UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION 10

IN THE MATTER OF: LOWER DUWAMISH WATERWAY SUPERFUND SITE U.S. EPA Region 10 CERCLA Docket No. 10-2024-1077 Lower Duwamish Waterway Superfund Site, Seattle WA The Boeing Company, the City of Seattle, and King County, Respondents Proceeding under Section 106(a) of the Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. § 9606(a).	**UNILATERAL ADMINISTRATIVE ORDER FOR REMEDIAL DESIGN AND REMEDIAL ACTION**

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I. JURISDICTION AND GENERAL PROVISIONS

1. This Administrative Order ("Order") is issued under the authority vested in the President of the United States by Section 106(a) of the Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA"), as amended. This authority was delegated to the Administrator of the United States Environmental Protection Agency ("EPA") by Executive Order No. 12580, 52 Fed. Reg. 2923 (Jan. 23, 1987), and further delegated to the Regional Administrators by EPA Delegation Nos. 14-14-A and 14-14-B. This authority was further redelegated by the Regional Administrator of EPA Region 10 to the Remedial Cleanup Branch Chief by R10 Delegations No. R10 14-14-A and R10 14-14-B on April 15, 2019.

2. This Order pertains to the in-water portion of the Lower Duwamish Waterway Superfund Site in Seattle, King County, Washington ("Site"). The Lower Duwamish Waterway Superfund Site also includes upland and adjacent areas ("Upland Areas") that were and continue to be sources of contamination to the Site. Unless otherwise directed by EPA, Upland Areas are not currently subject to this Order. This Order directs Respondents to perform the remedial design and remedial action ("RD/RA") selected in the Record of Decision ("ROD") for the Site on November 21, 2014, and an Explanation of Significant Differences ("ESD") for the Site on September 30, 2021.

3. EPA has notified the State of Washington (the "State") of this action pursuant to Section 106(a) of CERCLA, 42 U.S.C. § 9606(a).

II. PARTIES BOUND

4. This Order applies to and is binding upon Respondents and their agencies, departments, successors and assigns. Any change in ownership or control of the Site or change in corporate or partnership status of a Respondent, including, but not limited to, any transfer of assets or real or personal property, shall not alter Respondents' responsibilities under this Order.

5. Respondents are jointly and severally liable for implementing all activities required by this Order. Compliance or noncompliance by any Respondent with any provision of this Order shall not excuse or justify noncompliance by any other Respondent. No Respondent shall interfere in any way with performance of the Work in accordance with this Order by any other Respondent. In the event of the insolvency or other failure of any Respondent to implement the requirements of this Order, the remaining Respondents shall complete all such requirements.

6. Respondents shall provide a copy of this Order to each contractor hired to perform the Work required by this Order and to each person representing any Respondents with respect to the Site or the Work, and shall condition all contracts entered into hereunder upon performance of the Work in conformity with the terms of this Order. Respondents or their contractors shall provide written notice of the Order to all subcontractors hired to perform any portion of the Work required by this Order. Respondents shall nonetheless be responsible for ensuring that their contractors and subcontractors perform the Work in accordance with the terms of this Order.

III. DEFINITIONS

7. Unless otherwise expressly provided in this Order, terms used in this Order that are defined in CERCLA or in regulations promulgated under CERCLA shall have the meaning assigned to them in CERCLA or in such regulations. Whenever terms listed below are used in this Order or in its appendices, the following definitions shall apply solely for the purposes of this Order:

"Affected Property" shall mean any real property, or portion thereof, within the Site where EPA determines, at any time, that any of the following are needed to implement, assure noninterference with, or assure protectiveness of the Remedial Action: access, Institutional Controls for capped areas;land, water, or other resource use restrictions; or any combination thereof.

"CERCLA" shall mean the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended, 42 U.S.C. §§ 9601-9675.

"Contaminants of Concern" or "COCs" for the purposes of this Order are those contaminants identified in tables 27, 28 of Section 13.2 of the ROD, and Paragraph 23 of this Order.

"Day" or "day" shall mean a calendar day. In computing any period of time under this Order, where the last day would fall on a Saturday, Sunday, or federal or State holiday, the period shall run until the close of business of the next working day.

"Effective Date" shall mean the effective date of this Order as provided in Section VIII.

"EPA Hazardous Substance Superfund" shall mean the Hazardous Substance Superfund established under section 9507 of the Internal Revenue Code, 26 U.S.C. § 9507.

"Ecology" shall mean the Washington State Department of Ecology and any successor departments or agencies of the State.

"Institutional Controls" or "ICs" shall mean Proprietary Controls and state or local laws, regulations, ordinances, zoning restrictions, or other governmental controls or notices that: (a) limit land, water, or other resource use to minimize the potential for human exposure to Contaminants of Concern at or in connection with the Site; (b) limit land, water, or other resource use to implement, ensure non-interference with, or ensure the protectiveness of the RA; and/or (c) provide information intended to modify or guide human behavior at or in connection with the Site.

"Interest" shall mean interest at the rate specified for interest on investments of the EPA Hazardous Substance Superfund, compounded annually on October 1 of each year, in accordance with 42 U.S.C. § 9607(a). The applicable rate of interest shall 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. Rates are available online at https://www.epa.gov/superfund/superfund-interest-rates.

"MTCA" means the Washington State Model Toxics Control Act, Revised Code of Washington (RCW) Chapter 70A.305 and its implementing regulations, the Washington Administrative Code (WAC) Chapters 173-340 and 173-204.

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

"Non-Respondent Owner" shall mean any person, other than a Respondent, that owns or controls any Affected Property. The phrase "Non-Respondent Owner's Affected Property" means Affected Property owned or controlled by Non-Respondent Owner.

"Operation and Maintenance" or "O&M" shall mean all activities required to operate, maintain, and monitor the effectiveness of the RA as specified in the SOW or any EPA-approved O&M Plan.

"Order" shall mean this Unilateral Administrative Order and all appendices attached hereto. In the event of conflict between this Order and any appendix, this Order shall control.

"Owner Respondent" shall mean any Respondent that owns or controls any Affected Property. The clause "Owner Respondent's Affected Property" means Affected Property owned or controlled by Owner Respondent.

"Paragraph" or "¶" shall mean a portion of this Order identified by an Arabic numeral or an upper- or lower-case letter.

"Parties" shall mean EPA and Respondents.

"Performance Standards" shall mean the cleanup levels and other measures of achievement of the remedial action objectives, as set forth in the ROD.

"Proprietary Controls" shall mean easements or covenants running with the land that: (a) limit land, water, or other resource use and/or provide access rights; and (b) are created pursuant to common law or statutory law by an instrument that is recorded in the appropriate land records office.

"RCRA" shall mean the Resource Conservation and Recovery Act, also known as the Solid Waste Disposal Act, as amended, 42 U.S.C. §§ 6901-6992.

"Record of Decision" or "ROD" shall mean the EPA Record of Decision relating to the Site signed on November 21, 2014, by the Associate Director of the Office of Environmental Cleanup, EPA Region 10, and all attachments thereto, including its errata memorandum entitled *Lower Duwamish Record of Decision Table and Figure Revisions* and dated August 26, 2015, and as modified by an Explanation of Significant Differences signed on September 30, 2021, by the Administrator of the EPA, and all attachments thereto.

"Remedial Action" or "RA" shall mean the remedial action selected in the ROD.

"Remedial Design" or "RD" shall mean those activities to be undertaken by Respondents to develop final plans and specifications for the RA as stated in the SOW.

"Respondents" shall mean The Boeing Company, the City of Seattle, and King County.

"Response Costs" shall mean all costs, including, but not limited to, direct and indirect costs, that the United States incurs in monitoring and supervising Respondents' performance of the Work to determine whether such performance is consistent with the requirements of this Order, including costs incurred in reviewing deliverables submitted pursuant to this Order, as well as costs incurred in overseeing implementation of this Order, including, but not limited to, payroll costs, contractor costs, travel costs, and laboratory costs.

"Section" shall mean a portion of this Order identified by a Roman numeral.

"Site" shall mean for the purposes of this Order only the portion of the Lower Duwamish Waterway that is below mean higher high water ("MHHW") and extends south five miles from the southern tip of Harbor Island in Seattle, Washington. The southernmost portion of the Site is located in Tukwila, Washington. The Site includes slips, inlets, and bays connected to the Lower Duwamish Waterway, and banks and other areas (including areas considered or selected for early action) below MHHW. It does not include downstream or upstream areas (such as the Harbor Island Superfund Site), groundwater, or locations above MHHW. The Site is generally depicted on the map attached as Appendix B.

"State" shall mean the State of Washington.

"Statement of Work" or "SOW" shall mean the document describing the activities Respondents must perform to implement the RD, the RA, and O&M regarding the Site, which is attached as Appendix A.

"Supervising Contractor" shall mean the principal contractor retained by Respondents to supervise and direct the implementation of the Work under this Order.

"Transfer" shall mean to sell, assign, convey, lease, mortgage, or grant a security interest in, or, where used as a noun, a sale, assignment, conveyance, or other disposition of any interest by operation of law or otherwise.

"United States" shall mean the United States of America and each department, agency, and instrumentality of the United States, including EPA.

"Waste Material" shall mean: (a) any "hazardous substance" under Section 101(14) of CERCLA, 42 U.S.C. § 9601(14); (b) any pollutant or contaminant under Section 101(33) of CERCLA, 42 U.S.C. § 9601(33); (c) any "solid waste" under Section 1004(27) of RCRA,

42 U.S.C. § 6903(27); and (d) any hazardous substance under the Washington State Model Toxics Control Act, RCW 70A.305.

"Work" shall mean all activities Respondents are required to perform under this Order, except those required by Section XVII (Record Retention).

IV. FINDINGS OF FACT

8. The Site is located in an industrial and urban area of Seattle and Tukwila, Washington. The Site comprises five river miles that are referred to as the Lower Duwamish Waterway ("Waterway"). The Waterway is part of a larger river system, which generally flows from south to north Areas adjacent to the Waterway cover approximately 20,000 acres that drain to the Waterway. Immediately upstream of the Site, the Waterway is referred to as the Duwamish River and approximately seven miles upstream of the Site, the Duwamish River is referred to as the Green River. The course of the Green River – which begins near Stampede Pass in the Cascade mountains – differs dramatically from its natural state. From its headwaters, the Green River flows westward through the Green River Gorge. The Howard Hanson Dam, located 21 miles east of Auburn, Washington, controls surface water flows within the Green River and the Waterway. Near Auburn, the Green River flows north through a wide valley characterized by light industrial, retail, residential, and agricultural uses before becoming the Waterway. The Waterway then flows through an urban valley that is bounded in part by relatively steep hillsides located in the White Center, West Seattle, and Beacon Hill neighborhoods of Seattle before it reaches Harbor Island and empties into the Puget Sound at Elliott Bay.

9. The Duwamish River is a two-layer salt wedge estuary. The surface flow to Elliott Bay is mostly freshwater originating from the Green/Duwamish River, while a tidally-influenced saltwater wedge extends from Elliot Bay into the Waterway at the lower depths of the Waterway. The wedge of saltwater, at depth, is always present from River Mile 0 to River Mile 2.2 and is periodically present between River Miles 2.2 and 4, depending on tidal height and river flow. Between River Miles 4 and 5, freshwater is usually predominant, although the saltwater wedge can extend to this area when the tide is high and river flow is low. Tidal fluctuations in the Duwamish River average about 11 feet. The presence of the denser salt-water layer throughout much of the waterway forces the bulk of the freshwater to discharge upward toward the surface of the waterway, thus reducing sediment erosion during high river flows.

10. Before the early 1900s, the Duwamish River was a natural meandering estuary which provided a rich ecological environment for the federally recognized Muckleshoot and Suquamish Tribes as well as members of the non-recognized Duwamish Tribe, who lived along or near the river's shoreline. Members of these tribes used the river for transportation as well as for harvesting fish and shellfish. The Point Elliot Treaty between the United States and numerous tribes, including the Muckleshoot and Suquamish, provided the signatory tribes the right to fish in their usual and accustomed places. The Muckleshoot Tribe exercises its treaty right to fish by harvesting salmon within the Site, and the Suquamish Tribe manages aquatic resources downstream in Elliot Bay and other areas within Puget Sound.

11. The Site provides habitat for young Puget Sound Chinook salmon and the Puget Sound Steelhead who spend time in the Duwamish River as they transition from freshwater to saltwater. Both the Puget Sound Chinook salmon and the Puget Sound Steelhead are listed as threatened species under the Endangered Species Act.

12. In 1911, King County voters, pursuant to the Port District Act, approved the creation of Commercial Waterway District 1 of King County (a predecessor-in-interest to the Port). The Port District Act empowered voters to create public port districts that could straighten, widen, deepen and improve any and all waterways within its district; and acquire, construct, and operate waterways, docks, wharves, and other harbor improvements, including rail and water transfer and terminal facilities. The authority granted by the Act was used by the Commercial District 1 to transform the relatively shallow 8-mile long meandering Duwamish river into a relatively deep, engineered, and channeled 5-mile long waterway. The Commercial Waterway District 1 of King County excavated mud and sand from the Duwamish River and disposed of the excavated mud and sand to construct Harbor Island in the area where the Duwamish River enters Elliot Bay. The Commercial Waterway District 1 of King County further disposed of an additional 4 million cubic yards of materials generated when the City of Seattle regraded Jackson and Dearborn Streets, again using the material as fill to construct Harbor Island. The above activities filled approximately 98% of the Duwamish River mudflats.

13. Since its construction, the Waterway has been primarily used for industrial purposes. The types and intensity of commercial and industrial activities have changed as Seattle's economy has evolved. Initially, logging related uses (sawmills, lumber mills, wood treatment), cement and brick manufacturing, steel mills and foundries, and marine construction operations dominated the area. As World War II approached and Boeing emerged as a dominant economic force, airplane and metal manufacturing operations, drum recycling, and chemical manufacturing operations developed and grew. The industrial nature of the Waterway now reflects the much more diversified nature of the region's modern economy. Current uses of the Waterway include shipyard operations; manufacturing (airplane, cement, and chemical); cargo storage and transport; metal manufacturing and recycling; and petroleum storage.

14. Each of the Respondents, as well as agencies and departments of the United States and other potentially responsible parties, own facilities from which there have been releases of hazardous substances and/or have conducted and/or participated in activities and operations that have released hazardous substances, including polychlorinated biphenyls and other Contaminants of Concern as defined by this Order, which were released directly into or have otherwise come to be located in the Waterway. Since 1917, Boeing has owned and operated several facilities along or near the Waterway, with operations that have principally involved manufacturing airplanes. Both the City of Seattle and King County own and operate multiple facilities within the Site that have released hazardous substances to the Waterway and each own and/or operate combined stormwater and sewage treatment systems within the Site that discharge contaminated wastewater into the Waterway when it rains.

15. Pursuant to Section 105 of CERCLA, 42 U.S.C. § 9605, EPA placed the Site on the National Priorities List (NPL), set forth at 40 C.F.R. Part 300, Appendix B, by publication in the Federal Register on September 13, 2001 (66 Fed. Reg. 47583).

16. In response to a release or a substantial threat of a release of hazardous substances at or from the Site, four potentially responsible parties (PRPs) at the Site, entered into an agreement with EPA and the State on December 20, 2000, to perform a Remedial Investigation and Feasibility Study (RI/FS) for the Site pursuant to 40 C.F.R. § 300.430. The parties to the agreement, consisting of the Port of Seattle (Port), City of Seattle (City), King County (County), and The Boeing Company (Boeing), called themselves the Lower Duwamish Waterway Group (LDWG). The Port of Seattle no longer participates as a member of LDWG.

17. LDWG completed a Remedial Investigation (RI) and Feasibility Study (FS). The Phase 2 RI Report is dated July 9, 2010, and incorporates a Phase 1 RI dated July 3, 2003. The FS is dated October 31, 2013.

18. In April of 2013 EPA completed an environmental justice analysis for the Lower Duwamish Waterway cleanup. The analysis found that communities within a mile of the Site, including Georgetown and South Park, will be most directly affected by activities related to the cleanup. Parts of Georgetown and South Park are immediately adjacent to the Site and include public parks and public boat launches that provide access to the Site. The analysis found that residents in communities located within a mile of the Site are on average more diverse in terms of national origin, race, income, and language than other neighborhoods in Seattle or King County. Per capita incomes were between 34 and 42% lower in the Lower Duwamish Waterway one mile corridor than in other areas of Seattle and King County. Additionally, 31.9% of the area's residents are foreign born compared with 19% in King County. Thirty one percent of households living within a mile of the Site qualify as low-income households, while 58% are people of color, and 8% are Low-English proficiency. These communities already face disparate impacts from higher levels of diesel particulate matter (95th percentile in the State), toxic releases to the air (98th percentile in the State), proximity to hazardous waste facilities (96th percentile in the State), Underground Storage Tanks (91st percentile in the State), and wastewater discharges (85th percentile in the State).

19. Several early actions were implemented at the Site during the period the RI/FS was being conducted. The early actions were performed to reduce known areas with elevated concentrations of PCBs in sediment. Various members of LDWG (including then-member, the Port of Seattle) performed the majority of the early sediment cleanup actions (except the early action at Earle M. Jorgensen) pursuant to CERCLA and RCRA authorities or to a settlement with the Elliott Bay Natural Resource Trustee Council.

20. Pursuant to Section 117 of CERCLA, 42 U.S.C. § 9617, EPA published notice of the completion of the FS and of the proposed plan for remedial action on February 28, 2013, in a major local newspaper of general circulation. EPA provided an opportunity for written and oral comments from the public on the proposed plan for remedial action. A copy of the transcript of the public meeting is available to the public as part of the administrative record upon which Lori Cohen, the Associate Director of the Office of Environmental Cleanup, EPA Region 10, based the selection of the response action.

21. On November 21, 2014, EPA issued a ROD which selected remedial actions for the Site. The ROD, at section 7.3, includes EPA's determination that "[t[he response action selected in this Record of Decision is necessary to protect public health or welfare or the

environment from actual or threatened releases of pollutants or contaminants at or from this In-waterway Portion of the Site which may present an imminent and substantial endangerment to public health or welfare or the environment." Section 7.3 also provided a description of such risks, including:

a. Risks to Human Health. The risk of an individual developing cancer or noncarcinogenic effects related to exposure to contaminants at the In-waterway Portion of the Site exceeds the acceptable risk range identified in the National Oil and Hazardous Substances Pollution Contingency Plan (National Contingency Plan; NCP). Specifically, seafood consumption risks and direct contact hazard quotients ("HQs") for the RME scenarios exceed CERCLA risk thresholds of an excess cancer risk of 1×10^{-4} and a noncancer HQ of 1. MTCA and Sediment Management Standards thresholds are also exceeded, as discussed in Section 7.1 of the ROD.

b. Risk to Ecological Receptors. Risks to ecological receptors exceed CERCLA risk thresholds. Forty-one contaminants were determined to present risks to benthic invertebrates because their concentrations in surface sediments exceeded the benthic Sediment Cleanup Objective ("SCO") criteria of the SMS. The benthic SCO criteria are based on studies showing the relationship between contaminant concentrations and adverse effects to benthic invertebrates. Risks to river otter (based on an analysis of risks to higher–trophic level species (HTLS]) exceed the lowest observed adverse effects level ("LOAEL")-based HQ by a factor of 2.9 (Table 18 of the ROD), and uncertainties in the risk estimate were relatively low. MTCA/SMS thresholds are also exceeded, as discussed in Section 7.2 of the ROD.

22. Section 13.2 of the ROD describes the selected remedy and includes the following primary elements:

a. Utilize active cleanup technologies to address an estimated 177 acres of the Site, see figures 19 and 20 of the ROD, including:

b. Dredging or partially dredging 105 acres of highly contaminated sediments (960,000 cubic yards);

c. Placing engineered sediment caps on approximately 24 acres of highly contaminated sediments where there is enough water depth for a cap;

d. Enhanced Natural Recovery (ENR), which involves placement of a thin, 6 to 9-inch, layer of clean material over 48 acres of contaminated sediments;

e. Application of location-specific cleanup technologies to areas with structural or access restrictions (e.g., under piers and in the vicinity of pilings, bullheads, and riprapped or otherwise engineered shorelines).

f. Implement monitored natural recovery (MNR) at approximately 235 acres of sediments where surface contaminant concentrations are predicted to be reduced over time through deposition of cleaner sediments from upstream.

g. Sample, as described in Section 13.2.3 of the ROD, the entire Waterway (441 acres) as part of baseline, construction, post-construction, and long-term monitoring.

h. Implement effective and appropriate institutional controls, as described in Section 13.2.4 of the ROD, to reduce human exposure to contaminants, ensure remedy protectiveness, and protect the integrity of the remedy, while minimizing reliance on institutional controls (ICs), particularly seafood consumption-related ICs, to the extent practicable.

23. Tables 19 and 20 of the ROD include cleanup levels for contaminants of concern. The contaminants of concern for human direct contact (remedial action objective #2) are arsenic, carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs), dioxins/furans, and PCBs. Dioxins/furans and PCBs are also contaminants of concern for human seafood consumption (remedial action objective #1). PCBs are a contaminant of concern for protection of river otters (remedial action objective #4). The contaminants of concern for benthic protection (Table 20) include Total PCBs, Arsenic, Cadmium, Chromium, Chrysene, Copper, Lead, Mercury, Silver, Zinc, Benzo(g,h,i)perylene, Dibenz(a,h)anthracene, Indeno(1,2,3-cd)pyrene, Fluoranthene, Fluorene, Naphthalene, Phenanthrene, 4-methylphenol, Pyrene, 2,4-dimethylphenol, high molecular weight polycyclic aromatic hydrocarbons (HPAH), Benzoic acid, low molecular weight polycyclic aromatic hydrocarbons (LPAH), Bis(2-ethylhexyl)phthalate, Pentachlorophenol, Butyl benzyl phthalate, Phenol, Dimethyl phthalate, 1,2-dichlorobenzene, 1,4-dichlorobenzene, Acenaphthene, 1,2,4-trichlorobenzene, Anthracene, 2-methylnaphthalene, Benzo(a)pyrene, Dibenzofuran, Benz(a)anthracene, Hexachlorobenzene, Total benzofluoranthenes, n-Nitrosodiphenylamine. Each COC, with the exception of 4-methylphenol, is a hazardous substance.

24. For protection of threatened bull trout and salmonid species (chinook salmon and steelhead), in-water construction within the Site is generally limited to between October 1 and February 15.

25. EPA issued an errata memorandum on August 26, 2015, that corrected several tables and Figure 20, the flow chart for application of remedial technologies in subtidal areas.

26. On September 30, 2021, EPA issued an Explanation of Significant Differences, revising the concentrations of carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs) associated with the target risk levels and associated action levels.

27. The RI/FS AOC has been amended six times to provide for the performance of additional studies related to the Site. The First Amendment, effective March 19, 2013, provided for the performance of the Fisher Study for the LDW. The Second Amendment, effective July 17, 2014, provided for the performance of the Enhanced Natural Recovery (ENR)/Activated Carbon (AC) pilot study. The Third Amendment, effective April 27, 2016, provided for the performance of pre-remedial design studies. The Fourth Amendment, effective July 9, 2018, provides for remedial design (RD) of the LDW Upper Reach. The Fifth Amendment, effective July 8, 2021, provides for RD of the LDW Middle Reach. The Sixth Amendment, effective February 1, 2024, provides for the termination of the RI/FS AOC upon the entry of a consent decree in the United States District Court for the Western District of Washington that provides

for the design and implementation of the remedial actions EPA has selected for the Site in the ROD.

28. During the spring of 2014, a large number of parties who were potentially responsible under CERCLA for the release of hazardous substances at the Site initiated a private third-party assisted allocation. The intent of the allocation was to distribute shares of responsibility amongst the allocation participants and non-participants. The allocation was conducted pursuant to the terms of a Memorandum of Agreement and the Allocator issued a decision that distributed shares of responsibility amongst the participants and the non-participating federal agencies. The United States, based on the potential liability of the United States Department of Defense (DOD) and of the United States General Services Administration (GSA), was offered the opportunity to participate in the allocation. The United States chose not to participate. The allocation proceedings were conducted under and subject to a confidentiality agreement of the participating parties. The Allocator distributed the largest shares of responsibility to five parties. These parties, in descending order of allocated responsibility, are Boeing, the City, the Port, the United States, and the County. All other allocation participants were distributed much smaller shares of responsibility than Boeing, the City, the Port, the United States, and the County.

29. On January 24, 2023, EPA initiated RD/RA consent decree negotiations with Boeing, the City, the Port, the County, DOD, and GSA. EPA's goal in these negotiations was to negotiate a single consent decree that provides for the design and implementation and operation and maintenance of remedial actions EPA has selected for the Site in the ROD, and to resolve the CERCLA liability of the parties who settle with EPA. EPA provided each of the parties with a draft RD/RA consent decree that is intended to provide the basis for EPA's desired settlement. This draft was based on the EPA Model RD/RA consent decree which has been developed with the participation the environmental enforcement and environmental defense sections of the Environment and Natural Resource Division of the United States Department of Justice. EPA's model RD/RA consent decree may be found at https://cfpub.epa.gov/compliance/models/view.cfm?model_ID=81.

30. The Port of Seattle did not provide a good faith offer of settlement that allowed it to participate in RD/RA consent decree negotiations.

31. The State of Washington Department of Ecology has also participated in these negotiations and has offered to provide all settling defendants with a covenant not to sue under CERCLA and MTCA.

32. Boeing, the City, and the County provided a good faith offer to EPA which provided for implementation of the remedy and included the participation of 40 parties or groups of related parties who participated in the allocation and who accepted their allocated share of responsibility.

33. DOD and GSA have also participated in consent decree negotiations. The Model RD/RA consent decree expressly provides for the participation of federal agencies or departments who are CERCLA PRPs based on their paying their equitable share of the remedial design, remedial action, and operation and maintenance of the remedial actions that EPA has

selected for the Site in the ROD by entering into a funding agreement with the PRP(s) who agree to perform such response actions.

34. EPA believes that it has negotiated acceptable terms of a proposed consent decree settlement with Boeing, the City, the County, two Settling Federal Agencies (DOD and GSA), and more than 100 other settling defendants. The terms of the consent decree will require Boeing, the City, and the County to implement the remedial design, remedial action, and operation and maintenance of the remedial actions that EPA has selected for the Site in the ROD. The terms of this consent decree will also require the Settling Federal Agencies and other settling defendants to pay their equitable shares of the remedial design, remedial action, and operation and maintenance of the remedial actions that EPA has selected for the Site in the ROD.

V. CONCLUSIONS OF LAW AND DETERMINATIONS

35. Based on the Findings of Fact set forth above and the administrative record, EPA has determined that:

a. The Lower Duwamish Waterway Superfund Site is a "facility" as defined in Section 101(9) of CERCLA, 42 U.S.C. § 9601(9).

b. Each Respondent is a "person" as defined by Section 101(21) of CERCLA, 42 U.S.C. § 9601(21).

c. Each Respondent is a liable party under one or more provisions of Section 107(a) of CERCLA, 42 U.S.C. § 9607(a). Respondents the Boeing Company, the City of Seattle, and King County are the "owner(s)" and/or "operator(s)" of the facility, as defined by Section 101(20) of CERCLA, 42 U.S.C. § 9601(20), and within the meaning of Section 107(a)(1) of CERCLA, 42 U.S.C. § 9607(a)(1) and were the "owners" and/or "operators" of the facility at the time of disposal of hazardous substances at the facility, as defined by Section 101(20) of CERCLA, 42 U.S.C. § 9601(20), and within the meaning of Section 107(a)(2) of CERCLA, 42 U.S.C. § 9607(a)(2).

d. The Contaminants of Concern found at the Site, identified in Paragraph 23 of the Findings of Fact above, include "hazardous substances" as defined by Section 101(14) of CERCLA, 42 U.S.C. § 9601(14) that may present an imminent and substantial danger to public health or welfare under Section 104(a)(1) of CERCLA, 42 U.S.C. § 9604(a)(1).

e. The conditions described in the Findings of Fact above constitute an actual and/or threatened "release" of a hazardous substance from the facility as defined by Section 101(22) of CERCLA, 42 U.S.C.§ 9601(22).

f. The conditions at the Site may constitute a threat to public health or welfare or the environment, based on the factors set forth in the ROD. These factors include, but are not limited to, the following risks posed to human health and/or the environment:

(1) Risks to Human Health. The risk of an individual developing cancer or noncarcinogenic effects related to exposure to contaminants at the In-waterway Portion of the Site exceeds the acceptable risk range identified in the National Oil and Hazardous Substances Pollution Contingency Plan (National Contingency Plan; NCP). Specifically, seafood consumption risks and direct contact HQs for the RME scenarios exceed CERCLA risk thresholds of an excess cancer risk of 1 x 10^{-4} and a noncancer hazard quotient ("HQ") of 1. MTCA/SMS thresholds are also exceeded, as discussed in Section 7.1 of the ROD.

(2) Risk to Ecological Receptors. Risks to ecological receptors exceed CERCLA risk thresholds. Forty-one contaminants were determined to present risks to benthic invertebrates because their concentrations in surface sediments exceeded the benthic SCO criteria of the SMS. The benthic SCO criteria are based on studies showing the relationship between contaminant concentrations and adverse effects to benthic invertebrates. Risks to river otter (based on an analysis of risks to higher–trophic level species (HTLS]) exceed the lowest observed adverse effects level ("LOAEL")-based HQ by a factor of 2.9 (Table 18 of the ROD), and uncertainties in the risk estimate were relatively low. MTCA/SMS thresholds are also exceeded, as discussed in Section 7.2 of the ROD.

g. Solely for purposes of Section 113(j) of CERCLA, 42 U.S.C. § 9613(j), the remedy set forth in the ROD and the Work to be performed by Respondents shall constitute a response action taken or ordered by the President for which judicial review shall be limited to the administrative record.

h. The conditions described in Paragraphs 11-34 of the Findings of Fact above may constitute 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 from the facility within the meaning of Section 106(a) of CERCLA, 42 U.S.C. § 9606(a).

i. The actions required by this Order are necessary to protect the public health, welfare, or the environment.

VI. ORDER

36. Based on the Findings of Fact, Conclusions of Law, and Determinations set forth above, and the administrative record, Respondents are hereby ordered to design, implement, and operate the remedial actions EPA has selected for the Site in the ROD and as described in the attached SOW and to comply with this Order and any modifications to this Order, including, but not limited to, all appendices and all documents incorporated by reference into this Order.

VII. OPPORTUNITY TO CONFER

37. No later than five (5) days after the Order is signed by the Regional Administrator or his delegatee, Respondents may, in writing, a) request a conference with EPA to discuss this Order, including its applicability, the factual findings and the determinations upon which it is based, the appropriateness of any actions Respondents are ordered to take, or any other relevant

and material issues or contentions that Respondents may have regarding this Order, or b) notify EPA that they intend to submit written comments or a statement of position in lieu of requesting a conference.

38. If a conference is requested, Respondents may appear in person or by an attorney or other representative. Any such conference shall be held no later than five (5) days after the conference is requested. Any written comments or statements of position on any matter pertinent to this Order must be submitted no later than five (5) days after the conference or ten (10) days after this Order is signed if Respondents do not request a conference. This conference is not an evidentiary hearing, does not constitute a proceeding to challenge this Order, and does not give Respondents a right to seek review of this Order. Any request for a conference or written comments or statements should be submitted to the EPA Regional Attorneys Ted Yackulic, assistant regional counsel, at yackulic.ted@epa.gov and Nick Vidargas, assistant regional counsel, at vidargas.nick@epa.gov, and the EPA Remedial Project Managers Elly Hale at hale.elly@epa.gov and Nasrin Erdelyi at erdelyi.nasrin@epa.gov.

VIII. EFFECTIVE DATE

39. This Order shall be effective five (5) days after the Order is signed by the Regional Administrator or his/her delegatee unless a conference is requested or notice is given that written materials will be submitted in lieu of a conference in accordance with Section VII (Opportunity to Confer). If a conference is requested or such notice is submitted, this Order shall be effective on the 5th day after the day of the conference, or if no conference is requested, on the 10th day after written materials, if any, are submitted, unless EPA determines that the Order should be modified based on the conference or written materials. In such event, EPA shall notify Respondents, within the applicable 10-day period, that EPA intends to modify the Order. The modified Order shall be effective 5 days after it is signed by the Regional Administrator or his/her delegatee. This Order shall terminate upon the earlier of: (1) entry of an RD/RA Consent Decree that provides for implementation of the remedy EPA has selected for the Site as well as the response actions required by this Order, or (2) upon the date that EPA provides Respondents with written notification of this Order's termination.

IX. NOTICE OF INTENT TO COMPLY

40. On or before the Effective Date, each Respondent shall, subject to its budgetary authority, notify EPA in writing of Respondent's irrevocable intent to comply with this Order. Such written notice shall be sent to EPA as provided in ¶ 38 and shall describe each Respondent's budgetary authorization.

41. Each Respondent's written notice shall describe, using facts that exist on or prior to the Effective Date, any "sufficient cause" defense[s] asserted by such Respondent under Sections 106(b) and 107(c)(3) of CERCLA, 42 U.S.C. §§ 9606(a) and 9607(c)(3). The absence of a response by EPA to the notice required by this Section shall not be deemed to be acceptance of any Respondent's assertions. Failure of any Respondent to provide such notice of intent to comply within this time period shall, as of the Effective Date, be treated as a violation of this Order by such Respondent.

X. PERFORMANCE OF THE WORK

42. Respondents shall, within 30 days of the Effective Date, initiate implementation of the attached statement of work SOW that provides for design, implementation, and operation and maintenance of the remedy EPA selected for the Site in the ROD. The attached SOW includes a schedule for implementing the remedial design, remedial action, and operation and maintenance of the remedial actions that EPA has selected for the Site in the ROD.

43. **Compliance with Applicable Law**. Nothing in this Order limits Respondents' obligations to comply with the requirements of all applicable federal and state laws and regulations. Respondents must also comply with all applicable or relevant and appropriate requirements of all federal and state environmental laws as set forth in the ROD and the SOW.

44. **Permits**

a. As provided in Section 121(e) of CERCLA, 42 U.S.C. § 9621(e), and Section 300.400(e) of the NCP, no permit shall be required for any portion of the Work conducted entirely on-site (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 on-site requires a federal or state permit or approval, Respondents shall submit timely and complete applications and take all other actions necessary to obtain all such permits or approvals.

b. This Order is not, and shall not be construed to be, a permit issued pursuant to any federal or state statute or regulation.

45. **Coordination and Supervision**

a. **Project Coordinators**

(1) Respondents' Project Coordinator(s) must have sufficient technical expertise to coordinate the Work. Respondents' Project Coordinator may not be an attorney representing any Respondent in this matter and may not act as the Supervising Contractor. Respondents' Project Coordinator may assign other representatives, including other contractors, to assist in coordinating the Work.

(2) EPA designates Elly Hale (hale.elly@epa.gov, 206-553-1215) as the EPA Remedial Project Manager ("RPM"), with Nasrin Erdelyi (erdelyi.nasrin@epa.gov, 206-553-1691) and Piper Peterson (peterson.piper@epa.gov, 206-553-4951) as Alternate Remedial Project Managers. EPA may designate other representatives, which may include its employees, contractors and/or consultants, to oversee the Work. EPA's RPM(s) and Alternate RPM(s) will have the same authority as a remedial RPM and/or an on-scene coordinator, as described in the NCP. This includes the authority to halt the Work and/or to conduct or direct any necessary response action when he or she determines that conditions at the Site constitute an emergency or may present an immediate threat to public health or welfare or the environment due to a release or threatened release of Waste Material.

(3) Respondents' Project Coordinators shall meet with EPA's RPM(s) at least every two weeks unless otherwise approved by EPA.

b. **Supervising Contractor**. Respondents proposed Supervising Contractor must have sufficient technical expertise to supervise the Work and a quality assurance system that complies with ASQ/ANSI E4:2014, "Quality management systems for environmental information and technology programs - Requirements with guidance for use" (American Society for Quality, February 2014).

c. **Procedures for Disapproval/Notice to Proceed**

(1) Respondents shall designate, and notify EPA, within 10 days after the Effective Date, of the name(s), title(s), contact information, and qualifications of the Respondents' proposed Project Coordinator and Supervising Contractor, whose qualifications shall be subject to EPA's review for verification based on objective assessment criteria (e.g., experience, capacity, technical expertise) and that they do not have a conflict of interest with respect to the project.

(2) EPA shall issue notices of disapproval and/or authorizations to proceed regarding the proposed Project Coordinator and Supervising Contractor, as applicable. If EPA issues a notice of disapproval, Respondents shall, within 20 days, submit to EPA a list of supplemental proposed Project Coordinators and/or Supervising Contractors, as applicable, including a description of the qualifications of each. EPA shall issue a notice of disapproval or authorization to proceed regarding each supplemental proposed coordinator and/or contractor. Respondents may select any coordinator/contractor covered by an authorization to proceed and shall, within 10 days, notify EPA of Respondents' selection.

(3) Respondents may change their Project Coordinator and/or Supervising Contractor, as applicable, by following the procedures of ¶¶ 45.c(1) and 45.c(2).

46. **Performance of Work in Accordance with SOW**. Respondents shall: (a) develop the RD for the Lower Reach; (b) perform the RA starting in the Upper Reach and proceed to the Middle and Lower Reaches as subsequently approved or directed by EPA; (c) operate, maintain, and monitor the effectiveness of the RA for the Upper Reach; (d) develop and implement a Sitewide Institutional Controls Implementation and Assurance Plan; and (e) support EPA's periodic review efforts; all in accordance with the SOW and all EPA-approved, conditionally-approved, or modified deliverables as required by the SOW. All deliverables required to be submitted for approval under the Order or SOW shall be subject to approval by EPA in accordance with **¶ 9.5** (Approval of Deliverables) of the SOW.

47. **Emergencies and Releases**. Respondents shall comply with the emergency and release response and reporting requirements under **¶ 6.6** (Emergency Response and Reporting) of the SOW.

48. **Community Involvement**. Respondents shall conduct community involvement activities under EPA's oversight as provided for in, and in accordance with, Section 2

(Community Involvement) of the SOW. Such activities may include, but are not limited to, designation of a Community Involvement Coordinator.

49. **Modification**

a. EPA may, by written notice from the EPA Project Coordinator to Respondents, modify, or direct Respondents to modify, the SOW and/or any deliverable developed under the SOW, if such modification is necessary to achieve or maintain the Performance Standards or to carry out and maintain the effectiveness of the RA, and such modification is consistent with the Scope of the Remedy set forth in ¶ **1.3** of the SOW. Any other requirements of this Order may be modified in writing by signature of the Branch Chief of the Superfund & Emergency Management Division, EPA Region 10.

b. Respondents may submit written requests to modify the SOW and/or any deliverable developed under the SOW. If EPA approves the request in writing, the modification shall be effective upon the date of such approval or as otherwise specified in the approval. Respondents shall modify the SOW and/or related deliverables in accordance with EPA's approval.

c. No informal advice, guidance, suggestion, or comment by the EPA Project Coordinator or other EPA representatives regarding reports, plans, specifications, schedules, or any other writing submitted by Respondents shall relieve Respondents of their obligation to obtain any formal approval required by this Order, or to comply with all requirements of this Order, unless it is formally modified.

d. Nothing in this Order, the attached SOW, any deliverable required under the SOW, or any approval by EPA constitutes a warranty or representation of any kind by EPA that compliance with the work requirements set forth in the SOW or related deliverable will achieve the Performance Standards**.**

XI. PROPERTY REQUIREMENTS

50. **Agreements Regarding Access and Non-Interference**. Respondents shall, with respect to any Non-Respondent Owner's Affected Property, use best efforts to secure from such Non-Respondent Owner an agreement, enforceable by Respondents and by EPA, providing that such Non-Respondent Owner, and Owner Respondent shall, with respect to Owner Respondent's Affected Property: (i) provide EPA and the other Respondents, and their representatives, contractors, and subcontractors with access at all reasonable times to such Affected Property to conduct any activity regarding the Order, including those listed in ¶ 50.a (Access Requirements); and (ii) refrain from using such Affected Property in any manner that EPA determines will pose an unacceptable risk to human health or to the environment due to exposure to Waste Material, or interfere with or adversely affect the implementation, integrity, or protectiveness of the Remedial Action, including the restrictions listed in ¶ 50.b (Land, Water, or Other Resource Use Restrictions). Respondents shall provide a copy of such access and use restriction agreement(s) to EPA and the State. Each Respondents shall also comply with the requirements of this Paragraph for each Respondent's Owner's Affected Property.

a. **Access Requirements**. The following is a list of activities for which access is required regarding the Affected Property:

(1) Implementing the Work and overseeing compliance with the Order;

(2) Conducting investigations of contamination at or near the Site;

(3) Assessing the need for, planning, or implementing additional response actions at or near the Site;

(4) Determining whether the Affected Property is being used in a manner that is prohibited or restricted, or that may need to be prohibited or restricted under the Order; and

(5) Implementing, monitoring, maintaining, reporting on, and enforcing any land, water, or other resource use restrictions and any Institutional Controls regarding the Affected Property.

b. **Use Restrictions Agreements**. When EPA determines that it is necessary to restrict certain property uses (for example, anchoring, spudding, or certain vessel operations) in order to avoid interference with implementation or maintenance of the Remedial Action or to prevent disturbance or damage to a capped area, Respondents shall use best efforts to secure from the owner of the Affected Property a Use Restriction Agreement, pursuant to which the owner commits to refrain from using its property in such a manner. All Use Restriction Agreements shall be recorded by the owner of the Affected Property subject to such restriction.

51. **Best Efforts**. As used in this Section, "best efforts" means the efforts that a reasonable person in the position of Respondents would use so as 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 and/or use restriction agreements, Proprietary Controls, releases, subordinations, modifications, or relocations of Prior Encumbrances that affect the title to the Affected Property, as applicable. If, within 45 days after the Effective Date, Respondents are unable to accomplish what is required through "best efforts," they shall notify EPA, and include a description of the steps taken to comply with the requirements. If EPA deems it appropriate, it may assist Respondents, or take independent action, in obtaining such access and/or use restrictions, Proprietary Controls, releases, subordinations, modifications, or relocations of Prior Encumbrances that affect the title to the Affected Property, as applicable. EPA reserves the right to pursue cost recovery regarding all costs incurred by the United States in providing such assistance or taking such action, including the cost of attorney time and the amount of monetary consideration or just compensation paid.

52. **Notice to Successors-in-Title**

a. Owner Respondent shall, within 30 days after the Effective Date, submit for EPA approval a notice to be filed regarding Owner Respondent's Affected Property in the appropriate land records. The notice must: (1) include a proper legal description of the Affected Property; (2) provide notice to all successors-in-title: (i) that the Affected Property is part of, or related to, the Site; (ii) that EPA has selected a remedy for the Site; and (iii) that EPA has issued an order to potentially responsible parties requiring

implementation of such remedy; and (3) identify the EPA docket number and Effective Date of this Order. Owner Respondent shall record the notice within 10 days after EPA's approval of the notice and submit to EPA, within 10 days thereafter, a certified copy of the recorded notice.

b. Owner Respondent shall, prior to entering into a contract to Transfer Owner Respondent's Affected Property, or 60 days prior to Transferring Owner Respondent's Affected Property, whichever is earlier:

(1) Notify the proposed transferee that EPA has selected a remedy regarding the Site, and that EPA has issued an order to potentially responsible parties requiring implementation of such remedy, and identifying this Order and the date it was issued by EPA; and

(2) Notify EPA of the name and address of the proposed transferee and provide EPA with a copy of the notice that it provided to the proposed transferee.

53. In the event of any Transfer of the Affected Property, unless EPA otherwise consents in writing, Respondents shall continue to comply with their obligations under the Order, including their obligation to secure access and ensure compliance with any land, water, or other resource use restrictions regarding the Affected Property, and to implement, maintain, monitor, and report on Institutional Controls.

XII. FINANCIAL ASSURANCE

54. In order to ensure completion of the Work, Respondents shall secure financial assurance, initially in the amount of $97,000,000 dollars ("Estimated Cost of the Work"). The financial assurance must be one or more of the mechanisms listed below, in a form substantially identical to the relevant sample documents available from EPA or under the "Financial Assurance - Orders" category on the Cleanup Enforcement Model Language and Sample Documents Database at https://cfpub.epa.gov/compliance/models/, and satisfactory to EPA. Respondents may use multiple mechanisms if they are limited to trust funds, surety bonds guaranteeing payment, and/or letters of credit.

a. A trust fund: (1) established to ensure that funds will be available as and when needed for performance of the Work; (2) 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; and (3) governed by an agreement that requires the trustee to make payments from the fund only when the Region 10 Branch Chief for the Remedial Cleanup Branch of the Remedial of the Superfund and Emergency Management Division advises the trustee in writing that: (i) payments are necessary to fulfill the affected Respondents' obligations under the Order; or (ii) funds held in trust are in excess of the funds that are necessary to complete the performance of Work in accordance with this Order;

b. A surety bond, 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, guaranteeing payment or performance in accordance with ¶ 61 (Access to Financial Assurance);

c. An irrevocable letter of credit, 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, guaranteeing payment in accordance with ¶ 61 (Access to Financial Assurance);

d. A demonstration by a Respondent that it meets the relevant financial test criteria of ¶ 57;

e. A guarantee to fund or perform the Work executed by a company that (1) is a direct or indirect parent company of a Respondent or has a "substantial business relationship" (as defined in 40 C.F.R. § 264.141(h)) with a Respondent; and (2) can demonstrate to EPA's satisfaction that it meets the financial test criteria of ¶ 57; or

f. A demonstration by one or more local government Respondents that it meets the relevant test criteria of ¶ 58.

55. **Standby Trust**. If Respondents seek to establish financial assurance by using a surety bond, a letter of credit, or a corporate guarantee, Respondents shall at the same time establish and thereafter maintain a standby trust fund, which must meet the requirements specified in ¶ 54.a, and into which payments from the other financial assurance mechanism can be deposited if EPA so requires in accordance with the terms and conditions of the financial assurance mechanism and ¶ 61 (Access to Financial Assurance). An originally signed duplicate of the standby trust agreement must be submitted, with the other financial mechanism, to EPA in accordance with ¶ 56. Until the standby trust fund is funded pursuant to ¶ 61 (Access to Financial Assurance), neither payments into the standby trust fund nor annual valuations are required.

56. Within 30 days after the Effective Date, Respondents shall submit to EPA proposed financial assurance mechanisms in draft form in accordance with ¶ 54 for EPA's review. Within 60 days after the Effective Date, or 30 days after EPA's approval of the form and substance of Respondents' financial assurance, whichever is later, Respondents shall secure all executed and/or otherwise finalized mechanisms or other documents consistent with the EPA-approved form of financial assurance and shall submit, with a transmittal that identifies the Site name and the Site/Spill ID # 10XP, such mechanisms and documents to the following:

EPA, Remedial Project Manager, Hale.Elly@epa.gov

EPA, Remedial Project Manager, Erdelyi.Nasrin@epa.gov

EPA, Assistant Regional Counsel, Yackulic.Ted@epa.gov

EPA, Assistant Regional Counsel, Vidargas.Nick@epa.gov, and

EPA, Regional Information Management Officer, Zamastil.Doug@epa.gov.

57. Respondents seeking to provide financial assurance by means of a demonstration or guarantee under ¶ 54.d or 54.e must, within 45 days of the Effective Date:

a. Demonstrate that:

(1) the affected 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 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 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) The affected 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 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 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.

b. Submit to EPA for the affected 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 or under the "Financial Assurance – Orders" subject list category on the Cleanup Enforcement Model Language and Sample Documents Database at https://cfpub.epa.gov/compliance/models/.

58. A local government Respondent seeking to provide financial assurance by means of a demonstration under ¶ 54.f must, within 45 days after the Effective Date:

a. demonstrate that:

(1) The local government Respondent providing the demonstration is a local government unit (for example a United States city or county).

(2) If the local government Respondent providing the demonstration has outstanding, rated, general obligation bonds that are not secured by insurance, a letter of credit, or other collateral or guarantee, it must have a current rating of Aaa, Aa, A, or Baa, as issued by Moody's, or AAA, AA, A, or BBB, as issued by Standard and Poor's on all such bonds; or

(3) each of the following financial ratios based on that local government Respondent's most recent audited annual financial statement: a ratio of cash plus marketable securities to total expenditures greater than or equal to 0.05; and a ratio of annual debt service to total expenditures less than or equal to 0.20.

b. The local government Respondent providing the demonstration must prepare its financial statements in conformity with Generally Accepted Accounting Principles for governments and have its financial statements audited by an independent certified public accountant (or the Washington State Auditor).

c. The local government Respondent providing the demonstration must not (1) be currently in default on any outstanding general obligation bonds; (2) must not have any outstanding general obligation bonds rated lower than Baa as issued by Moody's or BBB as issued by Standard and Poor's; (3) must not have operated at a deficit equal to five percent or more of total annual revenue in each of the past two fiscal years; and (4) must not have received an adverse opinion, disclaimer of opinion, or other qualified opinion from the independent certified public accountant (or the Washington State Auditor) auditing its financial statement as required under subparagraph b (except for qualifications that are immaterial or deemed insufficient to warrant disallowance of use of the test by the EPA).

d. The following terms used in this section are defined as follows: (1) Deficit equals total annual revenues, minus total annual expenditures, measured on a government-wide basis; (2) Total annual revenues includes all revenues recognized in a

fiscal year under applicable accounting principles, from all taxes, fees, charges, and other sources of income, including all utility gross revenues, plus any reserves or fund balance applied or used in that year, but does not include the proceeds from borrowing for capital purposes or revenues realized from asset sales; (3) Total annual expenditures includes all expenditures made during a fiscal year, excluding capital outlays and excluding funds applied to debt repayment and costs of debt issuance; (4) Cash plus marketable securities is all the cash plus marketable securities held by the local government Respondent on the last day of a fiscal year, excluding cash and marketable securities designated to satisfy past obligations such as pensions or held by a trustee on behalf of the local government Respondent; and (5) Debt service is the amount of principal and interest due on a debt obligation in a given time period, typically the current year.

e. The local government Respondent providing the demonstration must place a reference to the estimated cost of the Work assured through the financial test into its next annual comprehensive financial report (ACFR) after the Effective Date.

f. The amount that can be financially assured by this financial test mechanism by a local government Respondent is determined as follows:

(1) If the local government Respondent does not assure other environmental obligations through a financial test, the estimated cost of the Work may equal up to 43 percent of the local government Respondent's total annual revenue.

(2) If the local government Respondent assures any other environmental obligations through a financial test, it must add those costs to the estimated cost of the Work it seeks to assure under this Paragraph. The total that may be assured must not exceed 43 percent of the local government Respondent's total annual revenue.

g. A local government Respondent providing the demonstration under this section must provide the following documents within 45 days of the Effective Date. These documents must also be resubmitted annually, within 270 days following the close of the local government Respondent's fiscal year, until the financial assurance requirements are released, or an alternative instrument is accepted by EPA.

(1) A letter signed by the local government Respondent's Director of Finance or other official serving as chief financial or operating officer that: lists all the current cost estimates covered by a financial test, as described in Paragraph 58.f of this section; provides evidence and certifies that the local government Respondent meets the conditions of subparagraphs (a)(1) and either (a)(2) or (a)(3) of this ¶ 58; and certifies that the local government Respondent is in compliance with all conditions of this section;

(2) The local government Respondent's independently audited year-end financial statements for the latest fiscal year, including the unqualified

opinion of the auditor who must be an independent, certified public accountant or an appropriate State agency that conducts equivalent comprehensive audits;

(3) A report to the local government Respondent from the local government Respondent's independent certified public accountant (CPA) or the appropriate State agency based on performing an agreed upon procedures engagement relative to the financial ratios required by Paragraph 58.a(3), if applicable, and the requirements of Paragraphs 58.f(1) or (2). The CPA or State agency's report should state the procedures performed and the CPA or State agency's findings. If the financial ratios under Paragraph 58.a(3) are not applicable, then the foregoing requirement may be satisfied by a certificate provided by the local government Respondent's chief financial or operating officer, in reliance upon audited financial statements, attesting that the requirements of Paragraph 58.f(1) or (2), as applicable, have been satisfied; and

(4) A copy of the annual comprehensive financial report used to comply with Paragraph 58.e of this section or certification that the requirements of General Accounting Standards Board Statement 18 have been met.

59. Respondents shall diligently monitor the adequacy of the financial assurance. If any 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, such Respondent shall notify EPA of such information within 30 days. 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 the affected Respondent of such determination. Respondents 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. Respondents shall follow the procedures of ¶ 62 (Modification of Amount, Form, or Terms of Financial Assurance) in seeking approval of, and submitting documentation for, the revised or alternative financial assurance mechanism. Respondents' inability to secure financial assurance in accordance with this Section does not excuse performance of any other obligation under this Order.

60. Respondents providing financial assurance by means of a demonstration or guarantee under ¶ 54.d or 54.e must also:

a. Annually resubmit the documents described in ¶ 58 within 90 days after the close of the affected Respondent's or guarantor's fiscal year;

b. Notify EPA within 30 days after the affected 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 the affected Respondent or guarantor in addition to those specified in ¶ 58;

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

61. **Access to Financial Assurance**

a. If EPA determines that Respondents (1) have ceased implementation of any portion of the Work, (2) are seriously or repeatedly deficient or late in their performance of the Work, or (3) are implementing the Work in a manner that may cause an endangerment to human health or the environment, EPA may issue a written notice ("Performance Failure Notice") to both Respondents and the financial assurance provider regarding the affected Respondents' failure to perform. Any Performance Failure Notice issued by EPA will specify the grounds upon which such notice was issued and will provide Respondents a period of 10 days within which to remedy the circumstances giving rise to EPA's issuance of such notice. If, after expiration of the 10-day period specified in this Paragraph, Respondents have not remedied to EPA's satisfaction the circumstances giving rise to EPA's issuance of the relevant Performance Failure Notice, then, in accordance with any applicable financial assurance mechanism, EPA may at any time thereafter direct the financial assurance provider to immediately: (i) deposit any funds assured pursuant to this Section into the standby trust fund; or (ii) arrange for performance of the Work in accordance with this Order.

b. If EPA is notified by the provider of a financial assurance mechanism that it intends to cancel the mechanism, and the affected Respondent fails to provide an alternative financial assurance mechanism in accordance with this Section at least 30 days prior to the cancellation date, EPA may, prior to cancellation, direct the financial assurance provider to deposit any funds guaranteed under such mechanism into the standby trust fund for use consistent with this Section.

62. **Modification of Amount, Form, or Terms of Financial Assurance**. Respondents may submit, on any anniversary of the Effective Date or following Respondents' request for, and EPA's approval of, another date, a request to reduce the amount, or change the form or terms, of the financial assurance mechanism. Any such request must be submitted to the EPA individual(s) referenced in ¶ 56, and must include an estimate of the cost of the remaining Work, an explanation of the bases for the cost calculation, a description of the proposed changes, if any, to the form or terms of the financial assurance, and any newly proposed financial assurance documentation in accordance with the requirements of ¶¶ 54 and 55 (Standby Trust). EPA will notify Respondents of its decision to approve or disapprove a requested reduction or change. Respondents may reduce the amount or change the form or terms of the financial assurance only in accordance with EPA's approval. Within 30 days after receipt of EPA's approval of the requested modifications pursuant to this Paragraph, Respondents shall submit to the EPA individual(s) referenced in ¶ 56 all executed and/or otherwise finalized documentation relating to the amended, reduced, or alternative financial assurance mechanism. Upon EPA's approval, the Estimated Cost of the Work shall be deemed to be the estimate of the cost of the remaining Work in the approved proposal.

63. **Release, Cancellation, or Discontinuation of Financial Assurance**. Respondents may release, cancel, or discontinue any financial assurance provided under this

Section only: (a) after receipt of documentation issued by EPA certifying completion of the Work; or (b) in accordance with EPA's written approval of such release, cancellation, or discontinuation.

XIII. INSURANCE

64. Not later than 15 days before commencing any on-site Work, Respondents shall secure, and shall maintain until the first anniversary after the Notice of RA Completion pursuant to ¶ [**4.7**] of the SOW, commercial general liability insurance with limits of liability of $1 million per occurrence, and automobile insurance with limits of liability of $1 million per accident, and umbrella liability insurance with limits of liability of $5 million in excess of the required commercial general liability and automobile liability limits, naming the United States as an additional insured with respect to all liability arising out of the activities performed by or on behalf of Respondents pursuant to this Order. In addition, for the duration of the Order, Respondents 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 Work on behalf of Respondents in furtherance of this Order. Within the same time period, Respondents shall provide EPA with certificates of such insurance and a copy of each insurance policy. Respondents shall submit such certificate and copies of policies each year on the anniversary of the Effective Date. If Respondents demonstrate by evidence satisfactory to EPA that any contractor or subcontractor maintains insurance equivalent to that described above, or insurance covering some or all of the same risks but in a lesser amount, then, with respect to that contractor or subcontractor, Respondents need provide only that portion of the insurance described above that is not maintained by the contractor or subcontractor. Respondents shall ensure that all submittals to EPA under this Paragraph identify the Lower Duwamish Waterway Superfund Site, Seattle, WA and the EPA docket number for this action and this information must be submitted to the EPA individual(s) referenced in ¶ 56.

XIV. DELAY IN PERFORMANCE

65. Respondents shall notify EPA of any delay or anticipated delay in performing any requirement of this Order. Such notification shall be made by telephone and email to the EPA Project Coordinator within 48 hours after Respondents first knew or should have known that a delay might occur. Respondents shall adopt all reasonable measures to avoid or minimize any such delay. Within seven days after notifying EPA by telephone and email, Respondents shall provide to EPA written notification fully describing the nature of the delay, the anticipated duration of the delay, any justification for the delay, all actions taken or to be taken to prevent or minimize the delay or the effect of the delay, a schedule for implementation of any measures to be taken to mitigate the effect of the delay, and any reason why Respondents should not be held strictly accountable for failing to comply with any relevant requirements of this Order. Increased costs or expenses associated with implementation of the activities called for in this Order is not a justification for any delay in performance.

66. Any delay in performance of this Order that, in EPA's judgment, is not properly justified by Respondents under the terms of ¶ 65 shall be considered a violation of this Order. Any delay in performance of this Order shall not affect Respondents' obligations to fully perform all obligations under the terms and conditions of this Order.

XV. PAYMENT OF RESPONSE COSTS

67. **Response Cost Payments.**

On a periodic basis, EPA will send Respondents a bill requiring payment of all Response Costs incurred by the United States regarding this Order that includes a "SCORPIOS Report" or other standard cost summary listing direct and indirect costs paid by EPA, its contractors, subcontractors. Respondents shall make all payments within 30 days of the date Respondents receipt of a bill requiring payment. after receipt of each written demand.

a. **Payments.** Payments made pursuant to this Paragraph 67 shall be made online at https://www.pay.gov which accepts debit and credit cards and bank account Automated Clearing House (ACH). On the www.pay.gov main page, enter SFO1.1 in the search field to obtains EPA Miscellaneous Payment Form -- Cincinnati Finance Center. Complete the payment with due date, Bill #, and Site/Spill ID 10XP. Once the form is completed email an acknowledgement of payment to CINWD_AcctsReceivable@epa.gov. At the time of payment, Respondents shall send notice that payment has been made to the EPA representatives identified in ¶ 38 and to the Regional Financial Manager Edward Johnson at johnson.edward@epa.gov.

68. **Interest**. In the event that the payments for Response Costs are not made within 30 days after Respondents' receipt of a written demand requiring payment, Respondents shall pay Interest on the unpaid balance. The Interest on Response Costs shall begin to accrue on the date of the written demand and shall continue to accrue until the date of payment. Payments of Interest made under this Paragraph shall be in addition to such other remedies or sanctions available to EPA by virtue of Respondents' failure to make timely payments under this Section. Respondents shall make all payments under this Paragraph in accordance with ¶ 67.

XVI. ACCESS TO INFORMATION

69. Respondents shall provide to EPA, upon request, copies of all records, reports, documents, and other information (including records, reports, documents, and other information in electronic form) (hereinafter referred to as "Records") within Respondents' possession or control or that of their contractors or agents relating to activities at the Site or to the implementation of this Order, including, but not limited to, sampling, analysis, chain of custody records, manifests, trucking logs, receipts, reports, sample traffic routing, correspondence, or other documents or information regarding the Work. Respondents shall also make available to EPA, for purposes of investigation, information gathering, or testimony, their employees, agents, or representatives with knowledge of relevant facts concerning the performance of the Work.

70. **Privileged and Protected Claims**

a. Respondents 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 Respondents comply with ¶ 70.b, and except as provided in ¶ 70.c.

b. If Respondents assert a claim of privilege or protection, they 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, Respondents shall provide the Record to EPA in redacted form to mask the privileged or protected portion only. Respondents 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 the Respondents' favor.

c. Respondents may make no claim of privilege or protection regarding: (1) any data regarding the Site, including, but not limited to, all sampling, analytical, monitoring, hydrogeologic, scientific, chemical, radiological, or engineering data, or the portion of any other Record that evidences conditions at or around the Site; or (2) the portion of any Record that Respondents are required to create or generate pursuant to this Order.

71. **Business Confidential Claims**. Respondents may assert that all or part of a Record provided to EPA under this Section or Section XVII (Record Retention) is business confidential to the extent permitted by and in accordance with Section 104(e)(7) of CERCLA, 42 U.S.C. § 9604(e)(7), and 40 C.F.R. § 2.203(b). Respondents shall segregate and clearly identify all Records or parts thereof submitted under this Order for which Respondents assert business confidentiality claims. Records claimed as confidential business information will be afforded the protection specified in 40 C.F.R. Part 2, Subpart B. If no claim of confidentially accompanies Records when they are submitted to EPA, or if EPA has notified Respondents that the Records are not confidential under the standards of CERCLA § 104(e)(7) or 40 C.F.R. Part 2, Subpart B, the public may be given access to such Records without further notice to Respondents.

XVII. RECORD RETENTION

72. During the pendency of this Order and for a minimum of 10 years after EPA provides Notice of Work Completion under ¶ **6.9** of the SOW, each Respondent shall preserve and retain all non-identical copies of Records (including Records in electronic form) now in its possession or control or that come into its possession or control that relate in any manner to its liability under CERCLA with respect to the Site, provided, however, that Respondents who are potentially liable as owners or operators of the Site must retain, in addition, all Records that relate to the liability of any other person under CERCLA with respect to the Site. Each Respondent must also retain, and instruct its contractors and agents to preserve, for the same period of time specified above, all non-identical copies of the last draft or final version of any Records (including Records in electronic form) now in its possession or control or that come into its possession or control that relate in any manner to the performance of the Work, provided, however, that each Respondent (and its contractor and agents) must retain, in addition, copies of all data generated during performance of the Work and not contained in the aforementioned Records to be retained. Each of the above record retention requirements shall apply regardless of any corporate retention policy to the contrary.

73. At the conclusion of this document retention period, Respondents shall notify EPA and the State at least 90 days prior to the destruction of any such Records, and, upon request by EPA or the State, and except as provided in ¶ 70, Respondents shall deliver any such Records to EPA or the State.

74. Within 30 days after the Effective Date, each Respondent shall submit a written certification to EPA's Project Coordinator that, to the best of its knowledge and belief, after thorough inquiry, it has not altered, mutilated, discarded, destroyed, or otherwise disposed of any Records (other than identical copies) relating to its potential liability regarding the Site since notification of potential liability by the United States or the State and that it has fully complied with any and all EPA requests for information regarding the Site pursuant to Sections 104(e) and 122(e) of CERCLA, 42 U.S.C. §§ 9604(e) and 9622(e), and Section 3007 of RCRA, 42 U.S.C. § 6927, and state law. Any Respondent unable to so certify shall submit a modified certification that explains in detail why it is unable to certify in full with regard to all Records.

XVIII. ENFORCEMENT/WORK TAKEOVER

75. Any willful violation, or failure or refusal to comply with any provision of this Order may subject Respondents to civil penalties up to the maximum amount authorized by law. CERCLA § 106(b)(1), 42 U.S.C. § 9606(b)(1). As of the date of issuance of this Order, the statutory maximum amount is $69,733 per violation per day. This maximum amount may increase in the future, as EPA amends its civil penalty amounts through rulemaking pursuant to the 1990 Federal Civil Penalties Inflation Adjustment Act (Public Law 101-410, codified at 28 U.S.C. § 2461), as amended by the 2015 Federal Civil Penalties Inflation Adjustment Act Improvement Act (Section 701 of Public Law 114-74)). The maximum amount to be applied to this violation will be set as the most recent maximum amount set forth in 40 CFR § 19.4 as of the date that the U.S. District Court assesses any such penalty. In the event of such willful violation, or failure or refusal to comply, EPA may unilaterally carry out the actions required by this Order, pursuant to Section 104 of CERCLA, 42 U.S.C. § 9604, and/or may seek judicial enforcement of this Order pursuant to Section 106 of CERCLA, 42 U.S.C. § 9606. In addition, nothing in this Order shall limit EPA's authority under Section XII (Financial Assurance). Respondents may also be subject to punitive damages in an amount up to three times the amount of any cost incurred by the United States as a result of such failure to comply, as provided in Section 107(c)(3) of CERCLA, 42 U.S.C. § 9607(c)(3).

XIX. RESERVATIONS OF RIGHTS

76. Nothing in this Order limits the rights and authorities of EPA and the United States:

a. To take, direct, or order all actions necessary, including to seek a court order, to protect public health, welfare, or the environment or to respond to an actual or threatened release of Waste Material on, at, or from the Site;

b. To select further response actions for the Site in accordance with CERCLA and the NCP;

c. To seek legal or equitable relief to enforce the terms of this Order;

d. To take other legal or equitable action as they deem appropriate and necessary, or to require Respondents in the future to perform additional activities pursuant to CERCLA or any other applicable law;

e. To bring an action against Respondents under Section 107 of CERCLA, 42 U.S.C.§ 9607, for recovery of any costs incurred by EPA or the United States regarding this Order or the Site and not paid by Respondents;

f. Regarding access to, and to require land, water, or other resource use restrictions and/or Institutional Controls regarding the Site under CERCLA, RCRA, or other applicable statutes and regulations; or

g. To obtain information and perform inspections in accordance with CERCLA, RCRA, and any other applicable statutes or regulations.

XX. OTHER CLAIMS

77. By issuance of this Order, the United States and EPA assume no liability for injuries or damages to persons or property resulting from any acts or omissions of Respondents. The United States or EPA shall not be deemed a party to any contract entered into by Respondents or their directors, officers, employees, agents, successors, representatives, assigns, contractors, or consultants in carrying out actions pursuant to this Order.

78. Nothing in this Order constitutes a satisfaction of or release from any claim or cause of action against Respondents or any person not a party to this Order, for any liability such person may have under CERCLA, other statutes, or common law, including but not limited to any claims of the United States under Sections 106 and 107 of CERCLA, 42 U.S.C. §§ 9606 and 9607.

79. Nothing in this Order shall be deemed to constitute preauthorization of a claim within the meaning of Section 111 of CERCLA, 42 U.S.C. § 9611, or 40 C.F.R. § 300.700(d).

80. No action or decision by EPA pursuant to this Order shall give rise to any right to judicial review, except as set forth in Section 113(h) of CERCLA, 42 U.S.C. § 9613(h).

XXI. ADMINISTRATIVE RECORD

81. EPA has established an administrative record that contains the documents that form the basis for the issuance of this Order, including, but not limited to, the documents upon which EPA based the selection of the Remedial Action selected in the ROD. Upon request, EPA will make the administrative record available for review.

XXII. APPENDICES

82. The following appendices are attached to and incorporated into this Order:

"Appendix A" is the SOW.
"Appendix B" is the map of the Site.

XXIII. SEVERABILITY

83. If a court issues an order that invalidates any provision of this Order or finds that Respondents have sufficient cause not to comply with one or more provisions of this Order, Respondents shall remain bound to comply with all provisions of this Order not invalidated or determined to be subject to a sufficient cause defense by the court's order.

It is so ORDERED.

BY: KIRA LYNCH Digitally signed by KIRA LYNCH Date: 2024.07.18 09:12:15 -07'00' _____ DATE: _____

Kira Lynch
Branch Chief, Remedial Cleanup Branch
Superfund & Emergency Management Division
Region 10
U.S. Environmental Protection Agency

APPENDIX A

LOWER DUWAMISH WATERWAY SUPERFUND SITE

REMEDIAL DESIGN/REMEDIAL ACTION

STATEMENT OF WORK

TABLE OF CONTENTS

1. INTRODUCTION

1.1 Purpose of Statement of Work (SOW). This SOW sets forth the procedures and requirements for implementing the Work for the Lower Duwamish Waterway (LDW) Superfund site as set forth in the Unilateral Administrative Order (Order) issued by EPA and to which this SOW is attached. to the Respondents on July 18, 2024.

1.2 Structure of the SOW

- Section 2 (Community Involvement and Coordination with Property Owners) sets forth EPA's and Respondents' responsibilities for community involvement and coordination with Property Owners.
- Section 3 (Coordination and Supervision) - Section X, paragraph 45, of the Order contains the provisions for selecting the Construction Contract Managers and Project Coordinators regarding the Work.
- Section 4 (Remedial Design for Upper Reach and Middle Reach) - Reserved[1].
- Section 5 (Sitewide Institutional Controls) sets forth the requirements for the planning and implementation of methods to ensure remedy integrity.
- Section 6 (Remedial Design for the Lower Reach) sets forth the process for developing the Remedial Design for the Lower Reach. This process includes the submission of specified primary deliverables.
- Section 7 (Remedial Action) sets forth requirements regarding the completion of the Remedial Action in the Upper Reach, including primary deliverables related to completion of the Remedial Action.
- Section 8 (Deferred Remedial Action) sets forth Respondents' obligations regarding implementation of future remediation that may be triggered by the need for maintenance dredging in the federal navigation channel and deferral of certain cleanup areas. The obligations may include the submission of specified primary deliverables.
- Section 9 (Reporting) sets forth Respondents' reporting obligations.
- Section 10 (Deliverables) describes the contents of the supporting deliverables and the general requirements regarding Respondents' submission of, and EPA's review of, approval of, comment on, and/or modification of, the deliverables.

[1] "Reserved" is used in this SOW to preserve the organizational consistency of this SOW's and the SOW that will be attached to a RD/RA consent decree that is the subject ongoing negotiations between the United States and Respondents.

- Section 11 (Schedules) sets forth the schedule for submitting the primary deliverables and sets forth the schedule of milestones regarding the completion of the Upper Reach Remedial Action.
- Section 12 (State Participation) addresses State participation.
- Section 13 (References) provides a list of references, including URLs.

1.3 Scope of the Remedy

The scope of the remedy includes all actions described in Section 13.2 of the Record of Decision (ROD) for the Site, as corrected in the 2015 Errata Memo and modified in the 2021 Explanation of Significant Differences (ESD).

The selected remedy addresses all areas within the Site where concentrations of contaminants of concern (COC) in sediment exceed cleanup levels in the ROD (Section 8, Table 19 and 20). To achieve Remedial Action Objectives (RAOs) (see ROD Section 8), the selected remedy calls for a combination of active cleanup technologies, monitored natural recovery, and institutional controls, as described in Section 13.2 of the ROD and summarized below:

(a) **Application of active cleanup technologies** in accordance with ROD Section 13.2 in areas where sediment concentrations exceed the Remedial Action Levels (RALs) in ROD Table 27 and Table 28 (as modified by the 2021 ESD) and as described in ROD Figure 19 and Figure 20 (as corrected in the 2015 Errata Memo)**:**

(1) Dredge or partially-dredge and cap highly contaminated sediments.

(2) Place engineered sediment caps on highly contaminated sediments where there is sufficient water depth for a cap.

(3) Place a thin layer (6 to 9 inches) of clean material (referred to as enhanced natural recovery [ENR]) in areas that meet the criteria for ENR and do not exceed ENR upper limits in ROD Table 28.

(4) Apply location-specific cleanup technologies to areas with structural or access restrictions (e.g., under-pier areas and in the vicinity of dolphins/pilings, bulkheads, and riprapped or engineered shorelines).

(b) **Implementation of monitored natural recovery (MNR)** where surface sediment contaminant concentrations are predicted to be reduced over time through deposition of cleaner sediments from upstream. MNR will apply to those areas that are not subject to active remediation, using either MNR To Benthic sediment cleanup objective (SCO) or MNR Below Benthic SCO, as described in ROD Section 13.2.2 and in ROD Figure 21.

(c) **Sampling of the entire LDW as part of sitewide post-Early Action Area, construction, post-construction, and long-term monitoring.** Sampling to establish post-Early Action Area sitewide conditions was completed following issuance of the ROD. Conduct construction, post-construction, and long-term monitoring of relevant media, as described in ROD Section 13.2.3.

(d) **Implementation of effective and appropriate institutional controls (ICs).** ICs are required for the entire waterway to reduce human exposure to contaminants in seafood, protect the integrity of the remedy, and ensure remedy effectiveness. Consistent with Section 13.2.4 of the ROD and as required by Section XI (Property Requirements) of the Unilateral Administrative Order (Order), ICs shall include location-specific use restrictions (using proprietary controls in the form of Washington Uniform Environmental Covenants Act (UECA)-compliant environmental covenants and/or governmental controls, such as regulated navigation areas designated by the Coast Guard or controls imposed by another governmental entity to protect capped areas. If such ICs will interfere with waterway activities required for use of a particular area, EPA may determine that dredging is required instead of capping to allow for fewer restrictions on the use of the area. Respondents shall incorporate the change in the Remedial Design and shall implement the required dredging. ICs also include informational devices and effective and culturally appropriate communication with fishing communities about advisories to reduce human exposure from ingestion of contaminated resident fish and shellfish.

1.4 EPA approved a plan for seafood consumption institutional controls following the ROD and these controls must continue to be updated and implemented. Design of the selected remedy for the Upper Reach and Middle Reach began in 2018 and 2021, respectively. Remedial action construction will generally proceed from upstream to downstream in three phases or Remedial Action Projects, in waterway segments identified as the Upper, Middle, and Lower Reaches. As remedial construction is completed for each reach, plans for long-term site monitoring and maintenance and for institutional controls for remedy integrity and effectiveness must be updated for elements within that reach and implemented.

1.5 The terms used in this SOW that are defined in CERCLA, in regulations promulgated under CERCLA, or in the Order, have the meanings assigned to them in CERCLA, in such regulations, or in the Order, except that the term "Paragraph" or "¶" means a paragraph of the SOW, and the term "Section" means a section of the SOW, unless otherwise stated.

2. COMMUNITY INVOLVEMENT AND COORDINATION WITH PROPERTY OWNERS

2.1 As requested by EPA, Respondents shall fund, participate in, and support community involvement activities under EPA's oversight as provided for in, and in accordance with, this Section. Such activities include Respondents' designation of a Community Involvement Coordinator (CI Coordinator).

2.2 Community Involvement Responsibilities

(a) EPA has the lead responsibility for developing and implementing community involvement activities at the Site. During the Remedial Investigation and Feasibility Study (RI/FS) phase, EPA developed a Community Involvement Plan for the Site. EPA updated the plan following remedy selection. EPA may at any time review the existing Community Involvement Plan and revise it to describe further public involvement activities during the Work. EPA may issue a Technical Assistance Grant (TAG), use the Technical Assistance Services for Communities (TASC) contract, and/or initiate a Technical Assistance Plan (TAP).

(b) **Respondents' CI Coordinator**. Respondents shall, within [15] days of the request, designate and notify EPA of Respondents' CI Coordinator (Respondents' CI Coordinator). Respondents' notice must include the name, title, and qualifications of the Respondents' CI Coordinator. Respondents' CI Coordinator shall coordinate his/her activities with EPA's CI Coordinator, provide support as requested by EPA's Project or CI Coordinator for EPA's community involvement activities, and shall, as requested by EPA's Project Coordinator or CI Coordinator, provide draft responses to the public's inquiries including requests for information or data about the Site. The Respondents have the responsibility to ensure that when they or their CI Coordinator communicate with the public the Respondents protect any "Personally Identifiable Information" (PII) (*e.g.,* sample results from residential properties) in accordance with "EPA Policy 2151.0: Privacy Policy." As requested by EPA, Respondents shall participate in and support EPA's community involvement activities, including participation in: (1) public meetings that may be held or sponsored by EPA to explain activities at or relating to the Site (with interpreters present for community members with limited English proficiency); and (2) other activities EPA decides are necessary to protect and address the concerns of Environmental Justice (EJ) and disadvantaged communities, *e.g.*, maintaining a project website with technical documents and other records, providing translation or interpretation services for in-language meetings and outreach materials, developing webinars, using virtual meeting platforms, providing live video feed when work is being performed, providing for site visits on land or boat, establishing a community hotline, setting appropriate meeting times for working people, and providing childcare, food, and compensation to allow broad participation. Respondents' support of EPA's community involvement activities may include providing online access to initial submissions and updates of deliverables to: (1) any Community Advisory Groups, (2) any TAG recipients and their advisors, (3) Roundtables and (4) other entities identified by EPA to provide them with a reasonable opportunity for review and comment. EPA may describe in its Community Involvement Plan Respondents' responsibilities for community involvement activities. All community involvement activities conducted by Respondents at EPA's request are subject to EPA's oversight. EPA has established the South Park Library as an information repository. At EPA's request, Respondents shall establish an additional location in the community to house design and remedial action documents during remedial action.

(c) **Information for the Community**. As requested by EPA, Respondents shall develop and provide to EPA information about the design and implementation of the remedy including: (1) any validated data from monitoring of impacts to communities as provided in the Community Impacts Mitigation Plan under ¶10.6(e) ; (2) unvalidated results from sampling as provided under ¶10.6(f)(5) and 6.14(b)(5); (3) a copy of the Community Impacts Mitigation Plan required under ¶10.6(e) ; (4) schedules prepared under Section 11 (Schedules); (5) dates that Respondents completed each task listed in the schedules; and (6) digital photographs of the Work being performed, together with descriptions of the Work depicted in each photograph, the purpose of the Work, the equipment being used, and the location of the Work. The EPA Project Coordinator may use this information for communication to the public via EPA's website, social media, or local and mass media. The information provided to EPA should be suitable for sharing with the public and the education levels of the community as indicated in EJ Screen. Translations should be in the dominant language(s) of community members with limited English proficiency.

(d) **Coordination with Property Owners.** Respondents shall coordinate their plans with property owners, as necessary. Staging shall, whenever practicable, occur on property owned by the Respondents except as otherwise agreed by a property owner or to allow Respondents to respond to an emergency pursuant to ¶7.6 (Emergency Response and Reporting).

2.3 Respondents' Responsibilities for Technical Assistance

(a) If EPA issues a TAG for the LDW, Respondents shall reimburse EPA for costs in accordance with ¶34 of the Order.

3. COORDINATION AND SUPERVISION

3.1 Project Coordinators

(a) Respondents' Project Coordinator(s) must have sufficient technical expertise to coordinate the Work across the Upper, Middle, and Lower reaches. Respondents' Project Coordinator(s) may not be an attorney representing any Respondent in this matter and may not act as the Construction Contract Manager. The Project Coordinator shall have a quality assurance system that complies with the most recent version of the *Quality Management Plan Standard* (QMP Standard). Respondents' Project Coordinator may assign other representatives, including other contractors, to assist in coordinating the Work.

(b) EPA designates Elly Hale (hale.elly@epa.gov, 206-553-1215) as the EPA Project Coordinator, with Nasrin Erdelyi (erdelyi.nasrin@epa.gov, 206-553-1691) and Piper Peterson (peterson.piper@epa.gov, 206-553-4951) as Alternate Project Coordinators. EPA will notify Respondents of changes to its designated Project Coordinator or Alternate Project Coordinator. EPA may designate, and notify Respondents of, other representatives, which may include its employees, contractors, and/or consultants, to

oversee the Work. EPA's Project Coordinator/Alternate Project Coordinator will have the same authority as a remedial project manager and/or an on-scene coordinator, as described in the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). This includes the authority to halt the Work and/or to conduct or direct any necessary response action when it is determined that conditions at the Site constitute an emergency or may present an immediate threat to public health or welfare or the environment due to a release or threatened release of Waste Material.

(c) The State Project Coordinator shall be the Supervisor of the Toxics Cleanup Program Aquatics Unit at the Northwest Regional Office of the Department of Ecology. The State may designate other representatives, including its employees, contractors and/or consultants to oversee the Work. For any scheduled meetings and inspections in which EPA's Project Coordinator participates, the State's Project Coordinator also may participate. Respondents shall notify the State reasonably in advance of any such meetings or inspections.

(d) Respondents' Project Coordinator(s) shall communicate with EPA's and the State's Project Coordinators at least monthly.

3.2 Construction Contract Manager(s). Respondents' proposed Construction Contract Manager(s) must have sufficient technical expertise to supervise the Work.

3.3 Procedures for Disapproval/Notice to Proceed

(a) Respondents shall designate, and notify EPA, within 10 days after the Effective Date of the Order, of the name(s), title(s), contact information, and qualifications of the Respondents' proposed Project Coordinator and Construction Contract Manager for the Upper Reach Remedial Action. Their qualifications shall be subject to EPA's review for verification based on objective assessment criteria (*e.g.*, experience, capacity, technical expertise). They must not have an un-waivable conflict of interest with respect to the project. Respondents shall designate, and notify EPA, of Lower Reach Project Engineer within 10 days of contract selection for Lower Reach Remedial Design.

(b) If a separate Project Coordinator or Construction Contract Manager will be used for Remedial Design or Remedial Action for areas described in Section 8, the requirements of Section 3 (Coordination and Supervision) apply. Respondents shall designate them and notify EPA within 10 days after contract selection.

(c) EPA shall issue notices of disapproval and/or authorizations to proceed regarding any proposed Project Coordinator(s), Construction Contract Manager, or Project Engineer (Lower Reach) as applicable. If EPA issues a notice of disapproval, Respondents shall, within 20 days of disapproval, submit to EPA a list of supplemental proposed Project Coordinator(s), Construction Contract Managers, Project Engineers, as applicable, including a description of the qualifications of each. Respondents may select any coordinator/contractor covered by an EPA authorization to proceed and shall, within 10 days of selection, notify EPA of Respondents' selection.

(d) EPA may disapprove the proposed Project Coordinator(s), the Construction Contract Manager, or Project Engineer (Lower Reach), based on objective assessment criteria (*e.g*., experience, capacity, technical expertise), if they have an un-waivable conflict of interest regarding the project, or any combination of these factors.

(e) Respondents may change their Project Coordinator(s) and/or Construction Contract Manager, or Project Engineer (Lower Reach), by following the procedures of ¶¶ 3.3(a) and 3.3(b).

4. REMEDIAL DESIGN FOR UPPER REACH AND MIDDLE REACH

4.1 Respondents and the Port of Seattle are performing the Upper Reach and Middle Reach remedial designs and associated periodic monitoring tasks in accordance with the requirements set forth in the fourth (2018) and fifth (2021) amendments to the RI/FS Administrative Order on Consent (AOC) (2000) and EPA approved remedial design submittals.

4.2 Respondents may request EPA approval for programmatic biological assessments, archaeological and cultural resource protection plans, and other elements that may effectively be prepared using a site-wide approach.

5. SITEWIDE INSTITUTIONAL CONTROLS

5.1 Respondents shall submit a sitewide Institutional Controls Implementation and Assurance Plan (ICIAP) for EPA approval. The ICIAP shall specify institutional controls (ICs) as defined in the Order, Section III (Definitions), for Upper, Middle, and Lower Reaches, and shall describe detailed plans to implement, maintain, monitor, and enforce the ICs for remedy integrity and effectiveness at the Site, as generally described in the ROD. EPA may approve, and Respondents shall implement, if directed by EPA, some or all elements of the ICIAP prior to completion of Remedial Action Project Construction in a given reach. As remedial design and remedial action proceeds by reach, Respondents shall update the ICIAP.

The institutional controls shall include proprietary controls in the form of Washington Uniform Environmental Covenants Act (UECA)-compliant environmental covenants and/or location-specific governmental controls such as regulated navigation areas designated by the Coast Guard or other governmental entity that would prohibit spudding and other activities that may damage caps. Restrictions would be applied in specific areas or locations.

The sitewide ICIAP shall also describe informational ICs, including a plan for retaining Site chemical and bathymetric data generated by Respondents, compiling available Site sediment data from other sources (such as Washington State Environmental Information Management, data collected within the Site to support permit applications as provided by EPA, for example) every five years from the effective date of the Order, producing a geographic information system (GIS) file incorporating Site sediment chemistry and bathymetric data, identifying areas where buried sediments exceed ROD Table 28 RALs

applicable to surface sediments, and maintaining the information in a publicly accessible online location.

Section 13.2.4 of the ROD includes ICs to reduce human exposure to contaminants in seafood. The approved ICIAP for Seafood Consumption (Lee et.al., 2019 or as updated) seeks to provide effective and culturally appropriate communication with fishing communities about the Washington Department of Health seafood consumption advisory. The ICIAP for Seafood Consumption was developed through a cooperative agreement between EPA and Public Health - Seattle & King County under the fourth and fifth amendments to the RI/FS AOC.

EPA is overseeing the ongoing implementation of ICs for Seafood Consumption pursuant to the amendments to the RI/FS AOC.

Respondents shall develop the Sitewide ICIAP in accordance with *Institutional Controls: A Guide to Planning, Implementing, Maintaining, and Enforcing Institutional Controls at Contaminated Sites*, OSWER 9355.0-89, EPA/540/R-09/001 (Dec. 2012), and *Institutional Controls: A Guide to Preparing Institutional Controls Implementation and Assurance Plans at Contaminated Sites*, OSWER 9200.077, EPA/540/R-09/02 (Dec. 2012). Respondents may consider incorporating innovative tools or procedures for tracking changes to shoreline activities and/or waterway uses that may affect remedy effectiveness or integrity, such as those described in EPA Memorandum: *Advanced Monitoring Technologies and Approaches to Support Long-Term Stewardship* (July 20, 2018).

If requested by EPA, Respondents shall, consistent with and in addition to the requirements of paragraph 50 in Section XI (Property Requirements) of the Order, include the following additional requirements in the ICIAP for capped areas which are on Affected Properties as defined in Section III (Definitions) of the Order:

(a) Locations of recorded real property interests (*e.g.*, easements, liens) and recorded resource interests in the property that may affect ICs (*e.g.*, surface, mineral, and water rights) including accurate mapping and GIS coordinates of such interests; and

(b) When the ICs will be in a document recorded in the chain of title, legal descriptions and survey maps that are prepared according to current American Land Title Association (ALTA) Survey guidelines and certified by a licensed surveyor.

5.2 As location-specific ICs are implemented, Respondents shall provide documentation of IC implementation in annual progress reports and shall notify EPA when all ICs for a given reach have been implemented. Each update to the ICIAP shall include a compilation of IC implementation to date.

6. REMEDIAL DESIGN FOR THE LOWER REACH

6.1 The remedial design is generally defined as those activities to be undertaken to develop final construction plans and specifications, general provisions, special requirements, and all other

technical documentation necessary to solicit bids for construction of the remedial action. The remedial design also includes identification of the required documentation to be provided by the construction contractor, subject to approval by EPA during the construction phase, and annotated outlines, conceptual plans, or initial drafts of certain documents to be finalized after construction.

6.2 Respondents shall design the selected remedy in the LDW ROD as it applies in the LDW Lower Reach. The LDW Lower Reach is defined as River Mile 0 to River Mile 1.6.

6.3 Plans and specifications shall be submitted in accordance with the schedule set forth in ¶11.4 (Remedial Design Schedule of Deliverables for Lower Reach). Subject to inclusion in the Lower Reach Remedial Design Work Plan and approval by the EPA, Respondents may submit more than one set of design submittals reflecting different components of the remedial action. Remedial design work, including plans and specifications, shall be developed in accordance with the EPA's Superfund Remedial Design and Remedial Action Guidance (OSWER Directive No. 9355.0-4A) and shall demonstrate that the remedial action shall meet all requirements of the ROD. The Respondents shall meet regularly with the EPA to discuss design issues.

6.4 Respondents shall use EPA guidance documents as the basis for development of work plans, quality assurance project plans, sampling plans, water quality monitoring plans, and other documents. The remedial design and supporting deliverables shall be consistent with current technical guidance, including but not limited to *Contaminated Sediment Remediation Guidance for Hazardous Waste Sites*, 2005 and *Guidance for In Situ Subaqueous Capping of Contaminated Sediments*, 1998, and shall meet professional engineering standards for sediment remediation sites.

6.5 Remedial Design will progress from the preliminary design phase (30%) through 60%, 90%, and final design (100%), with deliverables as identified below and in the Remedial Design Work Plan. As information is developed during the phases of design, Respondents shall be prepared to present information and receive input through the Community Involvement process, which includes the Roundtable and other public fora.

6.6 **Lower Reach Remedial Design Work Plan (RDWP)**. Respondents shall submit a RDWP for EPA approval. The RDWP shall include a proposed plan and schedule for implementing all RD activities for the LDW Lower Reach and identification and development of all RD supporting documents. The RDWP must include:

(a) A description of the overall management strategy for performing the Remedial Design.

(b) A description of the proposed general approach to contracting, construction, maintenance, and monitoring in the LDW Lower Reach.

(c) A description of the responsibility and authority of all organizations and key personnel involved with the development of the Remedial Design.

(d) A discussion of additional challenges, data needs, investigations or retesting necessary to initiate or complete the remedial design (e.g., how to characterize and remediate areas with structural or access restrictions).

(e) A Pre-Design Investigations (PDI) Work Plan, as specified in Section 6.7.

(f) Descriptions of any applicable permitting requirements and other regulatory requirements (including but not limited to Applicable or Relevant and Appropriate Requirements [ARARs] identified in the ROD).

(g) Description of plans for obtaining access in connection with the remedial design and remedial action, such as property acquisition, property leases, and/or easements, and for developing ICs in accordance with the ROD.

(h) Respondents' proposed approach to reporting data from the PDI.

(i) Discussion of existing data (e.g., upstream suspended solids data, source control storm drain solids data, flow and other hydrodynamic data, pre-design data, waterway user and in-water structures data, and Early Action Areas monitoring data) and data to be collected as part of design or following construction that will assist in anticipating the quality of surface sediments over time. This discussion shall include a conceptual site model (CSM) that considers suspended and bedded sediments, including dredge residuals, and how they move during and after construction, to aid in interpreting monitoring outcomes in the Lower Reach.

(j) A comprehensive listing and brief description of elements of remedial design to be addressed or supporting deliverables to be submitted as part of remedial design, including but not limited to those listed below or described in ¶ 6.14 (Components of Remedial Design Reports).

(1) Quality Assurance Project Plan (QAPP) and health and safety plan (HASP).

(i) A QAPP addresses sample collection, analysis and data handling. The QAPP must include a field sampling plan and a detailed explanation of Respondents' quality assurance, quality control, and chain of custody procedures for all treatability, design, compliance, and monitoring samples. The QAPP shall address disposal of Investigation Derived Waste.

(2) Remedial action basis of design report, including.

(i) Narrative basis of design of dredge, cap, ENR, and MNR>SCO elements, including supporting technical evaluations.

(ii) Permitting and site access.

(iii) Construction sequence, scheduling and cost estimate.

(iv) Anticipated long-term monitoring and maintenance approaches, including any expected measures for climate change adaptation.

(v) Evaluation of IC requirements for caps.

(vi) Archaeological monitoring and discovery.

(vii) Transportation and disposal approaches.

(viii) Scheduling and coordination of work under this SOW with other in-water work or navigation or development projects on the bank and intertidal or subtidal areas, if they may substantively affect remedial design or construction in the LDW Lower Reach.

(ix) Green and sustainable remediation evaluation and implementation approach.

(x) Approach to implementation and assurance of institutional controls.

(xi) Geotechnical basis of design.

(xii) Sediment excavation prism verification.

(3) Water quality monitoring plan.

(4) Biological assessment.

(5) Construction quality assurance plan.

6.7 Pre-Design Investigation (PDI). The purpose of the PDI is to address data needs for completion of design, by conducting field investigations.

(a) **PDI Work Plan**. Respondents shall submit a Lower Reach PDI Work Plan (PDIWP) for EPA approval. The PDIWP must include:

(1) An evaluation and summary of existing data and description of data gaps.

(2) A strategy for timely characterization, testing or data gathering to support delineation of areas where each remedial technology applies, and engineering design, a discussion of the timing and type of data collection needed to document ARARs compliance, and a plan for natural recovery monitoring where required.

(3) A conceptual sampling plan including proposals and clearly stated rationales for any proposed tiering analyses or phasing of work to refine recovery categories, apply remedial technologies, including natural recovery, and design the remedy. The sampling plan shall identify media to be sampled, general location type and purpose, field sampling and lab analyses, bathymetric, hydrogeologic, and geotechnical studies.

(4) A schedule for implementing the PDI work.

(5) A sampling design that uses the conceptual site model for the Lower Reach and multiple lines of conceptual and statistical evidence to identify RAL exceedance

areas with a targeted level of accuracy and uncertainty. The specifics of sampling design will be in the QAPP and QAPP addendum.

(6) Phasing of sampling and tiering for chemical and physical analysis will be limited to no more than two phases with no more than two analytical tiers within a phase, unless further tiering or phasing does not affect the project schedule and is approved by EPA. The purpose of this is to ensure timely completion of the pre-design investigation to support future design.

(7) A description of interpolation methods that will be used in identifying RAL exceedance areas for design. Any interpolation model that is used for decisions, such as additional sample placement, shall be accompanied with an uncertainty analysis that summarizes the parameters selected for the model and the prediction accuracy and uncertainty of the model. A new uncertainty analysis incorporating new sample data shall be generated for each completed phase that incorporates new sample data.

(8) A minimum of 20 percent of the samples collected to ensure spatial coverage must be analyzed for dioxin/furans to ensure development of a complete dataset.

(9) The approach to be used to override existing data with new results shall be identified in the PDIWP, including criteria for overriding subsurface data in limited cases (e.g., if the sampled location was later dredged), proximity requirements, and a process for evaluating discrepancies between existing and new data (e.g., magnitude of increase or decrease) that will be flagged for discussion and approval by EPA.

(b) **PDI Quality Assurance Project Plan (QAPP)**. A QAPP addresses sample collection, analysis and data handling. The QAPP must include a field sampling plan, maps of sampling locations, and an explanation of Respondents' data quality objectives, quality assurance, quality control, and chain of custody procedures for all treatability, design, compliance, and monitoring samples. The QAPP shall address disposal of Investigation Derived Waste. Respondents shall submit a QAPP for each field sampling effort and shall develop the QAPP in accordance with current EPA Quality Directives (Policy, Procedure, Standards and Guidance), including the QAPP Standard; Guidance on Systematic Planning using the Data Quality Objectives Process (**QA/G-4**); https://www.epa.gov/quality/guidance-quality-assurance-project-plans-epa-qag-5 and *Guidance for Quality Assurance Project Plans*, QA/G-5, EPA/240/R 02/009 (Dec. 2002).

(1) To ensure that Respondents' Labs perform all analyses using EPA-accepted methods (i.e., the methods documented in EPA Contract Laboratory Program (CLP) SOW for Inorganic Superfund Methods (ISM02.4, October, 2016); EPA CLP SOW for Organics Superfund Methods (SOM02.4, October, 2016); EPA CLP SOW for High Resolution Superfund Methods (HRSM01.2, October, 2014), or as updated; other methods acceptable to EPA.

(2) To ensure that Respondents' Labs participate in an EPA-accepted quality assurance/quality control (QA/QC) program or other program QA/QC acceptable to EPA.

(3) To ensure that Respondents validate data in accordance with EPA-accepted data validation guidelines: *National Functional Guidelines for Inorganic Superfund Methods Data Review* (EPA-540-R-2017-001, January 2017); *National Functional Guidelines for Organic Superfund Methods Data Review* (EPA-540-R-2017-002, January 2017) *National Functional Guidelines for High Resolution Superfund Methods Data Review* (EPA-542-B-16-001, April, 2016) or as updated.

(c) **PDI Health and Safety Plan(s) (HASP).** A HASP describes all activities to be performed to protect on site personnel and others transiting the area or living or working nearby from physical, chemical, and all other hazards posed by the Work. Respondents shall develop HASPs in accordance with EPA's Emergency Responder Health and Safety and Occupational Safety and Health Administration requirements under 29 C.F.R. §§ 1910 and 1926. EPA does not approve the HASP but will review it to ensure that all necessary elements are included and that the plan provides for the protection of human health and the environment.

(d) **PDI Data.** Respondents shall submit data in accordance with schedule in ¶11.4 (Remedial Design Schedule of Deliverables for Lower Reach).

6.8 **PDI Data Evaluation Report**. Following PDI Phase I and II, Respondents shall submit a PDI Data Evaluation Report (PDI DER) for EPA approval. This report must include:

(a) Summary of the investigations performed.

(b) Summary of investigation results.

(c) Narrative interpretation of data and results; with supporting figures and tables, including updated graphics (similar to ROD Figure 18 or more detailed) showing where specific remedial technologies apply and text describing how the decision trees in the ROD (Figure 19 and corrected Figure 20) were applied.

(d) Results of statistical and modeling analyses, as applicable.

(e) Photographs documenting the work conducted.

(f) Conclusions and recommendations for Remedial Design, including design parameters and criteria, and identification of any remaining data gaps needed to support the design.

(g) Design chemistry dataset (electronic copy) used in each DER.

6.9 Should additional data be needed to support the design, a QAPP addendum shall be submitted per the schedule in ¶11.4.

6.10 **Preliminary (30%) Remedial Design**. Respondents shall submit a Preliminary (30%) Remedial Design for EPA's comment. The Preliminary Remedial Design must include:

(a) A basis of design report providing descriptions of the analyses conducted to select the design approach, including a summary and detailed justification of design assumptions, restrictions and objectives to be used in design of the selected remedy, and at least one example of essential supporting calculations for each significant or unique design calculation, such as cap thickness or propeller wash modeling).

(b) Preliminary plans and drawings, with a list of all drawings to be included in the intermediate, pre-final, and final design, and outline of specifications; and identification of candidate transloading location(s), transport methods, and permitted upland off-site landfill facility, and import material sources.

(c) Identification of areas exceeding RALs in habitat areas, initial remedial technology application, and preliminary identification of potential mitigation needs and options.

(d) A schedule, contracting strategy, contractor requirements.

(e) Description of needed controls, monitoring, or mitigation to comply with ARARs and minimize impacts (in accordance with Section 13.2.5 and Section 13.2.8 of the ROD).

(f) Access and easement requirements and preliminary identification of structures that may need to be removed, modified, or replaced.

(g) Descriptions of how compliance with ARARs will be achieved and documented, specifying documentation requirements associated with ARARs identified in ROD Table 26.

(h) A description of anticipated updates to the Long-Term Maintenance, and Monitoring Plan (LTMMP) elements for the Lower Reach.

(i) Descriptions of permit requirements, if applicable.

(j) A description of remedy integrity ICs for capped areas that may be specific to the Lower Reach and whether they may be inconsistent with current or reasonably anticipated future uses of the areas.

(k) A draft Biological Assessment for the Lower Reach, including preliminary information about actions and action areas, species and habitat, effects and mitigation, and identifying potential areas where shoreline revegetation, bank softening, or other options may be considered.

6.11 Intermediate (60%) Remedial Design. Respondents shall submit the Intermediate (60%) Remedial Design for EPA's comment. The Intermediate Remedial Design must:

(a) be a continuation and expansion of the Preliminary Remedial Design, including habitat mitigation, if necessary to comply with the substantive requirements of Section 404 of the Clean Water Act (CWA);

(b) address EPA's comments regarding the Preliminary Remedial Design;

(c) include a draft Construction Quality Assurance Plan (CQAP), draft sitewide ICIAP, draft Community Impacts Mitigation Plan, draft Monitoring and Archaeological Discovery Plan for construction, draft Water Quality Monitoring Plan, draft final Biological Assessment, draft sitewide LTMMP, and draft Compensatory Mitigation Plan, if necessary; and

(d) include the other elements and deliverables required for the Preliminary (30%) Remedial Design, at a 60% level of completion.

6.12 Pre-final (90%) Remedial Design. Respondents shall submit the Pre-final (90%) Remedial Design for EPA's comment. The Pre-final Remedial Design must be a continuation and expansion of the previous design submittal and must address EPA's comments regarding the Intermediate Remedial Design. The Pre-final Remedial Design will serve as the approved Final (100%) RD if EPA approves the Pre-final RD without comments. The Pre-Final RD must include:

(a) A complete set of construction drawings and specifications that are: (1) certified by a registered Professional Engineer; (2) suitable for procurement; and (3) follow the Construction Specifications Institute's MasterFormat (or equivalent) and (4) meet other relevant standards for design of sediment cleanup.

(b) A survey and engineering drawings showing existing features in the LDW Lower Reach, such as property boundaries, easements, bathymetry, structures to be protected or removed, and other relevant conditions.

(c) A specification for all necessary construction documentation, including but not limited to photographs and videos, bathymetric surveys, and GPS coordinates.

(d) Those elements listed for the Preliminary Design, as well as the following (unless previously approved by the EPA) addressing EPA comments:

(1) Draft Final CQAP.

(2) Draft Final Water Quality Monitoring Plan (WQMP).

(3) Draft Final QAPP/HASP for remedial action construction and monitoring activities.

(4) Draft Final Permitting and Site Access Plan.

(5) Draft ICIAP, incorporating IC elements specific to the Lower Reach.

(6) Required elements of a vessel management plan (to be finalized by contractor).

(7) Draft LTMMP, incorporating elements specific to the Lower Reach.

(8) Biological Assessment as approved (or a revision to address comments).

(9) Draft CWA 404 and Section 10 Rivers and Harbors Act memorandum.

(10) Engineer's Capital and Operation and Maintenance Cost Estimate.

(11) Engineer's Construction Project Schedule.

(12) Community Impacts Mitigation Plan.

(13) Draft final Compensatory Mitigation Plan, if necessary.

(14) Any additional plans identified in the RDWP.

6.13 Final (100%) Remedial Design. If EPA approves the Pre-final Remedial Design without comments, the Pre-final design will be considered Final. If not, Respondents shall submit the Final (100%) Remedial Design for EPA approval. The Final Remedial Design must address EPA's comments on the Pre-final Remedial Design and must include final versions of all Pre-final Remedial Design elements and supporting deliverables, except the draft final LTMMP and draft final ICIAP.

6.14 Components of Remedial Design Reports. Respondents shall submit each of the following supporting deliverables for EPA approval with each Remedial Design submittal, except as specified in Sections 6.6, 6.7, and 6.8 above. Respondents shall develop the deliverables in accordance with all applicable regulations, guidance, and policies (see Section 13 [References]). Respondents shall update and refine supporting deliverables related to design in accordance with the degree of design completion (30/60/90/100%) or as directed by EPA.

(a) **LDW Lower Reach Water Quality Monitoring Plan.** The purpose of the LDW Lower Reach WQMP is to obtain information during construction to identify water quality impacts that may be caused by remedy construction; The WQMP must include:

(1) Description of the data collection parameters, including existing and proposed monitoring devices and locations, schedule and frequency of monitoring, analytical parameters to be monitored, and analytical methods employed.

(2) Description of how performance data will be analyzed, interpreted, and reported, and/or other Site-related requirements.

(3) Description of the communications and response protocols to respond to detected exceedances of water quality parameters as defined in the EPA 404 memo.

(4) Description of deliverables that will be generated in connection with monitoring, including sampling schedules, laboratory records, monitoring reports, data reports and data evaluation reports to EPA.

(5) Description of additional monitoring and data collection actions (such as increases in frequency of monitoring, and/or installation of additional monitoring devices in the affected areas) that would be triggered in the event that monitoring results indicate higher than expected turbidity or concentrations of COCs in surface water.

(b) **Construction Quality Assurance Plan.** The purpose of the CQAP is to describe planned and systematic activities that provide confidence that the RA construction will satisfy

all plans, specifications, and related requirements, including quality objectives. In addition, the purpose is to describe the activities to verify that RA construction has satisfied all plans, specifications, and related requirements, including quality objectives. The CQAP must:

(1) Identify, and describe the responsibilities of, the organizations and personnel implementing the CQAP.

(2) Describe the requirements to be met to achieve completion of the LDW Lower Reach RA Project.

(3) Describe the key performance standards and quality control elements required of the Contractor in the technical specifications.

(4) Describe verification activities, such as inspections, sampling, testing, monitoring, and production controls, under the CQAP.

(5) Describe monitoring of Community Use Areas and commit to immediately provide to EPA any unvalidated sampling data from Community Use Areas as defined in ¶ 10.6(e) affected by the remedial action that exceed human health standards and to expedite additional sampling and analysis in Community Use Areas as defined in ¶ 10.6(e) affected by the remedial action (particularly in situations where EPA determines that unvalidated sampling data indicates substantial exceedances of human health standards), including procedures for expedited analysis, validation, and communication of sampling results to affected communities.

(6) Describe procedures for tracking construction deficiencies from identification through corrective action.

(7) Describe procedures for documenting all CQAP activities.

(8) Describe procedures for retention of documents and for final storage of documents.

(c) **Emergency Response Plan**. Specifications for an Emergency Response Plan (ERP) shall be submitted as part of the 30/60/90 and 100% design submittal to address requirements for clear procedures in the event of an accident or emergency during remedial construction (for example, vessel or equipment damage, failure or power outages, unauthorized discharges to water, water impoundment failure, bank slope failure, etc.). The ERP may be updated in future as part of the Remedial Action Work Plan (RAWP). Specifications for the ERP shall address:

(1) Name of the person or entity responsible for responding in the event of an emergency incident.

(2) Plans for meeting(s) with the local community, including local, State, and federal agencies involved in the cleanup, as well as local emergency squads and hospitals.

(3) Spill Prevention, Control, and Countermeasures Plan (if applicable), consistent with the regulations under 40 C.F.R. Part 112, describing measures to prevent, and contingency plans for, spills and discharges.

(4) Notification activities in the event of a release of hazardous substances requiring reporting under 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.

(5) A description of all necessary actions in the event of an occurrence in the course of performance of the Work that causes or threatens a release of Waste Material from the Site that constitutes an emergency or may present an immediate threat to public health or welfare or the environment.

(d) **Community Outreach and Communications Plan (COCP).** The COCP shall describe plans for communicating with and responding to the community (e.g. residents, businesses, fishers, commuters, waterway users) during remedial action.

(e) **Community Impacts Mitigation Plan (CIMP).** See Supporting Deliverables, ¶ 10.6(e).

(f) **Monitoring and Archeological Discovery Plan**. For the purpose of complying with historical and archaeological preservation requirements, Respondents shall document any districts, sites, buildings, structures or objects included or eligible for inclusion in the National Register of Historic Places potentially impacted by remedy implementation and shall include specifications for an archaeological discovery plan to ensure protection of Native American artifacts and cultural or archaeological resources.

(g) **Biological Assessment.** A Biological Assessment evaluates the potential effects of the Remedial Action on species listed and proposed under the Endangered Species Act and designated and proposed critical habitat and determine whether any such species or habitat are likely to be adversely affected by the remedial action.

(h) **Compensatory Mitigation Plan.** If necessary to comply with CWA Section 404 requirements, Respondents shall submit a final plan for compensatory mitigation, including a design for implementation or indicating how the mitigation is included in the Remedial Design.

(i) **Section 408 Compliance Documentation.** Respondents shall include documentation necessary to evaluate compliance with 33 U.S.C. Section 403 and Section 408.

7. REMEDIAL ACTION

7.1 Respondents shall implement the approved remedial design for the Upper Reach in accordance with the schedule in Section 11 (Schedules) (or as otherwise approved) and the Performance Standards.

7.2 **Remedial Action Work Plan(s) (RAWP)**. Respondents shall submit a RAWP(s) for EPA approval that includes:

(a) A proposed Remedial Action Construction Schedule in Gantt chart format, or as otherwise agreed to by EPA.

(b) A contractor HASP that covers activities during the Remedial Action.

(c) Plans for satisfying permitting requirements, including obtaining permits for off-site activity and for satisfying substantive requirements of permits for on-site activity.

(d) Other components as defined in the EPA-approved Remedial Design.

7.3 Independent Quality Assurance Team (IQAT). Respondents shall notify EPA of Respondents' designated IQAT. The IQAT must be independent of, and cannot include, the Construction Contract Manager. Respondents may hire a third party for this purpose. Respondents' notice must include the names, titles, contact information, and qualifications of the members of the IQAT. The IQAT will have the responsibility to determine whether Work is of expected quality and conforms to applicable plans and specifications. The IQAT will have the responsibilities as described in ¶ 2.1.3 of the *Guidance on EPA Oversight of Remedial Designs and Remedial Actions Performed by Potentially Responsible Parties*, EPA/540/G-90/001 (Apr. 1990).

7.4 Meetings and Inspections

(a) **Preconstruction Conference**. Respondents shall hold a preconstruction conference with EPA and others as directed or approved by EPA and as described in the *Remedial Design/Remedial Action Handbook*, EPA 540/R-95/059 (June 1995). Respondents shall prepare minutes of the conference and shall distribute the minutes to all Parties.

(b) **Periodic Communications**. During the construction portion of the Remedial Action (Remedial Action Construction), Respondents shall communicate weekly with EPA, and others as directed or determined by EPA, to discuss construction issues. Respondents shall distribute an agenda and list of attendees to all Parties prior to each meeting or telephone call. Respondents shall prepare minutes of the meetings or calls and shall distribute the minutes to all Parties.

(c) **Inspections and Oversight**

(1) EPA or its representative shall conduct periodic inspections and oversight of the Work. At EPA's request, the Supervising Contractor or other designee shall accompany EPA or its representative during inspections and oversight.

(2) Upon notification by EPA of any deficiencies in the Remedial Action Construction, Respondents shall take all necessary steps to correct the deficiencies and/or bring the Remedial Action Construction into compliance with the approved Final Remedial Design, any approved design changes, and/or the approved RAWP. If applicable, Respondents shall comply with any schedule provided by EPA in its notice of deficiency. EPA may confer with the Respondents before providing such notice.

7.5 Permits

(a) As provided in CERCLA § 121(e), and Section 300.400(e) of the NCP, no permit is required for any portion of the Work conducted entirely on-site *(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 on-site requires a federal, state, tribal or local permit or approval, Respondents shall submit timely and complete applications and take all other actions necessary to obtain all such permits or approvals.

(b) Nothing in the Order or this SOW constitutes a permit issued under any federal, state, tribal or local statute, regulation, or ordinance.

7.6 Emergency Response and Reporting

(a) **Emergency Action**. If any event occurs in the course of performance of the Work that causes or threatens to cause a release of Waste Material on, at, or from the Site and that either constitutes an emergency situation or that may present an immediate threat to public health or welfare or the environment, Respondents shall: (1) immediately take all appropriate action to prevent, abate, or minimize such release or threat of release; (2) immediately notify the authorized EPA officer (as specified in ¶ 7.6(c)) orally; and (3) take such actions in consultation with the authorized EPA officer and in accordance with all applicable provisions of the HASP, the ERP, and any other deliverable approved by EPA under the SOW.

(b) **Release Reporting**. Upon the occurrence of any event during performance of the Work that Respondents are required to report under CERCLA § 103 or Section 304 of the Emergency Planning and Community Right-to-Know Act (EPCRA), Respondents shall immediately notify the authorized EPA officer orally.

(c) The "authorized EPA officer" for purposes of immediate oral notifications and consultations under ¶ 7.6(a) and ¶ 7.6(b) is the EPA Project Coordinator, the EPA Alternate Project Coordinator (if the EPA Project Coordinator is unavailable), or the EPA Emergency Response Branch, Region 10 (if neither EPA Project Coordinator is available).

(d) For any event covered by ¶ 7.6(a) and ¶ 7.6(b), Respondents shall: (1) within [14] days after the onset of such event, submit a report to EPA describing the actions or events that occurred and the measures taken, and to be taken, in response thereto; and (2) within 30 days after the conclusion of such event, submit a report to EPA describing all actions taken in response to such event.

(e) The reporting requirements under ¶ 7.6 are in addition to the reporting required by CERCLA § 103 or EPCRA § 304.

7.7 Off-Site Shipments

(a) Respondents may ship hazardous substances, pollutants, and contaminants from the Site to an off-Site facility only if they comply with CERCLA § 121(d)(3), and 40 C.F.R. § 300.440. Respondents will be deemed to be in compliance with CERCLA § 121(d)(3)

and 40 C.F.R. § 300.440 regarding a shipment if Respondents obtain 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).

(b) Respondents may ship Waste Material from the Site to an out-of-state waste management facility only if, prior to any shipment, they provide notice to the appropriate state environmental official in the receiving facility's state and to the EPA Project Coordinator. This 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 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. Respondents also shall notify the state environmental official referenced above and the EPA Project Coordinator of any major changes in the shipment plan, such as a decision to ship the Waste Material to a different out-of-state facility. Respondents shall provide the notice after the award of the contract for Remedial Action construction and before the Waste Material is shipped.

(c) Respondents may ship Investigation Derived Waste (IDW) from the Site to an off-Site facility only if they comply with CERCLA § 121(d)(3), 40 C.F.R. § 300.440, *EPA's Guide to Management of Investigation Derived Waste*, OSWER 9345.3-03FS (Jan. 1992), and any IDW-specific requirements contained in the ROD. Wastes shipped off-Site to a laboratory for characterization, and Resource Conservation and Recovery Act hazardous wastes that meet the requirements for an exemption from Resource Conservation and Recovery Act under 40 CFR § 261.4(e) shipped off-site for treatability studies, are not subject to 40 C.F.R. § 300.440.

7.8 Remedial Action Construction Completion

(a) For purposes of this ¶ 7.8, "Remedial Action Construction" comprises the complete physical construction of the selected remedy and habitat mitigation, if required, to achieve construction Performance Standards and as described in remedial design documents and EPA-approved changes thereto, and the performance of all activities necessary for the constructed remedy and mitigation, if required, to function properly and as designed.

(b) Remedial Action Construction is anticipated to occur as phased Remedial Action Projects: Upper Reach, Middle Reach, and Lower Reach, with Deferred Remedial Action (Section 8) construction performed on the EPA-approved schedule(s) pursuant to ¶8.4. The Remedial Action Project for a given reach may include cleanup of Deferred Remedial Action areas from upstream reaches.

(c) Multiple construction seasons will be needed to complete the Upper Reach Remedial Action Project. Following each season of Remedial Action Construction, Respondents shall submit an **Annual Construction Summary Technical Memorandum** providing a description of the activities performed that construction season specifying volumes of material, areas remediated, a summary and tabulated results of construction related

sampling, surveying, and mapping, and as-builts, documenting where Remedial Action Construction has been completed, and proposing modifications to construction, monitoring, or other practices, for the remaining Remedial Action Construction.

(d) **Inspection of Constructed Remedy**. Following completion of the Upper Reach Remedial Action Project Construction, Respondents shall schedule an inspection (Pre-Final Inspection) to meet, review construction documentation, and assess whether the remedy was constructed in accordance with the approved Remedial Design and any approved changes thereto and whether it meets Performance Standards. The inspection may involve in-person visits, contractor construction documentation, observations by divers, underwater photographs, bathymetric surveys, and videos from remotely operated vehicles. The inspection must be attended by Respondents and EPA and/or their representatives. A Pre-Final Inspection Report identifying punch list items shall be submitted per Schedule ¶11.5. A reinspection (Final Inspection) must be conducted if requested by EPA. By this time, any identified punch list items shall be completed.

(e) **Remedial Action Project Report**. Respondents shall submit a Remedial Action Project Report for the Upper Reach. The Upper Reach Remedial Action Project Report must: (1) include a statement by a registered professional engineer and by Respondents' Project Coordinator(s) that the construction of the Upper Reach Remedial Action Project is complete; that the Remedial Action for that reach was constructed as designed, including EPA-approved changes thereto; and that any containment remedial action (cap) in that reach is expected to function properly and as designed; (2) include supporting documentation to demonstrate that construction of the Upper Reach Remedial Action Project is complete; (3) include asbuilt drawings signed and stamped by a registered professional engineer; (4) be prepared in accordance with Chapter 2 (Remedial Action Completion) of EPA's *Close Out Procedures for NPL Sites* guidance (June, 2022) OLEM Directive 9320.2-23, and (5) be certified in accordance with ¶ 10.4 (Certification).

(f) If EPA determines that Upper Reach Remedial Action Project Construction is not complete, EPA shall so notify Respondents. EPA's notice must include a description of the activities that Respondents must perform to complete Remedial Action Project construction. EPA's notice may include a schedule for completion of such activities or may require Respondents to submit a proposed schedule for EPA approval. Respondents shall perform all activities described in the EPA notice in accordance with the EPA-approved schedule.

(g) If EPA determines that the Upper Reach Remedial Action Project Construction is complete, EPA shall so notify Respondents.

7.9 Notice of Remedial Action Completion - Reserved

7.10 Notice of Work Completion - Reserved

8. DEFERRED REMEDIAL ACTION

8.1 Currently shoaled areas of the federal navigation channel (including buffer areas as described in the ROD). Deferral of Remedial Action is allowed by the ROD where concentrations of COCs exceed ROD Table 28 RALs in shoaled area sediments of the Federal Navigation Channel only below the top 60 cm interval, pursuant to ROD Section 13.2.1.1, footnote 23. Should the U.S. Army Corps of Engineers (Corps) determine that shoaling in some or all of the federal navigation channel is an impediment to navigation, EPA will notify Respondents, and Respondents shall perform Remedial Design and Remedial Action for the areas where Remedial Action was deferred. In such areas, Remedial Action will require removal of sediments containing concentrations of contaminants of concern which do not exceed the RALs in order to dredge underlying sediments in accordance with ROD Section 13.2.1.1, Table 28, and corrected Figure 20. The Corps may identify impediments to navigation in different parts of the federal navigation channel at different times. The process described in this paragraph (8.1) will be repeated as necessary.

8.2 Shoaled areas of the Federal Navigation Channel where COCs in shoaled interval sediments do not exceed ROD Table 28 RALs. If the Corps determines that shoaling in some or all of the Federal Navigation Channel is an impediment to navigation and data indicate that maintenance dredging to the authorized depth plus 2 feet will expose sediments containing concentrations of COCs that exceed Table 28 RALs, Respondents shall coordinate with the Corps and EPA to ensure that the Corps can implement needed navigation channel maintenance without leaving exposed sediments containing COCs that exceed Table 28 RALs below the maintenance dredging depth.

8.3 Remedial Action Areas Where EPA has Determined Source Control is not Sufficient. For any area or areas of the Site requiring Remedial Action that is/are near a contamination source which EPA determines is not sufficiently controlled prior to submittal of the 90% Remedial Design for the reach within which the area is located, EPA will notify Respondents that Remedial Action will be deferred for such area(s). Respondents shall perform Remedial Design and Remedial Action for areas where Remedial Action was deferred, in accordance with the requirements of Section 6 (Remedial Design for the Lower Reach) and Section 7 (Remedial Action).

8.4 Implementation of Deferred Remedial Action shall proceed according to schedules to be determined by EPA following consultation with Ecology and the Respondents.

8.5 Investigations. If data are needed to support an EPA determination under ¶¶ 8.1 or 8.3, or both, Respondents shall submit plans for sampling and analysis for EPA approval and shall implement such plans in accordance with EPA's approval and/or modification of such plan. Respondents shall submit reports to EPA regarding the results consistent with Section 11 (Schedules) data reporting and data evaluation reporting.

8.6 Reports Regarding Deferred Remedial Action Construction. If Respondents perform Deferred Remedial Action Construction in accordance with ¶ 8.1 or ¶ 8.3, or both, Respondents shall submit such reports as EPA requests, for EPA approval, regarding the Remedial Action.

8.7 **Notification of Deferred Remedial Action**. If EPA determines that Remedial Action Construction is required per ¶¶ 8.1 or 8.3, or both, EPA shall so notify Respondents in writing.

8.8 **Implementation of Deferred Remedial Action**. Respondents shall prepare a design for Deferred Remedial Actions in accordance with ¶ 8.1 or ¶ 8.3, or both, for EPA approval consistent with the requirements of Section 6 (Remedial Design for the Lower Reach) and shall implement the Remedial Action for such areas in accordance with Section 7 (Remedial Action).

8.9 **Other Modifications**. If EPA determines that implementation of Deferred Remedial Action in accordance with ¶8.1 or ¶8.3, or both, will require modifications to any deliverable submitted under this SOW, Respondents shall modify those deliverables as directed by EPA.

9. REPORTING

9.1 **Progress Reports**. Commencing with the month following the effective date of the Order and until EPA approves the final Remedial Action Monitoring Report, Respondents shall submit progress reports to EPA on a monthly basis or as otherwise requested by EPA. The reports must cover all activities that took place during the prior reporting period, including:

(a) The actions that have been taken toward achieving compliance with the Order.

(b) A description, and if requested by EPA, a summary of all results of sampling, tests, and all other data received or generated by Respondents.

(c) A description of all deliverables that Respondents submitted to EPA.

(d) A description of all activities relating to Remedial Action Construction that are scheduled for the next six weeks.

(e) An updated Remedial Action Construction Schedule, together with information regarding percentage of completion, delays encountered or anticipated that may affect the future schedule for implementation of the Work, and a description of efforts made to mitigate those delays or anticipated delays.

(f) A description of any modifications to the work plans or other schedules that Respondents have proposed or that have been approved by EPA, including updates to the Gantt chart or other format used for tracking schedule information.

(g) A description of all activities undertaken in support of the Community Involvement Plan and CIMP during the reporting period and those to be undertaken in the next six weeks.

9.2 **Field Reports.** Respondents shall submit progress reports to EPA on a weekly basis during field activities. Field reports shall summarize activities that took place in the previous week and attach results of field testing, work progress documentation, and relevant photos. A description of any deviations from approved work plans, delays to the field schedule, efforts

made to mitigate those delays and a summary of upcoming field activities shall be included in each weekly report.

9.3 **Notice of Progress Report Schedule Changes**. If the schedule for any activity described in the Progress Reports, including activities required to be described under ¶ 9.1, changes, Respondents shall notify EPA of such change at least seven days before performance of the activity.

10. DELIVERABLES

10.1 **Applicability**. Respondents shall submit deliverables for EPA approval or for EPA comment as specified in the SOW. If neither is specified, the deliverable does not require EPA's approval or comment. Paragraphs 10.2 (General Requirements for Deliverables) and 10.3 (Technical Specifications) apply to all deliverables. Paragraph 10.4 (Certification) applies to any deliverable that is required to be certified. Paragraph 10.5 (Approval of Deliverables) applies to any deliverable that is required to be submitted for EPA approval.

10.2 **General Requirements for Deliverables.** All deliverables must be submitted in writing by the deadlines in the Remedial Design Schedule or Remedial Action Schedule, as applicable. Respondents shall submit all deliverables to EPA in electronic form. Technical specifications for sampling and monitoring data and spatial data are addressed in ¶ 10.3 (Technical Specifications). All other deliverables shall be submitted to EPA in the electronic form or other form as specified by the EPA Project Coordinator, including files in native format. If any deliverable includes maps, drawings, or other exhibits that are larger than 8.5" by 11", Respondents shall also provide EPA with paper copies of such exhibits. Respondents shall also provide EPA with paper copies of other deliverables, if and, as requested by EPA.

10.3 **Technical Specifications** Respondents shall submit sampling and monitoring data in standard Region 10 Electronic Data Deliverable format. Respondents shall also upload the data into EPA's SCRIBE and into the Department of Ecology's Environmental Information Management database. Uploads to the Environmental Information Management database must include project name established in coordination with Ecology. EPA may agree to other delivery methods if electronic direct submission presents a significant burden or as technology changes. Respondents shall provide EPA with a copy of the files created to load data into the EPA database.

Spatial data, including spatially-referenced data and geospatial data, should be submitted in accordance with the National Geospatial Deliverable Standard (www.epa.gov/geospatial/national-geospatial-deliverable-standard and www.epa.gov/sites/default/files/2020/10/documents/nationalgeospatialdeliverablestandard.pdf); and as projected coordinates in Washington State Plane North format using North American Datum 1983 (NAD83) or World Geodetic System 1984 (WGS84) as the datum. If applicable, submissions should include the collection method(s). Unprojected geographic coordinates in decimal degree will also be included at EPA request but must be documented. Spatial data should be accompanied by metadata, and such metadata should

be compliant with the Federal Geographic Data Committee (FGDC) Content Standard for Digital Geospatial Metadata and its EPA profile, the EPA Geospatial Metadata Technical Specification. An add-on metadata editor for ESRI software, the EPA Metadata Editor (EME), complies with these FGDC and EPA metadata requirements and is available at https://edg.epa.gov/EME/.

(a) Each file must include an attribute name for each site unit or sub-unit submitted. Consult https://www.epa.gov/geospatial/geospatial-policies-and-standards for any further available guidance on attribute identification and naming.

(b) Spatial data submitted by Respondents does not, and is not intended to, define the boundaries of the Site.

10.4 Certification. All deliverables that require compliance with this paragraph must be signed by the Respondents' Project Coordinator, or other responsible official of Respondents, and must contain the following statement:

> I certify under penalty of law 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.

10.5 Approval of Deliverables

(a) **Initial Submissions**

(1) After review of any deliverable that is required to be submitted for EPA approval under the Order or the SOW, EPA shall: (i) approve, in whole or in part, the submission; (ii) approve the submission upon specified conditions; (iii) disapprove, in whole or in part, the submission; or (iv) any combination of the foregoing.

(2) EPA also may modify the initial submission to cure deficiencies in the submission if: (i) EPA determines that disapproving the submission and awaiting a resubmission would cause substantial disruption to the Work; or (ii) previous submission(s) have been disapproved due to material defects and the deficiencies in the initial submission under consideration indicate a bad faith lack of effort to submit an acceptable deliverable.

(b) **Resubmissions**. Upon receipt of a notice of disapproval under ¶ 10.5(a) (Initial Submissions), or if required by a notice of approval upon specified conditions under

¶ 10.5(a), Respondents shall, within 30 days or such longer time as specified by EPA in such notice, correct the deficiencies and resubmit the deliverable for approval. After review of the resubmitted deliverable, EPA may: (1) approve, in whole or in part, the resubmission; (2) approve the resubmission upon specified conditions; (3) modify the resubmission; (4) disapprove, in whole or in part, the resubmission, requiring Respondents to correct the deficiencies within the number of days specified by EPA; or (5) any combination of the foregoing.

(c) **Implementation**. Upon approval, approval upon conditions, or modification by EPA under ¶ 10.5(a) (Initial Submissions) or ¶ 10.5(b) (Resubmissions), of any deliverable, or any portion thereof: (1) such deliverable, or portion thereof, will be incorporated into and enforceable under the Order; and (2) Respondents shall take any action required by such deliverable, or portion thereof.

(d) If: (1) an initially submitted deliverable contains a material defect and the conditions are met for modifying the deliverable under ¶ 10.5(a)(2); or (2) a resubmitted deliverable contains a material defect; then the material defect constitutes a lack of compliance for purposes of this Paragraph.

10.6 Supporting Deliverables. Respondents shall submit each of the following supporting deliverables for EPA approval, except as specifically provided. Respondents shall develop the deliverables in accordance with all applicable regulations, guidances, and policies (see Section 13 [References]). Respondents shall update each of these supporting deliverables as necessary or appropriate during the course of the Work, and/or as requested by EPA.

(a) **Health and Safety Plan (HASP)**. The HASP describes all activities to be performed to protect on site personnel and area residents from physical, chemical, and all other hazards posed by the Work. Respondents shall develop the HASP in accordance with EPA's *Emergency Responder Health and Safety Manual* and Occupational Safety and Health Administration requirements under 29 C.F.R. §§ 1910 and 1926. The HASP(s) should cover Remedial Design, Remedial Action, and activities after Remedial Action completion. EPA does not approve the HASP(s) but will review it to ensure that all necessary elements are included and that the plan provides for the protection of human health and the environment.

(b) **Emergency Response Plan ("ERP")**. The ERP must describe procedures to be used in the event of an accident or emergency at the Site (for example, power outages, water impoundment failure, treatment plant failure, slope failure, etc.). The ERP must include:

(1) Name of the person or entity responsible for responding in the event of an emergency incident.

(2) Plan and date(s) for meeting(s) with the local community, including local, State, and federal agencies involved in the cleanup, as well as local emergency squads and hospitals.

(3) Spill Prevention, Control, and Countermeasures Plan (if applicable), consistent with the regulations under 40 C.F.R. part 112, describing measures to prevent, and contingency plans for, spills and discharges.

(4) Notification activities in accordance with ¶ 7.6(b) (Release Reporting) in the event of a release of hazardous substances requiring reporting under CERCLA § 103 or EPCRA § 304.

(5) A description of all necessary actions to ensure compliance with ¶ 7.6 (Emergency Response and Reporting) in the event of an occurrence in the course of the performance of the Work that causes or threatens a release of Waste Material from the Site that constitutes an emergency or may present an immediate threat to public health or welfare or the environment.

(c) **Quality Assurance Project Plan (QAPP).** Respondents shall submit a QAPP (or addendum, if applicable) for each field sampling effort in accordance with EPA Directive CIO 2105.2 (Environmental Information Quality Policy, 2022), the most recent version of EPA's Quality Management Plan Standard (QMP Standard), and the EPA's QAPP Standard, and *Guidance for Quality Assurance Project Plans*, EPA QA/G-5, EPA Office of Environmental Information (Dec. 2002). The QAPP must be written so that a field sampling team unfamiliar with the project would be able to gather the samples and field information required. Respondents shall collect, produce, and evaluate all environmental information at the Site in accordance with the approved QAPP.

(d) **Data Submittal.** Data files providing the qualified results for a given phase of analytical sampling shall be provided in native format (excel spreadsheet) following data validation, except as required under ¶ 2.2(c) (Community Involvement Responsibilities). At the conclusion of all PDI sampling, the complete PDI dataset, including data incorporated from prior studies, shall be submitted to databases as required in ¶10.3 (Technical Specifications).

(e) **Community Impacts Mitigation Plan (CIMP)**. The CIMP shall incorporate and build on the Community Outreach and Communications Plans developed for the Upper Reach remedial design, including input EPA receives from community members regarding potential improvements. The CIMP describes all activities, including any to address concerns of EJ and disadvantaged communities, to be performed: (1) to reduce and manage the impacts from remedy implementation (*e.g.*, air emissions, traffic, noise, odor, temporary or permanent relocation) to residential areas, schools, playgrounds, healthcare facilities, or recreational or impacted public areas (Community Use Areas) from and during remedy implementation; (2) to conduct monitoring in Community Use Areas of impacts from remedy implementation; (3) to expeditiously communicate validated remedy implementation monitoring data; (4) to make adjustments during remedy implementation in order to further reduce and manage impacts from remedy implementation to affected Community Use Areas; (5) to expeditiously restore community resources damaged in the course of remediation such as roads and culverts; (6) to structure remediation contracts to allow more local business participation and to encourage training and hiring of local workers, for example using

the Superfund Job Training Initiative; and (7) if requested by EPA, to solicit community input on or support assessment of the approach to community impacts mitigation. The CIMP should contain information about impacts to Community Use Areas that is sufficient to assist EPA's Project Coordinator in performing the evaluations recommended under the *Superfund Community Involvement Handbook*, OLEM 9230.0-51 (March 2020), pp. 53-56.

(f) **Construction Quality Assurance Plan (CQAP) and Construction Quality Control Plan (CQCP)**. The purpose of the CQAP is to describe planned and systematic activities that provide confidence that the Remedial Action construction will satisfy all plans, specifications, and related requirements, including quality objectives. The purpose of the CQCP is to describe the activities to verify that Remedial Action construction has satisfied all plans, specifications, and related requirements, including quality objectives. The CQAP and CQCP must:

(1) Identify, and describe the responsibilities of, the organizations and personnel implementing the CQAP and CQCP.

(2) Describe the Performance Standards required to be met to achieve Completion of the Remedial Action Construction.

(3) Describe the activities and quality control elements required of the Contractor in the technical specifications to meet the construction Performance Standards.

(4) Describe verification activities, such as inspections, sampling, testing, monitoring, and production controls, under the CQAP and CQCP.

(5) Describe monitoring and reporting required for the CIMP.

(6) Describe industry standards and technical specifications used in implementing the CQAP and CQCP.

(7) Describe procedures for tracking construction deficiencies from identification through corrective action.

(8) Describe procedures for documenting all CQAP and CQCP activities.

(9) Describe procedures for retention of documents and for final storage of documents.

(g) **Transportation and Off-Site Disposal Plan**. The Transportation and Off-Site Disposal Plan describes plans to ensure compliance with ¶ 7.7 (Off-Site Shipments). The Transportation and Off-Site Disposal Plan must include:

(1) Proposed times and routes for off-site shipment of Waste Material.

(2) Identification of communities, including underserved communities referred to in Executive Order 14008, § 222(b) (Feb. 1, 2021), affected by shipment of Waste Material.

(3) Description of plans to minimize impacts (*e.g.*, noise, traffic, dust, odors) on affected communities.

(h) **Archeological Monitoring and Inadvertent Discovery Plan**. For the purpose of complying with historical and archaeological preservation requirements, Respondents shall document any districts, sites, buildings, structures or objects included or eligible for inclusion in the National Register of Historic Places potentially impacted by remedy implementation and shall include specifications for an archaeological discovery plan to ensure protection of Native American artifacts and cultural or archaeological resources during Remedial Action.

(i) **Biological Assessment.** Respondents shall submit a biological assessment for EPA review and use in consultation related to the Endangered Species Act. The Biological Assessment for a given reach must include: (1) information concerning all species listed and proposed for listing under the Endangered Species Act; (2) designated and proposed critical habitat that may be present in the action area of the project; and (3) the evaluation of potential effects of the project on such species and habitat.

(j) **Compensatory Mitigation Plan.** If necessary to comply with CWA Section 404 requirements, Respondents shall submit a plan for compensatory mitigation.

(k) **Section 401, 403 and 408 Compliance Documentation.** Respondents shall submit all documentation and analyses necessary for EPA to evaluate compliance with 33 U.S.C. Section 401, Section 403, and Section 408.

(l) **Engineering Cost Estimate.** Respondents shall submit an estimate of capital costs, providing assumptions.

(m) **Long-Term Monitoring and Maintenance Plan (LTMMP)**. The overall purpose of long-term monitoring is to obtain information regarding COCs in affected media at the Site, whether by area, reach, or sitewide; to assess the effectiveness and integrity of the remedy over time; to assess monitored natural recovery following active Remedial Action Construction; to ensure that sediment caps continue to function as designed; to assess the need for and to support design of cap maintenance or other corrective actions; to determine whether Performance Standards are achieved and, if not, to assess the need for additional actions; to support EPA's reviews of whether the Remedial Action is protective of human health and the environment in accordance with CERCLA § 121(c) (also known as "Five-Year Reviews"); and to monitor habitat mitigation, if necessary.

The LTMMP shall include: monitoring to assess natural recovery of sediments to the benthic SCO; sitewide and area monitoring to assess progress toward achieving human health based cleanup levels and ARARs; monitoring to document contaminant trends in site sediment, porewater, surface water, fish, crab, and clam tissue; monitoring of benthic community toxicity and abundance; physical and chemical monitoring to assess enhanced natural recovery and capped area conditions and to support maintenance of caps or other sediment

containment areas (including caps within Early Action Areas); periodic bathymetric surveys to identify areas where unexpected erosion may expose contamination; additional characterization to support dredging and/or capping of contaminated sediment in the federal navigation channel consistent with Section 8 (Deferred Remedial Action); monitoring to assess areas of the Site potentially subject to climate change impacts; monitoring areas of the Site to aid in the evaluation of source control effectiveness; data compilation and sampling to assess background concentrations of COCs in seafood to inform target tissue levels; studies to inform EPA evaluations and determinations consistent with Section 14.2 of the ROD, such as additional characterization of Green River suspended sediment; and studies of seafood catch and/or consumption as required by EPA.

Respondents shall develop the LTMMP in accordance with *Guidance for Management of Superfund Remedies in Post Construction*, OLEM 9200.3-105 (Feb. 2017).

Respondents shall submit the LTMMP and updates to the LTMMP for EPA approval. The LTMMP must describe the studies and investigations that Respondents shall conduct for the purposes above. The LTMMP shall, at a minimum, include sampling and chemical analysis of sediment, water, fish and shellfish, as well as physical monitoring. Respondents shall collect site monitoring data at least once during each five-year period, unless otherwise agreed to by EPA. Respondents shall develop the plan in accordance with *Comprehensive Five-year Review Guidance*, OSWER 9355.7-03B-P (June 2001), and any other relevant five-year review guidances.

The LTMMP shall also include the following:

(1) Description of Performance Standards required to be met to implement the ROD.

(2) Description of activities to be performed: (i) to assess progress towards meeting Performance Standards; and (ii) to determine whether Performance Standards have been met.

(3) Description of records and reports that will be generated during site monitoring and maintenance, such as monitoring data submittals, summary reports, trend analyses, Long-term Monitoring Reports, Remedial Action Monitoring Reports (¶ 7.9(b)) and other reports to EPA and State agencies.

(4) Description of potential corrective actions to be implemented in case of failure of or damage to capped areas, including: (i) alternative procedures to prevent the release or threatened release of COCs at levels which may endanger public health or the environment or may cause a failure to achieve Performance Standards; (ii) analysis of vulnerability and additional resource requirements should failure to meet Performance Standards occur; (iii) notification and reporting requirements should constructed elements of the remedy fail or be in danger of imminent failure; and (iv) community notification requirements.

(5) Description of potential corrective actions to be implemented in the event that Performance Standards are not achieved, and a schedule for implementing these corrective actions.

Consistent with ROD Section 14.2, if long-term monitoring data and trends indicate that some ARARs cannot be met, EPA will determine whether further In-waterway remedial action in conjunction with source control could practicably achieve the ARAR. If EPA concludes that an ARAR cannot be practicably achieved, EPA will either waive the ARAR on the basis of technical impracticability (TI) in a future decision document (ROD Amendment or ESD), or for Sediment Management Standard (SMS) SCO-based ARARs, EPA will consider whether the criteria in the SMS for adjusting cleanup levels upward from the SCO, to no higher than the cleanup screening level (CSL), can be met as discussed in ROD Section 14.2. If these criteria can be met, EPA will evaluate adjusting the relevant sediment cleanup levels upward to regional background or other CSL-based levels described in the SMS. Any evaluation EPA undertakes or determination it makes related to a technical impracticability waiver or adjustment to sediment cleanup levels shall be in its unreviewable discretion.

The LTMMP must include a QAPP that complies with EPA guidance (see QAPP description in 10.6(c) above) and provides:

(6) Description of the environmental media to be monitored.

(7) Description of the data collection parameters, including existing and proposed monitoring devices and locations, schedule and frequency of monitoring, analytical parameters to be monitored, and analytical methods employed.

(8) Description of how performance data will be analyzed, interpreted, and reported, and/or other Site-related requirements.

(9) Description of deliverables that will be generated in connection with monitoring, including sampling schedules, laboratory records, monitoring reports, and other reports to EPA and the State.

(10) Description of process for proposing additional data collection (such as increases in frequency of monitoring, focused Site monitoring to identify potential sources of COCs, and/or additional or changed monitoring methods in the affected areas) in the event that results from monitoring indicate conditions or changes that may affect remedy integrity or effectiveness (such as higher than expected concentrations of the COCs in sediment, water or seafood, unanticipated erosion of sediment, particularly in areas with ENR or caps, changes in vessel or shoreline operations, sea level rise, instability of Site shoreline structures, or seismic activity);

Respondents shall submit an updated LTMMP to incorporate location-specific monitoring and maintenance as Remedial Action Construction is completed for each reach and as otherwise directed by EPA. Respondents shall submit an updated LTMMP

after Performance Standards have been demonstrated to be met and sustained. The updated LTMMP will support EPA's five-year reviews.

11. SCHEDULES

11.1 Applicability and Revisions. All deliverables and tasks required under this SOW must be submitted or completed by the deadlines or within the time durations listed in the Remedial Action Schedule set forth below. Respondents may submit a proposed revised Remedial Action Schedule for EPA approval. Upon EPA's approval, the revised Remedial Action Schedule supersedes the Remedial Action Schedule set forth below, and any previously approved Remedial Action Schedule.

11.2 Remedial Design Schedule of Deliverables for the Upper Reach. The Upper Reach Final Remedial Design Volume III (specifications and plans) was submitted to EPA on December 13, 2023, and approved by EPA on December 14, 2023. The Upper Reach Final Remedial Design Volumes I and II were submitted to EPA in January 2024 and approved by EPA on January 22, 2024.

11.3 Remedial Design Schedule of Deliverables for Middle Reach Reserved

11.4 Remedial Design Schedule of Deliverables for Lower Reach

Lower Reach Remedial Design Schedule of Deliverables			
Item	**Description of Deliverable, Task**	**¶ Ref. in SOW**	**Deadline**
1.	Respondents Issuance of Notice to Proceed to Lower Reach Remedial Design Contract		June 4, 2025[a]
2.	Lower Reach RDWP and PDI Work Plan, QAPP, and Health and Safety Plan	6.7	135 days after Respondents Issuance of Notice to Proceed to Lower Reach Remedial Design Contract
3.	Completion of PDI field work		In accordance with the schedule in the approved PDI Work Plan, or as otherwise approved by EPA
4.	Lower Reach Phase 1 PDI Data Submittal	7(d)	10 days after Respondents' receipt of validated PDI sampling data from Tier 1, or from Tier 2 if there are two or more tiers of analysis
5.	Lower Reach PDI Phase 1 Data Evaluation Report and PDI QAPP Addendum for Phase 2	6.8, 6.9	80 days after Respondents' submittal of the PDI data for Phase 1 data collection to EPA
6.	Lower Reach PDI Phase 2 Data Submittal	7(d)	10 days after Respondents' receipt of validated PDI sampling data from Tier 1, or from Tier 2 if there are two or more tiers of analysis
7.	Lower Reach PDI Phase 2 Data Evaluation Report		60 days after Respondents' PDI Phase 2 data submittal
8.	Lower Reach Preliminary (30%) Remedial Design	10	45 days from EPA approval of PDI Phase 2 Data Evaluation Report
9.	Phase 3 QAPP Addendum	6.9	30 days after submittal of 30% Remedial Design to EPA
10.	Lower Reach PDI Phase 3 Data Submittal	6.7(d)	10 days after Respondents' receipt of validated PDI sampling data from Phase 3
11.	Lower Reach Intermediate (60%) Remedial Design		120 days after EPA comments on Preliminary Remedial Design
12.	Lower Reach (90%) Remedial Design and Phase 3 data evaluation report		90 days after EPA comments on Intermediate (60%) Remedial Design
13.	Lower Reach Final (100%) Remedial Design		60 days after EPA comments on Pre-final Remedial Design

a. Respondents Notice to Proceed for Remedial Action contractors shall not be issued before EPA review and notice of disapproval, according to the schedule set forth in Section 3.3.

11.5 Upper Reach Remedial Action Schedule. Remedial Action construction is subject to in-water work windows for fish protection, except as specifically authorized by EPA in consultation with USFWS and NOAA**.**

Upper Reach Remedial Action Schedule			
Item	**Deliverable, Task**	**Order SOW ¶ reference**	**Deadline**
REMEDIAL ACTION			
1.	Sitewide ICIAP with location specific ICs for applicable reach	5.1	Draft: 45 days after start of construction for first season for applicable reach Draft final:30 days after receipt of EPA comments on Remedial Action Project Report for applicable reach The Sitewide ICIAP shall be amended 30 days after construction of each Deferred Remedial Action pursuant to ¶ 8.3. IC implementation shall commence 30 days after EPA approval of amended ICIAP
2.	Sitewide LTMMP with specific plans for applicable reach	10.6(m)	Draft: 60 days after first season of construction for applicable reach Draft final: 30 days after receipt of EPA comments on Remedial Action Project Report for applicable reach
3.	Issuance of Notice to Proceed for Remedial Action Construction Contract	7.1	210 days from EPA approval of remedial design for the applicable reach
4.	Community Impacts Mitigation Plan for Upper Reach	10.6 (e)	45 days after Issuance of Notice to Proceed of Remedial Action Construction Contract for the applicable reach

Upper Reach Remedial Action Schedule			
Item	**Deliverable, Task**	**Order SOW ¶ reference**	**Deadline**
5.	Remedial Action Work Plan (RAWP)	7.2	60 days after Issuance of Notice to Proceed of Remedial Action contract for applicable reach
6.	Pre-Construction Conference	7.4(a)	Within 15 days after receipt of EPA comments on RAWP for applicable reach
7.	Start of Construction	7.2	Within 30 days of EPA approval of RAWP for applicable reach or as otherwise approved by EPA
8.	Annual Construction Summary Technical Memorandum	7.8(c)	90 days after contractor demobilization each year
9.	Completion of Construction	7.8	Per approved RAWP construction schedule, unless otherwise approved by EPA
10.	Pre-final Inspection	7.8(d)	Per approved RAWP construction schedule for applicable reach, unless otherwise approved by EPA
11.	Pre-final Inspection Report	7.8(d)	30 days after completion of Pre-final Inspection of applicable reach
12.	Final Inspection	7.8(d)	45 days after Completion of Work in applicable reach identified in Pre-final Inspection Report
13.	Remedial Action Project Report	7.8(e)	90 days after Final Inspection for applicable reach
14.	IC implementation report	5.2	Per EPA-approved Sitewide ICIAP for applicable reach, or annually if not specified
Site-Wide Deliverables			
1	Site-Wide LTMMP Reports	10.6(m)	Per EPA approved LTMMP schedule
2	LTMMP Data Submittals	10.6(m)	10 days after receipt of validated data following each LTM sampling event
3	Remedial Action Monitoring Reports	7.9(b)	Per EPA approved schedule

12. STATE PARTICIPATION

12.1 **Copies**. Respondents shall, at any time they send a deliverable to EPA, send a copy of such deliverable to the State. EPA shall, at any time it sends a notice, authorization, approval, disapproval, or certification to Respondents, send a copy of such document to the State. Respondents shall submit copies of deliverables electronically or in hard copy as requested or agreed to by EPA. Deliverables made available for downloading shall be provided at an unrestricted link.

12.2 **Review and Comment**. The State will have a reasonable opportunity for review and comment prior to:

(a) Any EPA notice to proceed under ¶ 3.3 (Procedures for Disapproval/Notice to Proceed).

(b) Any EPA approval or disapproval under ¶ 10.5 (Approval of Deliverables) of any deliverables that are required to be submitted for EPA approval.

(c) Any approval or disapproval of the Construction Phase under ¶ 7.8 (Remedial Action Construction Completion), any disapproval of, or Notice of Remedial Action Completion under ¶ 7.9 (Notice of Remedial Action Completion), and any disapproval of, or Notice of Work Completion under ¶ 7.10 (Notice of Work Completion).

13. REFERENCES

13.1 The following regulations and guidance documents, among others, apply to the Work. Any item for which a specific URL is not provided below is available on one of the three EPA web pages listed in ¶ 13.2:

(a) A Compendium of Superfund Field Operations Methods, OSWER 9355.014, EPA/540/P-87/001a (Aug. 1987).

(b) CERCLA Compliance with Other Laws Manual, Part I: Interim Final, OSWER 9234.1-01, EPA/540/G-89/006 (Aug. 1988).

(c) Guidance for Conducting Remedial Investigations and Feasibility Studies, OSWER 9355.3-01, EPA/540/G-89/004 (Oct. 1988).

(d) CERCLA Compliance with Other Laws Manual, Part II, OSWER 9234.1-02, EPA/540/G-89/009 (Aug. 1989).

(e) Guidance on EPA Oversight of Remedial Designs and Remedial Actions Performed by Potentially Responsible Parties, OSWER 9355.5-01, EPA/540/G90/001 (Apr.1990).

(f) Guidance on Expediting Remedial Design and Remedial Actions, OSWER 9355.5-02, EPA/540/G-90/006 (Aug. 1990).

(g) Guide to Management of Investigation-Derived Wastes, OSWER 9345.303FS (Jan. 1992).

(h) Permits and Permit Equivalency Processes for CERCLA On-Site Response Actions, OSWER 9355.703 (Feb. 1992).

(i) Guidance for Conducting Treatability Studies under CERCLA, OSWER 9380.3-10, EPA/540/R92/071A (Nov. 1992).

(j) National Oil and Hazardous Substances Pollution Contingency Plan; Final Rule, 40 C.F.R. part 300 (Oct. 1994).

(k) Guidance for Scoping the Remedial Design, OSWER 9355.0-43, EPA/540/R-95/025 (Mar. 1995).

(l) Remedial Design/Remedial Action Handbook, OSWER 9355.0-04B, EPA/540/R-95/059 (June 1995).

(m) EPA Guidance for Data Quality Assessment, Practical Methods for Data Analysis, QA/G-9, EPA/600/R-96/084 (July 2000).

(n) Comprehensive Five-year Review Guidance, OSWER 9355.7-03B-P, EPA/540R01-007 (June 2001).

(o) Guidance for Quality Assurance Project Plans, EPA QA/G-5, EPA Office of Environmental Information (Dec. 2002) https://www.epa.gov/quality/guidance-quality-assurance-project-plans-epa-qag-5.

(p) Institutional Controls: Third-Party Beneficiary Rights in Proprietary Controls, OECA (Apr. 2004).

(q) EPA Guidance on Systematic Planning Using the Data Quality Objectives Process, QA/G-4, EPA/240/B-06/001 (Feb. 2006).

(r) EPA Requirements for Quality Management Plans, QA/R-2, EPA/240/B01/002 (Mar. 2001, reissued May 2006).

(s) EPA National Geospatial Data Policy, CIO Policy Transmittal 05-002 (Aug. 2005), https://www.epa.gov/geospatial/epa-national-geospatial-data-policy.

(t) Principles for Greener Cleanups (Aug. 2009), https://www.epa.gov/greenercleanups/epa-principles-greener-cleanups.

(u) Close Out Procedures for National Priorities List Sites, (OLEM Directive 9320.2-23) OSWER 9320.2-23 (June 2022).

(v) Recommended Evaluation of Institutional Controls: Supplement to the "Comprehensive Five-Year Review Guidance," OSWER 9355.7-18 (Sep. 2011).

(w) Plan EJ 2014: Legal Tools, EPA Office of General Counsel (Dec. 2011), https://www.epa.gov/environmentaljustice/plan-ej-2014-legal-tools.

(x) Construction Specifications Institute's MasterFormat (most current edition), available from the Construction Specifications Institute, http://www.csinet.org/masterformat, or comparable alternative approved by EPA.

(y) Institutional Controls: A Guide to Planning, Implementing, Maintaining, and Enforcing Institutional Controls at Contaminated Sites, OSWER 9355.0-89, EPA/540/R-09/001 (Dec. 2012), https://semspub.epa.gov/work/HQ/175446.pdf.

(z) Institutional Controls: A Guide to Preparing Institutional Controls Implementation and Assurance Plans at Contaminated Sites, OSWER 9200.0-77, EPA/540/R-09/02 (Dec. 2012), https://semspub.epa.gov/work/HQ/175449.pdf.

(aa) EPA's Emergency Responder Health and Safety Manual, OSWER 9285.3-12 (July 2005 and updates), https://www.epaosc.org/_HealthSafetyManual/manual-index.htm.

(bb) Broader Application of Remedial Design and Remedial Action Pilot Project Lessons Learned, OSWER 9200.2-129 (Feb. 2013).

(cc) Quality Management Systems for Environmental Information and Technology Programs -- Requirements with Guidance for Use, ASQ/ANSI E-4 (February 2014), available at https://webstore.ansi.org/.

(dd) Guidance for Management of Superfund Remedies in Post Construction, OLEM 9200.3-105 (Feb. 2017), https://www.epa.gov/superfund/superfund-post-construction-completion.

(ee) Sediment Cleanup User's Manual (Washington Department of Ecology Publication Number 12-09-057) December 2021.

(ff) Contaminated Sediment Remediation Guidance for Hazardous Waste Sites EPA-540-R-05-012 OSWER 9355.0-85 December 2005.

(gg) Guidance for In Situ Subaqueous Capping of Contaminated Sediments (EPA and USACE) 1998

(hh) EPA Contract Laboratory Program SOW for Inorganic Superfund Methods (ISM02.4, October, 2016);

(ii) EPA Contract Laboratory Program SOW for Organics Superfund Methods (SOM02.4, October, 2016);

(jj) EPA Contract Laboratory Program SOW for High Resolution Superfund Methods (HRSM01.2, October, 2014)

(kk) Advanced Monitoring Technologies and Approaches to Support Long-Term Stewardship (July 20, 2018), https://www.epa.gov/enforcement/use-advanced-monitoring-technologies-and-approaches-support-long-term-stewardship.

(ll) US EPA's Institutional Control Implementation and Assurance Plan (ICIAP) report (kingcounty.gov). Lee S., Tippens K., and Ho K. (2019). US EPA's Institutional Control Implementation and Assurance Plan (ICIAP) for Seafood Consumption at the Lower

Duwamish Waterway (LDW) Superfund Site, Final, August 2019. Prepared by Public Health – Seattle & King County for the United States Environmental Protection Agency Region 10.

(mm) Superfund Community Involvement Handbook, OLEM 9230.0-51 (March 2020). More information on Superfund community involvement is available on the Agency's Superfund Community Involvement Tools and Resources web page at https://www.epa.gov/superfund/superfund-community-involvement-tools-and-resources.

(nn) Quality Management Plan Standard. EPA Directive No. CIO 2105-S-01.0. (June 2020) https://www.epa.gov/system/files/documents/2023-01/quality_management_plan_standard.pdf

(oo) Quality Assurance Project Plan Standard. EPA Directive No. CIO 2105-S-02.0. (March 2023) https://www.epa.gov/system/files/documents/2023-07/quality_assurance_project_plan_standard.pdf

(pp) EPA directive CIO 2105.1 (Environmental Information Quality Policy, 2021), https://www.epa.gov/sites/production/files/2021-04/documents/environmental_information_quality_policy.pdf.

13.2 A more complete list may be found on the following EPA web pages:

(a) Laws, Policy, and Guidance at https://www.epa.gov/superfund/superfund-policy-guidance-and-laws.

(b) Search Superfund Documents at https://www.epa.gov/superfund/search-superfund-documents.

(c) Test Methods Collections at: https://www.epa.gov/measurements/collection-methods

(d) EPA Quality Directives (Policy, Procedure, Standards and Guidance) can be found here: https://www.epa.gov/quality/quality-program-directives

(e) Superfund Contaminated Sediments: Guidance and Technical Support https://www.epa.gov/superfund/superfund-contaminated-sediments-guidance-and-technical-support

13.3 For any regulation or guidance referenced in the Order or SOW, 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 Respondents receive notification from EPA of the modification, amendment, or replacement.

Appendix B