

Salem Port Expansion

EEA #14234

Salem Harbor Station Redevelopment

EEA #14937

Environmental Impact Report Marine Terminal Modifications



As proposed by:

City of Salem

February 2014

Presented by:

Bourne Consulting Engineering, P.C.
Franklin, Massachusetts

Salem Port Expansion

Marine Terminal Modifications

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City of Salem

Environmental Impact Report

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 ENF #14234
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Deval L. Patrick
GOVERNOR

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SECRETARY

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September 6, 2013

CERTIFICATE OF THE SECRETARY OF ENERGY AND ENVIRONMENTAL AFFAIRS
ON THE
NOTICE OF PROJECT CHANGE

PROJECT NAME:	Salem Port Expansion / Salem Harbor Station Redevelopment
PROJECT MUNICIPALITY:	Salem
PROJECT WATERSHED:	North Coastal
EEA NUMBER:	14234/14937
PROJECT PROPONENT:	City of Salem
DATE NOTICED IN THE MONITOR:	July 24, 2013

Pursuant to the Massachusetts Environmental Policy Act (M.G. L. c. 30, ss. 61-62I) and Section 11.10 of the MEPA regulations (301 CMR 11.00), I hereby determine that this project **requires** the preparation of an Environmental Impact Report (EIR). The City of Salem (the City) should submit an EIR in accordance with the scope below. To ensure the fulfillment of requirements set forth in the Certificate on the Final EIR (FEIR) on the Salem Harbor Station Redevelopment project (EEA No. 14937), the City should work collaboratively with Footprint Power, LLC (Footprint) in the preparation of the EIR.

Previously Reviewed Project

The City filed an Environmental Notification Form (ENF) for the Salem Port Expansion Project (EEA No. 14234) in April 2008 and provided supplemental information on June 10, 2008 for consideration by the MEPA office, subsequent to a four week extension of the ENF comment period. As described in the ENF and supplemental information, the project consisted of the redevelopment of the City's 10 Blaney Street property into a multi-use port facility. As expressed in the ENF, the City intended to use this multi-use water transportation facility to serve a variety of vessels, including berthing locations for the existing Salem Ferry *Nathaniel Bowditch*, excursion boats, water taxis, a Liquefied Natural Gas (LNG) offshore supply boat, commercial fishing boats, visiting ships, and small cruise ships. Proposed upland improvements

to the site included traffic changes on Derby Street (a local roadway), 146 parking spaces, an approximately 10,500 - gross square foot (sf) terminal building, landscaping and pedestrian amenities including a continuous 12-foot wide pile-supported harborwalk, and a fishing/viewing pier. Waterside improvements include the construction of a fixed pile-supported pier and a floating dock/barge system.

Portions of the 10.14-acre project site are located within a Designated Port Area (DPA). Approximately 209,000 cubic yards (cy) of dredging was proposed to achieve water depths necessary for the proposed uses. Impacts to wetland resource areas associated with dredging and the construction of the harborwalk, piers, floats, and terminal building included: 317,000 sf of temporary impact to Land Under Ocean, 362,000 sf of temporary impact to DPA, 45,000 sf of permanent impact to Coastal Beach, 850 linear feet (lf) of permanent impact to Coastal Bank, and 88,900 sf of impact to Land Subject to Coastal Storm Flowage (LSCSF). Estimated traffic trips included 1,120 average daily trips (adt) on a weekday and 1,446 adt on weekends, accessing locally-jurisdictional roadways. A Certificate on the ENF was issued on July 11, 2008 indicating that the project did not require the preparation of an EIR.

An ENF for the Salem Harbor Station Redevelopment project (EEA No. 14937) was filed by Footprint in August 2012. The Salem Harbor Station Redevelopment project consists of demolition of an existing coal-fired power plant, remediation of the site, and construction of a new 630 megawatt (MW) nominal electrical generating facility and associated infrastructure and equipment on a 65-acre site. The facility will be constructed on approximately 20 acres of the northwestern portion of site, with redevelopment of the remaining portion of the site to be determined subsequent to the preparation of a long-term development plan. A Certificate on the ENF was issued on September 7, 2012 requiring the preparation of an EIR. Footprint filed a Draft EIR (DEIR) in December 2012, with a Certificate on the DEIR issued on January 25, 2013 indicating that the DEIR adequately and properly complied with MEPA and outlined a scope for the preparation of an FEIR. The FEIR was filed in April 2013, with a Certificate on the FEIR issued on May 17, 2013 indicating that the FEIR adequately and properly complied with MEPA and that the project could proceed to permitting. The Certificate on the FEIR requires Footprint to file an NPC prior to commencement of additional development on the project site beyond that related to the demolition, remediation, and construction of the new electric generating facility.

Interim Project History

According to the NPC, and supplemental information filed on August 21, 2013 (collectively herein "the NPC"), work completed, to date, on the Blaney Street site includes:

- Construction of 500 feet of concrete seawall with associated revetment work at the toe; installation of major site utilities including water, sewer, electrical conduit, site stormwater collection and treatment systems, and grading and installation of pavement binder;
- Construction of the Terminal Building with public restrooms;
- Dredging of approximately 24,000 cy down to -16 Mean Low Water (MLW) sufficient for docking of passenger vessels on the south side of the proposed pier;
- Construction of the first 200 feet of pier with associated wave fence;

- Construction of 140 feet of seawall in the pier area with associated revetment work at the toe; and
- Construction and installation of barge and aluminum ramping system for Americans with Disabilities Act (ADA) / Massachusetts Architectural Access Board (MAAB)-accessible passenger operations including vessel pump-out facilities and water service.

Remaining work to be completed in accordance with the previously reviewed ENF is contingent upon future funding and consists of the following:

- Final paving, lighting, and landscaping;
- Public harborwalk construction along the shoreline perimeter;
- Additional dredging of 41,500 cy at the time of full pier construction to accommodate small coastal cruise ship access and commercial fishing embayment;
- Construction of an additional 140 feet of the approach pier, pier "T", wave fence, and pier utilities; and
- Creation of a commercial marina with associated dredging, floating docks, access gangways and utilities.

Description of Project Change

According to the NPC, the project change includes the provision of cruise ship berthing at an existing marine wharf and passenger access to Blaney Street on an interim basis. This site is part of Footprint Power's 64.8-acre property. Interim uses are proposed until Footprint develops a long-term plan for the redevelopment of the Salem Harbor Station site. The Footprint marine wharf was historically used for the delivery of coal and fuel oil and will be used on a limited basis to facilitate construction of the new natural gas-fired power plant and decommissioning of the former coal-fired plant. Significant volumes of materials and equipment will be delivered via barge to minimize construction-period traffic impacts. This wharf features a pile-supported timber pier with concrete mooring dolphins supported by steel piles. Proposed project elements include:

- Installation of an approximately 500-foot long, 8-foot wide, bituminous pavement walkway extending northeast from the terminal building, between Footprint's coal pile run-off pond and the shoreline, to the existing paved surface adjacent to the timber pier;
- Placement of screened fencing along the walkway to provide secure separation from the Footprint facilities;
- Installation of a small culvert and associated fill at the crossing of an existing swale, located at Blaney Street;
- Installation of a crossing over the existing coal pile run-off pond emergency spillway;
- Stabilization of the shoreline along the proposed walkway to improve aesthetics including resetting stones at the top of the Coastal Bank above the high tide line along up to 100 lf of the revetment;
- Installation of new fender units at the four existing fender dolphins suitable for cruise ship berthing;

- Extension of the deck area between the existing pier and seawall (6,900 sf) utilizing the existing support elements;
- Construction of an ADA/MAAB-compliant ramping system from vessel to pier;
- Replacement of any and all trees removed to support the construction of the expanded facility; and
- Installation of approximately 370 feet of temporary fencing for use only during times of cruise ship operations.

As directed by the MEPA Office, the NPC was filed under both the Salem Port Expansion (EEA No. 14234) and the Salem Harbor Station Redevelopment (EEA No. 14937) file reference numbers because work is proposed on both sites. Distribution of the NPC was provided to parties that commented on both projects in accordance with the MEPA regulations.

Jurisdiction and Permitting

The project underwent MEPA review because it required State Agency Actions and exceeded several MEPA review thresholds including: dredging of 10,000 or more cubic yards of material (301 CMR 11.03 (3)(b)(3)), alteration of Coastal Bank (301 CMR 11.03(3)(b)(1)(a)), alteration of one-half or more acres of wetland resource areas (301 CMR 11.03(3)(b)(1)(f)), and expansion of a pile-supported structure by more than 2,000 square feet (sf) in base area (Section 11.03(3)(b)(6)).¹ The project proposed in the NPC does not exceed any additional thresholds beyond those previously identified in past MEPA reviews. The Salem Port Expansion project identified in the ENF required a Chapter 91 (c.91) License and a Section 401 Water Quality Certificate (WQC) from the Massachusetts Department of Environmental Protection (MassDEP) and Federal Consistency review by the Office of Coastal Zone Management (CZM). A Section 10/Section 404 Permit from the U.S. Army Corps of Engineers (ACOE) was also required. The project also required an Order of Conditions from the Salem Conservation Commission, or in the case of an appeal, a Superseding Order of Conditions from MassDEP. Finally, the project required a National Pollutant Discharge Elimination System (NPDES) Construction General Permit (CGP) from the United States Environmental Protection Agency (EPA).² The proposed project change will require a c.91 License Amendment from MassDEP, a Section 10/Section 404 Category 2 permit from the ACOE, and an Order of Conditions from the Salem Conservation Commission, or a Superseding Order of Conditions from MassDEP. The project has received funding from the Commonwealth of Massachusetts through the Seaport Bond Bill and continues to seek additional funding through the Seaport Bond Bill to construct the remaining elements of the Salem Port Expansion project. Therefore, MEPA jurisdiction is broad in scope and extends to all aspects of the project that may cause Damage to the Environment, as defined in the MEPA regulations.

¹ I note that the Salem Harbor Station Redevelopment project (EEA no. 14937) also required MEPA review pursuant to 301 CMR 11.03 (7)(a)(1) because it required State Agency Actions and entails the construction of a new electric generating facility with a Capacity of 100 or more MW.

² The Salem Harbor Station Redevelopment project requires an Approval to Construct from the Energy Facilities Siting Board (EFSB); Major Comprehensive Air Plan Approval and Prevention of Significant Deterioration (PSD) Review, an Air Operating Permit, a c.91 License, and an Industrial Sewer Use Permit from the Massachusetts Department of Environmental Protection (MassDEP); and may require a 401 WQC and a Beneficial Use Determination (BUD) from MassDEP. It also requires an Aboveground Storage Tank Permit from the Department of Public Safety. MEPA jurisdiction for this project was broad and extended to all aspects of the project that may cause Damage to the Environment, as defined in the MEPA regulations.

Review of the NPC

The NPC did not demonstrate that uses proposed in the NPC are equivalent to or less than those those identified in the Salem Port Expansion ENF. The NPC included a summary of potential changes to environmental impacts for both the Salem Port Expansion and the Salem Harbor Station Redevelopment projects. The NPC stated that the project change will increase impervious area by 0.25 acres and will have no additional impacts associated with regulated wetland resource areas, traffic trips or water use/wastewater generation, beyond those disclosed in the Salem Port Expansion ENF or Salem Harbor Station Redevelopment FEIR. The project includes an expansion of the Salem Port Expansion project area to include 1.4 acres of the Footprint site. Plans included in the NPC referenced as the "Previously Reviewed Site Plans" for the Salem Port Expansion were not consistent with those filed in the 2008 ENF. The plans included have issuance and revision dates after the date the Certificate on the ENF was issued. The NPC did not include the approved plans submitted as part of the review process for the Salem Harbor Station Redevelopment project.

The NPC identified several wetland resource areas within or immediately proximate to the expanded project area including Land Under Ocean, Coastal Beach, Coastal Bank, and LSCSF. The proposed improvements (exclusive of those previously permitted as part of the Salem Port Expansion or separate work conducted as part of the Salem Harbor Redevelopment project) will directly impact 4,000 sf of LSCSF, 100 lf of Coastal Bank³, and 3,800 sf of Land Under Ocean (shading). According to the NPC, all proposed revetment work and the repairs to the existing pier are limited to the existing footprints of the respective structures and all work is proposed above the high tide line.

According to the NPC, the existing pathway between the Footprint wharf and the Salem Port is gravel with an impermeable liner underneath extending into the coal pile run-off pond on the Footprint site. The existing slope of the liner outside the coal pile run-off pond bank directs stormwater flow outshore to the Harbor. Proposed stormwater management measures include the design of impervious areas to slope inshore towards the adjacent coal pile run-off pond for treatment prior to release into the harbor. Pier decking will also be sloped inshore to utilize existing stormwater treatment systems.

Where impacts cannot be avoided, the NPC identified mitigation measures to minimize or mitigate potential Damage to the Environment such as erosion control Best Management Practices (BMPs), avoidance of intertidal work, and performance of shoreline work inshore of shellfish habitat.

³ Coastal Bank is delineated based on the toe of the existing revetment (man-made structure).

SCOPE

General

The EIR should follow Section 11.07 of the MEPA regulations for outline and content, as modified by this limited scope. The EIR should confirm that the proposed project is consistent with MEPA review and permitting applications submitted by Footprint and long-term redevelopment plans for the Footprint site.

Project Description and Permitting

The EIR should include site plans, at a readable scale, that identify existing and proposed conditions for the project area in its entirety, including areas where mitigation measures are proposed. The existing and proposed conditions plans should clearly identify the limits of jurisdictional resource areas, including the limit of the DPA, filled or flowed tidelands, MLW and Mean High Water (MHW), property boundaries, grading and elevations, and stormwater management features.

The EIR should explicitly state the anticipated type, length, maximum passenger capacity and frequency of port-of-call for cruise ships that will berth at the upgraded wharf on the Footprint site. While the ENF on the Salem Port Expansion made cursory mention of "Medium" cruise ships up to 800-feet in length using a potential offshore anchorage with passengers using tenders to disembark at the Salem Port, the ENF did not identify the number of potential passengers associated with such a vessel. Furthermore, use of tenders to transport 100 to 150 passengers at a time is reasonably expected to result in a different level of impacts to the DPA and the surrounding neighborhoods than berthing of a medium-sized cruise ship at the Footprint site with the potential for passengers to disembark en masse within a short period of time. I note that the 2008 Salem Municipal Harbor Plan indicates that the Salem Port Expansion project should, "in addition to ferries...be designed to support the needs of small to mid-sized cruise ships, water-dependent excursion/tourist businesses, and dockage for other commercial boats, and landside facilities directly supporting these activities" (page 58). The Salem Port Expansion ENF also identified proposed improvements to accommodate berthing of small to medium cruise vessels up to 400 feet in length at the pier face. Understanding the type of vessels that may use the proposed facility is critical to ensuring the potential environmental impacts associated with the project have been adequately identified and disclosed and that the proposed project is consistent with the approved Municipal Harbor Plan.

The EIR should discuss how land-side uses and improvements are consistent with the Municipal Harbor Plan, c.91 Licensing requirements and DPA guidelines. The construction and implementation of identified land-side uses are critical to ensure the safe and effective operation of the proposed marine facility. The EIR should identify land-side uses, specifically traffic mitigation measures, pedestrian connections, signage, and streetscape improvements both on-site and within the Municipal Harbor Planning area off-site to facilitate use of the Salem Port and provide access to the Salem waterfront. If available, whether in draft or final form, the NPC should include a copy of the City's agreement with Footprint for use of the marine terminal on an interim basis on the Footprint site.

Alternatives Analysis

The EIR should provide an alternatives analysis that provides conceptual site layout plans, a summary of potential environmental impacts associated with each alternative, preferably in tabular format, and a supporting narrative. The alternatives analysis should also discuss compliance with applicable regulations and consistency with the 2008 Municipal Harbor Plan for the following alternatives:

- A No-Action Alternative - no change to the ENF; potential for cruise ships up to 800 feet at anchorage;
- A Small Cruise Ship Alternative – use of the Footprint wharf for berthing of small cruise ships limited with an average capacity of 300 passengers; and
- A Preferred Alternative

The EIR should discuss why certain alternatives have been dismissed by the City and identify review criteria.

Transportation

The EIR should clearly state traffic trip generation assumptions, citing Institute of Transportation Engineers (ITE) data where applicable and identify any increases beyond those previously disclosed in the ENF. If ITE data are not available for portions of the intended uses, the City should consult with the Massachusetts Department of Transportation (MassDOT) for guidance and/or review traffic generation rates associated with similar-sized facilities. Any assumptions used in this analysis should be clearly stated and data sources cited. If trip generation is determined to be inconsistent with data provided in the ENF, the EIR should identify discrepancies and propose appropriate mitigation measures to offset potential impacts. The EIR should also identify whether traffic pattern or operational improvements for Derby Street proposed in the ENF have been implemented, or if not, include a commitment to incorporate these improvements in advance of completion of the expanded marine terminal.

The NPC should clarify if the City intends to stage busses on the Footprint property for cruise ship passenger shore side excursions while the marine facility is being used on an interim basis. If the City intends to use the Footprint facility for vehicular access and staging prior to completion of MEPA review of the long-term development plans of the Footprint site, potential impacts must be disclosed in the EIR and depicted on site plans. The EIR must demonstrate that the land-side facilities at 10 Blaney Street for buses, trolleys, pedi-cabs, and pedestrians are sufficient to safely and effectively accommodate demand generated by berthing of a cruise ship at the Footprint wharf. Finally, the NPC should confirm that Footprint and City can support both cruise ship berthing and active decommissioning and reconstruction of Salem Harbor Station in a manner that avoids conflicts and does not compromise the ability of Footprint to move forward with its approved project.

Wetlands, Waterways and Tidelands

All proposed work identified in the NPC is located on filled or flowed tidelands within the Salem Harbor DPA. MassDEP indicates that a marine terminal for commercial passenger vessel operations is a water-dependant industrial use pursuant to 310 CMR 9.12(2)(b) and therefore, is an allowed use on any tidelands within a DPA. The EIR should discuss how the project has been designed in a manner consistent with the Municipal Harbor Plan, c.91 licensing requirements and applicable performance standards as well as CZM policies.

Stormwater

The EIR should discuss how the project will be designed in compliance with MassDEP Stormwater Management Regulations (SMR) and its associated Stormwater Policy. The EIR should identify if the project will be required to meet the new development or redevelopment standards of the SMR and discuss compliance with applicable performance standards. The EIR should evaluate the use of Low Impact Design (LID) stormwater management techniques, to the extent feasible given the location of the impermeable barrier associated with Footprint's coal pile run-off pond. Salem Harbor has an established Total Maximum Daily Load (TMDL) for pathogens. The EIR should discuss how proposed BMPs will facilitate compliance with the established TMDL. Finally, the EIR should clarify the location of the proposed culvert and indicate whether filling activities associated with placement of the culvert will be located in wetland resource areas or tidelands and if so, identify appropriate mitigation measures.

Greenhouse Gas Emissions

The project is subject to review in accordance with the MEPA Greenhouse Gas Policy and Protocol ("the Policy"). The Policy requires projects to quantify carbon dioxide (CO₂) emissions and identify measures to avoid, minimize or mitigate such emissions. The analysis quantifies the direct and indirect CO₂ emissions associated with the project's energy use (stationary sources) and transportation-related emissions (mobile sources). A GHG analysis typically evaluates CO₂ emissions for two scenarios as required by the Policy including 1) a Base Case and 2) a Mitigation Alternative. The project does not include the construction of any new buildings and stationary sources are likely limited to the potential operation of shore-side power facility. The Policy limits analysis of mobile source emissions to project-related vehicle trips and does not apply to emissions associated with cruise ships.

The EIR should include a commitment to incorporate shore-side power capabilities at the cruise ship berthing location. The EIR should describe a conceptual system, anticipated loading and efficiency capabilities, and if feasible, commit to the use of energy-efficient systems. I recommend the City review the American Association of Port Authorities' 2007 Draft report "Use of Shore-Side Power for Ocean-Going Vessels"⁴ or the California Air Resources Board website (<http://www.arb.ca.gov/ports/shorepower/shorepower.htm>) for additional information on how the City can use shore-side power to mitigate potential GHG emissions.

⁴ http://wpci.iaphworldports.org/data/docs/onshore-power-supply/library/1264151248_2007aapauscofshore-sidepowerforocean-goingvessels.pdf

The EIR should use traffic volume, delay and speed data along with emissions factors (as described in the Policy) for a No-Build existing condition, a future 2018 Build condition and a future 2018 Build with Mitigation condition. The EIR should describe mitigation measures implemented as part of the future Build with Mitigation condition modeling. These measures may include, but should not be limited to, improvements to roadway operations, physical roadway infrastructure upgrades, use of alternative fueled vehicles, and transportation demand management (TDM) measures. The EIR should identify how the City proposes to work with cruise ship, tour bus, and trolley operators to reduce mobile source GHG emissions, and what incentives, if any may be implemented. The City should meet with MEPA staff prior to filing the EIR to discuss appropriate methodologies and assumptions for the GHG analysis.

Construction Period

The project must comply with MassDEP's Solid Waste and Air Pollution Control regulations, pursuant to M.G.L. c.40, §54. The EIR should describe how the City will incorporate recycling initiatives into proposed construction and demolition activities. The EIR should also describe potential project site construction period impacts (including but not limited to traffic management, materials management, parking, air quality and noise impacts, and other items as they related to the construction period) and analyze and outline feasible measures that can be implemented to eliminate, minimize or mitigate these impacts. The EIR should present a conceptual plan with a list of BMPs that could be selected by project contractors to reduce construction related environmental impacts focusing on erosion and sedimentation controls, staging areas, traffic management, and air/noise pollution. Erosion and sedimentation controls should be implemented and maintained in accordance with the Stormwater Pollution Prevention Plan prepared in accordance with the NPDES CGP requirements. Specifically, the EIR should identify truck traffic routes associated with construction traffic, staging areas, and how safe and effective transit, pedestrian, bicycle and vehicle access within and through the project area and neighborhood will be maintained throughout the construction. The EIR should discuss how construction of the facility will impact existing maritime operations at the port including the Salem Ferry.

The City is advised that, if sources of oil and/or hazardous material (OHM) are identified during the implementation of the project, notification pursuant to the Massachusetts Contingency Plan (MCP) (310 CMR 40.0000) must be made to MassDEP, if necessary. The EIR should discuss measures the City will implement to ensure compliance with the MCP. I strongly encourage the City to commit to hiring contractors that have installed emission control devices on all off-road vehicles, or the use of construction equipment that meet Tier 3 or Tier 4 emissions standards for non-road construction equipment in an effort to reduce emissions of VOCs, carbon monoxide (CO) and particulate matter (PM) from diesel-powered equipment. Off-road vehicles are required to use ultra-low sulfur diesel fuel (ULSD). I also encourage the City to implement the use of recycled materials in pavement or porous pavement for the pedestrian walkway.

Mitigation

The EIR should include a separate chapter summarizing proposed mitigation measures. This chapter should also include draft Section 61 Findings for each State Agency that will issue permits for the project (i.e., MassDEP). The EIR should contain clear commitments to implement mitigation measures, estimate the individual costs of each proposed measure, identify the parties responsible for implementation, and contain a schedule for implementation.

In order to ensure that all GHG emissions reduction measures adopted by the City in the Preferred Alternative are actually constructed or performed by the City, I require proponents to provide a self-certification to the MEPA Office indicating that all of the required mitigation measures, or their equivalent, have been completed. Specifically, I will require, as a condition of a Certificate approving an FEIR (or Supplemental FEIR if necessary), that following completion of construction the City provide a certification to the MEPA Office signed by an appropriate professional (e.g., engineer, architect, transportation planner, general contractor) indicating that the all of the mitigation measures proposed in the FEIR have been incorporated into the project. Alternatively, the City may certify that equivalent emissions reduction measures that collectively are designed to reduce GHG emissions by the same percentage as the measures outlined in the FEIR, based on the same modeling assumptions, have been adopted. The certification should be supported by plans that clearly illustrate where GHG mitigation measures have been incorporated. For those measures that are operational in nature (i.e. TDM) the City should provide an updated plan identifying the measures, the schedule for implementation and how progress towards achieving the measures will be obtained. The commitment to provide this self-certification in the manner outlined above should be incorporated into the draft Section 61 Findings included in the EIR.

Responses to Comments/Circulation

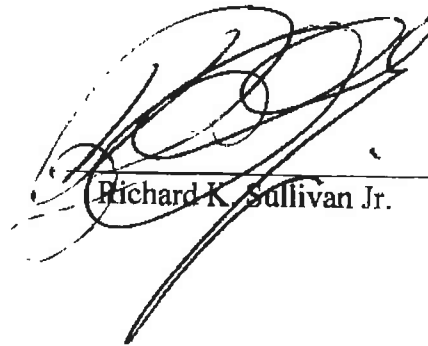
The EIR should contain a copy of this Certificate and a copy of each comment letter received. In order to ensure that the issues raised by commenters are addressed, the EIR should include direct responses to comments to the extent that they are within MEPA jurisdiction. This directive is not intended to, and shall not be construed to, enlarge the scope of the EIR beyond what has been expressly identified in this certificate.

The City should circulate the EIR to those parties who commented on the Salem Port Expansion or Salem Harbor Station Redevelopment ENF and/or the NPC, the Salem Harbor Station Redevelopment DEIR or FEIR, State Agencies from which the City or Footprint Power, LLC will seek permits or approvals, and to any parties specified in section 11.16 of the MEPA regulations. A copy of the EIR should be made available for review at the Salem Public Library. To save paper and other resources, the City may circulate copies of the EIR to commenters other than State Agencies in CD-ROM format, although the City should make available a reasonable number of hard copies, to accommodate those without convenient access to a computer to be distributed upon request on a first come, first served basis. The City should send a letter accompanying the CD-ROM indicating that hard copies are available upon request, noting relevant comment deadlines, and appropriate addresses for submission of comments. I recommend that the EIR be posted in an online format on a City-related website.

Furthermore, while the proposed changes to the Salem Port Expansion project do not exceed MEPA thresholds identified in the Executive Office of Energy and Environmental Affairs Environmental Justice (EJ) Policy, the Salem Harbor Station Redevelopment project did require enhanced public participation in compliance with the EJ Policy. Therefore, we recommend that the City undertake some form of enhanced public participation consistent with the EJ Policy when submitting the EIR.

September 6, 2013

Date



Richard K. Sullivan Jr.

Comments received:

08/01/2013	Jim Treadwell
08/06/2013	Jim Treadwell (2 nd letter)
08/08/2013	Massachusetts Office of Coastal Zone Management
08/09/2013	Wallace and Clare Ritchie
08/09/2013	Sonja and Dominic Cucinotti
08/10/2013	Joseph LaVoie (form letter)
08/10/2013	Michael Nolan (form letter)
08/10/2013	Linda Haley
08/10/2014	Meredith Browne, Dolores Jordan, Joni B. Lawrence, Ronald Lawrence, Susan Silva, Kenmore Commoss (form letter)
08/10/2013	Sandra Northrup, Sharon K. Smith, Clare Giuffrida, Bernice Turner, Charles Ouimet, Heidi Milman, George L. Smith, Stephen H., Kelli Ketcham, Charles Hildebrand, Paul Hoft, Wesley Hildebrand, John Strucker, Brenda Shanley, Christiana Kroondyk, Dave Kroondyk, Martin Mehrling, Frank Kulik, Kathryn Harper (form letter)
08/11/2013	Brian Krouzek
08/12/2013	Susan Kirby
08/12/2013	Theodora Sobin
08/12/2013	Jim Treadwell (3 rd letter)
08/13/2013	Diane Knight
08/13/2013	William E. Dearstynce
08/14/2013	Sophie Robinson
08/14/2013	Kara Mc Laughlin, the House of the Seven Gables
08/14/2013	Rinus Oosthoek, Executive Director, Salem Chamber of Commerce
08/14/2013	Kate Fox, Executive Director, Destination Salem
08/14/2013	Jerrie Hildebrand, Owner, Kishgraphics
08/14/2013	George H. Carey, Owner, Finz Seafood Restaurant
08/14/2013	Thomas Mac Donald
08/14/2013	Massachusetts Department of Environmental Protection – NERO
08/14/2013	Patricia H. Zaido, Executive Director, the Salem Partnership

08/14/2013 Massachusetts Division of Marine Fisheries
08/14/2013 Clare Ritchie
08/14/2013 Deborah Prentice
08/15/2013 George Economides
08/15/2013 Cynthia Carr
08/15/2013 Robert Talbot
08/15/2013 Stephen Weber, the House of the Seven Gables
08/15/2013 Richard and Diane Pabich, the Salem Inn
08/15/2013 Helen M. Medler, President, Hawthorne Tours
08/15/2013 Charles Hildebrand
08/15/2013 Kimberly Driscoll, Mayor, City of Salem
08/15/2013 Jeffrey Brooks
08/19/2013 Joshua Basseches, Deputy Director and COO, Peabody Essex Museum
08/19/2013 David H. Butler, President, Salem Trolley
08/20/2013 Fred Atkins
08/20/2013 Historic Derby Street Neighborhood Association Board of Directors
08/20/2013 Stanley P. Cahill, Executive Vice President, Salem State University
08/21/2013 City of Salem Department of Planning and Community Development
08/21/2013 The Salem Partnership
08/21/2013 Jeffrey Brooks (2nd letter)
08/22/2013 Russell T. Vickers
08/23/2013 Karen Scalia, Owner, Salem Food Tours and North Shore Food Tours
08/23/2013 Annie C. Harris, CEO, Essex National Heritage Commission
08/23/2013 North Shore Alliance for Economic Development
08/26/2013 Emily Udy, Historic Salem, Inc.
08/27/2013 Deborah Prentice (2nd letter)
08/27/2013 Linda Haley (2nd letter)
08/27/2013 Ana Nuncio, the House of the Seven Gables
08/27/2013 WalkBoston
08/27/2013 Karen Barter, the House of the Seven Gables
08/27/2013 United States Congressman John F. Tierney, Massachusetts 6th District
08/27/2013 Joni B. Lawrence
08/27/2013 Heidi Milman
08/27/2013 Doreen Powers
08/27/2013 Janet Crane
08/27/2013 Robert T. Leavens (2 letters)
08/27/2013 Lisa Joubert
08/27/2013 Jim Treadwell (4th letter)
08/28/2013 Captain Jeff Havlicek
09/02/2013 Jim Treadwell (5th letter)

RKS/HSJ/hsj



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July 11, 2008

CERTIFICATE OF THE SECRETARY OF ENERGY AND ENVIRONMENTAL AFFAIRS
ON THE
ENVIRONMENTAL NOTIFICATION FORM

PROJECT NAME	: Salem Port Expansion
PROJECT MUNICIPALITY	: Salem
PROJECT WATERSHED	: South River
EEA NUMBER	: 14234
PROJECT PROPONENT	: City of Salem
DATE NOTICED IN MONITOR	: April 23, 2008

Pursuant to the Massachusetts Environmental Policy Act (G. L. c. 30, ss. 61-62H) and Section 11.03 of the MEPA regulations (301 CMR 11.00), I hereby determine that this project does not require the preparation of an Environmental Impact Report (EIR).

As described in the Environmental Notification Form (ENF) and supplemental information dated June 10, 2008, the project consists of the redevelopment of 10 Blaney Street into a multi-use port facility by the City of Salem. It is anticipated that this multi-use water transportation facility will serve a variety of vessels, including the existing Salem Ferry *Nathaniel Bowditch*, excursion boats, water taxis, a Liquefied Natural Gas (LNG) offshore supply boat, commercial fishing boats, visiting ships, and small cruise ships. Upland improvements to the site include traffic changes on Derby Street (a local roadway), parking, a terminal building, landscaping and pedestrian amenities including a continuous harborwalk, and a fishing/viewing pier. Waterside improvements include the construction of a fixed pile-supported pier and a floating dock/barge system.

Portions of the 10.14-acre project site are located within a Designated Port Area (DPA). Dredging will be required to achieve water depths necessary for the proposed uses along with impacts to wetland resource areas associated with the construction of the harborwalk, piers, floats, and terminal building. The Department of Conservation and Recreation (DCR) has indicated that proposed activities that will take place seaward of the Mean Low Water line are located within the boundaries of the South Essex Ocean Sanctuary and are therefore regulated in accordance with the Ocean Sanctuaries Act (MGL c.132A §§12B-16E and 302 CMR 5.00).

MEPA Jurisdiction and Required Permits

The project is undergoing MEPA review pursuant to Section 11.03 (3)(b)(3) because it requires a State Agency action and will result in the dredging of 10,000 or more cubic yards of material. The project will also alter coastal bank (Section 11.03(3)(b)(1)(a)) and ½ or more acres of wetland resource areas (Section 11.03(3)(b)(1)(f)), and expand pile supported structures by more than 2,000 square feet (sf) in base area (Section 11.03(3)(b)(6)). The project will require a Chapter 91 License and a Section 401 Water Quality Certificate (WQC) from the Massachusetts Department of Environmental Protection (MassDEP). The project may be subject to federal consistency review by the Office of Coastal Zone Management (CZM). A Section 10/Section 404 Permit from the U.S. Army Corps of Engineers (ACOE) will be required. The project must obtain an Order of Conditions from the Salem Conservation Commission, or in the case of an appeal, a Superseding Order of Conditions from MassDEP. Finally, approval under the National Pollutant Discharge Elimination System (NPDES) Construction General Permit will be needed from the United States Environmental Protection Agency.

The project will be receiving funding from the Commonwealth of Massachusetts through the Seaport Bond Bill. Therefore, MEPA jurisdiction for this project is broad and extends to all aspects of the project that are likely, directly or indirectly, to cause Damage to the Environment.

Review of the ENF

Project Alternatives

The ENF and supplemental materials contained an analysis of several project alternatives, including different configurations of the floating dock/barge system and ship berths. The various alternative layouts were guided by the need to provide safe, year-round berthing for commercial lobster vessels based on wave energy reflection patterns in the harbor. Berthing locations for the excursion, cruise and offshore supply vessels, as well as the proposed location of the ferry terminal building, will remain susceptible to wave action from northeast storms and wave reflection. The preferred alternative can accommodate the stated goals of the project related to large-vessel berthing locations, as well as provide 17 protected year-round commercial lobster slips (out of a possible total of 30 commercial fishing berths), while reducing the original amount of proposed intertidal dredging by 2,590 sf to 41,600 sf in total.

Wetlands and Waterways

Proposed dredging will alter approximately 1.01 acres of Coastal Beach and 6.69 acres of Land Under Ocean. Dredging associated with the preferred alternative will impact approximately 41,600sf of the intertidal zone. Additional project impacts include alteration of 1.85 acres of Land Subject to Coastal Storm Flowage (LSCF) and alteration of 850 linear feet of Coastal Bank. Dredging of the intertidal area is proposed as a means to create a protected embayment to provide year-round berthing for lobster/commercial vessels.

The Office of Coastal Zone Management (CZM) has noted that the preferred alternative includes modifications to the existing riprap slope and construction of a new seawall to support the terminal building. To ensure that these modifications do not exacerbate existing wave energy issues, the proponent should demonstrate during the permitting process that the new design will minimize impacts on the adjacent Land Under Water such that the stability of the newly constructed or existing adjacent coastal banks or structures are not adversely affected.

As part of the preferred alternative, the project includes approximately 1,580 sf of intertidal fill to allow the construction of the ferry terminal building on upland instead of as a pile-supported structure. MassDEP has requested that the proponent demonstrate that this area of intertidal fill is a reasonable alternative to supporting the southern corner of the terminal building on piles.

Portions of the proposed dredging areas will be located within the South Essex Ocean Sanctuary. DCR has determined that the project, as proposed, is consistent with DCR's Environmental Policies outlined in the Ocean Sanctuaries regulations, in that the policy at 302 CMR 5.05(1)(g) encourages maritime commerce and development in DPAs that are not otherwise prohibited by the Ocean Sanctuary Act and regulations. I encourage the proponent to provide information during the state permitting processes on how port and vessel activities will be handled so as to maintain water quality and minimize dredging impacts on intertidal areas during construction.

The Flood Hazard Management Program (FHMP), under agreement with the Federal Emergency Management Agency (FEMA), is the state coordinating agency for the National Flood Insurance Program (NFIP). The FHMP has provided comments that include an overview of requirements and documentation for construction within regulated flood zones. It appears that some portions of the project, as described in the ENF, may not be compliant with State Building Code (780 CMR) standards for structures in a velocity flood zone (V zone). The proponent should review the proposed building design and make the changes necessary to comply with State Building Code requirements.

Fisheries Habitat

According to the Division of Marine Fisheries (DMF), Salem Harbor provides spawning and forage habitat for a variety of finfish and invertebrate species, including (*Pseudopleuronectes americanus*), Atlantic cod (*Gadus morhua*) and American lobster (*Homarus americanus*). In particular, this embayment supports seasonal spawning congregations of winter flounder. Additionally, DMF conducted a survey of the project site on June 19, 2008 which identified a seed set of soft shell clams (*Mya arenaria*), adult razor clams

(*Ensis directus*), and blue mussels (*Mytilus edulis*). The project site, including the outer two proposed dredge basins, is within an area that was mapped as eelgrass in the 1995 MassDEP eelgrass map and is listed on the National Oceanic and Atmospheric Administration (NOAA) Nautical Chart as an area that was historically vegetated and may still support eelgrass.

DMF has recommended several mitigation measures to avoid or minimize impacts to marine resources. These measures include no in-water, silt-producing work between February 1 and June 30 for the protection of winter flounder spawning and juvenile development; a survey of eelgrass in the area; consideration of additional reductions in on-site impervious area; and exploration of additional mitigation alternatives in collaboration with resource agencies during the permitting process.

Archaeological Resources

The Massachusetts Board of Underwater Archaeological Resources (BUAR) conducted a preliminary review of its files and secondary literature sources to identify any known and potential submerged cultural resources in the proposed project area. While no record of any underwater archaeological resources was found within the proposed project boundaries, research indicates at least 13 shipwrecks in the Salem area for which locations are vague. Therefore, the BUAR cannot conclude that there are no underwater archaeological resources located in the proposed project area. As recommended by the BUAR, the proponent should consider conducting a marine archaeological reconnaissance survey for the areas in which improvement dredging is proposed. This survey should be developed and undertaken by a qualified marine archaeologist in consultation with both the BUAR and the Massachusetts Historical Commission, and completed prior to any dredging.

Stormwater

The project must comply with the new MassDEP stormwater management regulations (SMR) that went into effect in January 2008. The project includes the construction of two new stormwater outfalls that will discharge to a critical area. MassDEP has identified several deficiencies with the stormwater management design presented in the ENF, which should be modified prior to submission of the Notice of Intent and application for the 401 WQC. These issues include compliance with Standard 4 of the SMR for total suspended solids (TSS) removal and appropriate selection and sizing of Stormceptor™ units. I encourage the proponent to continue to investigate ways to incorporate low-impact design (LID) Best Management Practices (BMPs) into the site design. Additionally, given the constricted nature of the site and proximity to wetland resource areas, the proponent should prepare a source control and pollution prevention plan to address snow removal and street sweeping practices and to prevent illicit discharges to the storm drains on-site.

Construction Impacts

The proponent should take measures to reduce potential demolition and construction period impacts (including but not limited to noise, vibration, dust, and traffic flow disruptions). The proponent must comply with MassDEP's Solid Waste and Air Quality Control regulations during construction. I encourage the proponent to incorporate construction waste recycling activities as a sustainable measure for the project. The proponent should consult with MassDEP for appropriate standards and guidelines for managing construction waste.

July 11, 2008

I encourage the proponent to mitigate the construction period impacts of diesel emissions to the maximum extent feasible. This mitigation may be achieved through participation in the MassDEP Diesel Retrofit Program. The proponent should work with MassDEP to implement construction-period diesel emission mitigation, which could include the installation of after-engine emission controls such as oxidation catalysts or diesel particulate filters. I remind the proponent that off-road equipment engines must use low sulfur diesel (LSD) fuel as of July 2007, as required by a 2004 regulation issued by the U.S. EPA. I encourage the proponent to further mitigate construction period air quality impacts through the use of ultra low sulfur diesel (ULSD) fuel in off-road engines, which contains even lower sulfur content than LSD.

Conclusion

Following a review of the ENF and the comments entered into the record, I find that the impacts of the project within MEPA jurisdiction do not warrant the preparation of an EIR. I conclude that no further MEPA review is required. The proponent may resolve any remaining issues during the state and local permitting processes.

July 11, 2008

Date


Ian A. Bowles

Comments received:

06-07-00	John D. Keenan, State Representative, 7 th Essex District
06-07-00	Hawthorne Cove Marina
06-12-00	Burnham Associates, Inc.
06-19-00	Massachusetts Office of Coastal Zone Management
06-30-00	Salem Sounds Coastwatch
07-01-00	Department of Conservation and Recreation
07-01-00	Massachusetts Department of Environmental Protection – NERO
07-01-00	Board of Underwater Archaeological Resources
07-01-00	Division of Marine Fisheries

LAB:lfbj



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May 17, 2013

CERTIFICATE OF THE SECRETARY OF ENERGY AND ENVIRONMENTAL AFFAIRS
ON THE
FINAL ENVIRONMENTAL IMPACT REPORT

PROJECT NAME	: Salem Harbor Station Redevelopment
PROJECT MUNICIPALITY	: Salem
PROJECT WATERSHED	: North Coastal
EEA NUMBER	: 14937
PROJECT PROPONENT	: Footprint Power, LLC
DATE NOTICED IN MONITOR	: April 10, 2013

Pursuant to the Massachusetts Environmental Policy Act (G. L. c. 30, ss. 61-62I) and Section 11.08 of the MEPA regulations (301 CMR 11.00), I have reviewed the Final Environmental Impact Report (FEIR) and hereby determine that it **adequately and properly complies** with MEPA and its implementing regulations.

Project Description

As described in the FEIR, the project consists of demolition of an existing coal-fired power plant, remediation of the site, and construction of a new 630 megawatt (MW) nominal electrical generating facility and associated infrastructure and equipment on a 65-acre site in Salem. The facility will be fired by natural gas and include "quick-start" capability (ability to generate 300 MW within 30 minutes of start-up and 630 MW within 60 minutes). Use of duct-firing under summer conditions, will increase capacity by 62 MW for a total of 692 MW. The project will have the capacity to generate 5.1 million megawatt hours (MWh) annually. The facility will be constructed on approximately 20 acres of the northwestern portion of site. The facility stacks will be contained in a common collar with a height of 230 feet.

The project includes construction of several buildings comprising approximately 115,000 square feet (sf) with heights ranging from 25 feet to 125 feet. The 8,188-sf Administration Building will be integrated into a landscaped berm along the western edge of the property. The 10,282-sf Operations Building will be incorporated into the Steam Turbine Generator (STG) Building and will include an office, maintenance shop and locker rooms. The existing guard house, located adjacent to the access drive, will be retained as a guard house. In addition, an existing building located along the northern access drive will be repurposed as a visitor's center. A continuous landscaped berm is incorporated into the project design. On the western and southern sides of the facility it will rise to 25 feet and will provide a landscaped buffer and acoustic barrier between the street and the facility. On the eastern edge, the berm will have a height of 15 feet and will provide a visual buffer from the ocean side.

The Proponent will operate the existing power plant until its scheduled shut down on June 1, 2014. Construction is proposed to begin in June 2014 and will extend for approximately 23 months. Demolition will include removal of all above-ground features of the existing facility, including power plant buildings and equipment, stacks and precipitators, coal handling equipment, storage tanks and associated appurtenances such as spill prevention berms; and intake screen and pumphouse structures. The facility will include two quick-start natural Gas Turbine Generators (GTG); two STGs; two heat recovery steam generators (HRSG), including pollution control equipment; administrative/warehouse/shops space; a service bay; an auxiliary bay; a water treatment facility; step-up transformers; an ammonia storage tank; two water tanks; and, air cooled condensers (ACC). The facility is not dual-fueled and, therefore, does not have the potential to use significant amounts of diesel fuel. It will include a diesel-fueled back-up generator.

The design includes a 34,000 gallon above-ground ammonia (NH_3) storage tank to the east of the building structures and shielded from street view. The single-wall construction steel tank will contain 19 percent aqueous (NH_3) used for pollution control processes. The tank, ammonia transfer pumps, valves and piping, will be located within a concrete containment structure (dike). The diked area will be located within another enclosure.

The FEIR identifies changes in the project design and layout, including: a 4,095-sf increase to the STG building to house operations previously included in the Administration Building; addition of landscaped areas and paths; elimination of a row of ACCs; addition of acoustic walls near the transformers; addition of a demineralized water pump and relocation of associated trailer parking area; repurposing of an existing building into a visitor's center; elimination of new parking area and access drive; retention of existing guard house; relocation of the facility switchyard to the south of the National Grid (NGRID) switchyard; relocation of gas line connection from south side of the facility to the east side; and, addition of a hydrogen trailer area.

The facility requires an interconnection with the NGRID switchyard located in the northeast corner of the site. The Proponent will construct a new facility switchyard, a 115 KV underground cable connection from each of the step-up transformers to the new facility switchyard, and overhead 115 kV transmission lines between the facility switchyard and the NGRID switchyard on three 95-foot high steel poles or, alternatively, subsurface feeder connections.

The FEIR indicates that natural gas will be delivered to the site from the HubLine pipeline in Salem Sound. The pipeline will be owned and operated by Spectra Energy. Spectra will conduct the federal, state and local approval and permitting process for the pipeline. A 16-inch pipeline will enter the

site in the vicinity of Derby Street and Webb Street and extend to an on-site metering and regulator station in the southeastern corner of the facility, east of GTG #2. The Proponent will install a pipeline from the meter station to the GTGs, HRSG duct burners, and the auxiliary steam boiler.

Vehicular access to the site will be provided via Fort Avenue. The existing access road will be retained for primary access. Secondary access will be provided from the northwest corner of the site. New on-site access roads will be constructed to and around the new facility. This will include more than 2,500 linear feet (lf) of paved roads with widths of 20 feet to 30 feet. Turning radii will be designed to facilitate access by trucks, equipment and emergency vehicles.

The project does not include redevelopment of the remaining 45 acres of the site. Information provided in previous MEPA filings and the FEIR is limited to construction of the new facility and demolition and remediation necessary to support it. The Proponent indicates that redevelopment will be guided through consultation with the City of Salem and stakeholders. Redevelopment of the site will be addressed in a subsequent Notice of Project Change (NPC).

Project Site

The 65-acre site is located at 24 Fort Avenue in northeast Salem. It is bordered by Fort Avenue and the South Essex Sewerage District (SESD) wastewater treatment plant to the north, Salem Harbor and Cat Cove to the east and northeast, the Blaney Street Ferry terminal and several mixed-use buildings to the southeast, and by Derby Street and Fort Avenue to the west. Residential neighborhoods and the Bentley Elementary School are located west of the site across Fort Avenue and Derby Street. The majority of the site is zoned Industrial and within the Salem Harbor Designated Port Area (DPA). A small area on the northeastern edge of the site is not included in the DPA. Another small area (less than two acres) on the northwest corner of the site is zoned Residential Two-Family.

The site has been used for power generation since 1951. Since 2005, the Salem Harbor power plant was owned and operated by a subsidiary of Dominion Resources, Inc. Units 1 and 2 were removed from service on December 31, 2011. Units 3 and 4 are scheduled to be shut down on June 1, 2014. Major facilities associated with power generation operations include a power house building (including Units 1 through 4, fan house, boiler room and turbine room), an aboveground fuel oil tank farm and associated piping transfer system, a coal storage pile and coal moving equipment, a marine terminal, and a wastewater treatment system. Three small warehouse buildings are located north of the power plant building. West of the power plant building, the site includes a 10-acre easement for a 115 kV switchyard, substation and power lines. The switchyard and power lines are owned by NGRID. Primary access to the site is provided via a driveway from Fort Avenue just north of the Fort Avenue/Memorial Drive intersection.

The facility uses once-through cooling and is permitted to withdraw approximately 119,000,000 gallons per day (gpd) of water from Salem Harbor. Treated effluent is discharged to Salem Harbor, as authorized by the existing National Pollutant Discharge Elimination System (NPDES) Discharge Permit. An additional 100,000 gpd of water is provided from the municipal system for process and potable water needs. Sanitary waste and laboratory drains discharge to the SESD wastewater treatment facility.

The site includes approximately 45 acres of filled tidelands. Wetland resources on-site (or directly adjacent to it) include: DPA, Land Subject to Coastal Storm Flowage (LSCSF), Coastal Bank, and Rocky Intertidal Shores. A portion of the site is located in the City of Salem Flood Hazard Overlay District. The perimeter of the site (primarily the jetty area) is designated as a high hazard area (V-zone) which is subject to wave action.

The site does not contain any historic resources but several Historic Districts and National Historic Landmarks are located within the vicinity, including the Derby Waterfront Historic District, the Salem Willows Historic District, the Winter Island Historic District, the Fort Pickering Historic Landmark, the Fort Lee Historic Landmark, and the House of Seven Gables Historic Landmark.

Jurisdiction and Permitting

The project is undergoing MEPA review and is subject to preparation of a Mandatory EIR pursuant to 301 CMR 11.03 (7)(a)(1) because it requires State Agency Actions and entails the construction of a new electric generating facility with a Capacity of 100 or more MW. The project requires an Approval to Construct from the Energy Facilities Siting Board (EFSB). It requires a Major Comprehensive Air Plan Approval and Prevention of Significant Deterioration (PSD) Review, an Air Operating Permit, a Chapter 91 (c.91) License, an Underground Injection Control Permit and an Industrial Sewer Use Permit from the Massachusetts Department of Environmental Protection (MassDEP). In addition, it may require a Beneficial Use Determination (BUD) from MassDEP. It requires an Aboveground Storage Tank Permit from the Department of Public Safety. This project is subject to review under the May 2010 MEPA Greenhouse Gas Emission Policy and Protocol (GHG Policy). The project may require Federal Consistency Review by Coastal Zone Management (CZM).

The project will require multiple permits and reviews by the City of Salem, including a Special Permit (Essential Use) and Height Variance from the Salem Zoning Board of Appeals and Site Plan Review and a Special Permit (Wetlands and Flood Hazard Overlay District) from the Salem Planning Board. Also, it will require an Order of Conditions from the Salem Conservation Commission (or a Superseding Order of Conditions (SOC) from MassDEP in the event the Order is appealed).

The project requires a NPDES Construction General Permit and a NPDES Multi-Sector General Permit for Stormwater Discharges Associated with Industrial Activity from the U.S. Environmental Protection Agency (EPA). It requires a Notice of Proposed Construction or Alteration to the Federal Aviation Administration (FAA).

The project is not seeking Financial Assistance from the Commonwealth. Therefore, MEPA jurisdiction is limited to the subject matter of required State Agency permits. The numerous permits and approvals required, and the broad scope of the EFSB review, confers broad scope jurisdiction and extends to all aspects of the project that have the potential to cause Damage to the Environment, as defined in the MEPA regulations.

Environmental Impacts

Potential environmental impacts are associated with demolition of the power plant, site remediation, construction, and operation of the new facility. The project will reduce impervious surfaces

by 5.8 acres. It has the potential to emit (PTE) 214.1 tons per year (tpy) of carbon monoxide (CO), 158.6 tpy of nitrogen oxides (NO_x), 39.6 tpy of volatile organic compounds (VOC), 31.5 tpy of sulfur dioxide (SO₂), 109.9 tpy of particulate matter (PM) (including PM₁₀), and 109.6 tpy of PM_{2.5}. It indicates the project has the potential to generate a maximum of 2.5 million tpy of carbon dioxide (CO₂). Actual emissions of CO₂ will be lower. The project includes permanent alteration of 8.5 acres of LSCSF and temporary alteration of 15.5 acres.¹ Compared to the existing facility, the tallest stack will be reduced by 270 feet for a maximum height of 230 feet and the tallest building will be reduced by 50 feet for a maximum height of 125 feet. Generation of average daily vehicle trips (adt) will decrease by approximately 192 adt for a total of 100 adt. The elimination of once-through cooling will decrease average water withdrawal by 119,000,000 gallons per day (gpd). The FEIR notes that the current volume of water discharged from Salem Harbor Station when operating at full capacity is 359,000,000 gpd. Water demand is estimated at 238,500 gpd and is associated primarily with process uses. Sanitary and industrial wastewater generation is estimated at 186,624 gpd and is associated primarily with industrial wastewater.

Measures to avoid, minimize and mitigate potential impacts associated with remediation of the site, construction of the facility, and operation of the facility include: location and design of the facility to minimize potential impacts to residential neighborhoods; state-of-the-art combustion technology, emission controls and reporting equipment to minimize air emissions; noise mitigation including siting of equipment to maximize distance between receptors and noise-producing equipment, enclosing equipment where possible, and use of equipment silencers; elimination of once-through cooling and associated water withdrawal; design and construction of a stormwater management system that incorporates Low Impact Development (LID) techniques; demolition and remediation of site; and, measures to reduce construction period impacts. In addition, the project includes measures to avoid, minimize and mitigate GHG emissions, including fuel choice and technology, installation of a solar photovoltaic (PV) array, and incorporation of energy efficiency measures into the design of the Administration and Operations buildings.

Review of the FEIR

General

The FEIR includes a detailed project description that identifies all major project components (buildings, access roads, equipment, air pollution control and monitoring equipment, water and steam piping systems, tanks, auxiliary equipment, water treatment facilities, etc.) and operating parameters. It includes plans (existing and proposed conditions) for the project site and identifies changes proposed since the filing of the DEIR. It includes an Alternatives Analysis (Section 2.0), Air Quality and Noise analyses and supplemental information (Appendix D and E), a revised GHG Analysis (Section 3.0 and Appendix C), a Subsurface Investigation Report (Appendix L), a Responses to Comments Section (Appendix B) and a Mitigation Section including Draft Section 61 Findings (Section 12.0 and 13.0). It identifies State Agency Actions, including permits and approvals, required for the project and addresses the project's consistency with associated regulatory standards and requirements. It addresses the project's consistency with State environmental and energy policies, including the Global Warming Solutions Act (GWSA) and the Massachusetts Clean Energy and Climate Plan.

¹ This represents an increase of 1.5 acres of permanent impact and reduction of 1.5 acres of temporary impact compared to estimates provided in the DEIR.

The January 25, 2013 Certificate on the DEIR identified three primary issues that warranted additional analysis in the FEIR. These included: identification of environmental impacts associated with a Redevelopment Alternative; amplification of the project's consistency with c.91 and the 2008 Salem Municipal Harbor Plan (MHP); and additional information regarding the natural gas pipeline, potential routes, and associated environmental impacts. The FEIR provides additional information and analysis of each of these issues.

Project Segmentation/Notice of Project Change (NPC)

The MEPA regulations include anti-segmentation provisions to ensure that projects, including any future expansion, are reviewed in their entirety. Proponents cannot evade, defer or curtail MEPA review by segmenting one project into smaller ones that, individually, do not meet or exceed MEPA thresholds. In determining whether work or activities constitute one project, the Secretary must consider whether the work or activities comprise a common plan or independent undertakings, regardless of whether there is more than one proponent, the timing of work and activities, and whether the environmental impacts caused by the work or activities are separable or cumulative.

The DEIR indicated that the pipeline would undergo separate MEPA review and that Spectra Energy would acquire all permits and approvals. The Certificate on the DEIR identified the pipeline as part of a "common plan" and directed the Proponent to either coordinate MEPA review through a joint filing with Spectra or provide additional information in the FEIR, including potential routes and environmental impacts associated with alternative routes. The purpose of this directive was to ensure that the scope and scale of potential impacts associated with the gas pipeline are understood within the context of the power plant review, to identify trade-offs between alternatives, and to identify whether routes would limit alternative site designs or potential land uses that could more effectively avoid, minimize and mitigate environmental impact.

The FEIR describes coordination between the Proponent and Spectra Energy, identifies several potential routes for the pipeline, identifies and describes environmental impacts associated with each, and provides supporting plans. The alternative routes are described in more detail in the Alternatives Analysis Section of this Certificate. The FEIR indicates that Spectra Energy will initiate the permitting and project review process this summer with a request for a pre-filing review to the Federal Energy Regulatory Commission (FERC) followed by submission of a draft resource report that identifies the universe of viable alternatives for a pipeline route. It indicates that, upon conclusion of the pre-filing review process in early 2014, Spectra will apply for FERC Certification and initiate MEPA review.

The information included in the FEIR is provided at a conceptual level of detail and is not intended to substitute for MEPA review of the pipeline project, nor does it represent specific alternatives that will be proposed by Spectra. This information, including actual alternative pipeline routes, will be fully developed in a subsequent MEPA filing which may be filed jointly by the Proponent and Spectra as a NPC or filed as a separate ENF.

Other aspects of the project may warrant additional MEPA review, in the form of an NPC. Impacts associated with redevelopment will vary significantly depending upon proposed uses (i.e.

industrial, commercial, retail, office, residential, etc.). As noted previously, redevelopment of the remaining 45 acres of the site will be identified and analyzed through a subsequent NPC.

In addition, the project construction will include use of a "marshaling" site where major equipment components can be stored and assembled prior to delivery to the project site by barge. This is proposed to reduce impacts on regional and local roadways. The FEIR provides criteria that will be employed to select an appropriate marshaling site; however, a site has not been selected. Criteria include existing deep water industrial facilities, access to intermodal transportation links including highway and rail, adequate laydown areas for material storage and sorting, existing Maritime Security perimeter, and adequate infrastructure including electrical power, water and sewerage. It identifies the Port of New Hampshire, Port of Providence (ProvoPort) or existing private industrial facilities that are either underutilized or shuttered as possibilities. The FEIR asserts that use of an existing industrial site with adequate infrastructure will avoid environmental impacts. To the extent that an underutilized or shuttered facility is employed, it could shift impacts on regional and local roadways to another location. If these impacts are significant and/or require additional State Agency Actions, they may warrant additional MEPA review. The Proponent should consult with the MEPA Office when it has developed a viable list of alternative sites to determine if additional review is warranted.

Alternatives Analysis

The FEIR includes an updated Alternatives Analysis. It carries forward the same alternatives from the DEIR (No-Build Alternative, Off-Site Alternatives, a Redevelopment Alternative, and the Preferred Alternative). As directed in the Scope on the DEIR, it provides additional information on the Redevelopment Alternative consisting of a maximum build-out scenario based on zoning and state regulatory requirements. The purpose of this directive was to provide a comparative baseline for assessment of relative project impacts. In addition, it provides an assessment of environmental impacts associated with the proposed extension of a gas pipeline to the site to support the Preferred Alternative.

The Alternatives Analysis is supported by an overview of project goals and siting criteria including size, proximity to electric load, availability of natural gas, availability of interconnection, compatibility with local zoning and uses, redevelopment opportunities, and ability to minimize environmental impacts. It emphasizes that the Proponent's business model is based on repowering and redevelopment of existing shuttered facilities. In addition to specific site characteristics, it indicates that the Salem Harbor Station site was selected based on the availability of revenue from short-term operations, existence of a professional staff to manage decommissioning and redevelopment, and community support for continued energy generation and redevelopment.

The maximum build-out scenario is guided by the Site Assessment Study on Potential Land Use Options at the Salem Harbor Power Station Site (SAS) (January 2012) and based on zoning and environmental constraints. Impacts are based on maximum building coverage of 45% or 28.35 acres represented by a 923,842 sf building footprint with a maximum height of 45 feet (or 2,771,526 gross sf) and the existing structures associated with the NGRID substation easement. It indicates that the Salem Zoning Ordinance would require 3,032 parking spaces for a 2,771,526-sf industrial building with 500 employees and 10 company vehicles. New impervious surfaces are estimated at approximately 50 acres consisting of 923,842 sf of building coverage, 909,600 sf of parking, and 350,000 sf of paved roads and walkways. Traffic Generation is estimated at 19,400 adt based on Institute of Transportation Engineers

(ITE) land use trip rates. Wastewater and water use are estimated at 10,000 gpd and 11,000 gpd, respectively. Wetland impacts would likely be similar to those presented by the Preferred Alternative, consisting primarily of impacts to LSCSF, unless the redevelopment included improvements to, or addition of, marine infrastructure that required in-water work (piers, wharves, dredging, seawall repair).

Compared to the Preferred Alternative, redevelopment would likely have higher amounts of impervious surfaces (45 acres maximum) and trip generation. Wastewater and water demand would be lower. In addition, it would not include air emissions of level of GHG emissions associated with the power plant, although it would include emissions associated with building energy use and traffic generation. The FEIR identifies constraints associated with development of this alternative including economic infeasibility, infrastructure constraints, and lack of sufficient marine industrial users. In particular, roadway infrastructure would be a limiting factor on any proposed redevelopment scenario as the infrastructure is constrained. Any significant increase in traffic generation would require capacity improvements. It emphasizes that the primary reason the Redevelopment Scenario was not selected is because it is not consistent with the Proponent's goals and objectives for the site.

The FEIR asserts that a major public benefit of the project is to meet energy demands and improve reliability within the Northeastern Massachusetts/Boston (NEMA) load zone, and provide quick-start capability that will complement intermittent wind energy resources. It includes additional information regarding energy demand within the NEMA load zone, including the ISO New England Forward Capacity Auction (FCA) Results Filing (Appendix F) and the Department of Public Utilities (DPU) Order 12-77, dated March 15, 2013 (Appendix G). The FCA indicates that NEMA/Boston would not meet its Local Sourcing Requirement without the new capacity proposed by Footprint (the project). DPU Order 12-77 was required by legislation and assesses the need for additional capacity in the region and the advisability of issuing long-term contracts. The Order agrees with conclusions of the FCA and indicates that "The results of FCA #7 show that, absent Footprint, there is a need in NEMA/Boston for additional capacity resources beginning in the 2016/17 capacity year. Thus, based on the FCA #7 results and the latest market information, we find there is a need for additional capacity sources in NEMA/Boston by the 2016/17 capacity year...". This document also identifies measures that could be employed by ISO-NE to ensure reliability in the event that capacity associated with Footprint is not available.

Comments on the FEIR from State Agencies do not identify issues that warrant analysis through additional MEPA review; however, they do identify aspects that must be developed in more detail to during project permitting. Comments from the City of Salem support the proposed project while acknowledging both the significant benefits and impacts associated with it. Comments from Mayor Kimberly Driscoll identify issues that are of particular importance to the City, including redevelopment of the remainder of the site and support for water-dependent industries and management of construction period impacts. Comments from CLF request additional analysis of several issues, including the project's consistency with the Clean Energy and Climate Plan and a more detailed Redevelopment Alternative that explores feasible development activities, including measures to avoid, minimize and mitigate associated environmental impacts.

MEPA review and assessment of alternatives is required within the context of State policies and guidelines, regulatory requirements and standards and the Proponent's project purpose. It is designed to ensure that the State Agencies and the public, including municipalities, understand the environmental

impacts associated with the proposed project and to ensure that alternatives that could avoid, minimize and mitigate these are analyzed. The Redevelopment Alternative was provided for comparative purposes to understand the type of impacts associated with it and the maximum envelope of those impacts. The Proponent could develop and propose a Redevelopment Alternative that would minimize impacts beyond those identified in the FEIR; however, the purpose of this project is not strictly economic development of the site but, rather, remediation and re-development of a portion of the site as a power plant. Given the stated project purpose, I find that additional analysis of a Redevelopment Alternative in the form of a Supplemental FEIR is not warranted.

Pipeline Route Alternatives

The FEIR presents a conceptual level of information regarding four pipeline routes (marine and on-shore), including identification of existing conditions and environmental resources. These routes are summarized below. They do not represent specific routes proposed by Spectra but, rather, are provided for illustrative purposes. Options 1, 2 and 3 provide a connection to the existing pipeline at or near the juncture of the Algonquin Hubline and Maritimes and Northeast Pipeline (Figure 2-1). This location is identified as an area where the pipeline has the least amount of cover and the water depth is minimal. Options 2, 3 and 4 are located within the South Essex Ocean Sanctuary and, therefore, must be developed consistent with the Ocean Sanctuaries Act (302 CMR 5.00). The FEIR indicates that all of the routes are consistent with, and can be accommodated by, the design and layout of the facility, as currently proposed.

Option 1 – The On-Shore Only Pipeline Alternative consists of a 2.36-mile (12,500 linear feet) (lf) pipeline extending from the Maritimes pipeline to landfall in the vicinity of the Kernwood Country Club. It extends along municipal and state roadways to the project site. This alternative avoids all impacts to coastal resources. It includes significant construction-related impacts (e.g., noise, traffic, dust) and will impact recreational/open space uses (e.g. golf course), residential uses, and business uses.

Option 2 – The Marine and On-Shore Alternative with Shortest Distance to Landfall begins at the existing pipeline, extends to the south-southwest approximately 1,100 lf to the nearest landfall at the LNG Terminal and then extends approximately 800 lf across the NGRID LNG Terminal site. It extends approximately 4,300 lf through local roadways (East Collins Street, Webb Street, and Derby Street) to the Site. It crosses 520 lf of Shellfish Suitability Area (SSA) for blue mussel. This route is partially located in the South Essex Ocean Sanctuary. It does not impact tidal flats, marshes or bog. This alternative could impact LNG Terminal operations and would require approval by the property owner. A portion of the roadway route contains or is adjacent to areas and points listed on the National Register of Historic Places.

Option 3 – The Marine and On-Shore Alternative with Shortest Distance of Landfall to the Site extends from the existing pipeline to the south-southeast approximately 790 lf and then to the south approximately 3,080 lf where it reaches landfall at the southeast corner of Collins Cove. The pipeline would then extend approximately 2,300 lf over municipal roadways (Szetela Lane and Webb Street) in residential areas to the Site. The marine portion of the route is within the South Essex Ocean Sanctuary, runs close to a 10-acre area of seagrass, extends 2,100 lf through

tidal flats and terminates in an area that may constitute beach/dune. The pipeline travels through SSA for blue mussel, soft-shelled clam, European oyster and quahog.

Option 4 – The Marine-Only Pipeline Connection to the Site requires a connection to the HubLine where ocean depth is approximately 10-15 feet and would require approximately 2 to 3 miles of new pipeline. The route would likely require deeper excavation than the other routes. The FEIR identifies this alternative as prohibitively expensive; however, construction costs are not identified.

The intensity of the impacts on land and coastal resources will vary depending upon construction methods. Potential impacts include alteration of coastal resources (wetlands, shellfish beds, eel grass and water quality) and secondary impacts from sedimentation and turbidity and traffic impacts for in-roadway work. The FEIR includes a general discussion of construction techniques, including cut and cover/trenching or horizontal directional drilling (HDD).

The information provided in the FEIR adequately identifies potential environmental impacts associated with various pipeline routes for the purpose of this review. It demonstrates that the facility design does not preclude alternatives that would avoid, minimize and mitigate impacts and identifies impacts and considerations that must be balanced as alternatives are developed by Spectra. Comments from the City of Salem and DMF identify Option 2, or some variation of this alternative, as the Preferred Alternative and HDD as the preferred construction method. Comments from MassDEP and CZM note that HDD is associated with significantly fewer impacts to marine resources (i.e. eelgrass, shellfish habitat, tidal flats, and cultural resources) and strongly recommend that HDD be used as a construction technique.

Greenhouse Gas Emissions

The GHG analysis addresses the project's consistency with State and regional GHG policies and goals, identifies GHG emissions associated with power generation, and provides a GHG analysis that is generally consistent with the GHG Policy and Protocol. It identifies emissions associated with the generation of electricity, emissions associated with other on-site combustion sources (auxiliary boiler, emergency diesel generator, and emergency diesel fire pump), and mobile source emissions. The FEIR identifies project design and mitigation measures to avoid, minimize and mitigate potential increases to project-related GHG emissions. The project is subject to Best Available Control Technologies (BACT) for GHGs because it is considered a major source of GHGs under the Prevention of Significant Deterioration (PSD) program. The FEIR includes a BACT analysis for GHG emissions.

The FEIR addresses comments on the GHG analysis included in the DEIR, including comments from the Department of Energy Resources (DOER) regarding use of average emissions rates from the ISO-NE Marginal Emissions Report 2010 and comments from others regarding site design to address sea level rise and storm surge. Additions to the FEIR include analysis of energy use associated with the Operations Building and analysis of emissions offsets associated with incorporation of a solar PV system into the project design.

The Massachusetts Clean Energy and Climate Plan for 2020 identifies the Commonwealth's plan to reduce GHG emissions 25% below 1990 levels by 2020. The Plan identifies a potential 1.2 million ton reduction in GHG emissions by 2020 associated with more stringent power plant regulations. It assumes the shut-down of Salem Harbor Station and Somerset Power Station and displacement of this

power generation by natural gas-fired plants. The Plan also identifies the role of the Regional Greenhouse Gas Initiative (RGGI) in meeting state goals. RGGI establishes a regional emissions cap, providing for a 10 percent reduction in CO₂ emissions across the 10-state region by 2018. RGGI does not identify any specific limit on emissions deriving from the power plants in a particular state. The Plan acknowledges that implementation of RGGI in concert with State policies for electrical energy efficiency and renewable electricity will result in significant CO₂ reductions.

As noted above, both the introduction of more stringent regulations for power plants and implementation of RGGI are expected to result in significant reductions of GHG emissions through displacement of energy from older, less-efficient plants with energy produced from cleaner burning fuels and higher efficiency combustion technologies, as well as renewables. The DEIR included an analysis of the impact of the project on regional GHG emissions (Appendix C) which estimates reductions in annual regional GHG emissions reductions as 457,626 tpy of CO₂.

Facility emissions are limited primarily by the choice of fuel (natural gas), efficiency of the power generating equipment and system operations (efficient combined cycle gas turbines), and cooling process (ACCs). Advanced combustion turbine-combined cycle technology represents the most efficient commercially available technology for producing electric power from fossil fuels. Projection of GHG emissions associated with electricity generation is based on the same assumptions as those for calculating maximum potential annual air emissions for MassDEP permitting purposes. These assumptions include operating characteristics (both turbines at 100% load for 8,040 hours per year with maximum supplemental duct firing and inlet air cooling for 720 hours per year), fuel source and technology. Based on this assessment, electricity generation has the potential to produce a maximum of 2.5 million tpy of GHG, which represents approximately 98% of the overall project GHG emissions. Because the facility is expected to operate at 80% efficiency, actual emissions may be closer to 2.0 million tpy. Based on this analysis, approximately \$4 million in CO₂ allowances will be required to comply with RGGI offset requirements (assuming 2 million tpy at \$2/ton).

Direct emissions associated with an auxiliary natural gas boiler (31,247 tpy), an emergency diesel generator (180 tpy) and an emergency diesel fire pump (66 tpy) are lead to an additional 31,493 tpy associated with the project. Maximum total direct emissions are identified as 2,499,564 tpy. Emissions from the auxiliary boiler are subject to BACT and are reduced through the use of clean burning natural gas, state-of-the-art combustion controls, and limitations on annual operation. The auxiliary boiler will meet the natural gas emission limits listed in 310 CMR 7.26(33)(b). BACT is included in the baseline design and, therefore, no additional mitigation is identified in the Preferred Alternative. Emissions will be controlled through the use of ULSD, good combustion practices and limited annual operation. Unless the units are required during an emergency, the units will typically not operate more than one hour per week for testing and maintenance purposes.

Because the facility will generate its own power, building energy use for electricity is included in the direct emissions associated with the power plant. Energy modeling software (eQUEST) is used to quantify projected energy usage from stationary sources and energy consumption and was updated for the FEIR. It includes an analysis for the Administrative Building and the Operations Building. The analysis calculates and compares GHG emissions associated with: 1) a Massachusetts Building Code-compliant baseline and, 2) the Massachusetts Energy Stretch Code (adopted by the City of Salem). The

analysis indicates that the stationary source GHG emissions associated with these buildings will be reduced from 193 tpy to 136 tpy for a total reduction of 57 tpy, or a 29.4% reduction.

The Administrative Building has been designed to meet the Stretch Code and is designed to meet the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) at the Platinum level. The inventive design incorporates the building into the landscaped berm that is proposed around the facility. It incorporates the following measures to reduce the GHG impacts of the structures: a green roof, geothermal heat pumps for heating and cooling; variable volume ventilation fans, increased insulation to minimize heat loss; lighting motion sensors, climate control and building energy management systems; a 10% reduction for lighting power density (LPD) (and identifies the potential for larger reductions); and water conserving fixtures that exceed building code requirements.

The Operations Building includes the following measures to reduce GHG impacts: green roof, geothermal heat pumps for heating and cooling; increased insulation to minimize heat loss; daylighting; lighting motion sensors; climate control; building energy management systems; a 10% reduction for lighting power density (LPD) (and identifies the potential for larger reductions); a high albedo roof; and water conserving fixtures.

The FEIR includes a commitment to incorporate a solar PV array, with the potential to offset 175 tpy of GHG. It will be mounted on approximately 50,000 sf of the roof on steam generation plant.

Mobile source emissions are estimated at 157.6 tpy of and are limited to employees and truck deliveries. Measures to reduce GHG emissions associated with transportation include anti-idling measures including turning off construction equipment when not in use and limiting idling to five minutes or less. It indicates that all diesel-powered non-road construction equipment and vehicles greater than 50 brake horsepower will have engines that meet EPA emissions standards or emission control technology certified by manufacturers to meet or exceed emissions standards.

Climate adaptation strategies will be incorporated into the project design, based on potential impacts associated with sea level rise. The analysis assumes an expected sea level rise of 15 inches over a 40-year design life. Based on existing conditions, an elevation of between 12.6 feet and 14.6 feet was established as a range where the probability of storm surge overtopping the site would be significantly reduced. A proposed design elevation of 15.85 feet was developed by adding the increase in sea level rise to the upper end of the elevation range. Based on this analysis, a minimum elevation of 16.0 feet is proposed for building floors, crowns of roadways and equipment foundations. Exceptions include the existing parking area, guardhouse and building that will be repurposed as a visitor's center. Potentially hazardous materials will be stored inside of the berm and gabion walled perimeter and at elevations above 16.0 feet. Elements of the facility exposed to possible storm surge will be protected by a gabion berm and cladding with appropriate materials.

As required, the FEIR includes a discussion regarding the potential for unintended impacts of the design such as redirection of flood waters or storm surge impacts that could adversely affect adjacent development, including the existing switchyard, the SESD and future redevelopment areas. It provides a grading plan for the entire site including the NGRID switchyard, and identifies grades at the adjacent property lines. The site south of the CCG Facility and landscaped berm area will remain at the existing grade which varies between 8.7 feet near the intersection of Webb Street and Derby Street to 9.9 feet.

The FEIR suggests that redevelopment of this area would also be required to address impacts of flood zone and sea level rise on the site and, therefore, may be constructed to the same elevations as the Facility depending on future uses and, therefore, the proposal will not present impacts that preclude future development on the remaining parcel.

Comments from CZM continue to identify concerns associated with the potential for the berm, which will be include cladding with appropriate materials to provide protection from erosion, to reflect and redirect storm energy and overland flow. CZM recommends that this potential impact be further evaluated during the Wetlands Protection Act permitting process.

The GHG analysis is generally consistent with the GHG Policy. The FEIR provides the data required by the GHG Policy and Protocol; however, as noted by MassDEP and CLF, this information is not summarized in a single table or tables that clearly identify and compare GHG emissions for the baseline and Stretch Code, nor does it clearly identify reductions in tpy or percentages. The GHG analysis for this project is distinct from the majority of projects reviewed pursuant to the GHG Policy because direct emissions from the facility and the auxiliary boiler are the major source of GHG emissions and, the mitigation case (BACT) is the baseline. The information included in the Certificate has been derived from the data included in the FEIR and is summarized above. The FEIR includes commitments to significant mitigation measures, including innovative building design to minimize energy use, installation of a solar PV array, a commitment to conduct GHG analysis for redevelopment of the remainder of the parcel and a commitment to provide a Certification to the MEPA Office indicating that all of the measures proposed to mitigate GHG emissions, or measures that will achieve equivalent reductions, are included in the project (Section 3.0 and Response to Comments Cert-21). However, the Draft Section 61 Findings do not include these commitments. A communication from the Proponent indicates that this was an oversight and includes a revised Draft Section 61 Finding for MassDEP that details all of the GHG mitigation measures.²

Comments from CLF assert that a Supplemental FEIR should be required to address the project's consistency with the GWSA and the GHG Policy. I do not agree that a Supplemental FEIR is warranted. The project that is proposed consistent with air quality regulations and GHG policies, the FEIR demonstrates consistency with BACT for GHGs, it includes innovative building designs and a renewable energy component. The proposed solar PV system has the potential to offset the energy use associated with the Administration and Operations buildings. To ensure that the GHG emissions and associated mitigation commitments are clearly understood, I am directing the Proponent to provide a revised summary of GHG emissions (Table 3-1) to the MEPA Office and the distribution list. It should clearly identify GHG emissions (tpy) for the baseline, Stretch Code/Preferred Alternative; identify emissions reductions (tpy) for each category of emissions; and, identify percentage reductions for each source and for total emissions. In those instances where the baseline and Preferred Alternative are identical, it should provide a brief explanation. In addition, the Proponent should provide revised Draft Section 61 Findings that correct the omission of key GHG mitigation measures, including the commitment to a GHG analysis for redevelopment and a Certification to the MEPA Office. This information should be provided by June 10, 2013 so that it may be considered prior to issuance of a Public Benefit Determination (PBD).

² Email communication from Lauren Liss, Rubin and Rudman, on May 17, 2013.

Air Quality

The project will require a Major Comprehensive Air Plan Approval, PSD Review, Non-Attainment New Source Review (NSR), and New Source Performance Standards (NSPS). It also requires an Air Operating Permit from MassDEP. The DEIR identified regulatory requirements and standards, identified how the project is designed to meet standards and provided a summary of air quality modeling results. The FEIR includes supporting data and analysis, including BACT and include Lowest Achievable Emission Rate (LAER) analyses (Appendix D). Requirements include LAER for NO_x and BACT. Attainment of these standards will be achieved primarily through choice of generating technology and fuel. The facility will employ high-efficiency combustion turbines fueled with natural gas and will incorporate advanced pollution control and monitoring equipment. The following design and mitigation measures are the foundation for meeting air quality standards:

- Use of natural gas will limit emissions of PM, SO₂ and hazardous air pollutants compared to other fossil fuels.
- Use of a high-efficiency advanced turbine combined cycle technology will minimize all pollutants.
- Use of dry low-NO_x (DLN) turbine combustors in combination with Selective Catalytic Reduction (SCR) will reduce NO_x emissions. In addition, 200 tpy of NO_x Emission Reduction Credits (ERC) will be obtained to meet NSR offset requirements.
- Advanced combustor design, combustor practices, and use of a catalytic oxidation system in the HRSG will reduce emissions of CO and VOCs.

Continuous emissions monitors (CEMs) will sample, analyze, and record flue gas flow rates, NO_x, CO and NH₃ concentrations levels, and the percentage of oxygen in the exhaust gas from each of the two HRSG exhaust flues. Samples also will be taken in the turbine exhaust upstream of the SCR system to provide data to the ammonia injection control systems. This process will generate reports of the emissions data consistent with anticipated permit requirements and will send alarm signals to plant supervisory and control systems when emissions approach or exceed limits.

Dispersion modeling analysis was employed to identify whether any criteria pollutants would exceed significant impact levels (SILs) established by EPA and MassDEP. Modeled levels of PM and NO₂ exceeded the SILs, requiring additional evaluation of background emissions and project emissions. Ambient air quality modeling indicates that the project will not cause or contribute to a violation of the National Ambient Air Quality Standards (NAAQS), the Massachusetts Ambient Air Quality Standards (MAAQS), or PSD.

Noise

The FEIR includes a noise impact analysis (Appendix E) that identifies all sources of sound associated with the proposed facility, evaluates consistency with state and local requirements, identifies noise specifications of specific equipment and identifies measures to minimize noise impacts. The analysis identifies 12 sensitive receptors in the project area and evaluates impacts at these locations from increased noise levels. MassDEP regulations governing noise (310 CMR 7.10) prohibit an increase in the broadband sound pressure level of more than 10 dBA above ambient conditions or a "pure tone" condition. The analysis indicates that the facility will increase the lowest background sound levels at

night by 0 to 6 dBA at the closest receptors in Salem and Marblehead and, therefore, will comply with MassDEP noise policy. In addition, it will not exceed a 10 dBA impact at property lines abutting industrial users.

The following strategies are incorporated into the project design to mitigate noise impacts: siting of facility equipment to maximize distance between receptors and noise-producing equipment; acoustical treatment of combustion and steam turbine buildings; locating equipment within enclosures or buildings that provide noise attenuation through layers of insulation and siding; and, use of equipment silencers. Specific measures are identified in the Mitigation Section.

The FEIR identifies the Proponent's consultation with MassDEP regarding comments on the noise analysis included in the DEIR. The FEIR indicates that many of the issues identified in the MassDEP comment letter on the FEIR were clarified, including consistency of the analysis with prior MassDEP permitting of electric generation facilities and EFSB review. In addition, the Proponent has committed to provide additional information in its permit application.

Waterways

The proposed facility is located within filled tidelands and a DPA. Development of the site is guided by the Salem MHP and the Waterways Regulations (310 CMR 9.00). Uses eligible for licensing in the Industrial Port District section of the DPA are water-dependent industry, marine industrial parks, and temporary uses as defined in the waterways regulations. The FEIR indicates that the Proponent will seek a variances from the Waterways Regulations including Section 9.21 (2)(a)(2) which prohibits non-water dependent use of filled tidelands in a DPA, Section 9.34 (2) which requires conformity with MHPs, and Section 9.54 which requires non-water dependent projects to establish consistency with the policies of the CZM Program. The FEIR identifies the criteria for a variance and describes how the project meets the criteria. The project is subject to the provisions of An Act Relative to Licensing Requirements for Certain Tidelands (2007 Mass. Acts ch. 168) and the PBD regulations (301 CMR 13.00). Accordingly, the FEIR identifies the project's consistency with the PBD regulations.

Municipal Harbor Plan

The MHP establishes the City of Salem's objectives, standards, and policies for guiding public and private utilization of land and water within c.91 jurisdiction. The June 24, 2008 Secretary's approval of the MHP approved the City's request to amplify the provision of Section 310 CMR 9.32(1)(b) of the Waterways Regulations to require that, if uses on site were to change during the 10 year term of the Plan, "Any proposed new use(s) for this site beyond energy production, marine industry, and temporary uses as defined in 310 CMR 9.02 will require a renewal or amendment to this Harbor Plan." Comments from CZM indicate that the project meets the intent and the substantive provisions of the Plan and the MHP approval and does not require an amendment. Comments from Mayor Kimberly Driscoll also identify consistency with the intent and substantive provisions of the Plan.

CZM comments regarding consistency with the MHP are limited to the proposed energy facility as identified in the FEIR. Proposed uses associated with redevelopment of the remainder of the site that do not meet the requirements outlined in the approval document will require an amendment to the MHP.

Variance Request

As required by the DEIR Scope, the FEIR identifies how the project meets the criteria for a variance and, in particular, how the project provides an overriding public interest. Specifically, the regulations applicable to this project will require that the project demonstrate: (a) there are no reasonable conditions or alternatives that would allow the project to proceed in compliance with 310 CMR 9.00; (b) the project includes mitigation measures to minimize interference with the public interests in waterways and that the project incorporates measures designed to compensate the public for any remaining detriment to such interests; and, c) the variance is necessary to accommodate an overriding municipal, regional, state or federal interest.

Upon completion of the MEPA review process, the Proponent will file a c.91 application. The project will be reviewed by MassDEP as a nonwater-dependent Infrastructure Facility (NIF) and will be subject to the standards found at 310 CMR 9.55. MassDEP review of the project's application will include a public hearing and consideration of the project's consistency with the Waterways Regulations and the criteria for a variance. The information provided in the FEIR, in particular the Alternatives Analysis, is intended to support this application. More detailed information may be required as part of the c.91 application.

The FEIR addresses each of the criteria for a variance. It indicates that there are no reasonable conditions or alternatives that would allow the project to be developed compliant with the regulations or to better achieve the goals or protect the interests of c.91. It notes that the construction of the facility will produce energy with less environmental impacts while reclaiming a portion of the site for redevelopment to support marine industrial users and for public access. In addition, it indicates that a variance is necessary to meet state and municipal public interests. These include provision of a reliable source of electricity necessary to meet energy demand in the NEMA region, redevelopment and remediation of an industrial site and continuation of the site as a critical part of the City's tax base.

The FEIR describes the project purpose, alternative sites, as well as alternative site designs that would limit development within tidelands. Challenges include: the limited size of the development area (7.5 acres because of the existing substation) and that meeting the identified capacity shortfall in NEMA by 2016 requires construction of the new CCG Facility to begin prior to the shutdown of the existing Salem Harbor Station in June, 2014.

The FEIR indicates that the project will result in minimal, if any, detriments to the interests of the public in waterways associated with the Site. Because public access is not typically encouraged within a DPA and the site does not currently provide access, there are minimal public access interests at the Site that would be adversely affected by the project. Compensation for any identified detriments to public interest, which are required as part of the variance request as well as for consistency with the provisions as a NIF, include demolition and remediation of this industrial site and provision of public access. The removal of all of the above-ground structures associated with the existing power plant, including the storage tanks, power plant buildings, stacks, and coal conveyor and remediation of identified contamination will support long-term redevelopment of the site by eliminating significant costs and providing a clean site. To minimize impacts to tidelands and preserve opportunities for DPA uses, the facility is limited to a 20-acre portion of the Site, is setback from the waterfront and provides opportunities for redevelopment of the wharf area.

Public access includes paths within the landscaped berm along Derby Street and a path that extends from Derby Street towards the Harbor. The design will also support a view corridor from Derby Street to the Harbor. Comments from the City of Salem identify provision of pedestrian and vehicular access to the remainder of the site as an important goal for redevelopment. The setback of the facility from the Harbor will also support future provision of public access along the site's entire waterfront.

As noted in the Alternatives Analysis Section, the project will fill an identified capacity shortfall identified in the NEMA region. In addition, the FEIR cites Section 42 of Chapter 209 of the Acts of 2012 as evidence of the Commonwealth's interest in the site's development. The legislation established a plant revitalization task force to "implement a plan, adopt rules and regulation and recommend necessary legislative action to ensure the full deconstruction, remediation and redevelopment or repowering of the Salem Harbor Station by December 31, 2016." Further, it indicates that the project schedule is designed to meet the goals and deadlines of the legislation and to ensure the facility can meet the energy demand in 2016.

The facility will meet stringent air quality standards. Its design and operations are proposed consistent with the goals of RGGI and other state and federal programs designed to minimize GHG emissions and offset other, less efficient generation. MassDEP comments do not identify alternative technologies, processes or fuels that warrant additional MEPA review or are necessary to demonstrate compliance with regulatory standards.

It identifies the significant loss of tax revenues for the City presented by the closure of the Salem Harbor Station, citing the \$4.75 million in taxes paid by Dominion in fiscal year 2010. It notes that Dominion was the largest contributor of tax revenue in the City and also references legislation (M.G.L. c. 21A, § 22) that provides that the City of Salem be reimbursed the difference between the \$4.75 million of tax revenues collected from Dominion in fiscal year 2010 and the reduced tax revenues associated with a full or partially decommissioned Salem Harbor facility for a five-year period.

Comments from MassDEP indicate that the information provided in the FEIR will support MassDEP review of the variance request and permit application while noting that supporting documentation may be required during permitting, particularly if additional issues are identified during the review. The Waterways Regulations require that projects subject to an EIR must include information required pursuant to the provisions of 310 CMR 9.21(2)(a)(1) through (2)(a)(7) in the EIR. Because the FEIR addresses the criteria for a variance and I have found that the analysis of alternatives is adequate, the MassDEP Commissioner shall presume that the description of alternatives contained therein satisfies the requirements of 310 CMR 9.21(2)(a)(2). This finding does not preclude MassDEP from requesting additional information regarding the alternatives that are presented. In addition, I note that the permitting process may result in development of mitigation or project changes that are not identified in the FEIR. For instance, infrastructure repair or improvements and/or dredging projects could be proposed to compensate for impacts to public tidelands. The Proponent should consult with MEPA Office regarding any proposed changes to determine whether a NPC may be warranted.

Public Benefits Determination

The FEIR clearly identifies the purpose and effect of the project, identifies tidelands affected by the project, identifies impacts on abutters and the surrounding community and identifies public benefits of the project. A summary of the public benefits associated with the project are identified in the FEIR. The project will enhance the property and facilitate its redevelopment through demolition of existing structures associated with the former power plant and remediation of contaminated areas. Redevelopment will not be hindered by significant demolition and remediation costs and the project design will support water-dependent industry, or other appropriate uses, by limiting site development to 16 acres and providing setbacks from the Harbor. The project includes repurposing of an existing building to provide a visitor's center and public access improvements. The DEIR and FEIR describe and detail potential environmental impacts and measures to avoid, minimize and mitigate environmental impacts. In addition to remediation of the site, the design and operation of the facility and associated environmental commitments will support public health and safety. Finally, the facility responds to an identified demand for reliable source electricity within the NEMA zone, and will continue to serve provide a major tax base to the City of Salem.

Comments from MassDEP indicate that proposed benefits appear to be generally consistent for the purpose of the PBD (and will be evaluated during permitting for adequacy with variance criteria) and note that the standards for obtaining a variance require a determination that the project serve an overriding public interest and provide mitigation and compensation for impacts to public interests in tidelands. If the variance were approved by MassDEP, it follows that the project would provide adequate public benefits in accordance with the PBD Regulations. The comments specifically highlight the benefits associated with remediation and preparation of the site to support water-dependent industrial uses.

Consistent with the PBD Regulations, a PBD will be issued on or before June 17, 2013.

Wetlands and Drainage

Wetland resource areas are associated with LSCSF, Rocky Intertidal Shore and DPA. The Salem Conservation Commission will review the project and proposed activities for compliance with the Wetlands Protection Act and associated regulations and performance standards, including stormwater management standards. The project will permanently alter approximately 8.5 acres. This alteration is associated with raising the elevation of the facility area above the floodplain and accommodating sea level rise. Approximately six feet of fill will be placed within the berm area. Additional fill will be placed in conjunction with the acoustic landscaped berm and other vegetated areas, including the southwest corner in the landscaped area. Minor regrading is proposed for the remaining land to the south of the CCG Facility to facilitate sheet flow runoff to the site interior. In addition, transitional grading will occur between the landscaped area and the remaining southern parcel. All areas disturbed during demolition and construction activities will be stabilized with a combination of loam and seed and/or stone. On the remaining land to the north, minor regrading will occur in conjunction with installation of catch basins to direct sheet flow from the existing paved surfaces.

As required by the Scope, the FEIR includes a stormwater management plan to demonstrate consistency with stormwater standards. The stormwater management system consists of four

components: the facilities area inside of the berm; the existing parking area and access roadway; the landscaped area; and the remaining 40 +/- acres to the north and south of the CCG Facility. Stormwater in the area inside the berm, the existing parking area and access roadway, and the landscaped area will be conveyed to a new tide gate structure and discharged to Salem Harbor through the existing discharge channel outfall. The remaining land to the north of the CCG Facility will be conveyed to a new tide gate structure and discharged to Salem Harbor through the existing discharge tunnel. The remaining land to the south of the CCG Facility will discharge to an existing overflow spillway and into Salem Harbor. No new discharge points are proposed.

Runoff from the paved access perimeter roadway, gravel surfaces and grassed area will be collected in a series of catch basins, routed through water quality structures and conveyed to a new tide gate structure and discharged to Salem Harbor via the existing discharge channel outfall. Runoff from portions of the main access driveway and the existing parking area to the north of the proposed redevelopment will be upgraded with a series of deep sump/hooded catch basins, manholes, storm drainage pipes, and water quality structures prior to discharge to Salem Harbor via the existing discharge channel.

LID techniques incorporated into the project design include extensive landscaped areas, a green roof, and reuse of clean storm water. The facility will include pervious surfaces consisting of a layer of clean washed stone underlain with filter fabric and placed in all areas not occupied by buildings, the access roadway and supporting facilities. The project will include approximately 7 acres of vegetation consisting of native species of trees, shrubs, perennials, grasses, seeded lawn and an upland wildflower meadow. The Administration Building includes an 8,100-sf green roof. The roofs of the HRSG, CTG and STG Buildings (approximately 100,000 sf) will be designed to collect and pipe rainwater to a 30,000 cubic foot underground tank. The water will be used for irrigation.

Comments from MassDEP identify concerns with the stormwater management system's consistency with Standards 3 (groundwater recharge), 4 (80% removal of total suspended solids (TSS)) and 6 (critical areas). I encourage the Proponent to address these comments and revise the stormwater management plan prior to submitting a Notice of Intent (NOI) with the Salem Conservation Commission.

The FEIR notes that demolition and remediation of the site will replace impervious surfaces with stabilized pervious surfaces in the non-developed portion of the site to the south. It includes a statement that "Accordingly, any future build out development of the remaining 40 +/- acres will assume that the pre-demolition state of the site is the existing condition. That is, any site work that is conducted in connection with the proposed Project would be considered an interim step in any future development of the remaining 40 +/- acres." In terms of MEPA review, the redevelopment will require a NPC and, therefore, the amount of impervious surfaces will not be a factor in determining whether MEPA review is required. No comments were provided on this issue by MassDEP or the City of Salem. To the extent that this issue needs to be addressed during permitting of the project, the Proponent should consult with local and state agencies regarding this assertion and obtain a clear understanding regarding the application of regulatory requirements and standards that will be applied to the redevelopment.

Wastewater

The project will generate 186,624 gpd of industrial wastewater. Wastewater will be conveyed to the SESD wastewater treatment plant for treatment and discharge. The project includes on-site water treatment systems. Systems will include filtration and chemical dosing to achieve water characteristics necessary for proper operation of the facility process equipment and pretreatment of discharge from the HRSG blowdown, evaporative coolers blowdown, reverse osmosis reject water, and wastewater from oil/water separators prior to discharge to the SESD wastewater treatment facility. Selection of closed cycle air cooling technology significantly reduces the facility's water use compared to once-through cooling and eliminates the current discharge of cooling water to Salem Harbor.

No additional information was required regarding wastewater; however, I note that Mayor Driscoll identified coordination with the SESD to explore reuse of graywater as an important opportunity for the project.

Remediation, Demolition, and Materials Management

The FEIR includes a Subsurface Investigation Report (Appendix L), a summary of findings and additional analysis or clean-up resulting from the study. The FEIR also addresses MassDEP comments regarding work within an area that includes an Activity and Use Limitation (AUL) and incorporation of clean utility corridors into the facility design.

The report provides a broad-based assessment of soil and groundwater conditions across areas of the site that may have been affected by historic activities and power plant operations. Testing included the installation and sampling of 78 soil borings and 25 groundwater monitoring wells and excavation of 40 shallow test pits at the Site to provide additional evaluation of shallow soil conditions. Soil and groundwater samples were analyzed for a variety of parameters including heavy metals, polychlorinated biphenyls (PCBs), volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs) and petroleum-related carbon compounds. In addition, 30 surficial soil samples were analyzed for asbestos.

The analysis suggests that conditions for most of the site would meet applicable standards for commercial uses at the site. The FEIR indicates that no compounds were detected in groundwater samples at levels above applicable Massachusetts Contingency Plan reporting thresholds. Elevated concentrations of select metals, polycyclic aromatic hydrocarbons (PAHs) and petroleum-related carbon compounds were detected in some soil samples that appear consistent with the previously document conditions on the site. Specific exceedances of MCP reporting thresholds that are not necessarily attributable to past closed releases were reported to MassDEP and a Release Tracking Number (RTN) was assigned. These included: elevated concentrations of arsenic, nickel, vanadium and PAHs in the vicinity of the coal storage stockpile; lead detected above the MCP RCS-1 reportable concentration and above the expected background level at two discrete locations at the southwesterly limits of the Site; evidence of a non-petroleum related VOC in a location beneath a former bulk fuel oil storage tank B-5; and, arsenic, nickel and vanadium reported above anticipated background levels and reportable concentrations throughout the site. Additional evaluation and risk assessment will be conducted prior to demolition and construction, including testing to determine the extent of oil or hazardous material (OHM) in the oil ash section of the coal pile, and additional remediation will likely be required.

The FEIR also identifies facility construction within an area subject to an existing AUL. It indicates that the AUL was placed primarily to minimize worker contact with soils impacted with select metals, in particular nickel and vanadium. Additional sampling will be completed prior to demolition or construction and a site specific Soil Management Plan and Health and Safety Plan will be developed for work in this area.

Construction Period Impacts

The FEIR includes a discussion of construction period impacts (erosion and sedimentation, noise, vibration and dust). It proposes measures to avoid, minimize, and mitigate these impacts during demolition and construction and to comply with MassDEP Solid Waste and Air Quality Control regulations. Measures are detailed in the Mitigation Section below. Commencement of construction is targeted for June 2014 and will extend for approximately 23 months. General sequencing plans are included in the FEIR and identify construction laydown areas and equipment storage, gated construction access near the intersection of Webb Street and Derby Street, parking for construction workers and on- and off-site construction access routes.

Decommissioning

The DEIR identified a general approach to decommissioning and asserted that decommissioning of the facility would not include challenges associated with older power plants, including Salem Harbor Station, such as releases of coal and oil or remediation of lead based paints or asbestos. Based on this assessment, the FEIR concludes that it is unlikely that substantial funds need to be set aside for future site assessment and remediation. In addition, it indicates that the value of the materials that make up the components of the CCG Facility are likely to exceed the costs associated with future of demolition and, therefore, the salvage value of the demolished building materials should provide adequate funding for the costs of demolition for decommissioning.

Given the history of site and the emphasis on remediation and clean-up of current site, it is unclear why a more detailed section on decommissioning was not included in the FEIR; however, MassDEP has not requested additional information prior to permitting.

Mitigation

The FEIR includes an updated Mitigation section that identifies all mitigation measures and draft Section 61 Findings for each State Agency that will issue permits for the project. As noted in the GHG section, the Draft Section 61 Findings will be revised to include all GHG commitments, including a commitment to analyze GHG emissions associated with future redevelopment of the site and to provide a Certification to the MEPA Office indicating that all of the measures proposed to mitigate GHG emissions, or measures that will achieve equivalent reductions, are included in the project.

The project includes the following measures to avoid, minimize and mitigate impacts:

- redevelopment of an existing brownfield site;
- demolition, assessment and remediation of the site;
- location and design of the facility to minimize potential impacts to residential neighborhoods;

- elimination of once-through cooling and associated water withdrawal;
- design and construction of a stormwater management system that incorporates Low Impact Development LID techniques including extensive landscaping, a green roof, and reuse of clean rooftop runoff for irrigation; and,
- provision of public access through and within the site.

Air Pollution

- use of a high-efficiency advanced turbine combined cycle technology, emission controls and reporting equipment to minimize all pollutants;
- use of natural gas will limit emissions of PM, SO₂ and HAPs compared to other fossil fuels;
- use of DLN turbine combustors in combination with SCR will reduce NO_x emissions;
- 200 tpy of NO_x Emission Reduction Credits (ERC) will be obtained to meet NSR offset requirements;
- advanced combustor design, combustor practices, and use of a catalytic oxidation system in the HRSG will reduce emissions of CO and VOCs; and,
- quick start capability to minimize all pollutants associated with start-up.

GHG Emissions

- use of combined cycle natural gas turbines;
- \$4 million in CO₂ allowances for RGGI offsets;
- solar PV array with potential to offset 175 tpy GHG emissions;
- Administrative Building is designed for LEED Certification at the Platinum level and includes a green roof, geothermal heat pumps for heating and cooling, variable volume ventilation fans, increased insulation to minimize heat loss, lighting motion sensors, climate control and building energy management systems, a 10% reduction for LPD (and identifies the potential for larger reductions), and water conserving fixtures that exceed building code requirements; and
- Operations Building includes a high albedo roof, geothermal heat pumps for heating and cooling; increased insulation to minimize heat loss, daylighting, lighting motion sensors; climate control, building energy management systems, a 10% reduction for LPD (and identifies the potential for larger reductions), a high albedo roof, and water conserving fixtures

Noise

- siting of facility equipment to maximize distance between receptors and noise-producing equipment;
- acoustical treatment of combustion and steam turbine buildings;
- locating equipment within enclosures or buildings that provide noise attenuation through layers of insulation and siding;
- use of equipment silencers including a gas turbine inlet silencing package; a stack silencing package to reduce sound pressure levels in each flue of the stack structure, silencers on steam system vents and, as permitted by relevant codes, on safety and relief valves that release high pressure steam;
- gas turbines and steam turbines will be fully enclosed;
- steam turbine insulation will be designed to provide thermal and acoustical insulation;

- large pumps in the HRSG enclosure (boiler feed pumps) will be enclosed in additional acoustical structures as necessary;
- location of piping, valving and control systems within enclosures or underground to limit fluid transfer noise;
- larger fans that operate at slower speeds and shielding of fans by cowlings or other acoustical treatments on the ACCs;
- intake filter houses, transformers, fuel gas compressors and boiler feed water pumps will be wrapped in acoustic barriers;
- acoustically designed barrier walls around transformers to shield sensitive receptors from transformer noise;
- gas compressors and gas metering enclosure will be designed with acoustic silencing; and
- construction of a retaining wall and planted berm will be constructed around the western, southern and eastern edges of the facility to deflect sound.

Construction Period

- a minimum reuse/recycling goal of 50 percent, including potential re-use of coated brick and concrete;
- dust suppression methods during demolition will include pre-cleaning of larger surfaces and structural members prior to demolition, water suppression sprays and misting to prevent airborne particulates, and enclosure of areas to prevent the migration of dust;
- dust suppression during earth moving will include use of water trucks to wet ground surface, stabilization of soils, and creation of wind breaks;
- temporary sediment basins and/or sediment traps;
- noise mitigation including construction hour limits, establishment and enforcement of construction site and access road speed limits, mufflers on noise-producing construction equipment and vehicles, siting of noisiest equipment as far as possible from sensitive receptors, and maintenance of engine housing panels in the closed position;
- stabilized construction and exit points;
- stormwater conveyance channels/diversion berms;
- sediment basins/traps;
- storm drain inlet control;
- perimeter stormwater controls consisting of silt fence, fiber roll and/or compost filter socks installed prior to commencing earth disturbing activities;
- concrete washout areas consist of prefabricated or site-built impermeable containment areas sized to hold concrete wastes and wash water;
- prohibition on discharging groundwater or accumulated stormwater;
- installation and maintenance specifications for stormwater controls;
- use of ultra-low sulfur diesel (ULSD) fuel (15 parts per million sulfur) in off-road vehicles;
- anti-idling measures including turning off diesel combustion engines on construction equipment not in active use and limiting idling of dump trucks to five minutes or less;
- vehicles greater than 50 brake horsepower will have engines that meet EPA PM emission standards or emission control technology certified by manufacturers to meet or exceed emissions standards and emission control devices, such as diesel oxidation catalysts (DOCs) or diesel particulate filters (DPFs), will be installed on the exhaust system side of engine equipment;

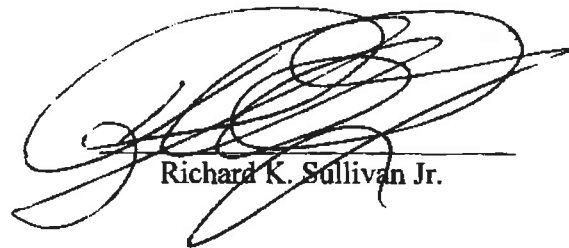
- police detail to mitigate traffic impacts; and,
- delivery of large pieces of equipment or material will be by barge to minimize impacts on local roadways.

Conclusion

Based on a review of the FEIR, consultation with public agencies and a review of public comments, I hereby determine that the FEIR adequately and properly complies with MEPA and its implementing regulations. The project may proceed to State Permitting.

May 17, 2013

Date



Richard K. Sullivan Jr.

Comments received:

5/6/13	Coastal Zone Management (CZM)
5/10/13	Department of Fish and Game (DFG)/Division of Marine Fisheries (DMF)
5/13/13	Massachusetts Department of Environmental Protection (MassDEP)
5/16/13	Mayor Kimberly Driscoll, City of Salem
5/10/13	Conservation Law Foundation (CLF)

RKS/CDB/cdb

Salem Port Expansion

EEA #14234

Salem Harbor Station Redevelopment

EEA #14937

Environmental Impact Report

Marine Terminal Modifications

City of Salem

February 2014

I. Project Description and Permitting

The City of Salem, MA is seeking to improve the existing marine wharf located at 24 Fort Avenue in Salem to allow the City to berth mid-sized cruise ships at the marine terminal and to create an ADA compliant pedestrian access-way between the marine terminal and the adjacent Salem Wharf Project site at 10 Blaney Street (the "proposed improvements"). Page 1 of 35

The marine terminal is located on a portion of a 64 +/- acre property owned by Footprint Power Salem Harbor Real Estate LP (the "Footprint Property").

The proposed improvements would be an extension of the Salem Port Expansion Project, which was submitted under a previous MEPA ENF filing in 2008, culminating in the issuance of ENF Certificate EEA #14234 on July 11, 2008 authorizing the project without further MEPA review. As noticed in the Environmental Monitor on July 24, 2013 the proposed changes were reviewed by MEPA as a Notice of Project Change to EEA #14234/14937. Following review, MEPA responded on September 6 requiring the preparation of an Environmental Impact Report (EIR) prior to proceeding to project permitting.

The City is the Proponent of the proposed improvements described in this EIR. However, as the proposed improvements will be located on property owned by Footprint Power Salem Harbor Real Estate LP, this EIR is also intended to serve as an EIR for changes within the Salem Harbor Station Redevelopment Project (also located on the Footprint Site) associated with the City of Salem's proposed improvements. Separately, the Salem Harbor Station Redevelopment Project was reviewed by MEPA under EEA # 14937, and for which the Secretary issued a FEIR Certificate on May 17, 2013 (the "Salem Harbor Station FEIR Certificate").

The proposed improvements to the footprint berth, necessary to accommodate cruise ships up to 800 ft in length, include the following:

- Modifications of the fender systems along the existing four dolphins suitable for cruise ship berthing
- The creation of three pier deck covering areas totaling 6,900 ft² of deck area between the existing pier and shoreline seawall for passenger access and as a foundation for ADA/MAAB compliant ramping systems from vessel to pier.
- Construction of a walkway (minimum 8 ft. wide) between the ship berth and the Salem Wharf site along the existing shoreline, including re-grading of areas for a new bituminous paved walkway along the edge of the existing coal pile run-off pond.
- The installation of a small culvert and associated work at the crossing of an existing swale,

located at Blaney St.

- The installation of a crossing over the existing coal pile run-off pond emergency spillway, an NPDES discharge point.
- The installation of a new 6 foot high fence (with screening) along the inshore side of the proposed pedestrian way, including support posts installed a maximum 4 foot into grade.
- The relocation of 70 feet of the outshore security fence to maintain the required walkway width.
- The installation of approximately 370 feet of temporary fencing that will be used only during times of cruise ship operations.
- The replacement of all trees in the area that would need to be removed to support the above construction.

The proposed upland site improvements described in this EIR are intended to be provisional, in an effort to accommodate cruise ship berthing in the 2014 season and beyond. As such, the improvements proposed are purposely limited and will be conducted in a manner that would not restrict Footprint's redevelopment of the overall Footprint Property. Despite the impermanence of the physical elements of the upland site work, the use of the site for cruise ship access is anticipated to be permanent. Cruise ship access is viewed as an integral component of the long-term agreement that will be established between Footprint and the City.

As described in the MEPA filings for the Salem Harbor Station Redevelopment Project, Footprint proposes to build a new state-of-the-art natural gas-fired electrical generation facility on a 24+/- acre portion of the Footprint Property. While the next several years will see a large amount of marine traffic to support demolition and construction of the proposed power facility, once construction has been completed, the proposed site improvements by Footprint are expected to enhance the use of the marine facility and the land immediately upland from this area by other complementary uses.

The City and Footprint have established a short-term agreement (Wharfing Agreement) for the use of the berth while the Salem Harbor Station Redevelopment Project proceeds and while Footprint and the City work toward a long-term agreement that will provide the City with access rights to and use of the marine terminal. A draft copy of the short-term Wharfing Agreement is included in Appendix 5. The long-term agreement will still need to be developed and will involve the permanent development of the marine terminal after completion of the construction of the Salem Harbor Redevelopment Project by Footprint. As stated in the Salem Harbor Station FEIR Certificate any further redevelopment on the Footprint Property will be the subject of a future Notice of Project Change to be filed with the MEPA Office.

With the completion of the proposed construction activities identified within this EIR, the City would be providing cruise ship berthing for medium size cruise ships at the Footprint berthing. It is understood the Footprint site will be under construction and remediation and, as such, the site will be changing on a regular basis depending on the work required. Therefore the site access, a defined route and bus loading/unloading area will be dependent on Footprint's ability to provide these to the City in a manner that is safe for the public. In regard to these critical coordination/operational issues, the procedure for cruise ship berthing at the Footprint marine facility would include the following:

1. City submits to Footprint a request a single day for cruise ship landing at the Footprint berth with a specific date (based on vessel being too large to land at Salem Wharf facility).
2. Footprint reviews request in association with current Footprint site activities to approve or deny use of Footprint berth.

3. If approved, City makes commitment to cruise line and maintains monthly contact with Footprint as to the site conditions and the procedures for site access, bus route through site, final bus parking and segregation from construction site, temporary fencing limits, security controls required and conformance to site security, Facility Security Plan and MCP plan.
4. Based on site conditions, Footprint would establish the following:
 - a. Identification of access gate for buses and procedures for access required
 - i. Determination of access/egress requirements including police detail to be consistent with current Footprint site requirements
 - b. Identification of bus route through the site based on
 - i. Use of existing construction access roadways
 - ii. Separation from ongoing Footprint construction activities for public safety
 - iii. Identified bus staging area in immediate area of vessel with fenced separation
 - c. Confirmation of limits for all passengers including:
 - i. Temporary fencing limits including bus parking area
 - ii. Area accessibility to the public is safe in terms of MCP including the risk of exposure of contaminated soils to passengers and crew.
 - iii. Consistent with Facility Security Plan and Footprint's site security requirements
 - d. Identification of procedures for installation and removal of temporary fencing and other temporary elements required during the cruise ship port-of-call.
5. Use by the City of Salem would be based on the following:
 - a. Prior approval by Footprint
 - b. A defined traffic route and bus parking area approved by Footprint.
 - c. Access to and from the site would be consistent with current Footprint requirements including use of Police Details if needed.
 - d. No public (pedestrian) access within the Footprint site outside of the approved temporary fenced area.
 - e. Usage would be in conformance with Homeland Security requirements for a USCG approved Facility Security Plan.
 - f. All areas of public access would meet review and approval by licensed LSP and be in conformance with Mass Contingency Plan (MCP)
Footprint would have access to the marine facility at any time as maybe required for emergencies.

A. Vessel Criteria and Assumptions

The table below is provided to establish a framework of cruise ship vessel types in relation to their respective berthing requirements and approximate passenger capacities, as well as to specify the intended berthing location of each vessel. The table was established based on general industry standards for the classification of cruise vessels. This will allow for an agreed upon definition of vessel type to its actual length and passenger capacity.

Vessel Type	Berthing Length Requirement	Passenger Capacity	Intended Berthing Location
Coastal Cruise Vessel	Less than 300 ft	Less than 100	ADA Barge/Salem Wharf Pier
Small Cruise Ship	301 - 500 ft	101-500	Salem Wharf Pier/ Footprint Berth
Medium Cruise Ship	500 - 800 ft	501 - 1500	Footprint Berth
Large Cruise Ship	800-1000 ft	1501-3500	Not Requested
Extra Large Cruise Ship	Greater than 1,000 ft	>3500	Not Requested

Table I-1 - Cruise Ship Vessel Classifications

See Exhibit I-1 which illustrates the different vessel berthing locations proposed for the overall Salem Wharf project.

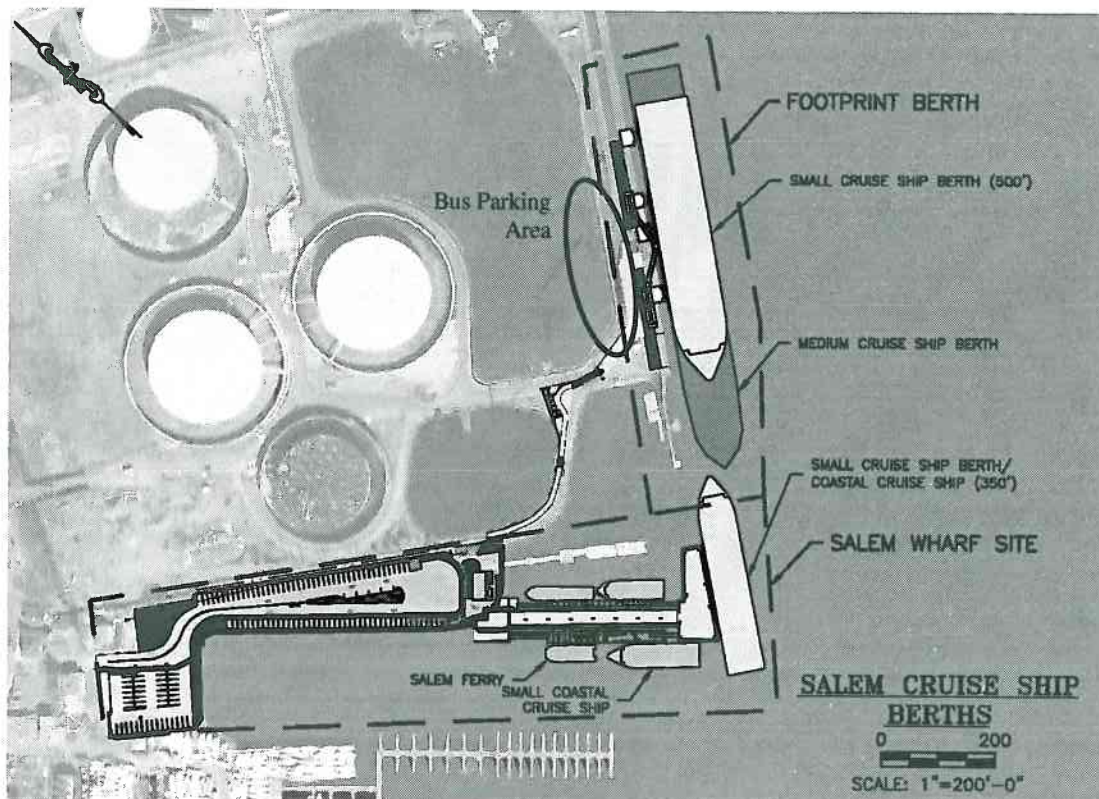


Exhibit I-1 - Salem Wharf Vessel Berthing Plan

The Footprint berth could receive up to 12 visits a year from medium cruise ships, however they are more likely to see 4-8 medium ships, with a maximum length of approximately 800ft. Vessels of this

size are capable of supporting up to 1500 passengers and roughly 750 crew, and it is assumed that the vessel is at maximum capacity. Realistically, however, the majority of vessels visiting Salem will be smaller with approximately 500 passengers such as the 650 foot Seabourn Sojourn which is scheduled to visit Salem in Fall of 2014.

Vessel Cruise line stops are typically scheduled a year or more in advance providing adequate time for coordination and preparation. It is anticipated that cruise ships would be a "Port-of-Call", only stopping for the day (arrive early and leave the same day) and would typically be during the middle of the week and not on weekends.

B. Status of the Salem Port Expansion Project

The project, as authorized under EEA # 14234 Salem Port Expansion, is currently under construction in a multi-phase approach. As previously reviewed, the project involves the redevelopment of 10 Blaney Street into a multi-use port facility.

Work already completed on the project includes:

- Site Improvements – Phase I: Completed July 2011
 - o Construction of 500 feet of concrete seawall with associated revetment work at the toe; installation of major site utilities including water, sewer, electrical conduit, site stormwater collection and treatment systems; grading and installation of pavement binder
 - o Construction of Terminal Building with public rest rooms
- Dredging - Phase I: Completed February 2013
 - o Performed approximately 24,000 cubic yards of dredging down to -16 MLW sufficient for docking of passenger vessels on south side of proposed pier
- Marine Structures – Phase I Completion October 2013
 - o Construction of first 200 feet of pier has been completed with wave fence
 - o Construction of 140 feet of seawall in the pier area with associated revetment work at the toe
 - o Construction and installation of barge and aluminum ramping system for ADA/MAAB accessible passenger vessel operations including vessel pump-out facilities and water service

The upland and pier elements completed will be open to the public and sufficient for Salem Ferry's operations this summer.

The City was recently awarded \$4 million in funding from the Seaport Advisory Council to proceed with the following project elements estimated to be completed in 2014:

- o Site Improvements
 - Public harborwalk construction along shoreline perimeter
 - Final paving, lighting and landscaping
- o Dredging
 - Dredging associated with the commercial embayment marina
- o Marine Structures
 - Additional 140 feet of approach pier plus pier along with wave fence
 - Creation of a commercial marina with associated floating docks, access gangways and

utilities

Estimated completion of the remaining elements is dependent upon future funding not yet identified and is therefore unknown at this time. Future work to be completed includes:

- Dredging
 - Additional 41,500 cubic yard is still required to be dredged at the time of Pier "T" construction to accommodate small coastal cruise ship access
- Marine Structures
 - Additional Pier "T" still requires construction along pier utilities
 - Relocation of barges to new pier
 - Removal of original timber pier
- Proposed improvements at Derby Street/Blaney Street intersection

No changes to construction as identified in the original MEPA ENF for the Salem Port Expansion Project are proposed at this time. The proposed changes within this EIR are not anticipated to result in any changes nor have any impact on the original project elements as proposed. As previously stated, the proposed work within this EIR is to provide cruise ship berthing and for passenger bus and pedestrian access to/from the site while Footprint develops a long-term plan for the site.

C. Public Outreach and Notification

The City of Salem has continued to make the public aware of its proposal for improvements to obtain and support cruise ship berthing at the existing marine wharf on the Footprint Property. This has been brought to the public through a number of avenues including:

- Salem Harbor Plan Implementation Committee
- Salem Harbor Plan (2000 & 2008) and associated public meetings
- Salem Harbor Port Professional Group
- Footprint public meetings and public outreach
- City of Salem News Releases
- Publications associated with regulatory filings.

In addition to the public involvement efforts for the overall work, the proposed EIR will be distributed in accordance with MEPA regulations and the Secretary's Certificate for the EIR Scope including any agency or person who received a copy, requested a copy of, or commented on the Salem Port Expansion ENF (EEA #14234), the Salem Harbor Redevelopment Project EIR (EEA #14937), and the Notice of Project Change associated with this work. The list is provided within the EIR Distribution Information in Appendix 1.

EEA Environmental Justice Applicability

The improvements proposed by the City will not specifically exceed any of the thresholds established for enhanced review under EEA's Environmental Justice Policy. However, the Salem Harbor Station Redevelopment Project did exceed certain thresholds and Footprint engaged in additional public outreach and participation in accordance with the Environmental Justice Policy.

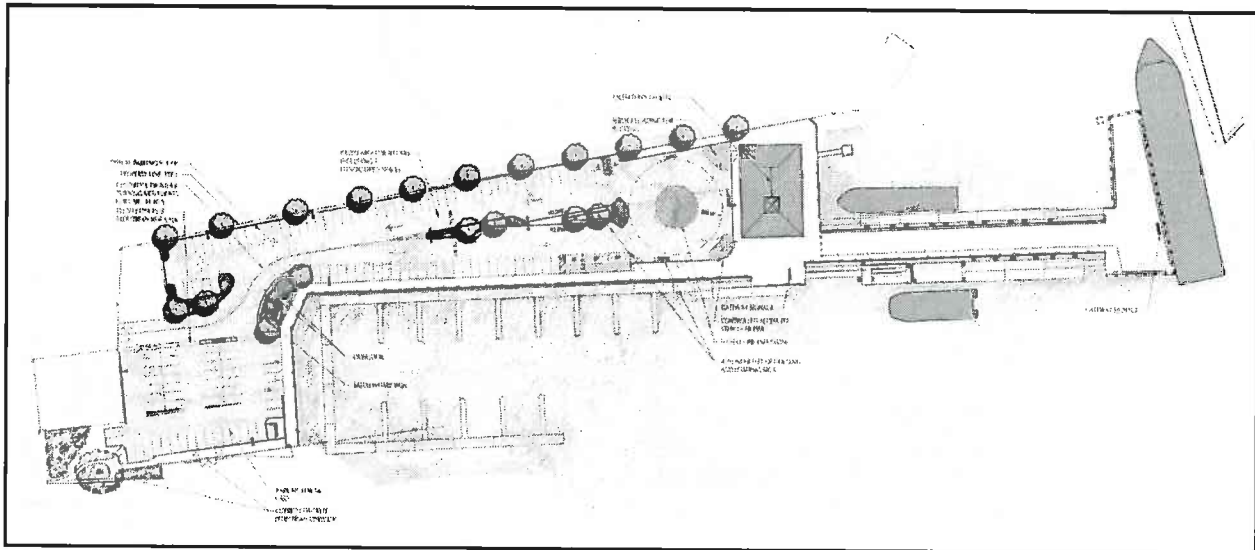
Although the impacts from the City's proposed improvements do not trigger the need for enhanced public outreach under the Policy, the City of Salem and Footprint are both committed to maintaining full disclosure to the public throughout the regulatory process. As such the City will post the "Notification Form" provided in the distribution information in Appendix 1 in the

following locations:

- In English and Spanish and posted in City Hall
- Along Blaney Street at the locations specified in the distribution information

II. Alternative Analysis

A. No Action (Offshore Cruise Ship Mooring)



Alternative 1 – No Action (Vessel Moored Offshore with Tendering to Blaney Street)

The no action alternative assumes that the project carries forward as accepted under the original ENF, which includes the potential for cruise ships up to 800 feet to be moored roughly one nautical mile offshore from the project area, and supported by tenders handling 100 to 150 passengers each to ferry passengers back and forth to the cruise ship. The exact location of offshore mooring has not been determined and would be established outside the navigational channel in an area acceptable to the Harbormaster and the USCG.

The use of tenders is consistent with the 2008 Municipal Harbor Plan and applicable regulations as detailed within the original ENF. However, this option has been dismissed due to lack of acceptability by the cruise line including concerns of:

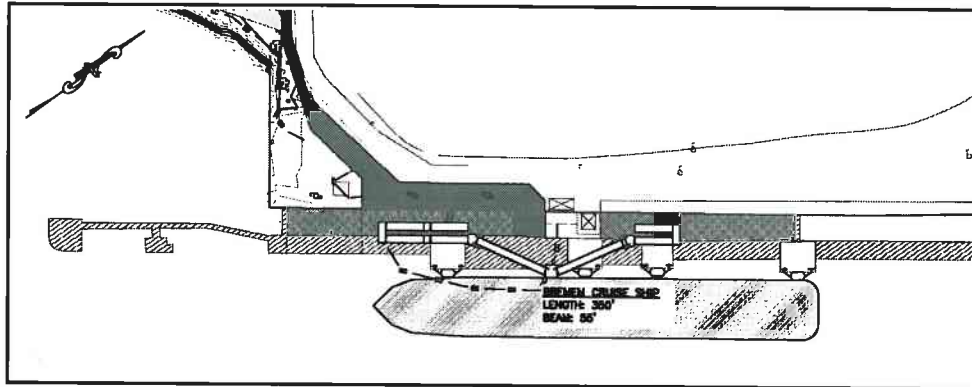
- a. High Cost Associated with Tendering – Operating and maintaining tenders (typically either port supplied vessels or cruise ship life boats) represents a high initial and recurring cost
- b. Safety – Loading and unloading from the ship to/from tenders represents an additional hazard, particularly in rough weather
- c. Passenger Satisfaction – Boarding tenders to and from the cruise ship is not desirable to the passengers and therefore not desirable to the cruise ship company. With tenders, the passengers are restricted by tender availability/schedule and lose the freedom to come and go as they please from the ship
- d. ADA Compliance – While the Blaney Street facility has been designed to comply with ADA standards, boarding a tender from the cruise ship, particularly in rough weather, is far less desirable than a fixed berth

At the time of the Salem Port Expansion filing in 2008 it was not anticipated that the Footprint site would be available. The opportunity for the use of the Footprint site represents the same ultimate use of Salem Wharf site but eliminates the need for offshore mooring and the use of tenders.

Utilizing the existing berth allows the City to capitalize on the existing historically dredged turning basin. Cruise ship companies have also expressed rejection of outshore mooring over preference of having a fixed berth.

As there is no work proposed, there is no impacts to natural resources as show in Table II-1

B. Small Cruise Ship Alternative



Alternative 2 – Small Cruise Ship

The use of the Footprint Wharf for berthing of small cruise ships has not been fully dismissed, as it is anticipated that many of the cruise ships that utilize the berth will be significantly smaller than the 800ft ship the existing pier is designed to handle. Typical vessels of this class are up to 500 feet and carry upward of 400 passengers depending on vessel.

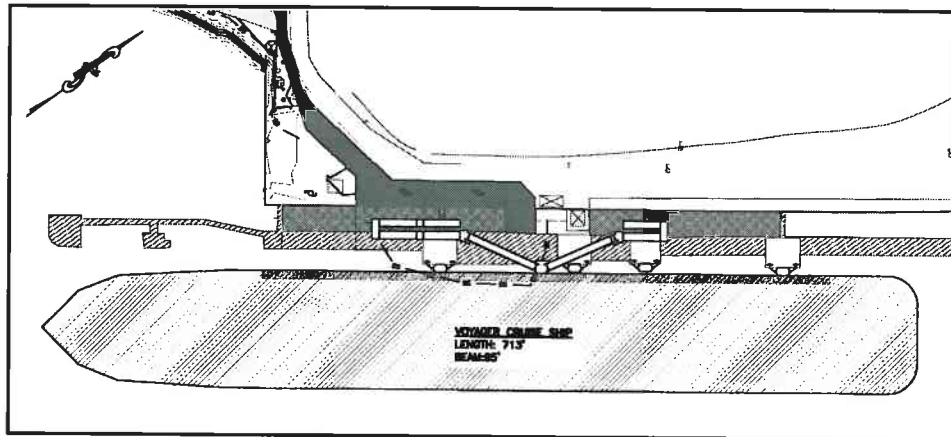
As detailed in the original ENF, the Blaney street pier is designed to berth vessels comfortably up to 350 ft along the pier face. Due to limitations in funding and necessary phasing, the pier face will not be constructed in the next phase of work planned in 2014. As such, small to medium vessels, which are too large to berth along the ADA Barge, are included within this request.

However, utilizing the Footprint berth for only small cruise ships has been dismissed as it does not provide for maximization of use of the Footprint berth and results in less benefit (fewer passengers) to offset the cost of modifying the terminal. The cost of pier modifications and improvements along the Footprint site for small cruise ships would be the same as it would be for medium cruise ships, as the requirements for accessibility remain the same.

- a. Passenger Limitation - Established by vessel size with no consideration of actual berth restrictions.
- b. Overall Management - Level of management and coordination is relatively the same for the allowing of all sizes of cruise ships landing at the Footprint berth.
- c. Higher Cost per Passenger – The proposed work utilizes existing infrastructure with minimal modification and no additional dredging, as well as reducing the dependency on tendering vessels but the limits on vessel size results in higher cost per passenger as well as the management and coordination cost is distributed over a smaller number.
- d. Safety – The ability to load/unload passengers directly from the ship to a protected berth represents the safest option for passenger handling
- e. Passenger Satisfaction – Berthing presents the most desirable passenger experience, and provides passengers with the freedom to come and go as they please without the burden of waiting in lines for tenders for the roughly mile-long ride to Blaney Street
- f. ADA Compliance – Cruise ship berthing provides the most desirable access for mobility challenged individuals by providing an ADA/MMAB assessible means for access to and from the cruise ship to the landside.

This option would be consistent with the 2008 Harbor Plan and applicable regulations. The impacts to natural resources as show in Table II-1

C. Medium Cruise Ship Alternative (Preferred)



Alternative 3 – Medium Cruise Ship

The preferred alternative includes upland and shoreline improvements to accommodate access of up to 800ft cruise ships with up to 1500 passengers. This alternative provides the maximum benefit for the City while minimizing costs. It utilizes existing infrastructure to the maximum extent feasible and creates new tourism opportunities for the community. Benefits of berthing medium cruise ships include:

- a. Passenger Limitation - Established by vessel size and existing site limitations to maximize use of existing infrastructure.
- b. Overall Management - Level of management and coordination is relatively the same for the allowing of cruise ships land at the Footprint berth.
- c. Lowest Cost per Passenger - The proposed work utilizes existing infrastructure with minimal modification and no additional dredging, as well as reducing the dependency on tendering vessels. The ability to allow larger vessels with greater passengers results in lower cost per passenger as well as the management and coordination cost is distributed over a larger number.
- d. Safety - The ability to load/unload passengers directly from the ship to a protected berth represents the safest option for passenger handling
- e. Passenger Satisfaction - Berthing presents the most desirable passenger experience, and provides passengers with the freedom to come and go as they please without the burden of waiting in lines for tenders for the roughly mile-long ride to Blaney Street
- f. ADA Compliance - Cruise ship berthing provides the most desirable access for mobility challenged individuals by providing a safe and secure transition from ship to shore. As well the transfer to landside to transportation inland modes is relatively seamless.

In addition, port development is a high priority for the City as both an economic development and tourism initiative. The City looks forward to additional cruise ships visiting Salem to help support restaurants, retail establishments, and attractions, which, in turn, add to the tax base and provide local jobs. Industry estimates from 2011 are that 50% of passengers return to a destination to visit again, creating lasting benefit to the community.

“The State of the North American Cruise Industry in 2012” prepared for CLIA (Cruise Lines International Association) by Business Research & Economic Advisors (BREA) of Exton, Pennsylvania found that the industry’s total economic impact on the U.S. economy grew by 4.6

percent to \$42.3 billion in 2012, with direct spending by the cruise industry growing by 4.0 percent to \$19.6 billion.

Given Salem's strong tourism market and the attractiveness of a port so close to downtown, the City has received strong interest from cruise ships to visit Salem. With the close proximity of the Wharf to the downtown and historic sites, there are numerous options for low-impact transportation. Cruise ship companies have expressed to the City that the ability to dock alongside the Footprint dock is logistically easier than tendering, and would be viewed as an important asset of the Port of Salem over alternative sites.

As such, this preferred alternative offers significant benefit to the City of Salem, while utilizing existing infrastructure to minimize cost and impact. Likewise, the preferred alternative is consistent with the 2008 Municipal Harbor Plan and all applicable regulations as discussed in Section III. The impacts to natural resources as show in Table II-1

D. Large and Extra Large Cruise Ships

Larger cruise ships that currently serve the cruising industry were reviewed and determined not to be desirable for berthing at the Footprint marine facility. These larger vessels would required a substantial investment of infrastructure including pier improvements, mooring and fendering system improvements as well as dredging specifically at the Footprint site which would be undesirable due to the high capital cost as well as to impacts to the existing Salem Wharf facility at Blaney Street. (Please note that the proposed dredging approved at the Salem Wharf site would not provide any benefit to the Footprint berth.) As such the alternatives for accommodating cruise ships larger than what could be berthed at the Footprint facility was rejected.

The impacts to natural resources as show in Table II-1 below.

Alternative	No Action		Small Cruise Ships		Medium Cruise Ships		Large Cruise Ships	
	Linear Feet	Square Feet	Linear Feet	Square Feet	Linear Feet	Square Feet	Linear Feet	Square Feet
LSCSF Impact (Elev. +16 MLW)		0		4,000		4,000		4,000
Coastal Bank Impact	0		100		100		100	
Coastal Beach Impact		0		0		0		0
Land Under Ocean (Direct)		0		0		0		0
Land Under Ocean (Shading)		0		3,800		3,800		3,800
Fill Below HTL		0		0		0		0
Impervious Area-Total		0		11,000		11,000		11,000
- Area over Lined Dike				3,180		3,180		3,180
- Area over Water				6,900		6,900		6,900
- Upland Area				920		920		920

Table II-1 Comparison of Alternative Resource Area Impacts

III. Existing Environment

A. Site Selection

The majority of the Footprint Property is located within the *Salem Harbor Designated Port Area* (DPA), one of only 11 such areas located in the Commonwealth of Massachusetts, however the area within Salem for large vessel berthing is limited. The Footprint Property includes an existing deep draft ship berth for unloading coal and fuel oil to the existing power generation facility. The berth features a pile-supported timber pier with concrete mooring dolphins supported by steel piles. Inshore of the pier is a paved landing/access-way that separates the pier from the coal stockpiles. Moving west towards the Salem Wharf site, the pavement transitions to a gravel path with impermeable lining below the surface (as discussed in III.A Stormwater). The gravel path separates the existing coal pile run-off pond from the shoreline and extends west along the top of the existing revetment to the Salem Wharf site. The revetment consists of miscellaneous sized stone. The upper limit of the revetment has eroded and is now exposing portions of this shoreline to further damage.

This strategic location of the proposed improvements allows the City to capitalize on the Footprint Property's deep draft and proximity to the federal channel to achieve the development of marine industrial uses at the property that cannot be accomplished elsewhere in the City of Salem. The proposed improvements comply with state policy and regulations governing DPAs. The 2008 revisions to the Salem Harbor Plan include the proposed multi-use facility as a key component of the regeneration of the Salem Harbor area.

B. Designated Port Area Consistency

DPAs were established to preserve existing port infrastructure for industrial water-dependent usage and to support the State's maritime economy. The program seeks to minimize coastal environmental impacts throughout the Commonwealth by prioritizing the utilization of natural deepwater ports and existing infrastructure over the expansion of new facilities within undeveloped areas. The proposed work is consistent with DPA legislation as it utilizes existing infrastructure in service of a water-dependent marine transportation use.

Due to the presence of industrial activity, dredging, and coastal structures, DPAs face unique environmental concerns. As such, the governing coastal regulations under Chapter 91 and the Wetlands Protection Act (WPA) specifically address projects within DPAs:

Under 310 CMR 10.26 (1-4), the WPA addresses DPAs in relation to impacts to land under the ocean (LUO). Projects are to be designed and constructed using best practical measures to minimize impacts to water circulation, water quality, storm damage prevention and flood control. The proposed work is in full compliance with the aforementioned regulations as there will be no direct impact to LUO as discussed in Section III.C – Resource Area Impacts.

Chapter 91 regulations pertaining to DPAs are designed to accommodate DPA policies as stated under 301 CMR 25.00 which allows the prioritization of marine industrial use over public access. The proposed improvements are consistent with the regulations and will have no adverse impact on waterfront accessibility. These specifically include:

- Proposed use is water dependant
- Use is consistent to maintain existing deep water ports for promotion of water-borne commerce and activities relying on marine transportation

- The use allows for the continued use of the existing marine dependant infrastructure
- To the extent possible public accessibility is maintained along the shoreline but is restricted where critical to the industrial use.

CZM Consistency - The proposed improvements is consistent with CZM Coastal Program Policies. Please see our responses to specific polices below that we believe to be relevant to meeting CZM consistency:

- Coastal Hazards

Policy #2 - Ensure that construction in water bodies and contiguous land areas will minimize interference with water circulation and sediment transport. Flood or erosion control projects must demonstrate no significant adverse effects on the project site or adjacent or downcoast areas.

Project proposes to maintain existing structure and will not interfere with water circulation nor sediment transport. As such project is consistent with this policy.

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

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

Project is state funded and will not exacerbate existing hazards or damage natural buffers. Design of project will be reasonably safe from flood and erosion and does not specifically promote growth or development in a V-zone. As such project is consistent with this policy.

- Growth Management

Policy #2 - Encourage sustainable development that is consistent with state, regional, and local plans and supports the quality and character of the community.

Project is consistent with local, state and regional plans including Salem Harbor Plan. As such project is consistent with this policy.

Policy #3- Ensure that state and federally funded infrastructure projects in the coastal zone primarily serve existing developed areas, assigning highest priority to projects that meet the needs of urban and community development centers.

Project is state funded and serves existing developed area. The project also meets the City of Salem's goals of supporting improvement of tourist attractions for economic benefit for community development. As such project is consistent with this policy.

- Ports and Harbor

Policy #3 - Preserve and enhance the capacity of Designated Port Areas to accommodate water-dependent industrial uses and prevent the exclusion of such uses from tidelands and any other DPA lands over which an EEA agency exerts control by virtue of ownership or other legal authority.

Projects proposed to maintain use of existing deepwater port facility and does not

restrict its use for other water-dependent industrial uses. As such project is consistent with this policy.

Policy #4 - For development on tidelands and other coastal waterways, preserve and enhance the immediate waterfront for vessel-related activities that require sufficient space and suitable facilities along the water's edge for operational purposes.

Project will enhance the existing use for vessel-related activities and maintain space for operational purposes for all future users. As such project is consistent with this policy.

Policy #5 - Encourage, through technical and financial assistance, expansion of water-dependent uses in Designated Port Areas and developed harbors, re-development of urban waterfronts, and expansion of physical and visual access.

City of Salem, along with state funding, is providing financial assistance for the expansion of uses and improved access at the Footprint berth. As such project is consistent with this policy.

- Public Access

Policy #1 - Ensure that development (both water-dependent or nonwater-dependent) of coastal sites subject to state waterways regulation will promote general public use and enjoyment of the water's edge, to an extent commensurate with the Commonwealth's interests in flowed and filled tidelands under the Public Trust Doctrine.

The proposed project will maintain public access and allow greater use by the public to the extent possible within a designated port area, and is consistent with waterways regulations. As such project is consistent with this policy.

- Water Quality

Policy #2 - Ensure the implementation of nonpoint source pollution controls to promote the attainment of water quality standards and protect designated uses and other interests.

Project is implementing non-point source mitigation during construction and, to the maximum extent possible, to the proposed improvements to capture sheet flows for treatment and minimize direct flows into the harbor. As such project is consistent with this policy.

Municipal Harbor Plan - Chapter 91 also enforces consistency with Municipal Harbor Plans. The 2008 revisions to the Salem Harbor Plan include the Salem Port Expansion Project as a key component of the regeneration of the Salem Harbor Area. The Harbor Plan specifically states that the City should “provide berthing and other support services to accommodate cruise ships and other commercial passenger vessels” (pg. 57)¹. The proposed improvements support attainment of this goal.

Although the size of cruise ships was not specified in the 2008 Harbor Plan, beyond suggesting small to mid-sized ships, page 67 of the 2000 Harbor Plan recommends new waterside uses including 200-800ft Cruise Ships.² The ENF on the Salem Port Expansion defined medium ships as up to 800 feet. Table I-1 above was developed to illustrate the separation between cruise ship vessels up to 400ft that are capable of utilizing the proposed Salem Wharf and those over 400ft which could only be berthed along the Footprint site.

¹ *Salem Harbor Plan*. Rep. City of Salem: Fort Point Associates, 2008. Print.

² *Salem Harbor Plan*. Rep. City of Salem: The Cecil Group, 2000. Print.

C. Natural and Protected Resources

Wetland Resource Areas protected under the Act within or immediately proximate to the project area include Land Under the Ocean, Coastal Beach, Coastal Bank, and Land Subject to Coastal Storm Flowage ("LSCSF"). In particular, the boundary delineations for Coastal Beach and Coastal Bank are important and are shown on the enclosed plans:

Land Under the Ocean is defined at 310 CMR 10.25(2) as meaning *land extending from the mean low water line seaward to the boundary of the municipality's jurisdiction and includes land under estuaries*. While work is proposed over this resource area for construction of deck area, no work below water is proposed.

Coastal Beach is defined at 310 CMR 10.27(2) , in part, to *extend from the mean low water line landward to the dune line, coastal bank line or the seaward edge of existing man-made structures, when these structures replace one of the above lines, whichever is closest to the ocean*. For this site, a small area of coastal beach exists along the south edge extends landward to the seaward edge of the riprap. No work is proposed in this area.

Coastal Bank is defined at 310 CMR 10.30(2) as *the seaward face or side of any elevated landform, other than a coastal dune, which lies at the landward edge of a coastal beach, land subject to tidal action, or other wetland*. The 'top of coastal bank' is further clarified by policy (DWW Policy 92-1) with respect to inundation by the 100-year flood and slope criteria. For the entire stretch of shoreline, the top of bank is located where the slope becomes <4:1. The coastal bank consists of installed revetment stone and the only work in this area consists of reconstruction of the stone above the High Tide Line.

Land Subject to Coastal Storm Flowage is defined at 310 CMR 10.04 as *"land subject to any inundation caused by coastal storms up to and including that caused by the 100-year storm, surge of record or storm of record, whichever is greater"*. On this project the 100 year flood elevation is +16.0 MLW. All of the site is anticipated to be flooded at that condition.

The resource areas have been delineated on the plans shown in FEMA has mapped the floodplain along the shoreline of the site as containing AE and VE zones with a 100-year flood elevation of 16 ft. MLW (map number 25009C0419F, July 3, 2012). There are no other flood zones mapped within the project area.

Based on this information, the City of Salem will be responsible for acquiring the following regulatory approvals for the proposed modifications of the Salem Port Expansion Project prior to the start of construction:

USACE – Section 10 and 404 – Category 2 Approval (Presumed)
DEP - Chapter 91 Amended Waterways License
Salem Conservation Commission – Order of Conditions

The City of Salem is committed to coordinating these filings with Footprint to ensure consistency in approach as these multi-faceted projects move ahead.

IV. Assessment of Impacts

A. Proposed Project Elements

The proposed improvements will involve performing the following:

- The installation of a small culvert and associated work at the crossing of an existing swale, located at Blaney St.

- Installing an approximately 500 foot long, 8 foot wide, bituminous pavement walkway that extends from northeast of the terminal building, between Footprint Power's coal pile run-off pond and the shoreline, to the existing paved surface adjacent to the timber pier.
- Screened fencing will be put in place along the walkway to provide a secure separation from the Footprint facilities.
- Stabilization of the shoreline along the walkway and improve the aesthetics of the waterfront. Up to 100 linear feet of reconstructions will be made along the top of a 175-foot section of the existing revetment. Repairs along the revetment will involve resetting stones at the top of the bank above the high tide line. All work will be done within the footprint of the existing revetment.
- Installation of new fender units at the four existing fender dolphins suitable for cruise ship berthing.
- Pier improvements including extension of the deck area between the existing pier and the existing seawall (6,900 ft²) utilizing the existing foundation support elements.
- ADA/MAAB compliant ramping system from vessel to pier.
- The installation of approximately 370 feet of temporary fencing that will be used only during times of cruise ship operations.

No pile driving is proposed nor is any filling of resource areas or dredging included within the request work elements.

B. Transportation

1. Footprint Agreement

Footprint and the City have established a short-term agreement, included in Appendix 5, which provides the City of Salem the ability to use the berth and associated upland areas for cruise ship access. While the use of upland areas for bus staging is not stipulated within the short-term agreement, Footprint has indicated that they are agreeable provided the project does not impact current site work including demolition, site remediation and construction of improvements including the associated use of the pier to support these construction activities.

2. Operations and Passenger Handling

The Footprint berth could receive up to 12 visits a year from medium cruise ships, however they are more likely to see 4-8 medium ships, with a maximum length of approximately 800ft. In general, most cruise ships visiting Salem will be under 500 passengers. While the berth at Footprint can support cruise ship vessels carrying a higher capacity, the site would be limited to cruise ships carrying 1,500 passengers (with approximately 750 crew). It is not anticipated that many ships of this size would be visiting during the course of a year. There would also be plenty of advance notice of any cruise ship docking in Salem, as these Port-of-Call dates would be scheduled about a year in advance.

As a Port-of-Call site, the cruise ships would only stop for the day (arrive early and leave the same day) and usually would occur during the middle of the week. It should also be noted that typically, approximately 50 percent or greater of the passengers utilize buses (Boston is about 55%). This would be estimated to be about 10-12 buses or about 40-48 vehicle trips on the day of

the vessel visit.

The procedures for the scheduling, coordination and implementation of the activities to occur within the Footprint site would be as follows:

1. City submits to Footprint a request to allow cruise ship landing at the Footprint berth for a specific date (based on vessel being too large to land at Salem Wharf facility).
2. Footprint reviews request in association with current Footprint site activities to approve or deny use of Footprint berth.
3. If approved, City makes commitment to cruise line and maintains monthly contact with Footprint as to the site conditions and the procedures for site access, bus route through site, final bus parking and segregation from construction site, temporary fencing limits, security controls required and conformance to site security, Facility Security Plan and MCP plan.
4. Based on site conditions, Footprint would establish the following:
 - a. Identification of access gate for buses and procedures for access required
 - i. Determination of access/egress requirements including police detail to be consistent with current Footprint site requirements
 - b. Identification of bus route through the site based on
 - i. Use of existing construction access roadways
 - ii. Separation from ongoing Footprint construction activities for public safety
 - iii. Identified bus staging area in immediate area of vessel with fenced separation
 - c. Confirmation of limits for all passengers including:
 - i. Temporary fencing limits including bus parking area
 - ii. Area accessibility to the public is safe in terms of MCP including the risk of exposure of contaminated soils to passengers and crew.
 - iii. Consistent with Facility Security Plan and Footprint's site security requirements
 - d. Identification of procedures for installation and removal of temporary fencing and other temporary elements required during the cruise ship port-of-call.
5. Use by the City of Salem would be based on the following:
 - a. Prior approval by Footprint
 - b. A defined traffic route and bus parking area approved by Footprint.
 - c. Access to and from the site would be consistent with current Footprint requirements including use of Police Details if needed.
 - d. No public (pedestrian) access within the Footprint site outside of the approved temporary fenced area.
 - e. Usage would be in conformance with Homeland Security requirements for a USCG approved Facility Security Plan.
 - f. All areas of public access would meet review and approval by licensed LSP and be in conformance with Mass Contingency Plan (MCP)
Footprint would have access to the marine facility at any time as may be required for emergencies.

In specific regard to passenger handling the following would occur:

- Passengers choosing to do a Cruise Ship sponsored shore-side excursion would be directed to buses located in the upland area immediately west of the Footprint pier within a temporary fenced area. Buses would have a capacity of up to about 50 passengers and

would be staged within the Footprint property. Buses will enter the Footprint site by way of Webb Street and enter the site via the extension of Webb Street and/or Fort Avenue. Exiting the site would occur in the same manner with exception of the potentially use of exiting via India Street. All buses would then travel north on Webb Street.

Within the Footprint site, buses will utilize existing internal roadways as developed for construction activities within the Footprint site and as approved by Footprint operations on the day of the vessel arrival. No new roadways or other improvements for the buses are proposed to be constructed.

- Passengers seeking to leave the ship but not take a Cruise Ship sponsored shore-side excursion would be directed to the proposed pathway over to the City's Blaney St property where they can walk or utilize the Salem Trolley, Pedi-cabs, walking tours etc. to get downtown. These alternatives and modes of travel are being used by Salem Ferry passengers

3. Vehicle/Pedestrian Traffic Impacts

An assessment of existing conditions and evaluation of pedestrian and vehicle traffic impacts of the proposed expansion was performed by Nitsch Engineering in December of 2013, and revised in February 2014 to incorporate additional traffic information provided by Footprint. This study was prepared by Nitsch Engineering with the results of this assessment found in Appendix 6.

Vehicle Traffic – Study utilised historic data from Salem Port Expansion as well as recent traffic analysis performed by Footprint. Traffic was analyzed for existing conditions based on 2013 and for the build/no build conditions projected for 2018. The existing level of service can be seen within Figure 2 and in Table 3 of the Nitsch Report found in Appendix 6. The primary intersections potentially impacted by traffic generated by would be the following:

- Derby Street/Blaney Street/Beckett Street
- Derby Street/Webb Street
- Webb Street/Essex Street
- Webb Street/Bridge Street

The no build condition included all traffic associated with the remediation and construction of the Footprint site with the results presented in Table IV-1 below. The "build condition" represents the addition of traffic associated with the berthing of cruise ships as the Footprint berth with the results presented in Table IV-2 below.

The report concluded that proposed project will not result in significant vehicle delays while a cruise ship is in the berth. Some approaches will be slightly more congested, however changes will be minimal in comparison to no build conditions. No changes in level of service occurs. As stated in the report, the remaining intersections would operate at acceptable levels of service and therefore would not be impacted by the traffic increase.

Table IV-1 – 2018 No-Build Level of Service Summary

INTERSECTI ON	MOVEMENT	WEEKDAY MORNING PEAK HOUR					WEEKDAY EVENING PEAK HOUR				
		V/C ¹	DELAY ²	LOS ³	50th Q ⁴	95th Q ⁵	V/C ¹	DELAY ²	LOS ³	50th Q ⁴	95th Q ⁵
Essex St Webb St	Essex St NB – LTR	0.10	11.9	B	7	32	0.22	16.0	B	19	51
	Szetela St SB – LTR	0.07	9.9	A	4	25	0.18	10.6	B	11	40
	Webb St. EB – LTR	0.80	17.9	B	162	274	0.20	3.8	A	14	36
	Webb St WB – LTR	0.22	6.9	A	21	44	1.05	60.3	E	~403	#614
	Overall	0.80	15.5	B	-	-	1.05	46.6	D	-	-
Webb St at Derby St	Un-signalized Intersection	-	-	A	-	-	-	-	A	-	-
Derby St at Blaney/Becket	Un-signalized Intersection	-	-	A	-	-	-	-	A	-	-
Webb St at Bridge St	Bridge St NB- TR	1.01	0.3	D	~195	#421	0.91	40.7	D	196	#381
	Bridge St SB – T	0.24	0.4	A	41	75	0.46	10.5	B	92	154
	Bridge St. SB – L	0.93	13.8	F	61	#162	0.34	30.9	C	21	52
	Webb St WB-R	0.08	13.8	A	0	16	0.39	6.7	A	35	81
	Webb St WB-L	0.14	17.8	B	19	45	0.67	25.9	C	111	#195
	Overall	1.01	43.1	D	-	-	0.91	23.5	C	-	-

¹ Volume to Capacity Ratio; ² Vehicle Delay, measured in seconds; ³ Level Of Service; ⁴ 50th Percentile Queue (in feet); ⁵ 95th Percentile Queue (in feet) based upon 22 feet per vehicle;
volume exceeds capacity, queue may be longer; m 95th percentile queue is metered by upstream signal; ~ volume exceeds capacity.

Taken from Table 4- Nitsch Engineering Traffic Assessment - Salem Port Expansion Report

Table IV-2 – 2018 Build Level of Service Summary

INTERSECTI ON	MOVEMENT	WEEKDAY MORNING PEAK HOUR					WEEKDAY EVENING PEAK HOUR				
		V/C ¹	DELAY ²	LOS ³	50th Q ⁴	95th Q ⁵	V/C ¹	DELAY ²	LOS ³	50th Q ⁴	95th Q ⁵
Essex St Webb St	Essex St NB – LTR	0.10	11.9	B	7	32	0.25	14.6	B	19	53
	Essex St SB – LTR	0.07	9.9	A	5	6	0.18	10.6	B	11	40
	Webb St. EB – LTR	0.81	17.9	B	162	274	0.20	3.8	A	14	36
	Webb St WB – LTR	0.27	7.6	A	25	51	1.08	69.4	E	~420	#632
	Overall	0.81	15.5	B	-	-	1.08	53.0	D	-	-
Webb St at Derby St	Un-signalized Intersection	-	-	A	-	-	-	-	A	-	-
Derby St at Blaney/Becket	Un-signalized Intersection	-	-	A	-	-	-	-	A	-	-
Webb St at Bridge St	Bridge St NB- TR	1.01	0.3	D	~195	#421	0.91	40.7	D	196	#381
	Bridge St SB – T	0.24	0.4	A	41	75	0.46	10.5	B	92	154
	Bridge St. SB – L	0.93	13.8	F	61	#162	0.34	30.9	C	21	52
	Webb St WB-R	0.08	13.8	A	0	16	0.39	6.7	A	35	81
	Webb St WB-L	0.14	17.8	B	19	45	0.67	25.9	C	111	#195
	Overall	1.01	43.1	D	-	-	0.91	23.5	C	-	-

¹ Volume to Capacity Ratio; ² Vehicle Delay, measured in seconds; ³ Level Of Service; ⁴ 50th Percentile Queue (in feet); ⁵ 95th Percentile Queue (in feet) based upon 22 feet per vehicle;
volume exceeds capacity, queue may be longer; m 95th percentile queue is metered by upstream signal; ~ volume exceeds capacity.

Taken from Table 5 of Nitsch Engineering Traffic Assessment - Salem Port Expansion Report

Pedestrian Traffic – Pedestrian travel along the surrounding walkways and sidewalks are anticipated to be congested only during the assumed 2.5 hour period of passenger unloading which is a combination of passenger transfer to buses as well as those seeking to stay locally and traverse through the Salem Wharf site (Blaney Street). However suggestions were provided to alleviate congestion and accommodate pedestrians in the area including:

1. Dispersion of pedestrians down White Street and Blaney Street as well as use of Beckett and Essex Streets.
2. Install area of additional wayfinding signs for the pedestrians throughout the area.
3. Upgrade the pavement markings and signing along the pedestrian routes and street crossings including the Salem Heritage Trail within and beyond the study area.
4. Consider upgrading site access by prohibiting parking around the Derby street intersection while a ship is in the berth

To further alleviate traffic impacts, the city will provide a police detail, when necessary, at major crosswalks and at Footprint for bus access and egress. This will minimize both vehicular and pedestrian congestion around the project area and improve pedestrian safety during vessel offloading. Police detail is presumed to only be necessary for larger passenger loads, and may not be required during all vessel visits.

Wayfinding signs will be used to disperse passengers and provide options for downtown access. This will minimize congestion along neighborhood sidewalks and reduce crowding at intersections.

In summary, the anticipated impacts to traffic while a 1,500 passenger vessel is unloading are considered minimal for vehicles and moderate for pedestrians. Traffic impacts may be further minimized through mitigation efforts including signage, pavement markings, parking restrictions, and police details. These impacts are limited to the times when a ship is loading/unloading. The proposed work will have no impact on traffic outside of these times.

Construction will not impact traffic as work requiring large equipment will be staged primarily on the Footprint site or from the waterside by barge.

C. Greenhouse Gas Analysis

A mobile source greenhouse gas (GHG) emission analysis was performed for the proposed work for the No-Build, Build, and Build with Transportation Demand Management (TDM) measures for the project. The results of the analysis are presented in Appendix 7. In summary, the proposed site changes on Derby Street represent 0.2 percent of the emissions burden on Derby Street as predicted for 2018. Implementation of TMD measures is anticipated to reduce the CO2 emission burden by approximately 2%. Recommended TMD measures include:

1. ***Locate Proposed Operations Near Transit***– The project is conveniently located 1.2 miles away from a Salem MBTA Commuter Rail Station on the Newburyport/Rockport commuter rail line. MBTA bus service is also provided from the Commuter Rail Station to surrounding communities including Boston. The Salem Trolley will also provide visitors with one-hour tours and all day shuttle service through Salem and one of its routes can provide access to the MBTA station. Visitors can access trolley service from Salem Ferry site off of Blaney Street.

2. ***Develop Multi-Use Paths To and Through Site*** – A new walkway is proposed between the ship berth and Salem Wharf site along the existing shoreline to connect this section to a new pedestrian walkway (harborwalk) that runs the entire length of Salem Wharf site and onto Blaney Street. The site also includes an easy access pedestrian pathway to White Street.
3. ***Salem Spins Bike Sharing Program*** – The City provides a secured bicycle rack with bicycles at the site as part of the Salem Spins Bike Sharing Program. The City will add signs directing passengers to the Boston Harbor Cruises ferry office to sign-up for a bicycle for the day as well as provide additional bikes during Port-of-Calls.
4. ***Sidewalk and Signage Improvements to Enhance Pedestrian Accommodations*** – The City proposes to upgrade pavement markings and signing to enhance pedestrian accommodations along Derby and Blaney Streets and develop a consistent plan for crosswalk design in the study area.

The City of Salem will work with the Cruise ship, buses, trolleys and taxis to establish ways to minimize GHG levels including limits on vehicle idling times, minimization of vehicle numbers and development of opportunities to stagger uses. In addition, the City will work with bus and trolley operators for opportunities to switch to cleaner engines and fuels including CNG along with coordination for obtainment grants and subsidies to operators for new or modifications to existing vehicles. This effort would include development of an incentive plan for operators to use these vessels for the project.

Providing of Cruise Ship Shorepower

As requested in the NPC Certificate, the use of shorepower was considered for implementation with this project, utilizing numerous references including the American Association of Port Authorities' 2007 Draft report "Use of Shore-Side Power for Ocean-Going Vessels".³ In review of these and other resources, the critical elements of implementing this type of mitigation into a project would include:

- The cost to bring electricity from a local grid to the terminal will be in the range of \$1 million to \$3 million dollars plus the ship-side or shoreside equipment necessary to connect to shore-power which can range from \$300,000 to \$2 million dollars. As there is no existing power service of the size required at the berth, these costs are estimated likely to be over \$2 million.
- Each ship may need modification to allow connection to shore power. Only now are standards being developed in terms of ship voltage. This is critical as most of the vessels are foreign flagged and use different voltage and frequency (50 hertz versus 60 hertz). These costs would be in addition to site costs.
- The studies indicate that the feasibility becomes realistic when the the cost falls below the \$14,000/ton identified in California's Carl Moyer program. Assuming a relatively low cost of implementation of \$2.0 million, this would indicate the need to remove approximately 145 tons. This is based on a CO² production rate identified in a September 9, 2013 memorandum Energy and Environmental Research Associates,

³ http://www.ops.wpci.nl/images/downloads/original/1264151248_2007aapauseofshore-sidepowerforocean-goingvessels.pdf

LLC, where an average of about 200 pounds per ship while at the berth (based on a review of 88 vessels with 12.3 hr length stay in Charleston, SC). This would mean that over 1,450 ships would need to call at the Footprint cruise ship berth just to cover the infrastructure cost. The actual cost of power has been indicated to be higher from shoreside power than vessel generated power and therefore provides no ability to offset costs.

- As stated in this EIR, the Salem Cruise site is estimated to see only up to 12 cruise ships per year. The capital investment and required maintenance costs of a shorepower system capable of supplying cruise ships is not economically feasible given the scale of the proposed work and the uncertainty surrounding the future development of the upland areas.
- A key to the program success is the frequency of specific ships that call to the cruise ship berth. Where repeated calls of the same vessel (or class of vessel), opportunities do exist for implementing shorepower. However, Salem has no agreements or expectations as to repeat calls by vessel. Once the level of cruise ship use develops, the determination of providing/requiring shorepower can be re-evaluated, including the potential of new standards and regulations in this regard.

D. Stormwater

In accordance with the MassDEP Stormwater Management Regulations, the proposed work is subject to the performance standards set forth is a new development due to the increased impervious area identified. However, since the project includes a pedestrian walkway/footpath and a site consistent with a marina type use, it is subject to the Stormwater Management Standards only to the maximum extent practicable. Per Volume 1, Chapter 1, Page 2 of the Standard within the *Massachusetts Stormwater Handbook: The Stormwater Management Standards shall apply to the maximum extent practicable to the following:*

- (5) *Marinas and boat yards, provided that the hull maintenance, painting and service areas are protected from exposure to rain, snow, snow melt, and stormwater runoff; and*
- (6) *Footpaths, bike paths and other paths for pedestrian and/or nonmotorized vehicle access.*

The existing pathway is constructed of gravel with an impermeable liner underneath that extends into the coal pile run-off pond. The existing slope of the liner outside of the coal pile run-off pond bank directs any surface water outshore to the harbor with no treatment. The proposed walkway will shift the drainage pattern along the shoreline, directing water into the coal pile run-off pond rather than the harbor. The functionality of the overflow swale at the southern bank of the coal pile run-off pond will not be altered by the proposed work. An aluminum ramp will be used to span the swale and maintain ADA accessibility.

The proposed 6" culvert on the southeastern corner is designed to span an existing gravel/stone filled swale. The culvert is proposed as a redundancy in the event that the swale silts-in to avoid washout of the walkway. The existing swale crossing is located above the coastal bank on land subject to coastal storm flowage, and as such, no mitigation is anticipated.

The proposed 11,000 sf increase to impervious area includes the paving along the walkway and the total area of access decking spanning between the pier and the seawall. However, this area is broken

down into three specific areas which include:

- Approximately 3,180 sf of new impervious area has been included but is associated over the rubber pond liner which is also impervious.
- Approximately 6,900 sf of new impervious area has been included that is associated with the increased deck area located over the watersheet.
- Approximately 920 sf of new impervious area has been included for other upland area that is currently gravel.

Due to the project being a pedestrian walkway/footpath and a site consistent with a marina use, the project is subject to the Stormwater Management Standards only to the maximum extent practicable. Due to site constraints associated with limited area, as well as the status of site redevelopment, providing structural/infiltration BMP's are not practical or feasible alternatives.

In general, structural BMPs, such as catch basins, oil/grit separators, and proprietary separators, would not be feasible for this project due to physical constraints associated with these structures due to its size and depth of installation, when considering the lack of available area on the project site to install such structures while also maintaining suitable separation to provide gravity flow when considering tidal influences at the site. Infiltration BMPs would not be feasible or practicable with respect to maintaining adequate groundwater separation. In addition, infiltration BMPs would provide limited recharge benefits, given its close proximity to the ocean body, and that the groundwater in the area would have a high salinity content, which would not be suitable for water supply. Lastly, the Stormwater Management Regulations generally prohibits the use of low impact infiltration BMPs (i.e., porous pavement, rain gardens) in areas that discharge to a critical area (shellfish growing area).

In order to minimize direct run-off of stormwater into Salem Harbor, Best Management Practices (BMP's) will be implemented along the area of proposed work. The BMP's proposed for this project are designed to mimic the natural hydrology of the site, including:

- To the maximum extent possible, the construction will provide a 2% slope inshore to direct excess surface water into the adjacent coal pile run-off pond for further treatment prior to release into the harbor. The directing of runoff towards the run off pond will promote TSS removal.
- Pier decking will slope inshore to utilize existing stormwater treatment systems.
- Operation and maintenance plan
- Stormwater pollution prevention plan
- Sedimentation and erosion control plan

Additionally, the project area is subject to a TMDL for fecal coliform. However, due to the inability to provide a dedicated structural stormwater management system, installation of a disinfection BMP, such as ultraviolet disinfection, ozone, or chlorine to mitigate fecal coliform, is not practicable given inability to install such a system and the temporary nature of the proposed construction.

The walkway and pier span will service only pedestrians, will not be subject to vehicle traffic, and not be subject to winter season sanding; therefore, the TSS concentrations should be negligible. In addition, a pedestrian walkway/footpath is not considered to be a use with a higher potential pollutant load.

E. Construction Period

Construction period impacts are anticipated to be limited as a majority of the work will be performed

from the waterside and thus will have no impact on traffic or parking. It is anticipated that any large shoreside equipment will access the site via Webb Street and stage south of the coal pile inshore of the pier, however this is largely dependent on the status of operations with Footprint. Smaller construction equipment, support trucks and materials could use the Blaney Street access. As stated in the Wharfing Agreement included in Appendix 5, priority of berth usage will always be given to Footprint. Likewise, any upland activity and staging on the Footprint site will require prior approval and coordination with Footprint to avoid any disruption of their normal operations.

Work will be performed during normal working hours, and coordinated with Footprint to avoid impacts to existing marine and Footprint construction operations. Noise impacts will be limited as there is no proposed work such as pile driving or blasting that produces more noise than typical daily operations at the facility. The proposed work will have no impact on the Salem Ferry as waterside work will be limited to the pier and will not obstruct the channel. All shoreline revetment work will be performed by a small excavator from the top of the bank. No impact is anticipated to pedestrian, bicycle, or vehicle transit throughout the neighborhood during construction as vehicle trips will be limited and pedestrian access is prohibited within the Footprint site. Construction is anticipated to last approximately 4-6 months.

1. Recycling/Emissions Minimization

The City of Salem remains dedicated to environmental responsibility and sustainability efforts. As such, the City will make all practicable efforts to hire contractors that have installed emission control devices on off-road vehicles, or use construction equipment which meet Tier 3 or Tier 4 emissions standards for non-road construction equipment. During construction, all demolition related debris including steel, asphalt, and concrete jersey barriers will be reused or recycled. Likewise where practicable, the City will implement the use of recycled materials in pavement for the pedestrian walkway.

2. Massachusetts Contingency Plan Consistency

The site is subject to the Massachusetts Contingency Plan (MCP), which designates specific Activity and Use Limitations (AUL) for the site. The proposed work is limited to surface paving with minimal grade changes. As such, the project will maintain full compliance with the MCP and AUL. All proposed work will be subject to review and approval by the Licensed Site Professional for the Footprint Site.

3. Erosion and Sedimentation Control

Turbidity impacts associated with erosion and sedimentation are anticipated to be minimal as limited soil disturbance is proposed. Work will be performed in phases starting with the stabilization of the shoreline and establishment of a sedimentation barrier along the top of the bank to contain any potential upland disturbances. Similarly, the pier span infill will be constructed out of pre-cast panels to avoid impacts of pouring concrete over water.

In addition, the following structural and non-structural stabilization measures will be utilized to minimize onsite erosion and prevent sedimentation of adjacent resource areas during construction:

a. Non-Structural Measures

1. To the maximum extent feasible, existing onsite vegetation will be retained and

- protected. Any trees removed will be replaced with similar species.
2. All disturbed areas are to be re-vegetated or temporarily stabilized immediately upon completion of grading.
 3. All finish grades will slopes of 3 to 1 (horizontal to vertical) and steeper will be compacted, and stabilized with stone.
 4. Weekly inspections will include all of the sediment control measures as well as a review of spill containment and prevention measures.
 5. No construction activities will occur past the limit of work delineated by the down gradient erosion control/sedimentation barrier.

b. Structural Measures

1. A sedimentation barrier will be installed as needed around the perimeter of the site and around any earth stockpiles located along the site boundaries to control overland flow of site-generated stormwater runoff. This barrier will be installed prior to the start of any other project-related earthwork.
2. A debris boom will be installed and maintained to surround work on the pier.
3. Silt fence will be staked in place with the bottom secured to the ground.
4. An adequate supply of siltation controls will be onsite for emergency use.
5. Stormwater runoff will be diverted from flowing over disturbed areas.
6. Construction access drives, when utilized, will feature crushed stone entrances to minimize mud from being tracked onto the adjacent roadways.
7. Construction site waste materials will be properly contained onsite and disposed of at an offsite location in accordance with local and state regulations.
8. No fuels, lubricants or hydraulic fluids will be stored onsite. No equipment maintenance is to be completed onsite. Refuel will be restricted to existing paved areas.

F. Resource Area Impacts

The following values represent impacts resulting from the proposed improvements and do not include impacts from the previously permitted work for the Salem Port Expansion Project or separate work conducted as part of the Salem Harbor Station Redevelopment Project:

	Linear Feet	Square Feet
LSCSF Impact (Elev. 16 MLW)		4,000
Coastal Bank Impact	100	
Coastal Beach Impact		0
Land Under Ocean (Direct)		0
Land Under Ocean (Shading)		3,800
Fill Below HTL		0
Impervious Area - Total		11,000
- Area over Lined Dike		3,180
- Area over Water		6,900
- Upland Area		920

The limit of coastal beach extends from MLW to the outshore edge of the Coastal Bank. Given that the coastal bank is delineated based on the toe of the existing revetment (man-made structure), the proposed improvements are not anticipated to have any direct impact to Coastal Beach or Land Under Ocean. Indirect impacts from shading caused by the pier span is anticipated not to have a significant adverse impact on surrounding resources, as there is no significant sub aquatic vegetation and no mapped shellfish on the Footprint site. Impacts to Land Subject to Coastal Storm Flowage include the area of paving along the walkway.

It should be reiterated that none of these impacts are considered “new”. The entire site is an area of historic fill. The proposed work is isolated to 1.4 acres of the over 64 +/- Footprint Property. The proposed revetment work and the repairs to the existing pier are limited to the existing footprints of the respective structures. All work is proposed above the high tide line. The proposed bituminous pathway will be constructed on top of existing gravel fill, which is on top of an impermeable liner along the coal pile run-off pond. The pier will utilize the existing support work to maintain no additional impacts to the surrounding resources.

A review of information available on Mass GIS shows the following:

- The southern portion of the project area is mapped habitat for European Oyster and Blue Mussel (south of Footprint site) – although no live specimens were identified during the shellfish survey performed for the Salem Wharf Project
- The area is closed to shellfish growing
- The area is not designated as Estimated or Priority Habitat of Rare Wildlife
- No eelgrass is mapped in the vicinity and no adverse impacts are anticipated
- Project is outside any Outstanding Resource Waters
- The project is outside of the South Essex Ocean Sanctuary

Given that no work is to be performed below the high tide line, the proposed improvements will not have an adverse impact on adjacent waterway resources, as such no impacts are anticipated to outshore resources. Upland alterations will have no lasting environmental impact as the site already serves an industrial use and is highly developed.

Greenhouse gas impacts associated with the proposed work are anticipated to be de minimis and will have no impact on ambient air quality. Construction related impacts will be minimized through contractual obligation to minimize idling time of machinery, and selection of contractors with emission control devices on off-road vehicles or equipment that meets Tier 3 or 4 emissions standards for non-road construction equipment.

As previously discussed, the proposed improvements will not result in any substantial changes to the project as proposed. The proposed work will have no impact to anticipated site use or traffic flow as presented in the previously submitted Salem Port Expansion ENF.

V. Section 61 Findings

In accordance with M.G.L. c30 § 61, and as required in the Secretary’s Certificate for the Notice of Project Change (NPC), proposed Section 61 findings are included which identify all mitigation measures, including the schedule for implementation. The proponents have endeavored to incorporate all feasible measures to avoidance impacts to the environment. In the case where avoidance is not possible, the City proposes to incorporate minimization and mitigation efforts to reduce net environmental impact to the maximum extent feasible.

In accordance with the legislation, all agencies and authorities from which the project will require a

permit are required to issue a finding certifying that all feasible measures have been taken to avoid or minimize impacts. Following completion of construction, the City will provide certification to the MEPA office signed by an appropriate professional indicating that all mitigation measures proposed in the EIR have been incorporated into the project.

As discussed in Section III.C, the agency actions that require Section 61 findings are likely to include:

Agency	Permit
Department of Environmental Protection- Wetlands and Waterways	Chapter 91 License Amendment

Table V-1, as presented below, identifies the proposed mitigation measures as related to the required state permits and the anticipated cost and schedule for implementation. All mitigation is assumed to be undertaken by the proponent.

Table V-1 – Summary of Mitigation Measures

Subject	Impact	Mitigation	Schedule
Wetlands, Waterways and Tidelands			
	Impacts to Adjacent Intertidal Resource Areas	All work will be performed above the HTL to avoid potential impacts to resource areas	During Construction
Stormwater			
	Potential Construction Period and Operational Impacts to Stormwater	The proponent will provide a detailed Stormwater Management Report to the Salem Conservation Commission including a Stormwater Pollution Prevention Plan for Construction Activities. BMP's will be implemented where feasible and practicable to prevent the discharge of sediment or contaminated groundwater into Salem Harbor	Pre-Construction and During Construction
Transportation/Traffic			
	Increased Pedestrian Traffic	Upgrade the pavement markings and signing in the study area and Install way finding signs for the passenger assembly area around the ferry terminal.	During Construction
	Potential Impact to Neighborhood Pedestrian and Vehicular Traffic	The majority of construction will be performed by waterside barge. Shoreside work will be staged on the Footprint site to avoid impacts to the neighborhood	During Construction
	Potential Impact to Neighborhood Pedestrian and Vehicular Traffic	Stage buses on Footprint property for direct access to Webb St, Fort Ave, and potentially India Street. Alternative downtown transportation via trolley, pedi-cab, or foot traffic will be directed to Blaney Street	During Port-of-Call Operations
	Potential Impact to Neighborhood Pedestrian and Vehicular Traffic	Provide police details at major crosswalks and at Footprint for buss access and egress	During Port-of-Call Operations
Greenhouse Gas Emissions (GHG)			
	Emissions From Construction Equipment/Vehicles	City is committed when practicable to hire contractors that have installed emission control devices on off-road vehicles, or use construction equipment which meet Tier 3 or Tier 4 emissions standards for non-road construction equipment. Require reduced idling times	During Construction
	Vehicle Traffic Emissions	Site Location – Project is 1.2 miles away from a Salem MBTA Commuter Rail Station on the Newburyport/Rockport commuter rail	Project Planning

	Vehicle Traffic Emissions	Salem Spins bike sharing program – The City will provide a secured bicycle rack with bicycles at the site as part of the Salem Spins Bike Sharing Program. The City will add signs directing passengers to the Boston Harbor Cruises ferry office to sign-up for a bicycle for the day	During Operation
	Vehicle Traffic Emissions	City to coordinate and offer incentives to bus and trolley operators to utilize alternative fuel vehicles including search and assistance with federal and state grant and subsidy programs, as well as give priority to alternative fuel vehicles wherever possible	During Operation
Construction			
	Potential Noise Impacts During Construction	Noise impacts would be minimal and temporary, and will be mitigated by restricting noise producing work to normal working hours	During Construction
	Potential Waste From Demolition	All demolition related debris including steel, asphalt, and concrete jersey barriers will be reused or recycled	During Construction

VI. Mitigation Measures

City of Salem will implement the following measures to mitigate the impacts from Cruise Ship Port-of-Calls

Category	Measure	Action Required	Cost	Performed by
Wetlands, Waterways and Tidelands	Protect Intertidal Resource Areas	All work performed above the HTL	No Cost Impact	Contractor
Stormwater	Reduce Construction and Operational Impacts to Stormwater	Adhere to Stormwater Pollution Prevention Plan for Construction Activities. BMP's will be implemented where feasible and practicable to prevent the discharge of sediment or contaminated groundwater into Salem Harbor	\$5,000	Contractor
Traffic Mitigation / GHG	Upgrade Pedestrian Crossings and Way-Finding	Upgrade the pavement markings and signage on Derby Street and at crossing. Install way finding signs for the passenger to and from Downtown area	\$10,000	City of Salem
Traffic Mitigation / GHG	Police Details during Port-of-Call	Provide police details at major cross-walks and at Footprint for bus access and egress	\$2,000 per day	City of Salem
Traffic Mitigation	Reduce Impact to Neighborhood Pedestrian and Vehicular Traffic	Construction will be performed by waterside barge. Shoreside work will be on the Footprint site to avoid impacts to the neighborhood	\$25,000	Contractor

Traffic Mitigation	Reduce Impact to Neighborhood Pedestrian and Vehicular Traffic	Stage buses on Footprint property for direct access to Webb St, Fort Ave, and potentially India Street. Alternative downtown transportation via trolley, pedi-cab, or foot traffic will be to Blaney Street	No Cost Impact	City of Salem
GHG	Reduce Emissions From Construction Equipment/Vehicles	City to hire contractors with emission control devices on off-road vehicles, or use construction equipment which meet Tier 3 or Tier 4 emissions standards for non-road construction equipment. Require reduced idling times	No Cost Impact	City of Salem
GHG	Use of Alternative Fuels	City to coordinate and offer incentives to bus and trolley operators to utilize alternative fuel vehicles including search and assistance with federal and state grant and subsidy programs as well as give priority to alternative fuel vehicles wherever possible	City Staff Cost	City of Salem
GHG	Reduce Vehicle Traffic Emissions	Use of public transportation. Project is 1.2 miles away from MBTA Commuter Rail Station on the Newburyport/Rockport commuter rail	No Cost Impact	City of Salem
GHG	Vehicle Operations	Work with Bus and trolley operators to minimize idle time, number of vehicles required and staggering of use whenever possible	City Staff Cost	City of Salem
GHG	Alternative Transportation	Expand existing bike program at Ferry Terminal with placement purchase of addition bikes at Ferry Terminal during Port-of-Calls for use by passengers	City Staff Cost for relocation of bikes to Ferry Terminal	City of Salem
Construction	Reduce Noise Impacts During Construction	Noise impacts would be minimal and temporary, and will be mitigated by restricting noise producing work to normal working hours	No Cost Impact	Contractor
Construction	Potential Waste From Demolition	All demolition related debris including steel, asphalt, and concrete jersey barriers will be reused or recycled	\$2,500	Contractor

The City of Salem agrees to meet the above mitigation measures and provide a certificate of completion once they are performed.

VII. Responses To Comments

Questions Raised By MEPA During NPC Review

1. *Use of the Footprint pier was framed as a temporary use. The City was “shifting the use” from Blaney Street Wharf to the Footprint pier until the City’s wharf could be built out. However, a ship with 2100 passengers is much larger than what the Blaney Street Wharf could accommodate, even at build out. What is the city’s long-term plan for the Footprint pier?*

Response

The City and Footprint have established a draft short-term agreement for the use of their marine terminal. A copy of the short-term agreement is included in Appendix 5. The City’s intent is to continue with cruise ship berthing in the long term, however this will require significant future coordination with Footprint and establishment of a long-term agreement for upland use. Once a long-term agreement is reached, and a plan is developed for the upland areas, the City would work with Footprint to file a NPC at that time.

The original 2008 plan called for handling of cruise ship passengers at Blaney Street through use of tenders to/from Cruise ships berthed offshore. The “shifting of use” is only to handle the passengers that would normally use these tenders and allow the cruise ships to dock at Footprint and provide the passengers direct transfer to the pier. As indicated in the 2008 ENF filing within Table 2 on page 5, the new Blaney St. pier will handle Coastal Cruisers (limited to about 300 feet), which could berth against the floats and/or end of the pier.

2. *The size of the ships was never discussed. The 2008 plan only shows a 250-foot small coastal cruise ship. This is significantly different than a 2100-passenger ship in terms of potential impacts.*

Response

The 2007 Analysis of Existing Port Plans, and supported in the ENF filing, indicated that the pier would be designed to handle the passengers from cruise ships (up to 800 feet at anchorage) that were moored offshore and supported by tenders handling 100 to 150 passengers each to ferry passengers back and forth to the cruise ship. See Table 1 on Page 4 of the ENF filing.

At the time of the 2008 filing, it was not anticipated that the Footprint site would be available. The potential use of the Footprint site represents the same ultimate use of Salem Wharf site but eliminates the need for offshore mooring and the use of tenders to transfer passengers. The current plan eliminates additional buses at the Salem Wharf Site by providing access through Webb Street, Fort Avenue, and India Street. Buses will utilize existing internal roadways on the Footprint site. Alternative transportation including trolleys, pedi-cabs and pedestrians will be instructed to utilize the Blaney Street site.

3. *How would the city handle the 2100 pedestrians?*

Response

The City and local community routinely manage events in Salem that attracts much larger crowds, such as the Maritime Festival and July 4th festivities that occur within the neighborhood. To give some context to the potential number of visitors that might be part of a cruise ship, the Salem Farmers Market routinely serves over 2,000 patrons in Derby Square every Thursday from 2pm to 7pm.

In addition, not every cruise passenger will disembark from the boat and certainly not all passengers disembarking leave at the same time. Many stay on board, others may bypass Salem altogether in favor of a cruise-sponsored bus excursion off site. In that instance, it is the City's long term goal to stage buses at the Footprint property in the upland area referenced. The buses would be directed to and from the wharf via Webb Street to Route 1A and exit via Webb and India Street. Supplying cruise ships by trucks is normally done at the beginning or end of a cruise and would likely not occur in any large quantity or at all.

In general, most cruise ships visiting Salem will be under 500 passengers. While the berth at Footprint can support higher capacity vessels, it is not anticipated that many ships of this size would be visiting during the course of a year. At this time we are establishing a maximum passenger size of 1,500. There would also be plenty of advance notice of any cruise ship docking in Salem, as these Port-of-Call dates would be scheduled approximately a year in advance.

As a Port-of-Call, the cruise ships would only stop for the day (arrive early and leave the same day) and usually would occur during the middle of the week. It should also be noted that typically, approximately 50 percent or greater of the passengers utilize the buses (Boston is about 55%) which then limits the number of passengers that flow through the Salem Wharf Site. This would be estimated to be about 10-12 buses or about 40-48 vehicle trips.

In summary the passengers leaving the cruise ship will be handled by two separate means:

1. Passengers choosing to do a Cruise Ship sponsored shore-side excursion would be directed to buses located in the upland area immediately west of the Footprint pier. Typical buses would have a capacity of up to about 50 passengers and would be staged within the Footprint property. Buses will enter by way of Webb Street and Fort Avenue, and potentially exit via India Street
 2. Passengers seeking to visit downtown Salem will be directed to the proposed pathway over to the City's Blaney St property where they can walk or utilize the Salem Trolley, Pedi-cabs, walking tours etc. to get downtown, similar to the Salem Ferry passengers
4. *Are there additional traffic impacts, from buses, etc.?*

Response

Impacts are anticipated to be minimal and are limited to the days a ship is in the berth which is likely to be 4-6 days out of the year. Please see Appendix 6 for an assessment of vehicle and pedestrian traffic impacts.

State Agency Comments

1. *Request clear information to confirm that there will be no conflict between Footprint's use of the berth and the City's use of the berth for cruise ship access. (CZM)*

Response

Cruise ship scheduling is typically known approximately one year in advance. This will allow sufficient time to coordinate with Footprint to avoid conflict. The next 2-3 years will see a tremendous amount of marine-based activity, given the needs of the demolition and construction activities planned, and the focus on utilizing ocean going vessels for material movement onto and off the site. To avoid conflicts, Footprint will have priority over the berth usage, and all requested use will require prior approval and coordination with Footprint.

2. *Recommend any structural or use needs for the Salem Wharf location to accommodate the additional passengers be detailed in the Chapter 91. (CZM & DEP)*

Response

With the exception of signage and marking improvements, no structural changes are proposed at the Salem Wharf location. The Salem Wharf was designed to accommodate passengers brought in via tender. Although the proposed work will alter the flow of passengers by allowing passengers to disembark all at once rather than via tender, it will also provide a secondary egress via the footprint site for bus excursions reducing the passenger load at the Salem Wharf site.

Public Comments

1. *Why has there been no notice to the local area or opportunity for public to voice their opinion?*

Response

The City has been working diligently for the last several years to build and reactivate the Salem Wharf and Blaney Street. In addition, they have been working closely with Footprint Power, the owners of the Salem Harbor Station, to advance plans for use of the current pier on their adjacent facility for cruise ships and other vessels. The notion of an expanded waterfront and pier access at the power plant site has been part of the planning process and many of the public presentations related to the power plant and the Blaney Street site. The original Notice of Project Change and the Environmental Impact Report were placed in the Environmental Monitor and posted in City Hall and along Derby Street.

2. *Concern that neither Footprint Power or the City of Salem have entered into an agreement with cruise ship company to have large cruise ships dock in Salem. Concerned that even with the proposed changes, Salem will not be a desirable stop for large cruise ships.*

Response

Footprint has no intention of entering into an agreement with cruise ship companies. All such agreements would be between the cruise lines and the City of Salem. Given Salem's strong tourism market and the attractiveness of a port so close to downtown, the City has received strong interest from cruise ships to visit Salem. With the close proximity of the Wharf to the downtown and historic sites, there are numerous options for low-impact transportation. Cruise ship companies have expressed to the City that the ability to dock alongside the Footprint dock is logistically easier than tendering and would be viewed as an important asset of the Port of Salem.

3. *Concern that Footprint is using this tactic to maintain the site as a water-dependent use while they reconstruct to avoid issues and avoid requesting a variance with Chapter 91.*

Response

The City's desire to utilize the waterfront along the power plant site has been openly expressed since the publication of the 2000 Harbor Plan. The City recognizes it as an opportunity to develop existing infrastructure to take advantage of the nearby waterfront resources (proximity to federal channel and natural deepwater port) to boost the local economy, retool the waterfront, and enhance public access along the harbor edge. The City's plans for the pier and upland area, do not take away the requirements of Footprint in meeting DEP Chapter 91 requirements. Footprint fully supports this water dependent use of the marine wharf on its property, since that use allows the City of Salem to provide greater economic and tourism opportunities for the City that are consistent with the Designated Port Area (DPA). Footprint's Chapter 91 filing stands on its own merits.

4. *Impacts only address the impacts of construction, and not the impacts specifically from the cruise ship. Impacts to air, water, traffic and noise have not been fully evaluated.*

Response

Impacts of the proposed work are assessed in Section IV of this report. Since the filing of the NPC, additional studies work has been performed to analyze traffic, GHG, and stormwater effects of the active cruise ship terminal.

5. *Concern with additional neighborhood and environmental impacts of land-side cruise ship services, including vendor and excursion/transportation vehicles.*

Response

Supplying cruise ships by trucks is normally done at the beginning or end of a cruise and would likely not occur in any large quantity or at all. No dockside vessel services of water or sewage pump-out are proposed at this time. Any changes in these uses and associated impacts will be reviewed and evaluated once a long term plan for the upland site is developed.

6. *Request further information on how this will financially benefit the city. Indicate that previous town reports and studies were understood to show that medium to large size ships are costly on infrastructure and not likely to contribute positively to the tourist economy.*

Response

Port development is a high priority for the City as both an economic development and tourism initiative. The City looks forward to additional cruise ships visiting Salem to help support restaurants, retail establishments, and attractions, which, in turn, add to the tax base and provide local jobs. Industry estimates from 2011 are that 50% of passengers return to a destination to visit again. "The State of the North American Cruise Industry in 2012" prepared for CLIA (Cruise Lines International Association) by Business Research & Economic Advisors (BREA) of Exton, Pennsylvania found that the industry's total economic impact on the U.S. economy grew by 4.6 percent to \$42.3 billion in 2012, with direct spending by the cruise industry growing by 4.0 percent to \$19.6 billion.

The cost of infrastructure is significantly lowered by using Footprint's existing berth.

7. *Request further clarification of the projects "interim" phase. Specifically when will it become permanent, how and why will that occur, and how will it fit with the redevelopment of the entire power plant site, the Blaney Street dock, and the rest of the Waterfront.*

Response

The City envisions that the physical modifications proposed satisfy the provisional needs for cruise ship access until the final development of the upland area can be defined. Despite the temporary nature of the physical elements of the site work, the use of the site for cruise ship access is anticipated to be permanent. Those details would be defined within the long-term agreement between Footprint and the City. Once an agreement is reached for the long term, and after a plan is developed for the upland areas, the City would work with Footprint to file a NPC at that time.

8. *Will this defer any Seaport Bond funds that may become available from planned improvements to Blaney Street or the power plant site?*

Response

The City has included the additional work for the Footprint terminal modifications within its past and current funding requests to the Seaport Council. The City's most recent request to Seaport Council includes funds to continue improvements to the Blaney Street site as well.

9. *Address potential safety hazard of LNG deepwater pipelines in harbor and deep-draft cruise ships.*

Response

The presence of deepwater pipelines has no impact on the safety of cruise ship access. The bulk carriers currently regularly transiting the area have similar draft to cruise ships.

10. *Concerned with the break from the Harbor Plans, which recommend a maximum of 300 passengers docking on the Salem Waterfront.*

Response

There is no restriction that we are aware of within the Salem Harbor Plan to limit the number of passengers to 300 for docking. The Harbor Plan specifically states that the City should "provide berthing and other support services to accommodate cruise ships and other commercial passenger vessels".

The 2007 Analysis of Existing Port Plans, and supported in the ENF filing, indicated that the pier would be designed to handle the passengers from cruise ships (up to 800 feet at anchorage) that were moored offshore and supported by tenders handling 100 to 150 passengers each to ferry passengers back and forth to the cruise ship. See Table 1 on Page 4 of the ENF filing.

At the time of the Salem Port Expansion filing, it was not anticipated that the Footprint site would be available. The opportunity for the use of the Footprint site represents the same ultimate use of Salem Wharf site but eliminates the need for offshore mooring and the use of tenders to transfer passengers.

11. *NPC states that no fill is proposed, but includes the installation of a small culvert and associated fill.*

Response

The statement of "no fill" is related to resource impacts as defined in 310 CMR 9.02 which

would mean any work below the High Tide Line. This type of "filling" with the small culvert is work that is proposed above the high tide line. While the material on either side of the culvert is commonly referred to as fill for construction purposes, it would not be considered fill under these regulations.

The proposed 6" culvert on the southeastern corner is designed to span an existing gravel/stone filled swale. The culvert is proposed as a redundancy in the event that the swale silts in to avoid washout of the walkway. The existing swale crossing is located above the coastal bank on land subject to coastal storm flowage, and as such, no mitigation is anticipated.

Appendix 1

Distribution Information

Commonwealth of Massachusetts
Executive Office of Energy and Environmental Affairs
MEPA

Salem Port Expansion

EEA #14234

Salem Harbor Station Redevelopment

EEA #14937

Environmental Impact Report

Marine Terminal Modifications

Pursuant to the Massachusetts Environmental Policy Act (*MEPA*) and its implementing regulations (see 301 CMR 11.10(1)), the City of Salem, in coordination with Footprint Power LLC, has submitted a Environmental Impact Report (EIR) for Marine Terminal Modifications to the existing ship berth at 24 Fort Ave in the Salem Harbor Designated Port Area. The proposed work involves improvements to accommodate cruise ship berthing including; modifications of the fender system, the creation of three pier deck access spans to accommodate ADA/MAAB pedestrian access, the construction of a walkway between the ship berth and the Salem Wharf site at 10 Blaney Street, and additional site work to accommodate pedestrian safety and stormwater improvements.

Copies of the EIR are available for viewing at the Salem Public Library. An electronic copy of the filing is also available for viewing at the Salem Planning Departments website. To request a copy by mail please contact Seth Lattrell of Bourne Consulting Engineering at slattrell@bournece.com or (508)533-6666.

The Secretary of Energy & Environmental Affairs accepts written comments on projects currently under MEPA review. Comments may be submitted electronically, by mail, via fax, or by hand delivery. Please note that comments submitted on MEPA documents are public records.

The mailing address for comments is:

Secretary Richard K. Sullivan, Jr.
Executive Office of Energy and Environmental Affairs (EEA)
Attn: MEPA Office
Holly Johnson, EEA No. 14234/14937
100 Cambridge Street, Suite 900
Boston MA 02114

The deadline for public comment is March 21, 2014

Posted by:
Department of Planning and Community Development
City of Salem

POSTED NOTICE LOCATIONS



BCE #32906

Marine Terminal Modifications
City of Salem

NPC# 14234/14937
August 16, 2013

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Appendix 2

Previously Reviewed Plans – Salem Port Expansion

Appendix 3

Proposed - Build Conditions

File: X:\32867-32906 FOOTPRINT\PERMITS\ACOE\010314\SHT-01 LOCUS PLAN.dwg



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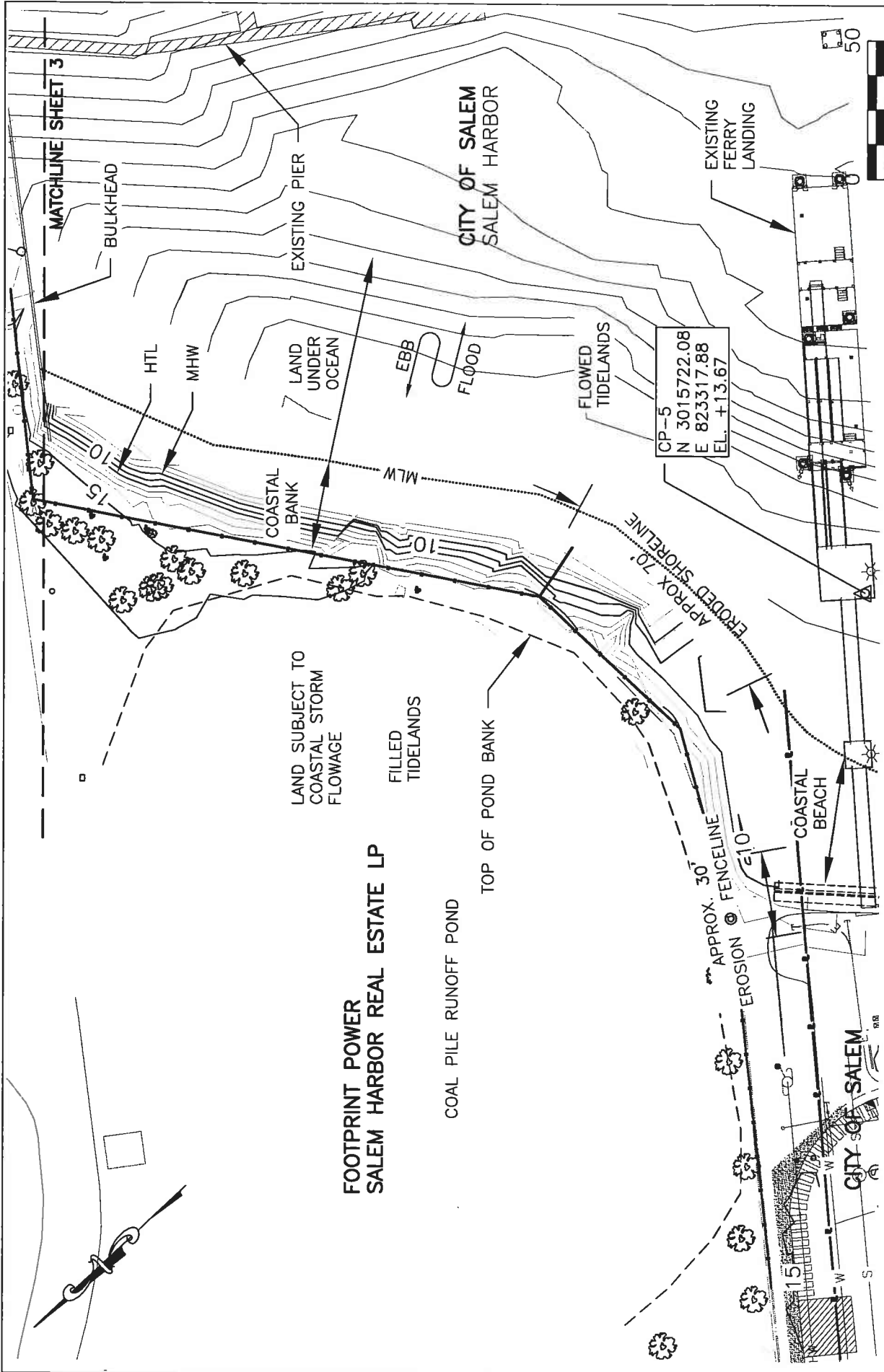
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LOCUS
PLAN

APPLICATION BY:
CITY OF
SALEM

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HTL	+11.0
MHW	+8.9
NGVD	+4.2
MLW	0.0

BCE Bourne Consulting Engineering
3 Paul Street
Framingham, MA 01901
TEL (508) 882-0000 FAX (508) 882-0000

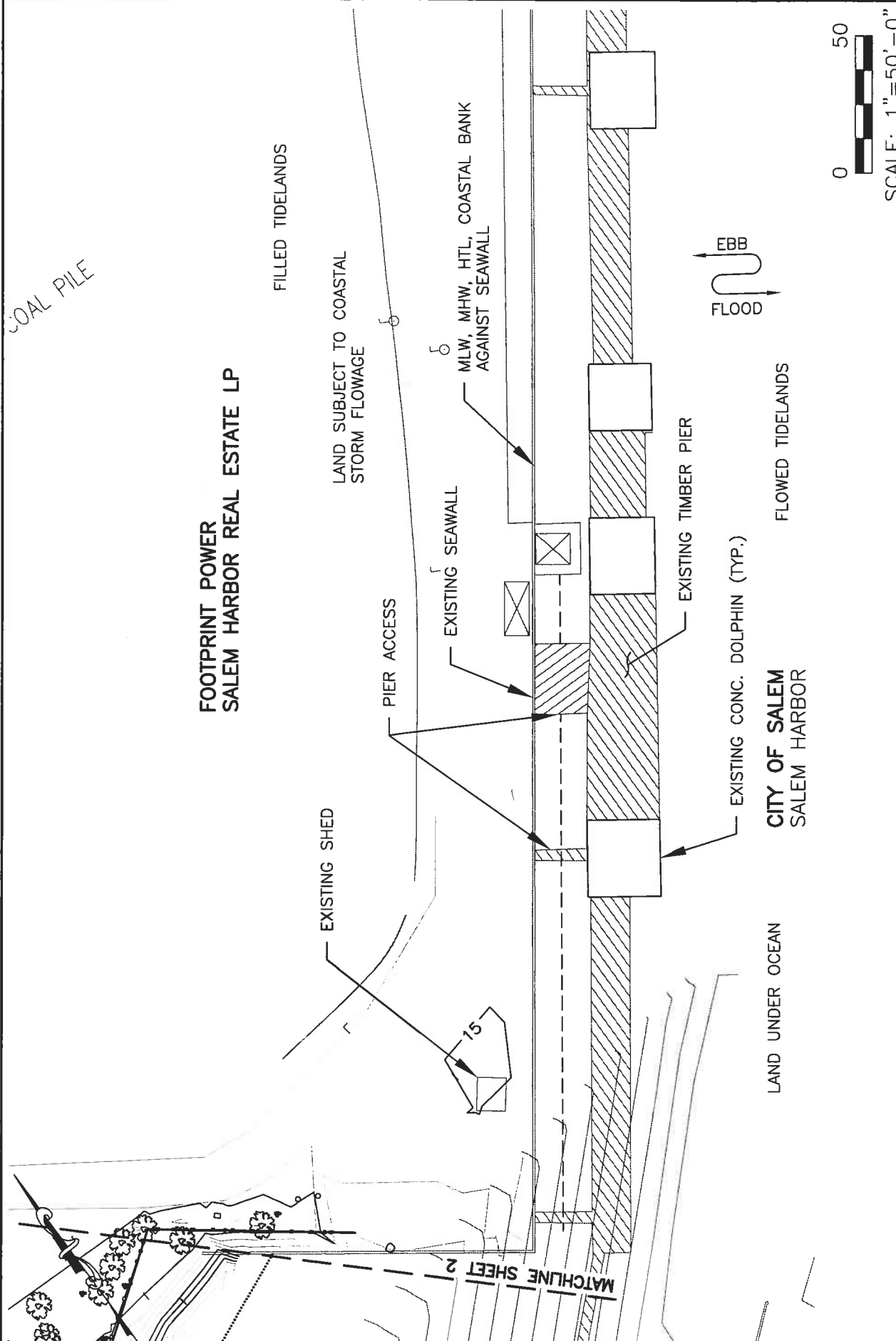
IN: SALEM
AT: SALEM HARBOR
COUNTY: ESSEX STATE: MA
SHEET 1 OF 7 DATE: 01/03/14



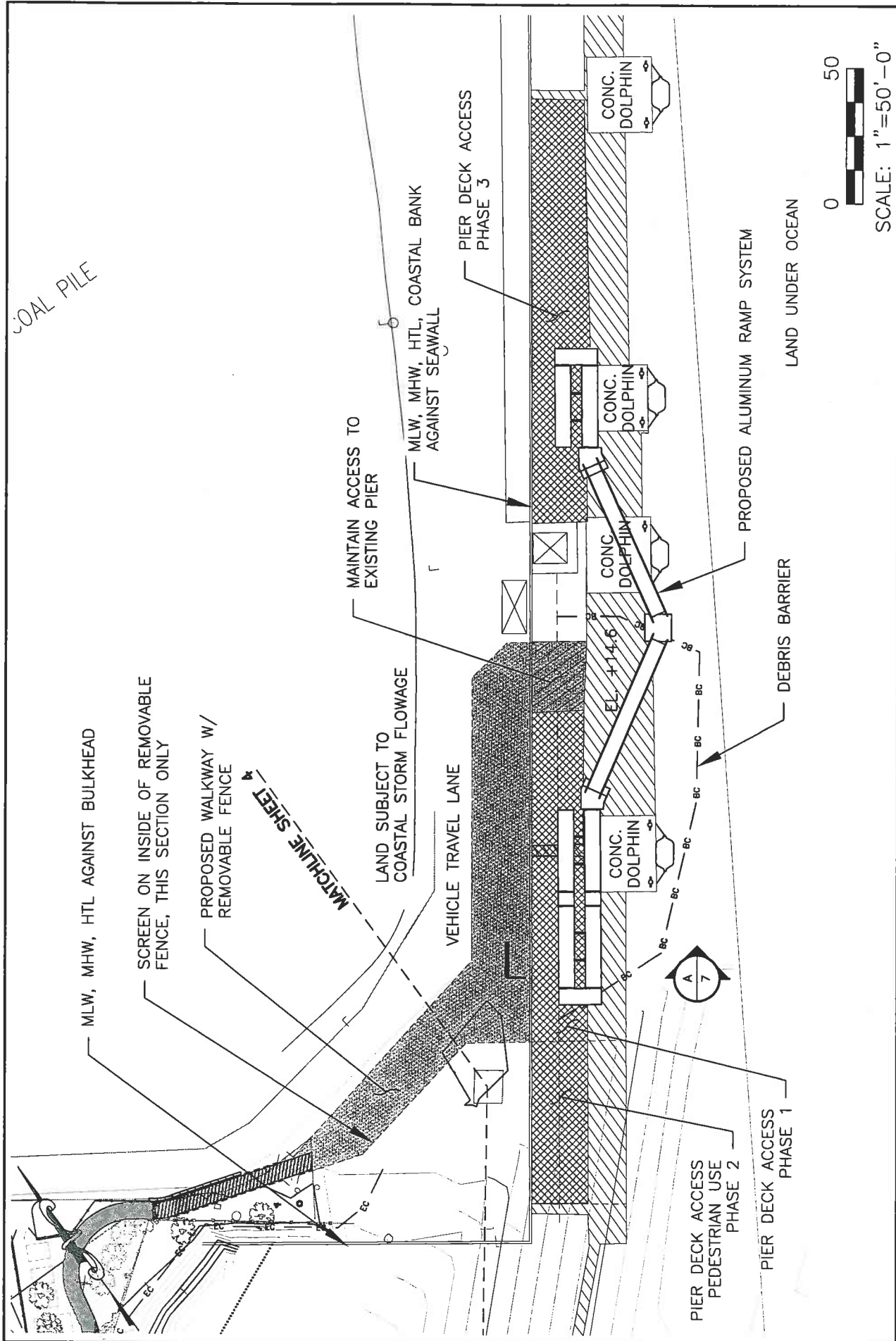
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PURPOSE: SHIP BERTH ACCESS		APPLICATION BY: CITY OF SALEM		SHEET 2 OF 7 DATE: 01/03/14			

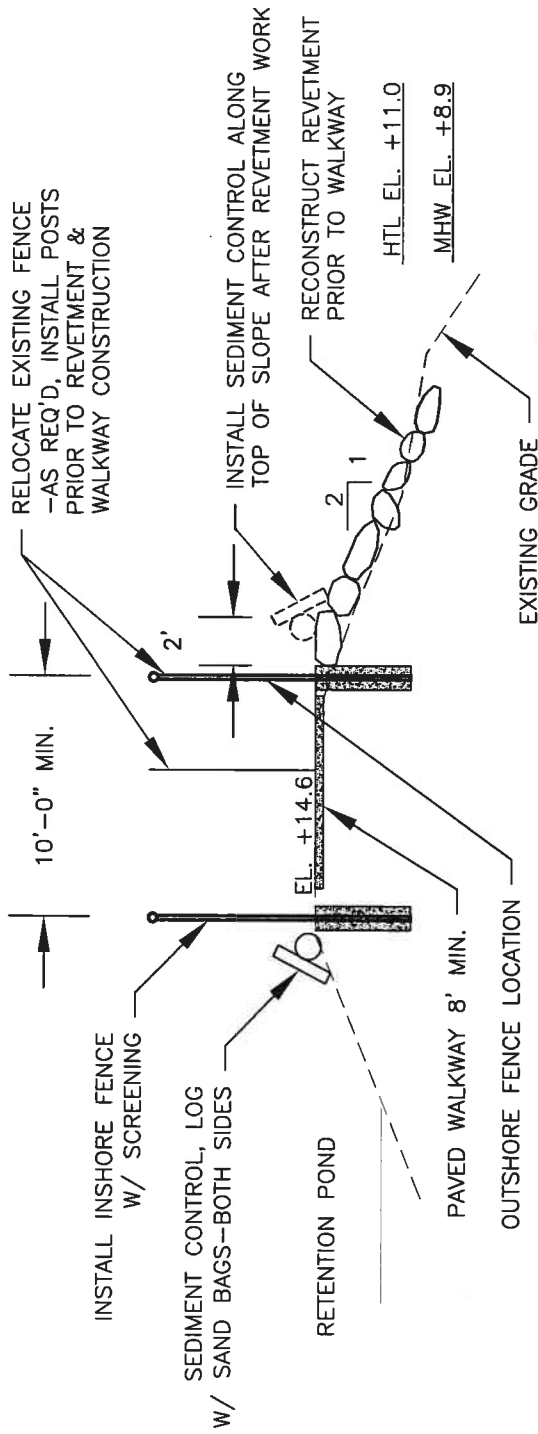
BCE
Bourne Consulting Engineering
 3001 South
 Franklin, MA 01902
 TEL: (508) 535-0000 FAX: (508) 535-0000



100 YR FLOOD		NGVD	+4.2	TITLE: EXISTING CONDITIONS	IN: SALEM AT: SALEM HARBOR COUNTY: ESSEX STATE: MA
HTL	+11.0	MLW	0.0		
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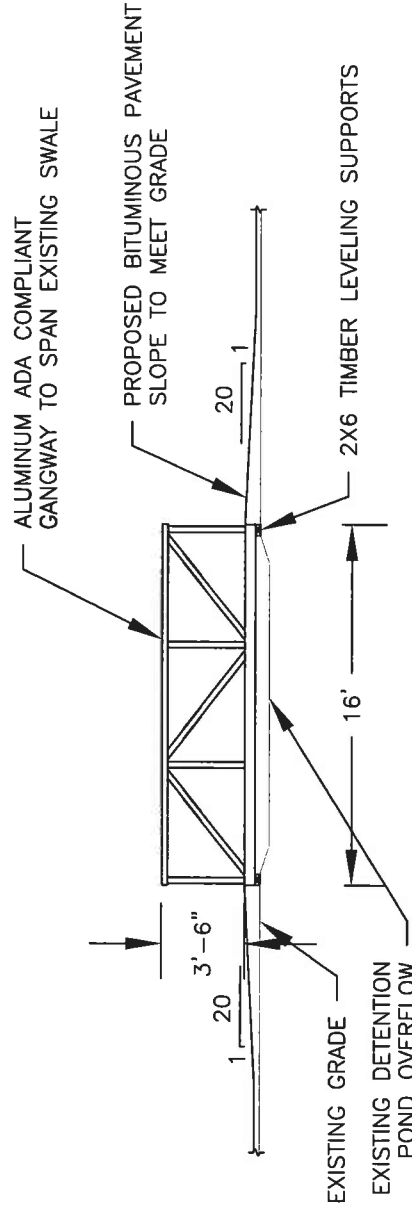
100 YR FLOOD HTL MHW	+16.0 +11.0 +8.9	NGVD MLW	+4.2 0.0	TITLE:	PROPOSED CONDITIONS	IN: SALEM AT: SALEM HARBOR COUNTY: ESSEX STATE: MA
PURPOSE:	PURPOSE:	APPLICATION BY: CITY OF SALEM	SHEET 5 OF 7 DATE: 01/03/14	SCALE: 1"=50'-0"	LAND UNDER OCEAN	DEBRIS BARRIER



WALKWAY SECTION

A
6

SCALE: 1/8"=1'-0"



OVERFLOW CROSSING

B
6

SCALE: 1/8"=1'-0"



SCALE: 1/8"=1'-0"

TITLE:

WALKWAY
SECTION

IN: SALEM
AT: SALEM HARBOR
COUNTY: ESSEX STATE: MA

PURPOSE:

SHIP BERTH ACCESS

APPLICATION BY:

CITY OF SALEM

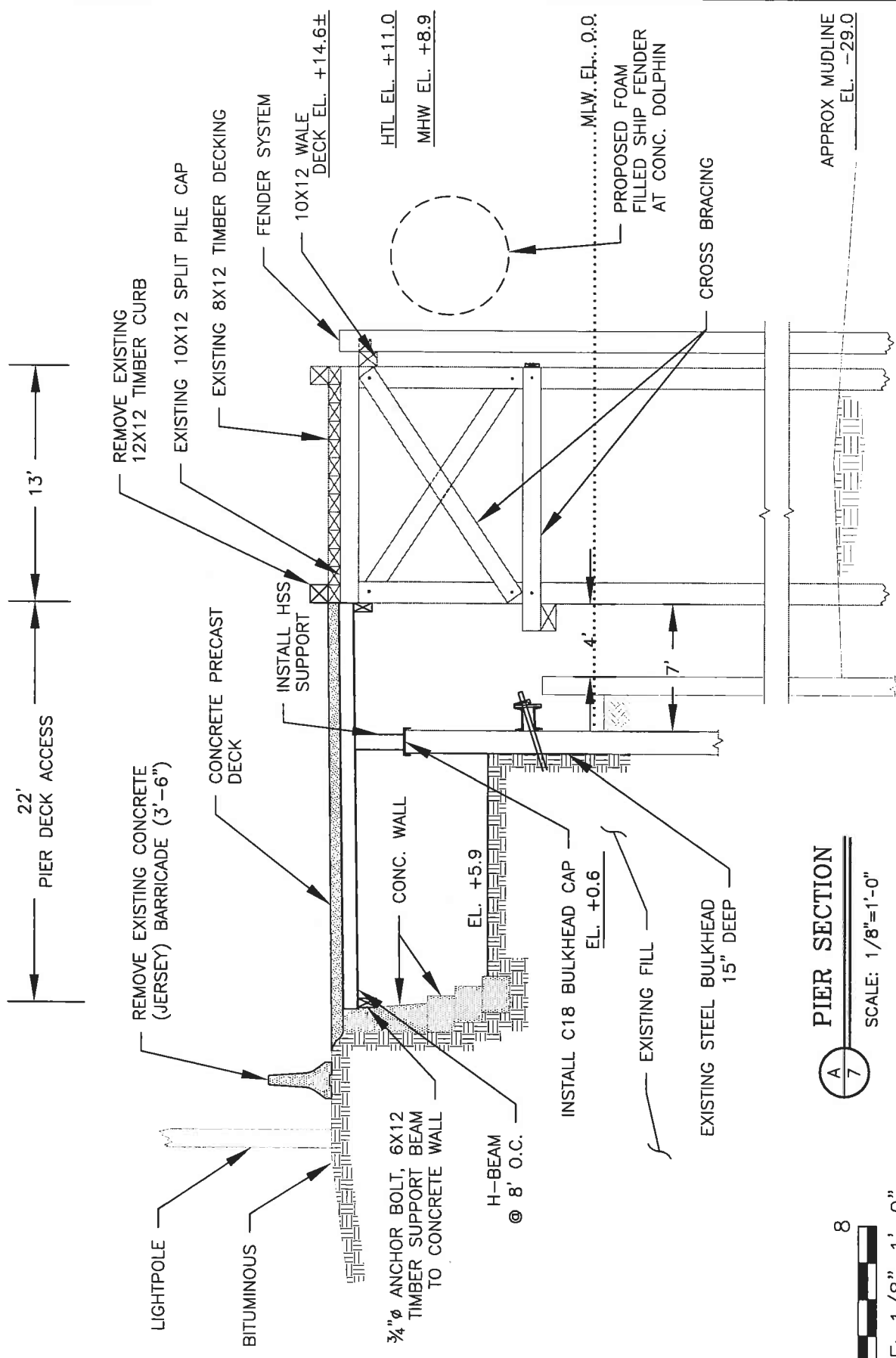
SHEET 6 OF 7

DATE: 01/03/14

BCE


Bourne Consulting Engineering

2014-2015
Professional Seal
P.E. (001) 535-0000 FAX (908) 535-0000



PIER SECTION
 SCALE: 1/8"=1'-0"

SCALE: 1/8"=1'-0"

100 YR FLOOD HTL MHW			+16.0 +11.0 +8.9		NGVD MLW		+4.2 0.0		TITLE:		PIER SECTION		IN: SALEM AT: SALEM HARBOR COUNTY: ESSEX STATE: MA				
 BCE				Bourne Consulting Engineering <small>3 Small Street Framingham, MA 01901 TEL (508) 255-4000 FAX (508) 255-4000</small>				PURPOSE: SHIP BERTH ACCESS				APPLICATION BY: CITY OF SALEM				SHEET 7 OF 7 DATE: 01/03/14	

BCE *Bourne Consulting Engineering*
 3 Paul Street
 Portland, ME 04106
 TEL (409) 555-4444 FAX (409) 555-4444

Appendix 4

Site Photographs

Site Photographs- Existing Conditions
City of Salem- Footprint Power Site



Photo 1- Looking east along detention pond to the location of the proposed walkway



Photo 2- Area of proposed walkway, also looking east from the southeast corner of the pond



Photo 3- Looking southeast from western limits of the project along existing revetment



Photo 4- Looking east from Salem Wharf Pier across the existing revetment



Photo 5- Looking northeast along the gap to be spanned with precast concrete or timber decking using existing supports



Photo 6- Looking northeast along the existing concrete dolphin and timber pier

Appendix 5

Wharfing Agreement

WHARFING RIGHTS AGREEMENT

This Wharfing Rights Agreement (the "Agreement") is made as of this ____ day of August, 2012 by and between **Footprint Power Salem Harbor Real Estate LP**, a Delaware limited partnership, having an address c/o Footprint Power LLC, 1140 Route 22 East, Suite 303, Bridgewater, NJ 08807 ("**Footprint**") and the **City of Salem**, a political subdivision of the Commonwealth of Massachusetts, having an address at City Hall, 93 Washington Street, Salem, Massachusetts 01970 ("**City**").

Recitals:

1. Footprint is the owner of the Salem Harbor Power Plant and related facilities (the "Power Plant") located on 63 acres in Salem, Massachusetts (the "Footprint Property") and shown on a plan entitled "ALTA/ASCM Land Title Survey, Salem, Massachusetts prepared for U.S. Gen New England" dated December 20, 2004 and recorded with the Essex South Registry of Deeds in Plan Book 384, Plan 2 (the "As-Built Plan"), a copy of which is attached to this Agreement as Exhibit A;
2. Footprint leases such property and facilities to its affiliate, Footprint Power Salem Harbor Operations LLC to permit the continued operation of the Power Plant until its expected shut down June 1, 2014;
3. The Power Plant includes the longest wharf (the "Footprint Wharf") serving Salem Harbor, a deep water port located in the Commonwealth of Massachusetts, which Footprint Wharf is shown on the As-Built Plan as the "Fisherman's Wharf/P&R Wharf";
4. Footprint utilizes the Footprint Wharf for the delivery of coal and oil to the Power Plant (the "Fuel Deliveries") and will utilize the Footprint Wharf in connection with the planned construction of a new gas fired power plant on portions of the Footprint Property and the decommissioning and demolition of the Power Plant, including certain environmental remediation thereof (the "Construction/Demolition Activities");
5. The City desires to increase tourism in the City by attracting cruise ships and other visiting passenger or Good Will vessels to make the City one of their ports of call creating a significant, positive economic impact on City;
6. In order to facilitate the attraction of cruise ships to the City, the City is currently in the process of constructing a wharf (the "City Wharf") on City owned property at 4-10 Blaney Street in Salem, Massachusetts (the "City Property"), which City Wharf will be adjacent to the Footprint Wharf;
7. The City has requested that Footprint grant the City long-term access rights to the Footprint Wharf for the docking of cruise ships and other visiting passenger or Good Will vessels, embarkation and disembarkation of passengers and other

related purposes and Footprint is willing to grant such access routes on commercially reasonable terms;

8. During the pendency of negotiations concerning long-term access rights, the City has requested that Footprint grant the City a license to utilize (a) the Footprint Wharf for the docking of cruise ships and (b) a portion of the Power Plant premises between the Footprint Wharf and the City Wharf for the construction of and use as a pedestrian access way; and
9. Footprint is willing to grant a license to the City for such purposes on the terms hereinafter set forth long as such license does not interfere with Footprint's use of the Footprint Wharf for the Fuel Deliveries or the Construction/Demolition Activities.

Now, therefore, for consideration paid and in further consideration of the mutual promises hereinafter set forth, Footprint and the City hereby covenant and agree as follows:

1. **GRANT OF LICENSE** Subject to the conditions hereinafter set forth, Footprint hereby grants to the City a license to:
 - a. utilize the Footprint Wharf solely for the purpose of allowing cruise ships and other visiting passenger or Good Will vessels, to dock for the purpose of loading and unloading passengers
 - b. place and store a gangway system and associated equipment for the purpose of embarking and disembarking passengers within the licensed area; and
 - c. allow the City to construct and utilize a walkway (the "Walkway") from the Footprint Wharf to the City Property, approximately in the location shown on the sketch plan attached to this Agreement as Exhibit B. The dimensions of such walkway to be determined by mutual agreement of the Parties in consultation with the U.S. Coast Guard. The premises that are subject to the license granted by this Agreement are collectively referred to as the "Licensed Premises".
2. **CONDITIONS OF LICENSE** The foregoing grant of license is subject to the following terms and limitations:
 - a. Unless earlier terminated pursuant to the provisions of this Agreement, the license shall be for a term (the "Term") commencing on the date hereof and ending on December 31, 2033 (the "License Expiration Date"), or upon the City and Footprint entering into a mutually agreed to successor agreement regarding use of the Footprint Wharf ("Successor Agreement");
 - b. The rights of the City to use the Licensed Premises are not an interest in real property and are non-exclusive and non-apportionable;

- c. The City acknowledges and agrees that it accepts the right to use the Licensed Premises in its current "as-is" condition with no representation or warranties from Footprint regarding the Licensed Premises condition or fitness for the City's use of the same.
- d. Footprint may impose from time to time additional rules and regulations governing the City's use of the Licensed Premises;
- e. The City shall be responsible for obtaining all permits and approvals which are necessary in connection with the use of the Footprint Wharf by the City for the docking of cruise ships and for the construction of the Walkway, which Walkway construction shall be undertaken in conformance with the provisions of Section 3 below;
- f. The City further acknowledges and agrees that the Licensed Premises are subject to all covenants, restrictions, easements and encumbrances now or hereafter of record, including without limitation, restrictions that are anticipated to be placed on all or a portion of the Licensed Premises by Footprint as required by the Massachusetts Department of Environmental Protection including without limitation, a recorded activity and use limitation (the "AUL") on the Footprint property in conformance with the Massachusetts Contingency Plan (the "MCP");
- g. The City shall at all times during the term of this Agreement comply with all present and future federal, state or local laws, codes, ordinances (including, without limitation, zoning ordinances, environmental laws, land-use regulations, wetlands regulations, tideland and waterways regulations, federal and state Harbor regulations, customs regulations and Jones Act requirements) orders, judgments, and agrees injunctions, rules, regulations and requirements, even if unforeseen or extraordinary, which may be applicable to the City or to the Licensed Premises (collectively, the "Applicable Laws");
- h. The City may not assign or transfer its rights in this Agreement without the prior written consent of Footprint, which consent may be withheld by Footprint in its sole discretion. The use of the Footprint Wharf by vessels designated by the City consistent with this Agreement is not an assignment or transfer of rights under this Agreement;
- i. The City shall not use the Licensed Premises in any manner that interferes with or adversely affects the operation of the Power Plant;
- j. Any use of the Licensed Premises for the docking of cruise ships shall be in compliance with all US Coast Guard regulations and harbor pilot requirements;
- k. Any rights in the Licensed Premises not granted to the City hereunder are reserved to Footprint; and
- l. All construction undertaken by the City should be done in a good and workmanlike manner in compliance with all Applicable Laws.

- m. If the parties have not entered into a Successor Agreement by January 1, 2018, City shall annually pay to Footprint profits equal to that year's revenues associated with the docking of cruise ships and other visiting passenger or Good Will vessels, embarkation and disembarkation of passengers and other related purposes under the License net only of (a) reasonable City or third-party operating & maintenance costs and (b) the return of any capital expended by the City pursuant to this Agreement (with the return of such capital amortized on a straight line basis over the term of the License) without taking into account any financing costs.

3. **PERMITS AND CONSTRUCTION.** The following additional conditions shall apply to any permits necessary for the use of the Licensed Premises by the City and in connection with any construction of the Walkway:

- a. The City shall be responsible for preparing, obtaining or maintaining at its sole cost and expense any permits, approvals or submittals, including those required under Applicable Laws related to the City's use and occupancy of the Licensed Premises. Footprint shall reasonably cooperate with the City in such applications. No permit application shall be (a) submitted to any governmental authority prior to its review and approval by Footprint or (b) adverse to any use that Footprint intends or may reasonably be expected to make of the Licensed Premises or the Footprint Property;
- b. Other than agreed to improvements at the pier facility and the paving or covering of the Walkway with a crushed stone surface, which shall be required by the City before the Walkway is used in connection with cruise ships docking at the Footprint Wharf, the City may not undertake or permit others to undertake any alterations to any construction of improvements on the Licensed Premises without the prior written consent of Footprint; and
- c. If the City desires or is required to make any alterations to, or construct any improvements or fixtures (including accessory buildings required for the operation of a ferry terminal other than mobile or other temporary structures) on, the Licensed Premises, it shall provide ninety (90) days written notice to Footprint containing a detailed description of the scope of work required for the proposed alterations or improvements, including a description of the scope of work required for the proposed alterations or improvements, including a description of whether any land disturbance or grading will be required. Any such notice shall also include plan drawings, construction plans or any other documents related to the work proposed to be carried out on the Licensed Premises. The City may not proceed with any alterations or construction until it has received written approval of its proposed plans from Footprint. Footprint's

approval of the proposed work does not relieve the City of any of its obligations hereunder. Footprint's approval shall in no way constitute an engineering or other certification as to the adequacy of the drawings or plans.

4. **COORDINATION WITH FOOTPRINT ACTIVITIES.** The City acknowledges that Footprint requires the use of the Footprint Wharf for Fuel Deliveries and Construction/Demolition Activities. In order to ensure that the use by the City of the Licensed Premises does not interfere with the foregoing required activities by Footprint, the City's use of the Licensed Premises shall be subject to the following additional requirements:
- a. Footprint has provided the City, in connection with the execution of this agreement, a list of Footprint's projected use of the Footprint Wharf for the remainder of calendar year 2013 (the "Footprint Use Schedule"). Footprint shall, from time to time, notify the City of any changes to the Footprint Use Schedule, including additions to or subtractions from such schedule.
 - b. The City shall not be entitled to use the Footprint Wharf nor shall it schedule the docking of any cruise ships at Footprint Wharf during any times that conflict with Footprint's Use Schedule (as such may have been updated from time to time).
 - c. After it reviews the Footprint Use Schedule, the City shall provide Footprint with a schedule of the City's projected use of the Footprint Wharf for cruise ship or visiting passenger or Good Will vessel dockings during the remainder of calendar year 2013 (the "City Docking Schedule"). The City shall also provide Footprint, from time to time, with notice of any changes to the City Docking Schedule. In addition, to the extent not already reflected in the City Docking Schedule, the City should provide Footprint with at least 30 days prior written notice of the proposed docking of any vessel with a length of 100 feet or greater.
 - d. In consultation with the City, Footprint agrees to coordinate the Footprint Use Schedule, to provide City with as much flexibility as possible for the use of the Footprint Wharf for cruise ship or visiting passenger or Good Will vessel docking purposes; provided, however, Footprint shall be under no obligation to modify the Footprint Use Schedule.
 - e. To the extent that any vessel utilizing the Footprint Wharf under the license granted under this Agreement to the City does not vacate the Footprint Wharf in time to permit the use the Footprint Wharf by Footprint, or its designees for a previously scheduled use under the Footprint Use Schedule, then the City shall be responsible for all costs incurred by Footprint due to such delay including, without limitation, all overtime and demurrage costs or fees assessed against

Footprint or its contractors, operators, or vessel owners or operators in connection with such delay (collectively, the "Delay Charges"). The City shall reimburse Footprint for any Delay Charges within 30 days of a written request therefor from Footprint (which request shall include any invoices or other evidence that details such Delay Charges).

5. PAYMENTS OF UTILITIES AND OTHER COSTS. Footprint will not charge the City with any fee for the City's use of the Licensed Premises. However, the City or Footprint will be responsible for the following costs:

- a. **Utilities.** The City shall pay directly to the proper authorities charged with the collection thereof of all charges for water, sewer, gas, oil, electricity, telephone and other utilities or services used or consumed by the City on the Licensed Premises during the Term, whether designated as a charge, tax, assessment, fee or otherwise, including, without limitation, water and sewer use charges and taxes, if any, all such charges to be paid as the same from time to time become due. It is understood and agreed that the City shall make its own arrangements for the installation or provision of all such utilities provided that the provision of such utility services shall be done above ground unless underground utilities are approved in writing by Footprint after the City has given notice and received the approval required by Section 3 (c) of this Agreement. Footprint shall be under no obligation to furnish any utilities to the Licensed Premises and shall not be liable for any interruption or failure in the supply of any such utilities to the Licensed Premises;
- b. **Taxes.** Footprint shall remain responsible for the payment of real estate taxes for the Licensed Premises,
- c. **Maintenance Costs.** Footprint shall have no responsibility for maintaining the Footprint Wharf except to the extent it deems necessary for its own purposes including Fuel Deliveries and/or Construction/Demolition Activities. If maintenance costs necessary to support the City's activities exceed those incurred by Footprint pursuant to the foregoing sentence, Footprint may terminate this Agreement unless the City is willing to pay such additional maintenance costs. The City shall be responsible for any costs necessary to maintain or upgrade the Footprint Wharf for use by cruise ships and for all maintenance costs in connection with the Walkway.
- d. **Dredging.** The City has made an independent determination that the channel adjacent to the Footprint Wharf is of sufficient depth to accommodate cruise

ships. To the extent that additional dredging is required, the cost of such dredging shall be at the City's sole cost and expense.

- e. **Review Costs.** To the extent that Footprint is required to engage any third party professionals, including architects or engineers, to review any proposed alterations or improvements to the Licensed Premises, the City will reimburse Footprint for the cost of such services within 30 days of receipt of a written request therefor (which request shall include any invoices or other evidence that details such charges) . Footprint shall provide the City with a description of the scope of any professional review services and an estimate of the anticipated costs prior to undertaking any such review work ;
- f. **Security Costs.** The City shall be responsible for all security costs in connection with its activities within the Licensed Premises, including without limitation, any police details or customs or immigration officials. Footprint shall have no liability for the safety of any passengers embarking or disembarking any vessel at the Footprint Wharf or utilizing the Walkway; and
- g. **Enforcement Rights.** To the extent that Footprint incurs any costs in enforcing its rights under this Agreement, including, without limitation, reasonable attorneys fees, the City will reimburse Footprint for the cost of such services within 30 days of receipt of a written request therefor from Footprint (which request shall include any invoices or other evidence that details such charges). To the extent that the City incurs any costs in enforcing its rights under this Agreement, including, without limitation, reasonable attorneys fees, Footprint will reimburse the City for the cost of such services within 30 days of receipt of a written request therefore from the City (which request shall include any invoices or other evidence that details such charges).

6. ENVIRONMENTAL.

(a) **The City Acknowledgment.** The City acknowledges that there have been historic releases of Hazardous Materials on the Licensed Premises and that the Licensed Premises are subject to ongoing monitoring by Footprint. The City shall not use the Licensed Premises in any way that violates the AUL or adversely affects or interferes with Footprint's regulatory obligations, including, without limitation, all requirements of MDEP related to the Massachusetts Contingency Plan #RTN-3-21067 applicable to the Licensed Premises (the "MCP

Site”), nor shall the City take any action that exacerbates any pre-existing environmental contamination.

(b) Use of Hazardous Materials. The City represents and warrants that it will not on, about, or under the Licensed Premises, make, treat, store, use or dispose of any Hazardous Materials. “Hazardous Materials” as used herein shall include, without limitation, all pollutants chemicals, petroleum, crude oil or any fraction thereof, hydrocarbons, radioactive materials, polychlorinated biphenyls (PCBs), asbestos, asbestos-containing materials and/or products, urea formaldehyde, or any material substances which are classified as “hazardous” or “toxic” under any Applicable Laws related to the environment, human health, safety or welfare.

(c) No Discharge; Removal; Remediation. The City shall not release, leak, spill or discharge any Hazardous Materials in, on or under the Licensed Premises. The City shall be responsible at its own cost and expense for the removal and remediation, including, without limitation, all costs and consultants, attorneys, monitoring or site restoration related to any removal or remediation of any Hazardous Materials that are after the date hereof brought onto or released at the Licensed Premises to the extent said costs arise out of the City’s use or occupancy of the Licensed Premises during the Term, including, without limitation, any discharges or releases from any vessels or from the bilge pumps of any vessels using the Footprint Wharf. This removal requirement shall not apply to the pre-existing environmental contamination on the Licensed Premises except to the extent that any of the City’s actions exacerbate the contamination, increase the likelihood of contamination exposure to receptors, or involve the excavation of contaminated soils.

(d) Nuisance. The City acknowledges that the Licensed Premises is located in an industrial area and adjacent to Footprint’s Station. Footprint shall have no liability or responsibility for any damage suffered by the City or its employees, agents, customers, guests or invitees on the Licensed Premises as a result of any odors, emissions, noise, dust or debris emanating from the Station or from any other actions whatsoever at the Station.

7. INSURANCE

(a) Types of Coverage. The City shall maintain at its sole cost and expense the following insurance on the Licensed Premises:

(i) Commercial general liability insurance with a total limit of at least \$2,000,000 per occurrence (occurrence form policy). Such insurance shall include, but not be limited to, specific coverage for: (a) contractual liability encompassing the Article entitled Indemnity; (b) personal injury and property damage liability; and (c) products and completed operations liability.

(ii) Worker's compensation insurance covering all persons employed by the City on the Licensed Premises in connection with any work done on or about any of the Licensed Premises, including the U.S. Longshore and Harbor Workers Compensation Act endorsement;

(iii) Employers liability insurance with a total limit of at least \$2,000,000 each accident for bodily injury by accident and \$2,000,000 each employee for bodily injury by disease, including the Maritime endorsement with Jones Act coverage if vessels are used; and

(iv) If vessels are used, Protection and Indemnity insurance of at least \$20,000,000 each occurrence, including coverage for injuries to or death of Masters, mates or crew.

(b) Company Requirements. The insurance required by this paragraph shall be written by companies having an A.M. Best rating of at least A-/VIII. All companies providing insurance required by this paragraph shall be authorized to do insurance business in the Commonwealth.

(i) The policies shall be for a term of not less than one year, and shall (except for worker's compensation and employers liability insurance) name Footprint as an additional named insured. The amount of insurance required above may be satisfied through the purchase by Carrier of a separate excess umbrella liability policy together with lower limit primary underlying insurance. The City agrees and, to the extent permitted under its applicable policies of insurance, will require its insurers to agree that coverage afforded Footprint as additional insured by each of these policies is primary with respect to any other similar insurance or self-insurance maintained by Footprint. The coverages required above shall provide that, except for the limits of insurance, the insurance shall apply separately to each insured against whom a claim is made or suit is brought.

(ii) If such insurance or any part hereof shall expire, be withdrawn, become void by breach of any condition thereof by the City or otherwise become void, the City shall immediately obtain new or additional insurance reasonably satisfactory to Footprint.

7. **DEFAULT.** The occurrence of any one or more of the following events shall constitute an Event of Default by the City under this Agreement:
- a. The City's failure to duly perform and observe, or the City's violation or breach of, any other provision hereof if such failure shall continue for a period of ten (10) days after notice thereof is given by Footprint; or
 - b. If Footprint, after application to the Federal Energy Regulatory Commission, receives a determination that this Agreement will adversely affect Footprint's status as an "Exempt Wholesale Generator,"
 - c. Beginning on January 1, 2018, the City's failure either (a) to make use of the License for the docking of cruise ships and other visiting passenger or Good Will vessels resulting in the embarkation and disembarkation of passengers during any consecutive period of twelve (12) months or (b) to propose a terminal development program to Footprint;
8. **REMEDIES.** After the occurrence of an Event of Default under this Agreement, Footprint may terminate this Agreement by written notice to the City specifying a date therefor, which shall be immediate if the Event of Default specified in Section 7(b) occurs, and for any other Event of Default, shall be no sooner than thirty (30) days following the date of such notice to the City, and this Agreement shall then terminate on the date so specified as if such date had been originally fixed as the expiration date of the Term. In the event of such termination because of default, Footprint shall be entitled to recover from the City any losses or damages (whether direct, indirect, consequential or special) incurred by Footprint due to the City's Event of Default.
9. **NOTICES.** All notices, demands, requests, consents, approvals, offers, statements and other instruments or communications required or permitted to be given pursuant to the provisions of this Agreement (collectively "Notice" or "Notices") shall be in writing and shall be deemed to have been given for all purposes (i) three (3) days after having been sent by United States mail, by registered or certified mail, return receipt requested, postage prepaid, addressed to the other party at its address as stated below, or (ii) one (1) day after having been sent by Federal Express or other nationally recognized air courier service, to the addresses stated below:

Footprint:

Footprint Power LLC
1140 Route 22 East, Suite 303,
Bridgewater, NJ 08807
Attention: President

With a Copy to:

Douglas M. Henry
Sherin and Lodgen LLP
101 Federal Street
Boston, MA 02110

The City:

Office of the Mayor
City Hall
93 Washington Street
Salem, MA 01970

With a Copy to:

City Solicitor
City Hall
93 Washington Street
Salem, MA 01970

- 10. SURRENDER.** Upon the expiration or earlier termination of this Agreement, the City shall peaceably leave and surrender the Licensed Premises in good condition and, if so requested by Footprint shall remove any improvements constructed thereon by the City. The City's personal property not removed at the expiration of the Term or within thirty (30) days after the earlier termination of the Term for any reason whatsoever shall at the discretion of Footprint become the property of Footprint, or Footprint may thereafter cause such property to be removed from the Licensed Premises at the sole cost and expense of the City. Footprint shall not in any manner or to any extent be obligated to reimburse the City for any property that becomes the property of Footprint in the manner set forth in the proceeding sentence. Upon such expiration or earlier termination of the Term hereof, no party shall have any further rights or obligations hereunder except as specifically provided herein.
- 11. ACCESS.** Footprint and its authorized representatives shall have the right to enter the Licensed Premises at all times for the purpose of inspecting the same or for the purpose of doing any work required under the MCP, and may take all such action

thereon as may be necessary or appropriate for any such purpose or as may be required under Applicable Law.

12. INDEMNIFICATION. To the maximum extent permitted by law, the City agrees to defend, pay, protect, indemnify, save and hold harmless Footprint from and against any and all liabilities (including liabilities based on a theory of strict liability), losses, damages, penalties, costs, expenses (including reasonable attorneys' fees and expenses), causes of action, suits, claims, demands or judgments of any nature (collectively "Losses") whatsoever, however caused, arising from the use, non-use, occupancy, condition, design, construction, maintenance, repair or rebuilding of any of, or otherwise relating to, the Licensed Premises, (i) for any injury to or death of any person or persons or any loss of or damage to any property; real or personal, in any manner arising therefrom connected therewith or occurring thereon, (ii) for any costs or expenses or increase in costs or expenses incurred by or imposed on Footprint, other than taxes, that would not have been so incurred or imposed but for this Agreement or the exercise or non-exercise of rights hereunder and (iii) for any breach of the terms or conditions of this Agreement, including without limitation, the City's obligations under Section 6, whether or not Footprint has or should have knowledge or notice of the defect or conditions, if any, causing or contributing to such Losses. In case any action or proceeding is brought against Footprint by reason of any such Losses, the City covenants upon written notice from Footprint requesting the same to defend Footprint in such action with counsel satisfactory to Footprint, with the expenses of such defense paid by the City, and Footprint will cooperate and assist in the defense of such action or proceeding if reasonably requested to do so by the City. The obligation of the City under this paragraph shall survive any termination of this Agreement.

13. MISCELLANEOUS.

- a. **NO WAIVER.** No delay or failure by either party to enforce its rights hereunder shall be construed as a waiver, modification or relinquishment thereof.
- b. **SEVERABILITY.** If any term or provision of this Agreement or the application thereof to any provision of this Agreement or the application thereof to any persons or circumstances shall to any extent be invalid and unenforceable, the remainder of this Agreement, or the application of such term

or provision to person or circumstances other than those as to which it is invalid or unenforceable, shall not be affected thereby, and each term and provision of this Agreement shall be valid and shall be enforced to the extent permitted by law.

- c. **MODIFICATION.** This Agreement may be modified, amended, discharged or waived only by an agreement in writing signed by both parties.
- d. **COUNTERPARTS.** This Agreement may be executed in several counterparts, which together shall be deemed one and the same instrument.
- e. **GOVERNING LAW.** This Agreement shall be governed by and construed according to the laws of the Commonwealth of Massachusetts.

IN WITNESS WHEREOF, Footprint and the City have caused this instrument to be executed under seal as of the day and year first above written.

WITNESS:

FOOTPRINT:

**Footprint Power Salem Harbor Real
Estate LP**

By: Footprint Power SH RealCo GP LLC,
Its Managing Member

By: Footprint Power GP LLC, Its Managing
Member

By: Footprint Power LLC, Its Managing
Member

By:
Its:

THE CITY:

City of Salem

By: Kimberley Driscoll
Its: Mayor

Appendix 6

Traffic Report

**TRAFFIC ASSESSMENT
SALEM PORT EXPANSION
NITSCH ENGINEERING #9968
DECEMBER 2013 – REVISED FEBRUARY 2014**

INTRODUCTION

Nitsch Engineering has been retained by Bourne Consulting Engineering to assess the impacts related to the proposed Salem Port expansion project. This proposed expansion would improve the port at the Footprint Power site in Salem, Massachusetts to accommodate cruise ships vessels, and provide a proper connection from the berth to the city owned Blaney Street site..

The site currently serves the Salem Ferry service, which connects Salem and Boston by high-speed ferry. The site consists of a paved parking area with access via Blaney Street, south of Derby Street. Blaney Street is approximately 21 feet wide with sidewalks on both sides. The Terminal Building on-site serves as the Salem Ferry office.

This assessment is a summary of the existing conditions and evaluation of the traffic impacts of the proposed expansion. It describes the project area, documents the accident data, and analyzes existing (2013) and future (2018) traffic operating efficiency. The data is used to determine the traffic circulation through, and overall operations, of the impacted intersections, and to propose improvements.

The standards used for analysis conform to the latest editions of the Manual on Uniform Traffic Control Devices (MUTCD) and the Highway Capacity Manual.

The following scenarios are analyzed in this report:

- Existing Conditions 2013;
- Future 2018 No-Build; and
- Future 2018 Build.

The site location is shown in **Figure 1**.

Figure 1 – Locus Map



As seen in Figure 1, the intersections included within the study area are Derby Street at Blaney Street, and Derby Street at Webb Street.

PREVIOUS REPORTS AND DOCUMENTS

Nitsch Engineering had collected various documents related to traffic, transportation, and parking in the downtown and waterfront areas within Salem during the preliminary stages of the project in 2007. These documents included:

- *Transportation Improvement Study for Routes 1A, 114, and 107, and Other Major Roadways in Downtown Salem*; Central Transportation Planning Staff (CTPS) for the Boston Region Metropolitan Planning Organization; November 2005.
- *Salem Harbor Plan, City of Salem, Massachusetts*; The Cecil Group, Inc.; May 2000.
- *New Salem Wharf Project, Salem, Massachusetts*; Vine Associates, Inc.; November 2001.
- *The Salem Ferry and New Salem Wharf Project, A Phased Approach to Completion*; The Salem Partnership; October 2001.
- *Traffic Impact Assessment, Proposed Condominiums and Retail Center, Salem, Massachusetts*; McMahon Associates, Inc.; September 14, 2004.

In addition, Nitsch Engineering recently collected "Traffic Impact Study for Salem Harbor Station Redevelopment Project, Tetra Tech; June 2012".

Research of these materials was conducted for data to develop the traffic assessment for the proposed project.

FIELD RECONNAISSANCE and EXISTING CONDITIONS

On Thursday December 5, 2013 Nitsch Engineering conducted a field reconnaissance of the study area intersections and reviewed the traffic operations, geometric conditions, parking activity, pedestrian accommodations, signing, pavement markings, local site access/egress, and overall roadway and intersection conditions.

Roadway Characteristics

A. Area Roadways

Derby Street

The project's primary impact area is proposed to be identified by the immediate roadway segment of Derby Street. Derby Street serves as minor collector street that starts at Lafayette Street (Route 114) and ends at Fort Avenue. Currently, Derby Street operates as two-way between Lafayette Street and Orange Street, and as one-way between Orange Street and Fort Avenue. On-Street parking is allowed along both sides of Derby Street; from Lafayette Street to Orange Street. Parking is allowed on only one side of Derby Street between Orange Street and Fort Avenue. Derby Street is approximately 50 feet wide between the Congress Street and Orange Street. The segment of Derby Street from Orange Street to Charlton Street varies in width from 21 feet to 34 feet. The pavement between White Street and Becket Street is 24 feet wide. Pavement on Derby Street, from Becket Avenue to India Street, is approximately 32 feet wide. Derby Street from Becket Street to Becket Avenue varies in width from 25 feet to 29 feet. Derby Street pavement width from English Street to Web Street varies from 27 feet to 29 feet. Derby Street from Web Street to Fort Avenue varies in width from 45 feet to 32 feet. Pedestrian sidewalks exist along both sides of Derby Street.

White Street

White Street also serves as local road that provides access from Derby Street to the Harbor. It is a two-way street but no double yellow center line is provided to define directional travel. White Street creates a "T" intersection with Derby Street and is approximately 21 feet wide. A crosswalk is provided on White Street toward the Derby Street approach but is deteriorated and a Stop line is not provided. On-street parking is allowed on this street. A "No left-turn" sign is provided on the approach of White Street toward Derby Street.

Blaney Street

Blaney Street can also be classified as local road. It is a two-way street but no pavement marking and other signage to control traffic operation are provided on this street. Blaney Street creates a "T" intersection with Derby Street. The width of pavement on Blaney Street varies between 19 feet and 22 feet. Blaney Street currently provides access to the Salem Ferry, and it will also provide access to the proposed the Salem Port Expansion Site.

Becket Street

Becket Street serves as local road providing access from Essex Street to Derby Street. Becket Street is a one-way street from Essex Street towards Derby Street. Becket Street also creates "T" intersection with Derby Street. "Do Not Enter" and "One-Way" signs are provided at Becket Street toward Derby Street to regulate traffic operation. Becket Street is approximately 18 feet wide. A crosswalk and Stop line was not provided on Becket Street towards the Derby Street approach; however, on-street parking is permitted.

Becket Avenue

Becket Avenue is local road serving approximately 4 houses providing them with access between Derby Street and Becket Street. A "No Thru Traffic" sign is installed at Becket Avenue and facing Derby Street approach to limit travel access for abutters only. Pavement marking for a crosswalk and Stop line was not provided on this street.

India Street

India Street is a local road which provides access to the Footprints site. India Street creates a "T" intersection with Derby Street and is approximately 26 feet wide. Pavement marking and signing are not installed to control traffic flow. Parking was observed along both sides of the street even though No Parking signs are posted on this street.

Web Street

Web Street serves as collector and provides access between Derby Street and Bridge Street (Route 107). Web Street forms a "T" intersection with Derby Street and is a two-way street. The width of this road is approximately 27 feet and its approach to Derby Street is "Stop Sign" controlled. "No right-turn" signs are installed on Web Street. The access to the Salem Power Plant from Web Street and Derby Street intersection is blocked with jersey barriers and fencing. No pavement marking is provided at this intersection.

B. Area Intersections

The project study area includes the following intersections:

- Derby Street/Blaney Street/Beckett Street
- Derby Street/Webb Street

We received the 2012 Traffic Impact Study for Footprint site by Tetra Tech, and incorporating the traffic volumes from that study we also included the following signalized intersections in our analysis:

- Webb Street/Essex Street
- Webb Street/Bridge Street

Derby Street/Blaney Street/Beckett Street (unsignalized)

Derby Street is 23 to 25 feet wide with one-way traffic flow in the eastbound direction. Sidewalks are present along both sides of Derby Street and parking is permitted along the southern side. Blaney Street is approximately 21 feet wide, approaches from the south, and serves two-way traffic. A 135-foot long sidewalk exists along the west side of Blaney Street and a 60-foot long sidewalk exists along the east side of Blaney Street extending from Derby Street toward the stone-covered parking area at the port. Beckett Street is approximately 17 1/2 feet wide, approaches from the north, and serves one-way southbound traffic. Sidewalks exist along both sides of Beckett Street. An inlaid brick and granite crosswalk exists at the western Derby Street leg of the unsignalized intersection. There are no Stop signs to control traffic at this low volume intersection. Land use in the area is a mix of residential, retail, commercial, and maritime uses.



Derby Street from south of Blaney Street



Derby Street from north of Blaney Street

Derby Street/Webb Street (unsignalized)

Derby Street serves one-way eastbound traffic flow. The roadway is approximately 27 feet wide to the west of the unsignalized intersection and 33 feet wide east of the intersection. On-street parking is permitted along the southern side of Derby Street, west of Webb Street. East of Webb Street, there exists an unpaved parking area along the north side of Derby Street. Webb Street approaches from the north, has two-way traffic flow, and is approximately 28 feet wide. The Webb Street approach operates under Stop sign control and a 'no right turn' exists to enforce the one-way flow on Derby Street. The southern



Derby Street from south of Webb Street



Derby Street from north of Blaney Street



Webb Street from west of Derby Street

PEDESTRIAN AMENITIES

As noted in our field reconnaissance, there are sidewalks throughout the study area, except along the east section of Blaney Street, where the sidewalk terminates after 60 feet from the intersection. In the study area, sidewalks are generally 5-7 feet wide. In the downtown area, the sidewalk width is in the order of 10-15 feet. With sidewalks present throughout the City, there are numerous opportunities for connections from the downtown area, the port area, historic sites and the waterfront. In the downtown area, the sidewalk design has been developed for a good level of service (greater than 40-60 square feet per person). In the site area along Derby Street, the sidewalk narrows considerably and thus large groups would have difficulty walking unimpeded. The useable sidewalk space in the site area is likely in the order of 8-15 square feet per person, for a 5-7 foot wide sidewalk, which is not an ideal condition.

Besides sidewalks, there appear to be adequate crosswalks in the area, with crossings at selected locations along Derby Street and the key intersections in the study area. At the Derby Street/Blaney Street/Beckett Street intersection, an inlaid brick and granite crosswalk also exists at the western Derby Street leg to accommodate pedestrians.

EXISTING TRANSPORTATION SERVICES

The Salem Ferry, located within the project site at 10 Blaney Street, operates between late June and October 31, with up to eight trips per day during the summer months (June to Labor Day) and up to five trips per day during the fall months (Labor Day to Halloween). The Ferry capacity accommodates 149 passengers. Access to the Salem Ferry is available by driving and parking in the on-site parking lot at 10 Blaney Street, by way of the Salem Trolley service, or by walking to the site from the downtown area.

The Salem Trolley service travels throughout the downtown Salem area seven times per day, once per hour between 10:00 AM and 4:00 PM. The Salem Trolley Site Map indicated a stop between Turner Street and Blaney Street, and during the field reconnaissance, the trolley was observed entering and exiting the site parking lot. The ferry route travels along Derby Street and enters the site via Blaney Street. Despite the on-street parking adjacent to Blaney Street, the trolley is able to maneuver between Derby Street and Blaney Street; however, busses or trolleys larger than this might experience difficulty with this operation.

The Massachusetts Bay Transit Authority (MBTA) operates commuter rail via the Newburyport/Rockport line with one stop in Salem and bus service in and around the downtown area via Routes 450, 451, 455, 459 and the ABC route. Pedestrian connections between the commuter rail station and various bus stops are within one mile and one-half mile, respectively. The Salem Trolley also provides connections between these points.

SAFETY ANALYSIS

Nitsch Engineering reviewed the crash data available from the Massachusetts Department of Transportation (MassDOT) Registry of Motor Vehicles (RMV) for the 3-year period from 2008 to 2010. The crashes at the intersection within the study limits are reviewed, including those within 300 feet outside the intersections on either side. There were no crashes reported at the intersection of Derby Street and Blaney Street. A summary of the crashes, the severity, and the manner of collision are shown in Table 1.

Table 1 - Crash Data

Location	Year	Number of Crashes		Severity				Manner of Collision					Percent During	
		Total	Avg	PD ^a	PI ^b	NR ^j	F ^c	A ^d	RE ^e	HO ^f	Ped-Bike ^g	Other ^h	Peak Hours	Wet/Icy Condition
Derby Street/Webb Street	2009	0	0.3	-	-	-	-	-	-	-	-	-	0%	0%
	2010	1		1	-	-	-	1	-	-	-	-	100%	100%
	2011	0		-	-	-	-	-	-	-	-	-	0%	0%
Derby Street/India Street	2009	0	0.3	-	-	-	-	-	-	-	-	-	0%	0%
	2010	0		-	-	-	-	-	-	-	-	-	0%	0%
	2011	1		1	-	-	-	-	-	-	-	1	0%	100%
Total	ALL	2		2	-	-	-	1	-	-	-	1	-	-

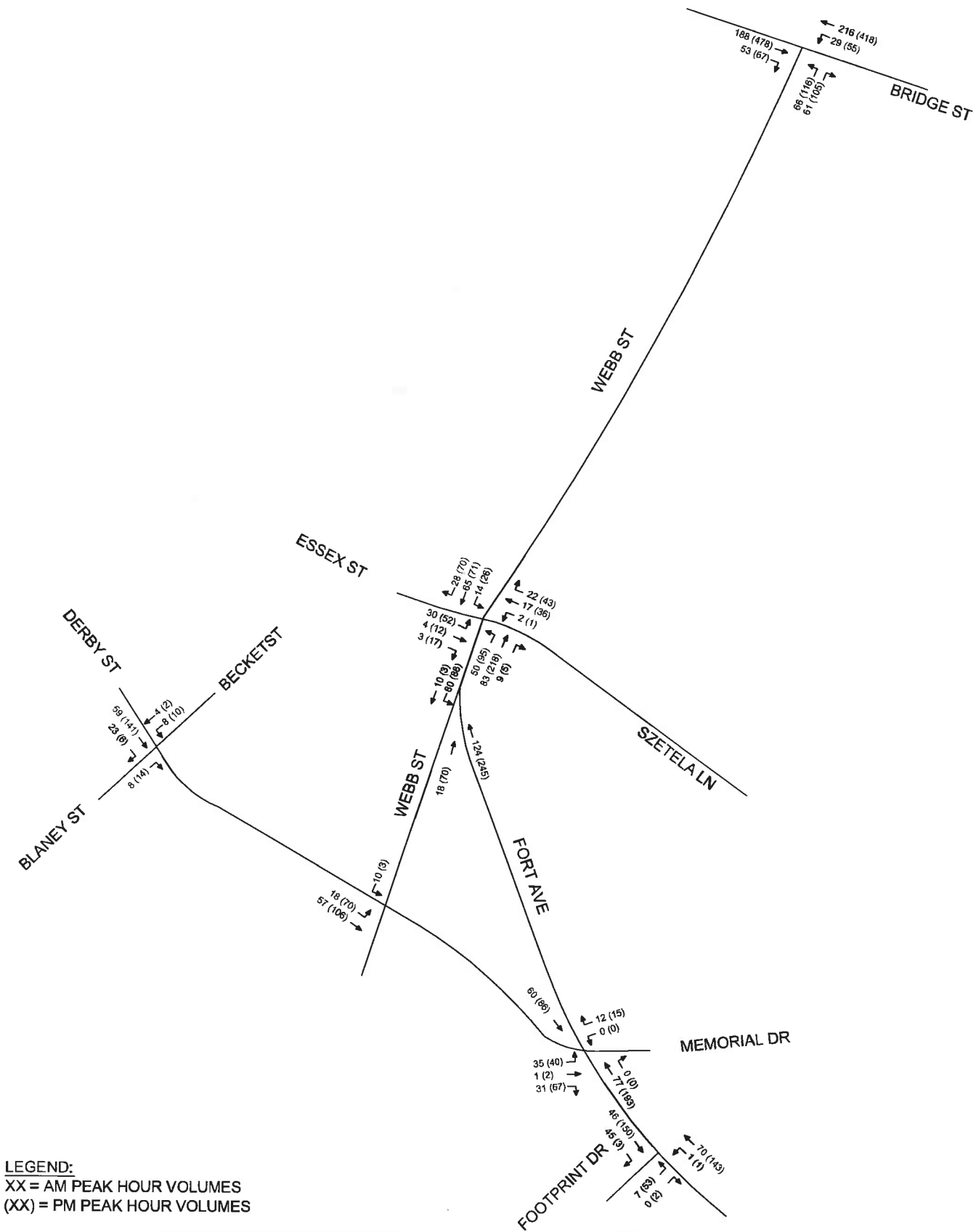
^aProperty Damage Only; ^bPersonal Injury; ^cFatality; ^dAngle; ^eRear end; ^fHead on; ^gPedestrian or Cyclist; ^hSideswipe (opposite direction), sideswipe (same direction), single vehicle crash, rear-to-rear, not reported, unknown, etc.; ^jNot reported or unknown in term of severity.

As seen from Table 1, a total of 1 crash was reported at the intersection of Derby Street and Web Street from 2009 to 2011. It was an angle crash involving two vehicles. There was one (1) accident at the intersection of Derby Street and India Street that involved six (6) vehicles and caused property damage. No fatalities were reported.

One (1) of the collisions occurred during the morning peak hour, between 7:30 AM and 8:30 AM.

EXISTING TRAFFIC CONDITIONS

Several study area intersections were included for analysis in the aforementioned documents. Based on the counts, generally the weekday morning peak hour is from 7:15 AM to 8:15 AM and the weekday afternoon peak hour is from 4:30 PM to 5:30 PM for all intersections. The existing traffic counts are summarized in Figures 2.



LEGEND:
 XX = AM PEAK HOUR VOLUMES
 (XX) = PM PEAK HOUR VOLUMES

2013 EXISTING TRAFFIC VOLUMES

SALEM PORT EXPANSION
 SALEM, MA

PREPARED FOR:

BOURNE CONSULTING ENGINEERING
 3 BENT STREET, FRANKLIN, MA



Figure 2



INTERSECTION OPERATIONS

A Level of Service (LOS) analysis is a quantitative assessment of traffic operations at an intersection. Nitsch Engineering conducted a LOS analysis at the study area intersections using the procedures outlined in the 2010 Highway Capacity Manual (HCM)³. The intersections were analyzed using SYNCHRO Version 8 computer software, which conforms to MassDOT requirements. The HCM bases its LOS results on average delay experienced by vehicles at intersections. The HCM categorizes LOS by letters A through F, with LOS A representing minimum delays and good service, and LOS F representing significant delays and poor service. MassDOT considers, LOS A, B, C, and D as acceptable in urban/suburban areas, and LOS E and F as unacceptable. Table 2 shows the LOS criteria for signalized and un-signalized intersections.

Table 2 – Level of Service Conditions for Intersections

Signalized Intersections		Un-signalized Intersections	
Level of Service ¹	Stopped Delay per Vehicle ¹ (Seconds)	Level of Service ¹	Stopped Delay per Vehicle ¹ (Seconds)
A	0 to 10	A	0 to 10
B	>10 to 20	B	>10 to 15
C	>20 to 35	C	>15 to 25
D	>35 to 55	D	>25 to 35
E	>55 to 80	E	>35 to 50
F	Over 80	F	Over 50

¹ Reference: 2010 Highway Capacity Manual, TRB

Observations at study area intersections of Derby Street/Blaney Street/Beckett Street and Derby Street/Webb Street during the field reconnaissance revealed adequate performance with relatively short delays on all approaches.

Nitsch Engineering analyzed traffic operations under the existing conditions, and under No-Build and Build Conditions. The existing conditions reflect the 2013 traffic operations and the No-Build and Build scenarios are traffic operations projected in the year 2018 with and without the proposed improvements, respectively.

¹ 2010 Highway Capacity Manual; Transportation Research Board.

2013 Existing Traffic Operations

Table 3 summarizes the 2013 existing condition traffic operations.

Table 3 – 2013 Existing Level of Service Summary

INTERSECTI ON	MOVEMENT	WEEKDAY MORNING PEAK HOUR					WEEKDAY EVENING PEAK HOUR				
		V/C ¹	DELAY ²	LOS ³	50th Q ⁴	95th Q ⁵	V/C ¹	DELAY ²	LOS ³	50th Q ⁴	95th Q ⁵
Essex St Webb St	Essex St NB – LTR	0.06	5.3	A	5	17	0.15	7.2	A	9	28
	Szetela St SB – LTR	0.06	7.4	A	3	15	0.12	5.0	A	5	22
	Webb St. EB – LTR	0.16	6.8	A	11	33	0.25	6.1	A	14	42
	Webb St WB – LTR	0.23	8.7	A	20	47	0.25	9.3	A	17	43
	Overall	0.23	7.5	A	-	-	0.25	7.0	A	-	-
Webb St at Derby St	Un-signalized Intersection	-	-	A	-	-	-	-	A	-	-
Derby St at Blaney /Becket	Un-signalized Intersection	-	-	A	-	-	-	-	A	-	-
Webb St at Bridge St	Bridge St NB- TR	0.40	15.5	B	62	117	0.91	40.7	D	196	#381
	Bridge St SB – T	0.24	8.3	A	41	75	0.46	10.5	B	92	154
	Bridge St. SB – L	0.18	27.4	C	11	33	0.34	30.9	C	21	52
	Webb St WB-R	0.08	3.0	A	0	16	0.14	2.6	A	0	21
	Webb St WB-L	0.14	16.2	B	19	45	0.24	17.3	B	34	70
	Overall	0.40	12.4	B	-	-	0.91	24.7	C	-	-

¹ Volume to Capacity Ratio; ² Vehicle Delay, measured in seconds; ³ Level Of Service; ⁴ 50th Percentile Queue (in feet); ⁵ 95th Percentile Queue (in feet) based upon 22 feet per vehicle;
 # volume exceeds capacity, queue may be longer; m 95th percentile queue is metered by upstream signal; ~ volume exceeds capacity.

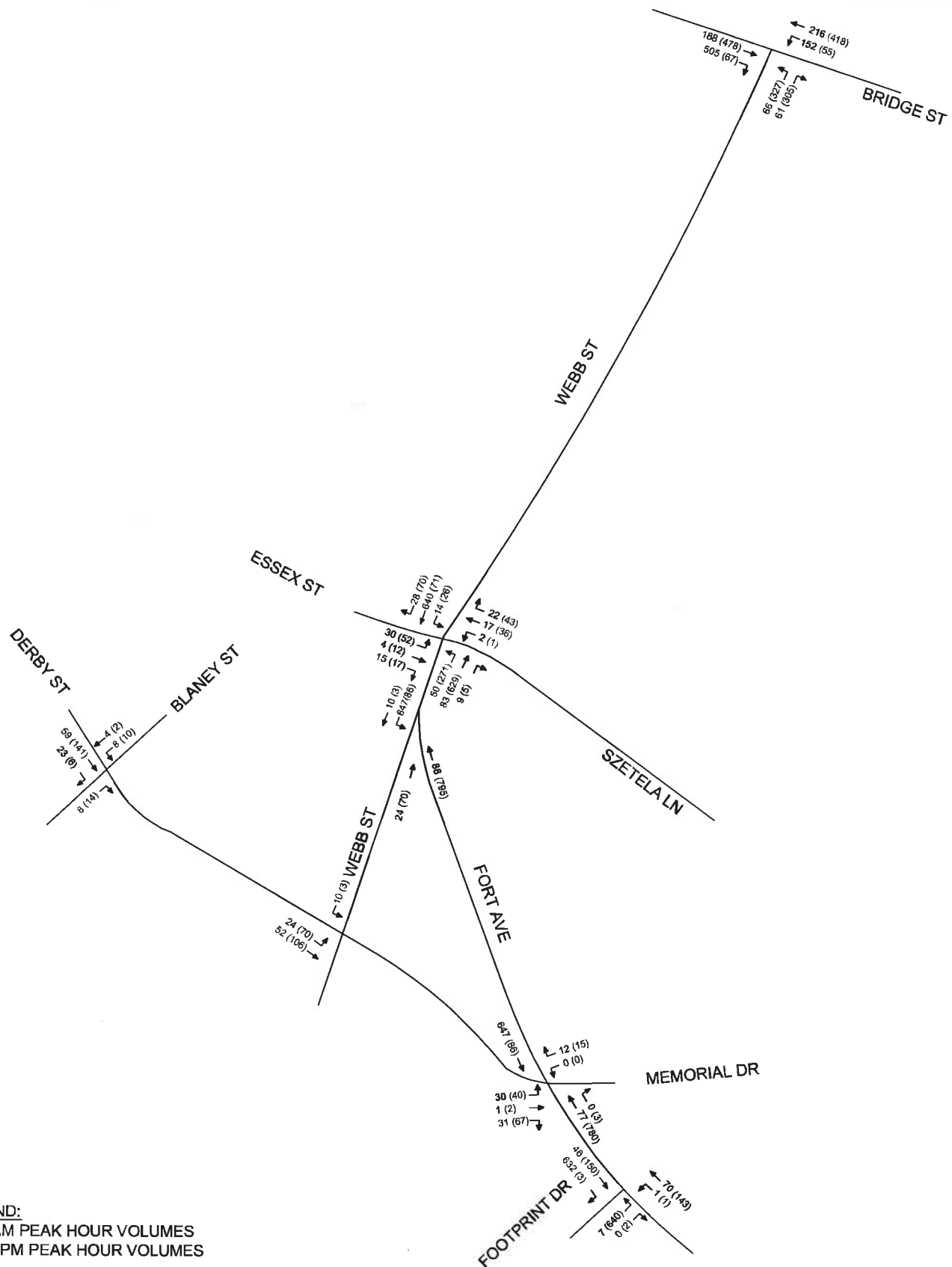
As seen in **Table 3**, signalized intersection of Bridge Street and Webb Street operates at Level of Service (LOS) B during the morning peak hours, and at LOS C during evening peak hours.

The intersection of Essex Street and Webb Street operates at LOS A during both the morning and the evening peak hours.

The analysis indicates that the remaining intersections will operate at acceptable levels of service. The analysis has been performed as a worst case scenario in which all of the drop-off or pick-up traffic occurs in a 15-minute period and not spread out through the whole hour. Even at this worst case scenario, the intersections operate at acceptable LOS.

2018 No-Build Traffic Operations

Nitsch Engineering analyzed the 2018 No-Build Traffic Operations at the study intersections. The 2018 no-build condition represents the site layout similar to the 2013 existing conditions, and area traffic increased at based on assuming that the Footprint project will be fully operational. **Figure 4** shows the 2018 no-build traffic volumes used in the analyses. **Table 4** summarizes the 2018 No-Build Condition Traffic Operations.



LEGEND:
 XX = AM PEAK HOUR VOLUMES
 (XX) = PM PEAK HOUR VOLUMES



2018 NO-BUILD TRAFFIC VOLUMES
 SALEM PORT EXPANSION
 SALEM, MA

PREPARED FOR:
BOURNE CONSULTING ENGINEERING
 3 BENT STREET, FRANKLIN, MA



Figure 3

Table 4 – 2018 No-Build Level of Service Summary

INTERSECTI ON	MOVEMENT	WEEKDAY MORNING PEAK HOUR					WEEKDAY EVENING PEAK HOUR				
		V/C ¹	DELAY ²	LOS ³	50th Q ⁴	95th Q ⁵	V/C ¹	DELAY ²	LOS ³	50th Q ⁴	95th Q ⁵
Essex St Webb St	Essex St NB – LTR	0.10	11.9	B	7	32	0.22	16.0	B	19	51
	Szetela St SB – LTR	0.07	9.9	A	4	25	0.18	10.6	B	11	40
	Webb St. EB – LTR	0.80	17.9	B	162	274	0.20	3.8	A	14	36
	Webb St WB – LTR	0.22	6.9	A	21	44	1.05	60.3	E	~403	#614
	Overall	0.80	15.5	B	-	-	1.05	46.6	D	-	-
Webb St at Derby St	Un-signalized Intersection	-	-	A	-	-	-	-	A	-	-
Derby St at Blaney /Becket	Un-signalized Intersection	-	-	A	-	-	-	-	A	-	-
Webb St at Bridge St	Bridge St NB- TR	1.01	0.3	D	~195	#421	0.91	40.7	D	196	#381
	Bridge St SB – T	0.24	0.4	A	41	75	0.46	10.5	B	92	154
	Bridge St. SB – L	0.93	13.8	F	61	#162	0.34	30.9	C	21	52
	Webb St WB-R	0.08	13.8	A	0	16	0.39	6.7	A	35	81
	Webb St WB-L	0.14	17.8	B	19	45	0.67	25.9	C	111	#195
	Overall	1.01	43.1	D	-	-	0.91	23.5	C	-	-

¹ Volume to Capacity Ratio; ² Vehicle Delay, measured in seconds; ³ Level Of Service; ⁴ 50th Percentile Queue (in feet); ⁵ 95th Percentile Queue (in feet) based upon 22 feet per vehicle;
 # volume exceeds capacity, queue may be longer; m 95th percentile queue is metered by upstream signal; ~ volume exceeds capacity.

As seen in **Table 4**, the intersection of Bridge Street and Webb Street operates at Level of Service (LOS) D during the morning peak hours, and at LOS C during the evening peak hours. The Bridge Street southbound left-turn approach experiences relatively long delays and queues during the morning peak hours at LOS F.

The intersection of Essex Street and Webb Street operates at LOS B during both the morning peak hours, and at LOS D during the evening peak hours. The Webb Street westbound approach experiences relatively long delays and queues during the morning peak hours at LOS E.

The analysis indicates that the remaining intersections will operate at acceptable levels of service. The analysis has been performed as a worst case scenario in which all of the drop-off or pick-up traffic occurs in a 15-minute period and not spread out through the whole hour. Even at this worst case scenario, the intersections operate at acceptable LOS.

Background Growth Rate

In order to accommodate other regional proposed projects that may generate additional traffic through the study area, we used a conservative 1% annual traffic growth to project traffic volumes for the analysis. The design year has been established as 2018, a 5-year horizon from the Existing Conditions in 2013. Derby Street east of Hawthorne Boulevard/Congress Street will carry approximately 610 weekday morning peak hour vehicles, 713 afternoon peak hour vehicles, and 7,150 daily vehicles.

Future Conditions

This proposed expansion would increase the port at Blaney Street to accommodate cruise ships vessels, once a week. To be conservative for our assessment we have assumed the following:

1. Size of the Vessel
 - a. Approximately 800' vessel;
 - b. 1500 passengers and 750 crew members.
2. Passengers
 - a. All passengers leave the vessel;
 - b. Half use bus tours;
 - c. Approximately 2.5 hours for passenger drop-off time.
3. Crew
 - a. Half of the crew stays on board;
 - b. Crew leaves after the passengers, and at the same rate.
4. Transportation
 - a. 12 tour buses to accommodate 750 passengers;
 - b. 4-6 trolley, each seating 25 people.

The proposed site is shown in **Figure 4**.

2018 Build Traffic Operations

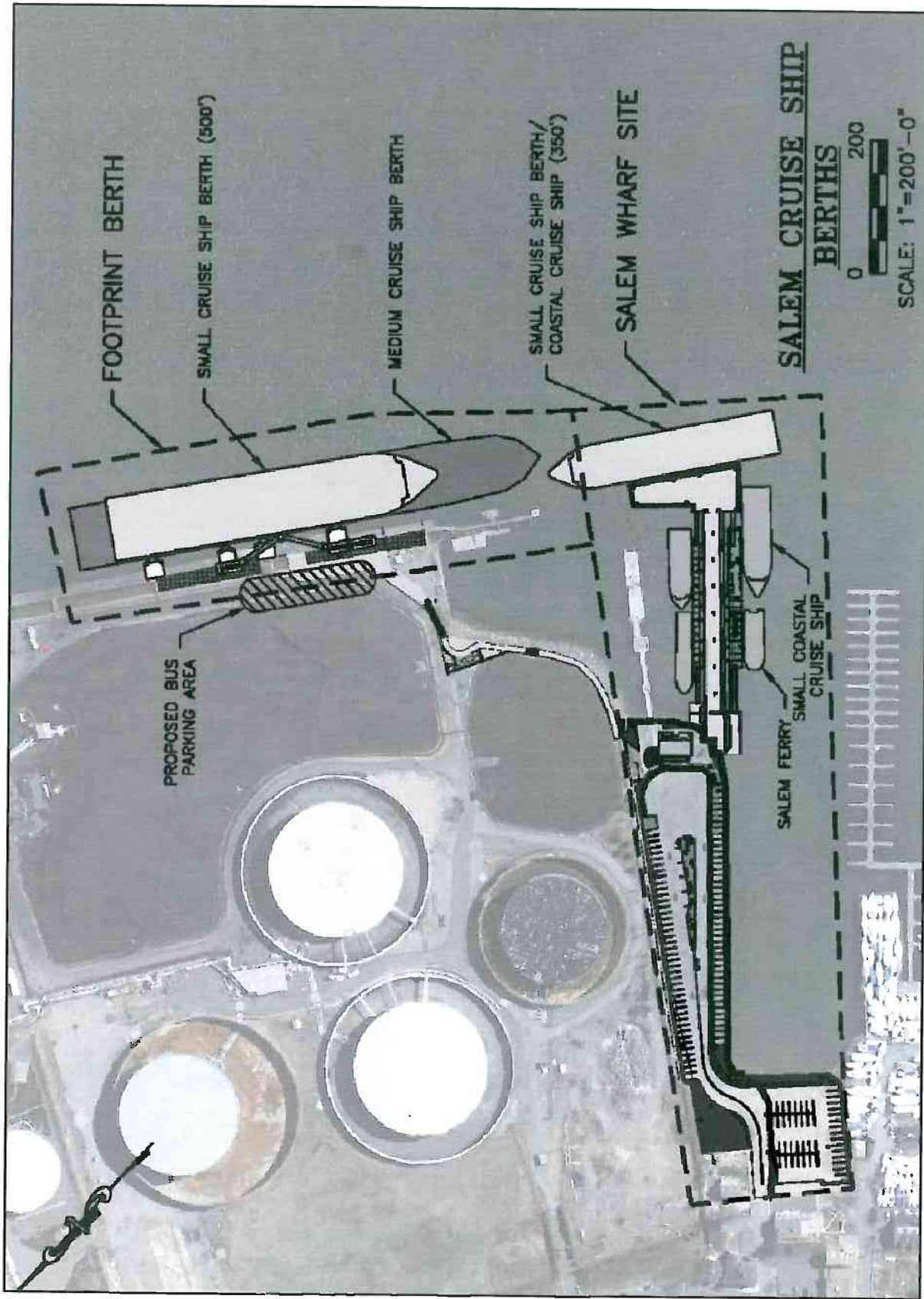
The 2018 Build Condition represents the scenario where trips to the proposed school are distributed as shown in **Figure 5**. A summary of the traffic operations for the 2018 Build Conditions is shown in **Table 5**.

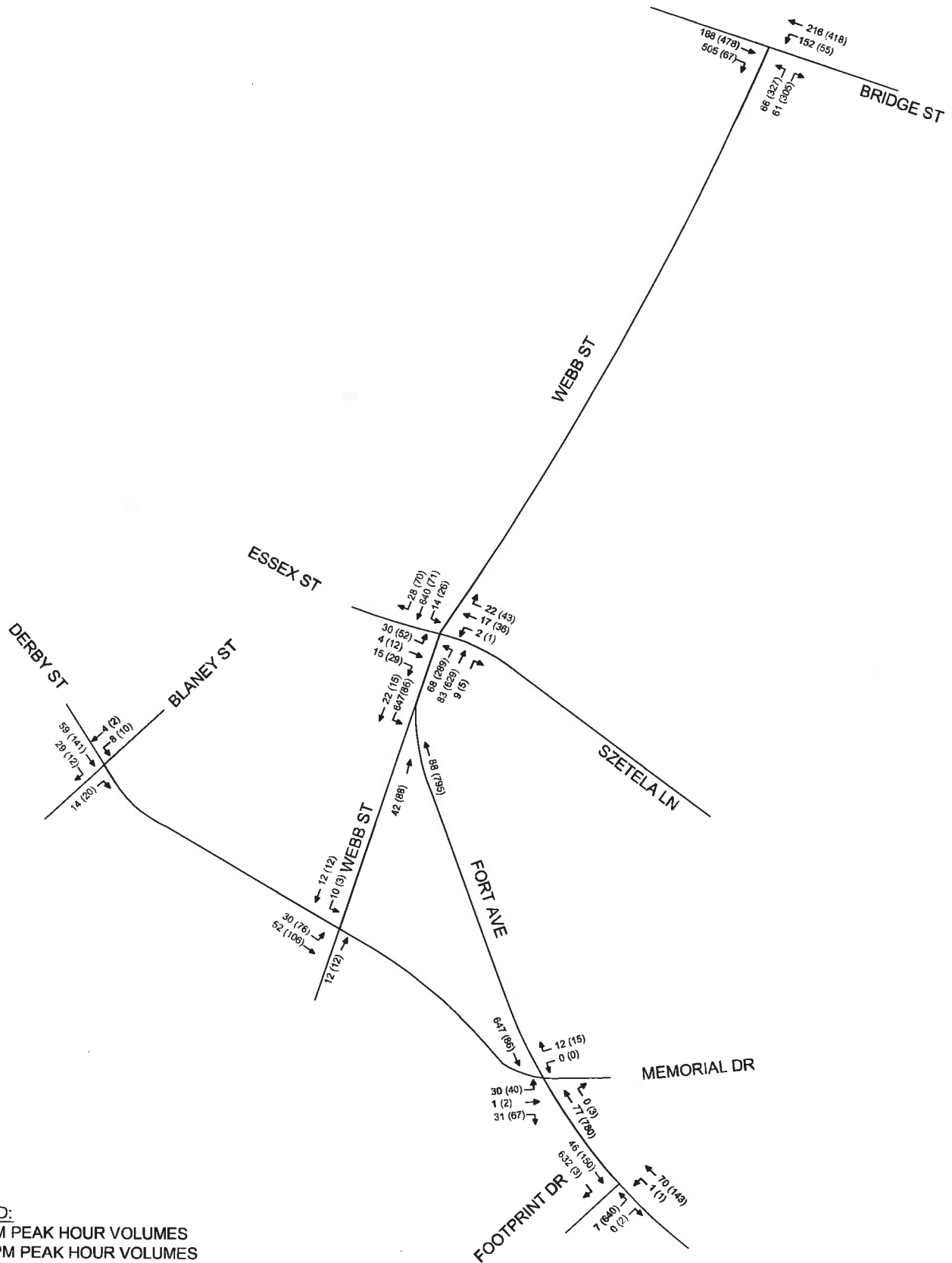


PROPOSED SITE
SALEM PORT EXPANSIO
SALEM, MA
PREPARED FOR
BOURNE CONSULTING ENGINEERING
3 BENT STREET, FRANKLIN, MA



Figure





2018 BUILD TRAFFIC VOLUMES-OPTION 2
 SALEM PORT EXPANSION
 SALEM, MA

PREPARED FOR:
BOURNE CONSULTING ENGINEERING
 3 BENT STREET, FRANKLIN, MA



Figure 5

Table 5 – 2018 Build Level of Service Summary

INTERSECTION	MOVEMENT	WEEKDAY MORNING PEAK HOUR					WEEKDAY EVENING PEAK HOUR				
		V/C ¹	DELAY ²	LOS ³	50th Q ⁴	95th Q ⁵	V/C ¹	DELAY ²	LOS ³	50th Q ⁴	95th Q ⁵
Essex St Webb St	Essex St NB – LTR	0.10	11.9	B	7	32	0.25	14.6	B	19	53
	Essex St SB – LTR	0.07	9.9	A	5	6	0.18	10.6	B	11	40
	Webb St EB – LTR	0.81	17.9	B	162	274	0.20	3.8	A	14	36
	Webb St WB – LTR	0.27	7.6	A	25	51	1.08	69.4	E	~420	#632
	Overall	0.81	15.5	B	-	-	1.08	53.0	D	-	-
Webb St at Derby St	Un-signalized Intersection	-	-	A	-	-	-	-	A	-	-
Derby St at Blaney /Becket	Un-signalized Intersection	-	-	A	-	-	-	-	A	-	-
Webb St at Bridge St	Bridge St NB- TR	1.01	0.3	D	~195	#421	0.91	40.7	D	196	#381
	Bridge St SB – T	0.24	0.4	A	41	75	0.46	10.5	B	92	154
	Bridge St. SB – L	0.93	13.8	F	61	#162	0.34	30.9	C	21	52
	Webb St WB-R	0.08	13.8	A	0	16	0.39	6.7	A	35	81
	Webb St WB-L	0.14	17.8	B	19	45	0.67	25.9	C	111	#195
	Overall	1.01	43.1	D	-	-	0.91	23.5	C	-	-

¹ Volume to Capacity Ratio; ² Vehicle Delay, measured in seconds; ³ Level Of Service; ⁴ 50th Percentile Queue (in feet); ⁵ 95th Percentile Queue (in feet) based upon 22 feet per vehicle;
 # volume exceeds capacity, queue may be longer; m 95th percentile queue is metered by upstream signal; ~ volume exceeds capacity.

As seen in **Table 5**, the intersection of Bridge Street and Webb Street continues to operate at Level of Service (LOS) D during the morning peak hours, and at LOS C during the evening peak hours. The Bridge Street southbound left-turn approach continues to experience relatively long delays and queues during the morning peak hours at LOS F.

The intersection of Essex Street and Webb Street also continues to operate similar to No-Build conditions at LOS B during both the morning peak hours, and at LOS D during the evening peak hours. The Webb Street westbound approach will remain with relatively long delays and queues during the morning peak hours at LOS E.

The analysis indicates that the remaining intersections will operate at acceptable levels of service. The analysis has been performed as a worst case scenario in which all of the drop-off or pick-up traffic occurs in a 15-minute period and not spread out through the whole hour. Even at this worst case scenario, the intersections operate at acceptable LOS.

A. Future Vehicular Traffic

Based on the limited data provided, and our assumptions above, we believe that the study intersections will continue to operate at acceptable levels of service with relatively short delays on all approaches.

B. Pedestrian Traffic

Pedestrians often travel together as a group, voluntarily or involuntarily, due to signal control, geometrics, or other factors. This phenomenon is called platooning and it occurs, for example, when a large number of bus, subway or in our case a cruise vessel passengers exit onto the sidewalk.

Table 6 - "Platoon-Adjusted LOS Criteria for Walkways and Sidewalks," from Highway Capacity Manual (HCM) is used to obtain the LOS based on the impact of platooning on pedestrian travel behavior.

Table 6 - Platoon-Adjusted LOS Criteria for Walkways and Sidewalks

LOS	Space (ft ² /p)	Flow Rate (p/min/ft)
A	> 530	≤ 0.5
B	> 90-530	> 0.5-3
C	> 40-90	> 3-6
D	> 23-40	> 6-11
E	> 11-23	> 11-18
F	≤ 11	> 18

According to our assumptions, half of the passengers (750) will use tour buses. The trolleys will accommodate an additional 100 passengers (4 Trolley with 25 passengers each). The remaining 650 passengers will exit the vessel in approximately 2.5 hours. This translates to a Flow Rate of 8-9, or an Adjusted LOS D. Space outside the Ferry Terminal available to assemble the passengers is approximately 5600 SF, which translates to 35 SF/person or an Adjusted LOS D as well.

WAYFINDING

Way-finding signs exist throughout the downtown Salem area, and along roadways entering the downtown area for the Salem Ferry. All key intersections have signage labeled "Salem Ferry" with arrows directing motorists toward the site. With the proposed port expansion project, the City might consider updating these signs to advertise the updated use or to use updated terminology.

EMERGENCY VEHICLE AND BUS ACCESS

As noted above, Derby Street has a varied width and is generally 23-25 feet wide, with parking permitted on the south side of the roadway. With parking permitted on Derby Street in the area of the port entrance via Blaney Street, the usable roadway width serving one-way traffic is 15-17 feet. Since there are sidewalks and utility poles on both sides of the intersecting streets, there are some lateral constraints for tour busses and emergency vehicles. That is, turning geometry is likely inadequate at this location without improvement measures to serve as the primary access to the port. During our earlier field reconnaissance, a trolley bus was observed to be using the entire useable width of Blaney Street, allowing no room for emergency vehicles to pass. Instituting parking restrictions within a selected distance of the Derby Street/ Blaney Street/Beckett Street intersection and along Blaney Street will improve mobility.

RECOMMENDATIONS

Based on our assessment of traffic, pedestrian, and traffic conditions in the area, there are a few measures that may be explored by the City of Salem to mitigate traffic and accommodate pedestrians in the area. These measures, if the City decides to explore include the following:

- Install wayfinding signs for the passenger assembly area around the ferry terminal, and for the trolleys;
- Dispersion of pedestrians by signage through alternate routes that include using White Street and Becket Street to Essex Street;
- Upgrade the pavement markings and signing in the study area.
- Consider upgrading the site access, in the area of the Derby Street/Blaney Street/Beckett Street intersection, by prohibiting parking for 200 feet along both sides of Derby Street from the intersection, and along both sides of Blaney Street.

CONCLUSION

This assessment has been developed to provide improvement options for pedestrian and traffic conditions in the port study area. One key recommendation is to improve site access conditions through the Derby Street/Blaney Street/Beckett Street intersection. This could be accomplished by prohibiting curbside parking along a section of Derby Street and along Blaney Street and improving signing and pavement markings at this location. This improvement will allow emergency vehicles and tour busses to better traverse the area.

Besides improved vehicle access, better pedestrian accommodations are recommended. In the area of site access, Derby Street sidewalks are 5-7 feet wide, which is inadequate for large pedestrian flows from tour busses, large groups and cruise ships and would generate poor levels of service. For improved levels of service and the ability to accommodate ease of walking without constraints, a wider sidewalk, and appropriate signing at the assembly area to guide visitors and provide a safe environment for all passengers would be desirable, however, due to the site constraints may not be applicable.

Appendix

Capacity Analysis

Lanes, Volumes, Timings
3: Webb & Fort

2/6/2014



Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations		↕	↕			↗
Volume (vph)	60	10	18	0	0	124
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						0.865
Flt Protected		0.959				
Satd. Flow (prot)	0	1786	1863	0	0	1611
Flt Permitted		0.959				
Satd. Flow (perm)	0	1786	1863	0	0	1611
Link Speed (mph)		30	30		30	
Link Distance (ft)		399	725		1397	
Travel Time (s)		9.1	16.5		31.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	65	11	20	0	0	135
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	76	20	0	0	135
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		0	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Stop		Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 17.7%

ICU Level of Service A

Analysis Period (min) 15

Lanes, Volumes, Timings
5: Webb & Bridge

2/6/2014

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	66	61	188	53	29	216
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850	0.970			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	1807	0	1770	1863
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	1583	1807	0	1770	1863
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		66	26			
Link Speed (mph)	30		30			30
Link Distance (ft)	2577		611			357
Travel Time (s)	58.6		13.9			8.1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	72	66	204	58	32	235
Shared Lane Traffic (%)						
Lane Group Flow (vph)	72	66	262	0	32	235
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Turn Type	NA	pt+ov	NA		Prot	NA
Protected Phases	8	8 1	2		1	6
Permitted Phases						
Minimum Split (s)	23.0		23.0		11.0	34.0
Total Split (s)	23.0		26.0		11.0	37.0
Total Split (%)	38.3%		43.3%		18.3%	61.7%
Maximum Green (s)	18.0		21.0		6.0	32.0
Yellow Time (s)	4.0		4.0		4.0	4.0
All-Red Time (s)	1.0		1.0		1.0	1.0
Lost Time Adjust (s)	0.0		0.0		0.0	0.0
Total Lost Time (s)	5.0		5.0		5.0	5.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Walk Time (s)	5.0		5.0			5.0
Flash Dont Walk (s)	11.0		11.0			11.0
Pedestrian Calls (#/hr)	0		0			0
Act Effect Green (s)	18.0	29.0	21.0		6.0	32.0
Actuated g/C Ratio	0.30	0.48	0.35		0.10	0.53
v/c Ratio	0.14	0.08	0.40		0.18	0.24
Control Delay	16.2	3.0	15.5		27.4	8.3
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	16.2	3.0	15.5		27.4	8.3
LOS	B	A	B		C	A

Lanes, Volumes, Timings
5: Webb & Bridge

2/6/2014

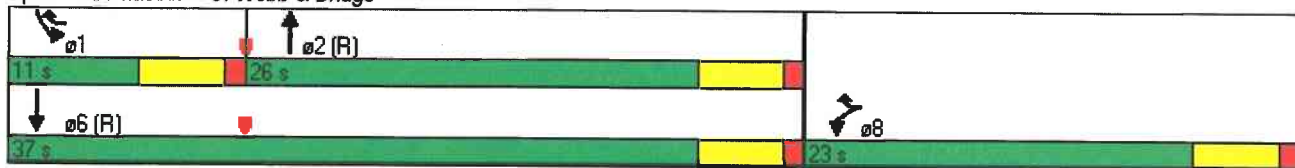
	↙	↖	↑	↗	↘	↓
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Approach Delay	9.9		15.5			10.6
Approach LOS	A		B			B
Stops (vph)	48	10	157		31	107
Fuel Used(gal)	2	1	3		0	2
CO Emissions (g/hr)	126	92	194		29	109
NOx Emissions (g/hr)	25	18	38		6	21
VOC Emissions (g/hr)	29	21	45		7	25
Dilemma Vehicles (#)	0	0	0		0	0
Queue Length 50th (ft)	19	0	62		11	41
Queue Length 95th (ft)	45	16	117		33	75
Internal Link Dist (ft)	2497		531			277
Turn Bay Length (ft)						
Base Capacity (vph)	531	799	649		177	993
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.14	0.08	0.40		0.18	0.24

Intersection Summary

Area Type: Other
 Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 60
 Control Type: Pretimed
 Maximum v/c Ratio: 0.40
 Intersection Signal Delay: 12.4
 Intersection Capacity Utilization 32.6%
 Analysis Period (min) 15

















Intersection LOS: B
 ICU Level of Service A

Splits and Phases: 5: Webb & Bridge















Lanes, Volumes, Timings
8: Essex & Webb

2/6/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	14	65	28	50	83	9	30	4	3	2	17	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.965			0.991			0.990			0.926	
Flt Protected		0.994			0.983			0.960			0.998	
Satd. Flow (prot)	0	1787	0	0	1815	0	0	1770	0	0	1721	0
Flt Permitted		0.963			0.884			0.835			0.994	
Satd. Flow (perm)	0	1731	0	0	1632	0	0	1540	0	0	1715	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		30			10			3			24	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		2577			399			661			661	
Travel Time (s)		58.6			9.1			15.0			15.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	15	71	30	54	90	10	33	4	3	2	18	24
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	116	0	0	154	0	0	40	0	0	44	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	20.0	20.0		20.0	20.0		20.0	20.0		20.0	20.0	
Total Split (s)	20.0	20.0		20.0	20.0		20.0	20.0		20.0	20.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	16.0	16.0		16.0	16.0		16.0	16.0		16.0	16.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		4.0			4.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effect Green (s)		16.0			16.0			16.0			16.0	
Actuated g/C Ratio		0.40			0.40			0.40			0.40	
v/c Ratio		0.16			0.23			0.06			0.06	
Control Delay		6.8			8.7			7.4			5.3	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		6.8			8.7			7.4			5.3	
LOS		A			A			A			A	

Lanes, Volumes, Timings
8: Essex & Webb

2/6/2014

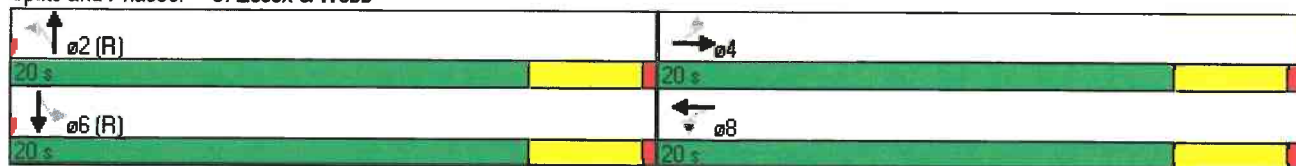
												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		6.8			8.7			7.4			5.3	
Approach LOS		A			A			A			A	
Stops (vph)		51			82			23			17	
Fuel Used(gal)		3			1			0			0	
CO Emissions (g/hr)		180			80			26			24	
NOx Emissions (g/hr)		35			16			5			5	
VOC Emissions (g/hr)		42			19			6			6	
Dilemma Vehicles (#)		0			0			0			0	
Queue Length 50th (ft)		11			20			5			3	
Queue Length 95th (ft)		33			47			17			15	
Internal Link Dist (ft)		2497			319			581			581	
Turn Bay Length (ft)												
Base Capacity (vph)		710			658			617			700	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.16			0.23			0.06			0.06	

Intersection Summary

Area Type: Other
 Cycle Length: 40
 Actuated Cycle Length: 40
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
 Natural Cycle: 40
 Control Type: Pretimed
 Maximum v/c Ratio: 0.23
 Intersection Signal Delay: 7.5
 Intersection Capacity Utilization 29.7%
 Analysis Period (min) 15

















Intersection LOS: A
 ICU Level of Service A

Splits and Phases: 8: Essex & Webb



Lanes, Volumes, Timings
11: Fort & Derby

2/6/2014

												
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (vph)	35	1	31	0	0	12	0	60	0	0	70	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.937				0.865						
Flt Protected		0.975										
Satd. Flow (prot)	0	1702	0	0	0	1611	0	1863	0	0	1863	0
Flt Permitted		0.975										
Satd. Flow (perm)	0	1702	0	0	0	1611	0	1863	0	0	1863	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		989			627			1397			221	
Travel Time (s)		22.5			14.3			31.8			5.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	38	1	34	0	0	13	0	65	0	0	76	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	73	0	0	0	13	0	65	0	0	76	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized














Intersection Capacity Utilization 20.9%

ICU Level of Service A

Analysis Period (min) 15

Lanes, Volumes, Timings
12: Derby & Webb

2/6/2014

										
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SWL	SWR
Lane Configurations										
Volume (vph)	10	0	0	0	0	0	18	57	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt							0.898			
Flt Protected		0.950					0.988			
Satd. Flow (prot)	0	1770	0	0	1863	0	1653	0	0	0
Flt Permitted		0.950					0.988			
Satd. Flow (perm)	0	1770	0	0	1863	0	1653	0	0	0
Link Speed (mph)		30			30		30		30	
Link Distance (ft)		725			234		1142		989	
Travel Time (s)		16.5			5.3		26.0		22.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	0	0	0	0	0	20	62	0	0
Shared Lane Traffic (%)										
Lane Group Flow (vph)	0	11	0	0	0	0	82	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Right	Left	Right
Median Width(ft)		0			0		12		0	
Link Offset(ft)		0			0		0		0	
Crosswalk Width(ft)		16			16		16		16	
Two way Left Turn Lane										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15	9	15	9
Sign Control		Stop			Stop		Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized














Intersection Capacity Utilization 14.5%

ICU Level of Service A

Analysis Period (min) 15

Lanes, Volumes, Timings
14: Blaney & Derby

2/6/2014

										
Lane Group	EBL	EBR	SEL	SET	SER	NWL	NWT	NWR	SWL	SWR
Lane Configurations										
Volume (vph)	59	23	8	2	0	0	0	8	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.962							0.865		
Flt Protected	0.965			0.961						
Satd. Flow (prot)	1729	0	0	1790	0	0	0	1611	0	0
Flt Permitted	0.965			0.961						
Satd. Flow (perm)	1729	0	0	1790	0	0	0	1611	0	0
Link Speed (mph)	30			30			30		30	
Link Distance (ft)	445			294			459		1142	
Travel Time (s)	10.1			6.7			10.4		26.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	64	25	9	2	0	0	0	9	0	0
Shared Lane Traffic (%)										
Lane Group Flow (vph)	89	0	0	11	0	0	0	9	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Right	Left	Left	Right	Left	Right
Median Width(ft)	12			0			0		0	
Link Offset(ft)	0			0			0		0	
Crosswalk Width(ft)	16			16			16		16	
Two way Left Turn Lane										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15		9	15		9	15	9
Sign Control	Free			Stop			Stop		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 14.7%

ICU Level of Service A

Analysis Period (min) 15

Lanes, Volumes, Timings

19:

2/6/2014



Lane Group	WBL	WBR	NET	NER	SWL	SWT
Lane Configurations						
Volume (vph)	7	0	46	45	1	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.933			
Flt Protected	0.950					0.999
Satd. Flow (prot)	1770	1863	1738	0	0	1861
Flt Permitted	0.950					0.999
Satd. Flow (perm)	1770	1863	1738	0	0	1861
Link Speed (mph)	30		30			30
Link Distance (ft)	350		221			266
Travel Time (s)	8.0		5.0			6.0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	8	0	50	49	1	76
Shared Lane Traffic (%)						
Lane Group Flow (vph)	8	0	99	0	0	77
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 15.2%

ICU Level of Service A

Analysis Period (min) 15

Lanes, Volumes, Timings
3: Webb & Fort

2/6/2014



Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations		↗	↖			↗
Volume (vph)	86	3	70	0	0	245
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						0.865
Flt Protected		0.954				
Satd. Flow (prot)	0	1777	1863	0	0	1611
Flt Permitted		0.954				
Satd. Flow (perm)	0	1777	1863	0	0	1611
Link Speed (mph)		30	30		30	
Link Distance (ft)		399	725		1397	
Travel Time (s)		9.1	16.5		31.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	93	3	76	0	0	266
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	96	76	0	0	266
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		0	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Stop		Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized












Intersection Capacity Utilization 25.5%

ICU Level of Service A

Analysis Period (min) 15

Lanes, Volumes, Timings
5: Webb & Bridge

2/6/2014

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	116	105	478	67	55	418
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850	0.983			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	1831	0	1770	1863
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	1583	1831	0	1770	1863
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		114	13			
Link Speed (mph)	30		30			30
Link Distance (ft)	2577		611			357
Travel Time (s)	58.6		13.9			8.1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	126	114	520	73	60	454
Shared Lane Traffic (%)						
Lane Group Flow (vph)	126	114	593	0	60	454
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Turn Type	NA	pt+ov	NA		Prot	NA
Protected Phases	8	8 1	2		1	6
Permitted Phases						
Minimum Split (s)	23.0		23.0		11.0	34.0
Total Split (s)	23.0		26.0		11.0	37.0
Total Split (%)	38.3%		43.3%		18.3%	61.7%
Maximum Green (s)	18.0		21.0		6.0	32.0
Yellow Time (s)	4.0		4.0		4.0	4.0
All-Red Time (s)	1.0		1.0		1.0	1.0
Lost Time Adjust (s)	0.0		0.0		0.0	0.0
Total Lost Time (s)	5.0		5.0		5.0	5.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Walk Time (s)	5.0		5.0			5.0
Flash Dont Walk (s)	11.0		11.0			11.0
Pedestrian Calls (#/hr)	0		0			0
Act Effct Green (s)	18.0	29.0	21.0		6.0	32.0
Actuated g/C Ratio	0.30	0.48	0.35		0.10	0.53
v/c Ratio	0.24	0.14	0.91		0.34	0.46
Control Delay	17.3	2.6	40.7		30.9	10.5
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	17.3	2.6	40.7		30.9	10.5
LOS	B	A	D		C	B

Lanes, Volumes, Timings
5: Webb & Bridge

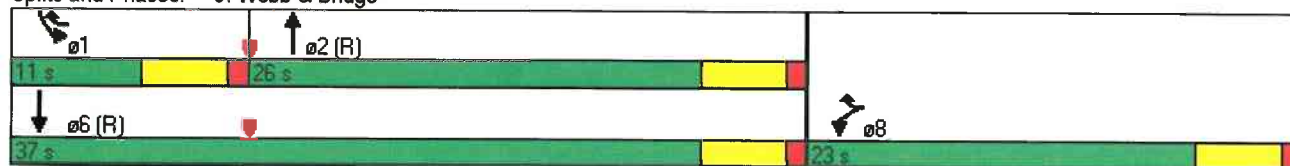
2/6/2014

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Approach Delay	10.3		40.7			12.9
Approach LOS	B		D			B
Stops (vph)	85	14	440		52	242
Fuel Used(gal)	3	2	10		1	3
CO Emissions (g/hr)	224	157	668		55	237
NOx Emissions (g/hr)	44	30	130		11	46
VOC Emissions (g/hr)	52	36	155		13	55
Dilemma Vehicles (#)	0	0	0		0	0
Queue Length 50th (ft)	34	0	196		21	92
Queue Length 95th (ft)	70	21	#381		52	154
Internal Link Dist (ft)	2497		531			277
Turn Bay Length (ft)						
Base Capacity (vph)	531	824	649		177	993
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.24	0.14	0.91		0.34	0.46

Intersection Summary

















Area Type: Other
 Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 60
 Control Type: Pretimed
 Maximum v/c Ratio: 0.91
 Intersection Signal Delay: 24.7
 Intersection LOS: C
 Intersection Capacity Utilization 51.5%
 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.

Splits and Phases: 5: Webb & Bridge















Lanes, Volumes, Timings
8: Essex & Webb

2/6/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	26	71	70	95	18	5	52	12	17	1	36	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.943			0.995			0.972			0.927	
Flt Protected		0.992			0.961			0.969			0.999	
Satd. Flow (prot)	0	1743	0	0	1781	0	0	1754	0	0	1725	0
Flt Permitted		0.952			0.701			0.820			0.998	
Satd. Flow (perm)	0	1672	0	0	1299	0	0	1485	0	0	1723	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		76			5			18			47	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		2577			399			661			661	
Travel Time (s)		58.6			9.1			15.0			15.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	28	77	76	103	20	5	57	13	18	1	39	47
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	181	0	0	128	0	0	88	0	0	87	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	20.0	20.0		20.0	20.0		20.0	20.0		20.0	20.0	
Total Split (s)	20.0	20.0		20.0	20.0		20.0	20.0		20.0	20.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	16.0	16.0		16.0	16.0		16.0	16.0		16.0	16.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		4.0			4.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		16.0			16.0			16.0			16.0	
Actuated g/C Ratio		0.40			0.40			0.40			0.40	
v/c Ratio		0.25			0.25			0.15			0.12	
Control Delay		6.1			9.3			7.2			5.0	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		6.1			9.3			7.2			5.0	
LOS		A			A			A			A	

Lanes, Volumes, Timings
8: Essex & Webb

2/6/2014

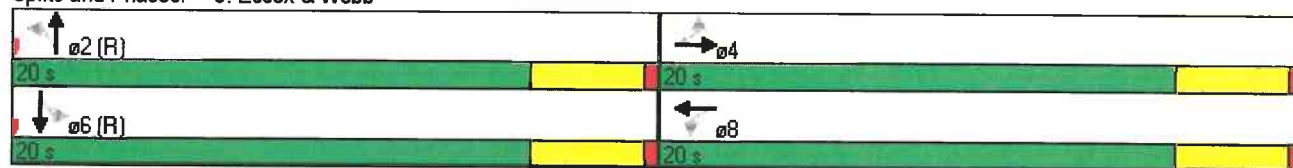
												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		6.1			9.3			7.2			5.0	
Approach LOS		A			A			A			A	
Stops (vph)		66			72			41			29	
Fuel Used(gal)		4			1			1			1	
CO Emissions (g/hr)		275			69			53			46	
NOx Emissions (g/hr)		53			13			10			9	
VOC Emissions (g/hr)		64			16			12			11	
Dilemma Vehicles (#)		0			0			0			0	
Queue Length 50th (ft)		14			17			9			5	
Queue Length 95th (ft)		42			43			28			22	
Internal Link Dist (ft)		2497			319			581			581	
Turn Bay Length (ft)												
Base Capacity (vph)		714			522			604			717	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.25			0.25			0.15			0.12	

Intersection Summary

Area Type: Other
Cycle Length: 40
Actuated Cycle Length: 40
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 40
Control Type: Pretimed
Maximum v/c Ratio: 0.25
Intersection Signal Delay: 7.0
Intersection Capacity Utilization 37.2%
Analysis Period (min) 15

















Intersection LOS: A
ICU Level of Service A

Splits and Phases: 8: Essex & Webb



Lanes, Volumes, Timings
11: Fort & Derby

2/6/2014

												
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (vph)	40	2	67	15	0	12	0	86	0	0	193	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.916				0.865						
Flt Protected		0.982			0.950							
Satd. Flow (prot)	0	1676	0	0	0	1611	0	1863	0	0	1863	0
Flt Permitted		0.982			0.950							
Satd. Flow (perm)	0	1676	0	0	0	1611	0	1863	0	0	1863	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		989			627			1397			221	
Travel Time (s)		22.5			14.3			31.8			5.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	43	2	73	16	0	13	0	93	0	0	210	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	118	0	0	16	13	0	93	0	0	210	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized














Intersection Capacity Utilization Err%

ICU Level of Service H

Analysis Period (min) 15

Lanes, Volumes, Timings
12: Derby & Webb

2/6/2014

										
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SWL	SWR
Lane Configurations										
Volume (vph)	3	0	0	0	0	0	70	106	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt							0.919			
Flt Protected		0.950					0.980			
Satd. Flow (prot)	0	1770	0	0	1863	0	1678	0	0	0
Flt Permitted		0.950					0.980			
Satd. Flow (perm)	0	1770	0	0	1863	0	1678	0	0	0
Link Speed (mph)		30			30		30		30	
Link Distance (ft)		725			234		1142		989	
Travel Time (s)		16.5			5.3		26.0		22.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	3	0	0	0	0	0	76	115	0	0
Shared Lane Traffic (%)										
Lane Group Flow (vph)	0	3	0	0	0	0	191	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Right	Left	Right
Median Width(ft)		0			0		12		0	
Link Offset(ft)		0			0		0		0	
Crosswalk Width(ft)		16			16		16		16	
Two way Left Turn Lane										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15	9	15	9
Sign Control		Stop			Stop		Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized














Intersection Capacity Utilization 20.4%

ICU Level of Service A

Analysis Period (min) 15

Lanes, Volumes, Timings
14: Blaney & Derby

2/6/2014

										
Lane Group	EBL	EBR	SEL	SET	SER	NWL	NWT	NWR	SWL	SWR
Lane Configurations										
Volume (vph)	141	6	10	2	0	0	0	14	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.994							0.865		
Flt Protected	0.954			0.959						
Satd. Flow (prot)	1766	0	0	1786	0	0	0	1611	0	0
Flt Permitted	0.954			0.959						
Satd. Flow (perm)	1766	0	0	1786	0	0	0	1611	0	0
Link Speed (mph)	30			30			30		30	
Link Distance (ft)	445			294			459		1142	
Travel Time (s)	10.1			6.7			10.4		26.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	153	7	11	2	0	0	0	15	0	0
Shared Lane Traffic (%)										
Lane Group Flow (vph)	160	0	0	13	0	0	0	15	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Right	Left	Left	Right	Left	Right
Median Width(ft)	12			0			0		0	
Link Offset(ft)	0			0			0		0	
Crosswalk Width(ft)	16			16			16		16	
Two way Left Turn Lane										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15		9	15		9	15	9
Sign Control	Free			Stop			Stop		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 18.2%

ICU Level of Service A

Analysis Period (min) 15

Lanes, Volumes, Timings

19:

2/6/2014



Lane Group	WBL	WBR	NET	NER	SWL	SWT
Lane Configurations						
Volume (vph)	53	2	150	3	1	143
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850	0.998			
Flt Protected	0.950					
Satd. Flow (prot)	1770	1583	1859	0	0	1863
Flt Permitted	0.950					
Satd. Flow (perm)	1770	1583	1859	0	0	1863
Link Speed (mph)	30		30			30
Link Distance (ft)	350		221			266
Travel Time (s)	8.0		5.0			6.0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	58	2	163	3	1	155
Shared Lane Traffic (%)						
Lane Group Flow (vph)	58	2	166	0	0	156
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 18.3%

ICU Level of Service A

Analysis Period (min) 15

Lanes, Volumes, Timings
3: Webb & Fort

2/6/2014



Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations		↔	↔			↔
Volume (vph)	647	10	24	0	0	88
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						0.865
Flt Protected		0.953				
Satd. Flow (prot)	0	1775	1863	0	0	1611
Flt Permitted		0.953				
Satd. Flow (perm)	0	1775	1863	0	0	1611
Link Speed (mph)		30	30		30	
Link Distance (ft)		399	725		1397	
Travel Time (s)		9.1	16.5		31.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	703	11	26	0	0	96
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	714	26	0	0	96
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		0	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Stop		Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 46.4%

ICU Level of Service A

Analysis Period (min) 15

Lanes, Volumes, Timings
5: Webb & Bridge

2/6/2014

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	66	61	188	505	152	216
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850	0.902			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	1680	0	1770	1863
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	1583	1680	0	1770	1863
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		66	248			
Link Speed (mph)	30		30			30
Link Distance (ft)	2577		611			357
Travel Time (s)	58.6		13.9			8.1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	72	66	204	549	165	235
Shared Lane Traffic (%)						
Lane Group Flow (vph)	72	66	753	0	165	235
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Turn Type	NA	pt+ov	NA		Prot	NA
Protected Phases	8	8 1	2		1	6
Permitted Phases						
Minimum Split (s)	23.0		23.0		11.0	34.0
Total Split (s)	23.0		26.0		11.0	37.0
Total Split (%)	38.3%		43.3%		18.3%	61.7%
Maximum Green (s)	18.0		21.0		6.0	32.0
Yellow Time (s)	4.0		4.0		4.0	4.0
All-Red Time (s)	1.0		1.0		1.0	1.0
Lost Time Adjust (s)	0.0		0.0		0.0	0.0
Total Lost Time (s)	5.0		5.0		5.0	5.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Walk Time (s)	5.0		5.0			5.0
Flash Dont Walk (s)	11.0		11.0			11.0
Pedestrian Calls (#/hr)	0		0			0
Act Effct Green (s)	18.0	29.0	21.0		6.0	32.0
Actuated g/C Ratio	0.30	0.48	0.35		0.10	0.53
v/c Ratio	0.14	0.08	1.01		0.93	0.24
Control Delay	16.2	3.0	50.9		84.8	8.3
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	16.2	3.0	50.9		84.8	8.3
LOS	B	A	D		F	A

Lanes, Volumes, Timings
5: Webb & Bridge

2/6/2014

	↖	↗	↑	↘	↙	↓
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Approach Delay	9.9		50.9			39.8
Approach LOS	A		D			D
Stops (vph)	48	10	407		122	107
Fuel Used(gal)	2	1	13		4	2
CO Emissions (g/hr)	126	92	890		260	109
NOx Emissions (g/hr)	25	18	173		51	21
VOC Emissions (g/hr)	29	21	206		60	25
Dilemma Vehicles (#)	0	0	0		0	0
Queue Length 50th (ft)	19	0	~195		61	41
Queue Length 95th (ft)	45	16	#421		#162	75
Internal Link Dist (ft)	2497		531			277
Turn Bay Length (ft)						
Base Capacity (vph)	531	799	749		177	993
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.14	0.08	1.01		0.93	0.24

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 70

Control Type: Pretimed

Maximum v/c Ratio: 1.01

Intersection Signal Delay: 43.1

Intersection LOS: D

Intersection Capacity Utilization 65.5%

ICU Level of Service C

Analysis Period (min) 15

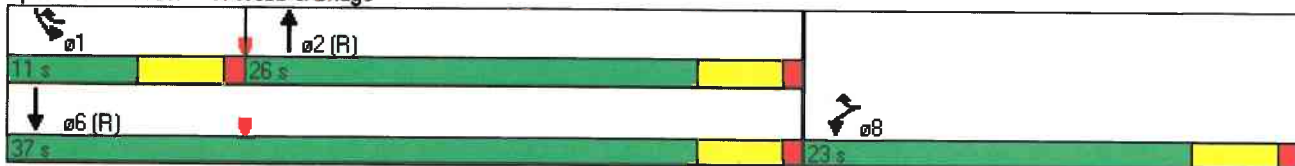
~ Volume exceeds capacity, queue is theoretically infinite.

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: 5: Webb & Bridge















Lanes, Volumes, Timings
8: Essex & Webb

2/6/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	14	640	28	50	83	9	30	4	15	2	17	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.995			0.991			0.959			0.926	
Flt Protected		0.999			0.983			0.970			0.998	
Satd. Flow (prot)	0	1852	0	0	1815	0	0	1733	0	0	1721	0
Flt Permitted		0.995			0.761			0.861			0.994	
Satd. Flow (perm)	0	1844	0	0	1405	0	0	1538	0	0	1715	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6			10			16			24	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		2577			399			661			661	
Travel Time (s)		58.6			9.1			15.0			15.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	15	696	30	54	90	10	33	4	16	2	18	24
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	741	0	0	154	0	0	53	0	0	44	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0		20.0	20.0		20.0	20.0		20.0	20.0	

Lanes, Volumes, Timings
8: Essex & Webb

2/6/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	39.0	39.0		39.0	39.0		21.0	21.0		21.0	21.0	
Total Split (%)	65.0%	65.0%		65.0%	65.0%		35.0%	35.0%		35.0%	35.0%	
Maximum Green (s)	35.0	35.0		35.0	35.0		17.0	17.0		17.0	17.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		4.0			4.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		25.3			25.3			17.3			17.3	
Actuated g/C Ratio		0.50			0.50			0.34			0.34	
v/c Ratio		0.80			0.22			0.10			0.07	
Control Delay		17.9			6.9			11.9			9.9	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		17.9			6.9			11.9			9.9	
LOS		B			A			B			A	
Approach Delay		17.9			6.9			11.9			9.9	
Approach LOS		B			A			B			A	
90th %ile Green (s)	35.0	35.0		35.0	35.0		17.0	17.0		17.0	17.0	
90th %ile Term Code	Max	Max		Hold	Hold		MaxR	MaxR		MaxR	MaxR	
70th %ile Green (s)	31.9	31.9		31.9	31.9		17.0	17.0		17.0	17.0	
70th %ile Term Code	Gap	Gap		Hold	Hold		MaxR	MaxR		MaxR	MaxR	
50th %ile Green (s)	25.8	25.8		25.8	25.8		17.0	17.0		17.0	17.0	
50th %ile Term Code	Gap	Gap		Hold	Hold		MaxR	MaxR		MaxR	MaxR	
30th %ile Green (s)	20.6	20.6		20.6	20.6		17.0	17.0		17.0	17.0	
30th %ile Term Code	Gap	Gap		Hold	Hold		MaxR	MaxR		MaxR	MaxR	
10th %ile Green (s)	15.8	15.8		15.8	15.8		17.0	17.0		17.0	17.0	
10th %ile Term Code	Gap	Gap		Hold	Hold		MaxR	MaxR		MaxR	MaxR	
Stops (vph)		501			60			28			18	
Fuel Used(gal)		19			1			1			0	
CO Emissions (g/hr)		1325			68			37			27	
NOx Emissions (g/hr)		258			13			7			5	
VOC Emissions (g/hr)		307			16			9			6	
Dilemma Vehicles (#)		0			0			0			0	
Queue Length 50th (ft)		162			21			7			4	
Queue Length 95th (ft)		274			44			32			25	
Internal Link Dist (ft)		2497			319			581			581	
Turn Bay Length (ft)												
Base Capacity (vph)		1297			990			535			601	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.57			0.16			0.10			0.07	

Lanes, Volumes, Timings

8: Essex & Webb

2/6/2014

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 50.8

Natural Cycle: 55

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.80

Intersection Signal Delay: 15.5

Intersection LOS: B

Intersection Capacity Utilization 52.5%

ICU Level of Service A

Analysis Period (min) 15

90th %ile Actuated Cycle: 60

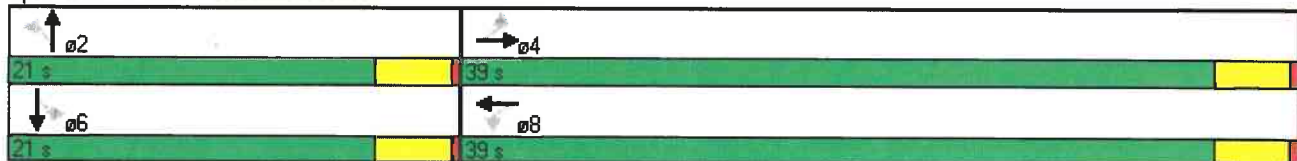
70th %ile Actuated Cycle: 56.9

50th %ile Actuated Cycle: 50.8

30th %ile Actuated Cycle: 45.6

















10th %ile Actuated Cycle: 40.8

Splits and Phases: 8: Essex & Webb



Lanes, Volumes, Timings
11: Fort & Derby

2/6/2014

												
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (vph)	30	1	31	0	0	12	0	647	0	0	77	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.932				0.865						
Flt Protected		0.976										
Satd. Flow (prot)	0	1694	0	0	0	1611	0	1863	0	0	1863	0
Flt Permitted		0.976										
Satd. Flow (perm)	0	1694	0	0	0	1611	0	1863	0	0	1863	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		989			627			1397			221	
Travel Time (s)		22.5			14.3			31.8			5.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	1	34	0	0	13	0	703	0	0	84	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	68	0	0	0	13	0	703	0	0	84	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized














Intersection Capacity Utilization 44.3%

ICU Level of Service A

Analysis Period (min) 15

Lanes, Volumes, Timings
12: Derby & Webb

2/6/2014

										
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SWL	SWR
Lane Configurations										
Volume (vph)	10	0	0	0	0	0	24	52	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt							0.907			
Flt Protected		0.950					0.985			
Satd. Flow (prot)	0	1770	0	0	1863	0	1664	0	0	0
Flt Permitted		0.950					0.985			
Satd. Flow (perm)	0	1770	0	0	1863	0	1664	0	0	0
Link Speed (mph)		30			30		30		30	
Link Distance (ft)		725			234		1142		989	
Travel Time (s)		16.5			5.3		26.0		22.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	0	0	0	0	0	26	57	0	0
Shared Lane Traffic (%)										
Lane Group Flow (vph)	0	11	0	0	0	0	83	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Right	Left	Right
Median Width(ft)		0			0		12		0	
Link Offset(ft)		0			0		0		0	
Crosswalk Width(ft)		16			16		16		16	
Two way Left Turn Lane										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15	9	15	9
Sign Control		Stop			Stop		Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized














Intersection Capacity Utilization 14.5%

ICU Level of Service A

Analysis Period (min) 15

Lanes, Volumes, Timings
14: Blaney & Derby

2/6/2014

										
Lane Group	EBL	EBR	SEL	SET	SER	NWL	NWT	NWR	SWL	SWR
Lane Configurations										
Volume (vph)	59	23	8	2	0	0	0	8	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.962							0.865		
Flt Protected	0.965			0.961						
Satd. Flow (prot)	1729	0	0	1790	0	0	0	1611	0	0
Flt Permitted	0.965			0.961						
Satd. Flow (perm)	1729	0	0	1790	0	0	0	1611	0	0
Link Speed (mph)	30			30			30		30	
Link Distance (ft)	445			294			459		1142	
Travel Time (s)	10.1			6.7			10.4		26.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	64	25	9	2	0	0	0	9	0	0
Shared Lane Traffic (%)										
Lane Group Flow (vph)	89	0	0	11	0	0	0	9	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Right	Left	Left	Right	Left	Right
Median Width(ft)	12			0			0		0	
Link Offset(ft)	0			0			0		0	
Crosswalk Width(ft)	16			16			16		16	
Two way Left Turn Lane										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15		9	15		9	15	9
Sign Control	Free			Stop			Stop		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 14.7%











ICU Level of Service A

Analysis Period (min) 15

Lanes, Volumes, Timings

19:

2/6/2014

						
Lane Group	WBL	WBR	NET	NER	SWL	SWT
Lane Configurations						
Volume (vph)	7	0	46	632	1	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.874			
Flt Protected	0.950					0.999
Satd. Flow (prot)	1770	1863	1628	0	0	1861
Flt Permitted	0.950					0.999
Satd. Flow (perm)	1770	1863	1628	0	0	1861
Link Speed (mph)	30		30			30
Link Distance (ft)	350		221			266
Travel Time (s)	8.0		5.0			6.0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	8	0	50	687	1	76
Shared Lane Traffic (%)						
Lane Group Flow (vph)	8	0	737	0	0	77
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary

Area Type: Other

Control Type: Unsignalized










Intersection Capacity Utilization 51.5%

ICU Level of Service A

Analysis Period (min) 15












Lanes, Volumes, Timings
3: Webb & Fort

2/6/2014

						
Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Volume (vph)	86	3	70	0	0	795
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						0.865
Flt Protected		0.954				
Satd. Flow (prot)	0	1777	1863	0	0	1611
Flt Permitted		0.954				
Satd. Flow (perm)	0	1777	1863	0	0	1611
Link Speed (mph)		30	30		30	
Link Distance (ft)		399	725		1397	
Travel Time (s)		9.1	16.5		31.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	93	3	76	0	0	864
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	96	76	0	0	864
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		0	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Stop		Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization 59.6%	ICU Level of Service B					
Analysis Period (min) 15						

Lanes, Volumes, Timings
5: Webb & Bridge

2/6/2014

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	327	305	478	67	55	418
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850	0.983			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	1831	0	1770	1863
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	1583	1831	0	1770	1863
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		154	13			
Link Speed (mph)	30		30			30
Link Distance (ft)	2577		611			357
Travel Time (s)	58.6		13.9			8.1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	355	332	520	73	60	454
Shared Lane Traffic (%)						
Lane Group Flow (vph)	355	332	593	0	60	454
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Turn Type	NA	pt+ov	NA		Prot	NA
Protected Phases	8	8 1	2		1	6
Permitted Phases						
Minimum Split (s)	23.0		23.0		11.0	34.0
Total Split (s)	23.0		26.0		11.0	37.0
Total Split (%)	38.3%		43.3%		18.3%	61.7%
Maximum Green (s)	18.0		21.0		6.0	32.0
Yellow Time (s)	4.0		4.0		4.0	4.0
All-Red Time (s)	1.0		1.0		1.0	1.0
Lost Time Adjust (s)	0.0		0.0		0.0	0.0
Total Lost Time (s)	5.0		5.0		5.0	5.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Walk Time (s)	5.0		5.0			5.0
Flash Dont Walk (s)	11.0		11.0			11.0
Pedestrian Calls (#/hr)	0		0			0
Act Effect Green (s)	18.0	29.0	21.0		6.0	32.0
Actuated g/C Ratio	0.30	0.48	0.35		0.10	0.53
v/c Ratio	0.67	0.39	0.91		0.34	0.46
Control Delay	25.9	6.7	40.7		30.9	10.5
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	25.9	6.7	40.7		30.9	10.5
LOS	C	A	D		C	B

Lanes, Volumes, Timings
5: Webb & Bridge

2/6/2014

	↙	↖	↑	↗	↘	↓
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Approach Delay	16.6		40.7			12.9
Approach LOS	B		D			B
Stops (vph)	276	100	440		52	242
Fuel Used(gal)	10	7	10		1	3
CO Emissions (g/hr)	686	496	668		55	237
NOx Emissions (g/hr)	134	97	130		11	46
VOC Emissions (g/hr)	159	115	155		13	55
Dilemma Vehicles (#)	0	0	0		0	0
Queue Length 50th (ft)	111	35	196		21	92
Queue Length 95th (ft)	#195	81	#381		52	154
Internal Link Dist (ft)	2497		531			277
Turn Bay Length (ft)						
Base Capacity (vph)	531	844	649		177	993
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.67	0.39	0.91		0.34	0.46

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 60

Control Type: Pretimed

Maximum v/c Ratio: 0.91

Intersection Signal Delay: 23.5

Intersection LOS: C

Intersection Capacity Utilization 63.2%

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.

Splits and Phases: 5: Webb & Bridge




Lanes, Volumes, Timings
8: Essex & Webb

2/6/2014

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Volume (vph)	26	71	70	271	629	5	52	12	17	1	36	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.943			0.999			0.972			0.927	
Flt Protected		0.992			0.985			0.969			0.999	
Satd. Flow (prot)	0	1743	0	0	1833	0	0	1754	0	0	1725	0
Flt Permitted		0.847			0.838			0.798			0.998	
Satd. Flow (perm)	0	1488	0	0	1559	0	0	1445	0	0	1723	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		76			1			18			47	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		2577			399			661			661	
Travel Time (s)		58.6			9.1			15.0			15.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	28	77	76	295	684	5	57	13	18	1	39	47
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	181	0	0	984	0	0	88	0	0	87	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		CI+Ex			CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0		20.0	20.0		20.0	20.0		20.0	20.0	

Lanes, Volumes, Timings
8: Essex & Webb

2/6/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	40.0	40.0		40.0	40.0		20.0	20.0		20.0	20.0	
Total Split (%)	66.7%	66.7%		66.7%	66.7%		33.3%	33.3%		33.3%	33.3%	
Maximum Green (s)	36.0	36.0		36.0	36.0		16.0	16.0		16.0	16.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		4.0			4.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		36.0			36.0			16.0			16.0	
Actuated g/C Ratio		0.60			0.60			0.27			0.27	
v/c Ratio		0.20			1.05			0.22			0.18	
Control Delay		3.8			60.3			16.0			10.6	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		3.8			60.3			16.0			10.6	
LOS		A			E			B			B	
Approach Delay		3.8			60.3			16.0			10.6	
Approach LOS		A			E			B			B	
90th %ile Green (s)	36.0	36.0		36.0	36.0		16.0	16.0		16.0	16.0	
90th %ile Term Code	Hold	Hold		Max	Max		MaxR	MaxR		MaxR	MaxR	
70th %ile Green (s)	36.0	36.0		36.0	36.0		16.0	16.0		16.0	16.0	
70th %ile Term Code	Hold	Hold		Max	Max		MaxR	MaxR		MaxR	MaxR	
50th %ile Green (s)	36.0	36.0		36.0	36.0		16.0	16.0		16.0	16.0	
50th %ile Term Code	Hold	Hold		Max	Max		MaxR	MaxR		MaxR	MaxR	
30th %ile Green (s)	36.0	36.0		36.0	36.0		16.0	16.0		16.0	16.0	
30th %ile Term Code	Hold	Hold		Max	Max		MaxR	MaxR		MaxR	MaxR	
10th %ile Green (s)	36.0	36.0		36.0	36.0		16.0	16.0		16.0	16.0	
10th %ile Term Code	Hold	Hold		Max	Max		MaxR	MaxR		MaxR	MaxR	
Stops (vph)		42			683			51			34	
Fuel Used(gal)		4			18			1			1	
CO Emissions (g/hr)		260			1238			67			54	
NOx Emissions (g/hr)		51			241			13			11	
VOC Emissions (g/hr)		60			287			16			13	
Dilemma Vehicles (#)		0			0			0			0	
Queue Length 50th (ft)		14			~403			19			11	
Queue Length 95th (ft)		36			#614			51			40	
Internal Link Dist (ft)		2497			319			581			581	
Turn Bay Length (ft)												
Base Capacity (vph)		923			935			398			493	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.20			1.05			0.22			0.18	

Lanes, Volumes, Timings

8: Essex & Webb

2/6/2014

Intersection Summary

















Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 60
Natural Cycle: 80
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.05
Intersection Signal Delay: 46.6
Intersection Capacity Utilization 79.1%
Analysis Period (min) 15
90th %ile Actuated Cycle: 60
70th %ile Actuated Cycle: 60
50th %ile Actuated Cycle: 60
30th %ile Actuated Cycle: 60
10th %ile Actuated Cycle: 60
~ 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.

Intersection LOS: D
ICU Level of Service D

Splits and Phases: 8: Essex & Webb

Lanes, Volumes, Timings
11: Fort & Derby

2/6/2014

												
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (vph)	40	2	67	0	0	15	0	86	0	0	780	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.916				0.865						
Flt Protected		0.982										
Satd. Flow (prot)	0	1676	0	0	0	1611	0	1863	0	0	1863	0
Flt Permitted		0.982										
Satd. Flow (perm)	0	1676	0	0	0	1611	0	1863	0	0	1863	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		989			627			1397			221	
Travel Time (s)		22.5			14.3			31.8			5.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	43	2	73	0	0	16	0	93	0	0	848	3
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	118	0	0	0	16	0	93	0	0	851	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized














Intersection Capacity Utilization 61.0%

ICU Level of Service B

Analysis Period (min) 15

Lanes, Volumes, Timings
12: Derby & Webb

2/6/2014

										
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SWL	SWR
Lane Configurations										
Volume (vph)	3	0	0	0	0	0	70	106	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt							0.919			
Flt Protected		0.950					0.980			
Satd. Flow (prot)	0	1770	0	0	1863	0	1678	0	0	0
Flt Permitted		0.950					0.980			
Satd. Flow (perm)	0	1770	0	0	1863	0	1678	0	0	0
Link Speed (mph)		30			30		30		30	
Link Distance (ft)		725			234		1142		989	
Travel Time (s)		16.5			5.3		26.0		22.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	3	0	0	0	0	0	76	115	0	0
Shared Lane Traffic (%)										
Lane Group Flow (vph)	0	3	0	0	0	0	191	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Right	Left	Right
Median Width(ft)		0			0		12		0	
Link Offset(ft)		0			0		0		0	
Crosswalk Width(ft)		16			16		16		16	
Two way Left Turn Lane										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15	9	15	9
Sign Control		Stop			Stop		Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized














Intersection Capacity Utilization 20.4%

ICU Level of Service A

Analysis Period (min) 15

Lanes, Volumes, Timings
14: Blaney & Derby

2/6/2014

										
Lane Group	EBL	EBR	SEL	SET	SER	NWL	NWT	NWR	SWL	SWR
Lane Configurations										
Volume (vph)	141	6	10	2	0	0	0	14	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.994							0.865		
Flt Protected	0.954			0.959						
Satd. Flow (prot)	1766	0	0	1786	0	0	0	1611	0	0
Flt Permitted	0.954			0.959						
Satd. Flow (perm)	1766	0	0	1786	0	0	0	1611	0	0
Link Speed (mph)	30			30			30		30	
Link Distance (ft)	445			294			459		1142	
Travel Time (s)	10.1			6.7			10.4		26.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	153	7	11	2	0	0	0	15	0	0
Shared Lane Traffic (%)										
Lane Group Flow (vph)	160	0	0	13	0	0	0	15	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Right	Left	Left	Right	Left	Right
Median Width(ft)	12			0			0		0	
Link Offset(ft)	0			0			0		0	
Crosswalk Width(ft)	16			16			16		16	
Two way Left Turn Lane										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15		9	15		9	15	9
Sign Control	Free			Stop			Stop		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 18.2%











ICU Level of Service A

Analysis Period (min) 15

Lanes, Volumes, Timings

19:

2/6/2014

						
Lane Group	WBL	WBR	NET	NER	SWL	SWT
Lane Configurations						
Volume (vph)	640	2	150	3	1	143
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850	0.998			
Flt Protected	0.950					
Satd. Flow (prot)	1770	1583	1859	0	0	1863
Flt Permitted	0.950					
Satd. Flow (perm)	1770	1583	1859	0	0	1863
Link Speed (mph)	30		30			30
Link Distance (ft)	350		221			266
Travel Time (s)	8.0		5.0			6.0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	696	2	163	3	1	155
Shared Lane Traffic (%)						
Lane Group Flow (vph)	696	2	166	0	0	156
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization 50.4%	ICU Level of Service A					
Analysis Period (min) 15						

Lanes, Volumes, Timings
3: Webb & Fort

2/6/2014



Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Volume (vph)	647	22	42	0	0	88
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						0.865
Flt Protected		0.954				
Satd. Flow (prot)	0	1777	1863	0	0	1611
Flt Permitted		0.954				
Satd. Flow (perm)	0	1777	1863	0	0	1611
Link Speed (mph)		30	30		30	
Link Distance (ft)		399	725		1397	
Travel Time (s)		9.1	16.5		31.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	703	24	46	0	0	96
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	727	46	0	0	96
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		0	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Stop		Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 47.0%

ICU Level of Service A

Analysis Period (min) 15

Lanes, Volumes, Timings
5: Webb & Bridge

2/6/2014

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	66	61	188	505	152	216
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850	0.902			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	1680	0	1770	1863
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	1583	1680	0	1770	1863
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		66	248			
Link Speed (mph)	30		30			30
Link Distance (ft)	2577		611			357
Travel Time (s)	58.6		13.9			8.1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	72	66	204	549	165	235
Shared Lane Traffic (%)						
Lane Group Flow (vph)	72	66	753	0	165	235
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Turn Type	NA	pt+ov	NA		Prot	NA
Protected Phases	8	8 1	2		1	6
Permitted Phases						
Minimum Split (s)	23.0		23.0		11.0	34.0
Total Split (s)	23.0		26.0		11.0	37.0
Total Split (%)	38.3%		43.3%		18.3%	61.7%
Maximum Green (s)	18.0		21.0		6.0	32.0
Yellow Time (s)	4.0		4.0		4.0	4.0
All-Red Time (s)	1.0		1.0		1.0	1.0
Lost Time Adjust (s)	0.0		0.0		0.0	0.0
Total Lost Time (s)	5.0		5.0		5.0	5.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Walk Time (s)	5.0		5.0			5.0
Flash Dont Walk (s)	11.0		11.0			11.0
Pedestrian Calls (#/hr)	0		0			0
Act Effct Green (s)	18.0	29.0	21.0		6.0	32.0
Actuated g/C Ratio	0.30	0.48	0.35		0.10	0.53
v/c Ratio	0.14	0.08	1.01		0.93	0.24
Control Delay	16.2	3.0	50.9		84.8	8.3
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	16.2	3.0	50.9		84.8	8.3
LOS	B	A	D		F	A

Lanes, Volumes, Timings
5: Webb & Bridge

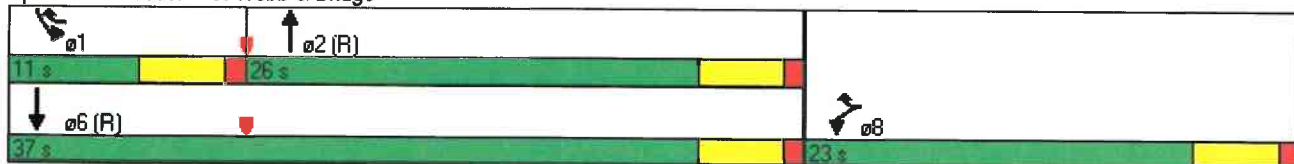
2/6/2014

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Approach Delay	9.9		50.9			39.8
Approach LOS	A		D			D
Stops (vph)	48	10	407		122	107
Fuel Used(gal)	2	1	13		4	2
CO Emissions (g/hr)	126	92	890		260	109
NOx Emissions (g/hr)	25	18	173		51	21
VOC Emissions (g/hr)	29	21	206		60	25
Dilemma Vehicles (#)	0	0	0		0	0
Queue Length 50th (ft)	19	0	~195		61	41
Queue Length 95th (ft)	45	16	#421		#162	75
Internal Link Dist (ft)	2497		531			277
Turn Bay Length (ft)						
Base Capacity (vph)	531	799	749		177	993
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.14	0.08	1.01		0.93	0.24

Intersection Summary

















Area Type: Other
 Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 70
 Control Type: Pretimed
 Maximum v/c Ratio: 1.01
 Intersection Signal Delay: 43.1
 Intersection LOS: D
 Intersection Capacity Utilization 65.5%
 ICU Level of Service C
 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: 5: Webb & Bridge




Lanes, Volumes, Timings
8: Essex & Webb

2/6/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	14	640	28	68	83	9	30	4	15	2	17	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.995			0.992			0.959			0.926	
Flt Protected		0.999			0.979			0.970			0.998	
Satd. Flow (prot)	0	1852	0	0	1809	0	0	1733	0	0	1721	0
Flt Permitted		0.994			0.694			0.861			0.994	
Satd. Flow (perm)	0	1842	0	0	1282	0	0	1538	0	0	1715	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6			9			16			24	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		2577			399			661			661	
Travel Time (s)		58.6			9.1			15.0			15.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	15	696	30	74	90	10	33	4	16	2	18	24
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	741	0	0	174	0	0	53	0	0	44	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0		20.0	20.0		20.0	20.0		20.0	20.0	

Lanes, Volumes, Timings
8: Essex & Webb

2/6/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	39.0	39.0		39.0	39.0		21.0	21.0		21.0	21.0	
Total Split (%)	65.0%	65.0%		65.0%	65.0%		35.0%	35.0%		35.0%	35.0%	
Maximum Green (s)	35.0	35.0		35.0	35.0		17.0	17.0		17.0	17.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		4.0			4.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		25.3			25.3			17.3			17.3	
Actuated g/C Ratio		0.50			0.50			0.34			0.34	
v/c Ratio		0.81			0.27			0.10			0.07	
Control Delay		17.9			7.6			11.9			9.9	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		17.9			7.6			11.9			9.9	
LOS		B			A			B			A	
Approach Delay		17.9			7.6			11.9			9.9	
Approach LOS		B			A			B			A	
90th %ile Green (s)	35.0	35.0		35.0	35.0		17.0	17.0		17.0	17.0	
90th %ile Term Code	Max	Max		Hold	Hold		MaxR	MaxR		MaxR	MaxR	
70th %ile Green (s)	31.9	31.9		31.9	31.9		17.0	17.0		17.0	17.0	
70th %ile Term Code	Gap	Gap		Hold	Hold		MaxR	MaxR		MaxR	MaxR	
50th %ile Green (s)	25.8	25.8		25.8	25.8		17.0	17.0		17.0	17.0	
50th %ile Term Code	Gap	Gap		Hold	Hold		MaxR	MaxR		MaxR	MaxR	
30th %ile Green (s)	20.6	20.6		20.6	20.6		17.0	17.0		17.0	17.0	
30th %ile Term Code	Gap	Gap		Hold	Hold		MaxR	MaxR		MaxR	MaxR	
10th %ile Green (s)	15.8	15.8		15.8	15.8		17.0	17.0		17.0	17.0	
10th %ile Term Code	Gap	Gap		Hold	Hold		MaxR	MaxR		MaxR	MaxR	
Stops (vph)		501			72			28			18	
Fuel Used(gal)		19			1			1			0	
CO Emissions (g/hr)		1325			80			37			27	
NOx Emissions (g/hr)		258			16			7			5	
VOC Emissions (g/hr)		307			18			9			6	
Dilemma Vehicles (#)		0			0			0			0	
Queue Length 50th (ft)		162			25			7			4	
Queue Length 95th (ft)		274			51			32			25	
Internal Link Dist (ft)		2497			319			581			581	
Turn Bay Length (ft)												
Base Capacity (vph)		1296			903			535			601	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.57			0.19			0.10			0.07	

Lanes, Volumes, Timings

8: Essex & Webb

2/6/2014

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 50.8

Natural Cycle: 55

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.81

Intersection Signal Delay: 15.5

Intersection LOS: B

Intersection Capacity Utilization 63.7%

ICU Level of Service B

Analysis Period (min) 15

90th %ile Actuated Cycle: 60

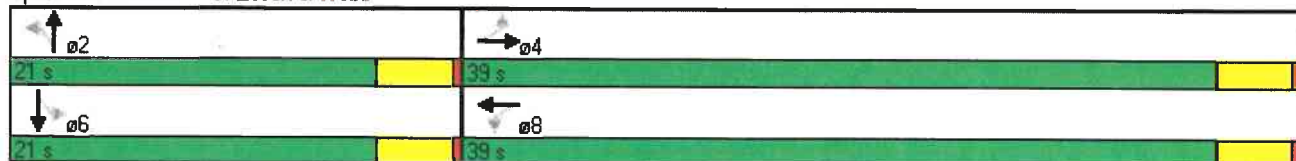
70th %ile Actuated Cycle: 56.9

50th %ile Actuated Cycle: 50.8

30th %ile Actuated Cycle: 45.6

















10th %ile Actuated Cycle: 40.8

Splits and Phases: 8: Essex & Webb



Lanes, Volumes, Timings
11: Fort & Derby

2/6/2014

												
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (vph)	30	1	31	0	0	12	0	647	0	0	77	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.932				0.865						
Flt Protected		0.976										
Satd. Flow (prot)	0	1694	0	0	0	1611	0	1863	0	0	1863	0
Flt Permitted		0.976										
Satd. Flow (perm)	0	1694	0	0	0	1611	0	1863	0	0	1863	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		989			627			1397			221	
Travel Time (s)		22.5			14.3			31.8			5.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	1	34	0	0	13	0	703	0	0	84	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	68	0	0	0	13	0	703	0	0	84	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	














Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 44.3%
Analysis Period (min) 15

ICU Level of Service A

Lanes, Volumes, Timings
12: Derby & Webb

2/6/2014

										
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SWL	SWR
Lane Configurations										
Volume (vph)	10	12	0	0	12	0	30	52	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frts							0.914			
Flt Protected		0.978					0.982			
Satd. Flow (prot)	0	1822	0	0	1863	0	1672	0	0	0
Flt Permitted		0.978					0.982			
Satd. Flow (perm)	0	1822	0	0	1863	0	1672	0	0	0
Link Speed (mph)		30			30		30		30	
Link Distance (ft)		725			234		1142		989	
Travel Time (s)		16.5			5.3		26.0		22.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	13	0	0	13	0	33	57	0	0
Shared Lane Traffic (%)										
Lane Group Flow (vph)	0	24	0	0	13	0	90	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Right	Left	Right
Median Width(ft)		0			0		12		0	
Link Offset(ft)		0			0		0		0	
Crosswalk Width(ft)		16			16		16		16	
Two way Left Turn Lane										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15	9	15	9
Sign Control		Stop			Stop		Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized














Intersection Capacity Utilization 19.4%

ICU Level of Service A

Analysis Period (min) 15

Lanes, Volumes, Timings
14: Blaney & Derby

2/6/2014

										
Lane Group	EBL	EBR	SEL	SET	SER	NWL	NWT	NWR	SWL	SWR
Lane Configurations										
Volume (vph)	59	29	8	2	0	0	0	8	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.955							0.865		
Flt Protected	0.968			0.961						
Satd. Flow (prot)	1722	0	0	1790	0	0	0	1611	0	0
Flt Permitted	0.968			0.961						
Satd. Flow (perm)	1722	0	0	1790	0	0	0	1611	0	0
Link Speed (mph)	30			30			30		30	
Link Distance (ft)	445			294			459		1142	
Travel Time (s)	10.1			6.7			10.4		26.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	64	32	9	2	0	0	0	9	0	0
Shared Lane Traffic (%)										
Lane Group Flow (vph)	96	0	0	11	0	0	0	9	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Right	Left	Left	Right	Left	Right
Median Width(ft)	12			0			0		0	
Link Offset(ft)	0			0			0		0	
Crosswalk Width(ft)	16			16			16		16	
Two way Left Turn Lane										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15		9	15		9	15	9
Sign Control	Free			Stop			Stop		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 15.0%











ICU Level of Service A

Analysis Period (min) 15

Lanes, Volumes, Timings

19:

2/6/2014

						
Lane Group	WBL	WBR	NET	NER	SWL	SWT
Lane Configurations						
Volume (vph)	7	0	46	632	1	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.874			
Flt Protected	0.950					0.999
Satd. Flow (prot)	1770	1863	1628	0	0	1861
Flt Permitted	0.950					0.999
Satd. Flow (perm)	1770	1863	1628	0	0	1861
Link Speed (mph)	30		30			30
Link Distance (ft)	350		221			266
Travel Time (s)	8.0		5.0			6.0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	8	0	50	687	1	76
Shared Lane Traffic (%)						
Lane Group Flow (vph)	8	0	737	0	0	77
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 51.5%

ICU Level of Service A

Analysis Period (min) 15

Lanes, Volumes, Timings
3: Webb & Fort

2/6/2014














Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations		↗	↖			↘
Volume (vph)	86	15	88	0	0	795
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						0.865
Flt Protected		0.959				
Satd. Flow (prot)	0	1786	1863	0	0	1611
Flt Permitted		0.959				
Satd. Flow (perm)	0	1786	1863	0	0	1611
Link Speed (mph)		30	30		30	
Link Distance (ft)		399	725		1397	
Travel Time (s)		9.1	16.5		31.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	93	16	96	0	0	864
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	109	96	0	0	864
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		0	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Stop		Free	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 60.5% ICU Level of Service B
Analysis Period (min) 15

Lanes, Volumes, Timings
5: Webb & Bridge

2/6/2014

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	327	305	478	67	55	418
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850	0.983			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	1831	0	1770	1863
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	1583	1831	0	1770	1863
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		154	13			
Link Speed (mph)	30		30			30
Link Distance (ft)	2577		611			357
Travel Time (s)	58.6		13.9			8.1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	355	332	520	73	60	454
Shared Lane Traffic (%)						
Lane Group Flow (vph)	355	332	593	0	60	454
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Turn Type	NA	pt+ov	NA		Prot	NA
Protected Phases	8	8 1	2		1	6
Permitted Phases						
Minimum Split (s)	23.0		23.0		11.0	34.0
Total Split (s)	23.0		26.0		11.0	37.0
Total Split (%)	38.3%		43.3%		18.3%	61.7%
Maximum Green (s)	18.0		21.0		6.0	32.0
Yellow Time (s)	4.0		4.0		4.0	4.0
All-Red Time (s)	1.0		1.0		1.0	1.0
Lost Time Adjust (s)	0.0		0.0		0.0	0.0
Total Lost Time (s)	5.0		5.0		5.0	5.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Walk Time (s)	5.0		5.0			5.0
Flash Dont Walk (s)	11.0		11.0			11.0
Pedestrian Calls (#/hr)	0		0			0
Act Effct Green (s)	18.0	29.0	21.0		6.0	32.0
Actuated g/C Ratio	0.30	0.48	0.35		0.10	0.53
v/c Ratio	0.67	0.39	0.91		0.34	0.46
Control Delay	25.9	6.7	40.7		30.9	10.5
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	25.9	6.7	40.7		30.9	10.5
LOS	C	A	D		C	B

Lanes, Volumes, Timings

5: Webb & Bridge

2/6/2014

	↖	↗	↑	↘	↙	↓
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Approach Delay	16.6		40.7			12.9
Approach LOS	B		D			B
Stops (vph)	276	100	440		52	242
Fuel Used(gal)	10	7	10		1	3
CO Emissions (g/hr)	686	496	668		55	237
NOx Emissions (g/hr)	134	97	130		11	46
VOC Emissions (g/hr)	159	115	155		13	55
Dilemma Vehicles (#)	0	0	0		0	0
Queue Length 50th (ft)	111	35	196		21	92
Queue Length 95th (ft)	#195	81	#381		52	154
Internal Link Dist (ft)	2497		531			277
Turn Bay Length (ft)						
Base Capacity (vph)	531	844	649		177	993
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.67	0.39	0.91		0.34	0.46

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 60

Control Type: Pretimed

Maximum v/c Ratio: 0.91

Intersection Signal Delay: 23.5

Intersection LOS: C

Intersection Capacity Utilization 63.2%

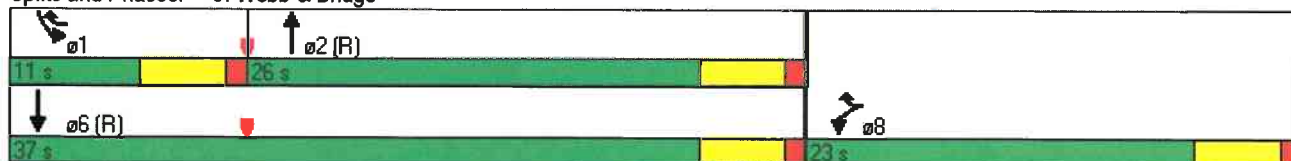
ICU Level of Service B

Analysis Period (min) 15

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

















Queue shown is maximum after two cycles.

Splits and Phases: 5: Webb & Bridge















Lanes, Volumes, Timings
8: Essex & Webb

2/6/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	26	71	70	289	629	5	52	12	29	1	36	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.943			0.999			0.958			0.927	
Flt Protected		0.992			0.985			0.973			0.999	
Satd. Flow (prot)	0	1743	0	0	1833	0	0	1736	0	0	1725	0
Flt Permitted		0.844			0.833			0.820			0.998	
Satd. Flow (perm)	0	1483	0	0	1550	0	0	1463	0	0	1723	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		76			1			32			47	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		2577			399			661			661	
Travel Time (s)		58.6			9.1			15.0			15.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	28	77	76	314	684	5	57	13	32	1	39	47
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	181	0	0	1003	0	0	102	0	0	87	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		CI+Ex			CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0		20.0	20.0		20.0	20.0		20.0	20.0	

Lanes, Volumes, Timings
8: Essex & Webb

2/6/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	40.0	40.0		40.0	40.0		20.0	20.0		20.0	20.0	
Total Split (%)	66.7%	66.7%		66.7%	66.7%		33.3%	33.3%		33.3%	33.3%	
Maximum Green (s)	36.0	36.0		36.0	36.0		16.0	16.0		16.0	16.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		4.0			4.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		36.0			36.0			16.0			16.0	
Actuated g/C Ratio		0.60			0.60			0.27			0.27	
v/c Ratio		0.20			1.08			0.25			0.18	
Control Delay		3.8			69.4			14.6			10.6	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		3.8			69.4			14.6			10.6	
LOS		A			E			B			B	
Approach Delay		3.8			69.4			14.6			10.6	
Approach LOS		A			E			B			B	
90th %ile Green (s)	36.0	36.0		36.0	36.0		16.0	16.0		16.0	16.0	
90th %ile Term Code	Hold	Hold		Max	Max		MaxR	MaxR		MaxR	MaxR	
70th %ile Green (s)	36.0	36.0		36.0	36.0		16.0	16.0		16.0	16.0	
70th %ile Term Code	Hold	Hold		Max	Max		MaxR	MaxR		MaxR	MaxR	
50th %ile Green (s)	36.0	36.0		36.0	36.0		16.0	16.0		16.0	16.0	
50th %ile Term Code	Hold	Hold		Max	Max		MaxR	MaxR		MaxR	MaxR	
30th %ile Green (s)	36.0	36.0		36.0	36.0		16.0	16.0		16.0	16.0	
30th %ile Term Code	Hold	Hold		Max	Max		MaxR	MaxR		MaxR	MaxR	
10th %ile Green (s)	36.0	36.0		36.0	36.0		16.0	16.0		16.0	16.0	
10th %ile Term Code	Hold	Hold		Max	Max		MaxR	MaxR		MaxR	MaxR	
Stops (vph)		42			700			53			34	
Fuel Used(gal)		4			20			1			1	
CO Emissions (g/hr)		260			1383			74			54	
NOx Emissions (g/hr)		51			269			14			11	
VOC Emissions (g/hr)		60			321			17			13	
Dilemma Vehicles (#)		0			0			0			0	
Queue Length 50th (ft)		14			~420			19			11	
Queue Length 95th (ft)		36			#632			53			40	
Internal Link Dist (ft)		2497			319			581			581	
Turn Bay Length (ft)												
Base Capacity (vph)		920			930			413			493	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.20			1.08			0.25			0.18	

Lanes, Volumes, Timings

8: Essex & Webb

2/6/2014

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Natural Cycle: 80

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.08

Intersection Signal Delay: 53.0

Intersection LOS: D

Intersection Capacity Utilization 80.8%

ICU Level of Service D

Analysis Period (min) 15

90th %ile Actuated Cycle: 60

70th %ile Actuated Cycle: 60

50th %ile Actuated Cycle: 60

30th %ile Actuated Cycle: 60

10th %ile Actuated Cycle: 60

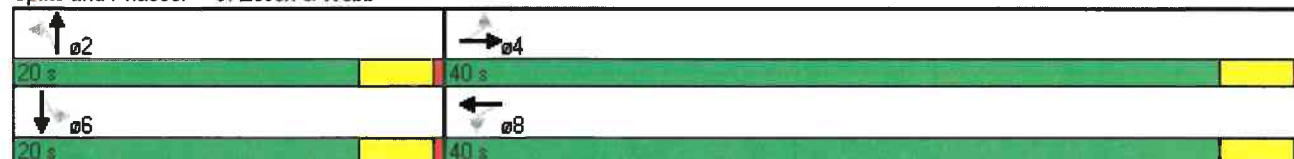
~ Volume exceeds capacity, queue is theoretically infinite.

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: 8: Essex & Webb



Lanes, Volumes, Timings
11: Fort & Derby

2/6/2014

												
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (vph)	40	2	67	0	0	15	0	86	0	0	780	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.916				0.865						
Flt Protected		0.982										
Satd. Flow (prot)	0	1676	0	0	0	1611	0	1863	0	0	1863	0
Flt Permitted		0.982										
Satd. Flow (perm)	0	1676	0	0	0	1611	0	1863	0	0	1863	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		989			627			1397			221	
Travel Time (s)		22.5			14.3			31.8			5.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	43	2	73	0	0	16	0	93	0	0	848	3
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	118	0	0	0	16	0	93	0	0	851	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized














Intersection Capacity Utilization 61.0%

ICU Level of Service B

Analysis Period (min) 15

Lanes, Volumes, Timings
12: Derby & Webb

2/6/2014

										
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SWL	SWR
Lane Configurations										
Volume (vph)	3	12	0	0	12	0	76	106	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt							0.922			
Flt Protected		0.991					0.979			
Satd. Flow (prot)	0	1846	0	0	1863	0	1681	0	0	0
Flt Permitted		0.991					0.979			
Satd. Flow (perm)	0	1846	0	0	1863	0	1681	0	0	0
Link Speed (mph)		30			30		30		30	
Link Distance (ft)		725			234		1142		989	
Travel Time (s)		16.5			5.3		26.0		22.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	3	13	0	0	13	0	83	115	0	0
Shared Lane Traffic (%)										
Lane Group Flow (vph)	0	16	0	0	13	0	198	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Right	Left	Right
Median Width(ft)		0			0		12		0	
Link Offset(ft)		0			0		0		0	
Crosswalk Width(ft)		16			16		16		16	
Two way Left Turn Lane										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15	9	15	9
Sign Control		Stop			Stop		Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized














Intersection Capacity Utilization 20.7%

ICU Level of Service A

Analysis Period (min) 15

Lanes, Volumes, Timings
14: Blaney & Derby

2/6/2014

										
Lane Group	EBL	EBR	SEL	SET	SER	NWL	NWT	NWR	SWL	SWR
Lane Configurations										
Volume (vph)	141	12	10	2	0	0	0	20	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.989							0.865		
Flt Protected	0.956			0.959						
Satd. Flow (prot)	1761	0	0	1786	0	0	0	1611	0	0
Flt Permitted	0.956			0.959						
Satd. Flow (perm)	1761	0	0	1786	0	0	0	1611	0	0
Link Speed (mph)	30			30			30		30	
Link Distance (ft)	445			294			459		1142	
Travel Time (s)	10.1			6.7			10.4		26.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	153	13	11	2	0	0	0	22	0	0
Shared Lane Traffic (%)										
Lane Group Flow (vph)	166	0	0	13	0	0	0	22	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Right	Left	Left	Right	Left	Right
Median Width(ft)	12			0			0		0	
Link Offset(ft)	0			0			0		0	
Crosswalk Width(ft)	16			16			16		16	
Two way Left Turn Lane										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15		9	15		9	15	9
Sign Control	Free			Stop			Stop		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 18.5%











ICU Level of Service A

Analysis Period (min) 15

Lanes, Volumes, Timings

19:

2/6/2014

						
Lane Group	WBL	WBR	NET	NER	SWL	SWT
Lane Configurations						
Volume (vph)	640	2	150	3	1	143
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850	0.998			
Flt Protected	0.950					
Satd. Flow (prot)	1770	1583	1859	0	0	1863
Flt Permitted	0.950					
Satd. Flow (perm)	1770	1583	1859	0	0	1863
Link Speed (mph)	30		30			30
Link Distance (ft)	350		221			266
Travel Time (s)	8.0		5.0			6.0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	696	2	163	3	1	155
Shared Lane Traffic (%)						
Lane Group Flow (vph)	696	2	166	0	0	156
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 50.4% ICU Level of Service A
Analysis Period (min) 15

Appendix 7

GHG Report

***MOBILE SOURCE GREENHOUSE GAS
ANALYSIS FOR THE SALEM PORT
EXPANSION***

SALEM, MASSACHUSETTS

January 2014



TECH environmental

FOCUSED KNOWLEDGE. REAL SOLUTIONS.

**MOBILE SOURCE GREENHOUSE GAS ANALYSIS
FOR THE
SALEM PORT EXPANSION

SALEM, MASSACHUSETTS**

Prepared for:

Bourne Consulting Engineering, Inc.
3 Bent Street
Franklin, MA 02038

Prepared by:

Tech Environmental, Inc.
303 Wyman Street, Suite 295
Waltham, Massachusetts 02451

January 3, 2014

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2.0	TRANSPORTATION GHG EMISSIONS	5
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APPENDIX A - TRANSPORTATION WORKSHEET FOR VMT AND CO₂ EMISSIONS

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2	Transportation Demand Mitigation Measures.....	8

1.0 INTRODUCTION AND SUMMARY

A greenhouse gas (GHG) emissions analysis was performed for the Salem Port Expansion (herein referred to as the Project) in Salem, Massachusetts, consistent with the Executive Office of Energy and Environmental Affairs (EOEEA) “Greenhouse Gas Emissions Policy and Protocol” (May 5, 2010; the “Policy”). The City of Salem is seeking the necessary permits to construct improvements to the existing marine wharf located at 24 Fort Avenue in Salem, to allow the City to berth cruise ships at the marine terminal and to create an American Disabilities Act (ADA) compliant pedestrian access-way between the marine terminal and the adjacent Salem Wharf Project site at 10 Blaney Street (the “proposed improvements”). The marine terminal is located on a portion of a 64 +/- acre property owned by Footprint Power Salem Harbor Real Estate LP (the “Footprint Property”).

Consistent with the City of Salem Harbor Plan of 2008 for properties including the Footprint Property, the City requests to incorporate large cruise ship berthing within its overall plan for the expansion of the Port of Salem with the marine terminal facility. The proposed improvements will offer an opportunity for the City of Salem to use existing Footprint facilities and infrastructure on Salem Harbor to provide greater economic and tourism opportunities for the City that are consistent with the Designated Port Area (DPA).

The City filed a Notice of Project Change (NPC) for the Salem Harbor Station Redevelopment Project on July 15, 2013 and the MEPA Certificate, dated September 6, 2013 requires an Environmental Impact Report (EIR). MEPA acknowledges in the Certificate that the Project does not include the construction of any new buildings and stationary sources are limited to operation of shore-side power; thus, MEPA is limiting the GHG analysis to project-related vehicle traffic emissions.

A mobile source GHG study was performed for the No-Build, Build and Build with Transportation Demand Management (TDM) measures for the Project. As discussed in Section 2.0, TDM measures for this project will reduce Project-related motor vehicle CO₂ emissions by 2.0 percent. Transportation emission calculations are given in Appendix A.

2.0 TRANSPORTATION GHG EMISSIONS

The GHG transportation analysis calculated emissions of CO₂ for Derby Street between Hawthorne Boulevard/Congress Street and Blaney Street for three traffic analysis scenarios:

- 2018 No-Build
- 2018 Build without TDMs
- 2018 Build with TDMs

The vehicle miles traveled (VMT) for this roadway segment in the traffic study area was calculated by multiplying the length of Derby Street between Hawthorne Boulevard/Congress Street and Blaney Street by the average daily traffic (ADT) volume on the segment. The CO₂ emissions for this roadway segment were calculated by multiplying the daily VMT by the CO₂ emission factors of 550.40 grams per mile. The ADT volumes were provided by Nitsch Engineering, Inc. The ADT volume for 2018 was calculated based on traffic data provided by Nitsch Engineering and using 1 percent per year growth factor to adjust existing ADT volume to No-Build 2018 ADT volume. Since the Project site will be port of call for cruise ships that will visit approximately once per week, the vehicle trips will only include a small number of buses, trolleys and cabs that will pick-up and drop-off passengers during a one-hour period in the morning and again in the afternoon. These trips represent less than 0.2 percent of the 2018 No-Build traffic volumes on Derby Street. Appendix A presents the VMT and CO₂ emission calculations.

Transportation CO₂ emissions are summarized in Table 2. The emissions listed for the 2018 No-Build and Build cases include both existing volumes on the roadway network and new project-generated trips. The 2018 Build case does not include TDMs. The project's transportation emissions are calculated by subtracting the 2018 No-Build values from those for the 2018 Build cases.

The Build with TDMs case includes the effects of the Transportation Demand Management (TDM) measures, detailed in Section 3, and Table 2 reveals the 2018 Build with TDMs CO₂ emissions (1.66 tons/year) will be 2 percent less than those for the 2018 Build case (1.63 tons/year).

TABLE 2
MOTOR VEHICLE CO₂ EMISSIONS SUMMARY

Total Predicted CO₂ Emissions Burden		
2018 No-Build	2018 Build without TDMs	2018 Build with TDMs
1,638.82 kg/day	1,642.94 kg/day Project: 4.12 kg/day	1,642.86 kg/day Project: 4.04 kg/day
658.78 tons/yr	660.43 tons/year Project: 1.66 tons/year	640.40 tons/year Project: 1.63 tons/year

3.0 TRANSPORTATION MITIGATION ANALYSIS

The GHG Policy requires the Project to identify measures to avoid, minimize, or mitigate transportation GHG emissions. The Project site is ideally suited in relation to the public transportation facility on Bridge Street at the MBTA Commuter Rail Station 1.2 miles from Project site. The City is committed to a program of TDM strategies (see Table 2) to reduce vehicle trips, listed below, and which in aggregate is estimated to reduce CO₂ transportation emissions by 2 percent.

The 2-percent reduction for TDMs is very modest and lower than the TDM emission reduction factor found in most EIRs. The project is within walking distance of the MBTA commuter rail station and the Salem Trolley can provide service to the MBTA commuter rail station. The proposed operation close proximity to public transportation is expected to reduce vehicle trips by 1% (Turnbull, K. and Pratt, R., "Transit Information and Promotion: Traveler Response to Transport System Changes," TCRP Report 95, Transportation Research Board, 2003). The provision of secure bike racks and bicycle rentals is expected to reduce vehicle trips 2 percent (Ewing, R., "TDM, Growth Management, and the Other Four Out of Five Trips," Transportation Quarterly, Vol. 47, No. 3, 1993, pp. 343-366). An assumed reduction of 2 percent is reasonable.

- ***Locate Proposed Operations Near Transit***—The project is conveniently located 1.2 miles away from a Salem MBTA Commuter Rail Station on the Newburyport/Rockport commuter rail line. MBTA bus service is also provided from the Commuter Rail Station to surrounding communities including Boston. The Salem Trolley will also provide visitors with one-hour tours and all day shuttle service through Salem and one of its routes can provide access to the MBTA station. Visitors can access trolley service from Salem Ferry site off of Blaney Street.
- ***Develop Multi-Use Paths To and Through Site***—A new walkway is proposed between the ship berth and Salem Wharf site along the existing shoreline to connect the existing east section with a new sidewalk section that would run the entire length of Blaney Street. The site also includes an easy access pedestrian pathway to White Street.
- ***Salem Spins Bike Sharing Program*** - The City provides a secured bicycle rack with bicycles at the site as part of the Salem Spins Bike Sharing Program. The City will add signs directing passengers to the Boston Harbor Cruises ferry office to sign-up for a bicycle for the day.

- ***Sidewalk and Signage Improvements to Enhance Pedestrian Accommodations*** – The City proposes to upgrade pavement markings and signing to enhance pedestrian accommodations along Derby and Blaney Streets and develop a consistent plan for crosswalk design in the study area.

TABLE 2

**TRANSPORTATION DEMAND MITIGATION MEASURES
SALEM PORT EXPANSION**

Suggested Mitigation Measure	Part of Project Design	Technically/ Economically Infeasible	Inappropriate to Project Type
Site located near transit	✓		
Develop multi-use paths to and through site	✓		
Sidewalk and crosswalk improvements to enhance pedestrian accommodations	✓		
Bicycle rental program	✓		

APPENDIX A

TRANSPORTATION WORKSHEET

FOR

VMT AND CO₂ EMISSIONS

TABLE A-1
Vehicle Miles Traveled (VMT) in the Mesoscale Study Area
Salem Harbor Expansion

Link I.D.	Link Length (feet)	Link Descriptor	Average Daily Traffic Volumes			Vehicle Miles Traveled		
			2018 No-Build	2018 Full Build w/o mitigation	2018 Full Build w/mitigation*	2018 No-Build	2018 Full Build w/o mitigation	2018 Full Build w/mitigation*
1	2,200	Derby Street to Webb Street	7,146	7,164	7,164	2,978	2,985	2,985
VMT (miles/day):						2,978	2,985	2,985

*Mitigation assumes an 2% reduction in the total project-generated traffic due to the implementation of proposed Transportation Demand Management (TDM).

TABLE A-2
Mesoscale Study Area
Total Daily Carbon Dioxide (CO₂) Emissions
Salem Harbor Expansion

Link ID	MEPA GHG CO ₂ Emission Rate (grams/mile)	Vehicle Miles Traveled (miles/day)			Mesoscale CO ₂ Emissions (kg/day)		
		2016 No-Build	2016 Full Build w/o mitigation	2016 Full Build Full Build w/mitigation*	2016 No-Build	2016 Full Build w/o mitigation	2016 Full Build Full Build w/mitigation*
		2,978	2,985	2,985	1,638.8	1,642.9	1,642.9
1	550.40	Total Daily CO ₂ Emissions (kg/day):			1,638.82	1,642.94	1,642.86

*Mitigation assumes a 2% reduction in the total project-generated traffic due to the implementation of TDMs.

Appendix 8

Comment Letters



THE COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF ENERGY AND ENVIRONMENTAL AFFAIRS
OFFICE OF COASTAL ZONE MANAGEMENT
251 Causeway Street, Suite 800, Boston, MA 02114-2136
(617) 626-1200 FAX: (617) 626-1240

MEMORANDUM

TO: Richard K. Sullivan, Secretary, EEA
ATTN: Holly Johnson, MEPA Unit
FROM: Bruce Carlisle, Director, CZM
DATE: August 8, 2013
RE: EEA 14234 - Salem Port Expansion/EEA 14937, Salem Harbor Station
Redevelopment; Salem

The Massachusetts Office of Coastal Zone Management (CZM) has completed its review of the above-referenced Notice of Project Change (NPC), noticed in the *Environmental Monitor* dated July 24, 2013, and offers the following comments on the project.

Project Description

The proposed changes to the Salem Port Expansion project include construction of improvements to the existing marine wharf located at 24 Fort Avenue in Salem to allow the City to berth cruise ships at the marine terminal. It will also create an ADA compliant pedestrian access way between the new marine terminal and the adjacent Salem Wharf project site at 10 Blaney Street. The marine terminal proposed for improvement under this NPC is owned by Footprint Power Salem Harbor Real Estate LP, and the City and Footprint are currently working out an agreement for the short-term use of the property for his purpose, with the expectation that a long-term agreement for utilization of this area will be finalized at a later date. Improvements include modifications to the fender systems along the existing wharf to accommodate larger cruise ships; creation of three access ways totaling 6,900 square feet between the pier and the existing seawall; construction of an 8-foot wide walkway between the marine terminal and the Salem Wharf site with associated grading and shoreline stabilization; and installation of a culvert, small crossing, and fencing along the pedestrian way. All work proposed on the site is on filled and flowed tidelands within the Salem Harbor Designated Port Area (DPA).

Project Comments

CZM notes that the proposed use of this site as a marine terminal for cruise ships is a water-dependent industrial use, and is an allowable use on tidelands within the DPA. However, the NPC states that the use of the site as an interim cruise ship terminal will coincide with Footprint's demolition of existing structures and construction of the new Salem Harbor Station natural gas-fired facility. As Footprint has stated its intentions to use the wharf during this period as well, the City should provide clear information in the license application to demonstrate that there will be no conflict between the two uses of the wharf. Based on information from the City's consultant, the maximum size of the proposed cruise ships intended to use this wharf is much larger than those that the Salem Wharf facility was originally designed to accommodate, with ships greater than 900 feet carrying over 2,000 passengers possible. While these vessels are no larger than the bulk vessels that have traditionally used this wharf, this passenger load is significantly larger than the passenger ferries typically served by the Salem Wharf. CZM recommends that any additional structural or use needs anticipated for the Salem Wharf location as a result of this project be detailed in the Chapter 91 application.



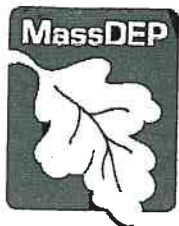
According to the NPC, the proposed improvements are intended to be an interim phase to accommodate cruise ship berthing during the 2014 season and beyond on a limited basis, and are purposely limited in scope to avoid restricting the overall redevelopment of the Footprint site. The NPC also states that the City and Footprint are continuing to work toward a long term agreement that will permit further, permanent development of the marine terminal, and that the more permanent redevelopment components will be the subject of a future NPC. While CZM recognizes the interim opportunity provided by this short term arrangement, the NPC for the future, more permanent redevelopment of the site should thoroughly analyze the need for stormwater improvements, climate change adaptation, and floodplain management issues at this location, even if the use of this wharf does not substantially change with the redevelopment.

Federal Consistency Review

The proposed project may be subject to CZM federal consistency review, in which case it must be found to be consistent with CZM's enforceable program policies. For further information on this process, please contact Robert Boeri, Project Review Coordinator, at 617-626-1050, or visit the CZM web site at www.mass.gov/czm.

BKC/kg

cc: Kathryn Glenn, CZM
Nancy Baker, MassDEP



Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection

Northeast Regional Office • 205B Lowell Street, Wilmington MA 01887 • 978-694-3200

DEVAL L. PATRICK
Governor

RICHARD K. SULLIVAN JR.
Secretary

KENNETH L. KIMMELL
Commissioner

August 14, 2013

Richard K. Sullivan, Secretary
Executive Office of
Energy & Environmental Affairs
100 Cambridge Street
Boston MA, 02114

RE: Salem
Salem Port Expansion
10 Blaney Street and 24 Fort Avenue
EEA # 14234 (previously 13558)

Attn: MEPA Unit

Dear Secretary Sullivan:

The Massachusetts Department of Environmental Protection (MassDEP) has reviewed the Notice of Project Change (NPC) submitted by the City of Salem to modify the existing wharf at the site of the Footprint Power Salem Harbor Station of 24 Fort Avenue to accommodate passenger cruise ships temporarily, in addition to its ongoing use associated with the power plant, which potentially includes the construction of a new gas-fired power plant at the site. Also proposed in the NPC are three pier deck access spans (6,900 sf) and a walkway to provide ADA/MAAB compliant pedestrian access to the wharf from the adjacent Salem Wharf site at 10 Blaney Street. Related work includes modifications to the fender system, shoreline stabilization, fencing, and installation of a small culvert. According to the NPC, the project, which impacts about 1.4 acres of the Footprint property, is intended as an interim measure to allow the use of the wharf for cruise ship docking during the planned redevelopment of the Footprint site. According to the NPC, the City also is planning for a longer term agreement for use of this area.

The work proposed is within the Salem Harbor Designated Port Area (DPA), as is the original project, which included construction of a 10,500 square foot (sf) marine transportation terminal building, a harbor walkway cantilevered from the landside and pile-supported over the riprap slope and open water, a fixed, pile-supported pier, and a floating dock/barge system to accommodate a variety of vessels, including the existing commuter ferry, an LNG offshore supply vessel, small and medium cruise ships, excursion boats, water taxis, visiting vessels/Tall Ships, and lobster boats on a 2.2 acre waterfront site in Salem (EEA #14234). The Department provides the following comments.

Alternatives

The evaluation of the proposed project and potential alternatives is minimal in the NPC, which makes it difficult to understand the impact of an additional 1,500 to 2,000 passengers from larger cruise ships on the demolition and reconstruction work proposed at the Footprint Power site, as well as the landside facilities at the Salem Wharf site, such as restrooms, waiting areas, parking, and groundside transportation. As described in the original ENF the landside facilities included two public restrooms totaling on 320sf, 1,200 sf of indoor and 400 sf of outdoor covered waiting area, parking for 146 vehicles, and a formal turning area for trolleys, buses, trucks, and emergency vehicles. It is unclear from the NPC whether there could be conflicts with the industrial uses at the Footprint Power site, or if the Salem Wharf facilities would be adequate to service the original project and the expansion.

Wetlands

The NPC predicts that the additional work proposed would not have adverse impacts on 100 linear feet of coastal bank, 3,800 sf of land under the ocean, and 4,000 sf of land subject to coastal storm flowage. In addition, the indirect impacts from shading due to the passenger access ramp are not reported to be significant. A Notice of Intent had not been filed at the time of the NPC review.

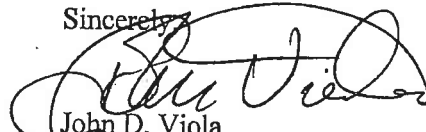
Waterways

Based on the project plans included with the NPC, all proposed work is located on filled and flowed tidelands within the Salem Harbor DPA, and will require a new Chapter 91 License.

A marine terminal for commercial passenger vessel operations is a water-dependent industrial use pursuant to 310 CMR 9.12(2)(b), and is therefore, an allowed use on any tidelands within a DPA. The license application should provide more information on how the proposed cruise ship wharf will be used by water-dependent industrial and other uses during the interim period, and how conflict among these uses will be managed. The Department notes that the NPC project relies on the adjacent Salem Wharf facility, which is currently used for much smaller ferry vessels with fewer passengers, for whatever passenger services the larger cruise ships may require. The Chapter 91 License application filed for the project should describe any structural or use changes that may be needed at the Salem Wharf site, such as interior facilities or parking, roadway, and other infrastructure. Proposed activities on the non-tidelands portion of the Salem Wharf site, or elsewhere adjacent to the proposed terminal, do not require Chapter 91 review. The license application also should include more detail, including a plan, of the proposed culvert and swale. The final design of the culvert and swale should minimize any fill below the mean high water mark.

The MassDEP appreciates the opportunity to comment on this proposed project. Please contact Alexander.Stryisky@state.ma.us at (617) 292-5616 for further information on the waterways issues. If you have any general questions regarding these comments, please contact Nancy.Baker@state.ma.us, MEPA Review Coordinator at (978) 694-3338.

Sincerely,



John D. Viola
Deputy Regional Director

cc: Brona Simon, Massachusetts Historical Commission
Ben Lynch, Alex Stryisky, Ken Chin, MassDEP-Boston
Heidi Davis, Jill Provencal, MassDEP-NERO
Kathryn Glenn, Bob Boeri, MCZM
City of Salem, Conservation Commission
Tai Evans, DCR-DMF



Paul J. Diodati
Director

Commonwealth of Massachusetts

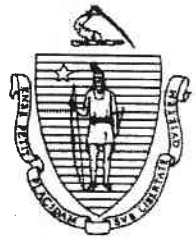
Division of Marine Fisheries

251 Causeway Street, Suite 400

Boston, Massachusetts 02114

(617)626-1520

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Deval Patrick
Governor

Richard K. Sullivan, Jr.
Secretary

Mary B. Griffin
Commissioner

August 14, 2013

Richard K. Sullivan, Jr., Secretary
Executive Office of Energy and Environmental Affairs
Attn: Holly Johnson, MEPA Office
100 Cambridge Street, Suite 900
Boston, MA 02114

Re: EEA# 14234 Salem Port Expansion Salem, MA

Dear Secretary Sullivan:

The Massachusetts Division of Marine Fisheries (*Marine Fisheries*) has reviewed the Notice of Project Change submitted by the City of Salem for work within Salem Harbor for the Salem Port expansion – marine terminal modifications. The project changes include an interim phase to allow cruise vessel berthing at the facility for the 2014 season. Improvements include providing ADA compliant accessibility and updates to the existing pier. The project will modify the current fender system, create three pier deck access span totaling 6,900 ft² of deck area between the existing pier and shoreline, and create a small culvert and associated fill at the crossing of an existing swale. Impacts identified in the NPC are 100 linear feet of impact to coastal bank and 3,800 ft² of impact to land under the ocean through shading from the pier structure. Below are our comments and recommendations on the project's impact to marine fisheries resources and habitats.

Salem Harbor provides essential forage habitat for a variety of fish and invertebrate species including alewife (*Alosa pseudoharengus*), blueback herring (*Alosa aestivalis*), rainbow smelt (*Osmerus mordax*), American eel (*Anguilla rostrata*), white perch (*Morone americana*), Atlantic tomcod (*Microgadus tomcod*), Atlantic cod (*Gadus morhua*) and American lobster (*Homarus americanus*). It is also habitat for the forage, spawning, and early development of winter flounder (*Pseudopleuronectes americanus*), an important recreational and commercial species currently in decline according to state and federal assessments. Soft shell clams (*Mya arenaria*) and blue mussel (*Mytilus edulis*) have been mapped by *Marine Fisheries* within the project footprint.

The proponent states that they will employ structural and non-structural mitigation methodologies to reduce impacts. These include staked erosion control barrier at the top of the bank along the extent of upland work, all revetment work will be performed above the high tide line, machinery involved in revetment work will be staged on top of the bank, spill control kits will be kept on site, and vehicle refueling will be done above the 100 year flood line. We recommend that these best

management practices are included as permit conditions in any state or federal permits required for this work.

Thank you for considering our comments. Please contact Tay Evans at our Gloucester office at (978) 282-0308 x. 168, should you have any questions about this review.

Sincerely,



Paul J. Diodati
Director

PD/te/ko/sd

cc: Salem Conservation Commission
Seth Lattrell, Bourne Consulting Engineering, P.C.
Kathryn Glenn, CZM
Ed Reiner, EPA
Ken Chin, DEP
Kathryn Ford, DMF
Richard Lehan, DFG
Devon Winkler, DMF



The Commonwealth of Massachusetts
Executive Office of Energy and Environmental Affairs
100 Cambridge Street, Suite 900
Boston, MA 02114

Deval L. Patrick
GOVERNOR

Richard K. Sullivan Jr.
SECRETARY

Tel: (617) 626-1000
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September 6, 2013

CERTIFICATE OF THE SECRETARY OF ENERGY AND ENVIRONMENTAL AFFAIRS
ON THE
NOTICE OF PROJECT CHANGE

PROJECT NAME:	Salem Port Expansion / Salem Harbor Station Redevelopment
PROJECT MUNICIPALITY:	Salem
PROJECT WATERSHED:	North Coastal
EEA NUMBER:	14234/14937
PROJECT PROPONENT:	City of Salem
DATE NOTICED IN THE MONITOR:	July 24, 2013

Pursuant to the Massachusetts Environmental Policy Act (M.G. L. c. 30, ss. 61-62I) and Section 11.10 of the MEPA regulations (301 CMR 11.00), I hereby determine that this project **requires** the preparation of an Environmental Impact Report (EIR). The City of Salem (the City) should submit an EIR in accordance with the scope below. To ensure the fulfillment of requirements set forth in the Certificate on the Final EIR (FEIR) on the Salem Harbor Station Redevelopment project (EEA No. 14937), the City should work collaboratively with Footprint Power, LLC (Footprint) in the preparation of the EIR.

Previously Reviewed Project

The City filed an Environmental Notification Form (ENF) for the Salem Port Expansion Project (EEA No. 14234) in April 2008 and provided supplemental information on June 10, 2008 for consideration by the MEPA office, subsequent to a four week extension of the ENF comment period. As described in the ENF and supplemental information, the project consisted of the redevelopment of the City's 10 Blaney Street property into a multi-use port facility. As expressed in the ENF, the City intended to use this multi-use water transportation facility to serve a variety of vessels, including berthing locations for the existing Salem Ferry *Nathaniel Bowditch*, excursion boats, water taxis, a Liquefied Natural Gas (LNG) offshore supply boat, commercial fishing boats, visiting ships, and small cruise ships. Proposed upland improvements

to the site included traffic changes on Derby Street (a local roadway), 146 parking spaces, an approximately 10,500 - gross square foot (sf) terminal building, landscaping and pedestrian amenities including a continuous 12-foot wide pile-supported harborwalk, and a fishing/viewing pier. Waterside improvements include the construction of a fixed pile-supported pier and a floating dock/barge system.

Portions of the 10.14-acre project site are located within a Designated Port Area (DPA). Approximately 209,000 cubic yards (cy) of dredging was proposed to achieve water depths necessary for the proposed uses. Impacts to wetland resource areas associated with dredging and the construction of the harborwalk, piers, floats, and terminal building included: 317,000 sf of temporary impact to Land Under Ocean, 362,000 sf of temporary impact to DPA, 45,000 sf of permanent impact to Coastal Beach, 850 linear feet (lf) of permanent impact to Coastal Bank, and 88,900 sf of impact to Land Subject to Coastal Storm Flowage (LSCSF). Estimated traffic trips included 1,120 average daily trips (adt) on a weekday and 1,446 adt on weekends, accessing locally-jurisdictional roadways. A Certificate on the ENF was issued on July 11, 2008 indicating that the project did not require the preparation of an EIR.

An ENF for the Salem Harbor Station Redevelopment project (EEA No. 14937) was filed by Footprint in August 2012. The Salem Harbor Station Redevelopment project consists of demolition of an existing coal-fired power plant, remediation of the site, and construction of a new 630 megawatt (MW) nominal electrical generating facility and associated infrastructure and equipment on a 65-acre site. The facility will be constructed on approximately 20 acres of the northwestern portion of site, with redevelopment of the remaining portion of the site to be determined subsequent to the preparation of a long-term development plan. A Certificate on the ENF was issued on September 7, 2012 requiring the preparation of an EIR. Footprint filed a Draft EIR (DEIR) in December 2012, with a Certificate on the DEIR issued on January 25, 2013 indicating that the DEIR adequately and properly complied with MEPA and outlined a scope for the preparation of an FEIR. The FEIR was filed in April 2013, with a Certificate on the FEIR issued on May 17, 2013 indicating that the FEIR adequately and properly complied with MEPA and that the project could proceed to permitting. The Certificate on the FEIR requires Footprint to file an NPC prior to commencement of additional development on the project site beyond that related to the demolition, remediation, and construction of the new electric generating facility.

Interim Project History

According to the NPC, and supplemental information filed on August 21, 2013 (collectively herein "the NPC"), work completed, to date, on the Blaney Street site includes:

- Construction of 500 feet of concrete seawall with associated revetment work at the toe; installation of major site utilities including water, sewer, electrical conduit, site stormwater collection and treatment systems, and grading and installation of pavement binder;
- Construction of the Terminal Building with public restrooms;
- Dredging of approximately 24,000 cy down to -16 Mean Low Water (MLW) sufficient for docking of passenger vessels on the south side of the proposed pier;
- Construction of the first 200 feet of pier with associated wave fence;

- Construction of 140 feet of seawall in the pier area with associated revetment work at the toe; and
- Construction and installation of barge and aluminum ramping system for Americans with Disabilities Act (ADA) / Massachusetts Architectural Access Board (MAAB)-accessible passenger operations including vessel pump-out facilities and water service.

Remaining work to be completed in accordance with the previously reviewed ENF is contingent upon future funding and consists of the following:

- Final paving, lighting, and landscaping;
- Public harborwalk construction along the shoreline perimeter;
- Additional dredging of 41,500 cy at the time of full pier construction to accommodate small coastal cruise ship access and commercial fishing embayment;
- Construction of an additional 140 feet of the approach pier, pier "T", wave fence, and pier utilities; and
- Creation of a commercial marina with associated dredging, floating docks, access gangways and utilities.

Description of Project Change

According to the NPC, the project change includes the provision of cruise ship berthing at an existing marine wharf and passenger access to Blaney Street on an interim basis. This site is part of Footprint Power's 64.8-acre property. Interim uses are proposed until Footprint develops a long-term plan for the redevelopment of the Salem Harbor Station site. The Footprint marine wharf was historically used for the delivery of coal and fuel oil and will be used on a limited basis to facilitate construction of the new natural gas-fired power plant and decommissioning of the former coal-fired plant. Significant volumes of materials and equipment will be delivered via barge to minimize construction-period traffic impacts. This wharf features a pile-supported timber pier with concrete mooring dolphins supported by steel piles. Proposed project elements include:

- Installation of an approximately 500-foot long, 8-foot wide, bituminous pavement walkway extending northeast from the terminal building, between Footprint's coal pile run-off pond and the shoreline, to the existing paved surface adjacent to the timber pier;
- Placement of screened fencing along the walkway to provide secure separation from the Footprint facilities;
- Installation of a small culvert and associated fill at the crossing of an existing swale, located at Blaney Street;
- Installation of a crossing over the existing coal pile run-off pond emergency spillway;
- Stabilization of the shoreline along the proposed walkway to improve aesthetics including resetting stones at the top of the Coastal Bank above the high tide line along up to 100 lf of the revetment;
- Installation of new fender units at the four existing fender dolphins suitable for cruise ship berthing;

- Extension of the deck area between the existing pier and seawall (6,900 sf) utilizing the existing support elements;
- Construction of an ADA/MAAB-compliant ramping system from vessel to pier;
- Replacement of any and all trees removed to support the construction of the expanded facility; and
- Installation of approximately 370 feet of temporary fencing for use only during times of cruise ship operations.

As directed by the MEPA Office, the NPC was filed under both the Salem Port Expansion (EEA No. 14234) and the Salem Harbor Station Redevelopment (EEA No. 14937) file reference numbers because work is proposed on both sites. Distribution of the NPC was provided to parties that commented on both projects in accordance with the MEPA regulations.

Jurisdiction and Permitting

The project underwent MEPA review because it required State Agency Actions and exceeded several MEPA review thresholds including: dredging of 10,000 or more cubic yards of material (301 CMR 11.03 (3)(b)(3)), alteration of Coastal Bank (301 CMR 11.03(3)(b)(1)(a)), alteration of one-half or more acres of wetland resource areas (301 CMR 11.03(3)(b)(1)(f)), and expansion of a pile-supported structure by more than 2,000 square feet (sf) in base area (Section 11.03(3)(b)(6)).¹ The project proposed in the NPC does not exceed any additional thresholds beyond those previously identified in past MEPA reviews. The Salem Port Expansion project identified in the ENF required a Chapter 91 (c.91) License and a Section 401 Water Quality Certificate (WQC) from the Massachusetts Department of Environmental Protection (MassDEP) and Federal Consistency review by the Office of Coastal Zone Management (CZM). A Section 10/Section 404 Permit from the U.S. Army Corps of Engineers (ACOE) was also required. The project also required an Order of Conditions from the Salem Conservation Commission, or in the case of an appeal, a Superseding Order of Conditions from MassDEP. Finally, the project required a National Pollutant Discharge Elimination System (NPDES) Construction General Permit (CGP) from the United States Environmental Protection Agency (EPA).² The proposed project change will require a c.91 License Amendment from MassDEP, a Section 10/Section 404 Category 2 permit from the ACOE, and an Order of Conditions from the Salem Conservation Commission, or a Superseding Order of Conditions from MassDEP. The project has received funding from the Commonwealth of Massachusetts through the Seaport Bond Bill and continues to seek additional funding through the Seaport Bond Bill to construct the remaining elements of the Salem Port Expansion project. Therefore, MEPA jurisdiction is broad in scope and extends to all aspects of the project that may cause Damage to the Environment, as defined in the MEPA regulations.

¹ I note that the Salem Harbor Station Redevelopment project (EEA no. 14937) also required MEPA review pursuant to 301 CMR 11.03 (7)(a)(1) because it required State Agency Actions and entails the construction of a new electric generating facility with a Capacity of 100 or more MW.

² The Salem Harbor Station Redevelopment project requires an Approval to Construct from the Energy Facilities Siting Board (EFSB); Major Comprehensive Air Plan Approval and Prevention of Significant Deterioration (PSD) Review, an Air Operating Permit, a c.91 License, and an Industrial Sewer Use Permit from the Massachusetts Department of Environmental Protection (MassDEP); and may require a 401 WQC and a Beneficial Use Determination (BUD) from MassDEP. It also requires an Aboveground Storage Tank Permit from the Department of Public Safety. MEPA jurisdiction for this project was broad and extended to all aspects of the project that may cause Damage to the Environment, as defined in the MEPA regulations.

Review of the NPC

The NPC did not demonstrate that uses proposed in the NPC are equivalent to or less than those those identified in the Salem Port Expansion ENF. The NPC included a summary of potential changes to environmental impacts for both the Salem Port Expansion and the Salem Harbor Station Redevelopment projects. The NPC stated that the project change will increase impervious area by 0.25 acres and will have no additional impacts associated with regulated wetland resource areas, traffic trips or water use/wastewater generation, beyond those disclosed in the Salem Port Expansion ENF or Salem Harbor Station Redevelopment FEIR. The project includes an expansion of the Salem Port Expansion project area to include 1.4 acres of the Footprint site. Plans included in the NPC referenced as the "Previously Reviewed Site Plans" for the Salem Port Expansion were not consistent with those filed in the 2008 ENF. The plans included have issuance and revision dates after the date the Certificate on the ENF was issued. The NPC did not include the approved plans submitted as part of the review process for the Salem Harbor Station Redevelopment project.

The NPC identified several wetland resource areas within or immediately proximate to the expanded project area including Land Under Ocean, Coastal Beach, Coastal Bank, and LSCSF. The proposed improvements (exclusive of those previously permitted as part of the Salem Port Expansion or separate work conducted as part of the Salem Harbor Redevelopment project) will directly impact 4,000 sf of LSCSF, 100 lf of Coastal Bank³, and 3,800 sf of Land Under Ocean (shading). According to the NPC, all proposed revetment work and the repairs to the existing pier are limited to the existing footprints of the respective structures and all work is proposed above the high tide line.

According to the NPC, the existing pathway between the Footprint wharf and the Salem Port is gravel with an impermeable liner underneath extending into the coal pile run-off pond on the Footprint site. The existing slope of the liner outside the coal pile run-off pond bank directs stormwater flow outshore to the Harbor. Proposed stormwater management measures include the design of impervious areas to slope inshore towards the adjacent coal pile run-off pond for treatment prior to release into the harbor. Pier decking will also be sloped inshore to utilize existing stormwater treatment systems.

Where impacts cannot be avoided, the NPC identified mitigation measures to minimize or mitigate potential Damage to the Environment such as erosion control Best Management Practices (BMPs), avoidance of intertidal work, and performance of shoreline work inshore of shellfish habitat.

³ Coastal Bank is delineated based on the toe of the existing revetment (man-made structure).

SCOPE

General

The EIR should follow Section 11.07 of the MEPA regulations for outline and content, as modified by this limited scope. The EIR should confirm that the proposed project is consistent with MEPA review and permitting applications submitted by Footprint and long-term redevelopment plans for the Footprint site.

Project Description and Permitting

The EIR should include site plans, at a readable scale, that identify existing and proposed conditions for the project area in its entirety, including areas where mitigation measures are proposed. The existing and proposed conditions plans should clearly identify the limits of jurisdictional resource areas, including the limit of the DPA, filled or flowed tidelands, MLW and Mean High Water (MHW), property boundaries, grading and elevations, and stormwater management features.

The EIR should explicitly state the anticipated type, length, maximum passenger capacity and frequency of port-of-call for cruise ships that will berth at the upgraded wharf on the Footprint site. While the ENF on the Salem Port Expansion made cursory mention of "Medium" cruise ships up to 800-feet in length using a potential offshore anchorage with passengers using tenders to disembark at the Salem Port, the ENF did not identify the number of potential passengers associated with such a vessel. Furthermore, use of tenders to transport 100 to 150 passengers at a time is reasonably expected to result in a different level of impacts to the DPA and the surrounding neighborhoods than berthing of a medium-sized cruise ship at the Footprint site with the potential for passengers to disembark en masse within a short period of time. I note that the 2008 Salem Municipal Harbor Plan indicates that the Salem Port Expansion project should, "in addition to ferries...be designed to support the needs of small to mid-sized cruise ships, water-dependent excursion/tourist businesses, and dockage for other commercial boats, and landside facilities directly supporting these activities" (page 58). The Salem Port Expansion ENF also identified proposed improvements to accommodate berthing of small to medium cruise vessels up to 400 feet in length at the pier face. Understanding the type of vessels that may use the proposed facility is critical to ensuring the potential environmental impacts associated with the project have been adequately identified and disclosed and that the proposed project is consistent with the approved Municipal Harbor Plan.

The EIR should discuss how land-side uses and improvements are consistent with the Municipal Harbor Plan, c.91 Licensing requirements and DPA guidelines. The construction and implementation of identified land-side uses are critical to ensure the safe and effective operation of the proposed marine facility. The EIR should identify land-side uses, specifically traffic mitigation measures, pedestrian connections, signage, and streetscape improvements both on-site and within the Municipal Harbor Planning area off-site to facilitate use of the Salem Port and provide access to the Salem waterfront. If available, whether in draft or final form, the NPC should include a copy of the City's agreement with Footprint for use of the marine terminal on an interim basis on the Footprint site.

Alternatives Analysis

The EIR should provide an alternatives analysis that provides conceptual site layout plans, a summary of potential environmental impacts associated with each alternative, preferably in tabular format, and a supporting narrative. The alternatives analysis should also discuss compliance with applicable regulations and consistency with the 2008 Municipal Harbor Plan for the following alternatives:

- A No-Action Alternative - no change to the ENF; potential for cruise ships up to 800 feet at anchorage;
- A Small Cruise Ship Alternative – use of the Footprint wharf for berthing of small cruise ships limited with an average capacity of 300 passengers; and
- A Preferred Alternative

The EIR should discuss why certain alternatives have been dismissed by the City and identify review criteria.

Transportation

The EIR should clearly state traffic trip generation assumptions, citing Institute of Transportation Engineers (ITE) data where applicable and identify any increases beyond those previously disclosed in the ENF. If ITE data are not available for portions of the intended uses, the City should consult with the Massachusetts Department of Transportation (MassDOT) for guidance and/or review traffic generation rates associated with similar-sized facilities. Any assumptions used in this analysis should be clearly stated and data sources cited. If trip generation is determined to be inconsistent with data provided in the ENF, the EIR should identify discrepancies and propose appropriate mitigation measures to offset potential impacts. The EIR should also identify whether traffic pattern or operational improvements for Derby Street proposed in the ENF have been implemented, or if not, include a commitment to incorporate these improvements in advance of completion of the expanded marine terminal.

The NPC should clarify if the City intends to stage busses on the Footprint property for cruise ship passenger shore side excursions while the marine facility is being used on an interim basis. If the City intends to use the Footprint facility for vehicular access and staging prior to completion of MEPA review of the long-term development plans of the Footprint site, potential impacts must be disclosed in the EIR and depicted on site plans. The EIR must demonstrate that the land-side facilities at 10 Blaney Street for buses, trolleys, pedi-cabs, and pedestrians are sufficient to safely and effectively accommodate demand generated by berthing of a cruise ship at the Footprint wharf. Finally, the NPC should confirm that Footprint and City can support both cruise ship berthing and active decommissioning and reconstruction of Salem Harbor Station in a manner that avoids conflicts and does not compromise the ability of Footprint to move forward with its approved project.

Wetlands, Waterways and Tidelands

All proposed work identified in the NPC is located on filled or flowed tidelands within the Salem Harbor DPA. MassDEP indicates that a marine terminal for commercial passenger vessel operations is a water-dependant industrial use pursuant to 310 CMR 9.12(2)(b) and therefore, is an allowed use on any tidelands within a DPA. The EIR should discuss how the project has been designed in a manner consistent with the Municipal Harbor Plan, c.91 licensing requirements and applicable performance standards as well as CZM policies.

Stormwater

The EIR should discuss how the project will be designed in compliance with MassDEP Stormwater Management Regulations (SMR) and its associated Stormwater Policy. The EIR should identify if the project will be required to meet the new development or redevelopment standards of the SMR and discuss compliance with applicable performance standards. The EIR should evaluate the use of Low Impact Design (LID) stormwater management techniques, to the extent feasible given the location of the impermeable barrier associated with Footprint's coal pile run-off pond. Salem Harbor has an established Total Maximum Daily Load (TMDL) for pathogens. The EIR should discuss how proposed BMPs will facilitate compliance with the established TMDL. Finally, the EIR should clarify the location of the proposed culvert and indicate whether filling activities associated with placement of the culvert will be located in wetland resource areas or tidelands and if so, identify appropriate mitigation measures.

Greenhouse Gas Emissions

The project is subject to review in accordance with the MEPA Greenhouse Gas Policy and Protocol ("the Policy"). The Policy requires projects to quantify carbon dioxide (CO₂) emissions and identify measures to avoid, minimize or mitigate such emissions. The analysis quantifies the direct and indirect CO₂ emissions associated with the project's energy use (stationary sources) and transportation-related emissions (mobile sources). A GHG analysis typically evaluates CO₂ emissions for two scenarios as required by the Policy including 1) a Base Case and 2) a Mitigation Alternative. The project does not include the construction of any new buildings and stationary sources are likely limited to the potential operation of shore-side power facility. The Policy limits analysis of mobile source emissions to project-related vehicle trips and does not apply to emissions associated with cruise ships.

The EIR should include a commitment to incorporate shore-side power capabilities at the cruise ship berthing location. The EIR should describe a conceptual system, anticipated loading and efficiency capabilities, and if feasible, commit to the use of energy-efficient systems. I recommend the City review the American Association of Port Authorities' 2007 Draft report "Use of Shore-Side Power for Ocean-Going Vessels"⁴ or the California Air Resources Board website (<http://www.arb.ca.gov/ports/shorepower/shorepower.htm>) for additional information on how the City can use shore-side power to mitigate potential GHG emissions.

⁴ http://wpci.iaphworldports.org/data/docs/onshore-power-supply/library/1264151248_2007aapauseofshore-sidepowerforocean-goingvessels.pdf

The EIR should use traffic volume, delay and speed data along with emissions factors (as described in the Policy) for a No-Build existing condition, a future 2018 Build condition and a future 2018 Build with Mitigation condition. The EIR should describe mitigation measures implemented as part of the future Build with Mitigation condition modeling. These measures may include, but should not be limited to, improvements to roadway operations, physical roadway infrastructure upgrades, use of alternative fueled vehicles, and transportation demand management (TDM) measures. The EIR should identify how the City proposes to work with cruise ship, tour bus, and trolley operators to reduce mobile source GHG emissions, and what incentives, if any may be implemented. The City should meet with MEPA staff prior to filing the EIR to discuss appropriate methodologies and assumptions for the GHG analysis.

Construction Period

The project must comply with MassDEP's Solid Waste and Air Pollution Control regulations, pursuant to M.G.L. c.40, §54. The EIR should describe how the City will incorporate recycling initiatives into proposed construction and demolition activities. The EIR should also describe potential project site construction period impacts (including but not limited to traffic management, materials management, parking, air quality and noise impacts, and other items as they related to the construction period) and analyze and outline feasible measures that can be implemented to eliminate, minimize or mitigate these impacts. The EIR should present a conceptual plan with a list of BMPs that could be selected by project contractors to reduce construction related environmental impacts focusing on erosion and sedimentation controls, staging areas, traffic management, and air/noise pollution. Erosion and sedimentation controls should be implemented and maintained in accordance with the Stormwater Pollution Prevention Plan prepared in accordance with the NPDES CGP requirements. Specifically, the EIR should identify truck traffic routes associated with construction traffic, staging areas, and how safe and effective transit, pedestrian, bicycle and vehicle access within and through the project area and neighborhood will be maintained throughout the construction. The EIR should discuss how construction of the facility will impact existing maritime operations at the port including the Salem Ferry.

The City is advised that, if sources of oil and/or hazardous material (OHM) are identified during the implementation of the project, notification pursuant to the Massachusetts Contingency Plan (MCP) (310 CMR 40.0000) must be made to MassDEP, if necessary. The EIR should discuss measures the City will implement to ensure compliance with the MCP. I strongly encourage the City to commit to hiring contractors that have installed emission control devices on all off-road vehicles, or the use of construction equipment that meet Tier 3 or Tier 4 emissions standards for non-road construction equipment in an effort to reduce emissions of VOCs, carbon monoxide (CO) and particulate matter (PM) from diesel-powered equipment. Off-road vehicles are required to use ultra-low sulfur diesel fuel (ULSD). I also encourage the City to implement the use of recycled materials in pavement or porous pavement for the pedestrian walkway.

Mitigation

The EIR should include a separate chapter summarizing proposed mitigation measures. This chapter should also include draft Section 61 Findings for each State Agency that will issue permits for the project (i.e., MassDEP). The EIR should contain clear commitments to implement mitigation measures, estimate the individual costs of each proposed measure, identify the parties responsible for implementation, and contain a schedule for implementation.

In order to ensure that all GHG emissions reduction measures adopted by the City in the Preferred Alternative are actually constructed or performed by the City, I require proponents to provide a self-certification to the MEPA Office indicating that all of the required mitigation measures, or their equivalent, have been completed. Specifically, I will require, as a condition of a Certificate approving an FEIR (or Supplemental FEIR if necessary), that following completion of construction the City provide a certification to the MEPA Office signed by an appropriate professional (e.g., engineer, architect, transportation planner, general contractor) indicating that all of the mitigation measures proposed in the FEIR have been incorporated into the project. Alternatively, the City may certify that equivalent emissions reduction measures that collectively are designed to reduce GHG emissions by the same percentage as the measures outlined in the FEIR, based on the same modeling assumptions, have been adopted. The certification should be supported by plans that clearly illustrate where GHG mitigation measures have been incorporated. For those measures that are operational in nature (i.e. TDM) the City should provide an updated plan identifying the measures, the schedule for implementation and how progress towards achieving the measures will be obtained. The commitment to provide this self-certification in the manner outlined above should be incorporated into the draft Section 61 Findings included in the EIR.

Responses to Comments/Circulation

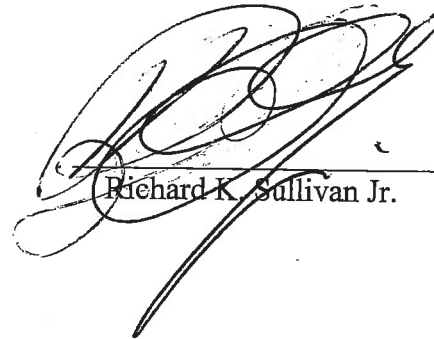
The EIR should contain a copy of this Certificate and a copy of each comment letter received. In order to ensure that the issues raised by commenters are addressed, the EIR should include direct responses to comments to the extent that they are within MEPA jurisdiction. This directive is not intended to, and shall not be construed to, enlarge the scope of the EIR beyond what has been expressly identified in this certificate.

The City should circulate the EIR to those parties who commented on the Salem Port Expansion or Salem Harbor Station Redevelopment ENF and/or the NPC, the Salem Harbor Station Redevelopment DEIR or FEIR, State Agencies from which the City or Footprint Power, LLC will seek permits or approvals, and to any parties specified in section 11.16 of the MEPA regulations. A copy of the EIR should be made available for review at the Salem Public Library. To save paper and other resources, the City may circulate copies of the EIR to commenters other than State Agencies in CD-ROM format, although the City should make available a reasonable number of hard copies, to accommodate those without convenient access to a computer to be distributed upon request on a first come, first served basis. The City should send a letter accompanying the CD-ROM indicating that hard copies are available upon request, noting relevant comment deadlines, and appropriate addresses for submission of comments. I recommend that the EIR be posted in an online format on a City-related website.

Furthermore, while the proposed changes to the Salem Port Expansion project do not exceed MEPA thresholds identified in the Executive Office of Energy and Environmental Affairs Environmental Justice (EJ) Policy, the Salem Harbor Station Redevelopment project did require enhanced public participation in compliance with the EJ Policy. Therefore, we recommend that the City undertake some form of enhanced public participation consistent with the EJ Policy when submitting the EIR.

September 6, 2013

Date



Richard K. Sullivan Jr.

Comments received:

08/01/2013	Jim Treadwell
08/06/2013	Jim Treadwell (2 nd letter)
08/08/2013	Massachusetts Office of Coastal Zone Management
08/09/2013	Wallace and Clare Ritchie
08/09/2013	Sonja and Dominic Cucinotti
08/10/2013	Joseph LaVoie (form letter)
08/10/2013	Michael Nolan (form letter)
08/10/2013	Linda Haley
08/10/2014	Meredith Browne, Dolores Jordan, Joni B. Lawrence, Ronald Lawrence, Susan Silva, Kenmore Commoss (form letter)
08/10/2013	Sandra Northrup, Sharon K. Smith, Clare Giuffrida, Bernice Turner, Charles Ouimet, Heidi Milman, George L. Smith, Stephen H., Kelli Ketcham, Charles Hildebrand, Paul Hoft, Wesley Hildebrand, John Strucker, Brenda Shanley, Christiana Kroondyk, Dave Kroondyk, Martin Mehrling, Frank Kulik, Kathryn Harper (form letter)
08/11/2013	Brian Krouzek
08/12/2013	Susan Kirby
08/12/2013	Theodora Sobin
08/12/2013	Jim Treadwell (3 rd letter)
08/13/2013	Diane Knight
08/13/2013	William E. Dearstyne
08/14/2013	Sophie Robinson
08/14/2013	Kara Mc Laughlin, the House of the Seven Gables
08/14/2013	Rinus Oosthoek, Executive Director, Salem Chamber of Commerce
08/14/2013	Kate Fox, Executive Director, Destination Salem
08/14/2013	Jerrie Hildebrand, Owner, Kishgraphics
08/14/2013	George H. Carey, Owner, Finz Seafood Restaurant
08/14/2013	Thomas Mac Donald
08/14/2013	Massachusetts Department of Environmental Protection – NERO
08/14/2013	Patricia H. Zaido, Executive Director, the Salem Partnership

08/14/2013 Massachusetts Division of Marine Fisheries
08/14/2013 Clare Ritchie
08/14/2013 Deborah Prentice
08/15/2013 George Economides
08/15/2013 Cynthia Carr
08/15/2013 Robert Talbot
08/15/2013 Stephen Weber, the House of the Seven Gables
08/15/2013 Richard and Diane Pabich, the Salem Inn
08/15/2013 Helen M. Medler, President, Hawthorne Tours
08/15/2013 Charles Hildebrand
08/15/2013 Kimberly Driscoll, Mayor, City of Salem
08/15/2013 Jeffrey Brooks
08/19/2013 Joshua Basseches, Deputy Director and COO, Peabody Essex Museum
08/19/2013 David H. Butler, President, Salem Trolley
08/20/2013 Fred Atkins
08/20/2013 Historic Derby Street Neighborhood Association Board of Directors
08/20/2013 Stanley P. Cahill, Executive Vice President, Salem State University
08/21/2013 City of Salem Department of Planning and Community Development
08/21/2013 The Salem Partnership
08/21/2013 Jeffrey Brooks (2nd letter)
08/22/2013 Russell T. Vickers
08/23/2013 Karen Scalia, Owner, Salem Food Tours and North Shore Food Tours
08/23/2013 Annie C. Harris, CEO, Essex National Heritage Commission
08/23/2013 North Shore Alliance for Economic Development
08/26/2013 Emily Udy, Historic Salem, Inc.
08/27/2013 Deborah Prentice (2nd letter)
08/27/2013 Linda Haley (2nd letter)
08/27/2013 Ana Nuncio, the House of the Seven Gables
08/27/2013 WalkBoston
08/27/2013 Karen Barter, the House of the Seven Gables
08/27/2013 United States Congressman John F. Tierney, Massachusetts 6th District
08/27/2013 Joni B. Lawrence
08/27/2013 Heidi Milman
08/27/2013 Doreen Powers
08/27/2013 Janet Crane
08/27/2013 Robert T. Leavens (2 letters)
08/27/2013 Lisa Joubert
08/27/2013 Jim Treadwell (4th letter)
08/28/2013 Captain Jeff Havlicek
09/02/2013 Jim Treadwell (5th letter)

RKS/HSJ/hsj

Johnson, Holly (EEA)

From: James R Treadwell [jrtreads4@gmail.com]
Sent: Thursday, August 01, 2013 12:58 PM
To: Johnson, Holly (EEA)
Subject: NPC, EEA # 14937 & 14234, Cruise Ships, Sizes

Good afternoon and thanks for forwarding the information from Seth Lattrell. I had just come across the Tables from Salem Port Expansion ENF and thought I would send them along to you. (which I did a short time ago, w/o a message, inadvertently) Thanks again for discussing this NPC with me earlier today. Jim

Table 1 Vessel Usage

Vessel Type Usage	Berthing Requirement		
LNG Offshore Supply Vessel Home Port	130 ft berth	at floating barge	
Salem Ferry Home Port	120 ft berth	at ADA barge	
Coastal Cruise Vessels Use	250 ft berth	at ADA Barge	Day
Small to Medium Cruise Vessels Use	up to 400 ft	at pier face	Day
Medium Cruise Ships Use	up to 800 ft	Anchorage	Day
Use	Tenders to ADA barge		Day
Visiting Vessels/Tall Ships Day/Overnight	up to 400 ft	at pier face	
Excursion Vessels Berth	120 ft berth	at ADA Barge	Live
Water Taxi	50 ft berth	Float at ADA Barge	

Table 2 Land and Waterside Improvements

Landside

- Vehicular access from Derby Street via Blaney Street with passenger drop off area suitable for truck, bus and trolley access.
- Parking for 146 vehicles.
- Pedestrian access to/from Derby Street via White Street and internal pedestrian circulation along a 12 foot wide pile supported Harborwalk.
- Electrical, water, sewage pump-out, trash dumpsters and lighting.
- A two story, 10,500 square foot Terminal Building that includes passenger waiting/ticketing; office and support space; and maintenance storage areas (see Terminal Building Program on Table 3).

Waterside

- A fixed "L" shaped pier designed to accommodate trucks with adequate maneuvering, refueling and provisioning space and space along the pier end to accommodate small coastal cruise ships (250 feet in length) and visiting ships. The main pier leg is 32 feet wide and 250+/- feet long and the pier end varies in width from 20 to 50 feet and is 130 feet long.
- 10 ton crane capacity.
- Re-use of the existing 130 foot long float on the west side of the fixed pier to accommodate the *Nathaniel Bowditch* ferry and small coastal cruise ships (185 feet in length).
- A series of steel floating docks on the east side of the fixed pier to accommodate the LNG offshore supply boat, water taxis and excursion vessels.
- Float along the westerly side of the backland to accommodate the local fishing fleet and other vessels.
- Dredging approximately 217,000 cubic yards in an 8.63 acre (376,000 square feet) area to create three basins with depths ranging from elevations - 10 to -26 feet Mean Low Water. The dredging of the most landward basin includes approximately 45,000 square feet of intertidal area. This dredging is needed to create berthing the local commercial fishing fleet and other smaller draft vessels and to allow floats to be placed closer to the shoreline.

Johnson, Holly (EEA)

From: James R Treadwell [jrtreads4@gmail.com]
Sent: Tuesday, August 06, 2013 3:35 PM
To: Johnson, Holly (EEA); Glenn, Kathryn (EEA); Baker, Nancy (DEP)
Subject: Notice of Project Change, Salem, EEA #14234 & 14937

Good afternoon, FYI Jim

Mayor Kim Driscoll said she is in talks about a "shared public use" of the facility.

"For me to be able to expend (public) dollars, we need to know we have a commitment to be able to use the facility and we're working toward what that language looks like," she said.

Whatever happens, Silverstein said it is important for Footprint to retain use of the dock for its own future development needs. Footprint, which is planning to build a natural gas power plant, hopes to find marine and commercial tenants for the rest of the site, some of which likely would need water access.

Footprint also plans to make use of its pier during demolition of the current plant and construction of the new facility. It has pledged to remove debris and bring in equipment and supplies by barges.

Driscoll and Footprint principals Peter Furniss and Silverstein have talked for some time about allowing cruise ships to dock at the power plant's pier as a way of getting the city into the cruise ship business while waiting for construction of the city wharf to be completed.

A recent Planning Board decision included language about use of the pier.

Salem has done a lot of work recently on the Salem Wharf at the Blaney Street landing, which is adjacent to the power plant site, but it is not yet ready to host larger cruise ships, Winn said. An estimated 200 feet of the new Salem Wharf has been built, but funds have not yet been secured to build another 140-foot section and complete the project.

Now, it appears the city is planning to use the Blaney Street pier for the Salem Ferry, commercial vessels and smaller cruise ships and the power plant pier for what the cruise industry considers mid-sized vessels carrying several hundred or up to 2,000 passengers.

The construction planned would make the power plant pier accessible for passengers and also meet state and federal disability guidelines, officials said. There are also plans to build a walkway over to the Blaney Street landing.

Small cruise ships with about 100 passengers or fewer have stopped in Salem in the past, docking on Blaney Street.

In fact, a cruising vessel with Blount Small Ship Adventures is scheduled to stop here later this month.

Two years ago, Driscoll and others flew to Seattle to talk to a large cruise line about coming to Salem. As of now, no visits have been scheduled, but talks are ongoing.

"We're actually in discussions with (companies) in the cruise industry who see this as a viable port," the mayor said. "I feel very confident we're going to have cruise ships here based on the discussions we've had."

Tom Dalton can be reached at tdalton@salemnews.com.

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• Charges in fatal crash upgraded

PEABODY -- The charges against a Peabody man who police say was at the wheel of a car that slammed into the back of a flatbed tow truck in May, killing his passenger, have been upgraded to manslaughter. But a Salem Superior Court judge yesterday red

Treadwell

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August 6, 2013

Cruising along

Salem steps up plans for large ships to berth at pier

BY TOM DALTON STAFF WRITER

SALEM — The city may be entering the cruise ship business sooner rather than later.

Salem officials contacted the Massachusetts Office of Energy and Environmental Affairs last month to inform them of a change to two key harbor projects. In that filing, the city said it is seeking permits to make improvements to the 800-foot, deep-water pier at Salem Harbor Station that would allow "large cruise ship berthing" as early as next year.

The city is prepared to spend up to \$1 million on the private power plant pier to accommodate mid-sized cruise ships with anywhere from a few hundred to more than 1,500 passengers, according to Kathy Winn, deputy director of the Planning Department.

If permits are secured and all goes well, she said the city hopes to have the pier ready by the end of 2014.

City officials are in talks with Footprint Power, owners of the 65-acre waterfront site, about the cruise ship agreement, according to the July 15 filing with the state.

"Footprint fully supports this water-dependent use of the marine wharf on its property," stated documents co-signed by Scott Silverstein, a principal of Footprint.

Among the subjects being discussed are short-term accommodations and also a long-term agreement in which the city would use and possibly co-manage the dock, according to Winn, who oversees harbor projects for the city.

"It's a unique resource," Winn said. "It's a deep-water dock on a federal channel. It's a great opportunity for the city."

Johnson, Holly (EEA)

From: James R Treadwell [jrtreads4@gmail.com]
Sent: Tuesday, August 06, 2013 4:47 PM
To: Johnson, Holly (EEA); Glenn, Kathryn (EEA); Baker, Nancy (DEP)
Subject: NPC, Salem, EEA # 14234 & 14937

Good afternoon again,

FYI

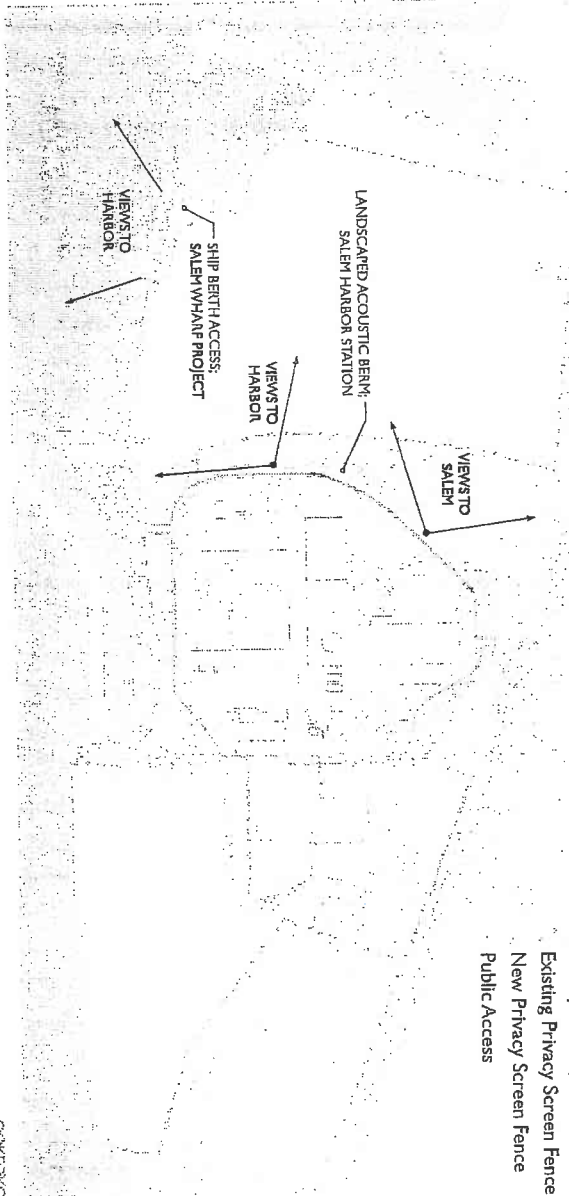
At its meeting on July 25, 2013 the Salem Planning Board (Board) approved Petitions of Footprint Power Salem Harbor LP regarding the Salem Harbor Station Redevelopment Project. In its approval letter of August 1, 2013, the Board referenced the two attached Site Plans (dated July 24, 2013), as among the "Conditions" to which "work shall conform". With regard to the NPC, the Site Plan, Page One, depicts, as Ship Berth Access; Salem Wharf Project, the location of the modified Marine Terminal, and the Site Plan, Page Two, depicts, as "harbor walk", the "walkway between the ship berth and the Salem Wharf site".

I don't know if this action by the Board is of significance to your review of the NPC but I thought these Plans and the Board's action might be of interest. Let me know if you would like copy of the Board's entire approval letter.

Also, as I prepare my comments on the NPC, I wonder if the berthing of large ships with pedestrian access to the Salem Wharf/Salem Port Expansion Project was adequately addressed in the Redevelopment Project's EIR or would an Amendment to that environmental review, with regard to these changes, be appropriate?

PROPOSED SITE PLAN

Facility Security Perimeter
Existing Privacy Screen Fence
New Privacy Screen Fence
Public Access



PUBLIC ACCESS PLAN UPON
COMPLETION OF NEW FACILITY

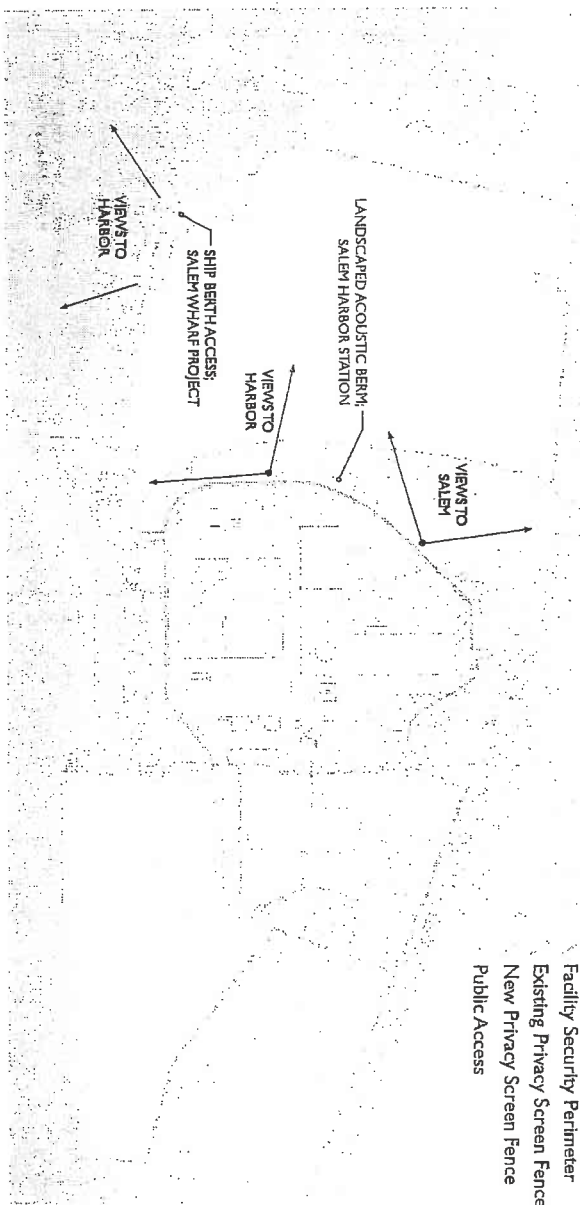
J. J. JONES, INC. 1980 090
1-800-855-1111



Thank you. Jim Treadwell

PROPOSED SITE PLAN

- Facility Security Perimeter
- Existing Privacy Screen Fence
- New Privacy Screen Fence
- Public Access



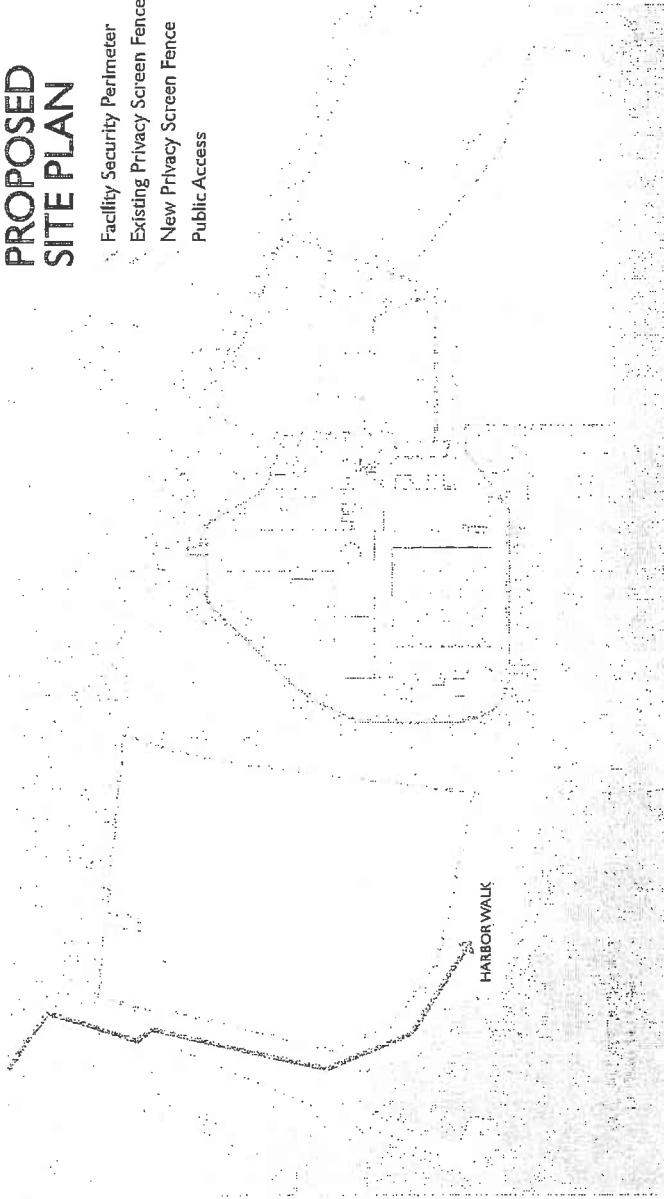
PUBLIC ACCESS PLAN UPON
COMPLETION OF NEW FACILITY

July 2016, 2018, 2019, 2020
1. 2016, 2018, 2019, 2020



PROPOSED SITE PLAN

- Facility Security Perimeter
- Existing Privacy Screen Fence
- New Privacy Screen Fence
- Public Access



CONCEPTUAL FUTURE PUBLIC ACCESS PLAN

July 24th, 2012 Design Team
Frederick Chase LLC



Johnson, Holly (EEA)

From: Kehoe, Barbara (EEA)
Sent: Friday, August 09, 2013 2:50 PM
To: Johnson, Holly (EEA)
Subject: FW: Salem Port Expansion EEA #14234 Salem Harbor Station Redevelopment EEA # 14937

Comment.

From: Crowley, James (EEA) **On Behalf Of** internet, env (ENV)
Sent: Friday, August 09, 2013 2:38 PM
To: Kehoe, Barbara (EEA)
Subject: FW: Salem Port Expansion EEA #14234 Salem Harbor Station Redevelopment EEA # 14937

More MEPA comments

Jim Crowley
External Relations Coordinator
Tort Claims Coordinator
Executive Office of Energy & Environmental Affairs

From: Sonnie Cucinotti [<mailto:spiritsintheattic@hotmail.com>]
Sent: Friday, August 09, 2013 1:35 PM
To: internet, env (ENV)
Subject: Salem Port Expansion EEA #14234 Salem Harbor Station Redevelopment EEA # 14937

We are residents of Salem, MA. and today, August 8th, 2013 we found out about a Project Change that would allow (LARGE) ships to dock at the power plant site so that an estimated 2,100 people can visit Salem. We also have Neptune LNG Deepwater Pipelines in our waters - this to me is not a safe segway into Salem Harbor for a cruise ship.

We are home and business owners in Salem and trust that this project have a public forum for our (COMMUNITY).

Thank you for your attention.

Sonja and Dominic Cucinotti
3 B Halsey Way
Salem, MA. 01970

August 10, 2013

MEPA

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

RECEIVED

AUG 13 2013

Re: Salem Port Expansion EEA #14234
Salem Harbor Station Redevelopment EEA # 14937

MEPA

Dear Secretary Sullivan:

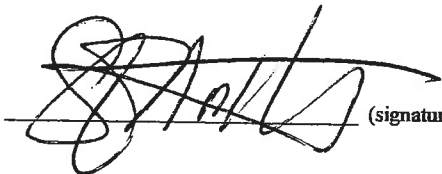
We are residents who live within a few blocks of the proposed "Notice of Change" under current review by MEPA. Although we support new business in Salem and the former plans to use state funds to make the dock at Blaney Street suitable for small cruise ships, we do not have enough information about this new plan. We, therefore, submit the following concerns for your consideration and a request that a more comprehensive, public process be offered to vet this proposed change. Some of our major questions are the following:

- Why this huge break from all past, community-created Harbor Plans and the recent Power Plant Reuse Study that recommend a maximum of 300 *passenger cruise* ships docking on Salem harbor?
- What are the negative impacts of such large ships on the environmental quality of our ocean and air?
- How will the huge influx of pedestrian traffic impact our already clogged, narrow streets and sidewalks?
- What is the plan to lessen problems from the increase in vendor vehicles to and from the power plant dock and trolleys, buses, etc. picking up and dropping off passengers?
- What will be the impact on boating in our harbor, regarding marine access and flow?
- Will this defer any Seaport Bond funds that may become available from planned improvements to the city-owned Blaney St. to the privately-owned power plant site?
- How will this change financially benefit our city? Haven't all studies pointed to medium to large size ships being costly on the infrastructure and unlikely to contribute positively to the tourist economy?
- This change is described as "interim." If so, when will it become permanent and, if it does, when, how and why will that occur, and how will it fit with redevelopment of the entire power plant site, the Blaney Street dock, and rest of the waterfront?
- Why has there been no opportunities or even notice by the City to those of us in the local area about this big change in the plans for use of our waterfront?

We believe those of us who live closest to the project site deserve a broad study by the City of Salem of the environmental impacts of this proposal and public site visits and meetings about the proposal by MEPA prior to approving it. Thank you for consideration of this letter.

Yours truly,

Sandra Northrop (name)
49 Turner St. 01970 (address)

 (signature)

Sharon K. Smith (name)

6 Palfrey Ct., #1 (address)

Clare Giuffrida (name)

6 Palfrey Ct #3 (address)

Bernie Turner (name)

6 Palfrey Ct. #2 (address)

Charles Onimet (name)

109 Derby St (address)

Heidi Milman (name)

109 Derby St. (address)

George L. Smith (name)

6 White St #5 (address)

~~STEPHEN E HURTER~~ (name)

6 WHITE ST #5 (address)

Kelli Ketchum (name)

4 Blaney St #2 (address)

Charles Hildebrand (name)

46 English St (address)

Sharon K. Smith (signature)

Clare Giuffrida (signature)

Bernie L. Turner (signature)

Charles Onimet (signature)

Heidi Milman (signature)

George L. Smith (signature)

~~Stephen E. Hurter~~ (signature)

Kelli Ketchum (signature)

Charles Hildebrand (signature)

Paul Hoff (name)
47 Hathorne St. (address)

(signature)

Wesley Hildebrand (name)
46 English St (address)

Wesley Hildebrand (signature)

JOHN STRUCKER (name)
39 ENGLISH ST. (address)

John Strucker (signature)

Brenda Sharley (name)
39 English St (address)

Brenda Sharley (signature)

Christiana Kroondyk (name)
28 English St (address)

Christiana Kroondyk (signature)

Dave Kroondyk (name)
28 English St (address)

Dave Kroondyk (signature)

Martin Mehrling (name)
20 English St. (address)

Martin Mehrling (signature)

FRANK KULIK (name)
3 ALLEN ST. (address)

Frank Kulik (signature)

Kathryn Harper (name)
3 Allen St. (address)

Kathryn Harper (signature)

Johnson, Holly (EEA)

From: Deb - Yahoo [dprentice45@yahoo.com]
Sent: Wednesday, August 14, 2013 2:07 PM
To: Johnson, Holly (EEA)
Cc: Linda Haley
Subject: Salem MA , Port & Harbor Stn Notice of Project Change - EEA #14234 & EEA # 14937 - Public Comments
Attachments: MEPA Letter Signatures.docx; MEPA Ltr-1.JPG; MEPA Ltr-2.JPG

Dear Ms. Johnson,

Thank you for taking the time to chat today and explain the process by which the current Notice of Project Change by the city of Salem is reviewed and adjudged.

Although the NPC was filed on 7/15 by the city, residents just found out about it, and that the public comment period ends today. If not too much trouble, could you please acknowledge receipt of this ASAP, so we know that you got it? (Thanks again!)

Please find attached a letter (along with a document listing the signers), expressing our concerns not only about the scope of the change, but also the manner in which it was submitted; and requesting further public vetting of this prior to issuance of a certificate to proceed.

As discussed, I realize your purview is more of an environmental nature. (More on that below.) However (for starters), as I stated, that portion of the document which states that the public was made aware of this plan is totally erroneous. From page 4 of 8 in the BCE report (p. 12 in my .pdf):

B. Public Outreach and Notification

The City of Salem has continued to make the public aware of its proposal for improvements to obtain and support cruise ship berthing at the existing marine wharf on the Footprint Property. This has been brought to the public through a number of avenues including:

- Salem Harbor Plan Implementation Committee
- Salem Harbor Plan (2000 & 2008) and associated public meetings
- Salem Harbor Port Professional Group
- Footprint public meetings and public outreach
- City of Salem News Releases
- Publications associated with regulatory filings.

And...

"Although the impacts from the City's proposed improvements do not trigger the need for enhanced public outreach under the Policy, the City of Salem and Footprint are both committed to maintaining full disclosure to the public throughout the regulatory process. As such the City and Footprint propose the following:

- Issue a Public Notice in English and Spanish and post it in City Hall
- Post Public Notices along Blaney Street, where the "Notice" is the "MEPA Notification document."

None - I repeat, NONE - of this has occurred re: the current proposal for large cruise ships, to my knowledge or others' here.

Re: above, "...do not trigger the need for enhanced public outreach"??? Given that no one in this area knew a thing about this until maybe four days ago; and **pursuant to requirements under 301 CMR 11.10 (7)** (if I'm reading it correctly), I also have to wonder if notices were sent to people who may have commented previously:

"In the case of a Notice of Project Change filed by the Proponent, the Proponent shall circulate copies of the Notice of Project Change to any Agency or Person who received the ENF or commented on the ENF or any EIR prior..."

<http://www.env.state.ma.us/mepa/regs/11-10.aspx>

It would seem that the prior ENF in 2008 (#14234); and also #14937 (FEIR Certificate on May 17, 2013) would have generated comments at the time. Were these commenters notified of this NPC?

Environmental concerns:

Page 2 of 8 (pdf p 10) –

One bullet, "Construction of a walkway (minimum 8 ft. wide) between the ship berth and the Salem Wharf site along the existing shoreline..." seems problematic. Along that shoreline, just adjacent to the Blaney St. property, there is a small pond (been there "forever") just behind the perimeter fence. Water fowl use it constantly. Just eyeballing that, it would seem that said walkway may disrupt this area, as it's right on the harbor.

(Further down, P 6 of 8: "The proposed improvements will involve performing the following:

- Installing an approximately 500 foot long, 8 foot wide, bituminous pavement walkway that extends from northeast of the terminal building, between Footprint Power's coalpile run-off pond and the shoreline, to the existing paved surface adjacent to the timber pier."

It may be a coalpile runoff pond, but the ducks and geese don't care! I've seen ducklings in there! They shelter there during rough weather, too.

P 7 of 8: "The proposed walkway will shift the drainage pattern along the shoreline, directing water into the coalpile run-off pond rather than the harbor.")

Same bullet list, back to page 2 of 8: "The installation of a small culvert and associated fill at the crossing of an existing swale, located at Blaney St." **FILL?** Then on p 6 of 8: "No pile driving is proposed nor is any filling or dredging included within the request work elements."

All this is nothing if not inconsistent.

"The proposed improvements described in this NPC are intended to be an interim phase to accommodate cruise ship berthing in the 2014 season and beyond on a limited basis." So why the change in scope re: the size of the ships???

Additionally, are the large ships "consistent with the Designated Port Area (DPA)"? Nothing prior to this NPC says anything about "large". The 2008 documents say "small". Do larger cruise ships also present environmental concerns in this small port?

Again, thanks for your assistance. We in this affected neighborhood would SO appreciate a finding of "Needs further review"!

Sincerely,

Deborah Prentice
16 Hardy St
Salem, MA 01970

MEPA Letter Signatures

All of these are within ¼ mile of the proposed change in Salem, MA 01970

Deborah Prentice
16 Hardy St

Meredith Browne
17 Bentley St

Dolores Jordan
97 Derby St

Joni B Lawrence
39 Turner St

Ronald Lawrence
39 Turner St

Susan Silva
126 Derby St

Kenmore Commooss
17 Hardy St

Johnson, Holly (EEA)

From: Kehoe, Barbara (EEA)
Sent: Wednesday, August 14, 2013 12:42 PM
To: Johnson, Holly (EEA)
Subject: FW: Salem Port Expansion EEA #14234 & Salem Harbor Station Redevelopment EEA # 14937

Comment.

From: Crowley, James (EEA) **On Behalf Of** internet, env (ENV)
Sent: Wednesday, August 14, 2013 11:58 AM
To: Kehoe, Barbara (EEA)
Subject: FW: Salem Port Expansion EEA #14234 & Salem Harbor Station Redevelopment EEA # 14937

More MEPA Comments

James D. Crowley
External Relations Coordinator
Tort Claims Coordinator
Executive Office of Energy and Environmental Affairs

From: Yann Krouzek [<mailto:bkrouzek25@hotmail.com>]
Sent: Sunday, August 11, 2013 10:11 PM
To: internet, env (ENV)
Subject: RE: Salem Port Expansion EEA #14234 & Salem Harbor Station Redevelopment EEA # 14937

Dear Secretary Richard K. Sullivan Jr.,

I am writing to express my concerns about the proposal asking to allow large cruise ships to dock at Salem harbor. Although the city of Salem may claim the impacts of this project are insignificant, there are no facts to support those claims. First and foremost, an impact study must be conducted that takes into consideration traffic, transportation, air and water quality, waste water disposal and other factors that will be affected by these large cruise ships.

There have been no notices issued or special meetings called to discuss this proposal. The cruise ships in question are over 800 feet long and can carry over 2,100 passengers. Yet, harbor plans recommend a maximum of 300 passengers docking on the Salem waterfront.

The proposal also involves the City building decking and ramps as well as a pedestrian walkway on land that is owned by a private company. Since our state taxes will help support this project, we deserve a site review and a public consultation session. An impact study of the proposed new pier construction on sensitive coastal habitat also needs to be conducted.

I believe careful consideration of the overall effect on these large cruise ships will have on the Salem harbor as well as a more open & fair public process are necessary before any final decision is made on this proposal.

I am a citizen of the North Shore, an employee of the Commonwealth of Massachusetts, and hope the right thing will be done in the community's interest.

Sincerely,

Brian Krouzek
102 Bow St.
Peabody, MA 01960
978.854.2507



265 Essex Street
Salem, MA 01970
978-744-0004
www.salem-chamber.org

August 14, 2013

MEPA

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

Executive Committee

Robert DeRosier, President
NAES Footprint Salem Harbor Station
Paul Van Ness, 1st Vice President
CinemaSalem
Patrick Delulis, Treasurer
Delulis Brothers Construction
Sandy Heaphy, Past President
Kensington Stobart Gallery
Beth Anne Bower
Salem State University
Mike Kapnis, At Large
Eastern Benefits Group
Mark Leavitt, At Large
Salem Car Wash
Mike Wheeler, At Large
Beverly Cooperative Bank

Directors

Susan Babine
Finz Seafood Restaurant
Ruth Bitchell
Eastern Bank
David Bowie
The Picklepot
Claudia Chuber
Peabody Essex Museum
Jason Consalvo
Salem Five
Gina Deschamps
Deschamps Printing
Tom Dexter
Wells Fargo Advisors
Brandi Dion
B&S Fitness
Rose Fisher
North Shore Medical Center
Nancy Furnari
Meridian Construction
Andy Goldberg
Goldberg Properties
Scott Grover
Tinti, Quinn, Grover & Frey
Tina Jordan
Salem Witch Museum
Juli Lederhaus
Hawthorne Hotel
Rob Liani
Coffee Time Bake Shop
Anna Kulakowski
East Boston Savings Bank
David McKillop
Rockafellas
Jamie Metsch
Roost/Beehive
Matt Picarsic
RCG
Jason Silva
Salem YMCA
Ann Sousa
Body & Soul Massage
Patricia Zalido
Salem Partnership

Reference:

Salem Port Expansion EEA #14234
& Salem Harbor Station Redevelopment EEA # 14937

To whom this may concern:

This letter is to support the City of Salem's application to create an access way to the pier from Blaney Street to the power plant, and specifically its dock which has deep water access. The City's intention to use this pier as a gateway for cruise ship access, and an extension of the Salem Harbor Walk would benefit the City in several other ways as well.

From a tourism perspective, more than 50% of passengers who visit a port via cruise ship are likely to return to that port within the next three years. A typical cruise ship carrying 2,500 passengers generates more than \$280,000 in local expenditures during a single port-of-call visit. This spending will translate directly into museum admissions, shopping and dining in Salem.

The port expansion holds significant benefits for residents as well. It will extend the current Harbor Walk, provide additional water access and dock space. It also compliments the existing Blaney Street structure, which is currently serviced by the Salem Ferry (Salem-Boston) and the local Salem Trolley.

The City of Salem's port expansion, including the Salem Harbor Station expansion, is an exciting step in the redevelopment of the Salem waterfront, and we encourage MEPA to approve the Port Expansion and Harbor Station Redevelopment applications.

Kind regards,

Rinus Oosthoek
Executive Director



August 14, 2013

MEPA

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

Reference: Salem Port Expansion EEA #14234 & Salem Harbor Station Redevelopment EEA # 14937

To whom this may concern:

I am writing in support of the City of Salem's application to create an access way to the pier on Blaney Street from the power plant, and specifically its dock which has deep water access. The City's intention to use this pier as a gateway for cruise ship access, as well as an extension of the Salem Harbor Walk would benefit the City in several ways.

From a tourism perspective, more than 50% of passengers who visit a port via cruise ship are likely to return to that port within the next three years. A typical cruise ship carrying 2,500 passengers generates more than \$280,000 in local expenditures during a single port-of-call visit. This spending will translate directly into museum admissions, shopping and dining in Salem.

The port expansion holds significant benefits for residents as well. It will extend the current Harbor Walk, provide additional water access and dock space. It also compliments the existing Blaney Street structure, which is currently serviced by the Salem Ferry and Salem Trolley.

The City of Salem's port expansion, including the Salem Harbor Station expansion, is an exciting step in the redevelopment of the Salem waterfront, and I encourage MEPA to approve the Port Expansion and Harbor Station Redevelopment applications.

Sincerely,

A handwritten signature in black ink, appearing to read "Kate Fox", is written over a horizontal line.

Kate Fox
Executive Director
Destination Salem

DATE: August 14, 2013

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

REFERENCE:

Salem Port Expansion EEA #14234 &
Salem Harbor Station Redevelopment EEA # 14937

To Whom It May Concern:

I am writing in support of the City of Salem's desire and application to create access to the Blaney Street Pier from the power plant, and its deep water dock area and access as a place for cruise ship's to come into our beautiful city with travelers, as well as the plans for a Salem Harbor Walk.

I have lived across the street from Blaney Wharf and the power plant for close to 30 years and housed a successful 24-year-old creative solutions and marketing company out of my home also. My business works in the tourism and hospitality industry, as well as the medical and technology industries. This project's trickle down impact is what my business depends on and this project's success is part of that.

Anyone in tourism knows for every dollar spent here, that dollar trickles down about eight times through the hands of people in the city before leaving. Nurses, restaurant owners, young people, coffee shops, car repair shops, and so on are fed, clothed and cared for by the money brought to Salem by visitors. Even a creative marketing company like mine, is dependant on it. A typical ship carrying 2,500 passengers generates more financially for our city than the average foot race that runs through this neighborhood of the same size. Every foot race, walk and citywide fundraising event that goes through the neighborhood and the money raised organizationally specific. It is not spent city wide as tourism and travel dollars are. This spending supports every industry in the city of Salem.

The walkway and expansion benefits for residents as well. I cannot tell you how much I am looking forward to walking along the harbor in the evenings. This neighborhood has looked at horrible tanks and smoke stacks forever. I look forward to not having any more coal dust in the air in my home and gazing at beautiful green spaces. I live with the hope with the power plant gone that my son's asthma will be better. This project compliments the neighborhood and makes having the Salem Ferry and Salem Trolley accessible for getting into the downtown. It brings back the history of this neighborhood's wharves of long ago.

The City of Salem's port is exciting for the neighborhood as is the development of the Salem waterfront. As a resident and business owner in the Derby Street area, I encourage MEPA to approve the application for the Port Expansion and Harbor Station Redevelopment.

Sincerely,

Jennie Hildebrand

Owner and Principal Designer
Kishgraphics

Kishgraphics

Creative Solutions & Marketing

...with a Twist!

46 English Street, Salem, MA 01970

T/ 978.741.4222 • F/ 978-741.0549

www.kishgraphics.com

August 14, 2013

MEPA

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

Reference: Salem Port Expansion EEA #14234 & Salem Harbor Station Redevelopment EEA #14937

To: Commonwealth of Mass, MEPA,

I am writing in Strong support of the City of Salem's application to create an access way to the pier on Blaney Street from the power plant, and specifically its dock which has deep water access. The City's plan to use this pier as a gateway for cruise ship access, as well as an extension of the Salem Harbor Walk would benefit the City in several ways. This is also another key step in granting waterfront access to the general public and our visitors. This is a very important step in helping Salem redevelop it's waterfront for the benefit of all groups.

From a tourism perspective, more than 50% of passengers who visit a port via cruise ship are likely to return to that port within the next three years. A typical cruise ship carrying 2,500 passengers generates more than \$280,000 in local expenditures during a single port-of-call visit. This spending will translate directly into museum admissions, shopping and dining in Salem, and add to the tax receipts, both for the State and the City of Salem

The port expansion holds significant benefits for residents and businesses. It will extend the current Harbor Walk, provide additional water access and dock space. It also compliments the existing Blaney Street structure, which is currently serviced by the Salem Ferry and Salem Trolley.

The City of Salem's port expansion, including the Salem Harbor Station expansion, are both projects that I am in strong support of.

I would ask MEPA to approve the Port Expansion and Harbor Station Redevelopment applications.

Sincerely,

George H Carey
Owner, Finz Seafood Restaurant
76 Wharf Street
Salem, MA 01970

HS
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AUG 16 2013

August 14, 2013

MEPA

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

MEPA

Reference: Salem Port Expansion EEA #14234 & Salem Harbor Station Redevelopment EEA #14937

To whom this may concern:

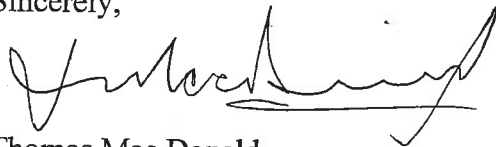
I am writing in support of the City of Salem's application to create an access way to the pier on Blaney Street from the power plant, and specifically its dock which has deep water access. The City's intention to use this pier as a gateway for cruise ship access, as well as an extension of the Salem Harbor Walk would benefit the City in several ways.

From a tourism perspective, more than 50% of passengers who visit a port via cruise ship are likely to return to that port within the next three years. A typical cruise ship carrying 2,500 passengers generates more than \$280,000 in local expenditures during a single port-of-call visit. This spending will translate directly into museum admissions, shopping and dining in Salem.

The port expansion holds significant benefits for residents as well. It will extend the current Harbor Walk, provide additional water access and dock space. It also compliments the existing Blaney Street structure, which is currently serviced by the Salem Ferry and Salem Trolley.

The City of Salem's port expansion, including the Salem Harbor Station expansion, is an exciting step in the redevelopment of the Salem waterfront, and I encourage MEPA to approve the Port Expansion and Harbor Station Redevelopment applications.

Sincerely,



Thomas Mac Donald
15 Lafayette Place
Salem, MA
978-335-4989

Johnson, Holly (EEA)

From: Kehoe, Barbara (EEA)
Sent: Wednesday, August 14, 2013 12:41 PM
To: Johnson, Holly (EEA)
Subject: FW: Salem Port Expansion EEA #14234 & Salem Harbor Redevelopment EEA #14937

Comment

-----Original Message-----

From: Crowley, James (EEA) On Behalf Of internet, env (ENV)
Sent: Wednesday, August 14, 2013 12:09 PM
To: Kehoe, Barbara (EEA)
Subject: FW: Salem Port Expansion EEA #14234 & Salem Harbor Redevelopment EEA #14937

MEPA comments

James D. Crowley
External Relations Coordinator
Tort Claims Coordinator
Executive Office of Energy and Environmental Affairs

-----Original Message-----

From: Clare Ritchie [<mailto:boocal@comcast.net>]
Sent: Tuesday, August 13, 2013 2:26 PM
To: internet, env (ENV)
Subject: Salem Port Expansion EEA #14234 & Salem Harbor Redevelopment EEA #14937

Please do an impact study on the proposal to allow Large cruise ships to dock at Salem Harbor. There has not been an open and fair public process regarding the overall negative effects of this proposal.

Clare Ritchie
32 Whalers Lane, Salem, MA

August 14, 2013

MEPA
MA Office of Energy and Environmental Affairs
100 Cambridge Street, Suite 900
Boston, MA 02114-2534

Re: Salem Port Expansion EEA#14234 &
Salem Harbor Station Redevelopment EEA#14937

Dear Sir or Madam:

The Salem Partnership is a 26 year old nonprofit membership organization. The Partnership works on major economic development issues for the City of Salem and the region. For over 20 years one of our major projects has been the Salem harbor plan and the expansion of Salem Port. An access way to the pier of the Salem Harbor Power Plant to Blaney Street is a key part of this major economic project for the city. This will be the gateway for cruise ships to enter Salem harbor. Bringing cruise ships to Salem is a major way of growing our number one industry which is tourism.

The members of the Salem Partnership strongly urge you to approve the filing by the City of Salem as we all work to move this great city forward.

Thank you for your consideration of this matter.

Sincerely,

Patricia H. Zaido
Executive Director
The Salem Partnership
8 Central Street
Salem, MA 01970

Johnson, Holly (EEA)

From: Kehoe, Barbara (EEA)
Sent: Wednesday, August 14, 2013 12:41 PM
To: Johnson, Holly (EEA)
Subject: FW: Salem Port Expansion EEA #14234 & Salem Harbor Station Redevelopment EEA # 14937

Comment

From: Crowley, James (EEA) **On Behalf Of** internet, env (ENV)
Sent: Wednesday, August 14, 2013 12:03 PM
To: Kehoe, Barbara (EEA)
Subject: FW: Salem Port Expansion EEA #14234 & Salem Harbor Station Redevelopment EEA # 14937

Ms. Barbara:

More MEPA stuff

James D. Crowley
External Relations Coordinator
Tort Claims Coordinator
Executive Office of Energy and Environmental Affairs

From: Susan Kirby [<mailto:83150sss@gmail.com>]
Sent: Monday, August 12, 2013 4:48 PM
To: internet, env (ENV)
Subject: Salem Port Expansion EEA #14234 & Salem Harbor Station Redevelopment EEA # 14937

Dear Executive Office of Energy & Environmental Affairs,

I am a resident of Salem and I recently heard that there is a Notice of Project Change submitted in relation to the Salem Power Plant that would allow LARGE cruise ship to dock at the Salem port where the coal was formerly delivered.

I do not believe that this is a good idea for Salem. Residents in the area have not the ability to voice there concerns. It is unclear hat the impact will be on the environment and the the people living near by. The proposal needs more thought and study and a lot more input from the people affected by this decision.

I understand that the deadline for comments is August 15th. Please consider this email my comments on this matter.

Thank you,
Susan Kirby
45 St. Peters St #504
Salem, MA
(978)744-2941

--
Blessings,
Sue

Johnson, Holly (EEA)

From: Kehoe, Barbara (EEA)
Sent: Wednesday, August 14, 2013 12:42 PM
To: Johnson, Holly (EEA)
Subject: FW: Salem Port Expansion EEA #14234 & Salem Harbor Station Redevelopment EEA # 14937

Comment

From: Crowley, James (EEA) **On Behalf Of** internet, env (ENV)
Sent: Wednesday, August 14, 2013 11:59 AM
To: Kehoe, Barbara (EEA)
Subject: FW: Salem Port Expansion EEA #14234 & Salem Harbor Station Redevelopment EEA # 14937

Ms. Barbara:

MEPA Comments

James D. Crowley
External Relations Coordinator
Tort Claims Coordinator
Executive Office of Energy and Environmental Affairs

From: theo sobin [<mailto:theoanne@msn.com>]
Sent: Monday, August 12, 2013 11:48 AM
To: internet, env (ENV)
Subject: RE: Salem Port Expansion EEA #14234 & Salem Harbor Station Redevelopment EEA # 14937

Dear Secretary Richard K. Sullivan Jr.,

I am writing to express my concern about the proposal of the City of Salem to allow large cruise ships to dock at Salem harbor.

My family has recently relocated to Derby Street in Salem -- just a few blocks from the proposed dock. Our intention is to open a small business -- an art gallery--in the downtown or harbor area. It seems, at first glance, that the mayor's scheme to bring in large cruise ships to Salem would be a good thing for us. However, the cruise ships in question are over 800 feet long and could discharge over 2,100 passengers at one time, and on top of the usual number of tourists, into our neighborhood. After being here awhile through some relatively "small" events, it is obvious to me that -- because of lack of amenities, old infrastructure, and the amount of trash left to wash into the ocean-- that Salem is not ready to handle that many people at one time in the Historic Derby Street neighborhood. It is important to me that the natural environment as well as the historic charm of the neighborhood be preserved. That's what attracts people to this area, but it could easily become degraded through overuse and poor planning.

Salem may claim the impacts of this project are insignificant, but there are no facts to support those claims. First and foremost, an impact study must be conducted that takes into consideration traffic, transportation, air and water quality, waste water disposal and other factors that will be affected by these large cruise ships.

I also believe that we need a more transparent process so that people in the affected neighborhoods will have input before a final decision is made on this proposal.

Thank you for your attention to my comments.

Sincerely,

Theodora Sobin

110 Derby Unit 1

Salem, MA 01970

August 12, 2013

TO: Secretary Richard K. Sullivan, Jr.
Executive Office of Energy and
Environmental Affairs
Attn: Deirdre Buckley
100 Cambridge Street, Suite 900
Boston, MA 02114

RECEIVED

AUG 13 2013

MEPA

FROM: James R. Treadwell, Jr. AICP

SUBJECT: Notice of Project Change
Salem Port Expansion (EEA # 14234) and
Salem Harbor Station Redevelopment (EEA # 14937)

Dear Secretary Sullivan:

I appreciate the opportunity to review the subject document, dated July 15, 2013, and to offer my comments and observations.

COMMENTS:

- The Proponent of the Project Change, the City of Salem, intends to use Financial Assistance from the Seaport Bond Bill to fund the proposed Project Change improvements that would modify the marine terminal at the Salem Harbor Station and construct the access-way between the terminal and the Salem Port Expansion Project/Blaney Street site/Salem Wharf Project (Port Expansion area).
- The Proponent has limited its analysis of environmental impacts and mitigation measures to the modifications proposed to the existing pier and to the installation of the 500 foot long, 8 foot wide access-way. An alternative analysis is not presented.
- In the NPC narrative, the Proponent indicates that the improvements associated with the Change are intended to provide for the berthing of large cruise ships and for access between these ship berths and the Port Expansion area and, in fact, it should be anticipated that the proposed improvements will induce large cruise ships to berth in Salem's harbor and for the Port Expansion area to contain the facilities that will support the land-side needs of these large cruise ships.
- In view of the nature of cruise ships, certain impacts can occur that are likely, directly

and/or indirectly, to cause damage to the environment (Refer on line to Environmental impacts of Cruise Ships). The environmental damage that likely would be caused by large cruise ships should be expected to be significantly greater than the impacts from small coastal cruise ships that were evaluated in the MEPA review of the Salem Port Expansion Project.

- In view of the location of the Port Expansion area within the Historic Derby Street residential neighborhood, the environmental consequences associated with using the site for the land-side services for large cruise ships, can be expected to significantly exacerbate the damage to the environment identified in the project's MEPA/ENF environmental review. For example, the vehicles providing goods and services to the large cruise ships and the excursion buses, taxis, etc., associated with the needs of the ship's passengers will further complicate the traffic flow in the area.

CONCLUSION: The Proponent has failed to analyze the alternatives, the potential environmental impacts and mitigation measures associated with the berthing of large cruise ships in Salem Harbor and the provision of access to the Salem Port Expansion area. Therefore, further MEPA review is required to address the aspects of these undertakings that are likely to cause damage to the environment.

Thank you for your consideration of the environmental issues associated with the proposed Project Change.

James Treadwell

Johnson, Holly (EEA)

From: Kehoe, Barbara (EEA)
Sent: Wednesday, August 14, 2013 12:42 PM
To: Johnson, Holly (EEA)
Subject: FW: Salem Port Expansion

Comment.

From: Crowley, James (EEA) **On Behalf Of** internet, env (ENV)
Sent: Wednesday, August 14, 2013 12:10 PM
To: Kehoe, Barbara (EEA)
Subject: FW: Salem Port Expansion

More MEPA

James D. Crowley
External Relations Coordinator
Tort Claims Coordinator
Executive Office of Energy and Environmental Affairs

From: Diane Knight [<mailto:dknight326@hotmail.com>]
Sent: Tuesday, August 13, 2013 3:45 PM
To: internet, env (ENV)
Subject: Salem Port Expansion

Regarding EEA#14234, and EEA#14937. As a life long north shore resident and voter I feel that details of these projects need to be examined and communicated to the public. Impact studies are needed to protect human and environmental health in the face of private corporate domination. Thank you for your time and attention.

Sincerely, Diane Knight

14 Windsor Rd
Beverly, MA 01915

Johnson, Holly (EEA)

From: Kehoe, Barbara (EEA)
Sent: Wednesday, August 14, 2013 12:41 PM
To: Johnson, Holly (EEA)
Subject: FW: Salem Port Expansion EEA #14234 & Salem Harbor Station Redevelopment EEA #14937

Comment

From: Crowley, James (EEA) **On Behalf Of** internet, env (ENV)
Sent: Wednesday, August 14, 2013 12:12 PM
To: Kehoe, Barbara (EEA)
Subject: FW: Salem Port Expansion EEA #14234 & Salem Harbor Station Redevelopment EEA #14937

Ms. Barbara.....more

James D. Crowley
External Relations Coordinator
Tort Claims Coordinator
Executive Office of Energy and Environmental Affairs

From: William E. Dearstyne [<mailto:siberian666@hotmail.com>]
Sent: Tuesday, August 13, 2013 12:51 PM
To: internet, env (ENV)
Subject: Salem Port Expansion EEA #14234 & Salem Harbor Station Redevelopment EEA #14937

To Whom it may concern,

The proposal for a new Salem Gas Plant may include cruise ships docking at Salem harbor with thousands of passengers.

A recent "Notice of Project Change" will allow "LARGE" ships to dock at the power plant site so that 2,100+ people can walk to Blaney Street to "visit" Salem. This is a huge break from all harbor plans that recommend a maximum of 300 passengers docking on our waterfront. We want new business in Salem but is this the best way?

Why is this big change being kept such a secret? The plan was submitted on July 15th. There were no notices issued or special meetings called from the Mayor or our City Councilors to inform the community. We deserve a site visit & public forum.

The City claims impacts are insignificant. Where are the facts to back that up? Where is the impact study? Doesn't bringing cruise ships 800+ feet with 2,100 passengers PLUS crew deserve as much careful consideration as the Waterfront Hotel plan?

The proposal is for the City to build decking & ramps on the coal-unloading dock & a pedestrian walkway, all on land owned by Footprint LP, a private company. Since state taxes will help support this project, the law says the public should get accurate & comprehensive information before MEPA approves this change that will affect people living, working & visiting Salem, the mariners using the local harbor, and our natural environment.

Thank you,

William E Dearstyne

48 Derby Street

Salem, Ma 01970

Johnson, Holly (EEA)

From: Kehoe, Barbara (EEA)
Sent: Wednesday, August 14, 2013 12:40 PM
To: Johnson, Holly (EEA)
Subject: FW: Salem Port Expansion EEA #14234 & Salem Harbor Station Redevelopment EEA # 14937

Comment

From: Crowley, James (EEA) **On Behalf Of** internet, env (ENV)
Sent: Wednesday, August 14, 2013 12:13 PM
To: Kehoe, Barbara (EEA)
Subject: FW: Salem Port Expansion EEA #14234 & Salem Harbor Station Redevelopment EEA # 14937

Ms. Barbara:

This is the last onefor now.

James D. Crowley
External Relations Coordinator
Tort Claims Coordinator
Executive Office of Energy and Environmental Affairs

From: sophierobinson10@gmail.com [<mailto:sophierobinson10@gmail.com>] **On Behalf Of** Sophie Robinson
Sent: Tuesday, August 13, 2013 2:01 PM
To: internet, env (ENV)
Subject: RE: Salem Port Expansion EEA #14234 & Salem Harbor Station Redevelopment EEA # 14937

Dear Secretary Richard K. Sullivan Jr.,

I am writing to express my concerns about the proposal asking to allow large cruise ships to dock at Salem harbor. Although the city of Salem may claim the impacts of this project are insignificant, there are no facts to support those claims. First and foremost, an impact study must be conducted that takes into consideration traffic, transportation, air and water quality, waste water disposal and other factors that will be affected by these large cruise ships.

There have been no notices issued or special meetings called to discuss this proposal. The cruise ships in question are over 800 feet long and can carry over 2,100 passengers. Yet, harbor plans recommend a maximum of 300 passengers docking on the Salem waterfront.

The proposal also involves the City building decking and ramps as well as a pedestrian walkway on land that is owned by a private company. Since our state taxes will help support this project, we deserve a site review and a public consultation session. An impact study of the proposed new pier construction on sensitive coastal habitat also needs to be conducted.

I believe careful consideration of the overall effect on these large cruise ships will have on the Salem harbor as well as a more open & fair public process are necessary before any final decision is made on this proposal.

Sincerely,

Sophie Robinson

--

Sophie Robinson
Operations Coordinator
Better Future Project

Johnson, Holly (EEA)

From: Kehoe, Barbara (EEA)
Sent: Wednesday, August 14, 2013 11:56 AM
To: Johnson, Holly (EEA)
Subject: FW: Salem Port Expansion EEA#14234 Salem Harbor Redevelopment EEA #14937

Comment.

From: Crowley, James (EEA) **On Behalf Of** internet, env (ENV)
Sent: Wednesday, August 14, 2013 11:54 AM
To: Kehoe, Barbara (EEA)
Subject: FW: Salem Port Expansion EEA#14234 Salem Harbor Redevelopment EEA #14937

Ms. Barbara:

MEPA Comments.....

Jim Crowley
External Relations Coordinator
Tort Claims Coordinator
Executive Office of Energy & Environmental Affairs

From: Clare Ritchie [<mailto:boocal@comcast.net>]
Sent: Friday, August 09, 2013 4:48 PM
To: internet, env (ENV)
Subject: Salem Port Expansion EEA#14234 Salem Harbor Redevelopment EEA #14937

We are residents of Salem, MA. and today, August 8th, 2013 we found out about a Project Change that would allow (LARGE) ships to dock at the power plant site so that an estimated 2,100 people can visit Salem. We also have Neptune LNG Deepwater Pipelines in our waters - this to me is not a safe segway into Salem Harbor for a cruise ship.

We are home and business owners in Salem and trust that this project have a public forum for our (COMMUNITY).

Wallace & Clare Ritchie
Salem, MA

Salem Harbor Station Redevelopment EEA # 14937

Dear Secretary Sullivan:

We are residents who live within a few blocks of the proposed "Notice of Change" under current
Salem Harbor Station Redevelopment EEA # 14937 and we support new business in Salem and the former plans to use state

P 107 2

August 10, 2013

MEPA

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

~~Salem Harbor Station Redevelopment EEA # 14937~~

review by MEPA. Although we support new business in Salem and the former plans to use state funds to make the dock at Blaney Street suitable for small cruise ships, we do not have enough information about this new plan. We, therefore, submit the following concerns for your consideration and a request that a more comprehensive, public process be offered to vet this proposed change. Some of our major questions are the following:

- Why this huge break from all past, community-created Harbor Plans and the recent Power Plant Reuse Study that recommend a maximum of 300 passenger cruise ships docking on Salem harbor?
- What are the negative impacts of such large ships on the environmental quality of our ocean and air?
- How will the huge influx of pedestrian traffic impact our already clogged, narrow streets and sidewalks?
- What is the plan to lessen problems from the increase in vendor vehicles to and from the power plant dock and trolleys, buses, etc. picking up and dropping off passengers?
- What will be the impact on boating in our harbor, regarding marine access and flow?
- Will this defer any Seaport Bond funds that may become available from planned improvements to the city-owned Blaney St. to the privately-owned power plant site?
- How will this change financially benefit our city? Haven't all studies pointed to medium to large size ships being costly on the infrastructure and unlikely to contribute positively to the tourist economy?
- This change is described as "interim." If so, when will it become permanent and, if it does, when, how and why will that occur, and how will it fit with redevelopment of the entire power plant site, the Blaney Street dock, and rest of the waterfront?
- Why have there been no opportunities or even notice by the City to those of us in the local area about this big change in the plans for use of our waterfront?

We believe those of us who live closest to the project site deserve a broad study by the City of Salem of the environmental impacts of this proposal and public site visits and meetings about the proposal by MEPA prior to approving it. Thank you for consideration of this letter.

Yours truly,

Deborah Prentice (name)

16 Hardy St (address)

Salem, MA 01970

Deborah Prentice (signature)

Please see add'l
signatures att'd.

17 Bentley St. Salem MA (address)

Dolores Jordan (name)

Elaine T Jordan (signature)

Deborah Prenter (name)

16 Hardy St. Salem, MA (address)

Deborah Prenter (signature)

P 2072

Meedith Browne (name)

97 Derby St (address)

Meedith Browne (signature)

Joni B Lawrence (name)

39 Turner St (address)

Joni B Lawrence (signature)

Ronald Lawrence (name)

39 Turner St. (address)

Ronald Lawrence (signature)

~~87~~ Susan Silva (name)

126 Derby St #2 (address)

Susan Silva (signature)

Kenneth Commins (name)

17 Hardy St (address)

Kenneth Commins (signature)

(name)

(address)

(signature)

(name)

(address)

(signature)

August 10, 2013

RECEIVED

HS

MEPA

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

AUG 13 2013

MEPA

Re: Salem Port Expansion EEA #14234
Salem Harbor Station Redevelopment EEA # 14937

Dear Secretary Sullivan:

We are residents who live within a few blocks of the proposed "Notice of Change" under current review by MEPA. Although we support new business in Salem and the former plans to use state funds to make the dock at Blaney Street suitable for small cruise ships, we do not have enough information about this new plan. We, therefore, submit the following concerns for your consideration and a request that a more comprehensive, public process be offered to vet this proposed change. Some of our major questions are the following:

- Why this huge break from all past, community-created Harbor Plans and the recent Power Plant Reuse Study that recommend a maximum of *300 passenger cruise* ships docking on Salem harbor?
- What are the negative impacts of such large ships on the environmental quality of our ocean and air?
- How will the huge influx of pedestrian traffic impact our already clogged, narrow streets and sidewalks?
- What is the plan to lessen problems from the increase in vendor vehicles to and from the power plant dock and trolleys, buses, etc. picking up and dropping off passengers?
- What will be the impact on boating in our harbor, regarding marine access and flow?
- Will this defer any Seaport Bond funds that may become available from planned improvements to the city-owned Blaney St. to the privately-owned power plant site?
- How will this change financially benefit our city? Haven't all studies pointed to medium to large size ships being costly on the infrastructure and unlikely to contribute positively to the tourist economy?
- This change is described as "interim." If so, when will it become permanent and, if it does, when, how and why will that occur, and how will it fit with redevelopment of the entire power plant site, the Blaney Street dock, and rest of the waterfront?
- Why has there been no opportunities or even notice by the City to those of us in the local area about this big change in the plans for use of our waterfront?

We believe those of us who live closest to the project site deserve a broad study by the City of Salem of the environmental impacts of this proposal and public site visits and meetings about the proposal by MEPA prior to approving it. Thank you for consideration of this letter.

Yours truly,

Joseph Lavoie (name)
41 Turner St (address)

[Signature] (signature)

August 10, 2013

RECEIVED

HS

MEPA

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

AUG 13 2013

MEPA

Re: Salem Port Expansion EEA #14234
Salem Harbor Station Redevelopment EEA # 14937

Dear Secretary Sullivan:

We are residents who live within a few blocks of the proposed "Notice of Change" under current review by MEPA. Although we support new business in Salem and the former plans to use state funds to make the dock at Blaney Street suitable for small cruise ships, we do not have enough information about this new plan. We, therefore, submit the following concerns for your consideration and a request that a more comprehensive, public process be offered to vet this proposed change. Some of our major questions are the following:

- Why this huge break from all past, community-created Harbor Plans and the recent Power Plant Reuse Study that recommend a maximum of 300 *passenger cruise* ships docking on Salem harbor?
- What are the negative impacts of such large ships on the environmental quality of our ocean and air?
- How will the huge influx of pedestrian traffic impact our already clogged, narrow streets and sidewalks?
- What is the plan to lessen problems from the increase in vendor vehicles to and from the power plant dock and trolleys, buses, etc. picking up and dropping off passengers?
- What will be the impact on boating in our harbor, regarding marine access and flow?
- Will this defer any Seaport Bond funds that may become available from planned improvements to the city-owned Blaney St. to the privately-owned power plant site?
- How will this change financially benefit our city? Haven't all studies pointed to medium to large size ships being costly on the infrastructure and unlikely to contribute positively to the tourist economy?
- This change is described as "interim." If so, when will it become permanent and, if it does, when, how and why will that occur, and how will it fit with redevelopment of the entire power plant site, the Blaney Street dock, and rest of the waterfront?
- Why has there been no opportunities or even notice by the City to those of us in the local area about this big change in the plans for use of our waterfront?

We believe those of us who live closest to the project site deserve a broad study by the City of Salem of the environmental impacts of this proposal and public site visits and meetings about the proposal by MEPA prior to approving it. Thank you for consideration of this letter.

Yours truly,

Michael Nolan (name)

127 Derby St. (address)

(signature)

August 10, 2013

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

RECEIVED

AUG 13 2013

MEPA

Re: Salem Port Expansion EEA #14234
Salem Harbor Station Redevelopment EEA # 14937

Dear Secretary Sullivan,

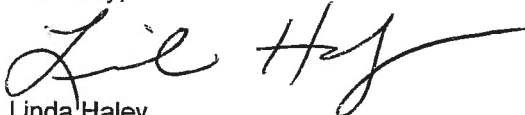
My husband Douglas and I live two blocks from the Blaney Street Ferry dock and 3 blocks from the power plant's unloading dock. We are writing about the very unpublicized "Notice of Change" submitted from our city to MEPA on July 15, 2013, with comments due to your office by August 15, 2013.

Doug and I have lived in our 1771 home across from The House of Seven Gables for 17+ years. We are very active in many social, civic and environmental groups of Salem and the region. As a former member of the 2008 Salem Harbor Redevelopment Committee, Doug spent many years helping to come up with a long-range vision for our waterfront. He has been a corporator of our local Salem Five Savings Bank & owner of commercial property in Salem for 35+ years. I have been a docent at the Peabody Essex Museum since 2003 and served as Chairperson of The Historic Derby Street Neighborhood Association twice, in 2005 and again this past year. In general, we are very committed to protecting the economic, historic and cultural future of Salem, as well as the natural environment of our community.

We are, therefore, quite concerned that a proposal to use state funds to construct decking & ADA ramps on the power plant's dock and a pedestrian walkway from that private site to Blaney Street has been offered without meaningful communication to the community. I only heard about this change from small (250-300') cruise ships at the city-owned dock to large (800+') ships at the power plant because a fellow citizen sent me an email message. He thought that I, as head of the local neighborhood association, could have the issue presented at an upcoming meeting. However, our group doesn't meet in the summer and there wasn't enough time to organize a "special" meeting before the 8/15 deadline. This same private citizen also met with a Salem Evening Newspaper reporter, whose story appeared last Tuesday. Unfortunately, no mention of the comment period or where to send comments appeared in the article. So, with the exception of a smattering of door-to-door canvassing during this vacation season when few people are home, it seems the "Notice of Change" has gotten almost no public scrutiny or input.

Since the ramifications from such huge vessels on our quality of life, as well as impacts on the natural environment, could be significantly negative, we hope you will agree that more scrutiny is prudent. We urge a delay of any MEPA approval until such public processes can be provided and better understanding of the change and its consequences can be achieved.

Sincerely,



Linda Haley
43 Turner Street
Salem, MA 01970
(978) 979-3686

Enclosures: *Additional comment letters from local neighbors to the project site*

Johnson, Holly (EEA)

From: Sharon Smith [smittykay@msn.com]
Sent: Tuesday, August 20, 2013 8:47 PM
To: mayor@salem.com
Cc: dolson@salemnews.com; robertkmccarthy@verizon.net; Buckley, Deirdre (EEA); Bourre, Richard (EEA); Canaday, Anne (EEA); Johnson, Holly (EEA); Zavolas, Nicholas (EEA); Kehoe, Barbara (EEA); josephine.wixson@state.ma.us; Mira Riggan; John Zbyszynski; Bill Sano; dtejordan@verizon.net
Subject: Blaney Street Wharf expansion, deep water berth at Footprint - letter from HDSNA board

Dear Mayor,

Thank you for reaching out to the Derby Street area residents in your recent letter regarding the proposed changes to the Salem Wharf Terminal expansion. This is in response to that letter and represents observations of the HDSNA board of directors. Due to the short notice (from the time of receipt of your letter) for a response deadline to MEPA, we have not had time to reach out to the HDSNA membership at large. That being said, we felt that we must act quickly to voice our concerns about expanding the capacity of the wharf to accommodate ships carrying 1,000 or more passengers.

In your letter you state that a standard ship can generate close to \$285,000 in spending at a single stop. We question this figure and our research suggests it is a bit exaggerated. Assuming that your \$285,000 figure was accurate, every passenger on a 1,000 passenger ship would have to spend \$285 in Salem! And accounting for the fact that only a small percentage of passengers disembark, at 25% each passenger would have to spend \$1,140!

In July of this year, the research firm of Business Research and Economic Advisors (BREA) performed a comprehensive study (hereafter referred to as 'the Study') on the economic impact of cruise ships on the U.S. economy in 2012. The Study, commissioned by Cruise Lines International Association, provides a plethora of data useful to the cruise industry, including on-shore spending data for both classes of cruise ship passengers – (1) those embarking on their cruise, and (2) those visiting ports-of-call. The distinction is important because the spending characteristics differ greatly between the two classes of passengers.

Embarking passengers' on-shore expenses are dominated by hotel accommodations, as many passengers arrive at the embarkation port on the day before their cruise. As such, these passengers spend considerably more on-shore than do port-of-call passengers. Salem will be a port-of-call destination only.

The Study also provides statistics relative to nationwide passenger and crew on-shore expenditures in 2012. Embarkation passengers and crew spent on average \$335.29 (heavily weighted towards accommodations), while port-of-call passengers and crew spent \$171.33. These figures were heavily skewed towards Alaska, Hawaii, and Key West; Massachusetts's data (noted below) falls below these figures. Of the total, 34% of total on-shore expenditures occurred at ports-of-call.

The Study tells us that in 2012 approximately 5.4 million of the 10.1 million total passengers debarked from the ship at the various ports-of-call. Put another way, 53% of total cruise ship passengers left the ship and spent money in the local economy. The Study also tells us that in Massachusetts, 355,000 passengers and crew visited state ports, producing an estimated \$36 million in on-shore spending, or just over \$100 per person, per visit.

Unfortunately, the Study does not bifurcate that \$100 per person spend into embarkation and port-of-call ports. In the absence of such empirical data, using the above estimate of 34%, we may expect Salem to realize approximately \$34 per-disembarking passenger. Another study, titled *Economic Impact of Cruise Ship Passengers in Portland, Maine*, published in July 2009, found that disembarking passengers in that city spent, on average, \$80.15 each.

When juxtaposed with the statistical fact that 53% of cruise ship passengers (see above) disembark at a destination port-of-call, the total economic impact for a 1,000 passenger ship would be anywhere from \$18,000 (\$34 per-capita) to \$42,000 (\$80 per-capita), depending on whose data you use. This is far, far less than \$285,000.

When we include docking and disembarkation fees, which, according to the Study, represented 18.2% of all cruise ship expenditures including the per-capita passenger spend, we still cannot come close to \$285,000.

Now we turn our attention to the environmental pressure a thousand or so ship passengers would inflict on the Derby Street area. You said the following "...a ship with 2,000 passengers is large, [however] we routinely manage events in Salem that attract much larger crowds." You cite the July 4th celebration and Farmer's Market as examples. You are correct but for one missing element - the crowds at these events do not descend on a single, mainly residential, neighborhood.

Unlike the events you cite, cruise ship passengers will have no choice but to traipse thorough our neighborhood, increasing the levels of trash and noise, including the increased potential for vandalism. Exacerbating the problem is the fact that the majority of our homes are situated directly abutting the sidewalk; we have very few grassy yards or other natural buffers to mitigate the impact of foot traffic. You cite the number of ways ship passengers will have to travel downtown (trolleys, pedicabs, buses, etc.). These will only serve to increase the congestion on our roads.

Mayor, we are not anti-growth, nor anti-cruise ships per se; we simply believe that our (relatively) quiet and small neighborhood, with its narrow streets and sidewalks, was not designed to accommodate these additional throngs of tourists, and that the actual economic benefit is woefully inadequate to support this venture. (In the above quote, you doubled the number of passengers you cited earlier - was this intentional?)

A review of New England ports-of-call reveals that not a single port discharges cruise ship passengers into a residential neighborhood. According to CruiseMaine, an organization that promotes Maine ports to the cruise ship industry, Bar Harbor, for example, had 108 cruise ship visits in 2012, the most in New England.

In 2013 Portland was expected to host 58 cruise ship visits and more than 74,000 passengers this year, which is the same number of ships but more than 13,000 additional passengers than last year. Rockland was expected to have nearly 4,800 cruise ship passengers on 32 ships this year (2013).

You state that we would only be visited by as few as a *dozen* times during the course of the season. Given the numbers of cruise ship visits in other New England ports, we are very skeptical that our cruise ship activity will be limited to 12 per season. The upshot of the data presented here suggests that your economic benefit expectations are inflated, and that your attempt to soft-pedal the environmental pressure on our neighborhood does not stand up to analysis.

Therefore, we do not support your plan to attract 1,000+ passenger cruise ships. The original plan for cruise ships of 500 passengers is more reasonable, but even in this smaller amount we would like to make the following recommendations:

1. A passenger management plan should be in effect to minimize the foot traffic of passengers between the disembarkation point and the NPS property; no passenger foot traffic through our narrow streets.
2. A portion of city revenues derived from docking and disembarking fees should be devoted to the Derby Street area through infrastructure improvements and enhanced police presence.
3. To minimize the negative effects of air quality, all cruise ships **MUST** use shore side power with no exceptions.

We look forward to speaking with you at our meeting on September 9th. The cruise ship issue will be a priority on our meeting agenda.

Sincerely,

The HDSNA Board of Directors -
Mira Riggan, William Sano, Sharon Smith, John Zbyszynski, Dolores Jordan

Cc:
Robert McCarthy
Commonwealth of Massachusetts, Executive Office of Energy and Environmental Affairs, MEPA
Salem News

(Please note: a hard copy version of this letter has been mailed to you on Aug. 20, 2013.)

Johnson, Holly (EEA)

From: Kehoe, Barbara (EEA)
Sent: Thursday, August 15, 2013 2:04 PM
To: Johnson, Holly (EEA)
Subject: FW: re:"Salem Port Expansion EEA #14937"

Salem comment.

From: Crowley, James (EEA) **On Behalf Of** internet, env (ENV)
Sent: Thursday, August 15, 2013 1:42 PM
To: Kehoe, Barbara (EEA)
Subject: FW: re:"Salem Port Expansion EEA #14937"

More MEPA comments

Jim Crowley
External Relations Coordinator
Tort Claims Coordinator
Executive Office of Energy & Environmental Affairs

From: George Economides [<mailto:papou7@comcast.net>]
Sent: Thursday, August 15, 2013 12:27 PM
To: internet, env (ENV)
Subject: re:"Salem Port Expansion EEA #14937"

Greetings! ...Please,....NOT to increase the amount of Pollutants a-l-r-e-a-d-y contaminating the AIR here. Thank you,
George J. Economides, 118 Highland Av. Salem, Ma 01970, 978-745-6088, papou7@comcast.net

Johnson, Holly (EEA)

From: Kehoe, Barbara (EEA)
Sent: Thursday, August 15, 2013 9:15 AM
To: Johnson, Holly (EEA)
Subject: FW: Salem Port Expansion EEA 14234 & 14937

MEPA comment.

-----Original Message-----

From: Crowley, James (EEA) On Behalf Of internet, env (ENV)
Sent: Thursday, August 15, 2013 9:14 AM
To: Kehoe, Barbara (EEA)
Subject: FW: Salem Port Expansion EEA 14234 & 14937

Ms. Barbara:

MEPA comments

Jim Crowley
External Relations Coordinator
Tort Claims Coordinator
Executive Office of Energy & Environmental Affairs

-----Original Message-----

From: Cynthia Carr [mailto:carr_cynthia@yahoo.com]
Sent: Thursday, August 15, 2013 8:43 AM
To: internet, env (ENV)
Subject: Salem Port Expansion EEA 14234 & 14937

To Whom it May Concern,

I want to express my concern of and objection to the proposed expansion of the dock on the coal unloading dock to accommodate large cruise ships. The infrastructure of Derby Street, Webb Street and Blaney Street will not accommodate this volume of foot traffic and supporting vehicular traffic. The site also will not lend itself to the increase of delivery and supply trucks cruise ships of this size necessitate.

I have lived in this neighborhood most of my 55 years and do not think large cruise ship docking will be a positive addition to the neighborhood, surrounding areas or the City in general

I am also concerned that the proponents know that during the Stakeholders meetings held a year and a half ago there was agreement amongst the group that large cruise ships would be inappropriate for this site.

Respectfully

Cynthia Carr
97 Derby Street
Salem, MA

Sent from my iPhone

Johnson, Holly (EEA)

From: Kehoe, Barbara (EEA)
Sent: Thursday, August 15, 2013 9:15 AM
To: Johnson, Holly (EEA)
Subject: FW: Salem Port Expansion

MEPA comment,

From: Crowley, James (EEA) **On Behalf Of** internet, env (ENV)
Sent: Thursday, August 15, 2013 9:14 AM
To: Kehoe, Barbara (EEA)
Subject: FW: Salem Port Expansion

Ms. Barbara:

MEPA comments

Jim Crowley
External Relations Coordinator
Tort Claims Coordinator
Executive Office of Energy & Environmental Affairs

From: Robert Talbot [<mailto:rtalbot02@comcast.net>]
Sent: Wednesday, August 14, 2013 5:54 PM
To: internet, env (ENV)
Subject: Salem Port Expansion

Dear Secretary Richard K. Sullivan Jr.,

I am writing to express my concern with the proposal to allow cruise ships to dock at the site of the Salem Power Plant.

I understand that cruise ships carrying 2,100 or more passengers could dock at the site, yet no environmental impact study has been conducted. I strongly urge you to consider the impact that docking large cruise ships at the site will have on sensitive coastal waterlands and on residential neighborhoods (in terms of traffic, noise, air and water quality, etc.).

Let's not leap into something so dramatic without careful study.

Sincerely,
Robert Talbot
Beverly, Massachusetts.

Johnson, Holly (EEA)

From: Kehoe, Barbara (EEA)
Sent: Friday, August 16, 2013 8:11 AM
To: Johnson, Holly (EEA)
Subject: FW: Salem Port Expansion EEA #14234 & Salem Harbor Station Redevelopment EEA # 14937

Salem comment.

From: Crowley, James (EEA) **On Behalf Of** internet, env (ENV)
Sent: Friday, August 16, 2013 8:11 AM
To: Kehoe, Barbara (EEA)
Subject: FW: Salem Port Expansion EEA #14234 & Salem Harbor Station Redevelopment EEA # 14937

Ms. Barbara:

Something for MEPA

Jim Crowley
External Relations Coordinator
Tort Claims Coordinator
Executive Office of Energy & Environmental Affairs

From: Stephen Weber [<mailto:sweber@7gables.org>]
Sent: Thursday, August 15, 2013 5:22 PM
To: internet, env (ENV)
Subject: Salem Port Expansion EEA #14234 & Salem Harbor Station Redevelopment EEA # 14937

August 15, 2013

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

Reference: Salem Port Expansion EEA #14234 & Salem Harbor Station Redevelopment EEA # 14937

To whom this may concern:

I am writing in support of the City of Salem's application to create an access way to the pier on Blaney Street from the power plant, and specifically its dock which has deep water access. The City's intention to use this pier as a gateway for cruise ship access, as well as an extension of the Salem Harbor Walk would benefit the City in several ways.

From a tourism perspective, more than 50% of passengers who visit a port via cruise ship are likely to return to that port within the next three years. A typical cruise ship carrying 2,500 passengers generates more than \$280,000 in local expenditures during a single port-of-call visit. This spending will translate directly into museum admissions, shopping and dining in Salem. This is an extraordinary opportunity to increase our tourism volume without traffic and parking problems.

The port expansion holds significant benefits for residents as well. It will extend the current Harbor Walk, provide additional water access and dock space. It also compliments the existing Blaney Street structure, which is currently serviced by the Salem Ferry and Salem Trolley. I not only work, but also reside in Salem. As such, I view this as a unique expansion of the facilities offered in our town, returning our harbor to the active port that it should be. I applaud our Mayor and all involved for spurring this opportunity along.

The City of Salem's port expansion, including the Salem Harbor Station expansion, is an exciting step in the redevelopment of the Salem waterfront, and I encourage MEPA to approve the Port Expansion and Harbor Station Redevelopment applications.

Sincerely,

Stephen Weber

**Group Tour Coordinator
The House of the Seven Gables
54 Turner Street
Salem, MA 01970
(978) 744-0991, x104
(978) 741-4350 fax**



August 15, 2013

MEPA

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

Reference: Salem Port Expansion EEA #14234 & Salem Harbor Station Redevelopment EEA #14937

To whom this may concern:

We, Salem residents of Winter Island adjacent to the port site, as well as owners of the 40 room Salem Inn, and also partners in the real estate development company, Salem Renewal, fully support Salem's application to create an access to the Blaney Street pier, from the power plant and its deep water access dock. The pier will be a gateway for cruise ship access and an extension of the Salem Harbor Walk.

It is projected that each port-of-call visit, on a typical cruise ship calling carrying 2,500 passengers, generates more than \$280,000 in local expenditures, benefiting Salem's attractions, excellent restaurants, and shopping. Having been in the Salem tourism business for over 30 years, we feel that cruise ship passengers will have a nice introduction to our vibrant city and they will want to return for future visits. This will benefit our City accommodations, as well.

Another benefit of the port expansion is that it will extend the current Harbor Walk, and provide additional water access and dock space. The City of Salem's port expansion, including the Salem Harbor Station expansion, is an exciting step in the redevelopment of the Salem waterfront, and I encourage MEPA to approve the Port Expansion and Harbor Station Redevelopment applications.

Sincerely,

Richard Pabich

Diane Pabich



27 Congress Street, Suite 109
Salem, MA 01970
800-287-5744
www.hawthornetours.com

August 15, 2013

RECEIVED

AUG 19 2013

MEPA

MEPA

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

Reference: Salem Port Expansion EEA #14234 & Salem Harbor Station Redevelopment EEA # 14937

To Whom It May Concern:

I am writing in SUPPORT of the City of Salem's application to create an access way to the pier on Blaney Street from the power plant, and specifically its dock which has deep water access. The City's intention to use this pier as a gateway for cruise ship access, as well as an extension of the Salem Harbor Walk would greatly benefit the city of Salem in so many ways.

The likelihood of cruise passengers returning to Salem once they have seen what this "small city with a big history" has to offer is truly great. We have so much to offer, and this is a market that we have not been able to reach until now. The opportunity that this presents is tremendous.

As a Salem resident, I also support this project because it will not only beautify our waterfront but also allow us greater access to the waterfront. Truly, this is a win-win.

I ask that MEPA approve the Port Expansion and harbor Station Redevelopment applications.

Sincerely,

Helen M Medler
President

And local resident, 1 Gallows Hill Road, Salem, MA 01970

Johnson, Holly (EEA)

From: Charlie Hildebrand [c.hildebrand@yahoo.com]
Sent: Thursday, August 15, 2013 8:49 AM
To: Johnson, Holly (EEA)
Subject: Comment re: Salem Port Expansion EEA #14234 & Salem Harbor Station Redevelopment EEA # 14937.

Hello Holly,

This may be a bit late, but, as a signer of the Historic Derby Street Neighborhood Association's (HDSNA) petition, I need to comment that I was misled about the intent of the petition by the HDSNA representative. My only concern about the project is the lack of conversation about the project with the local residents and lack of information about the source of funding to complete the work.

For the record, I fully support the project to provide cruise ship docking at the Footprint Power pier.

Charles Hildebrand
46 English St
Salem, MA

978-549-5400



FILE COPY

CITY OF SALEM, MASSACHUSETTS

Kimberley Driscoll
Mayor

August 15, 2013

Dear Derby Street Area Resident,

As you may know, the City has been working diligently for the last several years to build and reactivate Salem Wharf at Blaney Street. In addition, we have been working closely with Footprint Power, the new owners of Salem Harbor Station, to advance plans for use of the current pier on their adjacent facility for cruise ships and other vessels. To that end, this July we filed a MEPA application for proposed upgrades to the pier at the power plant site, including proposed construction of a walkway that will connect the power plant pier to the Salem Wharf Terminal.

The notion of expanded waterfront and pier access at the power plant site has been part of the planning process and many of the public presentations related to the power plant and the Blaney Street site. We are fortunate to have a deep water port and view the power plant pier, located directly off the Federal Channel as a tremendous asset in our plans to boost the local economy, retool our waterfront and enhance public access along the harbor edge.

As the City seeks state permitting and funding for the build-out of the Blaney Street Wharf, as well as the opportunity to utilize the deep water berth at Footprint, we want to make sure nearby residents are fully apprised of the project. With that in mind, and in order to accommodate the level of interest shown in this matter by residents, Salem businesses, and others in our community, we have requested and DEP has granted a two-week extension on the public comment period for the MEPA filing the City recently made. The deadline to submit comments is now August 27th.

Port development is a high priority for the City as both an economic development and tourism initiative. We look forward to additional cruise ships visiting our City to help support our restaurants, retail establishments, and attractions, which, in turn, add to our tax base and provide local jobs. Industry estimates from 2011 are that 50% of passengers return to a destination to visit again. A standard ship can generate close to \$285,000 in spending at a destination during a single stop.

In general, most cruise ships visiting Salem will be under 500 passengers. While the berth at Footprint can support vessels carrying over 1,000 people, we do not anticipate that many ships of this size would be visiting during the course of a year. We would have plenty of advance notice of any cruise ship docking in Salem, as these port of call dates would be scheduled a minimum of a year in advance.

When berthed, typically only a fraction of cruise ship passengers disembark at a destination. As a port-of-call, the cruise ships would only stop for the day (arrive early and leave the same day) and usually would occur during the middle of the week. The Salem facility is not being proposed as a point for cruise ship origination, meaning fewer cars, turn around services, and supplies.

As you can imagine, given Salem's strong tourism market and the attractiveness of a port so close to downtown, we have strong interest from cruise ships to visit Salem. With the close proximity of the Wharf to the downtown and historic sites, there are numerous options for low-impact transportation. Passengers will be directed from the Footprint site via the proposed pathway to the City's Blaney Street property where they have a myriad of options to get downtown, from trolleys, to walking, to pedicabs and bicycles – all of which are already available to visitors who come to Salem on the ferry.

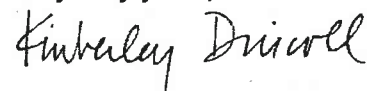
In addition, it's important to note that not every cruise passenger will disembark from the boat and certainly not all passengers disembarking leave at the same time. Many stay on board, others may bypass Salem altogether in favor of a cruise-sponsored excursion off site. In that instance, buses would be staged at the Footprint property, and would be directed to and from the wharf via Webb Street to Route 1A. Supplying cruise ships by trucks is normally done at the start or end of a cruise and would likely not occur in Salem in any large quantity or at all. Traffic estimates are contained in the City's filings for the Salem Port Expansion Project at http://salem.com/Pages/SalemMA_DPCD/studies. Based on initial reviews we don't anticipate traffic volume to increase tremendously.

Keep in mind, the cruise season is short in New England; if we had a dozen port-of-calls a season that would be on the high end. Also note that while a ship with 2,000 passengers is large, we routinely manage events in Salem that attract much larger crowds. The Maritime Festival and July 4th festivities come to mind as recent one-day events that occurred within the neighborhood. The Salem Farmers Market routinely serves over 2,000 patrons in Derby Square every Thursday from 2pm to 7pm, to give some context to the potential maximum number of passengers that might be aboard a larger cruise ship.

Lastly, we are also attuned to the need to make sure the boats while at berth do not negatively impact air quality. This is a new priority in the cruise industry and many ships are being retrofitted to allow for shore side power. As we plan for upgrades at the pier, we are incorporating the need for this amenity to be included in the project. We also expect that upgrades to sidewalks and roads on and around Derby Street will be a key part of mitigation efforts for the utility projects happening in the area.

When I appeared before the Historic Derby Street Neighborhood Association last year I was happy to share the City's vision for the expanded use of the Blaney Street Wharf and the extension of public access to the Footprint dock. While we didn't have detailed plans at that time, we outlined the key parts of the proposal to promote the site for cruise ships and other watercraft. We are excited that these long-planned improvements are now closer to becoming a reality and welcome your thoughts and comments. Please let me know if you have additional questions or concerns. I look forward to meeting with the Historic Derby Street Neighborhood Association at your meeting in September.

Very truly yours,



Kim Driscoll
Mayor
City of Salem

CC: Robert McCarthy, Ward 1 Councillor
Historic Derby Street Neighborhood Association

MA Executive Office of Energy & Environmental Affairs

100 Cambridge St.

Suite 900

Boston, MA 02114

Reference: Salem Port Expansion EEA#14234 & Salem Harbor Station Redevelopment EEA# 14937

To whom it may concern,

I am writing this letter as a very concerned resident of Salem. I live in the neighborhood where a proposed dock is to be built to allow up to 800 ft. cruise ships with capabilities of allowing 2100 passengers to unload onto the Blaney St. area to visit Salem. To the surprise of everyone in the audience of the last city planning board meeting regarding the building of a new power plant by Footprint Power LLC, both city officials and Footprint sprung their intentions of building a 800 ft. dock to accommodate large cruise ships. They also presented their proposal to build decking, ramps and a pedestrian walkway to get passengers from the ships to the Blaney St. area.

Why is it that the residents of Salem especially the abutters that live in the neighborhoods around the power plant and the docks are always the last to know? I know that it is not your departments responsibility to insure the abutters are notified with the city's intentions, but there should be some type of investigation into this matter on a state level to protect the Salem's residents rights when it comes to a large project such as this cruise ship terminal. The plan was submitted on July 15th. There were no notices issued or special meetings called from the Mayor or our city councilors to inform the community at large with their intentions, instead the city discusses their plans with Footprint Power behind closed doors. As a resident of Salem and an abutter to this project, it just infuriates me. The city is claiming there will be no significant impacts on the residents in the neighborhood. Why isn't there an impact study being done to see how this cruise ship terminal will affect the air and water quality, waste water disposal, traffic both vehicle and people, and the construction on a sensitive coastal habitat.

Neither Footprint Power or the city of Salem have entered into an agreement with a cruise ship company to have a large cruise ships dock in Salem. They want to build this dock with the hopes they will be able to land both a short term and long term contract with the cruise ship industry. This alone should be a red flag. I'm not in the cruise ship industry but if I was, I wouldn't be likely to consider Salem Massachusetts a large cruise ship destination, especially in front of a large 680 MW power plant. Boston, which is just 12 miles away, has enough docking area for large cruise ships and is just a short ride on the Salem Ferry from Boston to Salem. In fact the Salem Ferry is constantly advertising to get more passengers from Boston to Salem due to low occupancy levels. I have been on the Salem Ferry several times when they make a trip to Boston with only a handful of passengers. Sure, Salem has a historical

aspect to it , but it is largely seasonal and would be a large business risk for the cruise ship companies to take it on. Even if a cruise ship company was to sign an agreement with the city there are no guarantees it would be prosperous, resulting in the cruise ship industry pulling out leaving a big void on the Salem waterfront.

The power plant project site is located in a DPA on filled tidelands and is subject to Chapter 91. Chapter 91 requires all structures and uses located in tidelands to obtain a Waterways License or Permit from MADEP. To comply with Chapter 91, industrial facilities located in a DPA must be water dependent. Because the new proposed power plant is not water dependent ,Footprint Power LLC is currently seeking a variance pursuant to allow them to build a power plant on the site. There are many who feel including myself, that Footprint Power is using this tactic of building a large cruise ship terminal to comply with Chapter 91. If this is allowed, it will end up being a large oversight on many of the agencies involved with a predictable outcome that will be neither good for the city or its closest residents to the proposed site in question. In closing, the residents of Salem at least deserve a site visit and a public forum to discuss the issues with constructing a cruise ship terminal in Salem.

Sincerely,

Jeffrey Brooks

14 Webb St.

Salem, MA 01970

Johnson, Holly (EEA)

From: Kara McLaughlin [kmclaughlin@7gables.org]
Sent: Tuesday, August 27, 2013 7:58 AM
To: Johnson, Holly (EEA)
Subject: Salem Port Expansion - letter of support

August 14, 2013

MEPA

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

Reference: Salem Port Expansion EEA #14234 & Salem Harbor Station Redevelopment EEA # 14937

To whom this may concern:

As both a Salem resident and an employee of major cultural attraction, I am writing in support of the City of Salem's application to create an access way to the pier on Blaney Street from the power plant, and specifically its dock which has deep water access. The City's intention to use this pier as a gateway for cruise ship access, as well as an extension of the Salem Harbor Walk would benefit the City in several ways.

From a tourism perspective, more than 50% of passengers who visit a port via cruise ship are likely to return to that port within the next three years. A typical cruise ship carrying 2,500 passengers generates more than \$280,000 in local expenditures during a single port-of-call visit. This spending will translate directly into museum admissions, shopping and dining in Salem.

The port expansion holds significant benefits for residents as well. It will extend the current Harbor Walk, provide additional water access and dock space. It also compliments the existing Blaney Street structure, which is currently serviced by the Salem Ferry and Salem Trolley.

The City of Salem's port expansion, including the Salem Harbor Station expansion, is an exciting step in the redevelopment of the Salem waterfront, and I encourage MEPA to approve the Port Expansion and Harbor Station Redevelopment applications.

Sincerely,

Kara McLaughlin

Kara McLaughlin
Interim Executive Director
The House of the Seven Gables
115 Derby Street
Salem, MA 01970
978-744-0991 ext. 199

Home: 68 Dearborn St., Salem, MA

Johnson, Holly (EEA)

From: The Candy Man [powerplantboy@gmail.com]
Sent: Thursday, August 15, 2013 8:23 AM
To: Buckley, Deirdre (EEA); Bourre, Richard (EEA); Canaday, Anne (EEA); Johnson, Holly (EEA)
Cc: Zavolas, Nicholas (EEA); Kehoe, Barbara (EEA); Wixon, Josephine (EEA)
Subject: Salem Port Expansion EEA#14234 & Salem Harbor Station Redevelopment EEA#14937
Attachments: Salem MA Cruise Ship Project.docx

MA Executive Office of Energy & Environmental Affairs

100 Cambridge St.

Suite 900

Boston, MA 02114

Reference: Salem Port Expansion EEA#14234 & Salem Harbor Station Redevelopment EEA# 14937

Dear Deirdre,

I am writing this letter as a very concerned resident of Salem. I live in the neighborhood where a proposed dock is to be built to allow up to 800 ft. cruise ships with capabilities of allowing 2100 passengers to unload onto the Blaney St. area to visit Salem. To the surprise of everyone in the audience of the last city planning board meeting regarding the building of a new power plant by Footprint Power LLC, both city officials and Footprint sprung their intentions of building a 800 ft. dock to accommodate large cruise ships. They also presented their proposal to build decking, ramps and a pedestrian walkway to get passengers from the ships to the Blaney St. area.

Why is it that the residents of Salem especially the abutters that live in the neighborhoods around the power plant and the docks are always the last to know? I know that it is not your departments responsibility to insure the abutters are notified with the city's intensions, but there should be some type of investigation into this matter on a state level to protect the Salem's residents rights when it comes to a large project such as this cruise ship terminal. The plan was submitted on July 15th. There were no notices issued or special meetings called from the Mayor or our city councilors to inform the community at large with their intensions, instead the city discusses their plans with Footprint Power behind closed doors. As a resident of Salem and an abutter to this project, it just infuriates me. The city is claiming there will be no significant impacts on the residents in the neighborhood. Why isn't there an impact study being done to see how this cruise ship terminal will affect the air and water quality, waste water disposal, traffic both vehicle and people, and the construction on a sensitive coastal habitat.

Neither Footprint Power or the city of Salem have entered into an agreement with a cruise ship company to have a large cruise ships dock in Salem. They want to build this dock with the hopes they will be able to land both a short term and long term contract with the cruise ship industry. This alone should be a red flag. I'm not in the cruise ship industry but if I was, I wouldn't be likely to consider Salem Massachusetts a large cruise ship destination, especially in front of a large 680 MW power plant. Boston, which is just 12 miles away, has enough docking area for large cruise ships and is just a short ride on the Salem Ferry from boston to Salem. In

fact the Salem Ferry is constantly advertising to get more passengers from Boston to Salem due to low occupancy levels. I have been on the Salem Ferry several times when they make a trip to Boston with only a handful of passengers. Sure, Salem has a historical aspect to it , but it is largely seasonal and would be a large business risk for the cruise ship companies to take it on. Even if a cruise ship company was to sign an agreement with the city there are no guarantees it would be prosperous, resulting in the cruise ship industry pulling out leaving a big void on the Salem waterfront.

The power plant project site is located in a DPA on filled tidelands and is subject to Chapter 91. Chapter 91 requires all structures and uses located in tidelands to obtain a Waterways License or Permit from MADEP. To comply with Chapter 91, industrial facilities located in a DPA must be water dependent. Because the new proposed power plant is not water dependent ,Footprint Power LLC is currently seeking a variance pursuant to allow them to build a power plant on the site. There are many who feel including myself, that Footprint Power is using this tactic of building a large cruise ship terminal to comply with Chapter 91. If this is allowed, it will end up being a large oversight on many of the agencies involved with a predictable outcome that will be neither good for the city or its closest residents to the proposed site in question. In closing, the residents of Salem at least deserve a site visit and a public forum to discuss the issues with constructing a cruise ship terminal in Salem.

Sincerely,

Jeffrey Brooks

14 Webb St.

Salem, MA 01970

43

RECEIVED

August 19, 2013

AUG 22 2013

MEPA

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

MEPA

Reference: Salem Port Expansion EEA #14234 & Salem Harbor Station Redevelopment EEA # 14937

To whom this may concern:

I am writing in support of the City of Salem's application for proposed upgrades to the pier at the power plant site, including proposed construction of a passenger access walkway connecting the power plant pier to the Salem Wharf Terminal.

The City's intention to use this pier as a gateway for cruise ship access, as well as an extension of the Salem Harbor Walk would benefit the City in several ways.

From a tourism perspective, more than 50% of passengers who visit a port via cruise ship are likely to return to that port within the next three years. A typical cruise ship carrying 2,500 passengers generates more than \$280,000 in local expenditures during a single port-of-call visit.

This spending will translate directly into museum admissions, shopping, and dining in Salem. Any project that expands visitor access to the city without creating increased traffic deserves our support, especially now, as the museum embarks on a \$200 million expansion which will improve our ability to serve guests.

The port upgrades would benefit residents as well. It will extend the current Harbor Walk, provide additional water access and dock space, and complement the existing Blaney Street structure currently serviced by the Salem Ferry and Salem Trolley.

For the previous reasons, I encourage MEPA to approve the Port Expansion and Harbor Station Redevelopment applications.

Respectfully submitted,



Joshua Basseches
Deputy Director & COO



HS

B&H Enterprises, Inc. dba Salem Trolley
8 Central Street, Salem, MA 01970 - 978-744-5469

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AUG 22 2013

MEPA

August 19, 2013

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

Reference: Salem Port Expansion EEA #14234 & Salem Harbor Station
Redevelopment EEA #14937.

To Whom It May Concern:

I am writing in support of the City of Salem's application to create a walkway along the water from the Footprint power plant's dock to the Blaney Street Ferry Dock. Cruise ships which are too large to dock at the Blaney Street Ferry landing could dock at the Footprint's deep-water access, and their passengers would then have easy access to Blaney Street, where our Trolleys would pick them up. The walkway would consolidate the transportation of tourists coming to Salem by water to the downtown, giving them easy access to shopping and attractions.

The city of Salem's port expansion will bring thousands more tourists to our city. Our economy is dependent upon tourism and must expand in order to survive. I encourage MEPA to approve the walkway as a needed part of the port expansion.

Sincerely,

David H. Butler
President

HJ

August 20, 2013

MEPA, MA Executive Office of Energy & Environmental Affairs
ATTN: Ms. Holly Johnson
100 Cambridge Street, Suite 900
Boston, MA 02110

RECEIVED

AUG 22 2013

MEPA

RE: Salem Port Expansion EEA #14234, and
Salem Harbor Redevelopment EEA #14937

Dear Ms. Johnson:

I am writing to clarify some apparent misinformation circulating about the proposed cruise ships at the Salem Wharf being a surprise and not in keeping with the long term vision for Salem Harbor.

Please note that the *Salem Harbor Plan* dated January, 2008 filed with the State of Massachusetts clearly states the following on page 57:

- Construct a new wharf to flexibly accommodate the specific set of waterside uses described in the *Harbor Plan*
- Provide berthing for excursion boats, head boats, ferries, water shuttles and taxis, and other commercial boating activities, with the exception of casino boats
- Provide berthing and other support services to accommodate cruise ships and other commercial passenger vessels

In addition to filing the plan there were numerous public meetings leading up to the filing of the final document.

If I can be of further assistance please don't hesitate to contact me by phone, (978) 744-0844 ext. 203 office, or by e-mail, fatkins1@msn.com.

Sincerely,



Fred Atkins
Harbor Plan Chair
FJ Dion Yacht Yard, Inc. President

Cc: Mayor Kimberley Driscoll
Frank Taormina, Planner/Harbor Coordinator

August 20, 2013

Massachusetts Environmental Protection Agency
Massachusetts Executive Office of Energy and Environmental Affairs
ATT: Ms. Holly Johnson
100 Cambridge Street, Suite 900
Boston, Massachusetts 02114

RECEIVED

AUG 27 2013

MEPA

Dear Ms. Johnson,

Salem State University has been extremely interested in and supportive of the Footprint Power deep-water dock (Salem Port Expansion EEA #14234 and the Salem Harbor Station Redevelopment EEA #14937). Completion of such a project would enable cruise ships to dock, and allow passengers easy access to the city and all of its many cultural attractions, historical landmarks and business establishments.

Port development is a high priority for the city as a significant factor in both economic development and tourism initiatives. In general, cruise ships visiting Salem would carry approximately 500 passengers. There would be plenty of advance notice of any cruise ship docking in Salem, as "port-of-call" dates are scheduled a minimum of a year in advance. When ships dock for only one day, usually in the middle of the week, not all passengers will choose to get off the ship. One of the collateral benefits to the city and its residents is that when passengers do choose to disembark at the Footprint site they will have many travel options, including trolleys, bicycles and taxis to convey them to the heart of our city and its many interesting sites. Because the distance is so short, walking is also a possibility. Perhaps most importantly, there will be no additional motor vehicles causing traffic jams.

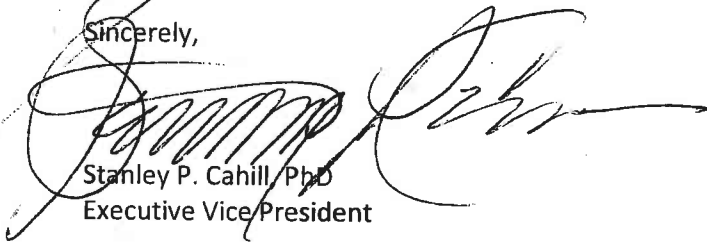
The cruise season in New England is short as a result of our weather. If Salem experiences a dozen ships a year, this would be on the high end.

Some residents may be concerned that should a ship dock and 2000 passengers disembark, it might create an insurmountable problem in the streets and neighborhoods nearest the dock. As is evident by the number of tourists who can be found within the city from late spring through October, for events that include the 4th of July, the Maritime Festival, the weekly Farmers Market, the ever popular running events (with hundreds of participants as well as spectators), and, of course, the traditional Halloween activities, our city is fully capable of accommodating them and our local businesses profit from their visits.

Plans are being developed for upgrades at the pier where the ships would dock to assure no negative impact on air quality; there will also be expected improvements to sidewalks and roads on and around Derby Street.

The university is convinced that the Footprint Power deep-water dock is an important initiative for the city to undertake on behalf of all its citizens. We believe that a robust and flourishing tourist industry in Salem will benefit all of the many enterprises found within the city, as well as bring a greater understanding and appreciation of the significant role Salem has played in the history of our nation.

Sincerely,

A large, stylized handwritten signature in black ink, likely belonging to Stanley P. Cahill, is written over the typed name and title.

Stanley P. Cahill, PhD
Executive Vice President



RECEIVED

AUG 23 2013

MEPA

August 21, 2013

MEPA, MA Executive Office of Energy & Environmental Affairs
ATT: Ms. Holly Johnson
100 Cambridge Street, Suite 900
Boston, Massachusetts 02114

Dear Ms. Johnson:

The Salem Partnership is a 26 year old non-profit organization. Its mission is to facilitate collaboration between businesses, non-profit organizations and government agencies in projects related to the revitalization and restoration of the City of Salem and its general vicinity which benefit both the partners and community in general. Some of our recent success stories have been the J. Michael Ruane Judicial Center and the MBTA parking garage. One of our major long term projects is the revitalization of Salem Harbor. The Harbor plan includes the Salem-Boston ferry (now in its seventh year), \$20 million development of the Blaney Street wharf (approximately ½ done) and an increase in the cruise ship business in Salem. Port Development has been and continues to be a high priority for the city of Salem as both an economic development and tourism initiative. Tourism is Salem's largest industry.

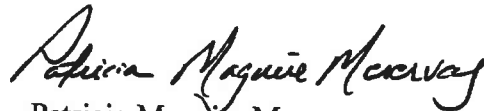
Following are some facts for your consideration. What the cruise industry calls "large ships" will not dock in Salem. The New England cruise season is very short. The hope is to have a dozen ships a year. It is probably more realistic to expect 7 or 8. In the past, we have had 2 or 3 ships with approximately 200 passengers. In the future, most cruise ships coming into Salem will have between 200 and 500 passengers. The ships arrive in the middle of the week, early in the morning and leave in the early evening. Passengers who choose to leave the ship, will either walk or take the Salem trolley to downtown Salem. Research shows that ship passengers spend money on attractions, food and souvenirs which substantially adds to the economic vitality of the city.

After much time, study, effort and money the long term dream of a restored waterfront in Salem is coming to fruition. We strongly urge you to approve the proposed upgrades to the pier at the power plant site including proposed construction of a walkway that will connect the power plant pier to the Salem Wharf Terminal. The proposal will not harm the environment and to the contrary will help restore the waterfront as a viable working port accessible to residents and visitors alike and consistent with its history.

Sincerely,



George W. Atkins
Attorney- At -Law
Chairman, The Salem Partnership



Patricia Maguire Meservey
President, Salem State University
President, The Salem Partnership

Johnson, Holly (EEA)

From: Kehoe, Barbara (EEA)
Sent: Thursday, August 22, 2013 9:09 AM
To: Johnson, Holly (EEA)
Subject: FW: Jeffrey Brooks

Salem comment.

From: Crowley, James (EEA)
Sent: Thursday, August 22, 2013 9:07 AM
To: Kehoe, Barbara (EEA)
Subject: FW: Jeffrey Brooks

Ms. Barbara:

Comments for MEPA.

Jim Crowley
External Relations Coordinator
Tort Claims Coordinator
Executive Office of Energy & Environmental Affairs

From: Cartwright, Chelsey (GOV)
Sent: Wednesday, August 21, 2013 3:45 PM
To: Crowley, James (EEA)
Subject: Jeffrey Brooks

Hi Jim,

We received an email from Jeffrey Brooks about his thoughts on the Salem Harbor Plant Revitalization. Below is Mr. Brooks' email and contact information:
Thank you.

Chelsey Cartwright
Legislative Services Aide
Office of Governor Deval L. Patrick
House Room 280
MA 02133
-4005

People Summary for Jeffrey Brooks (7258541)

Addresses:

HTML

Primary Home: 14 Webb St., Salem, MA 01970-5245 County: Essex District: MA06
House District:
Senate District:

Type	Number/E-Mail	Description	Primary
Home Phone	781-520-1031		Yes
E-Mail	powerplantboy@gmail.com		Yes

From: "powerplantboy@gmail.com" <powerplantboy@gmail.com>
Date: 8/21/2013 8:37:54 AM
To: "gov04z!xe7@massmail.state.ma.us" <gov04z!xe7@massmail.state.ma.us>
Cc:
Subject: EmailComment Installation Of A New Gas Power Plant In Salem MA.

Subject: Construction of new gas power plant in Salem Massachusetts Harbor To all concerned Parties, I am writing to you as a very concerned resident of Salem Massachusetts. I live on Webb St. in very close proximity to the old and new proposed power plant that is to be constructed by Footprint Power. I am currently employed in the power plant industry in Massachusetts and have been for over 30 years, I know first hand the dangers and environmental issues associated with the industry. I've divided this letter into two sections, one on my issues with the planning board process pertaining to the construction of the new power plant and the other on a reason not to build a power plant in Salem. Up until May of this year I have not been involved in the Footprint power plant process, but felt compelled to do so after talking with several residents in my neighborhood. I have since been going door to door talking to residents about the new proposed power plant. The consensus was almost overwhelming, close to 100% of the people I talked to, knew they were tearing down the old power plant. But many local residents I talked to, knew they were tearing down the building a new gas power plant. In my discussions with the neighbors informing them of the basic facts associated with the operation of a gas plant in our neighborhood, people's reactions were almost unanimous. Their response was either, "Why are they building another power plant?" or on the flip side of the coin, "There's nothing you can do to stop them, it's going to happen." Contrary to what city officials say, there has been very poor communication on behalf of the City of Salem and Footprint Power to inform the residents of Salem concerning the construction of a new power plant in our neighborhood, and I believe that is by design. I have attended most of the Salem planning board meetings concerning the construction of the new plant. As a resident, I had very high hopes of getting involved! and excited to be a part of the process. However, I quickly learned that the process was mostly one-sided. Footprint Power had their team of experts and lawyers that explained and basically defended their reasoning for installing a gas plant in the middle of a residential neighborhood in close proximity to an elementary school. Some of the residents' concerns such as ammonia storage and transportation, location of plant in close proximity of an elementary school, elevated exhaust emissions during turbine start-up and shut-down, high pressure gas lines running underneath our neighborhood, risk of explosion, elevated noise from cooling tower blades and turbine inlet suction and automatic cleaning noises, large cruise ship parking, violation of Chapter 91 zoning, the DPU's initial statement that they didn't want to order the utilities to enter into long-term contracts unless it was clear that the competitive market had failed and that there were imminent (energy) reliability issues, have all been summarily placated. Most of what Footprint officials, lawyers and experts

presented went unchallenged by the planning board when it came to the major issues of safety and health. The board appeared to be more concerned with the height of the vegetation around the walking paths, how long the construction trucks will be idling their engines during construction and what kind of lighting was going to be used to illuminate the plant's exhaust stack. With all due respect I'm sure all the board members are all competent in their chosen fields, they just don't have any experience with power plants. In my opinion the planning board was way over their heads with this power plant project. The planning board's head chair Mr. Puleo owns and operates a dairy here in Salem. The Salem planning board should have had power plant experts present, to deal with the questions Footprint Power was throwing at them. Overall I feel the process was rushed in or!

der to push this project through without involving the neighborhood and addressing the serious issues. As a last ditch effort in the last planning board meeting dated (July 25th, 2013) I again tried to explain the dangers of using, transporting and storing aqueous ammonia to the planning board and the participants of the listening audience. There is a reason Footprint Power wants to make ammonia deliveries to the new plant in the middle of the night, to avoid contact with other vehicles and possibly create a possible spill. There's a reason the delivery trucks and the storage tanks have double walls. There's a reason the hoses used to load and unload ammonia use a vapor-lock system. There's a reason the storage tanks have a special containment system, to prevent the further spread of ammonia in the event of a spill. And there's a reason the new plant will have to implement a PSM (Process Safety Management) program with the EPA and fire departments for just ammonia. The reasons are all because ammonia is dangerous. Again I suggested that there is an alternative to ammonia by using a harmless urea solution. As a concerned resident I shouldn't have to be telling Footprint's engineers there is an alternative to ammonia, that should be an industry standard and it should have been presented. Below is a section of an article that was taken directly verbatim from Power Engineering Magazine 11/01/2011 Selective Catalytic Reduction: Operational Issues and Guidelines At plants in urban areas, community regulations often ban the use of anhydrous ammonia. A popular alternative is 19 percent aqueous ammonia. This material is safer to handle than the anhydrous version, but the primary drawback is that the plant is paying to ship 81 percent water. In some cases, even aqueous ammonia is considered too hazardous and ammonia is produced on-site by a urea ($\text{H}_2\text{N}-\text{CO}-\text{NH}_2$) thermal or hydrolysis decomposition procedure. This process, which is more expensive than anhydrous or aqueous ammonia feed, has the!

advantage of not requiring on-site ammonia storage. I suggested that a more comprehensive study should be done concerning the use of urea rather than ammonia for their emissions control. We the public, in one of the Planning Board meetings, were told by one of Footprint Power's experts that urea was not an option, because it is not available. . . The truth of the matter is the existing coal plant uses urea and ironically, one of New England's main urea suppliers is located in Salem, Massachusetts. The board discussed it briefly among themselves and decided they entrusted the city officials and the representatives of Footprint Power to insure our safety. There was one gentleman in the audience that stood up after I spoke and endorsed what I was saying, and suggested more investigation should be done before a decision is rendered. Again the board acknowledged what was said, but would not act on it. I believe Footprint Power is not using urea as an option because of the higher costs associated with urea, both in up-front capital construction

costs and their eventual usage cost, whether it's buying direct from a vendor or manufacturing it themselves on-site. This would require large amounts of DI water that would drive up the amount of potable water usage allowed by the local municipality, thus voiding their permitting. Bottom line is Footprint Power is looking out for their best interest rather than the concerns of the local residents, and again the safety factor is not being taken into consideration. Reasons not to build a power plant in Salem In Massachusetts, The Global Warming Solutions Act of 2007 was enacted into law in 2008. It is the most aggressive and comprehensive emissions control law in the country. It's true that if this gas plant is installed by Footprint by 2016, our emissions will be reduced by 3% on a regional basis. But moving forward towards 2050, we will be moving backwards in trying to achieve an 85% reduction of emissions with a gas fossil plant still operating in Salem. M!

Massachusetts needs to cut its emissions by 85% by the year 2050 to be!

in compliance with the GWSA. If Footprint Power gets their permitting and ends up putting this power plant in Salem it is going to be a setback and provide a precedent for all future fossil burning power plants and much needed renewable energies to come. The Massachusetts Capewind project has finally got off the ground after it was first announced in 2001. It has taken twelve years to get the final permitting, allowing it to be built. Unfortunately, due to the time table, this is an embarrassment reflecting our political process to do the right thing and get it done. Just think of all the power this wind farm could have been producing if it was installed on a timely basis. Brayton Point just recently spent 1 billion dollars constructing the upgrades for the new cooling towers and may possibly be shut down. This would be such a tragedy of lost funds that could have been spent on renewable energies. And guess who ends up footing the bill for it, that's right the rate payers. The Salem power plant project is slated to be built for 800 million dollars. The money that is spent for this project should be put towards renewable energies, it only makes sense. Now that Capewind is on schedule to be completed by 2016 here is what several political leaders in Massachusetts are saying about it. "Cape Wind is at the forefront in the quest for creating new renewable sources of energy. Massachusetts and the Cape Cod region have the opportunity to take a substantial step forward in limiting the region's dependence on natural gas and reducing the destructive environmental impacts of fossil-fuel fired facilities. The rest of the country will be looking on as Cape Wind provides a viable, environmentally safe, and economically enhancing solution to the problem of the ever-increasing energy needs of the Cape Cod region." - Peter J. Larkin, Massachusetts State Representative, Third Berkshire District "The project has been subjected to a more intensive environmental scrutiny and study than any energy generating facility in Massachusetts. This project can significantly cut our state's contribution to climate change and curb our risky and expensive dependence on fossil fuels. This project would be the largest single source of non-polluting, renewable energy in New England. Electricity from wind power is the cleanest power generation there is and this project's power would go a long way to helping Massachusetts meet its mandated renewable energy portfolio goals for the future." - Paul J. Donato, Massachusetts State Representative, 35th Middlesex District "The wind farm presents us with this once and a lifetime opportunity. We cannot afford to miss it." - Matthew Patrick, Massachusetts State Representative, 3rd Barnstable District England just announced last month the installation of the largest off shore wind farm (London Array) in the world. It took them less than two years to complete its first stage, and is now producing 630 MW of power. That equals one Salem Harbor ! project in terms of power produced! When the second stage of the project finishes up, it will add enough capacity to generate 1,000 MW! The information that I've provided are facts that need to be addressed in considering the installation of a gas power plant in Salem Harbor. I'm hoping as a recipient of this letter you understand the grave importance and consequences associated with building of this power plant in Salem. You the elected officials are supposed to be our best and brightest and the people who vote you in rely on you to lead us and make the right decisions. Salem's residents health and safety are at risk, for which nobody other than Lori Ehrlich, state representative of the 8th Essex district, is watching our backs. Our environment and existence are on the brink of major changes and require your leadership to insure they endure. Whether you believe in global warming or not, the signs and statistics are there, and we need to put aside our political differences and financial self interests in support of doing the right thing. All eyes are going to be on Salem for this historic decision. To quote Scott Silverstein, president and COO of Footprint Power LLC, "We have only one chance to get this right." Sincerely, Jeff Brooks 14 Webb St. Salem, MA. 01970

HS

Russell T. Vickers
15 Beach Avenue
Salem, MA 01970

RECEIVED

AUG 23 2013

MEPA

August 22, 2013

MEPA, MA Executive office of Energy & Environmental Affairs
Attn: Ms. Holly Johnson
100 Cambridge Street, Suite 900
Boston, Massachusetts 02114

Re: Salem Port Expansion EEA # 14234
Salem Harbor Station Redevelopment EEA # 14937

Dear Ms. Johnson:

I am a 20 year resident of Salem and have been active in waterfront development and marine activities since moving here. I am very supportive of these projects and want to see them move forward as quickly as possible.

For 17 years I was the owner and operator of Hawthorne Cove Marina. For nine years I owned and operated Salem Water Taxi – a water shuttle company that provides transportation to boaters who keep their boats in Salem Harbor. Hawthorne Cove Marina abuts Salem Harbor Station and the Ferry Terminal and, therefore, I am very familiar with the marine operations that occur at these locations.

I would like to offer some comments for your consideration:

- Large coal ships have been regularly docking at the power plant's deep water port for over 50 years. There is minimal to no impact when they come into Salem to dock. Use by cruise ships would be no different.
- The Salem Harbor Plan, a municipal harbor/DPA master plan, was first approved in May 2000. It documents the long term vision that the deep water port of Salem would be used by cruise ships visiting Salem. These types of cruise ship visits occur throughout New England every summer. They typically follow the same routine. The ship arrives in port in early morning. Passengers are disembarked going ashore. Then they depart in the late afternoon for their next destination. These are called "port of call" visits and have significant economic benefit to the cities where they occur.

- Bringing visitors to Salem by water, rather than automobiles and buses, is seen as a "plus" due to the lack of vehicular traffic in the downtown area. "Tourism without Traffic" was the bi-line for this segment of Salem's visitors. Today, the Salem to Boston ferry, which lands adjacent to the dock at the power plant, carries about 80,000 passengers a year in and out of Salem with little impact. It is unlikely there would be more than a dozen port-of call visits annually by these large ships and that constitutes far fewer passengers than currently arrive by ferry.
- Salem welcomes over a million visitors a year to the city. The additional visitation from the cruise ships would be relatively small by comparison.
- Three years ago I personally observed the cruise ships operations in Bar Harbor, Maine – a town much smaller than Salem. I was impressed with the efficiency with which the passengers were disembarked at their small landing dock. Within less than an hour, the dock was clear of passengers, who were on their way to a day of sightseeing and shopping.

The Salem Harbor Plan states: **"....the vision for the future of Salem Harbor sees a vibrant seaport affording a high quality of life for residents while maximizing the public benefits inherent in this unique resource."**

In this spirit, I strongly request that you move forward as quickly as possible with this project.

Sincerely,

A handwritten signature in black ink, appearing to read "RT Vickers", written over the word "Sincerely,".

Russ Vickers

RECEIVED

HS

August 23, 2013

AUG 28 2013

MEPA

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

MEPA

Reference: Salem Port Expansion EEA #14234 & Salem Harbor Station Redevelopment EEA #14937

To whom this may concern:

As a Salem business owner and Salem resident, I am writing in support of the City of Salem's application to create an access way to the pier on Blaney Street from the power plant, and specifically its dock which has deep water access. As per other letters you may be receiving, I strongly advocate for the City's intention to use this pier as a gateway for cruise ship access, as well as an extension of the Salem Harbor Walk would benefit the City in several ways.

I run a Food tourism business here in Salem, and I would warmly welcome visitors from cruise ships – potential customers who can help Salem continue to thrive economically. The revenue generated from a single port-of-call would be such a boon for small businesses such as mine, and impact Tour partners of mine directly – shops and restaurants.

As a resident, I'm keen on the expansion of the existing Harbor Walk and dock space.

The City of Salem's port expansion is a no-brainer step in the redevelopment of the Salem waterfront, and I encourage MEPA to approve the Port Expansion and Harbor Station Redevelopment applications.

Sincerely,



Karen Scalia

Owner

Salem Food Tours & North Shore Food Tours

www.salemfoodtours.com



ESSEX NATIONAL HERITAGE COMMISSION

221 Essex Street · Suite 41 · Salem, MA 01970
978.740.0444 tel ~ 978.744.6473
www.essexheritage.org

HS

August 23, 2013

RECEIVED

MEPA, MA Executive Office of Energy & Environmental Affairs
ATT: Ms. Holly Johnson
100 Cambridge Street, Suite 900
Boston, Massachusetts

AUG 28 2013

MEPA

Salem Port Expansion EEA #14234 & Salem Harbor Station Redevelopment EEA # 14937

Dear Ms. Johnson

I am writing this letter both in my capacity as the CEO of the Essex National Heritage Commission and as a resident in the City of Salem.

The Essex National Heritage Commission is committed to improving the quality of life in Essex County by preserving, enhancing and promoting the area's historic, cultural and natural resources. We believe that utilizing old resources in new ways is one of the best ways to ensure that these significant places are preserved and maintained into the future. In its heyday, the Port of Salem was known around the world from China to St Petersburg. Two hundred years ago, the harbor was the city's front door, but for far too long, the city turned its back on this incredible resource, using it only as place for heavy industry and waste disposal. Only in the last 15-20 years has the Salem harbor started to become an active and attractive place. Visiting cruise ships will increase the role that the harbor plays in the revitalization of the city – once again serving as the entry point for visitors and economic activity in this historic port city.

As a long-time resident of Salem, I have served on many of the city's boards and commissions including the Salem Harbor Plan Committee. One of the priorities of the Harbor Plan is to increase boat activity in Salem Harbor with small to medium size cruise ships targeted as being one of the plan's top priorities. I enthusiastically support the Footprint Power and the City of Salem's proposal to allow cruise ships to dock at the former coal off-loading site. It is a wonderful new use for this deep water facility (the second deepest in Massachusetts) and a great improvement from the coal and oil barges that have used this dock for so long. What is particularly beneficial about cruise ships is that they bring visitors by water and do not add to the congestion of our narrow historic streets. Cruise ship visitors will walk through the community, visiting sites, shops and restaurants and creating in new economic development activity without adding more traffic and pollution.

Sincerely,

Annie C. Harris, CEO

HJ

NORTH SHORE
ALLIANCE FOR ECONOMIC DEVELOPMENT
121 Loring Avenue, Suite 110, Salem, MA 01970
978-744-4430 gbarrett@nsecdevelopment.com

RECEIVED

AUG 26 2013

MEPA

August 23, 2013

Secretary Richard K. Sullivan, Jr.
Executive Office of Energy and Environmental Affairs
Attention: MEPA Office
Holly Johnson EEA Nos. 14234/14937
100 Cambridge Street, Suite 900
Boston, MA 02114

Re: EEA No. 14234 and EEA No. 14937
Salem Port Expansion/Salem Harbor Station Redevelopment
Notice of Project Change

Dear Ms. Johnson:

I write as Executive Director of the North Shore Alliance for Economic Development (Alliance) to express the organization's support for the Notice of Project Change filed by the City of Salem in conjunction with Footprint Power LLC for Marine Terminal Modifications to the existing ship berth at 24 Fort Avenue in the Salem Harbor Designated Port Area.

The Alliance is a private non-profit entity formed by businesses, institutional leaders and government officials to create increased economic opportunity in the thirty (30) cities and towns that comprise Boston's North Shore. The Alliance was convened to create an enhanced economic, geographic and political identity for Boston's North Shore and is recognized and funded by the Commonwealth as the North Shore's Regional Economic Development Organization (REDO). As such, the Alliance has become a cogent, broad-based voice of collaborative advocacy on issues of economic development, transportation and infrastructure planning, education and workforce issues that have a direct impact on the viability of North Shore businesses and institutions.

The City of Salem has engaged in an extensive planning process to retool and reactivate the Salem waterfront, particularly in the vicinity of Salem Wharf at Blaney Street. The rebirth of one of Salem's true natural assets - its harbor and waterfront - has been the subject of a long process that has included countless public meetings and presentations concerning the expanded use of the waterfront and enhancement of public access along the harbor's edge. Port development or redevelopment is a priority for the City in terms of economic development and tourism. In fact, the Salem Partnership, a public/private collaboration that focuses its energies on the revitalization of Salem and large economic

development projects has used the slogan – “The Courts and Port” – to succinctly describe the primary targets of its work.

With the acquisition of Salem Harbor Station by Footprint Power LLC, new opportunities opened for increased public access to the waterfront and the potential for use of the deep water port and the power plant pier as a berthing site for cruise ships. The work that is the subject of the Notice of Project Change involves improvements along the pier as well as the construction of a walkway to the adjacent Salem Wharf on Blaney Street, home to the Salem-to-Boston Ferry terminal.

The proposed work is central to a comprehensive harbor development plan that is a true partnership between local, state and federal government. In addition to investing its own funds, the City of Salem has attracted to date the investment of \$10 million from the Commonwealth and \$3 million dollars from the federal government in connection with the Salem Wharf project. Additionally, the National Park Service and its Salem Maritime Historic Site is a neighboring waterfront partner in the City's waterfront development plans. Public investment s has given rise to significant private investments along the waterfront also. The anticipated visitors that will use the waterfront as the entry point for access to Salem's restaurants, retail establishments and tourist attractions will increase the City's tax base and result in job creation for the local economy.

The Salem Port Expansion and the Salem Harbor Station Redevelopment projects are the type of major initiatives that will have long-term and far reaching positive impacts on the City of Salem, its businesses and its residents. The projects are a lynchpin in the continued economic revitalization of downtown Salem.

Accordingly, the North Shore Alliance for Economic Development supports the work proposed to be undertaken as described by the City of Salem in the Notice of Project Change filed in the above referenced matters and urges swift approval so such work may commence at the earliest possible date.

Thank you for considering our organization's thoughts on the matter.

Sincerely,

A handwritten signature in black ink, appearing to read "Gary M. Barrett". The signature is fluid and cursive, with the first name "Gary" being more prominent.

Gary M. Barrett
Executive Director

cc: Kathleen Winn, Salem Planning Department
Scott G. Silverstein, Footprint Power LLC



**HISTORIC
SALEM INC**

♻ Preservation at work

August 26, 2013

Holly Johnson
MEPA
100 Cambridge Street – Suite 900
Boston, MA 02114
holly.s.johnson@state.ma.us

Re: Salem Port Expansion EEA#14234 and EEA#14937 – Notice of Project Change

Dear Ms. Johnson :

Historic Salem, Inc. the non-profit historic preservation advocate in Salem, MA since 1944 submits the following comments on the Notice of Project Change for the Salem Port Expansion.

The Salem Port is directly adjacent to the historic Derby Street Neighborhood, which is a Local Historic District. The pedestrian and vehicular access to the Salem Port is via Blaney Street, which is in the heart of this neighborhood. Direct travel routes, including tour bus parking and truck access go through the historic Salem Common neighborhood and the Bridge Street Neck neighborhood. These three neighborhoods are densely developed with narrow, often one-way streets.

The proposed project change will result in large crowds, up to 2000 people at one time, descending through these residential neighborhoods, leaving from and returning to the large cruise ships. It is fair to assume this will increase vehicular traffic in the forms of buses and taxis, as well as support vehicles for delivery to the docked ships.

As a requirement of this Notice of Project Change, the increase in vehicular and foot traffic through dense residential neighborhoods should be calculated, the impact on property investment, emergency vehicle access, noise, vibration and other factors should be analyzed, and adverse impact on these historic neighborhoods should be removed or mitigated.

Please feel free to contact me with any questions, (978) 979-8847.

Sincerely,

Emily Udy
Preservation Project Manager

9 North Street | P.O. Box 865 | Salem, MA 01970
V 978.745.0799 | F 978.744.4536
info@historicsalem.org | www.historicsalem.org

Johnson, Holly (EEA)

From: JOANZZE@aol.com
Sent: Tuesday, August 27, 2013 2:09 PM
To: Johnson, Holly (EEA)
Subject: Fwd: Fw: Salem Port EEA #14234 & Salem Harbor Station EEA # 14937 [Additional]
Attachments: MEPAResponseLtr&CityAnswers8-21-13.pdf

Hello, I am Joni B. Lawrence and I live two streets over from Blaney. I too dislike how we have not been informed. I also do not like the idea of people coming/going up/down Derby Street. There is enough of foot traffic coming from the ferry. The Farmers Market and the other events cited are not restricted to Derby Street. When attending these events, people enter from different points in the city. Where I live, I already deal with foot traffic along with vehicle traffic, I deal with no place to park and at times are trapped inside my own house because I cannot leave. At times I have to drive in the opposite direction to get to the other side of the City. I am not in favor of cruise ships. We already have bus tours coming in. I see them just about every day at The House of the Seven Gables.

Thanks for listening,

Joni B. Lawrence
39 Turner Street
Salem, MA 01970

From: dprentice45@gmail.com
To: dprentice45@gmail.com
Sent: 8/27/2013 10:34:29 A.M. Eastern Daylight Time
Subj: Fwd: Fw: Salem Port EEA #14234 & Salem Harbor Station EEA # 14937 [Additional]

Hello,

This is a fwd of an email I sent to MEPA (part of MA Dept. of Environmental Protection) in opposition to the city's plan to allow large (potentially 2,000 passengers) cruise ships to berth onshore at the power plant pier. The city needs state approval, and we are fighting it.

If you're in agreement, PLEASE forward this to

holly.s.johnson@state.ma.us

before 5pm tonight, which is the deadline for public comments. You might also add that you're a concerned citizen of Salem (explain who you are), oppose the Notice of Project Change, and/or are in agreement with "the attached". Or - just forward this whole thing, if that's easier. They'll "get it".

PLEASE do this, for the sake of the Derby St. and Ward 2 neighborhoods, and your friends and possibly family here.

THANK YOU!!!

Deb

----- Forwarded message -----

From: Deb - Yahoo <dprentice45@yahoo.com>
Date: Tue, Aug 27, 2013 at 10:11 AM

Subject: Fw: Salem Port EEA #14234 & Salem Harbor Station EEA # 14937 [Additional]
To: Deb Gmail <dprentice45@gmail.com>

----- Forwarded Message -----

From: Deb - Yahoo <dprentice45@yahoo.com>

To: Holly Johnson <holly.s.johnson@state.ma.us>

Sent: Tuesday, August 27, 2013 10:10 AM

Subject: Salem Port EEA #14234 & Salem Harbor Station EEA # 14937 [Additional]

SUBJECT: Salem Port Expansion EEA #14234 & Salem Harbor Station Redevelopment EEA # 14937

Dear Ms. Johnson,

Please see additional issues herein re: the above referenced, and rebuttals to many statements made by Mayor Kimberley Driscoll and Katherine Winn of the Planning Department.

I would like to again state my opposition to the City of Salem's Notice of Project Change, the goal of which is the onshore berthing of large cruise ships potentially carrying 2,000 passengers.

I've had time (thanks to MEPA extending the comment period) to analyze and research a very large amount of information, and I present it here. A *small* portion of my email here is repetition of points previously made, but I wanted to include them for the sake of completeness.

NPC issues:

- One environmental issue that jumps out on the NPC: "**The installation of** a small culvert and **associated fill** at the crossing of an existing swale, located at Blaney St."

However, is that fill indicated on the diagram (Figure 5, page 9, Proposed Site Fill) in the Salem Port Expansion ENF? I'm no engineer, but I think not.

Then on p 6 of the NPC: "**No** pile driving is proposed nor is any **filling** or dredging included within the request work elements."

Which is it?

- Also, the claims of public notification (page 4 of 8 in the Bourne Engineering narrative) are totally "erroneous" in the NPC. None! Of that happened. (I think this speaks to a "good faith" effort, or lack thereof.)

- Additionally, re: public notice: "Although the impacts from the City's proposed improvements do not trigger the need for enhanced public outreach under the Policy, the City of Salem and Footprint are both committed to maintaining full disclosure to the public throughout the regulatory process."

As to not triggering that need, does not **301 CMR 11.10 (7)** require notice to "any Agency or Person who received the ENF or commented on the ENF or any EIR prior"? **Was that requirement fulfilled?**

- Some see this as an end run for/by Footprint to comply with Ch. 91. But why this way? It's not the cruise ships per se, it's the scope and scale. If a Ch. 91 permitting issue, there are other, better ways to accomplish it.

- Is this expenditure really necessary? From the mayor in a belated letter to residents, 8/15 (the original comment end date): "In general, most cruise ships visiting Salem will be under 500 passengers. While the berth at Footprint can support vessels carrying over 1,000 people, we do not anticipate that many ships of this size would be visiting during the course of a year."

Some city officials have told us, no worries, large ships probably will not even want to come here.

So – what is the point of the NPC? What return on investment for funds for a large ship berth that even the mayor says may be rarely used for large ships?

Neighborhood "stakeholder" concerns:

The site in question is located in a historic district with lovely antique buildings (mostly homes) that date back to the 1700's. It was also added to the **National Register of Historic Places** in 1976, and includes works by noted Salem architect Samuel McIntire, and also the House of Seven Gables.

This area is one of the few remaining gems (perhaps one of two, with Chestnut St. being the other) in Salem. We have cow paths for streets, and they're almost all one way, as they are that narrow. By whatever means passengers on large cruise ships were to leave the Footprint pier, it would impose a hardship on both the Derby St. area and Webb St, which has been suggested as a bus route. Also keep in mind, some of the infrastructure under our streets goes back so far that it's very likely that we still have some wooden water pipes.

The city has vacillated on the passenger number (2,000 down to 1,000), and is also operating under many, many assumptions.

Bike cabs and trolleys won't suffice for a ship with 2,000 passengers. "*Perhaps*" - all passengers wouldn't disembark, and "*perhaps*" many would walk or take the trolley. If only half (1,000 passengers) chose to take buses, it would take forty bus trips in and out (at 50 passengers per bus) and eighty bus trips if all passengers chose to disembark using buses. More fumes, more dust, more litter, more noise, more congestion, more wear and tear on the entire area in so many ways...

If half chose to walk, "there goes the neighborhood", or at least some quality of life here for that duration.

To address points in a letter from Mayor Driscoll in response to a letter to her from the Historic Derby St Neighborhood Ass'n, cc: MEPA (both letters went to MEPA):

"I still believe that whatever the potential economic impact, whether it is \$200,000 or \$20,000, it is a positive impact..."

But at what cost to this historic neighborhood? What cost to quality of life? No mention of that.

A well-publicized statement by Mayor Driscoll, "A standard ship can generate close to \$285,000 in spending at a destination during a single stop" also seems problematic. HDSNA'S letter, which you have, blew that number out of the water – so to speak.

"Our expectation of around a dozen visits per year..."

Assumption! And it wouldn't be year round now, would it? E.g., June-October is 20 weeks, so one every 1.5 weeks? Who's to say that traffic wouldn't explode in the future? And are we not entitled to the quiet enjoyment of our homes in the good weather without hordes descending upon us?

"Bar Harbor, for example, has a large number because of boat tours (counted as cruises)."

Please see <http://www.workingwaterfront.com/articles/Ferry-Terminal-Eyed-for-Thriving-Cruise-Ship-Traffic/15035/>

Bar Harbor has been analyzing converting their former ferry terminal (4.5 acres) into a cruise ship terminal, as currently all passengers are transferred by tender. **"Cruise ships send tenders into a private facility adjacent to the town pier, which is limited in area available for tour buses and creates congestion for passengers and the town."** The ferry/proposed cruise ship terminal site is also about two miles out of town, practically in the middle of Acadia National Park (forest), with a hotel on either side – not in residential Bar Harbor.

"For 2012, 119 ships and 147,000 passengers were expected in Bar Harbor, between early May and late October..." For six months, that's an average of 20 ships per month.

Would a similar dismal fate await us here, down the road?

Also re: their ferry terminal, please see
<http://www.barharbormaine.gov/document/0001/1712.pdf>
Bar Harbor Ferry Terminal Feasibility Study
May 31, 2012

"Cruise operations

- Ships like to bring passengers in the center of the Town
- Large passenger concentration create problems in the Town**
- Tendering is disappearing worldwide
 - Large ships CANNOT tender
- Tendering means
 - High cost to the lines
 - High percentage of passengers not disembarking
- Anecdotal accounts of 40% of passengers staying on ships
- Passengers that disembark lose 2 to 3 hours in process
- Places that do not have a pier are losing traffic – fast"

Does much of the above apply here? And is it part of this push to berth cruise ships at the Footprint pier? How about that second bullet???

And per the NPC, "The proposed improvements described in this NPC are intended to be an *interim phase* to accommodate cruise ship berthing in the 2014 season and beyond on a limited basis... [But then] The City and Footprint continue *to work toward a long term agreement* that will provide the City with access rights to the marine terminal. Once finalized, this agreement will permit the further *permanent* development of the marine terminal..."

Thus, this neighborhood will be stuck with whatever goes there for eternity if the NPC is approved. It's just not right to put something like this in such a fragile, historic, DENSE, residential neighborhood, *especially with such a lack of planning*. **This is a rush job!**

On to the mayor's reference to Portland. "Portland has a dedicated cruise terminal and serves as an embarkation point."

Portland's terminal is downtown, not in the middle of a historic residential neighborhood.

Back to Salem. "This is not to mention the crowds throughout October, road races, festivals, etc."

Yes, and we deal with that, too! October? Halloween? Oh, please...

"The number of passengers visiting our city and their route once ashore are no different than what had been initially proposed; all that is different is where the ships dock."

However - there has never - NEVER - been any mention of 2,000 PASSENGERS. 800' ships? *One mention* in a table in the 2008 ENF.

2,000 passengers? NO!

The mayor cites 2,000 people at our farmers' market for crowd comparison - but they're not there all at once. Hardly. That market is open for four hours on Thursday. I go weekly, am there for about an hour, and for sure, there are not more than 200 (I'll even go 300, although I doubt it) people there at any given time - so 800-1200 people a week (again, over four hours) would be more realistic. Additionally, it's downtown, not in a mostly residential area.

She also mentions 4th of July, smack in the middle of our area, but that's only once a year.

Re: crowd control, "We do have relevant experience doing it successfully." What has that to do with quality of life in a neighborhood???

"...we do not anticipate that a cruise ship docked at Salem Wharf for a 6-8 hour period of time, usually mid-week, will result in throngs of passengers traversing Derby Street en mass."

Assumption!

Traffic - The city has a table in the ENF with numbers, but no supporting data to back that up. Curious how they came up with that.

On to another document, K Winn's response to [Holly Johnson at] MEPA, "RE: City of Salem—Footprint Access NPC—Comment Summary and Response" (att'd). Most of this is just repetition/copy/pastes of previous dogma, and I have it saved in other documents.

Public notice issues (again) -

1. Why has there been no notice to the local area or opportunity for public to voice their opinion?

"The notion of an expanded waterfront and pier access at the power plant site has been part of the planning process and many of the public presentations related to the power plant and the Blaney Street site."

NOT in public presentations has the large cruise ship "notion" been discussed. State officials must be aware, from the indignant horrified responses of residents to the NPC, that the above is a flat out fabrication. I defy anyone to show me where, in city meeting minutes or agendas, a discussion of the large cruise ship issue has occurred. What? Sunshine ordinance?

"The Notice of Project Change ... is now posted in City Hall, the Salem Wharf Ferry Terminal and along Derby Street." It isn't.

I did reconnaissance on Friday morning, August 23. Ferry office, check. City Hall, check.

Not on Derby St., that I saw, not on street poles, nor did I see any notices posted in merchant windows (a common communication method here) from Blaney St. to Derby Wharf. Where, oh where, could they be? A rather large oversight?

"In recognition of the level of interest shown in this matter by the residents, Salem businesses, and others in the community, the proponents have requested and been granted a 2-week extension on the public comment period to address additional concerns."

How generous. If someone in our neighborhood hadn't been given a serendipitous heads up from a concerned citizen who doesn't even live in this area, this whole thing would have slid right through, with none of us being the wiser.

4. Impacts only address the impacts of construction, and not the impacts specifically from the cruise ship. Impacts to air, water, traffic and noise have not been fully evaluated.

"...many ships are being retrofitted to allow for shore side power to minimize air quality impacts from power generation."

Assumption! That ships docking here would have such retrofits.

"We fully expect mitigation funds from utility projects anticipated in the neighborhood to help offset the cost of infrastructure upgrades to this area..."

Assumption!

"The activity of the cruise ships coming to Salem and the associated passengers was included within the original MEPA ENF filing for the Salem Port Expansion Project..."

A "find" in the ENF on "passengers" comes up with one mention on p. 12: "The site is being designed to provide public and visitor amenities and to enhance the site as a public gateway to Salem for ferry and cruise ship passengers."

And, note, no *numbers* for passengers. Anywhere.

5. Concern with additional neighborhood and environmental impacts of land-side cruise ship services, including vendor and excursion/transportation vehicles.

"No dockside vessel services of water or sewage pump out are proposed at this time. These uses and associated impacts will be reviewed and evaluated in the ultimate use site plan."

No guarantee there, and leaves the door wide open for future variances.

6. Request further information on how this will financially benefit the city.

Cruise ships may well benefit Salem's economy. That's not a bone of contention. The scope and scale of all this, the size of ships, and the impact on the neighborhood is, however.

"8." Refers to Seaport bond funds. Although perhaps not in MEPA's purview, I would ask: are these state funds available for improvements to a PRIVATELY OWNED asset? And what of the funding for Blaney St/the ferry area, which is unfinished? Perhaps the word on the street is so, that state funds for it are depleted, that the city has to come up with some money now. If true, is this an indication of the city's lack of commitment, that they haven't stepped up yet, and are rolling on to "the next big thing"?

And finally, from a purely economic neighborhood standpoint: **would all this impact our property values negatively?**

In closing (and I certainly appreciate it if readers have gotten this far) – I (and I believe, many in this area) am not averse to cruise ships, but again, 2,000 passengers descending on this little antique residential area is far too much of a burden in so many ways. I also do not believe that the city acted in good faith with residents, taxpayers, and businesses that would be affected here, by not notifying us; and also, per some points above, spinning some of the details (to understate it). (And not to mention, it's a rush job with very little solid forward planning.)

Thank you so much for your attention to this, and your incisive questions to the city, which go above and beyond; and especially, hearing us in this neighborhood. We would so appreciate a finding by MEPA, "Needs Further Review".

Sincerely,

Deborah Prentice
16 Hardy St.
Salem, MA 01970
978-744-3608

Johnson, Holly (EEA)

From: Lisa Joubert [lisa.joubert@gmail.com]
Sent: Tuesday, August 27, 2013 4:00 PM
To: Johnson, Holly (EEA)
Subject: Fwd: Fw: Salem Port EEA #14234 & Salem Harbor Station EEA # 14937 [Additional]
Attachments: MEPA Response Ltr & City Answers 8-21-13.pdf

Dear Ms. Johnson,

As a real estate tax-paying, concerned resident of Salem, I find myself dismayed again by yet another attempt by the city of Salem's administration to discourage public comment, concern, and quality-of-life factors in order to pursue ill-conceived, ill-planned, and ill-researched projects -- because they "think" they may make money for the City.

Residential quality-of-life concerns are often pushed aside here in Salem, prioritized below whatever it is the administration wants to do for its pocketbook.

I oppose the Notice of Change on this project.

I oppose proceeding on any project whose impacts are not thoroughly evaluated.

I oppose proceeding on any project that creates significant adverse impacts on the City, its residents, and its infrastructure.

Salem historic waterfront neighborhoods simply cannot absorb the mayhem, quality-of-life impacts, and health/environmental challenges that cruise ships potentially disembarking 2000 travelers will create.

Sincerely,

Lisa Joubert
70 School Street
Salem, MA 01970
978-958-7944

----- Forwarded message -----

From: Deb - Yahoo <dprentice45@yahoo.com>
Date: Tue, Aug 27, 2013 at 10:11 AM
Subject: Fw: Salem Port EEA #14234 & Salem Harbor Station EEA # 14937 [Additional]
To: Deb Gmail <dprentice45@gmail.com>

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From: Deb - Yahoo <dprentice45@yahoo.com>
To: Holly Johnson <holly.s.johnson@state.ma.us>
Sent: Tuesday, August 27, 2013 10:10 AM
Subject: Salem Port EEA #14234 & Salem Harbor Station EEA # 14937 [Additional]

SUBJECT: Salem Port Expansion EEA #14234 & Salem Harbor Station Redevelopment EEA # 14937

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Also re: their ferry terminal, please see <http://www.barharbormaine.gov/document/0001/1712.pdf>
Bar Harbor Ferry Terminal Feasibility Study
May 31, 2012

"Cruise operations

- Ships like to bring passengers in the center of the Town

•**Large passenger concentration create problems in the Town**

- Tendering is disappearing worldwide
- Large ships CANNOT tender
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- High percentage of passengers not disembarking
- Anecdotal accounts of 40% of passengers staying on ships
- Passengers that disembark lose 2 to 3 hours in process
- Places that do not have a pier are losing traffic – fast”

Does much of the above apply here? And is it part of this push to berth cruise ships at the Footprint pier? How about that second bullet???

And per the NPC, “The proposed improvements described in this NPC are intended to be an *interim phase* to accommodate cruise ship berthing in the 2014 season and beyond on a limited basis... [But then] The City and Footprint continue *to work toward a long term agreement* that will provide the City with access rights to the marine terminal. Once finalized, this agreement will permit the further *permanent* development of the marine terminal...”

Thus, this neighborhood will be stuck with whatever goes there for eternity if the NPC is approved. It's just not right to put something like this in such a fragile, historic, DENSE, residential neighborhood, *especially with such a lack of planning*. **This is a rush job!**

On to the mayor's reference to Portland. “Portland has a dedicated cruise terminal and serves as an embarkation point.”

Portland's terminal is downtown, not in the middle of a historic residential neighborhood.

Back to Salem. “This is not to mention the crowds throughout October, road races, festivals, etc.”

Yes, and we deal with that, too! October? Halloween? Oh, please...

“The number of passengers visiting our city and their route once ashore are no different than what had been initially proposed; all that is different is where the ships dock.”

However - there has never – NEVER – been any mention of 2,000 PASSENGERS. 800' ships? *One mention* in a table in the 2008 ENF.

2,000 passengers? NO!

The mayor cites 2,000 people at our farmers' market for crowd comparison – but they're not there all at once. Hardly. That market is open for four hours on Thursday. I go weekly, am there for about an hour, and for sure, there are not more than 200 (I'll even go 300, although I doubt it) people there at any given time – so 800-1200 people a week (again, over four hours) would be more realistic. Additionally, it's downtown, not in a mostly residential area.

She also mentions 4th of July, smack in the middle of our area, but that's only once a year.

Re: crowd control, “We do have relevant experience doing it successfully.” What has that to do with quality of life in a neighborhood???

“...we do not anticipate that a cruise ship docked at Salem Wharf for a 6-8 hour period of time, usually mid-week, will result in throngs of passengers traversing Derby Street en mass.”

Assumption!

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On to another document, K Winn's response to [Holly Johnson at] MEPA, "RE: City of Salem—Footprint Access NPC—Comment Summary and Response" (att'd). Most of this is just repetition/copy/pastes of previous dogma, and I have it saved in other documents.

Public notice issues (again) –

1. Why has there been no notice to the local area or opportunity for public to voice their opinion?

"The notion of an expanded waterfront and pier access at the power plant site has been part of the planning process and many of the public presentations related to the power plant and the Blaney Street site."

NOT in public presentations has the large cruise ship "notion" been discussed. State officials must be aware, from the indignant horrified responses of residents to the NPC, that the above is a flat out fabrication. I defy anyone to show me where, in city meeting minutes or agendas, a discussion of the large cruise ship issue has occurred. What? Sunshine ordinance?

"The Notice of Project Change ... is now posted in City Hall, the Salem Wharf Ferry Terminal and along Derby Street." It isn't.

I did reconnaissance on Friday morning, August 23. Ferry office, check. City Hall, check.

Not on Derby St., that I saw, not on street poles, nor did I see any notices posted in merchant windows (a common communication method here) from Blaney St. to Derby Wharf. Where, oh where, could they be? A rather large oversight?

"In recognition of the level of interest shown in this matter by the residents, Salem businesses, and others in the community, the proponents have requested and been granted a 2-week extension on the public comment period to address additional concerns."

How generous. If someone in our neighborhood hadn't been given a serendipitous heads up from a concerned citizen who doesn't even live in this area, this whole thing would have slid right through, with none of us being the wiser.

4. Impacts only address the impacts of construction, and not the impacts specifically from the cruise ship. Impacts to air, water, traffic and noise have not been fully evaluated.

"...many ships are being retrofitted to allow for shore side power to minimize air quality impacts from power generation."

Assumption! That ships docking here would have such retrofits.

"We fully expect mitigation funds from utility projects anticipated in the neighborhood to help offset the cost of infrastructure upgrades to this area..."

Assumption!

"The activity of the cruise ships coming to Salem and the associated passengers was included within the original MEPA ENF filing for the Salem Port Expansion Project..."

A "find" in the ENF on "passengers" comes up with one mention on p. 12: "The site is being designed to provide public and visitor amenities and to enhance the site as a public gateway to Salem for ferry and cruise ship passengers."

And, note, no *numbers* for passengers. Anywhere.

5. Concern with additional neighborhood and environmental impacts of land-side cruise ship services, including vendor and excursion/transportation vehicles.

"No dockside vessel services of water or sewage pump out are proposed at this time. These uses and associated impacts will be reviewed and evaluated in the ultimate use site plan."

No guarantee there, and leaves the door wide open for future variances.

6. Request further information on how this will financially benefit the city.

Cruise ships may well benefit Salem's economy. That's not a bone of contention. The scope and scale of all this, the size of ships, and the impact on the neighborhood is, however.

"8." Refers to Seaport bond funds. Although perhaps not in MEPA's purview, I would ask: are these state funds available for improvements to a PRIVATELY OWNED asset? And what of the funding for Blaney St/the ferry area, which is unfinished? Perhaps the word on the street is so, that state funds for it are depleted, that the city has to come up with some money now. If true, is this an indication of the city's lack of commitment, that they haven't stepped up yet, and are rolling on to "the next big thing"?

And finally, from a purely economic neighborhood standpoint: **would all this impact our property values negatively?**

In closing (and I certainly appreciate it if readers have gotten this far) – I (and I believe, many in this area) am not averse to cruise ships, but again, 2,000 passengers descending on this little antique residential area is far too much of a burden in so many ways. I also do not believe that the city acted in good faith with residents, taxpayers, and businesses that would be affected here, by not notifying us; and also, per some points above, spinning some of the details (to understate it). (And not to mention, it's a rush job with very little solid forward planning.)

Thank you so much for your attention to this, and your incisive questions to the city, which go above and beyond; and especially, hearing us in this neighborhood. We would so appreciate a finding by MEPA, "Needs Further Review".

Sincerely,

Deborah Prentice
16 Hardy St.
Salem, MA 01970
978-744-3608

--

"Always in motion is the future." - Yoda

Johnson, Holly (EEA)

From: Ana Nuncio [anuncio@7gables.org]
Sent: Tuesday, August 27, 2013 11:44 AM
To: Johnson, Holly (EEA)
Subject: Salem Port Expansion EEA #14234 & Salem Harbor Station Redevelopment EEA #14937

August 27, 2013

MEPA

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

Reference: Salem Port Expansion EEA #14234 & Salem Harbor Station Redevelopment EEA # 14937

Dear Ms. Johnson:

I am writing in support of the City of Salem's application to create an access way to the pier on Blaney Street from the power plant, and specifically its dock which has deep water access. The City's intention to use this pier as a gateway for cruise ship access, as well as an extension of the Salem Harbor Walk, would benefit the City in several ways.

From a tourism perspective, more than 50% of passengers who visit a port via cruise ship are likely to return to that port within the next three years. A typical cruise ship carrying 2,500 passengers generates more than \$280,000 in local expenditures during a single port-of-call visit. This spending will translate directly into museum admissions, shopping and dining in Salem.

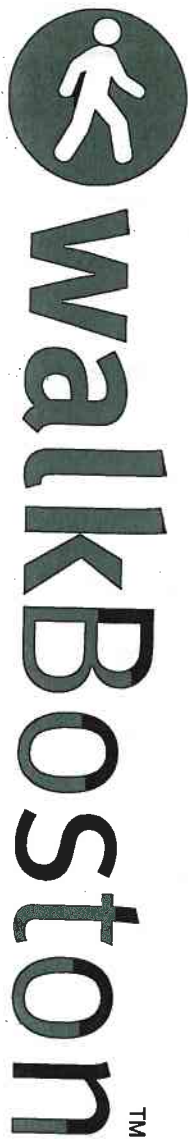
The port expansion holds significant benefits for residents as well. It will extend the current Harbor Walk, provide additional water access and dock space. It also compliments the existing Blaney Street structure, which is currently serviced by the Salem Ferry and Salem Trolley.

The City of Salem's port expansion, including the Salem Harbor Station expansion, is a proactive step in the redevelopment of the Salem waterfront, and I encourage MEPA to approve the Port Expansion and Harbor Station Redevelopment applications.

Sincerely,

Ana Nuncio

Manager, Settlement Partnerships
The House of the Seven Gables
115 Derby Street
Salem, MA 01970
(978) 744-0991, ext. 105
(978) 741-4350 fax
www.7gables.org



August 27, 2013

Secretary Richard K. Sullivan, Jr.
Executive Office of Energy and Environmental Affairs (EEA)
Attn: Holly Johnson
100 Cambridge Street, Suite 900
Boston MA 02114

RE: Comments on the NPC for Salem Port Expansion, MEPA #14234

Dear Secretary Sullivan:

WalkBoston has reviewed the Notification of Project Change for the Marine Terminal improvements as part of the Salem Port Expansion off Blaney Street in Salem, MA. The site of the NPC is the southeast waterfront edge of a major power plant managed by Footprint Power. This NPC has been submitted to modify the Salem Port Expansion project to include improvements to Footprint Power's Marine Terminal for cruise vessel berthing, passenger improvements and pedestrian access to the adjacent Salem Wharf site.

This project is proposed to give Salem an access route for cruise ship users to reach tourist attractions in the center of town. The design provides access based on tourists disembarking and walking approximately 500 feet to get to the pre-existing Salem Ferry wharf. At that location, pedestrians can either find wheeled transportation (Salem Trolley, taxi, bus, pedicab or bike) to get access further into the city, or they can walk into the historic neighborhood which is immediately adjacent to the wharf. Tourist attractions are nearby including the famous House of the Seven Gables which is located at an easily walkable distance of about 500 feet from the Salem Ferry wharf.

The current project is intended to be an interim arrangement which will provide for basic access for cruise ship arrivals. A walkway will lead from the dock along an existing narrow embankment that separates a receiving basin from the open harbor. The walkway already exists in a rudimentary form, but will be made more substantial and paved, with fences to protect walkers along the route and with some trees to landscape it as well.

Plans are included for arrival and departure of buses using on-site roadways to connect with the dock and pick up cruise ship passengers.

We understand that in the longer term, the owners plan to reconfigure the power plant significantly, and may reconfigure the portion of the site containing this walkway. When that

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planning begins, it will be important to assure that the use of the site - both the upland portions closer to Fort Avenue and the waterside locations are included in an overall plan that will provide for more extensive pedestrian access.

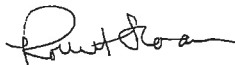
There have been some suggestions that may help make the proposed walkway more attractive to visitors and adding a sense of anticipation to the visit to Salem.

These include:

- Signs on the dock to direct arriving passengers to the walkway or to waiting buses.
- Trees lining the proposed walkway.
- Seats along the way to allow passengers to rest and observe Salem Harbor.
- An arch or gateway to celebrate the arrivals and reassure walkers they are on the right path.
- Large posted maps that indicate where visitors are located in relation to potential destinations.
- Signs with arrows to direct walkers to destinations. Distances on signs should be expressed in terms of walking times (e.g. House of Seven Gables - 5 minute walk) to help pedestrians make choices of route or travel modes.
- A painted line on the walkway to lead people to Derby Street which will be the principal connection from here into Salem's historic and tourist areas.
- A board posting arrival times for each cruise ship or ferry, perhaps located on the Salem Ferry Wharf.

We look forward to the details of these and other elements of the plan. We appreciate your consideration of our comments and look forward to your responses to them. Please feel free to contact WalkBoston with questions you may have.

Sincerely,



Robert Sloane
Senior Project Manager

Johnson, Holly (EEA)

From: Karen Barter [kbarter@7gables.org]
Sent: Wednesday, August 28, 2013 10:38 AM
To: Johnson, Holly (EEA)
Subject: Salem Waterfront Walkway

Dear Holly,

I am writing to briefly send in my overwhelming approval of the walkway, the cruise ships and the overall project going through.

It is so refreshing to see a city with foresight and enough "hootspa" to get things done and move forward. I work at The House of the Seven Gables,

That is just a couple piers away and we will benefit greatly from the increased accessibility, tourism and green space. I live in neighboring

Beverly, born and bred, and have continuously been frustrated by a community unable to move forward and utilize a beautiful resource like our exceptional harbor.

Please pass this on to the powers that be. Hooray for Footprint Power for stepping up and Hooray for Mayor Driscoll for her true leadership!

Best regards,

Karen

Barter

Karen Barter
Director of Development

The
of the **House**
Seven Gables



115 Derby Street
Salem, MA 01970
978-744-0991 x 126
978-741-4350 Fax
kbarter@7gables.org
www.7gables.org

Taste of The Gables, BEST EVENT OF THE YEAR!!!! Sept. 29 from 5-8pm Join us as 26 LOCAL CHEFS, wineries/ brewers and distillers offer their specialties and compete for Best Chef & Best Beverage. Competing for Best Chef and Best Beverage are: Tim Hopkins, Opus, Ipswich Ale Truck, CHIVE, Wenham Country Club, The Hawthorne Hotel, Wicked Chowday, The Adriatic Restaurant, Kernos, The Salem Screamery, Harbor Sweets, Finz, Naumkeag Ordinary, Casual Caterers, Notch Brewing, Sweet Blazes Bloody Mary, Mill River Winery, Milk & Honey, Still River Winery, Woodchuck Cider, Celia's, tangerine and more! Tickets available: totg2013.eventbrite.com

LIVE AUCTION! 1. "Winslow", The Harbor Seal by Beverly Seamans—exciting opportunity for collectors to own an original Seamans sculpture! 2. Olympic Weekend in VT—Celebrate the Winter Olympics this Feb. in a P.O.S.H. VT skihouse, with lift allowance, dinner in a local restaurant and 3 US Ski Team Jackets! 3. Paddles Up! 4. Boston Weekend, Oct. 4th, Symphony Tickets to Beethoven's 9th, with hotel, dinner and more! 5. Churchill Downs VIP Experience—Jockey suite, Race named after YOU! More, more, more. **SILENT AUCTION** includes works of ART by Ch Williams, Dale Rogers, Diane Pabich, Jim Klyde, Dan St. John, Karen Barter, Lisa Graves, Laura Dandandreau, Stan Gurspan, Jim Primmer, and books by Michele McPhee, character in next book YOUR NAME by Hank Phillippi Ryar 1st edition Binding E of The House of The Seven Gables by Nathaniel Hawthorne! Tickets available at TOTG2013.eventbrite.com

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Program Book ads: development@7gables.org Visit www.7gables.org for more event details.

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September



Saturday, September 21st at 2:00 pm "A Season in the Gables Garden" *The Challenges, Successes and Failures of Maintaining an Historic Garden* presented by Robyn Kanter of Kanter Design Associates. Follow The Gables garden through an entire growing season. Hear how we are adapting gardens to a new climate, finding sources for older varieties of plant material, and dealing with new plant diseases. This is a must see for every gardener and enthusiast out there! Learn from the best! Bring a notebook.

November



Wednesday, November 20th at 7:00 pm Brunonia Barry

Salem's own NY Times Best-selling author, Baccante award winner & Strnad Fellowship recipient presents her latest novel fresh off the press.

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MASS. CULTURAL COUNCIL

**Congress
of the
United States
House of Representatives**

**JOHN F. TIERNEY
MASSACHUSETTS
SIXTH DISTRICT**



August 27, 2013

MEPA, MA Executive Office of Energy and Environmental Affairs
ATT: Ms. Holly Johnson
100 Cambridge Street, Suite 900
Boston, MA 02114

Re: Salem Port Expansion EEA # 14234 & Salem Harbor Station
Redevelopment EEA # 14937

Dear Ms. Johnson,

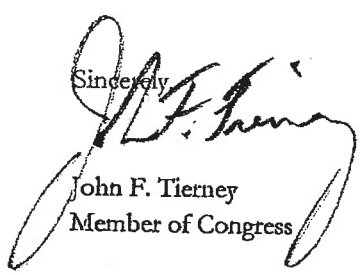
Please note that I have been asked to share comments concerning the above project and do so by this letter.

It is my understanding that the City of Salem has long planned its economic development and tourism initiatives which include Port development. As a City priority, the Port proposal has significant promise for the City's residential and business communities.

I ask that the Executive Office give its serious consideration to the project and the City's request for notice of project change. I trust that in so doing you will ensure that adequate precautions are taken to avoid negative impact on air quality and neighborhood quality of life in balance with the beneficial development being planned.

Thank you for your attention to this matter and support for the City of Salem.

Sincerely,


John F. Tierney
Member of Congress

JFT:cn

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Johnson, Holly (EEA)

From: Deb - Yahoo [dprentice45@yahoo.com]
Sent: Tuesday, August 27, 2013 10:11 AM
To: Johnson, Holly (EEA)
Subject: Salem Port EEA #14234 & Salem Harbor Station EEA # 14937 [Additional]
Attachments: MEPA Response Ltr & City Answers 8-21-13.pdf

SUBJECT: Salem Port Expansion EEA #14234 & Salem Harbor Station Redevelopment EEA # 14937

Dear Ms. Johnson,

Please see additional issues herein re: the above referenced, and rebuttals to many statements made by Mayor Kimberley Driscoll and Katherine Winn of the Planning Department.

I would like to again state my opposition to the City of Salem's Notice of Project Change, the goal of which is the onshore berthing of large cruise ships potentially carrying 2,000 passengers.

I've had time (thanks to MEPA extending the comment period) to analyze and research a very large amount of information, and I present it here. A *small* portion of my email here is repetition of points previously made, but I wanted to include them for the sake of completeness.

NPC issues:

- One environmental issue that jumps out on the NPC: "**The installation of** a small culvert and **associated fill** at the crossing of an existing swale, located at Blaney St."

However, is that fill indicated on the diagram (Figure 5, page 9, Proposed Site Fill) in the Salem Port Expansion ENF? I'm no engineer, but I think not.

Then on p 6 of the NPC: "**No** pile driving is proposed nor is any **filling** or dredging included within the request work elements."

Which is it?

- Also, the claims of public notification (page 4 of 8 in the Bourne Engineering narrative) are totally "erroneous" in the NPC. None! Of that happened. (I think this speaks to a "good faith" effort, or lack thereof.)

- Additionally, re: public notice: "Although the impacts from the City's proposed improvements do not trigger the need for enhanced public outreach under the Policy, the City of Salem and Footprint are both committed to maintaining full disclosure to the public throughout the regulatory process."

As to not triggering that need, does not **301 CMR 11.10 (7)** require notice to "any Agency or Person who received the ENF or commented on the ENF or any EIR prior"? **Was that requirement fulfilled?**

- Some see this as an end run for/by Footprint to comply with Ch. 91. But why this way? It's not the cruise ships per se, it's the scope and scale. If a Ch. 91 permitting issue, there are other, better ways to accomplish it.

- Is this expenditure really necessary? From the mayor in a belated letter to residents, 8/15 (the original comment end date): "In general, most cruise ships visiting Salem will be under 500 passengers. While the berth at Footprint can support vessels carrying over 1,000 people, we do not anticipate that many ships of this size would be visiting during the course of a year."

Some city officials have told us, no worries, large ships probably will not even want to come here.

So – what is the point of the NPC? What return on investment for funds for a large ship berth that even the mayor says may be rarely used for large ships?

Neighborhood "stakeholder" concerns:

The site in question is located in a historic district with lovely antique buildings (mostly homes) that date back to the 1700's. It was also added to the **National Register of Historic Places** in 1976, and includes works by noted Salem architect Samuel McIntire, and also the House of Seven Gables.

This area is one of the few remaining gems (perhaps one of two, with Chestnut St. being the other) in Salem. We have cow paths for streets, and they're almost all one way, as they are that narrow. By whatever means passengers on large cruise ships were to leave the Footprint pier, it would impose a hardship on both the Derby St. area and Webb St, which has been suggested as a bus route. Also keep in mind, some of the infrastructure under our streets goes back so far that it's very likely that we still have some wooden water pipes.

The city has vacillated on the passenger number (2,000 down to 1,000), and is also operating under many, many assumptions.

Bike cabs and trolleys won't suffice for a ship with 2,000 passengers. "*Perhaps*" - all passengers wouldn't disembark, and "*perhaps*" many would walk or take the trolley. If only half (1,000 passengers) chose to take buses, it would take forty bus trips in and out (at 50 passengers per bus) and eighty bus trips if all passengers chose to disembark using buses. More fumes, more dust, more litter, more noise, more congestion, more wear and tear on the entire area in so many ways...

If half chose to walk, "there goes the neighborhood", or at least some quality of life here for that duration.

To address points in a letter from Mayor Driscoll in response to a letter to her from the Historic Derby St Neighborhood Ass'n, cc: MEPA (both letters went to MEPA):

"I still believe that whatever the potential economic impact, whether it is \$200,000 or \$20,000, it is a positive impact..."

But at what cost to this historic neighborhood? What cost to quality of life? No mention of that.

A well-publicized statement by Mayor Driscoll, "A standard ship can generate close to \$285,000 in spending at a destination during a single stop" also seems problematic. HDSNA'S letter, which you have, blew that number out of the water – so to speak.

"Our expectation of around a dozen visits per year..."

Assumption! And it wouldn't be year round now, would it? E.g., June-October is 20 weeks, so one every 1.5 weeks? Who's to say that traffic wouldn't explode in the future? And are we not entitled to the quiet enjoyment of our homes in the good weather without hordes descending upon us?

"Bar Harbor, for example, has a large number because of boat tours (counted as cruises)."

Please see <http://www.workingwaterfront.com/articles/Ferry-Terminal-Eyed-for-Thriving-Cruise-Ship-Traffic/15035/>

Bar Harbor has been analyzing converting their former ferry terminal (4.5 acres) into a cruise ship terminal, as currently all passengers are transferred by tender. "**Cruise ships send tenders** into a private facility adjacent **to the town pier, which** is limited in area available for tour buses and **creates congestion for passengers and the town.**" The ferry/proposed cruise ship terminal site is also about two miles out of town, practically in the middle of Acadia National Park (forest), with a hotel on either side – not in residential Bar Harbor.

For 2012, 119 ships and 147,000 passengers were expected in Bar Harbor, between early May and late October..." For six months, that's an average of 20 ships per month.

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Yes, and we deal with that, too! October? Halloween? Oh, please...

"The number of passengers visiting our city and their route once ashore are no different than what had been initially proposed; all that is different is where the ships dock."

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How generous. If someone in our neighborhood hadn't been given a serendipitous heads up from a concerned citizen who doesn't even live in this area, this whole thing would have slid right through, with none of us being the wiser.

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And, note, no *numbers* for passengers. Anywhere.

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No guarantee there, and leaves the door wide open for future variances.

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And finally, from a purely economic neighborhood standpoint: **would all this impact our property values negatively?**

In closing (and I certainly appreciate it if readers have gotten this far) – I (and I believe, many in this area) am not averse to cruise ships, but again, 2,000 passengers descending on this little antique residential area is far too much of a burden in so many ways. I also do not believe that the city acted in good faith with residents, taxpayers, and businesses that would be affected here, by not notifying us; and also, per some points above, spinning some of the details (to understate it). (And not to mention, it's a rush job with very little solid forward planning.)

Thank you so much for your attention to this, and your incisive questions to the city, which go above and beyond; and especially, hearing us in this neighborhood. We would so appreciate a finding by MEPA, "Needs Further Review".

Sincerely,

Deborah Prentice
16 Hardy St.
Salem, MA 01970
978-744-3608

Johnson, Holly (EEA)

From: Doreen Powers [doreenjp@verizon.net]
Sent: Tuesday, August 27, 2013 3:43 PM
To: Johnson, Holly (EEA)
Subject: Salem Port EEA #14234 & Salem Harbor Station EEA # 14937 [Additional]
Attachments: MEPA Response Ltr & City Answers 8-21-13.pdf

Dear Ms. Johnson,

I am a concerned resident of Salem and I am opposed to the city's plan to allow large cruise ships to berth ashore at the power plant pair. Please see attachments.

Regards,
Doreen Powers

This Salem resident makes valid points to consider:

SUBJECT: Salem Port Expansion EEA #14234 & Salem Harbor Station Redevelopment EEA # 14937

Dear Ms. Johnson,

Please see additional issues herein re: the above referenced, and rebuttals to many statements made by Mayor Kimberley Driscoll and Katherine Winn of the Planning Department.

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Then on p 6 of the NPC: "**No** pile driving is proposed nor is any **filling** or dredging included within the request work elements."

Which is it?

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So – what is the point of the NPC? What return on investment for funds for a large ship berth that even the mayor says may be rarely used for large ships?

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Back to Salem. "This is not to mention the crowds throughout October, road races, festivals, etc."

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Sincerely,

Deborah Prentice
16 Hardy St.
Salem, MA 01970
978-744-3608

Johnson, Holly (EEA)

From: HEIDI MILMAN [heimilm@msn.com]
Sent: Tuesday, August 27, 2013 3:35 PM
To: Johnson, Holly (EEA)
Subject: RE: Salem Port EEA #14234 & Salem Harbor Station EEA # 14937 [Additional]

Date: Tue, 27 Aug 2013 10:34:28 -0400
Subject: Fwd: Fw: Salem Port EEA #14234 & Salem Harbor Station EEA # 14937 [Additional]
From: dprentice45@gmail.com
To: dprentice45@gmail.com

Hello,

This is a fwd of an email I sent to MEPA (part of MA Dept. of Environmental Protection) in opposition to the city's plan to allow large (potentially 2,000 passengers) cruise ships to berth onshore at the power plant pier. The city needs state approval, and we are fighting it.

If you're in agreement, PLEASE forward this to

holly.s.johnson@state.ma.us

before 5pm tonight, which is the deadline for public comments. You might also add that you're a concerned citizen of Salem (explain who you are), oppose the Notice of Project Change, and/or are in agreement with "the attached". Or - just forward this whole thing, if that's easier. They'll "get it".

PLEASE do this, for the sake of the Derby St. and Ward 2 neighborhoods, and your friends and possibly family here.

THANK YOU!!!

Deb

----- Forwarded message -----

From: **Deb - Yahoo** <dprentice45@yahoo.com>
Date: Tue, Aug 27, 2013 at 10:11 AM
Subject: Fw: Salem Port EEA #14234 & Salem Harbor Station EEA # 14937 [Additional]
To: Deb Gmail <dprentice45@gmail.com>

----- Forwarded Message -----

From: Deb - Yahoo <dprentice45@yahoo.com>

To: Holly Johnson <holly.s.johnson@state.ma.us>

Sent: Tuesday, August 27, 2013 10:10 AM

Subject: Salem Port EEA #14234 & Salem Harbor Station EEA # 14937 [Additional]

SUBJECT: Salem Port Expansion EEA #14234 & Salem Harbor Station Redevelopment EEA # 14937

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6. Request further information on how this will financially benefit the city.

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"8." Refers to Seaport bond funds. Although perhaps not in MEPA's purview, I would ask: are these state funds available for improvements to a PRIVATELY OWNED asset? And what of the funding for Blaney St/the ferry area, which is unfinished? Perhaps the word on the street is so, that state funds for it are depleted, that the city has to come up with some money now. If true, is this an indication of the city's lack of commitment, that they haven't stepped up yet, and are rolling on to "the next big thing"?

And finally, from a purely economic neighborhood standpoint: **would all this impact our property values negatively?**

In closing (and I certainly appreciate it if readers have gotten this far) – I (and I believe, many in this area) am not averse to cruise ships, but again, 2,000 passengers descending on this little antique residential area is far too much of a burden in so many ways. I also do not believe that the city acted in good faith with residents, taxpayers, and businesses that would be affected here, by not notifying us; and also, per some points above, spinning some of the details (to understate it). (And not to mention, it's a rush job with very little solid forward planning.)

Thank you so much for your attention to this, and your incisive questions to the city, which go above and beyond; and especially, hearing us in this neighborhood. We would so appreciate a finding by MEPA, "Needs Further Review".

Sincerely,

Deborah Prentice
16 Hardy St.
Salem, MA 01970
978-744-3608

Johnson, Holly (EEA)

From: janet.crane@comcast.net
Sent: Tuesday, August 27, 2013 2:13 PM
To: Johnson, Holly (EEA)
Cc: janet.crane@comcast.net
Subject: Fwd: Salem Port EEA #14234 & Salem Harbor Station EEA # 14937 [Additional]
Attachments: MEPA Response Ltr & City Answers 8-21-13.pdf

Dear Ms. Johnson,

I am a resident of Salem (for 30 years) and have a Ph.D. in environmental geography. I worked in the country of Grenada on tourism issues (including cruise ships). I am also an elected citywide School Committee member.

I am strongly opposed to the City of Salem's intentions with regard to the berthing of cruise ships of any size in Salem. As a city we are trying to emphasize our historic waterfront and making the entire city from our pier area to the train station a walking city with a scenic pathway from the downtown to the Willows.

Cruise ships are out of place in this environment. Once the current power plant is demolished, I am looking for the minimal environmental impact possible to enable this city to turnaround the misdirected and haphazard development currently being undertaken by current city officials. Cruise ships will be a blight on our waterfront.

Please DO NOT approve the City's proposal nor its changes. Please put on hold any discussions about berths and piers until Salem, as represented by a wide spectrum of residents, has developed a coherent plan for and further development in the city limits and along its shoreline.

I urge STATE denial of the City's request.

Janet Crane, Ph.D.
Salem School Committee
978-304 2630

I support Ms. Prentice's point by point objections to the City's Notice of Project change, which follows.

SUBJECT: Salem Port Expansion EEA #14234 & Salem Harbor Station Redevelopment EEA # 14937

Dear Ms. Johnson,

Please see additional issues herein re: the above referenced, and rebuttals to many statements made by Mayor Kimberley Driscoll and Katherine Winn of the Planning Department.

I would like to again state my opposition to the City of Salem's Notice of Project Change, the goal of which is the onshore berthing of large cruise ships potentially carrying 2,000 passengers.

I've had time (thanks to MEPA extending the comment period) to analyze and research a very large amount of information, and I present it here. A *small* portion of my email here is repetition of points previously made, but I wanted to include them for the sake of completeness.

NPC issues:

- One environmental issue that jumps out on the NPC: **"The installation of a small culvert and associated fill at the crossing of an existing swale, located at Blaney St."**

However, is that fill indicated on the diagram (Figure 5, page 9, Proposed Site Fill) in the Salem Port Expansion ENF? I'm no engineer, but I think not.

Then on p 6 of the NPC: **"No pile driving is proposed nor is any filling or dredging included within the request work elements."**

Which is it?

- Also, the claims of public notification (page 4 of 8 in the Bourne Engineering narrative) are totally "erroneous" in the NPC. None! Of that happened. (I think this speaks to a "good faith" effort, or lack thereof.)

- Additionally, re: public notice: "Although the impacts from the City's proposed improvements do not trigger the need for enhanced public outreach under the Policy, the City of Salem and Footprint are both committed to maintaining full disclosure to the public throughout the regulatory process."

As to not triggering that need, does not **301 CMR 11.10 (7)** require notice to "any Agency or Person who received the ENF or commented on the ENF or any EIR prior"? **Was that requirement fulfilled?**

- Some see this as an end run for/by Footprint to comply with Ch. 91. But why this way? It's not the cruise ships per se, it's the scope and scale. If a Ch. 91 permitting issue, there are other, better ways to accomplish it.

- Is this expenditure really necessary? From the mayor in a belated letter to residents, 8/15 (the original comment end date): "In general, most cruise ships visiting Salem will be under 500 passengers. While the berth at Footprint can support vessels carrying over 1,000 people, we do not anticipate that many ships of this size would be visiting during the course of a year."

Some city officials have told us, no worries, large ships probably will not even want to come here.

So – what is the point of the NPC? What return on investment for funds for a large ship berth that even the mayor says may be rarely used for large ships?

Neighborhood "stakeholder" concerns:

The site in question is located in a historic district with lovely antique buildings (mostly homes) that date back to the 1700's. It was also added to the **National Register of Historic Places** in 1976, and includes works by noted Salem architect Samuel McIntire, and also the House of Seven Gables.

This area is one of the few remaining gems (perhaps one of two, with Chestnut St. being the other) in Salem. We have cow paths for streets, and they're almost all one way, as they are that narrow. By whatever means passengers on large cruise ships were to leave the Footprint pier, it would impose a hardship on both the Derby St. area and Webb St, which has been suggested as a bus route. Also keep in mind, some of the infrastructure under our streets goes back so far that it's very likely that we still have some wooden water pipes.

The city has vacillated on the passenger number (2,000 down to 1,000), and is also operating under many, many assumptions.

Bike cabs and trolleys won't suffice for a ship with 2,000 passengers. "Perhaps" - all passengers wouldn't disembark, and "perhaps" many would walk or take the trolley. If only half (1,000 passengers) chose to take buses, it would take forty bus trips in and out (at 50 passengers per bus) and eighty bus trips if all

passengers chose to disembark using buses. More fumes, more dust, more litter, more noise, more congestion, more wear and tear on the entire area in so many ways...

If half chose to walk, "there goes the neighborhood", or at least some quality of life here for that duration.

To address points in a letter from Mayor Driscoll in response to a letter to her from the Historic Derby St Neighborhood Ass'n, cc: MEPA (both letters went to MEPA):

"I still believe that whatever the potential economic impact, whether it is \$200,000 or \$20,000, it is a positive impact..."

But at what cost to this historic neighborhood? What cost to quality of life? No mention of that.

A well-publicized statement by Mayor Driscoll, "A standard ship can generate close to \$285,000 in spending at a destination during a single stop" also seems problematic. HDSNA'S letter, which you have, blew that number out of the water – so to speak.

"Our expectation of around a dozen visits per year..."

Assumption! And it wouldn't be year round now, would it? E.g., June-October is 20 weeks, so one every 1.5 weeks? Who's to say that traffic wouldn't explode in the future? And are we not entitled to the quiet enjoyment of our homes in the good weather without hordes descending upon us?

"Bar Harbor, for example, has a large number because of boat tours (counted as cruises)."

Please see <http://www.workingwaterfront.com/articles/Ferry-Terminal-Eyed-for-Thriving-Cruise-Ship-Traffic/15035/>

Bar Harbor has been analyzing converting their former ferry terminal (4.5 acres) into a cruise ship terminal, as currently all passengers are transferred by tender. "**Cruise ships send tenders** into a private facility adjacent **to the town pier, which** is limited in area available for tour buses and **creates congestion for passengers and the town.**" The ferry/proposed cruise ship terminal site is also about two miles out of town, practically in the middle of Acadia National Park (forest), with a hotel on either side – not in residential Bar Harbor.

"For 2012, 119 ships and 147,000 passengers were expected in Bar Harbor, between early May and late October..." For six months, that's an average of 20 ships per month.

Would a similar dismal fate await us here, down the road?

Also re: their ferry terminal, please see <http://www.barhARBORMaine.gov/document/0001/1712.pdf>
Bar Harbor Ferry Terminal Feasibility Study
May 31, 2012

"Cruise operations

- Ships like to bring passengers in the center of the Town
- Large passenger concentration create problems in the Town**
- Tendering is disappearing worldwide
- Large ships CANNOT tender
- Tendering means
- High cost to the lines
- High percentage of passengers not disembarking
- Anecdotal accounts of 40% of passengers staying on ships
- Passengers that disembark lose 2 to 3 hours in process
- Places that do not have a pier are losing traffic – fast"

Does much of the above apply here? And is it part of this push to berth cruise ships at the Footprint pier? How about that second bullet???

And per the NPC, "The proposed improvements described in this NPC are intended to be an *interim phase* to accommodate cruise ship berthing in the 2014 season and beyond on a limited basis... [But then] The City and Footprint continue *to work toward a long term agreement* that will provide the City with access rights to the marine terminal. Once finalized, this agreement will permit the further *permanent* development of the marine terminal..."

Thus, this neighborhood will be stuck with whatever goes there for eternity if the NPC is approved. It's just not right to put something like this in such a fragile, historic, DENSE, residential neighborhood, *especially with such a lack of planning*. **This is a rush job!**

On to the mayor's reference to Portland. "Portland has a dedicated cruise terminal and serves as an embarkation point."

Portland's terminal is downtown, not in the middle of a historic residential neighborhood.

Back to Salem. "This is not to mention the crowds throughout October, road races, festivals, etc."

Yes, and we deal with that, too! October? Halloween? Oh, please...

"The number of passengers visiting our city and their route once ashore are no different than what had been initially proposed; all that is different is where the ships dock."

However - there has never - NEVER - been any mention of 2,000 PASSENGERS. 800' ships? *One mention* in a table in the 2008 ENF.

2,000 passengers? NO!

The mayor cites 2,000 people at our farmers' market for crowd comparison - but they're not there all at once. Hardly. That market is open for four hours on Thursday. I go weekly, am there for about an hour, and for sure, there are not more than 200 (I'll even go 300, although I doubt it) people there at any given time - so 800-1200 people a week (again, over four hours) would be more realistic. Additionally, it's downtown, not in a mostly residential area.

She also mentions 4th of July, smack in the middle of our area, but that's only once a year.

Re: crowd control, "We do have relevant experience doing it successfully." What has that to do with quality of life in a neighborhood???

"...we do not anticipate that a cruise ship docked at Salem Wharf for a 6-8 hour period of time, usually mid-week, will result in throngs of passengers traversing Derby Street en mass."

Assumption!

Traffic - The city has a table in the ENF with numbers, but no supporting data to back that up. Curious how they came up with that.

On to another document, K Winn's response to [Holly Johnson at] MEPA, "RE: City of Salem—Footprint Access NPC—Comment Summary and Response" (att'd). Most of this is just repetition/copy/pastes of previous dogma, and I have it saved in other documents.

Public notice issues (again) -

1: Why has there been no notice to the local area or opportunity for public to voice their opinion?

"The notion of an expanded waterfront and pier access at the power plant site has been part of the planning process and many of the public presentations related to the power plant and the Blaney Street site."

NOT in public presentations has the large cruise ship "notion" been discussed. State officials must be aware, from the indignant horrified responses of residents to the NPC, that the above is a flat out fabrication. I defy anyone to show me where, in city meeting minutes or agendas, a discussion of the large cruise ship issue has occurred. What? Sunshine ordinance?

"The Notice of Project Change ... is now posted in City Hall, the Salem Wharf Ferry Terminal and along Derby Street." It isn't.

I did reconnaissance on Friday morning, August 23. Ferry office, check. City Hall, check.

Not on Derby St., that I saw, not on street poles, nor did I see any notices posted in merchant windows (a common communication method here) from Blaney St. to Derby Wharf. Where, oh where, could they be? A rather large oversight?

"In recognition of the level of interest shown in this matter by the residents, Salem businesses, and others in the community, the proponents have requested and been granted a 2-week extension on the public comment period to address additional concerns."

How generous. If someone in our neighborhood hadn't been given a serendipitous heads up from a concerned citizen who doesn't even live in this area, this whole thing would have slid right through, with none of us being the wiser.

4. Impacts only address the impacts of construction, and not the impacts specifically from the cruise ship. Impacts to air, water, traffic and noise have not been fully evaluated.

"...many ships are being retrofitted to allow for shore side power to minimize air quality impacts from power generation."

Assumption! That ships docking here would have such retrofits.

"We fully expect mitigation funds from utility projects anticipated in the neighborhood to help offset the cost of infrastructure upgrades to this area..."

Assumption!

"The activity of the cruise ships coming to Salem and the associated passengers was included within the original MEPA ENF filing for the Salem Port Expansion Project..."

A "find" in the ENF on "passengers" comes up with one mention on p. 12: "The site is being designed to provide public and visitor amenities and to enhance the site as a public gateway to Salem for ferry and cruise ship passengers."

And, note, no *numbers* for passengers. Anywhere.

5. Concern with additional neighborhood and environmental impacts of land-side cruise ship services, including vendor and excursion/transportation vehicles.

"No dockside vessel services of water or sewage pump out are proposed at this time. These uses and associated impacts will be reviewed and evaluated in the ultimate use site plan."

No guarantee there, and leaves the door wide open for future variances.

6. Request further information on how this will financially benefit the city.

Cruise ships may well benefit Salem's economy. That's not a bone of contention. The scope and scale of all this, the size of ships, and the impact on the neighborhood is, however.

"8." Refers to Seaport bond funds. Although perhaps not in MEPA's purview, I would ask: are these state funds available for improvements to a PRIVATELY OWNED asset? And what of the funding for Blaney St/the ferry area, which is unfinished? Perhaps the word on the street is so, that state funds for it are depleted, that the city has to come up with some money now. If true, is this an indication of the city's lack of commitment, that they haven't stepped up yet, and are rolling on to "the next big thing"?

And finally, from a purely economic neighborhood standpoint: **would all this impact our property values negatively?**

In closing (and I certainly appreciate it if readers have gotten this far) – I (and I believe, many in this area) am not averse to cruise ships, but again, 2,000 passengers descending on this little antique residential area is far too much of a burden in so many ways. I also do not believe that the city acted in good faith with residents, taxpayers, and businesses that would be affected here, by not notifying us; and also, per some points above, spinning some of the details (to understate it). (And not to mention, it's a rush job with very little solid forward planning.)

Thank you so much for your attention to this, and your incisive questions to the city, which go above and beyond; and especially, hearing us in this neighborhood. We would so appreciate a finding by MEPA, "Needs Further Review".

Sincerely,

Deborah Prentice
16 Hardy St.
Salem, MA 01970
978-744-3608

Johnson, Holly (EEA)

From: E MACY WARE [ellatory@verizon.net]
Sent: Tuesday, August 27, 2013 4:53 PM
To: Johnson, Holly (EEA)
Cc: eware@winchester.us

Ms Johnson,

Since sending you my previous e-mail I have talked with Alex Strysky. He did not inform me of the Notice of Project Change project comment period because he did not think that I was talking about that component of the project. Additionally he caused me to understand that that my interpretation that the power plant was on Commonwealth filled tidelands was incorrect. I now understand that the power plant is on private filled tidelands.

The rest of my issues remain as to the Chapter 91 issues such as who has the license and who can alter it as to use. I'm not sure that the application of the Notice of Project Change adequately addresses these issues enough to for an adequate review. After talking this afternoon with the signator of the NPC for the City of Salem, Ms Kathleen Winn; I am certain that she does not understand the issues involved. She said so herself.

Please add these to my previously sent comments.

Thank you,

Robert T. Leavens

Johnson, Holly (EEA)

From: E MACY WARE [ellatory@verizon.net]
Sent: Tuesday, August 27, 2013 3:43 PM
To: Johnson, Holly (EEA)
Cc: eware@winchester.us
Subject: Salem Port Expansion EEA #14234 & Salem Harbor Station redevelopment EEA #14937
Attachments: Cruise ship Chapter 91.docx

Ms Johnson,

Please find comments attached with respect to the above referenced EEA's.

Thank you,

Robert T. Leavens
385 Magnolia Ave.
W. Gloucester, MA 01930 Tel. 978-879-9499

To:

Ms Holly S. Johnson

MEPA

100 Cambridge St., Suite 900

Boston, MA 02114

August 27, 2013

Subject: Comments on

Salem Port Expansion EEA #14234

Salem Harbor Station Redevelopment EEA# 14937

Comments:

Firstly, in a conversation with Alex Strycky of DEP on August 22, 2013 I was incorrectly informed that the comment period had closed on this project.

Secondly, Alex Strycky also apparently incorrectly advised me that the site locus of these projects was wholly above private tidelands. I say apparently because there is a small chance that Commonwealth bottomlands were conveyed by a deed in the 1920's from the City of Salem. If however Commonwealth bottomlands were not conveyed by that deed, both projects referenced are either partially or wholly over Commonwealth bottomlands and subject to a thorough Chapter 91 review. Given the misinformation about the end of the comment period I have not had time to research this deed.

A map of the Salem Harbor Station prepared for U.S. Gen New England in its 2004 revision (Plan Book 384, Page 2 at the Essex South Registry of Deeds) clearly delineates the approximate low water mark at the site as of March 28, 1929 and December 18, 1923 and references land court plans 13458A and 9885A. Assuming this information is correct, the ocean ward limit of private bottomlands is thereby delineated.

The whole of the dock proposed by the Notice of Project Change is ocean ward of this line. The Chapter 91 license is presumably for the water dependent use of delivering coal, not for a cruise ship terminal. The Chapter 91 license holder is now Footprint Power as the license automatically transfers with the deed. But Footprint is not in the cruise ship destination business. Can Footprint change the use of its Chapter 91 license without a reapplication for that license and without a renewed analysis of public access that a new Chapter 91 license requires? The City of Salem has not requested a Chapter 91 license as far as I am aware. Can the City of Salem use Footprint's Chapter 91 license for a coal dock as a cruise ship terminal?

The existing power plant itself is over Commonwealth bottomlands according to the above maps. In that the Footprint plan for a gas power plant is not a water dependant use shouldn't their Chapter 91

license be voluntarily abandoned. They could sell the land that is proposed for the cruise ship terminal to the City of Salem, thereby transferring the Chapter 91 license; however the City of Salem is not in the coal business. Besides, that is not what is being proposed. I'm also not sure that Footprint's gas fired power plant doesn't need mitigation as it is on filled Commonwealth bottomlands.

Everyone is playing fast and loose with Chapter 91 here. Why have the law if we're not going to use it?

I do not believe that the applicants have properly addressed these and potentially other issues related to Chapter 91, and would like to understand in writing how the projects have been analyzed for compliance by State regulators.

Sincerely,

Robert T. Leavens

385 Magnolia Ave.

W. Gloucester, MA 01930

Johnson, Holly (EEA)

From: dansmagik@comcast.net
Sent: Tuesday, August 27, 2013 10:58 AM
To: Johnson, Holly (EEA)
Subject: Salem Port Expansion EEA #14234
Attachments: LH MEPA-2.doc

Hi Holly,

See attached for my comments on the Salem Port Expansion EEA #14234 & Salem Harbor Station Redevelopment EEA #14937. Please contact me via email or on my cell (978) 979-3686 to let me know you got this & if any questions, etc.

Many thanks.

Linda Haley

August 27, 2013

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

Re: Salem Port Expansion EEA #14234 & Salem Harbor Station Redevelopment EEA # 14937

Dear Secretary Sullivan,

This is a follow-up letter to one I sent to your office on August 10, 2013 regarding the above "Notice of Change." I am writing again to focus specifically on 3 points that have come to light since my earlier communication.

(1) In recent news articles quoting the Mayor or her staff, a letter from the Mayor to our local neighborhood association which abuts the locus of the dock proposal, and the response the MEPA comments by Ms. Winn of the Salem Planning Dept., emphasis has been on ships holding 1,000 or less passengers, with much fewer actually disembarking in Salem. I feel this emphasis is misleading and confusing regarding the size of the ships for which this "Notice of Change" proposal is aimed, which is "LARGE" ships holding 2,100 passengers plus crew. If we don't anticipate such large ships, why use state funds to make these temporary improvements to a privately owned property? Why not save the funds and hope more can be added to create the docking situation already vetted and supported by the community — small ships that can come to the city-owned Blaney Street dock and offer the type of high quality, low impact tourism that we want?

(2) The City and our neighborhoods, together or separately, are only at the beginning stage of negotiations with Footprint Power on a Community Benefits Agreement relating to a new gas-fired power plant being constructed on the same site as the dock and pedestrian walkway under consideration in the "Notice of Change." It is my belief that the community of Salem should be looking to Footprint Power for financial assistance to improve the Blaney Street dock in accordance with the goals of the 2008 Harbor Plan and the 2010 Reuse Study as part of its Community Benefit Agreement, not that the Commonwealth of MA should be helping Footprint fix up their property for some never-vetted scheme to bring huge ships into Salem harbor and an influx of passengers who, statistics show, will bring more trash and traffic problems to our city than financial benefits.

(3) Since the Planning Dept. staff have stated that it had to start negotiations with "LARGE" cruise ship companies 5 years in advance and such ships could be arriving on our shores as early as this season, I request as part of the Freedom of Information Act and this MEPA process, that the City produce evidence of such negotiations dating back to 2008 and contracts with companies scheduling trips to Salem in the near future. This proof would also help to alleviate concerns that this modification to the use of the power plant site is an attempt to help Footprint Power meet some requirements of Chap. 91 zoning to which they don't meet without the proposed change.

Finally, I wish to point out, in reference to mitigating problems of traffic, trash, etc., that any analogy offered between of July 4th and "LARGE" cruise ships coming to Salem is at best disingenuous. Prior to the festivities at the National Maritime Site, which hosts the July 4th event, all streets leading to the Derby St. neighborhood are closed off to vehicle traffic hours before the event begins, extra police and park service staff and emergency vehicles are brought to the site, the isolated gathering disperses as a mass in a short time period, and there are extensive costs involved in the pre-planning and follow-up to this once-a-year event. Thus, I see no parallel to the plan for this proposed change and view it as being thrust on Salem for reasons unclear, with mitigation inadequate and a paucity of public scrutiny. I urge you to either deny the "Notice of Change" application or insist on much more open communication and planning with the community at risk before this change is ever approved.

Thank you, in advance, for your attention to and consideration of this letter.

Sincerely,

Linda Haley
43 Turner Street
Salem, MA 01970
(978) 979-3686

RECEIVED

HS

AUG 28 2013

MEPA

Ms. Holly Johnson
MEPA, MA Executive Office of Energy & Environmental Affairs
100 Cambridge Street, Suite 900
Boston, Massachusetts

Ref: Salem Port Expansion EEA #14234 & Salem Harbor Station Redevelopment EEA # 14937

Dear Holly,

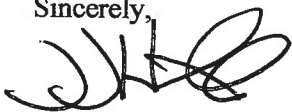
This writing is in support of the Salem Port Expansion and Harbor Station Redevelopment. I am presently serving as a board member of the Salem Partnership and the Salem Harbor Committee. Through my employment I work in Salem and am involved in the energy industry.

First, the Salem Port Expansion is a perfect fit for the City of Salem and the Commonwealth of Massachusetts. Salem being one of the nation's oldest and most historic seaports will be an attraction to maritime travelers. Amongst the Massachusetts Seaports I believe that Salem is only second to Boston in its appeal to the tourist community. Extending beyond the City of Salem this project will benefit the entire Commonwealth. When the ships land in Salem the passengers will not only visit Salem, they will venture out into other rural areas by bus. Locations of visit could be Rockport, Gloucester and perhaps further to locations similar to Newburyport.

Addressing the above with a lifetime of employment in the maritime community, I know that these types of passenger ship visits are highly organized to the benefit of all. Thus, the impact on the communities will be skewed disproportionally toward the positive with very little negative effects.

With regard to the Salem Harbor Station, the City of Salem and the Commonwealth have been given the opportunity to accept and promote something that almost could not be imagined. The rebirth of a power plant in the modern age to a much smaller size facility that will transition from coal to the cleaner burning natural gas and will include the demolition of the older facility. This is a rare opportunity for the Commonwealth and again here as in the port expansion the positive impacts greatly outweigh any negatives. In fact, I can't think of a negative other than withstanding a highly organized, methodical and minimally adverse deconstruction and construction project.

Sincerely,



Captain Jeff Havlicek
Salem Partnership Board Member
Salem Harbor Committee
C/O Excelerate Energy, LP
27 Congress Street, Suite 304B
Salem, MA 01907

Johnson, Holly (EEA)

From: James R Treadwell [jrtreads4@gmail.com]
Sent: Tuesday, August 27, 2013 1:55 PM
To: Buckley, Deirdre (EEA)
Cc: Johnson, Holly (EEA)
Subject: Notice of Project Change, Salem Port Expansion (EEA#14234) & Salem Harbor Station Redevelopment (EEA#14937)

Good afternoon. Please find attached a 3 page document containing my comments regarding the subject Notice of Project Change. Thank you for your assistance. Jim Treadwell.

August 27, 2013

TO: Secretary Richard K. Sullivan, Jr.
Executive Office of Energy and
Environmental Affairs
Attn: Deirdre Buckley
100 Cambridge Street, Suite 900
Boston, MA 02114

FROM: James R. Treadwell, Jr., AICP

SUBJECT: Supplemental Review and Comment
Notice of Project Change (NPC)
Salem Port Expansion Project (EEA# 14234)
Salem Harbor Station Redevelopment (EEA# 14937)

I have reviewed the letter to Holly Johnson, dated August 21, 2013, (the Supplement) from Kathleen Winn of the City of Salem (the Proponent). I understand that said letter represents information that supplements the NPC dated July 15, 2013. Accordingly, I would offer the following comments and observations to supplement the comments and observations that I provided on August 12, 2013.

CONCLUSION

The Conclusion, in my correspondence of August 12, 2013, was that further MEPA review of the NPC should be required. The supplemental information does not alter that conclusion.

COMMENTS AND OBSERVATIONS

a. The Supplement sets forth many conclusions that are not substantiated or otherwise supported with hard data. Examples:

"In general most cruise ships visiting Salem will be under 500 passengers";

"There is a new push in the cruise industry and many ships are being retrofitted to allow for shore side power to minimize air quality impacts from power generation. As the City plans for upgrades at the pier, they are incorporating the need for this amenity to be included in the project."; "Supplying cruise ships by truck is normally done at the beginning or end of a cruise and would likely not occur

Further MEPA review would permit the Proponent to present an up-to-date and thorough analysis of environmental impacts with appropriate support data and including an analysis of mitigation measures and alternatives.

b. I have been unable to locate information in the "2008 ENF filing", and other material referenced in the Supplement, that would allow me to conclude that 1) the Project Proponent has "adequately described and analyzed the Project and its alternatives, and assessed its potential environmental impacts and mitigation measures", or 2) would evidence that the Proponent has considered "the positive and negative, short-term and long-term potential impacts for all phases of a Project, and the cumulative impacts of the Project and any other Project or other work or activity in the immediate surroundings or the region."

c. With regard to the need to consider the cumulative impacts of a Project, the Supplement indicates 1) that the "current plan"/"long term goal" is to stage the buses for cruise ship sponsored shore-side excursions in Footprint's upland area west of the Footprint pier and 2) that plans are to upgrade the pier to allow for shore side power. Even though related to the NPC Project, the Proponent does not intend to analyze the environmental impacts of these improvements until a long term Agreement with Footprint is finalized. Would this proposed delay be consistent with the regulation applicable to cumulative impacts as expressed at MEPA and Environmental Planning ?

Note: Any delay of upgrades at the pier to provide for shore side power would probably guarantee that the air quality degradation, associated with cruise ships at berth, would not be mitigated by 2014 when the marine terminal is to be operational.

d. With regard to consideration of "the cumulative impacts of a Project and any other Project or other work or activity in the immediate surroundings or the region", I would note that the Proponent does take notice of "the utility projects happening in the area". However, the need to consider, cumulatively, the impacts of the NPC and the National Grid and LNG pipeline projects is not acknowledged by the Proponent. Actually, and to the contrary, the Proponent expresses its expectation that "upgrades to sidewalks and roads on and around Derby Street will be a key part of the mitigation efforts for the utility projects happening in the area".

In this instance: 1) would failure to analyze the cumulative impacts contradict the direction included at MEPA and Environmental Planning and 2) should a project Proponent expect Proponents of other projects to mitigate or minimize the adverse environmental impacts caused, at least in part, by its undertaking ?

large cruise ships-either berthed at the Footprint marine terminal or moored off-shore-on the water quality of Salem Harbor and Salem Sound.

Note: I cannot locate any information in the material referenced in the Supplement-including the Analysis of Existing Port Plans and Development of a Preferred Plan-that relates to the impact of cruise ships on water quality. (refer to b. above that this situation exemplifies)

f. In order to minimize/mitigate/avoid adverse environmental impacts from traffic in the Historic Derby Street Neighborhood Area, a decision had been made to adjust Derby Street traffic from a one-way to a two-way Street from Webb Street to White Street. (Refer to "Derby Street Two-Way Conversion")

This proposal has not been implemented. Therefore, relative to the NPC, Cruise sponsored excursion bus traffic will be required to penetrate the network of local streets in order to access the bus staging area at the Blaney Street, Salem Port Expansion area.

Further MEPA review of the traffic impacts associated with the NPC should be undertaken to account for the failure to modify the traffic pattern on Derby Street and to analyze the impacts of the movements of the cruise sponsored excursion buses on this residential neighborhood.

g. The Notice of Project Change Narrative finds that "the impacts to greenhouse gas (GHG) emissions from the the City's proposed improvements are de minimis". Did this finding include consideration of air quality impacts from large cruise ships? If this factor would change the de minimis finding, further MEPA review would be necessary to perform an additional GHG analysis of the NPC.

h. I would reiterate my previous observation that the NPC improvements involve Financial Assistance from the Commonwealth and I have been advised by Ms. Winn that \$500,000.00 of Seaport Funds has been awarded for these improvements.

James R. Treadwell, Jr., AICP

August 27, 2013