

UNITED STATES  
ENVIRONMENTAL PROTECTION AGENCY  
REGION 10

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IN THE MATTER OF:

Terminal 25 South,  
Harbor Island Superfund Site,  
East Waterway Operable Unit,  
Seattle, Washington

Port of Seattle,  
Respondent.

Proceeding Under Sections 104, 106(a), 107  
and 122 of the Comprehensive Environmental  
Response, Compensation, and Liability Act

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CERCLA Docket No. 10-2026-0216

**ADMINISTRATIVE  
SETTLEMENT AGREEMENT  
AND ORDER ON CONSENT  
FOR REMOVAL ACTION**

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## **I. JURISDICTION AND GENERAL PROVISIONS**

1. This Administrative Settlement Agreement and Order on Consent (Settlement) is entered into voluntarily by the United States Environmental Protection Agency (EPA) and the Port of Seattle (Respondent). This Settlement provides for performance by Respondent of a Non-Time-Critical Removal Action (NTCRA) and payment by Respondent of Future Response Costs incurred by the United States in connection with Terminal 25 South (T-25S), an area associated with the East Waterway Operable Unit (EWOU) of Harbor Island Superfund Site located in Seattle, Washington.

2. This Settlement is issued under the authority vested in the President of the United States by Sections 104, 106(a), 107, and 122 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 U.S.C. §§ 9604, 9606(a), 9607, and 9622. This authority was delegated by the President to the Administrator of EPA on January 23, 1987, who in turn delegated the authority to the Regional Administrators in EPA Delegation Nos. 14-14A (Determinations of Imminent and Substantial Endangerment, Jan. 31, 2017), 14-14C (Administrative Actions through Consent Orders, Jan. 18, 2017), and 14-14D (Cost Recovery Non-Judicial Agreements and Administrative Consent Orders, Jan. 18, 2017). This authority was further redelegated by the Regional Administrator of EPA Region 10 through the Director of the Superfund and Emergency Management Division (SEMD) to the Branch Manager of the SEMD Remedial Cleanup Branch by Regional Delegations R10 14-14-A (April 15, 2019), R10 14-14-C (July 30, 2024), and R10 14-14-D (July 30, 2024).

3. EPA has notified the State of Washington (State) of this Settlement as prescribed by Section 106(a) of CERCLA, 42 U.S.C. § 9606(a).

4. EPA and Respondent recognize that this Settlement has been negotiated in good faith and that the actions undertaken by Respondent in accordance with this Settlement do not constitute an admission of any liability. Respondent does not admit, and retains the right to controvert in any subsequent proceedings other than proceedings to implement or enforce this Settlement, the validity of the Findings of Fact and Conclusions of Law and Determinations in Sections IV and V. Respondent agrees to comply with and be bound by the terms of this Settlement and to not contest the basis or validity of this Settlement or its terms.

## **II. PARTIES BOUND**

5. This Settlement is binding upon EPA and upon Respondent and its successors and assigns. Unless EPA consents otherwise, any change in ownership or corporate or other legal status of Respondent, including any transfer of assets, does not alter Respondent's obligations under this Settlement.

6. Respondent shall provide written notice of this Settlement to each contractor hired to perform the Work required by this Settlement and to each person representing Respondent with respect to T-25S or the Work. Respondent's contractors shall provide written notice of the Settlement to all subcontractors hired to perform any portion of the Work required by this Settlement. Respondent shall be responsible for ensuring that its contractors and subcontractors

perform the Work in accordance with the terms of this Settlement and shall be responsible for any violations of this Settlement committed by its contractors and sub-contractors.

### **III. DEFINITIONS**

7. Terms not otherwise defined in this Settlement have the meanings assigned in CERCLA or in regulations promulgated under CERCLA. Whenever the terms set forth below are used in this Settlement, the following definitions apply:

“Action Memorandum” means the Action Memorandum and all attachments thereto, issued by EPA on June 24, 2026, setting forth the NTCRA decision for T-25S. The “Action Memorandum” is attached as Appendix A to this Settlement.

“CERCLA” means the Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. §§ 9601-9675.

“Day” or “day” means a calendar day. In computing any period under this Settlement, the day of the event that triggers the period is not counted and, where the last day is not a working day, the period runs until the close of business of the next working day. “Working Day” means any day other than a Saturday, Sunday, or federal or State holiday.

“Effective Date” means the effective date of this Settlement as provided in Section XXVI.

“EPA” means the United States Environmental Protection Agency.

“Fund” means the Hazardous Substance Superfund established under Section 9507 of the Internal Revenue Code, 26 I.R.C. § 9507.

“Future Response Costs ” means all costs (including direct, indirect, payroll, contractor, travel, and laboratory costs) that the United States pays after the Effective Date in implementing, overseeing, or enforcing this Settlement, including: (i) in developing, reviewing and approving deliverables generated under this Settlement; (ii) in overseeing Respondent’s performance of the Work; (iii) in implementing community involvement activities under Paragraph 17; (iv) in assisting or taking action to obtain access or use restrictions under Paragraph 29; (v) in taking action under Paragraph 38 (Access to Financial Assurance); (vi) in taking response action described in Paragraph 64 because of Respondent’s failure to take emergency action under Paragraph 21; (vii) in implementing a Work Takeover under Paragraph 28; and (viii) in enforcing this Settlement, including all costs paid under Section XIV (Dispute Resolution) and all litigation costs. Future Response Costs also include all Interest accrued after the Effective Date on EPA’s unreimbursed Future Response Costs under Section 107(a) of CERCLA, 42 U.S.C. § 9607(a).

“Including” or “including” means “including but not limited to.”

“Interest” means interest at the rate specified for interest on investments of the Fund, as provided under Section 107(a) of CERCLA, 42 U.S.C. § 9607, compounded annually on October 1 of each year. The applicable rate of interest will be the rate in effect at the time the

interest accrues. The rate of interest is subject to change on October 1 of each year. As of the date EPA signs this Settlement, rates are available online at <https://www.epa.gov/superfund/superfund-interest-rates>.

“National Contingency Plan” or “NCP” means the National Oil and Hazardous Substances Pollution Contingency Plan promulgated pursuant to Section 105 of CERCLA, 42 U.S.C. § 9605, and codified at 40 C.F.R. Part 300, and any amendments thereto.

“NTCRA” means the Non-Time-Critical Removal Action to be implemented at T-25S in accordance with the Action Memorandum and this Settlement.

“Paragraph” means a portion of this Settlement identified by an Arabic numeral or an upper- or lower-case letter.

“Parties” means EPA and Respondent.

“Post-Removal Site Control” means actions necessary to ensure the effectiveness and integrity of the NTCRA consistent with Sections 300.415(l) and 300.5 of the NCP, 40 C.F.R. §§ 300.415(l) and 300.5, and the EPA “Policy on Management of Post-Removal Site Control” (OSWER 9360.2-02, Dec. 3, 1990).

“RCRA” means the Solid Waste Disposal Act, 42 U.S.C. §§ 6901-6992k (also known as the “Resource Conservation and Recovery Act”).

“Respondent” means the Port of Seattle and its successors and assigns.

“Section” means a portion of this Settlement identified by a Roman numeral.

“Settlement” means this Administrative Settlement Agreement and Order on Consent, all appendices attached hereto (listed in Section XXIXI), and all deliverables approved under and incorporated into this Settlement. If there is a conflict between a provision in Sections I through XXV and a provision in any appendix or deliverable, the provision in Sections I through XXV controls.

“State” means the State of Washington.

“Statement of Work” or “SOW” means the document attached as Appendix B to this Settlement, which describes the activities Respondent shall perform to implement and maintain the effectiveness of the NTCRA, and any modifications made thereto in accordance with this Settlement.

“T-25” shall mean the upland area and in-water sediments encompassing approximately 10 acres, generally located at the southwestern portion of parcel number 7666207905, 2917 East Marginal Way S, in the City of Seattle, King County, Washington, as depicted on the diagram attached as Appendix C.

“Transfer” means to sell, assign, convey, lease, mortgage, or grant a security interest in, or when used as a noun, a sale, assignment, conveyance, or other disposition of any interest by operation of law or otherwise.

“United States” means the United States of America and each department, agency, and instrumentality of the United States, including EPA.

“Waste Material” means (a) any “hazardous substance” as defined in Section 101(14) of CERCLA, 42 U.S.C. § 9601(14); (b) any pollutant or contaminant as defined in Section 101(33) of CERCLA, 42 U.S.C. § 9601(33); (c) any “solid waste” as defined in Section 1004(27) of RCRA, 42 U.S.C. § 6903(27); and (d) any “dangerous wastes” as defined in RCW 173-303-040.

“Work” means all obligations of Respondent under Sections VII (Coordination and Supervision) through XI (Indemnification and Insurance).

“Work Takeover” means EPA’s assumption of the performance of any of the Work in accordance with Paragraph 28.

#### **IV. FINDINGS OF FACT**

8. EPA makes the following findings of fact:

a. The Harbor Island Superfund Site encompasses a man-made industrial island of over 400 acres in the City of Seattle and associated sediments surrounding the island within Elliot Bay at the mouth of the Lower Duwamish Waterway. Harbor Island was created with, among other materials, dredged materials from a widening and straightening of the Lower Duwamish River by the United States Army Corps of Engineers, completed in the 1910s.

b. EWOU consists of contaminated sediments off the eastern shore of Harbor Island, and associated sources to the extent necessary to control those sources. EWOU is one of seven Harbor Island Superfund Site operable units. Remedial actions have been selected by EPA and have been implemented by various parties for all of the operable units except EWOU.

c. Major activities at Harbor Island have included: port and rail transport; petroleum product transfer and storage; secondary lead smelting; ship building, repair and maintenance; lead and other metals fabrication; plating; metals reclamation and recycling; and stormwater collection and discharge. Activities at T-25S may have affected the sediments of EWOU in the immediate vicinity of T-25S, due to their immediate proximity and reasonable fate and transport assumptions.

d. Pursuant to Section 105 of CERCLA, 42 U.S.C. § 9605, EPA placed the Harbor Island Superfund Site on the National Priorities List, set forth at 40 C.F.R. Part 300, Appendix B, by publication in the Federal Register on September 8, 1983, 48 Fed. Reg. 40658.

e. Respondent is a Washington Port District, duly created under RCW Chapter 53. Respondent owned and operated facilities along the eastern shore of Harbor Island and has operated in EWOU. Respondent owns the upland area of T-25S.

f. An island-wide (except for the Lockheed Shipyard Upland and Petroleum Tank Farm operable units) remedial investigation and feasibility study (RI/FS), that included an evaluation of upland areas and sediments, was conducted by EPA in the late 1980s and early 1990s. Supplemental sediment data was also collected by various parties under oversight and direction of EPA in the late 1990s. Respondent then removed and disposed of 200,000 cubic yards of highly contaminated EWOU sediments under EPA oversight and direction pursuant to an Administrative Order on Consent in CERCLA Docket No. 10-2003-0166 issued on September 9, 2003. Following that work, Respondent performed a Supplemental RI/FS of EWOU under EPA oversight and direction pursuant to an Administrative Settlement Agreement and Order on Consent in CERCLA Docket No. 10-2007-0030 issued on October 11, 2006. These investigations demonstrate there are polychlorinated biphenyls (PCBs), poly-aromatic hydrocarbons (PAHs), mercury and other metals, and organic compounds in sediments of EWOU, including T-25S.

g. EPA issued an Interim Record of Decision (IROD) in 2024 which sets forth remedial action cleanup requirements for EWOU. The removal action cleanup determinations for T-25S set forth in the Action Memorandum are consistent with the remedial action requirements of the IROD.

h. Respondent identified soil contamination at T-25S in 2018. Under EPA oversight and direction, Respondent performed an Engineering Evaluation/Cost Analysis (EE/CA) for T-25S pursuant to an Administrative Settlement Agreement and Order on Consent in CERCLA docket no. 10-2022-0159 issued on February 8, 2022. The EE/CA along with other data and information provided the basis for EPA to make the soil removal action cleanup determinations for T-25S set forth in the Action Memorandum.

## **V. CONCLUSIONS OF LAW AND DETERMINATIONS**

9. Based on the Findings of Fact in Section IV and the administrative record for this matter, EPA has determined, and Respondent neither admits nor denies, that:

a. T-25S is a “facility” as defined by Section 101(9) of CERCLA, 42 U.S.C. § 9601(9).

b. At T-25S, there has been a “release” or substantial threat of “release,” as defined by Section 101(22) of CERCLA, 42 U.S.C. § 9601(22), into the “environment,” as defined by Section 101(8) of CERCLA, 42 U.S.C. § 9601(8), of a “hazardous substance” or “pollutant or contaminant,” as defined by Sections 101(14) and (33) of CERCLA, 42 U.S.C. §§ 9601(14) & (33).

c. The release or substantial threat of release into the environment of a pollutant or contaminant at T-25S “may present an imminent and substantial danger to the public health or welfare,” within the meaning of Section 104(a)(1)(B) of CERCLA, 42 U.S.C. § 9604(a)(1)(B).

d. There may be an “imminent and substantial endangerment to the public health or welfare or the environment because of an actual or threatened release of a hazardous

substance” at or from T-25S within the meaning of Section 106(a) of CERCLA, 42 U.S.C. § 9606(a).

e. The NTCRA is necessary to protect the public health or welfare or the environment from the release or substantial threat of release of a hazardous substance or pollutant of contaminant as provided in Section 104(a) of CERCLA, 42 U.S.C. § 9604(a).

f. Respondent is a “person” as defined by Section 101(21) of CERCLA, 42 U.S.C. § 9601(21), and a “person” and “responsible party” within the meaning of Section 104(a)(1) of CERCLA, 42 U.S.C. § 9604(a)(1).

g. The NTCRA set forth in the Action Memorandum and required by this Settlement is authorized by 40 C.F.R. § 300.415 of the NCP.

h. The NTCRA will be done “properly and promptly” by Respondent and consistent with the NCP, as provided in Section 104(a) of CERCLA, 42 U.S.C. § 9604(a), when performed in accordance the Action Memorandum and this Settlement.

i. There has been “disposal,” within the meaning of Section 107(a) of CERCLA, 42 U.S.C. § 9607(a), of hazardous substances at T-25S.

j. Respondent is the “owner and operator” of T-25S within the meaning of Section 107(a)(1) of CERCLA, 42 U.S.C. § 9607(a)(1).

k. Respondent “owned or operated” T-25S at the time of the disposal of a hazardous substance within the meaning of Section 107(a)(2) of CERCLA, 42 U.S.C. § 9607(a)(2).

l. Respondent arranged for the disposal of hazardous substances at T-25S with the meaning of Section 107(a)(3) of CERCLA, 42 U.S.C. § 9607(a)(3).

## **VI. ORDER AND AGREEMENT**

10. Based upon the Findings of Fact, Conclusions of Law, and Determinations set forth above, and the administrative record for T-25S, it is hereby Ordered and Agreed that Respondent shall comply with all provisions of this Settlement as follows:

## **VII. COORDINATION AND SUPERVISION**

### **11. Respondent’s Project Coordinator**

a. Respondent shall notify EPA within 10 days after the Effective Date of the name and qualifications of Respondent’s proposed Project Coordinator. Respondent’s Project Coordinator shall be responsible for administration of all Work required by this Settlement.

b. Respondent’s Project Coordinator must have sufficient technical expertise to coordinate the Work. To the greatest extent possible, the Project Coordinator shall be present onsite or readily available during the Work.

c. Notice or communication relating to this Settlement from EPA to Respondent's Project Coordinator constitutes notice or communication to Respondent.

d. Respondent may change its Project Coordinator by following the procedures under Paragraph 12.

**12. Procedures for Notice and Disapproval**

a. Respondent shall notify EPA of the names and qualifications of any contractors or subcontractors retained to perform the Work at least 10 days prior to commencement of such Work.

b. EPA may issue a notice of disapproval for any proposed Project Coordinator, contractor, or subcontractor. Within 10 days of receipt of such notice, Respondent shall provide EPA with the name, title, contact information, and qualifications of an alternate proposed Project Coordinator, contractor or subcontractor, as the case may be.

c. EPA may disapprove a proposed Project Coordinator, contractor, or subcontractor based on objective assessment factors (*e.g.*, experience, capacity, technical expertise, conflict of interest regarding the project), or any combination of these factors.

d. EPA designates Dustan Bott of SEMD as its Project Manager. The EPA Project Manager has the authority to oversee Respondent's implementation of the Work, including the authority to halt, conduct, or direct any Work. Absence of the EPA Project Manager from T-25S is not a cause for stoppage of the Work. EPA may change its Project Manager and will notify Respondent of any such change.

**VIII. PERFORMANCE OF THE WORK**

13. Respondent shall perform the Work in accordance with this Settlement, including all EPA-approved, conditionally approved, or modified deliverables as required by this Settlement. The Work includes, at a minimum, all actions necessary to implement the NTCRA. Respondent shall also comply with the requirements and schedule contained in the SOW.

14. For any regulation or guidance referenced in this Settlement, the reference will be read to include any subsequent modification, amendment, or replacement of such regulation or guidance. Such modifications, amendments, or replacements apply to the Work only after Respondent receives notification from EPA of the modification, amendment, or replacement.

**15. Removal Design and Removal Action**

In accordance with the schedule provided in the SOW, Respondent shall submit a Removal Design and Removal Action Work Plan to EPA along with the other deliverables identified in the SOW.

16. Respondent shall submit a Post-Removal Site Control Plan in accordance with the schedule contained in the SOW. The Post-Removal Site Control Plan shall set for those actions deemed necessary to ensure the continued effectiveness and integrity of the NTCRA.

17. **Community Involvement.** EPA has lead responsibility for implementing community involvement activities for T-25S, including the preparation of a community involvement plan, as provided in the NCP and EPA guidance. As requested by EPA, Respondent shall participate in community involvement activities, including participation in: (a) the preparation of information regarding the Work for dissemination to the public (including compliance schedules and progress reports), with consideration given to the specific needs of the community, including translated materials and mass media and/or Internet notification; and (b) public meetings that may be held or sponsored by EPA to explain activities at or relating to T-25S.

18. **Deliverables: Specifications and Approval**

a. **General Requirements for Deliverables.** Respondent shall submit all deliverables to EPA in electronic form, unless otherwise specified by the EPA Project Manager. All deliverables shall meet the requirements detailed in the SOW.

b. **Technical Specifications for Deliverables.** Sampling and monitoring data shall be submitted in standard Regional Electronic Data Deliverable (“EDD”) format (Scribe database). Other delivery methods may be allowed by the EPA Project Manager if electronic direct submission presents a significant burden to Respondent or as technology changes.

c. **Approval of Deliverables.** After review of a deliverable required to be submitted by Respondent under this Settlement or the SOW, EPA may: (1) approve, in whole or in part, the deliverable; (2) approve the deliverable with specified conditions or required revisions; (3) modify and approve, in whole or in part, the deliverable; (4) disapprove, in whole or in part, the deliverable; or (5) any combination of the foregoing. If EPA requires revisions to a deliverable, EPA will provide a deadline for resubmission of that deliverable and Respondent shall revise the deliverable in accordance with all EPA-instructions and submit the revised deliverable by the EPA-established deadline. Once a deliverable is approved, approved with conditions or required revisions, or approved as modified by EPA, Respondent shall implement the activities required by that deliverable in accordance with the EPA-established schedule for the deliverable. Upon EPA-approval of a deliverable, or any portion thereof, such deliverable, or portion thereof, shall be incorporated into and enforceable under this Settlement, and Respondent shall take all action required by the deliverable, or portion thereof, according to the EPA-established schedule for that deliverable. Respondent shall not commence or perform any Work except in conformance with the terms of this Settlement.

19. **Off-Site Shipments**

a. Respondent may ship hazardous substances, pollutants and contaminants from T-25S to an off-site facility only if Respondent complies with Section 121(d)(3) of CERCLA, 42 U.S.C. § 9621(d)(3), and the NCP at 40 C.F.R. § 300.440. Respondent will be deemed to be in compliance with those provisions for a shipment if Respondent obtains a prior determination from EPA that the proposed receiving facility for such shipment is acceptable under the criteria of 40 C.F.R. § 300.440(b). Respondent shall utilize electronic manifests for hazardous waste disposal, except when extraordinary circumstances prevent their use (e.g., system malfunctions or inaccessibility).

b. Respondent may ship Waste Material from T-25S to an out-of-state waste management facility only if, prior to any shipment, Respondent provides written notice to the appropriate state environmental official in the receiving facility's state and to the EPA Project Manager. This written notice requirement will not apply to any off-site shipments when the total quantity of all such shipments does not exceed 10 cubic yards. The written notice must include the following information, if available: (1) the name and location of the receiving facility; (2) the type and quantity of Waste Material to be shipped; (3) the schedule for the shipment; and (4) the method of transportation. Respondent also shall notify the state environmental official referenced above and the EPA Project Manager of any major changes in the shipment plan, such as a decision to ship the Waste Material to a different out-of-state facility. Respondent shall provide the written notice after the award of the contract for the NTCRA and before the Waste Material is shipped.

c. Respondent may ship Investigation Derived Waste ("IDW") from T-25S to an off-site facility only if Respondent complies with Section 121(d)(3) of CERCLA, 42 U.S.C. § 9621(d)(3), and the NCP at 40 C.F.R. § 300.440, EPA's *Guide to Management of Investigation Derived Waste*, OSWER 9345.3-03FS (Jan. 1992) (<https://semspub.epa.gov/work/03/136166.pdf>), and any IDW-specific requirements contained in the Action Memorandum. Wastes shipped off-site to a laboratory for characterization, and RCRA hazardous wastes that meet the requirements for an exemption from RCRA under 40 C.F.R. § 261.4(e) shipped off-site for treatability studies, are not subject to 40 C.F.R. § 300.440.

## 20. Permits

a. As provided in Section 121(e) of CERCLA, 42 U.S.C. § 9621(e), and the NCP at 40 C.F.R. § 300.400(e), no permit is required for any portion of the Work conducted entirely onsite (*i.e.*, within the areal extent of contamination or in very close proximity to the contamination and necessary for implementation of the Work). Where any portion of the Work that is not onsite requires a federal or state permit or approval, Respondent shall submit timely and complete applications and take all other actions necessary to obtain all such permits or approvals.

b. Respondent may seek relief under the provisions of Section XIII (Force Majeure) of this Settlement for any delay in the performance of the Work resulting from a failure to obtain, or a delay in obtaining, any permit or approval referenced in Paragraph 20.a and required for the Work, provided that Respondent has submitted timely and complete applications and taken all other actions necessary to obtain all such permits or approvals.

c. Nothing in this Settlement constitutes a permit issued under any federal or state statute or regulation.

21. **Emergency Response.** If any event occurs during performance of the Work that causes or threatens to cause a release of Waste Material on, at, or from T-25S and that either constitutes an emergency situation or that may present an immediate threat to public health or welfare or the environment, Respondent shall: (a) immediately take all appropriate action to prevent, abate, or minimize such release or threat of release; (b) immediately notify the EPA

Project Manager or, in the event of the unavailability of the EPA Project Manager, the Regional Duty Officer at (206) 553-1263 of the incident or T-25S conditions; and (c) take such actions in consultation with the EPA Project Manager or authorized Regional Duty Officer and in accordance with all applicable provisions of this Settlement, the Health and Safety Plan, and any applicable deliverable approved by EPA under this Settlement.

22. **Release Reporting.** During performance of the Work should there be an event that is required to be reported pursuant to Section 103 of CERCLA, 42 U.S.C. § 9603, or Section 304 of the Emergency Planning and Community Right-to-Know Act (“EPCRA”), 42 U.S.C. § 11004, Respondent shall immediately provide notice of the event to the National Response Center at (800) 424-8802, and to EPA Project Manager or if the EPA Project Manager is unavailable, to the Regional Duty Officer at (206) 553-1263. Respondent shall also submit a written report to EPA within seven days after the onset of such an event, (a) describing the event, and (b) all explaining all measures taken and to be taken to mitigate the associated release or threat of release, mitigate any endangerment caused by the release or threat of release, prevent the reoccurrence of the release or threat of release. The reporting requirements under this Paragraph are in addition to the reporting required by Sections 103 and 111(g) of CERCLA, 42 U.S.C. §§ 9603 and 9611(g), or Section 304 of EPCRA, 42 U.S.C. § 11004.

23. **Progress Reports.** Commencing upon EPA-approval of the Removal Action Work Plan and continuing until EPA-issuance of a Notice of Completion of Work under Paragraph 26, Respondent shall submit written progress reports to EPA on a monthly basis, or as otherwise directed in writing by the EPA Project Manager. During performance of the Removal Design, Respondent shall submit written progress reports to EPA on a quarterly basis, or as otherwise directed in writing by the EPA Project Manager. These progress reports shall describe: (a) all significant developments during the preceding reporting period, including the actions performed and any problems encountered; (b) analytical data received during the reporting period; (c) the developments anticipated during the next reporting period, including a schedule of actions to be performed and anticipated problems; and (d) planned resolutions of past or anticipated problems.

24. **Additional Work.** If the EPA Project Manager determines that additional Work must be included in the Removal Action Work Plan or other approved deliverable to protect public health or welfare or the environment, and that such Work is consistent with the Action Memorandum, the EPA Project Manager will notify Respondent, in writing. Respondent may also request, in writing, that additional Work be included in the Removal Action Work Plan or other EPA-approved deliverable. Should EPA grant such a request, EPA will so notify Respondent, in writing. Within 30 days of receiving written notice from EPA under this Paragraph, Respondent shall submit a proposed supplemental plan or other deliverable, as the case may be, together with a proposed schedule for EPA approval. Respondent shall implement the supplemental plan or other deliverable pursuant to the schedule approved by EPA in accordance with Paragraph 18.c. This Paragraph does not limit the authority of the EPA Project Manager to authorize alterations or deviations to any plan or schedule as provided in Section XXII.

## **25. Final Report**

a. Following completion of all Work required by this Settlement, other than the continuing obligations listed in Paragraph 26.a, and in accordance with the schedule provided in the SOW, Respondent shall submit for EPA review and approval a Final Report regarding the Work. The Final Report shall:

- (1) summarize the actions taken to comply with this Settlement;
- (2) conform to the requirements of Section 300.165 of the NCP, 40 C.F.R. § 300.165 (“OSC Reports”);
- (3) list the quantities and types of materials removed offsite or handled onsite;
- (4) describe the removal and disposal options considered for those materials;
- (5) identify the ultimate destination(s) of those materials;
- (6) include the analytical results of all sampling and analyses performed; and
- (7) include all relevant documentation generated during the Work (e.g., manifests, invoices, bills, contracts, and permits) and an estimate of the total costs incurred to complete the Work.

b. The Final Report must also include the following certification signed by a responsible corporate official of Respondent or Respondent’s Project Coordinator: “I certify under penalty of perjury that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I have no personal knowledge that the information submitted is other than true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.”

## **26. Notice of Completion of Work**

a. If after reviewing the Final Report, EPA determines that all Work, other than the continuing obligations identified below, has been fully performed in accordance with this Settlement, EPA will notify Respondent. A notice of completion of Work is not a protectiveness determination and does not affect the following continuing obligations:

- (1) implementing and maintaining the requirements of the Post-Removal Site Control Plan;
- (2) obligations under Section IX (Property Requirements);
- (3) payment of Future Response Costs; and

(4) obligations under Section XIX (Records).

b. If EPA determines that any Work, other than the continuing obligations identified above, has not been completed in accordance with this Settlement, EPA will so notify Respondent and provide a list of deficiencies to be corrected and a schedule for correcting those deficiencies. Respondent shall correct all identified deficiencies in accordance with this schedule and shall submit a modified Final Report following completion of the corrected deficiencies. If any deficiencies are noted by EPA in response to a modified Final Report, such deficiencies shall be addressed in accordance with this Paragraph.

27. **Compliance with Applicable Law.** Nothing in this Settlement affects Respondent's obligations to comply with all applicable state and federal laws and regulations, except as provided in Section 121(e) of CERCLA, 42 U.S.C. § 9621(e), and 40 C.F.R. §§ 300.400(e) and 300.415(j). In accordance with 40 C.F.R. § 300.415(j), all onsite actions required pursuant to this Settlement shall, to the extent practicable considering the exigencies of the situation, as determined by EPA, attain applicable or relevant and appropriate requirements ("ARARs") under federal environmental or state environmental or facility siting laws. Respondent shall comply with the ARARs provided in the Action Memorandum, and shall include those ARARs in the Removal Action Work Plan. The activities conducted in accordance with this Settlement, if approved by EPA, will be deemed to be consistent with the NCP as provided under 40 C.F.R. § 300.700(c)(3)(ii).

28. **Work Takeover**

a. If EPA determines that Respondent: (1) has ceased implementation of any portion of the Work required under this Settlement; (2) is seriously or repeatedly deficient or late in performing the Work required under this Settlement; or (3) is implementing the Work required under this Settlement in a manner that may cause an endangerment to public health or welfare or the environment, EPA may issue a notice of Work Takeover to Respondent, including a description of the grounds for the notice and a period of time ("Remedy Period") within which Respondent shall remedy the circumstances giving rise to the notice. The Remedy Period will be 20 days, unless EPA determines in its unreviewable discretion that there may be an endangerment, in which case the Remedy Period will be 10 days.

b. If, by the end of the Remedy Period, Respondent does not remedy to EPA's satisfaction the circumstances giving rise to the notice of Work Takeover, EPA may notify Respondent and, as it deems necessary, commence a Work Takeover.

c. EPA may conduct the Work Takeover during the pendency of any dispute under Section XIV (Dispute Resolution) but will terminate the Work Takeover if and when: (1) Respondent remedies, to EPA's satisfaction, the circumstances giving rise to the notice of Work Takeover; or (2) upon the issuance of a final determination under Section XIV (Dispute Resolution) that EPA is required to terminate the Work Takeover.

## **IX. PROPERTY REQUIREMENTS**

29. If T-25S, or any other property where access is needed to implement this Settlement, is owned or controlled by Respondent, Respondent shall, commencing on the Effective Date, provide EPA and its representatives, including contractors, with access at all reasonable times to T-25S, or such other property, for the purpose of conducting any activity related to this Settlement. Where any action under this Settlement is to be performed in areas owned or controlled by someone other than Respondent, Respondent shall use best efforts to obtain all necessary agreements for access, enforceable by Respondent and EPA, within 30 days after the Effective Date, or as otherwise specified in writing by the EPA Project Manager.

30. As used in this Section, “best efforts” means the efforts that a reasonable person in the position of Respondent would use to achieve the goal in a timely manner, including the cost of employing professional assistance and the payment of reasonable sums of money to secure access or use restriction agreements, as required by this Section. If Respondent cannot accomplish what is required through “best efforts” in a timely manner, Respondent shall so notify EPA and include a description of the steps taken to obtain access or use restrictions. If EPA deems it appropriate, EPA may assist Respondent, or take independent action, to obtain such access or use restrictions.

31. If Respondent owns or controls any property at T-25S, Respondent shall, prior to entering into a contract to Transfer any of its property that is part of T-25S, or 60 days prior to a Transfer of such property, whichever is earlier, (a) give written notice to the proposed transferee that the property is subject to this Settlement; and (b) give written notice to EPA of the proposed Transfer and include the name and address of the transferee. Respondent shall also make sure that the transferee is committed to compliance with this Section and Section XIX (Records).

32. Notwithstanding any provision of this Settlement, EPA retains all of its access authorities and rights, as well as all of its rights to require land, water, or other resource use restrictions, including related enforcement authorities under CERCLA, RCRA, and any other applicable statute or regulations.

## **X. FINANCIAL ASSURANCE**

33. To ensure completion of the upland Work required under Section VIII (Performance of Work), Respondent shall secure financial assurance, initially in the amount of \$53,000,000 (“Estimated Cost of the Upland Work”), for the benefit of EPA. The financial assurance must: (a) be one or more of the mechanisms listed below, in a form substantially identical to the relevant sample documents available from EPA; and (b) be satisfactory to EPA. As of the Effective Date of this Settlement, the sample documents can be found under the “Financial Assurance - Settlements” category on the Cleanup Enforcement Model Language and Sample Documents Database at <https://cfpub.epa.gov/compliance/models/>. Respondent may use multiple financial mechanisms if they are limited to surety bonds guaranteeing payment, letters of credit, trust funds, insurance policies, or some combination thereof. The following are acceptable financial mechanisms:

- a. a surety bond guaranteeing payment, performance of the Upland Work, or both, that is issued by a surety company among those listed as acceptable sureties on federal bonds as set forth in Circular 570 of the U.S. Department of the Treasury;
- b. an irrevocable letter of credit, payable to EPA or at the direction of EPA, that is issued by an entity that has the authority to issue letters of credit and whose letter-of-credit operations are regulated and examined by a federal or state agency;
- c. a trust fund established for the benefit of EPA that is administered by a trustee that has the authority to act as a trustee and whose trust operations are regulated and examined by a federal or state agency;
- d. a policy of insurance that provides EPA with acceptable rights as a beneficiary thereof and that is issued by an insurance carrier that has the authority to issue insurance policies in the applicable jurisdiction(s) and whose insurance operations are regulated and examined by a federal or state agency;
- e. a demonstration by Respondent that it meets the relevant financial test criteria of Paragraph 34, accompanied by a standby funding commitment, that requires Respondent to pay funds to or at the direction of EPA, up to the amount financially assured through the use of this demonstration in the event of a Work Takeover; or
- f. a guarantee to fund or perform the upland Work executed in favor of EPA by a company that: (1) is a direct or indirect parent company of Respondent or has a “substantial business relationship” (as defined in 40 C.F.R. § 264.141(h)) with Respondent; and (2) demonstrates to EPA’s satisfaction that it meets the financial test criteria of Paragraph 34.

34. If Respondent seeks to provide financial assurance by means of a demonstration or guarantee under Paragraph 33.e or 33.f, Respondent shall, within 270 days after the Effective Date:

- a. Demonstrate that:
  - (1) Respondent or guarantor has:
    - i. two of the following three ratios: a ratio of total liabilities to net worth less than 2.0; a ratio of the sum of net income plus depreciation, depletion, and amortization to total liabilities greater than 0.1; and a ratio of current assets to current liabilities greater than 1.5; and
    - ii. net working capital and tangible net worth each at least six times the sum of the Estimated Cost of the Upland Work and the amounts, if any, of other federal, state, or tribal environmental obligations financially assured through the use of a financial test or guarantee; and
    - iii. tangible net worth of at least \$10 million; and

- iv. assets located in the United States amounting to at least 90 percent of total assets or at least six times the sum of the Estimated Cost of the Upland Work and the amounts, if any, of other federal, state, or tribal environmental obligations financially assured through the use of a financial test or guarantee; or

(2) Respondent or guarantor has:

- i. a current rating for its senior unsecured debt of AAA, AA, A, or BBB as issued by Standard and Poor's or Aaa, Aa, A or Baa as issued by Moody's; and
- ii. tangible net worth at least six times the sum of the Estimated Cost of the Upland Work and the amounts, if any, of other federal, state, or tribal environmental obligations financially assured through the use of a financial test or guarantee; and
- iii. tangible net worth of at least \$10 million; and
- iv. assets located in the United States amounting to at least 90 percent of total assets or at least six times the sum of the Estimated Cost of the Upland Work and the amounts, if any, of other federal, state, or tribal environmental obligations financially assured through the use of a financial test or guarantee; and

b. Submit to EPA for Respondent or guarantor: (1) a copy of an independent certified public accountant's report of the entity's financial statements for the latest completed fiscal year, which must not express an adverse opinion or disclaimer of opinion; and (2) a letter from its chief financial officer and a report from an independent certified public accountant substantially identical to the sample letter and reports available from EPA. As of the Effective Date of this Settlement, a sample letter and report are available under the "Financial Assurance - Settlements" subject list category on the Cleanup Enforcement Model Language and Sample Documents Database at <https://cfpub.epa.gov/compliance/models/>.

35. If Respondent provides financial assurance by means of a demonstration or guarantee under Paragraph 33.e or 33.f, Respondent shall also:

a. annually resubmit the documents described in Paragraph 34.b within 90 days after the close of Respondent's or guarantor's fiscal year and issuance of the accompanying audited financial report;

b. notify EPA within 30 days after Respondent or guarantor determines that it no longer satisfies the relevant financial test criteria and requirements set forth in this Section; and

c. provide to EPA, within 30 days of EPA's request, reports of the financial condition of Respondent or guarantor in addition to those specified in Paragraph 34.b; EPA may

make such a request at any time based on a belief that Respondent or guarantor may no longer meet the financial test requirements of this Section.

36. Respondent shall, within 30 days after the Effective Date, seek EPA's approval of the form of Respondent's financial assurance. Within 30 days after EPA's approval, Respondent shall secure all executed or otherwise finalized mechanisms or other documents consistent with the EPA-approved form of financial assurance and shall submit such mechanisms and documents to EPA in accordance with Paragraph 33.

37. Respondent shall diligently monitor the adequacy of the financial assurance. If Respondent becomes aware of any information indicating that the financial assurance provided under this Section is inadequate or otherwise no longer satisfies the requirements of this Section, Respondent shall notify EPA within 10 days of becoming aware of such information. If EPA determines that the financial assurance provided under this Section is inadequate or otherwise no longer satisfies the requirements of this Section, EPA will notify Respondent of such determination. Respondent shall, within 30 days after notifying EPA or receiving notice from EPA under this Paragraph, secure and submit to EPA for approval a proposal for a revised or alternative financial assurance mechanism that satisfies the requirements of this Section. EPA may extend this deadline for such time as is reasonably necessary for Respondent, in the exercise of due diligence, to secure and submit to EPA a proposal for a revised or alternative financial assurance mechanism, not to exceed 60 days. Respondent shall follow the procedures of Paragraph 39 (Modification of Amount, Form, or Terms of Financial Assurance) in seeking approval of, and submitting documentation for, the revised or alternative financial assurance mechanism. Respondent's inability to secure financial assurance in accordance with this Section does not excuse performance of any other requirement of this Settlement.

**38. Access to Financial Assurance**

a. If EPA issues a notice of a Work Takeover under Paragraph 28, then, in accordance with any applicable financial assurance mechanism, including the related standby funding commitment, EPA may require: (1) the performance of the Upland Work; and/or (2) that any funds guaranteed be paid in accordance with Paragraph 38.d.

b. If EPA is notified that the issuer of a financial assurance mechanism intends to cancel the mechanism, and Respondent fails to provide an alternative financial assurance mechanism in accordance with this Section at least 30 days prior to the cancellation date, the funds guaranteed under such mechanism must be paid prior to cancellation in accordance with Paragraph 38.d.

c. If, upon issuance of a notice of a Work Takeover under Paragraph 28, either: (1) EPA is unable for any reason to promptly secure the resources guaranteed under any applicable financial assurance mechanism, including the related standby funding commitment, whether in cash or in kind, to continue and complete the Upland Work; or (2) the financial assurance is a demonstration or guarantee under Paragraph 33.e or 33.f, then EPA is entitled to demand an amount, as determined by EPA, sufficient to cover the cost of the remaining Upland Work to be performed. Respondent shall, within 20 days after such demand, pay the amount demanded as directed by EPA.

d. Any amounts required to be paid under this Paragraph 38 must, as directed by EPA, be: (i) paid to EPA in order to facilitate the completion of the Upland Work by EPA, the State, or by another person; or (ii) deposited into an interest-bearing account, established at a duly chartered bank or trust company that is insured by the FDIC, in order to facilitate the completion of the Upland Work by another person. If payment is made to EPA, EPA may deposit the payment into the Hazardous Substance Superfund or into the Harbor Island East Waterway Special Account to be retained and used to conduct or finance response actions at or in connection with the Harbor Island Superfund Site, or to be transferred by EPA to the Hazardous Substance Superfund.

**39. Modification of Amount, Form, or Terms of Financial Assurance.** On any anniversary of the Effective Date, or at any other time agreed to by the Parties, Respondent may request a change to the form, terms, or amount of the financial assurance mechanism. Respondent shall submit any such request to EPA in accordance with Paragraph 37 and shall include an estimate of the cost of the remaining Upland Work, an explanation of the bases for the cost calculation, and a description of the proposed changes, if any, to the form or terms of the financial assurance. EPA will notify Respondent of EPA's decision regarding the request. Respondent may modify the form, terms, or the amount of the financial assurance mechanism only in accordance with: (a) EPA's approval; or (b) any resolution of a dispute on the appropriate amount of financial assurance under Section XIV (Dispute Resolution). Any decision made by EPA on a request submitted under this Paragraph to change the form or terms of a financial assurance mechanism shall not be subject to challenge by Respondent pursuant to the dispute resolution provisions of this Settlement or in any other forum. Respondent shall submit to EPA within 30 days after receipt of EPA's approval, or consistent with the terms of the resolution of the dispute, documentation of the change to the form, terms, or amount of the financial assurance instrument.

**40. Release, Cancellation, or Discontinuation of Financial Assurance.** Respondent may release, cancel, or discontinue any financial assurance provided under this Section only: (a) if EPA issues a Notice of Completion of Upland Work under Paragraph 26; (b) in accordance with EPA's approval of such release, cancellation, or discontinuation; or (c) if there is a dispute regarding the release, cancellation, or discontinuance of any financial assurance, in accordance with the agreement or final decision resolving such dispute under Section XIV (Dispute Resolution).

## **XI. INDEMNIFICATION AND INSURANCE**

### **41. Indemnification**

a. The United States does not assume any liability by entering into this Settlement or by virtue of any designation of Respondent as EPA's authorized representative under Section 104(e)(1) of CERCLA, 42 U.S.C. § 9604(e)(1). Respondent shall indemnify and save and hold harmless the United States, its officials, agents, employees, contractors, subcontractors, and representatives for or from any claims or causes of action arising from, or on account of, negligent or other wrongful acts or omissions of Respondent, its officers, directors, employees, agents, contractors, subcontractors, and any persons acting on Respondent's behalf or under their control, in carrying out activities under this Settlement, including any claims

arising from any designation of Respondent as EPA's authorized representatives under Section 104(e)(1) of CERCLA, 42 U.S.C. § 9604(e)(1). Further, Respondent agrees to pay EPA all costs it incurs including attorneys' fees and other expenses of litigation and settlement arising from, or on account of, claims made against the United States based on negligent or other wrongful acts or omissions of Respondent, its officers, directors, employees, agents, contractors, subcontractors, and any persons acting on their behalf or under its control in carrying out activities under with this Settlement. EPA may not be held out as a party to any contract entered into by or on behalf of Respondent in carrying out activities under this Settlement. Respondent and any such contractor may not be considered an agent of EPA.

b. EPA will give Respondent notice of any claim for which EPA plans to seek indemnification in accordance with this Paragraph 41, and will consult with Respondent prior to settling such claim.

42. Respondent covenants not to sue and shall not assert any claim or cause of action against the United States for damages or reimbursement or for set-off of any payments made or to be made to the United States, arising from or on account of any contract, agreement, or arrangement between Respondent and any person for performance of Work or other activities on or relating to T-25S, including claims on account of construction delays. In addition, Respondent shall indemnify and save and hold harmless the United States with respect to any claims for damages or reimbursement arising from or on account of any contract, agreement, or arrangement between Respondent and any person for performance of work at or relating to the T-25S, including claims on account of construction delays.

43. **Insurance.** Respondent shall secure, by no later than 15 days before commencing any on-site Work, the following insurance: (a) commercial general liability insurance with limits of liability of \$1 million per occurrence; (b) automobile liability insurance with limits of liability of \$1 million per accident; and (c) umbrella liability insurance with limits of liability of \$5 million in excess of the required commercial general liability and automobile liability limits. The insurance policy shall name EPA as an additional insured with respect to all liability arising out of the activities performed by or on behalf of Respondent under this Settlement. Respondent shall maintain this insurance until the first anniversary after EPA's issuance of the Notice of Completion of Work under Paragraph 26. In addition, for the duration of this Settlement, Respondent shall satisfy, or shall ensure that their contractors or subcontractors satisfy, all applicable laws and regulations regarding the provision of worker's compensation insurance for all persons performing the Work on behalf of Respondent in furtherance of this Settlement. Prior to commencement of the Work, Respondent shall provide to EPA certificates of such insurance and a copy of each insurance policy. Respondent shall resubmit such certificates and copies of policies each year on the anniversary of the Effective Date. If Respondent demonstrates by evidence satisfactory to EPA that any contractor or subcontractor maintains insurance equivalent to that described above, or insurance covering the same risks but in a lesser amount, then, with respect to that contractor or subcontractor, Respondent need provide only that portion of the insurance described above that is not maintained by the contractor or subcontractor. Respondent shall ensure that all submittals to EPA under this Paragraph identify T-25S, city, state, and EPA docket number of this Settlement.

## **XII. PAYMENTS FOR RESPONSE COSTS**

### **44. Payments by Respondent for Future Response Costs**

a. **Periodic Bills.** On a periodic basis, EPA will send Respondent a bill requiring payment that includes a regionally prepared cost summary, which includes direct and indirect costs incurred by EPA, its contractors, subcontractors, and the United States Department of Justice.

b. **Payment of Bill.** Respondent shall pay the bill, or if Respondent initiates dispute resolution under Section XIV (Dispute Resolution), the uncontested portion of the bill, if any, within 30 days after receipt of the bill and accompanying regionally prepared cost summary. Respondent shall pay the contested portion of the bill determined to be owed, if any, within 30 days after the determination regarding the dispute. Each payment for: (i) the uncontested bill or portion of bill, if late, and; (ii) the contested portion of the bill determined to be owed, if any, must include an additional amount for Interest accrued from the date of receipt of the bill through the date of payment. If requested by Respondent to do so, EPA may at its sole unreviewable discretion provide Respondent with the work performed documentation supporting the bill to the extent that such information is not subject to a claim of privilege, confidential business information, or personal identified information. Notwithstanding whether such documentation is provided by EPA, payment by Respondent is due within 30 days of receipt of each bill and accompanying regionally prepared cost summary. Respondent shall make all payments and send notice of the payments, in accordance with the procedures under Paragraph 44.c. Recognizing that EPA has the sole unreviewable discretion to provide each bill to the official or representative of Respondent selected by EPA, and that payment is due within 30 days of receipt of the bill by that official or representative, during the pendency of this Settlement and unless Respondent should notify EPA otherwise in writing, Respondent recommends that EPA send the periodic bills to:

Joy Dunay  
2711 Alaskan Way  
Seattle, WA 98121  
[maritime.env.invoices@portseattle.org](mailto:maritime.env.invoices@portseattle.org)

c. Respondent shall make all payments at <https://www.pay.gov> using the “EPA Miscellaneous Payments Cincinnati Center” link, and including references to T-25S, CERCLA Docket No. 10-2026-0216, and Site/Spill ID number 10TT, and stating the purpose of the payment. Respondent shall send notice of this payment to EPA and include the aforementioned references.

45. **Deposit of Payments.** EPA may, in its unreviewable discretion, deposit the amounts paid under Paragraph 44 in the Hazardous Substance Superfund, in the Harbor Island East Waterway Special Account, or both. EPA may, in its unreviewable discretion, retain and use any amounts deposited in the Harbor Island East Waterway Special Account to conduct or finance response actions at or in connection with the Harbor Island Superfund Site, or transfer those amounts to the Hazardous Substance Superfund.

### **XIII. FORCE MAJEURE**

46. “Force majeure,” for purposes of this Settlement, means any event arising from causes beyond the control of Respondent, of any entity controlled by Respondent, or of Respondent’s contractors that delays or prevents the performance of any obligation under this Settlement despite Respondent’s best efforts to fulfill the obligation. Given the need to protect public health and welfare and the environment, the requirement that Respondent exercises “best efforts to fulfill the obligation” includes using best efforts to anticipate any potential force majeure and best efforts to address the effects of any potential force majeure (a) as it is occurring and (b) following the potential force majeure such that the delay and any adverse effects of the delay are minimized to the greatest extent possible. “Force majeure” does not include financial inability to complete the Work, increased cost of performance, or a failure to attain performance standards established in the Action Memorandum.

47. If any event occurs for which Respondent will or may claim a force majeure, Respondent shall notify the EPA Project Manager. The deadline for the initial notice is 10 days after the date Respondent first knew or should have known that the event would likely delay performance. Respondent shall be deemed to know of any circumstance of which any contractor, subcontractor, or entity controlled by Respondent knew or should have known. Within 10 days thereafter, Respondent shall send a further notice to EPA that includes: (a) a description of the event and its effect on Respondent’s completion of the requirements of the Settlement; (b) a description of all actions taken or to be taken to prevent or minimize the adverse effects or delay; (c) the proposed extension of time for Respondent to complete the requirements of the Settlement; (d) a statement as to whether, in the opinion of Respondent, such event may cause or contribute to an endangerment to public health or welfare, or the environment; and (e) all available proof supporting their claim of force majeure. Failure to comply with the notice requirements herein regarding an event precludes Respondent from asserting any claim of force majeure regarding that event, provided, however, that if EPA, despite the late or incomplete notice, is able to assess to its satisfaction whether the event is a force majeure under Paragraph 48 and whether Respondents has exercised best efforts under Paragraph 46, EPA may, in its unreviewable discretion, excuse in writing Respondent’s failure to submit timely or complete notices under this Paragraph.

48. EPA will notify Respondent of its determination whether Respondent is entitled to relief under Paragraph 47, and, if so, the duration of the extension of time for performance of the obligations affected by the force majeure. An extension of the time for performance of the obligations affected by the force majeure shall not, in itself, extend the time for performance of any other obligation. Respondent may initiate dispute resolution under Section XIV (Dispute Resolution) regarding EPA’s determination within 15 days after receipt of the determination. In any such proceeding, Respondent has the burden of proving that it is entitled to relief under Paragraph 47 and that its proposed extension was or will be warranted under the circumstances.

49. The failure by EPA to timely complete any activity under the Settlement is not a violation of the Settlement, provided, however, that if such failure prevents Respondent from completing a requirement of the Settlement in a timely manner, Respondent may seek relief under this Section.

## **XIV. DISPUTE RESOLUTION**

50. Unless otherwise provided in this Settlement, the Parties will use the dispute resolution procedures of this Section to resolve any dispute arising under this Settlement.

51. A dispute will be considered to have arisen when Respondent sends a written notice of dispute (“Notice of Dispute”) to EPA. Disputes arising under this Settlement must in the first instance be the subject of informal negotiations between the Parties. If Respondent objects to any EPA action taken pursuant to this Settlement, Respondent shall send EPA a Notice of Dispute describing the objection(s) within seven days after such action. The period for informal negotiations may not exceed 20 days after the dispute arises, unless otherwise determined by EPA, which determination is not subject to dispute. If the Parties cannot resolve the dispute by informal negotiations, the position advanced by EPA is binding unless Respondent initiates formal dispute resolution under Paragraph 52.

### **52. Formal Dispute Resolution**

a. **Statements of Position.** Respondent may initiate formal dispute resolution by submitting, within seven days after the conclusion of informal dispute resolution under Paragraph 51, an initial Statement of Position regarding the matter in dispute. An EPA responsive Statement of Position is due within 20 days after receipt of Respondent’s initial Statement of Position. All Statements of Position must include supporting factual data, analyses, opinions, and other appropriate documentation. EPA may extend the deadlines for filing the Statements of Position for up to 15 days and may allow the submission of supplemental Statements of Position. Any such extension determination is not subject to dispute.

b. **Formal Decision.** The Director of the Superfund & Emergency Management Division, EPA Region 10, will issue a formal decision resolving the dispute (“Formal Decision”) based on the Statements of Position. The Formal Decision is binding on Respondent, and shall be incorporated into and become an enforceable part of this Settlement.

53. **Escrow Account.** For disputes regarding a Future Response Cost billing, Respondent shall: (a) establish, in a duly chartered bank or trust company, an interest-bearing escrow account that is insured by the Federal Deposit Insurance Corporation (“FDIC”); (b) remit to that escrow account funds equal to the amount of the contested Future Response Costs; and (c) send to EPA a copy of the transmittal letter and check paying the uncontested Future Response Costs, and a copy of the correspondence that established and funded the escrow account, including the name of the bank, the bank account number, and a bank statement showing the initial balance in the account. EPA may, in its unreviewable discretion, waive the requirement to establish the escrow account. Respondent shall cause the escrow agent to pay the amounts due to EPA under Paragraph 44, if any, by the deadline for such payment in Paragraph 44. Respondent is responsible for any balance due under Paragraph 44 after the payment by the escrow agent.

54. The initiation of dispute resolution procedures under this Section does not extend, postpone, or affect in any way any requirement of this Settlement, except as may otherwise be determined by EPA, which determination is not subject to dispute. Stipulated penalties with

respect to the disputed matter will continue to accrue, but payment is stayed pending resolution of the dispute, as provided in Paragraph 58.

## **XV. STIPULATED PENALTIES**

55. Unless the noncompliance is excused under Section XIII (Force Majeure), Respondent is liable to EPA for payment of the following stipulated penalties. For any failure: (1) to pay any amount due under Section XII (Payment for Response Costs); (2) to establish and maintain financial assurance in accordance with Section X (Financial Assurance); (3) to establish any escrow account required under Paragraph 53; (4) or to submit timely or adequate deliverables in accordance with this Settlement:

| Period of Noncompliance | Penalty Per Noncompliance Per Day |
|-------------------------|-----------------------------------|
| 1st through 14th day    | \$ 750                            |
| 15th through 30th day   | \$ 2,000                          |
| 31st day and beyond     | \$ 4,000                          |

56. **Work Takeover Penalty.** If EPA commences a Work Takeover under Paragraph 28, Respondent shall be liable for payment of a stipulated penalty in the amount of \$10,000. This stipulated penalty is in addition to the remedy available to EPA under Paragraph 38 (Access to Financial Assurance).

57. **Accrual of Penalties.** Stipulated penalties accrue from the date performance is due, or the day a noncompliance occurs, whichever is applicable, until the date the requirement is completed or the final day of the correction of the noncompliance. Nothing in this Settlement prevents the simultaneous accrual of separate penalties for separate noncompliance with this Settlement. Stipulated penalties accrue regardless of whether Respondent has been notified of its noncompliance, and regardless of whether Respondent has initiated dispute resolution under Section XIV (Dispute Resolution), provided, however, that no penalties will accrue as follows:

a. with respect to a submission that EPA subsequently determines is deficient, during the period, if any, beginning on the 31st day after EPA's receipt of such submission until the date that EPA notifies Respondent of any deficiency; or

b. with respect to a matter that is the subject of dispute resolution under Section XIV (Dispute Resolution), during the period, if any, beginning on the 21st day after EPA's Statement of Position is received until the date of the Formal Decision under Paragraph 52.b.

58. **Demand and Payment of Stipulated Penalties.** EPA may send Respondent a demand for stipulated penalties. The demand will include a description of the noncompliance and will specify the amount of the stipulated penalties owed. Respondent may initiate dispute resolution under Section XIV (Dispute Resolution) within 30 days after receiving the demand. Respondent shall pay the amount demanded or, if Respondent initiates dispute resolution, the uncontested portion of the amount demanded, within 30 days after receipt of the demand. Respondent shall pay the contested portion of the penalties determined to be owed, if any, within 30 days after the resolution of the dispute. Each payment for: (a) the uncontested penalty demand

or uncontested portion, if late, and (b) the contested portion of the penalty demand determined to be owed, if any, must include an additional amount for Interest accrued from the date of receipt of the demand through the date of payment. Respondent shall make payment at <https://www.pay.gov> using the link for “EPA Miscellaneous Payments Cincinnati Finance Center,” including references to the Site Name, Docket Number, and Site/Spill ID number and the purpose of the payment. Respondent shall send notices of this payment to EPA. The payment of stipulated penalties and Interest, if any, does not alter any obligation of Respondent under this Settlement.

59. Nothing in this Settlement limits the authority of the EPA to seek any other remedies or sanctions available by virtue of Respondent’s noncompliance with this Settlement or of the statutes and regulations upon which this Settlement is based, including penalties under Sections 106(b) and 122(l) of CERCLA, 42 U.S.C. §§ 9606(b) and 9622(l), and punitive damages pursuant to Section 107(c)(3) of CERCLA, 42 U.S.C. § 9607(c)(3), provided, however, that EPA may not seek civil penalties under section 122(l) of CERCLA, 42 U.S.C. § 9622(c)(3), for any noncompliance for which a stipulated penalty is provided for in this Settlement, except in the case of a willful noncompliance with this Settlement or in the event that EPA assumes performance of a portion or all of the Work pursuant to Paragraph 28 (Work Takeover).

60. Notwithstanding any other provision of this Section, the EPA may, in its unreviewable discretion, waive any portion of stipulated penalties that have accrued under this Settlement.

## **XVI. COVENANTS BY EPA**

61. **Covenants for Respondent.** Subject to Paragraph 72, EPA covenants not to sue or to take administrative action against Respondent under Sections 106 and 107(a) of CERCLA, 42 U.S.C. §§ 9606 & 9607(a), regarding the Work and Future Response Costs.

62. The covenants under Paragraph 61: (a) take effect upon the Effective Date; (b) are conditioned on the complete and satisfactory performance by Respondent of the requirements of this Settlement; (c) extend to the successors of Respondent but only to the extent that the alleged liability of the successor of Respondent is based solely on its status as a successor of the Respondent; and (d) do not extend to any other person.

63. **General Reservations.** Notwithstanding any other provision of this Settlement, EPA reserves, and this Settlement is without prejudice to, all rights against Respondent regarding the following:

- a. liability for failure by Respondent to meet a requirement of this Settlement;
- b. liability for performance of response action other than the Work;
- c. liability for damages for injury to, destruction of, or loss of natural resources, and for the costs of any natural resource damage assessments;

d. liability arising from the past, present, or future disposal, release or threat of release of Waste Materials outside of the Site; and

e. criminal liability.

64. Subject to Paragraph 61, nothing in this Settlement limits any authority of EPA to take, direct, or order all appropriate action to protect human health and the environment or to prevent, abate, respond to, or minimize an actual or threatened release of Waste Material on, at, or from T-25S, or to request a court to order such action.

## **XVII. COVENANTS BY RESPONDENT**

### **65. Covenants by Respondent**

a. Subject to Paragraph 65.d, Respondent covenants not to sue and shall not assert any claim or cause of action against the United States under CERCLA, Section 7002(a) of RCRA, 42 U.S.C. § 6972(a), the United States Constitution, the Tucker Act, 28 U.S.C. § 1491, the Equal Access to Justice Act, 28 U.S.C. § 2412, the State Constitution, State law, or at common law regarding the Work, Future Response Costs, and this Settlement.

b. Subject to Paragraph 65.c, Respondent covenants not to seek reimbursement from the Fund through CERCLA or any other law for costs of the Work, Future Response Costs, or any claim arising out of response actions at or in connection with T-25S.

c. The covenants in Paragraph 65.a do not apply to any claim or cause of action brought, or order issued, after the Effective Date by the United States to the extent such claim, or cause of action, or order is issued within the scope of a reservations under Paragraph 63.a through e.

d. Notwithstanding any other provision of this Settlement, this Settlement shall not have any effect on claims or causes of action that Respondent has or may have pursuant to Section 113(f) of CERCLA, 42 U.S.C. § 9613(f), against the United States on behalf of the United States General Services Administration, the United States Postal Service, the United States Coast Guard, and the United States Department of Defense based on a claim that the United States is a potentially responsible party pursuant to Section 107(a) of CERCLA, 42 U.S.C. § 9607(a), relating to the Work, Future Response Costs, and this Settlement. The United States Department of Defense shall mean the United States Department of Defense, also known as the United States Department of War, as described in 10 U.S.C. § 111 and its successor departments, agencies, or instrumentalities.

## **XVIII. EFFECT OF SETTLEMENT; CONTRIBUTION**

66. The Parties agree that: (a) this Settlement constitutes an administrative settlement under which Respondent has, as of the Effective Date, resolved its liability to EPA within the meaning of Sections 113(f)(2), 113(f)(3)(B), and 122(h)(4) of CERCLA, 42 U.S.C. §§ 9613(f)(2), 9613(f)(3)(B) & 9622(h)(4); and (b) Respondent is entitled, as of the Effective Date, to protection from contribution actions or claims as provided by Sections 113(f)(2) and 122(h)(4) of CERCLA, 42 U.S.C. §§ 9613(f)(2) & 9622(h)(4), or as may be otherwise provided by law, for

the “matters addressed” in this Settlement. The “matters addressed” in this Settlement are the Work and Future Response Costs, provided, however, that if EPA exercises rights against Respondent under the reservations in Paragraph 63.a through e., the “matters addressed” in this Settlement do not include those response costs or response actions that are within the scope of the exercised reservation.

67. Respondent shall, with respect to any suit or claim brought by it for matters related to this Settlement, notify EPA no later than 60 days prior to the initiation of such suit or claim. Respondent shall, with respect to any suit or claim brought against it for matters related to this Settlement, notify EPA within 10 days after service of the complaint on Respondent. In addition, Respondent shall notify EPA within 10 days after service or receipt of any Motion for Summary Judgment and within 10 days after receipt of any order from a court setting a case for trial.

68. **Res Judicata and Other Defenses.** In any subsequent administrative or judicial proceeding initiated against Respondent by EPA or by the United States on behalf of EPA for injunctive relief, recovery of response costs, or other appropriate relief relating to the Site, Respondent shall not assert, and may not maintain, any defense or claim based upon the principles of waiver, claim preclusion (*res judicata*), issue preclusion (*collateral estoppel*), claim-splitting, or other defenses based upon any contention that the claims raised by the United States in the subsequent proceeding were or should have been brought in the instant case.

69. Nothing in this Settlement creates any rights in, or grants any defense or cause of action to, any person not a Party to this Settlement. Except as provided in Section XVII (Covenants by Respondent), each Party expressly reserves any and all rights (including pursuant to Section 113 of CERCLA, 42 U.S.C. § 9613), defenses, claims, demands, and causes of action that each Party may have with respect to any matter, transaction, or occurrence relating in any way to T-25S against any person not a Party hereto. Nothing in this Settlement diminishes the right of the United States under Sections 113(f)(2) and (3) of CERCLA, 42 U.S.C. §§ 9613(f)(2) & (3), to pursue any person not a party to this Settlement to obtain additional response costs or response action and to enter into settlements that give rise to contribution protection pursuant to Section 113(f)(2) of CERCLA, 42 U.S.C. § 9613(f)(2).

## **XIX. RECORDS**

### **70. Retention of Records and Information**

a. Respondent shall retain, and instruct its contractors and agents to retain, the following documents and electronically stored data (“Records”) until 10 years after the Notice of Completion of the Work under Paragraph 26 (“Record Retention Period”):

- (1) All records regarding Respondent’s liability and the liability of any other person under CERCLA regarding the Site;
- (2) All reports, plans, permits, and documents submitted to EPA in accordance with this Settlement, including all underlying research and data; and

- (3) All data developed by, or on behalf of, Respondent in the course of performing the Work.

b. At the end of the Record Retention Period, Respondent shall notify EPA that EPA has 90 days to request Respondent's retained Records. Respondent shall continue to retain and preserve its Records for this 90-day period. Upon request by EPA, and except as provided below (Privileged and Protected Claims), Respondent shall deliver any requested Records to EPA. These Records retention requirements apply regardless of any corporate record retention policy.

#### **71. Privileged and Protected Claims**

a. Respondent may assert that all or part of a record requested by EPA is privileged or protected as provided under federal law, in lieu of providing the record, provided that Respondent complies with Paragraph 71.b, and except as provided in Paragraph 71.c.

b. If Respondent asserts a claim of privilege or protection, Respondent shall provide EPA with the following information regarding such record: its title; its date; the name, title, affiliation (e.g., company or firm), and address of the author, of each addressee, and of each recipient; a description of the record's contents; and the privilege or protection asserted. If a claim of privilege or protection applies only to a portion of a record, Respondent shall provide the record to EPA in redacted form to mask the privileged or protected portion only. Respondent shall retain all records that they claim to be privileged or protected until EPA has had a reasonable opportunity to dispute the privilege or protection claim and any such dispute has been resolved in Respondent's favor.

c. Respondent shall not make any claim of privilege or protection regarding: (1) any data regarding T-25S, including all sampling, analytical, monitoring, hydrogeologic, scientific, chemical, radiological or engineering data, or the portion of any other record that evidences conditions at or around T-25S; or (2) the portion of any record that Respondent is required to create or generate in accordance with this Settlement.

**72. Confidential Business Information Claims.** Respondent is entitled to claim that all or part of a record submitted to EPA under this Section is Confidential Business Information ("CBI") that is covered by Section 104(e)(7) of CERCLA, 42 U.S.C. § 9604(e)(7), and 40 C.F.R. § 2.203(b). Respondent shall segregate all records or parts thereof submitted under this Settlement which Respondent claims is CBI and label those records as "claimed as confidential business information" or "claimed as CBI." Records that a submitter properly labels in accordance with the preceding sentence will be afforded the protections specified in 40 C.F.R. Part 2, Subpart B. If the records are not properly labeled when they are submitted to EPA, or if EPA notifies the submitter that the records are not entitled to confidential treatment under the standards of Section 104(e)(7) of CERCLA, 42 U.S.C. § 9604(e)(7), or 40 C.F.R. Part 2, Subpart B, the public may be given access to such records without further notice to the submitter.

**73.** Notwithstanding any provision of this Settlement, EPA retains all of its information gathering and inspection authorities and rights, including enforcement actions related thereto, under CERCLA, RCRA, and any other applicable statutes or regulations.

## **XX. NOTICES AND SUBMISSIONS**

74. All agreements, approvals, consents, deliverables, modifications, notices, notifications, objections, proposals, reports, waivers, and requests specified in this Settlement must be in writing unless otherwise specified. Whenever a notice is required to be given or a report or other document is required to be sent by one Party to another under this Settlement, it must be sent as specified below. All notices under this Section are effective upon receipt, unless otherwise specified. In the case of emailed notices, there is a rebuttable presumption that such notices are received on the same day that they are sent. Any Party may change the method, person, or address applicable to it by providing notice of such change to the other Party.

As to EPA: *via email to:*  
Dustan Bott  
bott.dustan@epa.gov  
Re: Site/Spill ID # 10TT

As to *via email to:*  
Respondent: Julia Fitts  
jfitts@anchorqea.com

## **XXI. APPENDICES**

75. The following appendices are attached to and incorporated into this Settlement:

“Appendix A” is the Action Memorandum.

“Appendix B” is the Statement of Work.

“Appendix C” is a diagram of T-25S.

## **XXII. ALTERATIONS/DEVIATIONS**

76. The EPA Project Manager may alter a deliverable or schedule by written notice or oral direction. The EPA Project Manager will memorialize in writing each such oral direction, but the effective date of that alteration will be the date of oral direction. Otherwise, the effective date of an alteration will be the date of written notice. Once so acted upon by the EPA Project Manager, the altered deliverable or schedule will be deemed approved by EPA. Any other requirement of this Settlement may be changed only by the written mutual consent of the Parties.

77. If Respondent seeks to deviate from the approved Removal Action Work Plan or schedule or any other approved deliverable or schedule, Respondent’s Project Coordinator shall submit a written request to EPA for approval outlining the proposed deviation and reasons therefore. Respondent may proceed in accordance with such a requested deviation only after receiving written approval to do so from the EPA Project Manager.

78. No advice, guidance, suggestion, or comment by the EPA Project Manager or other EPA representative regarding any proposed deliverable or schedule submitted by Respondent relieves Respondent of the obligation to obtain EPA-approval as required by this Settlement, or to otherwise comply with all requirements of this Settlement.

### **XXIII. SIGNATORIES**

79. The undersigned representative of EPA and Respondent certifies that he or she is fully authorized to enter into the terms and conditions of this Settlement and to execute and legally bind such party to this Settlement.

### **XXIV. INTEGRATION**

80. This Settlement constitutes the entire agreement among the Parties regarding the subject matter of the Settlement and supersedes all prior representations, agreements and understandings, whether oral or written, regarding the subject matter of the Settlement.

### **XXV. EFFECTIVE DATE**

81. This Settlement is effective when it is executed by EPA.

#### **IT IS SO AGREED AND ORDERED:**

**BY THE U.S. ENVIRONMENTAL  
PROTECTION AGENCY:**

\_\_\_\_\_  
Dated

\_\_\_\_\_  
Laura Buelow  
Acting Remedial Program Manager  
Superfund and Emergency Management Division  
Region 10

Signature Page for Settlement Regarding Terminal 25 South and area associated with the East  
Waterway Operable Unit of the Harbor Island Superfund Site

**FOR: PORT OF SEATTLE**

\_\_\_\_\_  
Dated

\_\_\_\_\_  
Name: Stephen P. Metruck  
Title: Executive Director



## REGION 10

SEATTLE, WA 98101

### **MEMORANDUM**

**SUBJECT:** Action Memorandum for a Non-Time Critical Removal Action at Terminal 25 South, Seattle, Washington

**FROM:** Dustan Bott, Remedial Project Manager  
Site Cleanup Section 3  
Remedial Cleanup Branch

**THRU:** Laura Buelow, Acting Branch Manager  
Remedial Cleanup Branch

**TO:** Daniel D. Opalski, Director  
Superfund Emergency Management Division

**SITE ID:** EPA 1D – WAD980722839, Site ID – 1000949

### **1 PURPOSE**

The purpose of this Action Memorandum (AM) is to request and document approval of a Non-Time Critical Removal Action (NTCRA) for Terminal 25 South (T-25S), located in Seattle, Washington (Figure 1). The NTCRA is authorized by Section 104(a) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 U.S.C. 9604(a), and Section 300.415 of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 C.F.R. 300.415. An Engineering Evaluation and Cost Analysis (EE/CA) for T-25S was prepared by the Port of Seattle (Port) under United States Environmental Protection Agency (EPA) oversight in accordance with the Administrative Settlement Agreement and Order on Consent in CERCLA Docket No. 10-2022-0159 (ASAOC).

T-25S is located partially within the East Waterway (EW) Operable Unit (OU) of the Harbor Island Superfund Site (Figure 2). EPA issued an Interim Record of Decision (IROD) in 2024 that selected the interim remedial action for the EW OU, including the overlapping sediment portion of T-25S. Remedial Action Levels (RALs) for sediment in the EW OU are established in the IROD and are presented in Table 1.

The Port plans to construct a habitat restoration project at T-25S to restore intertidal and shallow subtidal habitat. Prior to implementing that project, removal of contaminated sediments from the EW OU and contaminated soils from the adjacent upland area of T-25S will occur. Currently, T-25S is

comprised of EW OU sediments (referred to as the in-water portion) and an upland area that will become marsh habitat (below the future relocated mean higher high-water elevation) as part of the habitat restoration project (referred to as the upland portion). The NTCRA will address the in-water portion of T-25S in a manner that is consistent with applicable components of the EW OU IROD. In addition, the EW OU RALs will apply to the upland portion of T-25S that is anticipated to become marsh habitat. Implementation of the NTCRA is planned to occur ahead of the habitat restoration project construction activities.

## **2 SITE CONDITIONS AND BACKGROUND**

The EPA/CERCLIS ID for the Harbor Island Superfund Site (Site) is WAD980722839, Site ID – 1000949. The Site was placed on the National Priorities List (NPL) on September 8, 1983, pursuant to Section 105 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 U.S.C. § 9605. Harbor Island is one of the primary industrial and commercial areas in Seattle and was constructed in the early 20th century in the Duwamish River. The East Waterway is approximately 1.5 miles long and 750 feet wide and was formed by dredging the Elliott Bay tidelands and the construction of Harbor Island in the early 1900s (Anchor QEA and Windward Environmental LLC [Windward], 2019). To the south of Harbor Island and upstream of the EW OU is the Lower Duwamish Waterway (LDW) Superfund Site.

T-25S is one of the Port's earliest operating commercial terminals (Pinnacle Geosciences 2003). Its origins and commercial use date back to the original filling of the intertidal lands. T-25S was initially constructed by dredging and filling activities in the early 1900s, when the Duwamish River was reconfigured to the current channel location. In addition to sediment fill placement at T-25S, other upland fill materials (associated with the regrading of Beacon Hill and Denny Hill) were placed at the site. T-25S was used for cold storage, logging facilities, and as a sawmill from 1915 to approximately 1930. The mill site was removed to allow for lumber storage and automobile staging in the early 1960s. Automobile undercoating facilities were constructed in the 1970s. The current terminal area north of T-25S was a turning basin until 1972, when it was filled in. During the 1980s, T-25S was used for cold storage, seafood processing, and shipping operations. Most structures and buildings at the site were demolished in the 1990s, the cold storage building was demolished in the early 2000s. Historical operations are depicted on Figure 3.

### **2.1 Site description**

#### **2.1.1 Removal site evaluation**

An initial remedial investigation (RI) was completed by EPA for the Site in 1993 (Weston, R.F., 1993). That RI focused primarily on the upland areas of Harbor Island. Work began in 2006 to specifically characterize the nature and extent of contamination in the sediments of the EW OU. Together, the Port, the City of Seattle, and King County make up the East Waterway Group (EWG), which has been performing or funding investigations and studies of the EW OU. A supplemental remedial investigation (SRI) focusing on the EW OU was completed in 2014 (Windward and Anchor QEA, 2014), and a feasibility study (FS) was completed in 2019 (Anchor QEA and Windward, 2019), and were performed by the Port under the supervision of EPA. The nature and extent of contamination in the EW OU and alternatives for remediation of that contamination are detailed in the SRI and FS. These evaluations and studies included the current in-water portion of T-25S.

Environmental investigations of soil, intertidal bank sediment, groundwater and stormwater have been conducted at T-25S for various purposes beginning in the late 1960s, as follows:

Blymyer Engineers, Inc., 1989, conducted a Phase 1 Environmental Site Assessment (ESA) on behalf of Matson Terminals, Inc. Historical research and completion of a series of soil explorations were conducted. Boring locations were selected based on historical research of past T-25S uses. Twelve soil borings were drilled to approximately 10 feet below ground surface (bgs) and analyzed for one or more of the following: total petroleum hydrocarbons (TPH), volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs).

Sweet-Edwards/EMCON, Inc., 1990, prepared a Subsurface Investigation Report to document the excavation and removal of an Investigation documented the excavation and removal of a 3,000-gallon underground storage tank (UST) from the southwestern portion of T-25S. Soil samples were collected from the excavation area, and four groundwater monitoring wells were installed. Soil and groundwater samples were analyzed for petroleum-related benzene, toluene, ethylbenzene, and xylene and TPH compounds. The wells were decommissioned and are no longer present. The Washington State Department of Ecology (Ecology) issued a No Further Action determination in 2012 for T-25S, establishing that no further remedial action was necessary to clean up contamination associated with the leaking UST.

Landau Associates, Inc. and EcoChem, Inc., 1990, conducted an upland soil and groundwater investigation near the location of a former maintenance building in the southwestern portion of T-25S to characterize contamination observed in soil and groundwater in the vicinity of a Phase 1 ESA boring from 1989. Three soil borings were drilled, and groundwater monitoring wells were installed to assess potential TPH impacts in nearshore soil and groundwater. The groundwater monitoring wells were decommissioned and are no longer present at T-25S.

Anchor QEA and Aspect, 2012; samples of nearshore groundwater and intertidal bank sediments were collected and analyzed for metals, SVOCs, polycyclic aromatic hydrocarbons (PAHs) and polychlorinated biphenyls (PCBs). Four shallow groundwater wells were installed at approximately 13 to 14.5 feet bgs along the nearshore portion of T-25S to assess the quality of groundwater discharging from T-25S to the EW OU.

Anchor QEA, 2019–2020, conducted in-water sediment and upland soil investigations to support planning and design of T-25S habitat restoration project and implementation of the EW OU interim remedial action. Eleven borings were collected in upland locations to characterize the lateral and vertical extent of PCB contamination encountered during the 2019 upland sampling event and for additional waste characterization of the restoration project excavation material.

Sediment cores were collected from nine nearshore locations in and around the piling field to support planning for habitat restoration. The cores were collected to characterize the planned dredge prism, the post-dredge (Z-layer) surface, and the nature and extent of contamination using a floating vibracore unit that could access coring locations without significant piling removal activities. Due to substantial debris encountered, several locations were offset from the target locations; two were collected outside of the project area and one had refusal after recovery of 2 feet of material. Because the in-water sediment portion of T-25S is part of the EW OU, it was presumed that the top 4 to 5 feet of the dredge prism was contaminated and would be sent to an upland landfill once removed. Sediment intervals were analyzed based on coordination with EPA to map the vertical extent of contamination.

Anchor QEA, 2020, T-25S Phase 2 Quality Assurance Project Plan; nineteen subsurface sediment cores were collected throughout the subtidal areas of the planned habitat restoration footprint to support

delineation of the vertical extent of contamination and dredge design evaluations for the future habitat project restoration. Twenty locations were planned but one was abandoned due to the presence of shallow rock or other hard material encountered. All samples were analyzed for total solids, total organic carbon, metals, SVOCs, PAHs, total PCB Aroclors and dioxins/furans (D/F) and select samples were analyzed for tributyltin (TBT) and pesticides.

Anchor 2023-2024, EE/CA upland soil and groundwater investigations; soil borings were collected at 42 locations. Samples were analyzed for a subset of metals, PAHs, SVOCs, PCBs, VOCs, D/F, pesticides, TBT, and TPH. Six groundwater wells were installed along the perimeter of T-25S to understand groundwater quality entering the project area. Groundwater wells were sampled twice, once during wet conditions and once during dry conditions.

### **2.1.2 Physical location**

T-25 is located at 2917 East Marginal Way South, Seattle, Washington, and consists of a single parcel that is owned and managed by the Port. The parcel (Assessor's Parcel Number 7666207905) is approximately 37 acres in size. T-25S includes approximately 5 acres of upland area generally located at the southwestern portion of the parcel and 5 acres of submerged and intertidal areas within the EW OU. The upland portion of T-25S includes the area that is anticipated to become marsh habitat, which is below the future planned mean higher high water (MHHW) elevation (approximately +12 feet mean lower low water [MLLW]). T-25S is bounded to the east by the NW Seaport Alliance Lease Area, to the south by Spokane Street, to the west by the EW OU, and to the north by a currently vacant terminal facility (Figure 2). The upland portion of T-25S and surrounding properties are zoned Industrial General 1.

T-25S is partially located within the EW OU and within the source control area for the EW OU. The eastern and western boundaries of the EW OU are delineated by the existing MHHW elevation (Anchor QEA and Windward Environmental LLC 2019). The EW OU is within the Usual and Accustomed fishing and hunting areas for the Muckleshoot Indian Tribe, Suquamish Tribe, and Yakama Nation. The EW OU is subject to large tidal swings, up to 12 feet per day, and is subject to king tides in the winter months.

The Puget Sound and East Waterway are home to various species that are protected, including Steelhead (*Oncorhynchus mykiss*), Chinook salmon (*Onchorhynchus tshawytscha*), Bull trout (*Salvelinus confluentus*), Bocaccio rockfish (*Sebastes paucispinis*), Yelloweye rockfish (*Sebastes ruberrimus*), and Killer whale (*Orcinus orca*). Essential fish habitat at the Site is regulated under the Magnuson-Stevens Fishery Conservation Management Act and Fisheries Management Plans published by the Pacific Fishery Management Council for Pacific Coast Salmon, Pacific Groundfish, and Coastal Pelagic species. There are three Pacific Coast Salmon, 24 Pacific Groundfish, and four Coastal Pelagic species that are known or have the potential to occur in the East Waterway, and the southeastern portion of Elliott Bay.

### **2.1.3 Site characteristics**

T-25S is paved or covered with compacted gravel. It is graded to drain stormwater to a collection system consisting of catch basins, collected stormwater is discharged to the EW OU through outfall locations on the west end of T-25S. A piling field (former Pier 24) is present within the sediment area adjacent to most of the western and all of the north shoreline areas. The deck was removed from this structure in 2006 by the Port, and the area is currently not in use. No vessel moorage activities occur within T-25S.

The Port currently leases the upland portions of T-25S to various tenants who use the area for equipment and material laydown, light industrial activity, and truck parking. The southeastern portion of T-25S includes the City's right of way and is paved with asphalt and used as an active construction laydown area and parking area for trucks. The western portion of T-25S contains paved and unpaved portions and abuts the eastern shoreline of the EW OU. The southwestern portion of T-25S is used as a log and woody debris storage area. The northern portions of the T-25S upland area are currently unused.

#### **2.1.4 Release or threatened release into the environment of a hazardous substance, or pollutant or contaminant.**

Based on the findings of a Phase I ESA Report (Pinnacle Geosciences 2003), floor drains in the former compressor building and maintenance shop area may have drained spills of hydraulic oil or transformer oil directly into a void space beneath the building floors, which were pile-supported. It is unknown whether the former void space communicated directly with the river; however, the buildings would flood during high tide. This historical T-25S condition may explain the source of PCBs and non-aqueous phase liquid (NAPL) identified in subsurface soils within the footprint of the former compressor building and maintenance shop. In the 1960s, the transformer pad located on the east side of the former compressor building was remodeled, and three 5,400-pound transformers were added to this area. Transformer spills in this area may have been a historical source of PCB contamination.

The CERCLA investigation process has documented the release of hazardous substances to the sediment and upland soil at T-25S. Multiple investigations have shown that contaminants in sediments are present at concentrations that pose unacceptable risks to human health and the environment, and are present in soil that would pose unacceptable risk to human health and the environment following the conversion of the upland area to intertidal aquatic habitat. These contaminants are present from past industrial and commercial activities at T-25S and throughout the EW OU, and include PAHs, PCBs, and chlorinated dibenzo-dioxins and -furans. These contaminants are hazardous substances as defined by Section 101(14) of CERCLA, 42 U.S.C. § 9601(14).

PCBs as Aroclors were analyzed in 181 samples from 56 locations across T-25S. Concentrations greater than the EW OU RAL are limited to the southern half of T-25S, with a maximum concentration of 2,500,000 µg/kg. The maximum PCB concentration identified was between 9 and 10 feet bgs, concentrations decreased significantly to 11 feet bgs.

PAHs were analyzed in 80 samples from 40 locations across T-25S. Concentrations greater than the EW OU RALs were identified for each of the four PAHs with EW OU RALs at locations spread across T-25S and are bounded at all locations and are primarily located in the western portion of the site. Concentrations of PAHs greater than the EW OU RALs are found from the ground surface to 10 feet bgs.

Dioxins/furans were analyzed in 40 samples from 25 locations across T-25S, concentrations greater than the EW OU RAL (calculated as a TEQ) were detected in six samples, with a maximum concentration of 40 times the EW OU RAL. All locations with concentrations greater than the EW OU RALs are located in the southern portion of T-25S.

Sample locations are shown on Figures 4 and 5. The locations where concentrations are greater than the EW OU RALs in soil and sediment are presented on Figures 6 and 7, respectively.

### **2.1.5 NPL status**

The current in-water portion of T-25S is part of the EW OU of the Site that was listed on the NPL on September 9, 1983.

## **2.2 Other actions to date**

### **2.2.1 Previous actions**

There have been no previous CERCLA removal actions or remedial actions at T-25S. However, a leaking underground storage tank (LUST) was removed in 1989, and Ecology issued a No Further Action determination following the LUST removal and confirmatory sampling (Ecology 2012).

### **2.2.2 Current Actions**

The Port has conducted characterization of the nature and extent of contamination at T-25S under the oversight of EPA. The EWG, which includes the Port, has entered into a settlement with EPA pursuant to which the EWG is designing the EW OU interim remedial action. The NTCRA will result in the T-25S portion of the EW OU being remediated in advance of other areas of the EW OU.

## **2.3 State and local authorities' role**

### **2.3.1 State and local actions to date**

EPA is the lead agency under the NCP for the EW OU. EPA coordinated with Ecology during development of the EW OU IROD, which includes the in-water portion of T-25S. Ecology has participated in reviewing and commenting on documents, briefings, and public meetings associated with the EW OU, including T-25S. Ecology concurred on the interim remedial action selected by EPA in the IROD for the EW OU.

### **2.3.2 Potential for continued state/local response**

This NTCRA for T-25S is expected to be conducted by the Port under EPA oversight and in accordance with CERCLA and this Action Memorandum. Coordination efforts with Ecology and local authorities will occur throughout the NTCRA.

### **2.3.3 Availability of other appropriate federal or state response mechanisms to respond to the release**

T-25S is in part located within the EW OU and the NTCRA will be consistent with the interim remedy selected in the EW OU IROD. The state's involvement in T-25S has been limited due to resource constraints, and it has expressed a preference to defer to EPA in this instance.

## **3 THREATS TO PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT, AND STATUTORY AND REGULATORY AUTHORITIES**

A removal action is warranted under the NCP, 40 C.F.R. § 300.415(b)(1), due to the threat to public health or welfare or the environment from the release of hazardous substances at T-25S. This threat is based on consideration of NCP factors at 40 C.F.R. §§ 300.415(b)(2)(i) and (ii), including the actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances, and the actual or potential contamination of sensitive ecosystems. Concentrations of PAHs, PCBs, and dioxins/furans are present in sediment at T-25S and in upland soil of T-25S that is anticipated to become intertidal marsh habitat.

### **3.1.1 Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants (40 C.F.R. § 300.415(b)(2)(i)).**

The primary exposure pathways for human health and ecological risks are direct contact with contaminated sediment and consumption of contaminated fish and/or shellfish by people and ecological receptors. PAHs PCBs, and dioxins/furans are human carcinogens which accumulate and magnify in the aquatic food chain.

### **3.1.2 Actual or potential contamination of drinking water supplies or sensitive ecosystems (40 C.F.R. § 300.415(b)(2)(ii)).**

The EW OU connects Puget Sound to the Green River/Duwamish River watershed and serves as an important migratory pathway for both juvenile and adult salmon. Aquatic and semi-aquatic wildlife that use the EW OU include river otters, harbor seals, and a variety of marine birds and ducks. Sixteen aquatic and aquatic-dependent species reported in the vicinity of Elliott Bay area are listed under either the Endangered Species Act or by the Washington Department of Fish and Wildlife as candidate species, threatened species, endangered species, or species of concern. Of these species, Chinook salmon, Coho salmon, steelhead salmon, and western grebe are commonly observed in or around the EW OU.

There are no known impacts to drinking water as the groundwater at T-25S is not considered by EPA to be potable.

### **3.1.3 Other situations or factors that may pose threats to public health or welfare of the United States or the environment.**

A treated-wood piling field from the historical Pier 24 currently remains in the subtidal area on the northern half of T-25S and is likely an ongoing source of releases of PAHs to the aquatic environment.

## **4 ENDANGERMENT DETERMINATION**

Actual or threatened releases of hazardous substances from T-25S, if not addressed by implementation of the NTCRA, consistent with the IROD, may present an imminent and substantial endangerment to public health, welfare, or the environment due to risks to human health and the environment from human consumption of contaminated seafood and benthic exposure to contaminated sediment.

The baseline human health risk assessment (BHHA) (Windward, 2012a) evaluated cancer and non-cancer health hazards associated with exposure to EW OU-related contamination that may occur during recreational, occupational, or cultural activities. Populations were identified that could potentially be exposed to EW OU-related contamination through a variety of activities consistent with both current and future use of the EW OU. These activities included consumption of fish and shellfish by adults and children based on Tribal members exercising their U&A fishing rights and following traditional practices. Consumption of fish and shellfish by adults and children as represented by an Asian & Pacific Islander scenario engaged in cultural seafood consumption traditions was also evaluated. The estimated cancer risks associated with consumption of fish and shellfish are  $1 \times 10^3$ , PCBs and dioxins/furans are the primary contributors to these estimates. Because PCB concentrations in the current upland portion of T-25S are anticipated to become inundated during the planned habitat restoration project are substantially greater than found in the EW OU sediments, the estimated risks associated with consumption of fish and shellfish would also be greater.

The Baseline Ecological Risk Assessment (BERA, Windward, 2012b) evaluated the potential for adverse

effects to benthic invertebrates, shellfish (crabs), fish, and birds and mammals from exposure to contaminants at the EW OU. Risk to different exposed ecological receptors was quantified as hazard quotients (HQs), representing the ratio of contaminant concentration to a given toxicological benchmark. Measured PCB concentrations in tissue are predicted to adversely affect English Sole and Rockfish.

## **5 PROPOSED ACTIONS AND ESTIMATED COSTS**

### **5.1 Proposed action**

#### **5.1.1 Proposed action description**

NTCRA areas to be addressed were delineated using Thiessen data interpolation to identify the lateral and vertical extents of areas with contaminant concentrations greater than the EW OU RALs (Figures 8 and 9). The Thiessen polygons were further grouped into dredge units (DUs for the current in-water portion of T-25S) or excavation units (EUs for the current upland portion of T-25S) based on similar removal depths and/or similar type of contamination. The NTCRA consists of the full excavation of upland soils exceeding EW OU RALs in the area with the highest EW OU RALs exceedances and presence of NAPL, and full excavation of soils exceeding EW OU RALs in other focused upland areas of T-25S. The Port anticipates exceeding the requirements of the NTCRA by excavating soils without EW OU RAL exceedances down to habitat restoration subgrade elevations followed by clean backfill placement to achieve the planned final habitat design elevations.

Upland removal is comprised of 9 EUs with excavation depths ranging from 2 to 16 feet bgs. The assumptions for each EU are described below:

EU-1: Soils with contaminant concentrations exceeding EW OU RALs will be removed down to 16 feet bgs. PCB concentrations in samples below 11 ft decrease substantially, and no PCB RAL exceedances were identified within the sample intervals from native soil, which was encountered at 16 feet bgs. Following soil removal, the Port plans to exceed NTCRA requirements by the placement of clean backfill to the Port's separate final habitat design elevations.

EU-2 through EU-4 include full excavation of soil with concentrations exceeding EW OU RALs. Removal thickness assigned to each EU was defined as the deepest interval that exceeded EW OU RALs. If the vertical extent of an EW OU RAL exceedance was not reached, the required excavation depth was increased by an additional 1 foot below the bottom of the deepest sampled extent of contamination to address the vertical bounding uncertainty (Table 5-2). Following soil removal, the Port plans exceed NTCRA requirements by the placement of clean backfill to the final habitat design elevations in these EUs.

EU-5 through EU-8 include full excavation of soils exceeding EW OU RALs down to habitat subgrade elevations. All soils with EW OU RAL exceedances within these EUs are within the removed depths needed to reach habitat subgrade elevations and to accommodate for 2 feet of clean backfill needed for the future marsh construction throughout the upland of T-25S. Following soil removal, the Port plans to exceed NTCRA requirements by the placement of clean backfill to the planned final habitat design elevations.

EU-9: includes non-NTCRA work by the Port to excavate soil without EW RAL exceedances down to the proposed habitat subgrade elevations, followed the placement of 2 feet of clean backfill to the final habitat design elevations.

A summary of the T-25S data is presented in Table 2, Tables 3 through 9 present a screening of the upland data against the EW OU RALs, contaminants for which concentrations are greater than the RALs are summarized in Tables 10 through 13, a plan view of the upland excavation areas is presented on Figure 10.

In-water actions are consistent with the interim remedy selected in the EW OU IROD, which includes removal of debris and pilings and dredging of contaminated sediments, followed by residual management cover (RMC) and placement of sloped backfill and armor (Figures 11 and 12). The in-water portion of T-25S is composed of 18 DUs with dredging depths ranging from 3 to 11 feet below mudline to address the full extent of sediment contamination.

The rationale for selecting the depth of excavation in the upland area and in-water locations is presented in Tables 14 and 15, respectively.

A treated-wood piling field from the former Pier 24 remains in the subtidal area on the northern half of the in-water portion of T-25S. Bathymetric contours within the piling field are above -20 feet MLLW. All pilings and other debris will be removed to the maximum extent practicable, followed by dredging to depths established for each DU to remove EW OU RAL exceedances. Removal will be followed by placement of a sloped backfill (at a 3H:1V slope), with an armor rock layer placed above at a 2H:1V slope (assumed thickness of 3 feet) from the post-dredge surface (ranging from approximately -48 to -5 feet MLLW) up to 0 feet MLLW. Clean backfill will be placed above 0 feet MLLW to the Port's anticipated final habitat design elevations (berm backfill). Areas lower than -40 feet MLLW are assumed to be covered with a 1.5-foot-thick RMC layer. The NTCRA is the most protective action for the upland area which best addresses the anticipated future use of this area.

EPA will consult with the United States Fish and Wildlife Service (USFWS) and United States Marine Fisheries Service (USMFS) regarding Endangered Species Act compliance. In-water work windows and physical best management practices (BMPs) that may be recommended through a Biological Assessment/Biological Opinion process, if necessary, will be incorporated into the project as appropriate to protect water quality and potential species of concern. Stormwater BMPs will also be determined in the NTCRA design phase to prevent water quality impact. An EPA approved Quality Assurance Project Plan (QAPP) and construction quality control plan is expected to be developed by the Port for EPA approval, and conformation sampling will be conducted to ensure that the NTCRA objectives are achieved. If determined in design that further samples are required for delineation, these will also be collected under an EPA-approved QAPP.

EPA will require post removal site controls for the uplands should any contamination remain above levels that would allow for unlimited use/unlimited exposure (UU/UE). In water post removal site controls will be required until the completion of the EW OU IROD interim remedial action, at which point it is expected that T-25S monitoring will be incorporated into the monitoring for the interim remedial action implemented for the EW OU under the IROD. All institutional controls (ICs) determined to be needed by EPA for T-25S are expected to be implemented by the Port.

Under the NTCRA, approximately 61,000 cubic yards (cy) of soil/sediment will be disposed of offsite at a Resource Conservation and Recovery Act (RCRA) Subtitle D landfill, and 19,500 cys of soil/sediment will be disposed of as hazardous waste at a RCRA Subtitle C landfill. All hazardous substances, pollutants or contaminants will be disposed of in compliance with the offsite rule established under Section 121(d)(3) of CERCLA, 42 U.S.C. 9621(d)(3), and in accordance with State regulations. Any soils/sediment with PCB concentrations will be disposed of at a facility that is in compliance with Toxic

Substance Control Act requirements as well as RCRA requirements. Sediments will be dewatered as detailed in the NTCRA design, in accordance with Sections 401 and 404(d) of the Clean Water Act (CWA), 33 U.S.C. 1341 and 1344(d).

### **5.1.2 Contribution to remedial performance**

The NTCRA is consistent with the interim remedy selected in the EW OU IROD for the existing portion of T-25S that is within the EW OU, as well as for the upland area that is expected to become subtidal and intertidal habitat. The NTCRA provides for the cleanup of hazardous substances that have been released to the upland area of T-25S in a manner consistent with the EW OU IROD. Because the NTCRA removes all contamination where concentrations are greater than the EW OU RALs selected in the IROD, with the exception of institutional controls, no further actions under the EW OU IROD are anticipated to be needed for T-25S.

### **5.1.3 Engineering Evaluation/Cost Analysis**

An EE/CA was prepared by Anchor QEA for the Port (Anchor QEA, 2025) under the oversight and direction of EPA. The EE/CA identified technologies for T-25S that address sediment and soil contamination, that are readily available, and that can be implemented within the anticipated NTCRA timeframe. The in-water technologies that are applicable to the in-water portion of T-25S are mechanical dredging, RMC, backfill, disposal, and institutional controls; these technologies were selected for the EW OU as part of the EW IROD. Applicable upland technologies are excavation, engineered capping with amendments, backfill, containment barrier, ex situ treatment, disposal, and institutional controls.

Three alternatives were developed for T-25S, although only one in-water alternative was considered in order to be consistent with the interim remedy selected in EW OU IROD. Alternatives for the upland portion of T-25S considered a range of lateral and vertical extents of contaminated soil removal, backfill, and capping. Though not required by EPA as part of the NTCRA, all alternatives include some excavation of soils without EW OU RAL exceedances down to the Port's anticipated final habitat design subgrade elevations, followed by placement of clean 2-foot backfill in certain areas.

Alternative 1 included partial excavation of 11.5 feet of upland contaminated soil in the area with the highest EW OU RAL exceedances (primarily the highest PCB RAL exceedances) and presence of NAPL, followed by placement of an amended cap (composed of a 0.5-foot-thick organoclay-amended sand for NAPL sorption and a 1-foot-thick granular activated carbon [GAC]-amended sand for chemical isolation), and an average of 5 feet of clean backfill atop the cap to accommodate the Port's anticipated final habitat design elevations. Alternative 1 also includes partial excavation of contaminated soils in other focused upland areas to address EW OU RAL exceedances, followed by 2 feet of clean backfill placement to accommodate the Port's final habitat design elevations. Alternative 1 also includes excavation of soils without EW RAL exceedances down to habitat subgrade elevations followed by placement of 2 feet of clean backfill to required final habitat design elevations. Consistent with the EW OU IROD, the in-water portion includes removal of debris and pilings to the maximum extent practicable, dredging of contaminated sediments, followed by RMC and placement of sloped backfill and armor. The total estimated cost for Alternative 1 is \$88.5 million

Alternative 2 included partial excavation of 13.5 feet of upland contaminated soil in the area with the highest EW OU RAL exceedances (primarily the highest PCB RAL exceedances) and presence of NAPL, followed by placement of an amended cap (composed of a 0.5-foot-thick organoclay-amended sand for NAPL sorption, and a 1-foot-thick GAC-amended sand for chemical isolation), and an average of 7 feet

of clean backfill atop the cap to accommodate the Port's final habitat design elevations. Partial excavation of contaminated soils in other focused upland areas would address EW OU RAL exceedances down to the Port's anticipated habitat subgrade elevations, followed by placement of a 1-foot-thick GAC-amended cap and 2 feet of clean backfill. Alternative 2 also includes excavation of soil without EW RAL exceedances down to habitat subgrade elevations followed by placement of 2 feet of clean backfill to the required final habitat design elevations. The total estimated cost for this alternative is \$91.9 million.

Alternative 3 involves the full excavation of upland soils exceeding EW OU RALs in the area with the highest EW OU RAL exceedances and the presence of NAPL (EU-1), and full excavation of soils exceeding EW OU RALs in other focused upland areas (EU-2 through EU-8). Although not required as part of this NTCRA, EPA is aware that the Port's plans for the habitat restoration project will also result in the excavation of soil within EU-9 that does not contain contamination at concentrations greater than the EW OU RALs in order to achieve the final habitat design elevations after placement of 2 feet of clean backfill. The total estimated cost for Alternative 3 is \$99.1 million.

EPA issued the EE/CA identifying Alternative 3 as the preferred action for a 30-day public comment period on January 26, 2026, which was extended through March 12, 2026. A total of seven individual comments were received, all expressed support for Alternative 3. A few comments requested clarity or minor revisions to the habitat restoration portion of the overall project. While the EE/CA stated that habitat restoration was outside of the scope of the CERCLA response action. EPA has forwarded the habitat restoration comments to the Port for its consideration.

#### **5.1.4 Applicable or Relevant and Appropriate Requirements (ARARs)**

The NCP at 40 C.F.R. § 300.415 requires removal actions to comply with (or formally waive) ARARs to the extent practicable considering the exigencies of the situation. In determining whether compliance with ARARs is practicable, EPA may consider the scope of the removal action and the urgency of the situation. ARARs for the T-25S NTCRA, which are consistent with the ARARs identified for the EW OU cleanup and include standards, requirements, criteria, or limitations promulgated by both the federal government and the State of Washington. Some ARARs prescribe minimum requirements or standards. Other ARARs place requirements or limitations on actions that may be undertaken as part of a removal action. ARARs for T-25S are presented in Attachment A.

#### **5.1.5 Project schedule**

Implementation of this project by the Port under EPA oversight and direction is expected following issuance of the Action Memorandum. The current project schedule is as follows:

30 percent design: January 2027 to March 2027

60 percent design: July 2027 to September 2027

90 percent design: February 2028 to March 2028

100 percent design: March 2028 to July 2028, with construction anticipated to begin in Fall 2028.

### **5.2 Estimated cost**

The total estimated cost for the NTCRA is approximately \$99 million (Table 16), representing \$46.1 million to implement the in-water portion of the NTCRA and \$52.9 million to implement the NTCRA in the upland portion of T-25S. The NTCRA is expected to be funded and implemented by the Port under EPA oversight and direction. The cost estimate in the EE/CA was developed by the Port.

## **6 EXPECTED CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN**

Should the NTCRA be delayed or not taken, hazardous substances, or pollutants or contaminants will remain as a soil and sediment with ongoing public health and environmental risks.

## **7 OUTSTANDING POLICY ISSUES**

EPA has relied on the EW OU IROD and EE/CA process to satisfy the requirement of 40 C.F.R. 300.415(b)(4)(i) for the NTCRA, and no outstanding policy issues are associated with the NTCRA.

## **8 ENFORCEMENT**

EPA anticipates entering into an Administrative Settlement Agreement and Order on Consent that requires the Port to implement the NCTRA under EPA oversight and direction.

## **9 RECOMMENDATION**

This decision document presents the selected removal action for T-25S within the EW OU of the Harbor Island Superfund Site in Seattle, WA, and was developed in accordance with CERCLA and is consistent with the NCP. This decision is based on the Administrative Record for the Site.

Conditions at T-25S meet the NCP criteria in 40 C.F.R. 300.415(b) for a removal and I recommend your approval of the NTCRA. The total project cost, if approved, will be \$99 million, and is expected to be funded by the Port.

## 10 APPROVAL/DISAPPROVAL

APPROVAL:

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Daniel D. Opalski, Director  
Superfund Emergency Management Division

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Date

DISAPPROVAL:

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Daniel D. Opalski, Director  
Superfund Emergency Management Division

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Date



## References

- Anchor QEA and Aspect (Anchor QEA and Aspect Consulting, LLC), 2012. Field Investigation Report, Terminal 25S Site Investigation. Prepared for Port of Seattle. December 2012.
- Anchor QEA and Windward (Anchor QEA and Windward Environmental LLC), 2019. Final Feasibility Study. East Waterway Operable Unit Supplemental Remedial Investigation/Feasibility Study. Prepared for the U.S. Environmental Protection Agency, Region 10, Seattle Washington. June 2019.
- Anchor QEA, 2020. Terminal 25 Phase 2 Quality Assurance Project Plan Addendum. Prepared for the Port of Seattle. July 2020.
- Anchor QEA, 2021a. Data Report: Soil and Subsurface Sediment Characterization. Prepared for U.S. Environmental Protection Agency. Prepared by Anchor QEA on behalf of Port of Seattle. June 2021.
- Anchor QEA, 2025. Draft Engineering Evaluation and Cost Analysis, Terminal 25 South Site. Prepared by Anchor QEA on behalf of Port of Seattle. December 2025.
- BEI (Blymyer Engineers, Inc.), 1989. Environmental Site Assessment of 3225 East Marginal Way (Terminal 25), Seattle, Washington. Prepared for Matson Terminals, Inc., San Francisco, California. January 1989.
- Ecology (Washington State Department of Ecology), 2012. Regarding: No Further Action Determination associated with Leaking Underground Storage Tank Site: Terminal 25 LUST ID: 1591. February 2012.
- EPA (U.S. Environmental Protection Agency), 2022. Administrative Settlement Agreement and Order on Consent for Removal Action Engineering Evaluation and Cost Analysis. Harbor Island Superfund Site. King County, Washington. April 2023.
- EPA, 2024. Interim Record of Decision. Harbour Island Superfund Site, East Waterway Operable Unit, Seattle, Washington. May 2024.
- Landau and EcoChem (Landau Associates, Inc., and EcoChem, Inc.), 1990. Soil and Ground Water Investigation, Maintenance Building – Terminal 25. Prepared for Port of Seattle, Seattle, Washington. October 1990.
- Pinnacle Geosciences (Pinnacle Geosciences, Inc.), 2003. Phase I Environmental Site Assessment. Terminal 25, South Section. Prepared for Port of Seattle. Seattle, Washington. September 2003.
- Pinnacle Geosciences (Pinnacle Geosciences, Inc.), 2003. Phase I Environmental Site Assessment. Terminal 25, South Section. Prepared for Port of Seattle. Seattle, Washington. September 2003.
- Sweet-Edwards/EMCON, Inc., 1990. Underground Storage Tank Removal and Subsurface Investigation Report. Prepared for Port of Seattle, Seattle, Washington. January 1990.
- Windward and Anchor QEA, 2019. East Waterway Operable Unit Supplemental Remedial Investigation/Feasibility Study. Final Feasibility Study. June 2019.
- Weston, R.F., 1993. Remedial Investigation and Feasibility Study, Harbor Island. Prepared for the U.S. Environmental Protection Agency, Region X, Seattle, Washington, February 1993.
- Windward (Windward Environmental LLC), 2012a. Baseline Human Health Risk Assessment. Appendix B, East Waterway Operable Unit Supplemental Remedial Investigation/Feasibility Study. Final. September 2012.

Windward, 2012b. Baseline Ecological Risk Assessment. Appendix A, East Waterway Operable Unit Supplemental Remedial Investigation/Feasibility Study. Final. August 2012.

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Attachment A – Applicable or Relevant and Appropriate Requirements for the T-25S Site



# **Responsiveness Summary**



## **1 Introduction**

This Responsiveness Summary provides a summary of the significant comments submitted by the public on the on the Engineering Evaluation/Cost Analysis for the Terminal 25 South Site, and EPA's responses to those comments. This Responsiveness Summary is required by the Comprehensive Environmental Response, Compensation, and Livability Act (CERCLA) and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) at 40 C.F.R. § 300.415(n)(4)(iv). All comments summarized in this document have been considered in EPA's selection of the interim remedy to address the contamination in the EW OU.

EPA worked closely with federally recognized Tribes, community members, and other stakeholders throughout the development of the Remedial Investigation (RI), Feasibility Study (FS), and Proposed Plan for the EW OU. Community participation played an essential role in the development of the Proposed Plan and interim Record of Decision (IROD) for the EW OU. As the alternatives in the EE/CA all implement the remedy selected in the IROD, the primary focus of the public comment period was on the proposed alternatives for the upland portion of the T-25S Site.

EPA published a notice of availability of the Proposed Plan and Administrative Record in the Seattle Times on April 20, 2023, at which time the Proposed Plan was posted on a publicly accessible link on EPA's website. Public notices of the availability of the Proposed Plan and Administrative Record were also placed in El Siete Dias (translated into Spanish), the Georgetown Gazette, the South Seattle Emerald, the West Seattle Blog, and the Vietnamese Today Weekly News (translated into Vietnamese). A radio ad in Spanish was run on both Amigos de Seattle and El Rey 1360.

An initial thirty-day public comment period was provided from January 26 through February 25, 2026, during which public comments were accepted on the alternatives presented in the EE/CA, including EPA's preferred alternative. Upon request, EPA granted a 15-day extension of the comment period through March 12, 2026. All written comments received during the comment period have been included in the Administrative Record.

### **1.1 Activities Before Issuing the EE/CA**

#### **1.1.1 Tribal Consultation**

The East Waterway is within the usual and accustomed fishing areas for the Muckleshoot Indian Tribe, the Suquamish Tribe, and the Yakama Nation. Prior to the release of the EE/CA, EPA offered formal government to government consultation to all three Tribes from September 12, 2022 – October 11, 2025. Letters were sent to each Tribe. No request for formal government to government consultation was made from any of the three tribes; however, technical staff from the Muckleshoot Indian Tribe and the Suquamish Tribe requested a briefing on the alternatives proposed and opportunities to ask questions. The meeting took place on October 8, 2025.

#### **1.1.2 Community Involvement**

Prior to the release of the East Waterway Proposed Plan, EPA initiated an update to the Harbor Island Community Involvement Plan (CIP). The CIP provides an overview of the outreach tools and techniques that EPA will use throughout the cleanup of the Site, including the EW OU, and also serves as a guide for meaningfully involving community members in the cleanup. In 2022, EPA conducted over 90 interviews

with community members to guide an update of the CIP and issued a draft updated CIP for public feedback in January 2023. The updated CIP is planned to be released in late Spring or Summer 2024.

### **1.1.3 Activities after issuing the EE/CA**

Notices of the availability of the Proposed Plan were published in the Seattle Times (print edition), El Siete Dias (online and print edition, translated into Spanish), the Georgetown Gazette (online and print edition), the South Seattle Emerald (online), the West Seattle Blog (online), and the Vietnamese Today Weekly News (online and print edition, translated into Vietnamese).

## **2 Public Comments and Responses**

This section provides summaries of significant comments received during the public comment period and EPA's responses. A total of seven individual comment submissions were received by email. Names of individuals who submitted comments were recorded and tracked but are not available to the public due to EPA's Privacy Policy and commitment to protect personally identifiable information. In addition to individuals, comments were also received from the Duwamish River Community Coalition (DRCC), the National Oceanic and Atmospheric Administration on behalf of the Elliott Bay Trustee Council, and the Suquamish Indian Tribe.

### **2.1 Support for the Preferred Alternative**

The majority of comments received explicitly expressed support for Alternative 3 because it removes all contamination at concentrations greater than the EW RALs. Other comments more generally supported the idea of cleaning up contamination at the T-25 Site. No comments were received recommending EPA select a different alternative.

### **2.2 Concerns Related to the Habitat Restoration Project**

Both the Suquamish Indian Tribe and DRCC provided comments on issues related to the habitat restoration project. The habitat restoration portion of the overall T-25S project will occur following the removal action described in this Action Memorandum, and is outside the authority of the CERCLA action for this site. For this reason, EPA is not providing responses to comments regarding the restoration phase of the project. Comments regarding the habitat restoration have been provided to the Port for its consideration.

### **2.3 Concerns Related to Public Access**

DRCC noted that it disagreed with the EE/CA recommendation that recreational access be excluded from the cleanup plan. The EE/CA does not make any recommendations regarding recreational access, as it is the habitat restoration activities, and EPA does not have a role in overseeing the restoration work except to the extent of ensuring it does not interfere with the cleanup. These concerns have been provided to the Port for its consideration.

### **2.4 Concerns Related to Recontamination Potential**

DRCC and the Suquamish Tribe expressed concerns related to potential recontamination of the sediment and surface water in the proposed habitat area from the EW itself or groundwater beneath the site. Consistent with the EW IROD, the cleanup requirement for the CERCLA action is to remediate

contamination where concentrations are greater than the RALs. While EPA has no role in the design of the habitat, we are aware that the proposed design will incorporate measures to limit transport of sediment from the EW into the habitat area.



## Tables



**Table 1: East Waterway Remedial Action Levels**

| Analyte                           | Units    | EW RAL <sup>1,2</sup> |
|-----------------------------------|----------|-----------------------|
| Arsenic                           | mg/kg    | 57                    |
| Mercury                           | mg/kg    | 0.41                  |
| Tributyltin (ion)                 | mg/kg-OC | 7.5                   |
| Acenaphthene                      | mg/kg-OC | 16                    |
| Fluoranthene                      | mg/kg-OC | 160                   |
| Fluorene                          | mg/kg-OC | 23                    |
| Phenanthrene                      | mg/kg-OC | 100                   |
| Acenaphthene                      | µg/kg    | 500                   |
| Fluoranthene                      | µg/kg    | 1700                  |
| Fluorene                          | µg/kg    | 540                   |
| Phenanthrene                      | µg/kg    | 1500                  |
| PCBs                              | mg/kg-OC | 12                    |
| PCBs                              | µg/kg    | 130                   |
| 1,4-Dichlorobenzene               | mg/kg-OC | 3.1                   |
| Butylbenzyl phthalate             | mg/kg-OC | 4.9                   |
| 1,4-Dichlorobenzene               | µg/kg    | 110                   |
| Butylbenzyl phthalate             | µg/kg    | 63                    |
| Total dioxins/furans (as TCDD-eq) | ng/kg    | 25                    |

**Notes:**

1. RALs are from EW OU Final Feasibility Study (Anchor QEA and Windward 2019).

2. Consistent with the EW FS, the LAET is used as the dry weight equivalent to SQS for compounds with OC-normalized criteria for samples outside of the appropriate TOC range. The TOC range for OC-normalization used for the T-25S Site is 0.5 to 3.5%.

--: not applicable

µg/kg: micrograms per kilogram

EW: East Waterway

FS: Feasibility Study

mg/kg: milligrams per kilogram

mg/kg-OC: milligrams per kilogram-organic carbon

ng/kg: nanograms per kilogram

OC: organic carbon

OU: Operable Unit

PCB: polychlorinated biphenyl

RAL: remedial action level

LAET: lowest apparent effects threshold    TEQ: toxic equivalents quotient

TOC: total organic carbon

U: compound analyzed, but not detected above detection limit

**Reference:**

Anchor QEA and Windward (Anchor QEA and Windward Environmental LLC), 2019. Final Feasibility Study. East Waterway Operable Unit Supplemental Remedial Investigation/Feasibility Study. Prepared for the U.S. Environmental Protection Agency, Region 10, Seattle Washington. June 2019.



Table 2: Soil Summary Statistics and RAL Exceedances

| Analyte                                                  | Number of Locations <sup>1</sup> | Number of Samples | Number of Detections | Number of Samples In or Out of TOC Range <sup>2</sup> | Maximum Detected Result | Maximum Exceedance Ratio <sup>3</sup> | Minimum Detected Result | Units    | East Waterway RAL | Number of Detections > East Waterway RAL <sup>2</sup> | Number of Non-Detects > East Waterway RAL <sup>2</sup> |
|----------------------------------------------------------|----------------------------------|-------------------|----------------------|-------------------------------------------------------|-------------------------|---------------------------------------|-------------------------|----------|-------------------|-------------------------------------------------------|--------------------------------------------------------|
| Metals                                                   |                                  |                   |                      |                                                       |                         |                                       |                         |          |                   |                                                       |                                                        |
| Arsenic                                                  | 32                               | 49                | 49                   | --                                                    | 17.7                    | 0.3                                   | 1.3                     | mg/kg    | 57                | 0                                                     | 0                                                      |
| Mercury                                                  | 29                               | 38                | 33                   | --                                                    | 2.5                     | 6                                     | 0.0093                  | mg/kg    | 0.41              | 1                                                     | 0                                                      |
| Organometals                                             |                                  |                   |                      |                                                       |                         |                                       |                         |          |                   |                                                       |                                                        |
| Tributyltin (ion)                                        | 8                                | 10                | 0                    | --                                                    | --                      | --                                    | --                      | mg/kg-OC | 7.5               | 0                                                     | 1                                                      |
| Semivolatile Organics                                    |                                  |                   |                      |                                                       |                         |                                       |                         |          |                   |                                                       |                                                        |
| 1,4-Dichlorobenzene <sup>4</sup>                         | 46                               | 101               | 18                   | In range: 20                                          | 0.65                    | 0.2                                   | 0.09                    | mg/kg-OC | 3.1               | 0                                                     | 0                                                      |
|                                                          |                                  |                   |                      | Out of range: 81                                      | 240                     | 2                                     | 0.7                     | µg/kg    | 110               | 1                                                     | 2                                                      |
| Butylbenzyl phthalate                                    | 40                               | 75                | 12                   | In range: 19                                          | 4.65                    | 1                                     | 0.21                    | mg/kg-OC | 4.9               | 0                                                     | 0                                                      |
|                                                          |                                  |                   |                      | Out of range: 56                                      | 58.5                    | 0.9                                   | 0.9                     | µg/kg    | 63                | 0                                                     | 1                                                      |
| Polycyclic Aromatic Hydrocarbons                         |                                  |                   |                      |                                                       |                         |                                       |                         |          |                   |                                                       |                                                        |
| Acenaphthene                                             | 40                               | 80                | 49                   | In range: 21                                          | 33                      | 2                                     | 0.11                    | mg/kg-OC | 16                | 1                                                     | 0                                                      |
|                                                          |                                  |                   |                      | Out of range: 59                                      | 426                     | 0.9                                   | 6                       | µg/kg    | 500               | 0                                                     | 0                                                      |
| Fluoranthene                                             | 40                               | 80                | 58                   | In range: 21                                          | 173                     | 1                                     | 0.33                    | mg/kg-OC | 160               | 1                                                     | 0                                                      |
|                                                          |                                  |                   |                      | Out of range: 59                                      | 3,280                   | 2                                     | 8.6                     | µg/kg    | 1,700             | 4                                                     | 0                                                      |
| Fluorene                                                 | 40                               | 80                | 42                   | In range: 21                                          | 29                      | 1                                     | 0.091                   | mg/kg-OC | 23                | 1                                                     | 0                                                      |
|                                                          |                                  |                   |                      | Out of range: 59                                      | 480                     | 0.9                                   | 8.7                     | µg/kg    | 540               | 0                                                     | 0                                                      |
| Phenanthrene                                             | 40                               | 80                | 55                   | In range: 21                                          | 135                     | 1                                     | 1.1                     | mg/kg-OC | 100               | 5                                                     | 0                                                      |
|                                                          |                                  |                   |                      | Out of range: 59                                      | 3,810                   | 3                                     | 11.8                    | µg/kg    | 1,500             | 4                                                     | 0                                                      |
| Dioxin Furans                                            |                                  |                   |                      |                                                       |                         |                                       |                         |          |                   |                                                       |                                                        |
| Total Dioxin/Furan TEQ 2005 (Mammal) (U = 1/2 max limit) | 25                               | 40                | 35                   |                                                       | 1,000                   | 40                                    | 0.12                    | ng/kg    | 25                | 6                                                     | 0                                                      |
| PCB Aroclors – All Data                                  |                                  |                   |                      |                                                       |                         |                                       |                         |          |                   |                                                       |                                                        |
| Total PCB Aroclors (U = 0 max limit)                     | 56                               | 181               | 157                  | In range: 42                                          | 28,600                  | 2000                                  | 0.67                    | mg/kg-OC | 12                | 28                                                    | 0                                                      |
|                                                          |                                  |                   |                      | Out of range: 139                                     | 2,500,000               | 20,000                                | 3                       | µg/kg    | 130               | 87                                                    | 0                                                      |
| PCB Aroclors – Excluding Focused Investigation Area      |                                  |                   |                      |                                                       |                         |                                       |                         |          |                   |                                                       |                                                        |
| Total PCB Aroclors (U = 0 max limit)                     | 27                               | 57                | 34                   | In range: 20                                          | 721                     | 60                                    | 0.67                    | mg/kg-OC | 12                | 7                                                     | 0                                                      |
|                                                          |                                  |                   |                      | Out of range: 37                                      | 14,100                  | 100                                   | 3                       | µg/kg    | 130               | 10                                                    | 0                                                      |

Notes:

1. Locations may have multiple sample intervals; therefore, there may be multiple SL exceedances at the same location.

2. Samples with OC between 0.5 to 3.5 percent are screened against the OC-normalized RAL, while samples outside this range are screened against the dry-weight RAL. Non-detects are also screened against the dry-weight RAL. .

3. Maximum exceedance ratios are rounded to show one significant figure.

4. 1,4-dicholorobenzene is reported under two methods, most frequently under the semivolatile organic method (SW8270). Results from the volatile organic method (SW8260) are also presented in this row.

5. U = 1/2: totals are calculated as the sum of all detected results and half of the reporting limit of nondetect results. If all results are not detected, the highest limit value is reported as the sum.

6. U = 0: totals are calculated as the sum of all detected results. If all results are not detected, the highest limit value is reported as the sum.

7. --: not applicable

µg/kg: micrograms per kilogram

µg/kg: micrograms per kilogram

mg/kg: milligrams per kilogram

mg/kg-OC: milligrams per kilogram-organic carbon

ng/kg: nanograms per kilogram

PCB: polychlorinated biphenyl

RAL: remedial action level

TEQ: toxic equivalents quotient

TOC: total organic carbon

### Table 3: Vertical Profile of Soil Borings with EW RAL Screening

[illegible]

**Table 3 (con't): Vertical Profile of Soil Borings with EW RAL Screening**

[illegible]

**Table 3 (con't): Vertical Profile of Soil Borings with EW RAL Screening**

[illegible]

**Table 3 (con't): Vertical Profile of Soil Borings with EW RAL Screening**

[illegible]

Table 3 (con’t): Vertical Profile of Soil Borings with EW RAL Screening

| Location ID                                                                                         | T25-SB49 | T25-SB50 | T25-SB51 | T25-SB52 |
|-----------------------------------------------------------------------------------------------------|----------|----------|----------|----------|
| Location within Focused Investigation Area                                                          | Yes      | Yes      | Yes      | Yes      |
| Expected Habitat Type                                                                               | Marsh    | Marsh    | Marsh    | Marsh    |
| Current Elevation (ft MLLW)                                                                         | 15.8     | 14.5     | 14.8     | 15.0     |
| Habitat Restoration Design Elevation (ft MLLW)                                                      | 10.4     | 10.9     | 9.6      | 10.2     |
| Removal Depth Required to Get to Habitat (ft)                                                       | 5.4      | 3.5      | 5.2      | 4.8      |
| Removal Depth Required to Get to Habitat Subgrade (2 ft below habitat restoration design elevation) | 7.4      | 5.5      | 7.2      | 6.8      |
| 0–1 ft                                                                                              |          |          |          |          |
| 1–2 ft                                                                                              |          |          |          |          |
| 2–3 ft                                                                                              |          |          |          |          |
| 3–4 ft                                                                                              |          |          |          |          |
| 4–5 ft                                                                                              |          |          |          |          |
| 5–6 ft                                                                                              |          |          |          |          |
| 6–7 ft                                                                                              |          |          |          |          |
| 7–8 ft                                                                                              |          |          |          |          |
| 8–9 ft                                                                                              |          |          |          |          |
| 9–10 ft                                                                                             |          |          |          |          |
| 10–11 ft                                                                                            |          |          |          |          |
| 11–12 ft                                                                                            |          |          |          |          |
| 12–13 ft                                                                                            |          |          |          |          |
| 13–14 ft                                                                                            |          |          |          |          |
| 14–15 ft                                                                                            |          |          |          |          |
| 15–16 ft                                                                                            |          |          |          |          |
| 16–17 ft                                                                                            |          |          |          |          |
| 17–18 ft                                                                                            |          |          |          |          |
| 18–19 ft                                                                                            |          |          |          |          |
| 19–20 ft                                                                                            |          |          |          |          |

Notes

No Data Available

Less than RAL

RAL Exceedance

Red line indicates approximate depth of habitat subgrade at each boring location, actual planned habitat subgrade values are provided in the header.

EW: East Waterway    MLLW: mean lower low water    RAL: remedial action level    ft: feet

**Table 4: Vertical Profile of Soil Boring with EW RAL Screening – PCBs**

[illegible]

**Table 4 (con't): Vertical Profile of Soil Boring with EW RAL Screening – PCBs**

[illegible]

**Table 4 (con't): Vertical Profile of Soil Boring with EW RAL Screening – PCBs**

[illegible]

Table 4 (con't): Vertical Profile of Soil Boring with EW RAL Screening – PCBs

| Location ID                                                                                         | T25-SB36 | T25-SB37 | T25-SB38 | T25-SB39 | T25-SB40 | T25-SB42A | T25-SB44 | T25-SB46 | T25-SB47 | T25-SB48 | T25-SB49 | T25-SB50 | T25-SB51 | T25-SB52 |
|-----------------------------------------------------------------------------------------------------|----------|----------|----------|----------|----------|-----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Location within Focused Investigation Area                                                          | --       | --       | Yes      | Yes      | Yes      | Yes       | Yes      | Yes      | Yes      | Yes      | Yes      | Yes      | Yes      | Yes      |
| Expected Habitat Type                                                                               | Marsh    | Marsh    | Marsh    | Marsh    | Marsh    | Marsh     | Marsh    | Marsh    | Marsh    | Marsh    | Marsh    | Marsh    | Marsh    | Marsh    |
| Current Elevation (ft MLLW)                                                                         | 16.2     | 16.2     | 15.8     | 16.2     | 16.3     | 15.6      | 16.0     | 14.6     | 15.5     | 15.5     | 15.8     | 14.5     | 14.8     | 15.0     |
| Removal Depth Required to Get to Habitat (ft)                                                       | 5.3      | 7.6      | 5.6      | 6.2      | 6.7      | 5.9       | 6.3      | 4.1      | 5.1      | 5.0      | 5.4      | 3.5      | 5.2      | 4.8      |
| Removal Depth Required to Get to Habitat Subgrade (2 ft below habitat restoration design elevation) | 7.3      | 9.6      | 7.6      | 8.2      | 8.7      | 7.9       | 8.3      | 6.1      | 7.1      | 7.0      | 7.4      | 5.5      | 7.2      | 6.8      |
| 0–1 ft                                                                                              |          |          |          |          |          |           |          |          |          |          |          |          |          |          |
| 1–2 ft                                                                                              |          |          |          |          |          |           |          |          |          |          |          |          |          |          |
| 3–4 ft                                                                                              |          |          |          |          |          |           |          |          |          |          |          |          |          |          |
| 5–6 ft                                                                                              |          |          |          |          |          |           |          |          |          |          |          |          |          |          |
| 6–7 ft                                                                                              |          |          |          |          |          |           |          |          |          |          |          |          |          |          |
| 7–8 ft                                                                                              |          |          |          |          |          |           |          |          |          |          |          |          |          |          |
| 8–9 ft                                                                                              |          |          |          |          |          |           |          |          |          |          |          |          |          |          |
| 9–10 ft                                                                                             |          |          |          |          |          |           |          |          |          |          |          |          |          |          |
| 10–11 ft                                                                                            |          |          |          |          |          |           |          |          |          |          |          |          |          |          |
| 11–12 ft                                                                                            |          |          |          |          |          |           |          |          |          |          |          |          |          |          |
| 12–13 ft                                                                                            |          |          |          |          |          |           |          |          |          |          |          |          |          |          |
| 13–14 ft                                                                                            |          |          |          |          |          |           |          |          |          |          |          |          |          |          |
| 14–15 ft                                                                                            |          |          |          |          |          |           |          |          |          |          |          |          |          |          |
| 15–16 ft                                                                                            |          |          |          |          |          |           |          |          |          |          |          |          |          |          |
| 16–17 ft                                                                                            |          |          |          |          |          |           |          |          |          |          |          |          |          |          |
| 17–18 ft                                                                                            |          |          |          |          |          |           |          |          |          |          |          |          |          |          |
| 18–19 ft                                                                                            |          |          |          |          |          |           |          |          |          |          |          |          |          |          |
| 19–20 ft                                                                                            |          |          |          |          |          |           |          |          |          |          |          |          |          |          |

No data available

Less than RAL

RAL Exceedance

Notes

Red line indicates approximate depth of habitat subgrade at each boring location, actual planned habitat subgrade values are provided in the header

EW: East Waterway

ft: feet

MLLW: mean lower low water

PCB: polychlorinated biphenyl

RAL: remedial action level

**Table 5: Vertical Profile of Soil Borings with EW RAL Screening – Dioxins/Furans**

[illegible]

Table 5 (con't): Vertical Profile of Soil Borings with EW RAL Screening – Dioxins/Furans

| Location ID                                                                                         | T25-SB09 | T25-SB10 | T25-SB11 | T25-SB12                            | T25-SB13                            | T25-SB17 | T25-SB18 | T25-SB20 | T25-SB21 | T25-SB37 | T25-SB42A |
|-----------------------------------------------------------------------------------------------------|----------|----------|----------|-------------------------------------|-------------------------------------|----------|----------|----------|----------|----------|-----------|
| Location within Focused Investigation Area                                                          | --       | --       | --       | --                                  | --                                  | --       | --       | --       | --       | --       | Yes       |
| Expected Habitat Type                                                                               | Marsh    | Marsh    | Riparian | Riparian/<br>Stormwater<br>Bioswale | Riparian/<br>Stormwater<br>Bioswale | Marsh    | Marsh    | Marsh    | Marsh    | Marsh    | Marsh     |
| Current Elevation (ft MLLW)                                                                         | 15.6     | 16.4     | 17.0     | 16.8                                | 13.9                                | 12.0     | 12.4     | 13.0     | 11.8     | 16.2     | 15.6      |
| Habitat Restoration Design Elevation (ft MLLW)                                                      | 6.7      | 11.6     | 16.6     | 16.8                                | 13.9                                | 11.4     | 11.6     | 9.6      | 9.7      | 8.6      | 9.7       |
| Removal Depth Required to Get to Habitat (ft)                                                       | 8.9      | 4.8      | 0.4      | 0.0                                 | 0.0                                 | 0.7      | 0.8      | 3.4      | 2.1      | 7.6      | 5.9       |
| Removal Depth Required to Get to Habitat Subgrade (2 ft below habitat restoration design elevation) | 10.9     | 6.8      | 2.4      | 2.0                                 | 2.0                                 | 2.7      | 2.8      | 5.4      | 4.1      | 9.6      | 7.9       |
| 0–1 ft                                                                                              |          |          |          |                                     |                                     |          |          |          |          |          |           |
| 1–2 ft                                                                                              |          |          |          |                                     |                                     |          |          |          |          |          |           |
| 2–3 ft                                                                                              |          |          |          |                                     |                                     |          |          |          |          |          |           |
| 3–4 ft                                                                                              |          |          |          |                                     |                                     |          |          |          |          |          |           |
| 4–5 ft                                                                                              |          |          |          |                                     |                                     |          |          |          |          |          |           |
| 5–6 ft                                                                                              |          |          |          |                                     |                                     |          |          |          |          |          |           |
| 6–7 ft                                                                                              |          |          |          |                                     |                                     |          |          |          |          |          |           |
| 7–8 ft                                                                                              |          |          |          |                                     |                                     |          |          |          |          |          |           |
| 8–9 ft                                                                                              |          |          |          |                                     |                                     |          |          |          |          |          |           |
| 9–10 ft                                                                                             |          |          |          |                                     |                                     |          |          |          |          |          |           |
| 10–11 ft                                                                                            |          |          |          |                                     |                                     |          |          |          |          |          |           |
| 11–12 ft                                                                                            |          |          |          |                                     |                                     |          |          |          |          |          |           |
| 12–13 ft                                                                                            |          |          |          |                                     |                                     |          |          |          |          |          |           |
| 13–14 ft                                                                                            |          |          |          |                                     |                                     |          |          |          |          |          |           |
| 14–15 ft                                                                                            |          |          |          |                                     |                                     |          |          |          |          |          |           |
| 15–16 ft                                                                                            |          |          |          |                                     |                                     |          |          |          |          |          |           |
| 16–17 ft                                                                                            |          |          |          |                                     |                                     |          |          |          |          |          |           |
| 17–18 ft                                                                                            |          |          |          |                                     |                                     |          |          |          |          |          |           |

Notes

No Data Available

Less than RAL

RAL Exceedance

Red line indicates approximate depth of habitat subgrade at each boring location, actual planned habitat subgrade values are provided in the header

EW: East Waterway

MLLW: mean lower low water

ft: feet

RAL: remedial action level

**Table 6: Vertical Profile of Soil Borings with EW RAL Screening - Metals**

[illegible]

**Table 6 (con't): Vertical Profile of Soil Borings with EW RAL Screening - Metals**

[illegible]

Table 6 (con't): Vertical Profile of Soil Borings with EW RAL Screening - Metals

| Location ID                                                                                         | T25-SB46 | T25-SB48 | T25-SB49 | T25-SB50 |
|-----------------------------------------------------------------------------------------------------|----------|----------|----------|----------|
| Location within Focused Investigation Area                                                          | Yes      | Yes      | Yes      | Yes      |
| Expected Habitat Type                                                                               | Marsh    | Marsh    | Marsh    | Marsh    |
| Current Elevation (ft MLLW)                                                                         | 14.6     | 15.5     | 15.8     | 14.5     |
| Habitat Restoration Design Elevation (ft MLLW)                                                      | 10.5     | 10.5     | 10.4     | 10.9     |
| Removal Depth Required to Get to Habitat (ft)                                                       | 4.1      | 5.0      | 5.4      | 3.5      |
| Removal Depth Required to Get to Habitat Subgrade (2 ft below habitat restoration design elevation) | 6.1      | 7.0      | 7.4      | 5.5      |
| 0–1 ft                                                                                              |          |          |          |          |
| 1–2 ft                                                                                              |          |          |          |          |
| 2–3 ft                                                                                              |          |          |          |          |
| 3–4 ft                                                                                              |          |          |          |          |
| 4–5 ft                                                                                              |          |          |          |          |
| 5–6 ft                                                                                              |          |          |          |          |
| 6–7 ft                                                                                              |          |          |          |          |
| 7–8 ft                                                                                              |          |          |          |          |
| 8–9 ft                                                                                              |          |          |          |          |
| 9–10 ft                                                                                             |          |          |          |          |
| 10–11 ft                                                                                            |          |          |          |          |
| 11–12 ft                                                                                            |          |          |          |          |
| 12–13 ft                                                                                            |          |          |          |          |
| 13–14 ft                                                                                            |          |          |          |          |
| 14–15 ft                                                                                            |          |          |          |          |
| 15–16 ft                                                                                            |          |          |          |          |
| 16–17 ft                                                                                            |          |          |          |          |
| 17–18 ft                                                                                            |          |          |          |          |
| Notes:                                                                                              |          |          |          |          |

|  |
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Red line indicates approximate depth of habitat subgrade at each boring location, actual planned habitat subgrade values are provided in the header

Metals with RALs include arsenic and mercury

The mercury concentrations in GW-04 were greater than the EW RAL for the 6 to 8 ft interval. The 10 to 12 ft interval was also analyzed for mercury, and the results were non-detect. However the mercury testing in the 10 to 12 ft interval was performed outside of the 28 day hold time (testing occurred after two times the hold time had lapsed), and the results were rejected during validation.

EW: East Waterway

MLLW: mean lower low water

ft: feet

RAL: remedial action level



**Table 7: Vertical Profile of Soil Borings with EW RAL Screening – PAHs**

[illegible]

**Table 7 (con't): Vertical Profile of Soil Borings with EW RAL Screening – PAHs**

[illegible]

Table 7 (con't): Vertical Profile of Soil Borings with EW RAL Screening – PAHs

| Location ID                                                                                         | T25-SB35 | T25-SB36 | T25-SB37 | T25-SB38 | T25-SB39 | T25-SB42A | T25-SB46 | T25-SB47 | T25-SB48 | T25-SB49 | T25-SB50 | T25-SB51 |
|-----------------------------------------------------------------------------------------------------|----------|----------|----------|----------|----------|-----------|----------|----------|----------|----------|----------|----------|
| Location within Focused Investigation Area                                                          | Yes      | --       | --       | Yes      | Yes      | Yes       | Yes      | Yes      | Yes      | Yes      | Yes      | Yes      |
| Expected Habitat Type                                                                               | Marsh    | Marsh    | Marsh    | Marsh    | Marsh    | Marsh     | Marsh    | Marsh    | Marsh    | Marsh    | Marsh    | Marsh    |
| Current Elevation (ft MLLW)                                                                         | 16.5     | 16.2     | 16.2     | 15.8     | 16.2     | 15.6      | 14.6     | 15.5     | 15.5     | 15.8     | 14.5     | 14.8     |
| Habitat Restoration Design Elevation (ft MLLW)                                                      | 9.1      | 10.8     | 8.6      | 10.2     | 10.1     | 9.7       | 10.5     | 10.4     | 10.5     | 10.4     | 10.9     | 9.6      |
| Removal Depth Required to Get to Habitat (ft)                                                       | 7.4      | 5.3      | 7.6      | 5.6      | 6.2      | 5.9       | 4.1      | 5.1      | 5.0      | 5.4      | 3.5      | 5.2      |
| Removal Depth Required to Get to Habitat Subgrade (2 ft below habitat restoration design elevation) | 9.4      | 7.3      | 9.6      | 7.6      | 8.2      | 7.9       | 6.1      | 7.1      | 7.0      | 7.4      | 5.5      | 7.2      |
| 0–1 ft                                                                                              |          |          |          |          |          |           |          |          |          |          |          |          |
| 1–2 ft                                                                                              |          |          |          |          |          |           |          |          |          |          |          |          |
| 2–3 ft                                                                                              |          |          |          |          |          |           |          |          |          |          |          |          |
| 3–4 ft                                                                                              |          |          |          |          |          |           |          |          |          |          |          |          |
| 4–5 ft                                                                                              |          |          |          |          |          |           |          |          |          |          |          |          |
| 5–6 ft                                                                                              |          |          |          |          |          |           |          |          |          |          |          |          |
| 6–7 ft                                                                                              |          |          |          |          |          |           |          |          |          |          |          |          |
| 7–8 ft                                                                                              |          |          |          |          |          |           |          |          |          |          |          |          |
| 8–9 ft                                                                                              |          |          |          |          |          |           |          |          |          |          |          |          |
| 9–10 ft                                                                                             |          |          |          |          |          |           |          |          |          |          |          |          |
| 10–11 ft                                                                                            |          |          |          |          |          |           |          |          |          |          |          |          |
| 11–12 ft                                                                                            |          |          |          |          |          |           |          |          |          |          |          |          |
| 12–13 ft                                                                                            |          |          |          |          |          |           |          |          |          |          |          |          |
| 13–14 ft                                                                                            |          |          |          |          |          |           |          |          |          |          |          |          |
| 14–15 ft                                                                                            |          |          |          |          |          |           |          |          |          |          |          |          |
| 15–16 ft                                                                                            |          |          |          |          |          |           |          |          |          |          |          |          |
| 16–17 ft                                                                                            |          |          |          |          |          |           |          |          |          |          |          |          |
| 17–18 ft                                                                                            |          |          |          |          |          |           |          |          |          |          |          |          |
| 18–19 ft                                                                                            |          |          |          |          |          |           |          |          |          |          |          |          |
| 19–20 ft                                                                                            |          |          |          |          |          |           |          |          |          |          |          |          |

Notes

|  |                   |
|--|-------------------|
|  | No Data Available |
|  | Less than RAL     |
|  | Greater than RAL  |

Red line indicates approximate depth of habitat subgrade at each boring location, actual planned habitat subgrade values are provided in the header.

EW: East Waterway      ft:-feet      PAH: polycyclic aromatic hydrocarbons      MLLW: mean lower low water      RAL: remedial action level

**Table 8: Vertical Profile of Soil Borings with EW RAL Screening – SVOCs**

[illegible]

**Table 8 (con't): Vertical Profile of Soil Borings with EW RAL Screening – SVOCs**

[illegible]

Table 8 (con't): Vertical Profile of Soil Borings with EW RAL Screening – SVOCs

| Location ID                                                                                         | T25-SB35 | T25-SB36 | T25-SB37 | T25-SB38 | T25-SB39 | T25-SB42A | T25-SB46 | T25-SB47 | T25-SB48 | T25-SB49 | T25-SB50 | T25-SB51 |
|-----------------------------------------------------------------------------------------------------|----------|----------|----------|----------|----------|-----------|----------|----------|----------|----------|----------|----------|
| Location within Focused Investigation Area                                                          | Yes      | --       | --       | Yes      | Yes      | Yes       | Yes      | Yes      | Yes      | Yes      | Yes      | Yes      |
| Expected Habitat Type                                                                               | Marsh    | Marsh    | Marsh    | Marsh    | Marsh    | Marsh     | Marsh    | Marsh    | Marsh    | Marsh    | Marsh    | Marsh    |
| Current Elevation (ft MLLW)                                                                         | 16.5     | 16.2     | 16.2     | 15.8     | 16.2     | 15.6      | 14.6     | 15.5     | 15.5     | 15.8     | 14.5     | 14.8     |
| Habitat Restoration Design Elevation (ft MLLW)                                                      | 9.1      | 10.8     | 8.6      | 10.2     | 10.1     | 9.7       | 10.5     | 10.4     | 10.5     | 10.4     | 10.9     | 9.6      |
| Removal Depth Required to Get to Habitat (ft)                                                       | 7.4      | 5.3      | 7.6      | 5.6      | 6.2      | 5.9       | 4.1      | 5.1      | 5.0      | 5.4      | 3.5      | 5.2      |
| Removal Depth Required to Get to Habitat Subgrade (2 ft below habitat restoration design elevation) | 9.4      | 7.3      | 9.6      | 7.6      | 8.2      | 7.9       | 6.1      | 7.1      | 7.0      | 7.4      | 5.5      | 7.2      |
| 0–1 ft                                                                                              |          |          |          |          |          |           |          |          |          |          |          |          |
| 1–2 ft                                                                                              |          |          |          |          |          |           |          |          |          |          |          |          |
| 2–3 ft                                                                                              |          |          |          |          |          |           |          |          |          |          |          |          |
| 3–4 ft                                                                                              |          |          |          |          |          |           |          |          |          |          |          |          |
| 4–5 ft                                                                                              |          |          |          |          |          |           |          |          |          |          |          |          |
| 5–6 ft                                                                                              |          |          |          |          |          |           |          |          |          |          |          |          |
| 6–7 ft                                                                                              |          |          |          |          |          |           |          |          |          |          |          |          |
| 7–8 ft                                                                                              |          |          |          |          |          |           |          |          |          |          |          |          |
| 8–9 ft                                                                                              |          |          |          |          |          |           |          |          |          |          |          |          |
| 9–10 ft                                                                                             |          |          |          |          |          |           |          |          |          |          |          |          |
| 10–11 ft                                                                                            |          |          |          |          |          |           |          |          |          |          |          |          |
| 11–12 ft                                                                                            |          |          |          |          |          |           |          |          |          |          |          |          |
| 12–13 ft                                                                                            |          |          |          |          |          |           |          |          |          |          |          |          |
| 13–14 ft                                                                                            |          |          |          |          |          |           |          |          |          |          |          |          |
| 14–15 ft                                                                                            |          |          |          |          |          |           |          |          |          |          |          |          |
| 15–16 ft                                                                                            |          |          |          |          |          |           |          |          |          |          |          |          |
| 16–17 ft                                                                                            |          |          |          |          |          |           |          |          |          |          |          |          |
| 17–18 ft                                                                                            |          |          |          |          |          |           |          |          |          |          |          |          |
| 18–19 ft                                                                                            |          |          |          |          |          |           |          |          |          |          |          |          |
| 19–20 ft                                                                                            |          |          |          |          |          |           |          |          |          |          |          |          |

Notes

No Data Available

SVOCs with RALs include 1,4-dichlorobenzene and butylbenzyl phthalate

1,4-dicholorobenzene is reported by both SW8260 and SW8270. Results from both methods are presented.

Less than RAL

EW: East Waterway

MLLW: mean lower low water

SVOCs: semivolatile organic compounds

ft: feet

RAL: remedial action level

Red line indicates approximate depth of habitat subgrade at each boring location, actual planned habitat subgrade values are provided in the header.





**Table 10: Summary of RAL Exceedances in Soil and Sediment**

| Analyte                                                  | EW RAL Exceedances in Soil <sup>1</sup> | EW RAL Exceedances in Sediment <sup>1</sup> |
|----------------------------------------------------------|-----------------------------------------|---------------------------------------------|
| <b>Metals</b>                                            |                                         |                                             |
| Arsenic                                                  | No                                      | No                                          |
| Mercury                                                  | No                                      | Yes                                         |
| <b>Organometals</b>                                      |                                         |                                             |
| Tributyltin (ion)                                        | Yes (non-detect only)                   | Yes                                         |
| <b>Semivolatile Organics</b>                             |                                         |                                             |
| 1,4-Dichlorobenzene                                      | Yes                                     | Yes                                         |
| Butylbenzyl phthalate                                    | Yes (non-detect only)                   | Yes                                         |
| <b>Polycyclic Aromatic Hydrocarbons</b>                  |                                         |                                             |
| Acenaphthene                                             | Yes                                     | Yes                                         |
| Fluoranthene                                             | Yes                                     | Yes                                         |
| Fluorene                                                 | Yes                                     | Yes                                         |
| Phenanthrene                                             | Yes                                     | Yes                                         |
| <b>Dioxins/Furans</b>                                    |                                         |                                             |
| Total Dioxin/Furan TEQ 2005 (Mammal) (U = 1/2 max limit) | Yes                                     | Yes                                         |
| <b>PCB Aroclors</b>                                      |                                         |                                             |
| Total PCB Aroclors (SMS Marine 2019) (U = 0 max limit)   | Yes                                     | Yes                                         |

Notes:

1. If only non-detect exceedances were identified for a given analyte, "non-detect only" is noted parenthetically.

EW: East Waterway

PCB: polychlorinated biphenyl

RAL: remedial action level

TEQ: toxic equivalents quotient



Table 11: Sediment Summary Statistics and RAL Exceedances

| Analyte                                             | Number of Locations <sup>1</sup> | Number of Samples | Number of Detections | Number of Samples In or Out of TOC Range <sup>2</sup> | Maximum Detected Result | Maximum Exceedance Ratio <sup>3</sup> | Minimum Detected Result | Units    | East Waterway RAL | Number of Detections > East Waterway RAL <sup>2</sup> | Number of Non-Detects > East Waterway RAL <sup>2</sup> |
|-----------------------------------------------------|----------------------------------|-------------------|----------------------|-------------------------------------------------------|-------------------------|---------------------------------------|-------------------------|----------|-------------------|-------------------------------------------------------|--------------------------------------------------------|
| Metals                                              |                                  |                   |                      |                                                       |                         |                                       |                         |          |                   |                                                       |                                                        |
| Arsenic                                             | 46                               | 106               | 105                  | --                                                    | 32.4                    | 0.6                                   | 1.11                    | mg/kg    | 57                | 0                                                     | 0                                                      |
| Mercury                                             | 46                               | 125               | 113                  | --                                                    | 2.35                    | 6                                     | 0.00541                 | mg/kg    | 0.41              | 38                                                    | 0                                                      |
| Organometals                                        |                                  |                   |                      |                                                       |                         |                                       |                         |          |                   |                                                       |                                                        |
| Tributyltin (ion)                                   | 9                                | 12                | 7                    | --                                                    | 8.5                     | 1                                     | 0.061                   | mg/kg-OC | 7.5               | 1                                                     | 2                                                      |
| Semivolatile Organics                               |                                  |                   |                      |                                                       |                         |                                       |                         |          |                   |                                                       |                                                        |
| 1,4-Dichlorobenzene                                 | 46                               | 118               | 44                   | In range: 59                                          | 8.79                    | 3                                     | 0.1                     | mg/kg-OC | 3.1               | 1                                                     | 0                                                      |
|                                                     |                                  |                   |                      | Out of range: 59                                      | 2,300                   | 20                                    | 1.1                     | µg/kg    | 110               | 2                                                     | 0                                                      |
| Butylbenzyl phthalate                               | 46                               | 118               | 19                   | In range: 59                                          | 9.01                    | 2                                     | 0.77                    | mg/kg-OC | 4.9               | 1                                                     | 0                                                      |
|                                                     |                                  |                   |                      | Out of range: 59                                      | 76                      | 1                                     | 47                      | µg/kg    | 63                | 1                                                     | 5                                                      |
| Polycyclic Aromatic Hydrocarbons                    |                                  |                   |                      |                                                       |                         |                                       |                         |          |                   |                                                       |                                                        |
| Acenaphthene                                        | 46                               | 139               | 105                  | In range: 67                                          | 462                     | 30                                    | 0.697                   | mg/kg-OC | 16                | 15                                                    | 0                                                      |
|                                                     |                                  |                   |                      | Out of range: 72                                      | 8,620                   | 20                                    | 8.2                     | µg/kg    | 500               | 14                                                    | 0                                                      |
| Fluoranthene                                        | 46                               | 136               | 115                  | In range: 66                                          | 3,910                   | 20                                    | 0.834                   | mg/kg-OC | 160               | 7                                                     | 0                                                      |
|                                                     |                                  |                   |                      | Out of range: 70                                      | 33,900                  | 20                                    | 8.3                     | µg/kg    | 1,700             | 28                                                    | 0                                                      |
| Fluorene                                            | 46                               | 139               | 101                  | In range: 67                                          | 500                     | 20                                    | 0.86                    | mg/kg-OC | 23                | 11                                                    | 0                                                      |
|                                                     |                                  |                   |                      | Out of range: 72                                      | 5,540                   | 10                                    | 15.8                    | µg/kg    | 540               | 13                                                    | 0                                                      |
| Phenanthrene                                        | 46                               | 136               | 114                  | In range: 66                                          | 4,470                   | 50                                    | 0.855                   | mg/kg-OC | 100               | 7                                                     | 0                                                      |
|                                                     |                                  |                   |                      | Out of range: 70                                      | 10,600                  | 7                                     | 9.7                     | µg/kg    | 1,500             | 15                                                    | 0                                                      |
| Dioxins/Furans                                      |                                  |                   |                      |                                                       |                         |                                       |                         |          |                   |                                                       |                                                        |
| Total Dioxin/Furan TEQ (Mammal) (U = 1/2 max limit) | 31                               | 93                | 74                   | --                                                    | 890                     | 40                                    | 0.22                    | ng/kg    | 25                | 31                                                    | 0                                                      |
| PCB Aroclors                                        |                                  |                   |                      |                                                       |                         |                                       |                         |          |                   |                                                       |                                                        |
| Total PCB Aroclors (U = 0 max limit)                | 46                               | 126               | 102                  | In range: 64                                          | 300                     | 30                                    | 0.059                   | mg/kg-OC | 12                | 26                                                    | 0                                                      |
|                                                     |                                  |                   |                      | Out of range: 62                                      | 16,800                  | 100                                   | 0.8                     | µg/kg    | 130               | 28                                                    | 0                                                      |

Notes:

1. Locations may have multiple sample intervals; therefore, there may be multiple SL exceedances at the same location.

2. For chemicals and chemical totals with a dry-weight and OC-normalized SL, samples with OC between 0.5 to 3.5 percent are screened against the OC-normalized SL, while samples outside this range are screened against the dry-weight SL. Non-detects are also screened against the dry-weight SL. The dry-weight SL for these chemicals is equivalent to the RALs on a dry-weight basis (e.g., 130 µg/kg is equivalent to the 12 mg/kg-OC RAL).

3. Maximum exceedance ratios are rounded to show one significant figure.

--: not applicable

µg/kg: micrograms per kilogram

mg/kg: milligrams per kilogram

mg/kg-OC: milligrams per kilogram-organic carbon

ng/kg: nanograms per kilogram

OC: organic carbon

PCB: polychlorinated biphenyl

RAL: remedial action level

SL: screening level

TEQ: toxic equivalents quotient

TOC: total organic carbon

U = 1/2: totals are calculated as the sum of all detected results and half of the reporting limit of nondetect results. If all results are not detected, the highest limit value is reported as the sum.

U = 0: totals are calculated as the sum of all detected results. If all results are not detected, the highest limit value is reported as the sum.

Table 12: Upland Area Excavation Depth Determination

| Location           | EW RAL Exceedance (Yes/No) | Sample Interval (ft bgs) | Bounded / Unbounded <sup>1</sup> | NAPL Observations <sup>2</sup>                                                                                 | Depth to Contamination (ft bgs) | Removal Depth Required to Habitat Subgrade Elevation (ft bgs) | Elevation 2 ft Below Habitat Subgrade Elevation (Post-Excavation Depth; ft bgs) |
|--------------------|----------------------------|--------------------------|----------------------------------|----------------------------------------------------------------------------------------------------------------|---------------------------------|---------------------------------------------------------------|---------------------------------------------------------------------------------|
| T25-SB-03B         | Yes                        | 9-10                     | Unbounded                        | --                                                                                                             | 10                              | 5.7                                                           | 7.7                                                                             |
| T25-SB-03E         | Yes                        | 10-11                    | Unbounded                        | --                                                                                                             | 11                              | 6.1                                                           | 8.1                                                                             |
| T25-SB-03F         | Yes                        | 10-11                    | Unbounded                        | --                                                                                                             | 11                              | 5.9                                                           | 7.9                                                                             |
| T25-SB-03G         | Yes                        | 9-10                     | Unbounded                        | --                                                                                                             | 10                              | 6.8                                                           | 8.8                                                                             |
| T25-SB03/T25-SB42A | Yes                        | 14.2-16.2                | Unbounded                        | --                                                                                                             | 16.2                            | 6.0                                                           | 8.0                                                                             |
| T25-SB22/T25-SB22B | Yes                        | 8-9                      | Bounded                          | SB22: Visible NAPL Coated Sample Liner 14-16 ft bgs<br>SB22B: Sheen and NAPL Blebs in rinse water 14-16 ft bgs | 9                               | 5.0                                                           | 7.0                                                                             |
| T25-SB24           | Yes                        | 11-12                    | Unbounded                        | --                                                                                                             | 12                              | 5.5                                                           | 7.5                                                                             |
| T25-SB25           | Yes                        | 11-12                    | Unbounded                        | --                                                                                                             | 12                              | 6.1                                                           | 8.1                                                                             |
| T25-SB26           | Yes                        | 11-12                    | Unbounded                        | --                                                                                                             | 12                              | 5.6                                                           | 7.6                                                                             |
| T25-SB27           | Yes                        | 11-12                    | Unbounded                        | --                                                                                                             | 12                              | 6.0                                                           | 8.0                                                                             |
| T25-SB28           | Yes                        | 11-12                    | Unbounded                        | --                                                                                                             | 12                              | 6.4                                                           | 8.4                                                                             |
| T25-SB29/T25-SB29C | Yes                        | 12-13                    | Unbounded                        | --                                                                                                             | 13                              | 6.8                                                           | 8.8                                                                             |
| T25-SB30           | Yes                        | 11-12                    | Unbounded                        | --                                                                                                             | 12                              | 6.8                                                           | 8.8                                                                             |
| T25-SB31           | Yes                        | 10-11                    | Unbounded                        | --                                                                                                             | 11                              | 5.5                                                           | 7.5                                                                             |
| T25-SB32           | Yes                        | 10-11                    | Bounded                          | --                                                                                                             | 11                              | 5.2                                                           | 7.2                                                                             |
| T25-SB33           | Yes                        | 9-10                     | Unbounded                        | Visible NAPL blebs observed in rejected core at 12 ft bgs                                                      | 11                              | 5.3                                                           | 7.3                                                                             |
| T25-SB34           | Yes                        | 9-10                     | Unbounded                        | --                                                                                                             | 10                              | 7.2                                                           | 9.2                                                                             |
| T25-SB35           | Yes                        | 9-10                     | Unbounded                        | --                                                                                                             | 10                              | 7.4                                                           | 9.4                                                                             |
| T25-SB38           | Yes                        | 10-11                    | Unbounded                        | Positive NAPL Shake Test: 5-6 and 13-14 ft bgs                                                                 | 11                              | 5.6                                                           | 7.6                                                                             |
| T25-SB39           | Yes                        | 9-10                     | Unbounded                        | --                                                                                                             | 10                              | 6.2                                                           | 8.2                                                                             |
| T25-SB40           | Yes                        | 9-10                     | Unbounded                        | --                                                                                                             | 10                              | 6.7                                                           | 8.7                                                                             |
| T25-SB43           | No                         | --                       | --                               | --                                                                                                             | --                              | 6.7                                                           | 8.7                                                                             |
| T25-SB44           | Yes                        | 9-10                     | Unbounded                        | --                                                                                                             | 10                              | 6.3                                                           | 8.3                                                                             |
| T25-SB47           | Yes                        | 8-9                      | Unbounded                        | Visible NAPL-like substance and amber staining on sample liner,<br>Postive shake test at 20 ft bgs             | 9                               | 5.1                                                           | 7.1                                                                             |
| T25-SB46           | --                         | --                       | --                               | NAPL blebs observed in drill cuttings from 10-15 ft bgs                                                        | --                              | 4.1                                                           | 6.1                                                                             |
| T25-SB48           | Yes                        | --                       | --                               | NAPL blebs observed in drill cuttings from 10-15 ft bgs                                                        | 13                              | 5.0                                                           | 7.0                                                                             |
| T25-SB49           | Yes                        | --                       | --                               | Positive NAPL Shake Test: 1-2, 2-3, 3-3.5, and 12-13 ft bgs                                                    | 13                              | 5.4                                                           | 7.4                                                                             |
| T25-SB50           | Yes                        | 7-8                      | --                               | Positive NAPL Shake Test: 9-10 ft bgs                                                                          | 8                               | 3.5                                                           | 5.5                                                                             |
| T25-SB52           | Yes                        | 8-9                      | Unbounded                        | --                                                                                                             | 9                               | 4.8                                                           | 6.8                                                                             |
| T25-SB51           | Yes                        | 8-9                      | Unbounded                        | Positive NAPL Shake Test: 10-11 ft bgs                                                                         | 9                               | 5.2                                                           | 7.2                                                                             |
| T25-SB08/T25-SB36  | Yes                        | 12-14                    | Bounded                          | --                                                                                                             | 14                              | 5.2                                                           | 7.2                                                                             |
| T25-SB37           | Yes                        | 12-14                    | Unbounded                        | --                                                                                                             | 14                              | 7.6                                                           | 9.6                                                                             |
| T25-GW-04          | Yes                        | 6-8                      | Unbounded                        | --                                                                                                             | 8                               | 0.7                                                           | 2.7                                                                             |

Table 12: Upland Area Excavation Depth Determination

| Location             | EW RAL Exceedance (Yes/No) | Sample Interval (ft bgs) | Bounded / Unbounded <sup>1</sup> | NAPL Observations <sup>2</sup> | Depth to Contamination (ft bgs) | Removal Depth Required to Habitat Subgrade Elevation (ft bgs) | Elevation 2 ft Below Habitat Subgrade Elevation (Post-Excavation Depth; ft bgs) |
|----------------------|----------------------------|--------------------------|----------------------------------|--------------------------------|---------------------------------|---------------------------------------------------------------|---------------------------------------------------------------------------------|
| T25-G (W-05/T25-SB11 | Yes                        | 9-11                     | Bounded                          | --                             | 11                              | 1.5                                                           | 3.5                                                                             |
| T25-SB12/T25-SB19    | Yes                        | 0-2                      | Bounded                          | --                             | 2                               | 0.1                                                           | 2.1                                                                             |
| T25-SB09             | Yes                        | 9.1-10                   | Unbounded                        | --                             | 10                              | 8.9                                                           | 10.9                                                                            |
| T25-SB-03D           | Yes                        | 9-10                     | Unbounded                        | --                             | 10                              | 6.0                                                           | 8.0                                                                             |
| T25-SB20             | Yes                        | 2-4                      | Bounded                          | --                             | 4                               | 3.4                                                           | 5.4                                                                             |
| T25-SB06             | Yes                        | 0-2                      | Unbounded                        | --                             | 2                               | 0.0                                                           | 2.0                                                                             |
| T25-SB02             | Yes                        | 3-5                      | Bounded                          | --                             | 5                               | 4.5                                                           | 6.5                                                                             |
| T25-GW-01            | No                         | --                       | Bounded                          | --                             | 0                               | 0.0                                                           | 1.0                                                                             |
| T25-GW-02            | No                         | --                       | Bounded                          | --                             | 0                               | 2.6                                                           | 4.6                                                                             |
| T25-GW-03            | No                         | --                       | Bounded                          | --                             | 0                               | 3.6                                                           | 5.6                                                                             |
| T25-GW-06            | No                         | --                       | Bounded                          | --                             | 0                               | 4.1                                                           | 6.1                                                                             |
| T25-SB01             | No                         | --                       | Bounded                          | --                             | 0                               | 5.0                                                           | 7.0                                                                             |
| T25-SB04B            | No                         | --                       | Bounded                          | --                             | 0                               | 5.6                                                           | 7.6                                                                             |
| T25-SB05             | No                         | --                       | Bounded                          | --                             | 0                               | 0.0                                                           | 1.7                                                                             |
| T25-SB07             | No                         | --                       | Bounded                          | --                             | 0                               | 4.7                                                           | 6.7                                                                             |
| T25-SB10             | No                         | --                       | Bounded                          | --                             | 0                               | 4.8                                                           | 6.8                                                                             |
| T25-SB13             | No                         | --                       | Bounded                          | --                             | 0                               | 0.0                                                           | 2.0                                                                             |
| T25-SB17             | No                         | --                       | Bounded                          | --                             | 0                               | 0.7                                                           | 2.7                                                                             |
| T25-SB18             | No                         | --                       | Bounded                          | --                             | 0                               | 0.8                                                           | 2.8                                                                             |
| T25-SB21             | No                         | --                       | Bounded                          | --                             | 0                               | 2.1                                                           | 4.1                                                                             |
| T25-SB23             | No                         | --                       | Bounded                          | --                             | 0                               | 4.6                                                           | 6.6                                                                             |

Notes:

1. Bounded is defined by at least one sample interval having no EW RAL exceedances.
2. Soil-water shake tests (NAPL shake tests) where used when PID readings were greater than 50 ppm and no other visual observations of NAPL were present.

bgs: below ground surface

EW: East Waterway

ft: feet/ foot

NAPL: non-aqueous phase liquid

PID: photoionization detector

RAL: remedial action level



**Table 13: Upland Area Proposed Excavation Depths**

| Excavation Unit (EU) | Station ID         | Uncertainty Addition <sup>1</sup> (ft) | Proposed EU Excavation Depth (ft bgs) | Notes                                                                       |
|----------------------|--------------------|----------------------------------------|---------------------------------------|-----------------------------------------------------------------------------|
| 1                    | T25-SB-03B         | --                                     | 16.0                                  | Applied a 16 ft excavation cut depth bgs to reach the average native depth. |
|                      | T25-SB-03E         |                                        |                                       |                                                                             |
|                      | T25-SB-03F         |                                        |                                       |                                                                             |
|                      | T25-SB-03G         |                                        |                                       |                                                                             |
|                      | T25-SB03/T25-SB42A |                                        |                                       |                                                                             |
|                      | T25-SB42A          |                                        |                                       |                                                                             |
|                      | T25-SB42           |                                        |                                       |                                                                             |
|                      | T25-SB22/T25-SB22B |                                        |                                       |                                                                             |
|                      | T25-SB22           |                                        |                                       |                                                                             |
|                      | T25-SB22B          |                                        |                                       |                                                                             |
|                      | T25-SB24           |                                        |                                       |                                                                             |
|                      | T25-SB25           |                                        |                                       |                                                                             |
|                      | T25-SB26           |                                        |                                       |                                                                             |
|                      | T25-SB27           |                                        |                                       |                                                                             |
|                      | T25-SB28           |                                        |                                       |                                                                             |
|                      | T25-SB29/T25-SB29C |                                        |                                       |                                                                             |
|                      | T25-SB29           |                                        |                                       |                                                                             |
|                      | T25-SB29C          |                                        |                                       |                                                                             |
|                      | T25-SB30           |                                        |                                       |                                                                             |
|                      | T25-SB31           |                                        |                                       |                                                                             |
|                      | T25-SB32           |                                        |                                       |                                                                             |
|                      | T25-SB33           |                                        |                                       |                                                                             |
|                      | T25-SB34           |                                        |                                       |                                                                             |
|                      | T25-SB35           |                                        |                                       |                                                                             |
|                      | T25-SB38           |                                        |                                       |                                                                             |
|                      | T25-SB39           |                                        |                                       |                                                                             |
|                      | T25-SB40           |                                        |                                       |                                                                             |
|                      | T25-SB43           |                                        |                                       |                                                                             |
|                      | T25-SB44           |                                        |                                       |                                                                             |
|                      | T25-SB47           |                                        |                                       |                                                                             |
|                      | T25-SB46           |                                        |                                       |                                                                             |
|                      | T25-SB48           |                                        |                                       |                                                                             |
|                      | T25-SB49           |                                        |                                       |                                                                             |
|                      | T25-SB50           |                                        |                                       |                                                                             |
|                      | T25-SB52           |                                        |                                       |                                                                             |
|                      | T25-SB51           |                                        |                                       |                                                                             |
| 2                    | T25-SB08/T25-SB36  | --                                     | 14                                    | Applied a 14 ft                                                             |
|                      | T25-SB37           | 1                                      |                                       | --                                                                          |
| 3                    | T25-GW-04          | --                                     | 9                                     | --                                                                          |
| 4                    | T25-GW-05/T25-SB11 | --                                     | 11                                    | --                                                                          |
| 5                    | T25-SB12/T25-SB19  |                                        | 2.1                                   | Applied a 2.1 ft                                                            |
| 6                    | T25-SB09           | 1                                      | 11                                    | --                                                                          |
|                      | T25-SB-03D         | 1                                      |                                       | --                                                                          |



Table 13 (con’t): Upland Area Proposed Excavation Depths

| Excavation Unit (EU) | Station ID | Uncertainty Addition <sup>1</sup> (ft) | Proposed EU Excavation Depth (ft bgs) | Notes                                                                         |
|----------------------|------------|----------------------------------------|---------------------------------------|-------------------------------------------------------------------------------|
| 7                    | T25-SB20   | --                                     | 5.4                                   | Applied a 5.4 ft excavation cut depth bgs to reach habitat subgrade elevation |
|                      | T25-SB06   | --                                     |                                       | Applied a 5.4 ft excavation cut depth for constructability purposes           |
| 8                    | T25-SB02   | --                                     | 6.5                                   | Applied a 6.5 ft excavation cut thickness to reach habitat subgrade elevation |
| 9                    | T25-GW-01  | --                                     | 1.0                                   | Applied excavation cut depth bgs to reach habitat subgrade elevation          |
|                      | T25-GW-02  | --                                     | 4.6                                   |                                                                               |
|                      | T25-GW-03  | --                                     | 5.6                                   |                                                                               |
|                      | T25-GW-06  | --                                     | 6.1                                   |                                                                               |
|                      | T25-SB01   | --                                     | 7.0                                   |                                                                               |
|                      | T25-SB04B  | --                                     | 7.6                                   |                                                                               |
|                      | T25-SB05   | --                                     | 1.7                                   |                                                                               |
|                      | T25-SB07   | --                                     | --                                    | No excavation cut depth bgs applied, within daylight area of EU-1             |
|                      | T25-SB10   | --                                     | 6.8                                   | Applied excavation cut depth bgs to reach habitat subgrade elevation          |
|                      | T25-SB13   | --                                     | 2.0                                   |                                                                               |
|                      | T25-SB17   | --                                     | 2.7                                   |                                                                               |
|                      | T25-SB18   | --                                     | 2.8                                   |                                                                               |
|                      | T25-SB21   | --                                     | 4.1                                   |                                                                               |
|                      | T25-SB23   | --                                     | 6.6                                   |                                                                               |

Notes:

1. Cores with insufficient data at depth or an unbounded core include an additional 1-ft of removal to address uncertainty associated with RAL exceedances below the deepest interval with EW RAL exceedance.

bgs: below ground surface EU: excavation unit

EW: East Waterway ft: foot

RAL: Remedial Action Level

Table 14: Sediment Area Dredge Depth Determination

| Location       | EW RAL Exceedance (Yes/No) | Sample Interval                |                              | Bounded/ Unbounded¹ | Core Recovery Information      | Depth of Contamination (ft below mudline) | Uncertainty Addition² (ft) | Proposed DU Dredge Depth (ft below mudline) | Proposed Dredge Unit (DU) | Notes                                                                                                                                                                                                            |
|----------------|----------------------------|--------------------------------|------------------------------|---------------------|--------------------------------|-------------------------------------------|----------------------------|---------------------------------------------|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                |                            | Start Depth (ft below mudline) | End Depth (ft below mudline) |                     |                                |                                           |                            |                                             |                           |                                                                                                                                                                                                                  |
| T25-SC-13_2021 | Yes                        | 6.5                            | 7.5                          | Bounded             | --                             | 7.5                                       | --                         | 7.5                                         | DU-18                     | Applied 5-ft dredge depth for constructability purposes to locations T25-SC-13_2021 and EW10-SC09 that is outside of the T-25S Site boundary, with a very small footprint interpolated within project footprint. |
| EW10-SC09      | Yes                        | 6                              | 7.2                          | Bounded             | --                             | 7.2                                       | --                         | 7.2                                         |                           |                                                                                                                                                                                                                  |
| T25-SC-09B     | Yes                        | 3                              | 4                            | Unbounded           | 4 ft recovered, 5 ft drive     | 4                                         | 1                          | 5.0                                         |                           |                                                                                                                                                                                                                  |
| T25-SC02       | Yes                        | 4.6                            | 5.6                          | Unbounded           | core to 7 ft, only ran 4.6-5.6 | 5.6                                       | 1                          | 6.6                                         | DU -17                    | --                                                                                                                                                                                                               |
| T25-SC-12_2021 | Yes                        | 8.4                            | 9.4                          | Bounded             | --                             | 9.4                                       | --                         | 9.4                                         | DU -16                    | Applied 11-ft dredge depth for constructability purposes to Location T25-SC-12_2021 that is outside of the T-25S Site boundary with a very small footprint interpolated within project footprint.                |
| T25-SC08       | Yes                        | 9                              | 10                           | Unbounded           | 10 ft recovered, 12 ft drive   | 10                                        | 1                          | 11                                          |                           |                                                                                                                                                                                                                  |
| T25-SC-14_2021 | Yes                        | 8.7                            | 9.7                          | Bounded             | --                             | 9.7                                       | --                         | 9.7                                         | DU-15                     | --                                                                                                                                                                                                               |
| T25-SC03       | Yes                        | 4.7                            | 5.7                          | Bounded             | --                             | 5.7                                       | --                         | 5.7                                         | DU-14                     | --                                                                                                                                                                                                               |
| T25-SC-15_2021 | Yes                        | 7                              | 8                            | Bounded             | --                             | 8                                         | --                         | 8.0                                         | DU-13                     | --                                                                                                                                                                                                               |
| T25-SC-16_2021 | Yes                        | 10.3                           | 11.3                         | Unbounded           | 11.3 ft recovered, drove 14 ft | 11.3                                      | 1                          | 12.3                                        | DU-12                     | --                                                                                                                                                                                                               |
| T25-SC-11_2021 | Yes                        | 7                              | 8                            | Bounded             | --                             | 8                                         | --                         | 8.0                                         | DU-11                     | --                                                                                                                                                                                                               |
| EW10-SC08      | Yes                        | 6                              | 8                            | Bounded             | --                             | 8                                         | --                         | 8.0                                         |                           |                                                                                                                                                                                                                  |
| T25-SC-17_2021 | Yes                        | 7                              | 8                            | Bounded             | --                             | 8                                         | --                         | 8.0                                         |                           |                                                                                                                                                                                                                  |
| T25-SC07       | Yes                        | 6                              | 7                            | Unbounded           | 7 ft recovered, 9.5 ft drive   | 7                                         | 1                          | 8.0                                         |                           |                                                                                                                                                                                                                  |
| T25-SC-18_2021 | Yes                        | 6                              | 7                            | Bounded             | --                             | 7                                         | --                         | 7.0                                         | DU-10                     | --                                                                                                                                                                                                               |
| EW-167         | Yes                        | 2.5                            | 3.5                          | Unbounded           | --                             | 3.5                                       | 1                          | 4.5                                         | DU-9                      | --                                                                                                                                                                                                               |
| T25-SC-19_2021 | Yes                        | 3                              | 4.3                          | Bounded             | --                             | 4.3                                       | --                         | 4.5                                         |                           |                                                                                                                                                                                                                  |
| T25-SC-20_2021 | Yes                        | 6.5                            | 7.5                          | Unbounded           | 8.1 ft recovered, drove 10 ft  | 7.5                                       | 1                          | 8.5                                         | DU-8                      | --                                                                                                                                                                                                               |
| T25-SC04       | Yes                        | 6                              | 6.7                          | Unbounded           | 8 foot core                    | 6.7                                       | 1                          | 7.7                                         | DU -7                     | --                                                                                                                                                                                                               |
| T25-SC-21_2021 | Yes                        | 5                              | 6                            | Bounded             | --                             | 6                                         | --                         | 6.3                                         | DU-6                      | Assumed a proposed dredge depth of 6.3 ft for locations T25-SC-21-2021 and EW10-SC06 for constructability purposes                                                                                               |
| EW10-SC06      | Yes                        | 4                              | 6                            | Bounded             | --                             | 6                                         | --                         | 6.3                                         |                           |                                                                                                                                                                                                                  |
| T25-SC-22_2021 | Yes                        | 4.3                            | 5.3                          | Unbounded           | 5.0 ft recovered, drove 7.7 ft | 5.3                                       | 1                          | 6.3                                         |                           |                                                                                                                                                                                                                  |
| T25-SC-06      | Yes                        | 2.5                            | 3.3                          | Unbounded           | Refusal at 4 ft                | 3.3                                       | 1                          | 4.3                                         | DU- 5                     | --                                                                                                                                                                                                               |
| T25-SC-23_2021 | Yes                        | 8                              | 9                            | Bounded             | --                             | 9                                         | --                         | 9.0                                         | DU -4                     | --                                                                                                                                                                                                               |
| T25-SC-25_2021 | Yes                        | 6                              | 7                            | Bounded             | --                             | 7                                         | --                         | 7.0                                         | DU -3                     | --                                                                                                                                                                                                               |
| T25-SC-26_2021 | Yes                        | 4                              | 5                            | Bounded             | --                             | 5                                         | --                         | 5.0                                         | DU-2                      | --                                                                                                                                                                                                               |
| T25-SC-24_2021 | No                         |                                | --                           | --                  | --                             | 0                                         | --                         | 3.0                                         | DU-1                      | Location T25-SC-24_2021 does not have any EW RAL exceedances and includes a proposed dredge depth of 3 ft for constructability purposes.<br><br>Does not include side slope near the bridge                      |
| T25-SC-05      | Yes                        | 1                              | 2                            | Unbounded           | Refusal at 2 ft                | 2                                         | 1                          | 3.0                                         |                           |                                                                                                                                                                                                                  |
| T25-SC-28_2021 | Yes                        | 2                              | 3                            | Bounded             | --                             | 3                                         | --                         | 3.0                                         |                           |                                                                                                                                                                                                                  |
| T25-SC-29_2021 | Yes                        | 2                              | 3                            | Bounded             | --                             | 3                                         | --                         | 3.0                                         |                           |                                                                                                                                                                                                                  |

Notes:

1. Bounded is defined by at least one sample interval having no EW RAL exceedances.

2. Cores with insufficient data at depth or an unbounded core include an additional 1-ft of removal to address uncertainty associated with RAL exceedances below the deepest interval with EW RAL exceedance.

--: not available/not applicable

DU: dredge unit

EW: East Waterway

ft: feet/ foot

RAL: remedial action level

Table 15: Summary of Selected Alternative

| Removal Action Areas |                    | Description of Alternatives                                                                                                                    | Surface Area (SF) | Piling Removal (EA) | Removal Volumes <sup>1</sup> (CY) |       | Placement Volumes <sup>2</sup> (CY) |                             |                                                                        |                                                              |
|----------------------|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|---------------------|-----------------------------------|-------|-------------------------------------|-----------------------------|------------------------------------------------------------------------|--------------------------------------------------------------|
|                      |                    |                                                                                                                                                |                   |                     | Dredge / Excavation Volumes       |       | Allowance Volume <sup>3</sup>       |                             |                                                                        |                                                              |
|                      |                    |                                                                                                                                                |                   |                     |                                   |       | RMC                                 | Slope Backfill <sup>4</sup> | Backfill in the Upland Area (including to construct Berm) <sup>5</sup> | Backfill to Construct Berm in the In-Water Area <sup>6</sup> |
| In-Water Action      | DU-1 through DU-18 | Dredging of sediments to address EW RAL exceedances; placement of 1.5-ft of RMC, a sloped backfill with an armor rock layer and clean backfill | 183,240           | 1,718               | 64,600                            | 4,450 | 7,980                               | 20,630                      | --                                                                     | --                                                           |
| Upland Action        | EU-1               | Full excavation down to 16 ft bgs; backfill to final habitat design grade                                                                      | 43,340            | --                  | 35,170                            | 800   | --                                  | --                          | 21,780                                                                 | 17,330                                                       |
|                      | EU-2               | Full excavation down to the deepest EW RAL exceedances; backfill to final habitat design grade                                                 | 24,400            | --                  | 15,820                            | 240   | --                                  | --                          | 10,130                                                                 |                                                              |
|                      | EU-3               |                                                                                                                                                | 5,850             | --                  | 1,150                             |       | --                                  | --                          | 900                                                                    |                                                              |
|                      | EU-4               |                                                                                                                                                | 6,350             | --                  | 3,230                             |       | --                                  | --                          | 1,680                                                                  |                                                              |
|                      | EU-5               | Partial excavation of EW RAL exceedances down to habitat subgrade elevations; backfill to final habitat design grade                           | 3,410             | --                  | 330                               | 240   | --                                  | --                          | 330                                                                    |                                                              |
|                      | EU-6               |                                                                                                                                                | 12,910            | --                  | 3,710                             |       | --                                  | --                          | 2,690                                                                  |                                                              |
|                      | EU-7               |                                                                                                                                                | 16,580            | --                  | 3,810                             |       | --                                  | --                          | 3,650                                                                  |                                                              |
|                      | EU-8               |                                                                                                                                                | 11,910            | --                  | 2,600                             |       | --                                  | --                          | 2,160                                                                  |                                                              |
|                      | EU-9               | Excavation of material without EW RAL exceedances down to habitat subgrade elevations; backfill to final habitat design grade                  | 87,390            | --                  | 14,630                            | 0     | 0                                   |                             |                                                                        |                                                              |



Table 15 (con’t): Summary of Selected Alternative

| Removal Action Areas |                       | Construction Duration<br>(work days <sup>7</sup> ) |                   |         |           | Total<br>Construction<br>Duration<br>(work months) | In-Water / Upland Costs<br>(\$ Million) | Total Cost<br>(\$ Million) |
|----------------------|-----------------------|----------------------------------------------------|-------------------|---------|-----------|----------------------------------------------------|-----------------------------------------|----------------------------|
|                      |                       | Mobilization/<br>Demobilization                    | Piling<br>Removal | Removal | Placement |                                                    |                                         |                            |
| In-Water Action      | DU-1 through<br>DU-18 | 15                                                 | 86                | 99      | 48        | 16.1                                               | \$46.1                                  | \$99.0                     |
| Upland Action        | EU-1                  |                                                    | --                | 147     | 95        |                                                    |                                         |                            |
|                      | EU-2                  |                                                    |                   |         |           |                                                    |                                         |                            |
|                      | EU-3                  |                                                    |                   |         |           |                                                    |                                         |                            |
|                      | EU-4                  |                                                    |                   |         |           |                                                    |                                         |                            |
|                      | EU-5                  |                                                    |                   |         |           |                                                    |                                         |                            |
|                      | EU-6                  |                                                    |                   |         |           |                                                    |                                         |                            |
|                      | EU-7                  |                                                    |                   |         |           |                                                    |                                         |                            |
|                      | EU-8                  |                                                    |                   |         |           |                                                    |                                         |                            |
|                      | EU-9                  |                                                    |                   |         |           |                                                    |                                         |                            |

Notes:

1. Removal volumes associated with either dredging in in-water areas or excavation in upland areas. The in-water dredge volume includes a 1.5x constructability factor and the upland excavation volume includes a 1.3x constructability factor. The constructability factor accounts for additional dredge/ excavation volume required to perform dredging/ excavation in practice, for overdredge/overexcavation volumes allowances, and for additional volume to design elevation-based dredge/excavation prisms.

2. Placement volumes include placement of RMC and In-Water Slope Backfill in the in-water areas and in the upland portion, placement of Amended Cap, and Backfill, and Berm Backfill. The in-water placement volumes includes a 1.5x constructability factor and the upland placement volume includes a 1.3x (with the exception of Berm Backfill that assumes a 1.5x) constructability factor. The constructability factor accounts for additional placement volume required offset the total removal volume (required to perform dredging/ excavation in practice, for overplacement allowances, and for additional volume to design elevation- based dredge/ excavation prisms).

3. Allowance volumes are associated with either contingency re-dredging in in-water areas or contingency re-excavation in upland areas, based on confirmational sampling conducted during construction. Contingency re-dredging volume is based re-dredging conducted over a portion of the total in-water dredge area, applied to a 1-ft thickness to address generated residuals (15% of area; 1-ft thickness) and 2.5-ft thickness to remove missed inventory (20% of area; 2.5-ft thickness). Contingency re-excavation for the remaining upland area (outside of TSCA and NAPL Area) assumes re-excavation conducted over 20% of the remaining upland area (outside of EU-1), applied at a 1-ft thickness to address missed inventory; and for EU-1, assumes re-excavation conducted over 50% of EU-1, applied at a 1-ft thickness to address missed inventory.

4. Slope Backfill volume includes volume for placement from post-dredge surface up to 0 ft MLLW.

5. Backfill volume includes the volume includes to restore to habitat design elevations in the upland area.

6. Backfill volume includes volume for placement above 0 feet MLLW to required final design habitat elevations.

7. Work days required to complete the construction (i.e., not including weekends, holidays, or any other non-working periods). 9a. Costs are presented in 2025 dollars (see Appendix D for alternative detailed cost estimates).

--: not applicable

bgs: below ground surface CY: cubic yard  
DU: dredge unit EA: each  
EE/CA: Engineering Evaluation and Cost Analysis EU: excavation unit  
EW: East Waterway ft: feet  
GAC: granular activated carbon NAPL: non-aqueous phase liquid NPV: net present value  
RAL: Remedial Action Level  
RMC: residuals management cover SF: square feet

Table 16: Selected Alternative Estimated Cost Summary

| Task ID                                                                    | Task Description                                            | In-Water Costs   | Upland Costs     | Total Project Costs |
|----------------------------------------------------------------------------|-------------------------------------------------------------|------------------|------------------|---------------------|
| DIRECT CONSTRUCTION COSTS                                                  |                                                             |                  |                  |                     |
| 1                                                                          | Mobilization/Demobilization                                 | \$ 1,430,000.00  | \$ 780,000.00    | \$ 2,210,000.00     |
| 2                                                                          | Site Preparation                                            | \$ 250,000.00    | \$ 769,100.00    | \$ 1,019,100.00     |
| 3                                                                          | Surveys                                                     | \$ 796,461.00    | \$ 1,008,812.00  | \$ 1,805,273.00     |
| 4                                                                          | In-Water Structural Work                                    | \$ 3,760,913.00  | \$ -             | \$ 3,760,913.00     |
| 5                                                                          | Dredging, Transloading, Upland Transportation, and Disposal | \$ 20,138,432.00 | --               | \$ 20,138,432.00    |
| 6                                                                          | Excavation, Transfer, Upland Transportation, and Disposal   | --               | \$ 28,398,037.00 | \$ 28,398,037.00    |
| 7                                                                          | In-Water Material Placement                                 | \$ 2,929,762.00  | --               | \$ 2,929,762.00     |
| 8                                                                          | Upland Material Placement                                   | --               | \$ 5,015,953.00  | \$ 5,015,953.00     |
| 9                                                                          | Environmental Controls                                      | \$ 500,000.00    | \$ 150,000.00    | \$ 650,000.00       |
| Direct Construction Costs Subtotal                                         |                                                             | \$ 29,805,568.00 | \$ 36,121,902.00 | \$ 65,927,470.00    |
| 10                                                                         | Direct Cleanup Construction Contingency (30%)               | \$ 8,941,670.00  | \$ 10,836,571.00 | \$ 19,778,241.00    |
| Direct Construction Cost Subtotal with Contingency                         |                                                             | \$ 38,747,238.00 | \$ 46,958,473.00 | \$ 85,705,711.00    |
| 11                                                                         | Sales Tax (10.35%)                                          | \$ 4,010,339.00  | \$ 4,860,202.00  | \$ 8,870,541.00     |
| Total Direct Construction Costs (with Contingency and Sales Tax) - Rounded |                                                             | \$ 42,757,600.00 | \$ 51,818,700.00 | \$ 94,576,300.00    |
| INDIRECT CONSTRUCTION COSTS                                                |                                                             |                  |                  |                     |
| 12                                                                         | Indirect Construction Costs                                 | \$ 2,593,484.00  | \$ 795,000.00    | \$ 3,388,484.00     |
| Indirect Construction Costs Subtotal                                       |                                                             | \$ 2,593,484.00  | \$ 795,000.00    | \$ 3,388,484.00     |
| 13                                                                         | Indirect Construction Contingency (30%)                     | \$ 778,045.00    | \$ 238,500.00    | \$ 1,016,545.00     |
| Indirect Construction Costs Subtotal with Contingency                      |                                                             | \$ 3,371,529.00  | \$ 1,033,500.00  | \$ 4,405,029.00     |
| Total Indirect Construction Costs (with Contingency) - Rounded             |                                                             | \$ 3,371,500.00  | \$ 1,033,500.00  | \$ 4,405,000.00     |
| Total Project Cost - Rounded                                               |                                                             | \$ 46,129,100.00 | \$ 52,852,200.00 | \$ 98,981,300.00    |



# Figures

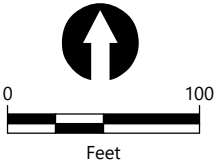






**LEGEND:**  
Terminal 25 South Site

**NOTE:**  
1. Aerial imagery source: King County (2021)



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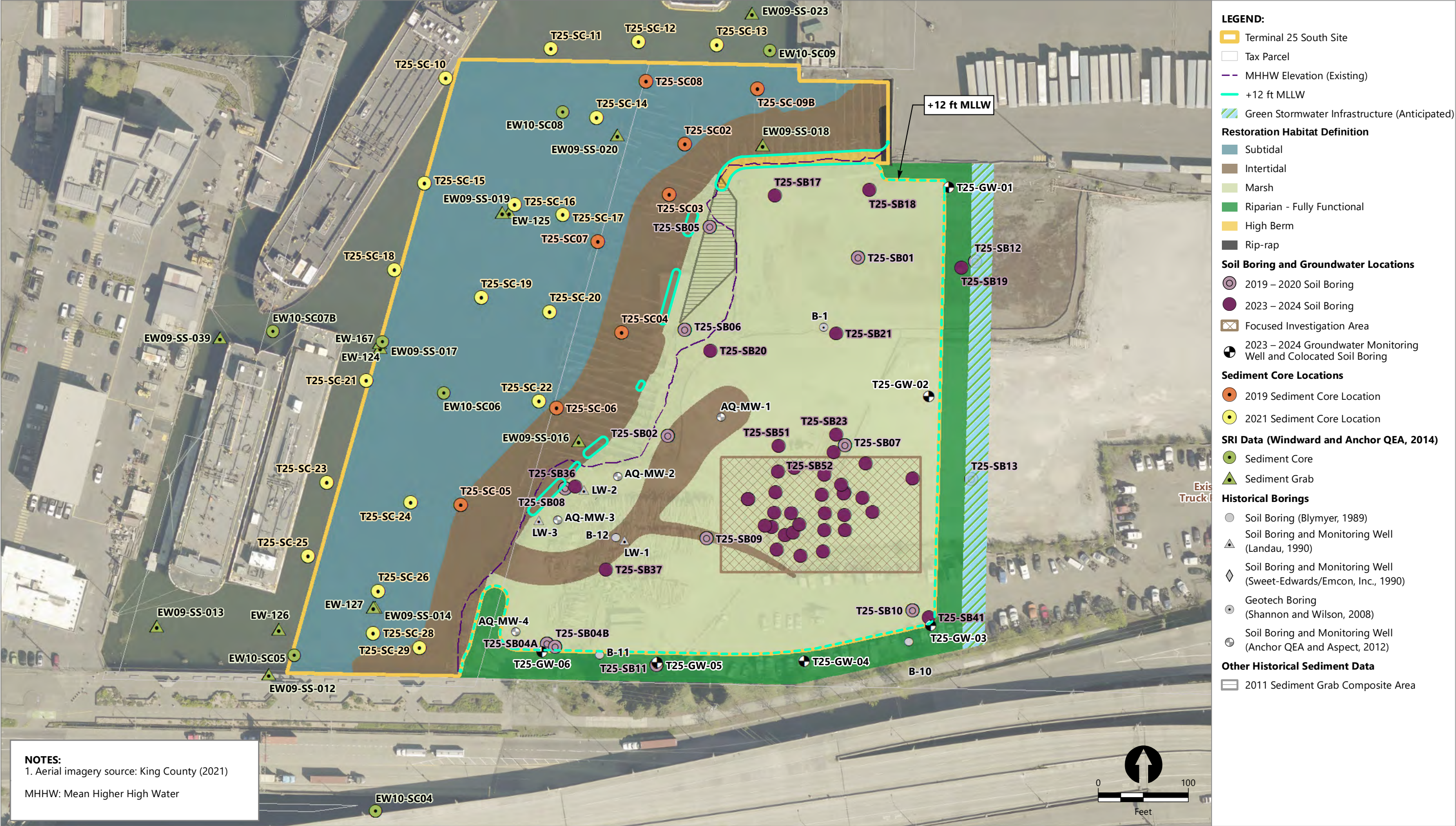
**Figure 2**  
**Terminal 25 South Site**



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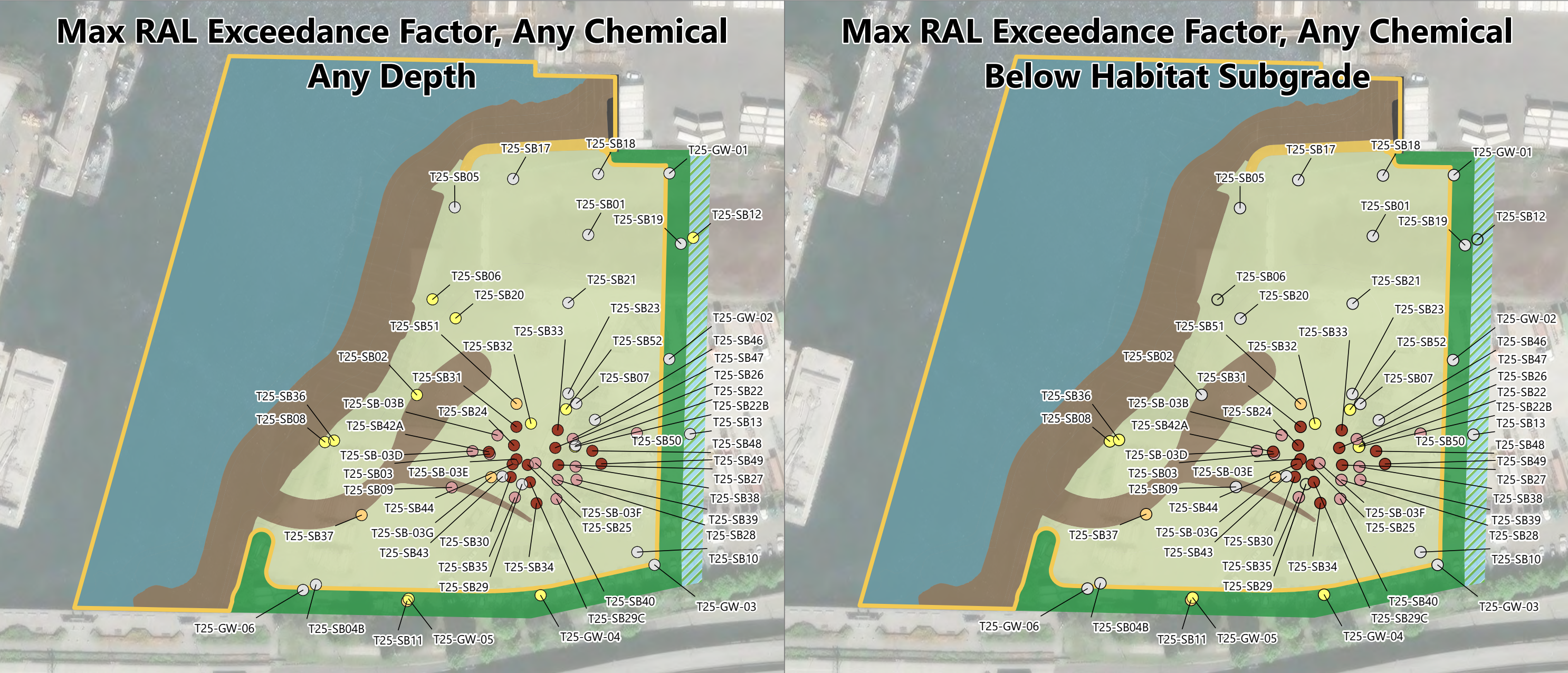
**Figure 3**  
**Historical Operations, Previous Remedial Actions, and Potential Source Areas**



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**LEGEND:**

Terminal 25 South Site

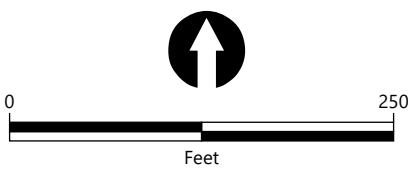
**Maximum RAL Exceedance Factor, Any Chemical**

- No RAL Exceedance
- 1-20
- 20-100
- 100-1000
- > 1000
- No Data Available
- Green Stormwater Infrastructure (Anticipated)

**Restoration Habitat Definition**

- Subtidal
- Intertidal
- Marsh
- Riparian - Fully Functional
- High Berm
- Rip-rap

**NOTE:**  
1. Aerial Imagery courtesy of ESRI.  
RAL: Remedial Action Level



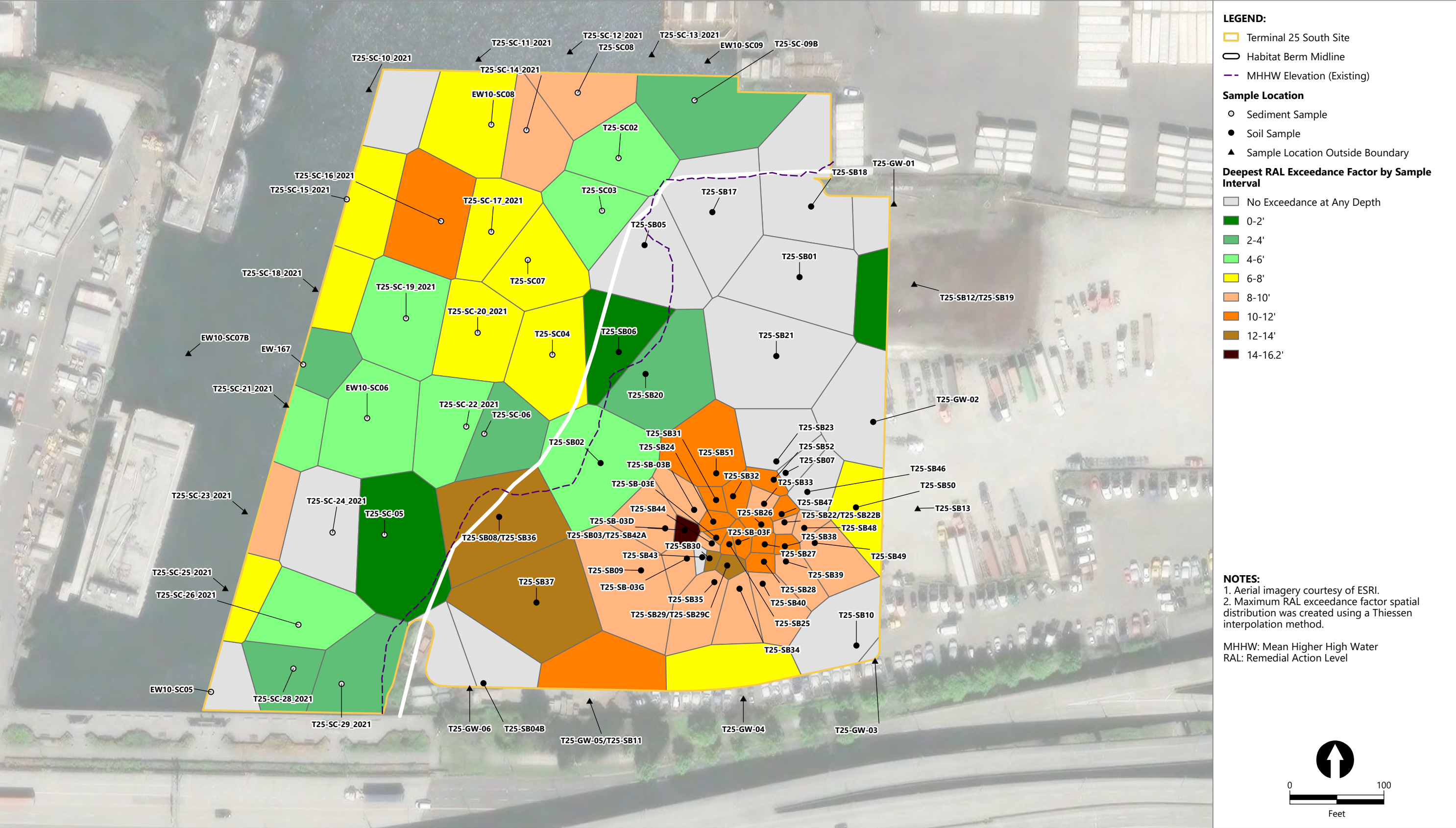
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**Figure 6**  
**Upland Soil East Waterway RAL Screening**



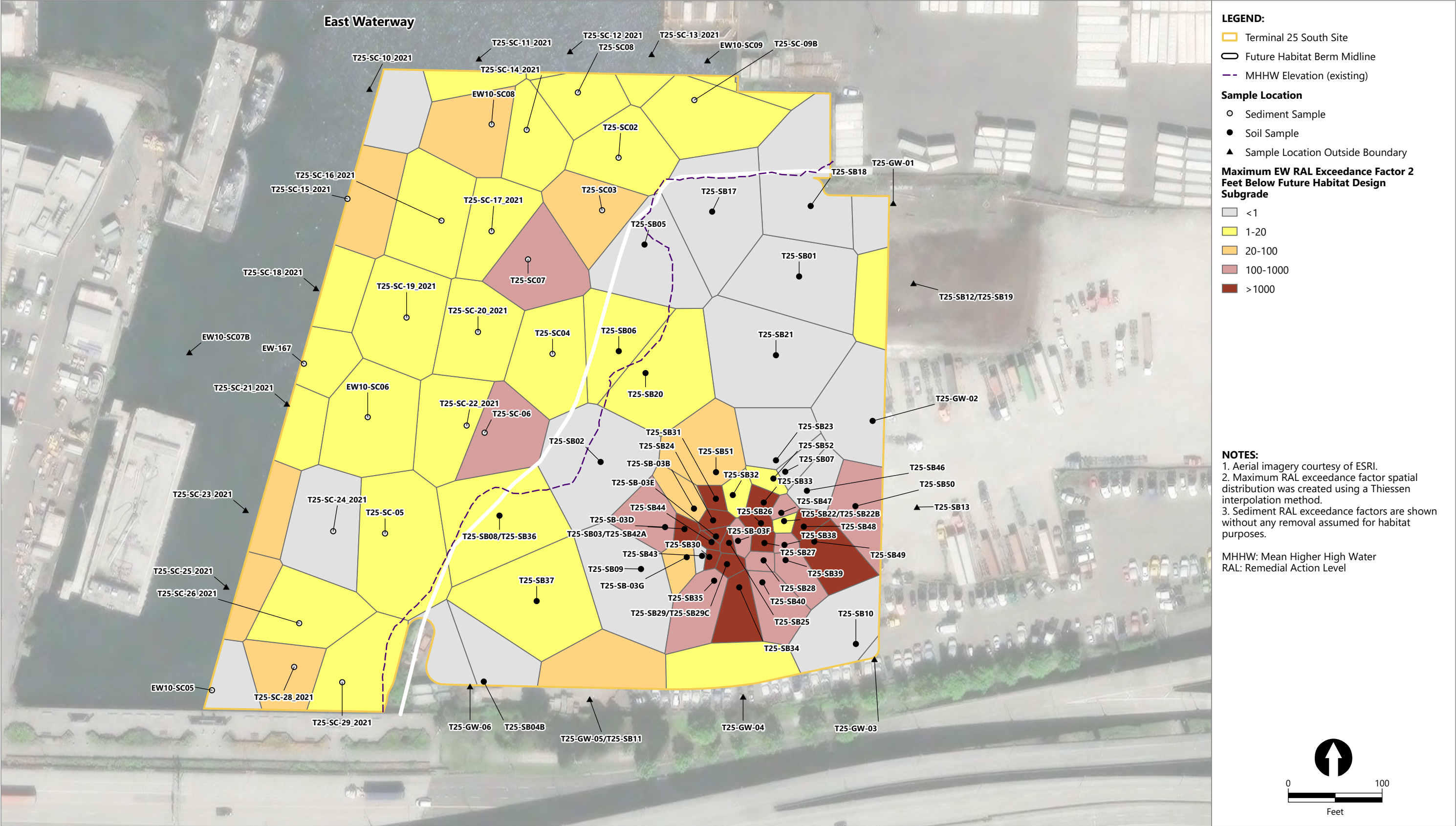
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**Figure 8**  
Thiessen Interpolation of Deepest Exceedances of East Waterway RALs



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**Figure 9**  
**Thiessen Interpolation of Maximum Exceedances of East Waterway RALs**



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Filepath: \\GSTFile01\\GIS\\Jobs\\PortofSeattle\_0003\\T25\\Maps\\Reports\\EECA\_WorkPlan\\POS\_EECAWP\_Report.aprx | AQ\_POS\_EECA\_F5-5a\_Alternative\_3\_Removal\_Plan\_View



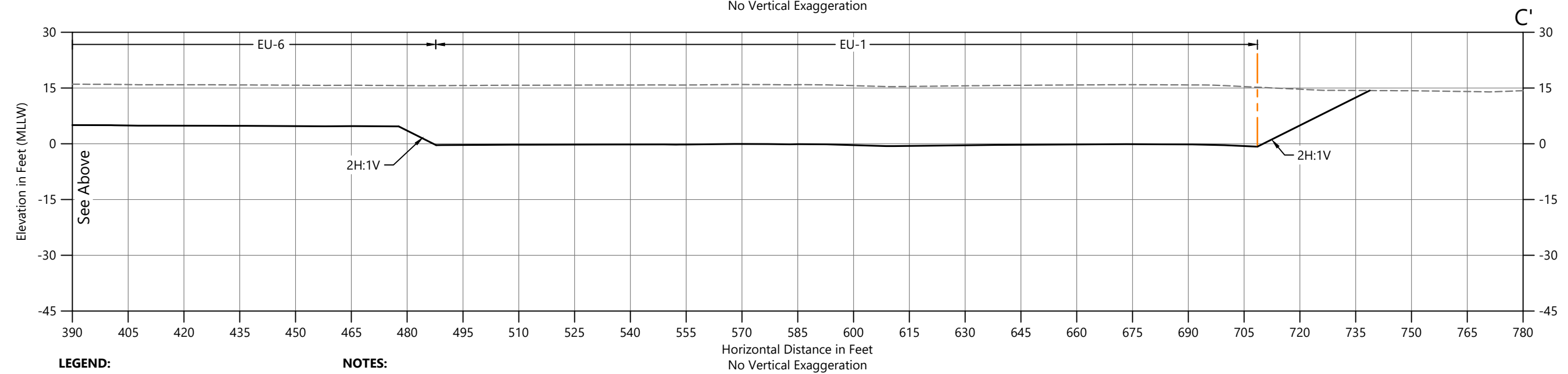
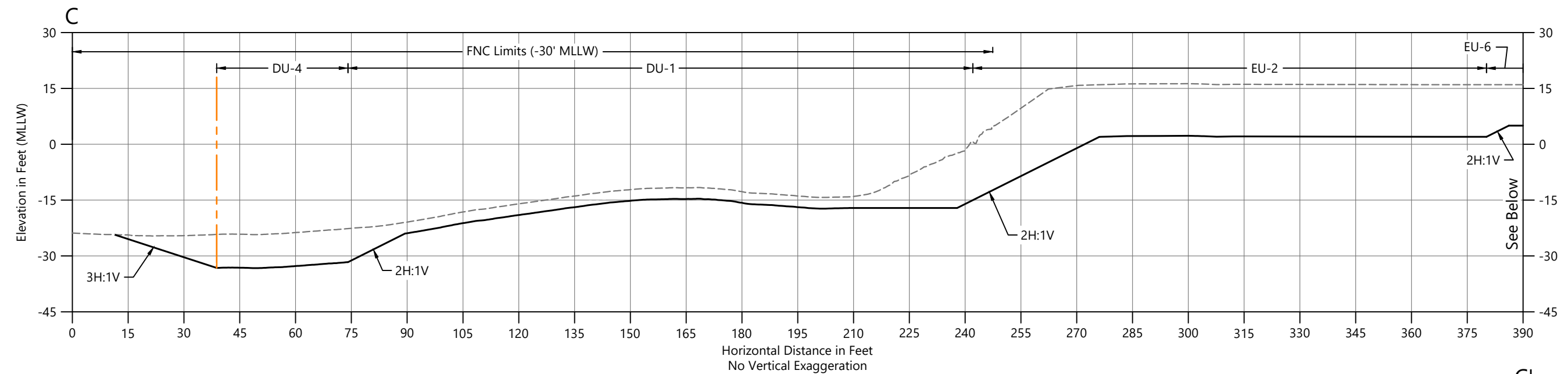
Figure 10  
Alternative 3 Removal - Plan View



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**Figure 11**  
**Alternative 3 Placement - Plan View**



**LEGEND:**

- Existing Mudline or Grade
- Required Dredge or Required Excavation Depth (Below Mudline)
- Terminal 25 South Site

**NOTES:**

- DU: Dredge Unit  
EU: Excavation Unit  
FNC: Federal Navigation Channel
1. Required dredge/excavation depths are assumed to address contamination and to support habitat design.
  2. Side slopes to be determined during design.



## **Attachment A**

### **Applicable or Relevant and Appropriate Requirements**



### Appropriate or Relevant and Appropriate Requirements for the Terminal 25 South Site

| Chemical-Specific                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                           |                                                                                                                                                                           |                  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| Requirement                                                                                                                                                                                                                                    | Citation                                                                                                                                                                                                                                                                  | Comments                                                                                                                                                                  | Status           |
| Recommended water quality criteria and other information is published at <a href="https://www.epa.gov/wac/national-recommended-water-quality-criteria-tables">https://www.epa.gov/wac/national-recommended-water-quality-criteria-tables</a> . | Clean Water Act<br>Section 304(a)<br>33 U.S.C. § 1314(a)<br>EPA develops and publishes recommended water quality criteria and other information which may be used for the establishment of state water quality standards to protect, restore, and maintain surface water. | The recommended water quality criteria and other information are important to follow if doing so during dredging and other removal activities will improve water quality. | To be Considered |

### ARARs/TBCs for the Terminal 25 South Site

| Location-Specific                                                                                                                                                                                                                                                                                                                 |                                                                                                 |                                                                                                                                                                                                                                                    |                  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| Requirement                                                                                                                                                                                                                                                                                                                       | Citation                                                                                        | Comments                                                                                                                                                                                                                                           | Status           |
| Provides for best management practices during activities that may impact sediment quality.                                                                                                                                                                                                                                        | State Antidegradation and Designated Use Policies<br>WAC 173-204-120                            | To the extent practicable employ these best management practices during performance of the remedial action.                                                                                                                                        | To be Considered |
| Provides for obtaining recommendation from U.S. Fish and Wildlife Service on avoiding, minimizing, and mitigating adverse impacts of land and water development projects on fish, wildlife, plants, and habitats.                                                                                                                 | U.S. Fish and Wildlife Service Mitigation Policy, as revised<br>81 FR 83440 (November 21, 2016) | Consult with U.S. Fish and Wildlife Service in order to obtain recommendations on ways to avoid, minimize, and mitigate damage to natural resources, including fish, wildlife, plants, and habitats, during implementation of the remedial action. | To be Considered |
| Provides U.S. Fish and Wildlife Service with authority to investigate and report on proposed federal action that affects a stream or other body of water, and to provide recommendations to minimize impacts to fish and wildlife resources. Channel deepening or other modifications to a body of water are subject to this law. | U.S. Fish and Wildlife Coordination Act<br>16 U.S.C. §§ 661, 662(a)                             | Consult with U.S. Fish and Wildlife Service and obtain its recommendations on how to conserve wildlife resources and prevent loss or damage to such resources during implementation of the remedial action.                                        | Applicable       |

## ARARs/TBCs for the Terminal 25 South Site

| Location-Specific                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                     |            |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Citation                                                                                                                                                                                                                                                                                                                  | Comments                                                                                                                                                                                                                                                                                                                                                                                                            | Status     |
| <p>Prohibits the killing, capturing, selling, trading or transporting of protected migratory bird species without prior authorization of the U.S. Fish and Wildlife Service. Applies to migratory birds native to the U.S. or U.S. territories, and to any part, nest, egg, or product associated with such migratory birds.</p> <p>50 CFR § 10.13 (provides list of protected migratory bird species)</p>                                                                      | <p>Migratory Bird Treaty Act of 1918, as amended.<br/>16 U.S.C. §§ 703, 704, 705</p>                                                                                                                                                                                                                                      | <p>Consult with U.S. Fish and Wildlife Service to identify protected migratory bird species and their nests which may be present during implementation of the removal action, and to obtain recommendations for protecting such species and their nests.</p>                                                                                                                                                        | Applicable |
| <p>Provides a program for conservation of threatened and endangered plants and animals and their habitats. Requires consultation by a federal agency with U.S. Fish and Wildlife Service and National Oceanic Atmospheric Administration Fisheries Service to ensure action taken by such agency is not likely to jeopardize the continued existence of listed endangered or threatened species or result in destruction or adverse modification of their critical habitat.</p> | <p>Endangered Species Act of 1973<br/>Sections 2(c), 3, 7(a)(1)-(4), 7(b)(1)(A), 7(b)(3), 7(b)(4), 7(c), 9<br/>16 U.S.C. §§ 1531(c), 1532, 1536(a)(1)-(4), 1536(b)(1)(A), 1536(b)(3), 1536(b)(4), 1536(c), 1538<br/><br/>50 CFR §§ 17.3, 17.11, 17.12, 17.21(c), 17.21(d), 17.31, 17.51, 17.61(c), 17.71(a), 17.71(c)</p> | <p>Consult with U.S. Fish and Wildlife Service and National Oceanic Atmospheric Administration Fisheries Service to ensure removal activities do not jeopardize threatened or endangered species or destroy or adversely modify the habitat of such species. May include the preparation of a biological assessment which assesses such removal action and its effects on protected species and their habitats.</p> | Applicable |

## ARARs/TBCs for the Terminal 25 South Site

| Location-Specific                                                                                                                                                                                                                                                           |                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                    |                  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| Requirement                                                                                                                                                                                                                                                                 | Citation                                                                                                                                                                                 | Comments                                                                                                                                                                                                                                                                                                                                                                                                                           | Status           |
| Promotes the protection of essential fish habitat through coordination and consultation between the National Marine Fisheries Service, the Regional Fishery Management Council, and each federal agency whose action or proposed actions may adversely affect such habitat. | Magnuson-Stevens Fishery Conservation and Management Act Sections 305(b)(1)(D); 305(b)(2-4)<br>16 U.S.C. §§ 1855(b)(1)(D), 1855 (b)(2-4)<br><br>50 CFR § 600.920                         | Provide notice to the National Marine Fisheries Service and Regional Fishery Management Council of the planned removal action and consider their comments and recommendations for conserving essential fish habitat. Implement measures to conform to the recommendations designed to avoid, mitigate, or otherwise offset any adverse effects on essential fish habitat or provide reasons for not following the recommendations. | Applicable       |
| Establishes regulations, goals, policies and objectives for protecting and enhancing state of Washington shoreline areas.                                                                                                                                                   | Shoreline Management Act of 1971<br>WAC 173-18-020, -030, -040<br>WAC 173-27-060<br><br>King County Shoreline Management Master Program<br>Ordinance 3688<br>Sections 325, 412, 413, 414 | Consider the implications of the King County preferred practices and restrictions in undertaking removal action that may impact shoreline areas.                                                                                                                                                                                                                                                                                   | To be Considered |
| Provides for authorized work times, construction techniques, shoreline stabilization requirements, and test boring requirements in saltwater areas.                                                                                                                         | State Hydraulic Code Rules<br>WAC 220-660-330, Table 4; 220-660-360; 220-660-370; 220-660-410; 220-660-450(1), (2), (3)(b), (3)(c).                                                      | Adhere to the directions in these provisions of State law during implementation of the removal action.                                                                                                                                                                                                                                                                                                                             | Applicable       |
| Establishes maximum permissible noise levels in identified environments at specified times.                                                                                                                                                                                 | State Noise Control<br>RCW 70A.20.010, 70A.20.020<br><br>WAC 173-60-010, 173-60-020, 173-60-030, 173-60-040, 173-60-050, 173-60-120                                                      | Protect workers and others from experiencing excessive noise during removal activities.                                                                                                                                                                                                                                                                                                                                            | Applicable       |

### ARARs/TBCs for the Terminal 25 South Site

| Location-Specific                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                              |                                                                                                                                                                                                                                                                                                                                                                    |                          |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|
| Requirement                                                                                                                                                                                                                                                                                                                                                                                                                   | Citation                                                                                     | Comments                                                                                                                                                                                                                                                                                                                                                           | Status                   |
| Requires federal agencies which have possession of or control over Native American cultural items (including human remains, associated and unassociated funerary objects, sacred objects and objects of cultural patrimony) located on federal land or tribal lands to compile an inventory of such items and consult with affected tribes. Prescribes when federal agencies must return such Native American cultural items. | Native American Graves Protection and Repatriation Act<br>25 U.S.C. §§ 3001-3006, 3009, 3011 | Should Native American items be discovered during removal activities, an inventory will be created to document these items and, if possible, the items will be secured. In addition, upon such discovery, the Muckleshoot and Suquamish Tribes and Yakama Nation will be informed of the discovery and consulted as to the handling and disposition of such items. | Relevant and Appropriate |
| It is the policy of the United States protect and preserve for American Indians certain rights, including but not limited to, access to sites and use and possession of sacred objects.                                                                                                                                                                                                                                       | American Indian Religious Freedom Act<br>42 U.S.C. § 1996                                    | Should American Indian sacred objects to discovered, an effort will be made to safely secure these objects, and the Muckleshoot and Suquamish Tribes and Yakama Nation will be notified of the discovery and provided an opportunity to obtain possession of the objects.                                                                                          | To be Considered         |

### ARARs/TBCs for the Terminal 25 South Site

| Location-Specific                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Citation                                                                                                                                                                                                                                                   | Comments                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Status           |
| Requires a federal agency to: (1) identify historic properties potentially affected by an agency undertaking; (2) assess the potential effects on such properties from the undertaking; (3) provide the Advisory Council on Historic Preservation an opportunity to comment on the agency decision regarding the properties; and (4) consider ways to avoid, minimize or mitigate potential effects on the properties. Historic properties include any district, site, building, structure, archaeological site, traditional cultural landscape, traditional cultural property, or object included in or eligible for the National Register of Historic Places, including artifacts, records, and material remains related to such properties. | National Historic Preservation Act<br>16 U.S.C. § 470f<br><br>36 CFR §§ 60.2(a), 60.3, 60.4, 800.2(c)(1)(i), 800.2(c)(2)(ii), 800(c)(3), 800(c)(4), 800(c)(5), 800.2(d), 800.3(c), 800.3(e), 800.3(f), 800.3(g), 800.4(d)(2), 800.5(a), 800.6(a), 800.6(b) | Although no historic properties have been identified at the site, should such properties be encountered during remedial activities, assess the potential effects on the properties from the remedial activities, provide the Advisory Council on Historic Preservation or its designee (often the State Historic Preservation Officer), and perhaps other interested parties, an opportunity to comment on the potential effects, and decide how to proceed in a way that, if possible, avoids, minimizes or mitigates the potential effects on the properties. | Applicable       |
| Federal agencies need to evaluate actions and impacts on flood plains and mitigate such impacts. Criteria established for best management of flood prone areas.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 42 Fed. Reg. 26951, 3 CFR 1977 Comp. p. 77                                                                                                                                                                                                                 | If the site is determined to be within a floodplain or flood prone area, actions should be take to prevent the risk of floods due to remedial activities.                                                                                                                                                                                                                                                                                                                                                                                                       | To be Considered |

### ARARs/TBCs for the Terminal 25 South Site

| Action-Specific                                               |                                                                                                                                 |                                                                      |            |
|---------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|------------|
| Requirement                                                   | Citation                                                                                                                        | Comments                                                             | Status     |
| Provides disposal requirements of PCB-contaminated material.. | Toxic Substances Control Act<br>Section 6(e)<br>15 U.S.C. § 2605(e)<br><br>40 CFR §§ 761.61(a)(4), 761.61(a)(5); or § 761.61(b) | Actions handling PCB remediation wastes and PCB containing material. | Applicable |

## ARARs/TBCs for the Terminal 25 South Site

| Action-Specific                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                         |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Requirement                                                                                                                                                                                                    | Citation                                                                                                                                                                                                                                                                                                  | Comments                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Status                                                                                                                                                                                  |
| Assures that alteration or use of a federal civil works project will not impair the usefulness of that project or be injurious to the public.                                                                  | Rivers and Harbors Act of 1899<br>Section 14(a)<br>33 U.S.C. § 408(a)                                                                                                                                                                                                                                     | Should it be determined that any portion of the removal action may impair the usefulness of a structure or project of the United States Army Corps of Engineers, there will be consultation with the Corps to determine how to best avoid or mitigate such impairment.                                                                                                                                                                                                                                                                                                                                                     | Applicable                                                                                                                                                                              |
| Provides regulatory requirements for generators and transporters of hazardous waste. Also provides regulatory standards for owners and operators of hazardous waste treatment, storage or disposal facilities. | Resource Conservation and Recovery Act (a.k.a. Solid Waste Disposal Act)<br>Sections 3002, 3003, 3004<br>42 U.S.C. §§ 6922, 6923, 6924<br><br>40 C.F.R. Part 262, Subparts A-D, L, M (generators)<br>40 C.F.R. Part 263, Subparts A-C (transporters)<br>40 C.F.R. Parts 264 to 270 (owners and operators) | Comply with the generator and transporter requirements for all hazardous waste generated and transported as part of the removal action. Confirm there is compliance with owner and operator regulations for each hazardous waste treatment, storage, or disposal facility which is to receive hazardous waste as a result of implementation of the removal action.<br><br>See, also, Section 121(d)(3) of CERCLA, 42 U.S.C. § 9621(d)(3), which requires that each treatment, storage or disposal facility which is to receive hazardous waste must first be deemed to be in compliance with the Solid Waste Disposal Act. | Applicable as to onsite generator and transporter requirements, and otherwise CERCLA requires that a receiving facility be in compliance with the owner and operator standards of RCRA. |

STATEMENT OF WORK  
Terminal 25 South  
East Waterway Operable Unit – Harbor Island Superfund Site  
Seattle, Washington  
**Administrative Settlement Agreement and Order on Consent for Removal Action**

**I. Purpose and Scope**

The purpose of this Statement of Work (SOW) is to fully implement the Administrative Settlement Agreement and Order on Consent (Settlement) requiring the performance of a non-time critical removal action (NTCRA) for soil and sediments at Terminal 25 South (T-25S) of the East Waterway Operable Unit of the Harbor Island Superfund Site. The NTCRA will be conducted by the Port of Seattle (Respondent) and consists of a removal design and removal action for the excavation and disposal of contaminated soil and sediments.

The documentation tasks to generally be completed under this SOW include preparation and delivery of a Removal Design, Biological Assessment, Removal Action Work Plan, and Final Report. The cleanup task to be performed under this SOW is implementation of the NTCRA.

This SOW is incorporated into the Settlement in CERCLA Docket No. 10-2026-0216. The NTCRA is required by the Action Memorandum signed and issued by EPA on June 24, 2026, for T-25S.

The specific documentation tasks to be completed by Respondent under this SOW include preparation and delivery of the documents identified in Table 1. Schedule of Project Deliverables.

**II. General Requirements**

Respondent shall perform the Work as defined and required by the Settlement and in accordance with all EPA-approved, conditionally approved, or modified deliverables. The Work includes, at a minimum, all actions necessary to implement the NTCRA, including, but not limited to, the actions set forth in this SOW.

- A. **Deliverables.** Respondent shall submit all deliverables to EPA in electronic form, unless otherwise specified by the EPA Project Manager.
- B. **Technical Specifications for Deliverables.** Sampling and monitoring data shall be submitted in standard Regional Electronic Data Deliverable (EDD) and SCRIBE format. Other delivery methods may be required or approved by the EPA Project Manager if electronic direct submission presents a significant burden or as technology changes.
- C. **Approval of Deliverables.** The approval of all deliverables by EPA will be accomplished in accordance with Paragraph 18.c of the Settlement.
- D. Respondent shall perform in accordance with the Removal Action Work Plan and all other deliverables as approved by EPA and in accordance with the associated schedule approved by EPA. Upon approval or subsequent modification by EPA of any deliverable, or any portion thereof: (1) such deliverable, or portion thereof, and any subsequent modifications, will be incorporated into and enforceable under the Settlement; and (2) Respondent shall take any action required by such deliverable, or portion thereof. Respondent shall not

commence or perform any Work except in conformance with the terms of the Settlement and this SOW.

- E. **Field Activity Notification.** Respondent shall notify EPA not less than 14 calendar days in advance of initiating any field activity conducted under this SOW or the Settlement, unless shorter notice is agreed to or approved by the EPA Project Manager.

### **III. Removal Design**

Respondent shall submit a Removal Design with a basis of design narrative for review and approval by EPA. The Removal Design shall, at a minimum, include the following elements:

### **IV. An Introduction/Purpose.**

- A brief description of project history, previous reports and planned actions.
- A Basis of Design that explains the input parameters to design calculations and summarizes specifications and drawings related to the removal action. The Basis of Design shall include a narrative of what is being designed with each major step of the work, including assumptions for each step of the work being performed, regulatory requirements or standards or guidance that Respondent will follow, general assumptions used for design, as well as specifications and drawings.
- The implementation of treatment technologies, if applicable, including specifications on the products to be utilized and how placement, measurements, handling and storage are to be conducted.
- Confirmation sampling protocols and Quality Assurance/Quality Control (QA/QC) procedures.
- A 30% Design, 60% Design, 90% Design and 100% Design.
- A schedule and project milestones.
- Design review meetings between Respondent and EPA will be held as needed to expedite project schedules and approvals, and at a minimum of once per month.
- The 100% Design shall include the final Basis of Design: final construction documents, schedule, final plans and specifications. Respondent shall implement the 100% Design as approved by EPA.

### **V. Removal Action Work Plan**

Respondent shall submit a Removal Action Work Plan for review and approval by EPA. Among other components, Removal Action Work Plan shall include the sub-plans identified below. The Removal Action Work Plan shall also include an implementation schedule.

Respondent shall coordinate the following activities with EPA:

- Providing access to the project site for EPA and its oversight contractor.
- Submittal of specifications for any placed material.
- Completion of daily field reports documenting environmental controls and mitigations as outlined in the Biological Assessment and Clean Water Act 404 Memorandum developed for the project. These daily field reports shall be provided as attachments to the required progress reports as outlined in Table 1. These submissions shall include:
  - Copies of any correspondence or communications with the Endangered Species Act resource agencies (National Marine Fisheries Service or U.S. Fish & Wildlife Service), if any.

- Copies of turbidity monitoring results, if any, Applicable or Relevant and Appropriate Requirements (ARARs) compliance monitoring results, if any, and a description of response actions taken, if any.

In addition to other elements of the Work, the Removal Action Work Plan must describe all community impact mitigation activities to be performed to: (i) reduce impacts (e.g., air emissions, dust, odor, traffic, noise, temporary relocation, negative economic effects) to residential areas, schools, playgrounds, healthcare facilities, or recreational public areas frequented by community members (Community Areas) during implementation of the NTCRA; (ii) conduct monitoring in Community Areas of impacts from the implementation of the NTCRA; (iii) communicate validated sampling data; and (iv) make adjustments during the implementation of the NTCRA in order to further reduce negative impacts to affected Community Areas. The Removal Action Work Plan shall contain information about impacts to Community Areas that is sufficient to assist the EPA Project Manager and EPA Community Involvement Coordinator in performing the evaluations described in the *Superfund Community Involvement Handbook*, OLEM 9230.0-51 (Mar. 2020). This *Handbook* may be found at <https://www.epa.gov/superfund/superfund-community-involvement-tools-and-resources#handbook>.

Respondent shall prepare a Removal Action Work Plan and schedule that, at a minimum, contains the following elements:

- Construction Quality Assurance Plan
- Quality Assurance Project Plan
- Data Management Plan
- Dredge/Excavation, Barge Transport, and Dewatering
- Traffic Control and Vessel Management Plan
- Waste Management, Transportation and Disposal
- Water Quality Monitoring
- Best Management Practices
- Fish and Wildlife Resources Protection
- Waste Characterization Sampling
- Backfill, Site Restoration and Demobilization
- Confirmation Sampling Plan
- Historical and Archaeological Resource Protection
- Health and Safety Plan
- Post Removal Site Controls
- Biological Assessment/Opinion and Clean Water Act 404 Memorandum

Respondent shall submit for EPA review and comment a Health and Safety Plan (HASP) that, at a minimum, meets the requirements of 29 C.F.R. § 1910.120 and otherwise describes all activities to be performed to protect on-site personnel and area residents from physical, chemical, biological and all other hazards related to performance of Work. The HASP shall be prepared in accordance with *EPA's Emergency Responder Health and Safety Manual*, OSWER 9285.3-12 (July 2005 and updates), available on EPA's website at [https://www.epaossc.org/\\_HealthSafetyManual/manual-index.htm](https://www.epaossc.org/_HealthSafetyManual/manual-index.htm). In addition, Respondent shall ensure that the HASP complies with all currently applicable Occupational Safety and Health Administration regulations found at 29 C.F.R. part 1910. If EPA determines that it is

appropriate, the HASP shall also include contingency planning. Respondent shall incorporate all changes to the HASP recommended by EPA and shall implement the HASP during performance of the Work.

Following implementation of the activities required by the Removal Action Work Plan, Respondent shall submit a Final Report for review and approval by EPA. The Final Report will contain, at a minimum, the following sections:

- Executive summary and introduction.
- NTCRA activities conducted.
- Confirmation sampling results.
- As built drawings.
- QA/QC findings.

Respondent shall submit sampling laboratory data to include an independent Stage 2B validation report to EPA within five working days of Respondent's receipt of the data validation report from the third-party validation contractor.

Field work progress meetings will be held once per month or as otherwise determined by the EPA Project Manager.

EPA will provide field oversight as determined to be necessary by the EPA Project Manager.

The schedule for submission to EPA of deliverables described in this SOW is presented in Table 1 below. This schedule may be updated if determined to be necessary by EPA.

## **VI. Biological Assessment, Biological Opinion, and Clean Water Act 404 Memorandum**

Respondent shall prepare a Biological Assessment and following review by EPA, Respondent shall submit the Biological Assessment to the resource agencies. Respondent shall engage in meaningful coordination with the resource agencies or request that a Biological Opinion be provided by the resource agencies. EPA will provide a schedule by which coordination must be completed between Respondent and the resource agencies. Respondent shall implement any measures recommended by the resource agencies in the Biological Opinion, or if there is no Biological Opinion, Respondent shall implement any measures that are otherwise communicated by the resource agencies to Respondent. Respondent is not required to obtain permits for onsite cleanup action but will be required to comply with all ARARs, consistent with the T-25S Action Memorandum to the extent practicable considering the exigencies of the situation as determined by EPA.

Respondent shall prepare a draft Clean Water Act 404 Memorandum that details how substantive requirements of the Clean Water Act will be met during performance of the NTCRA. Submission to EPA of the draft Clean Water Act 404 Memorandum will be according to the schedule in Table 1. The draft Clean Water Act 404 Memorandum shall include proposed best management practices (BMPs) and mitigation measures. The proposed BMPs and mitigation measures should include the use of operational or engineering resuspension controls silt screen or bubble curtains, monitoring for water quality parameters, and temporary pausing work as needed to prevent water quality exceedances. EPA will issue the final Clean Water Act 404 Memorandum which contains those BMPs and mitigation measures that Respondent is required to follow during performance of the Work.

## **VII. Implementation of NTCRA**

Respondent shall provide notification to EPA at least 14 days prior to initiation of fieldwork to allow EPA to coordinate field oversight activities.

Respondent shall complete the sediment and soil removal and disposal in accordance with the EPA-approved 100% Design and Removal Action Work Plan, including undertaking the following activities.

EPA and Respondent shall participate in a preconstruction meeting to:

- Review methods for documenting and reporting data, and compliance with specifications and plans including methods for processing design changes and securing EPA review and approval of such changes as necessary;
- Review methods for distributing and storing documents and reports;
- Demonstrate that construction management is in place, and discuss any appropriate modifications of the CQAP to ensure that project- specific considerations are addressed;

Respondent shall conduct a site tour with EPA in the project area to verify that the design criteria, plans, and specifications are understood and to review material and equipment storage locations, as appropriate.

Respondent shall transmit (electronically) to EPA the key points and action items discussed during the preconstruction meeting within seven (7) days of the meeting. Respondent shall submit to EPA the final key points and action items from the preconstruction meeting, incorporating all input from EPA, within fourteen (14) days of the meeting.

Pursuant to the CQAP, written progress reports shall be prepared by Respondent and submitted to EPA for review during performance of the Work. The progress reports shall be submitted by Respondent on a quarterly basis during development of the Removal Design and on a monthly basis during performance of the NTCRA field work. The EPA Project Manager may change the timing for submission of progress reports. The progress reports shall include work performed, problems encountered and solutions proposed, water quality monitoring results, and work to be performed during the following period. Respondent shall inform EPA of the disposal facility proposed by Respondent to receive any debris or dredged/excavated materials from T-25S.

Within seven (7) days after Respondent makes a preliminary determination that construction is complete, Respondent shall orally notify EPA for the purposes of scheduling a final inspection and/or meeting. Within fourteen (14) days after the final inspection and/or meeting, if Respondent still believes construction is complete, Respondent shall send a letter to EPA stating that construction is complete and describing and responding to all issues that were raised by EPA during the final inspection/meeting.

## **VIII. Major Deliverable Schedule**

The schedule for submission of deliverables to EPA is presented in Table 1. This schedule may be updated, as necessary, in the Removal Action Work Plan. Respondent may request, and the EPA Project Manager, at their discretion, may approve schedule changes to be documented in writing.

**Table 1. Schedule of Project Deliverables**

|                                                                                                   |                                                                                                                                  |
|---------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| 30% Design                                                                                        | Respondent will provide to EPA no later than 180 days after the Effective Date of the Settlement                                 |
| Comments on 30% Design                                                                            | EPA will provide comments to Respondent on the 30% Design as soon as practicable.                                                |
| 60% Design                                                                                        | Respondent will provide to EPA no later than 180 days after receipt of EPA comments on 30% Design                                |
| Comments on 60% Design                                                                            | EPA will provide comments to Respondent on the 60% Design as soon as practicable.                                                |
| 90% Design                                                                                        | Respondent will provide to EPA no later than 120 days after receipt of EPA comments on 60% Design                                |
| Comments on 90% Design                                                                            | EPA will provide comments to Respondent on the 90% Design as soon as practicable.                                                |
| Draft Removal Action Work Plan <sup>1</sup>                                                       | Concurrent with 90% Design                                                                                                       |
| Comments on Draft Removal Action Work Plan                                                        | EPA will provide Respondent with comments on the draft Removal Action Work Plan as soon as practicable.                          |
| Final (100%) Design                                                                               | Respondent will provide to EPA no later than 120 days after receipt of EPA comments on 90% Design                                |
| Final Removal Action Work Plan                                                                    | Concurrent with 100% Design                                                                                                      |
| Biological Assessment submitted to resource agencies and draft CWA 404 Memorandum provided to EPA | Concurrent with Draft Removal Action Work Plan                                                                                   |
| Comments on draft CWA 404 Memorandum                                                              | EPA will provide Respondent comments on the draft CWA 404 Memorandum as soon as practicable.                                     |
| Final CWA 404 Memorandum                                                                          | Concurrent with Final Removal Action Work Plan                                                                                   |
| Progress Reports                                                                                  | Submitted quarterly during the Removal Design, monthly during the field work or as otherwise directed by the EPA Project Manager |
| Draft – Final Report (completed after the final phase of construction)                            | Within 90 days after completion of construction                                                                                  |
| Comments on draft Final Report                                                                    | EPA will provide Respondent comments on the draft Final Report as soon as practicable.                                           |
| Final Report                                                                                      | Within 30 days after receipt of EPA comments on the draft Final Report                                                           |

## IX. Content of Supporting Plans

### Quality Assurance Project Plan

Respondent shall develop a project-specific Quality Assurance Project Plan (QAPP) for sample analysis and data handling for post-construction/confirmation samples and other samples that may be required to be collected as part of the NTCRA for T-25S. Respondent shall use quality assurance, quality control, and other technical activities and chain of custody procedures for all samples consistent with EPA's Environmental Information Quality Policy, CIO 2105.1) (Mar. 2021) at <https://www.epa.gov/irmpoli8/environmental-information-quality-policy>, the most recent version of Quality Management Systems for Environmental Information and Technology

<sup>1</sup> The Removal Action Work Plan will include the subplans identified in this SOW.

Programs – Requirements with Guidance for Use, ASQ/ANSI E-4 (Feb. 2014), and EPA Requirements for Quality Assurance Project Plans, EPA QA/G-5 (EPA/240/B-01/02) (Mar. 2001) at <https://www.epa.gov/quality/epa-qar-5-epa-requirements-quality-assurance-project-plans>.

The QAPP will define in detail the sampling and data-gathering methods that will be used on the project. It will include sampling objectives, a detailed description of sampling activities, sample locations, sample analysis, sampling equipment and procedures, sampling schedule, station positioning, and sample handling (such as sample containers and labels, sample preservation). The QAPP will also describe the quality assurance and quality control protocols necessary to achieve required data quality objectives.

Respondent shall ensure that the laboratories it utilizes for the analysis of samples meet the competency requirements set forth in the *Policy to Assure Competency of Laboratories, Field Sampling, and Other Organizations Generating Environmental Measurement Data under Agency-Funded Acquisitions* (Directive No. FEM-2011-01) (Nov. 2016) available at <http://www.epa.gov/measurements/documents-about-measurement-competency-under-acquisition-agreements> and that the laboratories perform all analyses according to EPA-accepted methods. Such EPA-accepted methods are documented in EPA's Contract Laboratory Program (<http://www.epa.gov/clp>), SW 846 *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods* (<https://www.epa.gov/hw-sw846>), *Standard Methods for the Examination of Water and Wastewater* (<http://www.standardmethods.org/>), 40 C.F.R. part 136, *Air Toxics - Monitoring Methods* (<http://www3.epa.gov/ttnamtl1/airtox.html>).

Upon request by EPA, Respondent shall have such laboratory analyze samples submitted by EPA for quality-assurance monitoring. EPA personnel may audit any laboratory that performs analytical work under this ASAOC. Prior to awarding any work to an analytical laboratory, Respondent will inform the laboratory that an audit may be performed, and that the laboratory agrees to coordinate with EPA prior to performing analyses. Respondent shall provide to EPA the quality assurance/quality control procedures followed by all sampling teams and laboratories performing data collection and/or analysis.

All analytical data collected under the Settlement and this SOW shall be provided electronically to EPA.

For purposes of confirmation samples, EPA and Respondent may use preliminary data that is not flagged, or screening data collected from mobile equipment to make construction decisions (specifically to remove additional contaminated sediment), with the understanding that validated data is required to verify construction completion.

Upon request, Respondent shall provide split or duplicate samples to EPA or its authorized representatives. Respondent shall notify EPA not less than 10 days prior to any sample collection activity unless shorter notice is agreed to by EPA. In addition, EPA has the authority to take any other samples that EPA deems necessary. Upon timely request, EPA may provide Respondent with split and/or duplicate samples in connection with any EPA sampling.

Respondent shall submit to EPA all sampling and test results and other data obtained or generated by or on behalf of Respondent or in connection with implementation of the Work.

### **Construction Quality Assurance Plan**

The CQAP shall describe the project-specific components of the performance methods and quality assurance program to ensure that the completed project meets or exceeds all design criteria, plans, and specifications. The draft CQAP shall be submitted with the 90% Design and

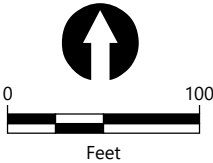
the Final CQAP shall be submitted with the Final 100% Design. The Final CQAP shall be submitted prior to the start of construction in accordance with the approved construction schedule. The CQAP shall provide requirements for the following elements:

- Responsibilities and authorities of all organization and key personnel involved in the NTCRA construction, including EPA and other agencies.
- Qualifications of the Construction Quality Assurance (CQA) Officer. Establish the minimum training and experience of the CQA Officer and supporting inspection personnel.
- Inspection and verification activities. Establish the observations and tests that will be required to monitor the construction and/or installation of the components of the NTCRA. The CQAP shall include the scope and frequency of each type of inspection to be conducted. Inspections shall be required to verify compliance with environmental requirements and ensure compliance with all health and safety procedures.
- Performance standards and methods. Describe all performance standards and methods necessary to ensure implementation of the removal construction. Performance monitoring requirements shall be stated to demonstrate that best management practices have been implemented for dredging operations, transportation of dredged or excavated material, and proper cap placement techniques.
- Documentation. Establish the reporting requirements for construction quality assurance activities. This shall include such items as daily and weekly summary reports, inspection data sheets, problem identification and corrective measures reports, design acceptance reports, and final documentation. A description of the provisions for final storage of all records consistent with the requirements of the Settlement shall be included.



**LEGEND:**  
 Terminal 25 South Site

**NOTE:**  
1. Aerial imagery source: King County (2021)



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