ENVIRONMENTAL CHECKLIST
Port of Seattle
Terminal 5 Cargo Wharf Rehabilitation and Berth Deepening

A. BACKGROUND

1. Name of proposed project, if applicable:

Port of Seattle Terminal 5 Cargo Wharf Rehabilitation and Berth Deepening

2. Name of applicant: Port of Seattle (SEPA File Number 15-03)

3. Address and phone number of applicant and contact person:

Paul Meyer

Port of Seattle, Pier 69

2811 Alaskan Way

Seattle, WA

206-787-3127

Meyer.p@portseattle.org

4. Date checklist prepared: March 2, 2015

5. Agency requesting checklist: Port of Seattle (the Port)

6. Proposed timing or schedule (including phasing, if applicable):

The project is expected to begin in early 2016 following receipt of City of Seattle, Washington State and federal authorizations with completion expected in January 2019. In water work is restricted seasonally between August 16 and February 15 of each construction year.

7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.

This SEPA Checklist analyzes potential environmental effects anticipated to result from the proposal to rehabilitate existing Terminal 5 wharf structures, deepen the adjacent berth and to improve electrical service to the existing wharf. The Port will conduct additional environmental review in the future, as appropriate, if a future Terminal 5 tenant proposes marine terminal activities with cargo volumes or activities and potentially associated effects substantially different from past, previously evaluated and approved operations. At present, no additions, expansion, change of use or further activities that are related to or connected with this proposal are known.

8. List any environmental information you know about that has been prepared, or would be prepared, directly related to this proposal.

The Port is using a combination of existing and new environmental data and analyses to comply with the State Environmental Policy Act in evaluating potential environmental effects anticipated from the proposed project. Please note that redevelopment of the Terminal 5 site was evaluated in a 1994 combined NEPA (National Environmental Policy Act)/SEPA Environmental Impact Statement (EIS), Southwest Harbor Cleanup and Redevelopment Project. The Draft EIS and the Final EIS, including

appendices, are incorporated by reference into this SEPA checklist. In addition, four SEPA addendums to the EIS, published subsequent to the EIS, are also incorporated by reference into this SEPA checklist.

The Port is also preparing an evaluation of the potential aquatic area effects of the proposed project that analyzes the effect of proposed wharf strengthening construction activities and vessel dredging activities on endangered and threatened species. A copy of the project biological evaluation may be obtained from the Port for review. Please contact Paul Meyer (206-787-3127); meyer.p@portseattle.org to review environmental information relating to the proposed project. A summary of other environmental documents related to this proposal is listed in Table 1.

Table 1 Summary of Environmental Documents Pertinent to Proposal

Document Title	Date Issued
Soil and Groundwater Management and Restoration of Engineered Environmental Controls - Terminal 5 Remediation Areas, Seattle, Washington. Prepared for the Port of Seattle by Windward Environmental, LLC.	April 27, 2011
Preliminary Geotechnical Engineering Design Study Terminal 5 Deepening and Crane Rail Project. Seattle, Washington. Prepared for the Port of Seattle by Hart Crowser Inc.	May 30, 2014
Sampling and Analysis Plan (Sap) Terminal 5 Berth Deepening Project. Seattle, Washington. Prepared for the Port of Seattle by Hart Crowser Inc.	December 16, 2014
Draft Biological Evaluation Terminal 5 Wharf Rehabilitation and Berth Deepening, Seattle, Washington. Prepared for the Port of Seattle by Hart Crowser Inc.	February 3, 2015
Construction-Related Air Quality Discussion for Checklist Technical Memo to Pam Xander and Paul Meyer, Port of Seattle. February 24, 2015. Prepared by ENVIRON International Corporation.	February 24, 2015
Construction-Related Noise Discussion for Checklist Technical Memo; to Pam Xander and Paul Meyer, Port of Seattle. February 24, 2015. Prepared by ENVIRON International Corporation.	February 24, 2015

9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain.

Several Port and non-Port proposals are in the conceptual planning stages or are scheduled for construction in the general vicinity of the proposed project and may affect the project area. However, the projects have been shown to be independent of one another; each would be undertaken regardless of the other and are not needed to support one another. If the projects listed below are permitted and proposed for construction coincident with timeframes of the proposed project, they would be closely coordinated. Each of the projects would be required to conduct separate, project-specific SEPA environmental review. Mitigation measures appropriate for each project would decrease the potential for cumulative impacts.

- Lockheed West Federal Superfund. Site of Former Lockheed Shipyard Number Two, northwest margin of the West Waterway:

  Record of Decision: issued August 2013
  Consent Decree: expected 2015–2016
  Cleanup design: expected 2016–2018
  Implementation: 2018–2020

- Seattle Harbor Navigation Improvement Project (also referred to as the Corps of Engineers East and West Waterway Deepening Feasibility Study):

  Project reconnaissance report: completed fall 2104
  Project feasibility study: 2015–2017
  Project design and construction: 2018–2024

- East Waterway Maintenance Dredging Program:

  10-year programmatic authorization to conduct routine maintenance dredging as necessary to maintain navigation and berthing depths within the East Waterway.
  SEPA Notification of Decision—February
  End of Comment Period—March 13, 2015

- Terminal 5 Bollard Replacement:

  SEPA Exemption Memo to file—February 4, 2015
  Shoreline Substantial Development Exemption, City Project #6456125—February 5, 2015

10. List any government approvals or permits that would be needed for your proposal, if known.

- City of Seattle—Shoreline Substantial Development/Master Use Permit and associated demolition, grading and building permits
- Washington State Department of Fish and Wildlife—Hydraulic Project Approval
- U.S. Army Corps of Engineers—Section 10/404 Permit
- ESA Section 7 consultation (NOAA Fisheries and USFWS)
- Treaty tribe consultation, associated with federal permit review (Muckleshoot, and Suquamish Indian Tribes) Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Coordination (EPA)
- Washington Department of Archaeology and Historic Preservation (DAHP) review
- Washington State Department of Ecology (Ecology)—Section 401 Water Quality and Model Toxics Control Act (MTCA) Coordination; Certification and Coastal Zone Management Act Consistency Determination
- Washington State Department of Natural Resources Dredged Materials Management Office Suitability Determination and Open Water Disposal Permit; Site Use Authorization

11. Give brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include additional specific information on project description.)

Project Background

The existing, approximately 190-acre Terminal 5 cargo facility was improved in the period 1996 through 1999. Cargo facility improvements completed in 1999 included: (1) adding approximately 90 acres of upland cargo marshalling area; (2) construction of intermodal[1] cargo transfer rail lines; (3) adding

[1] **Intermodal:** A transfer of cargo from one mode to another. In the shipping business, an "intermodal container" generally refers to one that will be transported from or to a ship by rail. Terminal 5 has an on-dock intermodal rail

approximately 400 linear feet of cargo wharf; (4) construction of a grade-separated vehicle/rail overpass entrance; (5) and construction of public shoreline access, landscaped buffer areas, pedestrian/bicycle pathways, and fish and wildlife habitat improvements.

Environmental review for the 1999 Terminal 5 redevelopment project, referred to as the Southwest Harbor Cleanup and Redevelopment Project, included a joint U.S. Army Corps of Engineers, Ecology, and Port SEPA/NEPA analysis. Environmental analyses and evaluations assessing potential environmental effects due to the Terminal 5 redevelopment project were presented in the Southwest Harbor Cleanup and Redevelopment Project Final EIS published in November 1994. The draft and final EIS analyzed the potential effects due to the redevelopment and determined mitigation actions necessary for off-setting potential negative redevelopment project effects.

During the period of the Terminal 5 redevelopment project, 1994 through 1999, the Trans-Pacific containerized trade with Asian economies was expanding rapidly along West Coast ports. The redeveloped and improved Terminal 5 cargo facility provided an approximately 45 percent increase in Terminal 5 marine cargo operating capacity at the site. The 1994 EIS analyzed the environmental effects of container cargo volumes of approximately 647,000 [TEUs[2] Following completion of the Terminal 5 redevelopment project cargo volumes, annual TEU throughput, achieved a maximum of approximately 650,000 TEUs in 2005 and 2006. Cargo volumes averaged approximately 475,000 TEUs between 1998 and 2013.

Dramatic changes in the container cargo transshipment industry have occurred subsequent to the Terminal 5 facility redevelopment, with the pace of change accelerating in the last five years. One of the biggest changes in present-day container cargo vessel transportation is the commitment to use increased capacity vessels, benefiting from economy of scale to increase efficiency and reduce operating costs. Vessels with 10,000 to 14,000 TEU capacities are now entering service at West Coast cargo terminals, with vessels capable of 18,000 TEU capacity also emerging.

In response to the industry changes, the Port is evaluating actions to ensure that existing cargo facilities are capable of serving industry needs. Three of the Port's container terminals have been improved since 1999 to serve 10,000 TEUs and greater vessels; however, the existing cargo wharf, berth depth adjacent to the wharf, electrical capacity and container cranes at Terminal 5 are insufficient to berth and transfer cargo transported by larger capacity vessels. Eighty five percent of the existing Terminal 5 cargo wharf is 30 to 45 years old, and the entire 7.1-acre cargo wharf cannot support the heavier cargo crane equipment required by increased capacity vessels. In addition, existing Terminal 5 vessel berth depths are inadequate for larger-capacity container ships. The inability of the Terminal 5 site to accommodate larger vessels currently being deployed in Pacific-West Coast trade restricts the capability of Terminal 5 to serve future marine cargo activity.

As a result of these recent industry changes, some of Terminal 5 cargo operations have been relocated to the other more capable port cargo facilities in southeast Elliott Bay. This relocation provides the Port with an opportunity to rehabilitate elements of the Terminal 5 facility. Strengthening the Terminal 5 wharf and deepening navigational access is timely since the facility is not committed to a long-term cargo use lease at present, allowing for efficient, cost-effective, comparatively un-impeded construction activities.

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yard that allows the direct transfer of containers between rail and ship within the terminal. However, it is expected that some containers will be trucked between the marine terminal and the near-dock rail yards operated by the Burlington Northern Santa Fe Railway and Union Pacific Railroad.

[2] **Twenty-foot Equivalent Unit (TEU):** A unit of measure used in the shipping industry. A 40-foot container equals two TEUs. In recent years, Port shipments have averaged 1.74 TEUs per container.

Phased Review

Analysis and evaluation of project-level actions required to rehabilitate structures at Terminal 5 are the subject of the present checklist analysis. In addition to the project-level action analysis, it is appropriate for the checklist to consider operational changes that may result from the ability of the terminal to accommodate larger vessels.

In order to include an analysis of the potential impacts of increased capacity vessels moored at Terminal 5, the Port is presenting information organized as a phased review, consistent with SEPA guidance (WAC 197-11-055[2][A][i] and 197-11-060[5][e]). SEPA phased review combines detailed analysis of environmental effects expected from project actions ready for decision-making and evaluation of probable non-project environmental effects that may be expected in future years. The phased review provided in this environmental checklist allows for analysis of project-level actions in Sections A, B and C. Section D, Supplemental Sheet for Non-Project Actions, is used to evaluate the potential scope of environmental effects due to operational changes and accommodation of increased capacity vessels at Terminal 5.

Project Description

The Port of Seattle Terminal 5 Wharf Rehabilitation and Berth Deepening project (the proposed project) consists of conducting modifications to existing container facilities, including cargo wharf rehabilitation, berth deepening, and electrical service capacity improvements. Elements of the project are described in more detail below.

Demolition. The project proposes to demolish a portion of the existing aged and deteriorating cargo wharf structure including: removal of approximately 59,000 square feet of existing, horizontal concrete container crane rail beams and cargo pier deck panels, at the water-ward margin of the wharf, removal of approximately 87,000 square feet asphalt paving, exposing land-ward crane rail beam; removal of existing container wharf fender system and conflicting structural pile elements including extraction of approximately 290 timber and steel fender piling, 38 timber pinch piling and approximately 345 16.5-inch diameter concrete structural piling.

Rehabilitation of the Existing Wharf. The existing 2900-linear-foot cargo wharf would be rehabilitated to strengthen the structural elements of the wharf to accommodate cargo crane equipment required to serve super Post-Panamax container vessels. Elements of proposed wharf rehabilitation include the following:

Replacement Crane Rail Beams. Two stronger crane rail beams would replace existing crane rail beams at the Terminal 5 wharf, including a replacement water-side crane rail beam, supported by increased diameter structural concrete piling, installed within the foot-print perimeter of the existing cargo wharf. A second replacement crane rail beam would be installed land-ward of the existing wharf. Please note that this land-side crane rail beam is located in existing upland area and includes no in-water construction. Replacement of the water-side crane rail beam includes installation of a total of approximately 420, 24-inch pre-stressed concrete octagonal piles driven into the sub-tidal aquatic area (-35 to -40 feet mean lower low water [MLLW]) beneath the existing Terminal 5 wharf. Concrete piles would be driven with an impact pile driver conducted from a barge or land-side crane. The new piling would support the new waterside crane rail beam. Replacement of the land-side crane rail beam includes installation of a total of approximately 420 24 -inch diameter steel pipe piling, driven as far as possible with a land-based vibratory driver, then finished and proofed with an impact pile driver, to support a sufficiently strong upland crane rail beam.

Slope Stabilization Measures. The slope beneath the Terminal 5 Wharf is steep—approximately 1 horizontal to 1.5 vertical grade (1H:1.5V). Geotechnical investigations have determined that the lower portions of the slope beneath the existing terminal wharf, constructed three to four decades ago, require structural stabilization measures coincident with strengthening the cargo wharf and deepening the adjacent vessel berths. Slope stabilization techniques consist of installation of up to 3,000, ten to 14-inch

diameter, approximately 60 feet long, untreated wooden piling, penetrating the existing riprap slope, underlying select fill material, and entering native sediment layers. The timber piling would be installed using impact and vibratory pile driving devices, with the finished piling installation matching the existing riprap slope gradient.

In addition, a short toe-wall would be installed at the transition between the constructed riprap slope beneath the existing cargo wharf and the adjacent container vessel berth area to stabilize the bottom margin of the riprap armored slope. Approximately 3100 linear feet of combined steel sheet piling and "HZ" steel piling[3] would be installed at the toe-of-slope. The top elevation of the new "toe wall" would vary between -42 and -50 feet MLLW. The toe wall steel sheet and HZ piling would be installed using a vibratory pile driving device. Limited impact pile driving may be required to complete portions of toe wall piling installation if soil conditions impede vibratory pile driving installation.

Replacement Concrete Deck Structure. Existing concrete wharf deck panels, pile caps and edge of wharf structures would be removed to allow for replacement. The water-ward crane rail beam area would be replaced with new concrete pile caps and panels within the existing wharf footprint. Approximately 20,000 cubic yards of concrete would be required to replace the deck and pile caps.

Repair and Replacement of Existing Concrete Piling Caps Beams. The existing wharf includes pile cap beams oriented east-west, between the wharf crane rail beams, connecting the above water portions of structural piling, forming a grid to support the wharf deck panel surface. Due to the age of the wharf, numerous sections of the cast-in-place pile cap beams have deteriorated and corroded. The proposed project includes repair and maintenance of failing pile cap beam sections, consisting of removing spalled concrete and corroded reinforcing steel and installing replacement reinforcing steel and concrete grout. All pile cap beam repair and maintenance activities would take place in above-water portions of the under-side of the existing wharf structure, with no in-water actions included.

Replacement Fender System. The existing treated wood piling and steel piling wharf fender system would be removed, totaling approximately 290-300 piling, and replaced with an alternative panelized, above-water fender arrangement. The replacement fender elements would be spaced at approximately 60 feet intervals and would not include in-water elements. Up to 110 cubic yards of clean sand fill would be applied as a protective layer in sub-tidal aquatic area affected by removal of treated wood fender piling. 41 steel, 18 inch diameter steel pile would be installed by vibratory pile driving methods in the middle of the berth at the end of the first in water work season. The piling would be installed for temporary purposes to allow barge and vessel moorage until the end of the project. Temporary fender piling would be removed prior to occupation of the facility by a new tenant.

Berth Deepening. Dredging necessary for deepening navigational access to vessel berths adjacent to the rehabilitated wharf would include excavation of deep sub-tidal sediments, beneath previously dredged and maintained vessel berth areas.

Deepening adjacent vessel berth depth up to -55 feet MLLW would include appropriate allowances for one foot advanced maintenance and potential for up to 2 feet of over-depth to match cargo wharf ability to serve deeper draft, wider beam cargo vessels.

Approximately 234,460 square feet of area adjacent to Terminal 5 would be dredged to a required depth of -56 feet MLLW with a maximum over-dredge depth to -58 feet MLLW. Existing depths in the proposed dredge prism are between -47 and -55 feet. The total volume of sediment to be removed from the project area is approximately 29,800 cubic yards.

[3] HZ is a trademark of ArcelorMittal group

Disposal of all dredged sediments removed as part of the project would be consistent with the requirements of the Dredge Material Management Program (DMMP), Washington State Department of Natural Resources (DNR), Ecology, USACE, U.S. Environmental Protection Agency (EPA), and other agencies with jurisdiction.

If results of sediment sampling recently completed for DMMP characterization indicate that all or portions of the sediments in the proposed dredge prism would be suitable for DMMP open water disposal, then these dredged sediments would be placed into a bottom dump barge or split hull barge for transport and placement into the Elliott Bay Unconfined Open Water Disposal Site. If subsequent testing indicates some of the dredged sediments are unsuitable for DMMP open water disposal, then this unsuitable material would be offloaded from the barge into truck or rail containers for transport to an approved upland landfill facility permitted for acceptance of Subtitle D waste material.

Upgrade Electrical, Water, and Stormwater Systems. The project proposes to maintain or upgrade the electrical, water, and stormwater systems as needed to accommodate the rehabilitated cargo wharf and to support ongoing operations. The work includes the following:

- Electrical supply and distribution would be upgraded for increased loads. Replacement primary substation equipment would be installed to provide electrical power sufficient for modern container crane equipment and associated cargo operations. A new 26 MVA Primary Substation would be constructed to provide electrical power to the new cranes and associated terminal operations, which may include cargo handling, marshalling, and refrigeration. Coordination with SCL would provide power to the new Primary Substation from both the SCL Delridge Substation and the SCL South Substation.
- Up to four new electrical distribution substations would be constructed, serving container cranes and dock power and lighting systems. A new underground electrical duct bank would be constructed, connecting distribution elements. Distribution vaults and trenches would be constructed, providing electrical power to container crane equipment. Heating and ventilation, as necessary, would be provided for electrical enclosures.
- Existing dockside water distribution system would be removed and replaced. Sectional distribution system would be provided and integrated with existing looped water distribution system and existing fire hydrant layout. Existing vessel water supply assemblies would be removed and replaced, including water use metering code requirements.
- Stormwater treatment and improvements would be installed, as needed, to support the operations of the new cargo wharf facility.
- Other utilities would be upgraded as needed to accommodate the proposed project.

12. Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist.

The project site is located at Terminal 5 ,on the west margin of the West Waterway, in southwest Elliott Bay, Seattle, Washington (Range 3 East, Township 24 North, and Sections 12 and 13). The project area coincides with the existing wharf area approximately 2,900 linear feet long and approximately 110 feet wide, and the adjoining berth area, extending approximately 175 feet east from the water-ward margin of the existing Terminal 5 wharf. (Figures 1 and 2).

B. ENVIRONMENTAL ELEMENTS

1. Earth

a. General description of the site (circle one): Flat, rolling, hilly, steep slopes, mountainous, other _____.

The proposed project area consists of approximately 22 acres of existing wharf, berth area, and electrical substation area at the eastern portion of Terminal 5 adjacent to the west margin of the West Waterway in southwest Elliott Bay. This portion of the Terminal 5 facility has a general surface elevation approximately 17 to 18 feet above MLLW, and was constructed by the placement of fill materials over shallow sub-tidal and estuarine areas prior to the 1970s. The existing Terminal 5 surface is generally flat, with constructed impervious pavement slopes of approximately two percent, allowing for collection and management of storm-water.

b. What is the steepest slope on the site (approximate percent slope)?

The steepest slopes within or adjacent to the proposed project area are located along the margin of the West Waterway shoreline area beneath the existing pile-supported wharf. The wharf structure provides a connection between the vessel-berthing areas in the West Waterway to the upland cargo operations area. The slope beneath the wharf ranges from 1.5–1.75H to 1V (57 to 67 percent) extending down to the bottom of the West Waterway. The toe of the slope ranges from about -40 to -50 feet MLLW. The constructed slope beneath the wharf is stabilized by concrete piling, a select fill riprap armored slope, top-of-slope bulkhead, pinch piling along the northern end of the slope, and a low toe wall along portions of lower slope.

c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any agricultural land of long-term commercial significance and whether the proposal results in removing any of these soils.

The Terminal 5 location is constructed on filled former tideland area of the Duwamish River estuary. Fill at the site consists of sediments dredged from the previous tideland area, excavated in the first two decades of the last century, in order to create deep draft navigational access in south Elliott Bay and more recently placed fill materials from adjacent upland locations. Sand and gravel fill underlie the existing asphalt and concrete surface. Underlying this surficial fill layer are fill, sub-tidal, and estuarine deposits generally consisting of loose to dense sand, silty sand, and sandy silt extending to depths of about 100 feet or greater below ground surface. The Terminal 5 site consists entirely of filled upland and has no previous, existing, or potential agricultural use.

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.

Soil liquefaction may occur as a result of seismic shaking because Terminal 5 was constructed on filled former tidelands. The City of Seattle Environmental Critical Areas map identifies Terminal 5 area as a liquefaction zone. A preliminary geotechnical engineering design study completed for the proposed project concluded that this portion of the Terminal 5 property contains liquefiable soil corresponding to a classification of Site Class F, as defined in the 2012 International Building Code (Hart Crowser May 2014).

e. Describe the purpose, type, total area, and approximate quantities and total affected area of any filling, excavation, and grading proposed. Indicate source of fill.

The proposed project includes the installation of an additional primary electrical substation, and additional underground electrical lines and water distribution lines. Approximate excavation volumes for the underground utility improvements would be determined during final design, but are anticipated to total approximately 10,000 square feet of trenching totaling about 21,000 cubic yards of excavation with subsequent filling and asphalt re-paving. Excavation and grading would also be needed to expose the area

for the installation of the new upland crane rail beams. Approximate soil excavation area in the trench is 87,000 square feet with excavated soil volumes totaling approximately 17,000 cubic yards for installation of the new crane rail beam. Excavated soil would be returned to excavations as backfill at the same approximate locations where practicable. Clean sand, or clean sand and gravel, originating from a local sand and gravel supply facility would be used to backfill the excavations in accordance with specific design requirements. Asphalt and concrete would cover the excavated and filled trenches as appropriate. Approximately 234,460 square feet of area adjacent to Terminal 5 would be dredged to a required depth of -56 feet MLLW with a maximum over-dredge depth to -58 feet MLLW. Existing depths in the proposed dredge prism are between -47 and -55 feet. The total volume of sediment to be removed from the project area is approximately 29,800 cubic yards (Figures 3-4).

Disposal of all dredged sediments removed as part of the project would be consistent with the requirements of the Dredge Material Management Program (DMMP), Washington State Department of Natural Resources (DNR), Ecology, USACE, U.S. Environmental Protection Agency (EPA), and other agencies with jurisdiction.

If, based on recently completed core sampling, the surface sediments to be exposed after dredging are predicted to exceed the present surface sediment contamination levels, a clean sand cover will be required to prevent water quality impacts. Initial evaluation of sediment chemistry data indicates that no such cover will be required. However, as a worst case, if 20,000 square feet of the newly dredged surface is found to be contaminated, a 12-inch nominal cover (approximately 8,900 cubic yards of clean fill) would be needed to cover this area.

f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.

Minimal soil erosion from construction is anticipated as a result of the uplands utility and crane rail line excavations. Best Management Practices (BMPs) for control of potential sources of erosion would be implemented during all demolition and construction activities as consistent with the City of Seattle Stormwater, Grading, and Drainage Control Ordinance and Department of Planning and Development Director's Rules.

g. About what percent of the site would be covered with impervious surfaces after project construction (for example, asphalt or buildings)?

Approximately 100 percent of the project area would be covered with impervious surfaces after completion of the project.

h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any.

Standard BMPs that are both in general accordance with the Washington State Stormwater Management Manual for Western Washington, and are consistent with the City of Seattle Stormwater, Grading and Drainage Code requirements, would be implemented during the proposed project excavation and construction activities. Implementation of these requirements would result in no significant potential adverse soil erosion impacts.

Slope stabilization measures would be installed in the existing riprap armor slope beneath the existing wharf in order to maintain slope stability consistent with strengthened water-side crane rail beams and deepened berth access. Slope stabilization techniques would consist of installation of below-grade timber piling. Up to 3000, 60 foot-long, untreated timber piles would be between elevations of about –11 feet and –37 feet MLLW. A toe-wall structure would be installed at the transition between the constructed riprap slope and the adjacent container vessel berth area to stabilize the bottom extent of the existing slope beneath the wharf. There would be a combination HZ and sheet pile wall driven at the toe-of-slope up to 3,100 feet long, made up of approximately 500 steel H-piles and sheet piles.

2. Air

a. What types of emissions to the air would result from the proposal (i.e., dust, automobile, odors, industrial wood smoke) during construction and when the project is completed? If any, generally describe and give approximate quantities, if known.

Construction

The proposed project would result in air pollutant emissions related to demolition of portions of the existing wharf structure, reconstruction of the wharf, and related activities to deepen the adjacent waterway and to stabilize the underwater slope abutting the wharf structure. Because the facility is located in air quality maintenance areas for PM10, ozone, and carbon monoxide, and because portions of the facility construction are subject to approval by the U.S. Army Corps of Engineers, facility construction emissions are subject to consideration under the federal air quality General Conformity rules.[4] Consequently, construction-related emissions were quantified as required under the General Conformity rules for comparison with the General Conformity *de minimis* levels. This tabulation is summarized in Table 2.

The General Conformity *de minimis* levels are based on annual tons of pollutant emissions, and because each construction phase of the project is more or less representative of a single year, the emissions associated with each construction phase may be compared with the *de minimis* levels. Although total construction-related emissions are *not* typically used in General Conformity assessments, the total project-related construction emissions are listed in Table 2 to illustrate the relatively minor nature of this project. As shown, the estimates of project construction-related emissions are far less than the respective General Conformity *de minimis* levels, and as a result, these emissions would not be expected to result in any significant air quality impacts.

[4] Air quality "maintenance" is a status granted to an area that was previously nonattainment for one or more air pollutants but that has since achieved attainment and is subject to requirements to maintain compliance with the standard(s). General Conformity is a federal air quality program applicable in nonattainment and maintenance areas for projects that would emit air pollutants not otherwise considered by an air quality permitting due to activities that are subject to federal agency approval.

Table 2. Project Construction-Related Air Pollutant Emissions (tons)

Construction Phase	VOC	CO	NOx	CO_2	SO_2	PM
Phase I (year 1)	0.92	3.96	13.41	1,851	0.06	0.53
Phase II (year 2)	0.82	3.58	11.82	1,685	0.06	0.47
Phase III (year 3)	0.13	0.58	1.63	228	0.02	0.08
Total Construction-Related Emissions	**1.87**	**8.12**	**26.86**	**3,764**	**0.15**	**1.08**
General Conformity *De Minimis* Levels	**100**	**100**	**100**	**N/A**	**100**	**100**

Note that CO_2 emissions are not considered under General Conformity rules but are included here for completeness. Likewise, total construction emissions are not used for comparison with the annual-oriented *de minimis* levels, but are included for completeness.

Source: ENVIRON International Corporation

VOC = volatile organic compound
CO = carbon monoxide
NOx = nitrogen oxide
CO_2 = carbon dioxide
SO_2 = sulfur dioxide
PM = particulate matter

Operation

The specific operating characteristics of larger capacity vessels serving Terminal 5 are unknown at present. It is anticipated that larger capacity vessels would result in fewer vessel calls with longer duration stays at the facility. However, the specific number and duration of vessels calls and the maneuvering and at berth air emission performance of vessels cannot be predicted at this time. The means and methods for future cargo discharge and loading activities cannot be predicted. Thus, until more specific information is available, it is not possible to analyze any changes to air emissions and production of noise.

Greenhouse Gas Emissions

With regard to Greenhouse Gas (GHG) emissions, the scale of global climate change is so large and the number of contributing factors so numerous that any single project's effects on the involved systems can, at best, only be evaluated on a cumulative basis. As such, it is not anticipated that any single development project, especially one of the minor scale of the proposed project, would cause any discernible impact relative to global climate change.

In order to evaluate the potential for climate change impacts of the proposed project, direct GHG emissions associated with implementation of the project were calculated based on fuel combustion related to construction of the facility. While this review did not consider embodied, energy, or transportation related GHG emissions from facility construction, this assessment was based on specific estimates of emissions from facility construction using expected construction equipment (specified by SCC code and

horsepower) and the time all such equipment is expected to be active. Each phase of construction was considered separately and in detail. GHG emissions were tabulated based on emission rates estimated using the EPA NONROAD emissions model and the specific equipment population in King County, Washington. The emissions estimates considered both land-side and in-water equipment.

In total, the estimated lifespan emissions for the project are about 12,000 $MTCO_2e$ (metric ton carbon dioxide equivalent) over the three-season life of the construction of the facility. A summary of the GHG emissions calculations is presented in Table 3. As shown, direct annual GHG emissions are less than 6,000 $MTCO_2e$ during each of the first two years of construction and even less in the final year. For projects that are expected to annually produce an average of less than 10,000 metric tons per year, no additional analysis is required.

The proposed project has been designed to conform to the applicable regulations and standards of agencies regulating air quality in Seattle. These include the Environmental Protection Agency (EPA), Washington State Department of Ecology (DOE), and the Puget Sound Clean Air Agency (PSCAA).

Table 3. Construction-Related GHG Emissions ($MTCO_2e$)

Construction Phase	CO_2	N_2O	CH_4	CO_2e
Phase I (year 1)	1,679	11.90	26.78	5,896
Phase II (year 2)	1,529	10.83	24.38	5,367
Phase III (year 3)	206.7	1.46	3.29	725.1
Total	3,415	24.20	54.45	11,987

MTCO2e is defined as Metric Ton Carbon Dioxide Equivalent; equates to 2,204.62 pounds of CO_2. This is a standard measure of amount of $C0_2$.

b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.

As mentioned previously, the project area is included in air quality maintenance areas for PM10, ozone, and carbon monoxide. The proposed project would not be sensitive to emissions from other sources in the vicinity, and facility operational sources would not be constrained by other emissions in the vicinity except to the degree that they would have to comply with applicable ambient air quality standards.

c. Proposed measures to reduce or control emissions or other impacts to air, if any.

Construction

Although significant air quality impacts are not anticipated due to construction of the proposed terminal, construction contractors would be required to comply with all relevant federal, state, and local air quality rules. In addition, implementation of best management practices would reduce potential construction-related emissions, including the following.

- Using only equipment and trucks that are maintained in optimal operational condition.
- Requiring all off-road equipment to have emission reduction equipment (e.g., requiring participation in Puget Sound Region Diesel Solutions, a program designed to reduce air pollution from diesel, by project sponsors and contractors).
- Using car-pooling or other trip-reduction strategies for construction workers.
- Implementing restrictions on construction truck and other vehicle idling (e.g., limiting idling to a maximum of 5 minutes).
- Spraying exposed soil with water or other suppressant to reduce emissions of PM and deposition of particulate matter.

- Paving or using gravel on staging areas and roads that would be exposed for long periods.
- Covering all trucks transporting materials, wetting materials in trucks, or providing adequate freeboard (space from the top of the material to the top of the truck bed), to reduce PM emissions and deposition during transport.
- Providing wheel washes to remove particulate matter that would otherwise be carried off site by vehicles to decrease deposition of particulate matter on area roadways.
- Covering dirt, gravel, and debris piles, as needed, to reduce dust and wind-blown debris.
- Staging construction to minimize overall transportation system congestion and delays to reduce regional emissions of pollutants during construction.

3. Water

a. Surface Water

1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into.

The proposed project is located at the east margin of the West Waterway, in southwest Elliott Bay. The West Waterway and south Elliott Bay are located within the Duwamish Estuary subwatershed of the Green/Duwamish River Watershed (WRIA 9) text.

2) Would the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans.

The proposed project would require work over, in, and adjacent to the West Waterway. The proposed project includes rehabilitation of the existing wharf, dredging of sediments in the West Waterway to increase berthing depths adjacent to the wharf, removal of existing piling, installation of structural and slope stability piling, and replacement of existing pile-supported crane rail beams.

The dredging needed to deepen the existing berth area covers an area of about 234,500 square feet in the West Waterway aquatic area immediately adjacent to the existing Terminal 5 facility. The area is an active cargo berth and has been routinely dredged in the past. Dredging would occur in sub-tidal depths between -47 MLLW to -55 MLLW. The proposed dredge depth is up to -58 feet MLLW, accounting for a potential 2-foot over-dredge and a 1 foot advance channel maintenance allowance. The proposed dredging would not result in any conversion of intertidal or shallow water habitats to deep water habitats.

3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.

Dredging necessary for deepening navigational access to vessel berths adjacent to the rehabilitated wharf would include excavation of deep sub-tidal sediments, beneath previously dredged and maintained vessel berth areas.

Deepening adjacent vessel berth depth to -55 feet MLLW would include appropriate allowances for advanced maintenance and over-depth to match cargo wharf ability to serve increased capacity container ships.

Approximately 234,460 square feet of area adjacent to Terminal 5 would be dredged to a required depth of -56 feet MLLW with a maximum over-dredge depth to -58 feet MLLW. Existing depths in the proposed dredge prism are between -47 and -55 feet. The total volume of sediment to be removed from the project area is approximately 29,800 cubic yards. If, based on recently completed core sampling, the surface sediments to be exposed after dredging are predicted to exceed the present surface sediment contamination levels, a clean sand cover will be required to prevent water quality impacts. Initial

evaluation of sediment chemistry data indicates that no such cover will be required. However, as a worst case, if 20,000 square feet of the newly dredged surface is found to be contaminated, a 12-inch nominal cover (approximately 8,900 cubic yards of clean fill) would be needed to cover this area.

Dredge Disposal. Disposal of all dredged sediments removed as part of the project would be consistent with the requirements of the Dredge Material Management Program (DMMP), Washington State Department of Natural Resources (DNR), Ecology, USACE, U.S. Environmental Protection Agency (EPA), and other agencies with jurisdiction.

If results of sediment sampling recently completed for DMMP characterization indicate that all or portions of the sediments in the proposed dredge prism would be suitable for DMMP open water disposal, then these dredged sediments would be placed into a bottom dump barge or split hull barge for transport and placement into the Elliott Bay Unconfined Open Water Disposal Site. If subsequent testing indicates some of the dredged sediments are unsuitable for DMMP open water disposal, then this unsuitable material would be offloaded from the barge into truck or rail containers for transport to an approved upland landfill facility permitted for acceptance of Subtitle D waste material.

4) Would the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities, if known.

The proposed project would not require surface water withdrawals or diversions.

5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.

Upland portions of Terminal 5 are approximately 17 to 18 feet above MLLW. Extreme high tides in this portion of the estuary rarely exceed 12 feet above MLLW. The West Waterway has a generally unrestricted outlet into Puget Sound. Water levels (which rise and fall with the tides) generally do not similarly fluctuate with flood flows in the basin, whether during the 100 year event or otherwise.

6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.

The proposed project does not include discharge of waste materials to aquatic area in the adjacent West Waterway.

Two aspects of the proposed project are important to note regarding potential releases of contaminants to aquatic area in the West Waterway. First, all operating equipment at the site would be subject to BMPs and Spill Prevention, Control and Countermeasure (SPCC) plans implemented to avoid and minimize potential releases of fuel and petroleum products used by construction equipment both on the upland side and barge mounted crane side of equipment to the marine environment. Second, dredging activities would be controlled by BMPs intended to avoid and minimize potential releases of fugitive materials to the aquatic environment. Please refer to Section B.3.d. below for additional information concerning avoiding and minimizing potential adverse effects to aquatic area in the West Waterway.

b. Ground Water

1) Would groundwater be withdrawn from a well for drinking water or other purposes? If so, give a general description of the well, proposed uses and approximate quantities withdrawn from the well. Would water be discharged to groundwater? Give general description, purpose, and approximate quantities if known.

The proposed project would not require groundwater to be withdrawn from water wells used for drinking water or other purposes. Water from demolition, construction, or operation activities would not be directly discharged to groundwater.

2) Describe waste material that would be discharged into the ground from septic tanks or other sources, if any (for example: domestic sewage; industrial, containing the following chemicals: . . ; agricultural; etc.). Describe the general size of the system, the number of such systems, the number

of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.

The proposed project does not include any discharge of waste material to groundwater at the site.

c. Water Runoff (including storm water)

1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where would this water flow? Would this water flow into other waters? If so, describe.

No significant changes to the existing stormwater drainage systems are proposed. Final development of the proposed project would utilize existing stormwater collection, conveyance, treatment, and discharge infrastructure as much as practicable. Some temporary rerouting and installation of temporary conveyance systems might be needed during construction activities. Similar to current conditions, the proposed project would convey and treat stormwater runoff for discharge into the West Waterway as currently designed and permitted. The proposed project does not include changes in the amount of upland impervious surface areas volumes. Rates of stormwater runoff would be similar to the existing condition.

2) Could waste materials enter ground or surface waters? If so, generally describe.

The proposed project would not result in waste materials directly entering groundwater.

Minimal volumes of waste materials might be generated during upland excavation, wharf and piling demolition, and sediment dredging activities. Generated waste materials would be confined and collected using BMS's to avoid or minimize the release of these materials to the West Waterway.

The existing stormwater collection and conveyance system is designed and maintained to minimize discharge of stormwater pollutants generated from impervious surface runoff in accordance with BMPs and regulatory criteria. The proposed project is not expected to result in any significant changes to the existing stormwater collection and conveyance system.

3) Does the proposal alter or otherwise affect drainage patterns in the vicinity of the site? If so, describe.

The proposed project would not alter or otherwise affect drainage patterns in the vicinity of the site.

d. Proposed measures to reduce or control surface, ground, and runoff water, and drainage pattern impacts, if any:

Potential water-related impacts resulting from the proposed project include control and management of dewatering effluent that might result from excavations extending into groundwater, control and management of stormwater runoff during construction activities and control of any releases of debris or sediments into the West Waterway during sediment dredging activities.

If groundwater dewatering is needed for construction, the control and management of the resulting water would be implemented in general accordance with the procedures described in the document titled "*Soil and Groundwater Management and Restoration of Engineered Environmental Controls – Terminal 5 Remediation Areas, Seattle, Washington*," dated April 27, 2011, applicable regulatory requirements and approved BMPs. Implementing these procedures would mitigate any potential adverse impacts resulting from construction dewatering that might be needed.

Standard construction BMPs would be used to control and manage stormwater runoff during project construction activities. Implementation of the BMPs would be in general accordance with the Washington State Stormwater Management Manual for Western Washington, and would also be consistent with the City of Seattle Stormwater, Grading and Drainage Code requirements. Implementation of the BMPs, a Spill Prevention, Control and Countermeasure (SPCC) plan and other additional requirements included as

part of the Port's stormwater permit would result in the mitigation of any potential adverse impacts to stormwater runoff quality and control.

All dredging and in-water activities along the slope bank beneath the wharf would be controlled to avoid and minimize potential impacts to surface water in the West Waterway. Equipment used for in-water demolition, construction, and dredging activities would be required to follow stringent BMPs and discharge controls. In addition, an SPCC plan would be developed and implemented for all in-water work to avoid and minimize the potential impacts to surface water quality from accidental releases of fuel and petroleum products used by the construction and dredging equipment. Potential adverse impacts on surface water quality are anticipated to be limited to short-term temporary increases in localized turbidity. Measures would be implemented to minimize these potential impacts and may include the use of debris and turbidity booms around the work areas, use of a spill plate during sediment off-loading operations, and use of on-barge treatment systems to remove sediments and associated contaminants prior to discharging the water back in to the West Waterway. Use of these BMPs would avoid and minimize potential effects to water quality and the aquatic environment in the West Waterway.

4. Plants

a. Check or circle types of vegetation found on the site:

_____ deciduous tree: alder, maple, aspen, other
_____ evergreen tree: fir, cedar, pine, other
_____ shrubs
_____ grass
_____ pasture
_____ crop or grain
_____ wet soil plants: cattail, buttercup, bulrush, skunk cabbage, other
_____ wet plants: water lily, eelgrass, milfoil, other
__X__ other types of vegetation

b. What kind and amount of vegetation would be removed or altered?

No existing landscape vegetation, native upland or shoreline vegetation, or aquatic area vegetation or algae would be affected by the proposed project.

c. List threatened or endangered species known to be on or near the site.

No threatened or endangered plant species are known to be in the project area.

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:

No threatened or endangered plant species are known to be in the project area.

e. List all noxious weeks and invasive species known to be on or near the site.

No existing noxious weeks and invasive species are known to be on or near the site.

5. Animals

a. List any birds and other animals which have been observed on or near the site or are known to be on or near the site. Examples include:

birds: hawk, heron, eagle, songbirds, other:
mammals: deer, bear, elk, beaver, other:
fish: bass, salmon, trout, herring, shellfish, other:

The built and committed marine cargo use area in existing upland, shore land, and aquatic area at Terminal 5 includes active cargo, warehouse, and marine industrial operations and does not include significant upland habitat for birds or mammals. Aquatic area in the adjacent West Waterway provides habitat important to numerous species of resident and migratory fish and wildlife. In recent years, development and construction activities in marine and estuarine locations in Puget Sound have been the subject of increased scrutiny as a result of Endangered Species Act (ESA) listings, with particular concern for the life cycle and aquatic habitat requirements of Chinook salmon.

Consistent with in-water construction review and permit requirements implemented by the U.S. Army Corps of Engineers, Seattle District, the Port is preparing detailed information describing existing aquatic habitat conditions in the West Waterway, pertaining to ESA decision-making requirements. This information will be presented in the form of a biological evaluation, analyzing the potential for adverse aquatic area effects due to the proposed wharf rehabilitation and berth deepening project. U.S. Army Corps of Engineers permit documents and the accompanying biological evaluation would be available for review; contact Paul Meyer, Seaport Environmental Programs, P.O. Box 1209 Seattle, Washington 98111 (telephone 206-787-3127; e-mail: meyer.p@portseattle.org).

b. List any threatened or endangered species known to be on or near the site.

The ESA-listed species that may occur in the proposed project area include: (1) three listed salmonid species: Puget Sound chinook salmon (threatened), coastal-Puget Sound bull trout (threatened), and Puget Sound steelhead (threatened); (2) five additional fish species: green sturgeon, eulachon, bacaccio, canary rockfish, and yellow-eye rockfish; (3) southern resident killer whale; and, (4) four bird species: northern spotted owl, marbled murrelet, and western snowy plover.

Because this work would occur in shoreline and aquatic areas along the west margin of the West Waterway in southwest Elliott Bay, the proposed project requires review to determine potential negative construction-related effects on aquatic-dependent species listed as threatened or endangered under ESA or their critical habitat. The ESA status of each of these species, as well as the effects determination is included in the biological evaluation prepared for this project.

In addition, an evaluation of the effects of the proposed project on Essential Fish Habitat has also been prepared, pursuant to the Magnuson-Stevens Fishery Conservation and Management Act as amended by the 1996 Sustainable Fisheries Act.

c. Is the site part of a migration route? If so, explain.

Eight species of anadromous salmonids use the Duwamish Estuary primarily as a migratory corridor: Chinook, coho, chum, pink, and sockeye salmon; steelhead trout, sea-run cutthroat trout, and bull trout. Of these species, Chinook and coho salmon and steelhead trout are common in the Duwamish basin, while pink and sockeye salmon, sea-run cutthroat trout, and bull trout are rare.

d. Proposed measures to preserve or enhance wildlife, if any.

Measures to avoid and minimize potential adverse effects on ESA species of concern and, as a result, function as conservation measures, may include a combination of the following:

- All in-water work would be limited to periods determined appropriate by participating state and federal agencies to avoid potential adverse effects on migratory fish.
- The project design includes no expansion of the existing cargo wharf and a modest reduction in "over-water footprint" associated with removal of the existing treated wood fender system and installation of alternative above water vessel/wharf fender equipment.
- Approximately 290-300 treated wood fender piles would be removed, thus, removing a potential source of contamination from the project area. An additional 34 concrete piles would also be extracted and 245 concrete piles would be cut off at the mud-line. Since these are located in

existing inter-tidal and sub-tidal aquatic area, this action would remove approximately 1,000 square feet of man-made structures from the West Waterway.

- Replacement of the timber fender pile system with a panelized fender system would remove approximately 9,000 square feet of over-water cover structure from the water-ward margin of the existing Terminal 5 wharf.
- A water quality monitoring plan would be developed and implemented during construction to verify compliance with water quality conditions of the Section 401 Water Quality Certificate, USACE Permit, and Hydraulic Project Approval.
- All equipment would be inspected daily to ensure that it is in proper working condition.
- The contractor would be responsible for the preparation and implementation of a Spill Prevention, Control, and Countermeasures (SPCC) Plan to be used for the duration of the project. The SPCC Plan would be submitted to the project engineer prior to the commencement of any construction activities. A copy of the plan with any updates would be maintained at the work site by the contractor. The contractor would also maintain at the job site the applicable equipment and materials designated in the SPCC Plan.
- Excess or waste materials, petroleum products, fresh cement, lime or concrete, chemicals, or other toxic or deleterious materials would not be allowed to enter the West Waterway.

With these measures in place, the effects determination included in the draft biological evaluation prepared for this project resulted in the following findings:

- Short-term net effects on ESA-listed species would be insignificant
- Long-term net effects on ESA-listed species in terms of water quality are expected to be positive
- Dredging activities would remove potentially contaminated sediments from the project area and the West Waterway

6. Energy and Natural Resources

a. What kinds of energy (electric, natural gas, oil, wood stove, solar) would be used to meet the completed project's energy needs? Describe whether it would be used for heating, manufacturing, etc.

Electric and natural gas would be used to meet the project's energy needs. Electrical system upgrades are necessary to supply new cranes and dock power and lighting systems.

b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.

The proposed project would have no adverse effect on potential use of solar energy at adjacent properties.

c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any?

Fuel-efficient electrical and motorized equipment would be used to the extent possible operationally as part of the proposed project.

7. Environmental Health

a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste that could occur as a result of this proposal? If so, describe.

The proposed project does not include any new functional or operational activities at Terminal 5 and would not result in the potential for additional environmental health hazards. Excavation and dewatering

activities associated with upland construction have the potential for exposing and handling of contaminated soil and groundwater that might be present beneath some areas of the project.

Vehicles and equipment used for both construction activities and subsequent facility operations would include the use of fuels, oils, lubricants, and other petroleum-related products within the proposed project area. These potentially hazardous materials would be subject to applicable local, state, and federal regulations and guidance pertaining to use, handling, and storage. No increase to exposure of the materials or risks of fire or explosion is anticipated.

Sediments within the proposed dredge footprint at Terminal 5 have been analyzed consistent with Washington DMMP requirements. Preliminary results show that exceedances of DMMP criteria were limited to two locations, in substrate newly exposed by the proposed berth deepening dredging. Disposal of all dredged sediments removed as part of the project would be consistent with the requirements of the Dredge Material Management Program (DMMP), Washington State Department of Natural Resources (DNR), Ecology, USACE, U.S. Environmental Protection Agency (EPA), and other agencies with jurisdiction.

1) Describe any known or possible contamination at the site from present to past uses.

Contaminated soil and/or groundwater may be present beneath the proposed project area. The presence and source for any contaminants are likely associated with the placement of fill materials during filling of the aquatic lands in past decades to construct present upland area at the project site, spills or releases from previous operations at the facility, and/or migration of contaminated groundwater from up-gradient sources. Available soil and groundwater data characterizing the proposed project site do not indicate the potential for disruption of contaminated soils or groundwater.

The Port completed a thorough subsurface and remedial evaluation of various areas located south, west and north of the proposed project area as part of the Southwest Harbor redevelopment project. The Terminal 5 redevelopment project soil and groundwater remediation included removal and isolation of contaminated materials. Ongoing monitoring and remedy inspections continue in the areas of the Terminal 5 facility surrounding the proposed project area.

Groundwater monitoring data obtained from the area south of West Marginal Way indicate the potential presence of minimal concentrations of arsenic and several volatile organic compounds in the vicinity of the proposed primary electrical substation location. Potential exposure to contaminated groundwater during construction activities in this area could occur if the resulting excavations extend below the water table, estimated to be at about 6 to 9 feet below ground surface. Based on soil samples collected during the Terminal 5 redevelopment project, there is the potential for encountering petroleum-contaminated soil during construction of the primary electrical substation and associated underground utility lines.

2) Describe existing hazardous chemicals/conditions that might affect project development and design. This includes underground hazardous liquid and gas transmission pipelines located within the project area and in the vicinity.

There are no known existing hazardous chemicals or conditions that might affect project development and design. The Port prepared and implemented a soil and groundwater management plan for the Terminal 5 facility that addresses procedures and requirements for handling and disposal of contaminated soil or groundwater that may be encountered during project construction activities.

There are no identified underground hazardous liquid or gas transmission pipelines within the project area.

3) Describe any toxic or hazardous chemicals that might be stored, used, or produced during the project's development or construction, or at any time during the operating life of the project.

Vehicles and equipment used for both construction activities and subsequent facility operations would include the use of fuels, oils, lubricants, and other petroleum-related products within the proposed project

area. These potentially hazardous materials would be subject to applicable local, state, and federal regulations and guidance pertaining to use, handling, and storage.

4) Describe special emergency services that might be required.

No special emergency services are anticipated for the proposed project.

5) Proposed measures to reduce or control environmental health hazards, if any:

Potentially hazardous fuels, lubricants, and associated materials used for operation of motorized equipment as part of the demolition, construction, and rehabilitation activities for the proposed project would be subject to existing local, state, federal, and Port controls and requirements for use, handling, and storage, with the objective of avoiding potential environmental health exposures and hazards.

The Port developed and implemented procedures for managing potentially contaminated soil and groundwater that might be encountered within the Terminal 5 remediation areas that surround the proposed project area.

Dredging and in-water work activities would be controlled to avoid and minimize environmental health hazards and potential releases to the aquatic environment. Potential adverse environmental health impacts associated with dredging would be avoided and minimized by implementing in-water construction controls and BMPs. This includes implementing spill response procedures and erosion and sediment control measures to avoid discharge of materials to the West Waterway. Sediment off-loading operations would require the use of a spill plate between the haul barge and upland receiving facilities or stockpiles to prevent sediments from discharging to the West Waterway.

Dredging activities would be coordinated with Treaty tribe fishing access to avoid and minimize potential effects on usual and accustomed fishing activities in the West Waterway. The Port anticipates completing all dredging activities within the time period from December 1 to February 15 in each construction year to accommodate Treaty tribe fishing access and agency requirements for in-water construction timing.

Stormwater runoff discharges would be monitored to ensure that it meets all permit requirements and applicable water quality standards.

No significant adverse effects associated with environmental health hazards that cannot be avoided or minimized are anticipated for the proposed project.

b. Noise

1) What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)?

The project vicinity contains numerous industrial noise sources, including previous and current Port activities. Other existing noise sources include, but are not limited to, traffic on Admiral Way, the high-level West Seattle Bridge, and the Spokane Street corridor, activities at adjacent industrial and manufacturing sites, aircraft overflights, and trains and train horns. Existing noise would not affect the project.

2) What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for examples: traffic, construction, operation, other)? Indicate what hours noise would come from the site.

The proposed project would create construction activity and equipment noises related to demolition of portions of the existing wharf structure, reconstruction of the wharf, berth deepening and improving the utility infrastructure. These short-term noise effects would occur during the demolition and construction periods and are expected to occur only during daytime hours.

The project site is located within the city of Seattle, Washington, and the noise limits included in the Seattle noise ordinance (Seattle Municipal Code Chapter 25.08) apply to noise related to this project. The

Seattle noise ordinance sets levels and durations of allowable daytime/nighttime operational noise (upper portion of Table 4 and daytime construction noise (lower portion of Table 4). These limits are based on the zoning of the source and receiving properties.

The project site is zoned for Industrial uses and potentially affected sensitive receivers in the project vicinity are residences on the hillsides west and south of the site. Because this project entails only construction-related activities limited to daytime hours, only the daytime construction noise limits apply to the project.

Table 4. Seattle Maximum Permissible Levels and Construction Noise Limits (dBA)

Zoning District of Noise Source [25.08.410 & 420 & 425]	**Zoning District of Receiving Property**		
	Residential Day / Night	**Commercial**	**Industrial**
Operational Noise Limits [(a)]			
Residential	55 / 45	57	60
Commercial	57 / 47	60	65
Industrial	60 / 50	65	70
Daytime Construction Noise Limits [(b)]			
On-site sources like dozers, loaders, power shovels, cranes, derricks, graders, off-highway trucks, ditchers, and pneumatic equip (maximum+25) [25.08.425 A.1]			
Residential	80	82	85
Commercial	82	85	90
Industrial	85	90	95
Impact types of equipment like pavement breakers, pile drivers, jackhammers, sand-blasting tools, or other impulse noise sources - may exceed maximum permissible limits between 8 AM and 5 PM weekdays and 9 AM and 5 PM weekends, but may not exceed the following limits [25.08.425 B]: Leq (1 hour) 90 dBA Leq (30 minutes) 93 dBA Leq (15 minutes) 96 dBA Leq (7.5 minutes) 99 dBA			
Note: All operational sound level limits are based on the measurement interval equivalent sound level (Leq) *and* a not-to-be-exceeded Lmax level 15 dBA higher than the indicated limits. The construction noise limits are based on an hourly Leq, unless noted otherwise for pile driving. [(a)] The operational noise limits for residential receivers are reduced by 10 dBA during nighttime hours (i.e., 10 PM to 7 AM weekdays, 10 PM to 9 AM weekends) and are displayed for daytime/nighttime hours. [(b)] Construction noise limits apply at 50 feet or a real property line, whichever is greater. Construction noise is limited to the higher levels listed in the lower portion of the table during "daytime" hours only. For purposes of limiting construction noise received in certain zones, daytime hours are defined as 7 AM to 7 PM weekdays and 9 AM to 7 PM weekends for noise received in Lowrise, Midrise, Highrise, Residential-Commercial, or Neighborhood-Commercial zones. For construction projects in all other zones, and for public projects or locations where there are no residential uses within 100 feet, daytime construction hours are defined as 7 AM to 10 PM weekdays and 9 AM to 10 PM weekends. **Source: Seattle Municipal Code - 25.08 - Specific sections indicated.** Note: dBA = decibel(s)			

"Typical" construction activities and pile driving can differ in their potential noise impacts and are discussed separately below.

"Typical" Construction Activities

Noise from demolition and construction activities related to the proposed project have the potential to affect nearby receivers, particularly residences on the hillsides west and south of the Terminal 5 site. Construction activities are expected to be restricted to daytime hours. During daytime hours, construction activities are subject to noise limits identified in Table 5.

Table 5 shows the hourly equivalent sound levels (Leqs) from various typical construction activities (upper portion of table) and the ranges of sound levels (i.e., minimum to maximum levels) emitted by individual pieces of equipment (lower portion of table). These levels give an idea of the relative sound levels that can be expected from different kinds of construction equipment.

Existing residences south of the site would be more than 1,000 feet from the nearest construction activities, while residences on the hillside west of the site would be more than 2,000 feet from the nearest construction activities. In the absence of intervening terrain, structures, and/or dense vegetation, sounds from construction equipment and activities (usually point sources) decrease about 6 dBA for each doubling in distance from the source.

Table 5. Noise Levels from Typical Construction Activities and Equipment (dBA)

Activity	**Range of Hourly Leqs**		
	At 1,000'	**At 2,000'**	**At 3,000'**
Clearing	57	51	47
Grading	50-62	43-56	39-52
Paving	47-62	40-56	36-52
Types of Equipment	**Range of Noise Levels**		
	At 1,000'	**At 2,000'**	**At 4,000'**
Bulldozer	51-70	45-64	41-60
Dump Truck	56-68	50-62	46-58
Scraper	54-67	48-61	44-57
Paver	60-62	54-56	50-52
Generators	45-56	39-50	35-46
Compressors	48-55	42-49	38-45
Source: EPA 1971			

As shown in Table 5, the estimated hourly Leqs from even the nearest construction activities at 1,000 feet are generally near or below the noise level limit of 60 dBA that would apply to long-term operational noise and are well below the 85 dBA that would be applied to construction noise. In addition, because construction would be temporary and limited to daytime hours, there would be little, if any, potential for significant noise impacts from "typical" on-site construction activities.

Pile Driving

The proposed project would require pile driving during construction of the wharf and stabilization of the embankment of the waterway. Pile driving would occur between 1,000 and 3,000 feet from the nearest residences south, and more than 2,500 feet from the nearest residences west of the site. Sound level measurement data of pile driving activities indicate that the hourly sound level (Leq) of pile driving at a distance of 100 feet is approximately 86 dBA. [5] The maximum sound level (Lmax) of pile driving is estimated to be 104 dBA at a distance of 100 feet.

Noise modeling was used to analyze and estimate pile driving sound levels at the nearest residences to the wharf. [6] The modeling estimated hourly sound levels in the 40s to mid-50s dBA at the nearest residences. Model-estimated Lmax levels were in the mid-60s to mid-70s dBA. As with "typical" construction, the model-calculated pile driving sound levels are generally below the limits the City of Seattle applies to long-term operational noise and well below the limits applied to impact (e.g., pile driving) sources. Therefore, no significant noise impacts are expected during construction.

In spite of compliance with these limits, the unique nature of pile driving impact noise could result in the loudest sounds being audible at the residences nearest this activity. This noise could be perceived by some people as intrusive and possibly annoying, but the low overall sound levels would minimize the potential for significant impacts.

The project does not expand the dimensions of the wharf structure and Terminal 5 operations would continue to be consistent with noise data and analysis included in the 1994 Southwest Harbor Cleanup and Redevelopment Project Final EIS. Future operational characteristics, including potential changes in vessel service, cargo cranes, and container handling equipment, would be determined by tenant needs, which are unknown at this time. Additional environmental review would be conducted, as appropriate, when a tenant is known and operational specifications for the facility are available.

Operations

The specific operating characteristics of larger capacity vessels serving Terminal 5 are unknown at present. It is anticipated that larger capacity vessels would result in fewer vessel calls with longer duration stays at the facility. However, the specific number and duration of vessels calls and the maneuvering and at berth air emission performance of vessels cannot be predicted at this time. The means and methods for future cargo discharge and loading activities cannot be predicted. Thus, until more specific information on operations is available, it is not possible to analyze any changes to air emissions and production of noise.

3) Proposed measures to reduce or control noise impacts, if any:

The proposed project would include practices to reduce construction noise. Examples include using properly sized and maintained mufflers, engine intake silencers, engine enclosures, and turning off idle equipment. Construction contracts would specify that mufflers be in good working order and that engine enclosures be used on equipment when the engine is the dominant source of noise.

Substituting hydraulic or electric models for impact tools such as jack hammers, rock drills, and pavement breakers could reduce construction and demolition noise. Electric pumps may also be specified if pumps are required.

Although as safety warning devices back-up alarms are exempt from noise ordinances, these devices emit some of the most annoying sounds from a construction site. An essential construction noise mitigation measure would be to require that all construction equipment is fitted with ambient-sensing alarms that

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[5] Based on data from the sound measurement archive of ENVIRON International Corporation. The hourly Leq included the placement and driving of two concrete piles in a 1-hour period.

[6] Noise modeling by ENVIRON International Corporation, using the CadnaA noise model.

broadcast a warning sound loud enough to be heard over background noise but without having to use a preset, maximum volume. Another alternative would be to use broadband backup alarms instead of typical pure tone alarms. Such devices have been found to be very effective in reducing annoying noise from construction sites.

For the most part, the temporary nature of construction coupled with the restriction of construction activities to daytime hours would minimize the potential for significant noise impacts.

8. Land and Shoreline Use

a. What is the current use of the site and adjacent properties? Would the proposal affect current land uses on nearby or adjacent properties? If so, describe.

Terminal 5 is bounded by Harbor Avenue SW on the west, southwest Elliott Bay on the north, the West Waterway on the east, and SW Spokane Street on the south.

The site is improved as a marine cargo terminal. The terminal includes 2,900 linear feet of wharf structure and adjacent deep draft vessel berth area along the Duwamish West Waterway, container cranes, a container marshalling yard, and an intermodal rail car storage yard. The site contains a number of accessory terminal structures totaling over 231,000 square feet and currently provides 585 parking spaces.

Directly south of the site is Nucor Steel, a large heavy industrial steel manufacturing facility formerly operated by Birmingham Steel. Directly east of the site are industrial warehouses and further east, across the Duwamish West Waterway, is the Port's 196-acre Terminal 18 cargo terminal. Single-family residential areas are located on land to the west of the site west of Harbor Avenue SW. Land uses along the shoreline of southwest Elliott Bay to Duwamish Head include commercial and park land.

At the north end of the Terminal 5 site is Jack Block Park, a 5.8-acre public access park. The park has walking paths and viewing and play areas that were installed in 1998. The park is provided and maintained by the Port.

b. Has the project site been used as working farmlands or working forest lands? If so, describe. How much agricultural or forest land of long-term commercial significance would be converted to other uses as a result of the proposal, if any? If resource lands have not been designated, how many acres in farmland or forest land tax status would be converted to nonfarm or nonforest use?

The Terminal 5 site has no history of agricultural use.

4) Would the proposal affect or be affected by surrounding working farm or forest land normal business operations, such as oversize equipment access, the application of pesticides, tilling, and harvesting? If so, how:

The proposal would not affect or be affected by surrounding working farm or forest land normal business operations.

c. Describe any structures on the site.

The site comprises approximately 190 acres with numerous structures, including:

- A 14,400-square-foot administrative office building (Building A-1)
- An 80,000-square-foot covered transit shed (Building W-6)
- A 48,000-square-foot maintenance and repair facility
- An 80,000-square-foot container freight station
- A 2,146- square-foot, south-end marina building (Building A-18)
- A 2,853- square-foot, north-end marina building (Building A-19)
- A 2,627-square-foot crane maintenance building

- A 1,429-square-foot yard office
- A gatehouse
- An on-terminal restroom building
- Various equipment sheds and storage structures
- 2,900-lineal-foot cargo wharf structure

d. Would any structures be demolished? If so, what?

The project proposes to demolish a portion of the existing cargo wharf structure, as described at the beginning of this checklist under Item 11. There are no buildings proposed for demolition as part of this proposal.

e. What is the current zoning classification of the site?

The site is zoned General Industrial 1 (IG1/ U85) and General Industrial 2 (IG2/ 85).

f. What is the current comprehensive plan designation of the site?

The Comprehensive Plan designation for the site is Industrial.

g. If applicable, what is the current shoreline master program designation of the site?

The Shoreline Master Program designation for the site is Urban Industrial (UI).

h. Has any part of the site been classified as critical area by the city or county? If so, specify.

The site is identified on City of Seattle GIS Critical Area Map layers as having the following critical areas: abandoned landfill; liquefaction zone; riparian corridor; salmon watershed; flood prone area; wildlife area; and shoreline habitat.

i. Approximately how many people would reside or work in the completed project?

The terminal has employed approximately 2,350 people for cargo activities in the past. Recent and current tenants have employed between 350 and 470. Future tenants are expected to range from approximately 350 to 2350. No residential uses are present at the project site and no residential occupancy is proposed.

j. Approximately how many people would the completed project displace?

The completed project would not result in displacement of workers or residents.

k. Proposed measures to avoid or reduce displacement impacts, if any:

No displacement of residents or workers would result from the proposal; therefore, no measures for avoiding or reducing displacement impacts are needed.

l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:

The existing and proposed use of the site is marine cargo terminal, an industrial use that is consistent with the current and projected underlying zoning designation, the Seattle Shoreline Master Program, and Comprehensive Plan. The project is also consistent with the Port's long-range planning objectives for the facility contained in the 1991 Container Terminal Development Plan and the updated Harbor Development Strategy 21 (HDS 21), adopted in June 2001, which identify the need for continued viability of cargo terminal operations and improvement of existing facilities. The continuation of the use is further supported by the Port's Century Agenda planning document adopted in 2013 that calls for support and growth of the cargo business.

m. Proposed measures to ensure the proposal is compatible with nearby agricultural and forest lands of long-term commercial significance, if any:

No agricultural or forest lands of commercial significance would be impacted by the proposed activities on site.

9. Housing

a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.

No housing units would be provided by the project.

b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.

No housing units would be eliminated by the project.

c. Proposed measures to reduce or control housing impacts, if any:

No housing units would be provided or eliminated. Therefore, there would be no measures to reduce or control housing impacts.

10. Aesthetics

a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed?

The tallest structures proposed for the site are cranes with a maximum height of 300 feet.

b. What views in the immediate vicinity would be altered or obstructed?

Terminal 5 currently operates up to six cranes, which can be configured to serve up to three cargo vessels berthed at the existing wharf. In the future with the proposed project, the terminal may include replacement cargo crane equipment, with the potential for additional cranes, depending on the operational needs of a long-term tenant. Replacement cargo cranes may be approximately 300 feet in height. An increase in the number of mobile cargo cranes, with increased height may alter views across Terminal 5 and to Harbor Island. However, potential changes in crane equipment would not affect the existing view corridor condition at the site, which currently exceeds the minimum standards. Please note that cargo cranes are exempt from height restrictions in the Shoreline Master Program as cited in SMC 23.60.486 *(B) Height exceptions for water-dependent uses. ((1.)) Cranes, gantries, mobile conveyors, light standards, and similar equipment necessary for the functions of ((marinas, marine manufacturing, permitted commercial, industrial or port activities and)) water-dependent uses or the servicing of vessels ((are exempt))may extend above the applicable maximum height limit, provided such structures shall be designed to minimize view obstruction.*

It is important to note that project does not include expansion of the dimensions of the wharf structure and would continue to operate within operational parameters evaluated in the 1994 Southwest Harbor Cleanup and Redevelopment Project Final EIS. Future operational characteristics, including number and size of cranes, would be determined by tenant needs, which are unknown at this time. Additional environmental review would be conducted, as appropriate, when a tenant is known and operational specifications are available.

c. Proposed measures to reduce or control aesthetic impacts, if any:

No significant changes in view conditions from public viewpoints are anticipated and no offsetting aesthetic measures are included in the present proposal.

11. Light and Glare

a. What type of light or glare would the proposal produce? What time of day would it mainly occur?

The proposal is not expected to alter existing light or glare conditions at the project site.

b. Could light or glare from the finished project be a safety hazard or interfere with views?

No change in light or glare conditions is anticipated, and no safety hazards or interference with views would result from the proposed project.

c. What existing off-site sources of light or glare may affect your proposal?

No off-site sources of light and glare in the area of the Terminal 5 are expected to adversely affect the present proposal.

d. Proposed measures to reduce or control light and glare impacts, if any:

No adverse effects from the planned construction are expected, therefore, no mitigation measures are proposed. The project does not anticipate expansion of the dimensions of the wharf structure and would continue to operate within operational parameters evaluated in the 1994 Southwest Harbor Cleanup and Redevelopment Project Final EIS. Future operational characteristics would be determined by tenant needs, which are unknown at this time. Additional environmental review would be conducted, as appropriate, when a tenant is known and specifications are available.

12. Recreation

a. What designated and informal recreational opportunities are in the immediate vicinity?

There are numerous upland, shoreline, and in-water recreational areas, including parks, boat ramps, trails, public moorages, open-space areas, and public access points. The list of nearby recreational sites is listed in Table 6 below. Several of the sites listed were constructed to mitigate impacts from the original Terminal 5 redevelopment project completed in 1999.

Table 6. Recreational Sites

Recreational Site	Location	Description
Don Armeni Park	1222 Harbor Avenue SW	11.95-acre park with waterfront trail, parking, fishing pier, boat launch, picnic sites, restrooms, dock, parking, and 1,040 linear feet of shoreline frontage
Seacrest Park	1660 Harbor Avenue SW	3.9-acre park with waterfront trail, boat launch, diving area, food service, parking, and 1,700 linear feet of shoreline frontage
Jack Block Public Shoreline Access and Park	Terminal 5 2130 Harbor Avenue SW	15-acre park with walking paths, pier, observation deck, seating, restrooms, parking, children's play area, and public access to the waterway.
Duwamish Waterway Public Access	Terminal 105 4260 West Marginal Way SW	1.3 acres with fishing pier, tables/seating in covered shelter area, hand-carried boat launch, fish and wildlife habitat, and 210 linear feet of shoreline frontage
Jack Perry Memorial View Point	Terminal 30 1700 East Marginal Way S	1.95 acres with 260 linear feet of shoreline frontage, parking, shelters, and hand-carried boat ramp
Diagonal Avenue South	Terminal 108	2.2 acres with waterfront trail, parking, shelters, hand-carried boat ramp, and 900

Public Access	Diagonal Avenue South of East Marginal Way	linear feet of shoreline frontage
Duwamish Public Access, Terminal 107	Terminal 107 4700 West Marginal Way	7.2 acres with walking path and 3,000 linear feet of shoreline frontage, off-street parking, seating and covered tables, pathways/overlook areas, landscaping, fish and wildlife habitat restoration, and interpretive information.
Harbor Marina Corporate Center	Terminal 102 1001 Klickitat Way SW (private owner/operator; leased from the Port of Seattle)	Permanent moorage for 100+ boats, 70 feet of transient moorage, public restrooms, holding tank pump-out facility, fuel dock (diesel and gas), public access to "C" dock from 9 AM to 5 PM. 600 feet of shoreline walkway, viewing platforms, benches, landscaped areas, adjacent marina, parking, and 24-hour access.
Terminal 18 Public Shoreline Access Site	Southwest Harbor Island, north of Klickitat Avenue SW/SW Spokane Street intersection	1.1 acres, parking, picnic shelters, paved shoreline walkway, hand-carried boat launch, with 310 linear feet of shoreline access.
Spokane Street Fishing Pier	North margin of the grade-level SW Spokane Street Bridge crossing of the East Waterway	380 linear-foot fishing pier with seating, benches, and pedestrian/bicycle pathway connections
Spokane Street Boat Access	South of SW Spokane Street, beneath the high-level West Seattle Bridge (SW Spokane Street viaduct)	120 linear feet of shoreline, a hand-carried boat launch, and parking.
West Waterway	Between Terminal 5 and Harbor Island	Used by recreational fishermen and boaters
Designated bicycle lanes	Harbor Avenue SW, SW Spokane Street, West Seattle Low Level Bridge	The West Seattle Trail crosses the Duwamish River on the south side of the SW Spokane Street Swing Bridge. The trail splits just west of the bridge with a trail continuing high on the slope under the West Seattle Freeway to the Delridge neighborhood, and a secondary connection descending to grade and along sidewalks at the SW Spokane Street/West Marginal Way SW/Chelan Avenue SW intersection.

b. Would the proposed project displace any existing recreational uses? If so, describe.

The proposed project would not displace existing recreational uses in the project area.

c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:

No disruption or displacement of existing recreational uses in the area of the proposed project is anticipated. The project does not anticipate expansion of the dimensions of the wharf structure and would continue to operate within operational parameters evaluated in the 1994 Southwest Harbor Cleanup and

Redevelopment Project Final EIS. Future operational characteristics would be determined by tenant needs, which are unknown at this time. Additional environmental review would be conducted, as appropriate, when a tenant is known and specifications are available for analysis.

13. Historic and Cultural Preservation

a. Are there any buildings, structures, or sites, located on or near the site that are over 45 years old listed in or eligible for listing in national, state, or local preservation registers located on or next the site? If so, specifically describe.

No local, state, or federal listed historic or cultural buildings, structures, or sites are located on or near the project site and no sites appear eligible for listing on or near the project site.

b. Are there any landmarks, features, or other evidence of Indian or historic use or occupation? This may include human burials or old cemeteries. Are there any material evidence, artifacts, or areas of cultural importance on or near the site? Please list any professional studies conducted at the site to identify such resources.

A previous subsurface investigation by Larson Archaeological and Anthropological Services (LAAS, 1993) was summarized in the 1994 Southwest Harbor Cleanup and Redevelopment Project Final EIS, and indicated that archaeological sites are present in the Duwamish in the vicinity of the proposed project site. No additional archaeological sites have been identified in the vicinity of the project site since 1993, according to the Department of Archaeological and Historic Preservation (Personal communication between A. Hackett and G. Kaehler, February 2015).The possibility that historic or cultural resources are present at the site is low since the present industrial facility consists of filled upland area, with the majority of fill placed in former aquatic area of south Elliott Bay.

Aquatic area in Elliott Bay and the Duwamish Waterway consists of Treaty-protected "usual and accustomed" fishing area. Fishing activity in this area is managed by the Muckleshoot Indian Tribe, together with the Washington Department of Fish and Wildlife. Fishing by Tribal members in this area is consistent with past federal government treaties and subsequent court decisions. Treaty fishing is an ongoing activity, and thus, a baseline condition within this area. Members of the Muckleshoot Indian Tribe and Suquamish Indian Tribe harvest Chinook, coho, chum, and steelhead salmon in south Elliott Bay, the East and West Waterways, and the Duwamish Waterway during summer, fall, and winter of each year, generally from August through February. Aquatic area adjacent to Terminal 5 is an active set net fishing area.

Since the project site is an existing marine terminal facility and no expansion of the physical wharf structures at the site is proposed, the effect of the project on Treaty-fishing is limited physical access to approximately 1500 feet of the dock face because of moored construction barges needed to complete in water work.

c. Describe the methods used to assess the potential impacts to cultural and historic resources on or near the project site. Examples include consultation with tribes and the department of archeology and historic preservation, archaeological surveys, historic maps, GIS data, etc.

Methods used to assess the potential impacts to cultural and historic resources included:

- Review of the Southwest Harbor Environmental Impact Statement for the project site, prepared in 1994.
- Review of Cultural Resource Testing 45KI432 Alki Transfer/CSO Project West Seattle Pump Station, King County, Washington by Paul S. Solimano, Lynn L. Larson and Dennis E. Lewarch. Submitted to HDR Engineering, Bellevue, WA. Prepared for: Municipality of Metropolitan Seattle, Seattle, WA. Prepared by Larson Anthropological/Archaeological Services. LAAS Technical Report #93-7. Seattle, WA. June 30, 1993.

- Review of the Department of Archaeology and Historic Preservation's Washington Information System for Architectural and Archaeological Records Database on January 18, 2015.
- Review of King County and City Landmarks List and Technical Paper No. 6, revised January 2015, on January 18, 2015.
- Review of Seattle Department of Neighborhood's database of historical properties on February 2, 2015.
- Personal communication regarding archaeological sites in the project area between Audrey Hackett, SoundEarth Strategies, Inc. and Gretchen Kaehler Department of Archaeology and Historic Preservation. February 2015.

d. Proposed measures to avoid, minimize, or compensate for loss, changes to, and disturbance to resources. Please include plans for the above and any permits that may be required.

No potential adverse effects on historic or cultural resources are anticipated. The possibility that historic or cultural resources are present at the site is low since the present industrial facility consists of filled upland area, with the majority of fill placed in former aquatic area of south Elliott Bay. The minimal excavation and filling for electrical and water utility line placement anticipated for the project would be monitored such that historic or cultural materials discovered at the site can be protected from disruption, pending evaluation by participating responsible interests by using established protocol.

The Port works in partnership with the Muckleshoot Indian Tribe and the Suquamish Indian Tribe to inform treaty fishermen of vessel activity in the vicinity of Terminal 5 during fishing periods. Information detailing vessel activity would be provided as a means of avoiding potential fishing use and vessel operation conflicts and to ensure continuing mutual access to this area of the West Waterway.

Dredging activities would be coordinated with fishing periods in order to minimize potential disruption of fishing locations due to the presence of floating dredging equipment and any shifts in cargo vessel mooring areas.

14. Transportation

a. Identify public streets and highways serving the site, and describe proposed access to the existing street system. Show on site plans, if any.

Terminal 5 has two vehicular access points. The primary access is via the Terminal 5 entrance over-pass, connecting Terminal 5 to SW Spokane Street just west of the SW Spokane Street Swing Bridge over the Duwamish Waterway. The Terminal 5 overpass structure, completed in 1999, is grade-separated from the Terminal 5 lead railroad tracks, allowing Terminal 5 cargo truck traffic and truck and vehicle traffic serving adjacent industrial sites continuous access, independent of Terminal 5 intermodal rail traffic and rail service to rail car storage areas located west of Terminal 5. A secondary access is located at-grade via West Marginal Way SW and connects to the SW Spokane Street/West Marginal Way SW/Chelan Avenue SW intersection as its northern leg. This access points crosses the Terminal 5 lead railroad tracks at grade. The surface route and overpass connect south of the Terminal 5 gate, and either route can be used to provide access to the Terminal 5 office and private businesses located southeast the terminal at sites known as Terminals 7A, 7B, and 7C.

Connections between the terminal and the regional highway network are provided by SW Spokane Street, West Marginal Way SW, East Marginal Way South, and the West Seattle Bridge/Spokane Street Viaduct.

b. Is the site or affected geographic area currently served by public transit? If so, generally describe. If not, what is the approximate distance to the nearest transit stop?

King County Metro provides bus transit service along SW Spokane Street adjacent to the site with two routes. Route 21 provides all-day service between Arbor Heights, West Seattle and Downtown Seattle. The buses operate from about 4:45 AM to about 1:00 AM at about 15-minute headways (time between

consecutive buses). Route 37 connects between Alaska Junction and Downtown Seattle via Alki Avenue SW, but only operates during the morning and afternoon peak periods. This route has four buses destined to downtown in the morning and four returning buses in the afternoon. Both routes have bus stops on SW Spokane Street just west of Chelan Avenue SW.

c. How many additional parking spaces would the completed project or non-project proposal have? How many would the project or proposal eliminate?

Terminal 5 has 585 parking spaces that are located in various lots around the terminal. The largest parking lots are located adjacent to the Administration Building (180 spaces), Gate House (180 spaces), and under the Terminal 5 Access bridge (147 spaces). Other spaces are located throughout the terminal including near the maintenance facilities, intermodal yard, and security gate.

The proposed project includes upgrading the power supply to the terminal and constructing a new substation near the Administration Building. This substation would eliminate 29 parking spaces. Overall parking on the terminal would be reduced from 585 spaces to 556 spaces. This amount of parking would still be able to accommodate the peak terminal employment, even during the shift change when day shift employees may overlap with night shift employees.

d. Would the proposal require any new or improvements to existing roads, streets, pedestrian, bicycle or state transportation facilities, not including driveways? If so, generally describe (indicate whether public or private).

No changes to the existing transportation system would be needed to accommodate the proposed project. The project does not anticipate expansion of the dimensions of the wharf structure and would continue to operate within operational parameters evaluated in the 1994 Southwest Harbor Cleanup and Redevelopment Project Final EIS. Future operational characteristics would be driven by tenant needs, which are unknown at this time. Additional environmental review of traffic impacts and necessary improvements would be conducted, as appropriate, when a tenant is known and specifications are available for analysis.

e. Would the project or proposal use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.

Yes, the project would occur in the vicinity of water transportation, and the expected work and resulting transportation impacts are detailed in Item B.14.f., below. The work would also be performed in the vicinity of the existing Terminal 5 on-dock intermodal yard and supporting lead railroad tracks. However, these facilities would not be affected by the proposed project.

f. How many vehicular trips per day would be generated by the completed project or proposal? If known, indicate when peak volumes would occur and what percentage of the volume would be trucks (such as commercial and nonpassenger vehicles). What data or transportation models were used to make these estimates?

Project Construction Trip Generation

The proposed project would rehabilitate the existing Terminal 5 cargo wharf and deepen the existing navigational vessel berth access. The project would be conducted within the dimensions and perimeter of the existing terminal and wharf. Dredging would be performed to deepen the berth area adjacent to the rehabilitated wharf, and would occur in areas previously dredged and maintained for the purpose of navigational access. Other elements of the project include improvements to the electrical, mechanical, and stormwater systems.

The proposed project would generate temporary increases in vehicular, truck, train and barge traffic associated with these construction activities. The potential transportation-related elements of this work include:

- Transporting construction debris and dredge spoils away from the project site.
- Transportation of construction materials and equipment to the site.
- Travel and parking demand generated by construction workers.

The elements that could affect transportation would be demolition, transportation of piles and other material that would be used to strengthen the berth, and dredging.

Demolition. The project would demolish older wharf and structural systems as needed. This is expected to include the following:

- Concrete beams and slabs along the edge of the berth and crane rail (about 59,000 square feet)
- Asphalt paving (about 87,000 square feet)
- Timber fender piles
- Structural piling

Materials removed during demolition are expected to be trucked off of the site. At the peak, demolition activities may generate up to ten double dump truck loads per hour, resulting in 20 truck trips per hour (10 trucks arriving and 10 trucks departing).

Transport of Piles. Upgrading the berth is expected to require about 4,000 piles, which includes a combination of sheet piles, concrete piles, and pin piles. Given the various installation methods, it is expected that 6 steel or concrete piles could be installed per day, and 10 timber pinch piles could be installed per day. The piles would be delivered to the terminal on trucks or barges. Given the relatively low volume of piles each day, it is expected that delivery volumes would also be low (up to two trucks per day).

Dredging. Dredge spoils are expected to be loaded onto a barge, and disposed of according to strict requirements of the EPA, DNR, and Ecology. Dredge sediments unsuitable for open water disposal would be barged to a contractor-provided upland offloading facility. Therefore, none of the dredged material is expected to generate truck traffic from Terminal 5.

During the first phase of construction (Summer 2016 through Summer 2017) work would be concentrated at the south end of the terminal, and trucks are likely to enter the terminal from West Marginal Way SW. During the second phase of construction in 2017/2019, the work would be along the central and north ends of the terminal, and trucks are likely to enter the terminal via the Terminal 5 Access Bridge. Both SW Spokane Street and West Marginal Way SW are suitable truck haul routes. The construction activity described above would generate much less truck traffic than Terminal 5 generates when operating as a container terminal.

The number of construction workers at the site would be less than the terminal employs when operational. Therefore, the level of traffic and parking demand would also be less. The vicinity roadways and the on-site parking supply could accommodate traffic and parking demand generated by those workers.

No adverse effects associated with construction traffic or parking are expected, and no mitigation would be needed.

Ongoing Operations Trip Generation

The proposed project does not include expansion of the dimensions of the wharf structure and would continue to operate within or less than operational parameters evaluated in the 1994 Southwest Harbor Cleanup and Redevelopment Project Final EIS. The current interim tenant projects seasonal fluctuations in personnel needed for operations between 250 between April to October to up to 450 workers on site during the remaining 6 months. Truck haulage required to resupply vessels would be minimal and the number of truck trips onto and off the site to support the current tenant is substantially less than the

average of approximately 2000 truck trips (1,000 entering and 1000 exiting) Terminal 5 per day during cargo operations conducted by the most recent facility tenant. Future operational characteristics would be determined by tenant needs, which are unknown at this time. Additional environmental review of traffic impacts and necessary improvements would be conducted, as appropriate, when a tenant is known and specifications are available for analysis.

g. Would the proposal interfere with, affect or be affected by the movement of agricultural and forest products on roads or streets in the area? If so, generally describe.

No.

h. Proposed measures to reduce or control transportation impacts, if any:

No transportation measures would be needed. It is important to note the transportation improvements that have been provided in the project vicinity since 1997.

Many infrastructure improvements were made as part of the Terminal 5 project, which was completed and opened in 1999. The major transportation-related improvements included:

- Constructing the Terminal 5 entrance over-pass/bridge to grade-separate the terminal vehicular traffic from its lead railroad tracks.
- Rebuilding Harbor Avenue SW to include new curb, gutter, sidewalk and a landscape berm.
- Constructing the on-dock intermodal yard, storage tracks, and lead railroad tracks.
- Installing a second lead track across Harbor Island to increase rail capacity.

Since then, both the Port and City of Seattle have made many additional infrastructure improvements in the area. These are described below:

- Rebuilding the Harbor Island roadway network as part of the Terminal 18 expansion in 1999, which relocated the lead railroad tracks to Harbor Island and Terminal 18 under the SW Spokane Street Bridge (these trains previously crossed SW Spokane Street at grade near 11th Avenue SW)? The Terminal 18 project also reconfigured SW Spokane Street to create the frontage road system, which simplified the intersection at 11th Avenue SW.
- Constructing the East Marginal Way Grade Separation, which allows vehicular traffic to bypass train movements in the corridor?
- Widening the Spokane Street Viaduct, constructing a new eastbound off-ramp to 4th Avenue S, and rebuilding the westbound on and off-ramps at 1st Avenue S.
- Rebuilding surface SW Spokane Street under the viaduct. This project provided wider lanes, better U-turn facilities, new pavement, and improved traffic signal systems.
- Rebuilding the SW Spokane Street grade-level fixed bridge over the East Waterway.

15. Public Services

a. Would the project result in an increased need for public services (for example: fire protection, police protection, health care, schools, other)? If so, generally describe.

No increase in public services is anticipated as a result of the proposed project.

b. Proposed measures to reduce or control direct impacts on public services, if any.

No measures for offsetting, reducing or controlling negative effects on public services are required.

16. Utilities

a. Circle utilities currently available at the site: electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other.

Terminal 5 receives electric, natural gas, water, solid waste, sanitary sewer, and telephone service.

b. Describe the utilities that are proposed for the project, the utility providing the service and the general construction activities on the site or in the immediate vicinity that might be needed.

The project proposes to upgrade the electrical and water systems as needed to accommodate the rehabilitated cargo wharf and to support ongoing operations. Other utility improvements would be included as needed to support the project. Utility work at the site includes the items listed below.

Electrical (Seattle City Light)

- Electrical supply and distribution would be upgraded for increased loads. Replacement primary substation equipment would be installed to provide electrical power sufficient for modern container crane equipment and associated cargo operations. A new 26 MVA Primary Substation would be constructed to provide electrical power to the new cranes and associated terminal operations, such as cargo handling, marshalling, and refrigeration. Coordination with SCL would provide power to the new Primary Substation from both the SCL Delridge Substation and the SCL South Substation.
- Up to four new electrical distribution substations would be constructed to serve container cranes and dock power and lighting systems. A new underground electrical duct bank would be constructed to connect distribution elements. Distribution vaults and trenches would be constructed to provide electrical power to container crane equipment. Heating and ventilation would be provided for electrical enclosures.
- The electrical supply would remain within the capacity that Seattle City Light can currently handle until and unless Seattle City Light is able to provide additional capacity.

Water (Seattle Public Utilities)

- Existing dockside water distribution system would be removed and replaced. Sectional distribution system would be provided and integrated with existing looped water distribution system and existing fire hydrant layout. Existing vessel water supply assemblies would be removed and replaced, including water use metering code requirements.
- Stormwater treatment and improvements would be installed, as required by the City Stormwater code for the proposed project elements.

C. SIGNATURE

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature: _____

Name of Signee: Paul Meyer

Position and Agency/Organization: Manager, Seaport Review and Permitting

Date Submitted: March 2, 2015

D. SUPPLEMENTAL SHEET FOR NONPROJECT ACTIONS

Because these questions are very general, it may be helpful to read them in conjunction with the list of the elements of the environment. When answering these questions, be aware of the extent the proposal, or the types of activities likely to result from the proposal, would affect the item at a greater intensity or at a faster rate than if the proposal were not implemented. Respond briefly and in general terms.

SEPA Phased Review Background

Information and analyses presented in Section A., Background, and Section B., Environmental Elements, of the present checklist describe existing conditions at Terminal 5 and evaluate potential environmental effects anticipated from rehabilitation of the Terminal 5 cargo wharf and deepening adjacent vessel moorage areas. The port is proposing to strengthen the existing aging Terminal 5 cargo wharf such that the wharf would continue to be an effective cargo asset in the future. Similarly, deepening navigational access at Terminal 5 vessel berths is critical for continuing service from vessels with increased capacity transporting international cargoes. Strengthening the Terminal 5 wharf and deepening navigational access is timely since the facility is not currently committed to a long-term cargo use lease, allowing for efficient, cost-effective, comparatively un-impeded construction activities.

The existing Terminal 5 facility was redeveloped between 1995 and 1999. City, state, and federal authorizations for Terminal 5 redevelopment were preceded by and supported with detailed environmental analysis and evaluation included in the 1994 final redevelopment project EIS, referred to as the Southwest Harbor Cleanup and Redevelopment Project. The final EIS evaluated environmental effects resulting from Terminal 5 cargo operations with a maximum annual capacity of approximately 647,000 TEUs. The present wharf rehabilitation and berth deepening project does not include elements intended to increase the 647,000 TEU volume previously analyzed and approved. Annual cargo volume may remain the same even if Terminal 5 is served by increased capacity vessels. However, potential changes in loading and unloading operations that could occur due to the use of larger capacity ships, or other technology changes that are presently unknown, would be important to analyze and evaluate. It is not possible to anticipate specific future cargo operations and related potential effects to environmental conditions at the site and in adjacent areas of southwest Elliott Bay at this time. For example, cargo operation information essential to objective environmental analysis and evaluation includes: (1) configuration and number of cargo crane equipment installed on the rehabilitated wharf; (2) capacity of cargo vessels and frequency of vessel service at the facility; (3) type, number, and operating characteristics of cargo handling equipment; (4) tempo of operations, including day, night, and weekend schedules; and (5) cargo drayage characteristics, including cargo moved to and from the site via truck and rail transportation.

Following wharf strengthening and berth deepening, Terminal 5 is expected to return to active cargo transshipment use, with a new long-term tenant. It is not known, at present, how a future tenant would make specific use of Terminal 5. This prevents the meaningful evaluation of potential environmental conditions with increased capacity cargo vessels calling at Terminal 5. However, it is likely that a future long-term facility tenant would consider serving the Terminal 5 site with increased capacity vessels, compared with vessels that commonly served the site in past decades.

The following information is provided to describe potential environmental effects associated with cargo transshipment at Terminal 5 using increased capacity vessels and changes in cargo handling equipment. The following is presented as a SEPA "phased review" (WAC 197-11-055[2][A][i] and 197-11-060[5][e]). The Port is including phased review information in the present environmental checklist because Terminal 5 wharf rehabilitation and berth deepening and potential environmental effects from accommodating increased capacity vessels are "closely-related" proposals under WAC 197-11-060(3)(a)(iii). This method and level of SEPA analysis is being used because future operational

characteristics would be determined by tenant needs, which are unknown at this time. Phased review, presented as an element of this checklist, provides a framework for evaluation of future Terminal 5 operations and associated environmental effects due to potential operational changes at the site, including larger, increased capacity vessels. Additional environmental review would be conducted, as appropriate, when a tenant is known and operational specifications are available for analysis.

1) How would the proposal be likely to increase discharge to water; emissions to air; production, storage, or release of toxic or hazardous substances; or production of noise?

The specific operating characteristics of larger capacity vessels serving Terminal 5 are unknown at present. It is anticipated that larger capacity vessels would result in fewer vessel calls with longer duration stays at the facility. However, the specific number and duration of vessels calls and the maneuvering and at berth air emission performance of vessels cannot be predicted at this time. The means and methods for future cargo discharge and loading activities cannot be predicted. Thus, until more specific information is available, it is not possible to analyze any changes to air emissions and production of noise. Management of toxic and hazardous substances would be consistent with rules and regulations and operations would not cause release of toxic or hazardous substances. The site is already completely paved and discharges to water would not change with new operational characteristics.

Proposed measures to avoid or reduce such increases are:

It is not possible to propose measures for avoiding and minimizing potential future adverse environmental effects resulting from changes in vessel service and cargo handling equipment that cannot be predicted at present. The proposed wharf rehabilitation and berth deepening project includes improvements to Terminal 5 electrical service. The proposed changes to electrical service have the potential to serve vessels moored at Terminal 5 with electrical power and may result in the future ability to connect moored vessels to shore power, resulting in reduced potential to affect air quality, and potential reductions in noise emissions from vessel engines needed to provide power at berth.

2) How would the proposal be likely to affect plants, animals, fish, or marine life?

The specific operating characteristics of larger capacity vessels serving Terminal 5 are unknown at present. It is anticipated that larger capacity vessels would result in fewer vessel calls with longer duration stays at the facility. However, the specific number and duration of vessels calls and the maneuvering and at berth air emission performance of vessels cannot be predicted at this time. Thus, until more specific information is available, it is not possible to analyze any effects on plants, animals, fish, or marine life.

Proposed measures to protect or conserve plants, animals, fish, or marine life are:

It is not possible to propose measures for avoiding and minimizing potential future adverse environmental effects to marine vegetation and fish and wildlife prior to identifying future operational details for long-term site use.

3) How would the proposal be likely to deplete energy or natural resources?

Cargo transshipment at Terminal 5 facility with increased capacity vessels and potential changes in cargo handling equipment may result in positive effects on energy and natural resources. Newer, high capacity vessels entering international service are expected to transport greater volumes of cargo with less energy while maintaining similar port destinations largely due to increased engine efficiencies while transporting more containers per voyage. Vessels serving Terminal 5 can also be expected to operate at reduced speeds, transporting cargo volumes similar to present levels, reducing fuel use. Similarly, different or new cargo handling equipment is expected to include advances in fuel economy.

Proposed measures to protect or conserve energy and natural resources are:

Future measures for protecting and conserving energy and natural resources are not possible to identify at present. Future proposals for changes in operating conditions at Terminal 5 would be evaluated for measures to minimize energy and natural resource effects.

4) How would the proposal be likely to use or affect environmentally sensitive areas or areas designated (or eligible or under study) for governmental protection; such as parks, wilderness, wild and scenic rivers, threatened or endangered species habitat, historic or cultural sites, wetlands, floodplains, or prime farmlands?

The introduction of larger vessels to Terminal 5 is not expected to use or affect environmentally sensitive areas or areas designated for governmental protection. Future proposals for changes in Terminal 5 operating conditions would be evaluated for potential affects to threatened or endangered fish and wildlife in the area of Terminal 5.

Proposed measures to protect such resources or to avoid or reduce impacts are:

Measures for avoiding and minimizing potential effects on threatened or endangered fish and wildlife in the vicinity of Terminal 5 cannot be evaluated prior to identifying future cargo operational needs specified by a long-term cargo site tenant.

5) How would the proposal be likely to affect land and shoreline use, including whether it would allow or encourage land or shoreline uses incompatible with existing plans?

Future Terminal 5 cargo operations are expected to be restricted to the area of the existing facility. No expansion in area is anticipated and site uses and activities would continue to be consistent City of Seattle land use and shoreline master plan requirements. The existing site is built and committed to long-term marine industrial uses and activities and no change is expected due to potential future tenant operational needs. Future proposals for changes in Terminal 5 operating conditions would be evaluated for potential effects to land and shoreline use.

Proposed measures to avoid or reduce shoreline and land use impacts are:

It is not possible to propose measures for avoiding and minimizing potential future adverse environmental effects resulting from changes in vessel service and cargo handling equipment that cannot be predicted at present.

6) How would the proposal be likely to increase demands on transportation or public services and utilities?

<u>Transportation</u>

The specific operating characteristics of larger capacity vessels serving Terminal 5 are unknown at present. It is anticipated that larger capacity vessels would result in fewer vessel calls with longer duration stays at the facility. However, the specific number and duration of vessels calls and maneuvering cannot be predicted at this time. Therefore, traffic changes associated with long-term future cargo use at Terminal 5 cannot be specifically evaluated at present.

<u>Public Services and Utilities</u>

Additional demands on public services and utilities are expected as a result of the introduction of increased capacity vessels and potential use of new or alternative cargo handling equipment, compared with previously evaluated cargo volumes at Terminal 5. The proposed project upgrades electrical supply and distribution to the wharf in order to meet future electrical power needs associated with potential changes in cargo handling equipment, including larger cargo cranes. Also, the existing dockside water distribution system would be replaced.

Proposed measures to reduce or respond to such demand(s) are:

Potential traffic effects due to introduction of increased capacity vessels at Terminal 5 would result from how a future tenant, which is unknown at this time, may choose to operate the terminal. A future tenant using similar equipment in a similar manner to previous operations with similar throughput, would be expected to result in similar traffic levels. Measures to avoid and minimize traffic effects (i.e., intersection operations and potential changes in cargo terminal entrance/exiting gates, on-site management of truck queues) would likely be needed if future cargo operations change significantly or cargo handling activities exceed volumes that Terminal 5 has successfully transshipped in recent years, consistent with previous analysis and authorizations. Until then, no measures are expected to be needed.

Increased electrical capacity and water service requirements have been designed to be consistent with Seattle City Light and Seattle Public Utilities requirements and capacity. It is not possible to propose measures for avoiding and minimizing potential future adverse environmental effects resulting from changes in vessel service and cargo handling equipment that cannot be predicted at present.

7) Identify, if possible, whether the proposal may conflict with local, state, or federal laws or requirements for the protection of the environment.

The arrival of larger vessels to Terminal 5 is intended to be consistent with local, state, and federal laws and requirements for protection of the environment. If significant changes in cargo operations are proposed by a future tenant, compared with previously evaluated and authorized cargo volumes and associated environmental effects, additional environmental review would be conducted as appropriate.

Figure 1. Vicinity map

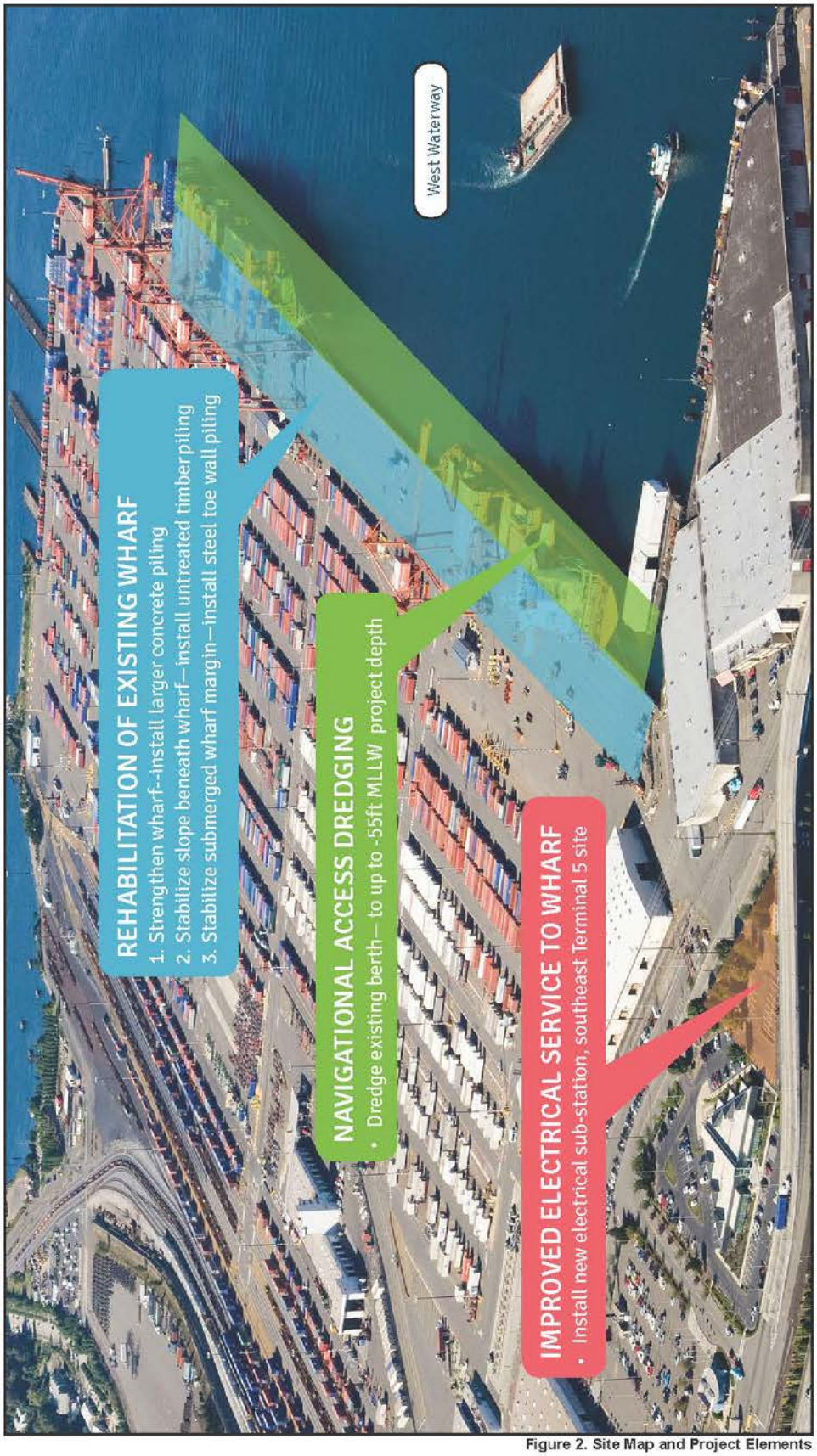

Figure 2. Site Map and Project Elements

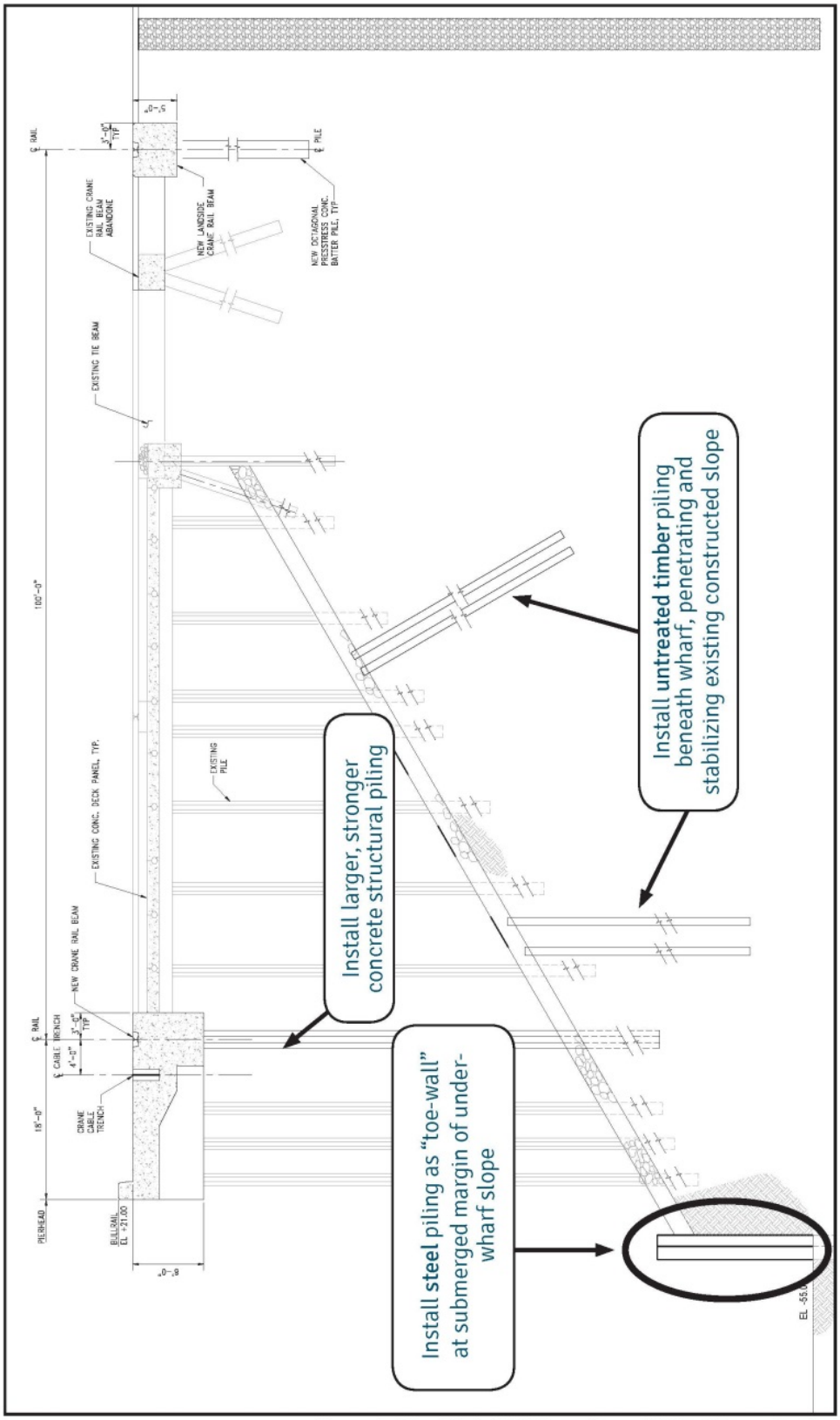

Figure 3. Wharf Rehabilitation - Beneath Wharf Cross-Section

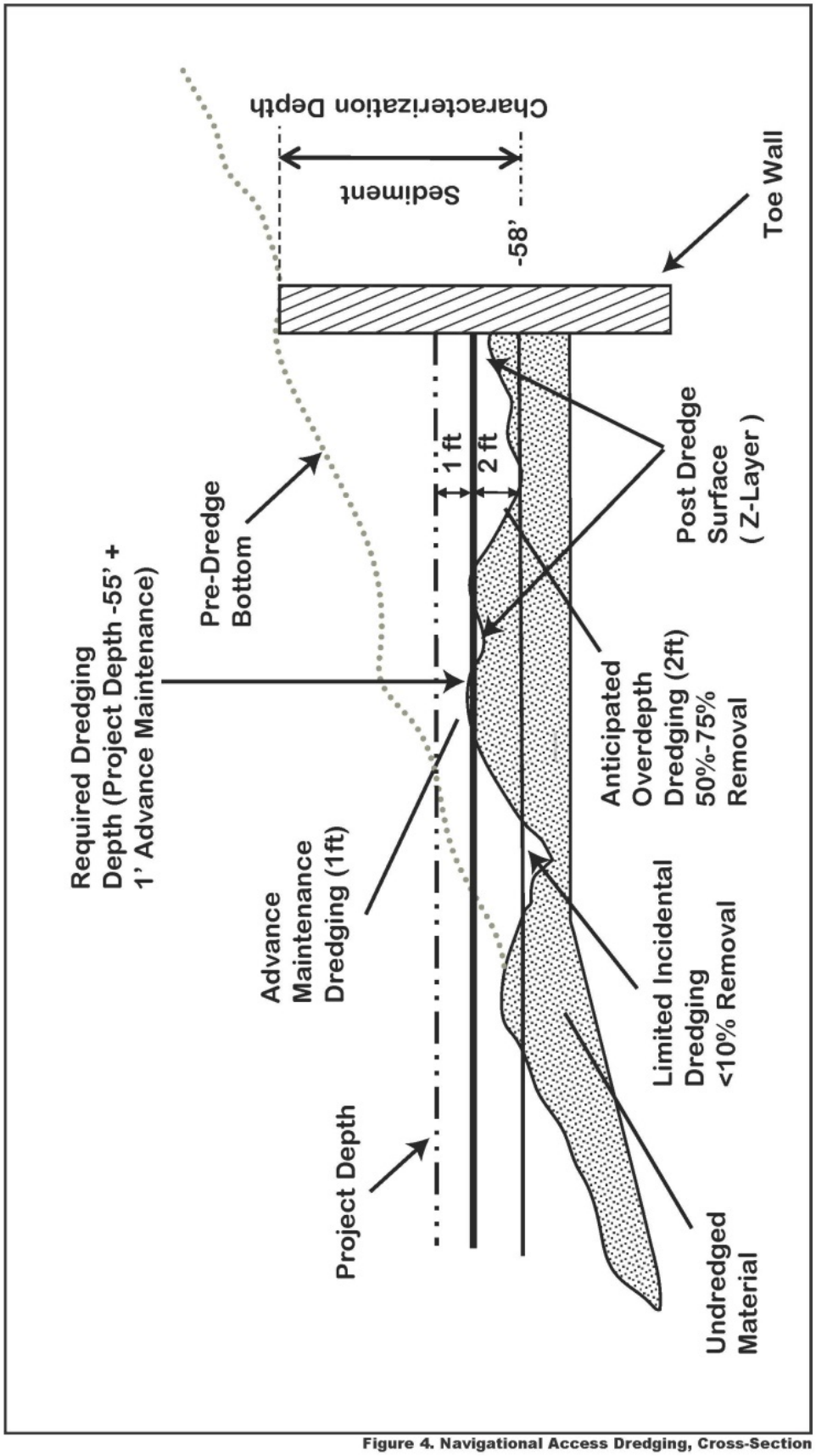

Figure 4. Navigational Access Dredging, Cross-Section