Final Interim Action Work Plan
Kimberly-Clark Worldwide Site Upland Area
3rd Interim Action
Port of Everett
Everett, Washington

August 5, 2021

Prepared for

Port of Everett

LANDAU ASSOCIATES

155 NE 100th St, Ste 302
Seattle, WA 98125
206.631.8680

Interim Action Work Plan
Kimberly-Clark Upland Site, 3rd Interim Action
Port of Everett
Everett, Washington

This document was prepared by, or under the direct supervision of, the technical professionals noted below.

Document prepared by: _____ Dylan Frazer, LG
Project Manager; Associate

Document reviewed by: _____ Larry Beard, PE, LHG
Quality Reviewer; Principal

Date:	August 5, 2021
Project No.:	0121049.020.024
File path:	P:\121\049\R\IAWP\MIE KC 3rd IAWP rpt_Final 080521.docx
Project Coordinator:	LJL

LANDAU ASSOCIATES

This page intentionally left blank.

TABLE OF CONTENTS

FIGURES

TABLES

ATTACHMENTS

LIST OF ABBREVIATIONS AND ACRONYMS

°F ..... degrees Fahrenheit
AO ..... Agreed Order No. DE 9476
ARA ..... archaeological resource assessment
ARAR ..... applicable or relevant and appropriate requirement
BE ..... biological evaluation
bgs ..... below ground surface
BMP ..... best management practice
BUILD ..... Better Utilizing Infrastructure to Leverage Development
CDF ..... controlled density fill
CESCL ..... construction erosion and sediment control lead
CESF ..... Chitosan-Enhanced Sand Filtration
CFR ..... Code of Federal Regulations
City ..... City of Everett
CM ..... crushed material
CQA ..... construction quality assurance
CQC ..... construction quality control
CSGP ..... construction stormwater general permit
DCAP ..... draft cleanup action plan
Ecology ..... Washington State Department of Ecology
EFH ..... essential fish habitat
EPA ..... US Environmental Protection Agency
FEIS ..... Final Environmental Impact Statement
FS ..... feasibility study
ft ..... feet, foot
HASP ..... health and safety plan
HDPE ..... high-density polyethylene
HI ..... heavy industrial
HPA ..... Hydraulic Project Approval
HTL ..... high tide line
Interim Action ..... 3rd Interim Cleanup Action of the K-C MTCA Site
ISGP ..... Industrial Stormwater General Permit
K-C ..... Kimberly-Clark Worldwide, Inc.
LAI ..... Landau Associates, Inc.
M&D ..... monitoring and discovery plan
MARAD ..... Maritime Administration
MDNS ..... Mitigated Determination of Non-Significance
MHHW ..... mean higher high water
MIE ..... Maritime Industrial Expansion

MLLW ..... mean lower low water
MTCA ..... Model Toxics Control Act
MTSA ..... Maritime Transportation Security Act
NEPA ..... National Environmental Policy Act
NHPA ..... National Historic Preservation Act
NPDES ..... National Pollutant Discharge Elimination System
NWTPH-Dx ..... Northwest total petroleum hydrocarbon diesel-range extended
NWTPH-Gx ..... Northwest total petroleum hydrocarbon gasoline-range extended
PAH ..... polycyclic aromatic hydrocarbon
PCB ..... polychlorinated biphenyl
PCUL ..... preliminary cleanup level
PLP ..... potentially liable person
Port ..... Port of Everett
PUD ..... Snohomish County Public Utilities District
PVC ..... polyvinyl chloride
RCW ..... Revised Code of Washington
RI ..... remedial investigation
SEPA ..... State Environmental Policy Act
SHPO ..... State Historic Preservation Officer
SIM ..... selected ion monitoring
Site ..... K-C MTCA Site
SMA ..... Shoreline Management Act
SPCC ..... spill prevention, control, and countermeasures
SWPPP ..... stormwater pollution prevention plan
TESC ..... temporary erosion and sediment control
UDWP ..... urban deepwater port
USACE ..... US Army Corps of Engineers
USC ..... United States Code
USFWS ..... US Fish & Wildlife Service
WAC ..... Washington Administrative Code
WDFW ..... Washington Department of Fish & Wildlife
Work Plan ..... Interim Action Work Plan
WSDOT ..... Washington State Department of Transportation

This page intentionally left blank.

1.0 INTRODUCTION

On behalf of the Port of Everett (Port), this Interim Action Work Plan (Work Plan) presents plans for implementation of the 3rd Interim Cleanup Action (Interim Action) at the Upland Area of the former Kimberly-Clark Worldwide, Inc. (K-C) Model Toxics Control Act (MTCA) site (Site). The Site is located adjacent to and just north of the Port's main Marine Terminal facilities in Everett, Washington, and the Interim Action is being conducted in coordination with the Port's Maritime Industrial Expansion (MIE) at Norton Terminal project (collectively referred to in this document as the Project), as illustrated on Figures 1 and 2. This Work Plan describes those activities and those which are required under the Agreed Order (AO) between the Port, K-C, and the Washington State Department of Ecology (Ecology; AO No. DE 9476), which addresses a 3rd Interim Cleanup Action to be completed at the Site by the Port (Ecology 2021). The Site, as defined in the AO, includes portions of upland and in-water areas where hazardous substances historically have been deposited, stored, disposed of, placed, or otherwise come to be located. The AO specifically addresses the Upland Area, which is the portion of the Site inland of mean higher high water (MHHW). The in-water area, located seaward of MHHW, is being addressed under a separate Agreed Order for the East Waterway.

In accordance with the AO, this Work Plan was prepared to present a detailed description of the Interim Action scope, engineering design, and phasing. Prior documents were developed in support of the Interim Action, including a Preload Ground Improvement technical memorandum (Landau Associates, Inc. [LAI] 2021b), which presented early action components of the Interim Action necessary for achieving the goals of the AO, and a Soil and Groundwater Management Plan (LAI 2021a), which outlines general site conditions and guidelines for managing soil, groundwater, and stormwater during implementation of the interim action. These documents are included as Attachments 1 and 2 to this Work Plan.

A limited portion of the Project includes work outside of the Site in Federal Avenue. This work will be conducted concurrently and under the same construction contract but is separate from the Interim Action scope outlined in this document. Any work conducted within the ExxonMobil/ADC MTCA site located to the south of the Site will be coordinated separately with the appropriate Ecology site manager and potentially liable parties.

2.0 SITE DESCRIPTION

The Upland Area is located at 2600 Federal Avenue, Everett, Washington and includes approximately 46 acres of industrial property owned by the Port and the City of Everett (City). The Port also owns about 12 acres of adjacent East Waterway tidelands that are within the in-water area of the Site. The Upland Area is generally located adjacent to East Waterway on the west side of West Marine View Drive between Everett Avenue and 21st Street to the south and north, respectively (Figure 1).

The Upland Area is the former location of saw milling and pulp and paper manufacturing and was in operation since the late 1800s. Additionally, bulk petroleum storage operations were conducted on the Upland Area. Manufacturing operations at the K-C facility ceased in 2012. Releases of hazardous substances occurred as a result of wood products manufacturing operations and bulk petroleum storage, and based on these releases, Ecology listed the Site under MTCA and assigned it Cleanup Site ID No. 2569.

2.1 Previous Investigations and Cleanup Activities

In December 2012, K-C entered into the AO to conduct remedial activities at the Site, including conducting a remedial investigation (RI) and feasibility study (FS) and preparing a draft cleanup action plan (DCAP). Additionally, the AO required the implementation of an interim action to remove, as appropriate, contamination encountered during demolition of the mill facility (First Interim Action). K-C removed contaminated soil and groundwater from 15 discrete locations of the Site in 2013 and 2014 in conjunction with demolition of the Site structures. The First Interim Action resulted in removal of 38,450 tons of contaminated soil and the removal, treatment, and discharge of more than 5.6 million gallons of groundwater.

In November 2019, K-C entered into the first amendment to the AO (AO First Amendment). The AO First Amendment provided for a 2nd Interim Action to remove additional soil and/or groundwater contamination, decommission inactive underground pipes that pose a threat to release and transport of contaminated groundwater or stormwater to the East Waterway, inspect and clean active stormwater lines, and monitor the pH in groundwater during the removal of crushed material. The removal of soil contamination during the 2nd Interim Action targeted 12 specific areas with a primary goal to remove sources of leachable contaminants to groundwater. The 2nd Interim Action resulted in removal of 17,610 tons of contaminated soil, the removal and treatment of approximately 2.28 million gallons of groundwater, and the plugging of 21 stormwater pipes potentially acting as conduits for contaminated groundwater to surface water (Aspect 2021). The 2nd Interim Action was completed in November 2020, and with the targeted removal of sources of leachable contaminants complete, remaining soil contamination at the Site exceeding preliminary cleanup levels (PCULs) is relatively dispersed.

In 2019 the Port purchased most of the K-C property (upland and in-water parcels) while the City purchased the upland-only parcel that contains the mill's former wastewater treatment plant (Site

Unit E). In March 2020, Ecology named the Port and the City as potentially liable persons (PLPs) for the Site, and in May 2021, the Port and Ecology signed a 2nd Amendment to the AO requiring the implementation of a 3rd Interim Action at the Upland Area. The scope of the 3rd Interim Action is defined in the AO amendment and includes installation of a low-permeability cap. The Port will be the lead PLP for conducting the 3rd Interim Action in conjunction with initial Upland Area development to put the property back into productive use to support its marine terminal activities. The Port has also taken over as the lead PLP for completing the RI/FS and DCAP for the Upland Area.

2.2 Future Site Use

The Port's goal is to integrate the environmental cleanup and economic development in such a way that accelerates the cleanup and puts the Site back into economic use as quickly as possible. The MIE Project will develop the Norton Terminal into a secure marine cargo terminal on approximately 34 acres of the property (Figure 2), while retaining the existing docks and waterfront for future maritime expansion. No marine component, other than planned upgrades to several outfalls, is currently planned for this phase of development; however, the Port is focused on developing a flexible design that will accommodate future marine infrastructure or reuse of the existing barge dock. Upland access to the Site will be from Federal Avenue at the south end, and from Norton Avenue at the north end. Security gates and operational procedures will be developed at the south end of the property to enable secure movement of cargo between the existing Marine Terminals and the new Norton Terminal, which are considered Maritime Transportation Security Act (MTSA)-regulated facilities.

2.3 Geology and Hydrogeology

The Upland Area slopes gently downward from east to west, toward the East Waterway, with elevations ranging from about elevation 17 to 19 feet (ft) North American Vertical Datum of 1988. A wedge of fill, generally thickening from east to west, comprises the shallow subsurface soils across the Upland Area. The fill thickness generally ranges from about 15 to 40 ft thick from east to west but was observed up to a depth of 52 ft below ground surface (bgs) in the former log pond. Site fill material is variable, but generally consists of sand to silty sand (dredge fill) with localized occurrences of gravel, concrete, brick, wood, and charcoal debris, and wood chips/sawdust. Prior to completion of the 2nd Interim Action, most of the Upland Area surface was covered with about 1 to 5 ft of crushed material (CM) consisting primarily of crushed concrete and brick, with minor amounts of plastic, fiberglass, metal, and wood. The CM has been removed from the Site by K-C as a solid waste removal project under the supervision of the Snohomish Health District and in accordance with the July 10, 2018 Plan of Operations for CM removal (K-C 2018). Following CM removal, the Upland Area was backfilled with several inches, and up to 5 ft of, clean sand.

A shallow, unconfined water-bearing zone occurs within the fill, overlying the native tide flat deposits. The water table is encountered at a depth of 1 to 5 ft bgs in the eastern portion of the Upland Area, and at a depth of between 6 and 12 ft bgs in the western portion of the Upland Area. Groundwater

contamination is present at the Upland Area and largely results from stormwater infiltration through affected soil and other fill materials. The Upland Area groundwater discharges to Puget Sound (the East Waterway), and groundwater PCULs are based on protection of surface water.

3.0 GENERAL REQUIREMENTS OF THE INTERIM ACTION

This section presents how the Interim Action meets the general requirements for an interim action, as defined in Washington Administrative Code (WAC) 173-340-430.

3.1 Basis for Interim Action

MTCA distinguishes an interim action from a cleanup action in that an interim action only partially addresses the cleanup of a Site and achieves at least one of the following purposes (WAC 173-340-430[1]):

- Reduces the threat to human health and the environment by eliminating or substantially reducing one or more pathways for exposure to a hazardous substance (WAC 173-340-430[1][a]).
- Corrects a problem that may become substantially worse or cost substantially more to address if the remedial action is delayed (WAC 173-340-430[1][b]).
- Completes a site hazard assessment, RI/FS, or designs a cleanup action (WAC 173-340-430[1][c]).

The proposed Interim Action will achieve the first bullet above. The Interim Action will reduce the threat to human health and the environment by substantially reducing or preventing contamination from migrating into groundwater and/or into the East Waterway and preventing terrestrial ecological receptor exposure to residual soil contamination.

An interim cleanup action must also meet one of the following general requirements (WAC 173-340-430[2]):

- Achieve cleanup standards for a portion of the site.
- Provide a partial cleanup (clean up hazardous substances from all or part of the site, but not achieve cleanup standards).
- Provide a partial cleanup and not achieve cleanup standards but provide information on how to achieve cleanup standards.

The proposed Interim Action will meet the requirements of the first and second bullets above (achieve cleanup standards for a portion of the site, or provide a partial cleanup) by:

- Reducing stormwater infiltration through residual soil contamination that could be leached into groundwater and discharge to surface water, thus improving groundwater quality and potentially achieving groundwater cleanup standards by meeting cleanup levels at the shoreline, which is the anticipated conditional point of compliance.
- Removing contaminated soil encountered during installation of subsurface infrastructure.

3.2 Purpose of Interim Action

The intent of the Interim Action is to meet the requirements of the second amendment to the AO and will achieve the following goals:

- Expedite cleanup of the K-C Upland Area;
- Reduce surface water infiltration through residual soil contamination that could be mobilized into groundwater by surface water infiltration, and thus improve groundwater quality;
- Prevent wildlife exposure to residual soil contamination; and
- Integrate Site infrastructure improvements and cleanup elements to ensure consistency with future Site use and for long-term protection of human health and the environment.

The AO also includes a minimum performance goal of 30 percent reduction in stormwater infiltration through contaminated soils that exceed concentrations that are protective of groundwater. This reduction in infiltration will reduce or eliminate contaminant flux from the Upland Area to surface water. The scope of work described herein will achieve and exceed the minimum performance goal.

3.3 Interim Action Alternatives

MTCA requires that an interim action plan present the alternative interim actions considered for application, and an explanation of why the proposed alternative was selected (WAC 173-340-430[7][b][ii]). The Interim Action described in this Work Plan is well defined in the AO, and thus the range of alternatives is limited at present. For the purposes of comparison, no action was considered as an alternative to the scope presented in the AO. A "no action" alternative would have benefits of near-term cost savings and keeping the cleanup process under a standard MTCA schedule. However, this delay in active cleanup measures would leave hazardous conditions that could be addressed immediately without negative impacts to the cleanup process. Further, the Interim Action will allow the land to be safely returned to productive use instead of it remaining vacant and in a condition where unauthorized visitation or terrestrial ecological activity could result in exposure to hazardous substances.

Additionally, the proposed Interim Action does not foreclose any reasonable future cleanup alternatives for the final cleanup action at the Site (WAC 173-340-430[3][b]). Both previous interim actions included removal of soil and groundwater contamination from specific targeted areas that were determined in coordination with Ecology. Specifically, implementation of the 2nd Interim Action by K-C was determined to have removed contamination to the greatest extent practicable from targeted areas agreed upon by both K-C and Ecology based on the significant data set developed during RI sampling and analysis conducted to date (Aspect 2021). Therefore, any reasonable cleanup alternatives based on existing data are not expected to include further soil excavation, and a reduction in stormwater infiltration is compatible with any expected final cleanup action at the Site.

3.4 Description of the Interim Action

In order to achieve the performance goal presented in the AO and to be compatible with future Site use, the general scope of work for the Interim Action includes the following:

- **Site Grading:** Import, grade, and compact clean fill to: 1) increase elevation of the Site to be protective of anticipated sea level rise, 2) to direct stormwater drainage, 3) reduce surface water infiltration, and 4) support construction of the low-permeability cap.
- **Cap Construction:** Construct a low-permeability cap consisting primarily of low-permeability pavement materials and compacted gravel surfaces to further reduce surface water infiltration and to prevent exposure of terrestrial ecological receptors.
- **Utility Installation:** Install subgrade and interim above-grade utilities (power, water, stormwater, sanitary sewer, etc.) to support stormwater treatment and conveyance, minimize future disturbance of the cap, and other potential cleanup action elements where a cap is required to contain contaminated soils.
- **Outfall Reconstruction:** Reconstruct existing outfalls A and M for discharge from the new stormwater system (Figure 2).
- **Soil and Groundwater Management:** Management of contaminated soil and groundwater during construction of subgrade utilities in accordance with an Ecology-approved soil and groundwater management plan.
- **Security Fencing**: Demolition of the existing Site fence and installation of new security fencing to maintain vector control and to prevent human contact with residual Site contamination.

Within the "Site Grading" and "Cap Construction" scopes of work, the use of a preload at the Site will help limit long-term settlement in areas with significant wood debris deposits after completion of the Interim Action, thus protecting the long-term functionality of the low-permeability cap. Due to scheduling and the long period of time necessary for preloading, the preload will be implemented prior to the rest of the Interim Action work; for the purposes of this document, this will be presented as the Preload Phase of the Project. Interim Action implementation during the MIE project will be presented as the Primary Phase of the Project.

4.0 INTERIM ACTION—PLAN OVERVIEW

This section provides a conceptual-level summary for the Interim Action. Further detail regarding the engineering basis of design and construction requirements will follow in Sections 5.0 and 6.0, respectively. Construction plans, consisting of final design for the Preload Phase, and 90 percent design drawings for the Primary Phase are provided in Attachments 3 and 4.

4.1 Project Permitting and Other Requirements

The Interim Action is required under the second AO amendment with Ecology. As such, the activities are typically exempt from requiring further authorization by state or local governments through permits or approvals, although the action must still comply with the substantive requirements of such permits or approvals. In order to determine the substantive requirements, it may be necessary to coordinate with typical permitting agencies. As part of the regulatory requirements analysis for the IA, the following exhaustive list of Applicable or Relevant and Appropriate Requirements (ARARs) for the project were identified:

- Environmental Protection:
  - MTCA: WAC Chapter 173-340, including Preliminary Site Soil Cleanup Levels, which in addition to MTCA, were developed based on:
    - Applicable surface water quality criteria presented in WAC 173-201A
    - Applicable surface water quality criteria presented in the Clean Water Act 304a and 303c
  - State Environmental Policy Act (SEPA): Revised Code of Washington (RCW) Chapter 43.21C, WAC 197-11-268, and WAC 173-802
  - Clean Water Act Sections 401 and 404, Water Quality Certification and Section 303d, List of Impaired Waters
  - Washington Water Pollution Control Act: RCW Chapter 90.48
  - Clean Air Act, 42 United States Code (USC) Chapter 85
  - Washington State Clean Air Act RCW Chapter 70.94
  - Washington State Ambient Air Quality Standards WAC 173-476-100
  - Decommissioning Process for Resource Protection Wells: WAC 173-160-460
- Additional State and Local Requirements:
  - City of Everett Zoning Code, Critical Areas, and Public Works Permitting (including Grading Permits, Utility Permits, and Electrical/Lighting Permits)
  - Shoreline Management Act: RCW Chapter 90.58
  - Washington Department of Fish & Wildlife (WDFW) Hydraulic Project Approval: WAC 220-660
  - City of Everett Sanitary Sewer Discharge Authorization

  - Archaeological and Cultural Resources Act: RCW Chapter 27.53
- Additional Federal Requirements:
  - National Environmental Policy Act (NEPA), 24 USC Chapter 55
  - Rivers and Harbors Act, Section 10
  - Endangered Species Act: Section 7
  - Marine Mammal Protection Act
  - Coastal Zone Management Act
  - National Historic Preservation Act (NHPA), Section 106
- Waste Handling and Health and Safety:
  - Solid Waste Handling Standards: WAC 173-350
  - Washington State Hazardous Waste Management Act: RCW Chapter 70.105
  - State Dangerous Waste Regulations: WAC Chapter 173-303
  - Occupational Safety and Health Act, 29 Code of Federal Regulations (CFR) Subpart 1910.120
  - Washington Industrial Safety and Health Act.

In addition to identifying the ARARs for the Site, several applicable environmental review and permitting processes were identified. The status of each is discussed below.

- **SEPA, Chapter 43.21C RCW**
  - The Interim Action requires compliance with SEPA, Chapter 43.21C RCW. This was achieved by conducting SEPA review in accordance with applicable regulatory requirements, including WAC 197-11-268, and Ecology guidance as presented in Ecology Policy 130A (Ecology 2004). Ecology and the Port conferred and agreed that the Port would act as the SEPA lead agency for this project. A Mitigated Determination of Non-Significance (MDNS) was issued on March 8, 2021 under Port SEPA reference No. 2021-01.
- **NEPA (40 CFR Parts 1500–1508)**
  - The Interim Action is integrated with redevelopment of the Site and is receiving federal funds from the Better Utilizing Infrastructure to Leverage Development (BUILD) transportation discretionary grants program distributed by the Maritime Administration (MARAD). As a result, the project requires compliance with NEPA, and record of Categorical Exclusion was issued by MARAD on April 15, 2021.
  - As part of NEPA, a biological evaluation (BE) was prepared for the Project to evaluate potential impacts on habitat, species listed as threatened or endangered in the action area under the Endangered Species Act, and Essential Fish Habitat (EFH) pursuant to the Magnuson-Stevens Act. Determinations of “no effect” or “not likely to adversely affect” were made. The project is not expected to adversely impact EFH. NEPA compliance also included Section 106 NHPA consultation between MARAD and State

Historic Preservation Officer (SHPO) and affected Tribes. SHPO provided a determination of No Historic Properties Affected on March 17, 2021.

- **Hydraulic Project Approval (HPA; Chapter 77.55 RCW and WAC 220-660)**
  - The substantive requirements of an HPA was issued by the WDFW.
- **Section 401 and 404 Clean Water Act (33 USC 1341 and 33 USC 1344)**
  - Some of the activities in this Work Plan will occur below mean high water, so the need for a Section 10/404 permit is also anticipated. The US Army Corps of Engineers (USACE) anticipates issuing coverage under the Nationwide Permit program. The State of Washington has already certified activities covered under this program, so individual Section 401 Water Quality Certification review is not required. Concurrence letters from the US Fish & Wildlife Service (USFWS) and NOAA Fisheries issued in response to MARAD consultation on the Project BE and letter from SHPO in regard to Section 106 NHPA have been provided to the USACE in support of Section 404 permitting.
- **Shoreline Management Act (SMA; Chapter 90.58 RCW and WAC 173-26-201)**
  - Coordination with the City has indicated that elements of the Project under MTCA are exempt from issuance of a Shoreline Permit and that a letter of substantive requirements will be provided by the City. A Shoreline Permit will be required for redevelopment activities on the Site that are not part of the MTCA action.
- **City of Everett Public Works Permit**
  - Coordination with the City has indicated that elements of the Project under MTCA are exempt from issuance of a Public Works Permit and that a letter of substantive requirements will be provided by the City. A Public Works Permit will be required for redevelopment activities on the Site that are not part of the MTCA action.
- **Construction Stormwater General Permit (CSGP)**
  - The Port is seeking CSGP coverage for the Project. Based on pre-application discussions with the Ecology stormwater permitting group, the Port anticipates receiving a companion Administrative Order that presents specific requirements associated with the contaminants historically detected in the soil and groundwater at this Site. A Stormwater Pollution Prevention Plan (SWPPP) has been prepared by the Port to be included with the CSGP application materials and will be adopted by the contractor for all work conducted on Site.

4.2 Contractor Mobilization and Site Preparation

Mobilization and Site preparation will generally include the following elements:

- Establish and maintain Site control and security using existing security fencing, lockable gates, and informational signage.
- Setup a temporary restroom for Site workers.
- Establish temporary erosion and sediment control (TESC) measures prior to conducting earthwork activities that will be maintained and adjusted in accordance with changing conditions or activities to remain effective throughout the Project.

- Implement traffic controls as necessary to maintain roadway access to prevent disruption to nearby operations.
- Setup a wheel wash system and decontamination area or other measures to ensure vehicles potentially in contact with contaminated soil exiting from the Site will not cause soil to be tracked offsite during construction.

As the Preload portion of the Project is anticipated to be completed separate from the main Development Project; two contractor mobilizations will likely be required.

4.3 Preload

Use of a preload at the Site will help limit long-term settlement in areas with significant wood debris deposits after completion of the Interim Action. The preload will be placed in an approximately 6-acre area in the northwest portion of the Site, as discussed in Attachment 1 and illustrated on project design drawings included in Attachment 3. The boundaries of the preload are defined by the presence of subsurface wood debris, historical underground foundations and concrete structures, and existing aboveground infrastructure at the Site. The preload will be constructed using approximately 50,000 cubic yards of imported clean crushed surfacing base course material (i.e., crushed rock) that will later be used to construct pavement sections at the Site.

4.4 Import, Grading, and Compaction of Clean Fill

Clean fill will be imported to the Site to increase the elevation of the Site to be protective of anticipated sea level rise, direct stormwater drainage, reduce surface water infiltration, and support construction of the low-permeability cap. As discussed above, a significant volume of fill will be imported to the Site during preloading activities, and this fill will be utilized during site grading. Grading and compaction of clean fill will direct stormwater drainage to conveyance and treatment infrastructure, thus reducing infiltration. Clean fill will also be compacted to meet subgrade design requirements for the low-permeability cap.

As presented in the preload design documents in Attachment 3, the crushed surfacing base course imported to be utilized as preload soils will conform with the requirements in Section 9-03.9(3) of the 2021 Washington State Department of Transportation (WSDOT) Standard Specifications; any additional fill imported to the Site will also meet these specifications. Also, fill imported to the Site will be tested for hazardous substances to confirm it is not contaminated. Consistent with import fill criteria used by K-C during the 2nd Interim Action, representative samples will be collected for chemical analysis at a rate of five samples for the first 1,000 cubic yards of imported material, and one sample for each additional 1,000 cubic yards. Each sample will be analyzed for the following:

- Gasoline- and diesel-range total petroleum hydrocarbons by Northwest total petroleum hydrocarbon gasoline-range extended (NWTPH-Gx) and Northwest total petroleum hydrocarbon diesel-range extended (NWPTH-Dx)

- Polycyclic aromatic hydrocarbons (PAHs) by US Environmental Protection Agency (EPA) Method 8270 selected ion monitoring (SIM)
- Metals (arsenic, copper, lead, mercury, nickel, zinc) by EPA Method 6000/7000
- Polychlorinated biphenyls (PCBs) by EPA Method 8082.

Analytical results will be communicated to Ecology prior to stockpiling. Import fill will be screened against criteria based on the source and the intended use to determine if this material meets these criteria and is suitable for use on the Site. Screening criteria are as follows:

- South Terminal Stockpile Import: Material imported to the Site from an existing stockpile located within the Port's South Terminal will be utilized for haul road construction strictly above the groundwater table and will be screened against PCULs for unsaturated conditions. These PCULS are presented as "Unsaturated Import Fill Criteria" in Table 1.
- All material imported to the Site (for preload ground improvement activities and additional import, if needed) from sources other than the South Terminal stockpile discussed above will be screened against PCULs for saturated soils and Port-specific total petroleum hydrocarbon criteria, to determine if this material meets these criteria and is suitable for use on the Site. These criteria are presented as "Saturated Import Fill Criteria" in Table 1.

4.5 Installation of Low-Permeability Cap

A low-permeability cap will be constructed to further reduce surface water infiltration and prevent exposure of terrestrial ecological receptors. This cap will consist of asphalt pavement materials and compacted gravel surfaces and will be designed to meet the 30 percent infiltration reduction performance goal of the Interim Action.

The reduction in infiltration accomplished through construction of the low-permeability cap will reduce the flux of groundwater discharged to Puget Sound from the Upland Area. Although the groundwater point of compliance will be selected for the Upland Area by Ecology in the DCAP, it is anticipated that a conditional point of compliance will be established at some point near the shoreline. It is anticipated that the reduction in groundwater flux, in conjunction with hydrodynamic dispersion at the shoreline induced by tidal action, will significantly improve groundwater quality at its point of discharge to surface water.

Approximately 30 acres of the Upland Area (or approximately 65 percent) will be paved as a part of the Primary Phase Interim Action, thus exceeding the performance goal for the Interim Action. A majority of this cap (approximately 23.3 acres) will be installed as a full pavement section necessary for expected long-term Site use, which will consist of a compacted subgrade, 12 inches of crushed rock base course, and 9 inches of hot mixed asphalt (HMA). Additional portions of the cap (approximately 6.5 acres) will be thinner where short-term use will be limited; this limited pavement section will consist of a compacted subgrade, 12 inches of crushed rock base course, and 2 inches of HMA. Areas with the thinner cap are included in the Primary Phase of the Project to achieve the maximum infiltration reduction possible near-term and exceed the goals of the AO; these areas are

expected to be paved to the full pavement section thickness in the future to be compatible with the expected long-term Site use. It is anticipated that eventually the entire Port-owned portion of the Upland Area will be paved based on future use as a marine terminal, with the possible exception of limited areas like the future Snohomish County Public Utilities District (PUD) substation. However, any areas of the Upland Area not paved during the Primary Phase of the Interim Action that require capping with a low-permeability surface to achieve soil cleanup standards will be evaluated for paving as part of subsequent phases of the Interim Action, or during the final cleanup action for the Site.

4.6 Installation of Subgrade and Above-Grade Utilities

Subsurface utilities and any above-grade utilities requiring subsurface foundations will be installed during the Interim Action to support stormwater treatment and conveyance, minimize future disturbance of the cap, and other potential cleanup action elements where a cap is required to contain contaminated soils. Utilities to be installed include a storm drainage system, potable water, sanitary sewer, electrical and communications, and lighting; additional subsurface foundation installation will be required for light pole installation and other aboveground utility infrastructure.

Subsurface utilities that pass through the Site boundary can act as conduits for potential contamination leaving or entering the property boundary. To reduce the risk of contaminating adjacent properties, or contamination from nearby properties impacting the Site, seepage cutoff walls will be installed at the property boundary along Federal Avenue. The cutoff walls will be constructed perpendicular to the utility and will consist of a relatively impermeable material (e.g., controlled density fill [CDF]) extending from the bottom of any excavation to the approximate local maximum elevation of the groundwater table, or the bottom of any overlying pavement section. Similar cutoff walls will be installed at the two replacement outfalls to similarly limit preferential pathways (see Section 6.1.4).

To further reduce the risk of contamination being spread via preferential pathways to surface water, any un-decommissioned piping within 75 ft of the shoreline will be decommissioned by filling the pipe with a CDF or grout plug a minimum of five times the diameter of the pipe or by removal of the pipe. Also, to prevent differential settlement that could compromise the integrity of the cap, any piping equal to or greater than 15 inches in diameter (the expected minimum diameter of any stormwater/process water pipes remaining on the Site) encountered during construction throughout the Upland Area will also be decommissioned.

4.7 Installation of Perimeter Security Fence

The existing fence must be removed as part of the demolition of existing pavement necessary to prepare the Site for construction of the low-permeability cap and a new, more secure fence installed for long-term use of the property. Because perimeter fencing is required for the protection of human health and the environment, and the existing fence must be removed, the new fence is included as element of the Interim Action.

4.8 Outfall Reconstruction

Existing outfalls A and M will be reconstructed for discharge from the new stormwater system. The number of operational outfalls at the Site were reduced from six to two during the 2nd Interim Action; by reducing the Site's total number of outfalls, the outfalls will require an increase in size. Additionally, the existing outfalls require replacement because of their condition. Both outfalls will be replaced in approximately their existing locations. Outfall A, a 10-inch outfall at the Site's south end, will be replaced with an 18-inch outfall; and Outfall M, a 21-inch wood stave storm drain that transitions to a 12-inch polyvinyl chloride (PVC) outfall, will be replaced with a 36-inch outfall. Both outfalls will be constructed "in the dry" to prevent releases of contaminants to surface water during construction.

The two outfalls proposed for replacement are required for discharge of stormwater from the low-permeability cap and are an integral element of the stormwater management system that will be constructed to improve stormwater collection and provide state-of-the-art treatment prior to discharge. The Site has not had stormwater quality treatment during its known history, so in addition to being a required remedial action under the Interim Action, this system will provide a major improvement to water quality discharging from the Upland Area to the waterway.

4.9 Management of Contaminated Soil and Groundwater During Construction

Although a large volume of contaminated upland soil has been removed as part of the 1st and 2nd Interim Actions, soil and groundwater contamination remain on the Upland Area. Residual contamination consists primarily of heavy metals and petroleum hydrocarbons. Potential contact with, and management of, contaminated soil and groundwater remaining on the Upland Area will be addressed through the implementation of the soil and groundwater management plan, which is included as Attachment 2.

As indicated in Section 2.3, more than 200,000 tons of Crushed Demolition Debris (i.e., CM), generated during the demolition of the former pulp and paper mill in 2012–2013, was removed by K-C in 2020 under the supervision of the Snohomish Health District. The makeup of the material is described in the July 10, 2018 Plan of Operations for CM Removal (K-C 2018). Sampling of this debris has indicated carcinogenic PAHs, metals, and PCBs above MTCA cleanup levels. Any unanticipated CM associated with the K-C demolition activity encountered during the 3rd Interim Action is not suitable for backfill and will be characterized for offsite disposal according to its characteristics.

5.0 ENGINEERING BASIS FOR DESIGN—GENERAL REQUIREMENTS

The following section provides a description of the construction documents that will be prepared for the Interim Action, the quality assurance and control procedures that will be implemented to monitor and document the implementation of the Interim Action, the procedures that will be implemented to prevent releases of hazardous substances during construction, and the health and safety requirements that will be applied during implementation of the Interim Action.

5.1 Construction Drawings and Specifications

Details of the Preload and Primary Phases of the Interim Action are provided in the design construction plans in Attachment 3 and 4 of this Work Plan. The construction plans are prepared in conformance with currently accepted engineering practices and WAC 173-340-400 (4)(b), and provide:

- A general description of the Project, including work to be done, a summary of Site conditions, a summary of design criteria, an existing facility map, adequate Site surveying, and a copy of applicable permits and approvals
- Detailed plans and specifications necessary for construction, construction materials storage, construction waste storage and management, utility locations within cleanup areas, surface drainage, materials, backfill, and change in grades
- A description of construction impact controls (including dust, stormwater, traffic, and noise)
- Construction documentation including specific quality control tests such as soil density/in-place compaction, moisture content, material gradation, subgrade strength, depth measurements, frequency of tests, and acceptable results.

5.2 Construction Quality Control/Quality Assurance

Day-to-day construction quality control (CQC) will be performed by the contractor, consistent with the requirements of the construction contract specifications for the Interim Action. The Port will have a construction quality assurance (CQA) representative on Site during construction to confirm that the work is being performed in accordance with the intent of the plans and specifications. CQC will include the necessary elements to ensure that the provisions of the contaminated materials handling plan are being followed. In accordance with WAC 173 340 400(7)(b), all aspects of construction will be performed under the supervision of a professional engineer registered in the State of Washington or a qualified technician under the direct supervision of the engineer.

The Port CQA, with assistance from project engineers, will monitor:

- Adequacy of construction submittals
- General construction methods and equipment
- Field engineering and survey methods
- Fill gradation, quality, and consistency
- Fill placement and compaction

- Suitability, quality, and installation of structural elements
- Stormwater runoff and erosion control measures
- Dust control measures
- Decontamination procedures
- Traffic controls
- Contractor quality control methods and documentation
- As-built dimensions of completed work.

Specific quantitative measures and performance requirements have been established for each of the above-noted CQC/CQA parameters and will be incorporated into the construction specifications and the CQA plan for the Interim Action.

5.3 Control of Hazardous Materials, Accidental Discharges, and Stormwater

Procedures to control and, as appropriate, respond to spills from construction equipment and fueling operations are required elements of the contractor's plans. During Site cleanup, the materials most likely to be spilled include equipment fuel and oil, or contaminated soil. Additionally, stormwater runoff (further discussed below in Section 5.3.1) has the potential to convey water and soil off the Site. The contractor will prepare construction, equipment decontamination, and stormwater management plans in accordance with project- and Site-specific requirements set forth in the plans and specifications that adequately address environmental protection measures. The contractor will be required to perform work involving the handling of the above-noted materials in accordance with these plans. These plans will be subject to review and comment by the Port's CQA representative prior to initiating the work.

5.3.1 Stormwater

A SWPPP has been prepared by the Port to be included with the CSGP application materials and will be adopted by the contractor for all work conducted on Site. The SWPPP, which is provided as Attachment 5, provides construction details and operation procedures for collection, conveyance, and treatment and disposal of stormwater runoff, and for erosion and sediment control measures, as required to ensure that materials are properly managed and maintained within the Site boundary. Construction activities will be controlled to avoid potential impacts to surface water in Port Gardner Bay and will be required to follow best management practices (BMPs) and discharge controls for this Project. These BMPs are listed in the SWPPP, which is included with this Work Plan as Attachment 5. Implementation of BMPs used to control and manage stormwater runoff during Project construction activities will also be in general accordance with Ecology's Washington State Stormwater Management Manual for Western Washington, and will also be consistent with City stormwater, grading, and drainage code requirements. Furthermore, the Project will be in compliance with

National Pollutant Discharge Elimination System (NPDES) permit requirements and water quality certification, in accordance with Section 402 (NPDES permit program) and Section 401 (water quality certification requirement as part of Section 404 permit) of the Clean Water Act. Implementation of the SWPPP and associated BMPs; a spill prevention, control, and countermeasures (SPCC) plan; a CSGP and a companion Administrative Order; and other additional requirements included as part of the Project's stormwater permit will promote mitigation of potentially adverse impact to stormwater runoff quality and control.

TESC, which are included in the Project plans (Attachment 3 and 4), include the following elements:

- Maintain Site's existing perimeter protection consisting of concrete block barrier and berm protection. Berm protection will be extended at the Site's south and north ends to provide a continuous barrier with no gaps.
- Maintain infiltration of all on-site drainage during Preload and Primary Phase Interim Action and allow no surface water discharge from the Site's exposed soils. Surface water discharge to the East Waterway through new outfalls will not commence until after the final top course of asphalt pavement and stormwater treatment system is in place. Precipitation falling on the new asphalt pavement will be routed through the Chitosan-Enhanced Sand Filtration (CESF) treatment system prior to discharge to East Waterway. Precipitation falling on the Site's exposed soils during construction will be infiltrated into the ground and will not result in a surface water discharge.
- Supplement existing Site perimeter protection as needed with temporary silt fence per City Standard Drawing 214.
- Fuel hoses, lubrication equipment, hydraulically operated equipment, oil drums, and other equipment and facilities shall be inspected regularly for drips, leaks, or signs of damage, and shall be maintained and stored properly to prevent spills.
- Provide a construction entrance per City Standard Drawing 201.
- Provide a wheel wash, as necessary. Additionally, equipment traffic through exclusion zones will be minimized to prevent contaminated soil from being transported via truck to other parts of the Site, or off the Site. On-site truck routes will be established to minimize or prevent traffic over contaminated areas.
- Trucks will be loaded with contaminated soil in or at the edge of exclusion zones. Soils with free water will not be loaded into trucks, and trucks will be loaded in a manner that prevents the spilling, tracking, or dispersing of contaminated soils. All loads will be covered before exiting the Site, and soil will be removed from the exterior of vehicles before they leave soil-loading areas.
- Excavations that require dewatering will treat groundwater and discharge to City sewer in conformance with an approved City of Everett sanitary sewer discharge authorization. Subject to Ecology permission, excavation dewatering may be discharged on-site where it will be allowed to re-infiltrate into the ground (see Section 6 of the Soil and Groundwater Management Plan provided in Attachment 2).
- Dust control will be implemented per standard BMPs. Dust control BMPs will include applying water to dry soils, as necessary, to suppress airborne dust. Water application will be

accomplished by a water truck with a spray bar and upgrading to additional dust suppression methods (misting cannons or other methods), if necessary.

- Dust monitoring will be implemented by the Port to verify there is not fugitive dust leaving the limits of the work area. Dust monitoring will include recording qualitative site conditions (weather, wind, and visual observations) and quantitative dust measurements collected using a real-time PM-10 particulate monitor. If qualitative or quantitative observations indicate fugitive dust is leaving the work area, work will stop until dust is eliminated.
- Stockpiled materials will be managed per standard stockpile management BMPs. Stockpiles will be located away from storm drain catch basins, and more than 75 ft from the East Waterway; actual stockpile locations will be approved by the Port. Stockpiles will be placed on 10-mil thickness (minimum) plastic sheeting within berms (straw bales, ecology blocks, or other); adjacent sheets of plastic will overlap a minimum of 3 ft. The ground surface in which the underlayment sheeting will be placed will be free of sharp objects, or plywood or geotextile may be placed beneath the sheeting. Stockpiles shall not exceed 100 cubic yards each. Stockpiles will be covered using minimum 10-mil plastic when not in use and as needed during periods of rain and wind to prevent transport of soil. Stockpile covers will be anchored to prevent removal by wind.
- Concrete handling BMPs will be implemented. Concrete handling BMPs include conducting washout of concrete trucks and small concrete-handling equipment off-Site or in designated areas of the Site with a formed area where it will not contaminate surface or groundwater. Excess concrete will not be dumped on the Upland Area, and concrete spillage or discharge to groundwater or surface water is prohibited.
- Street sweeping will be implemented per standard BMPs. When trucks and/or other equipment are on paved streets and roadways and/or if sediment is tracked off site, street sweeping will be conducted as needed during the work shift and /or at the conclusion of each day's operations.

5.4 Health and Safety

The following design features will be implemented as part of the cleanup action to ensure the safety of Site workers and the public:

- A Site-specific health and safety plan (HASP) for the Project is provided as Attachment 6. This HASP will be used by LAI field personnel and subcontractors during the Project.
- A HASP will also be prepared by the contractor for use by its workers before beginning work on the Site. The contractor's HASP will be required to be at least as protective as the HASP provided in Attachment 6 and meet requirements of WAC 173-340 810; the Occupational Safety and Health Act of 1970 (29 USC Sec. 651 et seq.); and the Washington Industrial Safety and Health Act (Chapters 296-24, 296-62, and 296-155 WAC). All workers at the Site will be required to read and sign the applicable HASP. A health and safety meeting will be conducted with the contractor, subcontractors, construction testing personnel, and appropriate Port employees before starting work at the Site.
- Load Covering: Any loads of excavated soil removed from the Site will be properly secured and covered to prevent release and exposure of contaminated materials during hauling operations.

- Excavation Safety: Any areas of the excavation that exceed 4 ft in depth will be sloped or benched to reduce the potential for sidewall collapse.

5.5 Cultural Resources

The Everett waterfront is a culturally sensitive area for local tribes, and specific procedures will be implemented in the event that archaeological resources are encountered during the 3rd Interim Action. An Archaeological Resource Assessment (ARA) for the entire upland portion of the Site was prepared prior to conducting interim actions in 2013. This ARA is still considered applicable to the Site and will be utilized for the Project; the ARA is included as Attachment 7. Based on readily available information, the assessment mapped estimated probabilities for areas of native soil within the upland Area to contain significant Native American archaeological materials (low, medium, high probability; the overlying fill materials would not contain such materials).

A Cultural Resources Monitoring and Discovery Plan (M&D) was also prepared in 2013. The Interim Action will be conducted in accordance with the archaeological monitoring and communication protocols outlined in the 2013 M&D; this plan, with contacts updated for implementation of the Interim Action, is included as Attachment 8. The monitoring and communication protocols within the M&D identified areas associated with the 1st Interim Action but should be applicable to the current Interim Action activities by following protocols for monitoring in areas of low, moderate, and high risk.

A majority, if not all, of the excavation to be completed during the 3rd Interim Action will be within non-native fill. However, prior to commencing earthwork, a professional archaeologist will provide a briefing to the relevant contractors and onsite personnel on the M&D Plan. Additionally, the ARA will be provided to the contractor conducting excavation activities, and proper implementation of the M&D Plan will be a requirement for the construction contract. In accordance with the M&D Plan, a professional archeologist will be mobilized to the Site if construction or Port personnel and/or their representatives observe native soils within areas determined to be of medium or high probability of containing archaeological materials. If personnel observe potential archaeological objects, human remains, or isolated artifacts during excavation activities and a professional archeologist is not present, work shall stop in the vicinity of the discovery until a professional archaeologist is informed of the potential cultural materials.

If the professional archaeologist confirms that cultural materials have been encountered, appropriate notifications shall be conducted in accordance with the M&D Plan and an on-Site inspection and implementation of discovery procedures will be conducted. Notifications shall include, but are not limited to, the following contacts:

- Washington State Department of Ecology, Andy Kallus, Site Manager – (360) 407-7324
- Washington State Department of Archaeology and Historic Preservation – (360) 586-3065
- City of Everett Planning Department, Steve Ingalsbe – (425) 257-7135

- Tulalip Tribes, Marie Zackuse, Tulalip Tribes Chairperson – (360) 716-4000
- Suquamish Tribe, Leonard Forsman, Suquamish Tribe Chairman – (360) 598-3311

If human remains are encountered, work stoppage requirements presented in the M&D Plan shall be followed. No earth moving within 30 ft of the discovery shall be conducted, and the area of the discovery shall be avoided until the professional archaeologist arrives. Initial notifications shall include the following:

- Everett Police Department, Non-Emergency Number – (425) 257-8700
- Snohomish County Medical Examiner – (425) 438-6200

Notifications to DAHP and local tribes will also be conducted following initial notification to local law enforcement and the medical examiner. The jurisdiction over the discovery will be determined by the medical examiner.

6.0 PROJECT-SPECIFIC DESIGN CRITERIA

The following sections present the engineering basis and rationale for design of the Interim Action. Criteria for design to satisfy the goals of the Project are presented in the following section. These criteria are presented relative to general scope of the Project AO, which are presented above in Section 4.

6.1.1 Site Grading

Design criteria for Site grading, and references to documents detailing Project plans include the following:

- **Demolition.** General demolition design plans are shown on Sheet G1.3 and G1.4 of Attachment 4.
  - Existing Site features that will be removed to facilitate site grading include existing vegetation along the shoreline, asphalt and concrete pavement, concrete curbs, fencing, bollards and guard rails, and abandoned utilities. Removal and offsite disposal of debris and vegetation is detailed in the soil management plan and construction plans. Existing abandoned underground pipes within 75 ft inland of the shoreline will also be demolished by filling completely with CDF or by removal.
  - Any additional abandoned underground pipes (within 75 ft inland of the shoreline) encountered during subsurface activities within the work zone will be decommissioned by being filled with a CDF or grout plug equal to five times the diameter of the pipe.
  - Any abandoned underground pipes 15 inches diameter or greater encountered during subsurface activities throughout the Site will be filled with CDF or removed.
- **Haul Road Construction.** General haul road design plans are shown on Sheet G1.6 and C2.2 through C2.3 of Attachment 3.
  - Construction of a haul road is included as a component of the Preload phase of the Project to minimize disturbance of surficial soils during preload construction activities.
  - The planned haul road will connect an existing short-haul road currently present in the northern portion of the Upland Area to the southern Upland Area entrance, allowing for one-way truck and equipment travel across the Upland Area during Interim Action construction. The north haul road is accessed from Norton Avenue and the south haul road is accessed from Federal Avenue.
  - The haul road will be constructed by first placing a geotextile on the existing ground surface. Imported clean permeable crushed rock will then be placed on top of the geotextile and compacted in place. Construction of the haul road will be completed with minimal disturbance of the existing ground surface; no excavation or surface grading will be conducted prior to or during the placement of additional materials, and there will be no contact with any contamination at the Site.
  - Imported materials for haul road construction have been tested in accordance with import fill testing requirements presented in Section 4.4, and in the Preload Ground Improvement Technical Memorandum (Attachment 1).

- **Preloading.** General preloading design plans are shown on Sheets G.1.3, G1.6, C1.1, and C2.1 of Attachment 3 and in the Preload Ground Improvement Technical Memorandum (Attachment 1).
  - A preload will be placed in an approximately 6-acre area in the northwest portion of the Upland Area.
  - The preload will be constructed by importing about 50,000 cubic yards of clean crushed surfacing base course material (i.e., crushed rock) that will later be used to construct pavement sections at the Site. As presented in the preload design documents in Attachment 3, the crushed surfacing base course will conform with the requirements in Section 9-03.9(3) of the 2021 WSDOT Standard Specifications.
  - For both environmental and geotechnical considerations, the bottom 1 ft of preload fill is assumed to settle and become mixed with surficial soils (clean sand backfill) making the material not feasible for reuse in construction of pavement sections. Consequently, this bottom 1 ft of material will remain in place following completion of the preload period.
  - Construction of the preload will be completed with minimal disturbance of the existing ground surface; no excavation or surface grading will be conducted prior to or during the placement of preload materials, and there will be no contact with any contamination at the Site.
  - Imported materials for preloading will be tested in accordance with import fill testing requirements presented in Section 4.4, Table 1.
- **Fill Import, Grading, and Compaction.** General import, grading, and compaction plans are shown on Sheet 3.3 of Attachment 4, and in the Preload Ground Improvement Technical Memorandum (Attachment 1).
  - Imported materials for general filling requirements will be tested in accordance with import fill testing requirements presented in Section 4.4, shown in Table 1, which meets requirements presented in the Preload Ground Improvement Technical Memorandum (Attachment 1).
  - Following completion of preloading activities, preload soil will be used to provide the base course for the pavement cap and raise the elevation of the Upland Area. This material will be graded and compacted to meet geotechnical requirements, reduce stormwater infiltration, and collection and conveyance to stormwater treatment infrastructure to be installed as a part of the Project.
  - All areas of the Upland Area that are graded and compacted for stormwater management, but that are not paved, are still expected to reduce stormwater infiltration. Though not explicitly quantified for comparison to the 30 percent stormwater infiltration performance goal, fill import grading and compaction will be used to accomplish the goals of the Interim Action.

6.1.2 Cap Construction

- **Low-Permeability Cap Construction.** General cap construction design plans for the Primary Phase of the Interim Action are shown on Sheet C3.1 and C3.2 of Attachment 4.

- To meet the performance goal of a 30 percent reduction in stormwater infiltration, an impermeable cap will be installed on a minimum of 30 percent of the Upland Area. During the Primary Phase of the Interim Action, approximately 30 acres of the 46-acre upland portion of the Upland Area will be paved, resulting in 65 percent of the Upland Area being covered by an impermeable cap. The percentage of stormwater reduction attributable to the Interim Action is anticipated to be greater than this due to grading and compaction in unpaved areas, as is discussed above in Section 6.1.1.
- To accommodate short- and long-term Site use, approximately 23.3 acres of the Upland Area will be paved with a pavement section designed to support the large wheel loads produced by the Port's container-handling reach stackers and storage of heavy cargo similar to the Port's current marine terminals.
- To accommodate expected short-term Site use, and to increase the size of impermeable area constructed during the Interim Action, approximately 6.5 acres of the Upland Area will be paved with a reduced pavement section. This pavement section will be paved to the full pavement section thickness in the future to accommodate long-term Site use.
- Single- and double-layer geogrid will be installed in select areas beneath the pavement section to reduce potential long-term settlement of the impermeable cap and limit reflective pavement cracking associated with remaining below-grade foundations.
- Any areas of the Upland Area not paved during the Primary Phase of the Interim Action that require capping with a low permeability surface to achieve soil cleanup standards will be evaluated for paving as part of any subsequent phases of the Interim Action, or as part of the final cleanup action, and would be constructed in accordance with requirements presented in this Work Plan.

6.1.3 Utility Installation

- **Subsurface Utility Installation—Soil Excavation and Backfilling.** General utility earthwork design plans are shown on Sheets C3.11 through C3.14 of Attachment 4.
  - All excavation and backfilling will be conducted from the uplands using typical excavation equipment. The excavation will be backfilled in general accordance with WSDOT Standard Specifications for Road, Bridge, and Municipal Construction 2020 Section 2-09.3(1)E.
  - Imported materials for general filling requirements will be tested in accordance with import fill testing requirements presented in Section 4.4, which meet requirements presented in the Preload Ground Improvement Technical Memorandum (Attachment 1).
  - Trench cutoff walls will be installed where utility trenches cross the southern Site boundary at Federal Avenue. Trench cutoff walls will consist of a relatively impermeable material (e.g., CDF) extending from the bottom of any excavation to the approximate local maximum elevation of the groundwater table, or the bottom of any overlying pavement section.

- **Dewatering**
  - Dewatering is expected to be necessary for installation of utilities that extend below the groundwater table. Dewatering will be conducted using standard sump pumps and/or dewatering points.
  - Dewatering water shall be managed in accordance with the Soil and Groundwater Management Plan (Attachment 2), which includes representative pH monitoring (either documented prior to excavation or during), and field screening for petroleum impacts.
  - In accordance with the Soil and Groundwater Management Plan (Attachment 2), dewatering water with a pH greater than 8.5, less than a pH of 6.5, or that exhibits petroleum impacts (petroleum odor or sheen) shall be managed either by discharge to City sanitary sewer or offsite management. Dewatering water with a pH at or below 8.5 and greater than or equal to 6.5, and without petroleum impacts, can be infiltrated onsite at a location upgradient of where the water was extracted, and a minimum of 200 ft from the shoreline. This 200 ft distance was selected to be a conservative interpretation of design assumptions for the K-C 2nd Interim Action- that water entering the groundwater system from an outside source (i.e. leaky stormwater pipes) would adequately attenuate within 75 feet, and thus any existing pipes within 75 ft of the shoreline were plugged. Dewatering water (which is groundwater itself, not stormwater) that is infiltrated in accordance with these guidelines will 1) extend the distance any groundwater travels before discharging to surface water, and 2) exceed guidelines set during previous cleanup work at the Site intended to protect discharges to surface water.
  - pH measurements (either documented prior to or during excavation) and petroleum field screening shall be documented and provided to Ecology after completion of the project as a part of overall Project reporting.
- **Stormwater Infrastructure.** General stormwater infrastructure design plans are shown on Sheet C4.1 though C4.10 of Attachment 4.
  - Planned stormwater infrastructure will collect stormwater throughout the Upland Area in areas both with and without a low-permeability pavement cap and will include drainage collection (longitudinal concrete gutters and trench drains), conveyance piping, catch basins, high-flow bypass, and a pump station.
- **Stormwater Treatment.** General stormwater treatment design plans are shown on Sheets C4.11 through C4.16 of Attachment 4.
  - Stormwater treatment for the entire Upland Area will be handled at two points. Near the northwest side of the Upland Area, the Port will install an aboveground stormwater treatment system that will treat the majority of runoff from the Upland Area and provide treatment to meet anticipated Industrial Stormwater General Permit (ISGP) requirements. A second treatment system will be installed at the south end of the Upland Area.
    - The water quality treatment of stormwater runoff from the Outfall M basin will be provided by an aboveground CESF system. A CESF system is an Active Treatment System that actively monitors the effluent, automatically sending it back through the system if it does not meet turbidity discharge requirements.

The CESF system allows for other additives to be used to remove targeted pollutants such as heavy metals and to adjust pH levels for discharge to sensitive receiving waters. CESF systems consist of storage tanks, pumps, and filtration vessels. The treatment system will be sized for the entire upland area (approximately 39 acres) with exception of the future PUD substation site, which will be developed by the PUD. The aboveground system dimensions are approximately 4,500 square feet with components up to approximately 9 ft tall.

- A media filtration cartridge vault (Contech Stormfilter system or equal) is proposed to treat runoff in the Outfall A basin uses rechargeable, media-filled cartridges to absorb and retain pollutants from stormwater runoff. Filter cartridges are placed in below ground structures such as specially designed catch basins, manholes or vaults. Because of topography constraints and the need to keep utilities shallow to avoid belowground foundations and obstructions, this area cannot drain by gravity to the CESF system, so a standalone system is proposed.

6.1.4 Outfall Reconstruction

- **Demolition.** General outfall reconstruction demolition design plans are shown on Sheet C4.9 and C4.10 of Attachment 4.
  - Existing Outfalls A and M will be removed to facilitate outfall reconstruction. Materials generated during outfall demolition shall be managed in accordance with the Soil and Groundwater Management Plan (Attachment 2).
  - Demolition associated with the replacement of Outfall A and Outfall M will occur in the dry, during low tides. Work that cannot be completed in a single tide cycle shall be temporarily covered and stabilized with gravel, geotextile, or other approved methods prior to tidal submersion.
- **Outfall Installation.** General outfall reconstruction installation design plans are shown on Sheet C4.9 and C4.10 of Attachment 4.
  - Outfall A, a 10-inch outfall at the Site's south end, will be replaced with an 18-inch outfall; and Outfall M, a 21-inch wood stave storm drain that transitions to a 12-inch PVC outfall, will be replaced with a 36-inch outfall. The outfalls will be constructed using high-density polyethylene (HDPE) casing pipe around aluminum corrugated metal pipe at the shoreline. The casing pipe will protect the outfall pipe from direct riprap and rockery point loads. Riprap energy dissipation pads consisting of 1-inch to 3-inch diameter rock will be installed at the end of each outfall.
  - Installation of Outfall A will occur over 120 square feet of shoreline below the High Tide Line (HTL). Installation of Outfall M will occur over 420 square feet of the shoreline below the HTL.
  - Construction associated with the replacement of Outfall A and Outfall M will occur in the dry, during low tides. Work that cannot be completed in a single tide cycle shall be temporarily covered and stabilized with gravel, geotextile, or other approved methods prior to tidal submersion.

- **Trench Cutoff Wall.** General outfall reconstruction cutoff wall design plans are in development and will be included in subsequent design stage plans.
  - Trench cutoff walls will be installed at each reconstructed outfall. Trench cutoff walls will be constructed perpendicular to the pipe and will consist of a relatively impermeable material (e.g., CDF) extending from the bottom of any excavation to the approximate local maximum elevation of the groundwater table, or the bottom of any overlying pavement section.

6.1.5 Soil and Groundwater Management

- **Management of Excavated Soils.** General soil management guidelines are presented in the Soil and Groundwater Management Plan, which is provided as Attachment 2.
- **Management of Dewatering Water.** General dewatering water management guidelines are presented in the Soil and Groundwater Management Plan, which is provided as Attachment 2.
- **Removal and Disposal of Miscellaneous Subsurface Foundations.** General illustrations of existing subsurface foundations are shown on Sheet G1.5 of Attachment 4.
  - Subsurface foundations may be encountered during excavation activities. These foundations shall be removed as necessary to facilitate requirements of the Project using standard excavation and pneumatic equipment.
  - Materials generated during removal of subsurface foundations shall be managed in accordance with Management of Excavated Soils criterial listed above.
- **Monitoring Well Decommissioning.** Illustrations of existing monitoring wells will be added to subsequent design stage Project plans.
  - Resource protection wells (monitoring wells) are present along the shoreline of the Site.
  - Any monitoring wells within areas of grading on the Site for the Project shall be decommissioned in accordance with WAC 173-160-381.
  - Monitoring wells present at the Site but not within any areas of earthwork shall be temporarily capped in accordance with WAC 173-160-301, and protected in-place.

6.1.6 Security Fencing

- **Installation of Security Fencing and Gates.** General security fencing design plans are shown on Sheets C6.1 through C6.7 of Attachment 4.
  - The Norton Terminal will be a federally secure restricted area and access will be controlled with security fence and gates that meet US Department of Homeland Security standards. Approximately 4,500 lineal feet of 8-ft-high chain-link fence with a top guard of three strands of barbed wire and razor wire will be erected along the Upland Area boundaries to maintain terminal security. Appropriate signage will be installed at regular intervals along the fence stating that the area is restricted, and only authorized personnel may enter the Upland Area.

6.2 MTCA-Required Design Considerations

This section describes Site-specific design considerations required in WAC 173-340-400(4) pertinent to the design, construction, and operation of the Interim Action. Specifically, this section addresses the relationship between the proposed Interim Action and the Site geographic features, subsurface conditions, existing structures, and current and future Site operations.

6.2.1 Facility Characteristics Affecting the Action

Existing facilities at the Site that affect the proposed Interim Action include the following:

- **Existing PUD Substation**. An existing PUD substation located along the Site's west side, near the north end, will be demolished after the future PUD substation is operational. Following demolition, the former substation area will be sampled and characterized for potential releases of hazardous substances, and the pavement cap will likely be extended through this area consistent with the future site use.
- **Existing Warehouse.** The existing warehouse and immediate area surrounding the building located at the southern end of the Site just off Federal Avenue is not part of this Primary Phase. The multi-story warehouse building (covering an approximately 132,000-square-foot footprint) may be leased out entirely or in part. Approximately 4.5 acres of the Site north of the building would be made available to the warehouse user(s). An additional approximately 1.1 acres is being set aside as an optional lease area if it is not otherwise required to allow for the future railroad siding installation. Access to the warehouse area will be shared with the Norton Terminal from Federal Avenue. The Port will construct security fencing surrounding the area as part of the Norton Terminal development. Under the Primary Phase of the Interim Action, no paving or utility work will be done by the Port in the warehouse lease area.
- **Future Rehabilitation and Use of Existing Dock Structures.** The existing docks and barge ramp will be rehabilitated for future container-on-barge service for direct shipping to/from the Site. Other dock uses may include use as a lay berth, fishing fleet home porting, or other maritime uses. At this time, the condition of the existing barge ramp is being evaluated to determine the level of usability as well as the extent and nature of work that might be required to use the dock. There may be interim use of the barge dock or other docking facilities if they are deemed usable. Also, there is known sediment contamination within the areas of the dock structures which will need to be addressed as part of the East Waterway MTCA Cleanup Site (FS ID 2733) should improvements be proposed that would involve sediment disturbance. As a result of funding constraints, timing of use of these docks is not known, but the upland layout of the Site is being designed to accommodate its future use.

6.2.2 Controls to Prevent Hazardous Material Releases

The following controls will be implemented to prevent releases of hazardous materials during excavation and handling of contaminated soils:

- Installing and maintaining TESC measures and implementing BMPs. These controls and BMPs include wetting of soil (if necessary) during earthwork activities to control dust; silt fencing to control sediment run-off in stormwater; tire washing of haul trucks to prevent tracking of soil to neighboring roads; applying crushed rock over exposed soil to create a stable working

surface (if necessary); and managing stormwater drainage away from working areas, away from surface waters, and toward suitable infiltration areas.

- Properly covering and securing loads during hauling operations.
- Conducting shoreline earthwork activities work during low tide.

6.2.3 Flooding

Along the shoreline, the Site is subject to ocean tide fluctuations that are below the finished grades of the Upland Area. Flooding is, therefore, unlikely to impact the Upland Area unless an extreme storm event impacts the Site. Based on the existing surface topography and stormwater management at the Site since demolition of the K-C facilities in 2012, it is anticipated that stormwater runoff from even high-intensity events during the action will be completely contained.

6.2.4 Seismic Activity

The Site is located in a seismically active zone. However, the proposed excavations are generally shallow, and are not anticipated to be a hazard in the event of an earthquake. Deeper excavations (greater than 4 ft) shall be adequately shored. Upland Area grading activities will adequately compact areas of fill, and final planned slopes at the Site will not increase susceptibility to seismic failures.

6.2.5 Temperature Extremes and Physical Hazards

The Interim Action will be in the generally mild climate of the Pacific Northwest. Although no extreme temperatures are expected, higher temperatures (i.e., above 80 degrees Fahrenheit [°F]) or cold temperatures (i.e., below 35°F) could affect the health and safety of the construction workers. Other hazards to mitigate include working near water; slips, trips, and falls; trenching/shoring; and working with or near earthmoving equipment such as excavators, loaders, and haul-trucks. These hazards will be mitigated through management of an organized worksite with controlled traffic and equipment routes, and through other project-specific actions that will be specified in the contractor's Site-specific HASP. This plan will be a required element of the construction project. In addition to the contractor's health and safety program, Site visits for implementing the compliance monitoring plan will be conducted following safety procedures presented in the HASP provided in Attachment 6.

6.2.6 Existing and Future Site Uses

The Upland Area is currently vacant and unused. After the Interim Action, future Site use is anticipated to change, as the Upland Area will be developed into a secure marine cargo terminal on approximately 34 acres of the property, while preserving the existing docks and waterfront for future maritime expansion. Cargo will be moved between the Port's Marine Terminals and the new Norton Terminal by using Federal Avenue, of which the Port will gain access control through agreements with the City. Security gates and operational procedures will be developed at the Federal Avenue entrance to enable secure movement of cargo between the Marine Terminals and the Norton Terminal, which are considered MTSA-regulated facilities.

6.2.7 Local Planning and Development Issues

The Site is zoned as Heavy Industrial (HI) under the City's recent zoning code update adopted in November 2020. The City's Comprehensive Plan designation of the Site is classified as Industrial, and the City shoreline master program designation of the Site is Urban Deepwater Port (UDWP). The Interim Action and proposed future Site use are consistent with these planning designations, and no known local development issues would prevent the proposed action.

6.2.8 Public Access

The Site will be closed to public access during the cleanup construction period. Contractor activity will ensure that the cleanup activities can be staged and implemented in a manner that stages equipment and hauling trucks without blocking roadways. No noticeable impacts are anticipated for local businesses, and the public will be kept at safe distances from areas of excavation.

Public access will be restricted to the Site following the Interim Action because of the planned Site use and security requirements. However, as part of the Port's 2 percent contribution for Public Access program, if required, an off-Site project will be chosen in coordination with the City. Separate environmental review will occur once the project is determined.

6.2.9 Future Sea Level Rise Considerations

Raising the Upland Area will allow the substructure of potential future pier/wharf structures to be located above the splash zone to help reduce deterioration and corrosion of the structure and it will help accommodate future anticipated levels of sea level rise resulting from climate change. The current projected medium change in Puget Sound sea level is 13 inches by 2100 with a range of 6–50 inches (University of Washington 2008). The Final Environmental Impact Statement (FEIS) issued by WSDOT for the Mukilteo Multimodal Project indicated that overall, recent studies appear to be converging on projected sea level increases in the range of 2 to 4 ft (WSDOT 2013). Some additional variation may occur from this estimated increase within Puget Sound and its adjacent waters, according to Ecology (Ecology 2012). Based on these references and the *Projected Sea Level Rise for Washington State, A 2018 Assessment*, the Port assumes a potential rise in sea level of 2.5 to 3 ft seemed reasonable for the Everett area (Miller at al. 2018). Currently, the Highest Astronomical Tide (HAT) elevation at the Site is +13.22 ft mean lower low water (MLLW).

Suitable clean fill material will be imported, placed, and compacted to build up the Upland Area elevations to meet design shoreline elevations. The existing shoreline elevation ranges from about 15 ft MLLW to 22 ft MLLW, except for the northwest and southwest corners that range from 14 ft MLLW to 15 ft MLLW. Current existing ground elevations within the Upland Area vary from about 17 ft MLLW along the west side of the Upland Area to 21 ft MLLW along the east side of the Upland Area. For future maritime expansion planning purposes, a design shoreline elevation of at least 20 ft MLLW is used, except at the southwest corner which will be raised to 17 ft MLLW due to off-site topography constraints.

6.2.10 Contingency Beach and Shellfish Bed Closure

No in-water work will be conducted as part of the Interim Action that would impact beaches or shellfish beds. No closures are in consideration.

7.0 COMPLIANCE MONITORING

MTCA requires compliance monitoring for all cleanup actions, as described in WAC 173-340-410. Compliance monitoring is conducted for the following three purposes:

- Protection monitoring to confirm that human health and the environment are adequately protected during construction and the operation and maintenance of the cleanup action.
- Performance monitoring to confirm that the cleanup action has attained cleanup standards and any other performance standards.
- Confirmational monitoring to confirm the long-term effectiveness of the cleanup action once the cleanup standards and other performance standards have been attained.

Compliance monitoring for the Interim Action will be limited to protection monitoring and performance monitoring for verification that the Project scope is completed as planned. Subsequent remedial investigation work at the Upland Area will evaluate the effectiveness of the Interim Action relative to final cleanup standards for the Upland Area, which will inform development of the final cleanup action.

7.1.1 Protection Monitoring

This section describes planned monitoring activities for the protection of human health and the environment during implementation of the Interim Action.

7.1.1.1 Protection of Human Health

Monitoring for protection of human health addresses worker safety for activities related to construction, operation, and maintenance of the cleanup action and will be addressed through an LAI-specific project HASP that is included as Attachment 6, or a separate HASP developed by the contractor to be adopted by non-LAI personnel. Additionally, a requirement for the construction contractor to prepare a project-specific HASP will be included in the Project plans and specifications. The HASPs will address monitoring for and potentially mitigating physical and chemical hazards associated with Site activities, consistent with the requirements of WAC 173-340-810. Anticipated potential physical hazards include working in proximity to heavy equipment, heat stress or cold stress, dust monitoring and suppression, vehicular traffic, and contaminated soil and groundwater. Anticipated potential chemical hazards include exposure to Site contaminants through various exposure pathways (i.e., direct contact, dust inhalation, and ingestion).

7.1.1.2 Protection of the Environment

Environmental protection monitoring will be conducted during the construction activities. This will include visual monitoring for dust, preparation and implementation of a SWPPP (Attachment 5), and implementation and monitoring of BMPs to minimize dust generation and/or control stormwater runoff from contaminated soil cleanup during construction. The requirement for a SWPPP will be included in the Project plans and specifications. During construction, a representative of the Port that

is a certified construction erosion and sediment control lead (CESCL) will monitor performance of the BMPs and recommend changes in approach or application, if required. Environmental protection monitoring will include visual monitoring to verify that excessive dust is not generated and that stormwater runoff is not being impacted.

7.1.2 Performance Monitoring

Performance monitoring will consist of verification that the Interim Action meets the performance goal of the Project, plus that applicable cleanup standards are attained. Attainment of the 30 percent reduction in stormwater infiltration performance goal will be demonstrated by verifying the physical limits of the impermeable pavement cap and stormwater infrastructure construction meets Project design plans. Survey control points will be provided in the construction plans and specifications, which will be used by the contractor to guide paving efforts. A representative of the Port will conduct construction observation and work with contractors to confirm adherence to the plans.

Applicable cleanup standards will be met relative to the goals and scope of the Interim Action by confirming that any soil imported to the Site meets PCULs.

7.1.3 Confirmation Monitoring

Confirmation monitoring will be conducted following finalization of the RI/FS and CAP during implementation of the final cleanup action for the Upland Area.

8.0 SCHEDULE

The Port's goal to clean up the Upland Area through the scope of the 3rd Interim Cleanup Action and put it back into economic use as quickly as possible. Completion of the Preload and Primary Phases of the Interim Action is necessary for preparing the Site for economic use, and thus implementation of the Interim Action is on an accelerated schedule. Preload Phase Project construction activities are expected to commence in June 2021, and soil preloading is expected to last through September 2021. Primary Phase construction activities, which include the remainder of the Interim Action scope, are expected to be advertised for bid in late June and construction activities will commence in Fall 2021 and continue through late 2022.

Depending on the timing of finalization of the RI/FS and development of the final cleanup action, construction of additional impermeable pavement cap may be conducted as an additional phase of this Interim Action, or as an aspect of the final cleanup action.

9.0 OPERATION AND MAINTENANCE OF THE INTERIM ACTION

Cleanup activities completed under this Interim Action are consistent with the expected final cleanup action at the Upland Area, which includes capping of Site soils. Institutional controls, potentially including a restrictive covenant, will be implemented as a part of the final cleanup action to ensure that the integrity of the capping system and other infrastructure is maintained, to prevent contact with contaminated media, and to protect the integrity of the cleanup action. Any intrusive activities conducted at the Site, either before or after implementation of the final cleanup action, will be conducted in accordance with the Site's Soil and Groundwater Management Plan (Attachment 2), and returned to the original surface condition (e.g., compacted crushed rock surfacing or pavement) to maintain the integrity of the Interim Action and/or the final cleanup action.

10.0 REPORTING

The results of the Preload and Primary Phases of the Interim Action will be reported in a summary report that includes a description of the construction activities, as-built construction drawings, analytical data for fill imported to the Site, field screening observations and testing results for soil excavation and groundwater collected during dewatering activities, a summary and documentation of materials removed from the Site, and any changes that were implemented based on conditions observed during construction. The report will be submitted to Ecology to document the completion of the Interim Action.

11.0 USE OF THIS REPORT

This Interim Action Work Plan has been prepared for the exclusive use of the Port of Everett. Reliance on this report by third parties is at their sole risk. Further, the reuse of information, conclusions, and recommendations provided herein for extensions of the project or for any other project, without review and authorization by LAI, shall be at the user's sole risk. LAI warrants that within the limitations of scope, schedule, and budget, our services have been provided in a manner consistent with that level of care and skill ordinarily exercised by members of the profession currently practicing in the same locality under similar conditions as this project. We make no other warranty, either express or implied.

12.0 REFERENCES

Aspect. 2019. Work Plan for Second Interim Action, Kimberly-Clark Worldwide Site Upland Area, Everett, Washington. Aspect Consulting. December 13.

Aspect. 2021. Report for Second Interim Action, Kimberly-Clark Worldwide Site Upland Area, Everett, Washington. Aspect Consulting. March 3.

Ecology. 2004. Toxics Cleanup Program Policy 130A. Coordination of State Environmental Policy Act and Model Toxics Control Act. Washington State Department of Ecology. July 28. https://fortress.wa.gov/ecy/publications/documents/0409101.pdf.

Ecology. 2012. Preparing for a Changing Climate: Washington State's Integrated Climate Response Strategy. Washington State Department of Ecology. April. https://apps.ecology.wa.gov/publications/SummaryPages/1201004.html.

Ecology. 2021. Second Amendment to Agreed Order No. DE 9476 In the Matter of Remedial Action by Kimberly-Clark Worldwide, Inc and the Port of Everett. Washington State Department of Ecology. May 18.

K-C. 2018. Plan of Operations, Crushed Material Removal, Kimberly-Clark Former Mill Property, Everett, Washington. Kimberly-Clark Worldwide, Inc. July 10. https://apps.ecology.wa.gov/gsp/CleanupSiteDocuments.aspx?csid=2569.

LAI. 2021a. Draft Soil and Groundwater Management Plan, Maritime Industrial Expansion at Norton Terminal, Port of Everett, Everett, Washington. Landau Associates, Inc. May 27.

LAI. 2021b. Technical Memorandum: MTCA 3rd Interim Action & Maritime Industrial Expansion at Norton Terminal—Preload Ground Improvement, Port of Everett, Everett, Washington. Landau Associates, Inc. April 6.

Miller, I.M., H. Morgan, G. Mauger, T. Newton, R. Weldon, D. Schmidt, M. Welch, and E. Grossman. 2018. Projected Sea Level Rise for Washington State–A 2018 Assessment. Washington Sea Grant, University of Washington Climate Impacts Group, Oregon State University, University of Washington, and US Geological Survey. Prepared for the Washington Coastal Resilience Project. July. https://cig.uw.edu/resources/special-reports/sea-level-rise-in-washington-state-a-2018-assessment/.

University of Washington. 2008. Sea Level Rise in the Coastal Waters of Washington State. University of Washington Climate Impacts Group and the Washington State Department of Ecology. January. http://www.cses.washington.edu/db/pdf/moteetalslr579.pdf.

WSDOT. 2013. Mukilteo Multimodal Project Final Environmental Impact Statement. Washington State Department of Transportation. June. https://wsdot.wa.gov/Projects/Ferries/mukilteoterminal/multimodal/library.htm.

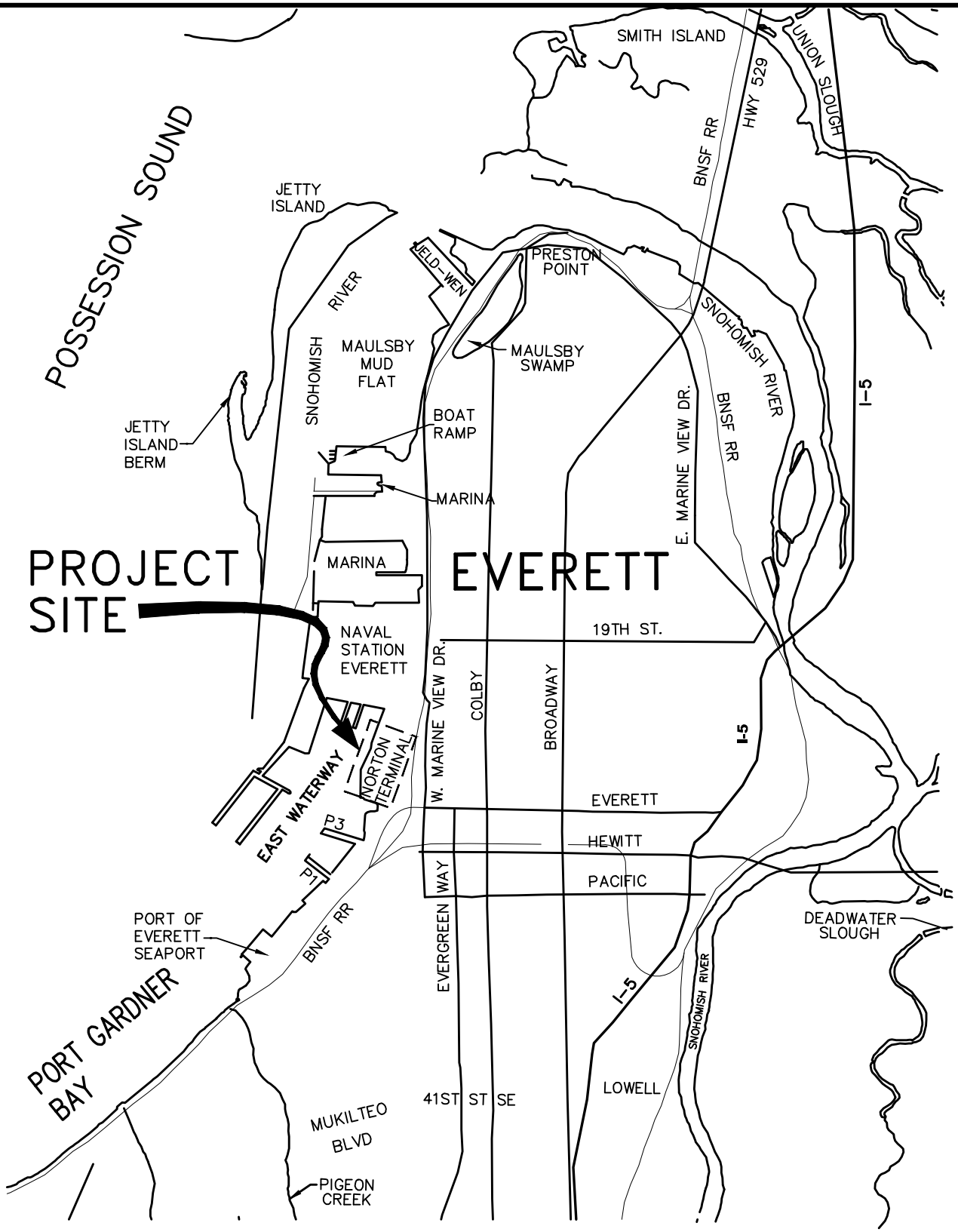

FIGURE 1

VICINITY MAP

SCALE: NTS

N

11-19-2020

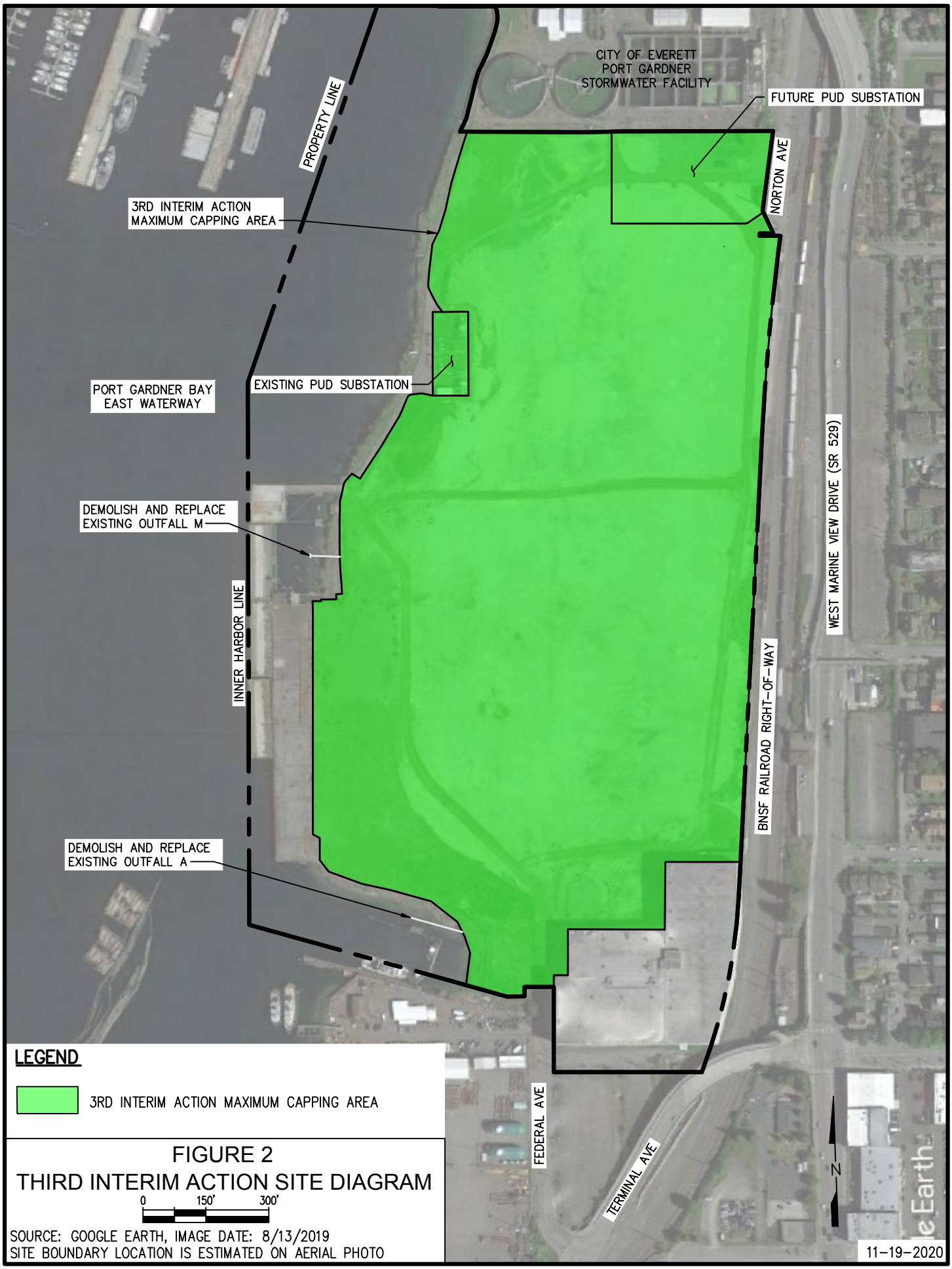
CITY OF EVERETT
PORT GARDNER
STORMWATER FACILITY
FUTURE PUD SUBSTATION
PROPERTY LINE
NORTON AVE
3RD INTERIM ACTION
MAXIMUM CAPPING AREA
EXISTING PUD SUBSTATION
PORT GARDNER BAY
EAST WATERWAY
DEMOLISH AND REPLACE
EXISTING OUTFALL M
INNER HARBOR LINE
WEST MARINE VIEW DRIVE (SR 529)
BNSF RAILROAD RIGHT-OF-WAY
DEMOLISH AND REPLACE
EXISTING OUTFALL A
FEDERAL AVE
TERMINAL AVE
N
LEGEND
3RD INTERIM ACTION MAXIMUM CAPPING AREA
FIGURE 2
THIRD INTERIM ACTION SITE DIAGRAM
0
150'
300'
SOURCE: GOOGLE EARTH, IMAGE DATE: 8/13/2019
SITE BOUNDARY LOCATION IS ESTIMATED ON AERIAL PHOTO
11-19-2020

Table 1
Import Fill Criteria
MIE - Norton Terminal
Port of Everett, Washington

Analyte	Analytical Method	Unsaturated Import Fill Criteria (a)	Saturated Import Fill Criteria (b)
Total Petroleum Hydrocarbons (mg/kg)			
Gasoline-range hydrocarbons	NWTPH-Gx	100	20
Diesel-range total petroleum hydrocarbons	NWTPH-Dx	2,000	200
Oil-range total petroleum hydrocarbons	NWTPH-Dx	2,000	200
Metals (mg/kg)			
Arsenic	EPA 6020B	20	20
Copper	EPA 6020B	36	36
Lead	EPA 6020B	1,000	56/81 (c)
Mercury	EPA 7471	0.1	0.1
Nickel	EPA 6020B	48	48
Zinc	EPA 6020B	100	85
PAHs (mg/kg)			
Acenaphthene	EPA 8270 SIM	23	1.2
Acenaphthylene	EPA 8270 SIM	210,000	210,000
Anthracene	EPA 8270 SIM	1,100,000	1,100,000
Benzo(g,h,i)perylene	EPA 8270 SIM	110,000	110,000
Fluoranthene	EPA 8270 SIM	140,000	140,000
Fluorene	EPA 8270 SIM	140,000	140,000
Phenanthrene	EPA 8270 SIM	1,100,000	1,100,000
Pyrene	EPA 8270 SIM	110,000	110,000
1-Methylnaphthalene	EPA 8270 SIM	4,500	4,500
2-Methylnaphthalene	EPA 8270 SIM	13	0.64
Naphthalene	EPA 8270 SIM	17	0.87
Total cPAH TEQ	EPA 8270 SIM	3.2	0.16
PCBs (mg/kg)			
Total PCBs (sum of aroclors)	EPA 8082	2.5	0.12

Notes:

(a) Unsaturated Preliminary Cleanup Levels as presented in K-C Worldwide Site Upland Area, draft RI/FS preliminary cleanup level tables (Aspect 2021).

(b) lowest of Preliminary Cleanup Levels as presented in K-C Worldwide Site Upland Area, draft RI/FS preliminary cleanup level tables (Aspect 2021) and Port of Everett Standard.

(c) For the import of pre-load material, use 56 unless the material is between 56 and 81, in which case consult with Ecology.

Abbreviations and Acronyms:

cPAH = carcinogenic polycyclic aromatic hydrocarbons
CUL = cleanup level
EPA = US Environmental Protection Agency
mg/kg = milligrams per kilogram
NWTPH-Dx = Northwest total petroleum hydrocarbon diesel-range extended
NWTPH-Gx = Northwest total petroleum hydrocarbon gasoline-range extended
PAH = polycyclic aromatic hydrocarbon
PCB = polychlorinated biphenyl
SIM = selected ion monitoring
TEQ = toxicity equivalency quotient