to the **Energy Section**. If you answered "Yes" to either question A or question B, fill out the remainder of the Roadways Section below.

II. Transportation Facility Impacts

- A. Describe existing and proposed transportation facilities at the project site:

| | Existing | Change | Total |
|---|----------|--------|-------|
| Length (in linear feet) of new or widened roadway | _____ | _____ | _____ |
| Width (in feet) of new or widened roadway | _____ | _____ | _____ |

Other transportation facilities:

- B. Will the project involve any
1. Alteration of bank or terrain (in linear feet)? _____
 2. Cutting of living public shade trees (number)? _____
 3. Elimination of stone wall (in linear feet)? _____

- III. Consistency --** Describe the project's consistency with other federal, state, regional, and local plans and policies related to traffic, transit, pedestrian and bicycle transportation facilities and services, including consistency with the applicable regional transportation plan and the Transportation Improvements Plan (TIP), the State Bicycle Plan, and the State Pedestrian Plan:

ENERGY SECTION

I. Thresholds / Permits

- A. Will the project meet or exceed any review thresholds related to **energy** (see 301 CMR 11.03(7))? ____ Yes **X** No; if yes, specify, in quantitative terms:

- B. Does the project require any state permits related to **energy**? ____ Yes **X** No; if yes, specify which permit:

Neither the Full Build nor the Phase 1 Waiver Blocks will meet or exceed review thresholds related to Energy.

- C. If you answered "No" to both questions A and B, proceed to the **Air Quality Section**. If you answered "Yes" to either question A or question B, fill out the remainder of the Energy Section below.

II. Impacts and Permits

- A. Describe existing and proposed energy generation and transmission facilities at the project site:

| | <u>Existing</u> | <u>Change</u> | <u>Total</u> |
|--|-----------------|---------------|--------------|
| Capacity of electric generating facility (megawatts) | _____ | _____ | _____ |
| Length of fuel line (in miles) | _____ | _____ | _____ |
| Length of transmission lines (in miles) | _____ | _____ | _____ |
| Capacity of transmission lines (in kilovolts) | _____ | _____ | _____ |

- B. If the project involves construction or expansion of an electric generating facility, what are

1. the facility's current and proposed fuel source(s)?
2. the facility's current and proposed cooling source(s)?

- C. If the project involves construction of an electrical transmission line, will it be located on a new, unused, or abandoned right of way? ____Yes ____ No; if yes, please describe:

- D. Describe the project's other impacts on energy facilities and services:

III. Consistency -- Describe the project's consistency with state, municipal, regional, and federal plans and policies for enhancing energy facilities and services:

AIR QUALITY SECTION

I. Thresholds

- A. Will the project meet or exceed any review thresholds related to **air quality** (see 301 CMR 11.03(8))? ____Yes **X** No; if yes, specify, in quantitative terms:

- B. Does the project require any state permits related to **air quality**? ____ Yes **X** No; if yes, specify which permit:
Neither the Full Build nor the Phase 1 Waiver Blocks will meet or exceed review thresholds related to Air Quality.

- C. If you answered "No" to both questions A and B, proceed to the **Solid and Hazardous Waste Section**. If you answered "Yes" to either question A or question B, fill out the remainder of the Air Quality Section below.

II. Impacts and Permits

- A. Does the project involve construction or modification of a major stationary source (see 310 CMR 7.00, Appendix A)? ____Yes ____ No; if yes, describe existing and proposed emissions (in tons per day) of:

| | <u>Existing</u> | <u>Change</u> | <u>Total</u> |
|-----------------------------|-----------------|---------------|--------------|
| Particulate matter | _____ | _____ | _____ |
| Carbon monoxide | _____ | _____ | _____ |
| Sulfur dioxide | _____ | _____ | _____ |
| Volatile organic compounds | _____ | _____ | _____ |
| Oxides of nitrogen | _____ | _____ | _____ |
| Lead | _____ | _____ | _____ |
| Any hazardous air pollutant | _____ | _____ | _____ |
| Carbon dioxide | _____ | _____ | _____ |

B. Describe the project's other impacts on air resources and air quality, including noise impacts:

III. Consistency

A. Describe the project's consistency with the State Implementation Plan:

B. Describe measures that the proponent will take to comply with other federal, state, regional, and local plans and policies related to air resources and air quality:

SOLID AND HAZARDOUS WASTE SECTION

I. Thresholds / Permits

A. Will the project meet or exceed any review thresholds related to **solid or hazardous waste** (see 301 CMR 11.03(9))? ____ Yes **X** No; if yes, specify, in quantitative terms:

B. Does the project require any state permits related to **solid and hazardous waste**? ____ Yes **X** No; if yes, specify which permit:

Neither the Full Build nor the Phase 1 Waiver Blocks will meet or exceed review thresholds related to Solid and Hazardous Waste.

C. If you answered "No" to both questions A and B, proceed to the **Historical and Archaeological Resources Section**. If you answered "Yes" to either question A or question B, fill out the remainder of the Solid and Hazardous Waste Section below.

II. Impacts and Permits

A. Is there any current or proposed facility at the project site for the storage, treatment, processing, combustion or disposal of solid waste? ____ Yes ____ No; if yes, what is the volume (in tons per day) of the capacity:

| | <u>Existing</u> | <u>Change</u> | <u>Total</u> |
|-----------------------|-----------------|---------------|--------------|
| Storage | _____ | _____ | _____ |
| Treatment, processing | _____ | _____ | _____ |
| Combustion | _____ | _____ | _____ |
| Disposal | _____ | _____ | _____ |

B. Is there any current or proposed facility at the project site for the storage, recycling, treatment or disposal of hazardous waste? ____ Yes ____ No; if yes, what is the volume (in tons or gallons per day) of the capacity:

| | <u>Existing</u> | <u>Change</u> | <u>Total</u> |
|-----------|-----------------|---------------|--------------|
| Storage | _____ | _____ | _____ |
| Recycling | _____ | _____ | _____ |
| Treatment | _____ | _____ | _____ |
| Disposal | _____ | _____ | _____ |

C. If the project will generate solid waste (for example, during demolition or construction), describe alternatives considered for re-use, recycling, and disposal:

D. If the project involves demolition, do any buildings to be demolished contain asbestos?
___ Yes ___ No

E. Describe the project's other solid and hazardous waste impacts (including indirect impacts):

III. Consistency--Describe measures that the proponent will take to comply with the State Solid Waste Master Plan:

HISTORICAL AND ARCHAEOLOGICAL RESOURCES SECTION

I. Thresholds / Impacts

A. Is any part of the project site a historic structure, or a structure within a historic district, in either case listed in the State Register of Historic Places or the Inventory of Historic and Archaeological Assets of the Commonwealth? X Yes ___ No; if yes, does the project involve the demolition of all or any exterior part of such historic structure? X Yes ___ No; if yes, please describe:

There are no historic resources in Phase 1.

The Chapel of Our Lady of Good Voyage is included in the Massachusetts Historical Commission's (MHC) Inventory of Historic and Archaeological Assets of the Commonwealth (the Inventory). The Chapel was included in a 2003 effort to survey properties owned by the Boston Archdiocese. The building is not listed on the State or National Registers of Historic Places and is not located within the boundaries of the proposed Fort Point Channel Landmark District.

B. Is any part of the project site an archaeological site listed in the State Register of Historic Places or the Inventory of Historic and Archaeological Assets of the Commonwealth? ___ Yes X No; if yes, does the project involve the destruction of all or any part of such archaeological site? ___ Yes ___ No; if yes, please describe:

C. If you answered "No" to all parts of both questions A and B, proceed to the **Attachments and Certifications** Sections. If you answered "Yes" to any part of either question A or question B, fill out the remainder of the Historical and Archaeological Resources Section below.

D. Have you consulted with the Massachusetts Historical Commission? ___ Yes X No; if yes, attach correspondence

E. Describe and assess the project's other impacts, direct and indirect, on listed or inventoried historical and archaeological resources: The vast majority of the Project site consists of surface parking lots. Similar to the variety of buildings found in the nearby Fort Point Channel Historic District, the Project's proposed new construction will vary in scale, materials, use, and character across the Project site. In addition to modern building materials such as aluminum curtainwalls and insulated glass which will take advantage of the views of downtown Boston and the harbor, the Project will also utilize a wide range of traditional masonry building materials consistent with those found throughout the Fort Point Channel Historic District, including stone, brick, precast concrete, and terra cotta. See Section 3.4.4 in this PNF/ENF for more information.

Phase 1

Phase 1 consists of constructing new retail and residential buildings on Blocks A and H, and a new Chapel on Block J. Currently, Blocks A, H and J are surface parking lots with no buildings

on them. The sensitive design of the new construction will complement the adjacent historic district. The scale of the new construction will further assist in providing a transition between the historic district, which predominately consists of five and six story buildings as well as some immediately adjacent taller buildings, and the larger new construction proposed for the blocks on the north side of Seaport Boulevard.

Shadow impacts on historic resources resulting from new construction on Blocks A, H and J will be limited due to the height of existing buildings, the density of the neighborhood and the location of the development parcels north of the adjacent Fort Point Channel Historic District. Because the development parcels are north of the historic district, shadows are anticipated to be cast on areas outside of the proposed landmark district, and therefore, will have no adverse impacts on the Fort Point Channel Historic District. As stated above, the Draft PIR/EIR will include a shadow study that will detail any impacts to historic resources in the Project's vicinity.

Blocks H and J are located within the proposed Seaport Boulevard/Boston Wharf Road Protection Area. The goals of the Protection Area are to protect view corridors into and out of the proposed Fort Point Channel Landmark District and through a design review process with the Boston Landmarks Commission, ensure that the massing, land coverage, and height of new construction on adjacent lots is compatible with that of the proposed landmark district. Proposed new construction on Blocks H and J will be subject to review by Boston Landmarks Commission staff under review procedures applicable in the pending Seaport Boulevard/Boston Wharf Road Protection Area.

II. Consistency -- Describe measures that the proponent will take to comply with federal, state, regional, and local plans and policies related to preserving historical and archaeological resources: Blocks H and J are located within the proposed Seaport Boulevard/Boston Wharf Road Protection Area. The goals of the Protection Area are to protect view corridors into and out of the proposed Fort Point Channel Landmark District and through a design review process with the Boston Landmarks Commission, ensure that the massing, land coverage, and height of new construction on adjacent lots are compatible with those of the proposed landmark district. Proposed new construction on Blocks H and J, as well as on Blocks K and Q, which are also within the Seaport Boulevard/Boston Wharf Road Protection Area, will be subject to review by Boston Landmarks Commission staff under review procedures applicable in the pending Seaport Boulevard/Boston Wharf Road Protection Area.

ATTACHMENTS:

1. Plan, at an appropriate scale, of existing conditions of the project site and its immediate context, showing all known structures, roadways and parking lots, rail rights-of-way, wetlands and water bodies, wooded areas, farmland, steep slopes, public open spaces, and major utilities. See PNF/ENF Figure 1.1-1.
2. Plan of proposed conditions upon completion of project (if construction of the project is proposed to be phased, there should be a site plan showing conditions upon the completion of each phase). See PNF/ENF Figure 2.1-3 for whole Project, See PNF/ENF Figure 2.7-1 for Phase 1 Blocks.
3. **Original** U.S.G.S. map or good quality **color** copy (8-½ x 11 inches or larger) indicating the project location and boundaries. See attached Figure 1.
4. List of all agencies and persons to whom the proponent circulated the ENF, in accordance with 301 CMR 11.16(2). See attached Circulation List.
5. Other:

CERTIFICATIONS:

1. The Public Notice of Environmental Review has been/will be published in the following newspapers in accordance with 301 CMR 11.15(1):

(Name): Boston Herald

(Date): June 2, 2008

2. This form has been circulated to Agencies and Persons in accordance with 301 CMR 11.16(2).

5/27/08 [Signature]
Date Signature of Responsible Officer
or Proponent

John B. Hynes, III
Name (print or type)

Gale International
Firm/Agency

One Post Office Square, Suite 3150
Street

Boston, MA 02109
Municipality/State/Zip

(617)350-7577
Phone

6/2/08 [Signature]
Date Signature of person preparing ENF
(if different from above)

Elizabeth Grob
Name (print or type)

Epsilon Associates, Inc.
Firm/Agency

3 Clock Tower Place, Suite 250
Street

Maynard, MA 01745
Municipality/State/Zip

(978) 897-7100
Phone

Attachment 1

Figure 1 – USGS Map



Figure 1

USGS Locus Map



Morgan Stanley



prepared by:
Epsilon Associates, Inc.

Attachment 2
Circulation List

CIRCULATION LIST

Federal Agencies

Federal Aviation Administration
New England Region, Airports Division
12 New England Executive Park
Burlington, MA 01803

State and Regional Agencies

Secretary Ian A. Bowles
Executive Office of Energy and
Environmental Affairs
Attn: MEPA Office
100 Cambridge Street, Suite 900
Boston, MA 02114

Undersecretary for Policy
100 Cambridge Street, Suite 900
Boston, MA 02114

Department of Environmental Protection
Attn: Commissioner's Office
One Winter Street
Boston, MA 02108

Department of Environmental Protection
Andrea Langhauser, Waterways Department
One Winter Street
Boston, MA 02108

Department of Environmental Protection
Northeast Regional Office
Attn: MEPA Coordinator
205B Lowell Street
Wilmington, MA 01887

Executive Office of Transportation
Attn: Environmental Reviewer
10 Park Plaza, Room 3510
Boston, MA 02116-3969

Massachusetts Highway Department
Public/Private Development Unit
10 Park Plaza
Boston, MA 02116

Massachusetts Highway Department
MHD – District #4
Attn: MEPA Coordinator
519 Appleton Street
Arlington, MA 02174

Massachusetts Aeronautics Commission
Attn: MEPA Coordinator
10 Park Plaza, Room 3510
Boston, MA 02116

Massachusetts Historical Commission
The MA Archives Building
220 Morrissey Boulevard
Boston, MA 02125

Metropolitan Area Planning Council
60 Temple Place, 6th Floor
Boston, MA 02111

Office of Coastal Zone Management
Attn: Project Review Coordinator
251 Causeway Street, Suite 500
Boston, MA 02114

Office of Coastal Zone Management
Brad Washburn
Boston Harbor Regional Coordinator
251 Causeway Street, Suite 500
Boston, MA 02114

Division of Marine Fisheries
Attn: Environmental Reviewer
30 Emerson Avenue
Gloucester, MA 01930

Department of Conservation and Recreation
Division of Urban Parks
Attn: MEPA Coordinator
251 Causeway Street, Suite 600
Boston, MA 02114

Massachusetts Bay Transit Authority
Attn: MEPA Coordinator
10 Park Plaza, 6th Floor
Boston, MA 02216-3966

Massachusetts Water Resource Authority
Attn: MEPA Coordinator
100 First Avenue
Charlestown Navy Yard
Boston, MA 02129

Department of Public Health (DPH)
Director of Environmental Health
250 Washington Street
Boston, MA 02115

Local Agencies/Representatives

Boston Redevelopment Authority
Attn: John Palmieri, Director
One City Hall Plaza, 9th Floor
Boston, MA 02201

Boston City Council
Attn: Maureen Feeney, President
One City Hall Plaza, 5th Floor
Boston, MA 02201

Boston City Council
Attn: Bill Linehan
One City Hall Plaza, 5th Floor
Boston, MA 02201

Boston City Council
Attn: Michael Flaherty
One City Hall Plaza, 5th Floor
Boston, MA 02201

Boston Conservation Commission
Boston Environment Department
One City Hall Plaza
Room 805
Boston, MA 02201

Boston Public Health Commission
Attn: John M. Auerbach Executive Director
1010 Massachusetts Avenue
Boston, MA 02118

Boston Water & Sewer Commission
Attn: MEPA Reviewer
980 Harrison Avenue
Boston, MA 02119

Parks Department
Aldo Ghirin
1010 Massachusetts Avenue, 3rd Floor
Boston, MA 02118

Senator Jack Hart
State House
Room 109-C
Boston, MA 02133

Representative Brian Wallace
State House
Room 472
Boston, MA 02133

Congressman Stephen F. Lynch
88 Black Falcon Avenue, Suite 340
Boston, MA 02210

Phase One Waiver Request

REQUEST FOR PHASE ONE WAIVER FOR BLOCKS A, H AND J

Introduction/Project Description

The Proponent is seeking a waiver to allow Phase 1 of the Project to proceed prior to preparing an Environmental Impact Report. Phase 1 consists of three Blocks (A, H and J), which comprise approximately 3% of the Project's total floor area. Phase 1 of the Project will provide a gateway to the South Boston waterfront, activate the waterfront and Fort Point Channel areas, create new open space, and build a Harborwalk connection from the Children's Museum to the Federal Court House. These benefits, envisioned in the Seaport Public Realm Plan and the South Boston Municipal Harbor Plan, in addition to the Fort Point Channel Watersheet Activation Plan, will promote public use and enjoyment of the waterfront while providing public amenities.

Phase 1 will include construction of three new buildings with approximately 110 residential units, 46,600 sf of retail, and a 25,000 sf Chapel. A 43-space parking garage will be constructed below-grade on Block A. Additional parking to meet the demands of Phase 1 will be provided temporarily on the surface parking lots currently located on the larger Project site. Block A will be activated by a ground-level restaurant with outdoor seating along a landscaped public open space, providing a connection to the existing Harborwalk. The second floor on Block A will contain public amenities. Block H will also have public uses on the ground and second floors, providing pedestrians with a welcoming atmosphere to walk, work, or play. Both Blocks will include residential uses on the upper floors. A new Chapel will be constructed on Block J to replace the existing Chapel of Our Lady of Good Voyage now located on Northern Avenue, which will remain in its current location and in use until the new Chapel is constructed.

Early construction of the Chapel will allow for minimal disruption for Our Lady of Good Voyage. The existing Chapel will be removed during development of the remainder of the Project, and without this waiver, there could be an interruption in service for the chapel and its membership, or a significant delay in Project implementation. Constructing the Chapel in Phase 1 is thus critical to allow the demolition of the existing Chapel and subsequent development of the remainder of the Project (including the below grade garages and vertical construction) without delay following completion of EIR review of the full Project. The balance of the Project after Phase 1 will be built on a series of large parking "tubs" with floor plates containing efficient below-grade parking and loading. Each of these parking tubs will provide platforms upon which multiple buildings will then be constructed. Considerable construction efficiencies will be realized by constructing these parking tubs in a continuous sequence, and construction cannot begin until after the demolition of the Chapel.

A more detailed description of the Phase 1 Blocks and their public benefits is included in Section 2.7 of the PNF/ENF.

MEPA Applicability

Jurisdiction

Phase 1 will require a Chapter 91 License from DEP for proposed work on Blocks A and H. Agency actions for the remainder of the Project are identified on the ENF form.

Thresholds

Phase 1 meets the threshold set forth in 301 CMR 11.03(3)(b)(5), because it requires a Chapter 91 License for a new non-water dependent use of filled former tidelands. Phase 1 will generate 2,888 unadjusted daily vehicle trips, so it exceeds an ENF threshold for trip generation, but not the mandatory EIR threshold of 3,000 new average daily trips, and it will distribute only 708 adjusted trips per day based on BTD assumptions for a project of this type. Phase 1 will generate approximately 27,000 gallons of wastewater per day, less than the ENF threshold set forth in 301 CMR 11.03(5)(b)(4)(a). Phase 1 does not meet or exceed any other review thresholds.

Because the Project requires state permits, approvals and licenses, it will be subject to review by the Massachusetts Historical Commission (MHC) in accordance with M.G.L., Chapter 9, Sec. 26-27c, as amended by Chapter 254 of the Acts of 1988 (950 CMR 71.00). This PNF/ENF will be submitted to the MHC to initiate the Chapter 254 review process.

Blocks H and J are located within the proposed Seaport Boulevard/Boston Wharf Road Protection Area associated with the pending Fort Point Channel Landmark District. The proposed new construction on Blocks H and J will be subject to review by the Boston Landmarks Commission under the review procedures applicable in the pending Seaport Boulevard/Boston Wharf Road Protection Area. The Proponent has had preliminary discussions with BLC staff and will continue to consult with staff as the designs for the developments on Blocks H and J advance.

Standards for Waiver and Project Compliance

Under 301 CMR 11.11(1), the Secretary may waive environmental review upon a finding that strict compliance with the MEPA regulations would result in an undue hardship for the Proponent and would not serve to avoid or minimize Damage to the Environment. 301 CMR 11.11(4) allows the Secretary to grant a partial waiver of a mandatory EIR to allow a Proponent to proceed with phase one of a project upon a finding that the potential environmental impacts of phase one, taken alone, are insignificant; that ample and unconstrained infrastructure exists to support phase one; that phase one is severable from other project phases; and that the relevant Agency Action on phase one will ensure due compliance with MEPA for subsequent project phases. Phase 1's consistency with these standards is addressed below.

Strict compliance with MEPA would result in undue hardship to the Proponent.

1. As described above, Phase 1 is critical to the construction sequencing for the Full Project and strict compliance with MEPA would represent an undue hardship for the Proponent.
2. Constructing the Chapel in Phase 1 is critical to allow for the demolition of the existing Chapel and subsequent development of the below grade garages and vertical construction proposed for the remainder of the Project to proceed without delay following completion of the EIR review; this scheduling is a key to the Project's financial viability.
3. Further, early construction of the Chapel will allow for uninterrupted service for Our Lady of Good Voyage Since the existing Chapel will be removed during development of the remainder of the Project.
4. In addition, strict MEPA compliance would constitute a hardship for the neighborhood and the broader public. Phase 1 will also provide numerous early public benefits, it will provide a gateway to the South Boston waterfront as well as the Fort Point Channel, including ground floor facilities of public accommodation on Blocks A and H, and will further activate the South Boston Waterfront and Fort Point Channel areas. In addition, the Proponent will construct a missing link in the Harborwalk, connecting the Children's Museum with the Old Northern Avenue Bridge and Federal Court House. Open space will be provided and activated with outdoor dining and public seating, art and landscaping, within Chapter 91 jurisdiction along the Fort Point Channel. Without a waiver, these public benefits would be delayed, negatively impacting the general public. The Proponent plans 110 residential units within Phase 1, with 15% of the number of market rate units set aside for affordable housing, and another 15% set aside for workforce housing. Affordable housing is a priority for the City and an anticipated early benefit, as identified by the neighborhood in recent community meetings led by the BRA. Strict compliance with MEPA would result in a delay of construction of those units.
5. Finally, South Boston residents and others looking for construction work would lose possible employment opportunities, should the waiver not be granted.

Strict compliance with MEPA would not serve to avoid or minimize Damage to the Environment.

As described in this PNF/ENF, Phase 1 will not result in significant impacts to the environment or the surrounding community and does not independently meet or exceed MEPA review thresholds other than the ENF threshold related to Chapter 91.

- ◆ The Project, including Phase 1, is being developed on underutilized urban property that does not include wetlands, habitat for state-protected species, historic properties, or other sensitive resources.
- ◆ Although Block A and a small portion of Block H are within Chapter 91 jurisdiction, no work within Phase 1 will take place within the water.
- ◆ The Project, including Phase 1, will comply with the City of Boston's Article 37, which requires that significant numbers of sustainable design elements be incorporated into new projects. Taking maximum advantage of its urban location, Seaport Square's master plan framework has been fashioned to meet LEED-Neighborhood Development (ND) goals. The Project will target meeting LEED-ND standards at the Silver Level. To attain a Silver rating in the ND program, the Project will include a comprehensive array of sustainable measures. In addition, the Proponent is targeting LEED-New Construction (NC) Silver standard on Blocks A and H. As construction on Block J is to be directed by the Archdiocese, the final design parameters of the building will continue to be developed.
- ◆ The Project site, including Phase 1, is within one-half mile (a 10-minute walk) of South Station, a transportation hub that provides access to the MBTA Red Line, Silver Line, and seven commuter rail branches. In addition, the MBTA Silver Line Courthouse and World Trade Center stations are located within the Project area. Several MBTA local and express bus routes operate near the site as well. South Station is also the terminus for Amtrak train service along the Northeast Corridor. Greyhound and Peter Pan provide regional and commuter bus service from South Station.
- ◆ As noted above, Phase 1 will generate 2,888 unadjusted daily vehicle trips, fewer than the mandatory EIR threshold of 3,000 new average daily trips, and will generate only 708 trips per day based on BTM assumptions for a project of this type. As described below, the Project, as well as Phase 1, incorporates a group of thoughtful and workable transportation demand management measures to minimize the effects of new traffic.
- ◆ In consultation with the BTM, the Proponent will develop an approved TDM program to minimize use of single-occupant vehicles associated with the Project and Phase 1.

The Potential Environmental Impacts of Phase 1, taken alone, are insignificant.

As noted above, Phase 1 is being developed on underutilized urban land. The Phase 1 Blocks do not contain sensitive environmental or cultural resources. Potential environmental impacts of Phase 1 are further addressed below:

Transportation: As described above, Phase 1 alone will distribute 2,888 unadjusted daily vehicle trips, fewer than the mandatory EIR threshold of 3,000 new average daily trips, and will distribute only 708 trips per day based on BTM assumptions for a Project of this type.

Based on the analysis provided in Section 3.1, Phase 1 of the Project will result in negligible impacts to the transportation network. Two intersections within the Phase 1 study area will experience a decrease in level of service under No-Build Conditions; the intersection of Seaport Boulevard/East Service Road/Northern Avenue will change from LOS C to LOS D during the 2010 p.m. peak hour and the intersection of West Broadway/A Street will change from LOS B to LOS C during the 2010 a.m. peak hour. In the Build condition, during the a.m. and p.m. peak hours, the level of service does not worsen at any of the study area intersections. At the intersection of Seaport Boulevard/Sleeper Street, the Seaport Boulevard eastbound left-turn currently operates at LOS F in the a.m. peak hour due to the lack of a protected left-turn phase thus. This operating condition will noticeably worsen under No-Build Conditions and only slightly under Build Conditions.

Although Phase 1 of the Project has not degraded any of the three study area intersections such that they would require mitigation, the Proponent is willing to work with BTM on implementing a solution to the operational problems at the intersection of Seaport Boulevard/Sleeper Street primarily caused by the lack of a protected signal phase for the Seaport Boulevard eastbound left-turn movement. By designating the left-most lane of the Seaport Boulevard eastbound approach as a left-turn only lane and adding a protected left-turn phase for the movement, which could operate concurrently with the Seaport Boulevard westbound left-turn movement, the intersection can be made to operate at LOS C during both the a.m. and p.m. peak hours.

Phase 1 is proximate to public transportation and is expected to generate relatively high levels of walking, transit and bicycle trips. Phase 1 of the Project will add 1,188 net new transit trips per day to transit lines. These trips are easily accommodated by existing MBTA service.

Transportation Demand Management measures for Phase 1 will include an on-site transportation coordinator, transit pass subsidies for retail employees, secure bicycle parking areas, provision of a shared car spaces in the garages, and distribution of transit maps and schedules to residents and employees. TDM measures will be described and evaluated in the Draft PIR/EIR and the Transportation Access Plan Agreement (TAPA).

The Proponent will highlight the site's pedestrian and transit access marketing its' marketing to future residents. On-site management will provide transit information (schedules, maps, fare information) in the building lobbies for residents and guests. To raise awareness of public transportation alternatives, on-site management will also work with residents as they move into the facility.

The TAPA will confirm Phase 1 commitments to TDM and could include:

- ◆ **TMA Participation:** The Proponent is currently a member of the local Transportation Management Association (TMA) and will continue to support the TMA. They will work with the other members of the TMA to disseminate ride share/car pool information. The

TMA members also provide “guaranteed ride home” service, publish a newsletter, and coordinate a “Transportation Day.”

- ◆ **Car-Sharing Service:** In the full Project, the Proponent will provide spaces in one or more of its garages for car-sharing services. The Proponent is exploring providing 100 or more spaces in at least one garage, a hub for a car-sharing vehicle service.
- ◆ **Car Pool/Van Pool Parking:** The Proponent will provide preferential parking spaces in one or more of its garages for employee/tenant car pools and van pools.
- ◆ **Transit Passes:** The Proponent will participate in a transit pass program for tenants’ employees and residents through the TMA. The Proponent will encourage commercial tenants to subsidize transit passes for their employees.
- ◆ **Orientation Packets:** The Proponent will provide orientation packets to new residents containing information on the available transportation choices, including transit routes and schedules.
- ◆ **Transportation Coordinator:** The Proponent will designate a transportation coordinator to manage loading and service activities and to provide alternative transportation materials to residents.
- ◆ **Bicycle Amenities:** The Proponent will provide bicycle racks in secure, sheltered areas for residents and tenants’ employees. Additional bicycle parking will be provided on the sidewalks within the project proximate to main building entrances. The Proponent currently operates a low-cost bicycle rental program from the site. This program will continue upon completion of the project.
- ◆ **Web Site.** The Proponent will design and implement a Project Web site. The Web site will include public transportation information for residents and visitors.
- ◆ **Parking Pricing.** The Proponent will charge high public parking rates in the garages as a disincentive to use of single-occupancy vehicles.

On-site and off-site traffic mitigation measures will minimize the Project’s potential impacts on transportation infrastructure.

Chapter 91: All of Block A and a portion of Block H are within Chapter 91 licensing jurisdiction, are compatible with the Decision on the South Boston Municipal Harbor Plan, and provide additional public benefits, including new open space and facilities of public accommodation. Included in Phase 1 is a Harborwalk connection from the Children’s Museum to the Federal Courthouse. Phase 1 does not include any work or construction within the water.

Greenhouse Gas/Sustainable Development: Seaport Square is planned to be tracked and submitted as a LEED Neighborhood Development program, a new venture by the USGBC and the Congress for a New Urbanism, which recognizes projects that strive to protect and enhance the overall health, natural environment, and quality of life of communities. (Applications in the full program will be accepted by USGBC in 2010). The full Project will target meeting LEED-ND standards at the Silver Level. In addition, the LEED-NC or LEED-CS rating system will be pursued as applicable for the different use types at Seaport Square. In addition, the Proponent is targeting LEED-NC Silver standard on Blocks A and H. As construction on Block J is to be directed by the Archdiocese, the final design parameters of the building will continue to be developed. Finally, Seaport Square will be in compliance with the City of Boston's Article 37, which ensures that major building projects are planned, designed, constructed, and managed to minimize adverse environmental impacts; to conserve natural resources; to promote sustainable development; and to enhance the quality of life in Boston.

The Project's sustainable design elements include provision of a vegetated roof, the use of low emitting materials, including adhesives and sealants, paints, and carpet systems, and potentially the purchase of electrical power from a "GREEN" provider who produces energy through renewable energy sources. Section 3.3.14 includes detailed information about the sustainable measures proposed.

The proposed Project will comply with the MEPA Greenhouse Gas Emissions Policy and Protocol. A complete Greenhouse Gas analysis will be prepared for the Draft EIR/PIR. As described above, numerous measures are being considered to limit indirect and direct greenhouse gas emissions.

Consistency with Planning: This Project is consistent with MetroPlan 2000, the regional plan developed by the Metropolitan Area Planning Council (MAPC), as well as the South Boston Municipal Harbor Plan and the Seaport Public Realm Plan. MetroFuture, a new regional plan, is underway by MAPC. The basic tenet of the plan is that concentrating development is economically and environmentally more practical than scattered growth. Concentrated development encourages and enhances transit use, ride sharing, and pedestrian traffic with resultant reduction in auto travel, traffic congestion, air pollution, and fuel consumption, and, in addition, reduces the pressure to develop open space and environmentally sensitive lands. This Project will redevelop an existing urban site that is currently used primarily for surface parking, promote transit use and pedestrian and bicycle use, and will create new open space. In addition, the Project is consistent with Massachusetts "smart growth" policies to locate residential development in close proximity to public transportation and places of employment.

Groundwater Conservation Overlay District: Blocks H and J are within the Groundwater Conservation Overlay District and will achieve consistency with the requirements of the City of Boston's Article 32 by ensuring that the Projects on those sites will have no negative impact on groundwater on sites or adjacent sites.

Sewage: Total discharge of sewage from Phase 1 will be approximately 27,000 gallons per day, less than the ENF threshold at 301 CMR 11.03(5)(b)(4)(a). The Project will rely on the Boston Water and Sewer Commission for water supply and wastewater disposal. These services are expected to have sufficient capacity to address the needs of Phase 1.

The environmental impacts of Phase 1 will be addressed by the mitigation measures described above, and no additional environmental benefit would accrue from additional MEPA review. In addition, potential environmental impacts resulting from both Phase 1 and the remainder of the Project will be included in the Draft EIR/PIR analyses.

Ample and unconstrained infrastructure facilities and services exist to support the Project.

Phase 1 has been designed to be a stand-alone project phase which does not require the construction of additional infrastructure, with the exception of new utility connections to serve Phase 1, and resurfacing or construction of new access points to Block A and/or Old Sleeper Street. New area-wide infrastructure, including new streets described in the PNF/ENF, is not required for Phase 1 to proceed. All three Phase 1 buildings have adequate frontage on existing public ways. As described in the PNF/ENF, the Project will rely on Boston Water and Sewer Commission for water supply and wastewater disposal. These services are expected to have sufficient capacity to meet the needs of Phase 1.

As described above, based on the analysis provided in Section 3.1, Phase 1 of the Project will result in negligible impacts to the transportation network. Phase 1 is located proximate to public transportation and is expected to generate relatively high levels of walking, transit and bicycle trips. Phase 1 of the Project will add 1,188 net new transit trips per day to transit lines. These trips are easily accommodated by existing MBTA service.

Phase 1 is Severable from Other Project Phases

Phase 1 has been designed to be a severable project phase which can be built and occupied with only the infrastructure improvements as described above. It does not require the completion of any other Project phase. Further, construction of Phase 1 will not impair or restrict the construction of area-wide infrastructure or the implementation of Project-wide mitigation measures.

Relevant Agency Action on Phase 1 will Ensure Due Compliance with MEPA for Subsequent Project Phases.

Phase 1 requires a Chapter 91 License from MassDEP. The Proponent anticipates that MassDEP's permit will include a condition or other mechanism to ensure MEPA compliance for the remainder of the Project. Phase 1 does not require other Agency Action.

Conclusion

Based on the above description of the MEPA regulations' standards for granting phase one waivers and analysis of the Project's compliance with those standards, the Proponent submits that Phase 1 meets the requirements for issuance of a phase one waiver: the potential environmental impacts of Phase 1, taken alone, are insignificant; ample and unconstrained infrastructure exists to support Phase 1; Phase 1 is severable from other Project phases; and Agency Actions on Phase 1 will ensure due compliance with MEPA for subsequent Project phases.

Project Notification Form / Environmental Notification Form

1.0 INTRODUCTION

1.1 Summary

Seaport Square in South Boston (the Project) will be Boston's first 21st century neighborhood. Not since the filling of the Back Bay has Boston had the opportunity to create a new neighborhood and secure its place among the world's great cities. Seaport Square will combine the essence of historic Boston with 21st century concepts of liveability, sustainability, and global competitiveness.

Seaport Square reflects the aspirations of a new generation of Bostonians with 21st century aspirations, ambitions, and needs. Today, our historic American cities are challenged to remain relevant and competitive in an increasingly global and interconnected modern world. Seaport Square will create a vibrant and diverse residential neighborhood to raise Boston families and grow old, establish an active commercial boulevard to connect with the global economy, introduce new civic and cultural uses to entertain and educate and incorporate urban open spaces to gather. It will link the Financial District to the South Boston waterfront, and knit together the South Boston waterfront with established Boston neighborhoods. But more importantly, Seaport Square will help connect Boston to the Commonwealth, the Nation and the World.

Capturing the elusive essence of liveability, Seaport Square strives to emulate the inherent economic, social, and environmental benefits of traditional mixed-use neighborhoods in the world's best cities. The Seaport Square neighborhood will be a memorable world-class place with a 24-hour mix of uses –mixed not just horizontally but layered vertically too – and users – young and old, rich and poor, businessman and student, hotel worker and scientist, visitor and Bostonian. It will attract all those who value liveability.

Drawing inspiration from Mayor Thomas Menino's civic vision of sustainability, Seaport Square will be one of the largest sustainable neighborhood in the US. While conventional public benefits such as job creation, new tax revenue, affordable housing, and linkage contributions are de rigor and included here, it is the Proponent's unconventional determination to build a fully functional and sustainable neighborhood targeted to achieve LEED-ND Silver certification that sets Seaport Square apart. In addition, Seaport Square establishes a high standard for a continuous public realm of new streetscapes, playgrounds, open space, and culture. Seaport Square has carefully considered the vision of the BRA's Seaport Public Realm Plan and has designed the Project to recognize the goals of the Plan. Civic and cultural functions such as schools, a library, flexible gallery space, a performing arts center, and a relocated Chapel, as well as storefront retail will activate the streets and sidewalks and create 24-hour activity.

To maintain Boston's global competitiveness, Seaport Square is intended to be constructed continuously over seven to ten years, with state of art sustainability and public amenities designed to enhance the neighborhood and attract progressive employers and retailers to

Boston. Those seeking a sustainable work environment, a highly educated Boston workforce and a high quality of life for their workers will relocate to Seaport Square. Seaport Square, by taking advantage of its location in the heart of the South Boston waterfront, is poised to welcome new businesses, new opportunities for employment and training, new residents in a new neighborhood, all within the City of Boston. Seaport Square creates attractive synergies for growing people and businesses.

Seaport Square will become Boston's newest neighborhood. Its success will enhance Boston's standing among great cities of the world by being a showcase for the Mayor's enlightened planning and a beacon for a new generation of Bostonians that values liveability, sustainability, and global competitiveness.

Seaport Square will transform 23 acres of vacant parking lots in the heart of South Boston into a new neighborhood with 6.5 million square feet of new construction surrounded by approximately six acres (more than 25% of the Project site) of open space. The Project site is generally defined by Northern Avenue, Seaport Boulevard, Congress Street and Summer Street (see Figure 1.1-1), and is being proposed by a partnership among Gale International, Morgan Stanley and W/S Development Associates, LLC (the Proponent). Comprised of twenty city blocks, Seaport Square proposes 19 buildings containing approximately 2.75 million square feet of residential (approximately 2,500 units), 1.4 million square feet of office and research, 1.25 million square feet of retail, 600,000 square feet of educational, civic, and cultural uses, 500,000 square feet of hotel (approximately 700 rooms) as well as below-grade parking for approximately 6,500 cars. These uses will be organized around two major open spaces, Seaport Square and Seaport Hill, while Seaport Boulevard itself will become an extensively landscaped urban space. All buildings, with the exception of the proposed Chapel and two schools, will enliven the urban public realm and streetscape with ground-floor retail and restaurant uses to provide a safe, inviting, and animated pedestrian experience. Figure 1.1-2 shows the open space plan for the Project.

This Project Notification Form/Environmental Notification Form (PNF/ENF) is being submitted as the first step in the Boston Redevelopment Authority's (BRA's) Large Project Review process, and in accordance with the Executive Office of Energy and Environmental Affairs (EEA) Massachusetts Environmental Policy Act (MEPA) process. Following issuance of the BRA Scoping Determination and the Secretary of EEA's MEPA Certificate, a Draft Project Impact Report/Environmental Impact Report (PIR/EIR) for the entire Project will be prepared and filed.

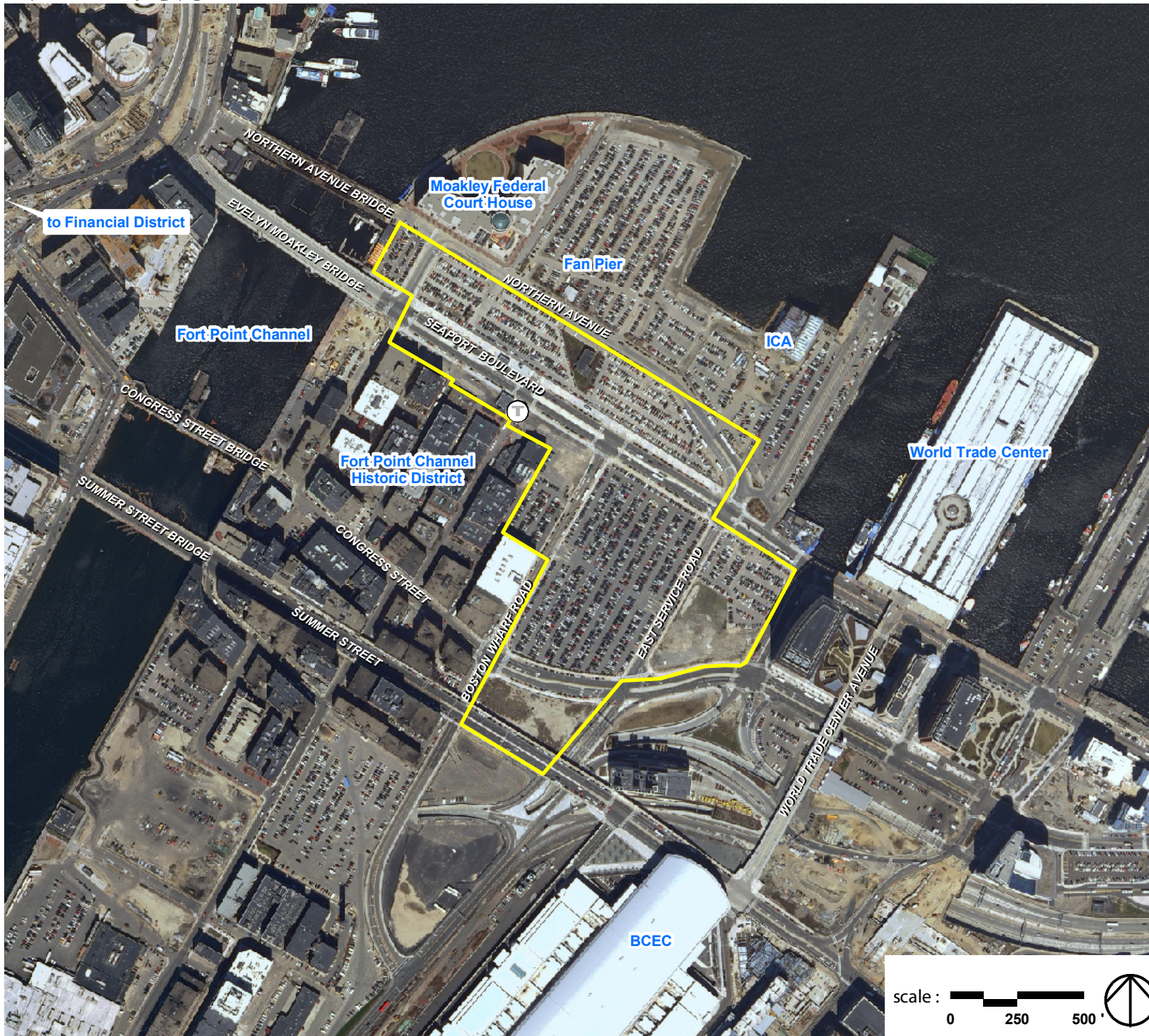


Figure 1.1-1

Project Locus



Morgan Stanley



prepared by:
Epsilon Associates, Inc.



scale : 0 300'

GALE
INTERNATIONAL

Morgan Stanley

WS DEVELOPMENT

prepared by : ADD Inc

SEAPORT SQUARE
IN SOUTH BOSTON

Figure 1.1-2

Twenty Block Plan

1.1.1 Phase 1 Waiver Blocks

Although generally the Project will be developed in one continuous building process, early construction of a small portion of the Project (Phase 1, less than 200,000 square feet or approximately 3% of the Project) will allow the Proponent to relocate the Our Lady of Good Voyage Chapel, create a gateway to the Fort Point Channel and South Boston waterfront, provide early public benefits and open space, and facilitate construction of the remainder of the site. Additionally, a new waterfront way will be created in Phase 1 to connect the long-missing Harborwalk link between the Children's Museum and the Federal Courthouse.

With the understanding that the Draft PIR/EIR will include analyses of the entire Project, the Proponent requests that the BRA Scoping Determination waive further review of Phase 1 of the Project (detailed in Section 2.7) based on the analysis in this PNF/ENF of the impacts of this phase, while providing a Scope for the Draft PIR/EIR for the entire Project. A Phase 1 waiver request will also be submitted to the MEPA unit for the same portions of the Project, requesting that that portion of the Project be allowed to proceed prior to completion of MEPA review for the entire Project. This PNF/ENF includes a discussion of the entire Project as well as more detailed information on those portions of the Project for which the Proponent is seeking a waiver of further review after the PNF/ENF submittal.

1.2 Project Identification

| | |
|---------------|--|
| Project Name: | Seaport Square |
| Location: | The Project will extend across approximately 23 acres in South Boston, generally defined by Northern Avenue, Seaport Boulevard, Congress Street and Summer Street. |

1.3 Project Team

| | |
|------------|--|
| Proponent: | Gale International One Post Office Square, Suite 3150 Boston, MA 02109 (617) 350-7577 John B. Hynes, III Dave Wamester Morgan Stanley One International Place, 13 th Floor Boston, MA 02110 (617) 856-8700 Scott Oran |
|------------|--|

Proponent: (Continued) W/S Development Associates, LLC
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Chestnut Hill, MA 02467
(617) 232-8900
Jeremy Sclar

Owner: MS Boston Seaport, LLC
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(617) 350-7577

Master Planners: Kohn Pedersen Fox Associates
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Richard Nemeth

Master Plan Coordinator: ADD Inc
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Larry Grossman
Tamara Roy

Architects: CBT
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Charles N. Tseckares

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David Hacin

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Ray Bordwell

| | |
|--|---|
| Permitting Consultant: | Epsilon Associates, Inc. 3 Clock Tower Place, Suite 250 Maynard, MA 01754 (978) 897-7100 Cindy Schlessinger Elizabeth Grob Geoff Starsiak |
| Legal Counsel: | Goulston & Storrs 400 Atlantic Avenue Boston, MA 02110 (617) 482-1776 Matthew Kiefer Peter Kochansky |
| Transportation and Parking Consultant: | Howard / Stein–Hudson, Inc. 38 Chauncy Street, 9th Floor Boston, MA 02111 (617) 482-7080 Jane Howard Keri Pyke |
| Geotechnical Consultant: | Haley & Aldrich 465 Medford Street, Suite 2200 Boston, MA 02129 (617) 886-7400 Marya Gorczyca |
| Civil Engineer: | Tetra Tech/Rizzo 1 Grant Street Framingham MA 01701 Al Carrier |
| Landscape Architect: | Reed Hilderbrand Associates, Inc. 741 Mt. Auburn Street Watertown, MA 02472 (617) 923-2422 Gary Hilderbrand Chris Moyles |

1.4 Project Differentiators: Realizing Seaport Square's Unique Opportunities

Seaport Square is poised to create thousands of new jobs, generate approximately \$35,000,000 of Development Impact Project Funds, approximately \$35,000,000 in annual real estate taxes for the City of Boston, an estimated approximately \$25,000,000 in annual sales taxes for the Commonwealth and is targeted to be one of the largest LEED-ND Silver certified neighborhoods proposed in the United States, positioning the heart of the Seaport District to be economically and environmentally sustainable.

The Proponent has developed a comprehensive public benefits program (described below in Section 1.4.2) that is broad in scope and site-specific by design, and will provide new open space, create jobs, and generate new tax revenues. Of equal, and perhaps greater, importance are a number of "differentiators," attributes that significantly set Seaport Square apart from other development projects in the City of Boston, while enabling the Project to become well-integrated into Boston's urban fabric.

Seaport Square will create an entirely new neighborhood in Boston in an area that at present is virtually a blank slate – expansive surface parking lots defined only by existing city streets. Largely devoid of many of the constraints often associated with urban redevelopment – e.g., confined space, noteworthy buildings to be retained, and complex vehicular and pedestrian circulation patterns that need to be maintained – Seaport Square is uniquely positioned to realize opportunities that other redevelopment projects in Boston are unable to provide. Seaport Square promises to be Boston's largest and most exciting new neighborhood since the filling of the Back Bay.

These differentiators generally fall into three categories: Sustainable Development, Urban Vitality, and Civic Contributions.

1.4.1 *Sustainable Development*

The Proponent believes Seaport Square will be one of the largest sustainable neighborhoods in the United States. The Project site will seek accreditation under the Neighborhood Development (ND) category of the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) rating system. The LEED rating system for sustainable development at a neighborhood scale, referred to as LEED-ND, integrates the ideals of smart growth, urbanism, and green building as the fundamental framework for site planning and infrastructure design which reduces emissions, tempers demand for natural resources, as well as encourages development of sustainable buildings. While the program is still in the pilot phase, the developer is tracking along with the evolving structure of the ND program, and will apply for certification upon release of the full ND program anticipated in 2009-2010. Other LEED rating systems – geared toward projects constrained by their surroundings or the size of the parcel on which they are located - focus on buildings alone, and do not approach sustainability from a holistic standpoint. The Proponent of Seaport Square is committed not only to embracing Mayor Menino's Green Building Initiative, but

establishing a statewide model for *urban* development at a neighborhood scale. The Project will target meeting LEED-ND standards at the Silver Level. To attain a Silver rating in the ND program, the Project will include a comprehensive array of sustainable measures.

Taking maximum advantage of its urban location, Seaport Square's master plan framework has been fashioned to meet LEED-ND goals. In addition to creating three major new urban spaces, the Project's public spaces will establish connections to other pedestrian and green networks throughout the City. These urban spaces will transform the expansive surface parking areas that presently dominate the Seaport District. The extent of proposed open space will be made possible by the development of approximately 6,500 parking spaces below-grade, to meet Project demands without detracting from the pedestrian experience. In addition, the LEED-New Construction (NC) or Core and Shell (CS) rating system will be pursued as applicable for different use types at Seaport Square.

While promoting pedestrian access, Seaport Square will enhance other modes of transportation with a complement of improved roads and bicycle facilities throughout the site, as well as a new head house connection to connect Seaport Square to the Massachusetts Bay Transportation Authority (MBTA) Silver Line below grade. With proximity to the MBTA Silver Line, bicycle storage facilities, and parking spaces dedicated for a car-sharing hub, Seaport Square will encourage individuals to take advantage of alternative modes of transportation, reduce reliance on automobiles and walk more. Seaport Square also anticipates using energy-efficient design, the inclusion of green (vegetated) and white roofs, recycling stormwater and other measures described in more detail in Section 3.3.14.

1.4.2 *Urban Vitality*

Seaport Square will embrace the best aspects of Boston's historic neighborhoods. It is designed to foster a unique and wonderful urban vitality by providing a cohesive neighborhood atmosphere for its residents, workers, and visitors. This "quality of life" will be realized through planning strategies and design features that will create land-use synergies. Like Boston's most successful neighborhoods, the combination of residential, commercial and cultural spaces will allow for a vibrant and engaging 24-hour neighborhood. Wide sidewalks, pedestrian-friendly plazas, open spaces, and landscaping will enliven street activity throughout the community during daytime and evening hours. This experience will be enhanced through the inclusion of cultural components, as well as service retail, schools, a new library, a grocery store, and playgrounds that are a part of every day urban life. Flexible gallery space, outdoor festivals and revolving cultural performances will provide enriching activities to residents and workers in the area, as well as to visitors who come to experience the other amenities Seaport Square has to offer. In addition, the Proponent is considering other cultural attractions as part of the Project including a skating rink and outdoor sculptures.

A new Catholic Chapel will be constructed adjacent to the Silver Line station to replace the existing Chapel of Our Lady of Good Voyage located on Northern Avenue, integrating one of the Seaport District's traditional land uses into its new neighborhood setting. The new Chapel will have enhanced visibility along the main thoroughfare (Seaport Boulevard) in the heart of the Seaport District with better accessibility for churchgoers.

Two new schools for approximately 2,000 students (international K – 12 school for 1800 students and a pre-K – 1st grade public pilot school for 200 students) are proposed between Congress and Summer Streets, conveniently located to serve both new residents and current residents of South Boston and to reinforce connections within the community.

1.4.3 *Public Benefits and Extraordinary Civic Contributions*

Seaport Square proposes a comprehensive public benefits program, ranging from the qualitative benefits derived by transforming an area predominantly covered by surface parking into a dynamic new neighborhood, to quantifiable benefits, such as the creation of affordable housing and monetary contributions toward specific programs. In addition, the programming for Seaport Square includes extraordinary civic contributions. These public benefits and extraordinary civic contributions are listed below.

1.4.3.1 Public Benefits

- ◆ **20,000 New Jobs:** The Project will create approximately 15,000 construction jobs and approximately 20,000 permanent jobs. The permanent jobs will be created through the retail space, office and research uses, the new branch library, the new schools, and services related to the residential and hotel uses.
- ◆ **Increased Housing:** The Project includes the development of approximately 2,500 homes, including both for sale and rental units, priced to attract a broad spectrum of income levels.
- ◆ **Affordable Housing:** The Mayor's Executive Order dated May 16, 2006 established as City policy that any residential project seeking zoning relief must set aside at least 15% of the number of market rate units as affordable to moderate income and middle income households, or contribute to a housing creation fund a per unit subsidy for 15% of the number of market rate units. Affordable housing will make up approximately 15% of the number of market rate units (325).
- ◆ **Workforce Housing** In addition to the 325 units of affordable housing, an additional approximately 15% of the number of market rate units (325) are proposed as workforce housing units. Workforce housing is intended for people whose income is too high to qualify for formally restricted affordable housing units, but who are often priced out of the housing market, such as fire fighters, police officers, teachers, and the like. The

inclusion of the workforce housing component reflects the Proponent's belief that strength of the City is through economic diversity of its inhabitants and to insure that Seaport Square has various housing opportunities for people of all income levels.

- ◆ **Open Space:** To reinforce the mission of Seaport Square as a place for connecting with the South Boston waterfront, shopping, working, living, learning, and recreating, and inspired by the BRA's civic vision, the Project will include a substantial amount of open space that will help create a continuous public realm. More than one-third of the Project area will be undeveloped area, including new streets, green spaces, sidewalks, and pedestrian ways connecting the surrounding communities and area attractions. Over 25% (or six acres) of the site will be publicly accessible open space. The two main open spaces are Seaport Square green and Seaport Hill, at 1.25 and 0.75 acres respectively, while Seaport Boulevard will provide an aesthetically pleasing connection through the Project to the Financial District and to other areas of the South Boston waterfront.
- ◆ **Sustainable Design/Green Building:** The Project will target meeting LEED-ND standards at the Silver Level. In addition, the LEED-NC or LEED-CS rating system will be pursued as applicable for the different use types at Seaport Square. The Proponent is targeting LEED NC Silver on Phase Blocks A and H. As construction on Block J is to be directed by the Archdiocese, the final design parameters of the building will continue to be developed. The Proponent believes Seaport Square will be one of the largest sustainable neighborhoods in the U.S.
- ◆ **Smart Growth/Transit-Oriented Development:** The redevelopment of this site into an attractive mixed-use development will help create a thriving urban community in the South Boston area. With 2,500 residential units located in the middle of a commercial employment core, the site is ideal for promoting walking as a means of transport to and from work. As a mixed-use development within close proximity to the MBTA's Red and Silver Lines, the Project embodies the major tenets of transit-oriented development (TOD). In addition to being located within a quarter-mile of public transit, Seaport Square has planned for and designed a compact, walkable development incorporating approximately 100 retail stores, housing, hotels, offices, schools, a library, a performing arts center and other recreational opportunities for pedestrians.
- ◆ **New Property Tax Revenue:** The Project will generate approximately \$35,000,000 in annual property taxes, \$25,000,000 in annual sales taxes as well as approximately \$2,600,000 in state hotel occupancy tax, \$1,800,000 in local occupancy tax, and \$1,200,000 toward the convention center financing fee.
- ◆ **Sales Tax:** The Project is estimated to generate approximately \$25,000,000 annually in sales tax for the Commonwealth.

- ◆ **Linkage:** The Project will generate approximately \$35,000,000 in housing and jobs linkage funds to the City of Boston. Notably, this linkage payment will be the largest linkage payment ever made to the City of Boston to date.

1.4.3.2 Extraordinary Public Improvements

- ◆ **New Streets and Sidewalks:** \$25 million will be spent for new public streets and sidewalks. Improvements to existing public streets will be made and new streets will be constructed including Harbor Street, Autumn Lane, and Thompson Street. Based on conversations with BWSC, National Grid, NSTAR Electric, etc., there will be a need to upgrade distribution in the immediate area to serve the needs of the new neighborhood. Currently it is anticipated that some of this infrastructure will be funded by the Proponent and some will be funded by the utility company. Also, a feasibility study is underway to explore the viability of various types of co-generation and central energy plant alternatives. Final determination on energy systems and distribution methods will be developed as various schemes are refined.
- ◆ **New Pedestrian Connection:** As envisioned in the Fort Point Channel Watersheet Activation Plan, a new waterfront way will be created to connect the long-missing Harborwalk link between the Children's Museum and the Federal Courthouse. Restaurants and outdoor seating will enliven the area during day and evening hours.
- ◆ **Northern Avenue Bridge:** The Proponent will contribute \$5 million in infrastructure improvements for the Old Northern Avenue Bridge, including repainting, repaving, relighting and adding seasonal kiosks and public art, thereby assisting toward refurbishing this historic link and Gateway to the South Boston waterfront.
- ◆ **Bridging Grade to Summer Street:** An estimated \$10 million will be spent to construct Harbor Street which will bridge the grade separation from Summer Street and Seaport Hill, providing direct access from Summer Street to Seaport Square and the surrounding area.
- ◆ **Open Space and Landscape Improvements:** The Project includes \$25 million in open space and landscaping improvements, including two new open spaces, Seaport Square and Seaport Hill.
- ◆ **Public Art Trail:** An emphasis on public art venues is planned to celebrate and support the talent from the nearby neighborhood, drawing many to the site, strengthening connections from Fort Point Channel open spaces to the South Boston waterfront to the Seaport Square green and supporting existing institutions, like the ICA and the Children's Museum.

1.4.3.3 Cultural, Educational and Community Contributions

- ◆ **Performing Arts Center:** An approximately 1,800 seat, 250,000-square foot facility designed for performance arts could be located on Summer Street. This performing arts center could be used by such arts institutions as the Boston Ballet or the Berklee College of Music, and will provide a new venue for performances to be enjoyed by both tourists and locals. Final determination is dependent on local demand and funding.
- ◆ **Flexible Gallery Space:** A flexible gallery space is proposed adjacent to the largest open space associated with the Project, Seaport Square Green. The Proponent envisions a space where neighboring artists can show their work, as well as a place for arts classes and community gathering, as well as coordination with the ICA. This arts space will increase community interest and connection to the area.
- ◆ **Educational Facilities:** To attract families to the site, a privately funded Pre-K -1 public pilot school for 200 children will be located within the Project. The Proponent has also committed to substantial annual scholarships for City residents to a new K-12 international school. After hours this space may be used for adult education programs or other continuing education needs open to City residents.
- ◆ **Public Library:** Seaport Square will include a new neighborhood branch of the Boston Public Library to serve area residents and complement the South Boston Branch Library.
- ◆ **Catholic Chapel:** A new facility will be constructed to relocate the existing Chapel (Our Lady of Good Voyage Chapel) to a site that is more conveniently located within the community, providing better access for churchgoers and greater visibility for the new Chapel.

1.5 Legal Information

1.5.1 *Legal Judgments Adverse to the Proposed Project*

The Proponent is not aware of any legal judgments in effect or legal actions pending that are adverse to the Project.

1.5.2 *History of Tax Arrears on Property*

The Proponent is not in tax arrears on any property owned within the City of Boston.

1.5.3 *Evidence of Site Control/Nature of Public Easements*

In September, 2006, the Proponent acquired title to the Project site, with the exceptions described below, from Fox Boston Seaport Land LLC.

A portion of Blocks C and D is currently owned by the Archdiocese of Boston, and occupied by the Our Lady of Good Voyage Chapel. The Proponent has submitted a letter

of intent to the Archdiocese and has recently reached an understanding in principle to purchase the site currently occupied by the Our Lady of Good Voyage Chapel. In accordance with the understanding the Archdiocese will design and construct a new Chapel on Block J.

Pursuant to a 1998 agreement among the McCourt Broderick Limited Partnership (MBLP) (a previous site owner), the City of Boston, and the BRA, the BRA is required to transfer to the Proponent (1) a triangular Block at the intersection of Northern Avenue and the proposed East Service Road extension containing approximately 31,835 square feet in order to square off Blocks F and G; and (2) a permanent subsurface easement to a triangular Block adjacent to Blocks C and D and to an adjacent strip of land within the Old Northern Avenue right of way.

In return, the Proponent must transfer to the City or the BRA the land between Blocks C and D, which will be used for the extension of Thomson Place (Fan Pier Boulevard), and possibly additional property.

Pursuant to a 1997 Omnibus Settlement Agreement among MBLP, the Massachusetts Department of Highways (MHD), the Massachusetts Bay Transportation Authority (MBTA), and Energy International, Inc. (the OSA), MHD is required to transfer to the Proponent fee or easement interests in blocks of land previously taken from MBLP outside final roadway and transit rights of way, including the area of the previously proposed traffic circle at the intersection of Seaport Boulevard and West Service Road and an air rights parcel on Blocks P and N. The OSA establishes a procedure to determine the final configurations of Blocks P and N. The Proponent intends to work with MHD to finalize any transfers required by the OSA.

1.5.4 *Survey of Existing Conditions*

Appendix A provides a survey of existing conditions on the Project site.

1.6 Permitting Process

Given the scale of the Project, it will be subject to BRA and MEPA impact reviews, reviews relating to impacts on nearby historic properties, and permitting related to transportation and other infrastructure impacts. In light of the minimal impacts arising from the development of Blocks A, H, and J, which represent approximately 3% of the total proposed gross floor area, the Proponent seeks to attain public approvals for those projects in a first phase.

This PNF/ENF describes the entire Project and contains expanded information describing Blocks A, H, and J in order to support its request for a waiver to allow these components to proceed while the Proponent prepares a Draft PIR/EIR for the entire Project.

Most of the Project site consists of landlocked tidelands exempt from the waterways licensing requirements of Chapter 91. Certain areas of the Project site are within Chapter 91 licensing jurisdiction and subject to the South Boston Municipal Harbor Plan: all of Block A; the western end of Block B; the western end of Block H; the northeastern corner of Block G; and the northeastern portion of Block M. These areas total approximately 1.64 acres. The Proponent will seek Chapter 91 licenses for those sub-Blocks, perhaps in conjunction with minor modifications to the Municipal Harbor Plan, after Article 80 review for the relevant Blocks is complete. Because the entire Project site is located on landlocked tidelands, the Project will comply with the recently-enacted legislation governing those areas by addressing the impact of the Project on public access to the waterfront and on groundwater levels, and will seek a public benefit determination from the Secretary of the Executive Office of Energy and Environmental Affairs.

Blocks H, J, K, and Q of the Project site are within a proposed Protection Area adjacent to the pending Fort Point Channel Landmark District. As such, in addition to State Register Review by the Massachusetts Historical Commission, the Project will be subject to review by the Boston Landmarks Commission under interim review procedures or by the to-be-formed district commission under the Standards and Criteria for the Protection Area, once adopted.

The Project will require approvals from the Federal Aviation Administration for buildings that exceed 200 feet in height. The Proponent has designed the Project to be consistent with allowable building heights as shown on advisory maps issued by Massport, and has had preliminary meetings with the FAA and Massport to discuss the Project.

The Project site has South Boston Parking Freeze permits from the City's Air Pollution Control Commission for 3,647 commercial parking spaces. The Proponent expects to seek new permits for approximately 850 additional commercial spaces from the Parking Freeze Bank. The Project will also require permits relating to wastewater and construction dewatering, and approvals from City and possibly state transportation agencies and departments for the roadway improvements and parking facilities that are part of the Project. A list of potential permits is below.

Table 1.1-1 Anticipated Environmental Reviews, Permits and Approvals

| Agency Name | Review Process, Review Process, Permit , or Approval |
|---|---|
| FEDERAL | |
| Environmental Protection Agency | National Pollution Discharge Elimination System; |
| Federal Aviation Administration | FAA Height Restriction Notice; Section 19 Determination |
| STATE | |
| Executive Office of Environmental Affairs (MEPA Unit) | Secretary's Certificates (including Phase 1 Waiver/Final Record of Decision) |
| Department of Environmental Protection, Division of Wetlands and Waterways | Chapter 91 License; Landlocked Tidelands Public Benefit Determination |
| Department of Environmental Protection, Division of Water Pollution Control | Sewer Connection and Extension Permit |
| Department of Environmental Protection, Division of Air Quality Control | Air Plan Approval, if required |
| Department of Environmental Protection | Notification of Demolition and Construction |
| Massachusetts Water Resources Authority | Sewer Use Discharge Permit; Construction Dewatering Permit |
| Massachusetts Historical Commission | State Register Review |
| Massachusetts Aeronautics Commission | Height Restriction Notice (FAA notice) |
| Massachusetts Highway Department | Access Permit (if required) |
| Executive Office of Transportation | Compliance with Chapter 40, Section 54A |
| Massachusetts Bay Transportation Authority | Approvals related to Silver Line facility |
| LOCAL | |
| Boston Redevelopment Authority | 80B Large Project Review; 80C Planned Development Area Review |
| Boston Zoning Commission | 80C Planned Development Area Approval |
| Boston Civic Design Commission | Review and Approval |
| Boston Air Pollution Control Commission | Parking Freeze Permits |
| Boston Water and Sewer Commission | Sewer Use Discharge Permit; Site Plan Approval; Construction Dewatering Permit; Sewer Extension/ Connection Permit; Stormwater Connection Cross Connection/Backflow Prevention Permit; Hydrant Meter Permit; Construction Permit for Facilities; Termination Verification Permit (Chapel) |
| City of Boston Inspectional Services Department | Building and Occupancy Permits; Termination Verification Permit (Chapel) |

Table 1.1-1 Anticipated Environmental Reviews, Permits and Approvals (Continued)

| Agency Name | Review Process, Review Process, Permit , or Approval |
|--|--|
| Boston Public Improvement Commission | Acceptance of New Public Way or Private Way Open to Public Travel; Street and Sidewalk Occupation Permits; Tieback/Earth Retention license Agreement; Curb Cut; Subsurface/Surface Discontinuances; Specific Repair Plan Approval; Street Opening; Licenses for Awning or Projections |
| Boston Zoning Board of Appeal | Conditional Use Permits, variances, and Interim Planning Permit (for Phase 1 projects) |
| Boston Conservation Commission | Notice of Intent |
| Boston Department of Public Works | Street Occupancy Permit; Curb Cut Permit |
| Boston Transportation Department | Transportation Access Plan Agreement; Construction Management Plan |
| Boston Landmarks Commission | Article 85 Demolition Delay Review; Seaport Boulevard/Boston Wharf Road Protection Area |
| Boston Parks and Recreation Commission | Approval of Demolition and Construction within 100 feet of park or parkway |
| Boston Public Safety Commission, Committee on Licenses | Permit to erect and maintain parking garage; Flammable storage license |
| Boston Fire Department | Storage tank permit; Burner and permit for fuel oil; Cross connection backflow preventer; Approval for sprinkler systems; Permit for maintenance of fire protection/equipment; Permit for safe access to the site; Permit for welding and cutting equipment |

Chapter 2.0

Project Description / Urban Design Goals

2.0 PROJECT DESCRIPTION / URBAN DESIGN GOALS

After decades of neglect and underdevelopment, South Boston's Seaport District is recognized as the next great neighborhood of the City of Boston. Today, numerous development projects are underway or recently completed, with Seaport Square uniquely positioned at the center of this rapidly transforming area.

Seaport Square will be an extraordinary new neighborhood spanning 23 acres just steps from the waterfront and Boston's Financial District. Planned to be a vibrant urban neighborhood, it will weave together a unique fabric of residences, shops, restaurants, cultural institutions, schools, hotels, open spaces and a business district with research and office space. Seaport Square will be distinguished by its commitment to eco-friendly, sustainable design throughout the development and is targeting LEED-ND Silver certification.

This master planned Project has been designed to utilize the major public infrastructure improvements that have been put in place over the past few years including the MBTA Silver Line and improved access to major arteries and interstate highways. This new growth has been envisioned by the BRA's Seaport Public Realm Plan and the South Boston Municipal Harbor Plan. In addition, in close cooperation with the BRA, Seaport Square has been designed to provide significant public realm benefits. These include approximately six acres of publicly accessible open space, two significant new open spaces, a new network of local streets and sidewalks including a direct connection to the neighborhood from Summer Street. Also, significant upgrades planned for the Northern Avenue Bridge will provide a new and improved pedestrian gateway to the Seaport District as well as access to the Harborwalk for the public.

The Proponents believe Seaport Square will offer a uniquely sustainable neighborhood that should be constructed continuously to maximize its benefit to residents, corporate users and retailers. The ability to attract and relocate global employees to the City will be enhanced and magnified by the Project's integrated mixed uses.

Seaport Square will attract residents, businesses, shoppers and visitors from across the city and across the globe and is sure to become Boston's most desirable new neighborhood.

2.1 Existing Conditions: "The Missing Piece"

To the north, south, east, and west of the Project site, planning, permitting, and construction has moved forward in the past ten years to redevelop previously underutilized areas of South Boston, which has resulted in the significant transformation of many acres of surface parking lots, and major improvements to roadway infrastructure, particularly in the Seaport District. The offices and hotel at the World Trade Center, the new Boston Convention and Exhibition Center, the Federal Courthouse, and the Institute for Contemporary Art (ICA) have added new uses and new attractions to the area, signaling a new era of economic

growth for the City of Boston, and renewed vitality for the Seaport District. The Fan Pier development, bridging the gap between the Federal Courthouse and the ICA, has also begun construction.

In the center of this new activity lies Seaport Square, a property that has the greatest potential to link the disparate attractions together into the seamless, vibrant, mixed-use neighborhood envisioned by the BRA in several planning initiatives discussed further in Section 2.9 – the South Boston Seaport District. This “missing piece”, illustrated in Figures 2.1-1 through 2.1-4, is pivotal to revitalizing the Seaport District.

2.2 Project Overview and Approximate Dimensions

Seaport Square will establish 20 new urban blocks in Boston’s emerging South Boston Seaport District, as shown previously in Figure 1.1-2 and other graphics presented in this PNF/ENF as Blocks A through Q. As identified in Section 1.7, the Proponent is requesting a waiver of further review of Blocks A, H and J to enable Seaport Square to provide early public benefits, including a waterfront way which will provide a long-missing Harborwalk connection, additional open space, and the relocation of Our Lady of Good Voyage Chapel, which will facilitate development of the remainder of the Project. Section 2.7 provides additional detail on Blocks A, H and J.

The Proponent will develop more than 23 acres of land, devoting approximately 36% (approximately eight acres) of the total land area to streets, sidewalks and public open space, and constructing 19 new buildings. Over 25% (or six acres) of the site will be publicly accessible open space. The Project proposes to create three significant new urban places, including two new green open spaces, as well as significant landscape improvements to Seaport Boulevard, new streets, public sidewalks, and pedestrian ways. As outlined in Table 2.2-1, the program includes approximately 6.5 million square feet of residential, retail, office and research, hotel, educational, civic, and cultural uses. The Project also includes approximately 6,500 below-grade parking spaces. Every building, with the exception of the Chapel and the schools, proposes retail uses at ground level to provide an inviting and animated pedestrian experience.

The proportion of uses in the plan is shown in the pie chart (Figure 2.2-1), with the largest use being residential (42%), in keeping with the BRA’s ongoing intentions to create a neighborhood within the South Boston waterfront.



View East



View West to the City



View North to the Harbor

GALE
INTERNATIONAL

Morgan Stanley

WS DEVELOPMENT

prepared by: ADD Inc

SEAPORT SQUARE
IN SOUTH BOSTON

Figure 2.1-1
Existing Condition
The Missing Piece



GALE
INTERNATIONAL

Morgan Stanley

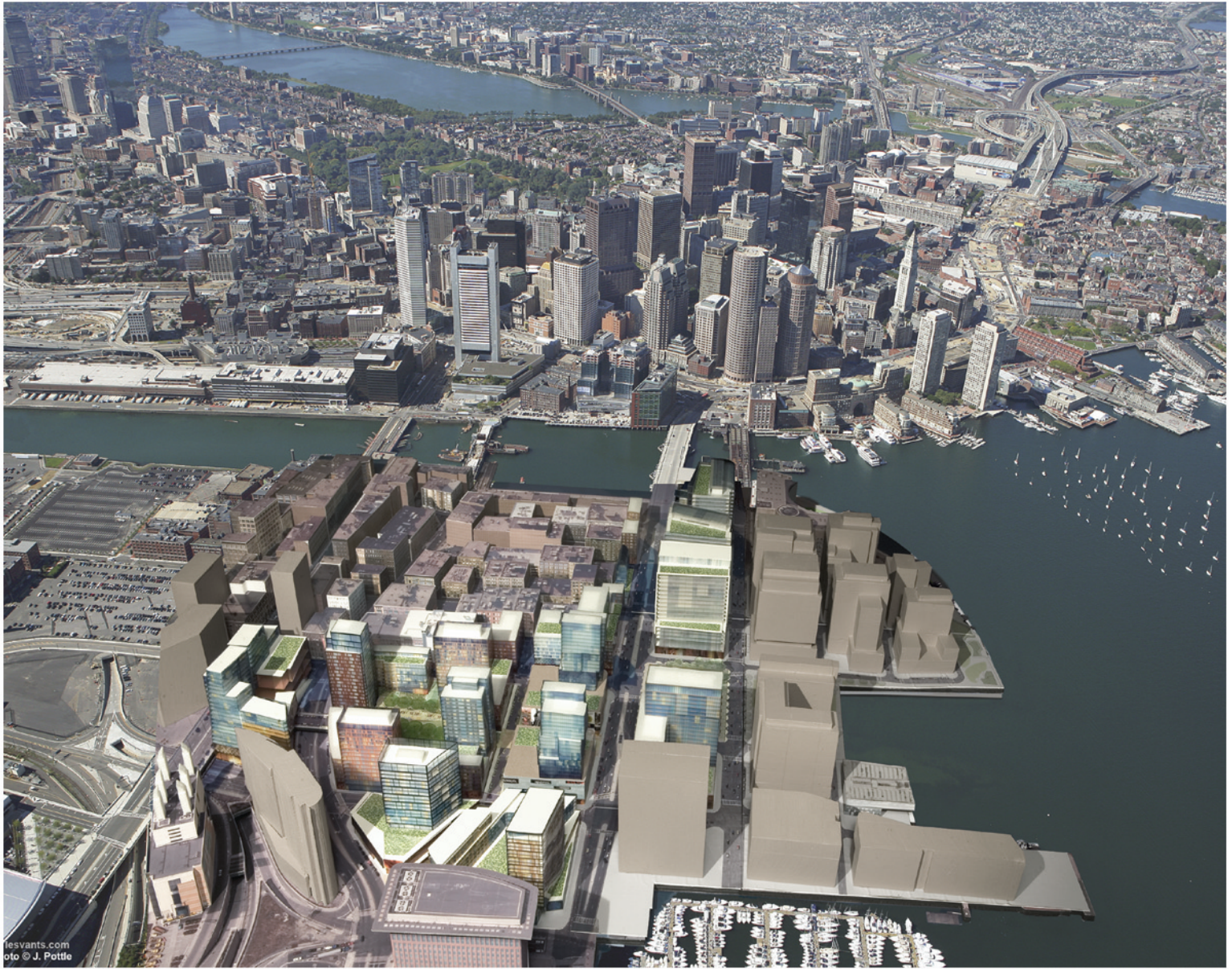
WS DEVELOPMENT

prepared by : ADD Inc



SEAPORT SQUARE
IN SOUTH BOSTON

Figure 2.1-2
Existing Condition
Aerial View



iesvants.com
oto © J. Pottle

GALE
INTERNATIONAL

Morgan Stanley

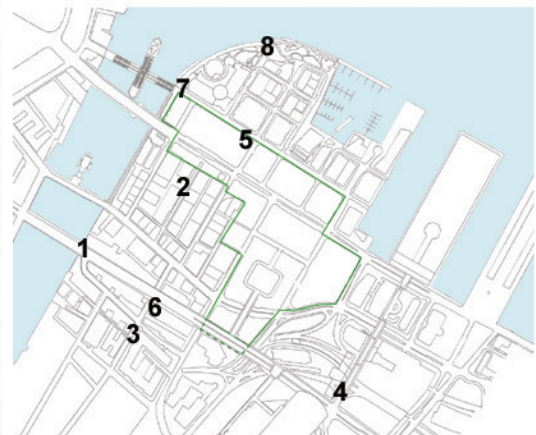
WS DEVELOPMENT

prepared by : ADD Inc



SEAPORT SQUARE
IN SOUTH BOSTON

Figure 2.1-3
Aerial view
Proposed



GALE
INTERNATIONAL

Morgan Stanley

WS DEVELOPMENT

prepared by : ADD Inc



Figure 2.1-4
Existing Condition
Context Photos

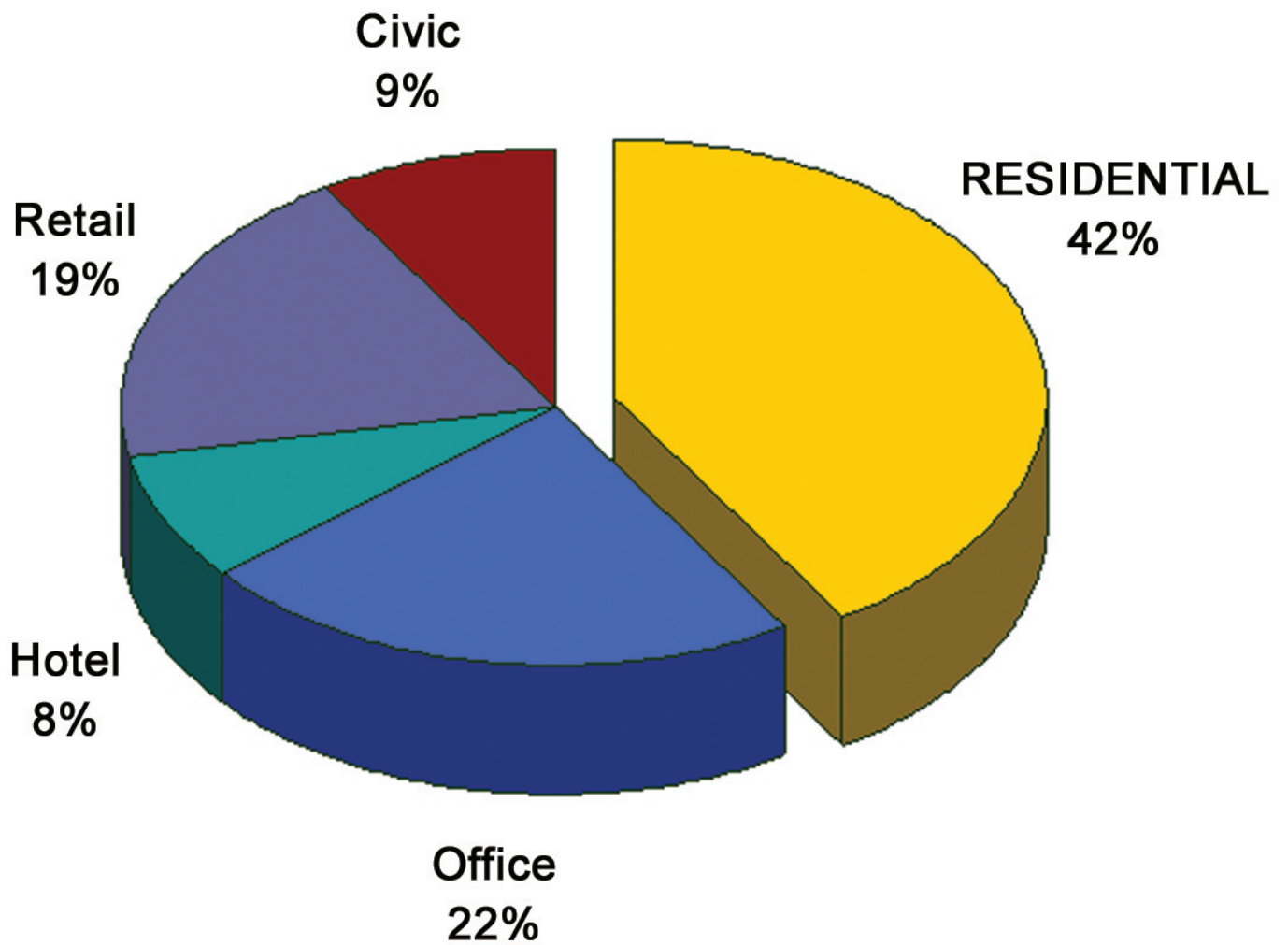


Table 2.2-1 Project Programming and Approximate Dimensions

| Block | Total (gsf) | Retail / Entertainment (gsf) | Residential (gsf) | Office / research (gsf) | Hotel (gsf) | Civic (gsf) |
|-------------------|------------------|------------------------------------|----------------------|-------------------------------|----------------|----------------|
| Block A* | 81,600 | 27,200 | 54,400 | 0 | 0 | 0 |
| Block B | 608,000 | 132,000 | 0 | 476,000 | 0 | 0 |
| Block C | 606,000 | 136,000 | 0 | 470,000 | 0 | 0 |
| Block D | 426,500 | 81,500 | 0 | 340,000 | 0 | 5,000 |
| Park Pavilion | 7,000 | 7,000 | 0 | 0 | 0 | 0 |
| Block G | 472,500 | 95,000 | 267,700 | 0 | 104,800 | 5,000 |
| Block H* | 92,100 | 19,400 | 72,700 | 0 | 0 | 0 |
| Block J* | 25,000 | 0 | 0 | 0 | 0 | 25,000 |
| Block K | 398,700 | 82,500 | 208,700 | 0 | 107,500 | 0 |
| Block L1 | 327,400 | 113,000 | 214,400 | 0 | 0 | 0 |
| Block L2 | 327,400 | 113,000 | 214,400 | 0 | 0 | 0 |
| Block L3 | 285,200 | 40,800 | 244,400 | 0 | 0 | 0 |
| Block L4 | 334,600 | 40,700 | 293,900 | 0 | 0 | 0 |
| Block L5 | 429,700 | 29,100 | 400,600 | 0 | 0 | 0 |
| Block L6 | 277,300 | 21,300 | 256,000 | 0 | 0 | 0 |
| Block M1 | 531,700 | 198,000 | 333,700 | 0 | 0 | 0 |
| Block M2 | 269,600 | 80,500 | 189,100 | 0 | 0 | 0 |
| Block N | 314,500 | 0 | 0 | 0 | 0 | 314,500 |
| Block P | 538,200 | 0 | 0 | 0 | 287,700 | 250,500 |
| Block Q | 147,000 | 33,000 | 0 | 114,000 | 0 | 0 |
| Total | 6,500,000 | 1,250,000 | 2,750,000 | 1,400,000 | 500,000 | 600,000 |
| % of Total | 100% | 19% | 42% | 22% | 8% | 9% |

*The Proponent is requesting waiver of further review for development of Blocks A, H and J.

One of the distinguishing aspects of Seaport Square is the Proponent's commitment to creating a generous percentage of open space; over 25% (six acres) of the 23-acre site will be open space. To achieve this, two significant new open spaces are planned with complementary characteristics: Seaport Square, an approximately 1.25 acre urban lawn large enough to hold public events and surrounded by a flexible gallery space, retail, office and research, cinemas, and hotels; and Seaport Hill, a more intimate sloping open space of 0.75 of an acre with flower gardens, a dog park and a children's playground, surrounded by housing.

Another distinguishing feature is "Seaport Hill" itself, which is created by connecting Seaport Boulevard to the raised viaduct of Summer Street by a newly created Harbor Street that will link the activity of South Station and the Boston Convention and Exhibition Center with Seaport Square and Seaport Boulevard.

2.3 Urban Design Goals, Principles and Strategies

Boston was originally a peninsula, and new neighborhoods historically emerged from new land created by filling in portions of its harbor. Just as Faneuil Hall was built on land reclaimed from a cove in the 1700's, and the Back Bay was created by filling the Charles River in the 1800's, the South Boston waterfront emerged from tidewater flats in the late 1800's and early 1900's (see Figure 2.3-1).

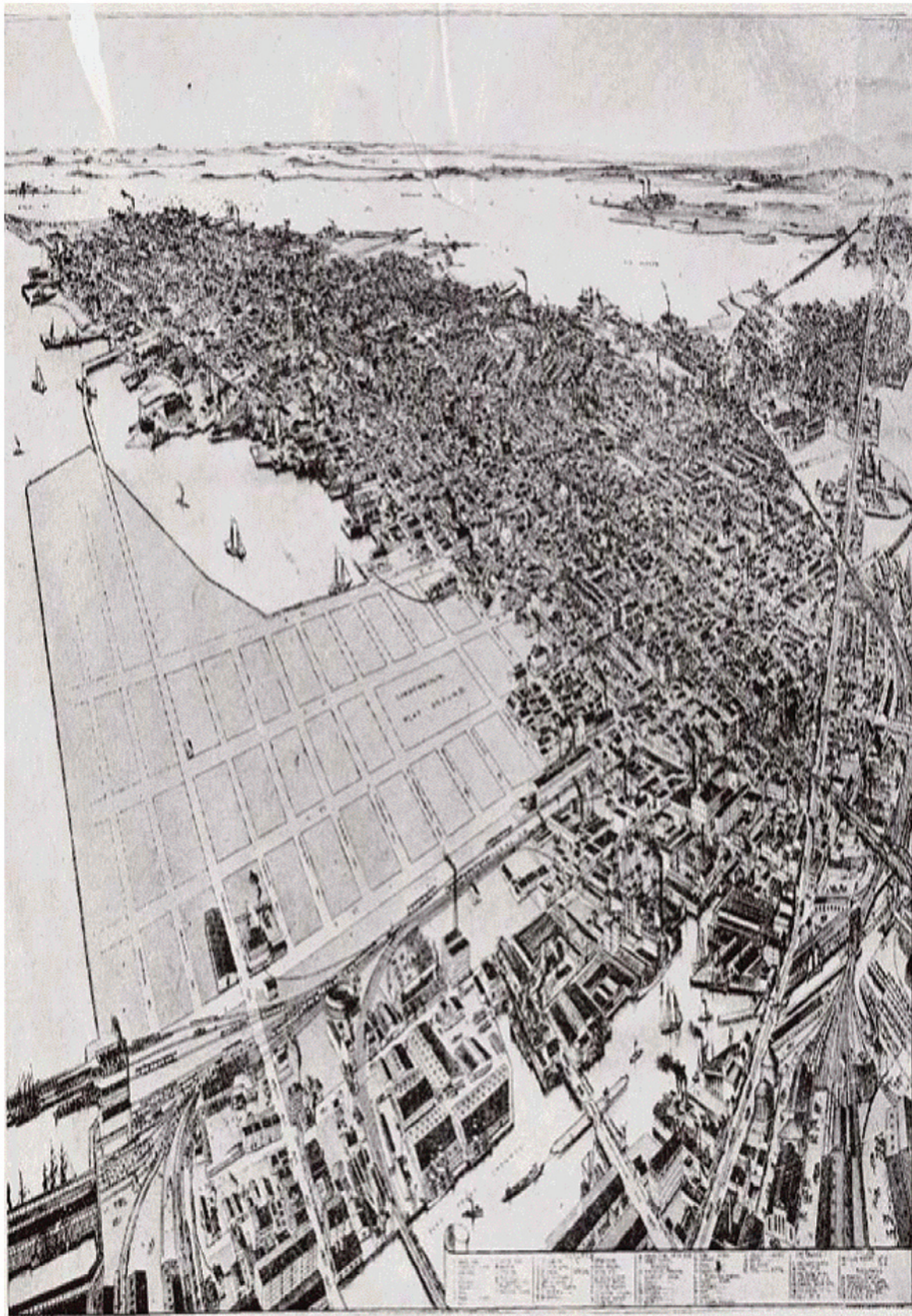
The primary urban design goals of Seaport Square are:

- ◆ to forge the desired connections between all the communities at its edges, and
- ◆ to fill the center with a program of synergistic uses and open spaces that can thrive beside the existing and proposed developments.

Consulting with the Boston Redevelopment Authority over a year-long period, the Proponent developed the Seaport Square plan, which focused on the public realm, the program of uses, infrastructure, sustainability, and sensitivity to context. Researching existing pedestrian movement patterns, larger scale green networks, ground water recharge, energy demand and supply, solar orientation and information technology, the Proponent arrived at a series of design principles and strategies, described below.

Masterplan Principles:

1. Extend Existing Fabrics: the new Block Pattern
2. Make Connections: Streets & Pedestrian Ways
3. Create three New Urban Places: The Boulevard, the Square, and the Hill
4. 24/7 Mix of Uses



South Boston in 1893

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SEAPORT SQUARE
IN SOUTH BOSTON

Figure 2.3-1
Extend Existing Fabric
Historic South Boston

5. Massing Variety & Design Diversity
6. A Vibrant Public Realm
7. Sustainable Design: Green Strategies

Each of these Urban Design Principles for Seaport Square are further defined and illustrated in the following sections.

As building sites, open spaces, and streetscapes are designed and reviewed, these Urban Design Principles and Strategies will provide the foundation for all further design development.

2.3.1 *Extend Existing Fabric*

Each area bordering the Project site has a unique character defined by scale, material, street width, and use, which are related to the dimensions of its blocks as well as the era of its construction. The Fort Point Wharf District, for example, located to the south of the Project site, has a cohesive and recognizable identity due to its small block pattern. This area is characterized by buildings of similar height and rhythm of window openings, constructed of masonry material. The Fort Point District has a clear directional grain of buildings with minor variation in height, primarily organized along narrow streets and alleys. The Fan Pier development and the ICA have larger, rectilinear blocks and massing that transition from high buildings to lower buildings toward the water's edge. The World Trade Center area is a tight node of urban activity with long, and tall rectilinear sites for convention, hotel, and office uses. And the new Boston Convention and Exhibition Center and Waterside Place have even larger block dimensions, able to contain programs such as large retailers and exhibition halls.

The Seaport Square plan is generated by extending traditional existing block patterns from the surrounding urban fabric into the site, as illustrated in Figure 2.3-2. This strategy accomplishes two very important objectives: first, it links the Seaport Square development to the scale and grain of its neighbors at all the edges where they meet, and second, it produces a mixture of traditional block sizes within itself, which in turn supports a diversity of programs and massing options.

2.3.2 *Make Connections*

The Seaport Square plan combines a gridded network of roadways, plazas, and open spaces to connect the site to important destinations nearby as well as developing new attractions within the site. Figure 2.3-3 and Figure 2.3-4 illustrate proposed and upgraded vehicular and pedestrian connections associated with development of Seaport Square.



Boston Wharf District



Fan Pier



World Trade Center

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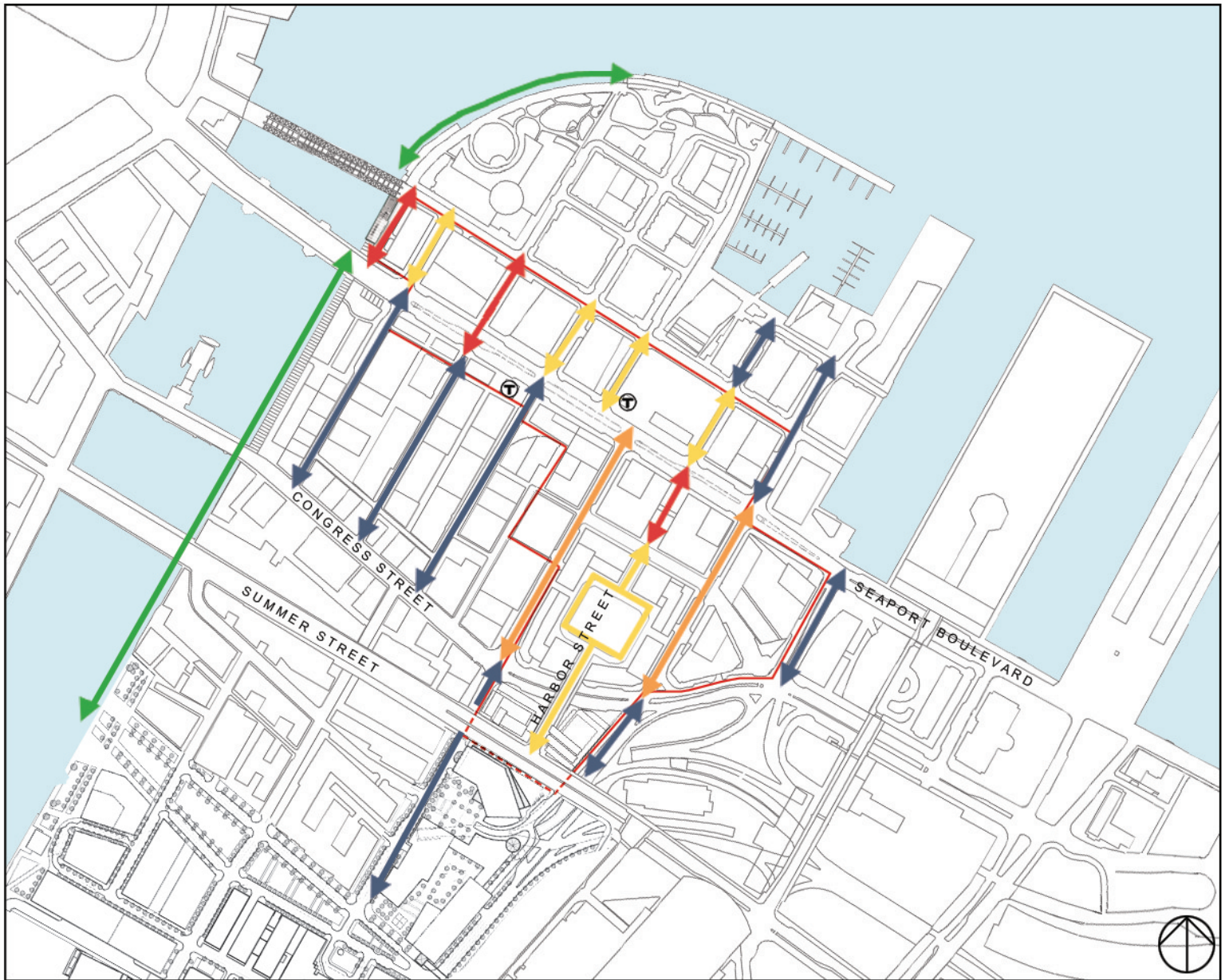
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SEAPORT SQUARE
IN SOUTH BOSTON

Figure 2.3-2
Extend Existing Fabric
The New Block Pattern



North/South Connections

- new street
- street improvements
- new pedestrian connection
- existing street
- harborwalk
- site boundary



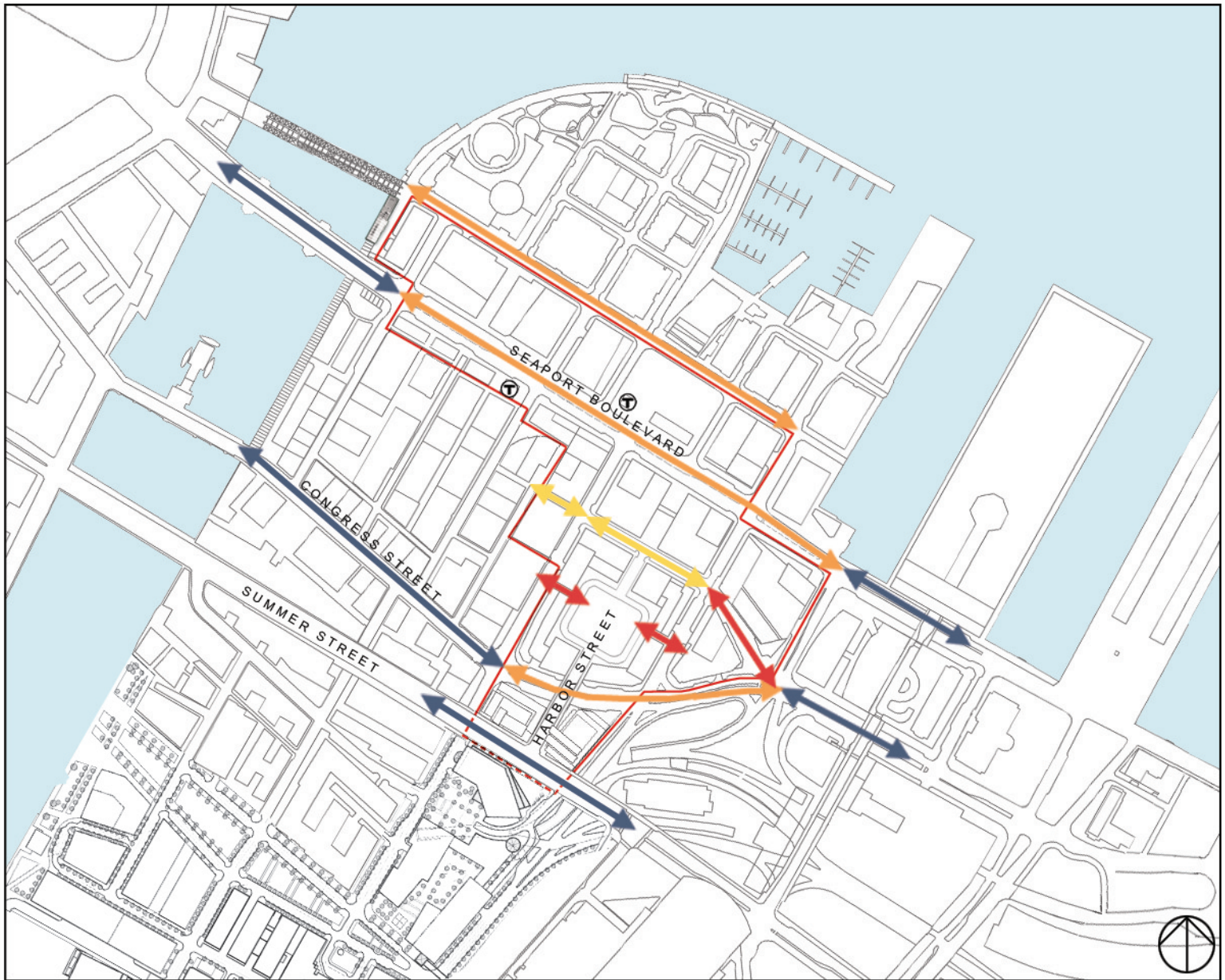
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Figure 2.3-3
Make Connections
Streets & Pedestrian Ways



East/West Connections

- new street
- street improvements
- new pedestrian connection
- existing street
- harborwalk
- site boundary



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Figure 2.3-4
Make Connections
Streets & Pedestrian Ways

In the north/south direction, connections are established by extending the historic Sleeper and Farnsworth Streets, and Thomson Place across Seaport Boulevard from the Fort Point District to Northern Avenue, creating walkable city blocks and a link to the Harbor. The Project introduces a new, sloping street, identified as Harbor Street, connecting the raised viaduct of Summer Street, now an impediment to north-south movements, with the waterfront open spaces and the ICA. Three pedestrian ways create open-air plazas for outdoor relaxing, eating and shopping between the B and C office and research Blocks, between the L1 and L2 entertainment/residential Blocks, and between the M1 and M2 retail/residential Blocks.

In the east/west direction, Seaport Boulevard will be landscaped with trees in its median and along its sidewalks to connect Boston's Financial District to the Boston World Trade Center, Waterside Place, and Commonwealth Flats creating a grand urban boulevard. The newly proposed Autumn Lane, partly vehicular and partly pedestrian, will be lined with retail uses connecting the Fort Point Wharf District with Congress Street, the World Trade Center, and Waterside Place. Another pedestrian connection traverses the middle of Seaport Hill, providing a pleasant shortcut up to Seaport Hill on Harbor Street between Boston Wharf Road and East Service Road.

2.3.3 *Create Three New Urban Places: The Boulevard, the Square, and the Hill*

Seaport Square, like many neighborhoods in Boston, will be more than just a web of connections; it will provide distinct and memorable experiences that residents and visitors alike can name, identify with, and return to.

The plan calls for the prioritization of three new urban places (shown in Figure 2.3-5): the Boulevard, the Square, and the Hill. They are described in more detail in Section 2.3.6, A Vibrant Public Realm.

2.3.4 *24/7 Mix of Uses*

By extending and enhancing the surrounding neighborhoods and attractions, Seaport Square will weave a brilliant kaleidoscope of people, culture, nature, business, and entertainment. Residents will animate the area and energize the sidewalks into the evenings and weekends, and will discover nightlife, cinemas, cafes and small shops throughout the neighborhood's intimate streets.

The approximately 6.5 million square foot program mixes living, working, and playing, with cultural and educational touchstones such as a Chapel, schools, a branch library, flexible gallery space, and a performing arts center. The programming is designed to create synergies with nearby activity nodes, such as the commercial uses near the downtown Financial District, housing near the Fort Point Wharf District, and the hotels near the Boston World Trade Center and Boston Convention and Exhibition Center. The cultural and civic programs are spread across the site to emulate historic Boston neighborhood structure.



1 - Seaport Boulevard



2 - Seaport Square



3 - Seaport Hill

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SEAPORT SQUARE
IN SOUTH BOSTON

Figure 2.3-5
Create Three New Urban Places
**The Boulevard, The Square
& The Hill**

The following series of Figures show uses within the Project site as well as similar surrounding uses in a slightly lighter tone.

Open Space: Over 25% of site area (Figure 2.3-6)

The open spaces of Seaport Square, including green spaces, sidewalks, and pedestrian ways connect the surrounding communities and attractions as well as create three new urban places: the Boulevard, the Square, and the Hill of distinct different and identifiable characters. Variations in paving materials, patterns, tree and plant species, program activities, and surrounding uses will give each street and open space a unique and inviting atmosphere. Figure 2.3-6 demonstrates how different areas of Seaport Square are linked by open spaces, which in turn provide connections to other neighborhoods.

Residential: Approximately 2.75 million square feet (Figure 2.3-7)

Like many of Boston's best-known neighborhoods, housing will be the primary use in the Seaport Square development. Close to entertainment, dining, business and culture, Seaport Hill will be an attractive, multi-generational and mixed income neighborhood. A diverse selection of housing will be available in several types of buildings, with rental and ownership opportunities as well as a mix of affordable, workforce, and luxury housing. Residents will be able to choose from low-rise garden to high-rise city views in a range of sizes from studios to three-bedrooms. Figure 2.3-7 shows the proposed locations of residential uses, which are concentrated around Seaport Hill as well as distributed along Seaport Boulevard and East Service Road. Seaport Square's current residential programming calls for an approximately 50:50 split of for sale and rental units; approximately 325 units will be designated as affordable housing and approximately 325 units will be workforce housing, as described in Section 1.4.2 above.

Office and Research: Approximately 1.4 million square feet (Figure 2.3-8)

By offering state-of-the-art Class A buildings conveniently located near Boston's Financial District and mass transit facilities, the tower buildings located in the northwest portion of Seaport Square, and the office and research space on West Service Road, are ideally suited for local and global businesses. Positioned as an extension of the Financial District, three mid-rise towers and a low-rise block will integrate the latest systems and technologies for security, life safety, and communications. The Boulevard Towers mark the entrance to a vibrant new district with a mix of uses that will make everyday life easier for employees, clients and visitors. Figure 2.3-8 illustrates the distribution of commercial uses throughout the Project site. The buildings are designed to accommodate both office and research users, with the potential for green energy or life sciences research or global financial services.



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SEAPORT SQUARE
 IN SOUTH BOSTON

Figure 2.3-6
24/7 Mix of Uses :
Green Space



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Figure 2.3-7
24/7 Mix of Uses :
Residential



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SEAPORT SQUARE
 IN SOUTH BOSTON

Figure 2.3-8
24/7 Mix of Uses :
Commercial

Retail: Approximately 1.25 million square feet (Figure 2.3-9)

Storefront retail is proposed at street level for all buildings associated with Seaport Square with the exception of a Chapel and the school. Some buildings will have second and third story retail programs as well. Distinct retail districts will cater to the needs of residents and visitors: such as home furnishings, children's goods, entertainment, dining, and fashion and apparel. Large retail tenants such as a grocery store are also being considered. The shops will be a blend of local and regional stores and boutiques mixed with larger national retailers. Figure 2.3-9 illustrates the extent to which retail uses will be distributed throughout the Project site.

Civic Uses: 600,000 square feet (Figure 2.3-10)

The Seaport Square plan also contains a great diversity of civic functions, including a privately funded Pre-K –1st grade public pilot school, an international private school for grades K through 12, as well as flexible gallery space, a branch of the Boston Public Library, and the relocated Our Lady of Good Voyage Chapel, as shown in Figure 2.3-10.

Hospitality: Approximately 500,000 square feet (Figure 2.3-11)

The tourists and business travelers who stay at the approximately 700 new rooms in the three new hotels will animate the area and energize the sidewalks into the evenings and weekends. Two hotels are proposed overlooking Seaport Square, and a third, smaller hotel is proposed at the southern end of the site to be more conveniently located to the new Boston Convention and Exhibition Center. The hotels will support conference and ballroom functions as well as retail, restaurants, a health club and spas. Figure 2.3-11 shows the location of hotels across the Project site.

Parking

The Project will provide approximately 6,500 underground parking spaces when complete, approximately 4,500 will be commercial public for fee spaces and 2,000 will be residential. The Proponent currently has Air Pollution Control Commission permits for 3,647 commercial spaces. The Project will maintain these public for-fee spaces and will request another approximately 850 commercial spaces from the South Boston Parking Freeze bank. Five new underground parking garages will be constructed as part of the full build out of Seaport Square. A parking garage containing approximately 2,215 spaces in four underground levels will be located under Blocks B – G. This parking garage will also provide a new underground connection to the MBTA's Courthouse Silver Line Station. A second garage will be located under Blocks K and Q and will contain approximately 515 spaces in three levels. A third garage will be located under Blocks L1 – L6 and will contain 2,427 spaces in three underground levels. A fourth garage, located under Blocks M1 and M2, will contain approximately 700 spaces in three underground levels. A fifth garage,





- 1 - Chapel
- 2 - Flexible Gallery Space
- 3 - Branch Library
- 4 - International K to 12 Education Center
- 5 - Pre-Kindergarten to 1 Public School



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Figure 2.3-10
24/7 Mix of Uses :

Civic



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Figure 2.3-11
24/7 Mix of Uses :
Hospitality

located under Blocks N and P, will provide approximately 600 spaces in four levels. In addition, there will be 43 spaces below Block A. There will also be an estimated 210 on street parking spaces on Seaport Hill. Figure 2.3-12 shows the location of the below-grade parking garages.

A car sharing hub will be located on the Project site to reduce parking demand and car ownership on the site. Car sharing will provide those working, living, or visiting Seaport Square with an alternative to car ownership.

2.3.5 *Massing Variety and Design Diversity*

Because of Seaport Square's combination of block sizes and shapes, mix of uses and open spaces, and commitment to a rich pedestrian-scaled experience, the plan provides for a great deal of massing variety, as illustrated in Figures 2.3-13 through 2.3-14.

The diagrams depict how two and three story retail bases and mid- and high-rise elements are interwoven throughout the plan. The low and mid-rise portions help to relate the new development to the scale of the Fort Point Wharf neighborhood, the ICA, the Boston Convention and Exhibition Center, and the World Trade Center. The high-rise portions, while providing urban density and city views, complement the existing towers of the World Trade Center and the proposed Fan Pier buildings.

The Seaport Square plan incorporates and anticipates the work of a large team of local and national landscape and architectural firms, providing for different stylistic approaches to the build-out of the Seaport Square neighborhood. The goal is to achieve an appropriate balance of neighborhood cohesion and design diversity that is imperative to the organic development of a site this size.

2.3.6 *A Vibrant Public Realm*

Boston is one of the most pedestrian-friendly cities in America. As such, the urban open spaces and tree-lined shopping streets of the Seaport Square plan marry it to the tradition of Boston's 'Main Streets' and green squares, creating a vibrant, ever-changing pedestrian experience for all seasons. The Seaport Square open space plan fills the gaps between the existing pedestrian paths of the Harborwalk, as well as linking the entire site to the larger open space networks of the City of Boston (see Figure 2.3-15).

In June 2007, the Boston Globe published an article written by Wendy Landman (WalkBoston) and City Councilor Flaherty which included the following statement: "more walking leads to healthier lifestyles, cleaner air, reduced traffic congestion, a greater sense of community, and an economic boost for neighborhood businesses...a walkable city means walkable for everyone". This statement captures an essential Seaport Square mission.



Figure 2.3-12
24/7 Mix of Uses :
Parking

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Low-Rise Elements



Mid-Rise Elements



High-Rise Elements



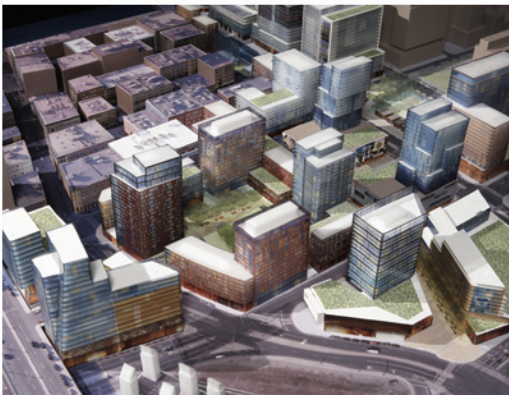
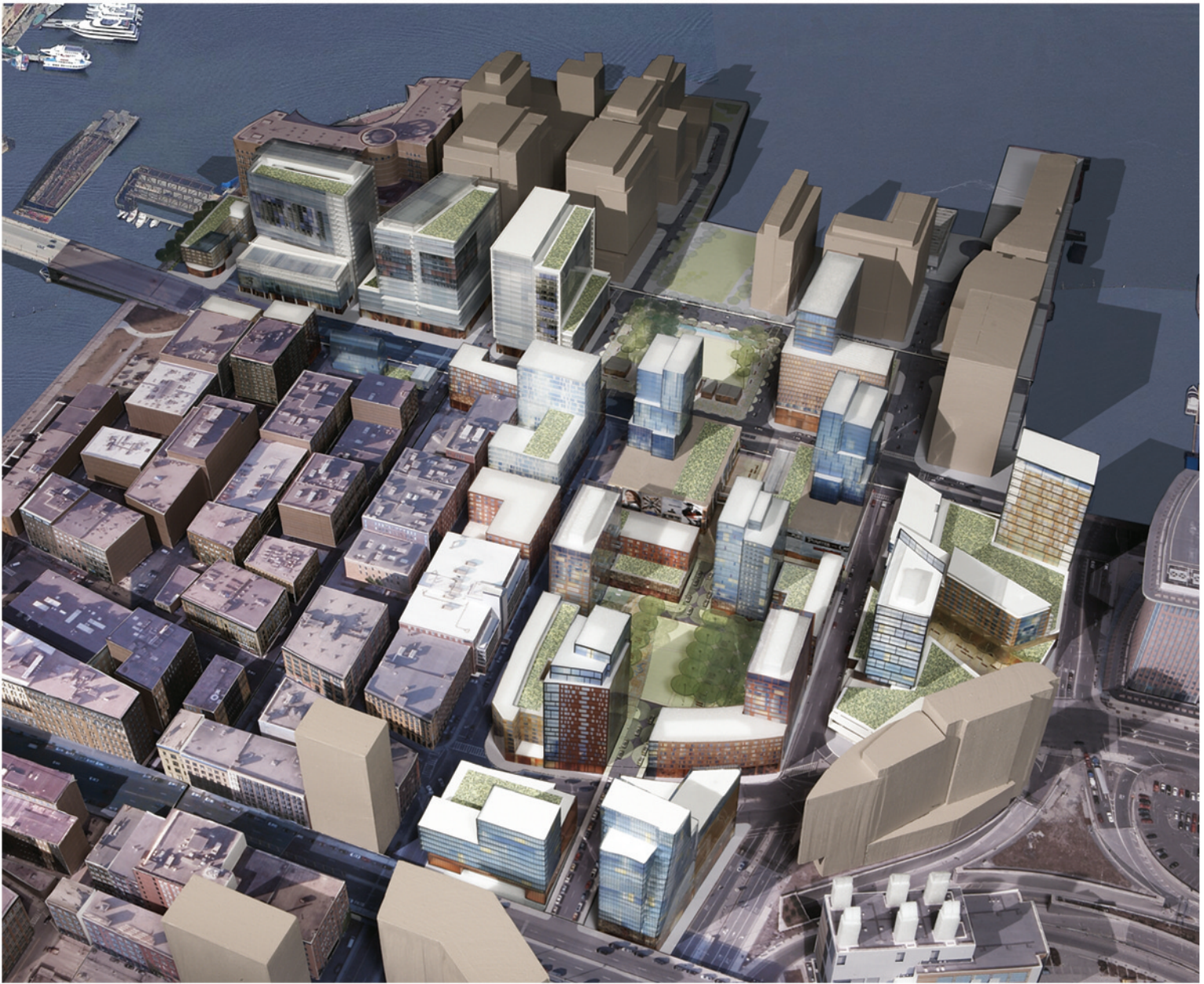
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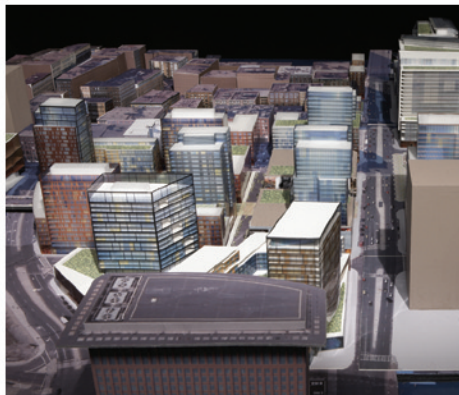
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Figure 2.3-13
Massing Variety
Project Axonometric



Seaport Hill



Seaport Boulevard looking West



Seaport Square

Figure 2.3-14
Massing Variety & Design Diversity
Model Photos



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SEAPORT SQUARE
IN SOUTH BOSTON

Figure 2.3-15
Public Realm
City Open Space Plan

The goals of Seaport Square's public realm are defined at three scales:

- ◆ at the City Scale - to join Boston's collection of identifiable neighborhoods;
- ◆ at the Neighborhood Scale - to connect surrounding areas to each other and to the waterfront; and
- ◆ at the Pedestrian Scale: to create an active, attractive, well-lit, comfortable, accessible, and varied experience for all who live in, work, and visit Seaport Square.

Five Strategies

The public realm is developed using five strategies:

1. Sensitive, Collaborative Design – The Seaport Square District has been the subject of many BRA plans (see Section 2.9). Those plans have been reviewed and referenced in order to begin the implementation of street types, sidewalk design, medians, watershed activation, Harborwalk character, and bicycle routes. Seaport Square seeks to incorporate these initiatives as well as continue to learn from ongoing planning.
2. Ample Open Space – Building footprints cover approximately 64% of the site area of Seaport Square, leaving the remaining 36% of the site open for streets, sidewalks, pedestrian ways, and green space. Green space accounts for over 25% of the total site area, including the 1.25 acre Seaport Square, and the 0.75 acre Seaport Hill. See Figure 2.3-16.
3. Active Ground and Second Floor Uses – On the first floor, storefront retail, cultural uses, and lobbies for the residential, office and research, and hotel uses energize the street with display windows, canopies, signage, doorways, and sidewalk seating. See Figure 2.3-17
4. Pedestrian-Friendly Building Scale – As mentioned earlier in the section on Massing Diversity, the buildings often step down at the street to create a lower scale more compatible with the pedestrian. See Figure 2.3-13.
5. Descent to the Waterfront – A striking aspect of the Seaport Square Project is the construction of the sloping Harbor Street and Seaport Hill, which creates a new way for pedestrians to walk from South Station, the BCEC, and Summer Street down toward Seaport Boulevard and the waterfront (see Figure 2.3-18). Streets, sidewalks, Seaport Hill, and pedestrian ways are designed to facilitate that movement through this new public realm.



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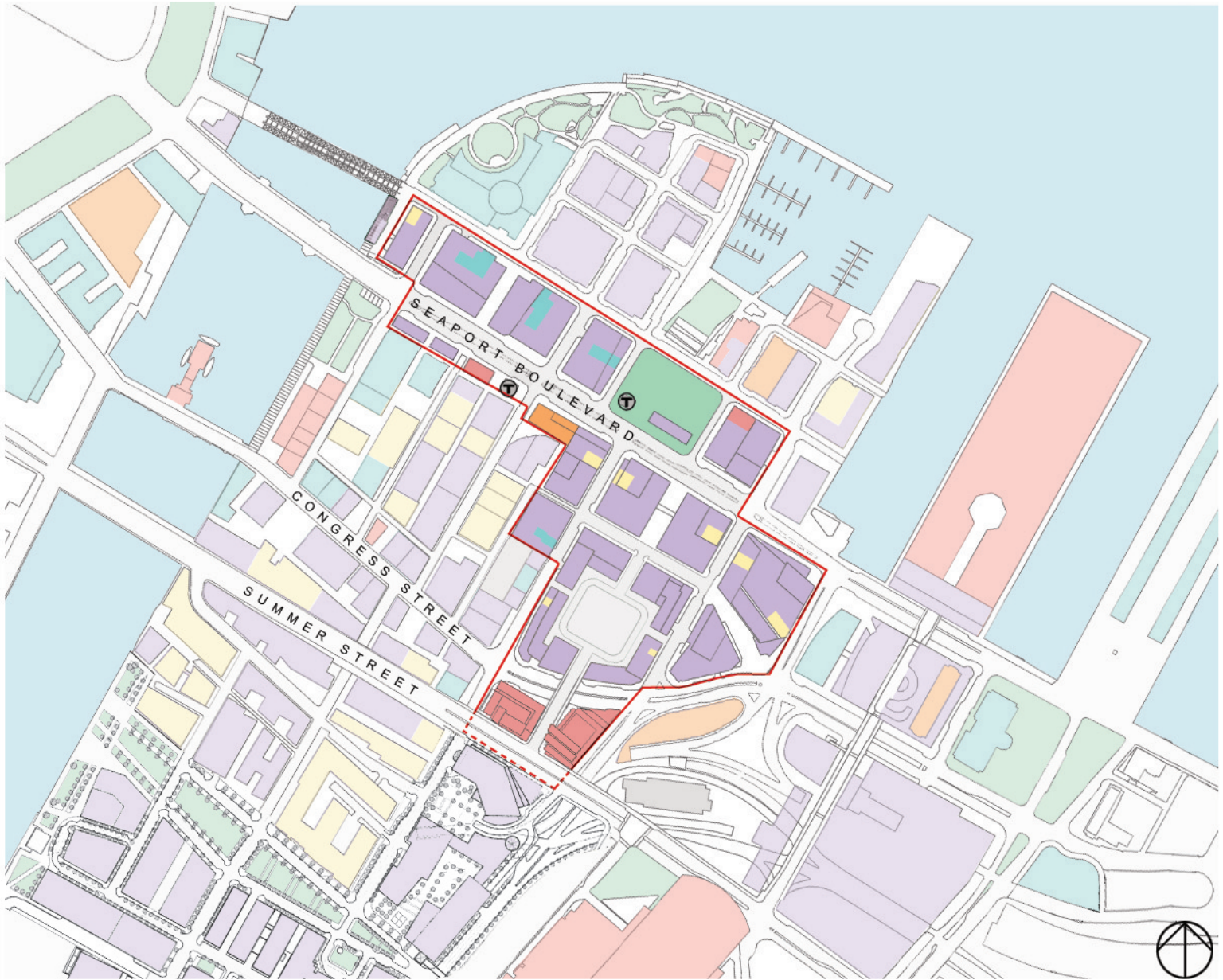
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SEAPORT SQUARE
IN SOUTH BOSTON

Figure 2.3-16
Public Realm
Open Space Quantity



retail
 commercial
 residential
 hospitality
 civic/cultural

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SEAPORT SQUARE
 IN SOUTH BOSTON

Figure 2.3-17
 Active Ground Floor Uses
Plan & Perspective



1. Harbor Street Bridge
2. Seaport Hill
3. Pedestrian Way
4. Seaport Square
5. Fan Pier Park

Open Space: The Square

Seaport Square is at the heart of the Project, and at 1.25 acres, is roughly comparable to the size of the open space at Copley Square, and slightly smaller than Post Office Square (see Figure 2.3-19). This open space will host a range of activities in each of the four seasons, including spring art shows, summer theater, fall farmer's markets, and winter displays such as ice sculptures and holiday lights. Envisioned as a grand civic lawn large enough to support active recreation and concerts, the green is gently sloping toward the waterfront. Steps cascade down the eastern and western sides of the green, and a paved pedestrian pathway crosses the Square under a bower of shade trees, connecting the crosswalk at Boston Wharf Road with the open space at Fan Pier.

At the low point of the lawn along Northern Avenue, a water feature is proposed that will have fountains in the summertime and skating in the winter. A retail pavilion and a new Silver Line T headhouse activate the southern side of the Square, resulting in a constant flow of pedestrian traffic, and shielding the Square from the noise of Seaport Boulevard. Surrounded by commercial, hotel, entertainment, retail, and residential uses, as well as flexible gallery space, Seaport Square has active edges that provide life to the open space. The sections and reference images show some of the programs and the ambience in the Square (see Figures 2.3-20 and 2.3-21).

Open Space: The Hill

Seaport Hill connects Summer Street to Seaport Boulevard via the new Harbor Street and forms the center of a diverse new residential neighborhood. It is an important part of a linked series of spaces that descend from Summer Street to the waterfront, as shown in Figure 2.3-18. Like many of Boston's most beloved neighborhoods, housing will be the predominant use. Atop Seaport Hill will be a new open space of nearly one acre featuring an expansive green lawn bordered by trees, park benches, flower beds, public art, a dog park, and a children's playground, as illustrated in Figure 2.3-22.

As reflected in Figure 2.3-18, the Seaport landscape concept also seeks to expose the transition from filled land to the water by changing plant species from Summer Street to Northern Avenue. Throughout the year, streets such as Autumn Lane, East Service, Boston Wharf Road, and Seaport Boulevard, will have recognizably different tree and plant colors and textures.

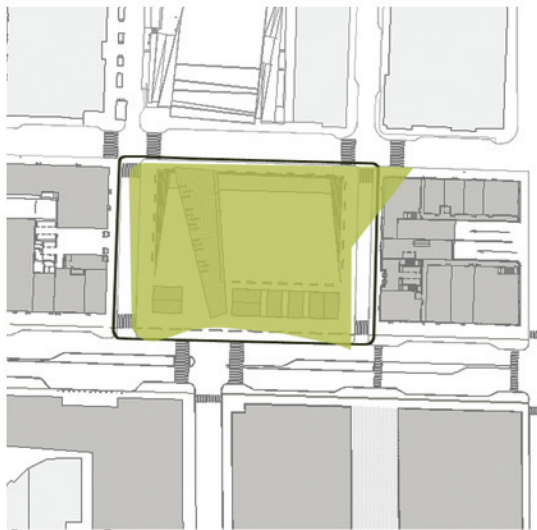
Seaport Hill is a lush three-quarter acre open space more than twice the size of Union Park or Worcester Square in the South End as seen in Figure 2.3-23. Similarly designed to be residential in character, it contains a grassy area surrounded on both the east and west sides by rows of large trees, under which a children's playground, flower garden, dog park, and park benches will be located in a decorative paving zone that extends to the building entrances. At the far edges of the open space, landscaped areas provide a buffer for the ground floor residential units at the sidewalk.



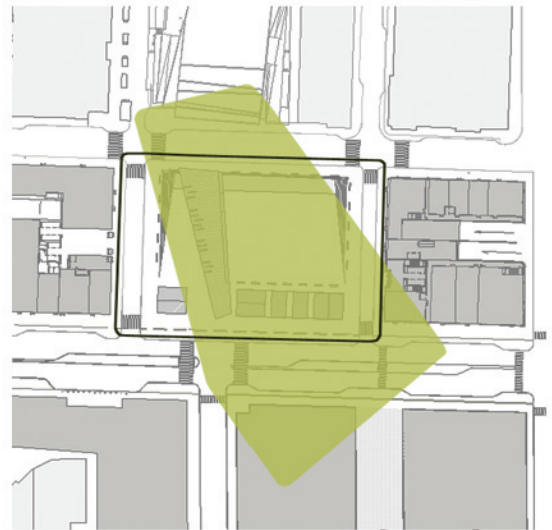
Copley Square



Post Office Square



Seaport Square



Seaport Square

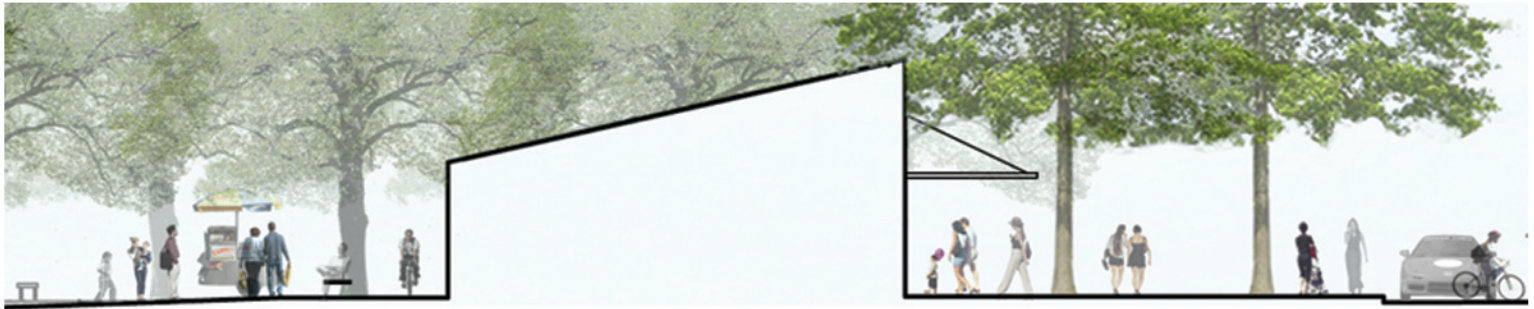


Copley Square



Post Office Square





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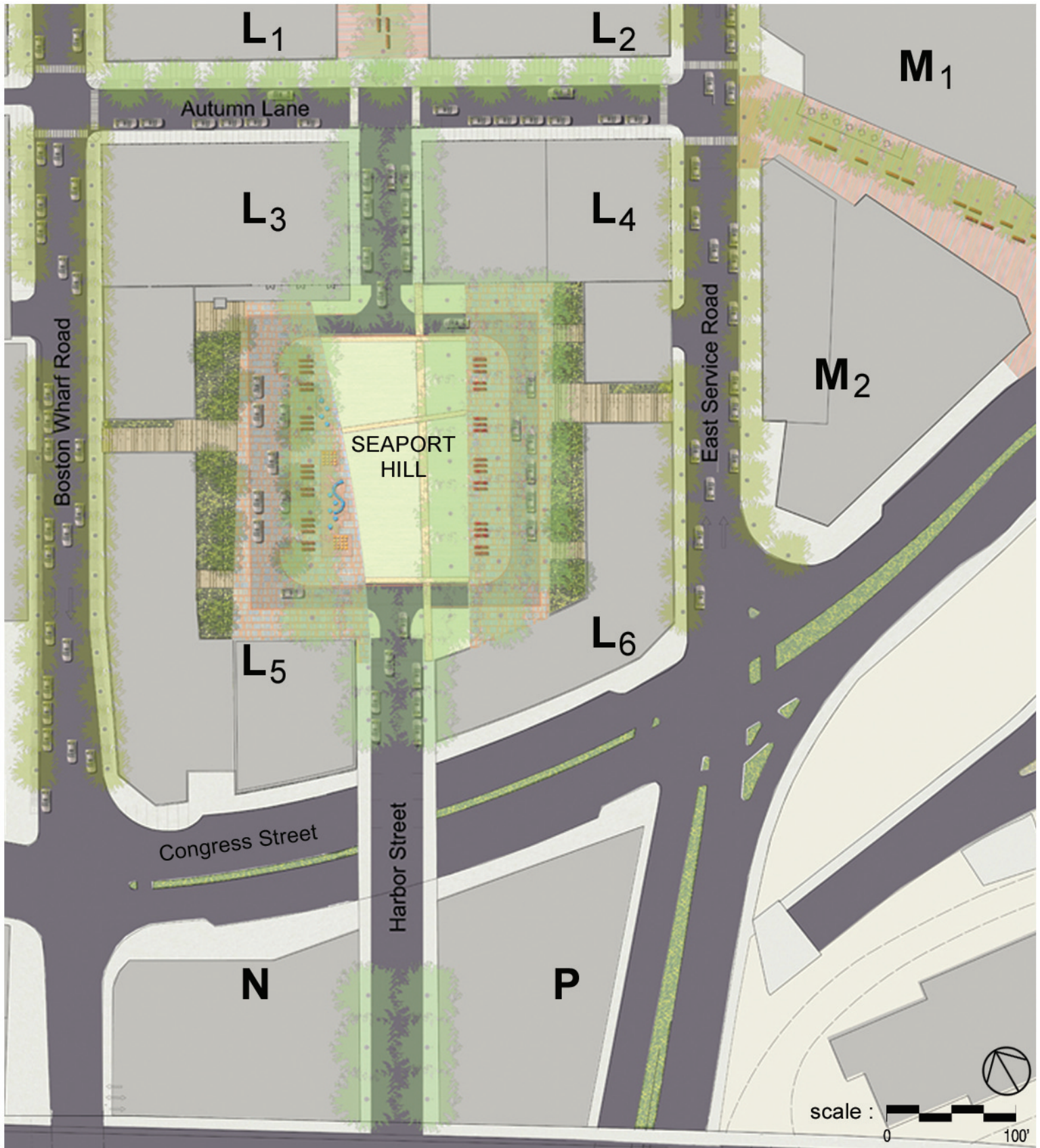
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SEAPORT SQUARE
IN SOUTH BOSTON

Figure 2.3-21
Public Realm
Seaport Square
Sections & Perspective



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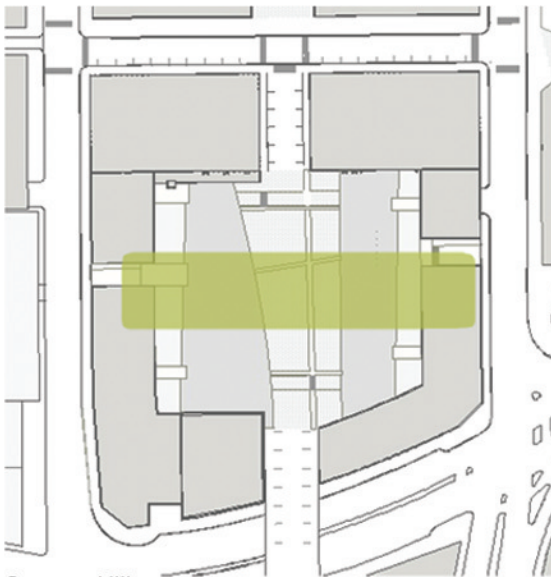
Figure 2.3-22
Public Realm
**Seaport Hill
Plan**



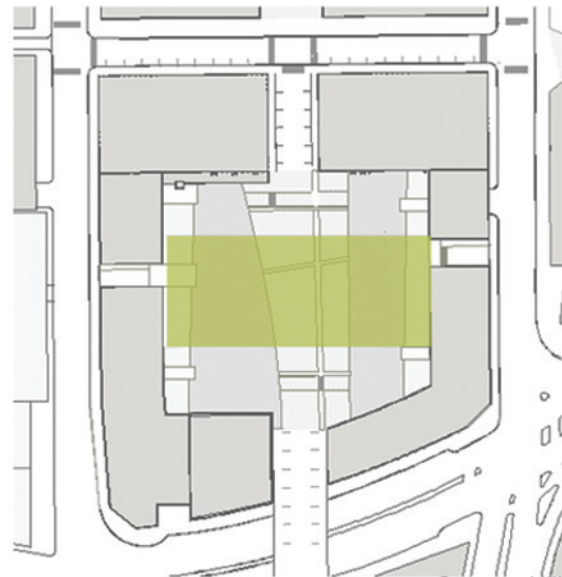
Union Park



Worcester Square



Seaport Hill



Seaport Hill



Union Park



Worcester Square

A pedestrian path passes straight through Seaport Hill north to south, allowing pedestrians to move between Seaport Boulevard and Summer Street easily, and making Seaport Hill a social mix of residents, school children, conventioners, and visitors. Another pedestrian path goes east west, inviting people from Boston Wharf Road and East Service Road to use Seaport Hill as well. Sections and reference images communicate Seaport Hill design intentions; see Figure 2.3-24.

Street Character Types

Each street within the site boundaries of Seaport Square is designed according to its character as a boulevard, local street, connector, or pedestrian way, coded in the Figure 2.3-25. Street sections and reference images have been provided for many streets to illustrate the approach to each type.

The Boulevard: Seaport Boulevard

Seaport Boulevard, improved with new tree plantings, a landscaped median, and distinctive accessible sidewalk paving, will bring a new street experience to the city. Tree-lined sidewalks will create a pleasant, canopied stroll for pedestrians from the Financial District to Seaport Square and the Boston World Trade Center, along which small local shops and boutiques will be interspersed with national retailers. As proposed, Seaport Boulevard will introduce new restaurants, banks, local services, and cafes for local business people and neighborhood residents.

The boulevard type is considered a retail promenade, favoring the pedestrian experience, but also including bicycle, vehicular, and truck circulation. It has a planted median, multiple traffic lanes in both directions, and dedicated bike lanes on the east and westbound sides of the street. A gracious sidewalk with a double-row of trees is planned for the sunny, north side of Seaport Boulevard, to accommodate outdoor seating and sidewalk entertainment. A wide sidewalk with a single row of trees is planned for the south side. Figure 2.3-26 shows the existing Seaport Boulevard and Figure 2.3-27 shows the Seaport Boulevard Plan. Figure 2.3-28 shows a section view of Seaport Boulevard.

Connector Streets: Congress Street, Summer Street

The connector street type accommodates east-west movement across and through the site. A planted median is planned for both Summer and Congress Streets with wide sidewalks, and a single row of trees on both sides of the street, as shown in Figure 2.3-29. Summer Street is part of the Crossroads Initiative, and will therefore follow the guidelines currently being developed by the BRA and landscape team.



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SEAPORT SQUARE
IN SOUTH BOSTON

Figure 2.3-24
Public Realm
Seaport Hill
Sections & Perspective



- boulevard
- local
- connectors
- pedestrian ways

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Figure 2.3-25
Public Realm
Street Character Types



Seaport Boulevard looking West

GALE
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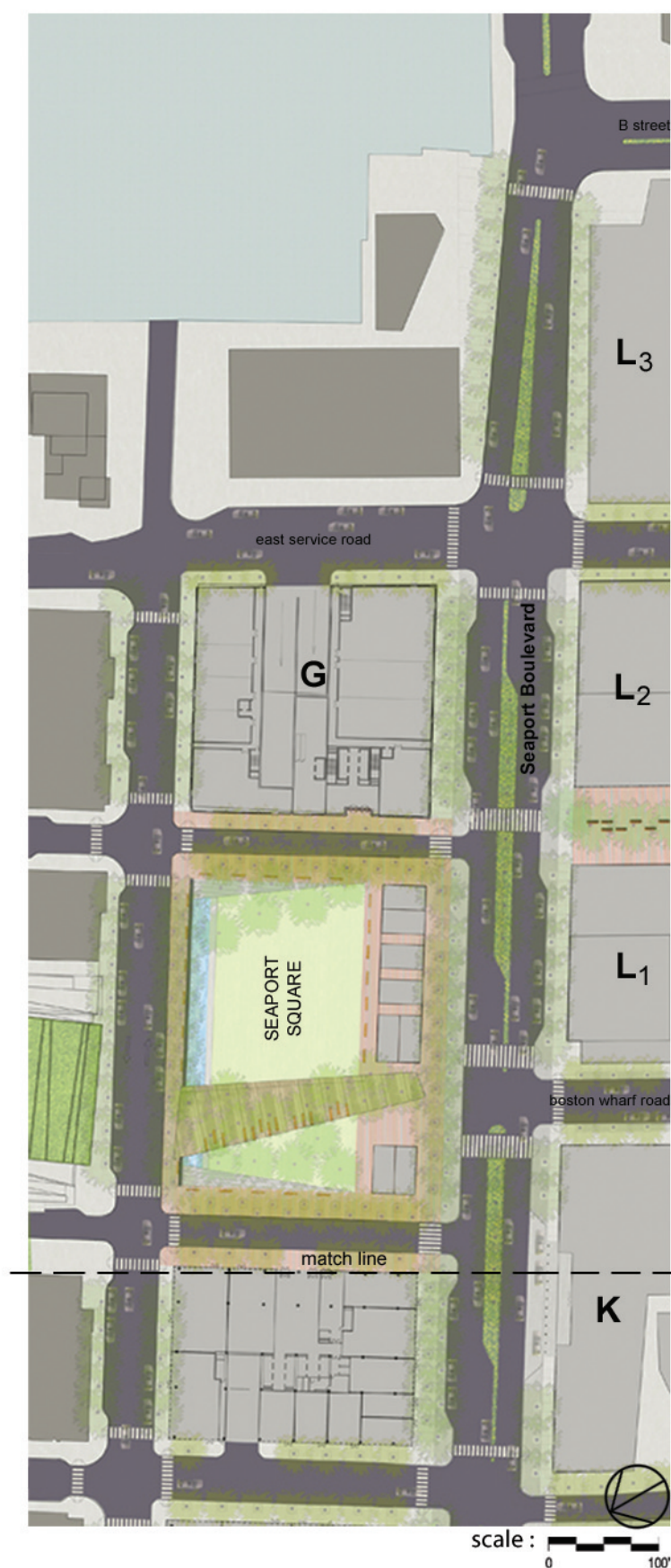
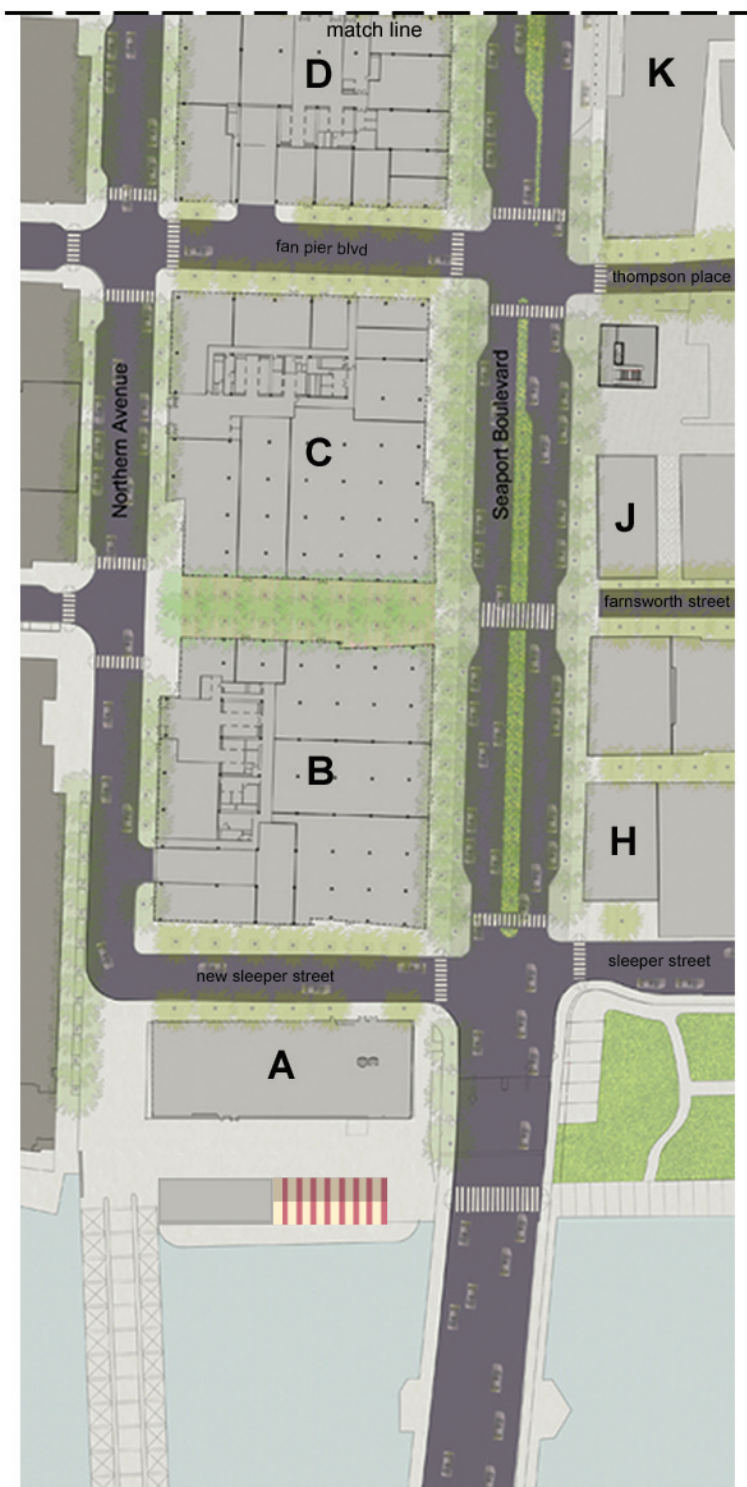
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SEAPORT SQUARE
IN SOUTH BOSTON

Figure 2.3-26
Public Realm
Existing Seaport Blvd.



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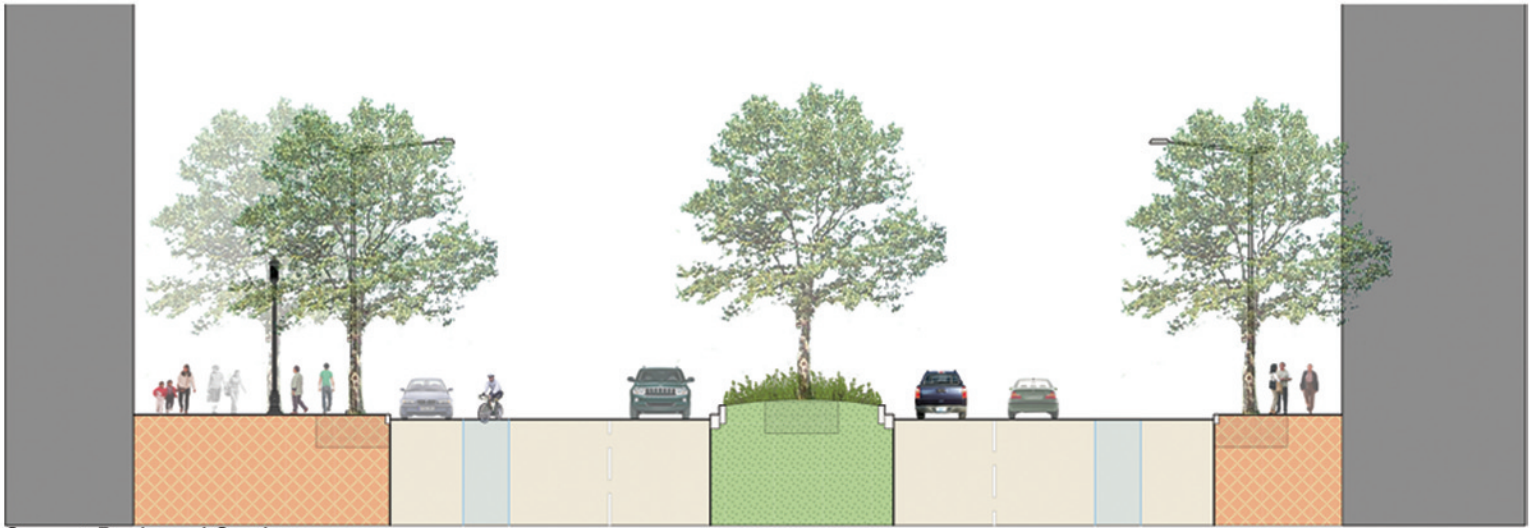
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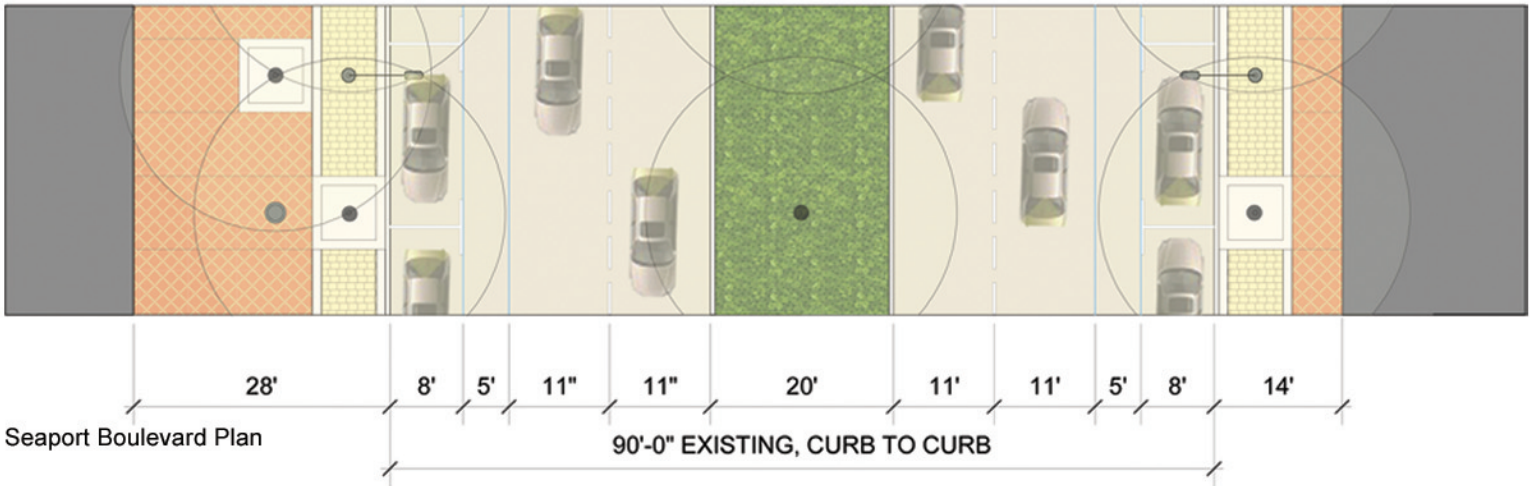
prepared by : Reed Hilderbrand


SEAPORT SQUARE
IN SOUTH BOSTON

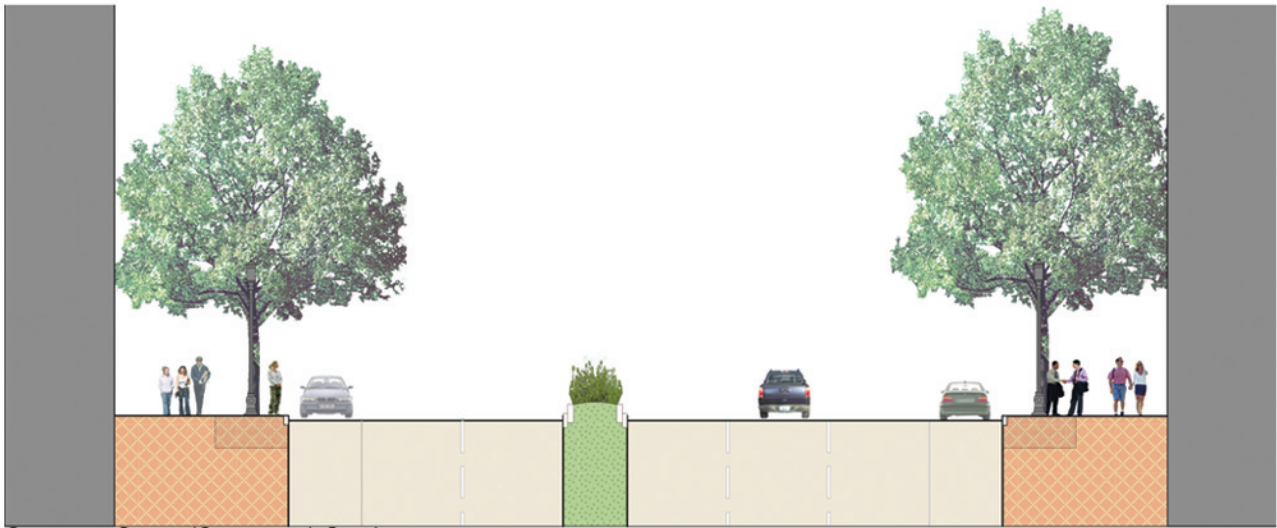
Figure 2.3-27
Public Realm
Seaport Blvd. Plan



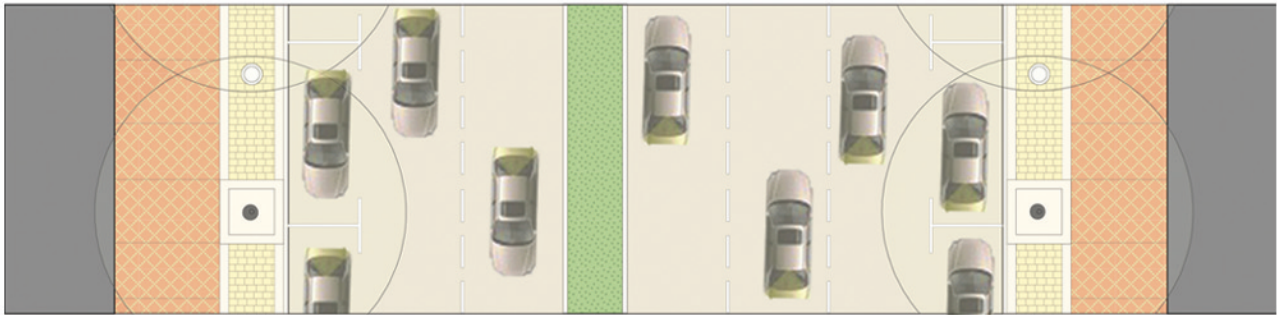
Seaport Boulevard Section



Seaport Boulevard Perspective looking West



Congress Street (Connector) Section



Congress Street (Connector) Plan



Existing Congress Street



Existing Congress Street

Local Streets: Northern Avenue, Boston Wharf Road, East Service Road, Autumn Lane, Harbor Street, etc.

The local street type encompasses most of the narrower north-south streets that run through Seaport Square, as well as the new Harbor Street and Autumn Lane. Edged with storefront retail, the scale of these streets is more intimate; they have sidewalks with street trees on one or both sides and only two lanes of traffic. See Figure 2.3-30 to 2.3-32.

Pedestrian Ways

There are four pedestrian ways planned for the Seaport Square Project: Old Sleeper Street, between the Barking Crab and Block A, Farnsworth Street, between the B and C Blocks, Harbor Street, between the L1 and L2 Blocks, and Autumn Lane, between the M1 and M2 Blocks. They provide for continuous pedestrian movement to destinations such as the Courthouse, Seaport Square, the Children's Museum, ICA, Congress Street, and the Harborwalk, and are envisioned as active zones for shopping, entertainment, planting, and socializing. An example section through a pedestrian way is shown in Figure 2.3-33.

The Harborwalk Connection

Old Sleeper Street will become a new waterfront pedestrian way. Located between the Barking Crab and Block A, it will connect the Children's Museum and the Federal Courthouse (Figure 2.3-34). Restaurants and outdoor seating will enliven the area during day and evening hours. Overhead power lines will be relocated. Off hours service and delivery to the Barking Crab and Block A will be accommodated.

Bike Lanes & Storage

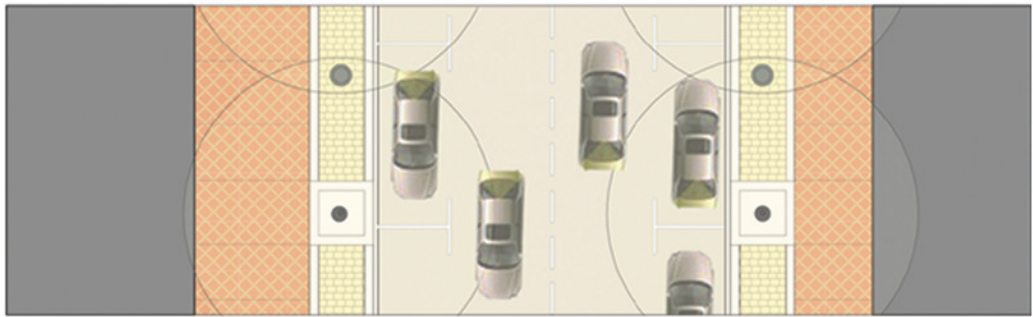
An important goal in Seaport's sustainability strategy is to support and enhance existing bike routes planned through the site as well as to provide outdoor and indoor bike storage to those who want it in order to reduce reliance on automobiles. The Proponent will continue to work with the BRA to develop bike access and amenities at Seaport Square for visitors, residents, office workers, and those just passing through.

Public Art

Working with the ICA, artists groups in the Fort Point Wharf District and other artists from the region, Seaport Square will provide unique opportunities for the temporary and permanent display of art. Figure 2.3-35 highlights potential locations for public art.



Northern Avenue Section



Northern Avenue Plan



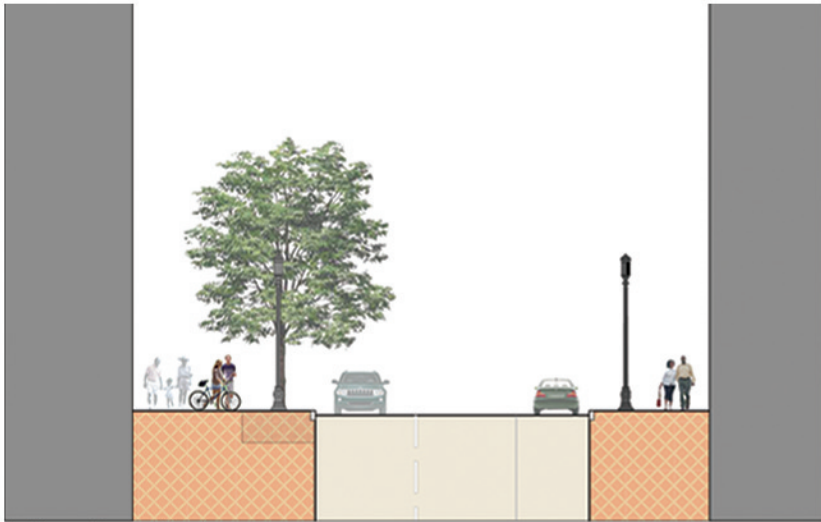
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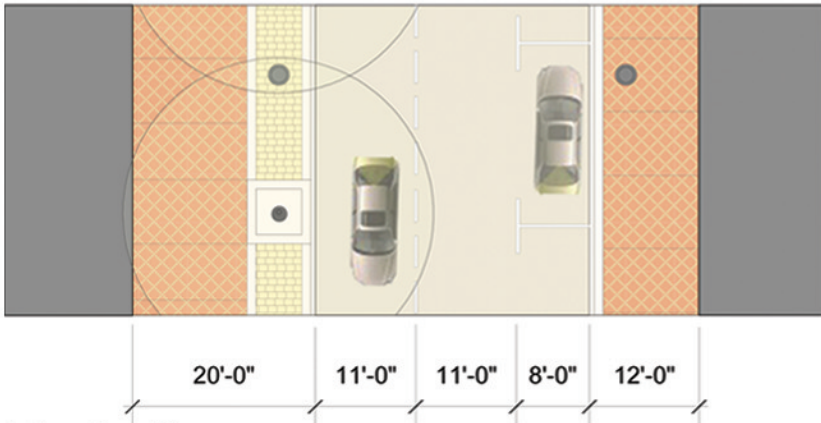
Existing Northern Avenue



Existing Northern Avenue



Autumn Lane Section



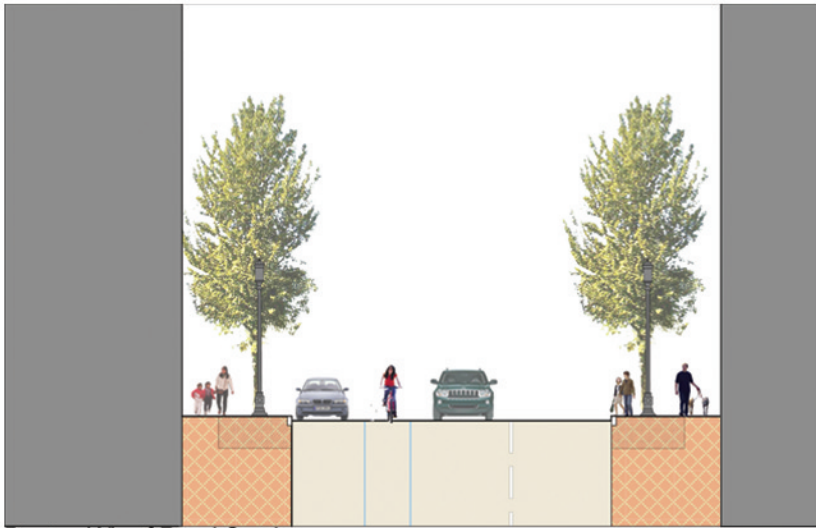
Autumn Lane Plan



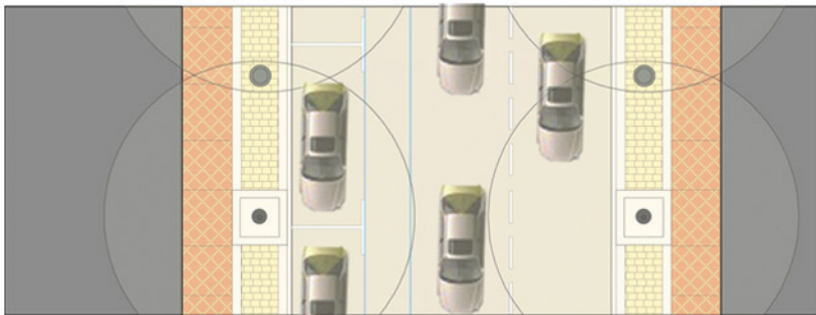
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Autumn Lane Perspective



Boston Wharf Road Section



Boston Wharf Road Plan



Reference Image



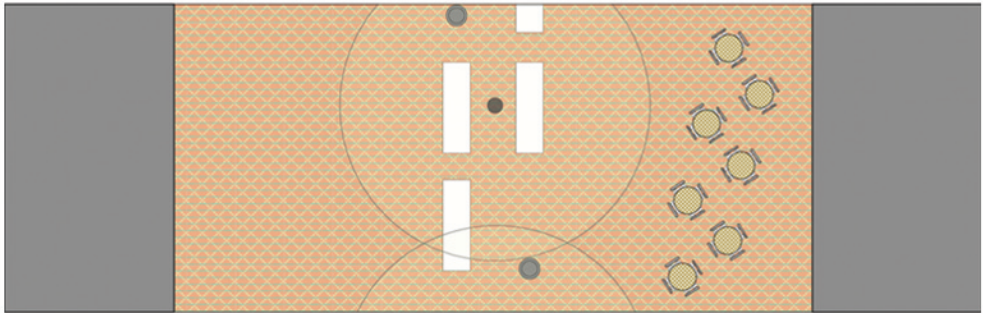
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Pedestrian Ways Section

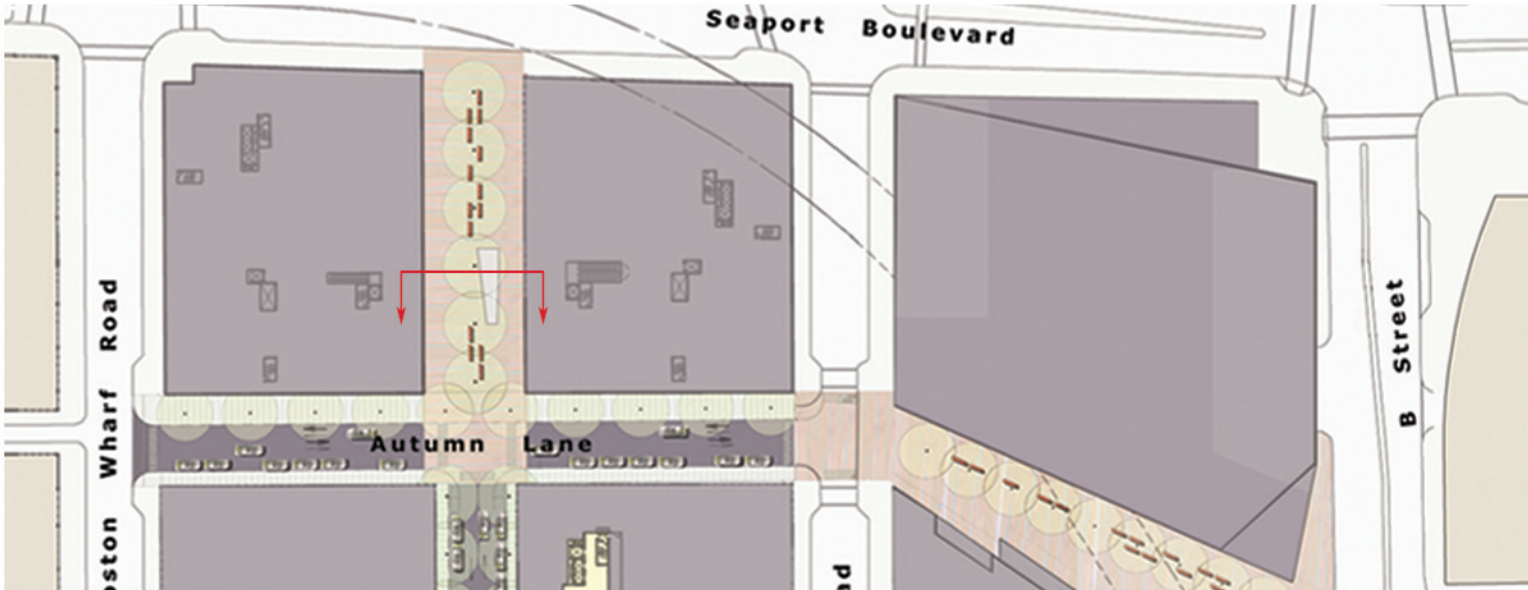


70'-0"

Pedestrian Ways Plan



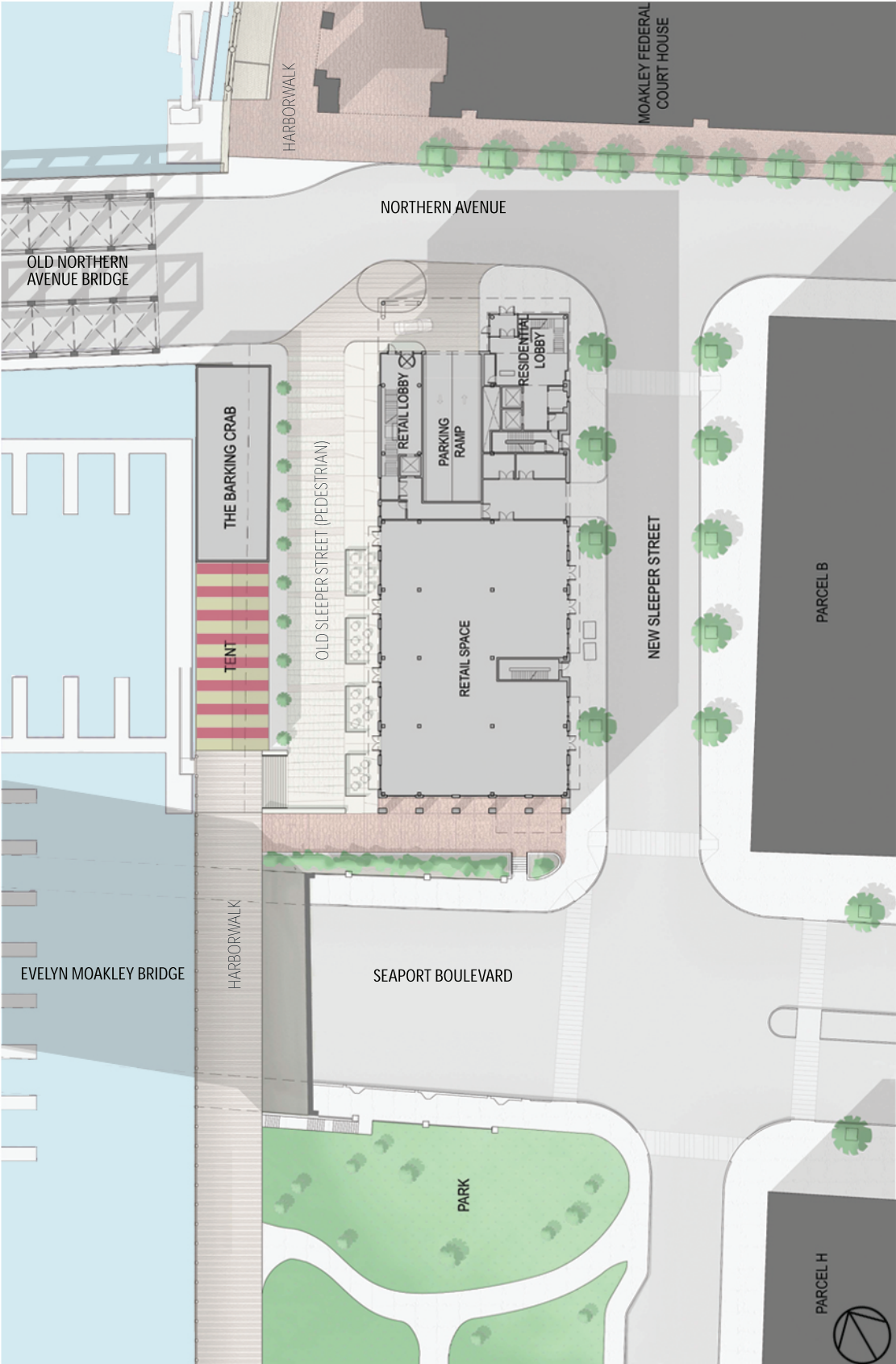
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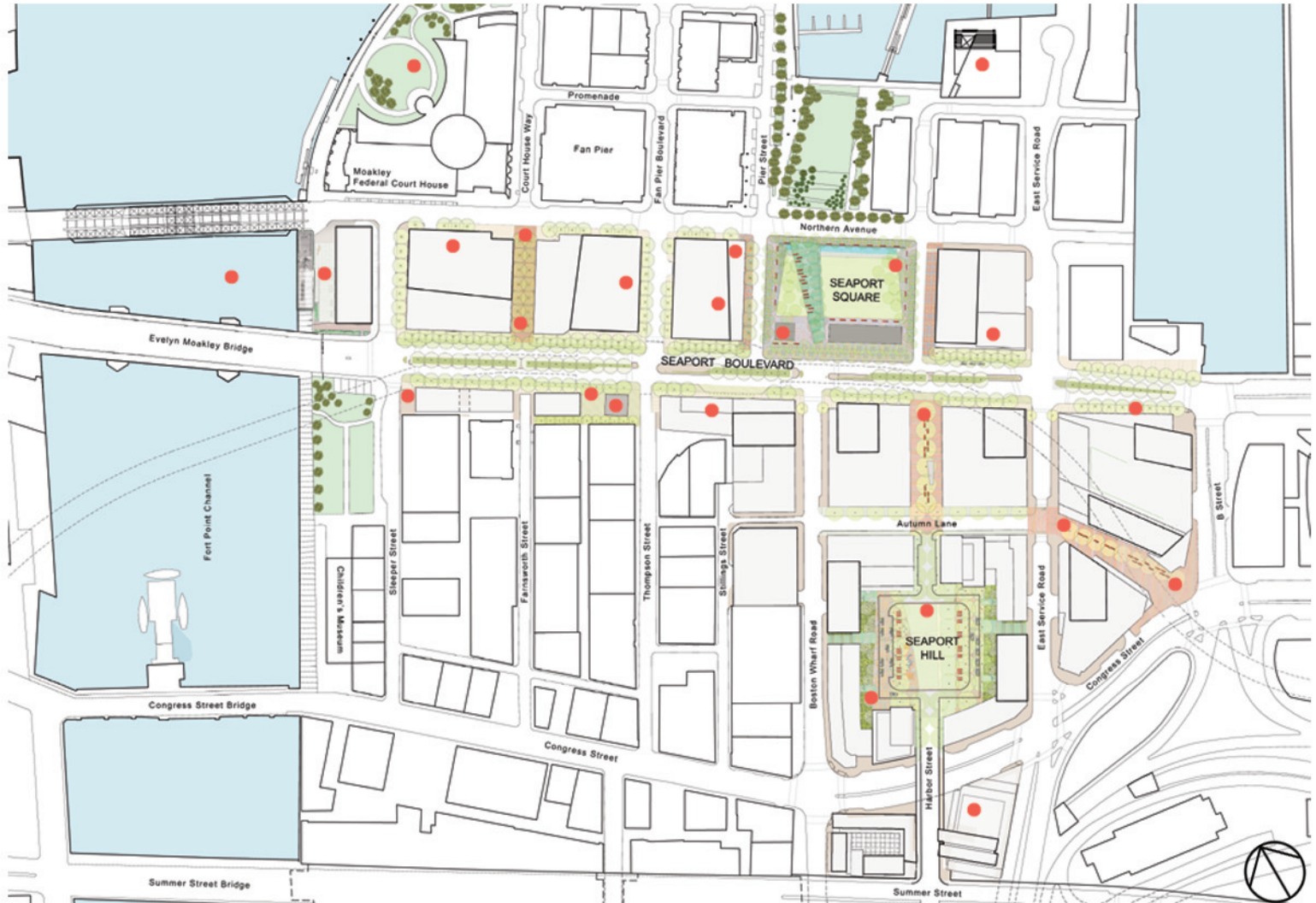
Pedestrian Ways Key Plan



Existing Harborwalk Images



Block A Site Plan



Channel Art

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Figure 2.3-35
Public Realm

Potential Sites for
Future Public Art

2.3.7 *Sustainable Design*

Environmental sensitivity and long-term sustainability will be reflected throughout Seaport Square: planning decisions to realize optimum adjacencies (e.g., to sunlight, mass transit, or complementary land uses); methods and materials used in construction; efficiencies built into the delivery of energy and water to its homes and businesses; thoughtful design of the city's streets, pedestrian walkways, open space, and its buildings; and a commitment to devote over 25% of the Project's land area to open space and recreation all demonstrate the extent to which sustainability measures have influenced the design of Seaport Square. Section 3.3.14 discusses the Project's approach to sustainability in greater detail. The Seaport Square plan also includes a high proportion of green roofs to be planted on most of the buildings, while others will have reflective white roofs, leading to a city-wide reduction in the "heat island effect" commonly found in large urban areas. Figure 2.3-36 illustrates some of the rooftops that are being considered for development of green or white roofs.

2.4 Distribution of Land Uses

The Seaport Square plan has been developed to accommodate the mixed use program as described in this PNF/ENF, including building cores, lobbies, parking entrances, garages, and loading requirements. Mixed uses are stacked vertically as well as being distributed in different locations across the Project site. This section presents a series of diagrams illustrating the horizontal and vertical distribution of uses. Included in the illustrations are the ground floor, second floor, third floor, typical floor (i.e., levels 4 and above), roof level, underground parking level, and open space plans. As noted previously, Seaport Square proposes the development of 20 distinct blocks; for planning and descriptive purposes, each block has been labeled with a letter from left to right and north to south, ranging from A to Q, as previously identified on Figure 1.1-2.

Ground Floor

Retail uses are proposed at street level for every building associated with Seaport Square with the exception of the Chapel (Block J) and the schools (Blocks N and P). These are shown in purple on Figure 2.4-1. Figure 2.4-1 also shows where ground-floor lobbies (shown in blue, yellow, or green, depending upon the nature of the use with which the lobby is associated) connect the buildings above to the street, and where parking and loading entrances are located (uncolored; shown as white). For Seaport Hill, Blocks L3 through L6, the ground floor plan shows one level of the parking garage at grade surrounded by buildings and under the raised portion of the Hill above (see second floor plan). Loading for the L blocks is concealed under the new Harbor Street where it crosses Congress Street.



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SEAPORT SQUARE
IN SOUTH BOSTON

Figure 2.3-36
Sustainable Design
Green & White Roofs



retail
 commercial
 residential
 hospitality
 civic/cultural

scale :

 0 300'

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SEAPORT SQUARE
 IN SOUTH BOSTON

Figure 2.4-1
 Distribution of Uses
 Ground Floor Plan

Second Floor Plan

Figure 2.4-2 illustrates second floor uses. Many of the Seaport Square Blocks have second floor retail as well as ground floor retail, colored purple. Block M1 is planned for a large retail tenant such as a grocery store. At Seaport Hill, the residential Blocks L3 through L6, colored yellow, are surrounding the central open space. Block H has retail uses on the first and second floors, along with residential on upper levels. The Chapel and two schools (N, and P) are shown in light red, and hotels are shown in orange.

Third Floor Plan

As shown in Figure 2.4-3, third floor retail is planned for Block G (hotel) and Blocks L1 and L2 contain a cinema. The remaining blocks show the full range of mixed uses proposed for the site, including office/research space on B, C, D, and Q, Hotel on G, K, and P, residential on Blocks A, G,H, K, L1 through L6, M1 and M2, and the Chapel and educational programs on Blocks J, N, and P.

Typical Floor Plan

The Typical Floor Plan, shown as Figure 2.4-4, identifies the high-rise elements (i.e., levels Four and above) as proposed in the Seaport Square plan. North of Seaport Boulevard are the office and research buildings at B, C, D, and Q and the hotel along with residential on Block G. South of Seaport Boulevard are the residential buildings of varying heights at K, L 1 through L6, M1 and M2, and the hotel on Block P.

Roof Plan

Green roofs will be planted on most of the buildings, and the reflective white roofs on the rest of the buildings, which will lead to a city-wide reduction in the "heat island effect" commonly found in large urban areas.

Parking Plan

There are five underground parking garages and 43 spaces below grade at Block A for a total of approximately 6,500 cars below grade. The layout of parking garage ramps, parking spaces, parking lobbies, and underground loading are shown in Figure 2.4-5, as well as areas of tunnel ramps.



retail
 commercial
 residential
 hospitality
 civic/cultural

scale : 0 300'

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Figure 2.4-2
Distribution of Uses
Second Floor Plan



retail
 commercial
 residential
 hospitality
 civic/cultural

scale :
 0 300'

GALE
INTERNATIONAL

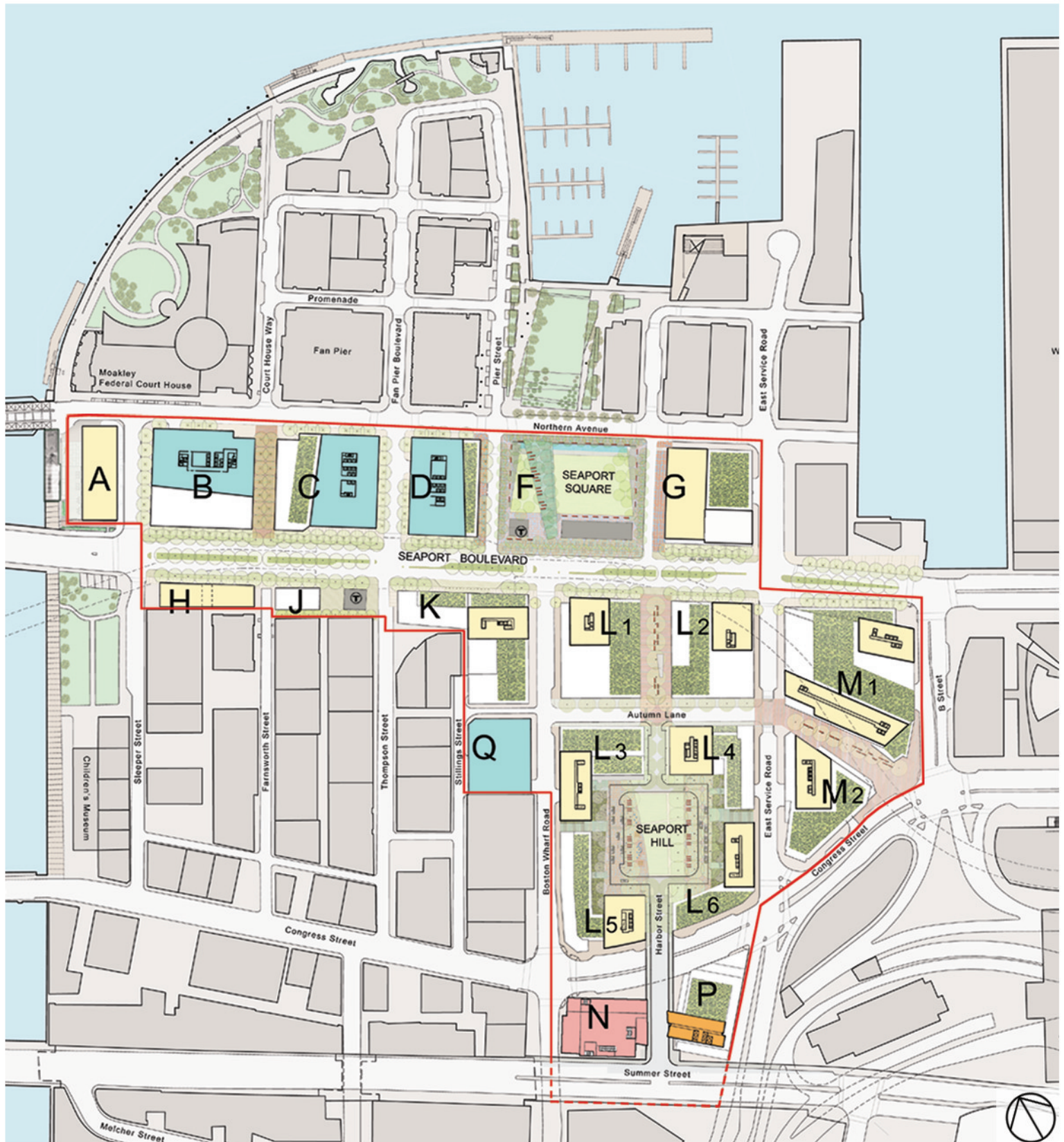
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SEAPORT SQUARE
 IN SOUTH BOSTON

Figure 2.4-3
 Distribution of Uses
Third Floor Plan



retail
 commercial
 residential
 hospitality
 civic/cultural

scale: 0 300'

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IN SOUTH BOSTON

Figure 2.4-4
 Distribution of Uses
Typical Upper Level Floor Plan



retail
 commercial
 residential
 hospitality
 civic/cultural

scale: 0 300'

GALE
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SEAPORT SQUARE
IN SOUTH BOSTON

Figure 2.4-5
Distribution of Uses
Basement Plan

Open Space Plan

As previously described in Section 2.3, Urban Design Goals, the open spaces of the Seaport Square plan, including green spaces, sidewalks, and pedestrian ways, serve to connect the surrounding communities and attractions as well as create three new urban places, the Boulevard, the Square and the Hill of distinct and identifiable characters, as previously presented in Figures 2.3-3 through 2.3-7. Variations in paving patterns, street tree species, and surrounding uses will give each street and open space a unique and inviting atmosphere.

2.5 Street Elevations and Sections

The Seaport Square plan has been created with the conceptual design work of several local and national architecture firms to achieve an appropriate balance of neighborhood cohesion and design diversity that is imperative to the organic development of a neighborhood. This approach, encouraged by the BRA, creates streetscapes which change along their length and across their width, to provide a rich pedestrian environment and visual aesthetic as viewed from public ways and by occupants in nearby buildings.

The Proponent is committed to varying the scale, material, use, and character of buildings and landscapes across the Seaport Square plan. Buildings from the plan will undergo future design development and review as the Project progresses, see illustrations 2.5-1 and 2.5-2.

2.6 Exterior Building Materials

The Seaport Square plan and street elevations illustrate variations in scale, material, use, and character of buildings across the Seaport Square site. The site has tremendous views of downtown Boston and the harbor, so aluminum curtainwalls and high-performance insulating glass have been shown in several conceptual building designs. In addition, traditional masonry may recall Boston's history, including stone, brick, precast concrete, and terra cotta. Other building materials being considered capture a wide range of masonry systems. Metal and composite panels may also be used. Recycled and locally manufactured materials will be used when possible. Mirrored glass and highly reflective glass may be considered as a façade material to reduce the air conditioning load while improving daylighting to address several LEED categories. Mirrored glass and highly reflective glass are not being considered for Phase 1 Blocks A, H and J.

2.7 Phase 1 Waiver Blocks

The timely development of Blocks A, H and J is critical to the development of Seaport Square. As previously described, although generally the Project will be developed in one continuous building process, early construction of Phase 1 will allow the Proponent to relocate the Our Lady of Good Voyage Chapel, create a gateway to the Fort Point Channel and South Boston waterfront, provide early public benefits and open space, and facilitate

construction of the remainder of the site. Additionally, Old Sleeper Street will become a new waterfront way to connect the long-missing Harborwalk link between the Children's Museum and the Federal Courthouse.

As a gateway to the Fort Point Channel and South Boston Waterfront, Blocks A, H and J are important harbingers of the new neighborhood to come. Together they also represent a microcosm for Seaport Square:

- ◆ They are mixed use buildings that include retail, residential and cultural uses,
- ◆ They engage and improve the public realm,
- ◆ They are part of a sustainable approach, and
- ◆ They are contextual with their surroundings.

Yet with a combined floor area of less than 200,000 square feet, the buildings on Blocks A, H, and J are only 3% of the Project's overall square footage. Table 2.7-1 shows the program for Blocks A, H and J. They will have positive impacts on the visual and pedestrian experience along the Harborwalk and Seaport Boulevard, with minimal transportation, wind, shadow and other environmental impacts. (see Section 4.0).

Table 2.7-1 Blocks A, H, and J Program

| Block | Total (gsf) | Retail / Entertainment (gsf) | Residential (gsf) | Civic (gsf) |
|--------------|----------------|------------------------------------|----------------------|---------------|
| Block A | 81,600 | 27,200 | 54,400 | 0 |
| Block H | 92,100 | 19,400 | 72,700 | 0 |
| Block J | 25,000 | 0 | 0 | 25,000 |
| Total | 198,700 | 46,600 | 127,100 | 25,000 |

Block A is a gateway site that will provide a missing connection to the Harborwalk as well as an inviting program of restaurants, retail, and housing that will energize a new pedestrian pathway around the existing Barking Crab restaurant. Block H creates a much-needed edge to Seaport Boulevard on its south side, and its two story base of stores and restaurants are the first step in building the shopping promenade which will act as an anchor to the entire neighborhood. Block J relocates a neighborhood institution, Our Lady of Good Voyage Chapel, next to the Silver Line T Station. The reconstruction of Our Lady of Good Voyage Chapel is critical to allow for the future removal of the existing Chapel on Block D and

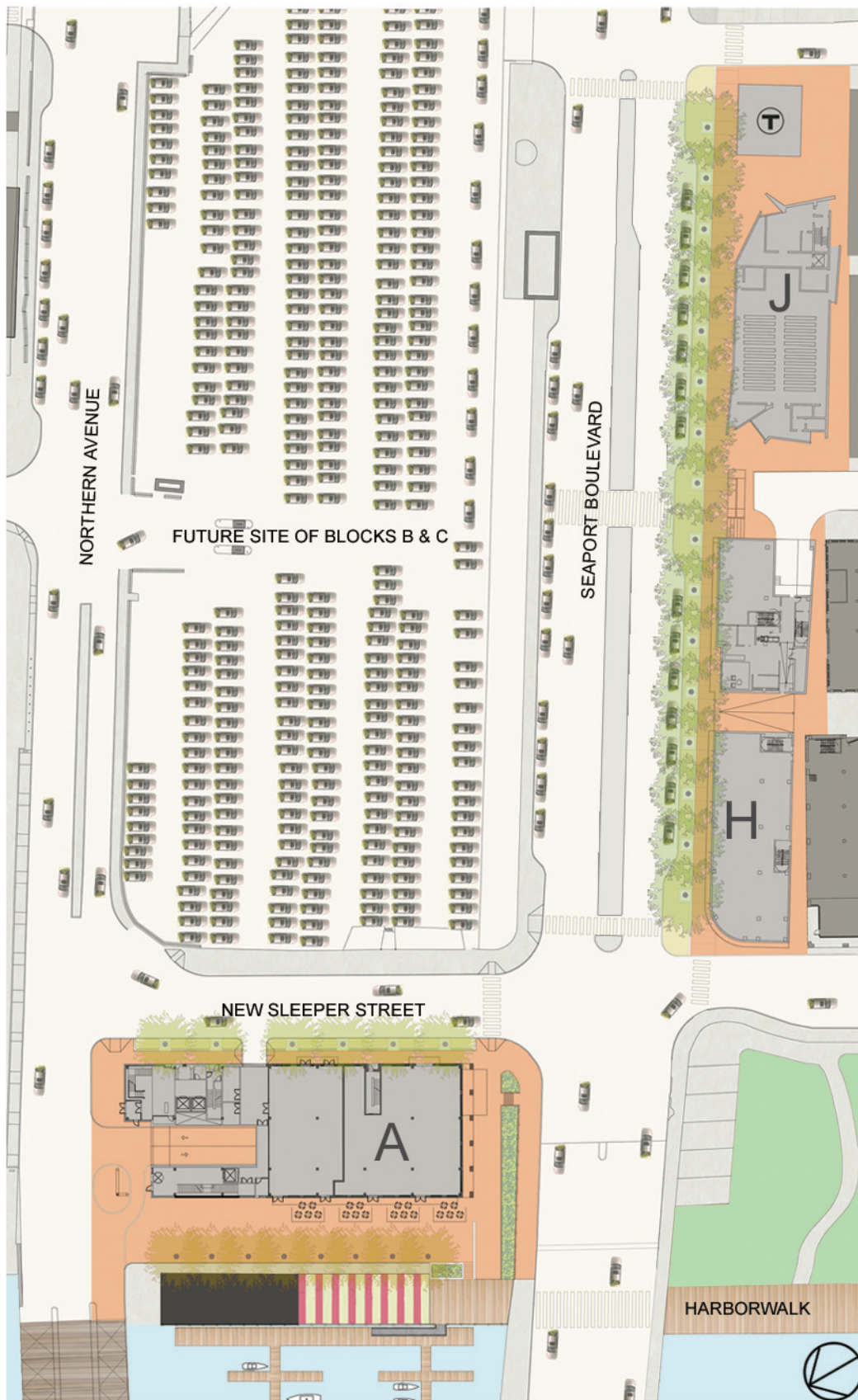
construction of below-grade parking structures beneath Blocks B, C, and D (the present location of the Chapel). The Archdiocese is looking forward to the new site and new building at Block J to improve and expand its current ministry.

Together the construction of these buildings on these three prominent sites will provide early public benefits, including street and sidewalk improvements, and will begin to knit the South Boston waterfront and Fort Point Channel areas together. Figure 2.7-1 illustrates the scope of changes to the public realm surrounding the three blocks. Section 2.7.1 includes more detailed information on public benefits related and the site plans and building designs for each block are described in more detail in Section 2.7.2.

2.7.1 Phase 1 Public Benefits

Phase 1 provides a number of public benefits to the City of Boston. Buildings on Blocks A, H and J will transform an area predominately covered by surface parking lots into the beginnings of a new neighborhood that will improve the aesthetic and dynamic appeal of the area and establish a gateway to the South Boston waterfront and Fort Point Channel areas. In addition to the benefits provided by the urban design and physical structure, Phase 1 will provide new housing and revenue to the City. Specific benefits are detailed as follows:

- ◆ **Increased Housing:** Phase 1 will create approximately 110 homes in this area of the City.
- ◆ **Affordable Housing:** 15% of the number of market rate homes will be affordable to moderate income or middle income households.
- ◆ **Workforce Housing:** Another 15% of the number of market rate homes will also be workforce housing - intended for people whose income is too great to qualify for formally restricted affordable housing units, but who are often priced out of the housing market such as fire fighters, police officers, teachers, and the like. This is intended to insure that Seaport Square has residents of various income levels, in keeping with the Proponent's view of creating a true mixed income neighborhood.
- ◆ **Jobs:** Phase 1 will generate approximately 400 construction jobs as well as an estimated 150 permanent jobs.
- ◆ **Sales Tax:** As a preliminary estimate, Phase 1 will generate approximately \$1 million in sales tax annually.
- ◆ **New Property Tax Revenue:** The new development is estimated to generate almost \$870,000 in annual property taxes.



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SEAPORT SQUARE
IN SOUTH BOSTON

Figure 2.7-1
Waiver Site: Phase 1
Block A, H, & J

- ◆ **Sustainable Design/Green Building:** The Proponent anticipates that the Project will be an early adopter of the full (non-pilot) version of the LEED-ND program. Given the acreage and gross square footage of the Project, coupled with the Proponent's desire to target LEED-NC or CS for different use types at Seaport Square, the Project aspires to become a unique example of sustainably-designed urban infill and a model for similar infill projects across the country. In addition, the Proponent is targeting LEED NC Silver Standard on Blocks A and H. As construction on Block J is to be directed by the Archdiocese, the final design parameters of the building will continue to be developed.

Public Realm /Civic Improvements

- ◆ **Improved Street and Pedestrian Environment:** At Block A, the Proponent will work with the City to provide new paving, trees, planters, benches, lighting, and outdoor restaurant seating to transform Old Sleeper Street and connect the Harborwalk between the Children's Museum and the Federal Courthouse. Along Seaport Boulevard, at Blocks H and J, new sidewalk paving and street trees will be installed. At the end of the alley between Sleeper and Farnsworth Streets, the Proponent intends to build a pedestrian ramp to connect the lower elevation of the alley with the height of Seaport Boulevard.
- ◆ **Open Space:** Phase 1 includes landscaped public space providing the missing Harborwalk link from the Children's Museum to the Federal Courthouse. Trees, planters, and new lighting along with pedestrian and restaurant seating will create a unique public amenity.
- ◆ **Provision of Seasonal Programming and Community Events:** Phase 1 includes a commitment to work with community groups and institutions in providing year-round event and exhibit programming in the new and existing open spaces associated with the Project. The Project intends to coordinate open space activation efforts with the already existing artist community in the Fort Point Channel area as well as the adjacent Children's Museum.
- ◆ **Provision of New Facilities of Public Accommodation:** This Project will activate ground level pedestrian activities by providing facilities of public accommodation on the ground floors of buildings on Blocks A and H in accordance with the Chapter 91 regulatory provisions for the activation of Commonwealth Tidelands.
- ◆ **Chapel:** A replacement facility will be constructed to relocate the existing Chapel (Our Lady of Good Voyage Chapel) to a site that is more conveniently located within the community, providing better access for churchgoers and greater visibility for the new Chapel.

2.7.2 *Block A - Project Description*

Conceived as a gateway to South Boston, the new building on Block A is situated at a prominent location along Fort Point Channel between the Evelyn Moakley and Northern Avenue bridges. The building will be one of the first new faces of Seaport Square for those crossing into the district from Downtown Boston.

The design also anticipates the reconstruction of Old Sleeper Street as a public plaza, connecting the now interrupted Harborwalk. With ground level retail spaces facing Fort Point Channel, the Project creates an active and intimately scaled public plaza between Block A and the existing Barking Crab. Operable storefronts will allow cafe seating to spill out into the plaza, and bench seating will provide a resting place for pedestrians. Attractive and durable paving materials will enhance the plaza's pedestrian use, allow for limited access with removable bollards for loading and emergency vehicles, and link the linear space to the continuous Harborwalk at the water's edge. Relocating overhead utilities and incorporating trees, planters, and new lighting will further enhance the new plaza, creating a unique public amenity both along the Harborwalk and along the pedestrian route between Seaport Square and Downtown across the Northern Avenue Bridge. Figure 2.7-2 shows the site plan for Block A along with the Harborwalk connection.

This six-story, approximately 81,600 square foot building will contain one level of underground parking for residents, two floors of commercial retail space, and condominium residences on the upper four floors. The concept for the building is that of a glass box elevated above a stone plinth. The light and airy upper volume allows expansive views of the waterfront for residents, and is articulated with projecting bays and carved outdoor rooms to bring a residential scale to the building volume. Wood clad elements further introduce a residential and nautical feel to this upper volume.

The two-story stone base allows the glass residential volume to float above and relates to adjacent seawalls, the Fort Point district's historic warehouses, and the cobbled pavement of Boston's historic streets. With a rhythm of expansive openings for retail tenants, this stone wall makes a civic gesture along the new public plaza and along New Sleeper Street.

Given its location between Fort Point Channel, Northern Avenue, New Sleeper Street, and Seaport Boulevard, the building has four prominent facades. The rooftop is conceived as a fifth façade and will be highly visible from the new office building at Block B, the adjacent Moakley Courthouse, and buildings across the Channel. A pattern of sky lit roof penthouses, roof decks, and gardens enhances this view from above and creates a prominent sustainable feature for the building.

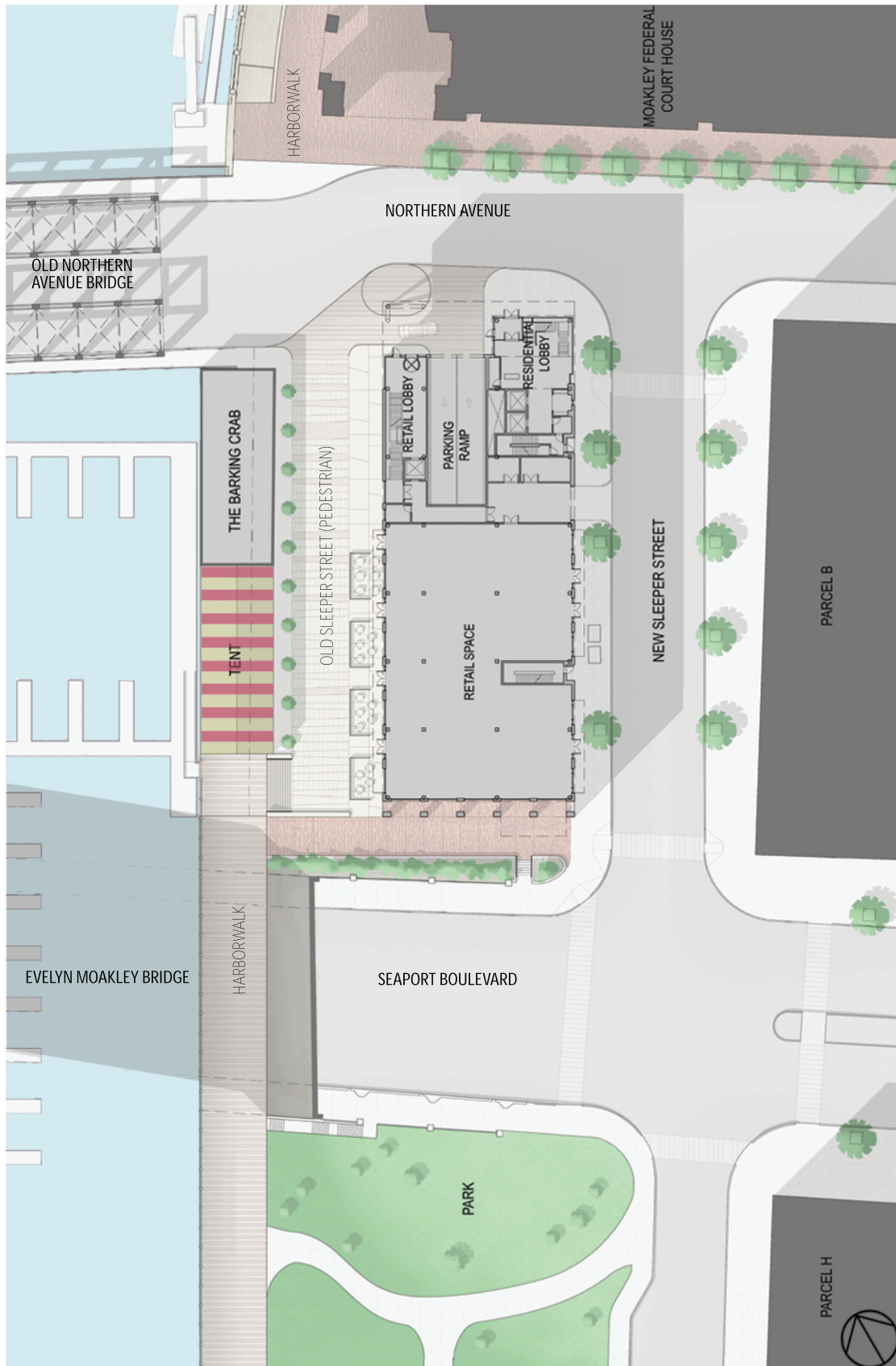


Figure 2.7-2
Waiver Site: Phase 1
Block A Site Plan

At the north end of the site, the building volume pulls back from the property line to acknowledge the adjacent double-height arcade of the Moakley Courthouse and to align with the pedestrian bridge as it meets Northern Avenue. The residential lobby is served by a covered drop-off, which provides a direct pedestrian connection to the Financial District across the Northern Avenue Bridge and allows views to the waterfront. Figures 2.7-3 through 2.7-6 provide elevations, perspectives and sections while Figure 2.7-7 and 2.7-8 provide floor plans.

Located at the south end of the site, the commercial retail space has frontage on three sides of the building and provides a connection to the retail corridor planned along Seaport Boulevard. This retail space may be subdivided to allow for multiple retail tenants. The design anticipates locating a major restaurant tenant at the second floor with views to Fort Point Channel and incorporates operable glass walls to allow for waterfront dining. At the base of the Moakley Bridge, a projecting volume asserts itself at the second floor to provide views down Seaport Boulevard. All of Block A is within Chapter 91 jurisdiction, more detail is provided in Section 3.2.

2.7.3 *Block H – Project Description*

Block H is the first building site along the south side of Seaport Boulevard. It is a relatively narrow wedge shape, ranging in width from approximately 48 feet along Sleeper Street to 64 feet at Farnsworth Street, nearly 150 feet in length, and is currently a parking lot at the elevation of the neighboring Fort Point Wharf area buildings, two to three feet below the new sidewalk of Seaport Boulevard. To the south are two existing brick buildings with an alley between them connecting to the Boston Wharf buildings of Fort Point. Figure 2.7-9 shows the site plan for Block H, while Figure 2.7-10 shows elevations and Figure 2.7-11 shows floor plans. The building is designed to be in size and scale with the adjacent buildings.

Arriving from the Evelyn Moakley bridge, Blocks A and H form a pair of new buildings that frame the gateway to the Seaport Square development, with H filling the ‘gap’ in the eight to 10 story street wall beside Fort Point Wharf, and setting up a continuous, pedestrian-friendly edge along the tree-lined retail promenade of Seaport Boulevard.

The opportunity Block H presents is to sensitively reflect the scale of its existing brick neighbors within a contemporary vocabulary that clearly communicates its sustainable design mission and the start of a new South Boston neighborhood. The massing proposed is an 85 foot high portion along Sleeper Street and a 116 foot high portion along Farnsworth, with a two-story portal in the center that connects the alley to Seaport Boulevard in a gradual ramp that is handicap accessible. The taller portion of the Block H building is similar in height to surrounding buildings. A small portion of H sits within Chapter 91, and is further discussed in Section 3.2. The taller portion of Block H is located out of Chapter 91 jurisdiction.



West Elevation - toward channel



East Elevation - Sleeper Street



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Figure 2.7-3
Waiver Site: Phase 1
Block A Elevations



North Elevation - Northern Avenue



South Elevation - Seaport Boulevard

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Figure 2.7-4
Waiver Site: Phase 1
Block A Elevations



View from Seaport Boulevard



View from Evelyn Moakley Bridge



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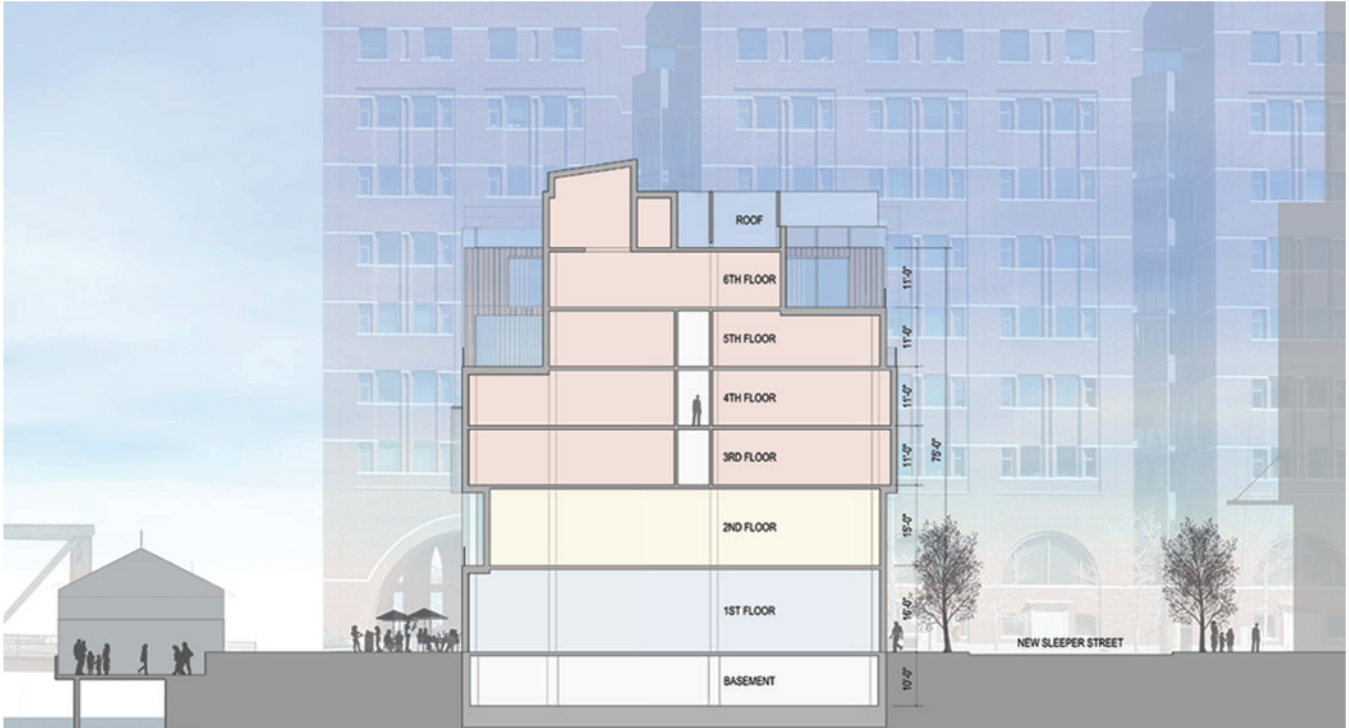
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Figure 2.7-5
Waiver Site: Phase 1
Block A Perspectives



View from Northern Avenue Bridge



East - West Section

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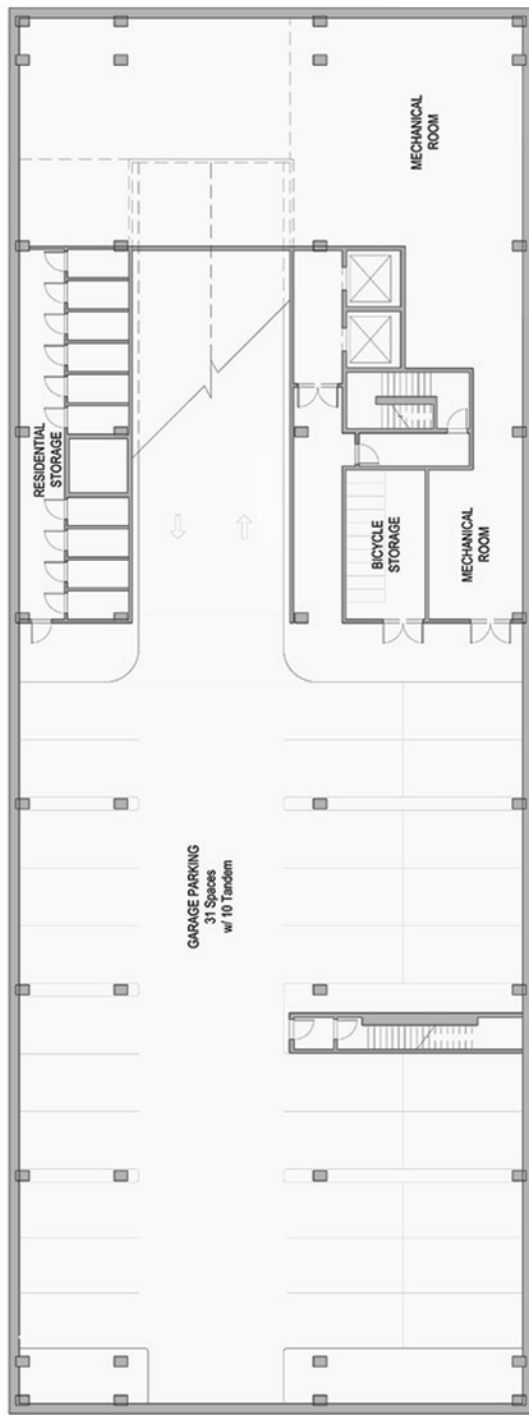
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SEAPORT SQUARE
IN SOUTH BOSTON

Figure 2.7-6
Waiver Site: Phase 1

Block A Perspective & Section



Basement Plan



First Floor Plan



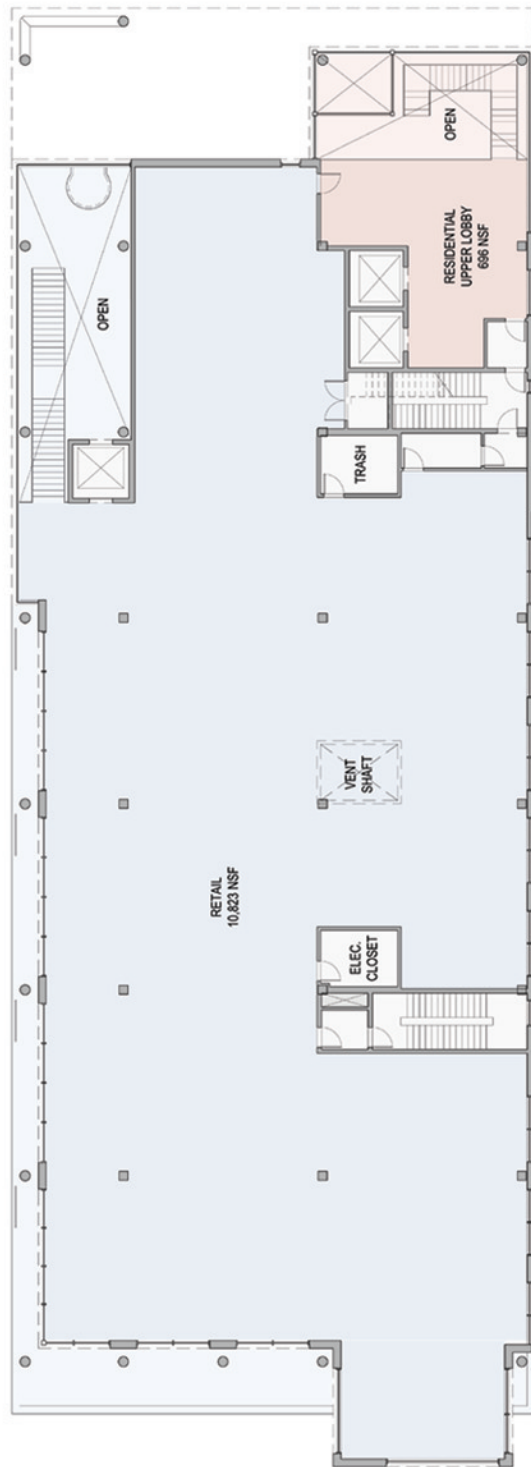
Morgan Stanley



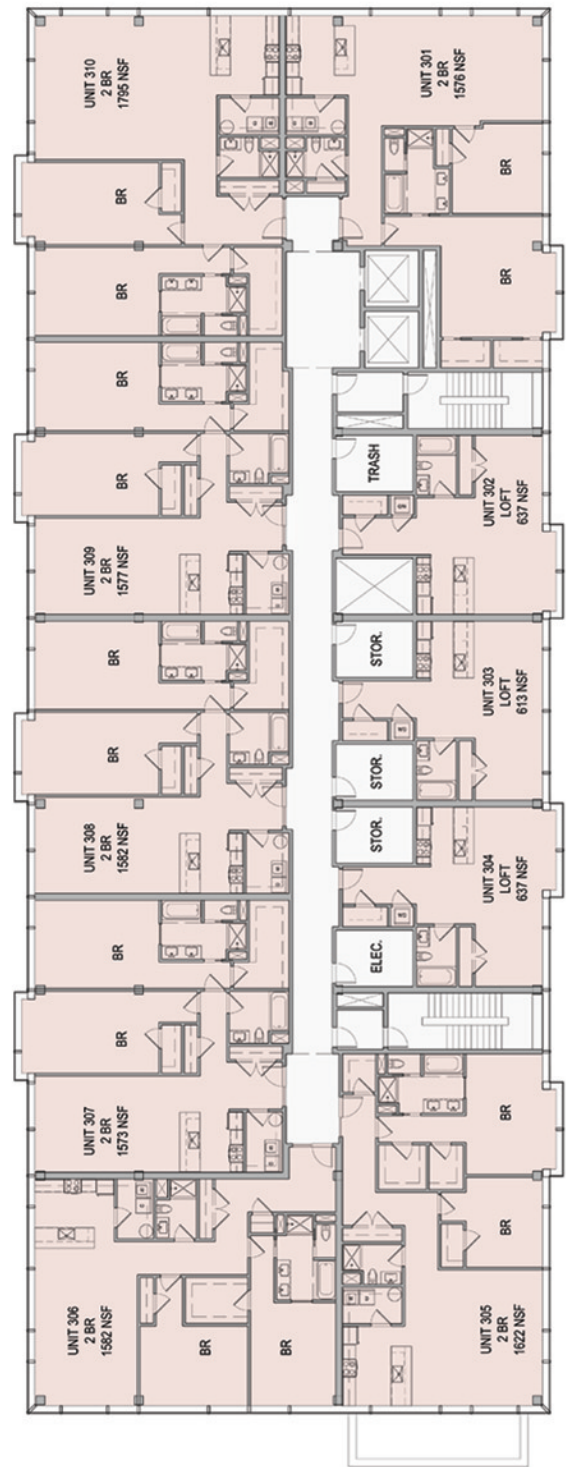
prepared by : Hacin+Associates Inc



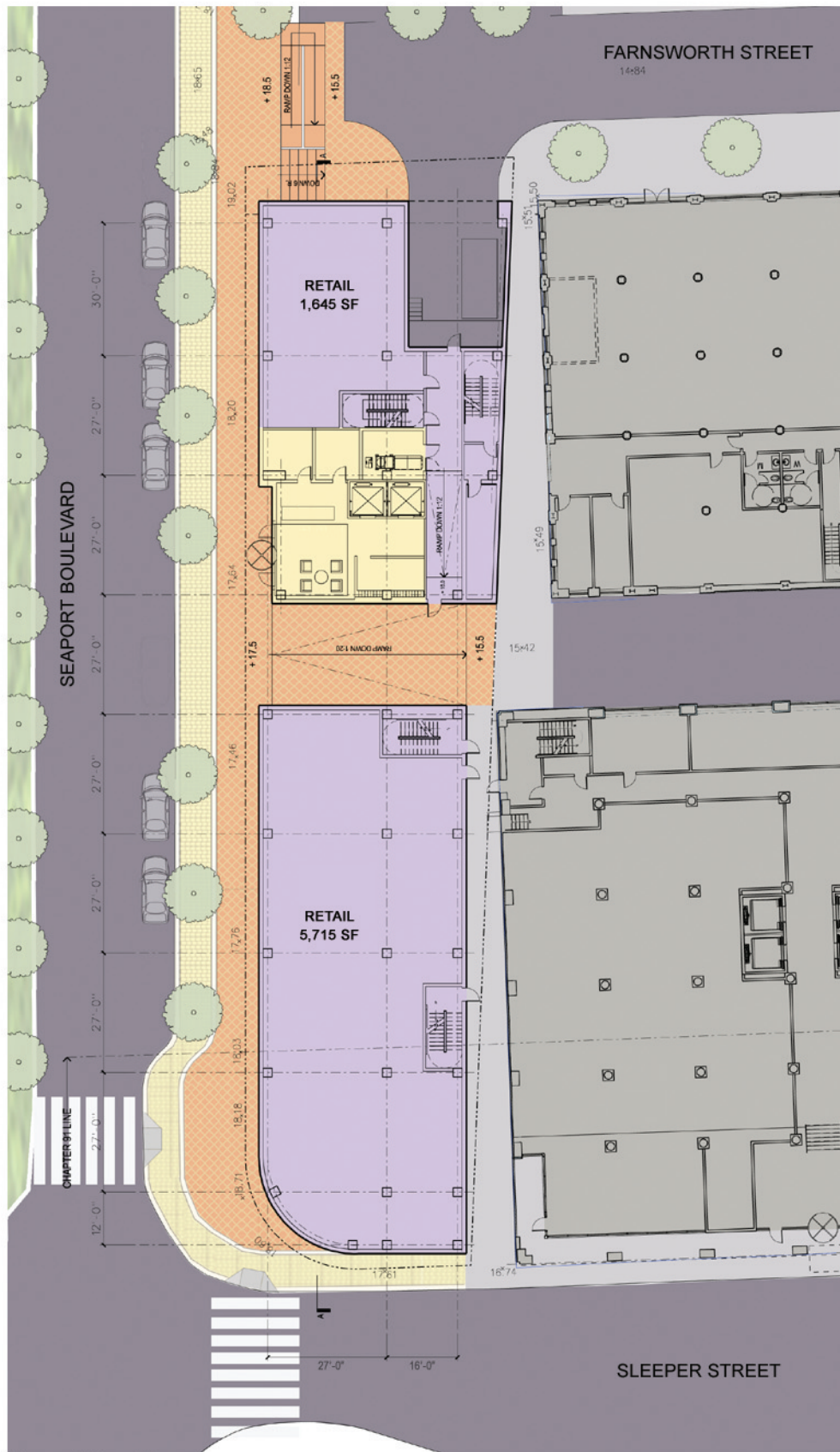
Figure 2.7-7
Waiver Site: Phase 1
Block A Plans



Second Floor Plan



Typical Upper Level Floor Plan



GALE
INTERNATIONAL

Morgan Stanley

WS DEVELOPMENT

prepared by: ADD Inc



Figure 2.7-9
Waiver Site: Phase 1
Block H Site Plan



North Elevation - Seaport Boulevard



West Elevation - Sleeper Street



East Elevation - Farnsworth Street



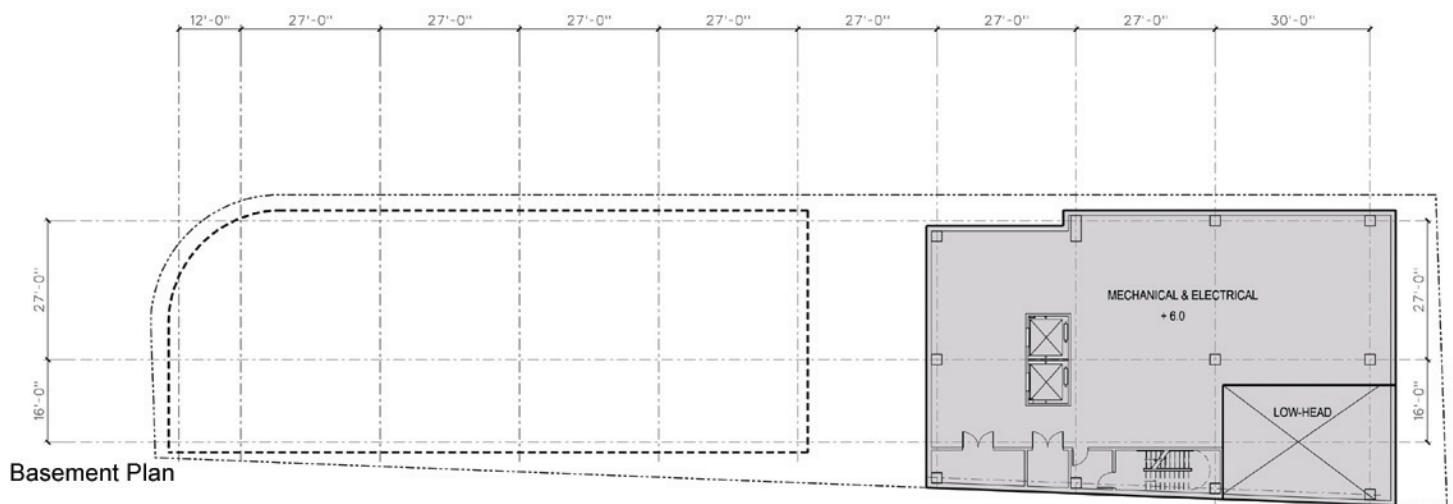
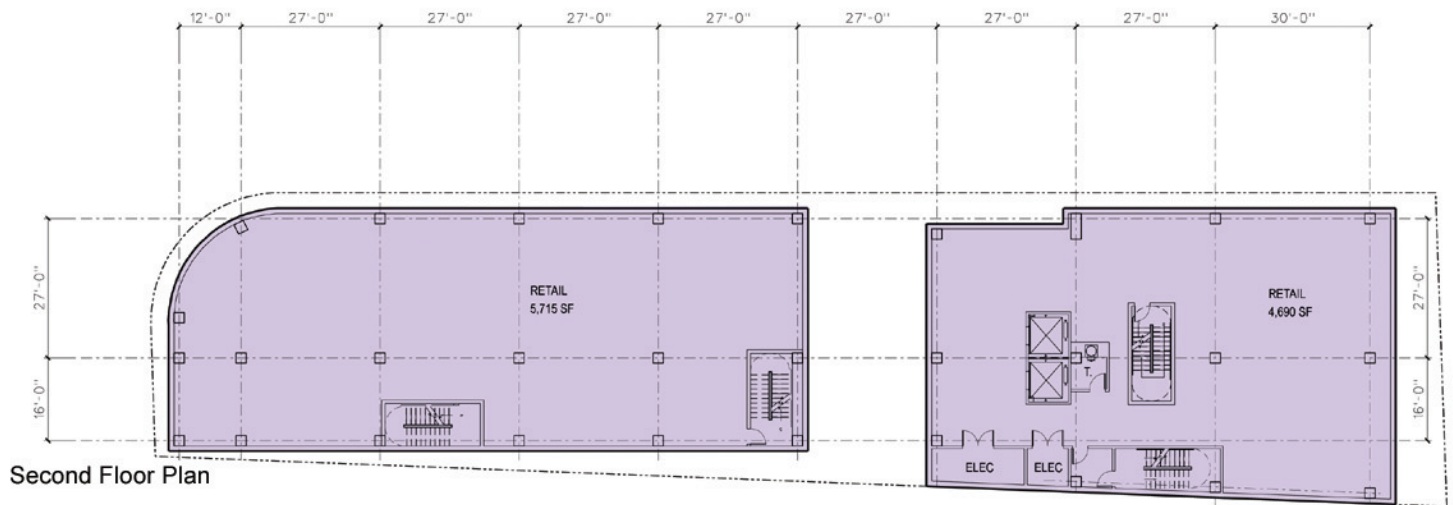
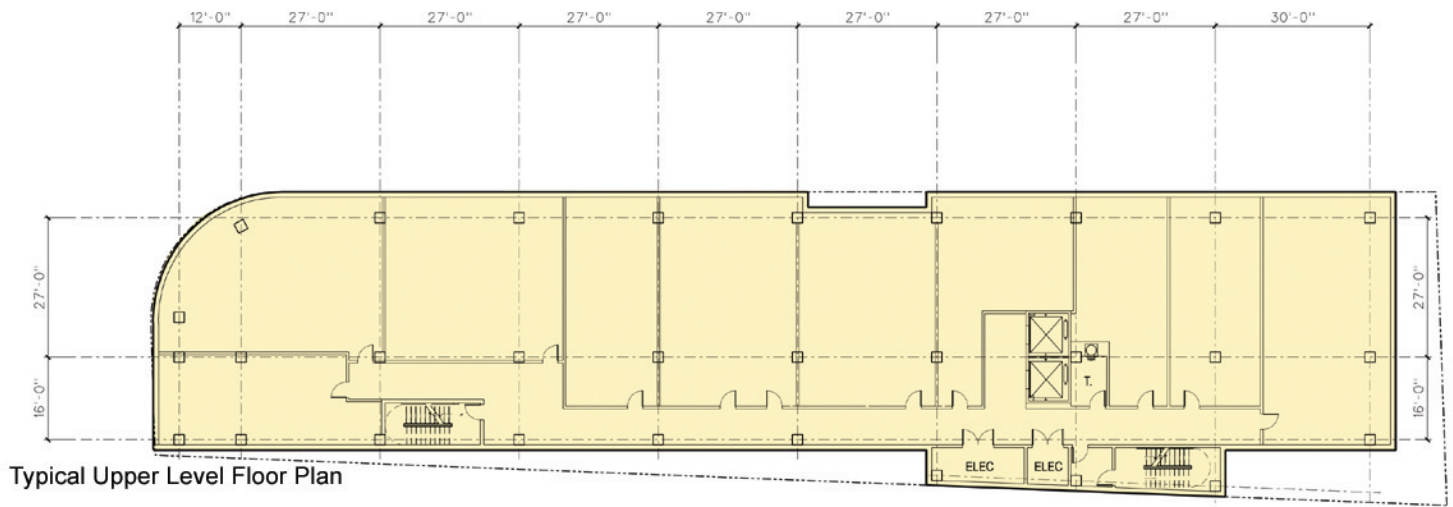
Morgan Stanley



prepared by: ADD Inc



Figure 2.7-10
Waiver Site: Phase 1
Block H Elevations



retail
 commercial
 residential
 hospitality
 civic/cultural



Next to transit and with its mixed use program, the building has many sustainable features including a green roof linked to an amenity space above the seventh floor facing city views. The metal façade structure and brightly colored inset panels (with high recycled content) reference the Children’s Museum addition and form a skin with equal parts glass for daylighting and solid areas for insulation. The ‘green’ panels along the waterfront portion are, literally, green, while the panels in the portion along Farnsworth are warm tones of brown, maroon, and terra-cotta to soften the transition to the brick buildings of the Wharf District. Inset balconies occur at the curved corner of Sleeper Street and Seaport Boulevard.

The H building contains approximately 92,100 square feet of program space, including approximately 19,400 square feet of retail in the first two floors and 72,200 square feet of residential units in the floors above.

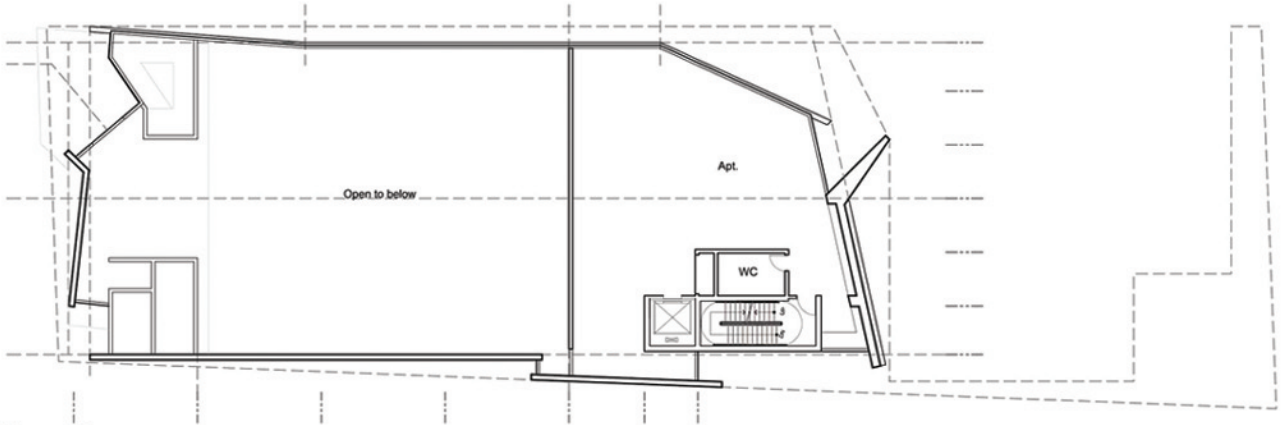
The retail component of building H is part of the ‘Children’s District’ developed by the Project’s retail partners, WS Development. Though tenants are not finalized, the goal is to lease the space to restaurants and/or shops that cater to and welcome young visitors and their parents to the Children’s Museum and the Boston Tea Party Ship on their way to/from the Silver Line T Station. Multi-colored canopies and exciting storefront displays will animate the pedestrian experience.

Due to the site’s small size, underground parking is not proposed for Block H; vehicles can park in the surface lot across the street during Phase 1, and in the subsurface garages under Blocks B, C, and D, when the garages are complete. Loading is planned within the building from Farnsworth Street.

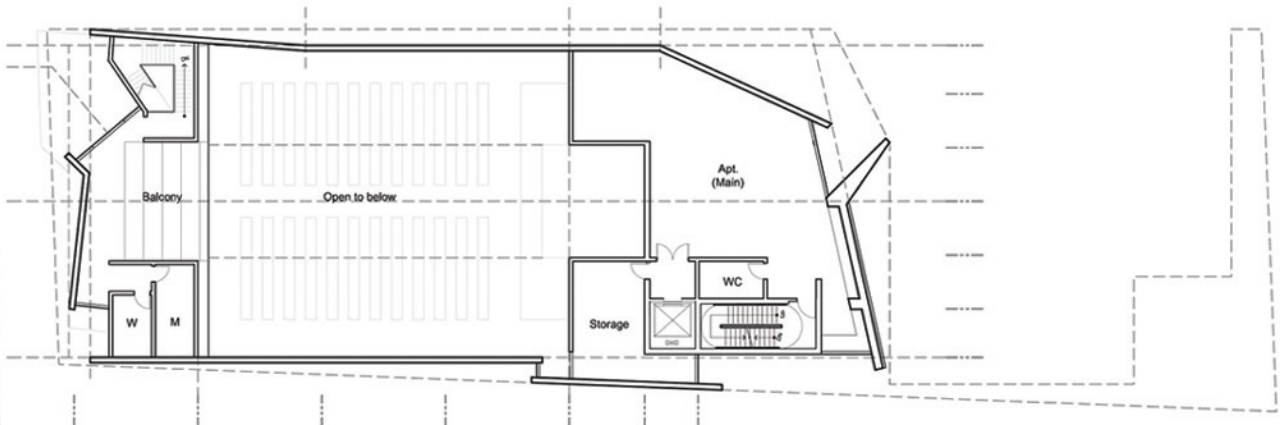
2.7.4 *Block J – Project Description*

The Our Lady of Good Voyage Chapel will be located in a new building that will provide greatly improved worship space as well as a home for its pastor on Block J, next to the Silver Line T Station on the corner of Seaport Boulevard and Farnsworth Street. The Chapel is an important part of the neighborhood cultural programs proposed within Seaport Square and a way to continue to enliven the street wall along the south side of Seaport Boulevard. See Figures 2.7-12 and 2.7-13.

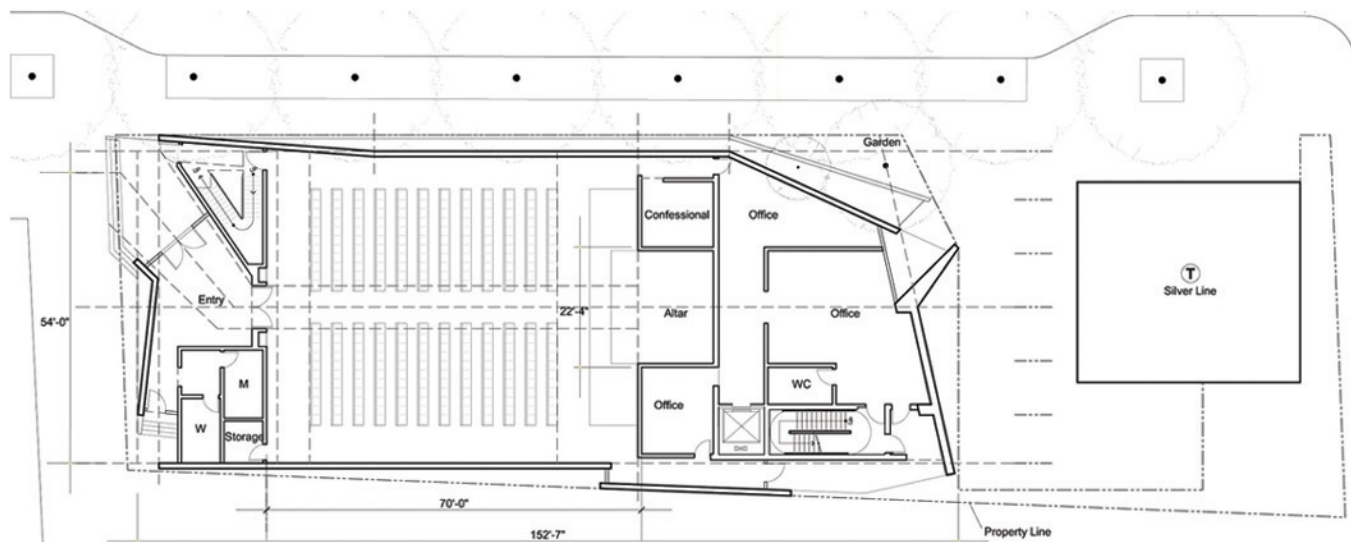
The Proponent has been negotiating with the Archdiocese of Boston and has reached an understanding in principle concerning the relocation of the existing Our Lady of Good Voyage Chapel on Northern Avenue to a new location on Block J along Seaport Boulevard. With the understanding that Seaport Square will become a vibrant new South Boston neighborhood when completed, the new Chapel will provide worshipers a greatly improved modern facility. Located on a highly visible block on Seaport Boulevard, the site will provide easy access to public transportation via the Silver Line T Station on the corner of Seaport Boulevard and Farnsworth Street. With the support of the South Boston



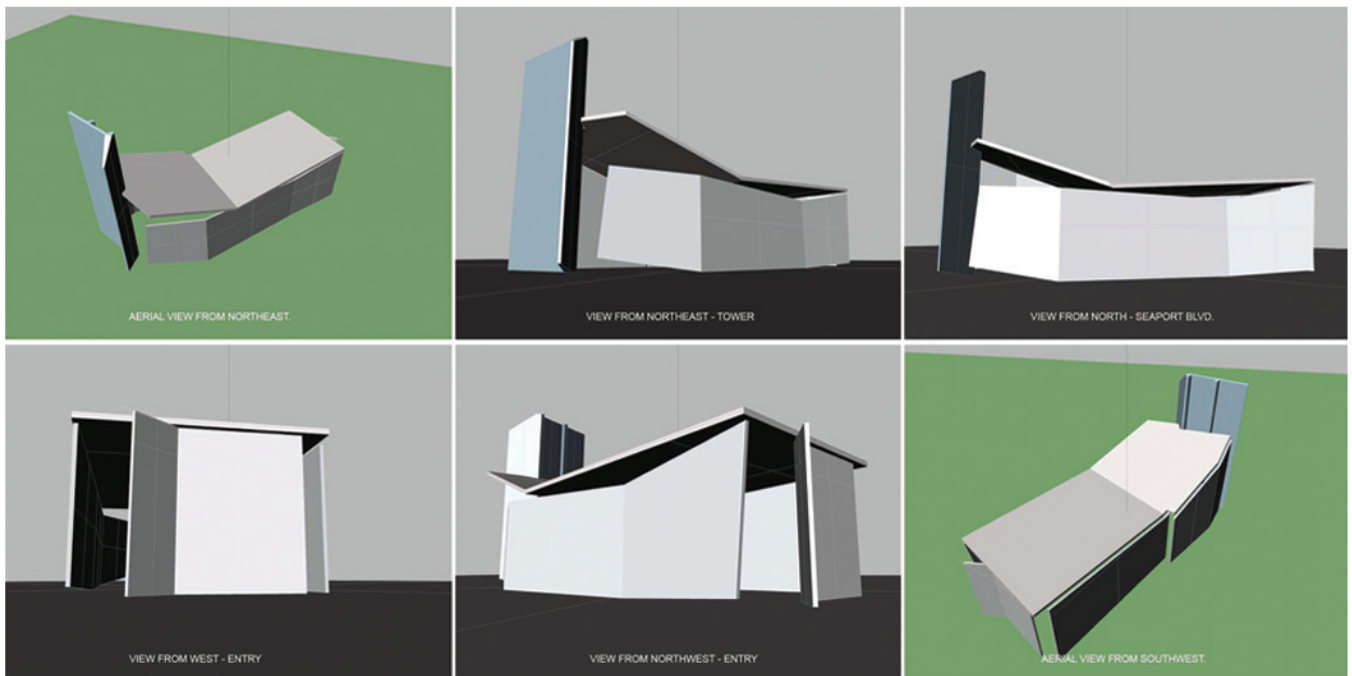
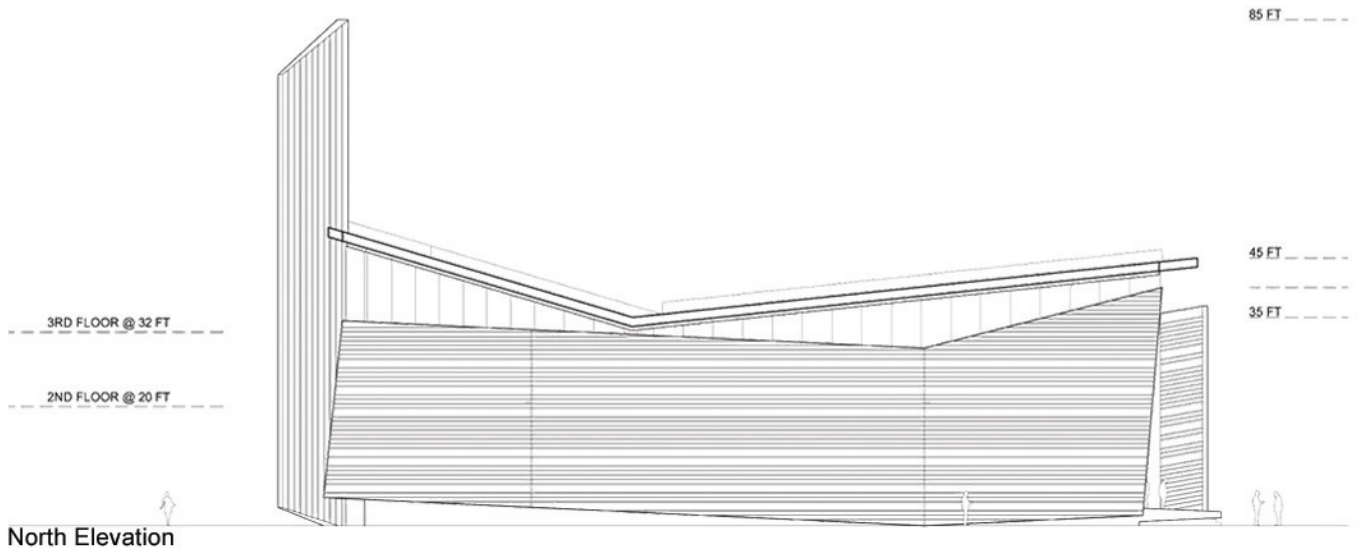
Third Floor Plan



Second Floor Plan



Ground Floor Plan



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INTERNATIONAL

Morgan Stanley

WS DEVELOPMENT

prepared by: KPF



Figure 2.7-13
Waiver Site: Phase 1
Block J Elevations

community and the Archdiocese of Boston, this new Chapel is poised to play an important part of the growth and overall cultural development of the neighborhoods. Activities like weddings, baptisms and daily mass will serve to enliven activity both along Seaport Boulevard as well as in area hotels and restaurants.

The proposed program consists of an entrance at the corner of Farnsworth Street and Seaport Boulevard that will lead parishioners into a multi-story worship area and altar, beyond which is located administration offices and meeting space. Currently the new Chapel is also programmed to incorporate a residence for clergy and the current Auxiliary Bishop of Boston Reverend Hennessey. A steeple is envisioned at the far end of the building toward the T station. The proposed program area is approximately 25,000 square feet.

While the illustrations contained in this document represent a preliminary approach to a plan, elevation and volumetric studies in an effort to define a building envelope, the Archdiocese will engage its own architectural and consultant team for the final design of the Chapel. This process is expected to commence shortly and those designs will be presented in much greater detail during the ongoing design review process associated with Phase 1.

2.7.5 *Parking for Phase 1*

For Phase 1, a total of 43 new parking spaces (a decrease from the 68 spaces currently located on the site) are proposed below-grade at Block A to serve the residential units. The spaces will result in a parking ratio of approximately 0.81 spaces per unit for Block A. No parking spaces will be provided on site for the retail/restaurant use on Block A, nor for the proposed uses on Blocks H and J. In the short term, residents, patrons, and employees will utilize nearby surface parking lots owned by the Proponent which can be accessed from Sleeper Street or Northern Avenue. Upon completion of the full-build-out, residents and patrons of Blocks A, H and J will also have the ability to park in the newly constructed underground garages and surrounding on street metered parking.

2.8 Consistency with Zoning

The Project site is within the Fort Point Waterfront Subdistrict of the Harborpark District (the "Fort Point Waterfront") governed by Article 42E of the Code, except for Block Q, which is within the M-4 Restricted Manufacturing Subdistrict. The entire Project site is also within the South Boston Inner Harbor Subdistrict of the South Boston Interim Planning Overlay District governed by Article 27P of the Code (the "IPOD") and the Restricted Parking District. Blocks H, J, K, and Q are within the Groundwater Conservation Overlay District. The regulations of the Code other than Article 27P constitute the Underlying Zoning for the Project site. Where the provisions of Underlying Zoning conflict with the provisions governing the IPOD, the IPOD regulations govern.

In the Fort Point Waterfront, most of the uses contemplated to be included in the Project are allowed, including: Open Space/Recreational Uses; Community Uses and Cultural Facilities; Residential Uses; Hotel Uses; Office Uses; Research Center Uses; Local Retail and Service Uses; General Retail Uses; Restaurant Uses; Place of Worship; Exhibition/Conference use; and Art/Artists' Mixed Use. Parking is a conditional use in the Fort Point Waterfront.

Based on a preliminary zoning analysis, the Project may require relief to allow (1) Educational Use on Blocks P and N (to accommodate the School); (2) Parking Uses (for commercial parking on Blocks B, C, D, F, G, K, Q, L, and M); and (3) for any other uses not listed as Allowed in Section 42E-21. The Project's program for day care facilities and Facilities of Public Accommodation, both of which are addressed in the code, will be set forth in its PDA plan (see below).

The dimensional requirements vary for individual development Blocks within the Project site. The maximum FAR in the IPOD is 5.0 for Blocks A, H, J, Q, and part of Block K and 4.0 for Blocks B, C, D, F, G, L, M, N, and the remainder of Block K. The Project-wide FAR will be approximately 6.33; individual zoning lots (including adjacent lots in common ownership) will have FARs ranging from 0.08 to 11.37. The maximum building height for the Project site under the IPOD is 75 feet for Blocks A, H, J, Q, and part of Block K, and 150 feet for Blocks B, C, D, F, G, L, M, N, and the remainder of Block K. The maximum heights for the Project site pursuant to underlying zoning range from 125 feet to 250 feet. The Project will therefore require relief from both the maximum FAR and maximum building heights requirements of the Code.

In the IPOD, projects involving new construction at grade must devote at least 50% of the lot area to open space, unless the BRA determines during Large Project Review that a smaller open space area, or the provision of open space in a different location, would result in a design more compatible with the surrounding area. In the Fort Point Waterfront, projects south of the old configuration of Northern Avenue must provide open space of at least 30% of lot area. All of the Project site is located south of the old layout of Northern Avenue and is thus subject to the 30% open space requirement, with the exception of the triangular portion of Blocks F and G described in Section 1.7.3 above, to which the 50% requirement would apply. Including the new streets and sidewalks that the Proponent will construct on its property, the Project will have approximately 36% open space; using the zoning definition yields approximately 25% of open space.

Block Q, which is subject to the dimensional requirements of the M-4 district, may require relief from the minimum parapet setback, minimum lot size and lot width, minimum yard, and parking and loading requirements.

Block H, J, K, and Q are within the Groundwater Conservation Overlay District, and will need to achieve consistency with the requirements of Article 32 by ensuring that those portions of the Project will have no negative impact on groundwater on the Project site or adjacent sites.

Off-street parking and loading requirements will be determined by the BRA during Large Project Review.

The Proponent intends to seek zoning relief required for the development of Blocks A, H, and J from the Board of Appeal, and seek the adoption of a Planned Development Area (PDA) to achieve zoning compliance for the rest of the Project site.

2.8.1 Zoning Relief for the Waiver Blocks

The Proponent intends to seek zoning relief required for the development of Blocks A, H, and J from the Board of Appeal, including an Interim Planning Permit, a conditional use permit under Article 32, and possibly other relief.

2.9 Consistency with Other Plans

2.9.1 Seaport Public Realm Plan

The BRA issued the South Boston Waterfront Public Realm Plan, also known as the Seaport Public Realm Plan, in 1999 to establish a framework for the future of this area of South Boston, and to position public realm attributes to drive private investment. Substantial public investment in the area over the past two decades, and the prime location of the area relative to the Financial District and the waterfront, has created a prime location for development. The area is well-served by transportation connections to the interstate highway system, the Massachusetts Bay Transportation Authority (MBTA) transit system and to Logan International Airport. In addition, the area consists of an expanse of surface parking lots and other areas that have development potential. The Plan encourages development, while also allowing for a new, vibrant public realm.

For the site, the Plan envisions “an intensely active, mixed-use, high density” area with “retail, restaurant, leisure, entertainment, and institutional uses,” that will “cater to a wide range of users and activities.” The Project will meet the objectives of the Plan, including:

- ◆ creating a vibrant new neighborhood with substantial residential and civic uses that will attract people to the site even after the end of the workday;
- ◆ connecting the South Boston waterfront to the land, encouraging people to experience the water as well as the land, providing a vibrant and expansive retail and restaurant environment, a mix of uses, a variety of building types, scales and heights, entertainment and leisure areas, as well as institutional uses such as new schools and a new public library to enhance Boston’s position as the economic engine of the region;

- ◆ expanding the open space network of the city by creating substantial open spaces with pedestrian connections to the Harborwalk. The Project will also create view corridors through the site towards the waterfront; and
- ◆ ensuring employment opportunities and affordable housing for South Boston neighborhoods and other adjacent neighborhoods to ensure that the residential neighborhoods remain a vibrant community and receive significant benefits.

2.9.2 *Municipal Harbor Plan*

The proposed Project is located within the area of the existing South Boston Municipal Harbor Plan (SBMHP), submitted by the BRA and approved by the Secretary of Environmental Affairs in 2000. This SBMHP focuses on the 128 acres of waterfront land in South Boston that are subject to Chapter 91 jurisdiction. Five Blocks within the Project are subject to Chapter 91 licensing jurisdiction, including all of Block A and portions of Blocks B, G H, and M, making up approximately 1.64 acres of a total of 23 acres for the whole Project, representing approximately 8% of the Project.

One primary planning goal of the MHP was to *“Plan the district as a vital mixed-use neighborhood that expands the City’s residential communities and provides a lively mix of open space, civic and cultural, water-transit and commercial uses and job opportunities that are mutually supportive and bring activity to the waterfront”*.

The Seaport Square Project will fulfill the goals of the South Boston Municipal Harbor Plan by activating the South Boston Waterfront and promoting the public's enjoyment of Fort Point Channel and Boston Harbor. The Project is designed to be generally consistent with the Municipal Harbor Plan. The Proponent may seek one or more minor amendments to the plan to allow additional height on the sliver of Parcel B that is within the jurisdiction of the plan in exchange for additional open space or other offsets.

2.9.3 *Fort Point Channel Watersheet Activation Plan*

The BRA’s 2002 Fort Point Channel Watersheet Activation Plan provides a vision for the future of the Fort Point Channel and the area immediately adjacent. The Plan also highlights strategies to continue improvements to the Fort Point Channel, as well as combine the efforts of interested parties and permitting agencies to reinforce the Plan. In particular, planning goals include:

- ◆ the activation of the Fort Point Channel and its edges and provide for special destination facilities so as to attract the public and generate activity on a year-round basis;
- ◆ the establishment of strong connections between Fort Point Channel, Harborwalk and other waterfront attractions and destinations; and

- ◆ the enhancement of public access (pedestrian, transit, bicycle, water) from all Boston neighborhoods and from the downtown to Fort Point Channel.

Seaport Square, located adjacent to the Fort Point Channel, will advance the goals of the Plan by:

- ◆ Completing the Harborwalk at Old Sleeper Street between the Barking Crab and Block A to connect Children’s Museum and the Federal Courthouse. Restaurants and outdoor seating will enliven the area during day and evening hours.
- ◆ Enhancing public access to the Channel by providing \$5 million for Northern Avenue Bridge improvements.
- ◆ Establishing special public destinations along the Channel and waterfront, attracting many to the site through the installation of Art in open spaces, and activation of additional public spaces. The edges of the Fort Point Channel will be drawn into the Project.

2.10 Project Delivery Strategy and Schedule

As mentioned above, following the Phase 1 Waiver buildings on Blocks A, H and J, the Proponent intends to proceed with the remainder of the Project in one continuous building campaign. This will accomplish several objectives:

- ◆ Global Marketing Synergy. Seaport Square presents an opportunity to become a job creation engine for the City and the Commonwealth. It will attract multi-national corporations and other major employers to the South Boston waterfront with a use mix that will provide not only office and lab space for such companies, but also housing for company employees, school enrollment opportunities for their families, and shopping, entertainment and cultural facilities close at hand, providing a competitive global marketing advantage.
- ◆ Retail Synergy. Seaport Square’s retail component has been conceived as an integrated urban retail environment with several retail zones, creating an overall mix which is essential to attracting retailers and shoppers.
- ◆ Construction Efficiencies. As shown in Figure 2.4-5, the balance of the Project after Phase 1 will be built on a series of large “bathtubs” with floor plates containing efficient below-grade parking and loading. Each of these bathtubs will provide platforms upon which multiple buildings will then be constructed. Considerable construction efficiencies will be realized by constructing these bathtubs in a continuous sequence.
- ◆ Financial Feasibility. The efficiencies and advantages stated above are key to the Proponent’s efforts to attract favorable financing for the Seaport Square Project.

- ◆ Adequate Regional Infrastructure. As the downtown Boston commercial market has matured, the timing is appropriate to create a new neighborhood on the South Boston waterfront. Major public infrastructure investments are in place, including the Silver Line and Central Artery Tunnel project, to create additional transportation capacity to accommodate this growth, as envisioned by the BRA's Seaport Public Realm Plan and other planning efforts.
- ◆ Public Benefits. While the Proponent anticipates that the public benefits described in more detail in Section 1.4.3.1 above will be timed to coincide with Project build-out, the Proponent's ability to build the Project in one continuous sequence will leverage these public benefits sooner and with greater certainty.

For the foregoing reasons, it is highly advantageous, both from the Proponent's perspective and from a broader public and civic perspective, to build the remainder of the Project after Phase 1 in one continuous building sequence. The Project's construction schedule is set forth below.

Project construction will be comprised of two major phases over a period of five years between 2009 and 2014. The Phase 1 Waiver Blocks (A, H, and J) will commence construction in the third quarter of 2009 and be completed by end of 2010. The rest of the Project will follow the general timeline described below:

- ◆ Below Grade Parking – Commence 2010 and complete by 2012
- ◆ Creation of New Streets – Commence second quarter of 2010 and complete by 2012
- ◆ Parcels B, D, L1,L2, M, N&P – Commence 2011 and complete by 2013
- ◆ Remaining Parcels and open spaces – Commence 2012 and complete by 2014

3.0 ASSESSMENT OF DEVELOPMENT REVIEW COMPONENTS

3.1 Transportation

3.1.1 *Executive Summary*

Through a combination of 1) new development, 2) new infrastructure, and 3) displaced low-cost public parking, travel patterns into and within the South Boston Waterfront will change over time. While most of the Central Artery/Tunnel (CA/T) infrastructure improvements are complete, the development of the Waterfront has, to date, only reached about half (18.7 million sf) of its projected levels (31.0–39.0 million sf). The several thousand public parking spaces currently operating on the Fan Pier and the Proponent's properties will be replaced with parking specifically for Waterfront development instead of serving workers who park in South Boston and walk across Fort Point Channel into Downtown.

More detail has been provided in this document regarding the transportation impacts of Phase 1, including trip generation and traffic operations analysis. Phase 1 of the Project will result in negligible impacts to the transportation network. Two intersections within the Phase 1 study area will experience a decrease in level of service under No-Build Conditions; the intersection of Seaport Boulevard/East Service Road/Northern Avenue will change from LOS C to LOS D during the 2010 p.m. peak hour, the intersection of West Broadway/A Street will change from LOS B to LOS C during the 2010 a.m. peak hour. In the Build condition, during the a.m. and p.m. peak hours, the level of service does not worsen at any of the study area intersections. LOS D is still considered acceptable, particularly for an urban area such as Boston, in which many intersections experience worse operations during the peak hours. At the intersection of Seaport Boulevard/Sleeper Street, the Seaport Boulevard eastbound left-turn currently operates at LOS F in the a.m. peak hour due to the lack of a protected left-turn phase. This operational condition will noticeably worsen under No-Build Conditions and only slightly under Build Conditions. Although the Project is not causing this operational problem, the Proponent is willing to work with the City on a solution. The Proponent proposes to install the necessary signal equipment, pavement markings, and signing for an exclusive left-turn lane and protected signal phase on Seaport Boulevard eastbound. This is described in more detail in Section 3.1.4.

The Proponent will provide Transportation Demand Management (TDM) measures for both Phase 1 and the full buildout of the Project. The Proponent will commit to improving the intersection of Seaport Boulevard/Sleeper Street, which currently operates at LOS F, even though the intersection's poor operations are not caused by Phase 1 of the Project.

3.1.2 *Introduction*

The Seaport Square Project is located in the Seaport District of South Boston. The overall Project is generally bounded by Old Northern Avenue to the north, Boston Wharf Road to the west, Summer Street to the south, and B Street to the east (see Figure 3.1-1). At full build-out, the proposed Project will include approximately 2,500 residential units, 1,250,000 square feet (sf) of retail space, 1,400,000 sf of office/research space, approximately 700 hotel rooms, a 1,800-seat performing arts center, a 25,000-sf Chapel for the Catholic Archdiocese of Boston, a 200-student public pre-K–1 pilot school, and an 1,800-student international K–12 educational center. The Project Blocks currently house public for-fee parking lots, which hold Air Pollution Control Commission permits for 3,647 commercial spaces. The Project will provide commercial parking spaces for 4,500 vehicles and 2000 residential parking spaces in five new underground parking garages.

Phase 1 of the Project consists of Blocks A, H, and J. Block A will provide 51 for-sale condominiums, 27,200 sf of retail/restaurant space, and 43 underground parking spaces for the residential units. Block H will include 59 rental apartments and 19,400 sf of retail/restaurant space. A new Chapel for the Catholic Archdiocese of Boston will be located on Block H, totaling 25,000 sf. The total gross floor area for the three blocks included in the Phase 1 Waiver request is 198,700 sf, or approximately 3% of the total Project floor area.

3.1.2.1 Purpose, Scope, and Methodology of this Section

This section presents existing transportation conditions in the Project area, discusses No-Build Conditions, and preliminary full-build Project trip generation numbers and preliminary transportation impacts and measures, and presents an overview of the anticipated transportation operations associated with the development of Seaport Square. The Proponent anticipates the preparation of a comprehensive analysis of transportation aspects of the Project as part of a Draft PIR/EIR including pedestrian, transit, automobile traffic, parking, and loading activity. The Draft PIR/EIR study will be developed to meet the requirements of the Boston Transportation Department (BTD), the MEPA office, and the community, to ensure that issues and concerns are adequately addressed. The Proponent requests that a waiver from further review be granted for Phase 1 of the Project.



Figure 3-1.1
Locus Map

3.1.2.2 Study Area

The Proponent will prepare detailed intersection operations analysis and develop appropriate mitigation measures in the Draft PIR/EIR and will carefully coordinate any necessary mitigation with BTD as well as with local neighbors for the full buildout of Seaport Square. To help evaluate existing and future conditions, the study team proposes to study the following 27 intersections (see Figure 3.1-2):

- ◆ Seaport Boulevard/Atlantic Avenue;
- ◆ Seaport Boulevard/Sleeper Street;
- ◆ Seaport Boulevard/Boston Wharf Road;
- ◆ Seaport Boulevard/East Service Road/Old Northern Avenue;
- ◆ Northern Avenue/B Street;
- ◆ Northern Avenue/D Street (2 intersections);
- ◆ Congress Street/Dorchester Avenue;
- ◆ Congress Street/A Street/Thomson Place;
- ◆ Congress Street/West Service Road/Boston Wharf Road;
- ◆ Congress Street/Ramp C/Ramp I/East Service Road;
- ◆ Congress Street/Ramp D/Ramp F/B Street;
- ◆ Congress Street/D Street;
- ◆ D Street/Silver Line entrance;
- ◆ Summer Street/Dorchester Avenue;
- ◆ Summer Street/Melcher Street;
- ◆ Summer Street/World Trade Center Avenue;
- ◆ Summer Street/D Street;
- ◆ Melcher Street/A Street;
- ◆ West Broadway/Dorchester Avenue;
- ◆ West Broadway/A Street;



Figure 3-1.2
**Full Build Study Area
 Intersections**

- ◆ West Broadway/D Street;
- ◆ Broadway/Dorchester Street;
- ◆ East Broadway/L Street;
- ◆ West Fourth Street/ Dorchester Avenue;
- ◆ Dorchester Avenue/A Street; and
- ◆ Dorchester Avenue/Old Colony Avenue.

The proposed study area was developed based on the primary traffic impact area for the Project, as well as additional intersections suggested by the Boston Transportation Department as important in terms of neighborhood concerns. The study team will conduct traffic counts at the above-listed study area intersections during the weekday morning (7:00–9:00 a.m.) and evening (4:00–6:00 p.m.) peak periods as well as the Saturday mid-day peak period (11:00 a.m.–2:00 p.m.). These counts will serve as a base scenario for the traffic analysis. The traffic counts will include pedestrians and bicyclists.

The Project team will coordinate with the Boston Redevelopment Authority (BRA) and BTB prior to preparing the Draft PIR/EIR to confirm the extent of the study area, build year, growth rate, and any area development projects.

The study area for Phase 1 was chosen with input from BTB and BRA as well as the community. The study area for Phase 1 of the Project, shown in Figure 3.1-3, includes the following three intersections:

- ◆ Seaport Boulevard/Sleeper Street;
- ◆ Seaport Boulevard/East Service Road/Northern Avenue; and
- ◆ West Broadway/A Street.

3.1.3 *Existing Transportation Conditions*

3.1.3.1 Existing Roadway Conditions

The proposed study area includes the following roadways, which are categorized according to the Massachusetts Executive Office of Transportation Office of Transportation Planning (EOT-OTP) functional classifications: Seaport Boulevard, Sleeper Street, Northern Avenue, and East Service Road.



Figure 3-1.3

**Phase 1
 Study Area
 Intersections**



prepared by:
 Howard/Stein-Hudson



Seaport Boulevard is an urban extension of a minor arterial that generally runs east–west from Purchase Street to East Service Road in South Boston. East of East Service Road, Seaport Boulevard becomes Northern Avenue. Seaport Boulevard consists primarily of two lanes in each direction. Metered parking is available on both sides of Seaport Boulevard east of Sleeper Street to East Service Road. Parking is also allowed east of B Street. Sidewalks along Seaport Boulevard are in good condition and vary in width from six to 30 feet.

Sleeper Street is an urban collector that runs north–south from Northern Avenue to Congress Street. It consists of one-lane in each direction. Residential parking is permitted along the east side of Sleeper Street south of Seaport Boulevard. In the study area, there are sidewalks on both sides of Sleeper Street that vary from five to 15 feet wide.

East Service Road is a one-way northbound urban collector running from Congress Street to Seaport Boulevard. The road consists of two northbound travel lanes and parking on both sides until near the Seaport Boulevard intersection. Adjacent to Seaport Boulevard, no parking is allowed, and there are three lanes at the intersection. East Service Road was recently constructed, so its sidewalks are in good condition. The sidewalk on the east side is seven feet wide, and that on the west side is 11 feet wide.

Northern Avenue is an urban extension of a minor arterial from Sleeper Street to D Street. Northern Avenue primarily consists of two lanes in each direction. Within the Phase 1 study area, sidewalks along Northern Avenue are in poor condition and vary in width from six to 30 feet.

A Street is a collector street that connects Congress Street in the north with Dorchester Avenue in the south. It provides for two-way traffic flow within the study area with parking restrictions varying from no parking to parking occurring on one or both sides of the street. One 12-foot travel lane is provided in each direction. A Street is generally in poor condition in the study area.

West Broadway is an urban minor arterial, running east-west from City Point to Herald Street across the Fort Point Channel. Within the study area, West Broadway is a two-way street, functioning as one to two lanes per direction due to the variable width. There is parking allowed on both sides of the street throughout the study area. The condition and width of the sidewalks vary along Broadway throughout the study area.

Additional details on other streets contained within the Seaport Square full-build study area will be included in the Draft PIR/EIR.

3.1.3.2 Existing Intersection Conditions

The following descriptions of the study area intersections include geometry, pedestrian facilities, and intersection traffic control. (Note that in these descriptions, an exclusive

pedestrian phase refers to a phase where all vehicular traffic is stopped and pedestrians in all crosswalks can proceed. A concurrent pedestrian phase permits some pedestrian crossings to occur concurrent with vehicular movements.)

Signalized Intersections

Seaport Boulevard/Sleeper Street is a signalized intersection with four approaches. The eastbound approach, Seaport Boulevard, consists of an 11-foot, shared left-turn/through lane; an 11-foot through lane; and an exclusive, 12-foot right-turn lane. The Seaport Boulevard westbound approach consists of an exclusive, 12-foot left-turn lane; a 12-foot through lane; and a shared through/right-turn lane. Metered parking is provided along both sides of Seaport Boulevard east of the intersection; no parking is allowed along Seaport Boulevard west of the intersection. The Sleeper Street northbound approach consists of one shared, 11-foot left-turn/through/right-turn lane and also has an eight-foot lane for residential parking only. The Sleeper Street southbound approach has an 11-foot, shared left-turn/through lane and a 10-foot right-turn lane. All approaches have sidewalks, handicapped ramps, and crosswalks.

Seaport Boulevard/East Service Road/Northern Avenue is a signalized intersection with four approaches. The eastbound approach, Seaport Boulevard, consists of a 12-foot left-turn lane and two 12-foot through lanes. The Seaport Boulevard westbound approach consists of a 13-foot through lane and a shared, 14-foot through/right-turn lane. Metered parking is provided along both sides of Seaport Boulevard west of the intersection; no parking is allowed along Seaport Boulevard east of the intersection. The northbound approach of East Service Road is one-way northbound and consists of one 14-foot left-turn lane, a 13-foot through lane, and a 12-foot right-turn lane. The Northern Avenue southbound approach has a 16-foot left-turn lane and a shared 20-foot through/right-turn lane. All approaches have sidewalks, handicapped ramps, and crosswalks.

West Broadway/A Street is a four-legged signalized intersection. West Broadway has two 12-foot lanes in each direction, with parking allowed adjacent to the intersection. Both the West Broadway eastbound and westbound approaches function as an exclusive left-turn lane and a shared through/right-turn lane. A Street southbound provides a single 15-foot travel lane, while A Street northbound has two 11-foot lanes that function as a left-turn/through lane and a right-turn lane. Parking is prohibited on both sides of A Street. Crosswalks, accessible ramps, and pedestrian push buttons are available on all approaches.

Additional detail on other intersections contained within the Seaport Square full-build study area will be included in the Draft PIR/EIR.

3.1.3.3 Existing Traffic Conditions

The study team conducted vehicular and pedestrian counts at the Phase 1 study area intersections in March 2007. Vehicle turning movements and pedestrian volumes were

collected on weekdays from 7:00 to 9:00 a.m. and from 4:00 to 6:00 p.m. Based on the vehicle counts, the weekday morning and evening peak hours were identified as 8:00 to 9:00 a.m. and 4:45 to 5:45 p.m., respectively. The existing peak-hour volumes for the Phase 1 study area are shown in Figure 3.1-4 and Figure 3.1-5. Traffic count data are provided in Appendix B.

The team will undertake a similar traffic counting program for the Draft PIR/EIR, which will include the intersections outlined in Section 3.1.1.2. Traffic counts will be conducted during the weekday morning (7:00–9:00 a.m.) and evening (4:00–6:00 p.m.) peak periods as well as the Saturday mid-day peak period (11:00 a.m.–2:00 p.m.). These counts will serve as a base scenario for the traffic analysis in the Draft PIR/EIR. The traffic counts will include pedestrians and bicyclists.



Figure 3-1.4
**Phase 1
 Existing
 Conditions
 (2007) Turning
 Movements,
 a.m. Peak Hour
 (8:00-
 9:00 a.m.)**



Morgan Stanley



prepared by:
 Howard/Stein-Hudson

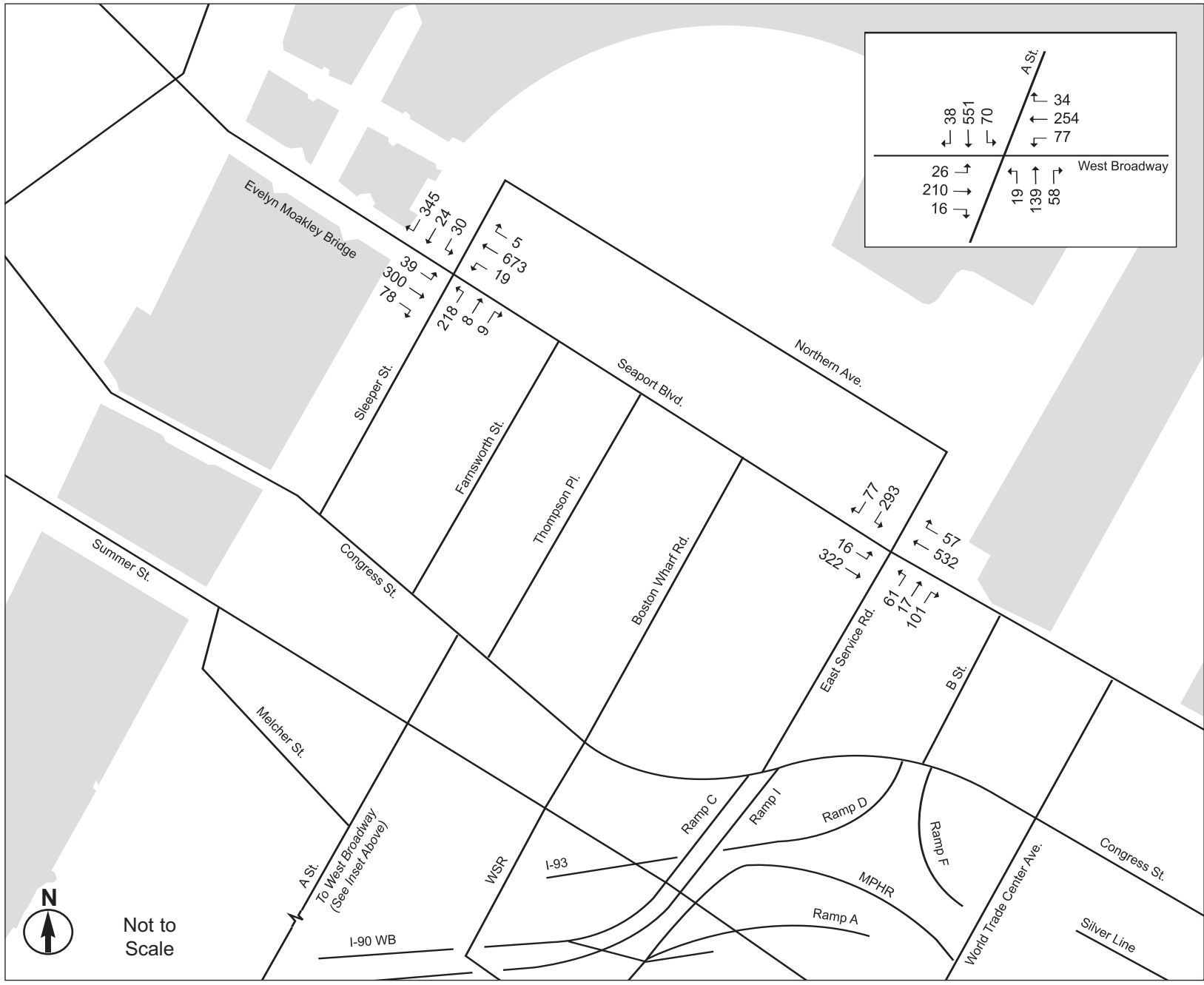


Figure 3-1.5

**Phase 1
Existing
Conditions
(2007) Turning
Movements,
p.m. Peak Hour
(4:45-
5:45 p.m.)**



Morgan Stanley



prepared by:
Howard/Stein-Hudson

Existing Traffic Operations

The criterion for evaluating traffic operations is Level of Service (LOS). LOS is determined by assessing average delay incurred by vehicles at intersections and along intersection approaches. The study team calculated average delay and associated level of service at study intersections using Trafficware's Synchro software, which also evaluates the impact on traffic operations from closely spaced intersections. This software is based on the traffic operational analysis methodology of the Transportation Research Board's 2000 Highway Capacity Manual (HCM). Level of service and delay (in seconds) are determined based on intersection geometry and available traffic data for each intersection. BTD provided the intersection signal timing and phasing used in this analysis. Table 3.1-1 summarizes the delay and LOS thresholds for signalized and unsignalized intersections, as defined in the HCM. LOS A defines the most favorable condition, with minimum traffic delay. LOS F represents the worst condition (unacceptable), with significant traffic delay. The threshold at LOS E/LOS F indicates that the intersection, or intersection approach, is theoretically at capacity. LOS D is generally considered acceptable in an urban environment, such as the Project study area, and below theoretical operating capacity.

Table 3.1-1 Intersection Level of Service Criteria (HCM excerpt)

| Level of Service | Average Stopped Delay (sec./veh.) | |
|------------------|-----------------------------------|---------------------------|
| | Signalized Intersection | Unsignalized Intersection |
| A | ≤ 10 | ≤ 10 |
| B | > 10 and ≤ 20 | > 10 and ≤ 15 |
| C | > 20 and ≤ 35 | > 15 and ≤ 25 |
| D | > 35 and ≤ 55 | > 25 and ≤ 35 |
| E | > 55 and ≤ 80 | > 35 and ≤ 50 |
| F | > 80 | > 50 |

To accurately evaluate existing traffic operations, the study team took field observations into account when calibrating the Synchro model. Of particular concern in the calibration process is the actual operation of traffic flow at study area intersections.

Table 3.1-2 and Table 3.1-3 present the Existing Conditions levels of service for the Phase 1 study area intersections for the weekday a.m. and p.m. peak hours, respectively. Detailed Synchro reports are provided in Appendix B.

Table 3.1-2 Existing Conditions (2007) Level of Service Summary, a.m. Peak Hour

| Intersection | LOS | Delay (seconds) | V/C Ratio | 95 th Percentile Queue |
|---|----------|--------------------|--------------|--------------------------------------|
| <i>Signalized Intersections</i> | | | | |
| Seaport Boulevard/Sleeper Street | F | > 80 | — | — |
| Seaport EB left (<i>de facto</i>) | F | N/A ¹ | 4.78 | #556 |
| Seaport EB thru | D | 48.8 | 0.97 | #809 |
| Seaport EB right | A | 3.3 | 0.14 | 14 |
| Seaport WB left | A | 6.1 | 0.10 | 5 |
| Seaport WB thru thru/right | A | 4.6 | 0.33 | 63 |
| Sleeper NB left/thru/right | D | 38.7 | 0.59 | 91 |
| Sleeper SB left/thru | C | 28.6 | 0.07 | 19 |
| Sleeper SB right | B | 10.3 | 0.09 | 14 |
| Seaport Boulevard/East Service Road/ Northern Avenue | C | 25.0 | — | — |
| Seaport EB left | A | 6.1 | 0.12 | m16 |
| Seaport EB thru thru | A | 7.2 | 0.35 | m192 |
| Seaport WB thru thru/right | B | 18.2 | 0.41 | 220 |
| East Service NB left | D | 37.2 | 0.38 | 132 |
| East Service NB thru | D | 47.7 | 0.71 | 184 |
| East Service NB right | E | 61.9 | 0.83 | #241 |
| Northern SB left | D | 41.7 | 0.19 | 37 |
| Northern SB right | C | 23.0 | 0.02 | 1 |
| West Broadway/A Street | B | 19.9 | — | — |
| Broadway EB left | B | 18.4 | 0.28 | 43 |
| Broadway EB thru/right | C | 20.4 | 0.54 | 226 |
| Broadway WB left | B | 19.5 | 0.36 | 85 |
| Broadway WB thru/right | C | 23.3 | 0.66 | 300 |
| A Street NB left/thru thru/right | B | 16.7 | 0.37 | 123 |
| A Street SB left/thru | C | 22.5 | 0.54 | 199 |
| A Street SB right | A | 4.5 | 0.10 | 7 |

¹ Synchro is unable to calculate delay on this approach.

95th percentile queue volume exceeds capacity. Queue may be longer.
Queue shown is maximum after 2 cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Table 3.1-3 Existing Conditions (2007) Level of Service Summary, p.m. Peak Hour

| Intersection | LOS | Delay (seconds) | V/C Ratio | 95 th Percentile Queue |
|---|---|--------------------|--------------|--------------------------------------|
| <i>Signalized Intersections</i> | | | | |
| Seaport Boulevard/Sleeper Street | C | 22.9 | — | — |
| Seaport EB left/thru thru | C | 25.8 | 0.56 | 140 |
| Seaport EB right | A | 4.5 | 0.15 | 24 |
| Seaport WB left | B | 14.7 | 0.05 | 22 |
| Seaport WB thru thru/right | B | 14.6 | 0.43 | 212 |
| Sleeper NB left/thru/right | D | 48.7 | 0.79 | #291 |
| Sleeper SB left/thru | C | 24.8 | 0.15 | 43 |
| Sleeper SB right | C | 24.7 | 0.69 | 233 |
| Seaport Boulevard/East Service Road/ Northern Avenue | C | 34.8 | — | — |
| Seaport EB left | C | 30.5 | 0.07 | m23 |
| Seaport EB thru thru | C | 32.8 | 0.25 | 158 |
| Seaport WB thru thru/right | C | 26.0 | 0.54 | 235 |
| East Service NB left | D | 39.6 | 0.28 | 72 |
| East Service NB thru | D | 35.5 | 0.07 | 29 |
| East Service NB right | D | 53.2 | 0.64 | 109 |
| Northern SB left | D | 54.3 | 0.83 | 276 |
| Northern SB right | A | 8.1 | 0.23 | 34 |
| West Broadway/A Street | C | 27.3 | — | — |
| Broadway EB left | B | 17.6 | 0.09 | 30 |
| Broadway EB thru/right | B | 18.1 | 0.33 | 172 |
| Broadway WB left | B | 18.8 | 0.22 | 70 |
| Broadway WB thru/right | B | 19.2 | 0.43 | 230 |
| A Street NB left/thru thru/right | B | 10.3 | 0.19 | 40 |
| A Street SB left/thru | D | 44.8 | 0.94 | 416 |
| A Street SB right | A | 3.4 | 0.07 | 12 |
| # | 95 th percentile queue volume exceeds capacity. Queue may be longer. Queue shown is maximum after 2 cycles. | | | |
| m | Volume for 95 th percentile queue is metered by upstream signal. | | | |

The Phase 1 study area intersections examined under Existing Conditions operate at acceptable overall levels of service (LOS D or better) during the p.m. peak hour. During the a.m. peak hour, the following intersections and/or approaches operate below LOS D under Existing Conditions:

Seaport Boulevard/Sleeper Street. The intersection overall operates at LOS F during the a.m. peak hour. The Seaport Boulevard eastbound de facto left-turn lane operates at LOS F during the morning peak hour. The Seaport Boulevard eastbound left lane acts as a de facto left-turn lane during the a.m. peak hour. Currently, the signal phasing at the intersection does not provide a protected left-turn phase for this movement, which could improve both that movement's and the intersection's operations.

Seaport Boulevard/East Service Road/Northern Avenue. The East Service Road northbound right-turn lane operates at LOS E during the morning peak hour.

3.1.3.4 Existing Parking

This section documents the existing curbside operations and off-street parking facilities in the study area.

On-street Parking

Figure 3.1-6 presents parking restrictions within a quarter-mile radius, or a five-minute walk, of Phase 1 of the Project. Metered parking is available along Seaport Boulevard between Sleeper Street and Northern Avenue. Meters are also provided on Boston Wharf Road and East Service Road. Residential parking for South Boston permit holders is available along the east side of Sleeper Street between Congress Street and Seaport Boulevard.

Additional detail about on-street parking in the full buildout study area will be provided in the Draft PIR/EIR.

Off-street Parking

Currently, many off-street parking options are available within the Phase 1 study area. Surface parking is available in the Northern Avenue, Fan Pier, Pier 4, and Congress Street lots, which are located within a five-minute walk of the Phase 1 blocks.

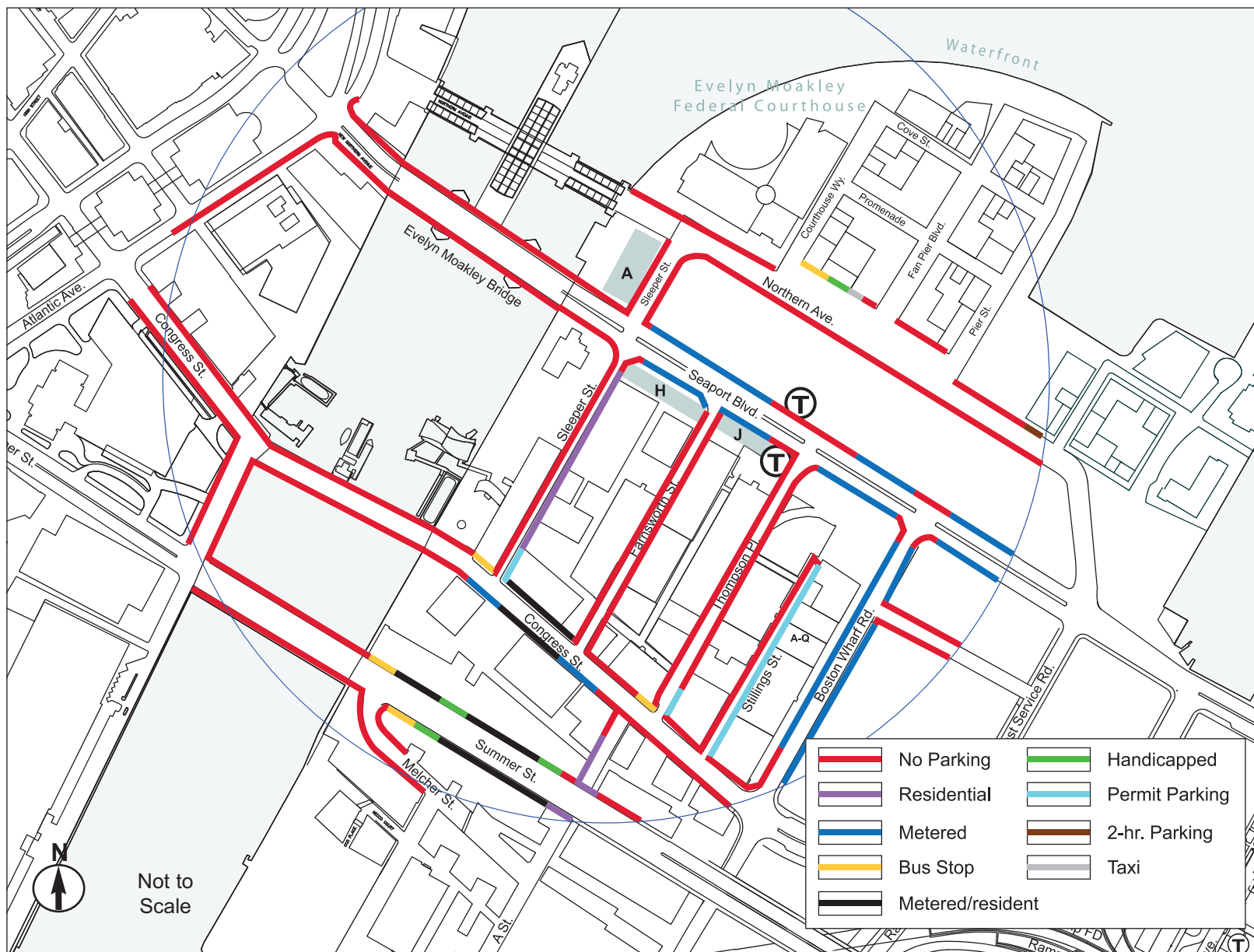
Additional detail about off-street parking in the full buildout study area will be provided in the Draft PIR/EIR.

3.1.3.5 Existing Public Transportation in the Study Area

The Project site is within one-half mile (a 10-minute walk) of South Station, a transportation hub that provides access to the MBTA Red Line, Silver Line, and seven commuter rail branches. In addition, the MBTA Silver Line Courthouse and World Trade Center stations are located within the Project area. Several MBTA local and express bus routes operate near the proposed site as well. The MBTA's Water Shuttle Route F1 operates from Rowe's Wharf to Hingham. Route F2 operates from Hull to Logan Airport to Long Wharf. The Inner Harbor Ferry operates from Long Wharf to the Charlestown Navy Yard. South Station is also the terminus for Amtrak train service along the Northeast Corridor. Greyhound and Peter Pan provide regional and commuter bus service from South Station.

Weekday bus and subway service is provided between approximately 5:00 a.m. and 1:00 a.m. Actual service times vary by route or line. MBTA public transportation services, exclusive of commuter rail lines and water routes, are shown in Figure 3.1-7. Table 3.1-4 summarizes rapid transit service and frequency.

Figure 3-1.6
**On-street
Parking in the
Study Area**



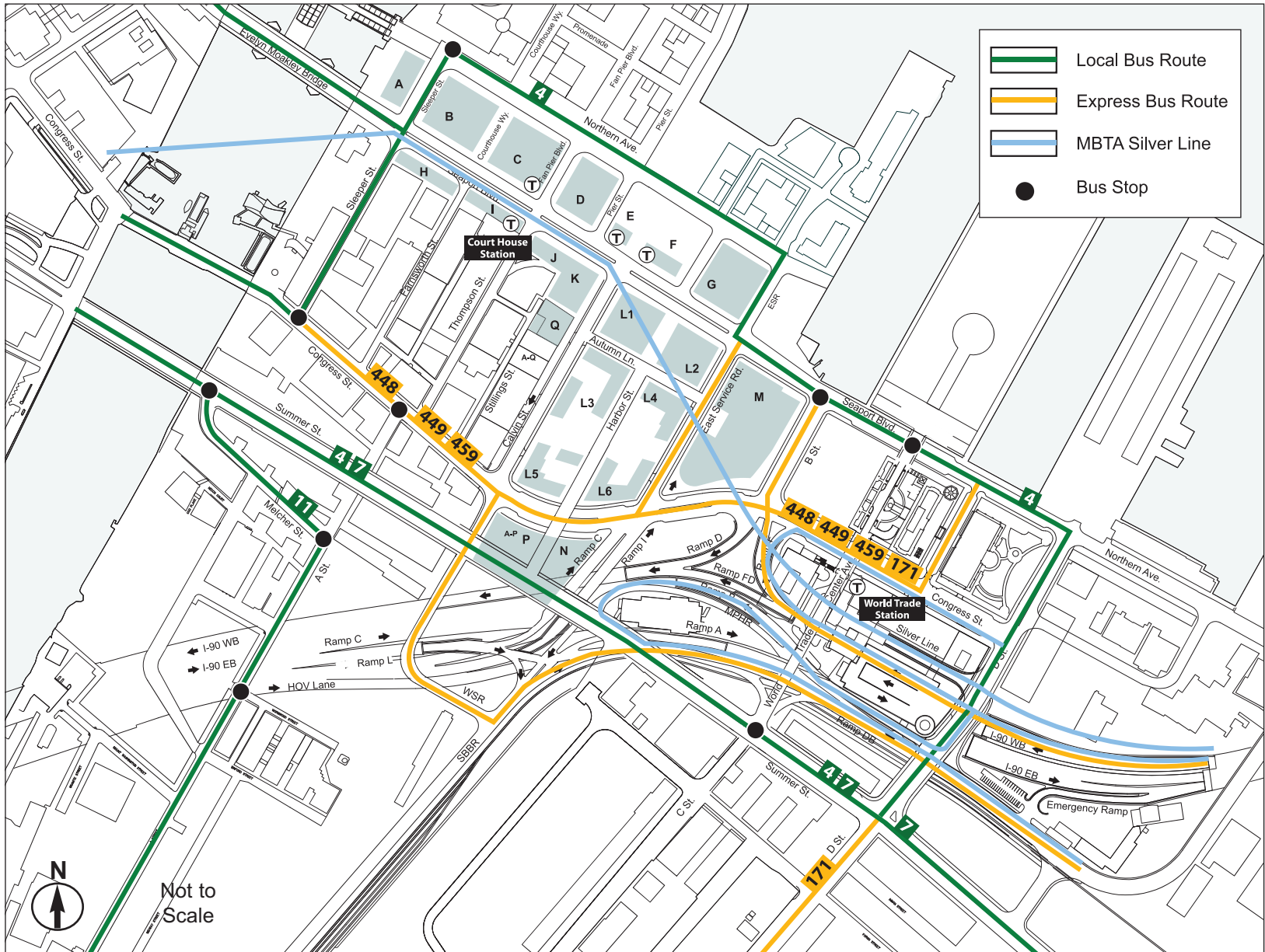


Figure 3-1.7
Public Transportation in the Study Area

Table 3.1-4 MBTA Rapid Transit Service in the Study Area

| Line | Origin—Destination | Car Capacity ¹ | Cars Per Bus/ Train ² | Bus/Train Capacity | Buses/ Trains Per Hour | Hourly 1-way Capacity |
|-------------|---|---------------------------|----------------------------------|--------------------|------------------------|-----------------------|
| Silver Line | South Station—Logan (SL1), BMIP (SL2), City Point (SL3) | 65 | 1 | 65 | 12 | 780 |
| Red Line | Alewife—Braintree/Ashmont | 167 | 6 | 1,002 | 16 | 16,032 |

1. Per MBTA service policy for peak-hour service. "Crush loaded" capacity is 1,602 for a six-car Red Line train; 96 for a Silver Line Waterfront bus.

Many local and express bus routes operate near the Project site. Table 3.1-5 lists the route numbers, origin–destination of the route, and peak-hour frequency. Route 4 has a bus stop located on Northern Avenue adjacent to the courthouse.

Table 3.1-5 MBTA Bus Service in the Study Area

| Route | Route Description | Rush Hour Headway (minutes) |
|-------|--|-----------------------------|
| 4 | North Station—World Trade Center | 15 |
| 7 | City Point—Otis & Summer Streets | 4–7 |
| 11 | City Point—Downtown | 6 |
| 171 | Dudley Station—Logan Airport (Sunrise) | Limited |
| 448 | Marblehead—Downtown Crossing | Limited |
| 449 | Marblehead—Downtown Crossing | Limited |
| 459 | Salem Depot—Downtown Crossing | Limited |

3.1.3.6 Pedestrian/Bicycle Conditions

The pedestrian sidewalks along Seaport Boulevard within the Phase 1 study area are in good condition and range between 6 and 30 feet wide. The Harborwalk is a bicycle and pedestrian path that winds around Boston's waterfront. Upon completion, the entire path will total 47 miles. Within the Phase 1 study area, the Harborwalk trail crosses Seaport Boulevard at Sleeper Street.

The Draft PIR/EIR will describe existing pedestrian conditions for the larger full buildout study area in more detail.

3.1.3.7 Loading and Service

No significant loading and service operations are associated with the existing site, either in the full buildout or in Phase 1, because the existing site is currently used as public parking lots.

3.1.3.8 Crash History

The study team obtained motor vehicle crash data from the Massachusetts Highway Department (MassHighway) Crash Data System for the two intersections in the Phase 1 study area. The crash reports obtained were for crashes occurring between January 2004 and December 2006. Table 3.1-6 summarizes the data for the study area intersections. As shown, four crashes were reported at the Phase 1 study area intersections between 2004 and 2006. Of these crashes, no fatalities were reported. At the two intersections, the most common crash type was the angle crash, most commonly caused by drivers accepting gaps that are too small to safely make a left turn.

Crash rates are determined for an intersection based on the number of crashes per million vehicles entering the intersection. The average crash rates at both intersections are below MassHighway's statewide and District 4 averages. Crash rate worksheets are included in Appendix B.

Similar crash analysis will be performed for the full-build study area in the Draft PIR/EIR.

Table 3.1-6 MassHighway Crash Data Summary

| Scenario | Seaport Boulevard/ Sleeper Street | Seaport Boulevard/ Northern Avenue/ East Service Road |
|------------------------|--|--|
| Year | | |
| 2004 | | 1 |
| 2005 | 1 | |
| 2006 | 1 | 1 |
| Total | 2 | 2 |
| Type of Crash | | |
| Single Vehicle | | 1 |
| Angle | 2 | 1 |
| Total | 2 | 2 |
| Crash Severity | | |
| Property Damage Only | 1 | |
| Non-fatal Injury | 1 | 2 |
| Fatality | | |
| Total | 2 | 2 |
| Light Condition | | |
| Day | 2 | |
| Dark (road lit) | | 1 |
| Unknown | | 1 |
| Total | 2 | 2 |
| Road Condition | | |
| Dry | 1 | 1 |
| Wet | 1 | |
| Other/Unknown | | 1 |
| Total | 2 | 2 |

Table 3.1-6 MassHighway Crash Data Summary (Continued)

| Scenario | Seaport Boulevard/ Sleeper Street | Seaport Boulevard/ Northern Avenue/ East Service Road |
|--|--|--|
| Time of Day 6:00–8:59 a.m. 9:00 a.m.–2:59 p.m. 3:00–5:59 p.m. 6:00 p.m.–5:59 a.m. | 2 | 2 |
| Total | 2 | 2 |
| Day of Week Monday Tuesday Wednesday Thursday Friday Saturday Sunday | 1 1 | 1 1 |
| Total | 2 | 2 |
| Crash Rate | 0.08 | 0.09 |
| District Average | 0.88 | 0.88 |

3.1.4 Evaluation of Long-term Impacts

This section describes and evaluates Phase 1 of the Project including the 2010 No-Build and 2010 Build Conditions. The full buildout analysis of Seaport Square will be included in the Draft PIR/EIR.

3.1.4.1 No-Build Conditions

No-Build traffic conditions are independent of the proposed Project and include existing traffic and any new traffic resulting from both general background growth and any identified development projects in the area.

No-Build Background Conditions

Two procedures are used to determine background traffic growth. The first is to apply a general growth rate to account for changes in demographics, auto usage, and ownership. The second is to estimate traffic generated by planned new major developments and anticipated roadway changes.

Additional traffic generated by the following projects was incorporated into the analysis:

316-322 Summer Street – 3,000 sf of retail space; 132,600 sf of office space

346-354 Congress Street (FP3) – 3,000 sf of retail space; 97 residential units

311 Summer Street – 9,500 sf of retail space; 48,500 sf of office space

Fan Pier Parcel F – 493,000 sf of office space

Jimmy's/Parcel E – 30,000 sf of retail space; 15,000 sf of office space

Pier 4 (Hotel only) – 225 hotel rooms

Congress Street Hotel – 505 hotel rooms

Waterside Place – 300 hotel rooms; 640,000 sf of retail space; 20,000 sf of cultural space; 209 residential units

368 Congress Street – 9,000 sf of retail space; 91,450 sf of office space

No-Build Traffic Operations

The 2010 No-Build analysis uses the same analysis methodology described in the Existing Conditions. No-Build traffic volumes are shown in Figure 3.1-8 and Figure 3.1-9 for the a.m. and p.m. peak hours. The resulting intersection operations are shown in Table 3.1-7 and Table 3.1-8.

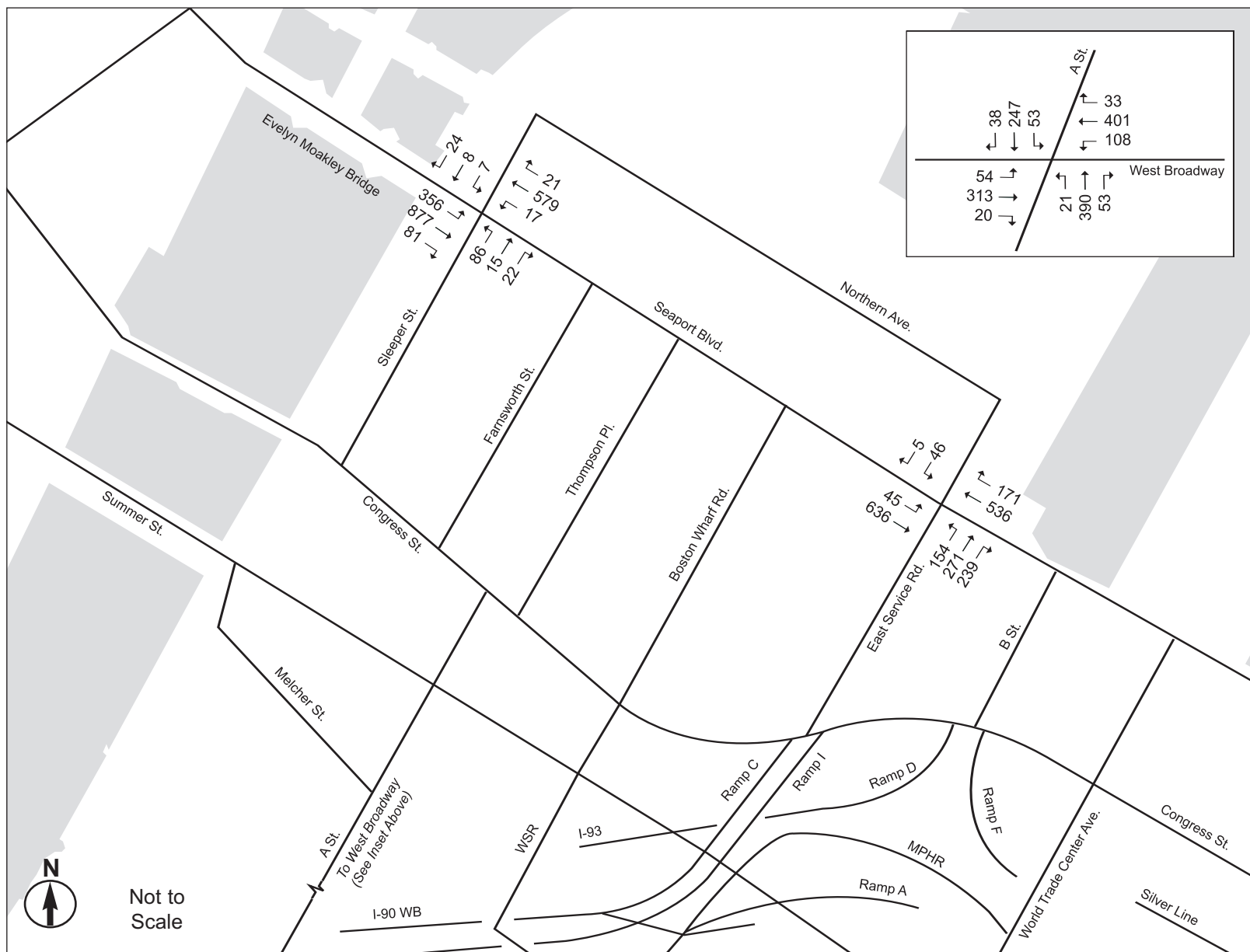


Figure 3-1.8
**Phase 1
 No-Build
 Conditions
 (2010), a.m.
 Peak Hour**



Morgan Stanley



prepared by:
 Howard/Stein-Hudson

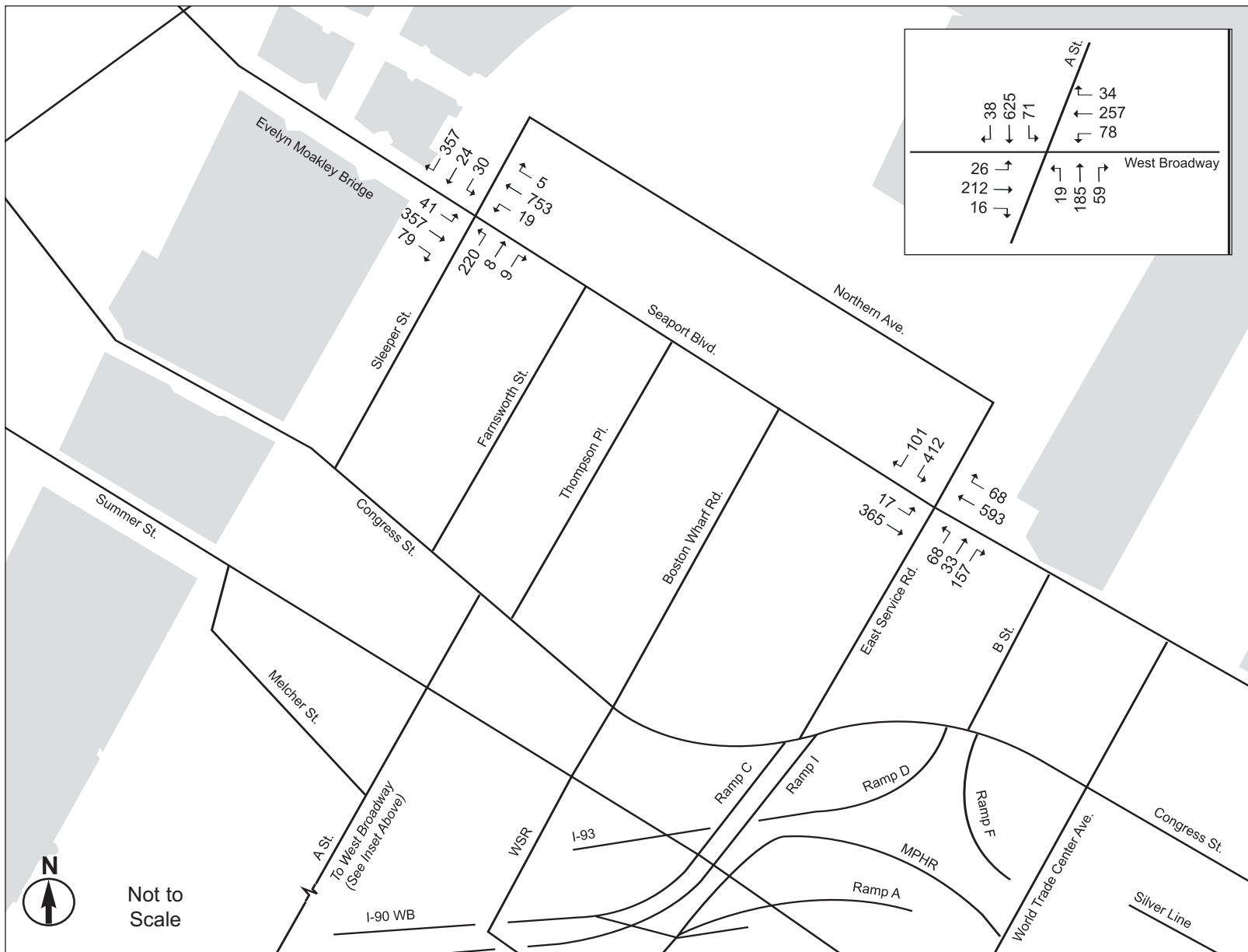


Figure 3-1.9

**Phase 1
No-Build
Conditions
(2010), p.m.
Peak Hour**



Morgan Stanley



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Table 3.1-7 No-Build Conditions (2010) Level of Service Summary, a.m. Peak Hour

| Intersection | LOS | Delay (seconds) | V/C Ratio | 95 th Percentile Queue |
|---|----------|--------------------|--------------|---|
| <i>Signalized Intersections</i> | | | | |
| Seaport Boulevard/Sleeper Street | F | > 80 | — | — |
| Seaport EB left (de facto) | F | N/A ¹ | 5.14 | #596 |
| Seaport EB thru | E | 62.1 | 1.03 | #876 |
| Seaport EB right | A | 3.7 | 0.14 | 16 |
| Seaport WB left | A | 7.5 | 0.14 | 6 |
| Seaport WB thru thru/right | A | 4.8 | 0.34 | 67 |
| Sleeper NB left/thru/right | D | 39.1 | 0.60 | 91 |
| Sleeper SB left/thru | C | 28.7 | 0.07 | 20 |
| Sleeper SB right | B | 10.3 | 0.09 | 14 |
| Seaport Boulevard/East Service Road/ Northern Avenue | C | 30.9 | — | — |
| Seaport EB left | A | 6.9 | 0.18 | m17 |
| Seaport EB thru thru | A | 8.7 | 0.39 | m188 |
| Seaport WB thru thru/right | C | 22.0 | 0.55 | 281 |
| East Service NB left | D | 37.5 | 0.43 | 158 |
| East Service NB thru | E | 66.2 | 0.91 | 258 |
| East Service NB right | E | 63.5 | 0.86 | #285 |
| Northern SB left | D | 44.9 | 0.34 | 58 |
| Northern SB right | B | 16.4 | 0.10 | 0 |
| West Broadway/A Street | C | 20.3 | — | — |
| Broadway EB left | B | 18.6 | 0.29 | 44 |
| Broadway EB thru/right | C | 20.5 | 0.55 | 230 |
| Broadway WB left | B | 19.7 | 0.37 | 87 |
| Broadway WB thru/right | C | 23.5 | 0.66 | 305 |
| A Street NB left/thru thru/right | B | 17.4 | 0.41 | 141 |
| A Street SB left/thru | C | 23.6 | 0.58 | 218 |
| A Street SB right | A | 4.5 | 0.10 | 7 |

¹ Synchro is unable to calculate delay on this approach.

95th percentile queue volume exceeds capacity. Queue may be longer.

Queue shown is maximum after 2 cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Shading indicates LOS has worsened from Existing Conditions.

Table 3.1-8 No-Build Conditions (2010) Level of Service Summary, p.m. Peak Hour

| Intersection | LOS | Delay (seconds) | V/C Ratio | 95 th Percentile Queue |
|---|----------|--------------------|--------------|---|
| <i>Signalized Intersections</i> | | | | |
| Seaport Boulevard/Sleeper Street | C | 27.3 | — | — |
| Seaport EB left/thru thru | C | 29.2 | 0.67 | 173 |
| Seaport EB right | A | 4.5 | 0.15 | 24 |
| Seaport WB left | B | 18.9 | 0.06 | m22 |
| Seaport WB thru thru/right | C | 21.5 | 0.48 | 274 |
| Sleeper NB left/thru/right | D | 49.5 | 0.80 | #296 |
| Sleeper SB left/thru | C | 24.8 | 0.15 | 43 |
| Sleeper SB right | C | 30.5 | 0.75 | #276 |
| Seaport Boulevard/East Service Road/ Northern Avenue | D | 47.4 | — | — |
| Seaport EB left | C | 34.2 | 0.08 | m23 |
| Seaport EB thru thru | D | 39.4 | 0.33 | 181 |
| Seaport WB thru thru/right | C | 34.8 | 0.73 | 278 |
| East Service NB left | D | 35.6 | 0.25 | 76 |
| East Service NB thru | C | 33.1 | 0.11 | 45 |
| East Service NB right | E | 57.5 | 0.77 | 159 |
| Northern SB left | F | 85.2 | 1.02 | #464 |
| Northern SB right | A | 7.3 | 0.25 | 38 |
| West Broadway/A Street | C | 28.1 | — | — |
| Broadway EB left | B | 19.3 | 0.10 | 30 |
| Broadway EB thru/right | C | 20.7 | 0.37 | 174 |
| Broadway WB left | C | 21.1 | 0.24 | 71 |
| Broadway WB thru/right | C | 22.1 | 0.48 | 231 |
| A Street NB left/thru thru/right | B | 10.0 | 0.21 | 51 |
| A Street SB left/thru | D | 43.8 | 0.95 | #568 |
| A Street SB right | A | 3.2 | 0.06 | 12 |

95th percentile queue volume exceeds capacity. Queue may be longer.

Queue shown is maximum after 2 cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Shading indicates LOS has worsened from Existing Conditions.

Under the a.m. peak hour No Build Conditions, the intersection of Seaport Boulevard/Sleeper Street will operate at an unacceptable level of service as it does under Existing Conditions. The Seaport Boulevard eastbound thru movement worsens from an LOS D to LOS E. Operations are degraded for two of the lane groups at the Seaport Boulevard/East Service Road/Northern Avenue and for the intersection of West Broadway/A Street. However, the intersections will continue to operate at an acceptable LOS.

During the p.m. peak hour, Seaport Boulevard/East Service Road/Northern Avenue worsens from LOS C to LOS D. All three study area intersections contain lane groups that have degrading operations. However, under No Build Conditions, all of the intersections operate at an acceptable LOS during the afternoon peak hour.

3.1.4.2 Build Conditions

The proposed Project includes approximately 2,500 residential units, 1,250,000 sf of retail space, 1,400,000 sf of office/research space, 700 hotel rooms, and 600,000 sf of civic space, including a branch library, a flexible gallery space, two schools, and a performing arts center. The Project also includes approximately 6,500 underground parking spaces in five parking garages.

Phase 1 of the Project includes Blocks A, H, and J. Block A is proposed to provide 51 residential condominium units, approximately 27,200 sf of retail, and an underground residential parking garage containing 43 spaces. No parking will be provided for the retail uses. Block H is proposed to provide approximately 59 residential apartment units and approximately 19,400 sf of retail. No parking will be provided on Block H or J. A new 25,000 sf Chapel for the Archdiocese of Boston is proposed to be located on Block J.

Site Access and Circulation

The Project will create a number of new streets, continuing the grid layout of the Wharf District. The Project site plan is shown in Figure 3.1-10. New streets include extensions north of Farnsworth Street (as a pedestrian way), Thomson Place/Fan Pier Boulevard, and Pier Street. The site will also construct a new street, Harbor Street, connecting elevated Summer Street with Seaport Boulevard. Harbor Street will form a new T intersection with another new street, Autumn Lane, which will provide access to Boston Wharf Road to the west and East Service Road to the east. Harbor Street will be continued as a pedestrian connection from Autumn Lane to Seaport Boulevard.

The Project blocks will be accessed at a number of locations. The residential garage under Block A will be accessed from Northern Avenue. The garage located under Blocks B through G will be accessed by autos from Northern Avenue under Block B, from the extension of Thomson Place under Block D, and from East Service Road under Block G. Truck access for all loading and servicing for Blocks B through G will also be accessed from East Service Road. The garage under Blocks K and Q will be accessed from a new street, called Stillings Way, which will connect to Boston Wharf Road. The access to the garage under Blocks L1 through L6 will be from both Boston Wharf Road and from East Service Road. These entry points will also be used to access the surface parking areas on the L Blocks. Access to the loading areas for Blocks L1 through L6 will be provided from Congress Street. The garage under Blocks M1 and M2 will be accessed from both East Service Road and B Street. The loading areas for Blocks M1 and M2 will also be accessed from both East Service Road and B Street. The garage and loading areas for the M Blocks will have separate access points. The garage under Blocks N and P will be accessed from Congress Street.

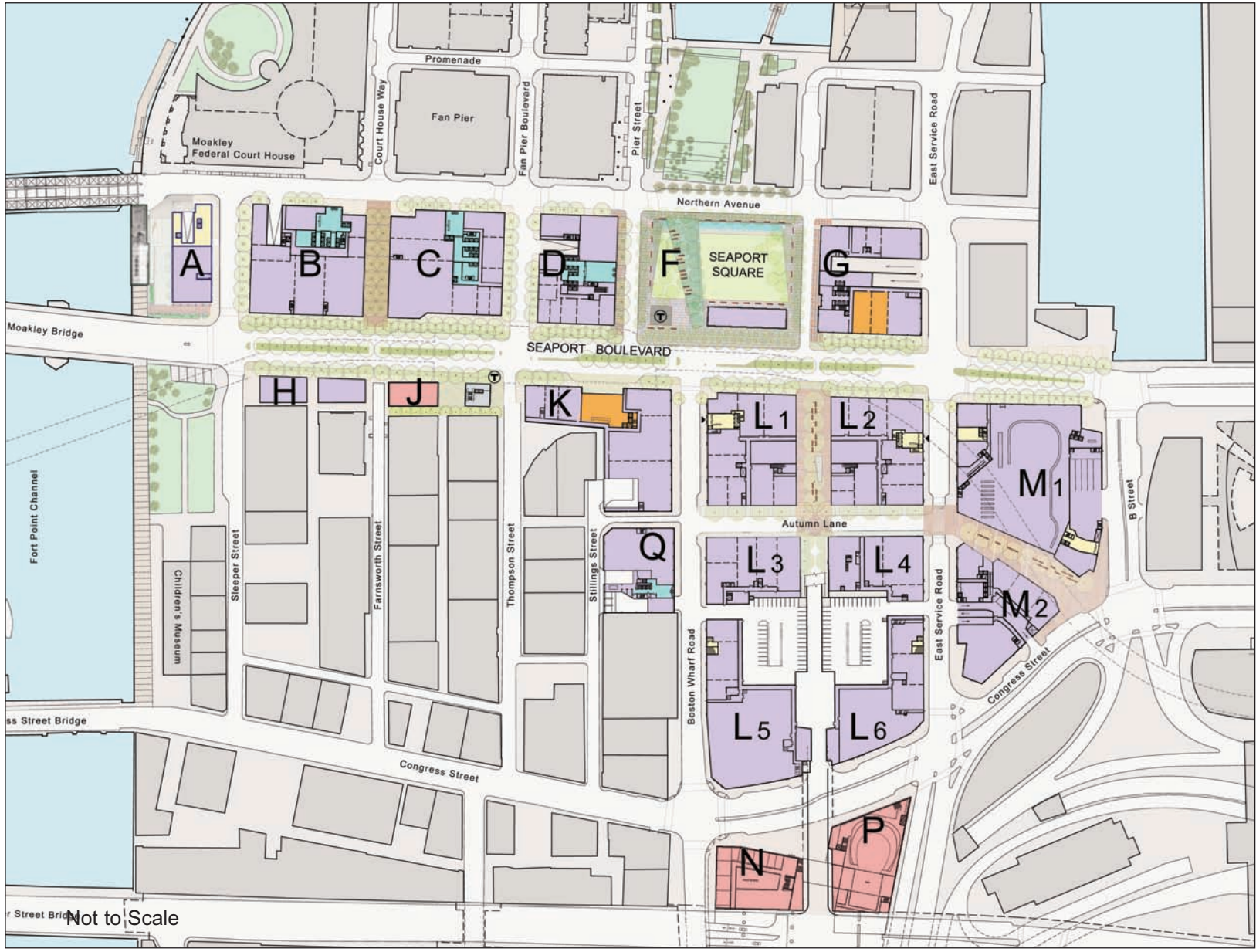


Figure 3-1.10
**Full Build
Project Site
Plan**



Morgan Stanley



prepared by:
Howard/Stein-Hudson

A residential garage will be located under Block A, shown in Figure 3.1-11, which can be accessed from Northern Avenue. The site plans for Blocks H and J are shown in Figure 3.1-12 and Figure 3.1-13, respectively. In the short-term, Blocks H and J will utilize the surface parking lots in the area. Upon completion of the full buildout, residents and patrons of Blocks A, H, and J will also have the ability to park in the newly constructed underground garages.

Trip Generation

The trip generation for the proposed Project was based on rates derived from the Institute of Transportation Engineers' (ITE) publication *Trip Generation*. The following ITE land use codes (LUC) were used to develop Project-related trips.

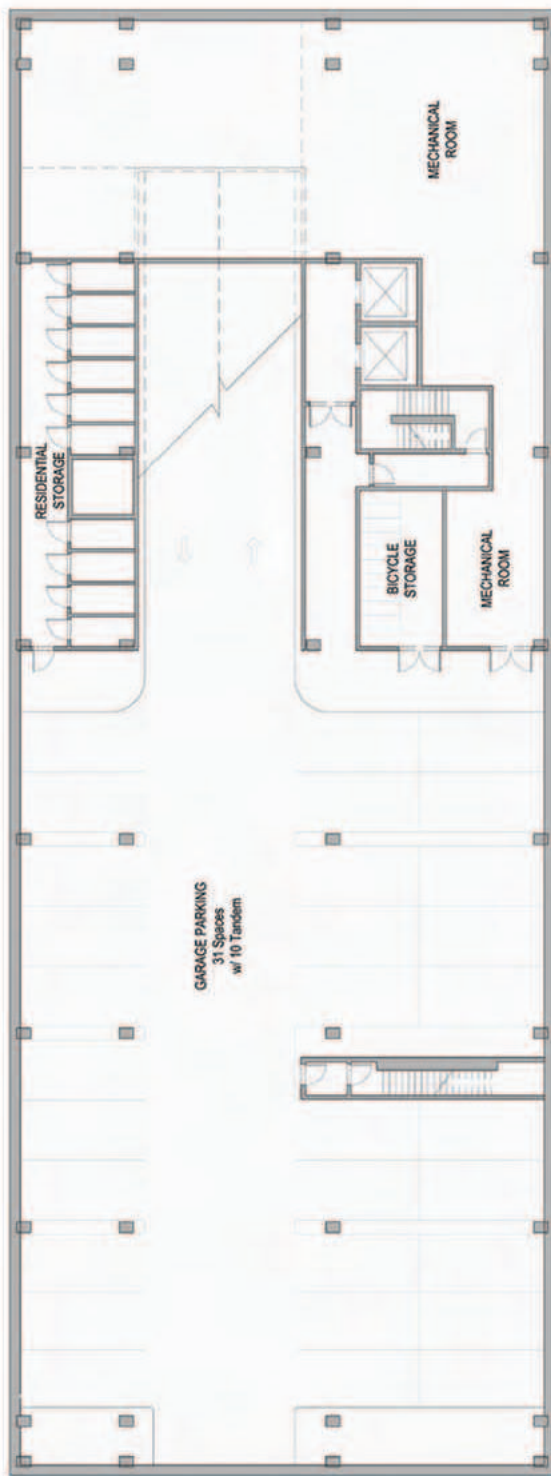
LUC 220 — Apartment. Apartments are rental dwelling units located within the same building with at least three other dwelling units—for example, quadraplexes and all types of apartment buildings. The studies included in this land use did not identify whether the apartments were low-rise, mid-rise, or high-rise. Low-rise apartment (Land use 221), high-rise apartment (Land use 222), and mid-rise apartment (Land use 223) are related uses.

LUC 230 — Residential Condominium/Townhouse. Residential condominiums/townhouses are defined as ownership units that have at least one other owned unit within the same building structure. Both condominiums and townhouses are included in this use.

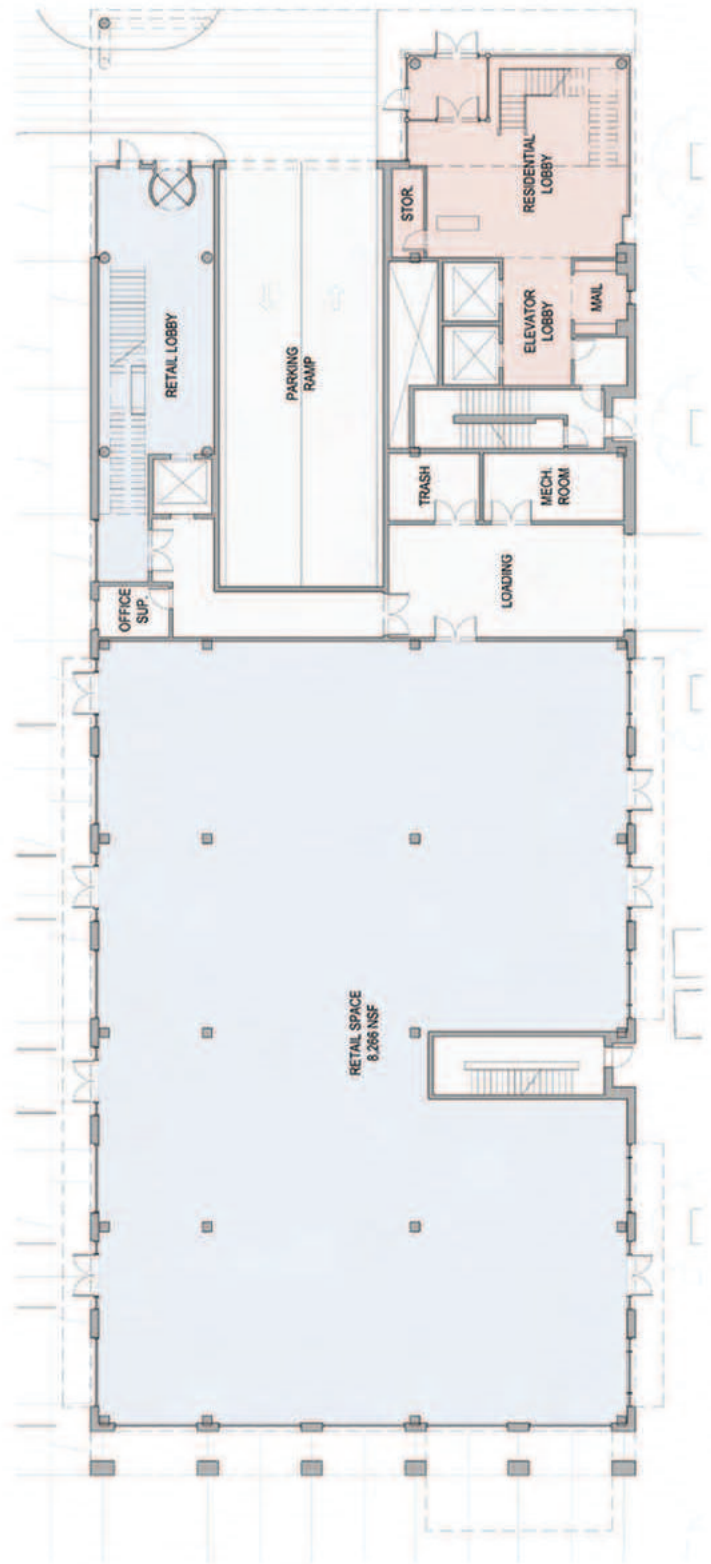
LUC 310 — Hotel. This land use code is defined as a place of lodging that provides sleeping accommodations and supporting facilities such as restaurants, cocktail lounges, meeting and banquet rooms or convention centers, limited recreational facilities (e.g., pool, fitness room), and/or other retail services or shops. Calculation of the number of vehicle trips uses ITE's average rate per room.

LUC 520 — Elementary School. Elementary schools typically serve students attending kindergarten through the fifth or sixth grade. Elementary schools are usually centrally located in residential communities in order to facilitate student access. There are no student drivers. This land use consists of schools where bus service is usually provided to students living beyond a specified distance from the school. Both public and private elementary schools are included in this land use. Middle school/junior high school (Land Use 522), high school (Land Use 530), private school—K–8 (Land Use 534), and private school—K–12 (Land Use 536) are related uses.

LUC 560 — Church. A church is a building in which public worship services are held. A church houses an assembly hall or sanctuary; it may also house meeting rooms, classrooms, and occasionally dining, catering, or party facilities. Synagogue (Land Use 561) is a related use.



Basement Plan



First Floor Plan

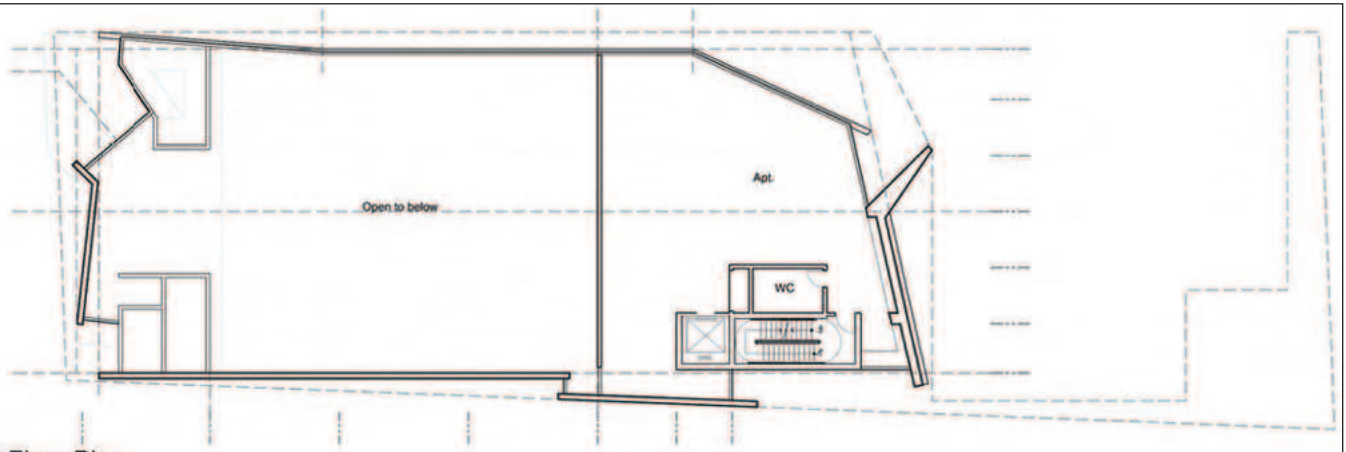


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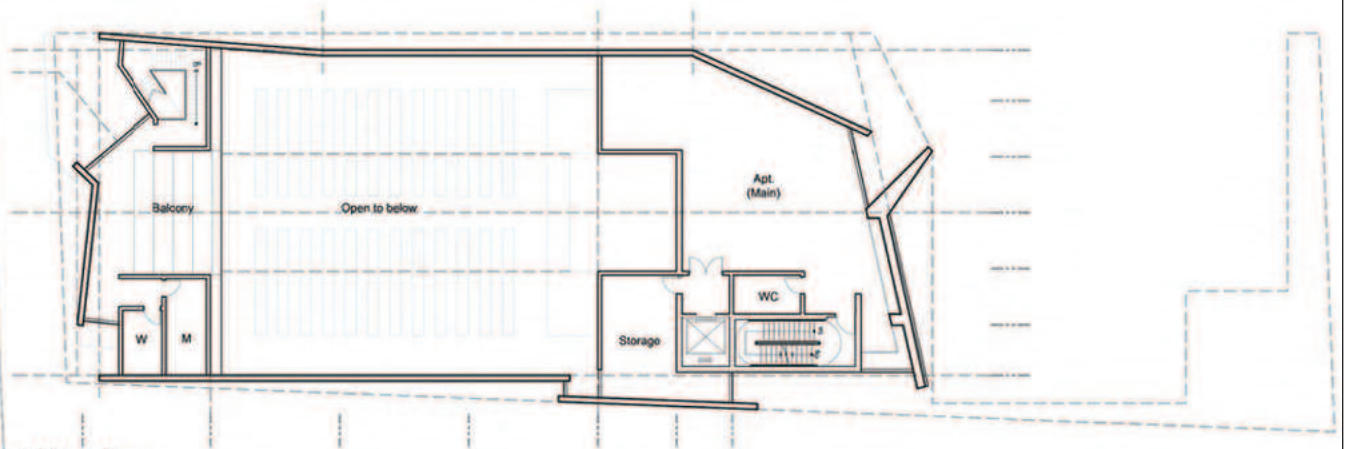


Figure 3-1.11
Phase I Project
Site Plan,
Parcel A

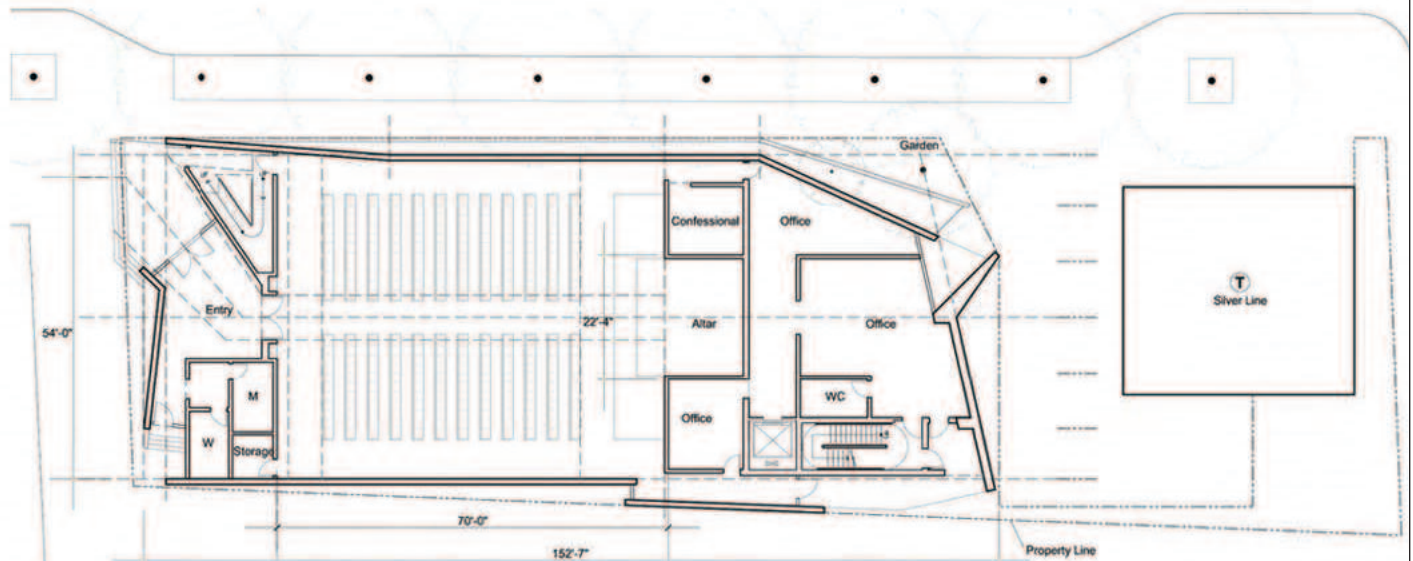




Third Floor Plan



Second Floor Plan



Ground Floor Plan



Morgan Stanley



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Figure 3-1.13
Phase I Project
Site Plan,
Parcel J

LUC 710 — General Office Building. A general office building houses multiple tenants; it is a location where affairs of businesses, commercial, or industrial organizations, or professional persons or firms are conducted. An office building or buildings may contain a mixture of tenants, including professional services, insurance companies, investment brokers, and tenant services such as a bank or savings and loan institution, a restaurant or cafeteria, and service retail facilities. Nearly all of the buildings surveyed were in suburban locations. Corporate headquarters (Land Use 714), single-tenant office building (Land Use 715), office park (Land Use 750), research and development center (Land Use 760), and business park (Land Use 770) are related uses. While future development of the Project may include research uses, the analysis in this section uses the general office trip generation rates, which are higher than research. Therefore, the analysis is conservative.

LUC 820 — Shopping Center. A shopping center is an integrated group of commercial establishments that is planned, developed, owned, and managed as a unit. A shopping center's composition is related to its market area of terms of size, location, and type of store.

Performing Arts Center. Vehicle trip generation for the Performing Arts Center was estimated using data collected at the Boston Opera House and BTDC's Transportation Access Plan Guidelines. HSH calculated trip generation using the number of seats, average theater occupancy (87%), and trip rates for employees and patrons.

A portion of trips to the future developments within the Seaport District will be pass-by trips and internal trips. Pass-by trips are trips that are already in the transportation network and not specifically destined to the proposed uses. ITE defines pass-by trips as trips "made as intermediate stops on the way from an origin to a primary destination without a route diversion." This accounts for trips generated by people already in the area, as in common shopping districts or dense urban areas. Internal trips are trips that occur between uses within the mixed-use redevelopment, such as a resident who walks to a retail shop within the complex.

ITE provides data for both pass-by and internal trips. These rates are applied to the "unadjusted" vehicle trips. For the daily and peak-hour trip generation estimates, a pass-by rate of 25% was applied to the retail uses. This rate was based on ITE data and the nature of the area around the Project site. For internal trips, ITE has developed a methodology based on the proposed land uses of a mixed-use development to estimate trips within the site. These methodologies were used to determine the number of internal trips for the Project's proposed mixed-use development.

After determining the pass-by and internal trips, the "unadjusted" vehicle trips were converted to person trips by applying the vehicle occupancy rates (VOR) as derived from the 2000 U.S. Census Journey to Work Data and the Nationwide Personal Transportation Survey.

A detailed presentation of the pass-by trips, internal trips, person trips by mode, and vehicle trips for the Seaport Square development will be included in the Appendix of the Draft PIR/EIR to be submitted to the City and State.

Mode Split

BTD publishes vehicle, transit, and walking mode split rates for different areas of Boston. The Project is located within designated Area 13. The current BTD mode shares, however, do not specifically reflect the 2004 opening of Phase II of the Silver Line or the proposed future expansion of the Silver Line under Phase III.

Phase III of the Silver Line represents the missing link between Phase I and Phase II and will provide, via a tunnel under Boylston Street and Essex Street, one continuous bus service between Dudley Square, South Station, the South Boston Waterfront, and Logan Airport. The core tunnel segment for Phase III follows an alignment from South Station, under Essex and Boylston Street, to a turnaround loop at Boylston Station. Between Boylston Station and Dudley Square, surface buses will continue operating similarly to the current Phase I service along Washington Street into the South End and Roxbury.

The future mode shares in the South Boston Waterfront have been discussed in the City's 1999 South Boston Transportation Study, the State's 2000 South Boston Transportation Summit, the BRA's February 1999 Seaport Public Realm Plan and the City's August 2006 Fort Point District 100 Acres Master Plan. During the last decade, major proposed development on the South Boston Waterfront has incorporated mode shares that reflect both the Silver Line service and the changing travel characteristics in the Waterfront.

For example, all Commonwealth Flats Development Area projects, Fan Pier, Pier 4, and the Boston Exhibition & Convention Center have consistent mode share assumptions in their individual transportation analyses.

To accurately reflect transit options of the future and to maintain consistency with these previous studies, similar mode share assumptions, as shown in Table 3.1-9, have been incorporated into the Seaport Square transportation assessment.

Transit information will be further refined and augmented as needed in the Draft PIR/EIR.

Table 3.1-9 Mode Shares and Vehicle Occupancy Rates by Time of Day

| | | Walk Share | Transit Share | Vehicle Share | Vehicle Occupancy Rate (VOR) |
|---------------------|-----|------------|---------------|---------------|------------------------------|
| Daily | | | | | |
| Residential | In | 39 % | 35 % | 26 % | 1.16 |
| | Out | 39 % | 35 % | 26 % | |
| Hotel | In | 41 % | 22 % | 37 % | 1.80 |
| | Out | 41 % | 22 % | 37 % | |
| Cultural (Theaters) | In | 28 % | 42 % | 30 % | 2.40 |
| | Out | 28 % | 42 % | 30 % | |
| School | In | 28 % | 42 % | 30 % | 1.80 |
| | Out | 28 % | 42 % | 30 % | |
| Office | In | 20 % | 49 % | 31 % | 1.16 |
| | Out | 20 % | 49 % | 31 % | |
| Retail/Restaurant | In | 27 % | 34 % | 39 % | 1.80 |
| | Out | 27 % | 34 % | 39 % | |
| a.m. Peak Hour | | | | | |
| Residential | In | 39 % | 35 % | 26 % | 1.16 |
| | Out | 39 % | 35 % | 26 % | |
| Hotel | In | 43 % | 20 % | 37 % | 1.80 |
| | Out | 48 % | 15 % | 37 % | |
| Cultural (Theaters) | In | 0 % | 62 % | 38 % | 2.40 |
| | Out | 0 % | 62 % | 38 % | |
| School | In | 29 % | 41 % | 30 % | 1.80 |
| | Out | 31 % | 40 % | 29 % | |
| Office | In | 12 % | 55 % | 33 % | 1.16 |
| | Out | 48 % | 25 % | 27 % | |
| Retail/Restaurant | In | 0 % | 62 % | 38 % | 1.80 |
| | Out | 15 % | 46 % | 39 % | |
| p.m. Peak Hour | | | | | |
| Residential | In | 39 % | 35 % | 26 % | 1.16 |
| | Out | 39 % | 35 % | 26 % | |
| Hotel | In | 48 % | 15 % | 37 % | 1.80 |
| | Out | 44 % | 19 % | 37 % | |
| Cultural (Theaters) | In | 25 % | 44 % | 31 % | 2.40 |
| | Out | 28 % | 42 % | 30 % | |
| School | In | 31 % | 40 % | 29 % | 1.80 |
| | Out | 28 % | 42 % | 30 % | |
| Office | In | 34 % | 37 % | 29 % | 1.16 |
| | Out | 11 % | 56 % | 33 % | |
| Retail/Restaurant | In | 23 % | 38 % | 39 % | 1.80 |
| | Out | 23 % | 38 % | 39 % | |

Project vehicle trip generation for Phase 1 of the proposed development appears in Table 3.1-10. For this assessment, existing vehicle trips and associated pedestrian trips to and from the site due to current on-site parking have not been “credited” in these Project trip generation estimates.

Table 3.1-10 Phase 1 Vehicle Trip Generation

| Units/ksf | | Residential (Apartment) | Residential (Condominium) | Retail | Chapel | Total |
|-------------------|--------------|----------------------------|------------------------------|------------|-----------|------------|
| | | 59 units | 51 units | 47 ksf | 25 ksf | |
| Daily | In | 36 | 27 | 270 | 21 | 354 |
| | Out | 39 | 30 | 264 | 21 | 354 |
| | Total | 76 | 57 | 533 | 42 | 708 |
| Morning Peak | In | 2 | 1 | 8 | 3 | 14 |
| | Out | 6 | 5 | 6 | 2 | 19 |
| | Total | 8 | 6 | 14 | 5 | 33 |
| Afternoon Peak | In | 5 | 4 | 23 | 2 | 34 |
| | Out | 2 | 2 | 24 | 2 | 30 |
| | Total | 7 | 6 | 47 | 4 | 64 |

Phase 1 of the Project will distribute 708 vehicle trips per day to local streets. In the morning peak hour, Phase 1 will distribute 14 entering vehicle trips and 19 exiting vehicle trips to local streets. In the afternoon peak hour, Phase 1 will distribute 34 entering trips and 30 exiting vehicle trips.

Project vehicle trip generation for the entire development appears in Table 3.1-11. Similar to the Phase 1 trip estimates, existing vehicle trips and associated pedestrian trips to and from the site due to current on-site parking have not been “credited” in these Project trip generation estimates. As part of the detailed LOS analysis in the Draft PIR/EIR, these existing trips will be credited. Detailed trip generation for the proposed Project is included in Appendix B.

Table 3.1-11 Full-build Project Vehicle Trip Generation

| Units/ksf | | Residential (Apartment) | Residential (Condo- minium) | Hotel | Perfor- ming Arts Center | School | Office/ Research | Retail | Chapel | Total |
|-------------------|--------------|----------------------------|-----------------------------------|--------------|--------------------------------|-------------------|---------------------|---------------|-----------|---------------|
| | | 1,199 units | 1,372 units | 700 rooms | 1,800 seats | 2,000 students | 1,500 ksf | 1,240 ksf | 25 ksf | |
| Daily | In | 705 | 703 | 705 | 454 | 744 | 2,263 | 6,744 | 21 | 12,341 |
| | Out | 762 | 761 | 705 | 454 | 744 | 2,128 | 6,743 | 21 | 12,319 |
| | Total | 1,467 | 1,464 | 1,410 | 908 | 1,488 | 4,391 | 13,487 | 42 | 24,660 |
| Morning Peak | In | 33 | 28 | 59 | 3 | 308 | 664 | 221 | 3 | 1,319 |
| | Out | 132 | 135 | 38 | 0 | 191 | 74 | 145 | 2 | 716 |
| | Total | 165 | 163 | 97 | 3 | 499 | 738 | 366 | 5 | 2,035 |
| Afternoon Peak | In | 88 | 87 | 54 | 41 | 42 | 87 | 578 | 2 | 980 |
| | Out | 42 | 38 | 48 | 22 | 58 | 581 | 598 | 2 | 1,389 |
| | Total | 130 | 125 | 102 | 63 | 100 | 668 | 1,176 | 4 | 2,369 |

As shown, the full-build Project will distribute a total of 24,660 Project vehicle trips per day to local streets. In the morning peak hour, the Project will distribute 1,319 entering vehicle trips and 716 exiting vehicle trips to local streets. In the afternoon peak hour, the Project will distribute 980 entering trips and 1,389 exiting vehicle trips. Because of the mixed-use nature of the proposed development, peak-hour trips are more balanced between entering and exiting trips than they would be with a single-use project. In general, the residential use peak-hour trips reflect “reverse commuting” against the flow of commute trips into downtown.

Trip Distribution

Trip distribution identifies various travel paths for vehicles arriving at on-site parking facilities and the corresponding departure travel paths. The distribution is a combination of trip origin information (where did the vehicle trip start?) and trip destination information (where will the vehicle park?).

Typically, existing travel patterns in a study area are used to predict future travel patterns. The South Boston Waterfront, however, is unique, because it is not fully developed and travel patterns will continue to evolve. Through a combination of 1) new development, 2) new infrastructure, and 3) displaced low-cost public parking, travel patterns into and within the South Boston Waterfront will change over time. While most of the Central Artery/Tunnel (CA/T) infrastructure improvements are complete, the development of the Waterfront has, to date, only reached about half (18.7 million sf) of its projected levels (31.0–39.0 million sf). The several thousand public parking spaces currently operating on the Fan Pier and the Proponent’s properties will be replaced with parking specifically for Waterfront development instead of serving workers who park in South Boston and walk across Fort Point Channel into Downtown.

It is interesting to note how other major landowners in South Boston accounted for these future infrastructure and development plans in their environmental permitting processes. During the 1990s and the early part of the current decade, major developers in South Boston Waterfront (Massport, the McCourt Company, Pritzker) the Pritzker Group used the CA/T TranPlan model set to assist in generating and assigning new vehicle trips to the South Boston roadway network. The CA/T model set was particularly useful in determining the travel paths of vehicular trips on new streets that were not yet built. As the CA/T roadways and ramps opened and became operating pieces of the existing traffic network, the CA/T Project no longer maintained the TranPlan model sets.

Seaport Square is the first major development to embark on environmental permitting without the benefit of or reliance on the CA/T TranPlan model sets. Instead, the Project team has developed a trip distribution pattern that reflects both a current understanding of the existing transportation conditions in the area and historical knowledge of the CA/T model set process.

To reflect this fundamental future change in how drivers will travel into and around the Waterfront, the trip distribution for Seaport Square site trips will build on 1) Year 2007 traffic counts and 2) travel patterns forecast in the TRANPLAN model set of the full build-out of the South Boston Waterfront and completion of the CA/T project. Note that only the percent distribution of trips into and out of the study area—and not traffic volumes—from the CA/T TRANPLAN model will be used. Figure 3.1-14 shows the daily regional distribution used for future development projects of the Seaport District. Figure 3.1-15 shows the regional trip distribution translated to show the routes to and from the Phase 1 waiver blocks, Blocks A, H, and J.

Build Traffic Operations

The full-build Project will include analysis of all the study area intersections. This analysis will account for annual growth, trips generated by other projects, and trips generated by the Project under full-build conditions.

For Phase 1, the vehicle trips generated by the three blocks were distributed to the study area roadways. Figure 3.1-16 and Figure 3.1-17 show Project trips added to the study area intersections. Phase 1 Build traffic volumes are shown in Figure 3.1-18 and Figure 3.1-19. The resulting Phase 1 Build traffic operations in the 2010 Build year are presented in Table 3.1-12 and Table 3.1-13. Capacity analysis reports are provided in Appendix B.

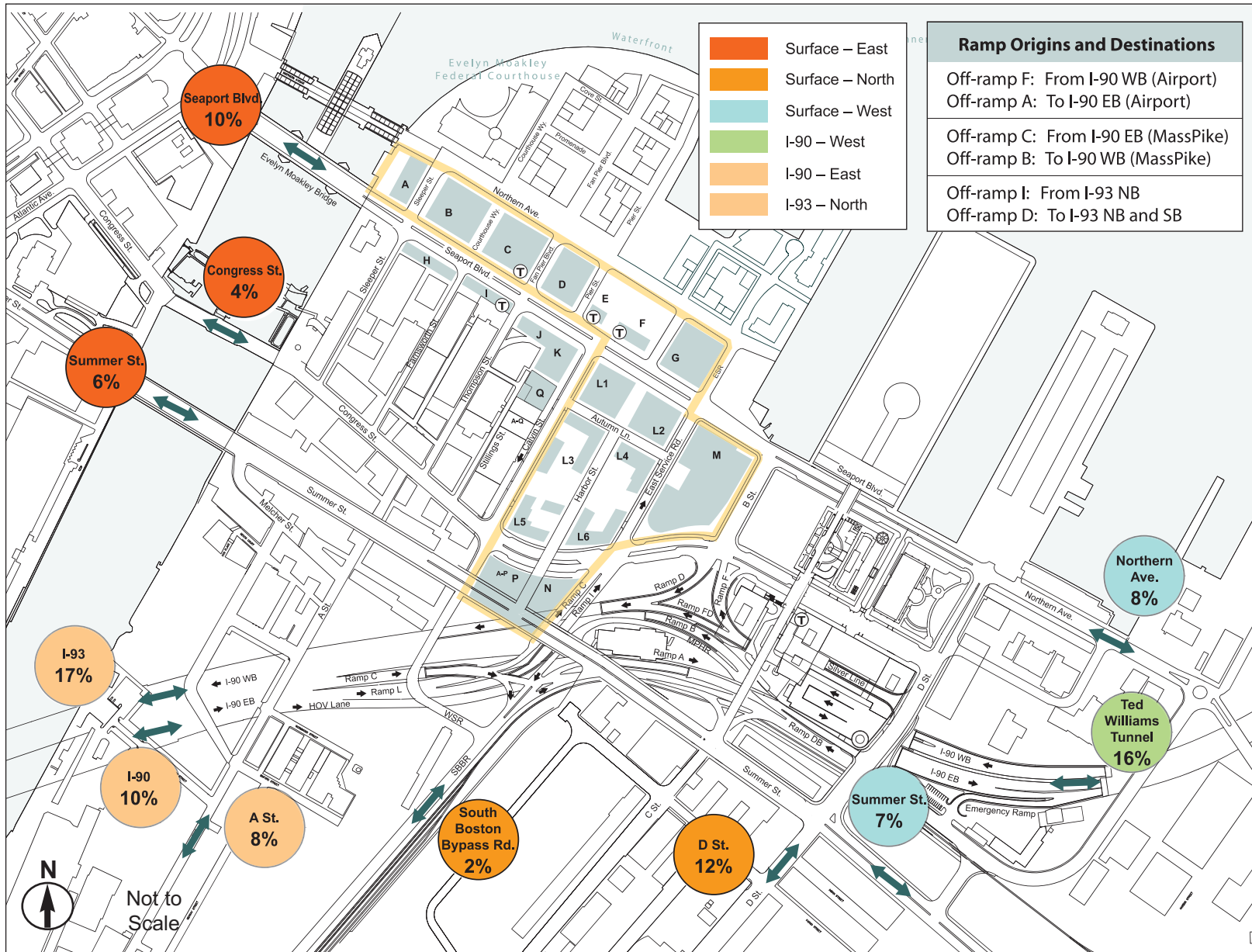


Figure 3-1.14
Trip Distribution



Morgan Stanley



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Howard/Stein-Hudson

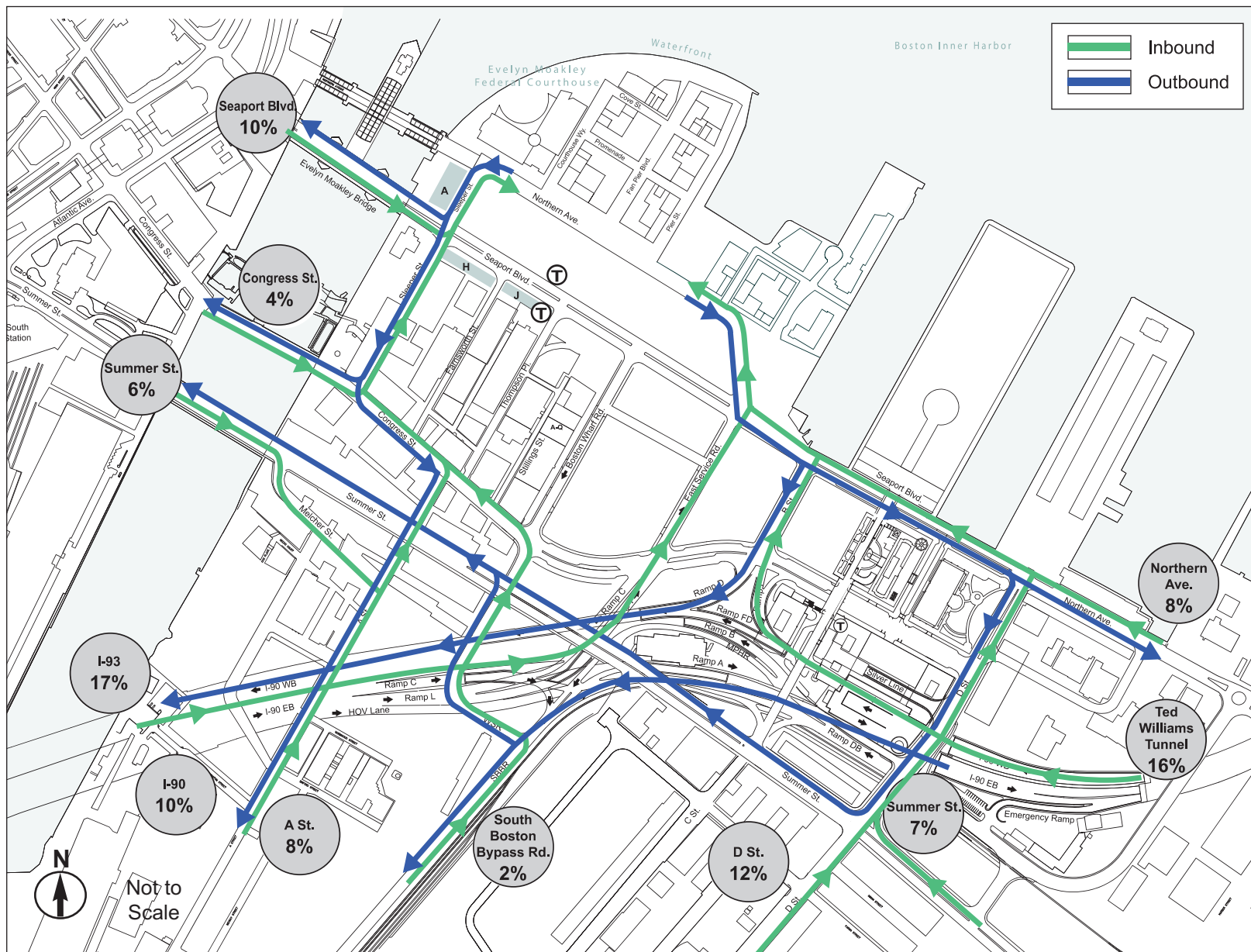


Figure 3-1.15
**Phase 1
 Trip
 Distribution**



Morgan Stanley



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 Howard/Stein-Hudson

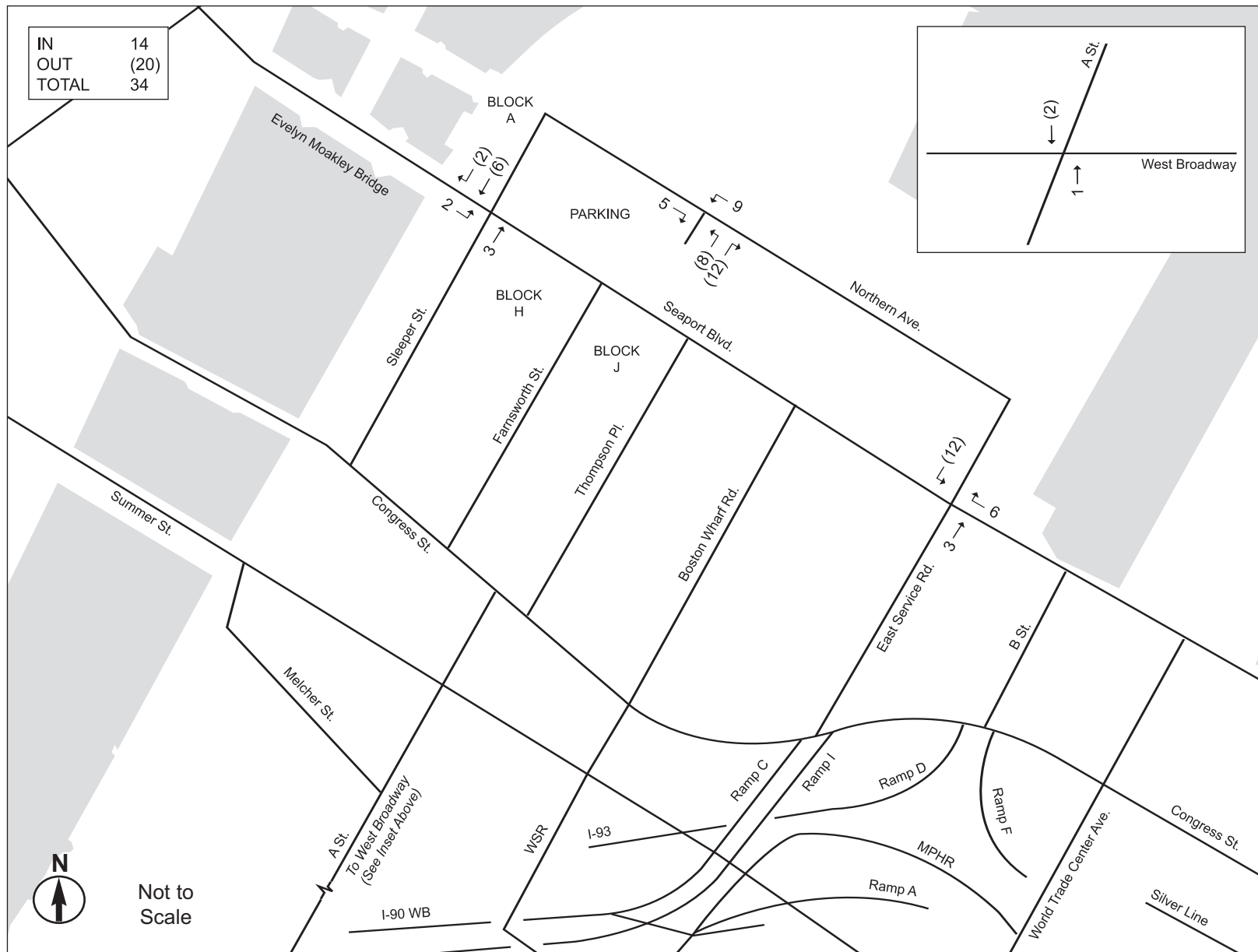


Figure 3-1.16

Phase 1
Trip
Assignment
(2010), a.m.
Peak Hour



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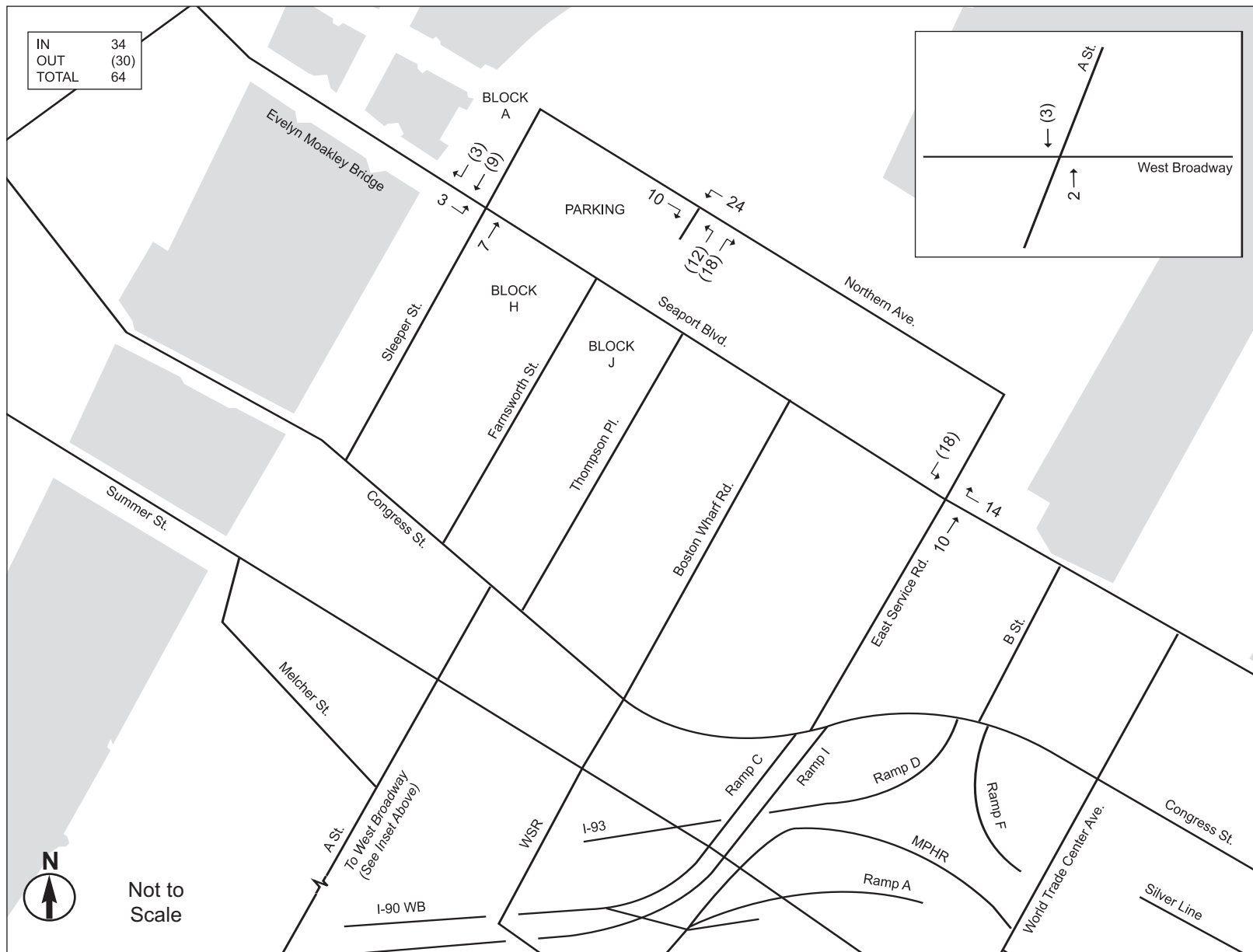


Figure 3-1.17

Phase 1
Trip
Assignment
(2010), p.m.
Peak Hour



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Figure 3-1.18

**Phase 1
Build
Conditions
(2010), a.m.
Peak Hour**



Morgan Stanley



prepared by:
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Figure 3-1.19

**Phase 1
Build
Conditions
(2010), p.m.
Peak Hour**



Morgan Stanley



prepared by:
Howard/Stein-Hudson

Table 3.1-12 Phase 1 Build (2010) Level of Service Summary, a.m. Peak Hour

| Intersection | LOS | Delay (seconds) | V/C Ratio | 95 th Percentile Queue |
|---|----------|--------------------|--------------|---|
| <i>Signalized Intersections</i> | | | | |
| Seaport Boulevard/Sleeper Street | F | > 80 | — | — |
| Seaport EB left (<i>de facto</i>) | F | N/A ¹ | 5.16 | #600 |
| Seaport EB thru | E | 62.1 | 0.13 | #876 |
| Seaport EB right | A | 3.7 | 0.14 | 16 |
| Seaport WB left | A | 7.4 | 0.14 | 6 |
| Seaport WB thru thru/right | A | 4.8 | 0.34 | 67 |
| Sleeper NB left/thru/right | D | 40.1 | 0.62 | 95 |
| Sleeper SB left/thru | C | 29.0 | 0.10 | 26 |
| Sleeper SB right | A | 9.8 | 0.10 | 14 |
| Seaport Boulevard/East Service Road/ Northern Avenue | C | 30.0 | — | — |
| Seaport EB left | A | 7.1 | 0.18 | m17 |
| Seaport EB thru thru | A | 8.9 | 0.39 | m188 |
| Seaport WB thru thru/right | C | 22.1 | 0.55 | 284 |
| East Service NB left | D | 38.0 | 0.44 | 158 |
| East Service NB thru | E | 58.5 | 0.85 | 234 |
| East Service NB right | E | 67.2 | 0.88 | #285 |
| Northern SB left | D | 46.6 | 0.41 | 69 |
| Northern SB right | B | 16.2 | 0.10 | 0 |
| West Broadway/A Street | C | 20.4 | — | — |
| Broadway EB left | B | 18.6 | 0.29 | 44 |
| Broadway EB thru/right | C | 20.5 | 0.55 | 230 |
| Broadway WB left | B | 19.7 | 0.37 | 87 |
| Broadway WB thru/right | C | 23.5 | 0.66 | 305 |
| A Street NB left/thru thru/right | B | 17.4 | 0.41 | 142 |
| A Street SB left/thru | C | 23.9 | 0.59 | 222 |
| A Street SB right | A | 4.5 | 0.10 | 7 |

¹ Synchro is unable to calculate delay at this intersection.

95th percentile queue volume exceeds capacity. Queue may be longer.

Queue shown is maximum after 2 cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Shading indicates LOS has worsened from No Build Conditions.

Table 3.1-13 Phase 1 Build (2010) Level of Service Summary, p.m. Peak Hour

| Intersection | LOS | Delay (seconds) | V/C Ratio | 95 th Percentile Queue |
|---|----------|--------------------|--------------|---|
| <i>Signalized Intersections</i> | | | | |
| Seaport Boulevard/Sleeper Street | C | 27.9 | — | — |
| Seaport EB left/thru thru | C | 29.7 | 0.68 | 176 |
| Seaport EB right | A | 4.5 | 0.15 | 24 |
| Seaport WB left | B | 19.2 | 0.06 | m21 |
| Seaport WB thru thru/right | C | 21.6 | 0.48 | 274 |
| Sleeper NB left/thru/right | D | 51.6 | 0.82 | #307 |
| Sleeper SB left/thru | C | 25.1 | 0.18 | 50 |
| Sleeper SB right | C | 30.9 | 0.75 | #284 |
| Seaport Boulevard/East Service Road/ Northern Avenue | D | 50.6 | — | — |
| Seaport EB left | C | 33.9 | 0.08 | m23 |
| Seaport EB thru thru | D | 39.2 | 0.33 | 181 |
| Seaport WB thru thru/right | D | 35.6 | 0.76 | 285 |
| East Service NB left | D | 35.6 | 0.25 | 76 |
| East Service NB thru | C | 33.6 | 0.14 | 54 |
| East Service NB right | E | 57.5 | 0.77 | 159 |
| Northern SB left | F | 97.5 | 1.07 | #493 |
| Northern SB right | A | 7.5 | 0.26 | 38 |
| West Broadway/A Street | C | 28.1 | — | — |
| Broadway EB left | B | 19.3 | 0.10 | 30 |
| Broadway EB thru/right | C | 20.8 | 0.37 | 174 |
| Broadway WB left | C | 21.1 | 0.25 | 71 |
| Broadway WB thru/right | C | 22.2 | 0.48 | 231 |
| A Street NB left/thru thru/right | B | 10.1 | 0.21 | 51 |
| A Street SB left/thru | D | 43.7 | 0.95 | #571 |
| A Street SB right | A | 3.2 | 0.06 | 12 |

95th percentile queue volume exceeds capacity. Queue may be longer.

Queue shown is maximum after 2 cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Shading indicates LOS has worsened from No Build Conditions.

In the a.m. and p.m. peak hours, the level of service does not worsen at any of the study area intersections. At Seaport Boulevard/East Service Road/Northern Avenue, the Seaport Boulevard westbound lane group operations are very slightly degraded. However, the westbound approach still operates at an acceptable level of service.

Although Phase 1 of the Project has not degraded any of the three study area intersections such that they would require mitigation, the Proponent is willing to work with BTM on implementing a solution to the operational problems at the intersection of Seaport Boulevard/Sleeper Street. The cause of the operational problems at this intersection is primarily the lack of a protected signal phase for the Seaport Boulevard eastbound left-turn movement. By designating the left-most lane of the Seaport Boulevard eastbound approach

as a left-turn only lane and adding a protected left-turn phase for the movement, which could operate concurrently with the Seaport Boulevard westbound left-turn movement, the intersection can be made to operate at LOS C during both the a.m. and p.m. peak hours. Table 3.1-14 shows the intersection operations during the a.m. peak hour with the mitigation in place. Table 3.1-15 shows the results in the p.m. peak hour.

Table 3.1-14 Phase 1 Build w/ Mitigation (2010) Level of Service Summary, a.m. Peak Hour

| Intersection | LOS | Delay (seconds) | V/C Ratio | 95 th Percentile Queue |
|---|----------|--------------------|--------------|--------------------------------------|
| <i>Signalized Intersections</i> | | | | |
| Seaport Boulevard/Sleeper Street | C | 29.7 | — | — |
| Seaport EB left (de facto) | B | 17.1 | 0.71 | 132 |
| Seaport EB thru | D | 51.1 | 0.98 | #821 |
| Seaport EB right | A | 3.3 | 0.14 | 14 |
| Seaport WB left | A | 6.0 | 0.10 | 5 |
| Seaport WB thru thru/right | B | 10.5 | 0.42 | 70 |
| Sleeper NB left/thru/right | D | 39.9 | 0.61 | 94 |
| Sleeper SB left/thru | C | 28.9 | 0.09 | 25 |
| Sleeper SB right | B | 10.1 | 0.09 | 14 |

Table 3.1-15 Phase 1 Build w/ Mitigation (2010) Level of Service Summary, p.m. Peak Hour

| Intersection | LOS | Delay (seconds) | V/C Ratio | 95 th Percentile Queue |
|---|----------|--------------------|--------------|--------------------------------------|
| <i>Signalized Intersections</i> | | | | |
| Seaport Boulevard/Sleeper Street | C | 22.6 | — | — |
| Seaport EB left/thru thru | B | 10.6 | 0.30 | 81 |
| Seaport EB right | A | 4.5 | 0.15 | 24 |
| Seaport WB left | B | 15.4 | 0.05 | 22 |
| Seaport WB thru thru/right | C | 25.5 | 0.61 | 253 |
| Sleeper NB left/thru/right | D | 51.6 | 0.82 | #307 |
| Sleeper SB left/thru | C | 25.1 | 0.18 | 50 |
| Sleeper SB right | B | 11.9 | 0.60 | 130 |

Parking

For Phase 1, a total of 43 parking spaces are proposed under Block A to serve the residential units. Block A currently provides approximately 68 commercial parking spaces; the development of Block A will result in a loss of approximately 25 spaces. The spaces will result in a parking ratio of approximately 0.84 spaces per unit for Block A. No parking spaces will be provided on-site for the retail/restaurant use on Block A, nor for the proposed uses on Blocks H and J. It is presumed that those residents, patrons, and employees will utilize the Proponent's existing parking lots, located on Blocks B-G, Block K, Block L, and Block M, as well as available on-street spaces.

Once completed, the Project will provide 6,500 parking spaces. Of these, approximately 2,000 will be designated for the residential units and will not count toward the Air Pollution Control Commission's (APCC) South Boston Parking Freeze quota. The Project currently has 3,647 APCC-permitted commercial parking spaces. The Project will maintain these public for-fee spaces and request approximately 850 additional spaces from the South Boston Parking Freeze bank.

BTD's parking ratios suggest guidelines for the South Boston waterfront area of 1.0 to 1.5 spaces per dwelling unit for residential use and 0.4 spaces per hotel room. For commercial uses, the guidelines seek to "gradually decrease the parking ratio to 0.7 spaces per 1,000 square feet." The proposed parking by land use is as follows:

- ◆ Residential—2,000 spaces for 2,500 units, for a ratio of 0.8 spaces per dwelling unit, compared to a BTD suggested range of 1.0 to 1.5 spaces per unit;
- ◆ Hotel—275 spaces for 700 rooms, for a ratio of 0.39 spaces per room, compared to a BTD guideline of 0.4 spaces per room;
- ◆ Civic uses (schools, library, gallery space, performing arts center)—225 spaces for 600,000 sf, or 0.38 spaces per 1,000 sf;
- ◆ Office/Research—1,500 spaces for 1,400,000 sf, for a ratio of 1 space per 1,000 sf, compared to the BTD guideline (to be achieved over time) of 0.7 spaces per 1,000 sf; and
- ◆ Retail and other non-residential—2,500 spaces for 1,250,000 sf, or 2 per 1,000 sf, compared to a BTD guideline (to be achieved over time) of 0.7 spaces per 1,000 sf.

Five new underground parking garages will be constructed as part of the full buildout of Seaport Square. In Phase 1, a parking garage will be constructed under Block A and will provide 43 spaces for the residential uses. A parking garage containing approximately 2,215 spaces in four underground levels will be located under Blocks B through G. This parking garage will also provide a new underground connection to the MBTA Silver Line Courthouse Station. A second garage will be located under Block K and Q and will contain approximately 515 spaces in three levels. A third garage located under Blocks L1 through L6 will contain approximately 2,242 spaces in three underground levels. A fourth garage, located under Blocks M1 and M2, will contain approximately 700 spaces in three underground levels. A fifth garage, located under Blocks N and P, will provide approximately 600 spaces in four levels. In addition, there will be 43 spaces below Block A.

Public Transportation

Based on trip generation calculations, Phase 1 transit trips are shown in Table 3.1-16.

Table 3.1-16 Phase 1 Transit Trip Generation

| Units/ksf | | Residential (Apartment) | Residential (Condominium) | Retail | Chapel | Total |
|-------------------|--------------|----------------------------|------------------------------|------------|------------|--------------|
| | | 59 units | 51 units | 47 ksf | 25 ksf | |
| Daily | In | 57 | 43 | 423 | 72 | 595 |
| | Out | 61 | 46 | 414 | 72 | 593 |
| | Total | 118 | 89 | 837 | 144 | 1,188 |
| Morning Peak | In | 3 | 2 | 25 | 9 | 39 |
| | Out | 10 | 8 | 12 | 7 | 37 |
| | Total | 13 | 10 | 37 | 16 | 76 |
| Afternoon Peak | In | 7 | 5 | 40 | 7 | 59 |
| | Out | 3 | 2 | 42 | 7 | 54 |
| | Total | 10 | 7 | 82 | 14 | 113 |

Phase 1 of the Project will add 1,188 net new transit trips per day to transit lines. In the morning peak hour, Phase 1 will add 37 boarding and 39 alighting trips on transit lines. In the afternoon peak hour, Phase 1 will add 54 boarding trips and 59 alighting trips. These trips are easily accommodated by existing MBTA service.

The transit trips generated by the full buildout of the Project are shown in Table 3.1-17. Detailed trip generation is provided in Appendix B.

Table 3.1-17 Full Build Transit Trip Generation

| Units/ksf | | Residen- tial (Apart- ment) | Residen- tial (Condo- minium) | Hotel | Perfor- ming Arts Center | School | Office | Retail | Chapel | Total |
|-------------------|--------------|--------------------------------------|--|--------------|-----------------------------------|-------------------|--------------|---------------|------------|---------------|
| | | 1,199 units | 1,372 units | 700 rooms | 1,800 seats | 2,000 students | 1,427 ksf | 1,234 ksf | 25 ksf | |
| Daily | In | 1,101 | 1,098 | 755 | 1,526 | 1,875 | 4,150 | 10,584 | 72 | 21,161 |
| | Out | 1,191 | 1,188 | 755 | 1,526 | 1,875 | 3,902 | 10,581 | 72 | 21,090 |
| | Total | 2,292 | 2,286 | 1,510 | 3,052 | 3,750 | 8,052 | 21,165 | 144 | 42,251 |
| Morning Peak | In | 51 | 43 | 57 | 11 | 759 | 1,284 | 649 | 9 | 2,863 |
| | Out | 205 | 210 | 28 | 0 | 473 | 80 | 308 | 7 | 1,311 |
| | Total | 256 | 253 | 85 | 11 | 1,232 | 1,364 | 957 | 16 | 4,174 |
| Afternoon Peak | In | 138 | 136 | 39 | 140 | 105 | 128 | 1,014 | 7 | 1,707 |
| | Out | 65 | 59 | 44 | 74 | 147 | 1,143 | 1,050 | 7 | 2,589 |
| | Total | 203 | 195 | 83 | 214 | 252 | 1,271 | 2,064 | 14 | 4,296 |

As shown, the overall Project will add 4,174 transit trips during the morning peak hour (1,311 boarding and 2,863 alighting), and 4,296 trips during the afternoon peak hour (2,589 boarding and 1,707 alighting). These trips will be dispersed to the various inbound and outbound subway, bus rapid transit, water shuttle, and bus lines in the study area. The most convenient service is the Courthouse Silver Line, and the site is within walking distance of the South Station commuter rail, transit, and bus lines as well as the existing and proposed water shuttle routes.

Pedestrian and Bicycle Accommodations

Table 3.1-18 shows added walk/bicycle trips for Phase 1 of the Project. In addition to these trips, transit riders will also walk between the Project site and nearby transit stations. This table represents total pedestrian and transit trips associated with Phase 1 of the Project and does not take credit for any current walk and transit trips associated with existing on-site parking. Detailed trip generation is provided in Appendix B.

Table 3.1-18 Phase 1 Pedestrian/Bicycle Trip Generation

| Units/ksf | | Residential (Apartment) | Residential (Condominium) | Retail | Chapel | Total |
|-------------------|--------------|----------------------------|------------------------------|------------|------------|--------------|
| | | 59 units | 51 units | 47 ksf | 25 ksf | |
| Daily | In | 63 | 48 | 336 | 53 | 500 |
| | Out | 68 | 52 | 328 | 53 | 501 |
| | Total | 131 | 100 | 664 | 106 | 1,001 |
| Morning Peak | In | 3 | 2 | 0 | 5 | 10 |
| | Out | 14 | 9 | 4 | 5 | 32 |
| | Total | 17 | 11 | 4 | 10 | 42 |
| Afternoon Peak | In | 8 | 6 | 24 | 5 | 43 |
| | Out | 4 | 3 | 25 | 4 | 36 |
| | Total | 12 | 9 | 49 | 9 | 79 |

As shown in Table 3.1-18, Phase 1 of the Project is expected to generate 1,001 daily walk trips and an 1,188 daily transit trips that require a walk trip to or from the site. Combining walk and transit trips, the Project will distribute 2,189 daily pedestrian trips. There will be 42 pedestrian trips in and out of the site during the morning peak hour, and 79 trips in and out during the afternoon peak hour, plus 76 and 113 transit trips, respectively. This averages to fewer than four pedestrian trips per minute during the morning and afternoon peak hours.

Table 3.1-19 shows Project walk/bicycle trips for full buildout of the Project. In addition to these trips, transit riders will also walk between the Project site and nearby transit stations. Again, no credit has been taken for current walk and transit trips generated by existing on-site parking lots. Detailed trip generation is provided in Appendix B.

Table 3.1-19 Full Build Pedestrian/Bicycle Trip Generation

| Units/ksf | | Residen- tial (Apart- ment) | Residen- tial (Condo- minium) | Hotel | Perform- ing Arts Center | School | Office/R esearch | Retail | Chapel | Total |
|-------------------|--------------|--------------------------------------|--|--------------|-----------------------------------|-------------------|---------------------|---------------|------------|---------------|
| | | 1,199 units | 1,372 units | 700 rooms | 1,800 seats | 2,000 students | 1,427 ksf | 1,234 ksf | 25 ksf | |
| Daily | In | 1,226 | 1,224 | 1,407 | 1,017 | 1,250 | 1,694 | 8,405 | 53 | 16,276 |
| | Out | 1,327 | 1,324 | 1,407 | 1,017 | 1,250 | 1,593 | 8,403 | 53 | 16,374 |
| | Total | 2,553 | 2,548 | 2,814 | 2,034 | 2,500 | 3,287 | 16,808 | 106 | 32,650 |
| Morning Peak | In | 57 | 48 | 123 | 0 | 537 | 280 | 0 | 5 | 1,050 |
| | Out | 229 | 234 | 88 | 0 | 367 | 153 | 100 | 5 | 1,176 |
| | Total | 286 | 282 | 211 | 0 | 904 | 433 | 100 | 10 | 2,226 |
| Afternoon Peak | In | 154 | 152 | 126 | 79 | 82 | 118 | 614 | 5 | 1,330 |
| | Out | 73 | 66 | 102 | 49 | 98 | 224 | 635 | 4 | 1,251 |
| | Total | 227 | 218 | 228 | 128 | 180 | 342 | 1,249 | 9 | 2,581 |

As shown in Table 3.1-19, the Project is expected to generate 32,650 daily walk trips and 42,251 daily transit trips that require a walk trip to or from the site. Combining walk and transit trips, the Project will distribute 74,901 daily pedestrian trips. There will be 2,226 pedestrian trips in and out of the site during the morning peak hour and 2,581 trips in and out during the afternoon peak hour, plus 4,174 and 4,296 transit trips, respectively. This averages approximately 110 pedestrian trips per minute during the morning and afternoon peak hours distributed over all the sidewalks and crosswalks provided in the Seaport Square area.

Secure bicycle storage will be made available to residents and visitors. Consistent with BTD guidelines, one bicycle space per three residential units will be provided on-site, for a total of 672 bicycle spaces. In Phase 1, bicycle parking will be provided in the Block A garage for the residential units. The location of the spaces will be shown on the Site Plan submitted to BTD along with the TAPA. Shared bicycle rooms, with racks, will be provided in the parking garages of several buildings.

Public bicycle racks will be provided at building entrances for visitors, guests, and employees. All bicycle racks, signs, and parking areas will conform to BTD standards and be sited in safe, secure locations.

Service and Loading

For the full buildout of the Project, all service and loading will take place underground. All blocks will be serviced off-street. Access to the underground loading areas will be described in greater detail in the Draft PIR/EIR. Permanent “No Idling” signs will be posted in the loading areas.

A loading dock manager will be part of the on-site staff to manage service and loading operations on all sites. Move-in/move-out and other loading/service activities will be scheduled through the management office.

Service and loading activity for Block A will take place at a loading dock accessed from Sleeper Street. Service and loading for Block H will take place within the building. The loading area for Block H will be accessed from Farnsworth Street. It is anticipated that the new Chapel, located on Block J, will incur little to no loading activity. “No Idling” signs will be posted in the loading areas.

3.1.4.3 Transportation Demand Management (TDM)

The Proponent is committed to implementing a TDM program that supports the City’s efforts to reduce dependency on the automobile by encouraging travelers to use alternatives to driving alone, especially during peak periods. TDM will be facilitated by the mixed use nature of the Project as well as its location adjacent to the Downtown, the Financial District, and to other offices, transit, and shopping in South Boston. The Proponent will commit to implementing this TDM program for Phase 1 of the Project as well as for the full buildout of the Project.

The TDM program may include an on-site transportation coordinator, transit pass subsidies for retail and office employees, secure bicycle parking areas, provision of a shared car spaces in the garages, and distribution of transit maps and schedules to residents and employees. TDM measures will be described and evaluated in the Draft PIR/EIR and the Transportation Access Plan Agreement (TAPA).

The Proponent will take advantage of the site’s pedestrian and transit access to market to future residents. On-site management will provide transit information (schedules, maps, fare information) in the building lobbies for residents and guests. To raise awareness of public transportation alternatives, on-site management will also work with residents as they move into the facility.

The TAPA will confirm the commitments to Transportation Demand Management (TDM) that will be outlined in the Article 80 Review of the Project. These TDM measures could include:

- ◆ **TMA Participation:** The Proponent is currently a member of the local Transportation Management Association (TMA) and will continue to support the TMA. They will work with the other members of the TMA to disseminate ride share/car pool information. The TMA members also provide “guaranteed ride home” service, publish a newsletter, and coordinate a “Transportation Day.”
- ◆ **Car-Sharing Service:** The Proponent will provide spaces in one or more of its garages for car-sharing services. The Proponent is exploring providing 100 or more spaces in at least one garage, a hub for a car-sharing vehicle service.
- ◆ **Car Pool/Van Pool Parking:** The Proponent will provide preferential parking spaces in one or more of its garages for employee/tenant car pools and van pools.
- ◆ **Transit Passes:** The Proponent will participate in a transit pass program for tenants’ employees and residents through the TMA. The Proponent will encourage commercial tenants to subsidize transit passes for their employees.
- ◆ **Orientation Packets:** The Proponent will provide orientation packets to new residents containing information on the available transportation choices, including transit routes and schedules.
- ◆ **Transportation Coordinator:** The Proponent will designate a transportation coordinator to manage loading and service activities and to provide alternative transportation materials to residents.
- ◆ **Bicycle Amenities:** The Proponent will provide bicycle racks in secure, sheltered areas for residents and tenants’ employees. Additional bicycle parking will be provided on the sidewalks within the Project proximate to main building entrances. The Proponent currently operates a low-cost bicycle rental program from the site. This program will continue upon completion of the Project.
- ◆ **Web Site:** The Proponent will design and implement a Project web site. The web site will include public transportation information for residents and visitors.
- ◆ **Parking Pricing:** The Proponent will charge market-rate public parking rates in the garages as a disincentive to use of single-occupancy vehicles.

3.1.5 Construction Period Impacts

Most construction activities will be accommodated within current site boundaries. Details of the overall construction schedule, work hours, number of construction workers, worker transportation and parking, number of construction vehicles, and routes will be addressed in detail in a Construction Management Plan to be filed with BTM in accordance with the City's transportation maintenance plan requirements.

To minimize transportation impacts during the construction period, the following measures will be incorporated into the Construction Management Plan:

- ◆ Limited construction worker parking will be permitted on-site; worker carpooling will be encouraged;
- ◆ A subsidy for MBTA passes will be considered for full-time employees; and
- ◆ Secure spaces will be provided on-site for workers' supplies and tools so they do not have to be brought to the site each day.

3.2 Tidelands - Chapter 91 and the South Boston Municipal Harbor Plan

The Seaport Square Project represents a long-awaited opportunity to revitalize a significant area within the South Boston waterfront, and will link the South Boston waterfront to the Federal Courthouse, the World Trade Center, the Institute of Contemporary Art, and the new Boston Convention and Exhibition Center, as well as the South Boston, and Fort Point neighborhoods.

The Project will create a vibrant mixed-use neighborhood, establish a significant gateway to the South Boston waterfront, and provide a missing link to the City of Boston's Harborwalk. The Project will introduce year-round use and enjoyment of two new public green spaces - Seaport Square and Seaport Hill - and will activate the waterfront with exterior and interior spaces that encourage public waterfront access and use, as well as programming to encourage year-round use. The South Boston waterfront will be further activated by cultural and civic amenities including space for a library and flexible gallery space, new Facilities of Public Accommodation, landscaping and public amenities.

The entire Seaport Square Project is located on filled former Commonwealth tidelands. While much of this area is landlocked tidelands and, hence, not subject to the licensing provisions of the Chapter 91 Waterfront Protection Act (Chapter 91), all of Block A and portions of Blocks B, G, H and M, as shown on Figure 3.2-1, are within Chapter 91 licensing jurisdiction, approximately 1.64 acres or 8% of the Project land area. In addition, as a Project requiring an EIR and located on filled tidelands, the entire Seaport Square Project area will be subject to a public benefits review and determination by the Secretary of Energy and Environmental Affairs pursuant to the recently enacted legislation

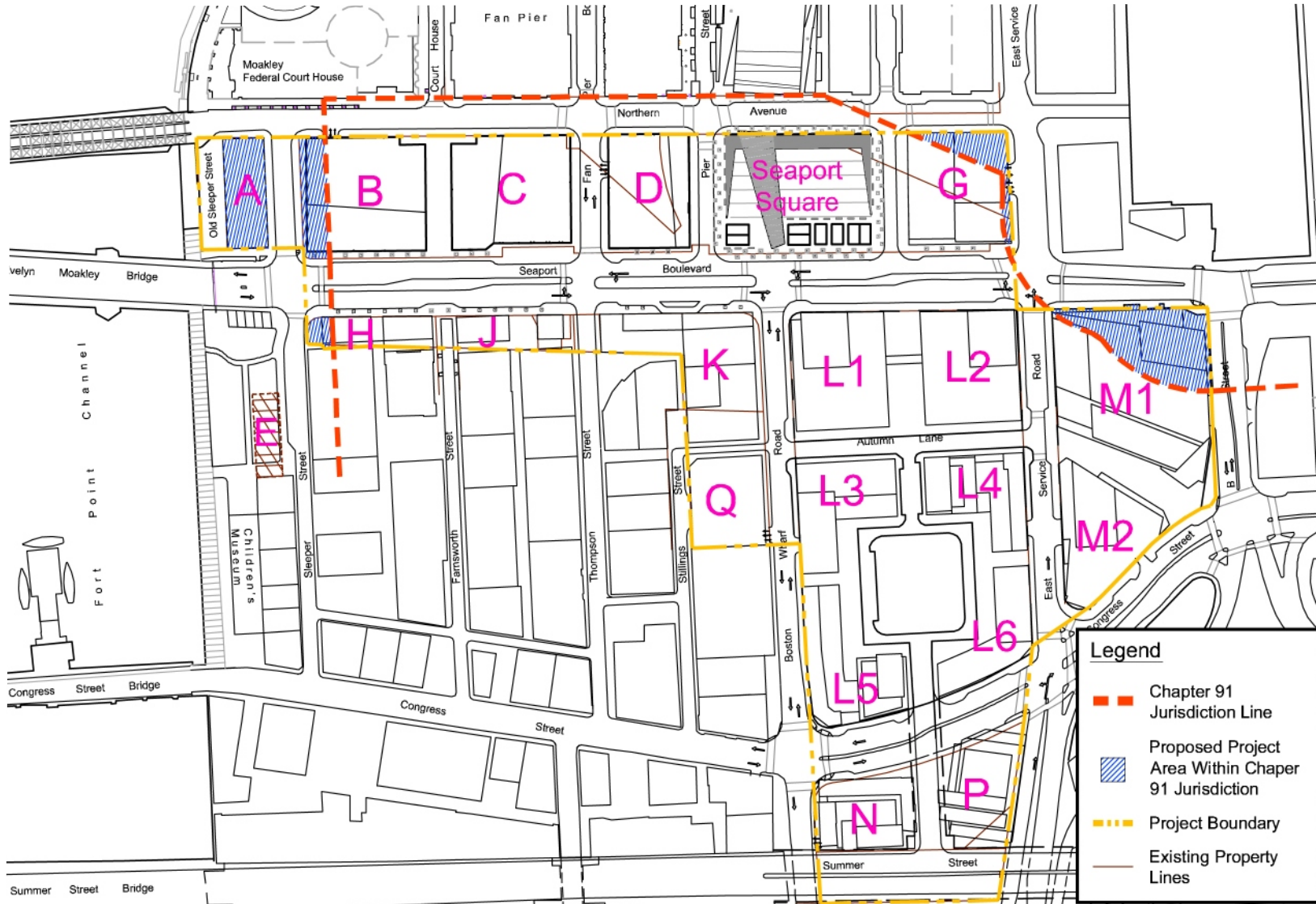


Figure 3.2-1
Chapter 91 Delineation
Project Overview

Legend

- Chapter 91 Jurisdiction Line
- Proposed Project Area Within Chapter 91 Jurisdiction
- Project Boundary
- Existing Property Lines



Base Map: ADD Master Plan, Rec'd 4/24/08



WS DEVELOPMENT SR WEINER
prepared by: TETRA TECH

(Chapter 168 of the Acts of 2007), regarding landlocked tidelands (the “Landlocked Tidelands Legislation”).¹ The public benefit review of the entire Project will be conducted as part of MEPA review of the Project.

Currently, the Project proposes that the revitalization of Blocks A, H and J be completed under a MEPA Phase 1 Waiver request (Phase 1) and therefore a review of Phase 1 public benefits is included in Section 3.2.5. Figure 3.2-2 shows the three waiver blocks in more detail.

The Proponent has proposed to relocate the Barking Crab restaurant into the proposed building on Block A, and to convert the current Barking Crab site to open space. However, at the time of this filing, an agreement with the restaurant’s owners has not been reached. Therefore, the following Chapter 91 analysis for Phase 1 presumes that the Barking Crab will remain and provides in its current location a new Harborwalk link alongside the existing restaurant through Old Sleeper Street that will link the Children’s Museum to the Old Northern Avenue Bridge. Public open space will be provided between Block A and the Barking Crab site, to be used for outdoor dining, art installations, as well as public enjoyment.

Public benefits for the entire Project can be found in Section 1.4 while public benefits of Phase 1 of the Project (detailed in Sections 2.7 and 3.2.5) include, but are not limited to, the following:

- ◆ Creation of public open space and pedestrian connections, including a Harborwalk link
- ◆ Funding for open space improvements
- ◆ Seasonal programming for community events
- ◆ New facilities of public accommodation
- ◆ Protection of adjacent open spaces

¹ Per MGL Chapter 168 of the Acts of 2007, all projects subject to Chapter 91 licensing and all projects located on landlocked tidelands that are also subject to MEPA review “may” (ENF) or “shall” (DEIR) be subject to a public benefit review and determination by the Secretary of Energy and Environmental Affairs, any conditions of which are enforceable by DEP.

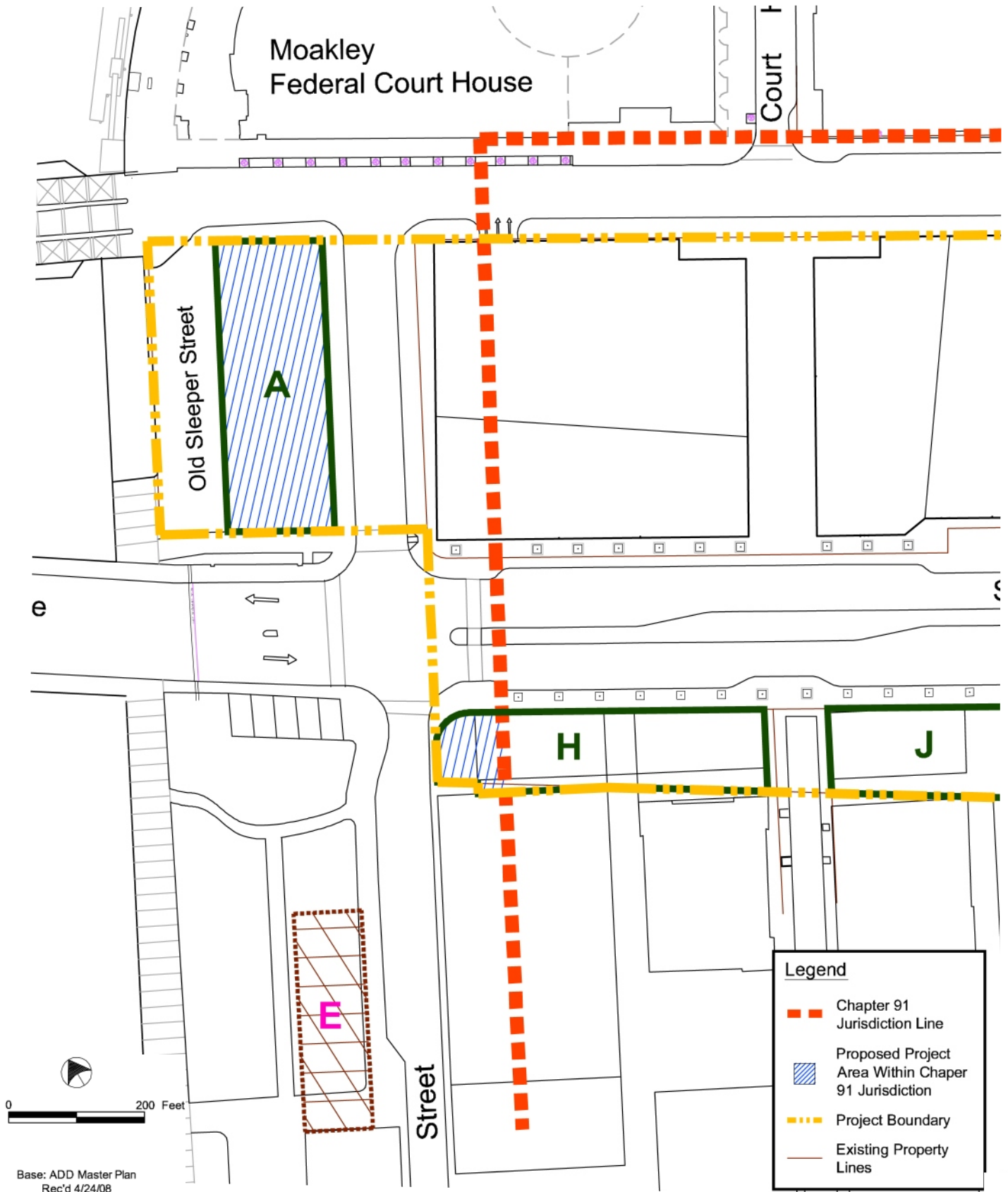


Figure 3.2-2
Chapter 91 Delineation
Blocks A, H and J

3.2.1 The Phase 1 Blocks

The following sections review Blocks A, H and J and the benefits summarized above in relation to the compatibility and compliance of the Project's Phase 1 waiver request with Chapter 91. Blocks A and H have been designed in accordance with the Chapter 91 regulations at 310 CMR 9.00, as affected by the South Boston Municipal Harbor Plan (SBMHP). The public benefits associated with Phase 1 in conjunction with the overall Seaport Square Project meet or exceed those established by Chapter 91 and the Municipal Harbor Planning process for this area. The jurisdictional bounds of the Chapter 91 regulations and the South Boston MHP are described below. A description of the Blocks' adherence to the Chapter 91 regulations and the applicable provisions of the South Boston MHP encompassing the Project site are presented in Section 3.2.3. The overall public benefits of the entire Project are detailed in Section 1.4.

3.2.2 South Boston Municipal Harbor Plan

The protection, care and supervision of the public's interests in the shoreline and tidelands of the Commonwealth are implemented, in part, through the regulatory frameworks of Chapter 91, the Municipal Harbor Planning Process and the recently enacted Landlocked Tidelands Legislation. The Chapter 91 regulations at 310 CMR 9.00, establish the standards for protecting the Commonwealth's and the public's interests in the waterfront. A related mechanism allows communities to address the state and local regulatory frameworks through a jointly approved Municipal Harbor Plan (310 CMR 23.00, Review and Approval of Municipal Harbor Plans). Such plans allow for the tailoring of certain Chapter 91 regulatory requirements and associated public benefits to better and more completely address the overarching interest in protecting the waterways and tidelands of the Commonwealth.

3.2.3 Chapter 91 Jurisdiction

Chapter 91 provides for the protection of the public's right to navigation and access to the Massachusetts shoreline. Chapter 91 is implemented through regulations promulgated and administered by the Massachusetts Department of Environmental Protection (DEP) Waterways Program. Along the Massachusetts coastline Chapter 91 jurisdiction includes both existing flowed tidelands and former tidelands that are now filled. Development activities within these flowed or filled tidelands generally require a license or permit, although activities on "landlocked" tidelands located more than 250 feet from the current shoreline *and* inland of a public right-of-way are usually exempt from such licensing.

The Chapter 91 regulations establish standards for shoreline projects based upon a number of criteria. Key among these are the project's status as a water-dependent or nonwater-dependent project, the location of the site on current or historically flowed tidelands, and the location of the site on tidelands identified as either Private or Commonwealth tidelands. The regulations also apply additional criteria to that portion of the site within the "water-

dependent use zone.” In the case of water dependency, a project that is principally nonwater-dependent will be reviewed as nonwater-dependent in whole, whether or not it includes water-dependent aspects.

Seaport Square Block A is located entirely within filled former Commonwealth tidelands and lies proximate to existing flowed tidelands and seaward of the first landside public right-of-way. As such, the Block A portion of the Project requires a Chapter 91 license. Block H is also located within filled Commonwealth Tidelands, but the block is separated from the current shoreline by a public right-of way, and only a portion of the parcel lies within 250 feet of flowed tidelands. As such only approximately 2,444 square feet of this approximately 13,000 square-foot Block is subject to review under Chapter 91 and its associated regulations, while the remainder of the Block is exempt from licensing as landlocked tidelands. Finally, Block J is located within filled Commonwealth tidelands but is entirely landlocked and hence not subject to licensing. Since the Project is subject to MEPA review, all three blocks will be subject to a benefits analysis (addressed in Section 3.2.5 below).

3.2.3.1 Water Dependency

The proposed redevelopment of Blocks A and H will include both residential and retail uses. Specifically, Phase 1 proposes approximately 110 residential units, 46,600 square feet of retail, and other public uses including a new Chapel to replace the existing Our Lady of Good Voyage Chapel.

Phase 1 is primarily a residential/retail development and will therefore be reviewed under Chapter 91 as a nonwater-dependent project. To the degree modified by the SBMHP, the Project will be subject to the Chapter 91 standards for the conservation of the capacity to provide for water-dependent uses as defined in the Chapter 91 regulations at 310 CMR 9.51, the standards for the utilization of the shoreline for water-dependent purposes at 310 CMR 9.52, and the standards for the activation of Commonwealth Tidelands at 310 CMR 9.53.

3.2.3.2 Private and Commonwealth Tidelands

As noted above, the applicability of Chapter 91 is established by the position of the site relative to the historic high water mark. Similarly, the historic low water mark is important in establishing the site’s position relative to Private versus Commonwealth tidelands. In the December 6, 2000 SBMHP Decision, the Secretary of Environmental Affairs determined that “all lands subject to Chapter 91 jurisdiction in the South Boston Waterfront consist of Commonwealth Tidelands.”

3.2.3.3 Water-Dependent Use Zone

The Chapter 91 regulations at 310 CMR 9.51 stipulate that nonwater-dependent use projects on any tidelands shall not unreasonably diminish the capacity of such lands to

accommodate water-dependent uses. Toward this end, the regulations provide for the recognition of a water-dependent use zone within which new or expanded nonwater-dependent buildings are not allowed. The water-dependent use zone only relates to projects that have a project shoreline.

Because Blocks A, H and J are not located on the water, they do not have a project shoreline or a water-dependent use zone.

3.2.3.4 Municipal Harbor Plan Jurisdiction

The Municipal Harbor Plan regulations allow municipalities certain latitude with particular Chapter 91 standards related to use, height, setback and open space. These standards may be amended through a municipal harbor plan, provided that the substitute requirements or amplifications proposed by the municipality are not only consistent with the mandate of Chapter 91 to protect and preserve the rights of the Commonwealth's residents in the tidelands, but are also otherwise consistent with the Waterways Regulations. These substitute provisions may also need to have provisions that provide equivalent public benefits to the standard provisions, known as offsetting provisions.

The SBMHP was the result of many years of planning by the City, and was developed in consultation with the Municipal Harbor Plan Advisory Committee, area residents, advocacy groups, property owners and public agencies, including DEP and MCZM.

The SBMHP established planning goals for waterfront properties. Below are the goals as described in the SBMHP:

- ◆ Promote access to Boston Harbor as a shared natural resource and connect people, land and water.
- ◆ Preserve and enhance the industrial port and balance the growth of mixed-use and recreational activity along Boston Harbor with the needs of maritime commerce.
- ◆ Plan the area as a vital mixed-use neighborhood that expands the City's residential communities and provides a lively mix of open space, civic and cultural, water transit and commercial uses and job opportunities that are mutually supportive and bring activity to the waterfront.
- ◆ Develop the site as an integral part of Boston's economy, enhancing the City's hotel, office and research, retail and visitor industries and position as the economic catalyst for the region.
- ◆ Ensure that the South Boston residential community and all neighborhoods of the City are not only protected from potential impacts from development, but share in the benefits of private investment.

In advancing the City's waterfront planning objectives the SBMHP Decision established several amplifications (more restrictive standards than Chapter 91) and substitute provisions (less restrictive standards) that apply to Phase 1 which created flexibility within the established Chapter 91 regulations so as to allow the implementation of site-specific requirements in order to enliven the area and create an active waterfront community. These include the following:

- ◆ Increase the required minimum width of the public walkway along the water's edge from 10 feet to 12 feet to match City Harborwalk standards for other areas of the waterfront.
- ◆ Promote and protect ground floor Facilities of Public Accommodation uses by limiting accessory uses on the ground floor of buildings to 20% of the building footprint.
- ◆ Prohibit residential lobbies and entrances from fronting along the waterside of buildings.
- ◆ Provide for lot coverage area and proportions that are in keeping with the Fort Point area of the Harbor by providing for the potential aggregation of open space requirements off-site, thereby encouraging larger waterfront open spaces and promoting the use and enjoyment of open space along with waterfront.
- ◆ Provide for building heights that are consistent with the surrounding area and that will preserve wind, shadow, and other conditions of the ground level environment that will be conducive to water-dependent uses.

3.2.4 Chapter 91 Regulatory Standards Review

No Chapter 91 licenses currently exist for Blocks A and H, so the Proponent is seeking licenses for Block A and the applicable portion of Block H. Individual licenses will be sought for each Block.

The following subsections review the Project in light of the applicable Chapter 91 regulatory standards and in relation to the municipal harbor planning and zoning efforts that have occurred in this area of the City and Harbor. Project components for which substitute provisions have been established by the 2000 South Boston MHP are identified below.

§9.15 Extended Term Chapter 91 License As provided under CMR 9.15, the Proponent will be seeking an extended license term.

§9.32 Categorical Restrictions on Fill and Structures

None of the proposed site uses or improvements are categorically restricted in previously filled tidelands.

§9.33 Environmental Protection Standards

§9.33 states that all projects must comply with the applicable environmental regulatory programs of the Commonwealth. Regulatory programs specifically applicable to Phase 1 and the status of Phase 1 with respect to those programs are summarized below.

- ◆ The Massachusetts Environmental Policy Act (MEPA). An Environmental Notification Form is being submitted for the entire Project, and Blocks A, H and J are the subject of a Phase 1 Waiver request. The Proponent anticipates filing a Draft and Final Environmental Impact Report for the entire Seaport Square Project.
- ◆ Massachusetts Wetlands Protection Act (WPA). Work associated with Block A and Old Sleeper Street may occur within the jurisdictional bounds of the WPA. Work associated with Block A and Old Sleeper may require the filing of a Notice of Intent with, and the receipt of an Order of Conditions from, the City of Boston Conservation Commission for work within the buffer zone of coastal bank.
- ◆ Massachusetts Clean Water Act. A sewer connection permit will be filed with the Massachusetts Department of Environmental Protection.
- ◆ Massachusetts Historical Commission Act. Chapter 254 review by the Massachusetts Historic Commission will be required and will be initiated with the filing of this ENF.

§9.34 Conformance with Municipal Zoning and Harbor Plans

Blocks A, H and J are located within the Fort Point Waterfront Subdistrict of the Harborpark District (the “Fort Point Waterfront”) and within the South Boston Inner Harbor Subdistrict of the South Boston Interim Planning Overlay District, as defined in the City of Boston’s Seaport Public Realm Plan. The Blocks are also located within the area of the SBMHP referred to as McCourt/Broderick Parcels. The conformance of the proposed use of Blocks A, H and J with municipal zoning and with the SBMHP Decision is reviewed below.

Municipal Zoning. Section 2.9 provides details regarding zoning compliance.

Municipal Harbor Plan Compliance. The SBMHP addresses the use and dimensional considerations of Blocks A, H and J that allowed for the realization of the City’s goals and plans for this area of the South Boston waterfront. The SBMHP Decision, as approved by the Secretary of EEA, then provides guidance for Chapter 91 licensing and approvals. As described in this filing, this Project is consistent with, and promotes waterfront activation as envisioned by the SBMHP Plan and as approved under the SBMHP.

§9.35 Standards to Preserve Water-Related Public Rights

The Waterway's regulations at §9.35 are designed to preserve the public's right to navigation, free passage over and through the water and access to Town Landings, and to insure that public open spaces are properly managed and maintained.

Phase 1 does not include any development on the water.

The Proponent will be responsible for the on-going management and maintenance of improvements planned for Block A and Old Sleeper Street, which will enhance the public's access to the waterfront.

The Proponent expects that there will likely be no restriction on the hours of use of the public open space. Similarly, there will be no gates or fencing associated with the public areas. Informational signage will be provided in accordance with the license. A maintenance plan will be developed with DEP input to insure the public areas and the Harborwalk are maintained as licensed.

§9.36 Standards to Protect Water-Dependent Uses

The regulations at §9.36 are designed to protect any water-dependent uses occurring at or proximate to the site. This includes water-dependent uses within the five years prior to the filing of the license application. There are currently no water-dependent uses within the Phase 1 Project site.

§9.37 Engineering Construction Standards

All structures will be designed and constructed in a manner that is structurally sound and will be certified by a Registered Professional Engineer.

§9.51 Conservation of Capacity for Water-Dependent Use

§9.51 of the Chapter 91 regulations state that nonwater-dependent projects that include fill or structures on any tidelands (filled or flowed) shall not unreasonably diminish the capacity of the tidelands to accommodate future water-dependent uses. In order to meet this standard, §9.51 establishes specific standards and conditions. However, where a Municipal Harbor Plan has been formally accepted by the Secretary of Energy and Environmental Affairs, the standards established by the Municipal Harbor Plan shall apply to, or substitute for, the regulatory conditions. As discussed above, this Project lies within the boundary of the SBMHP. As such it is also subject to the provisions of that plan.

Improvements associated with the development of Blocks A, H and J will greatly enhance and promote pedestrian access and enjoyment of the South Boston Waterfront as well as the Fort Point Channel. The Project will meet and/or exceed the Chapter 91 regulatory standards by complying with those standards and through direct compliance with City of

Boston MHP substitutes and offsets for those standards. A review of the Project's compliance with the standards of §9.51 is as follows:

Facilities of Private Tenancy. The Chapter 91 regulations at §9.51(3)(b) prohibit Facilities of Private Tenancy on any pile-supported structure on flowed tidelands, or on the ground floor of any filled tidelands within 100 feet of a project shoreline. The SBMHP Decision reaffirms this concept, and further requires that any accessory ground floor uses be limited to 20% of the building footprint.

There will be no Facilities of Private Tenancy (i.e residential or other private uses) located over flowed tidelands on the site and all ground-floor building space in Block A and H buildings will be occupied by Facilities of Public Accommodation (public uses). In addition, Blocks A and H will include second level Facilities of Public Accommodation. Accessory uses to upper floor private uses will be 20 percent or less of the building footprint.

Setback. Blocks A, H and J do not have project shorelines (defined by Chapter 91 as the high water mark, or the perimeter of any pier, wharf or other structure supported by existing piles), and, hence, do not include water-dependent use zones.

Open Space. The Chapter 91 regulations contain two numerical standards, the combined effect of which on Commonwealth Tidelands is to limit the site-coverage for nonwater-dependent buildings so that at least 50 percent of the project site consists of exterior open spaces for active or passive public use and enjoyment. With the construction of the Seaport Square Park on Parcel F, the entire Project will provide more than the amount of open space required. However, since open space must be provided concurrent with development impacts, Phase 1 cannot include in its' offsets open space which will be provided in a future Phase.

The substitute provision adopted in the SBMHP permits 100 percent lot coverage on Blocks A (16,910 sf) and, H (2,444 sf) as long as open space is aggregated offsite in the amount of 50% of the building footprint, either within jurisdiction (at a 1:1 ratio) or outside of Chapter 91 jurisdiction (at a 1.25:1 ratio). Block A's building footprint is approximately 16,680 sf. However, the Block A building also has approximately 400 sf of upper floor protrusions, increasing the total lot or area coverage to approximately 17,080. Thus, approximately 8,540 sf of open space aggregation is required for Block A impacts. The building footprint on Block H entirely covers the 2,444 sf of that parcel that is within jurisdiction.

The approximately 8,540 sf of open space required from Block A combined with Block H (1222 sf) totals approximately 9,762 square feet. Therefore, to be in compliance with the substitute open space provision for Blocks A and H of the South Boston MHP approximately 9,762 square feet of public open space must be identified elsewhere within jurisdiction.

Potential open space offset locations identified in the SBMHP for Blocks A and H focused on two significant areas of urban open space, with expanded possibilities for public use and enjoyment of the waterfront. The first site is SBMHP Parcel E, located proximate to the Fort Point Channel, and identified by the SBMHP as a priority open space parcel. The second is the future location of Seaport Square Green. The SBMHP Decision required all public benefits be provided concurrent with impacts, and therefore any future open space to be provided at Seaport Square Green will not be applicable to Blocks A and H.

McCourt Broderick Limited Partnership, the Seaport Square Proponent's predecessor-in-interest, conveyed Parcel E to the Children's Museum in 2006. This early open space was "banked"; its approximately 8,075 sf counts toward open space offsets for the other Seaport Square parcels, as memorialized in a June 23, 2006 DEP written determination, a copy of which is attached in Appendix C. Parcel E would provide approximately 8,075 square feet of the public open space necessary for the Phase 1 Blocks. In addition, the Proponent is working with the City to make improvements to the area of Old Sleeper Street and make an active open space area which could include art installations, landscaping and potential restaurant seating as well as establish a long-missing Harborwalk link from the Children's Museum to the Old Northern Avenue Bridge. Of this approximately 8,906 sf open space, at least 50% would remain 100% publicly accessible, as required on Commonwealth Tidelands. This would provide the Project with approximately 16,981 sf of open space, over 7,000 sf more than the required amount of open space to satisfy Chapter 91 requirements [Note - additional open space also exists on Block A which has not been taken into consideration in these calculations.]

If the Proponent's discussions with the City do not result in a disposition of Old Sleeper street that counts toward the Proponent's open space requirement, the Proponent has agreed to pay into an open space improvement fund during Phase 1 an amount equal to the formula provided in Section IX of the SBMHP (\$75 per sf that a project exceeds 50% lot coverage, plus an annual maintenance assessment of \$2 per sf that a project exceeds 50% lot coverage), provided that the Proponent's payment would be used to fund future open space improvements in the area of the Project site. Figure 3.2-2 identifies the location and extent of these proposed open space offsets, shown as Parcel E and Old Sleeper Street.

Height. The Chapter 91 regulations at §9.51(3)(e) limit the height of new or expanded buildings to 55 feet if located within 100 feet of the project shoreline. At greater landward distances, the height of such buildings is limited to 55 feet plus one-half foot for every additional foot of separation from the project shoreline.

The substitute provision adopted in the SBMHP Decision provided Block A with a maximum height of 75 feet. The proposed building on Block A will have a maximum height of 75 feet. The proposed building on Blocks H will be approximately 75 to 85 feet in height within jurisdiction, as approved within the SBMHP Decision. A small portion of the building on Block H may reach up to 116 feet, outside of Chapter 91 jurisdiction.

§9.52 Utilization of Shoreline for Water-Dependent Purposes

§9.52 of the Chapter 91 regulations require that any nonwater-dependent activity or use shall devote a reasonable amount of space to water-dependent uses and public access. Such uses are defined to include waterfront boardwalks and esplanades for public recreation. Projects that include use of the water-dependent use zone are also required to provide appropriate public walkway access for the entire length of the water-dependent use zone. The width of said walkway is to be 10 feet wherever feasible, and should connect to other walkways. The SBMHP accepted the City's amplification for water-dependent use zones and requires a 12-foot wide Harborwalk.

Currently there are no water-dependent uses on Blocks A, H or J, and none of the Blocks include a water-dependent use zone.

§9.53 Commonwealth Tidelands

The Chapter 91 regulations state that a "nonwater-dependent use project that includes fill or structures on Commonwealth Tidelands.... must promote public use and enjoyment of such lands to a degree that is fully commensurate with the proprietary rights of the Commonwealth, and which ensures that private advantages of use are not primarily but merely incidental to the achievement of public purpose. In applying this standard, the Department shall take into account any factor affecting the quantity and quality of benefits provided to the public, in comparison to the detriments to public rights associated with facilities of private tenancy"...

In order to meet this standard §9.53 establishes criteria that are applicable to those portions of the project that are within Commonwealth tidelands licensing, are non-water-dependent uses, and are subject to licensing. As noted above, Blocks A, H and J, are all located on Commonwealth Tidelands, although most of Block H and all of Block J are beyond licensing jurisdiction. The development of the areas of Blocks A and H that are within jurisdiction will meet the provisions of §9.53 as follows:

Baseline Water-Based Activity and Water Transportation Requirements [§9.53(2)(a)].

§9.53(2)(a) of the Chapter 91 regulations calls for at least one facility utilizing the water such as *ferries, cruise ships, water shuttles, public landings and swimming/fishing areas, excursion/charter/rental docks, and community sailing centers*, provided the site in question includes a water-dependent use zone.

Blocks A, H and J are all located at some distance from the water's edge, and do not have project shorelines or water-dependent use zones.

Space for Active and Passive Public Recreation [§9.53(2)(b)]. The Phase 1 waiver Blocks will meet the requirements of §9.53(2)(a) through the activation of public open space in a year-round manner.

Facilities of Public Accommodation [§9.53(2)(c)]. The Chapter 91 regulations at §9.53(2)(c) require that ground level interior space be devoted to facilities of public accommodation, comprising an area that matches the portion of Commonwealth tidelands that are within the footprint of any non-water-dependent uses on the site (§9.53(2)(c)).

The entire ground floors of Blocks A and H will be occupied by facilities of public accommodation. The Phase 1 waiver parcels will exceed the requirements of (§9.53(2)(c)), by also providing facilities of public accommodation on the second floors.

Management Plan. The Chapter 91 regulations at §9.53(2)(d) require the development and implementation of a management plan for all on-site facilities offering water-related benefits to the public. The Project Proponent and future property management entity will be responsible for the maintenance of all public open space areas established. A draft management plan specific to the site as ultimately designed will be prepared for inclusion in the Chapter 91 license application.

3.2.5 Public Benefit Determination

In November, 2007 the Massachusetts House and Senate passed An Act Relative to the Licensing Requirements for Certain Tidelands (HB 4324), which was signed by Governor Patrick on November 15, 2007 (Chapter 168 of the Acts of 2007), the “landlocked Tidelands Legislation”. The legislation, among other things, names the Secretary of EEA as the “administrator of tidelands”, and requires the Secretary of EEA to conduct a “public benefit review” for projects on tidelands, and to issue a written determination (the “Public Benefit Determination”). The Secretary *must* conduct a public benefit review for any proposed project located on tidelands or on landlocked tidelands that requires an Environmental Impact report, pursuant to the Massachusetts Environmental Policy Act (MEPA).

As previously mentioned, this Project is seeking a Phase 1 waiver for Blocks A, H and J, while the remainder of the Project will require a Draft and Final EIR/PIR. The following public benefit analysis is specifically required for Blocks A, H and J while a public benefit analysis for the entire Project will be provided within a subsequent Draft EIR/PIR.

The recent changes to the Chapter 91 legislation outlined above require analysis of a Project’s impacts on the public’s rights to access, use and enjoy tidelands that are protected by Chapter 91, and identification of measures to avoid, minimize, and mitigate and adverse impacts on such rights. Phase 1 will not only promote public use and enjoyment of tidelands, but will provide year-round activation of the South Boston neighborhood to link the Fort Point Channel and the South Boston waterfront.

In making this Public Benefit Determination, the Secretary shall consider the following:

“Purpose and effect of the development, the impacts on abutters and the surrounding community; enhancement to the property, benefits to the public trust rights in tidelands or other associated rights, including but not limited to, benefits provided through previously obtained municipal permits; community activities on the development site; environmental protection and preservation; public health and safety; and the general welfare; provided further that the secretary shall also consider the differences between tidelands and landlocked tidelands and great ponds when assessing the public benefit and shall consider the practical impact of the public benefit on the development.”

In order to address the intent of the Public Benefit Determination, the following addresses the considerations identified in the legislation:

1. purpose and effect of the development

Phase 1 of the Project will redevelop filled former tidelands that are now parking lots along the Fort Point Channel with three new buildings, containing the following mix of uses: approximately 30,000 sf of ground and second floor facilities of public accommodation, including a ground level 5,000 sf restaurant, 110 upper level residential units, and 43 parking spaces located below grade on Block A. Exterior open spaces will be activated with landscaping, art and potential restaurant seating. The Proponent will work with the City to create a new Harborwalk link connecting the Children’s Museum immediately west of the Barking Crab to the Old Northern Avenue Bridge. In addition, the Project will provide for the relocation of the Chapel of Our Lady of Good Voyage to a site that is more conveniently located within the community, providing better access for churchgoers and greater visibility for the Chapel.

Phase 1 will provide year-round activation of Commonwealth tidelands by creating a locus of activity along with public amenities. The streetscape improvements will draw many to the site and provide a safe and enjoyable route to the waterfront.

Phase 1 will provide a long awaited gateway to South Boston, creating a vibrant and active 24/7 mix of uses along the Fort Point Channel. The purpose and effect of Phase 1 is consistent with the City of Boston’s Seaport Public Realm Plan and the South Boston Municipal Harbor Plan, and provides public uses, that will draw the public to the waterfront with improved pedestrian access and public activities and amenities.

2. impact on abutters and the surrounding community

Phase 1 will improve the quality of life in the area by creating a cohesive neighborhood atmosphere for its residents, workers, and visitors. The combination of residential, commercial and cultural/civic components allows for a vibrant and engaging 24/7

neighborhood, where only parking lots and fencing exist today. Phase 1 has been designed to be consistent with long term planning goals for the area, and will provide greatly improved and enhanced waterfront access and quality of life for the surrounding community.

A priority of the surrounding Fort Point and South Boston community, as evidenced at recent Seaport Square community meetings, is the development of additional residential units in this area. Seaport Square Phase 1 directly supports this goal by providing housing in two out of three buildings, for a total of approximately 110 residential units within Phase 1. Fifteen percent of this housing will be affordable housing. In addition, Proposed buildings are in scale

3. enhancement to the property

Currently the Project site is comprised of parking lots and fencing. The Project will provide civic and public uses and create a sense of place along the South Boston waterfront. Where asphalt streets and parking currently exists, the Project will provide three well designed sustainable buildings with wide sidewalks and landscaped areas.

Currently, the surfaces of the Phase 1 Blocks are essentially impermeable, with no to little infiltration of runoff. Landscaping of the proposed pedestrian open spaces will likely result in a significant increase in permeable ground.

4. benefits to the public trust rights in tidelands or other associated rights

The benefits to public trust rights in tidelands are numerous. Blocks A, H and J will create a gateway to the South Boston waterfront, and will substantially increase public access, use and enjoyment of flowed and filled tidelands protected under Chapter 91. In summary:

- ◆ **Creation of a New Public Open Space on the Fort Point Channel Waterfront.** The Proponent will coordinate with the City to improve a portion of City-owned Old Sleeper Street between the Barking Crab and Block A. An additional amount of open space fronting Block A could then be converted into a waterfront way and fully activated public open space, including outdoor dining and activated through landscaping and rotating outdoor public art. A substantial amount of open space would then be provided in excess of Chapter 91 requirements.
- ◆ **Connection of long-missing Harborwalk Link/New Pedestrian Connections.** The landscaping of Old Sleeper would allow for the connection of a missing link of the City's long envisioned Harborwalk along the Fort Point Channel. The public walkway will be designed to connect the Children's Wharf Park under the Evelyn Moakley Bridge and on to the Old Northern Avenue Bridge.
- ◆ **Parcel E Open Space.** The 2000 South Boston Municipal Harbor Plan (SBMHP) approved by the then Secretary of Environmental Affairs set as a priority the creation of

open space on Parcel E. McCourt Broderick Limited Partnership, the Proponent's predecessor-in-interest, conveyed Parcel E to the Children's Museum in 2006. This early public benefit was 'banked' for future open space for the other Project's parcels, as memorialized in a June 23, 2006 DEP written determination, a copy of which is attached in Appendix C.

- ◆ **Open Space Improvements Fund.** In Phase 1, if open space offsets are not fulfilled on Parcel E and/or Old Sleeper Street, the Proponent may provide funding toward future open space improvements within the South Boston waterfront areas. The contribution would be equal to the formula provided in Section IX of the SBMHP Decision (\$75 per sf that a project exceeds 50% lot coverage, plus an annual maintenance assessment of \$2 per sf that a project exceeds 50% lot coverage).
- ◆ **Provision of Seasonal Programming for Community Events.** The Project includes the commitment to work with community groups and institutions in providing year-round event and exhibit programming in the new and existing open spaces and facilities of public accommodation associated with the Project. The Project intends to coordinate open space activation efforts with the already existing artist community in the Fort Point Channel area as well as the adjacent Children's Museum.
- ◆ **Provision of New Facilities of Public Accommodation.** This Project will activate ground level pedestrian activities by providing facilities of public accommodation on the ground floors of buildings on Blocks A and H in accordance with the Chapter 91 regulatory provisions for the activation of Commonwealth Tidelands. In addition, facilities of public accommodation will also occupy second floors in Blocks A and H. A new Church will be constructed on Block J, to replace the existing Chapel of Our Lady of Good Voyage located on Northern Avenue, the benefits of which include increased visibility and access to the Chapel, further activating the waterfront.
- ◆ **Protection of Adjacent Open Spaces.** Block A will reach a height of 75 feet, protecting adjacent open spaces for pedestrian use and enjoyment. Block H Building height within Chapter 91 licensing jurisdiction is set by the MHP at 75 to 85 feet – more restrictive than would be granted under Chapter 91 regulation for this site.

A portion of the Block H building closer to Farnsworth Street may reach up to 116 feet; the portion closer to Sleeper Street is 85 feet. The taller portion of the Block H building is similar in height to surrounding buildings, is not within Chapter 91 jurisdiction, and is further from the water and the existing open space at the Children's Museum, which limits its impacts on ground level pedestrian use and enjoyment of the public realm. Any impacts, however, will be included in the Draft PIR/EIR wind study conducted for the entire Project. It was contemplated in the SBMHP Decision that buildings ranging in

height from 75 to 85 feet would not result in significant wind impacts. In reference to areas in Chapter 91 jurisdiction, the Secretary's Decision on the SBMHP states that for projects ranging in height from 75 to 85 feet, "it would appear that ground level conditions will be conducive to pedestrian-level activities".

5. community activities on the development site

Phase 1 will provide approximately 110 residential units, creating year-round activation and use. Phase 1 will also include active ground-level uses including a 5,000 square foot restaurant, retail and commercial uses. A new Chapel will enliven the area with weekend use and enjoyment. The ground level restaurant will include outdoor seating and the proponent is proposing to incorporate Old Sleeper Street and provide a long-missing link to the Harborwalk, connecting the Children's Museum to the Old Northern Avenue Bridge. The community will enjoy the arts shows, exhibits, and gathering with neighbors and friends along this open space area. An interactive public art-walk is also being explored, linking the Children's Museum along the Fort Point Waterfront to the public space in front of Block A, and into the Project site.

6. environmental protection and safety

Phase 1 consists of the redevelopment of parking lots that are now mostly vacant at night. The site does not contain any significant natural resources or publicly protected open space or parkland. Blocks H and J are located in the Groundwater Conservation Overlay District, as outlined in Section 6 of Article 32 of the City of Boston Zoning Code. The Fort Point Waterfront Subdistrict is not identified as an area of depressed groundwater levels, however many of the older buildings located south of Seaport Boulevard are supported on wood piles. Groundwater monitoring wells will be installed during future planned subsurface explorations which will be necessary for completed foundation design. The groundwater monitoring wells will also be used to better document existing groundwater levels and hydro geologic conditions. The Proponent will certify that the Project will not negatively impact groundwater levels on the site or on adjacent lots pursuant to the provisions of Article 32, Section 6.

As part of the proposed Block improvements an improved stormwater management system will be designed and constructed which meets both DEP and BWSC requirements. This system will collect and treat all stormwater runoff from the site. Runoff will be primarily from rooftops or pedestrian open space, so pre-treatment will likely be limited to deep sump catchbasins. To the degree necessary, clean roof-top runoff will be discharged to the ground via infiltration trenches or surface gratings. Currently, the surfaces of the Phase 1 Blocks are essentially impermeable, with little to no infiltration of runoff. Landscaping of the proposed pedestrian open spaces will likely result in a significant increase in permeable ground.

Blocks H and J are located within the proposed Seaport Boulevard/Boston Wharf Road Protection Area. The goals of the Protection Area are to protect view corridors into and out of the proposed Fort Point Channel Landmark District and through a design review process with the Boston Landmark's Commission, ensure that the massing, land coverage, and height of new construction on adjacent lots is compatible with that of the proposed landmark district. Proposed new construction on Blocks H and J will be subject to review by Boston Landmark's staff under the interim guidelines for the pending Seaport Boulevard/Boston Wharf Road Protection Area.

7. public health and safety

The replacement of parking lots with active 24/7 residential, retail, commercial and civic uses will promote and increase public safety. In addition, streetscape improvements including lighting, landscaping, and curbing will encourage walking, while nearby MBTA stations encourage public transit, both helping to improve pedestrian safety and health.

3.3 Environmental Protection

3.3.1 Wind

The Project includes 19 buildings, 14 of which will be taller than 150 feet, ranging to 200 - 250 feet. The buildings will be of similar height to existing, as well as proposed, buildings in the vicinity. The Proponent will conduct a quantitative wind analysis, including wind tunnel testing, as typically required by the BRA for buildings over 150 feet. Results of the wind analysis will be included in the Draft PIR/EIR.

Blocks A, H and J

Generally ranging in height from 75 to 85 feet, buildings on Blocks, A, H and J are anticipated to have only minor wind impacts. The portion of the Block H building closer to Farnsworth Street may reach up to 116 feet; the portion closer to Sleeper Street is 85 feet. The taller portion of the Block H building is similar in height to surrounding buildings, is not within Chapter 91 jurisdiction, and is further from the water and the existing open space at the Children's Museum, which limits its impacts on ground level pedestrian use and enjoyment of the public realm. Any impacts, however, will be included in the Draft PIR/EIR wind study conducted for the entire Project. It was contemplated in the SBMHP Decision that buildings ranging in height from 75 to 85 feet would not result in significant wind impacts. In reference to areas in Chapter 91 jurisdiction, the Secretary's Decision on the SBMHP states that for projects ranging in height from 75 to 85 feet, "it would appear that ground level conditions will be conducive to pedestrian-level activities".

3.3.2 Shadow

Because the existing site is primarily vacant the proposed Project will result in net new shadow impacts. However, the future of the area will be dense and urban in nature, and

the future shadow impacts are anticipated to be similar to other dense, urban areas. The Proponent will conduct a shadow study to be included in the Draft PIR/EIR.

Blocks A, H and J

Generally ranging in height from 75 to 85 feet, buildings on Blocks, A, H and J are anticipated to have only minor shadow impacts. The portion of the Block H building closer to Farnsworth Street may reach up to 116 feet; the portion closer to Sleeper Street is 85 feet. The taller portion of the Block H building is similar in height to surrounding buildings, is not within Chapter 91 jurisdiction, and is further from the water and the existing open space at the Children's Museum, which limits its impacts on ground level pedestrian use and enjoyment of the public realm. Any impacts, however, will be included in the Draft PIR/EIR shadow study conducted for the entire Project. It was contemplated in the SBMHP Decision that buildings ranging in height from 75 to 85 feet would not result in significant shadow impacts. In reference to areas in Chapter 91 jurisdiction, the Secretary's Decision on the SBMHP states that for projects ranging in height from 75 to 85 feet, "it would appear that ground level conditions will be conducive to pedestrian-level activities".

3.3.3 Daylight

The purpose of a daylight analysis is to estimate the extent to which a proposed project affects the amount of daylight reaching public streets in the immediate vicinity of a project site. The extent of daylight obstruction resulting from the Project and measures to mitigate adverse impacts will be included in the Draft PIR/EIR.

Blocks A, H and J

Due to the modest height of the buildings on Blocks A, H and J and the width of Seaport Boulevard, the buildings on Blocks A, H and J are anticipated to have only minor daylight impacts.

3.3.4 Solar Glare

Mirrored or highly reflective glass is not currently being considered as a façade material for the Project, limiting the potential for solar glare impacts.

Blocks A, H and J

The use of reflective glass is not anticipated for Blocks A, H and J.

3.3.5 Air Quality

Potential long-term air quality impacts will be limited to emissions from Project-related mechanical equipment and pollutant emissions from vehicular traffic generated by the development of the Project. Additionally, the feasibility of siting and sizing a central energy

plant with cogeneration capabilities is being investigated. Emissions generated by this potential facility, as compared to the do-nothing case of obtaining existing utility services and providing discrete electrical, heating, and cooling capability on a block-by-block basis, will be discussed and presented in the DPIR/EIR pending the results of the feasibility study. Due to the size of the Project, the potential air quality impacts will be modeled for both existing and future conditions in the Draft PIR/EIR to demonstrate conformance with the National Ambient Air Quality Standards. Construction period air quality impacts and mitigation are discussed below in Section 3.3.11.1.

Construction period air quality impacts and mitigation are discussed below in Section 3.3.11.1.

Blocks A, H and J

Because of the limited size of the buildings on Blocks A, H and J, air quality impacts are not expected to be substantial. Potential impacts from Blocks A, H and J will be considered in the Draft PIR/EIR Air Quality analysis.

3.3.6 *Noise*

Due to the size of the Project and because the existing site is primarily vacant, noise levels are anticipated to increase. These impacts, and the Project's compliance with the City of Boston Noise Ordinance, will be studied in the Draft PIR/EIR.

Construction period noise impacts and mitigation are discussed below in Section 3.3.11.2.

Blocks A, H and J

Because of the limited size of the buildings on Blocks A, H and J, noise impacts are not expected to be substantial. Potential noise impacts from Blocks A, H and J will be considered in the Draft PIR/EIR noise analysis.

3.3.7 *Stormwater/Water Quality*

The Seaport Square development is proposed inland from the Boston Harbor and will not adversely affect the water quality of the Harbor.

During construction, erosion and sediment control measures will be utilized to prevent sediment from entering the Boston Water and Sewer Commission (BWSC) storm drain infrastructure, and minimize impacts to adjacent areas. These Best Management Practices will include silt sacks placed in existing and proposed catch basins, and regular street sweeping. The controls will be maintained throughout construction until the site has been stabilized with temporary or final surface improvements. On-site dewatering will meet the regulations of the appropriate local, state, and federal permits required for this Project.

The Project's proposed stormwater management system will improve post construction water quality by pre-treating runoff from the site, and by substantially reducing the amount of storm water generated from the site. The proposed stormwater system will be designed to meet the applicable stormwater performance standards of the DEP Stormwater Management Policy. A substantial portion of the Project includes converting existing surface parking facilities which typically generate oil, grease, pollutants, and sediments, to rooftops and buildings, some of which may utilize green or white rooftops, which will result in a cleaner stormwater discharge.

Blocks A, H and J

Blocks A, H and J are currently paved and used for surface parking, a use that generates oil, grease, pollutants and sediments that are then washed into the storm drain system by stormwater runoff. The conversion of these areas to buildings will improve the water quality of the runoff from the site since rooftops generally contain less grease and oil.

3.3.8 Flood Hazard Zones/Wetlands

The Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) for the site located in the City of Boston - Community Panel Number 250286 0011 C indicates the FEMA Flood Zone Designations for the site area. The map shows that the Project is located in a Zone C, Area of Minimal Flooding.

The site is developed and does not contain wetlands.

3.3.9 Geotechnical/Groundwater/Water Quality

3.3.9.1 Subsurface Soil and Bedrock Conditions

The Project is located in an area of South Boston that was filled during the 1800s. Available geologic and other information has been collected and reviewed to develop an understanding of subsurface soil, bedrock, and groundwater conditions at the Project site. The information was obtained from various sources including historic test borings, data obtained for MBTA South Boston Transitway design and construction, the Central Artery/Tunnel Project, and nearby developments. Based on the available subsurface information, the following general subsurface soil profile is anticipated:

| Generalized Description | Depth to Top of Layer (ft) | Thickness of Layer (ft) |
|--------------------------------|-----------------------------------|--------------------------------|
| Fill | -- | 4 to 9.5 |
| Hydraulic Fill/Organic Silt | 4 to 9.5 | 13 to 25 |
| Silty Sand/Sandy Silt | 18 to 29 | 3 to 21 |
| Marine Clay | 29 to 42.5 | 75 to 111 |
| Glacial Till | 109 to 150 | 0 to 41 |
| Bedrock | 117.5 to 166.5 | -- |

The existing Project area is relatively flat and consists primarily of vacant parcels utilized for surface parking.

Remains of previous structures from former development at the property and other historic uses may remain buried in place within the surficial fill soils.

Several significant infrastructure projects are aligned through or adjacent to the Project. These include the MBTA South Boston Transitway, which extends from the Fort Point Channel, beneath Seaport Boulevard and south to Congress Street. Sections of the Central Artery Tunnel daylight near the southern portion of the site at Congress Street. The as-built conditions of these structures will be reviewed and considered during future design and construction studies.

It is anticipated that a variety of foundation systems will need to be utilized for support of planned structures based on specific conditions and nature of proposed construction at each parcel. Foundation systems will likely range from concrete footing and mat foundations bearing the marine clay at depths of about 20 to 30 ft to deep drilled shafts or piles extending to glacial till and bedrock at depths greater than 100 ft. The foundation system utilized will depend on building height, below grade basement depths, proximity of adjacent facilities and a number of other factors.

Depending on proposed construction at specific locations, the Project requirements for installation of earth support systems and temporary construction dewatering will be further developed. The Project will develop design criteria and utilize construction methodology to mitigate off site impacts. An appropriate monitoring program, which may expand on previous programs in the area, will be developed to document performance.

Blocks A, H, and J

The proposed buildings at Blocks A, H, and J are preliminarily planned to be supported on deep foundation systems extending to dense glacial till soils and/or bedrock at depths of greater than 100 ft below current site grades. Since no below grade basement space is planned, there are no potential adverse impacts of the new construction at Blocks H and J on existing area groundwater levels. Current plans call for a one-level basement at Block A, which will require excavation at or just below groundwater levels. Therefore, design and construction techniques for this Block will be implemented to mitigate potential impacts to area groundwater levels.

The foundation system design and construction methodology will consider the surrounding structures (including MBTA South Boston Transitway). A monitoring program will be developed for the adjacent structures and will be implemented prior to construction.

3.3.9.2 Groundwater

Measured groundwater levels at the Project site are anticipated at depths of approximately 4 and 14 feet below existing site grades, corresponding to approximately El. 1 to El. 11 (Boston City Base Datum). This is based on groundwater level measurements obtained at monitoring wells installed on and in the vicinity of the Project. In general, groundwater levels are anticipated to be encountered within a depth of approximately 10 ft. below current site grades. Groundwater levels should be expected to reflect tidal fluctuations in Boston Harbor and will fluctuate naturally due to seasonal variation in such factors as precipitation and temperature.

Project wide design criteria will be developed to protect and maintain existing groundwater levels. The criteria will likely include no long-term groundwater pumping which would result in groundwater lowering, use of groundwater cut-off systems where hydrostatic pressure relief is required, use of effective waterproofing systems, no perimeter drainage below groundwater levels, onsite recharge where feasible. Specific engineering solutions will be developed related to design at each parcel.

The majority of the Project (with the exception of Blocks H, J, K, and Q) is located outside of the Fort Point Waterfront Subdistrict of the Expanded Groundwater Conservation Overlay District (GCOD). The boundaries of the Expanded GCOD extend from Fort Point Channel, to Seaport Boulevard to the north, and to Boston Wharf Road to the east. The Fort Point Waterfront Subdistrict is not identified as an area of depressed groundwater levels; however, many of the older existing buildings located south of Seaport Boulevard are supported on wood piles. Groundwater monitoring wells will be installed during future planned subsurface explorations which will need to be completed for foundation design. The groundwater monitoring wells will also be used to better document existing groundwater levels and hydrogeologic conditions. Project design criteria will be developed and applied to the proposed construction to not result in impacts to area groundwater levels to maintain existing conditions.

Blocks A, H, and J

Due to the proximity to the Fort Point Channel and Boston Harbor, tidal fluctuations are expected to impact groundwater levels at Blocks A, H, and J. Since one below grade basement level is planned at Block A, temporary construction dewatering will likely be required to complete excavations in the dry. Temporary construction dewatering will be conducted in accordance with local, state, and federal regulations. Appropriate permits will be obtained prior to start of work. In addition temporary dewatering activity will be conducted in a manner to mitigate potential impacts to area groundwater levels.

As discussed above, Blocks H and J are located within the Fort Point Waterfront Subdistrict of the Expanded Groundwater Conservation Overlay District. Considering that no significant excavations at Blocks H and J are planned below groundwater levels (there will

be no below-grade basement or system excavation beneath Blocks H and J), dewatering will not be required and construction impacts to area groundwater levels are not anticipated. Additional engineering studies and groundwater evaluations will be undertaken during Project design. The Project will meet the GCOD requirements and provide appropriate Engineering Certifications and reports.

3.3.10 *Solid and Hazardous Wastes*

3.3.10.1 Existing Hazardous Waste Conditions

Environmental studies including chemical testing of soil and groundwater for the presence of Oil and Hazardous Materials (O&HM) have been conducted at several locations of the Project for previous work completed in the area. Chemical test results on soil samples obtained to date indicate the presence of contaminants, typical of urban fill material at some locations. Contaminants include petroleum, metals, and volatile organic compounds. Previous environmental reporting to the Massachusetts Department of Environmental Protection (DEP) of releases at and near the Project site includes the following:

- ◆ RTN 3-14542: Release is related to Seafood Center Site (Block M); Status: Response actions completed, closed with MA-DEP
- ◆ RTN 3-16613: Release is related to Seafood Center Site (Block M); Status: Response Actions completed, closed with the MA-DEP
- ◆ RTN 3-13624: Release was identified on Block M1/M2 during MBTA South Boston Transitway Investigations; Status: Partially-closed with DEP, ongoing response actions to finalize site closure are nearing completion.

During construction, excavated soils may be encountered which contain levels of chemical constituents typically encountered in urban fill soils, which will require special handling and disposal. Future evaluations of specific site environmental conditions will be undertaken related to proposed construction at individual locations. During excavation, soils will be managed for off-site disposal in accordance with current regulations and policies of the DEP. Surplus excavated material will be disposed off-site by the selected contractor at approved off-site facilities in accordance with applicable local, state, and federal laws and regulations. Characterization of soil and groundwater is planned at the appropriate stage of the design process to further evaluate site environmental conditions and soil management requirements.

Blocks A, H, and J

No previous RTNs related to these Blocks has been obtained to date regarding site environmental conditions related to presence of oil and hazardous materials at Blocks A, H,

and J. Specific testing of any soils to be transported from the site will be conducted prior to construction to evaluate conditions and requirements for special handling or transport of excavated materials.

3.3.10.2 Operational Solid and Hazardous Wastes

The Project will generate solid waste typical of other mixed-use projects. Solid waste will include wastepaper, cardboard, glass, and bottles. A portion of the waste will be recycled. The remainder of the waste will be compacted and removed by a waste hauler contracted by each building's management. The Project's recycling program will be described in the Draft PIR/EIR.

With the exception of "household hazardous wastes" typical of residential uses (for example, cleaning fluids and paint), the residential uses will not generate hazardous waste.

Hazardous waste that could be generated by the tenants will be handled and disposed of in accordance with applicable laws and regulations.

Blocks A, H, and J

Blocks A, H and J will generate solid waste typical of other residential/mixed-use projects. Solid waste from the Project will include recyclables such as wastepaper, cardboard, glass, and plastic bottles. A comprehensive commercial recycling program will be implemented to divert a significant portion of these materials from the landfill waste stream. The remainder of the solid waste will be compacted and removed by a commercial waste hauler contracted by building management. With the exception of incidental hazardous wastes typical of residential/mixed-use uses (for example, cleaning fluids and paint), the Project will not generate hazardous waste.

An appropriately sized space will be provided within the Project for the temporary collection of waste and the separation of recyclable materials for separate handling. Recycling and trash will be handled within each building, and collection will occur at the loading dock of each building.

Recycling

The Proponent will work with building tenants to implement a recycling program that emphasizes continuous improvement in minimizing the ecological footprint on the environment. Recycling efforts will include the recapture of mixed office paper, newspaper, cardboard, magazines, and plastics numbered 1 thru 7, glass, aluminum and other scrap metal, and any additional materials as appropriate. The Proponent will also explore opportunities to maximize waste prevention through the maintenance and cleaning practices of the site, such as the purchase of eco-friendly products.

Adequate space for recycling materials will be conveniently located adjacent to loading bays and will be sized appropriately to meet growing recycling efforts.

3.3.11 Construction Impacts

The size of the Project and its location proximate to residences, the courthouse, and other development projects will require careful scheduling of material removal and delivery. Planning with the City and neighborhood will be essential to the successful development of the Project.

A Construction Management Plan (CMP) will be submitted to the BTB for review and approval prior to issuance of a building permit. The CMP will define truck routes which will help in minimizing the impact of trucks on local streets. A police detail will be provided to maintain access to adjacent properties and to direct pedestrian and vehicle flow.

Construction methodologies that ensure public safety and protect nearby businesses will be employed. Techniques such as barricades, walkways, painted lines, and signage will be used as necessary. Construction management and scheduling – including plans for construction worker commuting and parking, routing plans and scheduling for trucking and deliveries, protection of existing utilities, maintenance of fire access, and control of noise and dust – will minimize impacts on the surrounding environment.

Throughout Project construction, a secure perimeter will be maintained to protect the public from construction activities.

3.3.11.1 Construction Air Quality

Short-term air quality impacts from fugitive dust may be expected during the early phases of construction and during excavation. Plans for controlling fugitive dust during demolition, construction and excavation include mechanical street sweeping, wetting portions of the site during periods of high wind, and careful removal of debris by covered trucks. The construction contract will provide for a number of strictly enforced measures to be used by contractors to reduce potential emissions and minimize impacts. These measures are expected to include:

- ◆ Using wetting agents on areas of exposed soil on a scheduled basis;
- ◆ Using covered trucks;
- ◆ Minimizing spoils on the construction site;
- ◆ Monitoring of actual construction practices to ensure that unnecessary transfers and mechanical disturbances of loose materials are minimized;

- ◆ Minimizing storage of debris on the site; and
- ◆ Periodic street and sidewalk cleaning with water to minimize dust accumulations.

3.3.11.2 Construction Noise

The Proponent is committed to mitigating noise impacts from the construction of the Project. Increased community sound levels, however, are an inherent consequence of construction activities. Construction work will comply with the requirements of the City of Boston Noise Ordinance. Every reasonable effort will be made to minimize the noise impact of construction activities.

Mitigation measures are expected to include:

- ◆ Instituting a proactive program to ensure compliance with the City of Boston noise limitation policy;
- ◆ Using appropriate mufflers on all equipment and ongoing maintenance of intake and exhaust mufflers;
- ◆ Muffling enclosures on continuously running equipment, such as air compressors and welding generators;
- ◆ Replacing specific construction operations and techniques by less noisy ones where feasible;
- ◆ Selecting the quietest of alternative items of equipment where feasible;
- ◆ Scheduling equipment operations to keep average noise levels low, to synchronize the noisiest operations with times of highest ambient levels, and to maintain relatively uniform noise levels;
- ◆ Turning off idling equipment; and
- ◆ Locating noisy equipment at locations that protect sensitive locations by shielding or distance.

3.3.11.3 Construction Waste Management

The Proponent will reuse or recycle demolition and construction materials to the greatest extent feasible. Construction procedures will allow for the segregation, reuse, and recycling of materials. Materials that cannot be reused or recycled will be transported in covered trucks by a contract hauler to a licensed facility.

3.3.11.4 Blocks A, H and J

In addition to the above information on construction impacts, below is additional information regarding construction impacts related to the construction of Blocks A, H and J.

Construction Schedule

It is anticipated that construction for Blocks A, H and J will begin in the third quarter of 2009.

Typical construction hours will be from 7:00 a.m. to 6:00 p.m., Monday through Friday, with most shifts ordinarily ending at 3:30 p.m. No sound-generating activity will occur before 7:00 a.m. If longer hours, additional shifts, or Saturday work is required, the Construction Manager will place a work permit request to the Boston Air Pollution Control Commission and Boston Transportation Department in advance. Notification should occur during normal business hours, Monday through Friday. It is noted that some activities such as finishing activities could run beyond 6:00 p.m. to ensure the structural integrity of the finished product; certain components must be completed in a single pour, and placement of concrete cannot be interrupted.

Construction Staging/Public Safety/Access

Access to the site will be from the Seaport Boulevard. To mitigate impacts on adjacent roadways, primary staging will be done on site, or on adjacent property owned by the Proponent.

It may be necessary to occasionally occupy pedestrian walkways and parking lanes on Seaport Boulevard and Sleeper Street. Secure fencing, signage, and covered walkways may be employed to ensure the safety and efficiency of all pedestrian and vehicular traffic flows.

Although specific construction and staging details have not been finalized, the Proponent and its construction management consultants will work to ensure that staging areas will be located to minimize impacts to pedestrian and vehicular flow. Secure fencing and barricades will be used to isolate construction areas from pedestrian traffic adjacent to the site. In addition, sidewalk areas and walkways near construction activities will be well marked and lighted to protect pedestrians and ensure their safety. Public safety for pedestrians on abutting sidewalks will also include covered pedestrian walkways when appropriate and, if required, the suspension of the use of certain sidewalks during the most hazardous periods of overhead work activity during the construction of the superstructure. If required by BTM and the Boston Police Department, police details will be provided to facilitate traffic flow. All construction procedures will be designed to meet all Occupational Safety and Health Administration (OSHA) safety standards for specific site construction activities.

Construction Employment and Worker Transportation

The number of workers required during the construction period will vary, with an estimated average daily work force ranging from approximately 300 to 500 workers during typical periods. In addition, the Proponent will enter into a jobs agreement with the City of Boston which requires it to make best efforts to have at least 50% of the total employee work hours performed by Boston residents, at least 25% of total employee work hours performed by minorities and at least 10% of the total employee work hours performed by women.

To reduce vehicle trips to and from the construction site, minimal construction worker parking will be available at the site and all workers will be strongly encouraged to use public transportation and ridesharing options. The Proponent and contractor will work aggressively to ensure that construction workers are well informed of the public transportation options serving the area, as required by the BTB. Space on-site will be made available for workers' supplies and tools so they do not have to be brought to the site each day.

Construction Truck Routes and Deliveries

The construction team will manage deliveries to the site during morning and afternoon peak hours in a manner that minimizes disruption to traffic flow on adjacent streets. The construction team will provide subcontractors and vendors with Construction Vehicle & Delivery Truck Route Brochures in advance of construction activity. "No Idling" signs will be included at the loading, delivery, pick-up and drop-off areas.

The Proponent will coordinate with BTB to designate access routes for truck deliveries and truck routes which will be established in the CMP.

Truck traffic will vary throughout the construction period, depending on the activity. Construction truck routes to and from the Project site for contractor personnel, supplies, materials, and removal of excavations required for the Project will be coordinated with BTB. Truck access during construction will be determined by the BTB as part of the Construction Management Plan. These routes will be mandated as a part of all subcontractors' contracts for the Project. Traffic logistics and routing are planned to minimize community impacts.

Construction Vibration

All means and methods for performing work at the Project site will be evaluated for potential vibration impacts on adjoining property, utilities, and adjacent existing structures. Acceptable vibration criteria will be established prior to construction, and vibration will be monitored, if required, during construction to ensure compliance with the agreed-upon standard.

Protection of Utilities

Existing public and private infrastructure located within the public right-of-way will be protected during construction. The installation of proposed utilities within the public way will be in accordance with the MWRA, BWSC, Boston Public Works, Dig Safe, and the governing utility company requirements. All necessary permits will be obtained before the commencement of the specific utility installation. Specific methods for constructing proposed utilities where they are near to, or connect with, existing water, sewer and drain facilities will be reviewed by BWSC as part of its plan review process.

3.3.12 Rodent Control

A rodent extermination certificate will be filed with the building permit application to the City. Rodent inspection monitoring and treatment will be carried out before, during, and at the completion of all construction work for the proposed Project, in compliance with the City's requirements. Rodent extermination prior to work start-up will consist of treatment of areas throughout the site. During the construction process, regular service visits will be made.

Blocks A, H and J

Rodent control for Blocks A, H and J will be similar to the rodent control measures described previously for the entire Project.

3.3.13 Wildlife Habitat

The site is within a fully developed urban area and, as such, the Project is not expected to impact wildlife habitats.

Blocks A, H and J

Blocks A, H and J are within a fully developed urban area and are not expected to impact wildlife habitats.

3.3.14 Sustainable Design/Reduction in Greenhouse Gases

Seaport Square is being constructed on approximately 23 acres of land located on the South Boston waterfront. These parcels are being developed by Gale International and Morgan Stanley who see both strategic economic value and social benefit in incorporating a wide range of sustainable measures into Seaport Square's distinctiveness. Environmental sensitivity and long-term sustainability will shape everything about Seaport Square – from the methods and materials used in its construction, to the efficiencies built into the delivery of energy and water to its homes and businesses, to the thoughtful design of the city's streets, pedestrian walkways, open space, and its buildings, to the mandate for devoting over one third of its land to the public realm.

The proponent will employ energy-efficient technologies; for example, green vegetated roofs will be planted on many buildings, whereas others will have reflective white roofs, leading to a reduction in the "heat island effect" commonly found in large urban areas. In addition, buildings will utilize high-performance glazing systems and possibly strategic shading, in an effort to reduce heat loss in winter, and solar heat gain in summer.

These strategies are among many that will be employed in order to fulfill the high standards of the U.S. Green Building Council's (USGBC) Leadership in Energy and Environmental Design Rating System (LEED). The materials used in construction and interiors will include local and recycled content, and construction waste will be recycled to the greatest possible extent. Low-VOC paints, finishes, and carpeting will be chosen for these buildings, and the refrigerant systems in many buildings will minimize detrimental impact to the ozone layer while minimizing contributions to greenhouse gas emissions. Buildings will be designed to take advantage of natural light, maximize open space, and minimize light pollution. Through efficient irrigation and plumbing fixtures, they will place a premium on water conservation. To improve overall efficiencies of delivered energy to discrete blocks, the feasibility of siting and sizing a central energy plant with cogeneration capabilities is being investigated. The Proponent will provide additional details within the Draft PIR/EIR as the feasibility study progresses.

The most livable cities combine concentrated commercial, cultural, and residential space with attractive and accessible open space. One of the most distinguishing aspects of Seaport Square's high quality environment will be the large percentage of land devoted to open space.

To achieve this commitment to open space, Seaport will combine some of the best features of other leading cities. The dramatic centerpiece of Seaport Square is its creation of over six acres of public space which will provide venues for sports, exhibitions, recreation, and concerts.

An environmental city relies on a first-rate system of transportation with reliable high-frequency transit near where people live and work. Seaport Square already has its outstanding public transportation including Silver Line bus rapid transit stations (with connections to Logan International Airport and South Station), water taxi, and bus, but will also cater to pedestrians and bicycles with continuous, tree-lined sidewalks and well-marked bike lanes. People will be able to work and send their children to schools nearby. A car-sharing hub will be located on the Project site to reduce car trips to the site, and provide those working, living or visiting Seaport Square with an alternative to having a car on site.

Water efficiency will be a goal of Seaport Square's development. The Project will explore using grey water from larger buildings to be collected, treated, and reused for non-potable uses such as flushing, cleaning, and irrigation, wherever feasible.

Seaport Square is planned to be tracked and submitted as a LEED Neighborhood Development program (LEED-ND), a new venture by the USGBC and the Congress for a New Urbanism, which recognizes projects that strive to protect and enhance the overall health, natural environment, and quality of life of communities. (Applications in the full program will be accepted by USGBC in 2010.) The Project will target meeting LEED-ND standards at the Silver Level. In addition, the LEED-NC or LEED-CS rating system will be pursued as applicable for the different use types at Seaport Square. Finally, Seaport Square will be in compliance with Article 37 of the Boston Zoning Code, which ensures that major building projects are planned, designed, constructed, and managed to minimize adverse environmental impacts; to conserve natural resources; to promote sustainable development; and to enhance the quality of life in Boston.

Appendix D includes the LEED ND checklist for the entire Project.

Blocks A, H and J

The Blocks within the Project will meet the requirements of Article 37 of the Code; the Blocks will be certifiable under the U.S. Green Council's Leadership in Energy and Environmental Design (LEED) system. LEED checklists for the three waiver Blocks are included in Appendix D of this PNF/ENF and indicate measures under consideration. While early scorecards as found in Appendix D will show compliance with the "LEED Certifiable" mandate of Article 37, the Proponent is targeting the more rigorous LEED-NC Silver standard on Blocks A and H. As construction on Block J is to be directed by the Archdiocese, the final design parameters of the building will continue to be developed. As the design of individual buildings is still in early stages, a fully developed LEED-NC scorecard is not available at this time. As design progresses and specific building systems are decided upon, the final LEED-NC scorecards will become more formally developed.

The proposed Blocks, A, H, and J, consist of entirely new construction and will employ LEED NC 2.2 (LEED for New Construction) as the basis for Article 37 compliance. The Project team has identified key opportunities for sustainable strategies in both the design and construction of the Blocks at this early stage of the overall Project and will continually evaluate and update these strategies using the LEED checklist and integrated design methodologies. The Phase 1 Blocks, located in an urban infill site well served by public transportation and with appropriate densities of mixed uses proposed, meet the spirit and many of the specific objectives for sustainable site development. Additionally, site design studies will investigate the potential for storm water management and reuse, mitigation of the heat island effect, and will minimize parking impacts by limiting parking to only what is required by code and by placing all parking underground. The Project team will consider water efficient landscaping and low flow plumbing fixtures in order to achieve overall water use reduction.

All Blocks will meet the Massachusetts Energy Code requirements and will seek energy performance optimization strategies to reduce energy dependence, while at a minimum

meeting the 14% criteria for performance above ASHRAE 90.1-2004 standards. A construction waste management program will be in place on each respective site during the construction phase, and the design team will investigate the incorporation of materials with recycled content and will attempt to incorporate materials regionally extracted/harvested and manufactured/produced in New England, the mid-Atlantic, and Southern Canada. Indoor environmental quality will be improved through the use of low-VOC materials as well as appropriate ventilation strategies. Daylight and views for building occupants are important aspects of the buildings' design and will be incorporated as the floor plates allow. The Project team includes LEED Accredited Professionals and will access specialized, expert advice in sustainability and green building as needed to supplement the core Project team.

3.3.14.1 Preliminary Green Building Information

The Project team will prioritize the following credits from the LEED-NC building rating system in order to achieve a "Certifiable" level for the Project. Each credit will be evaluated by the Project team on a block-by-block basis through all of the design and construction phases of the Project. While early scorecards as found in Appendix D will show compliance with the "LEED Certifiable" mandate of Article 37, the Proponent is targeting the more rigorous LEED-NC Silver standard on Blocks A and H. As construction on Block J is to be directed by the Archdiocese, the final design parameters of the building will continue to be developed. As the design of individual buildings is still in early stages, a fully developed LEED-NC scorecard is not available at this time. As design progresses and specific building systems are decided upon, the final LEED-NC scorecards will become more formally developed. The credits represented in the Tier 1 "Strongly Pursuing" category represent those credits that the developer wishes to focus on as a baseline for meeting internal and external sustainability mandates and goals. The Tier 2 "Recommended for Further Investigation" credits will be investigated and selected as design progresses in order to move the respective Blocks closer to the LEED-NC Silver target.

SUSTAINABLE SITES (SS)

Prerequisite: 10 Construction Activity Pollution Prevention (erosion & sedimentation control plan):

An Erosion and Sedimentation Control Plan will be implemented to prevent storm sewer sedimentation, airborne dust, and particulate matter pollution. To ensure consistency of approach across Blocks within the Project, a standardized set of guidelines for producing and adhering to an ESC Plan is being investigated for potential application across all Blocks within the Project.

SS Credit 1: Site Selection

The Project site is a previously developed location suitable for redevelopment. The site does not include sensitive elements that would make it inappropriate for development, and the Project thereby qualifies for this credit.

SS Credit 2: Development Density & Community Connectivity

The Project will focus development to an existing urban infill area with existing infrastructure and will therefore qualify for this credit. Existing densities and available basic services within a ½ mile radius of the Project will be analyzed for conformance with this credit. It is anticipated that all Blocks will meet the requirements of this credit.

SS Credit 4.1: Alternative Transportation: Public Transportation Access

The Project site includes within it the Courthouse Station on the MBTA's newest and 5th rapid transit line; the Silver Line BRT (Bus Rapid Transit in a tunnel) The World Trade Center Station on the Silver Line is within a ½ mile walk of several parcels within the Project, as is South Station (serviced by the commuter rail, high speed intercity Amtrak, and rapid rail Red and Silver Lines). From Silver Line there is direct links and access to the Logan International Airport. Additionally, there is local service bus service which runs through the Project. Several other local bus lines run on streets nearby several parcels. As such, each individual parcel within the Project is anticipated to qualify for this credit.

SS Credit 4.2: Alternative Transportation: Bicycle Storage & Changing Rooms

Blocks A and H will provide adequate room and access for on-site bicycle storage, as well as access to shower facilities for non-residential applications. Allocations will be confirmed as the Project program is finalized.

SS Credit 4.4 Alternative Transportation: Parking Capacity

It is anticipated that Blocks A and H will not provide any additional parking beyond code requirements, and the requirements of the South Boston Parking Freeze.

SS Credit 7.1: Heat Island Effect: Non-Roof

It is anticipated that all vehicular parking for Blocks A and H will be located below grade. More than 50% of the parking spaces provided will be located below ground. The Blocks are anticipated to comply with the requirements of this credit.

WATER EFFICIENCY (WE)

WE Credit 1.1: Water Efficient Landscaping: Reduce by 50%

Blocks are investigating the reduction of irrigation demand through the use of native or drought-tolerant species as well as the elimination of permanent irrigation systems altogether. As landscaping design decisions are further developed, the Project team hopes to achieve at least one of the WEc1 credits on each of the Blocks A and H.

WE Credit 3: Water Use Reduction: 20% + 30% Reduction

The use of low flow devices will be evaluated and compared aggressively against residential and commercial marketing plans. Of particular interest are low flow aerators on office and residential lavatories, dual flush water closets in both residential and retail areas, waterless or ultra-low flow urinals in the retail areas, and water-efficient showerheads in residential units.

ENERGY AND ATMOSPHERE (EA)

Prerequisite 1: Fundamental Commissioning of the Building Energy Systems

The Project will designate an independent and qualified commissioning agent who will be responsible for establishing commissioning requirements to be incorporated into construction documents by the design team, developing and implementing a commissioning plan, verifying installation and performance of commissioned systems, and completing a summary report. The scope of commissioning will involve energy-related systems, including HVAC, lighting controls and hot water systems. Commissioning of building systems will proceed on a block by block basis, and a separate commissioning plan will be implemented for each Block.

Prerequisite 2: Minimum Energy Performance (ASHRAE 90.1-2004)

The building envelope and the energy related building systems will be designed to comply with the minimum standards referenced in this prerequisite, including the mandatory and prescriptive provisions of ASHRAE 90.1-2004.

Prerequisite 3: Fundamental Refrigerant Management (no CFC-based refrigerants)

All Project mechanical and refrigeration systems will commit to the elimination of all CFC based refrigerants in HVAC + R systems.

Credit 1: Optimize Energy Performance

These credits would be pursued through the whole building energy modeling process. The appropriate balance for building envelope and building systems design will be evaluated for

optimal building performance and cost effectiveness, while still meeting the recent USGBC mandate for achieving a minimum 14% energy performance beyond ASHRAE 90.1-2004 standards.

Credit 3: Enhanced Commissioning:

This credit will be evaluated during the commissioning agent selection process and enhanced commissioning activities will be prioritized to the maximum extent viable for the individual block schedules.

Credit 4: Enhanced Refrigerant Management

Individual blocks will be evaluated regarding which refrigerants are designed into each blocks HVAC+R components, as well as fire suppression systems. Inclusion of the most appropriate refrigerants with a reduced contribution to ozone depletion and reduced greenhouse gas equivalent concentrations will be evaluated based on the specific mechanical systems selected for inclusion in the individual parcels.

MATERIALS & RESOURCES (MR)

Prerequisite 1: Storage and Collection of Recyclables

Recycling areas will be implemented within each individual block, and will be sized appropriate to building use type and anticipated waste streams. Credit 2.1 & 2.2: Construction Waste Management

The construction management plan will include requirements for diversion and recycling of recoverable construction wastes. This plan will target a minimum 75% diversion rate for all blocks Project-wide.

Credit 3.1: Recycled Content: 10% by Cost (post consumer + ½ pre consumer)

The Project team will evaluate specifications and prioritize selection and use of materials with high recycled content, including concrete, steel, metals, drywall and carpets.

INDOOR ENVIRONMENTAL QUALITY (EQ)

Prerequisite 1: Minimum IAQ Performance (ASHRAE 62.1-2004)

All blocks will be designed to meet the ventilation standards referenced for this prerequisite, ASHRAE 62.1-2004.

Prerequisite: 2.0 Environmental Tobacco Smoke (ETS) Control

Within Blocks A and H, the Proponent will designate residential common areas and corridors as non smoking and will designate retail areas as non-smoking. Pathways for ETS will be controlled and minimized throughout, including at unit entry doors from residential common hallways.

Credit 3.1: Construction IAQ Management Plan: During Construction

The intent is to reduce indoor air quality problems resulting from the construction/ renovation process in order to help sustain the comfort and well-being of construction workers and building occupants.

The Project team will develop and implement an Indoor Air Quality (IAQ) Management Plan for the construction and pre-occupancy phases of the various blocks on an individual basis. The Project team will investigate the creation of a standardized construction IAQ plan for potential implementation across all Project blocks.

The Project team will adopt an IAQ management plan to protect the HVAC system during construction, control pollutant sources, protect stored-on-site absorptive construction materials, and interrupt contamination pathways.

Credit 4.1: Low-Emitting Materials: Adhesives and Sealants

The use of low VOC products will be tracked by the Project team from specifications to installation. These products are readily available for most applications.

Credit 4.2: Low-Emitting Materials: Paints & Coatings

The use of low VOC products will be tracked by the Project team from specifications to installation. Low VOC paint products are readily available for most application conditions.

Credit 4.3: Low-Emitting Materials: Carpet Systems

The use of “green” carpets will be tracked by the Project team from specification to installation. “Green” Carpet products are readily available for both commercial and residential applications.

Credit 5: Indoor Chemical & Pollutant Source Control

As applicable on Blocks A and H, the building entryways will be designed, to the greatest extent allowable, with cleanable grates and/or grilles, while appropriate filtration media will be provided in HVAC systems. Any chemical storage areas will be separately exhausted to eliminate toxic fume buildup within the building envelope.

Credit 6.1: Controllability of Systems: Lighting

The Project team will prioritize occupant controls for lighting within Blocks A and H. Lighting systems controls will integrate with overall lighting design wherever possible for the anticipated use types.

Credit 7.1: Thermal Comfort: Design

The Thermal Comfort criteria as outlined in the LEED Reference Guide will be consulted as a baseline for all piping and ductwork sizing and all equipment selections/performance on each Block.

Credit 8.2: Views for 90% of Regularly Occupied Areas

The Project team will attempt to design floor plates on individual blocks to maximize the availability of a direct line of sight to the exterior from occupied spaces. The criteria for this credit will be analyzed for the various use types within a Block, including its applications within spaces to be fit out and occupied in the future by building tenants.

INNOVATION & DESIGN PROCESS (ID)

Credit 1.1: Innovation in Design

The Project will attempt to incorporate elements of a Green Housekeeping program into the final facilities and operations contracts of various Blocks. Credit 1.2: Innovation in Design

On relevant Blocks, the Project team will pursue the Exemplary performance credit within SSc7.2 for placing 100% of all Project parking underground. Credit 2: LEED Accredited Professional

The Project team will include a LEED accredited professional.

3.3.14.9 Compliance with Greenhouse Gas Policy

The proposed Project will comply with the MEPA Greenhouse Gas Emissions Policy and Protocol. A complete Greenhouse Gas analysis will be prepared for the Draft EIR/PIR. As described above, numerous measures are being considered to limit indirect and direct greenhouse gas emissions.

3.4 Historic and Archaeological Resources

This section describes the historic and archaeological resources within and adjacent to the Project site.

3.4.1 *Historic Resources on the Project Site*

The Project site generally consists of large surface parking. Block D contains the Our Lady of Good Voyage Chapel at 65 Northern Avenue. Designed by Boston architect John A. McPherson, the Chapel of Our Lady of Good Voyage was constructed in 1952 on land donated by Frederick G. Dumaine, Jr., President of the New Haven Railroad. The one-story, flat roofed, brick building has little ornamentation. What ornamentation exists is largely limited to the façade and includes three wood entry doors set within a cast stone entablature surround with Modern-style pilasters between the doors. Centered above the three entrance doors is an eight-pointed star stained glass windows set within a cast stone surround. Flanking the star window are two square cast stone decorative panels. Window openings consist of brick lintels and cast stone sills. The existing wood frame stained glass windows depicting spiritual symbols connected to the sea were added sometime after the construction of the building; originally the building featured clear glass windows. The two narrow windows flanking the front entrance doors retain their original clear glass.

The Chapel of Our Lady of Good Voyage was established by the Boston Archdiocese for use of seamen and waterfront workers, including workers at the Commonwealth Pier and area warehouses. Also known as the “Fish Pier Chapel” or the “Waterfront Chapel,” the Chapel of Our Lady of Good Voyage was one of several “workers’ chapels” established by Cardinal Cushing during his tenure as Archbishop. As a mission Chapel of Saint Vincent de Paul in South Boston, the seaport ministry serves the crews of the approximately 1,000 merchant ships that dock each year in Boston. A large number of the crew members from the visiting ships are from developing countries, many of whom are Catholic.

The Chapel of Our Lady of Good Voyage is included in the Massachusetts Historical Commission’s (MHC) Inventory of Historic and Archaeological Assets of the Commonwealth (the Inventory). The Chapel was included in a 2003 effort to survey properties owned by the Boston Archdiocese. The building is not listed on the State or National Registers of Historic Places and is not within the boundaries of the proposed Fort Point Channel Landmark District.

3.4.2 *Historic Resources in the Vicinity of the Project*

There are several properties listed on the State and National Registers of Historic Places located within the Project vicinity. Most notable is the Fort Point Channel Historic District, listed on the State and National Registers of Historic Places. With slightly different boundaries, this is a proposed Landmark District currently under study by a committee of the Boston Landmarks Commission. Listed on the National Register in 2004, the Fort Point Channel Historic District is located south of the Project site, on the east side of the Fort Point Channel. The Boston Wharf Company, through an ongoing campaign of land filling which began in 1836 and continued until 1882, created the land on which the District is located. The Boston Wharf Company was also responsible for erecting nearly all the

buildings within the District. These buildings, of which there are approximately 108, were constructed for use as general manufacturing, warehouse, and commercial space, and as shipping and receiving uses for Boston's wool trade.

The District is characterized by well-preserved late nineteenth and early twentieth century masonry buildings which average in height from five to six stories, some taller, and represent a variety of architectural styles including Romanesque Revival, Renaissance Revival, Classical Revival, Queen Anne, Italianate, and Industrial styles. During the period of 1893 to 1917, the Boston Wharf Company employed Morton D. Stafford as staff architect responsible for the designs of the majority of the Boston Wharf Company buildings. Howard Prescott succeeded Stafford as staff architect for the Boston Wharf Company from 1917 to 1939.

One of two proposed "Protection Areas" associated with the proposed Fort Point Channel Landmark District, the Seaport Boulevard/Boston Wharf Road Protection Area, would encompass Blocks H, J, K and Q of Seaport Square. The goals of the Protection Areas are to protect view corridors into and out of the adjacent proposed landmark district and to ensure that the massing, land coverage, and height of new construction on adjacent lots is compatible with that of the proposed landmark district.

One of the more notable historic resources within the Project's vicinity is the Northern Avenue Bridge. Spanning the Fort Point Channel, the Northern Avenue Bridge was constructed in 1908 and is one of only three surviving swing bridges built by the City of Boston in the late 19th and early 20th century. The bridge is 80 feet in width, encompassing between four sets of pin connected trusses, two sidewalks, two roadways and a center lane reserved for a double-track freight railroad. The bridge's swing span is 283 feet in length. The rim bearing swing span is carried by a 40 foot diameter drum, in turn supported by 56 steel wheels running on a track along the rim of the granite island pier. In 1976, the National Park Service determined the Northern Avenue Bridge eligible for the National Register of Historic Places. In 2004, the bridge was listed on the National Register as a contributing resource within the Fort Point Channel Historic District.

State and National Register-listed properties, and properties included in the Inventory, within a quarter-mile radius of the Project site, are listed in Table 3.4-1 and their locations depicted on Figure 3.4-1.

Table 3.4-1 Historic Resources

| Map No. | Name | Address | Designation |
|---------|--|--|------------------------------------|
| 1 | Fort Point Channel Historic District | Bounded by Fort Point channel seawalls, Northern Ave. bridge, Seaport Blvd, Stillings, Midway and A Sts and Necco Ct | State and National Register-listed |
| 2 | Northern Avenue Bridge | Northern Avenue over the Fort point Channel | State and National Register-listed |
| 3 | Congress Street Fire Station | 344 Congress Street | State and National Register-listed |
| 4 | Russia Wharf | Russia Wharf, Atlantic Avenue | State and National Register-listed |
| 5 | Commonwealth Pier Five | 165 Northern Avenue | State and National Register-listed |
| 6 | South Boston Fish Pier | Northern Avenue | Inventory |
| 7 | Chapel of Our Lady of Good Voyage | 65 Northern Avenue | Inventory |
| 8 | Stone and Webster Building | 245 Summer Street | Inventory |
| 9 | C Street Area | - | Inventory |
| 10 | Federal Reserve Bank of Boston | 556-624 Atlantic Avenue | Inventory |
| P1 | Proposed Fort Point Channel Landmark District | Bounded by Fort Point Channel seawalls, Seaport Blvd, Stillings, Midway and A Sts and Necco Ct | Proposed |
| P2 | Proposed Seaport Boulevard/Boston Wharf Road Protection Area | Seaport Boulevard/Boston Wharf Road | Proposed |
| P3 | Proposed A Street Protection Area | A Street, Wormwood, Melcher Street and West Service Road | Proposed |

3.4.3 Archaeological Resources

The proposed Project is located on filled land which has been previously disturbed by the construction of warehouses and parking lots. No previously identified archaeological resources are located within the Project site or immediate vicinity. No impacts to archaeological resources are anticipated.

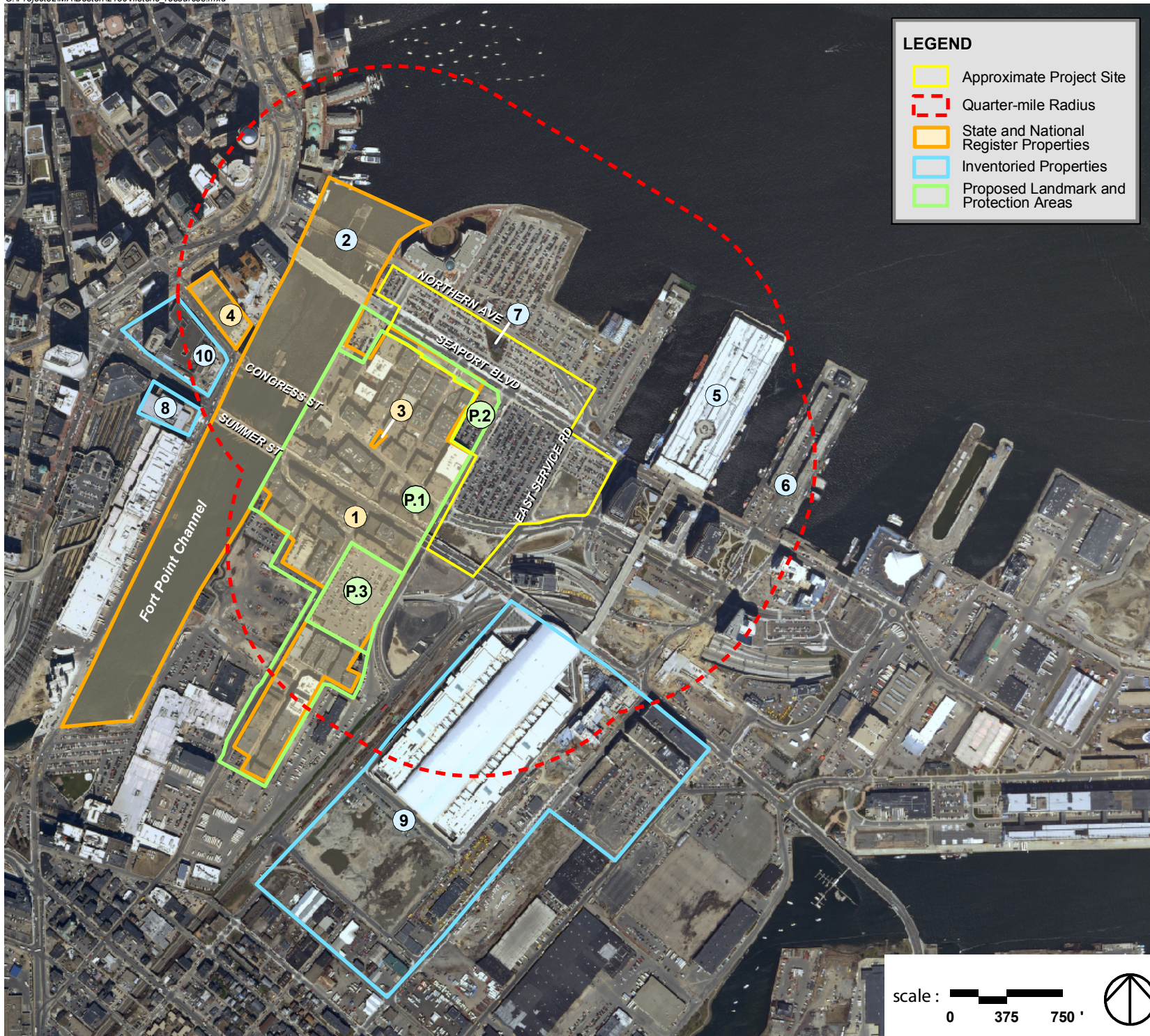


Figure 3.4-1

Historic Resources



Morgan Stanley



prepared by:
Epsilon Associates, Inc.

3.4.4 *Impacts to Historic Resources*

The vast majority of the Project site consists of surface parking lots with no buildings on them. Similar to the variety of buildings found in the nearby Fort Point Channel Historic District, the Project's proposed new construction will vary in scale, materials, use, and character across the Project site. In addition to modern building materials such as aluminum curtainwalls and insulated glass which will take advantage of the views of downtown Boston and the harbor, the Project will also utilize a wide range of traditional masonry building materials consistent with those found throughout the Fort Point Channel Historic District, including stone, brick, precast concrete, and terra cotta.

The Project will include the removal of the Chapel of Our Lady of Good Voyage, a property included in the MHC Inventory. Constructed in 1952, the Chapel was part of an effort by the Boston Archdiocese to establish chapels to serve the working population throughout the city. Today, the Chapel is surrounded by surface parking lots. According to the MHC Inventory form, a considerably larger example of a church with similar cast stone detailing from the same period is the 1956 Saint Christopher's Church, 255 Mount Vernon Street in Dorchester. Other churches constructed by the Boston Archdiocese in the years following World War II include the 1951 Saint John Chrysostom Church in West Roxbury, the 1955 Saint Joseph's Church in Hyde Park and the 1955 Saint Monica's Church in South Boston. Unlike the Chapel of Our Lady of Good Voyage which is isolated in an area surrounded by acres of surface parking lots, these other churches are located in urban neighborhoods and play a stronger role in their historic urban context. The removal of the nondescript Chapel is not anticipated to have a negative impact on the integrity or the historic character of the nearby Fort Point Channel Historic District or the City of Boston.

Because the development blocks are generally north of the Fort Point Channel Historic District, shadow impacts to the district are anticipated to be minimal. The Draft PIR/EIR will include a shadow study that will detail any impacts to historic resources in the Project's vicinity.

One of the Project's significant public benefits will be a \$5 million contribution toward the rehabilitation of the Northern Avenue Bridge. The bridge, which has been closed to vehicular traffic since the mid 1990s, is owned by the City of Boston. In recent years, the BRA has solicited proposals for the redevelopment of the historic bridge. The proposed \$5 million contribution will be a significant advancement in the City's efforts to preserve this valuable historic resource.

Blocks A, H and J

The proposed Project consists of constructing new retail and residential buildings on Blocks A and H, and a new Chapel on Block J. Currently, Blocks A, H and J are surface parking lots with no buildings on them. The sensitive design of the new construction will complement the adjacent historic district. The scale of the new construction will further

assist in providing a transition between the historic district, which predominately consists of five and six story buildings as well as some immediately adjacent taller buildings, and the larger new construction proposed for the blocks on the north side of Seaport Boulevard.

Shadow impacts on historic resources resulting from new construction on Blocks A, H and J will be limited due to the height of existing buildings, the density of the neighborhood and the location of the development parcels north of the adjacent Fort Point Channel Historic District. Because the development parcels are north of the historic district, shadows are anticipated to be cast on areas outside of the proposed landmark district, and therefore, will have no adverse impacts on the Fort Point Channel Historic District. As stated above, the Draft PIR/EIR will include a shadow study that will detail any impacts to historic resources in the Project's vicinity.

Blocks H and J are located within the proposed Seaport Boulevard/Boston Wharf Road Protection Area. The goals of the Protection Area are to protect view corridors into and out of the proposed Fort Point Channel Landmark District and through a design review process with the Boston Landmarks Commission, ensure that the massing, land coverage, and height of new construction on adjacent lots is compatible with that of the proposed landmark district. Proposed new construction on Blocks H and J will be subject to review by Boston Landmarks Commission staff under review procedures applicable in the pending Seaport Boulevard/Boston Wharf Road Protection Area.

3.5 Infrastructure Systems

3.5.1 Wastewater Generation

The local wastewater collection system is owned and operated by the Boston Water and Sewer Commission (BWSC). The system conveys wastewater to the Massachusetts Water Resources Authority (MWRA) system which flows to the MWRA Deer Island Wastewater Treatment Plant.

Several existing gravity sewers serve the Project area. A 15-inch sewer in Northern Avenue runs in an easterly direction and connects to a gravity collection system in Seaport Boulevard. The system flows past the World Trade Center area and eventually to the BWSC Trilling Way pump station where wastewater flows are pumped in a southerly direction to a gravity sewer in E Street just south of Summer Street. The E Street sewer flows southerly to a connection with the North Branch of the South Boston Interceptor at West First Street.

An 8-inch sewer in Seaport Boulevard flows in a westerly direction in Seaport Boulevard to a gravity sewer in Sleeper Street. An additional 12-inch sewer was installed in Seaport Boulevard as part of the Tunnel construction to allow a gravity connection from the Project area across the Tunnel to a sewer in Farnsworth Street. Both sewers will flow by gravity to

a 24-inch sewer in A Street and eventually connect to the North Branch of the South Boston Interceptor (NBSBI) at West First Street. Figure 3.5-1 is a plan showing the existing wastewater collection system.

Using wastewater generation rates from Title V of the Massachusetts State Environmental Code (Title V), the Project is estimated to generate approximately 988,000 gallons per day (gpd) of wastewater. The proposed Phase I would generate 3% of this total or approximately 27,000 gpd. Title V generation rates typically provide for conservative estimates and can be as much as twice actual rates.

The Proponent has corresponded with representatives from BWSC to discuss existing wastewater infrastructure. Based on these conversations it appears that the gravity sewer in A Street is the preferred routing and the existing 15" and 18" sewer in Northern Avenue may not have adequate capacity to accommodate the proposed Seaport Square Project and adjacent ongoing and planned development. Because of the minimal operation and maintenance involved, BWSC prefers gravity sewers to pumped systems. As such, they have asked that all efforts be made to utilize the A Street gravity sewer to handle wastewater flows from the Project area rather than using the Trilling Way pump station and the E Street sewer.

The Proponent anticipates being able to accomplish this goal for the majority of Project flow, with approximately 136,000 gpd (14%) of total flow being sent to the Trilling Way pump station from the easternmost parcel of the site. All of the flow generated from Phase I will be directed to the A Street gravity system through existing infrastructure which appears to have adequate capacity for the flows calculated above. The Proponent will continue to work with BWSC, to determine and implement appropriate design solutions.

The Commission has also indicated that previous capacity analyses and studies have been performed by other project proponents to evaluate the capacity of the A Street sewer however these studies were based on plans for projects in the Seaport area that are now outdated and significantly different from what is being planned in the area today. Due to topography and locations of the relevant sewer lines, it will be unlikely that all flows will be discharged to A Street, and further discussion with BWSC is warranted on this topic.

Local extensions to the sewer lines will be required in order to provide sewer service to Parcels L, N, and P. Other parcels should have access to sewer lines in immediately adjacent streets.

The realignment of Northern Avenue will require relocating a 15" gravity sewer main and three or more manholes located in the current street alignment. Moving these structures and line will require coordination with BWSC.

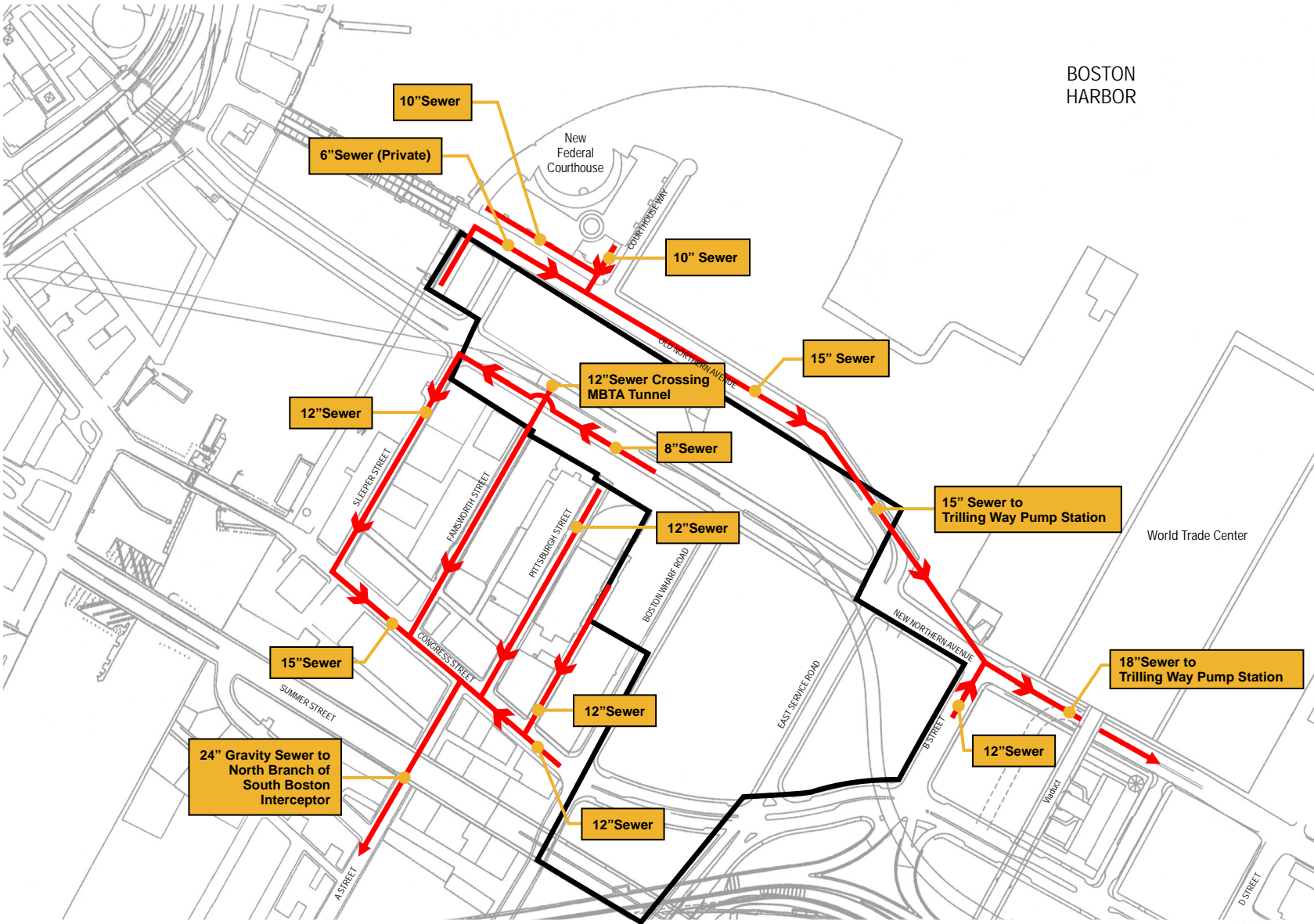


Figure 3.5-1
Existing Wastewater
Collection System

Legend

- Existing Sewer
- Flow Direction
- Project Boundary



Morgan Stanley

WS DEVELOPMENT SR WEINER

prepared by: TETRA TECH

Blocks A, H and J

The proposed buildings on Blocks A, H and J are expected to generate three percent of the total wastewater generation or approximately 27,000 gpd. All of the flow generated from Phase I will be directed to the A Street gravity system through existing infrastructure which appears to have adequate capacity for the flows calculated above

3.5.2 Water Supply System

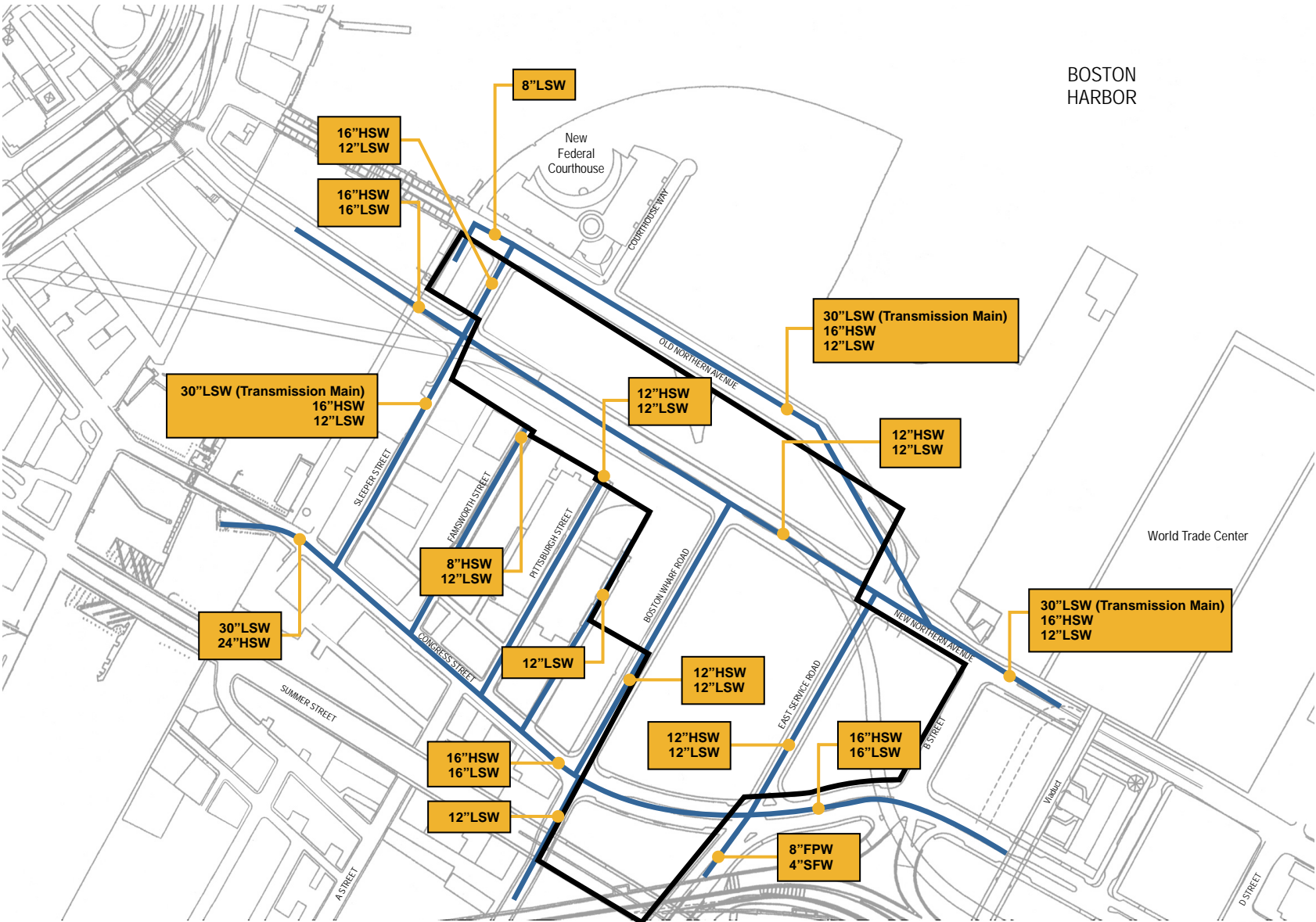
Potable water is supplied to the Project area by a series of low- and high-pressure distribution and transmission mains owned and operated by the BWSC. Water is supplied to the BWSC system by the Massachusetts Water Resources Authority (MWRA).

Water systems are available along all sides of the Project area. Low-pressure service mains, typically used for domestic water supply, and high-pressure distribution mains, typically used for fire protection systems, are available in the roads surrounding the Project including Northern Avenue, Seaport Boulevard, Sleeper Street Extension, East and West Service Roads, Boston Wharf Road, Farnsworth Street, Thomson Place, Congress Street, and Stillings Street. The local distribution mains are fed from a 30-inch cast iron transmission main in Sleeper Street and Northern Avenue. Hydrants for fire fighting are located along the streets throughout the Project. Available fire flow test data indicate that the pressures and flows in the high service system are adequate for fire fighting. Figure 3.5-2 shows the existing water distribution system.

Water consumption can be estimated as a function of the anticipated wastewater generation rates calculated in earlier sections. Typically water consumption can be estimated as wastewater generation plus a factor of 10% to account for non-consumptive use. The Project's water demand is estimated at 1,087,000 gallons per day (gpd). Approximately 30,000 gpd (3%) of this total would be required for Phase I. As with the wastewater generation figures, the water use is based on values established in Title V, which provides a conservative estimate of actual usage.

The Proponent has met with BWSC representatives and found that there are no known capacity issues with either the local water distribution system or the transmission main. As such, the distribution system should have sufficient capacity to supply all phases of the Project. It is envisioned that building fire protection systems for high rise buildings will require internal pump systems to maintain adequate pressure for the building's fire

protection system. The realignment of Northern Avenue will require relocating two water mains: a 16" main and a 30" transmission main. Relocation these water mains will require coordination with BWSC.



BOSTON
HARBOR

Figure 3.5-2
Existing Water
Distribution System

Legend

- Existing Waterline
- Project Boundary



Blocks A, H and J

Approximately 30,000 gpd (3%) of this total water use would be required for the buildings on Blocks A, H and J. As previously described, the Proponent has met with BWSC representatives and found that there are no known capacity issues with either the local system or the transmission main. As such, the distribution system should have sufficient capacity to supply the buildings on Blocks A, H and J.

3.5.3 Stormwater Management

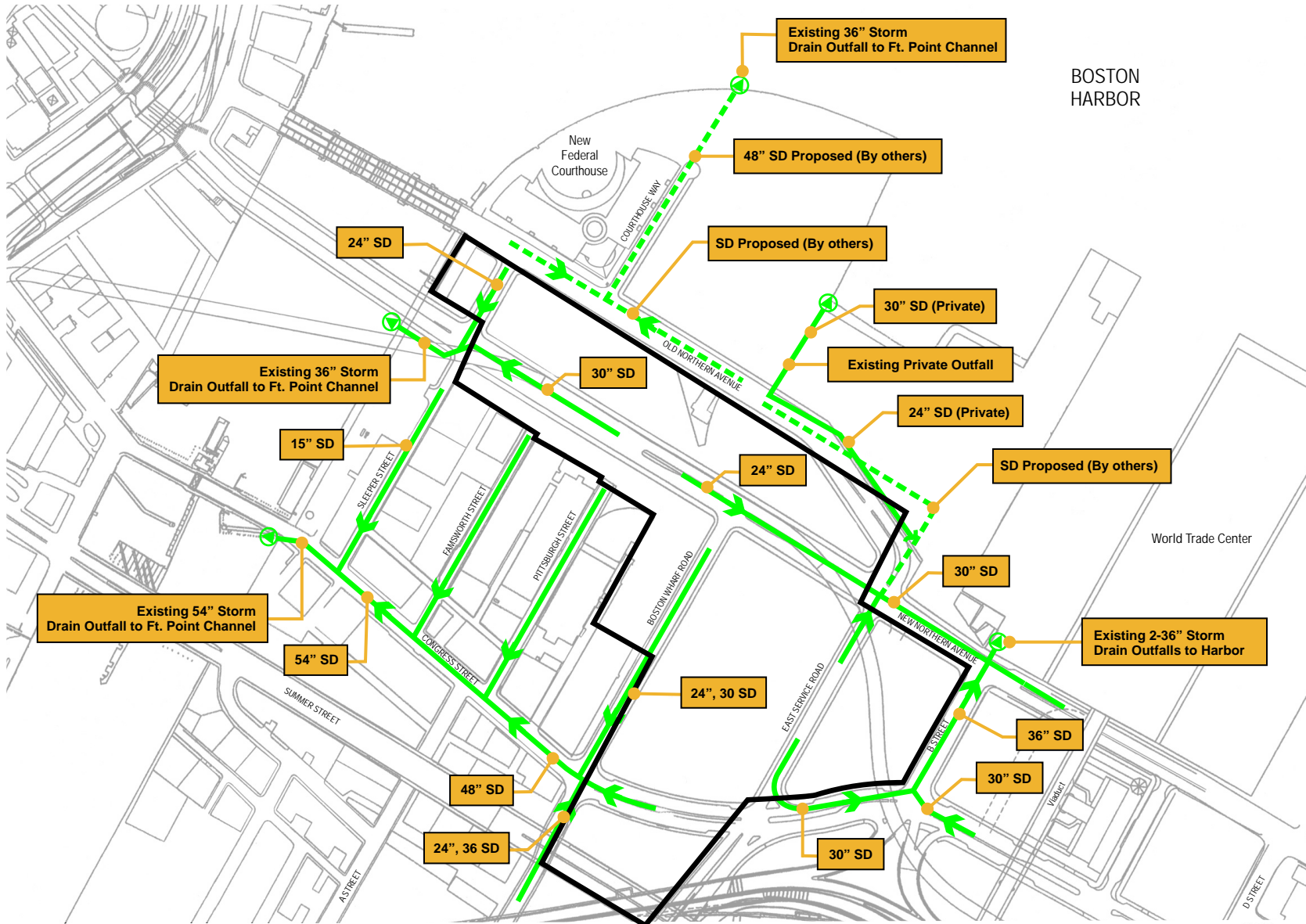
The storm drainage system serving the Project area is also owned and operated by BWSC. The system is comprised of drainage infrastructure constructed by private landowners and several infrastructure improvements that have been made as part of recent projects such as the Federal Courthouse, the construction of Seaport Boulevard, the Central Artery/Tunnel project and the MBTA Transitway Tunnel project. Figure 3.5-3 shows the existing stormwater collection system.

A storm drain outfall exists in Courthouse Road which was installed as part of the construction of the Federal Court House. Further improvements to this part of the system have been designed for the City of Boston as part of the Fort Point Channel Streets- Phase I Roadway Reconstruction Project.

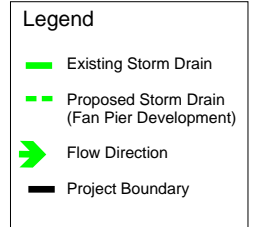
A 42-inch storm drain outfall, located near the east abutment of the Seaport Boulevard Bridge, handles stormwater flows from western portions of Seaport Boulevard and portions of the Project area. Phase I runoff would be collected by this system. A 30-inch storm drain located in Seaport Boulevard carries stormwater from eastern portions of Seaport Boulevard and the Project Area east to an outfall near the World Trade Center.

The southern portion of the Project is served by stormwater collection systems located in Boston Wharf Road, Congress Street, West Service Road, and B Street. A 48-inch storm drain in Congress Street carries stormwater flows from smaller lines located in Boston Wharf Road, West Service Road, and the southwestern Project areas to an outfall located near the abutment of Congress Street bridge. Additionally, a 36" storm drain in B Street carries stormwater from East Service Road, portions of Congress Street, and southeastern Project areas to a second outfall near the World Trade Center.

The existing stormwater infrastructure appears to be adequate for the proposed development. Stormwater flows from the Project area are anticipated to decrease as a result of the proposed development resulting in less impervious surface area and more pervious areas through the open space and green roofs. Existing catch basins and storm drains that collect stormwater during rain events are located within or nearby private property. It is anticipated that much of this infrastructure will be removed as part of the construction process. The storm drain infrastructure within the public right of ways appears to be adequate to accommodate the proposed Project.



**Figure 3.5-3
Existing Stormwater
Collection System**



It should be noted that there is a proposed storm drain, to be installed by others, within Courthouse Way that would convey flows from a proposed storm drain in the northeast section of Northern Avenue to an existing 36" storm drain outfall.

The realignment of Northern Avenue will require the relocation of a (private) 24" storm drain and at least two catchbasins located within the current street alignment. According to the proposed storm drain infrastructure plan for the Fan Pier project the existing private 30 inch outfall on private property and the 24 inch storm drain will be removed and new private storm drain piping and four (private) outfalls will be built to replace the existing system. In addition a proposed public storm drain system within the proposed realigned section of Northern Avenue is to be installed by others.

The Proponent has coordinated with the BWSC regarding the status of the existing stormwater outfalls. Since the Project is reducing runoff generated from the Project, the Proponent does not anticipate stormwater infrastructure capacity issues. Phase I specifically will reduce runoff in the post-development condition, and therefore infrastructure capacity issues in the existing drainage system as described above are not anticipated. Future coordination will determine if improvements are required as part of this Project for the connection to the outfall in Courthouse Road.

Details for the on-site stormwater collection system will be designed in accordance with BWSC and DEP requirements and regulations.

Blocks A, H and J

A 42-inch storm drain outfall, located near the east abutment of the Seaport Boulevard Bridge, handles stormwater flows from western portions of Seaport Boulevard and portions of the Project area. Phase I runoff would be collected by this system. Improvements to storm water quality are expected as part of Phase 1. Phase I specifically will reduce runoff in the post-development condition, and therefore we don't anticipate infrastructure capacity issues in the existing drainage system described above.

3.5.4 Energy Systems

Electrical systems

The electric infrastructure in the Project area is adequate for the proposed development. The parcels in the proposed development should be able to access an existing electrical conduit, although portions of the L parcel may require extended connections to the electric lines because no electrical conduit exists in East Service Road. Recent coordination with NSTAR was undertaken and they are currently evaluating the projected loads for the Project.

As part of the Northern Avenue realignment, it will be necessary to move the 115-kV transmission line located within the right of way. Meetings have been held with NSTAR regarding this work and they have indicated that moving a transmission line requires a minimum of 18-24 months lead-time. Further coordination with NSTAR is ongoing regarding this work.

Natural Gas

The gas infrastructure in the Project area is adequate for the proposed development. It may be necessary to extend existing gas lines further down Boston Wharf Road in order to provide tie-in points for the Q Parcel and portions of the L Parcel. An extension of the distribution system in Congress Street to Boston Wharf Road may also be required in order to supply the N Parcel. Other parcels have gas lines in immediately adjacent streets and will require typical connections from each building and/or parcel. Correspondence with Keyspan Energy Delivery (now National Grid) has yielded that they would need to install connections and loop the existing distribution infrastructure to accommodate the proposed Fan Pier project. The preferred conceptual alignment would be within the realigned section of Northern Avenue. Further coordination with Keyspan (now National Grid) is ongoing.

3.5.4.1 Energy Efficiency

Energy Management and Control System

The buildings will be provided with complete Energy Management and Control Systems (EMCS) that will provide control, alarm, monitoring and utility consumption measurement for the building environmental systems. The EMCS will include energy conservation algorithms that will optimize the operation of the building systems.

Sustainable Design / Energy Conservation

The mechanical and electrical systems will be designed in accordance with the overall master plan sustainability goals, as outlined in Section 3.3.14, that will be applied to capitalize fully on both the development level measures that will benefit the entire development while also considering the unique nature of each individual building and the opportunities presented at the building scale.

An analysis will be conducted to study the viability of including a total energy plant with cogeneration capabilities to serve the Seaport Square Project. This facility may potentially generate hot water and chilled water to serve the heating and cooling needs of the development, and would utilize all electricity generated from the facility. A portion of an initial feasibility study will be to evaluate base loading scenarios based on the current development program, pulling from a number of efficient, modern electricity- and heat-generating technologies. Hot and cold water loops could theoretically serve each building in the development, providing heating or cooling as a building's needs dictated. Taking

into account economies of scale found in larger equipment, as well as increased mechanical efficiencies and more robust pollution control technologies associated with larger-scale equipment, the opportunity for significant greenhouse gas savings exists. The feasibility study will address siting, sizing, permitting, and financing issues relevant to the Project. Any potential facility designs will include redundancy in the equipment to provide a reliable energy source for all users within the Project.

3.5.4.2 Energy Needs

The buildings in the Seaport Square Project will use several types of mechanical systems. These systems will be configured to optimize functionality and energy conservation based on program type, building size, configuration, and flexibility for the future.

Cooling Medium

The cooling medium for each building will be provided based on the use of water cooled central chilled water plants generating chilled water at 43 F – 45 F. During the design of each building, consideration will be given to the use of electric, gas and steam to drive the central refrigeration. Refrigeration machines will be selected with consideration to both the use of environmentally friendly refrigerants as well as compressor efficiency. Pumping systems will be provided with variable frequency controllers to reduce energy consumption at part loads. Cooling towers will be provided at the roof level of the buildings to provide heat rejection from the refrigeration plant. For parcels which have predominantly residential use, the use of highly efficient water source heat pump units using Ultra High Efficiency Water Source Heat Pump Units will be considered as an alternative.

Heating Medium

The heating medium for each building will be based on the use of natural gas fired hot water or steam boilers. In applications where the building system will allow for the use of water at a lower temperature distribution (130 F or lower), the use of highly efficient condensing type boilers will be considered on a case by case basis. Pumping systems will be provided with variable frequency controllers to reduce energy consumption at part loads. For applications where water source heat pump systems are considered the base, configuration will include condensing boilers. For blocks which include residential programs, consideration will be given to offsetting building heating and/or domestic water heating loads with the use of solar thermal.

Ventilation

Occupied spaces in buildings will be provided with ventilation air in accordance with ASHRAE Standard 62-2004 or higher in conjunction with LEED guidelines. Energy recovery from exhaust air streams will be incorporated on a block by block basis based on overall efficiency. Air handling systems will include the use of an air side economizer cycle to

allow for cooling based on the use of 100% outdoor air. The use of demand control ventilation will be employed to reduce the ventilation requirements based on occupancy. In enclosed parking garage spaces, the ventilation systems will be modulated based on carbon monoxide monitoring to reduce energy consumption associated with ventilation fan systems.

Electrical Systems

The electrical distribution will be based on the program and mechanical systems of each building. The buildings will be provided with electric service from NStar including internal transformer vaults. Code required standby power will be provided for each building. The configuration of the electrical systems will be optimized to minimize the required feeder lengths and distribution equipment. Lighting systems will be designed to exceed the requirements of the Massachusetts State Energy Code and ASHRAE 90.1 where applicable. Lighting control schemes including day lighting control will be analyzed on a case by case basis for implementation.

3.5.5 Other Infrastructure

The Project will generate significant energy and communications demands. Several private utilities were stubbed to the Parcels adjacent to Seaport Boulevard in anticipation of future development, during the Transitway Tunnel project. Utility relocations will be required for several private utility companies, as part of the proposed roadway realignment in this area.

The Proponent will continue to work with private utility providers and adjacent projects as needed to ensure that the energy and communications needs of the Project can be met.

4.0 PHASE 1 WAIVER BLOCKS OVERVIEW

4.1 Introduction/Summary

As described in more detail in Section 2.7 of the Project Description, the timely development of Blocks A, H and J is critical to the development of Seaport Square. Although the Project will generally be developed in one continuous building process, as previously described, early construction of Phase 1 will allow the Proponent to relocate the Our Lady of Good Voyage Chapel, create a gateway to the Fort Point Channel and South Boston waterfront, provide early public benefits and open space, and facilitate construction of the remainder of the site. Additionally, Old Sleeper Street will become a new waterfront way to connect the long-missing Harborwalk link between the Children's Museum and the Federal Courthouse.

With a combined floor area of less than 200,000 square feet (127,100 sf of residential, 46,600 sf of retail/entertainment space and a 25,000 sf chapel), the buildings on Blocks A, H, and J are only 3% of the Project's overall square footage. Blocks A, H and J will have positive impacts on the visual and pedestrian experience along the Harborwalk and Seaport Boulevard, with minimal transportation, wind, shadow and other environmental impacts. (see Section 4.2 for more detail on environmental impacts).

Block A is a gateway site that will provide a missing connection to the Harborwalk as well as an inviting program of restaurants, retail, and housing that will energize a new pedestrian pathway around the existing Barking Crab restaurant. Block H creates a much-needed edge to Seaport Boulevard on its south side, and its two-story base of stores and restaurants are the first step in building the shopping promenade which will act as an anchor to the entire neighborhood. Block J relocates a neighborhood institution, Our Lady of Good Voyage Chapel, next to the Silver Line T Station. The reconstruction of Our Lady of Good Voyage Chapel is critical to allow for the future removal of the existing Chapel on Block D and construction of below-grade parking structures beneath Blocks B, C, and D (the present location of the Chapel). The Archdiocese is looking forward to the new site and new building at Block J to improve and expand its current ministry.

Together the construction of these buildings on these three prominent sites will provide early public benefits, including street and sidewalk improvements, and will begin to knit the South Boston waterfront and Fort Point Channel areas together.

Phase 1 Public Benefits

Phase 1 provides a number of public benefits to the City of Boston. In addition to the urban design benefits provided by the physical structures, Phase 1 will provide market rate, affordable and workforce housing, jobs, property tax revenues, sustainable buildings, and numerous public realm and civic improvements. Public realm improvements include an improved street and pedestrian environment on Old Sleeper Street incorporating new

paving, trees, planters, benches, lighting and outdoor restaurant seating to transform the area alongside the Barking Crab and connect the Harborwalk between the Children's Museum and the Federal Courthouse. Phase 1 also includes a commitment to work with community groups and institutions in providing year-round event and exhibit programming in the new and existing open spaces associated with the Project. The Project will activate pedestrian activities by providing facilities of public accommodation on the ground floors of buildings on Blocks A and H. A more detailed description of public benefits related to Phase 1 is included in Section 2.7.1.

4.2 Summary of Environmental Impacts

4.2.1 *Transportation*

Phase 1 of the Project will result in negligible impacts to the transportation network. Two intersections within the Phase 1 study area will experience a decrease in level of service under No-Build Conditions; the intersection of Seaport Boulevard/East Service Road/Northern Avenue will change from LOS C to LOS D during the 2010 p.m. peak hour, the intersection of West Broadway/A Street will change from LOS B to LOS C during the 2010 a.m. peak hour. LOS D is still considered acceptable, particularly for an urban area such as Boston, in which many intersections experience worse operations during the peak hours. In the Build condition, during the a.m. and p.m. peak hours, the level of service does not worsen at any of the study area intersections. At the intersection of Seaport Boulevard/Sleeper Street, the Seaport Boulevard eastbound left-turn currently operates at LOS F in the a.m. peak hour due to the lack of a protected left-turn phase. This operational condition will noticeably worsen under No-Build Conditions and only slightly under Build Conditions. Although the Project is not causing this operational problem, the Proponent is willing to work with the City on a solution. The Proponent proposes to install the necessary signal equipment, pavement markings, and signing for an exclusive left-turn lane and protected signal phase on Seaport Boulevard eastbound. This is described in more detail in Section 3.1.4.

The Proponent will provide Transportation Demand Management (TDM) measures for Phase 1. The Proponent will commit to improving the intersection of Seaport Boulevard/Sleeper Street, which currently operates at LOS F, even though the intersection's poor operations are not caused by Phase 1 of the Project.

Section 3.1 includes a more detailed traffic analysis of Phase 1 impacts.

4.2.2 *Tidelands - Chapter 91 and the South Boston Municipal Harbor Plan*

Blocks A and H have been designed in accordance with the Chapter 91 regulations at 310 CMR 9.00, as affected by the South Boston Municipal Harbor Plan. The public benefits associated with Phase 1, in conjunction with the overall Seaport Square Project, meet or exceed those established by Chapter 91 and the Municipal Harbor Planning process for this

area. A description of Phase 1's adherence to the Chapter 91 regulations (including height, setback, facilities of public accommodation, open space, etc.) and the applicable provisions of the SBMHP encompassing the Project site are presented in detail in Section 3.2.3.

Public benefits for the entire Project can be found in Section 1.4, while public benefits of Phase 1 of the Project (detailed in Sections 2.7 and 3.2.5) include, but are not limited to, the following:

- ◆ Creation of public open space and pedestrian connections, including a Harborwalk link;
- ◆ Creation of Harborwalk link/new pedestrian connections;
- ◆ Funding for open space improvements;
- ◆ Seasonal programming for community events;
- ◆ New facilities of public accommodation; and
- ◆ Protection of adjacent open spaces.

4.2.3 *Wind/Shadow/Daylight/Solar Glare*

Generally ranging in height from 75 to 85 feet, buildings on Blocks, A, H and J are anticipated to have only minor wind/shadow/daylight/solar glare impacts. Any impacts, however, will be included in the Draft PIR/EIR analyses conducted for the entire Project.

The portion of the Block H building closer to Farnsworth Street may reach up to 116 feet; the portion closer to Sleeper Street is 85 feet. The taller portion of the Block H building is similar in height to surrounding buildings, is not within Chapter 91 jurisdiction, and is further from the water and the existing open space at the Children's Museum, which limits its impacts on ground level pedestrian use and enjoyment of the public realm. It was contemplated in the SBMHP Decision that buildings ranging in height from 75 to 85 feet would not result in significant wind or shadow impacts. In reference to areas in Chapter 91 jurisdiction, the Secretary's Decision on the SBMHP states that for projects ranging in height from 75 to 85 feet, "it would appear that ground level conditions will be conducive to pedestrian-level activities".

Due to the modest height of the buildings on Blocks A, H and J and the width of Seaport Boulevard, the buildings on Blocks A, H and J are anticipated to have only minor daylight impacts.

Mirrored or highly reflective glass is not currently being considered as a façade material for Blocks A, H and J, limiting the potential for solar glare impacts.

Blocks A, H and J will be included in the detailed studies prepared for the Draft PIR/EIR.

4.2.4 *Air Quality*

Potential long-term air quality impacts will be limited to emissions from Project-related mechanical equipment and pollutant emissions from vehicular traffic generated by the development of the Project. Because of the limited size of the buildings on Blocks A, H and J, air quality impacts are not expected to be substantial. Potential impacts from Blocks A, H and J will be considered in the Draft PIR/EIR Air Quality analysis for the entire Project. Potential air quality impacts will be modeled for both existing and future conditions in the Draft PIR/EIR to demonstrate conformance with the National Ambient Air Quality Standards. Section 3.3.5 includes more information regarding air quality.

4.2.5 *Noise*

Because of the limited size of the buildings on Blocks A, H and J, noise impacts are not expected to be substantial. Potential noise impacts from Blocks A, H and J will be considered in the Draft PIR/EIR noise analysis.

4.2.6 *Stormwater/Water Quality*

The Seaport Square development is proposed inland from the Boston Harbor and will not adversely affect the water quality of the Harbor.

During construction, erosion and sediment control measures will be utilized to prevent sediment from entering the Boston Water and Sewer Commission (BWSC) storm drain infrastructure, and minimize impacts to adjacent areas. These Best Management Practices will include silt sacks placed in existing and proposed catch basins, and regular street sweeping. The controls will be maintained throughout construction until the site has been stabilized with temporary or final surface improvements. On-site dewatering will meet the regulations of the appropriate local, state, and federal permits required for this Project.

The Project's proposed stormwater management system will improve post construction water quality by pre-treating runoff from the site, and by substantially reducing the amount of stormwater generated from the site. The proposed stormwater system will be designed to meet the applicable stormwater performance standards of the DEP Stormwater Management Policy. A substantial portion of the Project includes converting existing surface parking facilities which typically generate oil, grease, pollutants, and sediments, to rooftops and buildings, some of which may utilize green or white rooftops, which will result in a cleaner stormwater discharge.

4.2.7 *Flood Hazard Zones/Wetlands*

The Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) for the site located in the City of Boston - Community Panel Number 250286 0011 C indicates the FEMA Flood Zone Designations for the site area. The map shows that Blocks A, H and J are located in a Zone C, Area of Minimal Flooding.

The site is developed and does not contain wetlands.

4.2.8 *Geotechnical/Groundwater/Water Quality*

Geotechnical

The proposed buildings at Blocks A, H, and J are preliminarily planned to be supported on deep foundation systems extending to dense glacial till soils and/or bedrock at depths of greater than 100 feet below current site grades. Since no below grade basement space is planned, there are no potential adverse impacts from the new construction at Blocks H and J on existing area groundwater levels. Current plans call for a one-level basement at Block A, which will require excavation at or just below groundwater levels. Therefore, design and construction techniques for this Block will be implemented to mitigate potential impacts to area groundwater levels.

The foundation system design and construction methodology will consider the surrounding structures (including MBTA South Boston Transitway). A monitoring program will be developed for the adjacent structures and will be implemented prior to construction.

Groundwater

Due to the proximity to the Fort Point Channel and Boston Harbor, tidal fluctuations are expected to impact groundwater levels at Blocks A, H, and J. Since one below grade basement level is planned at Block A, temporary construction dewatering will likely be required to complete excavations in the dry. Temporary construction dewatering will be conducted in accordance with local, state, and federal regulations. Appropriate permits will be obtained prior to start of work. In addition temporary dewatering activity will be conducted in a manner to mitigate potential impacts to area groundwater levels.

Blocks H and J are located within the Fort Point Waterfront Subdistrict of the Expanded Groundwater Conservation Overlay District. Considering that no significant excavations at Blocks H and J are planned below groundwater levels (there will be no below-grade basement or system excavation beneath Blocks H and J), dewatering will not be required and construction impacts to area groundwater levels are not anticipated. Additional engineering studies and groundwater evaluations will be undertaken during Project design. The Project will meet the GCOD requirements and provide appropriate Engineering Certifications and reports.

See Section 3.3.9 for additional information regarding geotechnical, groundwater and water quality impacts.

4.2.9 *Solid and Hazardous Wastes*

No previous RTNs related to these Blocks have been obtained to date regarding site environmental conditions related to presence of oil and hazardous materials at Blocks A, H, and J. Specific testing of any soils to be transported from the site will be conducted prior to construction to evaluate conditions and requirements for special handling or transport of excavated materials. See Section 3.3.10.1 for additional information.

4.2.9.1 *Operational Solid and Hazardous Wastes*

Blocks A, H and J will generate solid waste typical of other residential/mixed-use projects. Solid waste from the Project will include recyclables such as wastepaper, cardboard, glass, and plastic bottles. A comprehensive commercial recycling program will be implemented to divert a significant portion of these materials from the landfill waste stream. The remainder of the solid waste will be compacted and removed by a commercial waste hauler contracted by building management. With the exception of incidental hazardous wastes typical of residential/mixed-use uses (for example, cleaning fluids and paint), the Project will not generate hazardous waste.

An appropriately sized space will be provided within the Project for the temporary collection of waste and the separation of recyclable materials for separate handling. Recycling and trash will be handled within each building, and collection will occur at the loading dock of each building.

The Proponent will work with building tenants to implement a recycling program that emphasizes continuous improvement in minimizing the ecological footprint on the environment. Recycling efforts will include the recapture of mixed office paper, newspaper, cardboard, magazines, and plastics numbered 1 thru 7, glass, aluminum and other scrap metal, and any additional materials as appropriate. The Proponent will also explore opportunities to maximize waste prevention through the maintenance and cleaning practices of the site, such as the purchase of eco-friendly products.

Adequate space for recycling materials will be conveniently located adjacent to loading bays and will be sized appropriately to meet growing recycling efforts.

4.2.10 *Construction Impacts*

A Construction Management Plan (CMP) will be submitted to the BTB for review and approval prior to issuance of a building permit, and will include truck routes to minimize the impact of trucks on local streets.

Construction methodologies that ensure public safety and protect nearby businesses will be employed. Detailed mitigation regarding construction air quality, noise and waste management are included in sections 3.3.11.1 through 3.3.11.3

Construction Schedule

It is anticipated that construction for Blocks A, H and J will begin in the third quarter of 2009.

Construction will be completed in accordance with BTB and BRA standards. More detailed information regarding Phase 1 construction staging, employment and worker transportation, truck routes and vibration is included in Section 3.3.11.4.

Construction Staging/Public Safety/Access

Access to the site will be from Seaport Boulevard. To mitigate impacts on adjacent roadways, primary staging will be done on site, or on adjacent property owned by the Proponent.

Construction Employment and Worker Transportation

The number of workers required during the construction period will vary, with an estimated average daily work force ranging from approximately 300 to 500 workers during typical periods. In addition, the Proponent will enter into a jobs agreement with the City of Boston which requires it to make best efforts to have at least 50% of the total employee work hours performed by Boston residents, at least 25% of total employee work hours performed by minorities and at least 10% of the total employee work hours performed by women.

To reduce vehicle trips to and from the construction site, minimal construction worker parking will be available at the site and all workers will be strongly encouraged to use public transportation and ridesharing options.

Construction Truck Routes and Deliveries

The construction team will manage deliveries to the site during morning and afternoon peak hours in a manner that minimizes disruption to traffic flow on adjacent streets. The construction team will provide subcontractors and vendors with Construction Vehicle & Delivery Truck Route Brochures in advance of construction activity. "No Idling" signs will be included at the loading, delivery, pick-up and drop-off areas.

The Proponent will coordinate with BTB to designate access routes for truck deliveries and truck routes which will be established in the CMP.

Construction Vibration

All means and methods for performing work during Phase 1 will be evaluated for potential vibration impacts on adjoining property, utilities, and adjacent existing structures.

Acceptable vibration criteria will be established prior to construction, and vibration will be monitored, if required, during construction to ensure compliance with the agreed-upon standard.

Rodent Control

A rodent extermination certificate will be filed with the building permit application to the City. Rodent inspection monitoring and treatment will be carried out before, during, and at the completion of all construction work for Phase 1, in compliance with the City's requirements. Rodent extermination prior to work start-up will consist of treatment of areas throughout the site. During the construction process, regular service visits will be made.

4.2.11 Wildlife Habitat

Blocks A, H and J are within a fully developed urban area and are not expected to impact wildlife habitats.

4.2.12 Sustainable Design/Reduction in Greenhouse Gases

As previously described, Seaport Square is planned to be tracked and submitted as a LEED Neighborhood Development program (LEED-ND), a new venture by the USGBC and the Congress for a New Urbanism, which recognizes projects that strive to protect and enhance the overall health, natural environment, and quality of life of communities. (Applications in the full program will be accepted by USGBC in 2010.) The Project will target meeting LEED-ND standards at the Silver Level. In addition, the LEED-NC or LEED-CS rating systems will be pursued as applicable for the different use types at Seaport Square. Finally, Seaport Square will be in compliance with the Article 37 of the Boston Zoning Code, which ensures that major building projects are planned, designed, constructed, and managed to minimize adverse environmental impacts; to conserve natural resources; to promote sustainable development; and to enhance the quality of life in Boston.

Appendix D includes the LEED-ND checklist for the entire Project including the Phase 1 Blocks.

The Phase 1 Blocks within the Project will meet the requirements of Article 37 of the Code; the Blocks will be certifiable under the U.S. Green Council's Leadership in Energy and Environmental Design (LEED) system. LEED checklists for the three waiver Blocks are included in Appendix D of this PNF/ENF and indicate measures under consideration. While early scorecards such as those in Appendix D will show compliance with the "LEED Certifiable" mandate of Article 37, the Proponent is targeting the more rigorous LEED-NC Silver standard on Blocks A and H. As construction on Block J is to be directed by the Archdiocese, the final design parameters of the building will continue to be developed. As design progresses and specific building systems are decided upon, the final LEED-NC scorecards will become more formally developed.

The proposed Blocks, A, H, and J, consist of entirely new construction and will employ LEED-NC 2.2 (LEED for New Construction) as the basis for Article 37 compliance. The Project team has identified key opportunities for sustainable strategies in both the design and construction of the Blocks at this early stage of the overall Project, and will continually evaluate and update these strategies using the LEED checklist and integrated design methodologies. The Phase 1 Blocks, located in an urban infill site well served by public transportation and with appropriate densities of mixed uses proposed, meet the spirit and many of the specific objectives for sustainable site development. Additionally, site design studies will investigate the potential for storm water management and reuse, mitigation of the heat island effect, and will minimize parking impacts by limiting parking to only what is required by code and by placing all parking underground. The Project team will consider water efficient landscaping and low-flow plumbing fixtures in order to achieve overall water use reduction.

All Blocks will meet the Massachusetts Energy Code requirements and will seek energy performance optimization strategies to reduce energy dependence, while at a minimum meeting the 14% criteria for performance above ASHRAE 90.1-2004 standards. A construction waste management program will be in place on each respective site during the construction phase, and the design team will investigate the incorporation of materials with recycled content and will attempt to incorporate materials regionally extracted/harvested and manufactured/produced in New England, the mid-Atlantic, and Southern Canada. Indoor environmental quality will be improved through the use of low-VOC materials as well as appropriate ventilation strategies. Daylight and views for building occupants are important aspects of the buildings' design and will be incorporated as the floor plates allow. The Project team includes LEED Accredited Professionals and will access specialized, expert advice in sustainability and green building as needed to supplement the core Project team.

Section 3.3.14 includes more detailed information regarding Sustainable Design.

4.2.13 *Historic and Archaeological Resources*

Phase 1 consists of constructing new retail and residential buildings on Blocks A and H, and a new Chapel on Block J. Currently, Blocks A, H and J are surface parking lots with no buildings on them. The sensitive design of the new construction will complement the adjacent historic district. The scale of the new construction will further assist in providing a transition between the historic district, which predominately consists of five and six story buildings as well as some immediately adjacent taller buildings, and the larger new construction proposed for the blocks on the north side of Seaport Boulevard.

Shadow impacts on historic resources resulting from new construction on Blocks A, H and J will be limited due to the height of existing buildings, the density of the neighborhood and the location of the development parcels north of the adjacent Fort Point Channel Historic District. Because the development parcels are north of the historic district, shadows are

anticipated to be cast on areas outside of the proposed landmark district, and therefore, will have no adverse impacts on the Fort Point Channel Historic District.

Blocks H and J are located within the proposed Seaport Boulevard/Boston Wharf Road Protection Area. The goals of the Protection Area are to protect view corridors into and out of the proposed Fort Point Channel Landmark District and through a design review process with the Boston Landmarks Commission, ensure that the massing, land coverage, and height of new construction on adjacent lots is compatible with that of the proposed landmark district. Proposed new construction on Blocks H and J will be subject to review by Boston Landmarks Commission staff under review procedures applicable in the pending Seaport Boulevard/Boston Wharf Road Protection Area. See Section 3.4 for more detailed information on historic resources.

4.2.14 *Infrastructure Systems*

4.2.14.1 Wastewater Generation

The proposed buildings on Blocks A, H and J are expected to generate three percent of the total wastewater generation or approximately 27,000 gpd. All of the flow generated from Phase 1 will be directed to the A Street gravity system through existing infrastructure which appears to have adequate capacity for the flows calculated above.

4.2.14.2 Water Supply System

Approximately 30,000 gpd of water use will be required for the buildings on Blocks A, H and J. As previously described, the Proponent has met with BWSC representatives and found that there are no known capacity issues with either the local system or the transmission main. As such, the distribution system should have sufficient capacity to supply the buildings on Blocks A, H and J.

4.2.14.3 Stormwater Management

A 42-inch storm drain outfall, located near the east abutment of the Seaport Boulevard Bridge, handles stormwater flows from western portions of Seaport Boulevard and portions of the Project area. Phase 1 runoff will be collected by this system. Improvements to storm water quality are expected as part of Phase 1. Phase 1 specifically will reduce runoff in the post-development condition, and therefore anticipate infrastructure capacity issues are not anticipated in the existing drainage system.

4.2.14.4 Energy Systems

Electric and Gas

The electric and gas infrastructure in the Project area is adequate for Phase 1.

Additional information regarding infrastructure systems is included in Section 3.5.

Coordination with Other Governmental Agencies

5.0 COORDINATION WITH OTHER GOVERNMENTAL AGENCIES

5.1 Massachusetts Environmental Policy Act

Since the Project will require review under the Massachusetts Environmental Policy Act (MEPA), this PNF/ENF is being filed as a joint document to both MEPA and the BRA.

5.2 Massachusetts Historical Commission

Because the Project requires state permits, it will be subject to reviewed by the Massachusetts Historical Commission (MHC) in accordance with M.G.L., Chapter 9, Sec. 26-27c, as amended by Chapter 254 of the Acts of 1988 (950 CMR 71.00). This PNF/ENF will be submitted to the MHC to initiate the Chapter 254 review process.

5.3 Boston Landmarks Commission

Blocks H, J, K and Q are located within the proposed Seaport Boulevard/Boston Wharf Road Protection Area. The proposed new construction on Blocks H, J, K and Q will be subject to review by Boston Landmarks Commission staff under the final guidelines for the pending Seaport Boulevard/Boston Wharf Road Protection Area, or Interim Review Procedures. The Proponent has had preliminary discussions with BLC staff and will continue to consult with staff as the designs for the developments on Blocks H, J, K and Q advance. The Proponent is committed to working with the BLC to advance the Project design in a manner that is respectful and complimentary to the Fort Point Channel Historic District.

The proposed removal of the Chapel of Our Lady of Good Voyage will be subject to Article 85 (Demolition Delay) review by the BLC. At an appropriate time, the Proponent will file an Article 85 application for the proposed demolition.

5.4 Boston Civic Design Commission

The Project will comply with the provisions of Article 28 of the Boston Zoning Code. This PNF/ENF will be submitted to the Boston Civic Design Commission by the BRA as part of the Article 80 process.

5.5 Other Permits and Approvals

Section 1.7 of this PNF/ENF lists agencies from which permits and approvals for the Project may be sought.

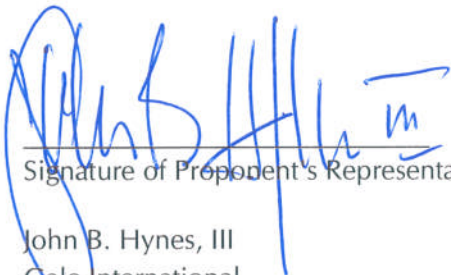
5.6 Community Outreach

The Proponent remains committed to community outreach and at the time of the filing of this PNF/ENF has already presented the Project at five community hearings chaired by the Boston Redevelopment Authority. Each community meeting was attended by many South Boston residents, neighbors, as well as adjacent neighborhoods. Public feedback has been thoughtful and the Proponent has incorporated ideas generated by the public process into the Project. In addition, the Proponent has created a website (www.seaportsquare.com) where the public can view presentation materials as well as provide comments and feedback. Public comments were taken into consideration as the PNF/ENF document was developed. The Proponent looks forward to additional community outreach as the Project continues.

Chapter 6.0

Project's Certification

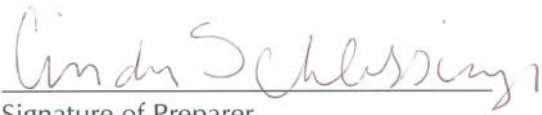
6.0 PROJECT'S CERTIFICATION



Signature of Proprietor's Representative

John B. Hynes, III
Gale International
One Post Office Square, Suite 3150
Boston, MA 02109
(617) 350-7577

6/2/08
Date: _____



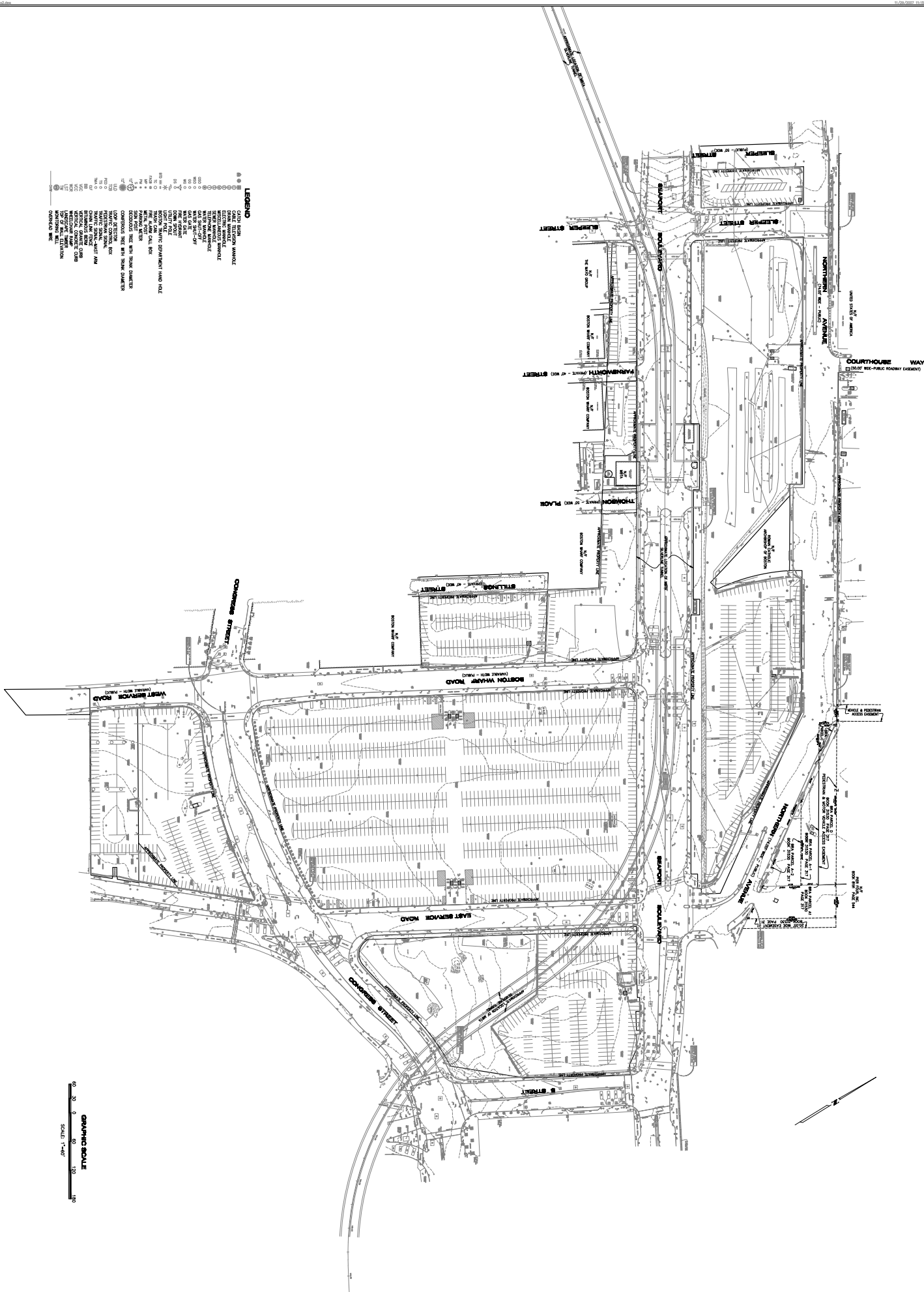
Signature of Preparer

Cindy Schlessinger
Epsilon Associates, Inc.
3 Clock Tower Place, Suite 250
Maynard, MA 01754
(978) 897-7100

6/2/08
Date: _____

Appendix A

Existing Conditions Survey



Appendix B

Transportation

N/S Street : Sleeper Street
 E/W Street: Seaport Boulevard
 City/State : Boston, MA
 Weather : Clear

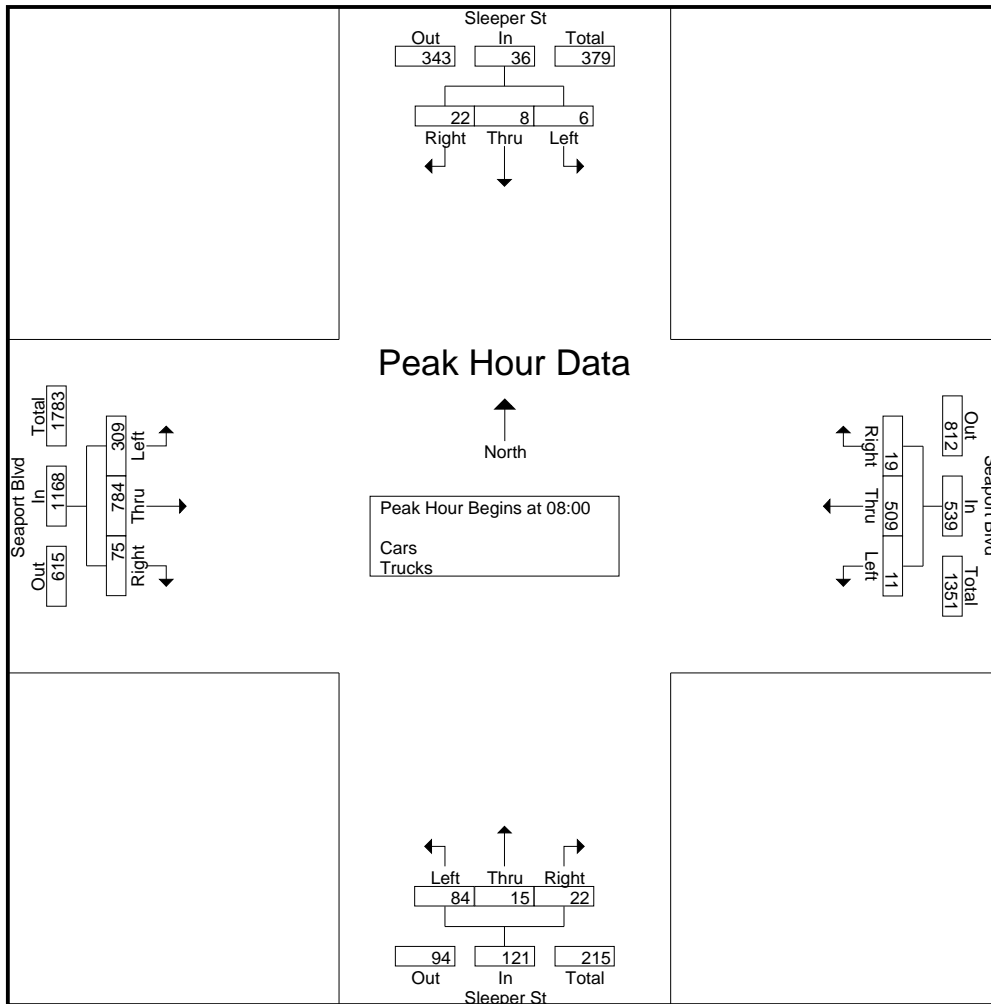
Accurate Counts
 978-664-2565

File Name : 12850001
 Site Code : 12850001
 Start Date : 3/13/2007
 Page No : 1

Groups Printed- Cars - Trucks

| | Sleeper St From North | | | | Seaport Blvd From East | | | | Sleeper St From South | | | | | Seaport Blvd From West | | | | | | |
|-------------|--------------------------|------|-------|------|---------------------------|------|-------|------|--------------------------|------|-------|-------|------|---------------------------|------|-------|------|--------------|--------------|------------|
| Start Time | Left | Thru | Right | Peds | Left | Thru | Right | Peds | Left | Thru | Right | U-Trn | Peds | Left | Thru | Right | Peds | Exclu. Total | Inclu. Total | Int. Total |
| 07:00 | 1 | 2 | 3 | 5 | 4 | 87 | 0 | 3 | 20 | 5 | 0 | 0 | 2 | 51 | 142 | 15 | 1 | 11 | 330 | 341 |
| 07:15 | 0 | 1 | 0 | 15 | 2 | 87 | 5 | 8 | 18 | 4 | 5 | 2 | 7 | 53 | 180 | 15 | 0 | 32 | 370 | 402 |
| 07:30 | 0 | 0 | 1 | 14 | 3 | 117 | 2 | 2 | 23 | 1 | 6 | 0 | 6 | 51 | 182 | 14 | 4 | 26 | 400 | 426 |
| 07:45 | 2 | 0 | 3 | 20 | 0 | 126 | 5 | 7 | 21 | 3 | 4 | 0 | 3 | 66 | 192 | 22 | 6 | 36 | 444 | 480 |
| Total | 3 | 3 | 7 | 54 | 9 | 417 | 12 | 20 | 82 | 13 | 15 | 2 | 18 | 221 | 696 | 66 | 11 | 105 | 1544 | 1649 |
| 08:00 | 1 | 3 | 5 | 16 | 1 | 112 | 5 | 12 | 13 | 4 | 5 | 1 | 6 | 80 | 198 | 27 | 8 | 43 | 454 | 497 |
| 08:15 | 3 | 4 | 8 | 40 | 3 | 118 | 5 | 13 | 19 | 2 | 3 | 1 | 12 | 74 | 209 | 17 | 5 | 71 | 465 | 536 |
| 08:30 | 1 | 0 | 5 | 23 | 2 | 139 | 5 | 11 | 31 | 7 | 10 | 2 | 7 | 74 | 196 | 14 | 6 | 49 | 484 | 533 |
| 08:45 | 1 | 1 | 4 | 20 | 5 | 140 | 4 | 10 | 21 | 2 | 4 | 0 | 14 | 81 | 181 | 17 | 4 | 48 | 461 | 509 |
| Total | 6 | 8 | 22 | 99 | 11 | 509 | 19 | 46 | 84 | 15 | 22 | 4 | 39 | 309 | 784 | 75 | 23 | 211 | 1864 | 2075 |
| Grand Total | 9 | 11 | 29 | 153 | 20 | 926 | 31 | 66 | 166 | 28 | 37 | 6 | 57 | 530 | 1480 | 141 | 34 | 316 | 3408 | 3724 |
| Apprch % | 18.4 | 22.4 | 59.2 | | 2 | 94.8 | 3.2 | | 71.9 | 12.1 | 16 | | | 24.6 | 68.8 | 6.6 | | | | |
| Total % | 0.3 | 0.3 | 0.9 | | 0.6 | 27.2 | 0.9 | | 4.9 | 0.8 | 1.1 | | | 15.6 | 43.4 | 4.1 | | 8.5 | 91.5 | |
| Cars | 9 | 11 | 27 | | 18 | 788 | 30 | | 161 | 27 | 34 | | | 520 | 1382 | 137 | | 0 | 0 | 3460 |
| % Cars | 100 | 100 | 93.1 | 100 | 90 | 85.1 | 96.8 | 100 | 97 | 96.4 | 91.9 | 100 | 100 | 98.1 | 93.4 | 97.2 | 100 | 0 | 0 | 92.9 |
| Trucks | 0 | 0 | 2 | | 2 | 138 | 1 | | 5 | 1 | 3 | | | 10 | 98 | 4 | | 0 | 0 | 264 |
| % Trucks | 0 | 0 | 6.9 | 0 | 10 | 14.9 | 3.2 | 0 | 3 | 3.6 | 8.1 | 0 | 0 | 1.9 | 6.6 | 2.8 | 0 | 0 | 0 | 7.1 |

| | Sleeper St From North | | | | Seaport Blvd From East | | | | Sleeper St From South | | | | Seaport Blvd From West | | | | | | |
|--|--------------------------|------|-------|------------|---------------------------|------|-------|------------|--------------------------|------|-------|------------|---------------------------|------|-------|------------|------------|------|--|
| Start Time | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Int. Total | | |
| Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1 | | | | | | | | | | | | | | | | | | | |
| Peak Hour for Entire Intersection Begins at 08:00 | | | | | | | | | | | | | | | | | | | |
| 08:00 | 1 | 3 | 5 | 9 | 1 | 112 | 5 | 118 | 13 | 4 | 5 | 22 | 80 | 198 | 27 | 305 | | 454 | |
| 08:15 | 3 | 4 | 8 | 15 | 3 | 118 | 5 | 126 | 19 | 2 | 3 | 24 | 74 | 209 | 17 | 300 | | 465 | |
| 08:30 | 1 | 0 | 5 | 6 | 2 | 139 | 5 | 146 | 31 | 7 | 10 | 48 | 74 | 196 | 14 | 284 | | 484 | |
| 08:45 | 1 | 1 | 4 | 6 | 5 | 140 | 4 | 149 | 21 | 2 | 4 | 27 | 81 | 181 | 17 | 279 | | 461 | |
| Total Volume | 6 | 8 | 22 | 36 | 11 | 509 | 19 | 539 | 84 | 15 | 22 | 121 | 309 | 784 | 75 | 1168 | | 1864 | |
| % App. Total | 16.7 | 22.2 | 61.1 | | 2 | 94.4 | 3.5 | | 69.4 | 12.4 | 18.2 | | 26.5 | 67.1 | 6.4 | | | | |
| PHF | .500 | .500 | .688 | .600 | .550 | .909 | .950 | .904 | .677 | .536 | .550 | .630 | .954 | .938 | .694 | .957 | | .963 | |



N/S Street : Sleeper Street
E/W Street: Seaport Boulevard
City/State : Boston, MA
Weather : Clear

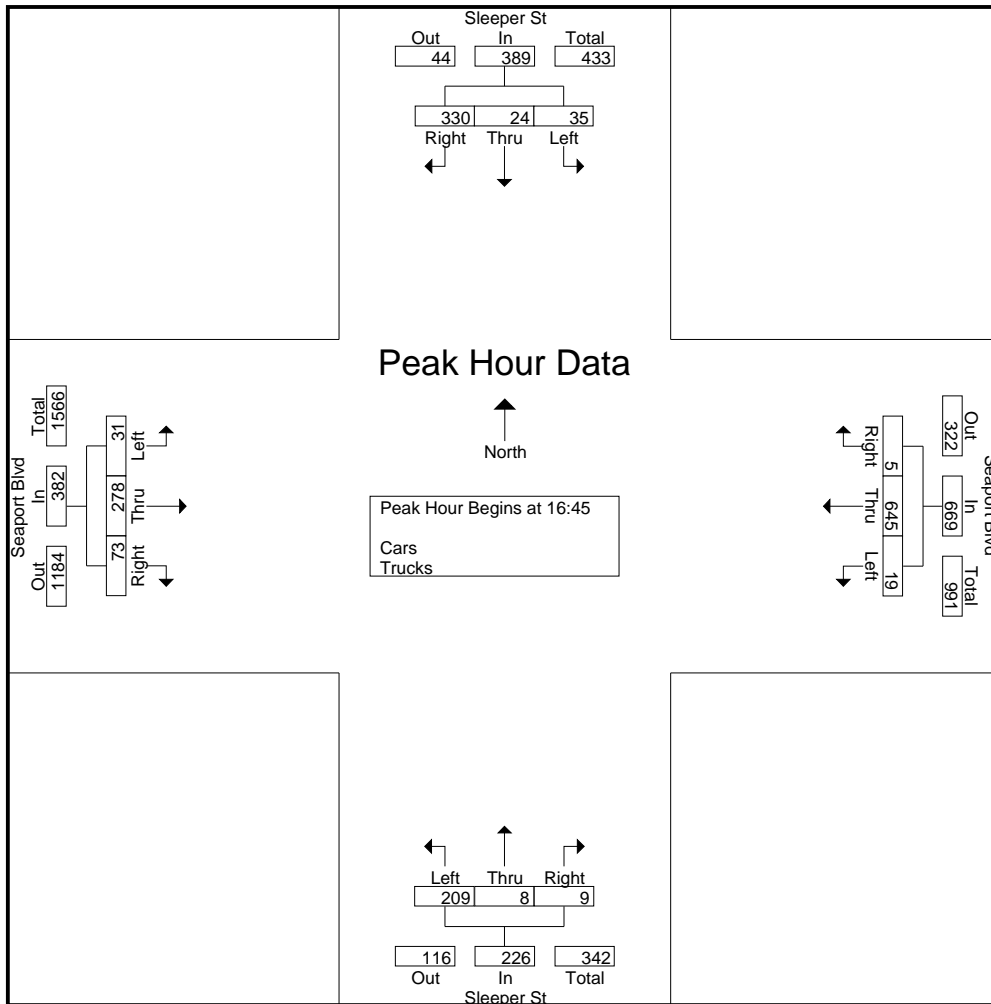
Accurate Counts
978-664-2565

File Name : 12850001
Site Code : 12850001
Start Date : 3/13/2007
Page No : 1

Groups Printed- Cars - Trucks

| | Sleeper St From North | | | | Seaport Blvd From East | | | | Sleeper St From South | | | | | Seaport Blvd From West | | | | | | |
|-------------|--------------------------|------|-------|------|---------------------------|------|-------|------|--------------------------|------|-------|------|------|---------------------------|------|-------|------|--------------|--------------|------------|
| Start Time | Left | Thru | Right | Peds | Left | Thru | Right | Peds | Left | Thru | Right | U-Tn | Peds | Left | Thru | Right | Peds | Exclu. Total | Inclu. Total | Int. Total |
| 16:00 | 2 | 6 | 65 | 2 | 3 | 143 | 1 | 3 | 49 | 3 | 1 | 0 | 18 | 11 | 52 | 19 | 4 | 27 | 355 | 382 |
| 16:15 | 4 | 5 | 46 | 8 | 2 | 139 | 3 | 10 | 42 | 2 | 6 | 0 | 14 | 9 | 66 | 18 | 12 | 44 | 342 | 386 |
| 16:30 | 7 | 9 | 54 | 13 | 1 | 165 | 2 | 11 | 46 | 2 | 4 | 2 | 22 | 9 | 62 | 19 | 6 | 54 | 380 | 434 |
| 16:45 | 7 | 4 | 79 | 9 | 1 | 137 | 0 | 22 | 46 | 2 | 0 | 0 | 28 | 9 | 75 | 17 | 13 | 72 | 377 | 449 |
| Total | 20 | 24 | 244 | 32 | 7 | 584 | 6 | 46 | 183 | 9 | 11 | 2 | 82 | 38 | 255 | 73 | 35 | 197 | 1454 | 1651 |
| 17:00 | 8 | 6 | 83 | 8 | 5 | 197 | 1 | 25 | 52 | 2 | 5 | 4 | 27 | 9 | 79 | 15 | 22 | 86 | 462 | 548 |
| 17:15 | 10 | 10 | 89 | 11 | 8 | 179 | 4 | 19 | 53 | 2 | 3 | 0 | 16 | 5 | 60 | 22 | 21 | 67 | 445 | 512 |
| 17:30 | 10 | 4 | 79 | 6 | 5 | 132 | 0 | 11 | 58 | 2 | 1 | 1 | 35 | 8 | 64 | 19 | 28 | 81 | 382 | 463 |
| 17:45 | 3 | 9 | 58 | 7 | 4 | 132 | 1 | 17 | 53 | 1 | 2 | 0 | 18 | 12 | 65 | 13 | 20 | 62 | 353 | 415 |
| Total | 31 | 29 | 309 | 32 | 22 | 640 | 6 | 72 | 216 | 7 | 11 | 5 | 96 | 34 | 268 | 69 | 91 | 296 | 1642 | 1938 |
| Grand Total | 51 | 53 | 553 | 64 | 29 | 1224 | 12 | 118 | 399 | 16 | 22 | 7 | 178 | 72 | 523 | 142 | 126 | 493 | 3096 | 3589 |
| Apprch % | 7.8 | 8.1 | 84.2 | | 2.3 | 96.8 | 0.9 | | 91.3 | 3.7 | 5 | | | 9.8 | 71 | 19.3 | | | | |
| Total % | 1.6 | 1.7 | 17.9 | | 0.9 | 39.5 | 0.4 | | 12.9 | 0.5 | 0.7 | | | 2.3 | 16.9 | 4.6 | | 13.7 | 86.3 | |
| Cars | 51 | 50 | 547 | | 29 | 1167 | 10 | | 397 | 15 | 21 | | | 60 | 472 | 141 | | 0 | 0 | 3453 |
| % Cars | 100 | 94.3 | 98.9 | 100 | 100 | 95.3 | 83.3 | 100 | 99.5 | 93.8 | 95.5 | 100 | 100 | 83.3 | 90.2 | 99.3 | 100 | 0 | 0 | 96.2 |
| Trucks | 0 | 3 | 6 | | 0 | 57 | 2 | | 2 | 1 | 1 | | | 12 | 51 | 1 | | 0 | 0 | 136 |
| % Trucks | 0 | 5.7 | 1.1 | 0 | 0 | 4.7 | 16.7 | 0 | 0.5 | 6.2 | 4.5 | 0 | 0 | 16.7 | 9.8 | 0.7 | 0 | 0 | 0 | 3.8 |

| | Sleeper St From North | | | | Seaport Blvd From East | | | | Sleeper St From South | | | | Seaport Blvd From West | | | | | | |
|--|--------------------------|------|-------|------------|---------------------------|------|-------|------------|--------------------------|-------|-------|------------|---------------------------|------|-------|------------|------------|------|--|
| Start Time | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Int. Total | | |
| Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1 | | | | | | | | | | | | | | | | | | | |
| Peak Hour for Entire Intersection Begins at 16:45 | | | | | | | | | | | | | | | | | | | |
| 16:45 | 7 | 4 | 79 | 90 | 1 | 137 | 0 | 138 | 46 | 2 | 0 | 48 | 9 | 75 | 17 | 101 | | 377 | |
| 17:00 | 8 | 6 | 83 | 97 | 5 | 197 | 1 | 203 | 52 | 2 | 5 | 59 | 9 | 79 | 15 | 103 | | 462 | |
| 17:15 | 10 | 10 | 89 | 109 | 8 | 179 | 4 | 191 | 53 | 2 | 3 | 58 | 5 | 60 | 22 | 87 | | 445 | |
| 17:30 | 10 | 4 | 79 | 93 | 5 | 132 | 0 | 137 | 58 | 2 | 1 | 61 | 8 | 64 | 19 | 91 | | 382 | |
| Total Volume | 35 | 24 | 330 | 389 | 19 | 645 | 5 | 669 | 209 | 8 | 9 | 226 | 31 | 278 | 73 | 382 | | 1666 | |
| % App. Total | 9 | 6.2 | 84.8 | | 2.8 | 96.4 | 0.7 | | 92.5 | 3.5 | 4 | | 8.1 | 72.8 | 19.1 | | | | |
| PHF | .875 | .600 | .927 | .892 | .594 | .819 | .313 | .824 | .901 | 1.000 | .450 | .926 | .861 | .880 | .830 | .927 | | .902 | |



N/S Street : East Service Road
 E/W Street: Seaport Boulevard
 City/State : Boston, MA
 Weather : Clear

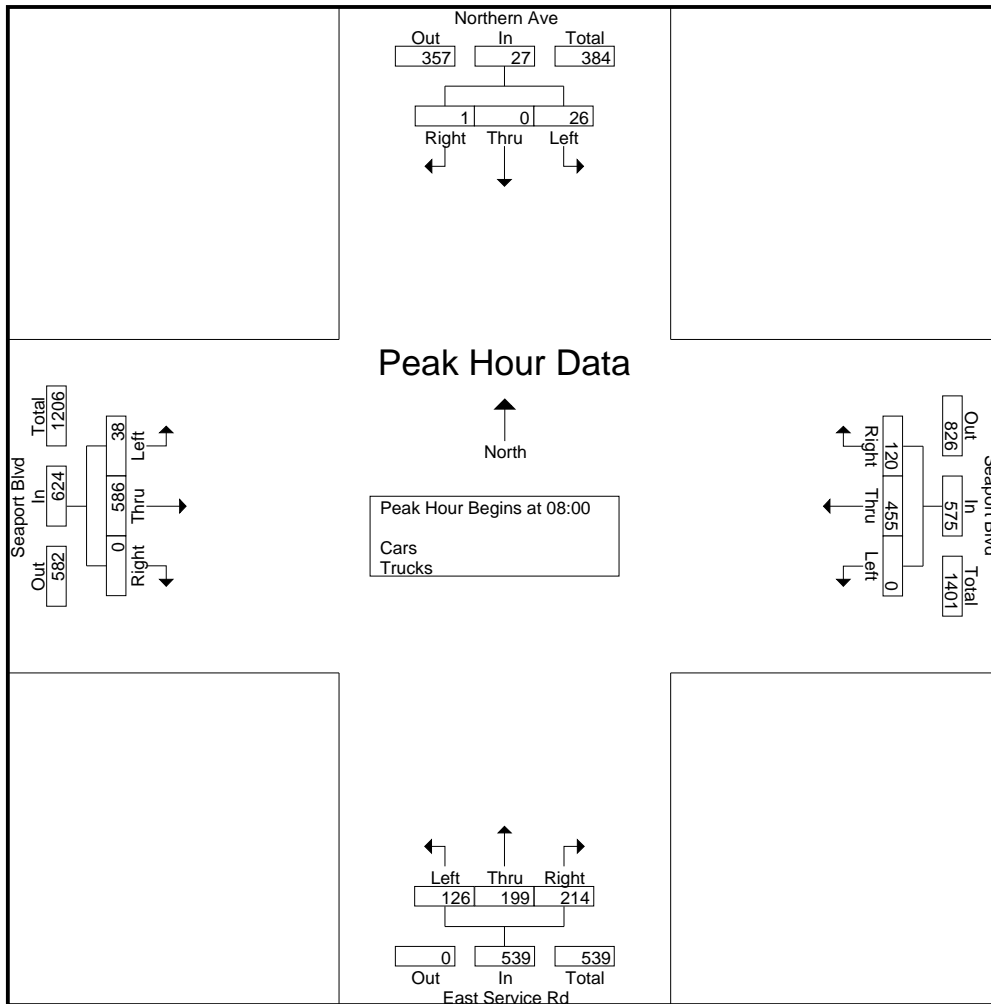
Accurate Counts
 978-664-2565

File Name : 1285004
 Site Code : 12850004
 Start Date : 3/14/2007
 Page No : 1

Groups Printed- Cars - Trucks

| | Northern Ave From North | | | | Seaport Blvd From East | | | | East Service Rd From South | | | | Seaport Blvd From West | | | | Exclu. Total | Inclu. Total | Int. Total |
|-------------|----------------------------|------|-------|------|---------------------------|------|-------|------|-------------------------------|------|-------|------|---------------------------|------|-------|------|--------------|--------------|------------|
| Start Time | Left | Thru | Right | Peds | Left | Thru | Right | Peds | Left | Thru | Right | Peds | Left | Thru | Right | Peds | | | |
| 07:00 | 4 | 0 | 0 | 2 | 0 | 73 | 9 | 1 | 11 | 20 | 46 | 6 | 6 | 141 | 0 | 1 | 10 | 310 | 320 |
| 07:15 | 3 | 0 | 0 | 2 | 0 | 66 | 25 | 3 | 16 | 37 | 46 | 15 | 11 | 129 | 0 | 0 | 20 | 333 | 353 |
| 07:30 | 8 | 0 | 4 | 5 | 0 | 101 | 25 | 4 | 25 | 32 | 50 | 15 | 8 | 153 | 0 | 1 | 25 | 406 | 431 |
| 07:45 | 7 | 0 | 0 | 3 | 0 | 112 | 29 | 3 | 40 | 32 | 55 | 33 | 7 | 138 | 0 | 1 | 40 | 420 | 460 |
| Total | 22 | 0 | 4 | 12 | 0 | 352 | 88 | 11 | 92 | 121 | 197 | 69 | 32 | 561 | 0 | 3 | 95 | 1469 | 1564 |
| 08:00 | 9 | 0 | 1 | 4 | 0 | 98 | 28 | 1 | 25 | 35 | 56 | 21 | 10 | 151 | 0 | 0 | 26 | 413 | 439 |
| 08:15 | 8 | 0 | 0 | 11 | 0 | 109 | 36 | 5 | 33 | 50 | 55 | 54 | 9 | 130 | 0 | 0 | 70 | 430 | 500 |
| 08:30 | 4 | 0 | 0 | 11 | 0 | 124 | 30 | 3 | 33 | 70 | 62 | 38 | 8 | 138 | 0 | 2 | 54 | 469 | 523 |
| 08:45 | 5 | 0 | 0 | 12 | 0 | 124 | 26 | 0 | 35 | 44 | 41 | 54 | 11 | 167 | 0 | 1 | 67 | 453 | 520 |
| Total | 26 | 0 | 1 | 38 | 0 | 455 | 120 | 9 | 126 | 199 | 214 | 167 | 38 | 586 | 0 | 3 | 217 | 1765 | 1982 |
| Grand Total | 48 | 0 | 5 | 50 | 0 | 807 | 208 | 20 | 218 | 320 | 411 | 236 | 70 | 1147 | 0 | 6 | 312 | 3234 | 3546 |
| Apprch % | 90.6 | 0 | 9.4 | | 0 | 79.5 | 20.5 | | 23 | 33.7 | 43.3 | | 5.8 | 94.2 | 0 | | | | |
| Total % | 1.5 | 0 | 0.2 | | 0 | 25 | 6.4 | | 6.7 | 9.9 | 12.7 | | 2.2 | 35.5 | 0 | | 8.8 | 91.2 | |
| Cars | 38 | 0 | 5 | | 0 | 676 | 205 | | 215 | 319 | 399 | | 70 | 1048 | 0 | | 0 | 0 | 3287 |
| % Cars | 79.2 | 0 | 100 | 100 | 0 | 83.8 | 98.6 | 100 | 98.6 | 99.7 | 97.1 | 100 | 100 | 91.4 | 0 | 100 | 0 | 0 | 92.7 |
| Trucks | 10 | 0 | 0 | | 0 | 131 | 3 | | 3 | 1 | 12 | | 0 | 99 | 0 | | 0 | 0 | 259 |
| % Trucks | 20.8 | 0 | 0 | 0 | 0 | 16.2 | 1.4 | 0 | 1.4 | 0.3 | 2.9 | 0 | 0 | 8.6 | 0 | 0 | 0 | 0 | 7.3 |

| | Northern Ave From North | | | | Seaport Blvd From East | | | | East Service Rd From South | | | | Seaport Blvd From West | | | | | Int. Total |
|--|----------------------------|------|-------|------------|---------------------------|------|-------|------------|-------------------------------|------|-------|------------|---------------------------|------|-------|------------|--|------------|
| Start Time | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | | |
| Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1 | | | | | | | | | | | | | | | | | | |
| Peak Hour for Entire Intersection Begins at 08:00 | | | | | | | | | | | | | | | | | | |
| 08:00 | 9 | 0 | 1 | 10 | 0 | 98 | 28 | 126 | 25 | 35 | 56 | 116 | 10 | 151 | 0 | 161 | | 413 |
| 08:15 | 8 | 0 | 0 | 8 | 0 | 109 | 36 | 145 | 33 | 50 | 55 | 138 | 9 | 130 | 0 | 139 | | 430 |
| 08:30 | 4 | 0 | 0 | 4 | 0 | 124 | 30 | 154 | 33 | 70 | 62 | 165 | 8 | 138 | 0 | 146 | | 469 |
| 08:45 | 5 | 0 | 0 | 5 | 0 | 124 | 26 | 150 | 35 | 44 | 41 | 120 | 11 | 167 | 0 | 178 | | 453 |
| Total Volume | 26 | 0 | 1 | 27 | 0 | 455 | 120 | 575 | 126 | 199 | 214 | 539 | 38 | 586 | 0 | 624 | | 1765 |
| % App. Total | 96.3 | 0 | 3.7 | | 0 | 79.1 | 20.9 | | 23.4 | 36.9 | 39.7 | | 6.1 | 93.9 | 0 | | | |
| PHF | .722 | .000 | .250 | .675 | .000 | .917 | .833 | .933 | .900 | .711 | .863 | .817 | .864 | .877 | .000 | .876 | | .941 |



N/S Street : East Service Road
 E/W Street: Seaport Boulevard
 City/State : Boston, MA
 Weather : Clear

Accurate Counts
 978-664-2565

File Name : 1285004
 Site Code : 12850004
 Start Date : 3/14/2007
 Page No : 1

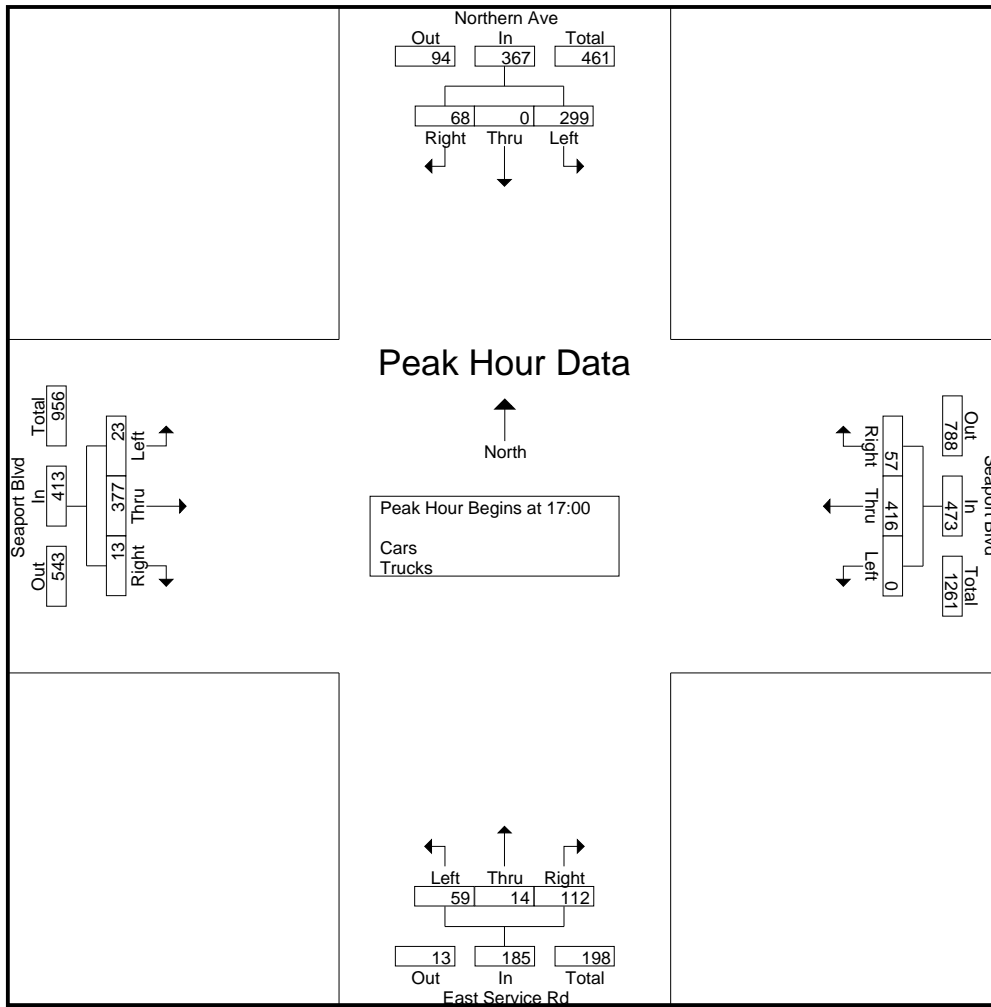
Groups Printed- Cars - Trucks

| | Northern Ave From North | | | | Seaport Blvd From East | | | | East Service Rd From South | | | | Seaport Blvd From West | | | | Exclu. Total | Inclu. Total | Int. Total |
|-------------|----------------------------|------|-------|------|---------------------------|------|-------|------|-------------------------------|------|-------|------|---------------------------|------|-------|------|--------------|--------------|------------|
| Start Time | Left | Thru | Right | Peds | Left | Thru | Right | Peds | Left | Thru | Right | Peds | Left | Thru | Right | Peds | | | |
| 16:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16:15 | 38 | 0 | 19 | 16 | 0 | 142 | 6 | 8 | 9 | 3 | 7 | 19 | 5 | 39 | 0 | 1 | 44 | 268 | 312 |
| 16:30 | 47 | 0 | 17 | 17 | 0 | 126 | 14 | 4 | 13 | 1 | 14 | 27 | 2 | 42 | 0 | 5 | 53 | 276 | 329 |
| 16:45 | 51 | 0 | 15 | 12 | 0 | 149 | 12 | 3 | 10 | 5 | 9 | 28 | 2 | 61 | 0 | 2 | 45 | 314 | 359 |
| Total | 136 | 0 | 51 | 45 | 0 | 417 | 32 | 15 | 32 | 9 | 30 | 74 | 9 | 142 | 0 | 8 | 142 | 858 | 1000 |
| 17:00 | 76 | 0 | 20 | 25 | 0 | 150 | 15 | 4 | 17 | 4 | 30 | 58 | 5 | 60 | 0 | 2 | 89 | 377 | 466 |
| 17:15 | 89 | 0 | 15 | 35 | 0 | 80 | 17 | 8 | 12 | 5 | 34 | 65 | 5 | 90 | 0 | 2 | 110 | 347 | 457 |
| 17:30 | 77 | 0 | 18 | 33 | 0 | 92 | 13 | 6 | 15 | 3 | 28 | 48 | 4 | 108 | 0 | 3 | 90 | 358 | 448 |
| 17:45 | 57 | 0 | 15 | 35 | 0 | 94 | 12 | 3 | 15 | 2 | 20 | 31 | 9 | 119 | 13 | 2 | 71 | 356 | 427 |
| Total | 299 | 0 | 68 | 128 | 0 | 416 | 57 | 21 | 59 | 14 | 112 | 202 | 23 | 377 | 13 | 9 | 360 | 1438 | 1798 |
| Grand Total | 435 | 0 | 119 | 173 | 0 | 833 | 89 | 36 | 91 | 23 | 142 | 276 | 32 | 519 | 13 | 17 | 502 | 2296 | 2798 |
| Apprch % | 78.5 | 0 | 21.5 | | 0 | 90.3 | 9.7 | | 35.5 | 9 | 55.5 | | 5.7 | 92 | 2.3 | | | | |
| Total % | 18.9 | 0 | 5.2 | | 0 | 36.3 | 3.9 | | 4 | 1 | 6.2 | | 1.4 | 22.6 | 0.6 | | 17.9 | 82.1 | |
| Cars | 430 | 0 | 118 | | 0 | 790 | 81 | | 91 | 23 | 139 | | 29 | 481 | 12 | | 0 | 0 | 2696 |
| % Cars | 98.9 | 0 | 99.2 | 100 | 0 | 94.8 | 91 | 100 | 100 | 100 | 97.9 | 100 | 90.6 | 92.7 | 92.3 | 100 | 0 | 0 | 96.4 |
| Trucks | 5 | 0 | 1 | | 0 | 43 | 8 | | 0 | 0 | 3 | | 3 | 38 | 1 | | 0 | 0 | 102 |
| % Trucks | 1.1 | 0 | 0.8 | 0 | 0 | 5.2 | 9 | 0 | 0 | 0 | 2.1 | 0 | 9.4 | 7.3 | 7.7 | 0 | 0 | 0 | 3.6 |

| | Northern Ave From North | | | | Seaport Blvd From East | | | | East Service Rd From South | | | | Seaport Blvd From West | | | | |
|--|----------------------------|------|-------|------------|---------------------------|------|-------|------------|-------------------------------|------|-------|------------|---------------------------|------|-------|------------|------------|
| Start Time | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Int. Total |
| Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1 | | | | | | | | | | | | | | | | | |
| Peak Hour for Entire Intersection Begins at 17:00 | | | | | | | | | | | | | | | | | |
| 17:00 | 76 | 0 | 20 | 96 | 0 | 150 | 15 | 165 | 17 | 4 | 30 | 51 | 5 | 60 | 0 | 65 | 377 |
| 17:15 | 89 | 0 | 15 | 104 | 0 | 80 | 17 | 97 | 12 | 5 | 34 | 51 | 5 | 90 | 0 | 95 | 347 |
| 17:30 | 77 | 0 | 18 | 95 | 0 | 92 | 13 | 105 | 15 | 3 | 28 | 46 | 4 | 108 | 0 | 112 | 358 |
| 17:45 | 57 | 0 | 15 | 72 | 0 | 94 | 12 | 106 | 15 | 2 | 20 | 37 | 9 | 119 | 13 | 141 | 356 |
| Total Volume | 299 | 0 | 68 | 367 | 0 | 416 | 57 | 473 | 59 | 14 | 112 | 185 | 23 | 377 | 13 | 413 | 1438 |
| % App. Total | 81.5 | 0 | 18.5 | | 0 | 87.9 | 12.1 | | 31.9 | 7.6 | 60.5 | | 5.6 | 91.3 | 3.1 | | |
| PHF | .840 | .000 | .850 | .882 | .000 | .693 | .838 | .717 | .868 | .700 | .824 | .907 | .639 | .792 | .250 | .732 | .954 |

Accurate Counts
978-664-2565

File Name : 1285004
Site Code : 12850004
Start Date : 3/14/2007
Page No : 2



N/S Street : A Street
 E/W Street: West Broadway
 City/State : Boston, MA
 Weather : Cloudy

Accurate Counts
 978-664-2565

File Name : 12850025
 Site Code : 12850025
 Start Date : 3/21/2007
 Page No : 1

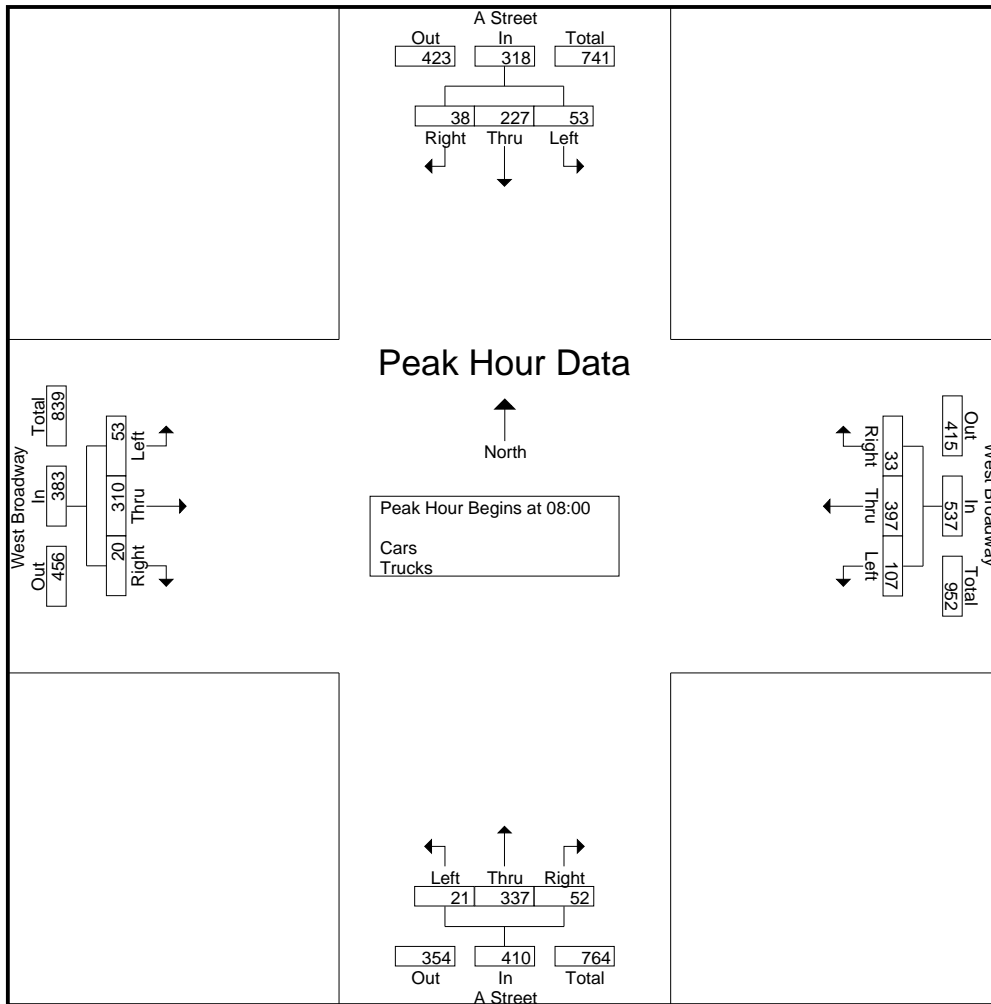
Groups Printed- Cars - Trucks

| | A Street From North | | | | West Broadway From East | | | | A Street From South | | | | West Broadway From West | | | | Exclu. Total | Inclu. Total | Int. Total |
|-------------|------------------------|------|-------|------|----------------------------|------|-------|------|------------------------|------|-------|------|----------------------------|------|-------|------|--------------|--------------|------------|
| Start Time | Left | Thru | Right | Peds | Left | Thru | Right | Peds | Left | Thru | Right | Peds | Left | Thru | Right | Peds | | | |
| 07:00 | 11 | 38 | 3 | 4 | 19 | 97 | 5 | 9 | 6 | 70 | 14 | 25 | 4 | 70 | 5 | 1 | 39 | 342 | 381 |
| 07:15 | 9 | 63 | 6 | 12 | 22 | 110 | 9 | 1 | 5 | 70 | 15 | 26 | 3 | 55 | 14 | 4 | 43 | 381 | 424 |
| 07:30 | 8 | 58 | 7 | 12 | 18 | 110 | 7 | 4 | 2 | 66 | 7 | 39 | 2 | 61 | 1 | 1 | 56 | 347 | 403 |
| 07:45 | 15 | 63 | 13 | 17 | 22 | 93 | 14 | 3 | 0 | 75 | 9 | 46 | 7 | 69 | 1 | 6 | 72 | 381 | 453 |
| Total | 43 | 222 | 29 | 45 | 81 | 410 | 35 | 17 | 13 | 281 | 45 | 136 | 16 | 255 | 21 | 12 | 210 | 1451 | 1661 |
| 08:00 | 12 | 57 | 16 | 19 | 29 | 106 | 10 | 4 | 5 | 74 | 12 | 51 | 8 | 67 | 8 | 18 | 92 | 404 | 496 |
| 08:15 | 15 | 66 | 4 | 11 | 24 | 112 | 9 | 9 | 9 | 77 | 8 | 58 | 14 | 88 | 4 | 9 | 87 | 430 | 517 |
| 08:30 | 15 | 51 | 8 | 21 | 27 | 92 | 7 | 12 | 2 | 96 | 15 | 43 | 19 | 77 | 3 | 4 | 80 | 412 | 492 |
| 08:45 | 11 | 53 | 10 | 9 | 27 | 87 | 7 | 4 | 5 | 90 | 17 | 39 | 12 | 78 | 5 | 3 | 55 | 402 | 457 |
| Total | 53 | 227 | 38 | 60 | 107 | 397 | 33 | 29 | 21 | 337 | 52 | 191 | 53 | 310 | 20 | 34 | 314 | 1648 | 1962 |
| Grand Total | 96 | 449 | 67 | 105 | 188 | 807 | 68 | 46 | 34 | 618 | 97 | 327 | 69 | 565 | 41 | 46 | 524 | 3099 | 3623 |
| Apprch % | 15.7 | 73.4 | 10.9 | | 17.7 | 75.9 | 6.4 | | 4.5 | 82.5 | 13 | | 10.2 | 83.7 | 6.1 | | | | |
| Total % | 3.1 | 14.5 | 2.2 | | 6.1 | 26 | 2.2 | | 1.1 | 19.9 | 3.1 | | 2.2 | 18.2 | 1.3 | | 14.5 | 85.5 | |
| Cars | 88 | 422 | 64 | | 184 | 800 | 67 | | 30 | 602 | 86 | | 63 | 550 | 39 | | 0 | 0 | 3519 |
| % Cars | 91.7 | 94 | 95.5 | 100 | 97.9 | 99.1 | 98.5 | 100 | 88.2 | 97.4 | 88.7 | 100 | 91.3 | 97.3 | 95.1 | 100 | 0 | 0 | 97.1 |
| Trucks | 8 | 27 | 3 | | 4 | 7 | 1 | | 4 | 16 | 11 | | 6 | 15 | 2 | | 0 | 0 | 104 |
| % Trucks | 8.3 | 6 | 4.5 | 0 | 2.1 | 0.9 | 1.5 | 0 | 11.8 | 2.6 | 11.3 | 0 | 8.7 | 2.7 | 4.9 | 0 | 0 | 0 | 2.9 |

| | A Street From North | | | | West Broadway From East | | | | A Street From South | | | | West Broadway From West | | | | |
|--|------------------------|------|-------|------------|----------------------------|------|-------|------------|------------------------|------|-------|------------|----------------------------|------|-------|------------|------------|
| Start Time | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Int. Total |
| Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1 | | | | | | | | | | | | | | | | | |
| Peak Hour for Entire Intersection Begins at 08:00 | | | | | | | | | | | | | | | | | |
| 08:00 | 12 | 57 | 16 | 85 | 29 | 106 | 10 | 145 | 5 | 74 | 12 | 91 | 8 | 67 | 8 | 83 | 404 |
| 08:15 | 15 | 66 | 4 | 85 | 24 | 112 | 9 | 145 | 9 | 77 | 8 | 94 | 14 | 88 | 4 | 106 | 430 |
| 08:30 | 15 | 51 | 8 | 74 | 27 | 92 | 7 | 126 | 2 | 96 | 15 | 113 | 19 | 77 | 3 | 99 | 412 |
| 08:45 | 11 | 53 | 10 | 74 | 27 | 87 | 7 | 121 | 5 | 90 | 17 | 112 | 12 | 78 | 5 | 95 | 402 |
| Total Volume | 53 | 227 | 38 | 318 | 107 | 397 | 33 | 537 | 21 | 337 | 52 | 410 | 53 | 310 | 20 | 383 | 1648 |
| % App. Total | 16.7 | 71.4 | 11.9 | | 19.9 | 73.9 | 6.1 | | 5.1 | 82.2 | 12.7 | | 13.8 | 80.9 | 5.2 | | |
| PHF | .883 | .860 | .594 | .935 | .922 | .886 | .825 | .926 | .583 | .878 | .765 | .907 | .697 | .881 | .625 | .903 | .958 |

Accurate Counts
978-664-2565

File Name : 12850025
Site Code : 12850025
Start Date : 3/21/2007
Page No : 2



N/S Street : A Street
 E/W Street: West Broadway
 City/State : Boston, MA
 Weather : Cloudy

Accurate Counts
 978-664-2565

File Name : 12850025
 Site Code : 12850025
 Start Date : 3/21/2007
 Page No : 1

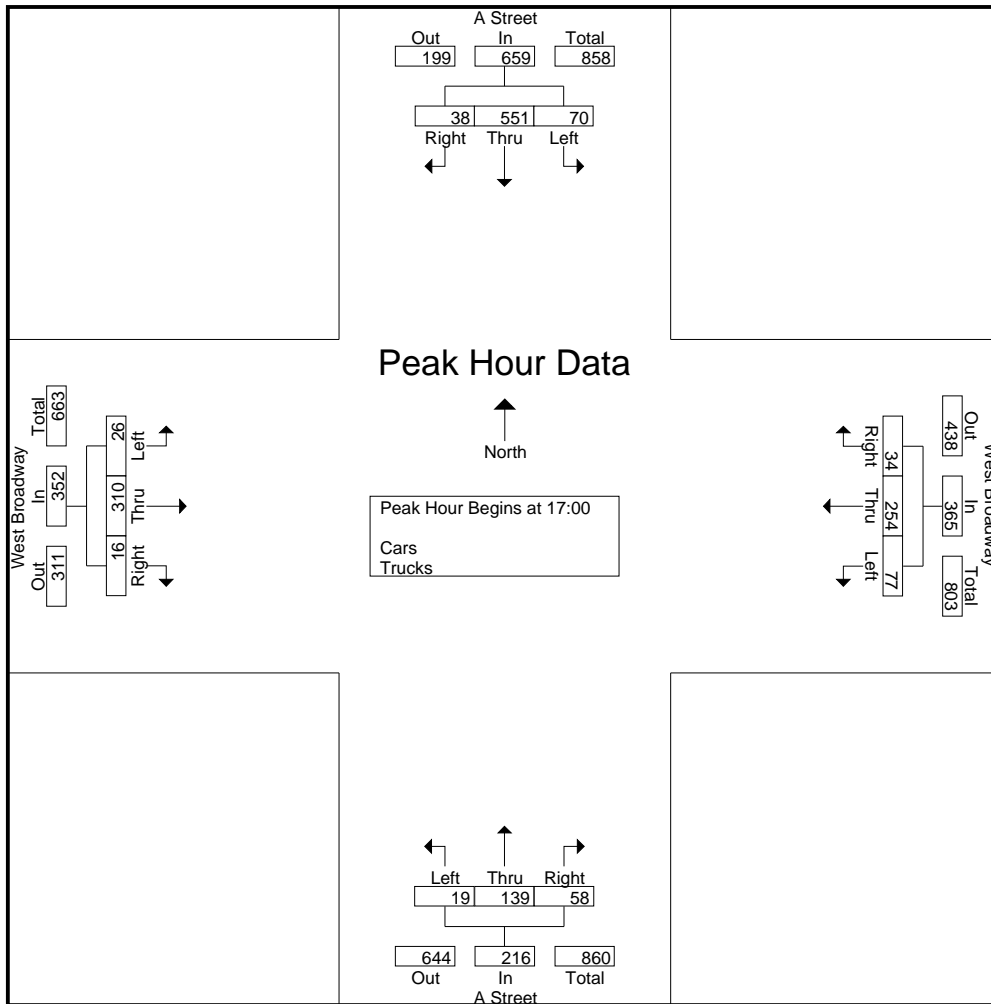
Groups Printed- Cars - Trucks

| | A Street From North | | | | West Broadway From East | | | | A Street From South | | | | West Broadway From West | | | | Exclu. Total | Inclu. Total | Int. Total |
|-------------|------------------------|------|-------|------|----------------------------|------|-------|------|------------------------|------|-------|------|----------------------------|------|-------|------|--------------|--------------|------------|
| Start Time | Left | Thru | Right | Peds | Left | Thru | Right | Peds | Left | Thru | Right | Peds | Left | Thru | Right | Peds | | | |
| 16:00 | 21 | 118 | 8 | 9 | 14 | 66 | 8 | 1 | 5 | 18 | 21 | 33 | 8 | 81 | 2 | 7 | 50 | 370 | 420 |
| 16:15 | 21 | 107 | 9 | 5 | 15 | 51 | 6 | 2 | 1 | 28 | 15 | 38 | 3 | 87 | 1 | 2 | 47 | 344 | 391 |
| 16:30 | 16 | 121 | 9 | 17 | 18 | 82 | 3 | 0 | 6 | 37 | 18 | 35 | 4 | 68 | 3 | 5 | 57 | 385 | 442 |
| 16:45 | 19 | 131 | 8 | 4 | 12 | 52 | 9 | 1 | 4 | 32 | 13 | 41 | 1 | 64 | 5 | 2 | 48 | 350 | 398 |
| Total | 77 | 477 | 34 | 35 | 59 | 251 | 26 | 4 | 16 | 115 | 67 | 147 | 16 | 300 | 11 | 16 | 202 | 1449 | 1651 |
| 17:00 | 16 | 139 | 10 | 7 | 18 | 57 | 8 | 0 | 5 | 38 | 13 | 24 | 5 | 74 | 4 | 4 | 35 | 387 | 422 |
| 17:15 | 13 | 142 | 12 | 8 | 20 | 58 | 6 | 1 | 4 | 41 | 17 | 36 | 9 | 86 | 5 | 3 | 48 | 413 | 461 |
| 17:30 | 19 | 126 | 8 | 8 | 23 | 70 | 14 | 0 | 5 | 34 | 13 | 46 | 8 | 73 | 4 | 5 | 59 | 397 | 456 |
| 17:45 | 22 | 144 | 8 | 9 | 16 | 69 | 6 | 2 | 5 | 26 | 15 | 44 | 4 | 77 | 3 | 11 | 66 | 395 | 461 |
| Total | 70 | 551 | 38 | 32 | 77 | 254 | 34 | 3 | 19 | 139 | 58 | 150 | 26 | 310 | 16 | 23 | 208 | 1592 | 1800 |
| Grand Total | 147 | 1028 | 72 | 67 | 136 | 505 | 60 | 7 | 35 | 254 | 125 | 297 | 42 | 610 | 27 | 39 | 410 | 3041 | 3451 |
| Apprch % | 11.8 | 82.4 | 5.8 | | 19.4 | 72 | 8.6 | | 8.5 | 61.4 | 30.2 | | 6.2 | 89.8 | 4 | | | | |
| Total % | 4.8 | 33.8 | 2.4 | | 4.5 | 16.6 | 2 | | 1.2 | 8.4 | 4.1 | | 1.4 | 20.1 | 0.9 | | 11.9 | 88.1 | |
| Cars | 146 | 1010 | 68 | | 135 | 503 | 60 | | 35 | 249 | 117 | | 42 | 607 | 27 | | 0 | 0 | 3409 |
| % Cars | 99.3 | 98.2 | 94.4 | 100 | 99.3 | 99.6 | 100 | 100 | 100 | 98 | 93.6 | 100 | 100 | 99.5 | 100 | 100 | 0 | 0 | 98.8 |
| Trucks | 1 | 18 | 4 | | 1 | 2 | 0 | | 0 | 5 | 8 | | 0 | 3 | 0 | | 0 | 0 | 42 |
| % Trucks | 0.7 | 1.8 | 5.6 | 0 | 0.7 | 0.4 | 0 | 0 | 0 | 2 | 6.4 | 0 | 0 | 0.5 | 0 | 0 | 0 | 0 | 1.2 |

| | A Street From North | | | | West Broadway From East | | | | A Street From South | | | | West Broadway From West | | | | |
|--|------------------------|------|-------|------------|----------------------------|------|-------|------------|------------------------|------|-------|------------|----------------------------|------|-------|------------|------------|
| Start Time | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Int. Total |
| Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1 | | | | | | | | | | | | | | | | | |
| Peak Hour for Entire Intersection Begins at 17:00 | | | | | | | | | | | | | | | | | |
| 17:00 | 16 | 139 | 10 | 165 | 18 | 57 | 8 | 83 | 5 | 38 | 13 | 56 | 5 | 74 | 4 | 83 | 387 |
| 17:15 | 13 | 142 | 12 | 167 | 20 | 58 | 6 | 84 | 4 | 41 | 17 | 62 | 9 | 86 | 5 | 100 | 413 |
| 17:30 | 19 | 126 | 8 | 153 | 23 | 70 | 14 | 107 | 5 | 34 | 13 | 52 | 8 | 73 | 4 | 85 | 397 |
| 17:45 | 22 | 144 | 8 | 174 | 16 | 69 | 6 | 91 | 5 | 26 | 15 | 46 | 4 | 77 | 3 | 84 | 395 |
| Total Volume | 70 | 551 | 38 | 659 | 77 | 254 | 34 | 365 | 19 | 139 | 58 | 216 | 26 | 310 | 16 | 352 | 1592 |
| % App. Total | 10.6 | 83.6 | 5.8 | | 21.1 | 69.6 | 9.3 | | 8.8 | 64.4 | 26.9 | | 7.4 | 88.1 | 4.5 | | |
| PHF | .795 | .957 | .792 | .947 | .837 | .907 | .607 | .853 | .950 | .848 | .853 | .871 | .722 | .901 | .800 | .880 | .964 |





















Accurate Counts
978-664-2565

File Name : 12850025
Site Code : 12850025
Start Date : 3/21/2007
Page No : 2















Seaport Square
3109: Seaport Boulevard & Sleeper Street

2007 Existing
AM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  |  |  |  | | |  | | |  |  |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width (ft) | 11 | 11 | 12 | 12 | 12 | 13 | 12 | 11 | 12 | 12 | 11 | 10 |
| Storage Length (ft) | 0 | | 0 | 150 | | 0 | 0 | | 0 | 0 | | 0 |
| Storage Lanes | 1 | | 1 | 1 | | 0 | 0 | | 0 | 0 | | 1 |
| Total Lost Time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Leading Detector (ft) | 50 | 50 | 50 | 50 | 50 | | 50 | 50 | | 50 | 50 | 50 |
| Trailing Detector (ft) | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Turning Speed (mph) | 15 | | 9 | 15 | | 9 | 15 | | 9 | 15 | | 9 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | | | 0.96 | 0.99 | 1.00 | | | 0.98 | | | 0.99 | 0.97 |
| Frt | | | 0.850 | | 0.995 | | | 0.972 | | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | | 0.969 | | | 0.979 | |
| Satd. Flow (prot) | 1728 | 1749 | 1568 | 1530 | 2927 | 0 | 0 | 1505 | 0 | 0 | 1798 | 1436 |
| Flt Permitted | 0.077 | | | 0.077 | | | | 0.788 | | | 0.880 | |
| Satd. Flow (perm) | 140 | 1749 | 1506 | 123 | 2927 | 0 | 0 | 1213 | 0 | 0 | 1605 | 1397 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | | 108 | | 7 | | | 13 | | | | 33 |
| Headway Factor | 1.04 | 1.04 | 1.00 | 1.00 | 1.07 | 0.96 | 1.00 | 1.19 | 1.00 | 1.00 | 1.04 | 1.09 |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | | | 30 | |
| Link Distance (ft) | | 494 | | | 1447 | | | 386 | | | 311 | |
| Travel Time (s) | | 11.2 | | | 32.9 | | | 8.8 | | | 7.1 | |
| Volume (vph) | 332 | 832 | 80 | 12 | 557 | 20 | 84 | 15 | 22 | 6 | 8 | 23 |
| Confl. Peds. (#/hr) | 54 | | 18 | 54 | | 18 | 11 | | 20 | 20 | | 11 |
| Peak Hour Factor | 0.95 | 0.94 | 0.69 | 0.55 | 0.91 | 0.95 | 0.68 | 0.54 | 0.55 | 0.50 | 0.50 | 0.69 |
| Heavy Vehicles (%) | 1% | 5% | 3% | 18% | 17% | 0% | 4% | 0% | 0% | 0% | 0% | 5% |
| Parking (#/hr) | | | | | 0 | 0 | 0 | 0 | 0 | | | |
| Adj. Flow (vph) | 349 | 885 | 116 | 22 | 612 | 21 | 124 | 28 | 40 | 12 | 16 | 33 |
| Lane Group Flow (vph) | 349 | 885 | 116 | 22 | 633 | 0 | 0 | 192 | 0 | 0 | 28 | 33 |
| Turn Type | Perm | | Perm | D.P+P | | | Perm | | | Perm | | Perm |
| Protected Phases | | 1 | | 6 | 1 6 | | | 5 | | | 5 | |
| Permitted Phases | 1 | | 1 | 1 | | | 5 | | | 5 | | 5 |
| Detector Phases | 1 | 1 | 1 | 6 | 1 6 | | 5 | 5 | | 5 | 5 | 5 |
| Minimum Initial (s) | 8.0 | 8.0 | 8.0 | 4.0 | | | 8.0 | 8.0 | | 8.0 | 8.0 | 8.0 |
| Minimum Split (s) | 50.0 | 50.0 | 50.0 | 11.0 | | | 27.0 | 27.0 | | 27.0 | 27.0 | 27.0 |
| Total Split (s) | 56.0 | 56.0 | 56.0 | 14.0 | 70.0 | 0.0 | 30.0 | 30.0 | 0.0 | 30.0 | 30.0 | 30.0 |
| Total Split (%) | 56.0% | 56.0% | 56.0% | 14.0% | 70.0% | 0.0% | 30.0% | 30.0% | 0.0% | 30.0% | 30.0% | 30.0% |
| Maximum Green (s) | 51.0 | 51.0 | 51.0 | 9.0 | | | 25.0 | 25.0 | | 25.0 | 25.0 | 25.0 |
| Yellow Time (s) | 4.0 | 4.0 | 4.0 | 4.0 | | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lead/Lag | | | | Lag | | | Lead | Lead | | Lead | Lead | Lead |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Vehicle Extension (s) | 2.0 | 2.0 | 2.0 | 2.0 | | | 2.0 | 2.0 | | 2.0 | 2.0 | 2.0 |
| Recall Mode | C-Max | C-Max | C-Max | Max | | | Max | Max | | Max | Max | Max |
| Walk Time (s) | 20.0 | 20.0 | 20.0 | | | | 7.0 | 7.0 | | 7.0 | 7.0 | 7.0 |
| Flash Dont Walk (s) | 25.0 | 25.0 | 25.0 | | | | 15.0 | 15.0 | | 15.0 | 15.0 | 15.0 |
| Pedestrian Calls (#/hr) | 50 | 50 | 50 | | | | 20 | 20 | | 20 | 20 | 20 |
| Act Effct Green (s) | 52.0 | 52.0 | 52.0 | 62.0 | 66.0 | | | 26.0 | | | 26.0 | 26.0 |
| Actuated g/C Ratio | 0.52 | 0.52 | 0.52 | 0.62 | 0.66 | | | 0.26 | | | 0.26 | 0.26 |

Seaport Square
3109: Seaport Boulevard & Sleeper Street

2007 Existing
AM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| v/c Ratio | 4.78 | 0.97 | 0.14 | 0.10 | 0.33 | | | 0.59 | | | 0.07 | 0.09 |
| Control Delay | 1743.0 | 48.8 | 3.3 | 6.1 | 4.6 | | | 38.7 | | | 28.6 | 10.3 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | 0.0 | | | 0.0 | 0.0 |
| Total Delay | 1743.0 | 48.8 | 3.3 | 6.1 | 4.6 | | | 38.7 | | | 28.6 | 10.3 |
| LOS | F | D | A | A | A | | | D | | | C | B |
| Approach Delay | | 482.9 | | | 4.6 | | | 38.7 | | | 18.7 | |
| Approach LOS | | F | | | A | | | D | | | B | |
| Queue Length 50th (ft) | ~378 | 523 | 2 | 4 | 54 | | | 100 | | | 14 | 0 |
| Queue Length 95th (ft) | #556 | #809 | 14 | 5 | 63 | | | 91 | | | 19 | 14 |
| Internal Link Dist (ft) | | 414 | | | 1367 | | | 306 | | | 231 | |
| Turn Bay Length (ft) | | | | 150 | | | | | | | | |
| Base Capacity (vph) | 73 | 909 | 835 | 217 | 1934 | | | 325 | | | 417 | 388 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | | | 0 | | | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | | | 0 | | | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | | | 0 | | | 0 | 0 |
| Reduced v/c Ratio | 4.78 | 0.97 | 0.14 | 0.10 | 0.33 | | | 0.59 | | | 0.07 | 0.09 |

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 1:EBWB, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 4.78

Intersection Signal Delay: 293.8

Intersection LOS: F

Intersection Capacity Utilization 84.2%

ICU Level of Service E

Analysis Period (min) 15




~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.























Queue shown is maximum after two cycles.

Splits and Phases: 3109: Seaport Boulevard & Sleeper Street

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
|  |  |  |  |  |  |  |  |  |  |  |  |
| ø1 | | | ø5 | | | ø6 | | | | | |
| 56 s | | | 30 s | | | 14 s | | | | | |













Seaport Square
3107: Seaport Boulevard & East Service Road

2007 Existing
AM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|---|--|---|---|--|---|---|---|---|---|---|---|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |   | | |   | |  |  |  |  | |  |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width (ft) | 12 | 12 | 12 | 12 | 13 | 14 | 14 | 13 | 12 | 16 | 16 | 12 |
| Total Lost Time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Leading Detector (ft) | 50 | 50 | | | 50 | | 50 | 50 | 50 | 50 | | 50 |
| Trailing Detector (ft) | 0 | 0 | | | 0 | | 0 | 0 | 0 | 0 | | 0 |
| Turning Speed (mph) | 15 | | 9 | 15 | | 9 | 15 | | 9 | 15 | | 9 |
| Lane Util. Factor | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | 0.99 | | | | 0.99 | | 0.99 | | 0.97 | 0.99 | | 0.98 |
| Frt | | | | | 0.966 | | | | 0.850 | | | 0.850 |
| Flt Protected | 0.950 | | | | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 1805 | 3175 | 0 | 0 | 3133 | 0 | 1888 | 1963 | 1568 | 1719 | 0 | 1615 |
| Flt Permitted | 0.235 | | | | | | 0.950 | | | 0.950 | | |
| Satd. Flow (perm) | 442 | 3175 | 0 | 0 | 3133 | 0 | 1878 | 1963 | 1519 | 1696 | 0 | 1587 |
| Right Turn on Red | | | Yes | | | Yes | | | No | | | Yes |
| Satd. Flow (RTOR) | | | | | 38 | | | | | | | 4 |
| Headway Factor | 1.00 | 1.07 | 1.00 | 1.00 | 0.96 | 0.92 | 0.92 | 0.96 | 1.00 | 0.85 | 0.85 | 1.00 |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | | | 30 | |
| Link Distance (ft) | | 1447 | | | 181 | | | 381 | | | 275 | |
| Travel Time (s) | | 32.9 | | | 4.1 | | | 8.7 | | | 6.3 | |
| Volume (vph) | 40 | 613 | 0 | 0 | 455 | 120 | 126 | 194 | 214 | 26 | 0 | 1 |
| Confl. Peds. (#/hr) | 12 | | 69 | 69 | | 12 | 3 | | 11 | 11 | | 3 |
| Peak Hour Factor | 0.86 | 0.88 | 0.92 | 0.92 | 0.92 | 0.83 | 0.90 | 0.71 | 0.86 | 0.72 | 0.92 | 0.25 |
| Heavy Vehicles (%) | 0% | 8% | 2% | 2% | 17% | 2% | 2% | 0% | 3% | 19% | 2% | 0% |
| Parking (#/hr) | | 0 | | | | | | | | | | |
| Adj. Flow (vph) | 47 | 697 | 0 | 0 | 495 | 145 | 140 | 273 | 249 | 36 | 0 | 4 |
| Lane Group Flow (vph) | 47 | 697 | 0 | 0 | 640 | 0 | 140 | 273 | 249 | 36 | 0 | 4 |
| Turn Type | D.P+P | | | | | | Split | | Perm | Prot | | custom |
| Protected Phases | 6 | 1 6 | | | 1 | | 5 | 5 | | 2 | | |
| Permitted Phases | 1 | | | | | | | | 5 | | | 2 |
| Detector Phases | 6 | 1 6 | | | 1 | | 5 | 5 | 5 | 2 | | 2 |
| Minimum Initial (s) | 8.0 | | | | 8.0 | | 8.0 | 8.0 | 8.0 | 8.0 | | 8.0 |
| Minimum Split (s) | 13.0 | | | | 22.0 | | 22.0 | 22.0 | 22.0 | 22.0 | | 22.0 |
| Total Split (s) | 13.0 | 46.0 | 0.0 | 0.0 | 33.0 | 0.0 | 26.0 | 26.0 | 26.0 | 28.0 | 0.0 | 28.0 |
| Total Split (%) | 13.0% | 46.0% | 0.0% | 0.0% | 33.0% | 0.0% | 26.0% | 26.0% | 26.0% | 28.0% | 0.0% | 28.0% |
| Maximum Green (s) | 8.0 | | | | 28.0 | | 21.0 | 21.0 | 21.0 | 23.0 | | 23.0 |
| Yellow Time (s) | 4.0 | | | | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 |
| All-Red Time (s) | 1.0 | | | | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 |
| Lead/Lag | Lag | | | | Lead | | Lead | Lead | Lead | Lag | | Lag |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Vehicle Extension (s) | 2.0 | | | | 2.0 | | 2.0 | 2.0 | 2.0 | 2.0 | | 2.0 |
| Recall Mode | None | | | | C-Max | | None | None | None | None | | None |
| Walk Time (s) | | | | | 7.0 | | 7.0 | 7.0 | 7.0 | 7.0 | | 7.0 |
| Flash Dont Walk (s) | | | | | 10.0 | | 10.0 | 10.0 | 10.0 | 10.0 | | 10.0 |
| Pedestrian Calls (#/hr) | | | | | 60 | | 5 | 5 | 5 | 5 | | 5 |
| Act Effct Green (s) | 58.7 | 62.7 | | | 49.7 | | 19.7 | 19.7 | 19.7 | 10.8 | | 10.8 |
| Actuated g/C Ratio | 0.59 | 0.63 | | | 0.50 | | 0.20 | 0.20 | 0.20 | 0.11 | | 0.11 |
| v/c Ratio | 0.12 | 0.35 | | | 0.41 | | 0.38 | 0.71 | 0.83 | 0.19 | | 0.02 |
| Control Delay | 6.1 | 7.2 | | | 18.2 | | 37.2 | 47.7 | 61.9 | 41.7 | | 23.0 |

Seaport Square
3107: Seaport Boulevard & East Service Road

2007 Existing
AM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Queue Delay | 0.0 | 0.0 | | | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 |
| Total Delay | 6.1 | 7.2 | | | 18.2 | | 37.2 | 47.7 | 61.9 | 41.7 | | 23.0 |
| LOS | A | A | | | B | | D | D | E | D | | C |
| Approach Delay | | 7.1 | | | 18.2 | | | 50.8 | | | | |
| Approach LOS | | A | | | B | | | D | | | | |
| Queue Length 50th (ft) | 9 | 115 | | | 137 | | 76 | 159 | 149 | 22 | | 0 |
| Queue Length 95th (ft) | m16 | m192 | | | 220 | | 132 | 184 | #241 | 37 | | 1 |
| Internal Link Dist (ft) | | 1367 | | | 101 | | | 301 | | | 195 | |
| Turn Bay Length (ft) | | | | | | | | | | | | |
| Base Capacity (vph) | 382 | 1992 | | | 1577 | | 415 | 432 | 334 | 413 | | 384 |
| Starvation Cap Reductn | 0 | 0 | | | 0 | | 0 | 0 | 0 | 0 | | 0 |
| Spillback Cap Reductn | 0 | 0 | | | 0 | | 0 | 0 | 0 | 0 | | 0 |
| Storage Cap Reductn | 0 | 0 | | | 0 | | 0 | 0 | 0 | 0 | | 0 |
| Reduced v/c Ratio | 0.12 | 0.35 | | | 0.41 | | 0.34 | 0.63 | 0.75 | 0.09 | | 0.01 |

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 81 (81%), Referenced to phase 1:EBWB, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.83

Intersection Signal Delay: 25.0

Intersection LOS: C

Intersection Capacity Utilization 52.4%

ICU Level of Service A

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.





















m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3107: Seaport Boulevard & East Service Road

| | | | |
|---|---|---|---|
|  |  |  |  |
| ø1 | ø2 | ø5 | ø6 |
| 33 s | 28 s | 26 s | 13 s |


Seaport Square
1110: W. Broadway & A Street

2007 Existing
AM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  | |  |  | | |  |  | |  |  |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width (ft) | 12 | 12 | 12 | 12 | 12 | 12 | 11 | 11 | 11 | 11 | 9 | 9 |
| Storage Length (ft) | 40 | | 0 | 40 | | 0 | 0 | | 0 | 0 | | 0 |
| Storage Lanes | 1 | | 0 | 1 | | 0 | 0 | | 0 | 0 | | 1 |
| Total Lost Time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Leading Detector (ft) | 50 | 50 | | 50 | 50 | | 50 | 50 | | 50 | 50 | 50 |
| Trailing Detector (ft) | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Turning Speed (mph) | 15 | | 9 | 15 | | 9 | 15 | | 9 | 15 | | 9 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | 0.95 | 0.95 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | 0.99 | 1.00 | | 1.00 | 1.00 | | | 1.00 | | | 1.00 | 0.97 |
| Frt | | 0.988 | | | 0.988 | | | 0.979 | | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | | 0.996 | | | 0.991 | |
| Satd. Flow (prot) | 1736 | 1510 | 0 | 1570 | 1615 | 0 | 0 | 3206 | 0 | 0 | 1576 | 1371 |
| Flt Permitted | 0.318 | | | 0.420 | | | | 0.911 | | | 0.848 | |
| Satd. Flow (perm) | 576 | 1510 | 0 | 690 | 1615 | 0 | 0 | 2932 | 0 | 0 | 1348 | 1336 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | 7 | | | 7 | | | 26 | | | | 64 |
| Headway Factor | 1.00 | 1.16 | 1.00 | 1.00 | 1.16 | 1.00 | 1.04 | 1.04 | 1.04 | 1.04 | 1.14 | 1.14 |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | | | | 30 |
| Link Distance (ft) | | 463 | | | 424 | | | 472 | | | | 424 |
| Travel Time (s) | | 10.5 | | | 9.6 | | | 10.7 | | | | 9.6 |
| Volume (vph) | 53 | 310 | 20 | 107 | 397 | 33 | 21 | 337 | 52 | 53 | 227 | 38 |
| Confl. Peds. (#/hr) | 18 | | 4 | 4 | | 18 | 2 | | 2 | 2 | | 2 |
| Peak Hour Factor | 0.70 | 0.88 | 0.63 | 0.92 | 0.87 | 0.83 | 0.58 | 0.88 | 0.77 | 0.88 | 0.86 | 0.59 |
| Heavy Vehicles (%) | 4% | 10% | 14% | 15% | 3% | 4% | 0% | 5% | 13% | 10% | 7% | 6% |
| Parking (#/hr) | | 2 | 2 | | 2 | 2 | | | | | | |
| Adj. Flow (vph) | 76 | 352 | 32 | 116 | 456 | 40 | 36 | 383 | 68 | 60 | 264 | 64 |
| Lane Group Flow (vph) | 76 | 384 | 0 | 116 | 496 | 0 | 0 | 487 | 0 | 0 | 324 | 64 |
| Turn Type | Perm | | | Perm | | | Perm | | | Perm | | Perm |
| Protected Phases | | 1 | | | 1 | | | 5 | | | 5 | |
| Permitted Phases | 1 | | | 1 | | | 5 | | | 5 | | 5 |
| Detector Phases | 1 | 1 | | 1 | 1 | | 5 | 5 | | 5 | 5 | 5 |
| Minimum Initial (s) | 8.0 | 8.0 | | 8.0 | 8.0 | | 8.0 | 8.0 | | 8.0 | 8.0 | 8.0 |
| Minimum Split (s) | 19.0 | 19.0 | | 19.0 | 19.0 | | 19.0 | 19.0 | | 19.0 | 19.0 | 19.0 |
| Total Split (s) | 46.0 | 46.0 | 0.0 | 46.0 | 46.0 | 0.0 | 44.0 | 44.0 | 0.0 | 44.0 | 44.0 | 44.0 |
| Total Split (%) | 51.1% | 51.1% | 0.0% | 51.1% | 51.1% | 0.0% | 48.9% | 48.9% | 0.0% | 48.9% | 48.9% | 48.9% |
| Maximum Green (s) | 42.0 | 42.0 | | 42.0 | 42.0 | | 40.0 | 40.0 | | 40.0 | 40.0 | 40.0 |
| Yellow Time (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | 3.0 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lead/Lag | | | | | | | | | | | | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Vehicle Extension (s) | 2.0 | 2.0 | | 2.0 | 2.0 | | 2.0 | 2.0 | | 2.0 | 2.0 | 2.0 |
| Recall Mode | C-Max | C-Max | | C-Max | C-Max | | Max | Max | | Max | Max | Max |
| Walk Time (s) | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | 7.0 |
| Flash Dont Walk (s) | 8.0 | 8.0 | | 8.0 | 8.0 | | 8.0 | 8.0 | | 8.0 | 8.0 | 8.0 |
| Pedestrian Calls (#/hr) | 20 | 20 | | 20 | 20 | | 20 | 20 | | 20 | 20 | 20 |
| Act Effct Green (s) | 42.0 | 42.0 | | 42.0 | 42.0 | | | 40.0 | | | 40.0 | 40.0 |
| Actuated g/C Ratio | 0.47 | 0.47 | | 0.47 | 0.47 | | | 0.44 | | | 0.44 | 0.44 |

Seaport Square
1110: W. Broadway & A Street

2007 Existing
AM Peak Hour

| |  | | | | | | | | | | | |
|-------------------------|--|------|-----|------|------|-----|-----|------|-----|-----|------|------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| v/c Ratio | 0.28 | 0.54 | | 0.36 | 0.66 | | | 0.37 | | | 0.54 | 0.10 |
| Control Delay | 18.4 | 20.4 | | 19.5 | 23.3 | | | 16.7 | | | 22.5 | 4.5 |
| Queue Delay | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | | | 0.0 | 0.0 |
| Total Delay | 18.4 | 20.4 | | 19.5 | 23.3 | | | 16.7 | | | 22.5 | 4.5 |
| LOS | B | C | | B | C | | | B | | | C | A |
| Approach Delay | | 20.0 | | | 22.5 | | | 16.7 | | | 19.5 | |
| Approach LOS | | C | | | C | | | B | | | B | |
| Queue Length 50th (ft) | 26 | 147 | | 41 | 206 | | | 88 | | | 130 | 0 |
| Queue Length 95th (ft) | 43 | 226 | | 85 | 300 | | | 123 | | | 199 | 7 |
| Internal Link Dist (ft) | | 383 | | | 344 | | | 392 | | | 344 | |
| Turn Bay Length (ft) | 40 | | | 40 | | | | | | | | |
| Base Capacity (vph) | 269 | 708 | | 322 | 757 | | | 1318 | | | 599 | 629 |
| Starvation Cap Reductn | 0 | 0 | | 0 | 0 | | | 0 | | | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | | 0 | 0 | | | 0 | | | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | | 0 | 0 | | | 0 | | | 0 | 0 |
| Reduced v/c Ratio | 0.28 | 0.54 | | 0.36 | 0.66 | | | 0.37 | | | 0.54 | 0.10 |

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 57 (63%), Referenced to phase 1:EBWB, Start of Green

Natural Cycle: 45

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.66

Intersection Signal Delay: 19.9

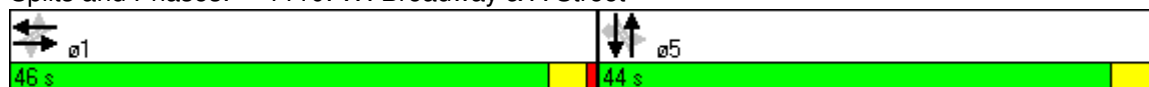
Intersection LOS: B

Intersection Capacity Utilization 70.4%

ICU Level of Service C




















Analysis Period (min) 15

Splits and Phases: 1110: W. Broadway & A Street




Seaport Square
3109: Seaport Boulevard & Sleeper Street

2007 Existing
PM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | |  |  |  |  | | |  | | |  |  |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width (ft) | 11 | 11 | 12 | 12 | 12 | 13 | 12 | 11 | 12 | 12 | 11 | 10 |
| Storage Length (ft) | 0 | | 0 | 150 | | 0 | 0 | | 0 | 0 | | 0 |
| Storage Lanes | 0 | | 1 | 1 | | 0 | 0 | | 0 | 0 | | 1 |
| Total Lost Time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Leading Detector (ft) | 50 | 50 | 50 | 50 | 50 | | 50 | 50 | | 50 | 50 | 50 |
| Trailing Detector (ft) | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Turning Speed (mph) | 15 | | 9 | 15 | | 9 | 15 | | 9 | 15 | | 9 |
| Lane Util. Factor | 0.95 | 0.95 | 1.00 | 1.00 | 0.95 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | | | 0.85 | 0.93 | 1.00 | | | 0.90 | | | 0.98 | 0.88 |
| Frt | | | 0.850 | | 0.997 | | | 0.990 | | | | 0.850 |
| Flt Protected | | 0.994 | | 0.950 | | | | 0.957 | | | 0.978 | |
| Satd. Flow (prot) | 0 | 2828 | 1599 | 1805 | 3305 | 0 | 0 | 1553 | 0 | 0 | 1796 | 1507 |
| Flt Permitted | | 0.581 | | 0.481 | | | | 0.696 | | | 0.820 | |
| Satd. Flow (perm) | 0 | 1653 | 1359 | 846 | 3305 | 0 | 0 | 1025 | 0 | 0 | 1469 | 1320 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | | 94 | | 3 | | | 4 | | | | 150 |
| Headway Factor | 1.04 | 1.04 | 1.00 | 1.00 | 1.07 | 0.96 | 1.00 | 1.19 | 1.00 | 1.00 | 1.04 | 1.09 |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | | | 30 | |
| Link Distance (ft) | | 494 | | | 1447 | | | 386 | | | 311 | |
| Travel Time (s) | | 11.2 | | | 32.9 | | | 8.8 | | | 7.1 | |
| Volume (vph) | 39 | 300 | 78 | 19 | 673 | 5 | 218 | 8 | 9 | 30 | 24 | 345 |
| Confl. Peds. (#/hr) | 34 | | 106 | 106 | | 34 | 84 | | 77 | 77 | | 84 |
| Peak Hour Factor | 0.86 | 0.88 | 0.83 | 0.59 | 0.82 | 0.31 | 0.90 | 1.00 | 0.45 | 0.88 | 0.60 | 0.93 |
| Heavy Vehicles (%) | 5% | 25% | 1% | 0% | 3% | 20% | 0% | 0% | 0% | 0% | 0% | 0% |
| Parking (#/hr) | | | | | 0 | 0 | 0 | 0 | 0 | | | |
| Adj. Flow (vph) | 45 | 341 | 94 | 32 | 821 | 16 | 242 | 8 | 20 | 34 | 40 | 371 |
| Lane Group Flow (vph) | 0 | 386 | 94 | 32 | 837 | 0 | 0 | 270 | 0 | 0 | 74 | 371 |
| Turn Type | Perm | | Perm | D.P+P | | | Perm | | | Perm | | Perm |
| Protected Phases | | 1 | | 6 | 1 6 | | | 5 | | | 5 | |
| Permitted Phases | 1 | | 1 | 1 | | | 5 | | | 5 | | 5 |
| Detector Phases | 1 | 1 | 1 | 6 | 1 6 | | 5 | 5 | | 5 | 5 | 5 |
| Minimum Initial (s) | 8.0 | 8.0 | 8.0 | 4.0 | | | 8.0 | 8.0 | | 8.0 | 8.0 | 8.0 |
| Minimum Split (s) | 45.0 | 45.0 | 45.0 | 11.0 | | | 27.0 | 27.0 | | 27.0 | 27.0 | 27.0 |
| Total Split (s) | 46.0 | 46.0 | 46.0 | 17.0 | 63.0 | 0.0 | 37.0 | 37.0 | 0.0 | 37.0 | 37.0 | 37.0 |
| Total Split (%) | 46.0% | 46.0% | 46.0% | 17.0% | 63.0% | 0.0% | 37.0% | 37.0% | 0.0% | 37.0% | 37.0% | 37.0% |
| Maximum Green (s) | 41.0 | 41.0 | 41.0 | 12.0 | | | 32.0 | 32.0 | | 32.0 | 32.0 | 32.0 |
| Yellow Time (s) | 4.0 | 4.0 | 4.0 | 4.0 | | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lead/Lag | | | | Lag | | | Lead | Lead | | Lead | Lead | Lead |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Vehicle Extension (s) | 2.0 | 2.0 | 2.0 | 2.0 | | | 2.0 | 2.0 | | 2.0 | 2.0 | 2.0 |
| Recall Mode | C-Max | C-Max | C-Max | Max | | | Max | Max | | Max | Max | Max |
| Walk Time (s) | 20.0 | 20.0 | 20.0 | | | | 7.0 | 7.0 | | 7.0 | 7.0 | 7.0 |
| Flash Dont Walk (s) | 20.0 | 20.0 | 20.0 | | | | 15.0 | 15.0 | | 15.0 | 15.0 | 15.0 |
| Pedestrian Calls (#/hr) | 50 | 50 | 50 | | | | 20 | 20 | | 20 | 20 | 20 |
| Act Effct Green (s) | | 42.0 | 42.0 | 55.0 | 59.0 | | | 33.0 | | | 33.0 | 33.0 |
| Actuated g/C Ratio | | 0.42 | 0.42 | 0.55 | 0.59 | | | 0.33 | | | 0.33 | 0.33 |

Seaport Square
3109: Seaport Boulevard & Sleeper Street

2007 Existing
PM Peak Hour

| |  | | | | | | | | | | | |
|-------------------------|--|------|------|------|------|-----|-----|------|-----|-----|------|------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| v/c Ratio | | 0.56 | 0.15 | 0.05 | 0.43 | | | 0.79 | | | 0.15 | 0.69 |
| Control Delay | | 25.8 | 4.5 | 14.7 | 14.6 | | | 48.7 | | | 24.8 | 24.7 |
| Queue Delay | | 0.0 | 0.0 | 0.0 | 0.0 | | | 0.0 | | | 0.0 | 0.0 |
| Total Delay | | 25.8 | 4.5 | 14.7 | 14.6 | | | 48.7 | | | 24.8 | 24.7 |
| LOS | | C | A | B | B | | | D | | | C | C |
| Approach Delay | | 21.6 | | | 14.6 | | | 48.7 | | | 24.7 | |
| Approach LOS | | C | | | B | | | D | | | C | |
| Queue Length 50th (ft) | | 95 | 0 | 6 | 80 | | | 153 | | | 33 | 122 |
| Queue Length 95th (ft) | | 140 | 24 | 22 | 212 | | | #291 | | | 43 | 233 |
| Internal Link Dist (ft) | | 414 | | | 1367 | | | 306 | | | 231 | |
| Turn Bay Length (ft) | | | | 150 | | | | | | | | |
| Base Capacity (vph) | | 694 | 625 | 590 | 1951 | | | 341 | | | 485 | 536 |
| Starvation Cap Reductn | | 0 | 0 | 0 | 0 | | | 0 | | | 0 | 0 |
| Spillback Cap Reductn | | 0 | 0 | 0 | 0 | | | 0 | | | 0 | 0 |
| Storage Cap Reductn | | 0 | 0 | 0 | 0 | | | 0 | | | 0 | 0 |
| Reduced v/c Ratio | | 0.56 | 0.15 | 0.05 | 0.43 | | | 0.79 | | | 0.15 | 0.69 |

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 1:EBWB, Start of Green

Natural Cycle: 85

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.79

Intersection Signal Delay: 22.9

Intersection LOS: C

Intersection Capacity Utilization 95.0%




ICU Level of Service F

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.























Queue shown is maximum after two cycles.

Splits and Phases: 3109: Seaport Boulevard & Sleeper Street

| | | |
|--|--|--|
|  ø1 |  ø5 |  ø6 |
| 46 s | 37 s | 17 s |


Seaport Square
3107: Seaport Boulevard & East Service Road

2007 Existing
PM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|---|--|---|---|--|---|---|---|---|---|---|---|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |   | | |   | |  |  |  |  | |  |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width (ft) | 12 | 12 | 12 | 12 | 13 | 14 | 14 | 13 | 12 | 16 | 16 | 12 |
| Total Lost Time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Leading Detector (ft) | 50 | 50 | | | 50 | | 50 | 50 | 50 | 50 | | 50 |
| Trailing Detector (ft) | 0 | 0 | | | 0 | | 0 | 0 | 0 | 0 | | 0 |
| Turning Speed (mph) | 15 | | 9 | 15 | | 9 | 15 | | 9 | 15 | | 9 |
| Lane Util. Factor | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | 0.94 | | | | 0.97 | | 0.98 | | 0.95 | 0.96 | | 0.97 |
| Frt | | | | | 0.986 | | | | 0.850 | | | 0.850 |
| Flt Protected | 0.950 | | | | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 1805 | 3235 | 0 | 0 | 3417 | 0 | 1925 | 1963 | 1599 | 2046 | 0 | 1615 |
| Flt Permitted | 0.171 | | | | | | 0.950 | | | 0.950 | | |
| Satd. Flow (perm) | 306 | 3235 | 0 | 0 | 3417 | 0 | 1895 | 1963 | 1522 | 1972 | 0 | 1570 |
| Right Turn on Red | | | Yes | | | Yes | | | No | | | Yes |
| Satd. Flow (RTOR) | | | | | 11 | | | | | | | 91 |
| Headway Factor | 1.00 | 1.07 | 1.00 | 1.00 | 0.96 | 0.92 | 0.92 | 0.96 | 1.00 | 0.85 | 0.85 | 1.00 |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | | | 30 | |
| Link Distance (ft) | | 1447 | | | 181 | | | 381 | | | 275 | |
| Travel Time (s) | | 32.9 | | | 4.1 | | | 8.7 | | | 6.3 | |
| Volume (vph) | 16 | 322 | 0 | 0 | 532 | 57 | 61 | 17 | 101 | 293 | 0 | 77 |
| Confl. Peds. (#/hr) | 105 | | 199 | 199 | | 105 | 9 | | 21 | 21 | | 9 |
| Peak Hour Factor | 0.80 | 0.74 | 0.92 | 0.92 | 0.79 | 0.84 | 0.79 | 0.85 | 0.74 | 0.82 | 0.92 | 0.85 |
| Heavy Vehicles (%) | 0% | 6% | 0% | 0% | 4% | 9% | 0% | 0% | 1% | 0% | 0% | 0% |
| Parking (#/hr) | | 0 | | | | | | | | | | |
| Adj. Flow (vph) | 20 | 435 | 0 | 0 | 673 | 68 | 77 | 20 | 136 | 357 | 0 | 91 |
| Lane Group Flow (vph) | 20 | 435 | 0 | 0 | 741 | 0 | 77 | 20 | 136 | 357 | 0 | 91 |
| Turn Type | D.P+P | | | | | | Split | | Perm | Prot | | custom |
| Protected Phases | 6 | 1 6 | | | 1 | | 5 | 5 | | 2 | | |
| Permitted Phases | 1 | | | | | | | | 5 | | | 2 |
| Detector Phases | 6 | 1 6 | | | 1 | | 5 | 5 | 5 | 2 | | 2 |
| Minimum Initial (s) | 8.0 | | | | 8.0 | | 8.0 | 8.0 | 8.0 | 8.0 | | 8.0 |
| Minimum Split (s) | 13.0 | | | | 22.0 | | 22.0 | 22.0 | 22.0 | 22.0 | | 22.0 |
| Total Split (s) | 13.0 | 46.0 | 0.0 | 0.0 | 33.0 | 0.0 | 26.0 | 26.0 | 26.0 | 28.0 | 0.0 | 28.0 |
| Total Split (%) | 13.0% | 46.0% | 0.0% | 0.0% | 33.0% | 0.0% | 26.0% | 26.0% | 26.0% | 28.0% | 0.0% | 28.0% |
| Maximum Green (s) | 8.0 | | | | 28.0 | | 21.0 | 21.0 | 21.0 | 23.0 | | 23.0 |
| Yellow Time (s) | 4.0 | | | | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 |
| All-Red Time (s) | 1.0 | | | | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 |
| Lead/Lag | Lag | | | | Lead | | Lead | Lead | Lead | Lag | | Lag |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Vehicle Extension (s) | 2.0 | | | | 2.0 | | 2.0 | 2.0 | 2.0 | 2.0 | | 2.0 |
| Recall Mode | None | | | | C-Max | | None | None | None | None | | None |
| Walk Time (s) | | | | | 7.0 | | 7.0 | 7.0 | 7.0 | 7.0 | | 7.0 |
| Flash Dont Walk (s) | | | | | 10.0 | | 10.0 | 10.0 | 10.0 | 10.0 | | 10.0 |
| Pedestrian Calls (#/hr) | | | | | 60 | | 5 | 5 | 5 | 5 | | 5 |
| Act Effct Green (s) | 48.9 | 52.9 | | | 39.9 | | 14.1 | 14.1 | 14.1 | 21.0 | | 21.0 |
| Actuated g/C Ratio | 0.49 | 0.53 | | | 0.40 | | 0.14 | 0.14 | 0.14 | 0.21 | | 0.21 |
| v/c Ratio | 0.07 | 0.25 | | | 0.54 | | 0.28 | 0.07 | 0.64 | 0.83 | | 0.23 |
| Control Delay | 30.5 | 32.8 | | | 26.0 | | 39.6 | 35.5 | 53.2 | 54.3 | | 8.1 |

Seaport Square
3107: Seaport Boulevard & East Service Road

2007 Existing
PM Peak Hour

| |  | | | | | | | | | | | |
|-------------------------|--|------|-----|-----|------|-----|------|------|------|------|-----|------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Queue Delay | 0.0 | 0.0 | | | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 |
| Total Delay | 30.5 | 32.8 | | | 26.0 | | 39.6 | 35.5 | 53.2 | 54.3 | | 8.1 |
| LOS | C | C | | | C | | D | D | D | D | | A |
| Approach Delay | | 32.7 | | | 26.0 | | | 47.2 | | | | |
| Approach LOS | | C | | | C | | | D | | | | |
| Queue Length 50th (ft) | 11 | 141 | | | 188 | | 45 | 11 | 83 | 215 | | 0 |
| Queue Length 95th (ft) | m23 | 158 | | | 235 | | 72 | 29 | 109 | 276 | | 34 |
| Internal Link Dist (ft) | | 1367 | | | 101 | | | 301 | | | 195 | |
| Turn Bay Length (ft) | | | | | | | | | | | | |
| Base Capacity (vph) | 285 | 1711 | | | 1369 | | 424 | 432 | 335 | 491 | | 446 |
| Starvation Cap Reductn | 0 | 0 | | | 0 | | 0 | 0 | 0 | 0 | | 0 |
| Spillback Cap Reductn | 0 | 0 | | | 0 | | 0 | 0 | 0 | 0 | | 0 |
| Storage Cap Reductn | 0 | 0 | | | 0 | | 0 | 0 | 0 | 0 | | 0 |
| Reduced v/c Ratio | 0.07 | 0.25 | | | 0.54 | | 0.18 | 0.05 | 0.41 | 0.73 | | 0.20 |

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 3 (3%), Referenced to phase 1:EBWB, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.83

Intersection Signal Delay: 34.8 Intersection LOS: C

Intersection Capacity Utilization 51.6% ICU Level of Service A

Analysis Period (min) 15





















m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3107: Seaport Boulevard & East Service Road

| | | | |
|--|--|--|--|
|  ø1 |  ø2 |  ø5 |  ø6 |
| 33 s | 28 s | 26 s | 13 s |


Seaport Square
1110: W. Broadway & A Street

2007 Existing
PM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  | |  |  | | |  |  | |  |  |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width (ft) | 12 | 12 | 12 | 12 | 12 | 12 | 11 | 11 | 11 | 11 | 11 | 11 |
| Storage Length (ft) | 40 | | 0 | 40 | | 0 | 0 | | 0 | 0 | | 0 |
| Storage Lanes | 1 | | 0 | 1 | | 0 | 0 | | 0 | 0 | | 1 |
| Total Lost Time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Leading Detector (ft) | 50 | 50 | | 50 | 50 | | 50 | 50 | | 50 | 50 | 50 |
| Trailing Detector (ft) | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Turning Speed (mph) | 15 | | 9 | 15 | | 9 | 15 | | 9 | 15 | | 9 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | 0.95 | 0.95 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | 0.99 | 1.00 | | 0.99 | 0.99 | | | 0.99 | | | 1.00 | 0.97 |
| Frt | | 0.988 | | | 0.975 | | | 0.960 | | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | | 0.996 | | | 0.993 | |
| Satd. Flow (prot) | 1805 | 1586 | 0 | 1671 | 1623 | 0 | 0 | 3253 | 0 | 0 | 1778 | 1561 |
| Flt Permitted | 0.406 | | | 0.505 | | | | 0.896 | | | 0.918 | |
| Satd. Flow (perm) | 760 | 1586 | 0 | 882 | 1623 | 0 | 0 | 2927 | 0 | 0 | 1642 | 1521 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | 5 | | | 13 | | | 68 | | | | 48 |
| Headway Factor | 1.00 | 1.16 | 1.00 | 1.00 | 1.16 | 1.00 | 1.04 | 1.04 | 1.04 | 1.04 | 1.04 | 1.04 |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | | | | 30 |
| Link Distance (ft) | | 423 | | | 259 | | | 454 | | | | 291 |
| Travel Time (s) | | 9.6 | | | 5.9 | | | 10.3 | | | | 6.6 |
| Volume (vph) | 26 | 210 | 16 | 77 | 254 | 34 | 19 | 139 | 58 | 70 | 551 | 38 |
| Confl. Peds. (#/hr) | 18 | | 4 | 4 | | 18 | 2 | | 2 | 2 | | 2 |
| Peak Hour Factor | 0.82 | 0.90 | 0.80 | 0.84 | 0.91 | 0.61 | 0.95 | 0.85 | 0.85 | 0.80 | 0.96 | 0.79 |
| Heavy Vehicles (%) | 0% | 5% | 6% | 8% | 1% | 0% | 0% | 2% | 2% | 0% | 3% | 0% |
| Parking (#/hr) | | 2 | 2 | | 2 | 2 | | | | | | |
| Adj. Flow (vph) | 32 | 233 | 20 | 92 | 279 | 56 | 20 | 164 | 68 | 88 | 574 | 48 |
| Lane Group Flow (vph) | 32 | 253 | 0 | 92 | 335 | 0 | 0 | 252 | 0 | 0 | 662 | 48 |
| Turn Type | Perm | | | Perm | | | Perm | | | Perm | | Perm |
| Protected Phases | | 1 | | | 1 | | | 5 | | | 5 | |
| Permitted Phases | 1 | | | 1 | | | 5 | | | 5 | | 5 |
| Detector Phases | 1 | 1 | | 1 | 1 | | 5 | 5 | | 5 | 5 | 5 |
| Minimum Initial (s) | 8.0 | 8.0 | | 8.0 | 8.0 | | 8.0 | 8.0 | | 8.0 | 8.0 | 8.0 |
| Minimum Split (s) | 19.0 | 19.0 | | 19.0 | 19.0 | | 19.0 | 19.0 | | 19.0 | 19.0 | 19.0 |
| Total Split (s) | 37.0 | 37.0 | 0.0 | 37.0 | 37.0 | 0.0 | 53.0 | 53.0 | 0.0 | 53.0 | 53.0 | 53.0 |
| Total Split (%) | 41.1% | 41.1% | 0.0% | 41.1% | 41.1% | 0.0% | 58.9% | 58.9% | 0.0% | 58.9% | 58.9% | 58.9% |
| Maximum Green (s) | 33.0 | 33.0 | | 33.0 | 33.0 | | 49.0 | 49.0 | | 49.0 | 49.0 | 49.0 |
| Yellow Time (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | 3.0 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lead/Lag | | | | | | | | | | | | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Vehicle Extension (s) | 2.0 | 2.0 | | 2.0 | 2.0 | | 2.0 | 2.0 | | 2.0 | 2.0 | 2.0 |
| Recall Mode | C-Max | C-Max | | C-Max | C-Max | | None | None | | None | None | None |
| Walk Time (s) | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | 7.0 |
| Flash Dont Walk (s) | 8.0 | 8.0 | | 8.0 | 8.0 | | 8.0 | 8.0 | | 8.0 | 8.0 | 8.0 |
| Pedestrian Calls (#/hr) | 20 | 20 | | 20 | 20 | | 20 | 20 | | 20 | 20 | 20 |
| Act Effct Green (s) | 43.2 | 43.2 | | 43.2 | 43.2 | | | 38.8 | | | 38.8 | 38.8 |
| Actuated g/C Ratio | 0.48 | 0.48 | | 0.48 | 0.48 | | | 0.43 | | | 0.43 | 0.43 |

Seaport Square
1110: W. Broadway & A Street

2007 Existing
PM Peak Hour

| |  | | | | | | | | | | | |
|-------------------------|--|------|-----|------|------|-----|-----|------|-----|-----|------|------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| v/c Ratio | 0.09 | 0.33 | | 0.22 | 0.43 | | | 0.19 | | | 0.94 | 0.07 |
| Control Delay | 17.6 | 18.1 | | 18.8 | 19.2 | | | 10.3 | | | 44.8 | 3.4 |
| Queue Delay | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | | | 0.0 | 0.0 |
| Total Delay | 17.6 | 18.1 | | 18.8 | 19.2 | | | 10.3 | | | 44.8 | 3.4 |
| LOS | B | B | | B | B | | | B | | | D | A |
| Approach Delay | | 18.1 | | | 19.1 | | | 10.3 | | | 42.0 | |
| Approach LOS | | B | | | B | | | B | | | D | |
| Queue Length 50th (ft) | 10 | 85 | | 30 | 117 | | | 32 | | | 342 | 0 |
| Queue Length 95th (ft) | 30 | 172 | | 70 | 230 | | | 40 | | | 416 | 12 |
| Internal Link Dist (ft) | | 343 | | | 179 | | | 374 | | | 211 | |
| Turn Bay Length (ft) | 40 | | | 40 | | | | | | | | |
| Base Capacity (vph) | 365 | 764 | | 423 | 786 | | | 1625 | | | 894 | 850 |
| Starvation Cap Reductn | 0 | 0 | | 0 | 0 | | | 0 | | | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | | 0 | 0 | | | 0 | | | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | | 0 | 0 | | | 0 | | | 0 | 0 |
| Reduced v/c Ratio | 0.09 | 0.33 | | 0.22 | 0.43 | | | 0.16 | | | 0.74 | 0.06 |

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 36 (40%), Referenced to phase 1:EBWB, Start of Green

Natural Cycle: 50

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.94

Intersection Signal Delay: 27.3

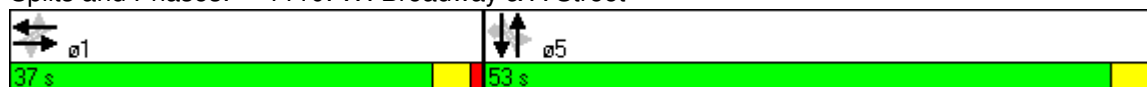
Intersection LOS: C

Intersection Capacity Utilization 75.6%

ICU Level of Service D





















Analysis Period (min) 15

Splits and Phases: 1110: W. Broadway & A Street



Seaport Square
3109: Seaport Boulevard & Sleeper Street

2010 No Build
AM Peak Hour













| |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  |  |  |  | | |  | | |  |  |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width (ft) | 11 | 11 | 12 | 12 | 12 | 13 | 12 | 11 | 12 | 12 | 11 | 10 |
| Storage Length (ft) | 0 | | 0 | 150 | | 0 | 0 | | 0 | 0 | | 0 |
| Storage Lanes | 1 | | 1 | 1 | | 0 | 0 | | 0 | 0 | | 1 |
| Total Lost Time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Leading Detector (ft) | 50 | 50 | 50 | 50 | 50 | | 50 | 50 | | 50 | 50 | 50 |
| Trailing Detector (ft) | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Turning Speed (mph) | 15 | | 9 | 15 | | 9 | 15 | | 9 | 15 | | 9 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | | | 0.96 | | 1.00 | | | 0.98 | | | 0.99 | 0.97 |
| Frt | | | 0.850 | | 0.995 | | | 0.972 | | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | | 0.969 | | | 0.977 | |
| Satd. Flow (prot) | 1728 | 1749 | 1568 | 1530 | 2927 | 0 | 0 | 1505 | 0 | 0 | 1794 | 1436 |
| Flt Permitted | 0.077 | | | 0.077 | | | | 0.786 | | | 0.865 | |
| Satd. Flow (perm) | 140 | 1749 | 1506 | 124 | 2927 | 0 | 0 | 1210 | 0 | 0 | 1576 | 1397 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | | 103 | | 7 | | | 13 | | | | 35 |
| Headway Factor | 1.04 | 1.04 | 1.00 | 1.00 | 1.07 | 0.96 | 1.00 | 1.19 | 1.00 | 1.00 | 1.04 | 1.09 |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | | | 30 | |
| Link Distance (ft) | | 494 | | | 1447 | | | 386 | | | 311 | |
| Travel Time (s) | | 11.2 | | | 32.9 | | | 8.8 | | | 7.1 | |
| Volume (vph) | 356 | 877 | 81 | 17 | 579 | 21 | 86 | 15 | 22 | 7 | 8 | 24 |
| Confl. Peds. (#/hr) | 54 | | 18 | 54 | | 18 | 11 | | 20 | 20 | | 11 |
| Peak Hour Factor | 0.95 | 0.94 | 0.69 | 0.55 | 0.91 | 0.95 | 0.68 | 0.54 | 0.55 | 0.50 | 0.50 | 0.69 |
| Heavy Vehicles (%) | 1% | 5% | 3% | 18% | 17% | 0% | 4% | 0% | 0% | 0% | 0% | 5% |
| Parking (#/hr) | | | | | 0 | 0 | 0 | 0 | 0 | | | |
| Adj. Flow (vph) | 375 | 933 | 117 | 31 | 636 | 22 | 126 | 28 | 40 | 14 | 16 | 35 |
| Lane Group Flow (vph) | 375 | 933 | 117 | 31 | 658 | 0 | 0 | 194 | 0 | 0 | 30 | 35 |
| Turn Type | Perm | | Perm | D.P+P | | | Perm | | | Perm | | Perm |
| Protected Phases | | 1 | | 6 | 1 6 | | | 5 | | | 5 | |
| Permitted Phases | 1 | | 1 | 1 | | | 5 | | | 5 | | 5 |
| Detector Phases | 1 | 1 | 1 | 6 | 1 6 | | 5 | 5 | | 5 | 5 | 5 |
| Minimum Initial (s) | 8.0 | 8.0 | 8.0 | 4.0 | | | 8.0 | 8.0 | | 8.0 | 8.0 | 8.0 |
| Minimum Split (s) | 50.0 | 50.0 | 50.0 | 11.0 | | | 27.0 | 27.0 | | 27.0 | 27.0 | 27.0 |
| Total Split (s) | 56.0 | 56.0 | 56.0 | 14.0 | 70.0 | 0.0 | 30.0 | 30.0 | 0.0 | 30.0 | 30.0 | 30.0 |
| Total Split (%) | 56.0% | 56.0% | 56.0% | 14.0% | 70.0% | 0.0% | 30.0% | 30.0% | 0.0% | 30.0% | 30.0% | 30.0% |
| Maximum Green (s) | 51.0 | 51.0 | 51.0 | 9.0 | | | 25.0 | 25.0 | | 25.0 | 25.0 | 25.0 |
| Yellow Time (s) | 4.0 | 4.0 | 4.0 | 4.0 | | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lead/Lag | | | | Lag | | | Lead | Lead | | Lead | Lead | Lead |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Vehicle Extension (s) | 2.0 | 2.0 | 2.0 | 2.0 | | | 2.0 | 2.0 | | 2.0 | 2.0 | 2.0 |
| Recall Mode | C-Max | C-Max | C-Max | Max | | | Max | Max | | Max | Max | Max |
| Walk Time (s) | 20.0 | 20.0 | 20.0 | | | | 7.0 | 7.0 | | 7.0 | 7.0 | 7.0 |
| Flash Dont Walk (s) | 25.0 | 25.0 | 25.0 | | | | 15.0 | 15.0 | | 15.0 | 15.0 | 15.0 |
| Pedestrian Calls (#/hr) | 50 | 50 | 50 | | | | 20 | 20 | | 20 | 20 | 20 |
| Act Effct Green (s) | 52.0 | 52.0 | 52.0 | 62.0 | 66.0 | | | 26.0 | | | 26.0 | 26.0 |
| Actuated g/C Ratio | 0.52 | 0.52 | 0.52 | 0.62 | 0.66 | | | 0.26 | | | 0.26 | 0.26 |

Lanes, Volumes, Timings
HSH Associates

Synchro 6 Report

Seaport Square
3109: Seaport Boulevard & Sleeper Street

2010 No Build
AM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| v/c Ratio | 5.14 | 1.03 | 0.14 | 0.14 | 0.34 | | | 0.60 | | | 0.07 | 0.09 |
| Control Delay | 1902.1 | 62.1 | 3.7 | 7.5 | 4.8 | | | 39.1 | | | 28.7 | 10.3 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | 0.0 | | | 0.0 | 0.0 |
| Total Delay | 1902.1 | 62.1 | 3.7 | 7.5 | 4.8 | | | 39.1 | | | 28.7 | 10.3 |
| LOS | F | E | A | A | A | | | D | | | C | B |
| Approach Delay | | 541.5 | | | 5.0 | | | 39.1 | | | 18.8 | |
| Approach LOS | | F | | | A | | | D | | | B | |
| Queue Length 50th (ft) | ~413 | ~638 | 4 | 5 | 57 | | | 101 | | | 14 | 0 |
| Queue Length 95th (ft) | #596 | #876 | 16 | 6 | 67 | | | 91 | | | 20 | 14 |
| Internal Link Dist (ft) | | 414 | | | 1367 | | | 306 | | | 231 | |
| Turn Bay Length (ft) | | | | 150 | | | | | | | | |
| Base Capacity (vph) | 73 | 909 | 833 | 217 | 1934 | | | 324 | | | 410 | 389 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | | | 0 | | | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | | | 0 | | | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | | | 0 | | | 0 | 0 |
| Reduced v/c Ratio | 5.14 | 1.03 | 0.14 | 0.14 | 0.34 | | | 0.60 | | | 0.07 | 0.09 |

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 1:EBWB, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 5.14

Intersection Signal Delay: 330.3

Intersection LOS: F

Intersection Capacity Utilization 85.6%

ICU Level of Service E

Analysis Period (min) 15



~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.





















Queue shown is maximum after two cycles.

Splits and Phases: 3109: Seaport Boulevard & Sleeper Street

| | | | | | | |
|---|---|---|---|---|---|---|
|  |  |  |  |  |  |  |
| ø1 | | | ø5 | | | ø6 |
| 56 s | | | 30 s | | | 14 s |













Seaport Square
3107: Seaport Boulevard & East Service Road

2010 No Build
AM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  | | |  | |  |  |  |  | |  |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width (ft) | 12 | 12 | 12 | 12 | 13 | 14 | 14 | 13 | 12 | 16 | 16 | 12 |
| Total Lost Time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Leading Detector (ft) | 50 | 50 | | | 50 | | 50 | 50 | 50 | 50 | | 50 |
| Trailing Detector (ft) | 0 | 0 | | | 0 | | 0 | 0 | 0 | 0 | | 0 |
| Turning Speed (mph) | 15 | | 9 | 15 | | 9 | 15 | | 9 | 15 | | 9 |
| Lane Util. Factor | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | | | | | 0.99 | | 0.99 | | 0.97 | 0.99 | | 0.98 |
| Frt | | | | | 0.961 | | | | 0.850 | | | 0.850 |
| Flt Protected | 0.950 | | | | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 1805 | 3175 | 0 | 0 | 3125 | 0 | 1888 | 1963 | 1568 | 1719 | 0 | 1615 |
| Flt Permitted | 0.143 | | | | | | 0.950 | | | 0.950 | | |
| Satd. Flow (perm) | 272 | 3175 | 0 | 0 | 3125 | 0 | 1878 | 1963 | 1519 | 1699 | 0 | 1587 |
| Right Turn on Red | | | Yes | | | Yes | | | No | | | Yes |
| Satd. Flow (RTOR) | | | | | 50 | | | | | | | 20 |
| Headway Factor | 1.00 | 1.07 | 1.00 | 1.00 | 0.96 | 0.92 | 0.92 | 0.96 | 1.00 | 0.85 | 0.85 | 1.00 |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | | | 30 | |
| Link Distance (ft) | | 1447 | | | 181 | | | 381 | | | 275 | |
| Travel Time (s) | | 32.9 | | | 4.1 | | | 8.7 | | | 6.3 | |
| Volume (vph) | 45 | 636 | 0 | 0 | 536 | 171 | 154 | 271 | 239 | 46 | 0 | 5 |
| Confl. Peds. (#/hr) | 12 | | 69 | 69 | | 12 | 3 | | 11 | 11 | | 3 |
| Peak Hour Factor | 0.86 | 0.88 | 0.92 | 0.92 | 0.92 | 0.83 | 0.90 | 0.71 | 0.86 | 0.72 | 0.92 | 0.25 |
| Heavy Vehicles (%) | 0% | 8% | 2% | 2% | 17% | 2% | 2% | 0% | 3% | 19% | 2% | 0% |
| Parking (#/hr) | | 0 | | | | | | | | | | |
| Adj. Flow (vph) | 52 | 723 | 0 | 0 | 583 | 206 | 171 | 382 | 278 | 64 | 0 | 20 |
| Lane Group Flow (vph) | 52 | 723 | 0 | 0 | 789 | 0 | 171 | 382 | 278 | 64 | 0 | 20 |
| Turn Type | D.P+P | | | | | | Split | | Perm | Prot | | custom |
| Protected Phases | 6 | 1 6 | | | 1 | | 5 | 5 | | 2 | | |
| Permitted Phases | 1 | | | | | | | | 5 | | | 2 |
| Detector Phases | 6 | 1 6 | | | 1 | | 5 | 5 | 5 | 2 | | 2 |
| Minimum Initial (s) | 8.0 | | | | 8.0 | | 8.0 | 8.0 | 8.0 | 8.0 | | 8.0 |
| Minimum Split (s) | 13.0 | | | | 22.0 | | 22.0 | 22.0 | 22.0 | 22.0 | | 22.0 |
| Total Split (s) | 13.0 | 46.0 | 0.0 | 0.0 | 33.0 | 0.0 | 26.0 | 26.0 | 26.0 | 28.0 | 0.0 | 28.0 |
| Total Split (%) | 13.0% | 46.0% | 0.0% | 0.0% | 33.0% | 0.0% | 26.0% | 26.0% | 26.0% | 28.0% | 0.0% | 28.0% |
| Maximum Green (s) | 8.0 | | | | 28.0 | | 21.0 | 21.0 | 21.0 | 23.0 | | 23.0 |
| Yellow Time (s) | 4.0 | | | | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 |
| All-Red Time (s) | 1.0 | | | | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 |
| Lead/Lag | Lag | | | | Lead | | Lead | Lead | Lead | Lag | | Lag |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Vehicle Extension (s) | 2.0 | | | | 2.0 | | 2.0 | 2.0 | 2.0 | 2.0 | | 2.0 |
| Recall Mode | None | | | | C-Max | | None | None | None | None | | None |
| Walk Time (s) | | | | | 7.0 | | 7.0 | 7.0 | 7.0 | 7.0 | | 7.0 |
| Flash Dont Walk (s) | | | | | 10.0 | | 10.0 | 10.0 | 10.0 | 10.0 | | 10.0 |
| Pedestrian Calls (#/hr) | | | | | 60 | | 5 | 5 | 5 | 5 | | 5 |
| Act Effct Green (s) | 54.3 | 58.3 | | | 45.3 | | 21.3 | 21.3 | 21.3 | 11.0 | | 11.0 |
| Actuated g/C Ratio | 0.54 | 0.58 | | | 0.45 | | 0.21 | 0.21 | 0.21 | 0.11 | | 0.11 |
| v/c Ratio | 0.18 | 0.39 | | | 0.55 | | 0.43 | 0.91 | 0.86 | 0.34 | | 0.10 |
| Control Delay | 6.9 | 8.7 | | | 22.0 | | 37.5 | 66.2 | 63.5 | 44.9 | | 16.4 |

Seaport Square
3107: Seaport Boulevard & East Service Road

2010 No Build
AM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Queue Delay | 0.0 | 0.0 | | | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 |
| Total Delay | 6.9 | 8.7 | | | 22.0 | | 37.5 | 66.2 | 63.5 | 44.9 | | 16.4 |
| LOS | A | A | | | C | | D | E | E | D | | B |
| Approach Delay | | 8.6 | | | 22.0 | | | 59.4 | | | | |
| Approach LOS | | A | | | C | | | E | | | | |
| Queue Length 50th (ft) | 10 | 117 | | | 179 | | 94 | 237 | 170 | 39 | | 0 |
| Queue Length 95th (ft) | m17 | m188 | | | 281 | | 158 | 258 | #285 | 58 | | 0 |
| Internal Link Dist (ft) | | 1367 | | | 101 | | | 301 | | | 195 | |
| Turn Bay Length (ft) | | | | | | | | | | | | |
| Base Capacity (vph) | 286 | 1850 | | | 1442 | | 415 | 432 | 334 | 413 | | 396 |
| Starvation Cap Reductn | 0 | 0 | | | 0 | | 0 | 0 | 0 | 0 | | 0 |
| Spillback Cap Reductn | 0 | 0 | | | 0 | | 0 | 0 | 0 | 0 | | 0 |
| Storage Cap Reductn | 0 | 0 | | | 0 | | 0 | 0 | 0 | 0 | | 0 |
| Reduced v/c Ratio | 0.18 | 0.39 | | | 0.55 | | 0.41 | 0.88 | 0.83 | 0.15 | | 0.05 |

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 81 (81%), Referenced to phase 1:EBWB, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.91

Intersection Signal Delay: 30.9

Intersection LOS: C

Intersection Capacity Utilization 59.1%

ICU Level of Service B

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.





















m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3107: Seaport Boulevard & East Service Road



Seaport Square
1110: W. Broadway & A Street

2010 No Build
AM Peak Hour


| |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  | |  |  | | |  |  | |  |  |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width (ft) | 12 | 12 | 12 | 12 | 12 | 12 | 11 | 11 | 11 | 11 | 9 | 9 |
| Storage Length (ft) | 40 | | 0 | 40 | | 0 | 0 | | 0 | 0 | | 0 |
| Storage Lanes | 1 | | 0 | 1 | | 0 | 0 | | 0 | 0 | | 1 |
| Total Lost Time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Leading Detector (ft) | 50 | 50 | | 50 | 50 | | 50 | 50 | | 50 | 50 | 50 |
| Trailing Detector (ft) | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Turning Speed (mph) | 15 | | 9 | 15 | | 9 | 15 | | 9 | 15 | | 9 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | 0.95 | 0.95 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | 0.99 | 1.00 | | 1.00 | 1.00 | | | 1.00 | | | 1.00 | 0.97 |
| Frt | | 0.988 | | | 0.988 | | | 0.981 | | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | | 0.997 | | | 0.991 | |
| Satd. Flow (prot) | 1736 | 1510 | 0 | 1570 | 1615 | 0 | 0 | 3219 | 0 | 0 | 1576 | 1371 |
| Flt Permitted | 0.314 | | | 0.416 | | | | 0.913 | | | 0.843 | |
| Satd. Flow (perm) | 569 | 1510 | 0 | 684 | 1615 | 0 | 0 | 2947 | 0 | 0 | 1340 | 1336 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | 7 | | | 7 | | | 23 | | | | 64 |
| Headway Factor | 1.00 | 1.16 | 1.00 | 1.00 | 1.16 | 1.00 | 1.04 | 1.04 | 1.04 | 1.04 | 1.14 | 1.14 |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | | | | 30 |
| Link Distance (ft) | | 463 | | | 424 | | | 472 | | | | 424 |
| Travel Time (s) | | 10.5 | | | 9.6 | | | 10.7 | | | | 9.6 |
| Volume (vph) | 54 | 313 | 20 | 108 | 401 | 33 | 21 | 390 | 53 | 53 | 247 | 38 |
| Confl. Peds. (#/hr) | 18 | | 4 | 4 | | 18 | 2 | | 2 | 2 | | 2 |
| Peak Hour Factor | 0.70 | 0.88 | 0.63 | 0.92 | 0.87 | 0.83 | 0.58 | 0.88 | 0.77 | 0.88 | 0.86 | 0.59 |
| Heavy Vehicles (%) | 4% | 10% | 14% | 15% | 3% | 4% | 0% | 5% | 13% | 10% | 7% | 6% |
| Parking (#/hr) | | 2 | 2 | | 2 | 2 | | | | | | |
| Adj. Flow (vph) | 77 | 356 | 32 | 117 | 461 | 40 | 36 | 443 | 69 | 60 | 287 | 64 |
| Lane Group Flow (vph) | 77 | 388 | 0 | 117 | 501 | 0 | 0 | 548 | 0 | 0 | 347 | 64 |
| Turn Type | Perm | | | Perm | | | Perm | | | Perm | | Perm |
| Protected Phases | | 1 | | | 1 | | | 5 | | | 5 | |
| Permitted Phases | 1 | | | 1 | | | 5 | | | 5 | | 5 |
| Detector Phases | 1 | 1 | | 1 | 1 | | 5 | 5 | | 5 | 5 | 5 |
| Minimum Initial (s) | 8.0 | 8.0 | | 8.0 | 8.0 | | 8.0 | 8.0 | | 8.0 | 8.0 | 8.0 |
| Minimum Split (s) | 19.0 | 19.0 | | 19.0 | 19.0 | | 19.0 | 19.0 | | 19.0 | 19.0 | 19.0 |
| Total Split (s) | 46.0 | 46.0 | 0.0 | 46.0 | 46.0 | 0.0 | 44.0 | 44.0 | 0.0 | 44.0 | 44.0 | 44.0 |
| Total Split (%) | 51.1% | 51.1% | 0.0% | 51.1% | 51.1% | 0.0% | 48.9% | 48.9% | 0.0% | 48.9% | 48.9% | 48.9% |
| Maximum Green (s) | 42.0 | 42.0 | | 42.0 | 42.0 | | 40.0 | 40.0 | | 40.0 | 40.0 | 40.0 |
| Yellow Time (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | 3.0 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lead/Lag | | | | | | | | | | | | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Vehicle Extension (s) | 2.0 | 2.0 | | 2.0 | 2.0 | | 2.0 | 2.0 | | 2.0 | 2.0 | 2.0 |
| Recall Mode | C-Max | C-Max | | C-Max | C-Max | | Max | Max | | Max | Max | Max |
| Walk Time (s) | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | 7.0 |
| Flash Dont Walk (s) | 8.0 | 8.0 | | 8.0 | 8.0 | | 8.0 | 8.0 | | 8.0 | 8.0 | 8.0 |
| Pedestrian Calls (#/hr) | 20 | 20 | | 20 | 20 | | 20 | 20 | | 20 | 20 | 20 |
| Act Effct Green (s) | 42.0 | 42.0 | | 42.0 | 42.0 | | | 40.0 | | | 40.0 | 40.0 |
| Actuated g/C Ratio | 0.47 | 0.47 | | 0.47 | 0.47 | | | 0.44 | | | 0.44 | 0.44 |

Lanes, Volumes, Timings
HSH Associates

Synchro 6 Report

Seaport Square
1110: W. Broadway & A Street

2010 No Build
AM Peak Hour

| |  | | | | | | | | | | | |
|-------------------------|--|------|-----|------|------|-----|-----|------|-----|-----|------|------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| v/c Ratio | 0.29 | 0.55 | | 0.37 | 0.66 | | | 0.41 | | | 0.58 | 0.10 |
| Control Delay | 18.6 | 20.5 | | 19.7 | 23.5 | | | 17.4 | | | 23.6 | 4.5 |
| Queue Delay | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | | | 0.0 | 0.0 |
| Total Delay | 18.6 | 20.5 | | 19.7 | 23.5 | | | 17.4 | | | 23.6 | 4.5 |
| LOS | B | C | | B | C | | | B | | | C | A |
| Approach Delay | | 20.2 | | | 22.8 | | | 17.4 | | | 20.7 | |
| Approach LOS | | C | | | C | | | B | | | C | |
| Queue Length 50th (ft) | 26 | 149 | | 41 | 208 | | | 103 | | | 143 | 0 |
| Queue Length 95th (ft) | 44 | 230 | | 87 | 305 | | | 141 | | | 218 | 7 |
| Internal Link Dist (ft) | | 383 | | | 344 | | | 392 | | | 344 | |
| Turn Bay Length (ft) | 40 | | | 40 | | | | | | | | |
| Base Capacity (vph) | 266 | 708 | | 319 | 757 | | | 1323 | | | 596 | 629 |
| Starvation Cap Reductn | 0 | 0 | | 0 | 0 | | | 0 | | | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | | 0 | 0 | | | 0 | | | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | | 0 | 0 | | | 0 | | | 0 | 0 |
| Reduced v/c Ratio | 0.29 | 0.55 | | 0.37 | 0.66 | | | 0.41 | | | 0.58 | 0.10 |

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 57 (63%), Referenced to phase 1:EBWB, Start of Green

Natural Cycle: 40

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.66

Intersection Signal Delay: 20.3

Intersection LOS: C

Intersection Capacity Utilization 72.3%

ICU Level of Service C




















Analysis Period (min) 15

Splits and Phases: 1110: W. Broadway & A Street




Seaport Square
3109: Seaport Boulevard & Sleeper Street

2010 No Build
PM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | |  |  |  |  | | |  | | |  |  |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width (ft) | 11 | 11 | 12 | 12 | 12 | 13 | 12 | 11 | 12 | 12 | 11 | 10 |
| Storage Length (ft) | 0 | | 0 | 150 | | 0 | 0 | | 0 | 0 | | 0 |
| Storage Lanes | 0 | | 1 | 1 | | 0 | 0 | | 0 | 0 | | 1 |
| Total Lost Time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Leading Detector (ft) | 50 | 50 | 50 | 50 | 50 | | 50 | 50 | | 50 | 50 | 50 |
| Trailing Detector (ft) | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Turning Speed (mph) | 15 | | 9 | 15 | | 9 | 15 | | 9 | 15 | | 9 |
| Lane Util. Factor | 0.95 | 0.95 | 1.00 | 1.00 | 0.95 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | | | 0.85 | 0.93 | 1.00 | | | 0.90 | | | 0.98 | 0.88 |
| Frt | | | 0.850 | | 0.997 | | | 0.990 | | | | 0.850 |
| Flt Protected | | 0.995 | | 0.950 | | | | 0.957 | | | 0.978 | |
| Satd. Flow (prot) | 0 | 2826 | 1599 | 1805 | 3307 | 0 | 0 | 1553 | 0 | 0 | 1796 | 1507 |
| Flt Permitted | | 0.572 | | 0.433 | | | | 0.695 | | | 0.820 | |
| Satd. Flow (perm) | 0 | 1624 | 1359 | 768 | 3307 | 0 | 0 | 1023 | 0 | 0 | 1469 | 1320 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | | 95 | | 3 | | | 4 | | | | 119 |
| Headway Factor | 1.04 | 1.04 | 1.00 | 1.00 | 1.07 | 0.96 | 1.00 | 1.19 | 1.00 | 1.00 | 1.04 | 1.09 |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | | | 30 | |
| Link Distance (ft) | | 494 | | | 1447 | | | 386 | | | 311 | |
| Travel Time (s) | | 11.2 | | | 32.9 | | | 8.8 | | | 7.1 | |
| Volume (vph) | 41 | 357 | 79 | 19 | 753 | 5 | 220 | 8 | 9 | 30 | 24 | 357 |
| Confl. Peds. (#/hr) | 34 | | 106 | 106 | | 34 | 84 | | 77 | 77 | | 84 |
| Peak Hour Factor | 0.86 | 0.88 | 0.83 | 0.59 | 0.82 | 0.31 | 0.90 | 1.00 | 0.45 | 0.88 | 0.60 | 0.93 |
| Heavy Vehicles (%) | 5% | 25% | 1% | 0% | 3% | 20% | 0% | 0% | 0% | 0% | 0% | 0% |
| Parking (#/hr) | | | | | 0 | 0 | 0 | 0 | 0 | | | |
| Adj. Flow (vph) | 48 | 406 | 95 | 32 | 918 | 16 | 244 | 8 | 20 | 34 | 40 | 384 |
| Lane Group Flow (vph) | 0 | 454 | 95 | 32 | 934 | 0 | 0 | 272 | 0 | 0 | 74 | 384 |
| Turn Type | Perm | | Perm | D.P+P | | | Perm | | | Perm | | Perm |
| Protected Phases | | 1 | | 6 | 1 6 | | | 5 | | | 5 | |
| Permitted Phases | 1 | | 1 | 1 | | | 5 | | | 5 | | 5 |
| Detector Phases | 1 | 1 | 1 | 6 | 1 6 | | 5 | 5 | | 5 | 5 | 5 |
| Minimum Initial (s) | 8.0 | 8.0 | 8.0 | 4.0 | | | 8.0 | 8.0 | | 8.0 | 8.0 | 8.0 |
| Minimum Split (s) | 45.0 | 45.0 | 45.0 | 11.0 | | | 27.0 | 27.0 | | 27.0 | 27.0 | 27.0 |
| Total Split (s) | 46.0 | 46.0 | 46.0 | 17.0 | 63.0 | 0.0 | 37.0 | 37.0 | 0.0 | 37.0 | 37.0 | 37.0 |
| Total Split (%) | 46.0% | 46.0% | 46.0% | 17.0% | 63.0% | 0.0% | 37.0% | 37.0% | 0.0% | 37.0% | 37.0% | 37.0% |
| Maximum Green (s) | 41.0 | 41.0 | 41.0 | 12.0 | | | 32.0 | 32.0 | | 32.0 | 32.0 | 32.0 |
| Yellow Time (s) | 4.0 | 4.0 | 4.0 | 4.0 | | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lead/Lag | | | | Lag | | | Lead | Lead | | Lead | Lead | Lead |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Vehicle Extension (s) | 2.0 | 2.0 | 2.0 | 2.0 | | | 2.0 | 2.0 | | 2.0 | 2.0 | 2.0 |
| Recall Mode | C-Max | C-Max | C-Max | Max | | | Max | Max | | Max | Max | Max |
| Walk Time (s) | 20.0 | 20.0 | 20.0 | | | | 7.0 | 7.0 | | 7.0 | 7.0 | 7.0 |
| Flash Dont Walk (s) | 20.0 | 20.0 | 20.0 | | | | 15.0 | 15.0 | | 15.0 | 15.0 | 15.0 |
| Pedestrian Calls (#/hr) | 50 | 50 | 50 | | | | 20 | 20 | | 20 | 20 | 20 |
| Act Effct Green (s) | | 42.0 | 42.0 | 55.0 | 59.0 | | | 33.0 | | | 33.0 | 33.0 |
| Actuated g/C Ratio | | 0.42 | 0.42 | 0.55 | 0.59 | | | 0.33 | | | 0.33 | 0.33 |

Seaport Square
3109: Seaport Boulevard & Sleeper Street

2010 No Build
PM Peak Hour

| |  | | | | | | | | | | | |
|-------------------------|--|------|------|------|------|-----|-----|------|-----|-----|------|------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| v/c Ratio | | 0.67 | 0.15 | 0.06 | 0.48 | | | 0.80 | | | 0.15 | 0.75 |
| Control Delay | | 29.2 | 4.5 | 18.9 | 21.5 | | | 49.5 | | | 24.8 | 30.5 |
| Queue Delay | | 0.0 | 0.0 | 0.0 | 0.0 | | | 0.0 | | | 0.0 | 0.0 |
| Total Delay | | 29.2 | 4.5 | 18.9 | 21.5 | | | 49.5 | | | 24.8 | 30.5 |
| LOS | | C | A | B | C | | | D | | | C | C |
| Approach Delay | | 24.9 | | | 21.4 | | | 49.5 | | | 29.6 | |
| Approach LOS | | C | | | C | | | D | | | C | |
| Queue Length 50th (ft) | | 120 | 0 | 11 | 183 | | | 155 | | | 33 | 151 |
| Queue Length 95th (ft) | | 173 | 24 | m22 | 274 | | | #296 | | | 43 | #276 |
| Internal Link Dist (ft) | | 414 | | | 1367 | | | 306 | | | 231 | |
| Turn Bay Length (ft) | | | | 150 | | | | | | | | |
| Base Capacity (vph) | | 682 | 626 | 557 | 1952 | | | 340 | | | 485 | 515 |
| Starvation Cap Reductn | | 0 | 0 | 0 | 0 | | | 0 | | | 0 | 0 |
| Spillback Cap Reductn | | 0 | 0 | 0 | 0 | | | 0 | | | 0 | 0 |
| Storage Cap Reductn | | 0 | 0 | 0 | 0 | | | 0 | | | 0 | 0 |
| Reduced v/c Ratio | | 0.67 | 0.15 | 0.06 | 0.48 | | | 0.80 | | | 0.15 | 0.75 |

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 1:EBWB, Start of Green

Natural Cycle: 85

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.80

Intersection Signal Delay: 27.3

Intersection LOS: C

Intersection Capacity Utilization 95.0%

ICU Level of Service F




Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.
























m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3109: Seaport Boulevard & Sleeper Street

| | | |
|--|--|--|
|  ø1 |  ø5 |  ø6 |
| 46 s | 37 s | 17 s |


Seaport Square
3107: Seaport Boulevard & East Service Road

2010 No Build
PM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|---|--|---|---|--|---|---|---|---|---|---|---|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |   | | |   | |  |  |  |  |  |  |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width (ft) | 12 | 12 | 12 | 12 | 13 | 14 | 14 | 13 | 12 | 16 | 16 | 12 |
| Total Lost Time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Leading Detector (ft) | 50 | 50 | | | 50 | | 50 | 50 | 50 | 50 | | 50 |
| Trailing Detector (ft) | 0 | 0 | | | 0 | | 0 | 0 | 0 | 0 | | 0 |
| Turning Speed (mph) | 15 | | 9 | 15 | | 9 | 15 | | 9 | 15 | | 9 |
| Lane Util. Factor | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | | | | | 0.97 | | 0.98 | | 0.95 | 0.96 | | 0.97 |
| Frt | | | | | 0.985 | | | | 0.850 | | | 0.850 |
| Flt Protected | 0.950 | | | | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 1805 | 3235 | 0 | 0 | 3406 | 0 | 1925 | 1963 | 1599 | 2046 | 0 | 1615 |
| Flt Permitted | 0.138 | | | | | | 0.950 | | | 0.950 | | |
| Satd. Flow (perm) | 262 | 3235 | 0 | 0 | 3406 | 0 | 1895 | 1963 | 1522 | 1974 | 0 | 1570 |
| Right Turn on Red | | | Yes | | | Yes | | | No | | | Yes |
| Satd. Flow (RTOR) | | | | | 12 | | | | | | | 119 |
| Headway Factor | 1.00 | 1.07 | 1.00 | 1.00 | 0.96 | 0.92 | 0.92 | 0.96 | 1.00 | 0.85 | 0.85 | 1.00 |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | | | 30 | |
| Link Distance (ft) | | 1447 | | | 181 | | | 381 | | | 275 | |
| Travel Time (s) | | 32.9 | | | 4.1 | | | 8.7 | | | 6.3 | |
| Volume (vph) | 17 | 365 | 0 | 0 | 593 | 68 | 68 | 33 | 157 | 412 | 0 | 101 |
| Confl. Peds. (#/hr) | 105 | | 199 | 199 | | 105 | 9 | | 21 | 21 | | 9 |
| Peak Hour Factor | 0.80 | 0.74 | 0.92 | 0.92 | 0.79 | 0.84 | 0.79 | 0.85 | 0.74 | 0.82 | 0.92 | 0.85 |
| Heavy Vehicles (%) | 0% | 6% | 0% | 0% | 4% | 9% | 0% | 0% | 1% | 0% | 0% | 0% |
| Parking (#/hr) | | 0 | | | | | | | | | | |
| Adj. Flow (vph) | 21 | 493 | 0 | 0 | 751 | 81 | 86 | 39 | 212 | 502 | 0 | 119 |
| Lane Group Flow (vph) | 21 | 493 | 0 | 0 | 832 | 0 | 86 | 39 | 212 | 502 | 0 | 119 |
| Turn Type | D.P+P | | | | | | Split | | Perm | Prot | | custom |
| Protected Phases | 6 | 1 6 | | | 1 | | 5 | 5 | | 2 | | |
| Permitted Phases | 1 | | | | | | | | 5 | | | 2 |
| Detector Phases | 6 | 1 6 | | | 1 | | 5 | 5 | 5 | 2 | | 2 |
| Minimum Initial (s) | 8.0 | | | | 8.0 | | 8.0 | 8.0 | 8.0 | 8.0 | | 8.0 |
| Minimum Split (s) | 13.0 | | | | 22.0 | | 22.0 | 22.0 | 22.0 | 22.0 | | 22.0 |
| Total Split (s) | 13.0 | 46.0 | 0.0 | 0.0 | 33.0 | 0.0 | 26.0 | 26.0 | 26.0 | 28.0 | 0.0 | 28.0 |
| Total Split (%) | 13.0% | 46.0% | 0.0% | 0.0% | 33.0% | 0.0% | 26.0% | 26.0% | 26.0% | 28.0% | 0.0% | 28.0% |
| Maximum Green (s) | 8.0 | | | | 28.0 | | 21.0 | 21.0 | 21.0 | 23.0 | | 23.0 |
| Yellow Time (s) | 4.0 | | | | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 |
| All-Red Time (s) | 1.0 | | | | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 |
| Lead/Lag | Lag | | | | Lead | | Lead | Lead | Lead | Lag | | Lag |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Vehicle Extension (s) | 2.0 | | | | 2.0 | | 2.0 | 2.0 | 2.0 | 2.0 | | 2.0 |
| Recall Mode | None | | | | C-Max | | None | None | None | None | | None |
| Walk Time (s) | | | | | 7.0 | | 7.0 | 7.0 | 7.0 | 7.0 | | 7.0 |
| Flash Dont Walk (s) | | | | | 10.0 | | 10.0 | 10.0 | 10.0 | 10.0 | | 10.0 |
| Pedestrian Calls (#/hr) | | | | | 60 | | 5 | 5 | 5 | 5 | | 5 |
| Act Effct Green (s) | 42.0 | 46.0 | | | 33.0 | | 18.0 | 18.0 | 18.0 | 24.0 | | 24.0 |
| Actuated g/C Ratio | 0.42 | 0.46 | | | 0.33 | | 0.18 | 0.18 | 0.18 | 0.24 | | 0.24 |
| v/c Ratio | 0.08 | 0.33 | | | 0.73 | | 0.25 | 0.11 | 0.77 | 1.02 | | 0.25 |
| Control Delay | 34.2 | 39.4 | | | 34.8 | | 35.6 | 33.1 | 57.5 | 85.2 | | 7.3 |

Seaport Square
3107: Seaport Boulevard & East Service Road

2010 No Build
PM Peak Hour

| |  | | | | | | | | | | | |
|-------------------------|--|------|-----|-----|------|-----|------|------|------|------|-----|------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Queue Delay | 0.0 | 0.0 | | | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 |
| Total Delay | 34.2 | 39.4 | | | 34.8 | | 35.6 | 33.1 | 57.5 | 85.2 | | 7.3 |
| LOS | C | D | | | C | | D | C | E | F | | A |
| Approach Delay | | 39.2 | | | 34.8 | | | 49.1 | | | | |
| Approach LOS | | D | | | C | | | D | | | | |
| Queue Length 50th (ft) | 13 | 168 | | | 244 | | 47 | 21 | 129 | ~333 | | 0 |
| Queue Length 95th (ft) | m23 | 181 | | | 278 | | 76 | 45 | 159 | #464 | | 38 |
| Internal Link Dist (ft) | | 1367 | | | 101 | | | 301 | | | 195 | |
| Turn Bay Length (ft) | | | | | | | | | | | | |
| Base Capacity (vph) | 249 | 1488 | | | 1132 | | 424 | 432 | 335 | 491 | | 467 |
| Starvation Cap Reductn | 0 | 0 | | | 0 | | 0 | 0 | 0 | 0 | | 0 |
| Spillback Cap Reductn | 0 | 0 | | | 0 | | 0 | 0 | 0 | 0 | | 0 |
| Storage Cap Reductn | 0 | 0 | | | 0 | | 0 | 0 | 0 | 0 | | 0 |
| Reduced v/c Ratio | 0.08 | 0.33 | | | 0.73 | | 0.20 | 0.09 | 0.63 | 1.02 | | 0.25 |

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 3 (3%), Referenced to phase 1:EBWB, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.02

Intersection Signal Delay: 47.4 Intersection LOS: D

Intersection Capacity Utilization 60.0% ICU Level of Service B

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.





















m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3107: Seaport Boulevard & East Service Road

|  |  |  |  |
|---|---|---|---|
| ø1 | ø2 | ø5 | ø6 |
| 33 s | 28 s | 26 s | 13 s |

Seaport Square
1110: W. Broadway & A Street

2010 No Build
PM Peak Hour


| |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  | |  |  | | |  |  | |  |  |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width (ft) | 12 | 12 | 12 | 12 | 12 | 12 | 11 | 11 | 11 | 11 | 11 | 11 |
| Storage Length (ft) | 40 | | 0 | 40 | | 0 | 0 | | 0 | 0 | | 0 |
| Storage Lanes | 1 | | 0 | 1 | | 0 | 0 | | 0 | 0 | | 1 |
| Total Lost Time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Leading Detector (ft) | 50 | 50 | | 50 | 50 | | 50 | 50 | | 50 | 50 | 50 |
| Trailing Detector (ft) | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Turning Speed (mph) | 15 | | 9 | 15 | | 9 | 15 | | 9 | 15 | | 9 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | 0.95 | 0.95 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | 0.99 | 1.00 | | 0.99 | 0.99 | | | 0.99 | | | 1.00 | 0.97 |
| Frt | | 0.988 | | | 0.975 | | | 0.966 | | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | | 0.997 | | | 0.994 | |
| Satd. Flow (prot) | 1805 | 1586 | 0 | 1671 | 1623 | 0 | 0 | 3280 | 0 | 0 | 1779 | 1561 |
| Flt Permitted | 0.402 | | | 0.501 | | | | 0.899 | | | 0.916 | |
| Satd. Flow (perm) | 753 | 1586 | 0 | 875 | 1623 | 0 | 0 | 2958 | 0 | 0 | 1638 | 1521 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | 5 | | | 13 | | | 65 | | | | 48 |
| Headway Factor | 1.00 | 1.16 | 1.00 | 1.00 | 1.16 | 1.00 | 1.04 | 1.04 | 1.04 | 1.04 | 1.04 | 1.04 |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | | | | 30 |
| Link Distance (ft) | | 423 | | | 259 | | | 454 | | | | 291 |
| Travel Time (s) | | 9.6 | | | 5.9 | | | 10.3 | | | | 6.6 |
| Volume (vph) | 26 | 212 | 16 | 78 | 257 | 34 | 19 | 185 | 59 | 71 | 625 | 38 |
| Confl. Peds. (#/hr) | 18 | | 4 | 4 | | 18 | 2 | | 2 | 2 | | 2 |
| Peak Hour Factor | 0.82 | 0.90 | 0.80 | 0.84 | 0.91 | 0.61 | 0.95 | 0.85 | 0.85 | 0.80 | 0.96 | 0.79 |
| Heavy Vehicles (%) | 0% | 5% | 6% | 8% | 1% | 0% | 0% | 2% | 2% | 0% | 3% | 0% |
| Parking (#/hr) | | 2 | 2 | | 2 | 2 | | | | | | |
| Adj. Flow (vph) | 32 | 236 | 20 | 93 | 282 | 56 | 20 | 218 | 69 | 89 | 651 | 48 |
| Lane Group Flow (vph) | 32 | 256 | 0 | 93 | 338 | 0 | 0 | 307 | 0 | 0 | 740 | 48 |
| Turn Type | Perm | | | Perm | | | Perm | | | Perm | | Perm |
| Protected Phases | | 1 | | | 1 | | | 5 | | | 5 | |
| Permitted Phases | 1 | | | 1 | | | 5 | | | 5 | | 5 |
| Detector Phases | 1 | 1 | | 1 | 1 | | 5 | 5 | | 5 | 5 | 5 |
| Minimum Initial (s) | 8.0 | 8.0 | | 8.0 | 8.0 | | 8.0 | 8.0 | | 8.0 | 8.0 | 8.0 |
| Minimum Split (s) | 19.0 | 19.0 | | 19.0 | 19.0 | | 19.0 | 19.0 | | 19.0 | 19.0 | 19.0 |
| Total Split (s) | 37.0 | 37.0 | 0.0 | 37.0 | 37.0 | 0.0 | 53.0 | 53.0 | 0.0 | 53.0 | 53.0 | 53.0 |
| Total Split (%) | 41.1% | 41.1% | 0.0% | 41.1% | 41.1% | 0.0% | 58.9% | 58.9% | 0.0% | 58.9% | 58.9% | 58.9% |
| Maximum Green (s) | 33.0 | 33.0 | | 33.0 | 33.0 | | 49.0 | 49.0 | | 49.0 | 49.0 | 49.0 |
| Yellow Time (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | 3.0 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lead/Lag | | | | | | | | | | | | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Vehicle Extension (s) | 2.0 | 2.0 | | 2.0 | 2.0 | | 2.0 | 2.0 | | 2.0 | 2.0 | 2.0 |
| Recall Mode | C-Max | C-Max | | C-Max | C-Max | | None | None | | None | None | None |
| Walk Time (s) | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | 7.0 |
| Flash Dont Walk (s) | 8.0 | 8.0 | | 8.0 | 8.0 | | 8.0 | 8.0 | | 8.0 | 8.0 | 8.0 |
| Pedestrian Calls (#/hr) | 20 | 20 | | 20 | 20 | | 20 | 20 | | 20 | 20 | 20 |
| Act Effct Green (s) | 39.0 | 39.0 | | 39.0 | 39.0 | | | 43.0 | | | 43.0 | 43.0 |
| Actuated g/C Ratio | 0.43 | 0.43 | | 0.43 | 0.43 | | | 0.48 | | | 0.48 | 0.48 |

Lanes, Volumes, Timings
HSH Associates

Synchro 6 Report

Seaport Square
1110: W. Broadway & A Street

2010 No Build
PM Peak Hour

| |  | | | | | | | | | | | |
|-------------------------|--|------|-----|------|------|-----|-----|------|-----|-----|------|------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| v/c Ratio | 0.10 | 0.37 | | 0.24 | 0.48 | | | 0.21 | | | 0.95 | 0.06 |
| Control Delay | 19.3 | 20.7 | | 21.1 | 22.1 | | | 10.0 | | | 43.8 | 3.2 |
| Queue Delay | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | | | 0.0 | 0.0 |
| Total Delay | 19.3 | 20.7 | | 21.1 | 22.1 | | | 10.0 | | | 43.8 | 3.2 |
| LOS | B | C | | C | C | | | B | | | D | A |
| Approach Delay | | 20.6 | | | 21.9 | | | 10.0 | | | 41.3 | |
| Approach LOS | | C | | | C | | | B | | | D | |
| Queue Length 50th (ft) | 11 | 99 | | 34 | 135 | | | 37 | | | 361 | 0 |
| Queue Length 95th (ft) | 30 | 174 | | 71 | 231 | | | 51 | | | #568 | 12 |
| Internal Link Dist (ft) | | 343 | | | 179 | | | 374 | | | 211 | |
| Turn Bay Length (ft) | 40 | | | 40 | | | | | | | | |
| Base Capacity (vph) | 326 | 691 | | 380 | 711 | | | 1640 | | | 892 | 850 |
| Starvation Cap Reductn | 0 | 0 | | 0 | 0 | | | 0 | | | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | | 0 | 0 | | | 0 | | | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | | 0 | 0 | | | 0 | | | 0 | 0 |
| Reduced v/c Ratio | 0.10 | 0.37 | | 0.24 | 0.48 | | | 0.19 | | | 0.83 | 0.06 |

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 36 (40%), Referenced to phase 1:EBWB, Start of Green

Natural Cycle: 55

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.95

Intersection Signal Delay: 28.1

Intersection LOS: C

Intersection Capacity Utilization 80.5%

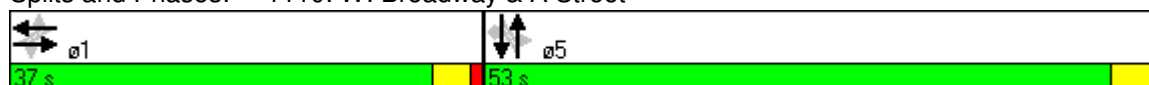
ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.





















Queue shown is maximum after two cycles.

Splits and Phases: 1110: W. Broadway & A Street















Seaport Square
3109: Seaport Boulevard & Sleeper Street

2010 Phase 1 Build
AM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  |  |  |  | | |  | | |  |  |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width (ft) | 11 | 11 | 12 | 12 | 12 | 13 | 12 | 11 | 12 | 12 | 11 | 10 |
| Storage Length (ft) | 0 | | 0 | 150 | | 0 | 0 | | 0 | 0 | | 0 |
| Storage Lanes | 1 | | 1 | 1 | | 0 | 0 | | 0 | 0 | | 1 |
| Total Lost Time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Leading Detector (ft) | 50 | 50 | 50 | 50 | 50 | | 50 | 50 | | 50 | 50 | 50 |
| Trailing Detector (ft) | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Turning Speed (mph) | 15 | | 9 | 15 | | 9 | 15 | | 9 | 15 | | 9 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | | | 0.96 | | 1.00 | | | 0.98 | | | 0.99 | 0.97 |
| Frt | | | 0.850 | | 0.995 | | | 0.973 | | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | | 0.969 | | | 0.984 | |
| Satd. Flow (prot) | 1728 | 1749 | 1568 | 1530 | 2927 | 0 | 0 | 1508 | 0 | 0 | 1807 | 1436 |
| Flt Permitted | 0.077 | | | 0.077 | | | | 0.783 | | | 0.895 | |
| Satd. Flow (perm) | 140 | 1749 | 1506 | 124 | 2927 | 0 | 0 | 1208 | 0 | 0 | 1635 | 1397 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | | 103 | | 7 | | | 12 | | | | 38 |
| Headway Factor | 1.04 | 1.04 | 1.00 | 1.00 | 1.07 | 0.96 | 1.00 | 1.19 | 1.00 | 1.00 | 1.04 | 1.09 |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | | | 30 | |
| Link Distance (ft) | | 494 | | | 1447 | | | 386 | | | 311 | |
| Travel Time (s) | | 11.2 | | | 32.9 | | | 8.8 | | | 7.1 | |
| Volume (vph) | 358 | 877 | 81 | 17 | 579 | 21 | 86 | 18 | 22 | 7 | 14 | 26 |
| Confl. Peds. (#/hr) | 54 | | 18 | 54 | | 18 | 11 | | 20 | 20 | | 11 |
| Peak Hour Factor | 0.95 | 0.94 | 0.69 | 0.55 | 0.91 | 0.95 | 0.68 | 0.54 | 0.55 | 0.50 | 0.50 | 0.69 |
| Heavy Vehicles (%) | 1% | 5% | 3% | 18% | 17% | 0% | 4% | 0% | 0% | 0% | 0% | 5% |
| Parking (#/hr) | | | | | 0 | 0 | 0 | 0 | 0 | | | |
| Adj. Flow (vph) | 377 | 933 | 117 | 31 | 636 | 22 | 126 | 33 | 40 | 14 | 28 | 38 |
| Lane Group Flow (vph) | 377 | 933 | 117 | 31 | 658 | 0 | 0 | 199 | 0 | 0 | 42 | 38 |
| Turn Type | Perm | | Perm | D.P+P | | | Perm | | | Perm | | Perm |
| Protected Phases | | 1 | | 6 | 1 6 | | | 5 | | | 5 | |
| Permitted Phases | 1 | | 1 | 1 | | | 5 | | | 5 | | 5 |
| Detector Phases | 1 | 1 | 1 | 6 | 1 6 | | 5 | 5 | | 5 | 5 | 5 |
| Minimum Initial (s) | 8.0 | 8.0 | 8.0 | 4.0 | | | 8.0 | 8.0 | | 8.0 | 8.0 | 8.0 |
| Minimum Split (s) | 50.0 | 50.0 | 50.0 | 11.0 | | | 27.0 | 27.0 | | 27.0 | 27.0 | 27.0 |
| Total Split (s) | 56.0 | 56.0 | 56.0 | 14.0 | 70.0 | 0.0 | 30.0 | 30.0 | 0.0 | 30.0 | 30.0 | 30.0 |
| Total Split (%) | 56.0% | 56.0% | 56.0% | 14.0% | 70.0% | 0.0% | 30.0% | 30.0% | 0.0% | 30.0% | 30.0% | 30.0% |
| Maximum Green (s) | 51.0 | 51.0 | 51.0 | 9.0 | | | 25.0 | 25.0 | | 25.0 | 25.0 | 25.0 |
| Yellow Time (s) | 4.0 | 4.0 | 4.0 | 4.0 | | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lead/Lag | | | | Lag | | | Lead | Lead | | Lead | Lead | Lead |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Vehicle Extension (s) | 2.0 | 2.0 | 2.0 | 2.0 | | | 2.0 | 2.0 | | 2.0 | 2.0 | 2.0 |
| Recall Mode | C-Max | C-Max | C-Max | Max | | | Max | Max | | Max | Max | Max |
| Walk Time (s) | 20.0 | 20.0 | 20.0 | | | | 7.0 | 7.0 | | 7.0 | 7.0 | 7.0 |
| Flash Dont Walk (s) | 25.0 | 25.0 | 25.0 | | | | 15.0 | 15.0 | | 15.0 | 15.0 | 15.0 |
| Pedestrian Calls (#/hr) | 50 | 50 | 50 | | | | 20 | 20 | | 20 | 20 | 20 |
| Act Effct Green (s) | 52.0 | 52.0 | 52.0 | 62.0 | 66.0 | | | 26.0 | | | 26.0 | 26.0 |
| Actuated g/C Ratio | 0.52 | 0.52 | 0.52 | 0.62 | 0.66 | | | 0.26 | | | 0.26 | 0.26 |

Seaport Square
3109: Seaport Boulevard & Sleeper Street

2010 Phase 1 Build
AM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| v/c Ratio | 5.16 | 1.03 | 0.14 | 0.14 | 0.34 | | | 0.62 | | | 0.10 | 0.10 |
| Control Delay | 1914.3 | 62.1 | 3.7 | 7.4 | 4.8 | | | 40.1 | | | 29.0 | 9.8 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | 0.0 | | | 0.0 | 0.0 |
| Total Delay | 1914.3 | 62.1 | 3.7 | 7.4 | 4.8 | | | 40.1 | | | 29.0 | 9.8 |
| LOS | F | E | A | A | A | | | D | | | C | A |
| Approach Delay | | 546.7 | | | 5.0 | | | 40.1 | | | 19.9 | |
| Approach LOS | | F | | | A | | | D | | | B | |
| Queue Length 50th (ft) | ~416 | ~638 | 4 | 5 | 58 | | | 105 | | | 20 | 0 |
| Queue Length 95th (ft) | #600 | #876 | 16 | 6 | 67 | | | 95 | | | 26 | 14 |
| Internal Link Dist (ft) | | 414 | | | 1367 | | | 306 | | | 231 | |
| Turn Bay Length (ft) | | | | 150 | | | | | | | | |
| Base Capacity (vph) | 73 | 909 | 833 | 217 | 1934 | | | 323 | | | 425 | 391 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | | | 0 | | | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | | | 0 | | | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | | | 0 | | | 0 | 0 |
| Reduced v/c Ratio | 5.16 | 1.03 | 0.14 | 0.14 | 0.34 | | | 0.62 | | | 0.10 | 0.10 |

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 1:EBWB, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 5.16

Intersection Signal Delay: 331.1

Intersection LOS: F

Intersection Capacity Utilization 85.7%

ICU Level of Service E

Analysis Period (min) 15









~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.























Queue shown is maximum after two cycles.

Splits and Phases: 3109: Seaport Boulevard & Sleeper Street

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
|  |  |  |  |  |  |  |  |  |  |  |  |
| ø1 | | | ø5 | | | ø6 | | | | | |
| 56 s | | | 30 s | | | 14 s | | | | | |


Seaport Square
3107: Seaport Boulevard & East Service Road

2010 Phase 1 Build
AM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|---|--|---|---|--|---|---|---|---|---|---|---|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |   | | |   | |  |  |  |  | |  |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width (ft) | 12 | 12 | 12 | 12 | 13 | 14 | 14 | 13 | 12 | 16 | 16 | 12 |
| Total Lost Time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Leading Detector (ft) | 50 | 50 | | | 50 | | 50 | 50 | 50 | 50 | | 50 |
| Trailing Detector (ft) | 0 | 0 | | | 0 | | 0 | 0 | 0 | 0 | | 0 |
| Turning Speed (mph) | 15 | | 9 | 15 | | 9 | 15 | | 9 | 15 | | 9 |
| Lane Util. Factor | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | | | | | 0.99 | | 0.99 | | 0.97 | 0.99 | | 0.98 |
| Frt | | | | | 0.960 | | | | 0.850 | | | 0.850 |
| Flt Protected | 0.950 | | | | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 1805 | 3175 | 0 | 0 | 3123 | 0 | 1888 | 1963 | 1568 | 1719 | 0 | 1615 |
| Flt Permitted | 0.139 | | | | | | 0.950 | | | 0.950 | | |
| Satd. Flow (perm) | 264 | 3175 | 0 | 0 | 3123 | 0 | 1878 | 1963 | 1519 | 1698 | 0 | 1587 |
| Right Turn on Red | | | Yes | | | Yes | | | No | | | Yes |
| Satd. Flow (RTOR) | | | | | 52 | | | | | | | 20 |
| Headway Factor | 1.00 | 1.07 | 1.00 | 1.00 | 0.96 | 0.92 | 0.92 | 0.96 | 1.00 | 0.85 | 0.85 | 1.00 |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | | | 30 | |
| Link Distance (ft) | | 1447 | | | 181 | | | 381 | | | 275 | |
| Travel Time (s) | | 32.9 | | | 4.1 | | | 8.7 | | | 6.3 | |
| Volume (vph) | 45 | 636 | 0 | 0 | 536 | 177 | 154 | 247 | 239 | 58 | 0 | 5 |
| Confl. Peds. (#/hr) | 12 | | 69 | 69 | | 12 | 3 | | 11 | 11 | | 3 |
| Peak Hour Factor | 0.86 | 0.88 | 0.92 | 0.92 | 0.92 | 0.83 | 0.90 | 0.71 | 0.86 | 0.72 | 0.92 | 0.25 |
| Heavy Vehicles (%) | 0% | 8% | 2% | 2% | 17% | 2% | 2% | 0% | 3% | 19% | 2% | 0% |
| Parking (#/hr) | | 0 | | | | | | | | | | |
| Adj. Flow (vph) | 52 | 723 | 0 | 0 | 583 | 213 | 171 | 348 | 278 | 81 | 0 | 20 |
| Lane Group Flow (vph) | 52 | 723 | 0 | 0 | 796 | 0 | 171 | 348 | 278 | 81 | 0 | 20 |
| Turn Type | D.P+P | | | | | | Split | | Perm | Prot | | custom |
| Protected Phases | 6 | 1 6 | | | 1 | | 5 | 5 | | 2 | | |
| Permitted Phases | 1 | | | | | | | | 5 | | | 2 |
| Detector Phases | 6 | 1 6 | | | 1 | | 5 | 5 | 5 | 2 | | 2 |
| Minimum Initial (s) | 8.0 | | | | 8.0 | | 8.0 | 8.0 | 8.0 | 8.0 | | 8.0 |
| Minimum Split (s) | 13.0 | | | | 22.0 | | 22.0 | 22.0 | 22.0 | 22.0 | | 22.0 |
| Total Split (s) | 13.0 | 46.0 | 0.0 | 0.0 | 33.0 | 0.0 | 26.0 | 26.0 | 26.0 | 28.0 | 0.0 | 28.0 |
| Total Split (%) | 13.0% | 46.0% | 0.0% | 0.0% | 33.0% | 0.0% | 26.0% | 26.0% | 26.0% | 28.0% | 0.0% | 28.0% |
| Maximum Green (s) | 8.0 | | | | 28.0 | | 21.0 | 21.0 | 21.0 | 23.0 | | 23.0 |
| Yellow Time (s) | 4.0 | | | | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 |
| All-Red Time (s) | 1.0 | | | | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 |
| Lead/Lag | Lag | | | | Lead | | Lead | Lead | Lead | Lag | | Lag |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Vehicle Extension (s) | 2.0 | | | | 2.0 | | 2.0 | 2.0 | 2.0 | 2.0 | | 2.0 |
| Recall Mode | None | | | | C-Max | | None | None | None | None | | None |
| Walk Time (s) | | | | | 7.0 | | 7.0 | 7.0 | 7.0 | 7.0 | | 7.0 |
| Flash Dont Walk (s) | | | | | 10.0 | | 10.0 | 10.0 | 10.0 | 10.0 | | 10.0 |
| Pedestrian Calls (#/hr) | | | | | 60 | | 5 | 5 | 5 | 5 | | 5 |
| Act Effct Green (s) | 54.4 | 58.4 | | | 45.4 | | 20.8 | 20.8 | 20.8 | 11.4 | | 11.4 |
| Actuated g/C Ratio | 0.54 | 0.58 | | | 0.45 | | 0.21 | 0.21 | 0.21 | 0.11 | | 0.11 |
| v/c Ratio | 0.18 | 0.39 | | | 0.55 | | 0.44 | 0.85 | 0.88 | 0.41 | | 0.10 |
| Control Delay | 7.1 | 8.9 | | | 22.1 | | 38.0 | 58.5 | 67.2 | 46.6 | | 16.2 |

Seaport Square
3107: Seaport Boulevard & East Service Road

2010 Phase 1 Build
AM Peak Hour

| |  | | | | | | | | | | | |
|-------------------------|--|------|-----|-----|------|-----|------|------|------|------|-----|------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Queue Delay | 0.0 | 0.0 | | | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 |
| Total Delay | 7.1 | 8.9 | | | 22.1 | | 38.0 | 58.5 | 67.2 | 46.6 | | 16.2 |
| LOS | A | A | | | C | | D | E | E | D | | B |
| Approach Delay | | 8.8 | | | 22.1 | | | 57.1 | | | | |
| Approach LOS | | A | | | C | | | E | | | | |
| Queue Length 50th (ft) | 10 | 123 | | | 183 | | 94 | 212 | 170 | 50 | | 0 |
| Queue Length 95th (ft) | m17 | m188 | | | 284 | | 158 | 234 | #285 | 69 | | 0 |
| Internal Link Dist (ft) | | 1367 | | | 101 | | | 301 | | | 195 | |
| Turn Bay Length (ft) | | | | | | | | | | | | |
| Base Capacity (vph) | 283 | 1856 | | | 1448 | | 415 | 432 | 334 | 413 | | 396 |
| Starvation Cap Reductn | 0 | 0 | | | 0 | | 0 | 0 | 0 | 0 | | 0 |
| Spillback Cap Reductn | 0 | 0 | | | 0 | | 0 | 0 | 0 | 0 | | 0 |
| Storage Cap Reductn | 0 | 0 | | | 0 | | 0 | 0 | 0 | 0 | | 0 |
| Reduced v/c Ratio | 0.18 | 0.39 | | | 0.55 | | 0.41 | 0.81 | 0.83 | 0.20 | | 0.05 |

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 81 (81%), Referenced to phase 1:EBWB, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.88

Intersection Signal Delay: 30.0

Intersection LOS: C

Intersection Capacity Utilization 58.4%

ICU Level of Service B

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.





















m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3107: Seaport Boulevard & East Service Road

|  |  |  |  |
|---|---|---|---|
| ø1 | ø2 | ø5 | ø6 |
| 33 s | 28 s | 26 s | 13 s |

Seaport Square
1110: W. Broadway & A Street

2010 Phase 1 Build
AM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  | |  |  | | |  |  | |  |  |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width (ft) | 12 | 12 | 12 | 12 | 12 | 12 | 11 | 11 | 11 | 11 | 9 | 9 |
| Storage Length (ft) | 40 | | 0 | 40 | | 0 | 0 | | 0 | 0 | | 0 |
| Storage Lanes | 1 | | 0 | 1 | | 0 | 0 | | 0 | 0 | | 1 |
| Total Lost Time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Leading Detector (ft) | 50 | 50 | | 50 | 50 | | 50 | 50 | | 50 | 50 | 50 |
| Trailing Detector (ft) | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Turning Speed (mph) | 15 | | 9 | 15 | | 9 | 15 | | 9 | 15 | | 9 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | 0.95 | 0.95 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | 0.99 | 1.00 | | 1.00 | 1.00 | | | 1.00 | | | 1.00 | 0.97 |
| Frt | | 0.988 | | | 0.988 | | | 0.981 | | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | | 0.997 | | | 0.991 | |
| Satd. Flow (prot) | 1736 | 1510 | 0 | 1570 | 1615 | 0 | 0 | 3219 | 0 | 0 | 1576 | 1371 |
| Flt Permitted | 0.314 | | | 0.416 | | | | 0.913 | | | 0.841 | |
| Satd. Flow (perm) | 569 | 1510 | 0 | 684 | 1615 | 0 | 0 | 2947 | 0 | 0 | 1337 | 1336 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | 7 | | | 7 | | | 23 | | | | 64 |
| Headway Factor | 1.00 | 1.16 | 1.00 | 1.00 | 1.16 | 1.00 | 1.04 | 1.04 | 1.04 | 1.04 | 1.14 | 1.14 |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | | | | 30 |
| Link Distance (ft) | | 463 | | | 424 | | | 472 | | | | 424 |
| Travel Time (s) | | 10.5 | | | 9.6 | | | 10.7 | | | | 9.6 |
| Volume (vph) | 54 | 313 | 20 | 108 | 401 | 33 | 21 | 391 | 53 | 54 | 249 | 38 |
| Confl. Peds. (#/hr) | 18 | | 4 | 4 | | 18 | 2 | | 2 | 2 | | 2 |
| Peak Hour Factor | 0.70 | 0.88 | 0.63 | 0.92 | 0.87 | 0.83 | 0.58 | 0.88 | 0.77 | 0.88 | 0.86 | 0.59 |
| Heavy Vehicles (%) | 4% | 10% | 14% | 15% | 3% | 4% | 0% | 5% | 13% | 10% | 7% | 6% |
| Parking (#/hr) | | 2 | 2 | | 2 | 2 | | | | | | |
| Adj. Flow (vph) | 77 | 356 | 32 | 117 | 461 | 40 | 36 | 444 | 69 | 61 | 290 | 64 |
| Lane Group Flow (vph) | 77 | 388 | 0 | 117 | 501 | 0 | 0 | 549 | 0 | 0 | 351 | 64 |
| Turn Type | Perm | | | Perm | | | Perm | | | Perm | | Perm |
| Protected Phases | | 1 | | | 1 | | | 5 | | | 5 | |
| Permitted Phases | 1 | | | 1 | | | 5 | | | 5 | | 5 |
| Detector Phases | 1 | 1 | | 1 | 1 | | 5 | 5 | | 5 | 5 | 5 |
| Minimum Initial (s) | 8.0 | 8.0 | | 8.0 | 8.0 | | 8.0 | 8.0 | | 8.0 | 8.0 | 8.0 |
| Minimum Split (s) | 19.0 | 19.0 | | 19.0 | 19.0 | | 19.0 | 19.0 | | 19.0 | 19.0 | 19.0 |
| Total Split (s) | 46.0 | 46.0 | 0.0 | 46.0 | 46.0 | 0.0 | 44.0 | 44.0 | 0.0 | 44.0 | 44.0 | 44.0 |
| Total Split (%) | 51.1% | 51.1% | 0.0% | 51.1% | 51.1% | 0.0% | 48.9% | 48.9% | 0.0% | 48.9% | 48.9% | 48.9% |
| Maximum Green (s) | 42.0 | 42.0 | | 42.0 | 42.0 | | 40.0 | 40.0 | | 40.0 | 40.0 | 40.0 |
| Yellow Time (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | 3.0 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lead/Lag | | | | | | | | | | | | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Vehicle Extension (s) | 2.0 | 2.0 | | 2.0 | 2.0 | | 2.0 | 2.0 | | 2.0 | 2.0 | 2.0 |
| Recall Mode | C-Max | C-Max | | C-Max | C-Max | | Max | Max | | Max | Max | Max |
| Walk Time (s) | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | 7.0 |
| Flash Dont Walk (s) | 8.0 | 8.0 | | 8.0 | 8.0 | | 8.0 | 8.0 | | 8.0 | 8.0 | 8.0 |
| Pedestrian Calls (#/hr) | 20 | 20 | | 20 | 20 | | 20 | 20 | | 20 | 20 | 20 |
| Act Effct Green (s) | 42.0 | 42.0 | | 42.0 | 42.0 | | | 40.0 | | | 40.0 | 40.0 |
| Actuated g/C Ratio | 0.47 | 0.47 | | 0.47 | 0.47 | | | 0.44 | | | 0.44 | 0.44 |

Seaport Square
1110: W. Broadway & A Street

2010 Phase 1 Build
AM Peak Hour

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|------|------|-----|------|------|-----|-----|------|-----|-----|------|------|
| v/c Ratio | 0.29 | 0.55 | | 0.37 | 0.66 | | | 0.41 | | | 0.59 | 0.10 |
| Control Delay | 18.6 | 20.5 | | 19.7 | 23.5 | | | 17.4 | | | 23.9 | 4.5 |
| Queue Delay | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | | | 0.0 | 0.0 |
| Total Delay | 18.6 | 20.5 | | 19.7 | 23.5 | | | 17.4 | | | 23.9 | 4.5 |
| LOS | B | C | | B | C | | | B | | | C | A |
| Approach Delay | | 20.2 | | | 22.8 | | | 17.4 | | | 20.9 | |
| Approach LOS | | C | | | C | | | B | | | C | |
| Queue Length 50th (ft) | 26 | 149 | | 41 | 208 | | | 103 | | | 145 | 0 |
| Queue Length 95th (ft) | 44 | 230 | | 87 | 305 | | | 142 | | | 222 | 7 |
| Internal Link Dist (ft) | | 383 | | | 344 | | | 392 | | | 344 | |
| Turn Bay Length (ft) | 40 | | | 40 | | | | | | | | |
| Base Capacity (vph) | 266 | 708 | | 319 | 757 | | | 1323 | | | 594 | 629 |
| Starvation Cap Reductn | 0 | 0 | | 0 | 0 | | | 0 | | | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | | 0 | 0 | | | 0 | | | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | | 0 | 0 | | | 0 | | | 0 | 0 |
| Reduced v/c Ratio | 0.29 | 0.55 | | 0.37 | 0.66 | | | 0.41 | | | 0.59 | 0.10 |

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 57 (63%), Referenced to phase 1:EBWB, Start of Green

Natural Cycle: 40

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.66

Intersection Signal Delay: 20.4

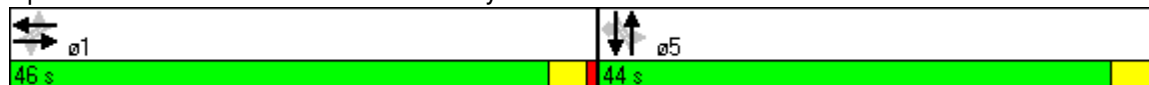
Intersection LOS: C

Intersection Capacity Utilization 72.5%

ICU Level of Service C




















Analysis Period (min) 15

Splits and Phases: 1110: W. Broadway & A Street




Seaport Square
3109: Seaport Boulevard & Sleeper Street

2010 Phase 1 Build
PM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | |  |  |  |  | | |  | | |  |  |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width (ft) | 11 | 11 | 12 | 12 | 12 | 13 | 12 | 11 | 12 | 12 | 11 | 10 |
| Storage Length (ft) | 0 | | 0 | 150 | | 0 | 0 | | 0 | 0 | | 0 |
| Storage Lanes | 0 | | 1 | 1 | | 0 | 0 | | 0 | 0 | | 1 |
| Total Lost Time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Leading Detector (ft) | 50 | 50 | 50 | 50 | 50 | | 50 | 50 | | 50 | 50 | 50 |
| Trailing Detector (ft) | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Turning Speed (mph) | 15 | | 9 | 15 | | 9 | 15 | | 9 | 15 | | 9 |
| Lane Util. Factor | 0.95 | 0.95 | 1.00 | 1.00 | 0.95 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | | | 0.85 | 0.93 | 1.00 | | | 0.90 | | | 0.98 | 0.88 |
| Frt | | | 0.850 | | 0.997 | | | 0.990 | | | | 0.850 |
| Flt Protected | | 0.994 | | 0.950 | | | | 0.958 | | | 0.981 | |
| Satd. Flow (prot) | 0 | 2825 | 1599 | 1805 | 3307 | 0 | 0 | 1555 | 0 | 0 | 1802 | 1507 |
| Flt Permitted | | 0.565 | | 0.431 | | | | 0.691 | | | 0.843 | |
| Satd. Flow (perm) | 0 | 1606 | 1359 | 765 | 3307 | 0 | 0 | 1022 | 0 | 0 | 1517 | 1320 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | | 95 | | 3 | | | 4 | | | | 119 |
| Headway Factor | 1.04 | 1.04 | 1.00 | 1.00 | 1.07 | 0.96 | 1.00 | 1.19 | 1.00 | 1.00 | 1.04 | 1.09 |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | | | 30 | |
| Link Distance (ft) | | 494 | | | 1447 | | | 386 | | | 311 | |
| Travel Time (s) | | 11.2 | | | 32.9 | | | 8.8 | | | 7.1 | |
| Volume (vph) | 44 | 357 | 79 | 19 | 753 | 5 | 220 | 15 | 9 | 30 | 33 | 360 |
| Confl. Peds. (#/hr) | 34 | | 106 | 106 | | 34 | 84 | | 77 | 77 | | 84 |
| Peak Hour Factor | 0.86 | 0.88 | 0.83 | 0.59 | 0.82 | 0.31 | 0.90 | 1.00 | 0.45 | 0.88 | 0.60 | 0.93 |
| Heavy Vehicles (%) | 5% | 25% | 1% | 0% | 3% | 20% | 0% | 0% | 0% | 0% | 0% | 0% |
| Parking (#/hr) | | | | | 0 | 0 | 0 | 0 | 0 | | | |
| Adj. Flow (vph) | 51 | 406 | 95 | 32 | 918 | 16 | 244 | 15 | 20 | 34 | 55 | 387 |
| Lane Group Flow (vph) | 0 | 457 | 95 | 32 | 934 | 0 | 0 | 279 | 0 | 0 | 89 | 387 |
| Turn Type | Perm | | Perm | D.P+P | | | Perm | | | Perm | | Perm |
| Protected Phases | | 1 | | 6 | 1 6 | | | 5 | | | 5 | |
| Permitted Phases | 1 | | 1 | 1 | | | 5 | | | 5 | | 5 |
| Detector Phases | 1 | 1 | 1 | 6 | 1 6 | | 5 | 5 | | 5 | 5 | 5 |
| Minimum Initial (s) | 8.0 | 8.0 | 8.0 | 4.0 | | | 8.0 | 8.0 | | 8.0 | 8.0 | 8.0 |
| Minimum Split (s) | 45.0 | 45.0 | 45.0 | 11.0 | | | 27.0 | 27.0 | | 27.0 | 27.0 | 27.0 |
| Total Split (s) | 46.0 | 46.0 | 46.0 | 17.0 | 63.0 | 0.0 | 37.0 | 37.0 | 0.0 | 37.0 | 37.0 | 37.0 |
| Total Split (%) | 46.0% | 46.0% | 46.0% | 17.0% | 63.0% | 0.0% | 37.0% | 37.0% | 0.0% | 37.0% | 37.0% | 37.0% |
| Maximum Green (s) | 41.0 | 41.0 | 41.0 | 12.0 | | | 32.0 | 32.0 | | 32.0 | 32.0 | 32.0 |
| Yellow Time (s) | 4.0 | 4.0 | 4.0 | 4.0 | | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lead/Lag | | | | Lag | | | Lead | Lead | | Lead | Lead | Lead |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Vehicle Extension (s) | 2.0 | 2.0 | 2.0 | 2.0 | | | 2.0 | 2.0 | | 2.0 | 2.0 | 2.0 |
| Recall Mode | C-Max | C-Max | C-Max | Max | | | Max | Max | | Max | Max | Max |
| Walk Time (s) | 20.0 | 20.0 | 20.0 | | | | 7.0 | 7.0 | | 7.0 | 7.0 | 7.0 |
| Flash Dont Walk (s) | 20.0 | 20.0 | 20.0 | | | | 15.0 | 15.0 | | 15.0 | 15.0 | 15.0 |
| Pedestrian Calls (#/hr) | 50 | 50 | 50 | | | | 20 | 20 | | 20 | 20 | 20 |
| Act Effct Green (s) | | 42.0 | 42.0 | 55.0 | 59.0 | | | 33.0 | | | 33.0 | 33.0 |
| Actuated g/C Ratio | | 0.42 | 0.42 | 0.55 | 0.59 | | | 0.33 | | | 0.33 | 0.33 |

Seaport Square
3109: Seaport Boulevard & Sleeper Street

2010 Phase 1 Build
PM Peak Hour

| |  | | | | | | | | | | | |
|-------------------------|--|------|------|------|------|-----|-----|------|-----|-----|------|------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| v/c Ratio | | 0.68 | 0.15 | 0.06 | 0.48 | | | 0.82 | | | 0.18 | 0.75 |
| Control Delay | | 29.7 | 4.5 | 19.2 | 21.6 | | | 51.6 | | | 25.1 | 30.9 |
| Queue Delay | | 0.0 | 0.0 | 0.0 | 0.0 | | | 0.0 | | | 0.0 | 0.0 |
| Total Delay | | 29.7 | 4.5 | 19.2 | 21.6 | | | 51.6 | | | 25.1 | 30.9 |
| LOS | | C | A | B | C | | | D | | | C | C |
| Approach Delay | | 25.3 | | | 21.5 | | | 51.6 | | | 29.9 | |
| Approach LOS | | C | | | C | | | D | | | C | |
| Queue Length 50th (ft) | | 121 | 0 | 12 | 185 | | | 160 | | | 40 | 154 |
| Queue Length 95th (ft) | | 176 | 24 | m21 | 274 | | | #307 | | | 50 | #284 |
| Internal Link Dist (ft) | | 414 | | | 1367 | | | 306 | | | 231 | |
| Turn Bay Length (ft) | | | | 150 | | | | | | | | |
| Base Capacity (vph) | | 675 | 626 | 556 | 1952 | | | 340 | | | 501 | 515 |
| Starvation Cap Reductn | | 0 | 0 | 0 | 0 | | | 0 | | | 0 | 0 |
| Spillback Cap Reductn | | 0 | 0 | 0 | 0 | | | 0 | | | 0 | 0 |
| Storage Cap Reductn | | 0 | 0 | 0 | 0 | | | 0 | | | 0 | 0 |
| Reduced v/c Ratio | | 0.68 | 0.15 | 0.06 | 0.48 | | | 0.82 | | | 0.18 | 0.75 |

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 1:EBWB, Start of Green

Natural Cycle: 85

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.82

Intersection Signal Delay: 27.9

Intersection LOS: C

Intersection Capacity Utilization 95.0%

ICU Level of Service F




Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.





















m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3109: Seaport Boulevard & Sleeper Street

| | | |
|--|--|--|
|  ø1 |  ø5 |  ø6 |
| 46 s | 37 s | 17 s |

Seaport Square
3107: Seaport Boulevard & East Service Road

2010 Phase 1 Build
PM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  | | |  | |  |  |  |  | |  |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width (ft) | 12 | 12 | 12 | 12 | 13 | 14 | 14 | 13 | 12 | 16 | 16 | 12 |
| Total Lost Time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Leading Detector (ft) | 50 | 50 | | | 50 | | 50 | 50 | 50 | 50 | | 50 |
| Trailing Detector (ft) | 0 | 0 | | | 0 | | 0 | 0 | 0 | 0 | | 0 |
| Turning Speed (mph) | 15 | | 9 | 15 | | 9 | 15 | | 9 | 15 | | 9 |
| Lane Util. Factor | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | | | | | 0.96 | | 0.98 | | 0.95 | 0.97 | | 0.97 |
| Frt | | | | | 0.983 | | | | 0.850 | | | 0.850 |
| Flt Protected | 0.950 | | | | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 1805 | 3235 | 0 | 0 | 3376 | 0 | 1925 | 1963 | 1599 | 2046 | 0 | 1615 |
| Flt Permitted | 0.138 | | | | | | 0.950 | | | 0.950 | | |
| Satd. Flow (perm) | 262 | 3235 | 0 | 0 | 3376 | 0 | 1895 | 1963 | 1522 | 1975 | 0 | 1570 |
| Right Turn on Red | | | Yes | | | Yes | | | No | | | Yes |
| Satd. Flow (RTOR) | | | | | 14 | | | | | | | 118 |
| Headway Factor | 1.00 | 1.07 | 1.00 | 1.00 | 0.96 | 0.92 | 0.92 | 0.96 | 1.00 | 0.85 | 0.85 | 1.00 |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | | | 30 | |
| Link Distance (ft) | | 1447 | | | 181 | | | 381 | | | 275 | |
| Travel Time (s) | | 32.9 | | | 4.1 | | | 8.7 | | | 6.3 | |
| Volume (vph) | 17 | 365 | 0 | 0 | 593 | 82 | 68 | 43 | 157 | 430 | 0 | 101 |
| Confl. Peds. (#/hr) | 105 | | 199 | 199 | | 105 | 9 | | 21 | 21 | | 9 |
| Peak Hour Factor | 0.80 | 0.74 | 0.92 | 0.92 | 0.79 | 0.84 | 0.79 | 0.85 | 0.74 | 0.82 | 0.92 | 0.85 |
| Heavy Vehicles (%) | 0% | 6% | 0% | 0% | 4% | 9% | 0% | 0% | 1% | 0% | 0% | 0% |
| Parking (#/hr) | | 0 | | | | | | | | | | |
| Adj. Flow (vph) | 21 | 493 | 0 | 0 | 751 | 98 | 86 | 51 | 212 | 524 | 0 | 119 |
| Lane Group Flow (vph) | 21 | 493 | 0 | 0 | 849 | 0 | 86 | 51 | 212 | 524 | 0 | 119 |
| Turn Type | D.P+P | | | | | | Split | | Perm | Prot | | custom |
| Protected Phases | 6 | 1 6 | | | 1 | | 5 | 5 | | 2 | | |
| Permitted Phases | 1 | | | | | | | | 5 | | | 2 |
| Detector Phases | 6 | 1 6 | | | 1 | | 5 | 5 | 5 | 2 | | 2 |
| Minimum Initial (s) | 8.0 | | | | 8.0 | | 8.0 | 8.0 | 8.0 | 8.0 | | 8.0 |
| Minimum Split (s) | 13.0 | | | | 22.0 | | 22.0 | 22.0 | 22.0 | 22.0 | | 22.0 |
| Total Split (s) | 13.0 | 46.0 | 0.0 | 0.0 | 33.0 | 0.0 | 26.0 | 26.0 | 26.0 | 28.0 | 0.0 | 28.0 |
| Total Split (%) | 13.0% | 46.0% | 0.0% | 0.0% | 33.0% | 0.0% | 26.0% | 26.0% | 26.0% | 28.0% | 0.0% | 28.0% |
| Maximum Green (s) | 8.0 | | | | 28.0 | | 21.0 | 21.0 | 21.0 | 23.0 | | 23.0 |
| Yellow Time (s) | 4.0 | | | | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 |
| All-Red Time (s) | 1.0 | | | | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 |
| Lead/Lag | Lag | | | | Lead | | Lead | Lead | Lead | Lag | | Lag |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Vehicle Extension (s) | 2.0 | | | | 2.0 | | 2.0 | 2.0 | 2.0 | 2.0 | | 2.0 |
| Recall Mode | None | | | | C-Max | | None | None | None | None | | None |
| Walk Time (s) | | | | | 7.0 | | 7.0 | 7.0 | 7.0 | 7.0 | | 7.0 |
| Flash Dont Walk (s) | | | | | 10.0 | | 10.0 | 10.0 | 10.0 | 10.0 | | 10.0 |
| Pedestrian Calls (#/hr) | | | | | 60 | | 5 | 5 | 5 | 5 | | 5 |
| Act Effct Green (s) | 42.0 | 46.0 | | | 33.0 | | 18.0 | 18.0 | 18.0 | 24.0 | | 24.0 |
| Actuated g/C Ratio | 0.42 | 0.46 | | | 0.33 | | 0.18 | 0.18 | 0.18 | 0.24 | | 0.24 |
| v/c Ratio | 0.08 | 0.33 | | | 0.76 | | 0.25 | 0.14 | 0.77 | 1.07 | | 0.26 |
| Control Delay | 33.9 | 39.2 | | | 35.6 | | 35.6 | 33.6 | 57.5 | 97.5 | | 7.5 |

Seaport Square
3107: Seaport Boulevard & East Service Road

2010 Phase 1 Build
PM Peak Hour

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|------|------|-----|-----|------|-----|------|------|------|------|-----|------|
| Queue Delay | 0.0 | 0.0 | | | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 |
| Total Delay | 33.9 | 39.2 | | | 35.6 | | 35.6 | 33.6 | 57.5 | 97.5 | | 7.5 |
| LOS | C | D | | | D | | D | C | E | F | | A |
| Approach Delay | | 39.0 | | | 35.6 | | | 48.6 | | | | |
| Approach LOS | | D | | | D | | | D | | | | |
| Queue Length 50th (ft) | 13 | 168 | | | 251 | | 47 | 27 | 129 | ~372 | | 1 |
| Queue Length 95th (ft) | m23 | 181 | | | 285 | | 76 | 54 | 159 | #493 | | 38 |
| Internal Link Dist (ft) | | 1367 | | | 101 | | | 301 | | | 195 | |
| Turn Bay Length (ft) | | | | | | | | | | | | |
| Base Capacity (vph) | 249 | 1488 | | | 1123 | | 424 | 432 | 335 | 491 | | 466 |
| Starvation Cap Reductn | 0 | 0 | | | 0 | | 0 | 0 | 0 | 0 | | 0 |
| Spillback Cap Reductn | 0 | 0 | | | 0 | | 0 | 0 | 0 | 0 | | 0 |
| Storage Cap Reductn | 0 | 0 | | | 0 | | 0 | 0 | 0 | 0 | | 0 |
| Reduced v/c Ratio | 0.08 | 0.33 | | | 0.76 | | 0.20 | 0.12 | 0.63 | 1.07 | | 0.26 |

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 3 (3%), Referenced to phase 1:EBWB, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.07

Intersection Signal Delay: 50.6 Intersection LOS: D

Intersection Capacity Utilization 60.9% ICU Level of Service B

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.





















m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3107: Seaport Boulevard & East Service Road

| ø1 | ø2 | ø5 | ø6 |
|------|------|------|------|
| 33 s | 28 s | 26 s | 13 s |


Seaport Square
1110: W. Broadway & A Street

2010 Phase 1 Build
PM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  | |  |  | | |  |  | |  |  |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width (ft) | 12 | 12 | 12 | 12 | 12 | 12 | 11 | 11 | 11 | 11 | 11 | 11 |
| Storage Length (ft) | 40 | | 0 | 40 | | 0 | 0 | | 0 | 0 | | 0 |
| Storage Lanes | 1 | | 0 | 1 | | 0 | 0 | | 0 | 0 | | 1 |
| Total Lost Time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Leading Detector (ft) | 50 | 50 | | 50 | 50 | | 50 | 50 | | 50 | 50 | 50 |
| Trailing Detector (ft) | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Turning Speed (mph) | 15 | | 9 | 15 | | 9 | 15 | | 9 | 15 | | 9 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | 0.95 | 0.95 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | 0.99 | 1.00 | | 0.99 | 0.99 | | | 0.99 | | | 1.00 | 0.97 |
| Frt | | 0.988 | | | 0.975 | | | 0.967 | | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | | 0.997 | | | 0.994 | |
| Satd. Flow (prot) | 1805 | 1586 | 0 | 1671 | 1623 | 0 | 0 | 3284 | 0 | 0 | 1779 | 1561 |
| Flt Permitted | 0.402 | | | 0.501 | | | | 0.899 | | | 0.915 | |
| Satd. Flow (perm) | 753 | 1586 | 0 | 875 | 1623 | 0 | 0 | 2961 | 0 | 0 | 1637 | 1521 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | 5 | | | 13 | | | 64 | | | | 48 |
| Headway Factor | 1.00 | 1.16 | 1.00 | 1.00 | 1.16 | 1.00 | 1.04 | 1.04 | 1.04 | 1.04 | 1.04 | 1.04 |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | | | | 30 |
| Link Distance (ft) | | 423 | | | 259 | | | 454 | | | | 291 |
| Travel Time (s) | | 9.6 | | | 5.9 | | | 10.3 | | | | 6.6 |
| Volume (vph) | 26 | 212 | 16 | 78 | 257 | 34 | 19 | 188 | 59 | 71 | 627 | 38 |
| Confl. Peds. (#/hr) | 18 | | 4 | 4 | | 18 | 2 | | 2 | 2 | | 2 |
| Peak Hour Factor | 0.82 | 0.90 | 0.80 | 0.84 | 0.91 | 0.61 | 0.95 | 0.85 | 0.85 | 0.80 | 0.96 | 0.79 |
| Heavy Vehicles (%) | 0% | 5% | 6% | 8% | 1% | 0% | 0% | 2% | 2% | 0% | 3% | 0% |
| Parking (#/hr) | | 2 | 2 | | 2 | 2 | | | | | | |
| Adj. Flow (vph) | 32 | 236 | 20 | 93 | 282 | 56 | 20 | 221 | 69 | 89 | 653 | 48 |
| Lane Group Flow (vph) | 32 | 256 | 0 | 93 | 338 | 0 | 0 | 310 | 0 | 0 | 742 | 48 |
| Turn Type | Perm | | | Perm | | | Perm | | | Perm | | Perm |
| Protected Phases | | 1 | | | 1 | | | 5 | | | 5 | |
| Permitted Phases | 1 | | | 1 | | | 5 | | | 5 | | 5 |
| Detector Phases | 1 | 1 | | 1 | 1 | | 5 | 5 | | 5 | 5 | 5 |
| Minimum Initial (s) | 8.0 | 8.0 | | 8.0 | 8.0 | | 8.0 | 8.0 | | 8.0 | 8.0 | 8.0 |
| Minimum Split (s) | 19.0 | 19.0 | | 19.0 | 19.0 | | 19.0 | 19.0 | | 19.0 | 19.0 | 19.0 |
| Total Split (s) | 37.0 | 37.0 | 0.0 | 37.0 | 37.0 | 0.0 | 53.0 | 53.0 | 0.0 | 53.0 | 53.0 | 53.0 |
| Total Split (%) | 41.1% | 41.1% | 0.0% | 41.1% | 41.1% | 0.0% | 58.9% | 58.9% | 0.0% | 58.9% | 58.9% | 58.9% |
| Maximum Green (s) | 33.0 | 33.0 | | 33.0 | 33.0 | | 49.0 | 49.0 | | 49.0 | 49.0 | 49.0 |
| Yellow Time (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | 3.0 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lead/Lag | | | | | | | | | | | | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Vehicle Extension (s) | 2.0 | 2.0 | | 2.0 | 2.0 | | 2.0 | 2.0 | | 2.0 | 2.0 | 2.0 |
| Recall Mode | C-Max | C-Max | | C-Max | C-Max | | None | None | | None | None | None |
| Walk Time (s) | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | 7.0 |
| Flash Dont Walk (s) | 8.0 | 8.0 | | 8.0 | 8.0 | | 8.0 | 8.0 | | 8.0 | 8.0 | 8.0 |
| Pedestrian Calls (#/hr) | 20 | 20 | | 20 | 20 | | 20 | 20 | | 20 | 20 | 20 |
| Act Effct Green (s) | 38.9 | 38.9 | | 38.9 | 38.9 | | | 43.1 | | | 43.1 | 43.1 |
| Actuated g/C Ratio | 0.43 | 0.43 | | 0.43 | 0.43 | | | 0.48 | | | 0.48 | 0.48 |

Seaport Square
1110: W. Broadway & A Street

2010 Phase 1 Build
PM Peak Hour

| |  | | | | | | | | | | | |
|-------------------------|--|------|-----|------|------|-----|-----|------|-----|-----|------|------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| v/c Ratio | 0.10 | 0.37 | | 0.25 | 0.48 | | | 0.21 | | | 0.95 | 0.06 |
| Control Delay | 19.3 | 20.8 | | 21.1 | 22.2 | | | 10.1 | | | 43.7 | 3.2 |
| Queue Delay | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | | | 0.0 | 0.0 |
| Total Delay | 19.3 | 20.8 | | 21.1 | 22.2 | | | 10.1 | | | 43.7 | 3.2 |
| LOS | B | C | | C | C | | | B | | | D | A |
| Approach Delay | | 20.7 | | | 21.9 | | | 10.1 | | | 41.3 | |
| Approach LOS | | C | | | C | | | B | | | D | |
| Queue Length 50th (ft) | 11 | 99 | | 35 | 135 | | | 37 | | | 361 | 0 |
| Queue Length 95th (ft) | 30 | 174 | | 71 | 231 | | | 51 | | | #571 | 12 |
| Internal Link Dist (ft) | | 343 | | | 179 | | | 374 | | | 211 | |
| Turn Bay Length (ft) | 40 | | | 40 | | | | | | | | |
| Base Capacity (vph) | 326 | 689 | | 378 | 709 | | | 1641 | | | 891 | 850 |
| Starvation Cap Reductn | 0 | 0 | | 0 | 0 | | | 0 | | | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | | 0 | 0 | | | 0 | | | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | | 0 | 0 | | | 0 | | | 0 | 0 |
| Reduced v/c Ratio | 0.10 | 0.37 | | 0.25 | 0.48 | | | 0.19 | | | 0.83 | 0.06 |

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 36 (40%), Referenced to phase 1:EBWB, Start of Green

Natural Cycle: 55

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.95

Intersection Signal Delay: 28.1

Intersection LOS: C

Intersection Capacity Utilization 80.7%

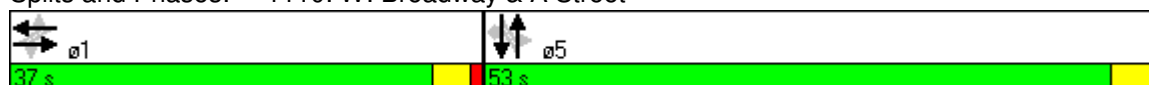
ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.





















Queue shown is maximum after two cycles.

Splits and Phases: 1110: W. Broadway & A Street




Seaport Square
3109: Seaport Boulevard & Sleeper Street

2010 Phase 1 Build Mitigation
AM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  |  |  |  | | |  | | |  |  |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width (ft) | 11 | 11 | 12 | 12 | 12 | 13 | 12 | 11 | 12 | 12 | 11 | 10 |
| Storage Length (ft) | 0 | | 0 | 150 | | 0 | 0 | | 0 | 0 | | 0 |
| Storage Lanes | 1 | | 1 | 1 | | 0 | 0 | | 0 | 0 | | 1 |
| Total Lost Time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Leading Detector (ft) | 50 | 50 | 50 | 50 | 50 | | 50 | 50 | | 50 | 50 | 50 |
| Trailing Detector (ft) | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Turning Speed (mph) | 15 | | 9 | 15 | | 9 | 15 | | 9 | 15 | | 9 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | 0.98 | | 0.96 | | 1.00 | | | 0.98 | | | 0.99 | 0.97 |
| Frt | | | 0.850 | | 0.995 | | | 0.973 | | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | | 0.969 | | | 0.984 | |
| Satd. Flow (prot) | 1728 | 1749 | 1568 | 1530 | 2927 | 0 | 0 | 1508 | 0 | 0 | 1807 | 1436 |
| Flt Permitted | 0.344 | | | 0.077 | | | | 0.783 | | | 0.895 | |
| Satd. Flow (perm) | 612 | 1749 | 1506 | 124 | 2927 | 0 | 0 | 1208 | 0 | 0 | 1635 | 1397 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | | 103 | | 5 | | | 12 | | | | 38 |
| Headway Factor | 1.04 | 1.04 | 1.00 | 1.00 | 1.07 | 0.96 | 1.00 | 1.19 | 1.00 | 1.00 | 1.04 | 1.09 |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | | | 30 | |
| Link Distance (ft) | | 494 | | | 1447 | | | 386 | | | 311 | |
| Travel Time (s) | | 11.2 | | | 32.9 | | | 8.8 | | | 7.1 | |
| Volume (vph) | 358 | 877 | 81 | 17 | 579 | 21 | 86 | 18 | 22 | 7 | 14 | 26 |
| Confl. Peds. (#/hr) | 54 | | 18 | 54 | | 18 | 11 | | 20 | 20 | | 11 |
| Peak Hour Factor | 0.95 | 0.94 | 0.69 | 0.55 | 0.91 | 0.95 | 0.68 | 0.54 | 0.55 | 0.50 | 0.50 | 0.69 |
| Heavy Vehicles (%) | 1% | 5% | 3% | 18% | 17% | 0% | 4% | 0% | 0% | 0% | 0% | 5% |
| Parking (#/hr) | | | | | 0 | 0 | 0 | 0 | 0 | | | |
| Adj. Flow (vph) | 377 | 933 | 117 | 31 | 636 | 22 | 126 | 33 | 40 | 14 | 28 | 38 |
| Lane Group Flow (vph) | 377 | 933 | 117 | 31 | 658 | 0 | 0 | 199 | 0 | 0 | 42 | 38 |
| Turn Type | pm+pt | | Perm | pm+pt | | | Perm | | | Perm | | Perm |
| Protected Phases | 6 | 1 | | 6 | 1 | | | 5 | | | 5 | |
| Permitted Phases | 1 | | 1 | 1 | | | 5 | | | 5 | | 5 |
| Detector Phases | 6 | 1 | 1 | 6 | 1 | | 5 | 5 | | 5 | 5 | 5 |
| Minimum Initial (s) | 4.0 | 8.0 | 8.0 | 4.0 | 8.0 | | 8.0 | 8.0 | | 8.0 | 8.0 | 8.0 |
| Minimum Split (s) | 11.0 | 50.0 | 50.0 | 11.0 | 50.0 | | 27.0 | 27.0 | | 27.0 | 27.0 | 27.0 |
| Total Split (s) | 14.0 | 56.0 | 56.0 | 14.0 | 56.0 | 0.0 | 30.0 | 30.0 | 0.0 | 30.0 | 30.0 | 30.0 |
| Total Split (%) | 14.0% | 56.0% | 56.0% | 14.0% | 56.0% | 0.0% | 30.0% | 30.0% | 0.0% | 30.0% | 30.0% | 30.0% |
| Maximum Green (s) | 9.0 | 51.0 | 51.0 | 9.0 | 51.0 | | 25.0 | 25.0 | | 25.0 | 25.0 | 25.0 |
| Yellow Time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lead/Lag | Lag | | | Lag | | | Lead | Lead | | Lead | Lead | Lead |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Vehicle Extension (s) | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | | 2.0 | 2.0 | | 2.0 | 2.0 | 2.0 |
| Recall Mode | Max | C-Max | C-Max | Max | C-Max | | Max | Max | | Max | Max | Max |
| Walk Time (s) | | 20.0 | 20.0 | | 20.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | 7.0 |
| Flash Dont Walk (s) | | 25.0 | 25.0 | | 25.0 | | 15.0 | 15.0 | | 15.0 | 15.0 | 15.0 |
| Pedestrian Calls (#/hr) | | 50 | 50 | | 50 | | 20 | 20 | | 20 | 20 | 20 |
| Act Effct Green (s) | 62.0 | 52.0 | 52.0 | 62.0 | 52.0 | | | 26.0 | | | 26.0 | 26.0 |
| Actuated g/C Ratio | 0.62 | 0.52 | 0.52 | 0.62 | 0.52 | | | 0.26 | | | 0.26 | 0.26 |

Seaport Square
3109: Seaport Boulevard & Sleeper Street

2010 Phase 1 Build Mitigation
AM Peak Hour

| |  | | | | | | | | | | | |
|-------------------------|--|------|------|------|------|-----|-----|------|-----|-----|------|------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| v/c Ratio | 0.77 | 1.03 | 0.14 | 0.14 | 0.43 | | | 0.62 | | | 0.10 | 0.10 |
| Control Delay | 20.7 | 62.1 | 3.7 | 7.4 | 10.1 | | | 40.1 | | | 29.0 | 9.8 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | 0.0 | | | 0.0 | 0.0 |
| Total Delay | 20.7 | 62.1 | 3.7 | 7.4 | 10.1 | | | 40.1 | | | 29.0 | 9.8 |
| LOS | C | E | A | A | B | | | D | | | C | A |
| Approach Delay | | 46.4 | | | 9.9 | | | 40.1 | | | 19.9 | |
| Approach LOS | | D | | | A | | | D | | | B | |
| Queue Length 50th (ft) | 94 | ~638 | 4 | 5 | 63 | | | 105 | | | 20 | 0 |
| Queue Length 95th (ft) | #159 | #876 | 16 | 6 | 73 | | | 95 | | | 26 | 14 |
| Internal Link Dist (ft) | | 414 | | | 1367 | | | 306 | | | 231 | |
| Turn Bay Length (ft) | | | | 150 | | | | | | | | |
| Base Capacity (vph) | 491 | 909 | 833 | 217 | 1524 | | | 323 | | | 425 | 391 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | | | 0 | | | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | | | 0 | | | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | | | 0 | | | 0 | 0 |
| Reduced v/c Ratio | 0.77 | 1.03 | 0.14 | 0.14 | 0.43 | | | 0.62 | | | 0.10 | 0.10 |

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 1:EBWB, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.03

Intersection Signal Delay: 34.5

Intersection LOS: C

Intersection Capacity Utilization 85.7%

ICU Level of Service E

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.




















Queue shown is maximum after two cycles.

Splits and Phases: 3109: Seaport Boulevard & Sleeper Street















Seaport Square
3109: Seaport Boulevard & Sleeper Street

2010 Phase 1 Build Mitigation
PM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | |  |  |  |  | | |  | | |  |  |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width (ft) | 11 | 11 | 12 | 12 | 12 | 13 | 12 | 11 | 12 | 12 | 11 | 10 |
| Storage Length (ft) | 0 | | 0 | 150 | | 0 | 0 | | 0 | 0 | | 0 |
| Storage Lanes | 0 | | 1 | 1 | | 0 | 0 | | 0 | 0 | | 1 |
| Total Lost Time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Leading Detector (ft) | 50 | 50 | 50 | 50 | 50 | | 50 | 50 | | 50 | 50 | 50 |
| Trailing Detector (ft) | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 |
| Turning Speed (mph) | 15 | | 9 | 15 | | 9 | 15 | | 9 | 15 | | 9 |
| Lane Util. Factor | 0.95 | 0.95 | 1.00 | 1.00 | 0.95 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor | | 1.00 | 0.85 | 0.93 | 1.00 | | | 0.90 | | | 0.98 | 0.88 |
| Frt | | | 0.850 | | 0.997 | | | 0.990 | | | | 0.850 |
| Flt Protected | | 0.994 | | 0.950 | | | | 0.958 | | | 0.981 | |
| Satd. Flow (prot) | 0 | 2825 | 1599 | 1805 | 3307 | 0 | 0 | 1555 | 0 | 0 | 1802 | 1507 |
| Flt Permitted | | 0.769 | | 0.454 | | | | 0.691 | | | 0.843 | |
| Satd. Flow (perm) | 0 | 2184 | 1359 | 804 | 3307 | 0 | 0 | 1022 | 0 | 0 | 1517 | 1320 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | | 95 | | 2 | | | 4 | | | | 283 |
| Headway Factor | 1.04 | 1.04 | 1.00 | 1.00 | 1.07 | 0.96 | 1.00 | 1.19 | 1.00 | 1.00 | 1.04 | 1.09 |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | | | 30 | |
| Link Distance (ft) | | 494 | | | 1447 | | | 386 | | | 311 | |
| Travel Time (s) | | 11.2 | | | 32.9 | | | 8.8 | | | 7.1 | |
| Volume (vph) | 44 | 357 | 79 | 19 | 753 | 5 | 220 | 15 | 9 | 30 | 33 | 360 |
| Confl. Peds. (#/hr) | 34 | | 106 | 106 | | 34 | 84 | | 77 | 77 | | 84 |
| Peak Hour Factor | 0.86 | 0.88 | 0.83 | 0.59 | 0.82 | 0.31 | 0.90 | 1.00 | 0.45 | 0.88 | 0.60 | 0.93 |
| Heavy Vehicles (%) | 5% | 25% | 1% | 0% | 3% | 20% | 0% | 0% | 0% | 0% | 0% | 0% |
| Parking (#/hr) | | | | | 0 | 0 | 0 | 0 | 0 | | | |
| Adj. Flow (vph) | 51 | 406 | 95 | 32 | 918 | 16 | 244 | 15 | 20 | 34 | 55 | 387 |
| Lane Group Flow (vph) | 0 | 457 | 95 | 32 | 934 | 0 | 0 | 279 | 0 | 0 | 89 | 387 |
| Turn Type | pm+pt | | Perm | pm+pt | | | Perm | | | Perm | | Perm |
| Protected Phases | 6 | 1 | | 6 | 1 | | | 5 | | | 5 | |
| Permitted Phases | 1 | | 1 | 1 | | | 5 | | | 5 | | 5 |
| Detector Phases | 6 | 1 | 1 | 6 | 1 | | 5 | 5 | | 5 | 5 | 5 |
| Minimum Initial (s) | 4.0 | 8.0 | 8.0 | 4.0 | 8.0 | | 8.0 | 8.0 | | 8.0 | 8.0 | 8.0 |
| Minimum Split (s) | 11.0 | 45.0 | 45.0 | 11.0 | 45.0 | | 27.0 | 27.0 | | 27.0 | 27.0 | 27.0 |
| Total Split (s) | 17.0 | 46.0 | 46.0 | 17.0 | 46.0 | 0.0 | 37.0 | 37.0 | 0.0 | 37.0 | 37.0 | 37.0 |
| Total Split (%) | 17.0% | 46.0% | 46.0% | 17.0% | 46.0% | 0.0% | 37.0% | 37.0% | 0.0% | 37.0% | 37.0% | 37.0% |
| Maximum Green (s) | 12.0 | 41.0 | 41.0 | 12.0 | 41.0 | | 32.0 | 32.0 | | 32.0 | 32.0 | 32.0 |
| Yellow Time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lead/Lag | Lag | | | Lag | | | Lead | Lead | | Lead | Lead | Lead |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Vehicle Extension (s) | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | | 2.0 | 2.0 | | 2.0 | 2.0 | 2.0 |
| Recall Mode | Max | C-Max | C-Max | Max | C-Max | | Max | Max | | Max | Max | Max |
| Walk Time (s) | | 20.0 | 20.0 | | 20.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | 7.0 |
| Flash Dont Walk (s) | | 20.0 | 20.0 | | 20.0 | | 15.0 | 15.0 | | 15.0 | 15.0 | 15.0 |
| Pedestrian Calls (#/hr) | | 50 | 50 | | 50 | | 20 | 20 | | 20 | 20 | 20 |
| Act Effct Green (s) | | 55.0 | 42.0 | 55.0 | 42.0 | | | 33.0 | | | 33.0 | 33.0 |
| Actuated g/C Ratio | | 0.55 | 0.42 | 0.55 | 0.42 | | | 0.33 | | | 0.33 | 0.33 |

Seaport Square
3109: Seaport Boulevard & Sleeper Street

2010 Phase 1 Build Mitigation
PM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| v/c Ratio | | 0.36 | 0.15 | 0.06 | 0.67 | | | 0.82 | | | 0.18 | 0.62 |
| Control Delay | | 11.0 | 4.5 | 19.2 | 33.9 | | | 51.6 | | | 25.1 | 12.6 |
| Queue Delay | | 0.0 | 0.0 | 0.0 | 0.0 | | | 0.0 | | | 0.0 | 0.0 |
| Total Delay | | 11.0 | 4.5 | 19.2 | 33.9 | | | 51.6 | | | 25.1 | 12.6 |
| LOS | | B | A | B | C | | | D | | | C | B |
| Approach Delay | | 9.9 | | | 33.5 | | | 51.6 | | | 15.0 | |
| Approach LOS | | A | | | C | | | D | | | B | |
| Queue Length 50th (ft) | | 70 | 0 | 12 | 225 | | | 160 | | | 40 | 48 |
| Queue Length 95th (ft) | | 95 | 24 | m21 | 302 | | | #307 | | | 50 | 149 |
| Internal Link Dist (ft) | | 414 | | | 1367 | | | 306 | | | 231 | |
| Turn Bay Length (ft) | | | | 150 | | | | | | | | |
| Base Capacity (vph) | | 1285 | 626 | 572 | 1390 | | | 340 | | | 501 | 625 |
| Starvation Cap Reductn | | 0 | 0 | 0 | 0 | | | 0 | | | 0 | 0 |
| Spillback Cap Reductn | | 0 | 0 | 0 | 0 | | | 0 | | | 0 | 0 |
| Storage Cap Reductn | | 0 | 0 | 0 | 0 | | | 0 | | | 0 | 0 |
| Reduced v/c Ratio | | 0.36 | 0.15 | 0.06 | 0.67 | | | 0.82 | | | 0.18 | 0.62 |

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 1:EBWB, Start of Green

Natural Cycle: 85

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.82

Intersection Signal Delay: 26.1

Intersection LOS: C

Intersection Capacity Utilization 95.0%

ICU Level of Service F










Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3109: Seaport Boulevard & Sleeper Street

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
|  |  |  |  |  |  |  |  |  |
| ø1 | | | ø5 | | | ø6 | | |
| 46 s | | | 37 s | | | 17 s | | |

MassHighway

CRASH RATE WORKSHEET

CITY/TOV Boston

COUNT DATE : Mar-07

DISTRICT 4

UNSIGNALIZED :

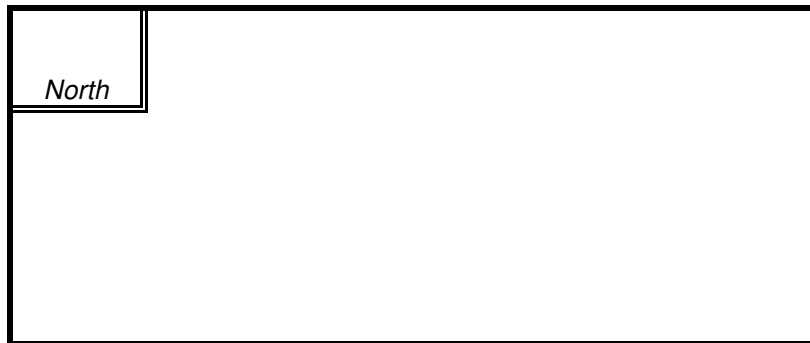
SIGNALIZED : ☒

~ INTERSECTION DATA ~

MAJOR STREET : Seaport Boulevard

MINOR STREET(S) : Sleeper Street

INTERSECTION
DIAGRAM
(Label Approaches)



Peak Hour Volumes

| | | | | | | |
|----------------|-------|-----|-----|----|---|----------|
| APPROACH : | 1 | 2 | 3 | 4 | 5 | Total |
| DIRECTION : | EB | WB | NB | SB | | Entering |
| VOLUMES (AM) : | 1,244 | 589 | 121 | 37 | | 1,991 |

" K " FACTOR : APPROACH ADT : ADT = TOTAL VOL/"K" FACT.

TOTAL # OF
CRASHES : # OF
YEARS : AVERAGE # OF
CRASHES (A) :

CRASH RATE CALCULATION :

RATE =

(A * 1,000,000)
(ADT * 365)

MassHighway

CRASH RATE WORKSHEET

CITY/TOV Boston

COUNT DATE : Mar-07

DISTRICT 4

UNSIGNALIZED :

SIGNALIZED : ☒

~ INTERSECTION DATA ~

MAJOR STREET : Seaport Boulevard

MINOR STREET(S) : Northern Avenue

East Service Road

INTERSECTION
DIAGRAM
(Label Approaches)



Peak Hour Volumes

| | | | | | | |
|----------------|-----|-----|-----|----|---|----------|
| APPROACH : | 1 | 2 | 3 | 4 | 5 | Total |
| DIRECTION : | EB | WB | NB | SB | | Entering |
| VOLUMES (PM) : | 653 | 575 | 534 | 27 | | 1,789 |

" K " FACTOR : APPROACH ADT : ADT = TOTAL VOL/"K" FACT.

TOTAL # OF
CRASHES : # OF
YEARS : AVERAGE # OF
CRASHES (A) :

CRASH RATE CALCULATION :

RATE =

(A * 1,000,000)
(ADT * 365)

Seaport Square - Phase 1 - A,H,J only
Daily Peak Hour Trip Generation Estimation (Rates)

Howard/Stein-Hudson Associates
 April 29, 2008

| Daily | | | | | | | | | | | | | | | | | |
|--|-------|----------|---------------------|--------------------------|----------------|--------------|--------------------|--|---------------------------|----------------------------|---------------|-------------------------------------|-------------------------|----------------------------|----------------------|---|------------------------------|
| Land Use | Size | Category | Trip Rates | Unadjusted Vehicle Trips | Internal Trips | Capture Rate | Less capture trips | Assumed national vehicle occupancy rate ¹ | Converted to Person trips | Transit Share ² | Transit Trips | Walk/Bike/ Other Share ² | Walk/ Bike/ Other Trips | Vehicle Share ² | Vehicle Person Trips | Assumed local vehicle occupancy rate ³ | Total Adjusted Vehicle Trips |
| | | | (Trips/ksf or unit) | | | | | | | | | | | | | | |
| Residential - Apartment⁴ | | | | | | | | | | | | | | | | | |
| Based on dwelling units | 59 | Total | 6.72 | 396 | 115 | | 281 | 1.2 | 337 | | 118 | | 132 | | 88 | 1.2 | 76 |
| | units | In | | 198 | 64 | | 135 | 1.2 | 162 | 35% | 57 | 39% | 63 | 26% | 42 | 1.2 | 36 |
| | | Out | | 198 | 52 | | 146 | 1.2 | 176 | 35% | 61 | 39% | 68 | 26% | 46 | 1.2 | 39 |
| Residential - Condominium⁵ | | | | | | | | | | | | | | | | | |
| Based on dwelling units | 51 | Total | 5.86 | 299 | 87 | | 212 | 1.2 | 254 | | 89 | | 99 | | 66 | 1.2 | 57 |
| | units | In | | 149 | 48 | | 102 | 1.2 | 122 | 35% | 43 | 39% | 48 | 26% | 32 | 1.2 | 27 |
| | | Out | | 149 | 39 | | 110 | 1.2 | 132 | 35% | 46 | 39% | 52 | 26% | 34 | 1.2 | 30 |
| Retail¹⁰ | | | | | | | | | | | | | | | | | |
| | 47 | Total | 42.94 | 2,025 | 203 | 25% | 1,367 | 1.8 | 2,460 | | 837 | | 664 | | 960 | 1.8 | 533 |
| | KSF | In | | 1,013 | 91 | 25% | 691 | 1.8 | 1,244 | 34% | 423 | 27% | 336 | 39% | 485 | 1.8 | 270 |
| | | Out | | 1,013 | 111 | 25% | 676 | 1.8 | 1,217 | 34% | 414 | 27% | 328 | 39% | 474 | 1.8 | 264 |
| Church¹¹ | | | | | | | | | | | | | | | | | |
| | 24 | Total | 9.11 | 167 | | | 167 | 2.1 | 351 | | 144 | | 105 | | 102 | 2.4 | 42 |
| | KSF | In | | 84 | | | 84 | 2.1 | 176 | 41% | 72 | 30% | 53 | 29% | 51 | 2.4 | 21 |
| | | Out | | 84 | | | 84 | 2.1 | 176 | 41% | 72 | 30% | 53 | 29% | 51 | 2.4 | 21 |
| Total | | Total | | 2,888 | | | 2,027 | | 3,403 | | 1,188 | | 1,000 | | 1,215 | | 708 |
| | | In | | 1,444 | | | 1,011 | | 1,703 | | 594 | | 499 | | 610 | | 354 |
| | | Out | | 1,444 | | | 1,016 | | 1,700 | | 593 | | 501 | | 605 | | 354 |

Seaport Square - Phase 1 - A,H,J only
Daily Peak Hour Trip Generation Estimation (Rates)

Howard/Stein-Hudson Associates

April 29, 2008

| AM Peak Hour | | | | | | | | | | | | | | | | | |
|--|-------|----------|--------------------------------------|-----------------------------|----------------|-----------------|--------------------------|--|------------------------------|-------------------------------|------------------|--|----------------------------|-------------------------------|-------------------------|---|---------------------------------|
| Land Use | Size | Category | Trip Rates (Trips/ksf or unit) | Unadjusted Vehicle Trips | Internal Trips | Capture Rate | Less capture trips | Assumed national vehicle occupancy rate ¹ | Converted to Person trips | Transit Share ² | Transit Trips | Walk/Bike/ Other Share ² | Walk/ Bike/ Other Trips | Vehicle Share ² | Vehicle Person Trips | Assumed local vehicle occupancy rate ³ | Total Adjusted Vehicle Trips |
| Residential - Apartment ⁴ | | | | | | | | | | | | | | | | | |
| Based on dwelling units | 59 | Total | 0.51 | 30 | | | 30 | 1.2 | 36 | | 13 | | 14 | | 9 | 1.2 | 8 |
| | units | In | 0.10 | 6 | | | 6 | 1.2 | 7 | 35% | 3 | 39% | 3 | 26% | 2 | 1.2 | 2 |
| | | Out | 0.41 | 24 | | | 24 | 1.2 | 29 | 35% | 10 | 39% | 11 | 26% | 8 | 1.2 | 6 |
| Residential - Condominium ⁵ | | | | | | | | | | | | | | | | | |
| Based on dwelling units | 51 | Total | 0.44 | 22 | | | 22 | 1.2 | 27 | | 9 | | 11 | | 7 | 1.2 | 6 |
| | units | In | 0.07 | 4 | | | 4 | 1.2 | 5 | 35% | 2 | 39% | 2 | 26% | 1 | 1.2 | 1 |
| | | Out | 0.37 | 19 | | | 19 | 1.2 | 22 | 35% | 8 | 39% | 9 | 26% | 6 | 1.2 | 5 |
| Retail ¹⁰ | | | | | | | | | | | | | | | | | |
| | 47 | Total | 1.03 | 49 | | 25% | 36 | 1.8 | 66 | | 37 | | 4 | | 25 | 1.8 | 14 |
| | KSF | In | 0.63 | 30 | | 25% | 22 | 1.8 | 40 | 62% | 25 | 0% | 0 | 38% | 15 | 1.8 | 8 |
| | | Out | 0.40 | 19 | | 25% | 14 | 1.8 | 26 | 46% | 12 | 15% | 4 | 39% | 10 | 1.8 | 6 |
| Church ¹¹ | | | | | | | | | | | | | | | | | |
| | 24 | Total | 0.72 | 17 | | | 17 | 2.1 | 37 | | 15 | | 10 | | 11 | 2.4 | 5 |
| | KSF | In | 0.39 | 9 | | | 9 | 2.1 | 20 | 44% | 9 | 25% | 5 | 31% | 6 | 2.4 | 3 |
| | | Out | 0.33 | 8 | | | 8 | 2.1 | 17 | 40% | 7 | 31% | 5 | 29% | 5 | 2.4 | 2 |
| Total | | Total | | 119 | | | 106 | | 165 | | 74 | | 39 | | 53 | | 33 |
| | | In | | 49 | | | 41 | | 72 | | 38 | | 10 | | 24 | | 14 |
| | | Out | | 70 | | | 65 | | 94 | | 36 | | 29 | | 28 | | 19 |

Seaport Square - Phase 1 - A,H,J only

Daily Peak Hour Trip Generation Estimation (Rates)

Howard/Stein-Hudson Associates

April 29, 2008

| PM Peak Hour | | | | | | | | | | | | | | | | | |
|--|-------|----------|--------------------------------------|-----------------------------|----------------|-----------------|--------------------------|--|------------------------------|-------------------------------|------------------|--|----------------------------|-------------------------------|-------------------------|---|---------------------------------|
| Land Use | Size | Category | Trip Rates (Trips/ksf or unit) | Unadjusted Vehicle Trips | Internal Trips | Capture Rate | Less capture trips | Assumed national vehicle occupancy rate ¹ | Converted to Person trips | Transit Share ² | Transit Trips | Walk/Bike/ Other Share ² | Walk/ Bike/ Other Trips | Vehicle Share ² | Vehicle Person Trips | Assumed local vehicle occupancy rate ³ | Total Adjusted Vehicle Trips |
| Residential - Apartment⁴ | | | | | | | | | | | | | | | | | |
| Based on dwelling units | 59 | Total | 0.62 | 37 | 11 | | 26 | 1.2 | 31 | | 11 | | 12 | | 8 | 1.2 | 7 |
| | units | In | 0.40 | 24 | 6 | | 17 | 1.2 | 21 | 35% | 7 | 39% | 8 | 26% | 5 | 1.2 | 5 |
| | | Out | 0.22 | 13 | 5 | | 8 | 1.2 | 10 | 35% | 3 | 39% | 4 | 26% | 3 | 1.2 | 2 |
| Residential - Condominium⁵ | | | | | | | | | | | | | | | | | |
| Based on dwelling units | 51 | Total | 0.52 | 27 | 8 | | 19 | 1.2 | 22 | | 8 | | 9 | | 6 | 1.2 | 5 |
| | units | In | 0.35 | 18 | 5 | | 13 | 1.2 | 16 | 35% | 5 | 39% | 6 | 26% | 4 | 1.2 | 4 |
| | | Out | 0.17 | 9 | 3 | | 6 | 1.2 | 7 | 35% | 2 | 39% | 3 | 26% | 2 | 1.2 | 2 |
| Retail¹⁰ | | | | | | | | | | | | | | | | | |
| | 47 | Total | 3.75 | 177 | 19 | 25% | 119 | 1.8 | 214 | | 81 | | 49 | | 83 | 1.8 | 46 |
| | KSF | In | 1.80 | 85 | 8 | 25% | 58 | 1.8 | 104 | 38% | 40 | 23% | 24 | 39% | 41 | 1.8 | 23 |
| | | Out | 1.95 | 92 | 11 | 25% | 61 | 1.8 | 109 | 38% | 42 | 23% | 25 | 39% | 43 | 1.8 | 24 |
| Church¹¹ | | | | | | | | | | | | | | | | | |
| | 24 | Total | 0.66 | 16 | | | 16 | 2.1 | 34 | | 14 | | 9 | | 10 | 2.4 | 4 |
| | KSF | In | 0.34 | 8 | | | 8 | 2.1 | 17 | 40% | 7 | 31% | 5 | 29% | 5 | 2.4 | 2 |
| | | Out | 0.32 | 8 | | | 8 | 2.1 | 16 | 44% | 7 | 25% | 4 | 31% | 5 | 2.4 | 2 |
| Total | | | | | | | | | | | | | | | | | |
| | | Total | | 256 | | | 179 | | 300 | | 114 | | 79 | | 107 | | 62 |
| | | In | | 135 | | | 97 | | 158 | | 59 | | 44 | | 55 | | 33 |
| | | Out | | 121 | | | 82 | | 142 | | 54 | | 36 | | 52 | | 29 |

Notes:

1. 2001 National vehicle occupancy rates - 1.2:home to work; 1.8: family/personal business; 1.8: shopping; 2.1 social/recreational

3. Local vehicle occupancy rates based on 2000 Census data.

4. ITE Trip Generation, 7th Edition, LUC 220 (Apartment)

5. ITE Trip Generation, 7th Edition, LUC 230 (Condominium)

10. ITE Trip Generation, 7th Edition, LUC 820 (Shopping Center)

11. ITE Trip Generation, 7th Edition, LUC 560 (Church)

Appendix C

DEP Written Determination



COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF ENVIRONMENTAL AFFAIRS
DEPARTMENT OF ENVIRONMENTAL PROTECTION
ONE WINTER STREET, BOSTON, MA 02108 617-292-5500

MITT ROMNEY
Governor

KERRY HEALEY
Lieutenant Governor

STEPHEN R. PRITCHARD
Secretary

ROBERT W. GOLLEDGE, Jr.
Commissioner

6/23/2006

Boston Children's Museum
Boston Redevelopment Authority
C/o Andrew Magee
Epsilon Associates, Inc.
3 Clock Tower Place, Suite 250
Maynard, MA 01754

Re: **Written Determination pursuant to M.G.L. c. 91 for Waterways Application # W05-1502-N
Boston Children's Museum, 300 Congress Street, Fort Point Channel, Boston, Suffolk County**

Dear Mr. Magee:

The Department hereby issues this Written Determination, pursuant to MGL Chapter 91, the Public Waterfront Act, and 310 CMR 9.00, the Waterways Regulations, of its intent to approve the referenced application, subject to the attached conditions.

As proposed, The Boston Children's Museum will construct a 3-story building addition on the waterside of the existing Children's Museum, renovate the Museum Wharf with creative outdoor play and civic areas, create a bus drop off/pick up & service area on the Sleeper Street side of the Museum, and install a seasonal water taxi float. The existing parking area along the front of the Museum will be removed and geofoam will be brought in to establish a level grade that improves the transition to the Boston Harborwalk. The modest building addition, which has a primary purpose of improving circulation to and within the museum, has incorporated sustainable design objectives that are more efficient to operate and will be measured in tangible terms through the LEED¹ framework with such indicators as improved storm water management, reduction in water usage, and reduced energy consumption.

The Boston Redevelopment Authority (BRA) is a Co-Applicant since the proposed project will add two city-owned parcels of approximately 9,231 square feet to the Children's Wharf Park located directly to the north of the Children's Museum. The BRA is in the process of taking these two parcels, one presently owned by the Massachusetts Highway Department and the other by the Boston Public Works Department, and will enter into a lease with the Children's Museum to provide long-term maintenance of the entirety of this prime parkland along the Fort Point Channel.

¹ LEED is an acronym which stands for Leadership in Energy and Environmental Design, a rating system developed by the U.S. Green Building Council to certify buildings with sustainable features



FINDINGS:

- 1) The Department determines that the use of authorized filled Commonwealth Tidelands for museum, food service and outdoor dining, and vehicular circulation purposes is a nonwater-dependent use pursuant to 310 CMR 9.12(2)(e) and 9.12(4). The pedestrian facilities that promote public use and enjoyment of the waterfront and a waterborne passenger transportation facility are water-dependent uses pursuant to 310 CMR 9.12(2)(a). Since the project consists of a mix of water-dependent and nonwater-dependent uses, the Department has processed the application as a nonwater-dependent use project in accordance with 310 CMR 9.12(1).
- 2) The Department determines that the 3-story, 23,300 gross square foot building addition and landscape improvements are located entirely on previously authorized filled Commonwealth tidelands. The *Project Site* includes the Children's Museum building, the wharf area between the building and Fort Point Channel and 3 parcels that will expand upon the existing Children's Wharf Park. Known as Parcels "A", "B", and "E" they are approximately 17,331 square feet in size and located to the north of the existing Museum building. For a full license history of the Museum site, see the Written Determination issued to the Museum Wharf Inc. as a precursor to License #3339 (application #W92-1397N). The Children's Wharf Park was created by the MBTA as part of the Silver Line mass-transit project and authorized by License #7732. The docking facility has been exempted from the state harbor line through Special Act Ch. 148 in 1992.
- 3) The Applicant has published the required public notice on December 21, 2005 in the Boston Herald and the associated public hearing was held at the MassDEP Boston Offices at 4:00PM on January 5, 2006. The Department had the same notice published in the Environmental Monitor on December 21, 2005. Ten persons attended the public hearing and written comments were received from the following groups during the extended public comment period: Senator Jack Hart, Coastal Zone Management, Mass. Historical Commission, Mass. Division of Marine Fisheries, Boston Environment Department; the Mayo Group, Extell Development Company, the Federal Reserve, Save the Harbor/Save the Bay, Boston Groundwater Trust, South Boston Neighborhood House, and The Boston Harbor Association (TBHA). All of the public comments were reviewed, and issues raised were responded to by the project team and addressed in the Department's findings or special conditions of this determination. The issues contained in the public comment that were within the MGL c. 91 jurisdiction can be grouped in the following manner: expanded water-based facilities; ownership and control of certain parcels within the Children's Wharf Park; design and management of interior and exterior public amenities, including along the HarborWalk; consistency of the building design with the historic district; stormwater management and associated educational opportunities.
- 4) The Applicant has submitted, or will submit prior to licensing, relevant documentation regarding compliance with other regulatory requirements including the Massachusetts Environmental Policy Act (EOEA #13496) and the Wetlands Protection Act (Order of Conditions issued September 22, 2005 for File #6-1050). Since the *Project Site* is within the "Fort Point Channel Historic District" and the Museum building is listed on the State and National Register of Historic Places, the Mass. Historic Commission has submitted its determination in accordance with MGL C.9, sections 26-27c (Determination of no adverse effect dated March 16, 2006). Local zoning compliance and Planning Board Notification was certified through forms dated March 9 and 10, 2006 respectively.

- 5) Pursuant to MGL Chapter 30 section 61, the Department determines that the proposed project as conditioned will incorporate the appropriate feasible measures to avoid or minimize potential environmental impacts that may result from construction and operation of the project. As requested by the Secretary, the Applicant provided through the waterways application review process more information on the following topics to the following agencies/groups: to the Department on the areas devoted to open space; to the Mass. Historic Commission regarding detailed building design review; to the Boston Groundwater Trust regarding stormwater recharge systems and associated future educational opportunities; and to the TBHA on Harborwalk design and other issues first raised during the MEPA review.
- 6) The Department determines that the project, as conditioned, complies with all applicable standards of the Waterways Regulations, including the special standards for nonwater-dependent use projects at 310 CMR 9.51-9.53. The BRA, as Co-Applicant, is in the process of taking two parcels, Parcel "A" presently owned by the Massachusetts Highway Department and Parcel "B" owned by the Boston Public Works Department, and will enter into a lease with the Children's Museum to provide long-term maintenance of the entirety of the Children's Wharf Park. The *Project Site* as described above meets the 50% open space requirement [310 CMR 9.51(3)(d)] and 310 CMR 9.53(2)(b)1.
- 7) The Secretary of Environmental Affairs approved, in December 2000, the "City of Boston Municipal Harbor Plan for the South Boston Waterfront District" that includes the *Project Site* (referred to as the "approved MHP"). The Department determines that the project complies with all of the requirements, modifications, limitations, qualifications, and conditions set forth in the Decision on the approved MHP. There are no specific substitutions for the project site except that the Boston Children's Museum alone benefited from a reduced 45 foot Water-Dependent Use Zone to "provide the museum with flexibility to expand"¹ The Secretary's decision approved one area-wide substitution for a twelve foot width of the pedestrian access network [310CMR 9.52(1)(b)(1)].

The portion of the *Project Site* that is referenced in the approved MHP as McCourt/Broderick Parcel "E" has been gifted to the Children's Museum by the McCourt Broderick Limited Partnership as of the date of the issuance of this Written Determination. In accordance with the approval conditions of Secretary's Decision on the MHP, the dedication of Parcel "E" as public open space satisfies one of the approval conditions for the open space substitution granted to the McCourt/Broderick Parcels "A", "B", "C", "D", and "F".² Under the provisions of this open space aggregation program, Parcel "E" will be used to satisfy a portion of the open space requirements applicable to the future development of Parcels "A", "B", "C", "D", and "F" pursuant to M.G.L. c. 91 including approximately 1788 square feet of Parcel "E" approved herein as an open space use pursuant to 310 CMR 9.53(2)(b)1. At such time, and in accordance with 310 CMR 9.11(3)(a) it may be necessary for the Children's Museum, as the landowner of Parcel "E", to sign any future Chapter 91 license application for the development of Parcels "A", "B", "C", "D" and "F".
- 8) The Department determines that the project as conditioned serves a proper public purpose that provides greater benefit than detriment to the rights of the public in tidelands in accordance with 310 CMR 9.31(2)(b). The Boston Children's Museum is a regionally significant public

¹ See page 214 of the approved MHP. The Water-Dependent Use Zone for the sub-district was otherwise established at 123 feet, which is the distance from the project shoreline to the face of the existing museum building.

² See page 50 of the Secretary's Decision on the South Boston Municipal Harbor Plan, December 6, 2000.

destination that reaches a diverse audience of over 400,000 visitors annually with over 26% enjoying the facilities for free or at a discounted rate. So, the creative renovations proposed in this license application for the 29,323 square foot Waterfront Plaza are an exciting addition to an already popular waterfront destination. The Waterfront Plaza will offer open, safe and educational areas, available to all children and adults free of charge, including comfortable landscape amenities such as strategically located trees to provide shade, benches along the Harborwalk, moveable tables and chairs and access to indoor restrooms, water fountain and seating. The Museum also provides meeting space in the Teachers Leadership Center for non-profit groups and free access to the recycling center for teachers and artists. Installing a docking facility at such a key site should expand the Inner Harbor Water Taxi visibility and ridership. Finally, the Museum's willingness to maintain the entirety of the Children's Wharf Park through a long-term lease agreement with the BRA ensures that the park will not be neglected and is likely to benefit in the future from the same kind of creative improvements that are proposed in this application for the Waterfront Plaza.

The Department received public comments requesting that the Boston Children's Museum use this license application as an opportunity to provide facilities for greater public use of the water as envisioned in the Fort Point Channel Watersheet Activation Plan. The Department has found that the regulatory requirement is met through the proposed installation and maintenance of the water-taxi landing and the active involvement of the Children's Museum in the Waterfront Learning Program. That being said, the Department applauds the Children's Museum commitment to filing a license application in the near future that will expand the landing for creative educational programs, short-term vessel berthing, and a link in the "Channel Walk East", consistent with the Children's Museum Master Plan and Fort Point Channel Watersheet Activation Plan.

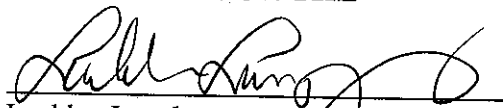
- 9) Based on a letter dated June 23, 2006 from the Massachusetts Office of Coastal Zone Management (CZM), the Department determines that the proposed project is consistent with all applicable CZM policies, in accordance with M.G.L. c.91 § 18.
- 10) The License to be issued pursuant hereto shall be valid for thirty (30) years from the date of the License issuance. By written request of the Licensee for an amendment, the Department may grant a renewal for the term of years not to exceed that authorized in the original License.

On the basis of the foregoing analysis, the Department will approve the proposed structures and uses described herein, as shown on the draft license plan and as shall be modified and delineated on the final license plans in accordance with the terms of this Determination. This Determination is subject to the attached special conditions to be carried out by the Boston Children's Museum (hereinafter the "Licensee") or the Boston Redevelopment Authority (the "Co-licensee") in the singular case of the Special Condition #1. These special conditions will be included, in substantially the same form, along with the standard conditions, with the final Chapter 91 Waterways license to be issued pursuant hereto. This Determination, including the attached Special Conditions, is subject to appeal as described in more detail in the Notice of Appeal Rights section. The Department will grant the Waterways license if no appeals are filed within 21 days of the issuance of this Written Determination and upon receipt of the final Mylar plans.

No construction or alteration in or to any portion of the site within jurisdiction pursuant to M.G.L. Chapter 91 is authorized until a Waterways License has been issued. If you have any further questions, please contact Andrea Langhauser at (617) 348-4084 of the Waterways Regulation Program.

6/23/2006

**THIS DETERMINATION IS ISSUED BY THE DEPARTMENT OF ENVIRONMENTAL
PROTECTION ON THE** 23rd DAY OF June 2006


Lealdon Langley
Director, Wetlands and Waterways Program

cc: Susan Snow-Cotter, CZM
Boston Mayor Menino and City Council
Mark Maloney & Richard McGinness, Boston Redevelopment Authority
B. Glascock, Boston Conservation Commission (DEP File No. 6-1050)
P. Terenzi, Boston Harbormaster
Brona Simon, Massachusetts Historical Commission
Massachusetts Environmental Policy Act Office (EOEA No. 13496)
ABUTTERS
MBTA Chapter 91 Reviewer, 10 Park Plaza, 6th Floor, Boston MA 02216
Rebecca Realty, 303 Congress Street, Boston MA 02210

COMMENTORS

Mayo Group 51 Sleeper Street, Suite 500, Boston MA 02210
Extell Development Company 14th Floor, One International Place, Boston MA 02110
Federal Reserve Attn: Colby Rottler, PO Box 2076, Boston 02106
Save the Harbor/Save the Bay, 7th Floor, 286 Congress Street, Boston MA 02210
Boston Groundwater Trust 3rd Floor, 234 Clarendon St. Boston MA 02116
South Boston Neighborhood House 521 East Seventh St, South Boston MA 02127
The Boston Harbor Association
Senator Jack Hart, Room 109c, State House, Boston 02133-1053

ECC to: Doug McGarrah, Foley Hoag, LLP
R. Tomczyk, DEP/NERO (DEP File No. 6-1050)
MDMF

WRP Files

WRITTEN DETERMINATION AND CONDITIONS

BOSTON CHILDREN'S MUSEUM and BOSTON REDEVELOPMENT AUTHORITY

Both --- of --- Boston --- have applied to the Department of Environmental Protection to --- construct and maintain a 3-story 22,300 square foot building addition; renovate the Museum Wharf to provide approximately 29,323 square feet of open space and outdoor exhibit areas; expand the Children's Wharf Park by approximately 9,231 square feet; place approximately 1500 cubic yards of geo-foam to restore the elevation of the wharf; install a platform with a seasonally deployed, bottom anchored dock and ramp; and establish a bus drop-off and loading/service area -----

and has submitted plans of the same; and whereas due notice of said application, and of the time and place fixed for a hearing thereon, has been given, as required by law, to the -- Mayor and City Council --- of the --- City --- of --- Boston. -----

NOW, said Department, having heard all parties desiring to be heard, and having fully considered said application, hereby, subject to the approval of the Governor, authorizes and licenses the said -----

--- Boston Children's Museum and Boston Redevelopment Authority ---, subject to the provisions of the ninety-first chapter of the General Laws, and of all laws which are or may be in force applicable thereto, to -- construct and maintain a 3-story 22,300 square foot building addition; renovate the Museum Wharf to provide approximately 29,323 square feet of open space and outdoor exhibit areas; expand the Children's Wharf Park by approximately 9,231 square feet; place approximately 1500 cubic yards of geo-foam to restore the elevation of the wharf; install a platform with a seasonally deployed, bottom anchored dock and ramp; and establish a bus drop-off and loading/service area -----

in and over filled and flowed tidelands of --- Fort Point Channel --- in the --- City --- of --- Boston --- and in accordance with the locations shown and details indicated on the accompanying undated *DRAFT* DEP License Plan No. W05-1502N (7 sheets)

The structures authorized hereby shall be limited to the following uses: museum, outdoor dining, food service, vehicular circulation, pedestrian facilities that promote public use and enjoyment of the waterfront and berthing for commercial waterborne passenger transportation.

Specific legislative authorizations and licenses issued previously at the project site include: Memorandum of Agreement (1869) between Mass. Harbor & Land Commission, the Boston, Hartford and Erie Railroad, and the Boston Wharf Company; H&L 2179 (1898), DEP 3339 (1993); and Ch. 148 of the Acts of 1992 (State Harbor Line exception). DEP License 7732 (2000) authorized portions of Children's Wharf Park.

This License is valid for a term of thirty (30) years from the date of issuance. By written request of the Licensee for an amendment, the Department may grant a renewal for the term of years not to exceed that authorized in this license.

This License is subject to the following Special Conditions and Standard Conditions:

Italicized terms used, but not defined, herein shall have the meanings assigned to such terms in the Waterways Regulations, generally at 310 CMR 9.02.

Special Condition #1, Ownership and Maintenance of Children's Wharf Park: The Boston Redevelopment Authority, as Co-Licensee for the purpose of this Special Condition only, shall take title to two parcels on the *Project Site* comprising approximately 9,231 square feet and shown as Parcel "A" and Parcel "B" on the Draft License Plan Sheet 7 of 7. In accordance with the BRA board vote on August 22, 2002, the BRA also shall accept title to the adjacent MBTA Parcel (approximately 33,500 square feet in size and known as Assessor's Parcel #060263-7010) upon MBTA's satisfactory completion of its mitigation requirements under License #7732. Upon accepting title to the three Parcels, the Boston Redevelopment Authority shall enter into a lease agreement with the Boston Children's Museum such that the Parcels come under the control of the Museum to be maintained as parkland for the use and enjoyment of the general public for at least the full term of the license to be issued pursuant hereto.

- a. As set forth in a letter from the BRA to the Department dated June 13, 2006, the BRA shall take title Parcel "A" and Parcel "B" by November 30, 2006 or 30 days from the date of the BRA Board votes to authorize the taking of these parcels whichever is sooner. The BRA shall then diligently pursue the finalization of the lease agreement with the Children's Museum.
- b. A copy of the executed lease agreement shall be provided to the Department prior to the issuance of the Certificate of Occupancy for the building addition.
- c. Effective as of the date the Department receives a copy of the executed lease agreement in which the Museum takes control of all three Parcels, the BRA shall cease to be a *Licensee* under the license to be issued pursuant hereto. The Children's Museum shall then be solely responsible for the maintenance, security and other services required for keeping the Park in a good, safe and attractive condition and repair as defined in the lease agreement.

Special Condition #2, Open Space Components: The Licensee shall construct and maintain in good repair a network of public open space with no obstacles for safe, free, educational and universally accessible public passage. All pathways shall be accessible 24 hours a day with no gates or other barriers installed to impede circulation. Throughout the wharf area plantings shall include trees that provide shade as well as other salt-tolerant vegetation native to the area. All pedestrian and non-motorized modes of transit shall be permitted as allowed in the City of Boston Harborwalk standards and shall be considered a permitted use to which the limited liability provisions of M.G.L. Chapter 21, §17c shall apply. The open space network shall be approximately 38,554 square feet in size and shall include the following components as generally located and described on the *Draft License Plans* Sheets 3 and 5 of 7 and the Landscape Architectural Construction Documents Conform Set dated May 8, 2006, stamped by Laura Solano, RLA and on file with the Department. Individual plan sheets referenced below are within the landscape plan set unless otherwise noted.

- b) The Licensee shall maintain the existing Harborwalk located along the entire project shoreline (350 linear feet) at a width no less than 12 feet clear of obstructions. The Harborwalk shall include 4 benches, trash and recycling receptacles, and directional and interpretive signage consistent with City of Boston Harborwalk standards. The public use of the Harborwalk shall remain free of obstructions or disruptions to during the construction period except when public safety necessitates an alternative pathway be provided.
- c) A Waterfront Plaza that is approximately 29,323 square feet in area between the Harborwalk and the building has been divided into four zones through the use of different pavements types. Fill

shall be placed to raise the grade of this area to match the existing grade of the Harborwalk. The four zones are described below starting at the south side of the site.

- a. The first zone, just south of the building entrance is called the "Maze/Milk Bottle Plaza" (see Sheet L104). It is defined by pavement in a maze-like pattern, lighting, and includes an area, open to the sky, for public outdoor dining with moveable tables and chairs. The H.P Hood Milk Bottle concession stand within the first zone shall be relocated towards Congress Street to activate the public sidewalk.
- b. Secondly, the "Entry Plaza" is just to the west of the main building entrance and shall be available for changing exhibits, art installations, free-programmed events, community gatherings and spontaneous games.
- c. Large boulders that provide for other types of exploring, learning and play define the third zone, the "Adventure Zone" (see Sheet L103).
- d. Adjacent to the group entrance is the fourth zone, called the "Outdoor Learning Center" (see Sheet L102). The Outdoor Learning Center shall be comprised of two planted slopes flanking a meandering walk that leads through a "miniature forest" of native New England plants and can be used as an open-air classroom. The plant selection and finished grades of the flanking slopes shall be low enough for adults to see easily over the plantings toward the water (see Sheets L102, L201, and L304). Wooden bleachers may be installed in this zone for performances, teaching demonstrations and general seating. The dumpster and transformer currently in this fourth zone will be relocated to the service area to be constructed adjacent to Sleeper Street.
- d) At the north end of the project site, the Licensee shall landscape and maintain the two approximately 9,231 square foot parcels to expand upon the Children's Wharf Park in accordance with the Special Condition #1.
- e) All of the areas described in items a), and b) shall be completed prior to the issuance of the Certificate of Occupancy for the building addition except for landscaping and other matters awaiting seasonal opportunity, that shall be completed within six months after the issuance of such Certificate of Occupancy. Given the requisite public review of the landscape improvements to the Children's Museum Park, including the parcels described above in item c), the Licensee may take the full construction term of 5 years to finalize the landscaping.
- f) Any modifications to the landscape plans described above, including but not limited to landscaping of the area described in item c) above, shall be reviewed and approved by the Department in accordance with 310 CMR 9.22(3) or 9.24 as appropriate.

Special Condition #3, Water Taxi Dock: The Licensee shall install and maintain for the full term of the license a seasonally deployed docking facility as located and described on the Draft license plans Sheets 5 and 6 of 7 for water taxi customer use and for layover berthing. The dock shall be available during the boating season that is defined in the license to be issued pursuant hereto as April 1 to November 1. As part of an approved Management Plan, the Licensee may modify the operating hours, the boating season and adopt reasonable rules for the use of the docking facility. The Licensee may transfer the responsibility to maintain and seasonally deploy the docking facility to a specific water taxi operator with prior Department review and approval.

Special Condition #4, Interior Facilities of Public Accommodation: The museum is by definition a Facility of Public Accommodation. In addition, the Licensee shall provide access, free of charge for both the paying and non-paying visitor, to the gift shop, restaurant, and the lobby that will include restrooms, a sitting area and other public amenities during the Museum's regular business hours. The hours of operation shall be stated in the management plan; the public restrooms shall be available during the same hours of operation as the museum facility that stays open to the general public the longest.

Special Condition #5, Stormwater Recharge: The Licensee shall use best management practices for stormwater in accordance with the Order of Conditions, including recharge of the stormwater at the Children's Wharf Park if feasible. The Licensee shall also provide interpretative signage and/or hands-on education regarding the stormwater management.

Special Condition #6, Management Plan: The Licensee shall prepare a Management Plan for all interior and exterior publicly accessible space on the project site in accordance with 310 CMR 9.35(5) to encourage the effective public use and enjoyment of all publicly accessible facilities while minimizing conflicts with other legitimate interests including the protection of private property and natural resources.

- a. Content: At a minimum, the Plan shall address long-term programming, management, maintenance and marketing methods that will be employed for the areas available to the general public whether a museum visitor or not. In particular, the Licensee shall describe methods to actively market the use of the water transportation dock to commercial operators and potential customers living at, near, or using the community facilities on the project site. The Licensee shall continue to use best efforts to coordinate with other public activities and operations on and along the waters edge as envisioned in the Fort Point Channel Watersheet Activation Plan (May 2002 as may be amended by the City). Persons responsible for carrying out the duties of the Management Plan and their contact information shall be provided. The Licensee may adopt reasonable rules for use of the publicly accessible interior areas of the museum as well as the waterfront Plaza and the docking facility, subject to the prior review and approval by the Department as part of the Management Plan. No amendment to said rules shall be made without prior Department approval.
- b. Facility Management: The publicly accessible interior areas of the Museum and the Waterfront Plaza may be used for private functions or other events restricted to a specific group of patrons on a limited basis with prior approval by the Department. The Licensee shall submit, on a bi-annual basis, the anticipated schedule and location of private functions for the Department review and approval.
- c. Final Plan: The Licensee shall revise the draft Management Plan submitted with the application according to the Department's correspondence on the topic and be otherwise consistent with this Written Determination. The final Management Plan shall be submitted for Department review and approval within 30 days of the date of issuance of the license to be issued pursuant hereto.
- d. Periodic Review: The final Management Plan shall be periodically reviewed and revised as necessary based on changes in the operation and management of the public facilities. The updated Management Plan(s) shall also include the results of annual compliance inspection reports detailing the Licensee's compliance with the Special and Standard Conditions of the Licenses to be issued pursuant hereto. When the Management Plan is updated, it shall be submitted to the Department for review and approval. At a minimum, an updated Management Plan shall be submitted for Department review on every [5-year] anniversary of the issuance date of License to be issued pursuant hereto.

Special Condition #7, Final Permits: The Licensee shall provide written documentation to the Department prior to licensing that all major federal, state and local approvals or authorizations have been received for the project. Provided, however, that such approvals as are typically deferred until the start of construction e.g. building permit, a final Sewer Extension or Connection Permit and NPDES permit may be provided to the Department after licensing but prior to the start of construction.

Special Condition #8, Construction Term: All work authorized herein shall be completed within five (5) years of the date of License issuance. Said construction period for all or a portion of the work to be authorized in the license to be issued pursuant hereto may be extended by the Department for one or more one year periods without public notice, provided that the Applicant submits to the Department no later than thirty (30) days prior to the expiration of said construction period a written request to extend the period and provides an adequate justification for said extension.

Special Condition #9, Annual Compliance Fee: The Licensee shall be subject to an annual compliance fee for nonwater-dependent uses pursuant to 310 CMR 4.00

Special Condition #10, Department Compliance Access: The Licensee shall allow agents of the Department to enter the project site to verify compliance with the conditions of the Chapter 91 License prior to completion of this portion of the project. .

Special Condition #11, Certificate of Compliance: The Licensee shall request in writing, within 30 days of issuance of the Certificate of Occupancy, that the Department issue a Certificate of Compliance in accordance with 310 CMR 9.19. The request shall be accompanied by a certification by a registered professional engineer licensed to do business in the Commonwealth that the project was completed in accordance with the License to be issued pursuant hereto.

Special Condition #12, Written Determination Term: The Written Determination issued hereto, shall remain valid for up to 4 months after issuance. Said term may be extended for one or more one year periods, provided that the Applicant submit to the Department, thirty (30) days prior to the expiration of said term a written request to extend the term and provides adequate justification for said extension. This condition shall expire upon issuance of a License pursuant hereto.

Please see the following Standard Waterways License Conditions. -----

Duplicate of said plan, number W05-1502-N is on file in the office of said Department, and original of said plan accompanies this License to be issued pursuant hereto, and is to be referred to as a part hereof.

STANDARD WATERWAYS LICENSE CONDITIONS

1. Acceptance of this Waterways License shall constitute an agreement by the Licensee to conform with all terms and conditions stated herein.
2. This License is granted upon the express condition that any and all other applicable authorizations necessitated due to the provisions hereof shall be secured by the Licensee prior to the commencement of any activity or use authorized pursuant to this License.
3. Any change in use or any substantial structural alteration of any structure or fill authorized herein shall require the issuance by the Department of a new Waterways License in accordance with the provisions and procedures established in Chapter 91 of the Massachusetts General Laws. Any unauthorized substantial change in use or unauthorized substantial structural alteration of any structure or fill authorized herein shall render this Waterways License void.
4. This Waterways License shall be revocable by the Department for noncompliance with the terms and conditions set forth herein. This License may be revoked after the Department has given written notice of the alleged noncompliance to the Licensee and those persons who have filed a written request for such notice with the Department and afforded them a reasonable opportunity to correct said noncompliance. Failure to correct said noncompliance after the issuance of a written notice by the Department shall render this Waterways License void and the Commonwealth may proceed to remove or cause removal of any structure or fill authorized herein at the expense of the Licensee, its successors and assigns as an unauthorized and unlawful structure and/or fill.
5. The structures and/or fill authorized herein shall be maintained in good repair and in accordance with the terms and conditions stated herein and the details indicated on the accompanying license plans.
6. Nothing in this Waterways License shall be construed as authorizing encroachment in, on or over property not owned or controlled by the Licensee, except with the written consent of the owner or owners thereof.
7. This Waterways License is granted subject to all applicable Federal, State, County, and Municipal laws, ordinances and regulations including but not limited to a valid final Order of Conditions issued pursuant to the Wetlands Protection Act, G.L. Chapter 131, s.40.
8. This Waterways License is granted upon the express condition that the use of the structures and/or fill authorized hereby shall be in strict conformance with all applicable requirements and authorizations of the DEP.

This License authorizes structure(s) and/or fill on:

 Private Tidelands. In accordance with the public easement that exists by law on private tidelands, the Licensee shall allow the public to use and to pass freely upon the area of the subject property lying between the high and low water marks, for the purposes of fishing, fowling, navigation, and the natural derivatives thereof.

 X Commonwealth Tidelands. The Licensee shall not restrict the public's right to use and to pass freely, for any lawful purpose, upon lands lying seaward of the low water mark. Said lands are held in trust by the Commonwealth for the benefit of the public.

 a Great Pond of the Commonwealth. The Licensee shall not restrict the public's right to use and to pass freely upon lands lying seaward of the high water mark for any lawful purpose

No restriction on the exercise of these public rights shall be imposed unless otherwise expressly provided in this License.

Unless otherwise expressly provided by this License, the Licensee shall not limit the hours of availability of any areas of the subject property designated for public passage, nor place any gates, fences, or other structures on such areas in a manner that would impede or discourage the free flow of pedestrian movement thereon.

The amount of tidewater displaced by the work hereby authorized has been ascertained by said Department, and compensation thereof has been made by the said -- Boston Children's Museum -- by paying into the treasury of the Commonwealth -- two dollars and zero cents (\$2.00) -- for each cubic yard so displaced, being the amount hereby assessed by said Department. (0 c.y. = \$0.00)

Nothing in the License to be issued pursuant hereto shall be so construed as to impair the legal rights of any person.

The License to be issued pursuant hereto shall be void unless the same and the accompanying plan are recorded within sixty (60) days from the date hereof, in the Suffolk County Registry of Deeds.

IN WITNESS WHEREAS, said Department of Environmental Protection have hereunto set their hands this _____ day of _____ in the year two thousand six.

Program Chief _____

Program Director _____

Commissioner _____

**Department of
Environmental
Protection**

THE COMMONWEALTH OF MASSACHUSETTS

This license is approved in consideration of the payment into the treasury of the Commonwealth by the said -- Boston Children's Museum --- of -----

the further sum of -- One thousand seven hundred and forty dollars and zero cents (\$1,740.00) --
{ Calculation: 58 square yards x \$1.00/s.y. x 30 year term = \$1,740.00 }

the amount determined by the Governor as a just and equitable charge for rights and privileges hereby granted in the land of the Commonwealth.

BOSTON

Approved by the Governor.

Governor

Notice of Appeal Rights:

Appeal Rights and Time Limits

The following persons shall have the right to an adjudicatory hearing concerning this decision by the Department to grant or deny a license or permit: (a) an applicant who has demonstrated property rights in the lands in question, or which is a public agency; (b) any person aggrieved by the decision of the Department to grant a license or permit who has submitted written comments within the public comment period; (c) ten (10) residents of the Commonwealth, pursuant to M.G.L. c.30A, §10A, who have submitted written comments within the public comment period; (d) the municipal official in the affected municipality who has submitted written comments within the public comment period; (e) CZM, for any project in the coastal zone, if it has filed a notice of participation within the public comment period; and (f) DEM, for any project in an Ocean Sanctuary, if it has filed a notice of participation within the public comment period. To request an adjudicatory hearing, a Notice of Claim must be made in writing and sent by certified mail or hand delivery to the Department with the appropriate filing fee specified within 310 CMR 4.10 along with a DEP Fee Transmittal Form, within twenty-one (21) days of the date of issuance of this decision and addressed to:

Case Administrator
Department of Environmental Protection
One Winter Street, 2nd Floor
Boston, MA 02108

A copy of the Notice of Claim must be sent at the same time by certified mail or hand delivery to the applicant, the municipal official of the city or town where the project is located, and the issuing office of the DEP at:

DEP Waterways Regulation Program
One Winter Street, 6th Floor
Boston, MA 02108

Contents of Hearing Request

Under 310 CMR 1.01(6)(b), the Notice of Claim must state clearly and concisely the facts that are the grounds for the request and the relief sought. Additionally, the request must state why the decision is not consistent with applicable laws and regulations.

Pursuant to 310 CMR 9.17(3), any Notice of Claim for an adjudicatory hearing must include the following information:

- (a) the DEP Waterways Application File Number;
- (b) the complete name, address, fax number and telephone number of the applicant;
- (c) the address of the project;
- (d) the complete name, address, fax number, and telephone number of the party filing the request and, if represented by counsel, the name, address, fax number, and phone number of the attorney;
- (e) if claiming to be a person aggrieved, the specific facts that demonstrate that the party satisfies the definition of "person aggrieved" found in 310 CMR 9.02;
- (f) a clear statement that a formal adjudicatory hearing is being requested;

- (g) a clear statement of the facts which are the grounds for the proceedings, the specific objections to the DEP's written decision, and the relief sought through the adjudicatory hearing, including specifically the changes desired in the final written decision; and
- (h) a statement that a copy of the request has been sent to: the applicant and the municipal official of the city or town where the project is located.

Filing Fee and Address

A copy of the Notice of Claim along with a DEP Fee Transmittal Form and a valid check payable to the Commonwealth of Massachusetts in the amount of one hundred dollars (\$100) must be mailed to:

Commonwealth of Massachusetts
Department of Environmental Protection
Commonwealth Master Lockbox
P.O. Box 4062
Boston, Massachusetts 02211

The request will be dismissed if the filing fee is not paid, unless the appellant is exempt or is granted a waiver. The filing fee is not required if the appellant is a city or town (or municipal agency), county, or district of the Commonwealth of Massachusetts, or a municipal housing authority. The Department may waive the adjudicatory hearing filing fee pursuant to 310 CMR 4.06(2) for a person who shows that paying the fee will create an undue financial hardship. A person seeking a waiver must file an affidavit setting forth the facts believed to support the claim of undue financial hardship together with the hearing request as provided above.

Appendix D

LEED Checklists



LEED for Neighborhood Development Pilot Project Checklist

Project Name: Seaport Square Draft Preliminary (based on pilot program checklist)

Date: June 2, 2008

Yes ? No

| | | | | |
|-----------|----------|----------|-------------------------------------|---------------------------|
| 17 | 7 | 6 | Smart Location & Linkage | 30 Points Possible |
|-----------|----------|----------|-------------------------------------|---------------------------|

| | | | | | |
|---|---|----|-----------|---|----------|
| Y | | | Prereq 1 | Smart Location | Required |
| Y | | | Prereq 2 | Proximity to Water and Wastewater Infrastructure | Required |
| Y | | | Prereq 3 | Imperiled Species and Ecological Communities | Required |
| Y | | | Prereq 4 | Wetland and Water Body Conservation | Required |
| Y | | | Prereq 5 | Farmland Conservation | Required |
| Y | | | Prereq 6 | Floodplain Avoidance | Required |
| 6 | 4 | 2 | Credit 1 | Brownfield Redevelopment | 2 |
| 5 | 3 | 1 | Credit 2 | High Priority Brownfields Redevelopment | 1 |
| 1 | 4 | 10 | Credit 3 | Preferred Location | 10 |
| 3 | 3 | 8 | Credit 4 | Reduced Automobile Dependence | 8 |
| 1 | 1 | 1 | Credit 5 | Bicycle Network | 1 |
| 3 | 1 | 3 | Credit 6 | Housing and Jobs Proximity | 3 |
| 1 | 1 | 1 | Credit 7 | School Proximity | 1 |
| 1 | 1 | 1 | Credit 8 | Steep Slope Protection | 1 |
| 1 | 1 | 1 | Credit 9 | Site Design for Habitat or Wetlands Conservation | 1 |
| 1 | 1 | 1 | Credit 10 | Restoration of Habitat or Wetlands | 1 |
| 1 | 1 | 1 | Credit 11 | Conservation Management of Habitat or Wetlands | 1 |

Yes ? No

| | | | | |
|-----------|-----------|----------|--|---------------------------|
| 24 | 15 | 1 | Neighborhood Pattern & Design | 39 Points Possible |
|-----------|-----------|----------|--|---------------------------|

| | | | | | |
|---|---|---|-----------|---|----------|
| Y | | | Prereq 1 | Open Community | Required |
| Y | | | Prereq 2 | Compact Development | Required |
| 7 | 1 | 7 | Credit 1 | Compact Development | 7 |
| 4 | 2 | 4 | Credit 2 | Diversity of Uses | 4 |
| 1 | 2 | 3 | Credit 3 | Diversity of Housing Types | 3 |
| 1 | 1 | 2 | Credit 4 | Affordable Rental Housing | 2 |
| 1 | 1 | 2 | Credit 5 | Affordable For-Sale Housing | 2 |
| 2 | 1 | 2 | Credit 6 | Reduced Parking Footprint | 2 |
| 4 | 4 | 8 | Credit 7 | Walkable Streets | 8 |
| 1 | 1 | 2 | Credit 8 | Street Network | 2 |
| 1 | 1 | 1 | Credit 9 | Transit Facilities | 1 |
| 1 | 2 | 2 | Credit 10 | Transportation Demand Management | 2 |
| 1 | 1 | 1 | Credit 11 | Access to Surrounding Vicinity | 1 |
| 1 | 1 | 1 | Credit 12 | Access to Public Spaces | 1 |
| 1 | 1 | 1 | Credit 13 | Access to Active Public Spaces | 1 |
| 1 | 1 | 1 | Credit 14 | Universal Accessibility | 1 |
| 1 | 1 | 1 | Credit 15 | Community Outreach and Involvement | 1 |
| 1 | 1 | 1 | Credit 16 | Local Food Production | 1 |

| | | |
|----|----|---|
| 11 | 14 | 6 |
|----|----|---|

Green Construction & Technology

31 Points Possible

| Y | | | | Prereq 1 | Construction Activity Pollution Prevention | Required |
|---|---|---|---|-----------|--|----------|
| 3 | | | | Credit 1 | LEED Certified Green Buildings | 3 |
| 1 | 1 | 1 | 1 | Credit 2 | Energy Efficiency in Buildings | 3 |
| 1 | 2 | | | Credit 3 | Reduced Water Use | 3 |
| | 1 | 1 | | Credit 4 | Building Reuse and Adaptive Reuse | 2 |
| | | 1 | | Credit 5 | Reuse of Historic Buildings | 1 |
| 1 | | | | Credit 6 | Minimize Site Disturbance through Site Design | 1 |
| 1 | | | | Credit 7 | Minimize Site Disturbance during Construction | 1 |
| | | | 1 | Credit 8 | Contaminant Reduction in Brownfields Remediation | 1 |
| 1 | 4 | | | Credit 9 | Stormwater Management | 5 |
| 1 | | | | Credit 10 | Heat Island Reduction | 1 |
| | | | 1 | Credit 11 | Solar Orientation | 1 |
| | 1 | | | Credit 12 | On-Site Energy Generation | 1 |
| | 1 | | | Credit 13 | On-Site Renewable Energy Sources | 1 |
| | 1 | | | Credit 14 | District Heating & Cooling | 1 |
| | 1 | | | Credit 15 | Infrastructure Energy Efficiency | 1 |
| | | | 1 | Credit 16 | Wastewater Management | 1 |
| | 1 | | | Credit 17 | Recycled Content for Infrastructure | 1 |
| 1 | | | | Credit 18 | Construction Waste Management | 1 |
| 1 | | | | Credit 19 | Comprehensive Waste Management | 1 |
| | 1 | | | Credit 20 | Light Pollution Reduction | |

| Yes | ? | No |
|-----|---|----|
|-----|---|----|

| | | |
|---|---|--|
| 3 | 3 | |
|---|---|--|

Innovation & Design Process

6 Points

| | | | | | |
|---|---|--|------------|--|---|
| 1 | | | Credit 1.1 | Innovation in Design: Open space/ Green Roof Exemp. Perf. | 1 |
| 1 | | | Credit 1.2 | Innovation in Design: LEED Certified Buildings | 1 |
| | 1 | | Credit 1.3 | Innovation in Design: TBD | 1 |
| | 1 | | Credit 1.4 | Innovation in Design: TBD | 1 |
| | 1 | | Credit 1.5 | Innovation in Design: TBD | 1 |
| 1 | | | Credit 2 | LEED® Accredited Professional | 1 |

Yes ? No

| | | |
|----|----|----|
| 55 | 39 | 13 |
|----|----|----|

Project Totals (pre-certification estimates)

106 Points

Certified: 40-49 points, **Silver:** 50-59 points, **Gold:** 60-79 points, **Platinum:** 80-106 points

| Strongly Pursuing (Tier 1) | Recommended for Further Investigation | Not likely for pursuit (Tier 3) | Not Possible or Not Feasible | Seaport Square - PNF/ENF Submission of Preliminary Draft LEED Checklist | | |
|-------------------------------|---|------------------------------------|---------------------------------|---|--|-----------|
| | | | | Parcel A LEED-NC Residential Mixed-Use Project | | |
| | | | | Project mix: Residential: 53,600 sq.ft. (67%) Retail: 26,800 sq.ft. (33%) Total: 80,400 sq.ft. | | |
| 7 | 3 | 3 | 1 | Sustainable Sites | | 14 Points |
| Y | | | | Prereq 1 | Construction Activity Pollution Prevention | Required |
| 1 | | | | Credit 1 | Site Selection | 1 |
| 1 | | | | Credit 2 | Development Density & Community Connectivity | 1 |
| | | | 1 | Credit 3 | Brownfield Redevelopment | 1 |
| 1 | | | | Credit 4.1 | Alternative Transportation, Public Transportation Access | 1 |
| 1 | | | | Credit 4.2 | Alternative Transportation, Bicycle Storage & Changing Rooms | 1 |
| | 1 | | | Credit 4.3 | Alternative Transportation, Low-Emitting & Fuel-Efficient Vehicles | 1 |
| 1 | | | | Credit 4.4 | Alternative Transportation, Parking Capacity | 1 |
| | | 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 - 50% Underground parking | 1 |
| 1 | | | | Credit 7.2 | Heat Island Effect, Roof | 1 |
| | | 1 | | Credit 8 | Light Pollution Reduction | 1 |
| 2 | 2 | 1 | 0 | Water Efficiency | | 5 Points |
| 1 | | | | Credit 1.1 | Water Efficient Landscaping, Reduce by 50% | 1 |
| | 1 | | | Credit 1.2 | Water Efficient Landscaping, No Potable Use or No Irrigation | 1 |
| | | 1 | | Credit 2 | Innovative Wastewater Technologies | 1 |
| 1 | | | | Credit 3.1 | Water Use Reduction, 20% Reduction | 1 |
| | 1 | | | Credit 3.2 | Water Use Reduction, 30% Reduction | 1 |
| 3 | 4 | 11 | 0 | Energy & Atmosphere | | 17 Points |
| Y | | | | Prereq 1 | Fundamental Commissioning of the Building Energy Systems | Required |
| Y | | | | Prereq 2 | Minimum Energy Performance | Required |
| Y | | | | Prereq 3 | Fundamental Refrigerant Management | Required |
| 2 | 2 | 6 | | Credit 1 | Optimize Energy Performance | 1 to 10 |
| | | | | | 10.5% New Buildings or 3.5% Existing Building Renovations | 1 |
| | | | | | 14% New Buildings or 7% Existing Building Renovations | 2 |
| | | | | | 17.5% New Buildings or 10.5% Existing Building Renovations | 3 |
| | | | | | 21% New Buildings or 14% Existing Building Renovations | 4 |
| | | | | | 24.5% New Buildings or 17.5% Existing Building Renovations | 5 |
| | | | | | 28% New Buildings or 21% Existing Building Renovations | 6 |
| | | | | | 31.5% New Buildings or 24.5% Existing Building Renovations | 7 |
| | | | | | 35% New Buildings or 28% Existing Building Renovations | 8 |
| | | | | | 38.5% New Buildings or 31.5% Existing Building Renovations | 9 |
| | | | | | 42% New Buildings or 35% Existing Building Renovations | 10 |
| | 1 | 2 | | Credit 2 | On-Site Renewable Energy | 1 to 3 |
| | | | | | 2.5% Renewable Energy | 1 |
| | | | | | 7.5% Renewable Energy | 2 |
| | | | | | 12.5% Renewable Energy | 3 |
| | 1 | 1 | | Credit 3 | Enhanced Commissioning | 1 |
| 1 | | | | Credit 4 | Enhanced Refrigerant Management | 1 |
| | | 1 | | Credit 5 | Measurement & Verification | 1 |
| | | 1 | | Credit 6 | Green Power | 1 |

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| 3 | 2 | 2 | 5 | Materials & Resources | | 13 Points |
|----|----|----|---|--|---|------------------|
| Y | | | | Prereq 1 | Storage & Collection of Recyclables | Required |
| | | | 1 | Credit 1.1 | Building Reuse , Maintain 75% of Existing Walls, Floors & Roof | 1 |
| | | | 1 | Credit 1.2 | Building Reuse , Maintain 95% of Existing Walls, Floors & Roof | 1 |
| | | | 1 | Credit 1.3 | Building Reuse , Maintain 50% of Interior Non-Structural Elements | 1 |
| 1 | | | | Credit 2.1 | Construction Waste Management , Divert 50% from Disposal | 1 |
| 1 | | | | Credit 2.2 | Construction Waste Management , Divert 75% from Disposal | 1 |
| | | | 1 | Credit 3.1 | Materials Reuse , 5% | 1 |
| | | | 1 | Credit 3.2 | Materials Reuse , 10% | 1 |
| 1 | | | | Credit 4.1 | Recycled Content , 10% (post-consumer + ½ pre-consumer) | 1 |
| | | 1 | | Credit 4.2 | Recycled Content , 20% (post-consumer + ½ pre-consumer) | 1 |
| | 1 | | | Credit 5.1 | Regional Materials , 10% Extracted, Processed & Manufactured Regionally | 1 |
| | | 1 | | Credit 5.2 | Regional Materials , 20% Extracted, Processed & Manufactured Regionally | 1 |
| | 1 | | | Credit 6 | Rapidly Renewable Materials | 1 |
| | 1 | | | Credit 7 | Certified Wood | |
| 8 | 5 | 2 | 0 | Indoor Environmental Quality | | 15 Points |
| Y | | | | Prereq 1 | Minimum IAQ Performance | Required |
| Y | | | | Prereq 2 | Environmental Tobacco Smoke (ETS) Control | Required |
| | 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 & Sealants | 1 |
| 1 | | | | Credit 4.2 | Low-Emitting Materials , Paints & Coatings | 1 |
| 1 | | | | Credit 4.3 | Low-Emitting Materials , Carpet Systems | 1 |
| | 1 | | | Credit 4.4 | Low-Emitting Materials , Composite Wood & Agrifiber Products | 1 |
| 1 | | | | Credit 5 | Indoor Chemical & 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 & Views , Daylight 75% of Spaces | 1 |
| 1 | | | | Credit 8.2 | Daylight & Views , Views for 90% of Spaces | 1 |
| 3 | 2 | 0 | 0 | Innovation & Design Process | | 5 Points |
| 1 | | | | Credit 1.1 | Innovation in Design : SSc7.1 Exemplary Performance - 100% Underground parking | 1 |
| 1 | | | | Credit 1.2 | Innovation in Design : Green Housekeeping Program | 1 |
| | 1 | | | Credit 1.3 | Innovation in Design : Coordinate with LEED Facilitator | 1 |
| | 1 | | | Credit 1.4 | Innovation in Design : Coordinate with LEED Facilitator | 1 |
| 1 | | | | Credit 2 | LEED® Accredited Professional | 1 |
| 0 | 2 | 1 | 1 | Boston Article 37 "LEED Certifiable" additional Credits | | 4 Points |
| | 1 | | | Credit 1 | Modern Grid - project must provide on-site distributed generation/CHP for 10% of bldg energy use | |
| | | | 1 | Credit 2 | Historic Preservation - preservation of a historically significant building | |
| | 1 | | | Credit 3 | Groundwater Recharge - capture rainwater on site and allow for infiltration | |
| | | 1 | | Credit 4 | Modern Mobility - commit to transportation demand management requirements prior to PNF | |
| 26 | 18 | 19 | 6 | Project Totals (estimated) | | 69 Points |

Certified: 26-32 points, Silver: 33-38 points, Gold: 39-51 points, Platinum: 52-69 points

| Strongly Pursuing (Tier 1) | Recommended for Further Investigation | Not likely for pursuit (Tier 3) | Not Possible or Not Feasible | Seaport Square - PNF/ENF Submission of Preliminary Draft LEED Checklist | | |
|-------------------------------|---|------------------------------------|---------------------------------|---|---|----------|
| | | | | Parcel H LEED-NC Residential Mixed-Use Project | | |
| | | | | Project mix: Residential: 60,000 sq.ft. (76%) Retail: 19,000 sq.ft. (24%) Total: 79,000 sq.ft. | | |
| 7 | 3 | 2 | | Sustainable Sites 14 Points | | |
| Y | | | | Prereq 1 | Construction Activity Pollution Prevention | Required |
| 1 | | | | Credit 1 | Site Selection | 1 |
| 1 | | | | Credit 2 | Development Density & Community Connectivity | 1 |
| | | | 1 | Credit 3 | Brownfield Redevelopment | 1 |
| 1 | | | | Credit 4.1 | Alternative Transportation, Public Transportation Access | 1 |
| 1 | | | | Credit 4.2 | Alternative Transportation, Bicycle Storage & Changing Rooms | 1 |
| | | | 1 | Credit 4.3 | Alternative Transportation, Low-Emitting & Fuel-Efficient Vehicles | 1 |
| 1 | | | | Credit 4.4 | Alternative Transportation, Parking Capacity | 1 |
| | | 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- SRI-compliant site pedestrian-oriented paving | 1 |
| 1 | | | | Credit 7.2 | Heat Island Effect, Roof | 1 |
| | | 1 | | Credit 8 | Light Pollution Reduction | 1 |
| 3 | 1 | 1 | | Water Efficiency 5 Points | | |
| 1 | | | | Credit 1.1 | Water Efficient Landscaping, Reduce by 50% | 1 |
| 1 | | | | Credit 1.2 | Water Efficient Landscaping, No Potable Use or No Irrigation | 1 |
| | | 1 | | Credit 2 | Innovative Wastewater Technologies | 1 |
| 1 | | | | Credit 3.1 | Water Use Reduction, 20% Reduction | 1 |
| | 1 | | | Credit 3.2 | Water Use Reduction, 30% Reduction | 1 |
| 3 | 5 | 9 | | Energy & Atmosphere 17 Points | | |
| Y | | | | Prereq 1 | Fundamental Commissioning of the Building Energy Systems | Required |
| Y | | | | Prereq 2 | Minimum Energy Performance | Required |
| Y | | | | Prereq 3 | Fundamental Refrigerant Management | Required |
| 2 | 2 | 6 | | Credit 1 | Optimize Energy Performance | 1 to 10 |
| | | | | | 10.5% New Buildings or 3.5% Existing Building Renovations | 1 |
| | | | | | 14% New Buildings or 7% Existing Building Renovations | 2 |
| | | | | | 17.5% New Buildings or 10.5% Existing Building Renovations | 3 |
| | | | | | 21% New Buildings or 14% Existing Building Renovations | 4 |
| | | | | | 24.5% New Buildings or 17.5% Existing Building Renovations | 5 |
| | | | | | 28% New Buildings or 21% Existing Building Renovations | 6 |
| | | | | | 31.5% New Buildings or 24.5% Existing Building Renovations | 7 |
| | | | | | 35% New Buildings or 28% Existing Building Renovations | 8 |
| | | | | | 38.5% New Buildings or 31.5% Existing Building Renovations | 9 |
| | | | | | 42% New Buildings or 35% Existing Building Renovations | 10 |
| | 1 | 2 | | Credit 2 | On-Site Renewable Energy | 1 to 3 |
| | | | | | 2.5% Renewable Energy | 1 |
| | | | | | 7.5% Renewable Energy | 2 |
| | | | | | 12.5% Renewable Energy | 3 |
| | 1 | | | Credit 3 | Enhanced Commissioning | 1 |
| 1 | | | | Credit 4 | Enhanced Refrigerant Management | 1 |
| | 1 | | | Credit 5 | Measurement & Verification | 1 |
| | | 1 | | Credit 6 | Green Power | 1 |

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| 3 | 2 | 3 | | Materials & Resources | 13 Points |
|----|----|----|--|--|------------------|
| Y | | | | Prereq 1 Storage & Collection of Recyclables | Required |
| | | 1 | | Credit 1.1 Building Reuse , Maintain 75% of Existing Walls, Floors & Roof | 1 |
| | | 1 | | Credit 1.2 Building Reuse , Maintain 95% of Existing Walls, Floors & Roof | 1 |
| | | 1 | | Credit 1.3 Building Reuse , Maintain 50% of Interior Non-Structural Elements | 1 |
| 1 | | | | Credit 2.1 Construction Waste Management , Divert 50% from Disposal | 1 |
| 1 | | | | Credit 2.2 Construction Waste Management , Divert 75% from Disposal | 1 |
| | | 1 | | Credit 3.1 Materials Reuse , 5% | 1 |
| | | 1 | | Credit 3.2 Materials Reuse , 10% | 1 |
| 1 | | | | Credit 4.1 Recycled Content , 10% (post-consumer + ½ pre-consumer) | 1 |
| | | 1 | | Credit 4.2 Recycled Content , 20% (post-consumer + ½ pre-consumer) | 1 |
| | 1 | | | Credit 5.1 Regional Materials , 10% Extracted, Processed & Manufactured Regionally | 1 |
| | | 1 | | Credit 5.2 Regional Materials , 20% Extracted, Processed & Manufactured Regionally | 1 |
| | 1 | | | Credit 6 Rapidly Renewable Materials | 1 |
| | 1 | | | Credit 7 Certified Wood | |
| 8 | 5 | 2 | | Indoor Environmental Quality | 15 Points |
| Y | | | | Prereq 1 Minimum IAQ Performance | Required |
| Y | | | | Prereq 2 Environmental Tobacco Smoke (ETS) Control | Required |
| | 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 & Sealants | 1 |
| 1 | | | | Credit 4.2 Low-Emitting Materials , Paints & Coatings | 1 |
| 1 | | | | Credit 4.3 Low-Emitting Materials , Carpet Systems | 1 |
| | 1 | | | Credit 4.4 Low-Emitting Materials , Composite Wood & Agrifiber Products | 1 |
| | 1 | | | Credit 5 Indoor Chemical & 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 & Views , Daylight 75% of Spaces | 1 |
| 1 | | | | Credit 8.2 Daylight & Views , Views for 90% of Spaces | 1 |
| 2 | 3 | 0 | | Innovation & Design Process | 5 Points |
| 1 | | | | Credit 1.1 Innovation in Design : Green Housekeeping Program | 1 |
| | 1 | | | Credit 1.2 Innovation in Design : TBD | 1 |
| | 1 | | | Credit 1.3 Innovation in Design : Coordinate with LEED Facilitator | 1 |
| | 1 | | | Credit 1.4 Innovation in Design : Coordinate with LEED Facilitator | 1 |
| 1 | | | | Credit 2 LEED® Accredited Professional | 1 |
| 0 | 19 | 17 | | Boston Article 37 "LEED Certifiable" additional Credits | 4 Points |
| | 1 | | | Credit 1 Modern Grid - project must provide on-site distributed generation/CHP for 10% of bldg energy use | |
| | | 1 | | Credit 2 Historic Preservation - preservation of a historically significant building | |
| | 1 | | | Credit 3 Groundwater Recharge - capture rainwater on site and allow for infiltration | |
| | | 1 | | Credit 4 Modern Mobility - commit to transportation demand management requirements prior to PNF | |
| 26 | 19 | 17 | | Project Totals (estimated) | 69 Points |

Certified: 26-32 points, Silver: 33-38 points, Gold: 39-51 points, Platinum: 52-69 points

| Strongly Pursuing (Tier 1) | Recommended for Further Investigation | Not likely for pursuit (Tier 3) | Not Possible or Not Feasible | Seaport Square - PNF/ENF Submission of Preliminary Draft LEED Checklist | | |
|-------------------------------|---|------------------------------------|---------------------------------|---|---|-----------|
| | | | | Parcel J LEED-NC Archdiocese of Boston Chapel | | |
| | | | | Project mix: Residential: 2,500 sq.ft. (17%) Religious/Worship: 12,500 sq.ft. (83%) Total: 15,000 sq.ft. | | |
| 7 | 2 | 3 | | Sustainable Sites | | 14 Points |
| | | | | Prereq 1 | Construction Activity Pollution Prevention | Required |
| Y | | | | Credit 1 | Site Selection | 1 |
| 1 | | | | Credit 2 | Development Density & Community Connectivity | 1 |
| 1 | | | 1 | Credit 3 | Brownfield Redevelopment | 1 |
| 1 | | | | Credit 4.1 | Alternative Transportation , Public Transportation Access | 1 |
| 1 | | | | Credit 4.2 | Alternative Transportation , Bicycle Storage & Changing Rooms | 1 |
| | | | 1 | Credit 4.3 | Alternative Transportation , Low-Emitting & Fuel-Efficient Vehicles | 1 |
| 1 | | | | Credit 4.4 | Alternative Transportation , Parking Capacity | 1 |
| | | 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- SRI-compliant site pedestrian-oriented paving | 1 |
| 1 | | | | Credit 7.2 | Heat Island Effect , Roof | 1 |
| | | 1 | | Credit 8 | Light Pollution Reduction | 1 |
| 3 | 1 | 1 | | Water Efficiency | | 5 Points |
| | | | | Credit 1.1 | Water Efficient Landscaping , Reduce by 50% | 1 |
| 1 | 1 | | | Credit 1.2 | Water Efficient Landscaping , No Potable Use or No Irrigation | 1 |
| | | 1 | | Credit 2 | Innovative Wastewater Technologies | 1 |
| 1 | | | | Credit 3.1 | Water Use Reduction , 20% Reduction | 1 |
| 1 | | | | Credit 3.2 | Water Use Reduction , 30% Reduction | 1 |
| 3 | 6 | 8 | | Energy & Atmosphere | | 17 Points |
| Y | | | | Prereq 1 | Fundamental Commissioning of the Building Energy Systems | Required |
| Y | | | | Prereq 2 | Minimum Energy Performance | Required |
| Y | | | | Prereq 3 | Fundamental Refrigerant Management | Required |
| 2 | 2 | 6 | | Credit 1 | Optimize Energy Performance | 1 to 10 |
| | | | | | 10.5% New Buildings or 3.5% Existing Building Renovations | 1 |
| | | | | | 14% New Buildings or 7% Existing Building Renovations | 2 |
| | | | | | 17.5% New Buildings or 10.5% Existing Building Renovations | 3 |
| | | | | | 21% New Buildings or 14% Existing Building Renovations | 4 |
| | | | | | 24.5% New Buildings or 17.5% Existing Building Renovations | 5 |
| | | | | | 28% New Buildings or 21% Existing Building Renovations | 6 |
| | | | | | 31.5% New Buildings or 24.5% Existing Building Renovations | 7 |
| | | | | | 35% New Buildings or 28% Existing Building Renovations | 8 |
| | | | | | 38.5% New Buildings or 31.5% Existing Building Renovations | 9 |
| | | | | | 42% New Buildings or 35% Existing Building Renovations | 10 |
| | 1 | 2 | | Credit 2 | On-Site Renewable Energy | 1 to 3 |
| | | | | | 2.5% Renewable Energy | 1 |
| | | | | | 7.5% Renewable Energy | 2 |
| | | | | | 12.5% Renewable Energy | 3 |
| | 1 | | | Credit 3 | Enhanced Commissioning | 1 |
| 1 | | | | Credit 4 | Enhanced Refrigerant Management | 1 |
| | 1 | | | Credit 5 | Measurement & Verification | 1 |
| | 1 | | | Credit 6 | Green Power | 1 |

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| 3 | 2 | 3 | | Materials & Resources | 13 Points |
|----|----|----|---|--|------------------|
| Y | | | | Prereq 1 Storage & Collection of Recyclables | Required |
| | | | 1 | Credit 1.1 Building Reuse , Maintain 75% of Existing Walls, Floors & Roof | 1 |
| | | | 1 | Credit 1.2 Building Reuse , Maintain 95% of Existing Walls, Floors & Roof | 1 |
| | | | 1 | Credit 1.3 Building Reuse , Maintain 50% of Interior Non-Structural Elements | 1 |
| 1 | | | | Credit 2.1 Construction Waste Management , Divert 50% from Disposal | 1 |
| 1 | | | | Credit 2.2 Construction Waste Management , Divert 75% from Disposal | 1 |
| | | 1 | | Credit 3.1 Materials Reuse , 5% | 1 |
| | | | 1 | Credit 3.2 Materials Reuse , 10% | 1 |
| 1 | | | | Credit 4.1 Recycled Content , 10% (post-consumer + ½ pre-consumer) | 1 |
| | | 1 | | Credit 4.2 Recycled Content , 20% (post-consumer + ½ pre-consumer) | 1 |
| | 1 | | | Credit 5.1 Regional Materials , 10% Extracted, Processed & Manufactured Regionally | 1 |
| | | 1 | | Credit 5.2 Regional Materials , 20% Extracted, Processed & Manufactured Regionally | 1 |
| | 1 | | | Credit 6 Rapidly Renewable Materials | 1 |
| | 1 | | | Credit 7 Certified Wood | |
| | | | | | |
| 7 | 7 | 1 | | Indoor Environmental Quality | 15 Points |
| Y | | | | Prereq 1 Minimum IAQ Performance | Required |
| Y | | | | Prereq 2 Environmental Tobacco Smoke (ETS) Control | Required |
| | 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 & Sealants | 1 |
| 1 | | | | Credit 4.2 Low-Emitting Materials , Paints & Coatings | 1 |
| 1 | | | | Credit 4.3 Low-Emitting Materials , Carpet Systems | 1 |
| | 1 | | | Credit 4.4 Low-Emitting Materials , Composite Wood & Agrifiber Products | 1 |
| | 1 | | | Credit 5 Indoor Chemical & 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 & Views , Daylight 75% of Spaces | 1 |
| | 1 | | | Credit 8.2 Daylight & Views , Views for 90% of Spaces | 1 |
| | | | | | |
| 3 | 2 | 0 | | Innovation & Design Process | 5 Points |
| 1 | | | | Credit 1.1 Innovation in Design : Green Housekeeping Program | 1 |
| 1 | | | | Credit 1.2 Innovation in Design : Educational Program | 1 |
| | 1 | | | Credit 1.3 Innovation in Design : Coordinate with LEED Facilitator | 1 |
| | 1 | | | Credit 1.4 Innovation in Design : Coordinate with LEED Facilitator | 1 |
| 1 | | | | Credit 2 LEED® Accredited Professional | 1 |
| | | | | | |
| 0 | 20 | 16 | | Boston Article 37 "LEED Certifiable" additional Credits | 4 Points |
| | 1 | | | Credit 1 Modern Grid - project must provide on-site distributed generation/CHP for 10% of bldg energy use | |
| | | | 1 | Credit 2 Historic Preservation - preservation of a historically significant building | |
| | 1 | | | Credit 3 Groundwater Recharge - capture rainwater on site and allow for infiltration | |
| | | 1 | | Credit 4 Modern Mobility - commit to transportation demand management requirements prior to PNF | |
| | | | | | |
| 26 | 20 | 16 | | Project Totals (estimated) | 69 Points |

Certified: 26-32 points, **Silver:** 33-38 points, **Gold:** 39-51 points, **Platinum:** 52-69 points