



Confluence of Willamette and Columbia Rivers

Photo Source: Port of Portland

Portland Harbor Superfund Sitewide Community Impacts Mitigation Plan

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**U.S. Environmental Protection Agency
Region 10**

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This Living Document Sitewide Community Impacts Mitigation Plan (CIMP) was developed by the United States Environmental Protection Agency (The EPA) Region 10, serving Alaska, Idaho, Oregon, Washington and 271 Tribal Nations, with input from Tribes, community members, remedial design parties and federal, state and local government agencies.

The EPA is grateful to the many individuals who gave their time and energy to develop this plan.

FOR MORE INFORMATION:

The EPA Portland Harbor Website: www.epa.gov/superfund/portland-harbor

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ABBREVIATIONS AND ACRONYMS

ARARs	Applicable or Relevant and Appropriate Requirements
CAG or PHCAG	Portland Harbor Community Advisory Group
CD	Consent Decree
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CFR	Code of Federal Regulations
CWA	Clean Water Act
CIMP	Community Impacts Mitigation Plan
CIMP Committee	CIMP Implementation Committee
The City	The City of Portland
COBID	Certification Office for Business Inclusion and Diversity
COCs	Contaminants of concern
CWA	Clean Water Act
CQC/QAP	Construction Quality Control/Quality Assurance Plan
dB	Decibel
DDx	Pesticides DDT, DDE and DDD
DEQ	Oregon Department of Environmental Quality
DOJ	Department of Justice
DSL	Department of State Lands
Dust	Fugitive dust emissions
ENR	Enhanced Natural Recovery
EPA	Environmental Protection Agency
ESA	Endangered Species Act
FAQs	Frequently Asked Questions
LPS and HPS	Low- or high-pressure-sodium
IK	Indigenous Knowledge
MNR	Monitored Natural Recovery
NAAQS	National ambient air quality standards
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
ODFW	Oregon Department of Fish and Wildlife
OHA	Oregon Health Authority

OSMB	Oregon State Marine Board
ORS	Oregon Revised Statutes
OSHA	Occupational Safety and Health Administration
PAHs	Polycyclic aromatic hydrocarbons
PCBs	Polychlorinated biphenyls
PHSS Hotline	Portland Harbor Superfund Site Information and Complaint Hotline
PHSS or the Site	Portland Harbor Superfund Site
PICIAP	Programmatic Institutional Control Implementation and Assurance Plan
PM2.5	Fine particulate matter
PM10	Coarse particulate matter
POM	Polycyclic aromatic hydrocarbons
PPs	Performing parties
QAPs	Quality Assurance Plans
RA	Remedial action
RD	Remedial design
RFPs	Requests for Proposals
RM	River mile
ROD	Record of Decision
RPM	Remedial Project Manager
SOW	Statement of Work
SuperJTI	Superfund Job Training Initiative
TCT	Technical Coordinating Committee
TSP	Transportation System Plan
USCG	U.S. Coast Guard
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
WQMP	Water Quality Monitoring Plan

NOTE

The Community Impacts Mitigation Plan (CIMP) is intended to be a resource for parties that are conducting either Remedial Design (RD) or Remedial Action (RA) work and for community members to understand the U.S. Environmental Protection Agency (EPA)'s intent in identifying and mitigating potential community impacts. The CIMP captures legally binding requirements that apply to remedy implementation and goes further to identify other recommendations to aid in successful implementation of remedies. The CIMP compiles and summarizes existing information and does not override requirements for how parties comply with applicable or relevant and appropriate requirements (ARARs). Instead, the CIMP is a summary guidance resource for a broader audience and it may be updated by EPA from time to time. The CIMP consolidates preexisting requirements external to the CIMP and adds additional recommended practices relevant to RA work.

The EPA intends to attach the CIMP to the Consent Decree (CD) for implementation of RA. Once RA begins, the EPA may update this plan in consultation with performing parties, other regulatory agencies and community members. RA requirements are derived from existing laws and policies, and the CIMP summarizes how those laws and policies will be implemented.

The CIMP acts as a guidance document and may be updated. PPs will be expected to adhere to the requirements and consider the recommendations within the CIMP when they create their remedial design and RA plans. Once EPA approves the PPs remedial plans and workplans, those remedial documents will govern RA. In the case of any inconsistency, area-specific remedial designs and supporting deliverables approved by EPA must take precedent.

1. Introduction

1.1 CIMP Goals and Objectives

The EPA has developed this CIMP to address potential community impacts related to the implementation of Portland Harbor Superfund Site (PHSS or the Site) remedial action (RA).¹

The CIMP captures legally binding requirements that apply to remedy implementation and goes further to identify other recommendations to aid in successful implementation of remedies. The CIMP describes the Site, RA and potential impacts to surrounding communities during clean up, as well as the RA requirements and RA recommendations that will be implemented during construction to mitigate community impacts. The CIMP provides a compilation of requirements from federal and state laws, applicable city ordinances and EPA policy and best practices learned from other construction projects. Additionally, the EPA provides recommended practices to mitigate community and business impacts during RA. These recommendations were developed with input and guidance from Tribes, community members, federal, state and local agencies, businesses, and parties completing remedial designs. The EPA will review remedial designs² (RD) and RA Work Plans to confirm that the RA is completed in accordance with the RA requirements as described in this document and considers RA recommendations. More information on RA requirements and recommendations can be found in [Chapter 3](#).

The EPA intends for the CIMP to be a resource for performing parties (PPs)³, contractors conducting RA work, and community members to understand how the EPA intends to identify and mitigate potential impacts related to implementation of the cleanup. For the purposes of the CIMP, the term PPs will refer to both performing parties and any contractors or consultants they hire to conduct RA.

What are RA Requirements?

RA requirements are identified by the EPA to guide PPs towards successful completion of remedial activities while minimizing impacts to the community, businesses, and the environment. RA requirements arise from federal and state laws, applicable city ordinances and EPA policy.

What are RA Recommendations?

RA recommendations are actions suggested by the EPA to guide PPs to minimize community and environmental impacts.

¹ **Remedial action (RA)** follows the remedial design phase. It involves the actual construction or implementation phase of Superfund site cleanup. Source: EPA's Superfund Glossary, <https://www.epa.gov/superfund/superfund-glossary>.

² **Remedial design (RD)** is the phase in Superfund site cleanup where the technical specifications for cleanup remedies and technologies are designed. Source: EPA's Superfund Glossary, <https://www.epa.gov/superfund/superfund-glossary>.

³ A **performing party (PP)** refers to any individual or company who is conducting remedial design or RA at a Superfund site under a legal agreement with EPA. For the CIMP, PPs includes any contractors or consultants they hire to conduct the RA.

PPs can use the CIMP as a guide when developing RA Work Plans, Construction Quality Control/Quality Assurance Plans (CQC/QAPs) and air and water monitoring plans. The CIMP is specifically for the period of active construction of the remedy. Once capping and dredging operations are finished, periodic monitoring and some cap maintenance will occur. This periodic monitoring is relatively limited compared to RA and is not included in this plan. If cap maintenance impacts community areas, the EPA anticipates that similar mitigation measures will be taken as those outlined in this plan.



Figure 1 Map of neighborhoods surrounding the cleanup site

What are the Objectives of the CIMP?

- Reduce impacts to all communities, provide recommended practices with the potential to benefit the local communities and ensure meaningful public involvement.
- Reduce and manage the impacts from remedy implementation to residential areas, schools, playgrounds, healthcare facilities, waterfront businesses, and recreational or impacted public areas.
- Inform RA monitoring plans, which measure community impacts.
- Set expectations for operational decisions during construction.
- Enhance transparency and accountability measures during RA.

1.2 Summary of Mitigation Measures

The table below summarizes the mitigation and accountability measures that will be implemented to reduce impacts on Portland communities because of the PHSS cleanup. The table is not intended to be a comprehensive summary of the document; rather, it synthesizes selected RA requirements and recommendations that are most likely to be implemented and that represent the most critical elements of the CIMP. For more information about mitigation measures, see [Chapter 4](#).

CIMP Summary Table

Mitigation Measure	Accountability Measure*	For Complete Information
Noise		
Mitigation Measure	Accountability Measure	For Complete Information
PPs to conduct outreach to communities and businesses within a minimum of 1,000 ft of the work so they know what the sound is. PPs to conduct loudest activities between 8am and 6pm.	The EPA will monitor PHSS Hotline, conduct noise audits for repeat concerns and work with PPs to reduce noise as needed.	4.1 Noise
Light		
Mitigation Measure	Accountability Measure	For Complete Information
PPs to position and shield work lights so they only illuminate necessary work and minimize light trespass to riverbanks and upland areas.	The EPA will monitor PHSS Hotline and request lighting modifications as appropriate.	4.2 Light

Water Quality		
Mitigation Measure	Accountability Measure	For Complete Information
PPs to implement turbidity controls to prevent exceedances of acute water quality standards and unnecessary spread of contamination.	The EPA will approve water quality monitoring plans and review results.	4.3 Water Quality
Navigation Safety		
Mitigation Measure	Accountability Measure	For Complete Information
PPs to adhere to all navigation requirements and apply for temporary safety zones through USCG as needed. PPs to utilize measures that enhance visibility as appropriate to prevent recreational boats from entering the work area.	The EPA will confirm temporary safety zones are established and communicate with USCG, OSMB and the Harbor Master so they can flag any concerns about navigation safety during RA.	4.4 Navigation Safety
Recreation		
Mitigation Measure	Accountability Measure	For Complete Information
The EPA will coordinate closely with Portland Parks and Recreation and Oregon Marine Board to ensure they are aware of planned activities and can communicate directly with interested parties. Additionally, PPs to conduct the work as unobtrusively as possible to common recreation activities outside of the RA work boundary.	The EPA will coordinate closely with Portland Parks, USCG and OMB. The EPA to monitor PHSS Hotline and request modifications to operations as appropriate.	4.5 Recreation

Resident Fish Consumption		
Mitigation Measure	Accountability Measure	For Complete Information
Multnomah County Health Department to continue its Fish Advisory Outreach and Education Program.	Multnomah County Health Department to use third party verification to evaluate and improve the program.	4.6 Resident Fish Consumption
Additional Jobs/Loss of Jobs ⁴		
Mitigation Measure	Accountability Measure	For Complete Information
The EPA will provide SuperJTI training prior to RA and this training may be repeated throughout the cleanup. PPs are encouraged to develop Job Plans and RFPs that include guidance on skilled and trained hiring (see Appendix C).	The EPA will gather information on considerations in contracting and report to the CIMP Committee.	4.7 Job Creation and Loss
The PPs will incorporate measures to minimize disruptions to shorelines business and minimize associated job losses.	EPA will encourage PPs and shoreline businesses to coordinate with each other.	4.7 Job Creation and Loss
Wildlife		
Mitigation Measure	Accountability Measure	For Complete Information
PPs to conduct bank work (clearing and soil excavation) October - January to avoid nesting animals and their young. PPs to avoid disturbing raptor nests, especially from March - July. PPs to comply with the Programmatic Biological Opinion from NMFS.	The EPA will review and approve RA Work Plans that adhere to appropriate work schedules and work practices.	4.8 Wildlife

⁴ If requested, EPA will ensure coordination occurs between PPs and shoreline businesses as appropriate.

Cultural and Historic Preservation		
Mitigation Measure	Accountability Measure	For Complete Information
The EPA and PPs will consult with Tribal and State Historic Preservation Officers on remedial plans per the NHPA. Any impacts to cultural and historic resources that cannot be avoided must be mitigated.	The EPA will only approve remedial design plans and actions that do not affect cultural and historic resources to the extent possible.	4.9 Cultural and Historic Resources
Riverfront Access for Unhoused Community Members		
Mitigation Measure	Accountability Measure	For Complete Information
PPs to provide early and frequent communication to unhoused community members regarding locations and timing for active cleanup to allow individuals to relocate as necessary.	The EPA will review outreach plans for RA that may impact unhoused community members.	4.10 Riverfront Access for Unhoused Community Members
Traffic and Parking		
Mitigation Measure	Accountability Measure	For Complete Information
PPs to create traffic and parking plans for work in congested areas to maximize safety and minimize disruption to nearby communities.	The EPA will review traffic and parking plans as part of RA Work Plans. The EPA will monitor the PHSS Hotline for traffic and parking issues.	4.11 Traffic and Parking
Air Quality: Fugitive Dust Emissions		
Mitigation Measure	Accountability Measure	For Complete Information
PPs to use standard dust control practices as needed, such as misting and covering stockpiles to prevent dust from migrating beyond the perimeter of shoreline sediment handling areas.	The EPA will approve air monitoring plans and review results.	4.13 Air Quality: Fugitive Dust Emissions

Air Quality: Contaminant Volatilization		
Mitigation Measure	Accountability Measure	For Complete Information
PPs to conduct perimeter air monitoring of shoreline sediment handling areas to confirm nearby people are not being exposed to contaminants at harmful levels.	The EPA will approve air monitoring plans and review results.	4.14 Air Quality: Contaminant Volatilization
Air Quality: Diesel Emissions		
Mitigation Measure	Accountability Measure	For Complete Information
PPs to conduct shoreline operations in compliance with Clean Air Construction requirements for equipment retrofits and reducing idling. To the extent practicable, use renewable diesel or other low emissions fuel for marine operations.	The EPA will approve RA Work Plans and CQC/QAPs, which include equipment and fuel specifications and perimeter air monitoring.	4.15 Air Quality: Diesel Emissions
Air Quality: Odor		
Mitigation Measure	Accountability Measure	For Complete Information
If complaints are received, the EPA to consider requiring use of odor suppressant on stockpiled dredge materials.	The EPA will monitor PHSS Hotline, coordinate with the DEQ Nuisance Odor Complaint line and request odor suppressant as appropriate.	4.16 Air Quality: Odor
Air Quality: Ambient Air Quality		
Mitigation Measure	Accountability Measure	For Complete Information
None planned as long as compliance with NAAQS in area continues.	The EPA will review DEQ's Annual Air Quality Report for NAAQS compliance.	4.17 Air Quality: Ambient Air Quality

*In addition to the accountability measures listed, the CIMP Committee will review compliance with recommended practices and complaints received via the PHSS Hotline.

1.3 Portland Harbor Superfund Site Background

1.3.1 What is the Portland Harbor Superfund Site?

The PHSS was listed on the National Priorities List in December 2000 and encompasses an approximately 10-mile stretch of the lower Willamette River just downstream of the downtown area of Portland, Oregon. Industrial uses and urban development over the past century impacted the river, causing unacceptable risks to human health and the environment. Water, sediment and riverbank soils are contaminated with many hazardous substances, including polychlorinated biphenyls (PCBs), polycyclic aromatic hydrocarbons (PAHs), polychlorinated dibenzo-p-dioxins and dibenzofurans, pesticides and heavy metals. This impacts the health and safety of consuming resident biota (e.g., fish tissue).

The area holds great importance to many Native peoples and Tribes⁵ as a natural and cultural resource. The lower Willamette River is a major tributary to the Columbia River and provides critical migratory habitat for several fish species (e.g., endangered runs of Steelhead Trout and Chinook Salmon) and provides Tribal ceremonial and subsistence fisheries for Pacific Lamprey, particularly at Willamette Falls and spring Chinook Salmon.⁶

To learn more about the history and background of the Site, please refer to the EPA's [Portland Harbor StoryMap](#)⁷ and [Community Involvement Plan](#).⁸

1.3.2 What Is the Objective of the Cleanup?

The objective of the cleanup of the Site is to reduce health risks to people, fish and wildlife posed by contamination at the Site. An additional benefit of the cleanup is that it will also set the stage for opportunities such as restoration, revitalization and commercial and industrial redevelopment of the river and waterfront running through the economic heart of Portland. A cleaner river will protect Oregonians and can help spur a new era for Portland as a river city, one where the lands stretching along the river are revitalized and companies can invest and bring new jobs to communities.⁹ It is important to note that clean up, restoration and redevelopment represent three different processes; while restoration and redevelopment are considered in designing the cleanup, they constitute separate activities. As a result, redevelopment and restoration impacts are not part of this plan for mitigating cleanup impacts.

⁵ The six federally recognized Tribes involved on the Site include: Confederated Tribes and Bands of the Yakama Nation; Confederated Tribes of the Grand Ronde Community of Oregon; Confederated Tribes of Siletz Indians; Confederated Tribes of the Umatilla Indian Reservation; Confederated Tribes of the Warm Springs Reservation of Oregon; and Nez Perce Tribe.

⁶ Portland Harbor StoryMap, <https://storymaps.arcgis.com/stories/ab89faf239624854a5b9c7723f1c43da>

⁷ Link: <https://storymaps.arcgis.com/stories/ab89faf239624854a5b9c7723f1c43da>

⁸ Link: <https://semspub.epa.gov/work/10/100261772.pdf>

⁹ Portland Harbor Community Involvement Plan, <https://semspub.epa.gov/work/10/100261772.pdf>

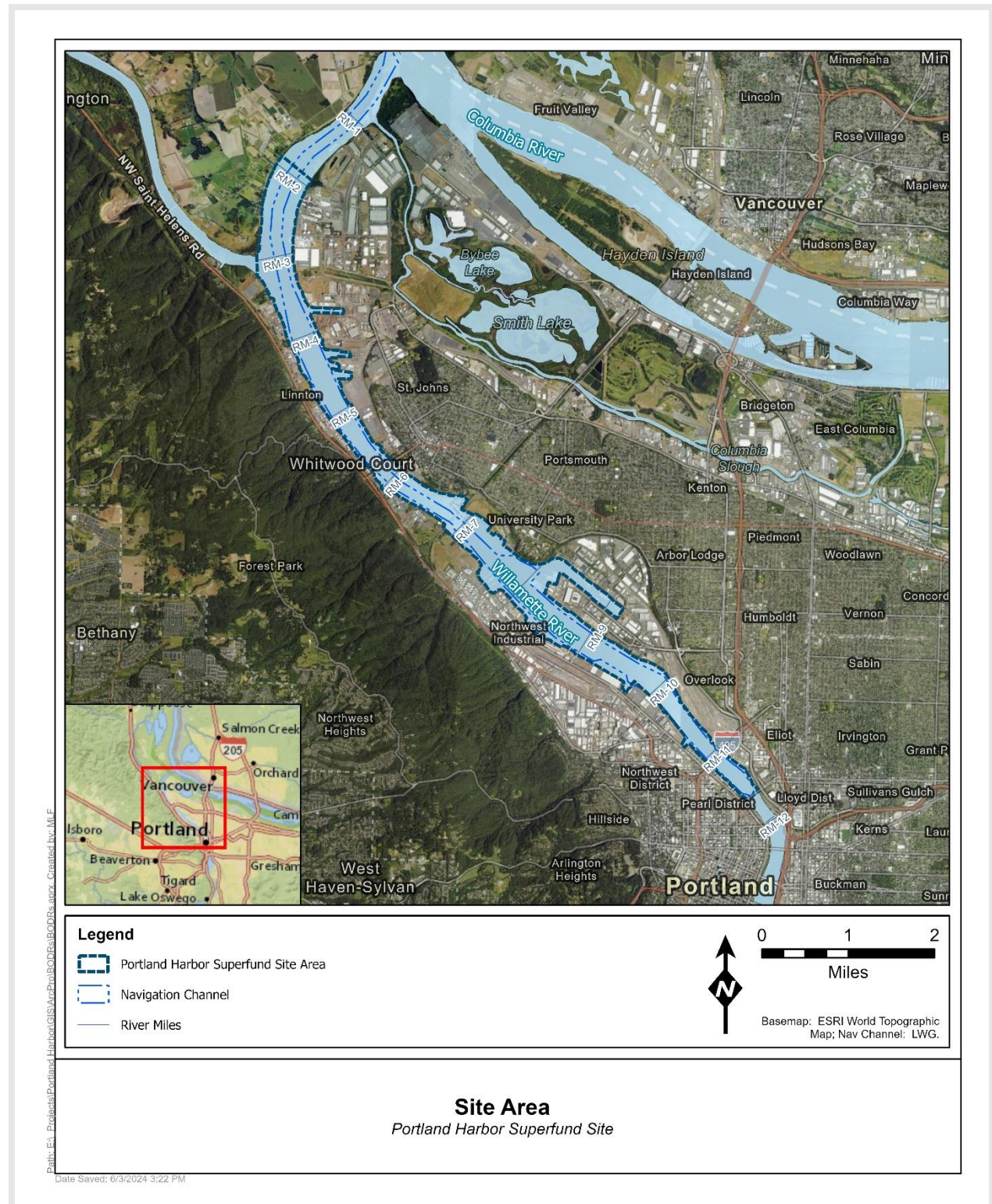


Figure 2 Site Area, Portland harbor Super Fund Site
Source: Record of Decision, Portland Harbor Superfund Site

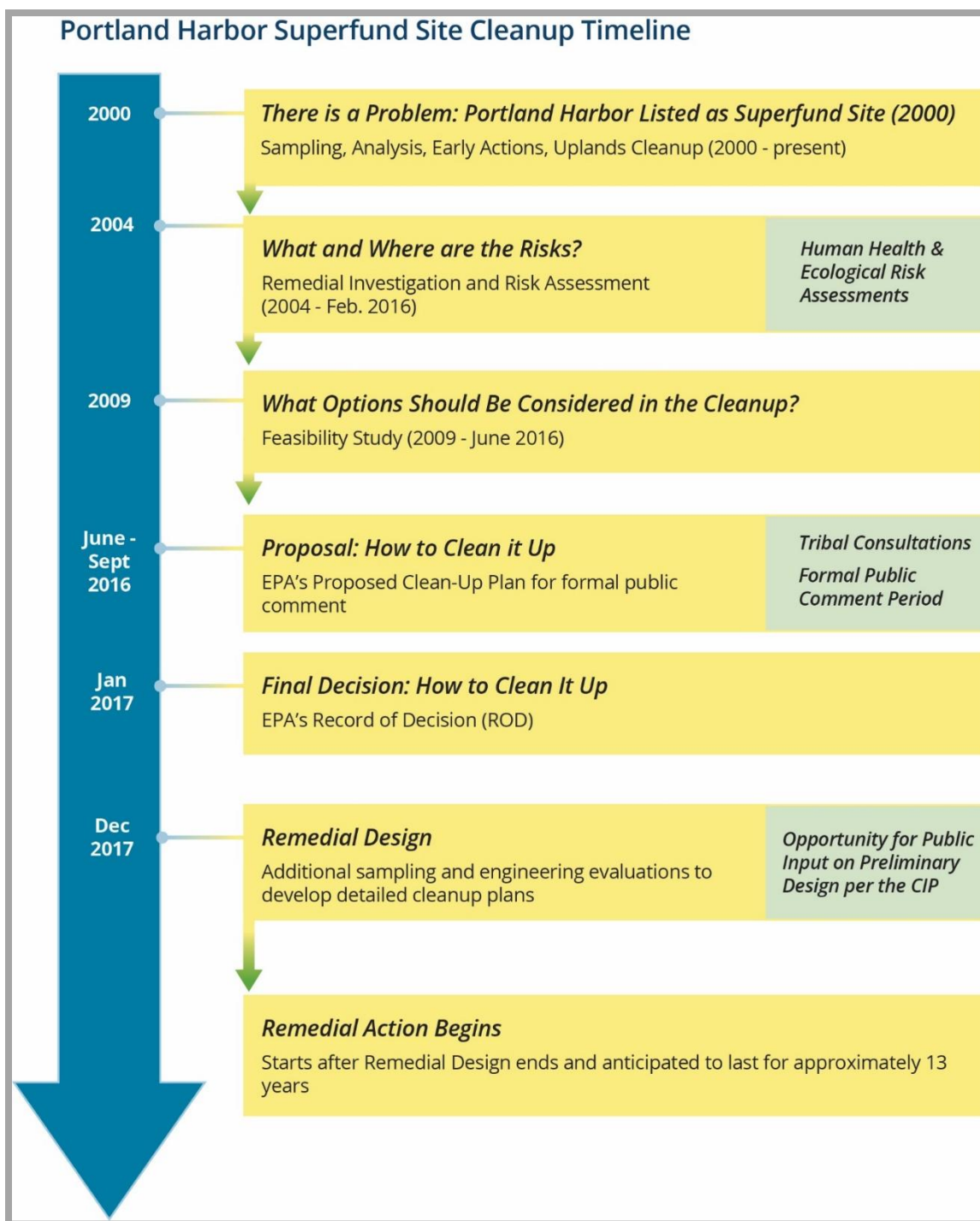


Figure 3 Portland Harbor Superfund Site Cleanup Timeline

1.4 Purpose of the CIMP

1.4.1 What is a Community Impacts Mitigation Plan?

This CIMP serves as a guide to the community and PPs on how existing federal and state laws, city ordinances, EPA policy and best practices learned from other construction projects in and near Portland will be applied to reduce adverse impacts to the community from cleanup actions.

The CIMP describes activities to be performed during cleanup that would:

- Reduce and manage the impacts from remedy implementation to community areas.¹⁰
- Keep community members informed of the RA progress and any data collected to measure impacts to the community.
- Monitor continuously and make adjustments during remedy implementation to further reduce impacts to community areas.
- Strive to maintain an open and working waterway to mitigate impacts to waterfront businesses.
- Encourage structuring of remediation contracts to foster local business participation, thereby mitigating potential economic effects that RA will have on the community.

1.4.2 Why Create a Community Impacts Mitigation Plan?

The CIMP addresses potential impacts to the community that may result from the construction activities undertaken to clean up the Site. After decades of contamination, the EPA has determined that potential short-term adverse impacts to the community and the environment resulting from the cleanup are necessary to implement a lasting remedy that will protect the Portland community and its ecosystem for future generations. In developing this CIMP, the EPA commits to working with PPs to mitigate impacts to community areas during RA.

The EPA issued the final cleanup plan for the PHSS, known as the [Record of Decision](#)¹¹ (ROD)¹² in 2017. In the ROD, the EPA documented its selection of certain cleanup actions, which are described in [Chapter 2](#) of this CIMP document.

¹⁰ **Community areas** refer to spaces of value that have been identified by the community, including residential areas, schools, playgrounds, healthcare facilities, recreational areas, commercial areas, habitat areas, etc. Community Areas may also include transportation corridors and disposal locations if recommended by the CIMP Implementation Committee.

¹¹ Link: <https://semspub.epa.gov/src/document/10/100036257>

¹² **Record of Decision (ROD)**: A public document that explains which cleanup alternative(s) will be used at National Priorities List sites. Source: EPA's Superfund Glossary, <https://www.epa.gov/superfund/superfund-glossary>.



St. Johns Bridge

Photo Source: EPA

Preparation of a CIMP is one of the elements under the revised 2021 Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) model RD/RA Consent Decree (model RD/RA CD)¹³ and model Statement of Work (model RD/RA SOW).¹⁴ The addition of the CIMP was part of a national EPA and Department of Justice (DOJ) workgroup. The EPA and DOJ use the model RD/RA CD when negotiating RD/RA judicial consent decrees with PPs under sections 106, 107 and 122 of CERCLA. The CIMP is designed to be

used in connection with the RD/RA SOW, which is the technical attachment to the CD. The SOW sets forth the procedures and requirements for implementing RD and RA for the PP's cleanup work at the Site. The model RD/RA SOW also states that the CIMP should contain information about impacts to community areas that aligns with the EPA's guidance in the [Superfund Community Involvement Handbook](#),¹⁵ pp. 53-56 (EPA, 2020). To move seamlessly from RD to RA, the EPA determined a CIMP needed to be drafted prior to the RA CD. Since there was not a party under an agreement to develop a Portland Harbor CIMP, the EPA decided to create it with robust input (see Figure 5).

¹³ **Consent Decree (CD):** Judicial agreement between the federal government and the performing parties (PPs) fully or partially settling a claim under CERCLA. This agreement may settle litigation or may be presented concurrently with the complaint (achieved through negotiations). The agreement may be for response work, cost recovery, or both. Source: EPA's Superfund Glossary, <https://www.epa.gov/superfund/superfund-glossary>.

¹⁴ RD/RA CD SOW, https://cfpub.epa.gov/compliance/models/view.cfm?model_ID=543

¹⁵ Link: <https://semspub.epa.gov/work/HQ/100002505.pdf>

2. Cleanup Activities

This section provides a brief description of the cleanup activities that will take place at the PHSS, with an emphasis on those that are most likely to impact the community and those that will be monitored and subject to RA requirements to protect the community.

Information regarding the expected remedial activities that were used to identify the RA requirements described in this document was obtained primarily from the Site's 2017 ROD. The ROD sets forth the EPA's selected remedy, the reason for its selection and a description of the remedial approaches to be implemented for various portions of the Site. The ROD addresses 64 contaminants of concern (COCs)¹⁶ at the Site, with most human health and ecological risks attributed to PCBs, PAHs, pesticides DDT, DDE and DDD (DDx) and dioxins/furans.¹⁷

What to Expect During Construction:

- Dredging and capping operations may occur at several locations at any one time within the 10-mile Site.
- Operations may run 24 hours per day and 7 days per week.
- In-water operations will generally occur from July - October and December - January to limit impacts to fish in the river.
- River users should respect any buoys or signage around work areas for public safety.
- Much of the construction will occur near industrial waterfront properties where noise, light and vessel traffic are already present.
- Actions will be taken to minimize impacts to nearby communities and an information and complaint hotline will be operated during construction.

2.1 Anticipated Remedial Activities

2.1.1 What Remedial Activities are Expected to Take Place at the Portland Harbor Superfund Site?

The 2017 ROD includes a plan to reduce risks posed by contamination to human health and the environment, including biota such as benthic organisms, fish and wildlife. Implementation of the ROD will reduce exposure to a variety of toxic pollutants in the Willamette River's sediment, surface water, ground water and riverbanks. The ROD-selected remedy applies to six distinct areas, including the:

- Federally authorized navigation channel.
- Future maintenance dredge areas, areas near and around docks.
- Intermediate areas, areas outside the navigation channel and towards shore.
- Shallow areas, areas adjacent to the shoreline with shallow water depth.
- Riverbanks, from the river to the top of the bank.

¹⁶ **Contaminants of Concern (COC):** Chemicals identified during in-depth site studies (Remedial Investigation/Feasibility Study) that need to be addressed by a cleanup action because they pose a potential threat to human health or the environment. Source: EPA's Superfund Glossary, <https://www.epa.gov/superfund/superfund-glossary>.

¹⁷ Portland Harbor Community Involvement Plan, <https://semspub.epa.gov/work/10/100261772.pdf>

- The Swan Island Lagoon, created in the 1930s when Swan Island was connected to the mainland by filling a portion of the river channel.¹⁸

The selected remedy identified in the ROD includes a combination of activities that will be applied in various combinations depending on the specific remediation area, primarily:

- Removal of soil/sediment through dredging/excavation.
- Transport of dredged/excavated material, by various means including barge or pipeline.
- Containment/capping of contaminated sediment.
- In-situ treatment¹⁹ (e.g., in-situ placement of a treatment amendment or in-situ stabilization).
- Monitored natural recovery (MNR) and enhanced natural recovery (ENR).
- Ex-situ treatment (e.g., ex-situ treatment of dredged/excavated material using thermal or solidification/stabilization technologies).
- Material handling, dewatering and water treatment.
- Transportation and disposal of processed material.
- Compensatory mitigation projects to offset authorized impacts to habitat from implementation of the remedy.

Dredging/Excavation

Contaminated sediment will be removed from the river bottom. The removal may be completed using a variety of techniques, including the use of mechanical or hydraulic dredging equipment operated from the water and/or mechanical excavation equipment operated from the shoreline. Mechanical dredges scoop out sediments and may be equipped with various types of buckets such as clamshell buckets or enclosed environmental buckets. Clamshell buckets are two open scoops that work in tandem like a clam shell. Environmental buckets fully close, removing sediment and overlying water to reduce water quality impacts during construction. Hydraulic dredging uses directed water streams and suction to dislodge and remove sediments. The dredge can be in the form of large diameter cutter heads, eight inches or greater, for large scale removal or smaller diameter diver assisted suction dredge equipment for more precise dredging. In addition, contaminated soil from riverbank areas will be removed, likely using land-based mechanical excavation equipment.

The removed sediment/soil may be transported to a processing/transfer location on a barge, truck, or train. Factors that influence the transportation of the removed material include:

- Location of removal, submerged or on river bank.
- Type and size of dredges/excavators.

¹⁸ Portland Harbor Superfund Site Community Involvement Plan, <https://semspub.epa.gov/work/10/100261772.pdf>

¹⁹ In-situ and ex-situ are Latin phrases. In-situ translates to “on site” or “in position” and ex-situ translates to “outside” or “away from the natural location.”

- Location of barge or land-based processing/transfer facilities.
- Production at hourly, daily, or weekly rates for removal and material processing.
- Distance and elevation change between the processing/transfer facilities and the removal area.
- Physical attributes of the river and shoreline between the removal area and the processing/transfer facilities, including water depth, hydraulic characteristics, physical barriers, adjacent land uses and water-dependent uses.
- Feasible options for transport of removed material from the area of removal to the processing/transfer location.
- Physical attributes of the processing/transfer facilities, including size, area land use, capacity and ease of construction.

Containment/Capping of Contaminated Sediment

In-situ capping involves placing clean material on top of contaminated material remaining in place on a water body floor or at adjacent areas to isolate the remaining contamination from living things. Areas where in-situ capping may be used are often situated within the Site's floodplains. Caps are designed so that contaminants will migrate into a cap; the cap is designed to slow movement and not allow contaminants to accumulate to unacceptable levels within certain sensitive zones. In some cases, the cap includes a habitat layer designed to mimic the native sediment and promote recovery of benthic communities. In a reactive cap, there is an isolation layer, which includes an amendment such as an organoclay or activated carbon that binds or sequesters contaminants and thereby prevents contaminant migration to the cap surface and/or release to surface water.

Monitored and Enhanced Natural Recovery

Monitored natural recovery relies on the Site's naturally occurring physical, chemical and biological processes to contain, destroy or otherwise reduce bioavailability or toxicity of contaminants in sediment. The EPA and the PPs monitor such natural processes over a period of time. Enhanced natural recovery involves placing a thin layer of clean sediment or additives on top of contaminated sediment to accelerate contaminant transformation to less toxic or bioavailable compounds.

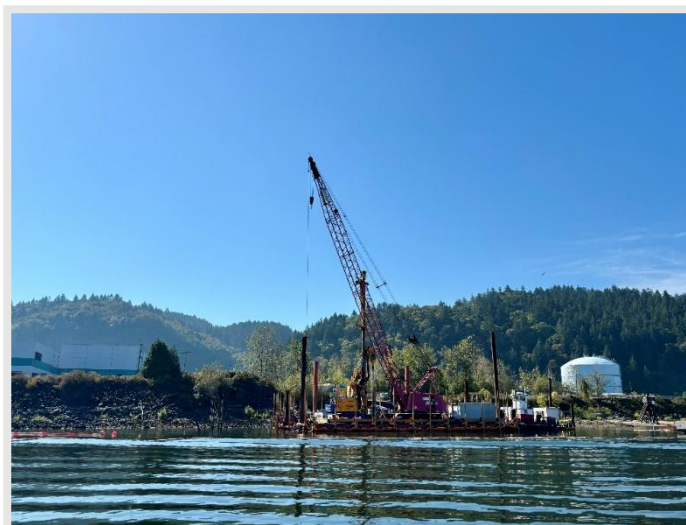
Ex-Situ Treatment

Ex-situ treatment is applied to the contaminated soils and sediments after they have been removed from the environment and before the material is placed in an off-site disposal facility. Ex-situ treatment can include chemical, physical, or biological technologies to transform, destroy, or immobilize contaminants. One such treatment approach could be the addition of non-toxic additives that permanently bind contamination to the soil/sediment particles, increasing the stability of the material for disposal. The type of ex-situ treatment that will be

most effective is determined by contaminants, contaminant concentrations and the composition of the removed materials, as well as the off-site disposal requirements.

In-Situ Treatment

In-situ treatments happen while the contaminated soil or sediments are in place, without removing them from the river. One in-situ treatment technology is solidification and stabilization which binds the waste in a solid block of material and traps it in place. This block is also less permeable to water than the unstabilized sediment. Stabilization causes a chemical reaction that makes contaminants less likely to leach into the environment. This prevents or slows the release of harmful chemicals from wastes, such as contaminated soil, sediment and sludge.



Gasco In-situ Stabilization Field Pilot (2023)
Photo Source: EPA

Material Handling, Dewatering and Water Treatment on Shoreline or in Barges

Removed sediment will require material handling and dewatering²⁰ to prepare or condition the removed sediment for transport and disposal. Certain excavated soil may require similar processing. Water from the dewatered sediment and/or soil may also require treatment. The material processing/transfer facilities, land and/or water-based, as applicable, will likely include some combination of the following:

- Material unloading.
- Untreated material staging, mixing and transport facilities.
- Solids separation facilities (e.g., screening equipment, hydrocyclones).
- Solids dewatering facilities (e.g., gravity separation, filter press, centrifuge).
- Solidification facilities.
- Dewatered or processed material staging and loading facilities.
- Water storage and treatment facilities (e.g., clarification, multimedia filtration, granular activated carbon).
- Chemical and materials unloading, storage and loading facilities.
- Loading facilities for transport of dewatered materials to disposal facilities.
- Truck staging/queuing areas and/or rail spurs and railcar staging areas.

²⁰ Dewatering is the removal of water from a location.

- Leading and staging areas for backfill material (e.g., a separate facility or facilities may be used).
- Space for staff facilities and equipment storage.

In addition to handling dredged sediments, clean capping material will likely be brought in and staged at these areas. There will be increased traffic on roads to support these operations.

Transportation and Disposal of Processed Material

Section 14.2 of the ROD requires that all dredged material be disposed of in an off-site facility. Contaminated sediments will be transported to a permitted solid or hazardous waste landfill by either truck, rail or barge.

During active construction for the cleanup, waste will go to permitted facilities that the EPA confirms meet all applicable federal and state requirements. As of June 2026, RD is not far enough along to specify which transportation methods will be used or which disposal facilities will receive the Portland Harbor dredged material. It is likely that EPA will approve transportation methods and disposal facilities used on a site-by-site basis and approve it through RD deliverables (documents required for the design of the cleanup).

Compensatory Mitigation Project Construction

Compensatory mitigation refers to the restoration, establishment, enhancement and/or preservation of wetlands, streams, or other aquatic resources conducted specifically for the purpose of offsetting unavoidable adverse impacts from implementing the remedy. These mitigation banks will be established on-site wherever possible. If mitigation banks are permitted and approved by the U.S. Army Corps of Engineers (USACE) and the State of Oregon within the Site, buying credits in an on-site mitigation bank may be acceptable if approved by the EPA.

2.2 Cleanup Duration, Equipment and Parties

2.2.1 What is the Sequence of Remediation Activities?

While such decisions have not yet been made as of June 2026 the Portland Harbor cleanup may be managed by dividing the Site into smaller work areas for construction based on factors such as prioritization of significant source areas, logistics, efficiency, or other factors. Sequencing of cleanup may consider factors such as potential impacts of upstream work on downstream areas, including but not limited to the potential for resuspension of contaminants during construction, nature and extent of contamination and integration of the cleanup actions into the overall Site remedy.

For an overview of the whole Site and the parts of the Site with known contaminated riverbank, please see the figure below.

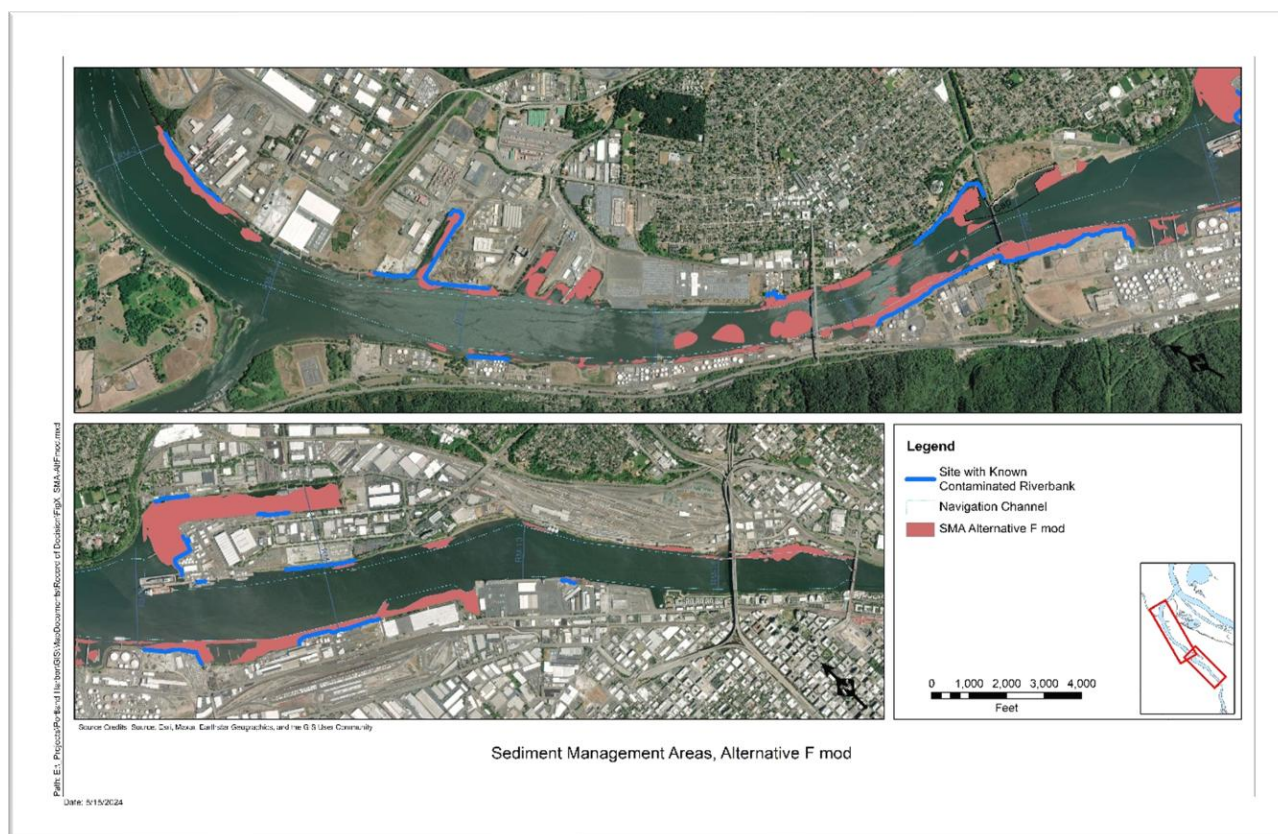


Figure 4 Sediment Management Areas, Selected Remedy
Source: Record of Decision, Portland Harbor Superfund Site

2.2.2 How Long Will the Cleanup Activities Last?

The Portland Harbor cleanup is spatially extensive, logistically and technically complicated, and remedial construction activities are anticipated to take about 13 years to accomplish. Due to salmon migration protections, in-river construction will mainly occur between July 1 and October 31 (nearshore and deep water) and between December 1 and January 31 (deep water only).

Overall, the 2017 ROD estimates that active cleanup will likely:

- Remove 3 million cubic yards of sediment (translates to 1,985 barge loads or 49,606 rail loads or 198,615 truckloads²¹). These quantities are subject to change based on recent RD sampling and analysis.
- Involve heavy equipment in the river and on the banks of the river.
- Involve dredging operations 24 hours a day and 7 days a week to complete work within work windows.

2.2.3 What Equipment Will be Used to Carry Out RA?

This work will be completed with land-based and marine-based equipment such as barges, tugboats, small support vessels, excavators, cranes, front end loaders and dredges. Specialty

²¹ Portland Harbor Record of Decision, Appendix IV, <https://semspub.epa.gov/src/document/10/100036257>

equipment may include hydraulic dredge piping, large augers to implement in-situ stabilization and belt delivery systems to distribute clean capping material onto the riverbed. Most of the work will be conducted from the water surface and shorelines, but some work will be assisted by divers.

2.2.4 Who Will be Doing the RA?

The EPA will ask PPs who have liability for contamination in Portland Harbor to enter legal settlement agreements with the EPA and Oregon Department of Environmental Quality (DEQ) to conduct RA in accordance with plans developed during remedial design. The PPs will contract with construction companies and environmental scientists and engineers to complete the work under the EPA's oversight. One of the settlement agreement terms will be that any performing party must select a Project Coordinator and Supervising Contractor, collectively referred to as Contractor, qualified to do the work. As a part of the EPA's broader oversight work, the EPA verifies contractor qualifications based on objective assessment criteria (e.g., experience, capacity, technical expertise, etc.) and confirms the contractor does not have a conflict of interest with respect to the project.

3. CIMP Development and Implementation

3.1 CIMP Development

3.1.1 How Was this CIMP Developed?

In developing this CIMP, the EPA engaged in an extensive effort to gather input to address needs and concerns related to the PHSS cleanup. This CIMP is based on input solicited from Tribal representatives, community members, community organizations, businesses, parties performing RD and government representatives. The EPA publicly distributed an outline of the CIMP in June 2022, an annotated outline in November 2023 and a draft document in June 2024. See [Section 3.2](#) for an overview of the draft CIMP review process, the source of input and the timeline of input.

3.1.2 What Are Community Impacts?

Community impacts, as defined in this document, are any effects that RA may have on community areas surrounding the work areas. The scope is limited to the short-term effects of the RA construction activities and does not include the long-term effects such as reductions in fish tissue contaminant concentrations or redevelopment. The EPA considers the Portland Harbor community to include those living in the Portland Harbor area or who are dependent on it for employment, recreation, food and cultural connection. The community impacts described in this section were identified by members of the Portland Harbor community through the process outlined in [Section 3.2](#). Some impacts cannot be avoided, but remedial designs will incorporate measures to minimize the negative effects. Other impacts have the potential to be positive, such as economic benefits to the surrounding community.

This document was created before the RA phase began. As such, the potential impacts that follow are predictions created in anticipation of the cleanup and based on the knowledge and insights of those involved with or interested in the RD phase. More impacts may come to light during RA, while others may have minimal ramifications during RA.

What Community Impacts Does the CIMP Address?

The CIMP considers the following potential health, safety and quality of life impacts to community areas that could be caused by the Portland Harbor cleanup:

- Noise
- Light
- Navigation safety
- Water quality
- Resident fish consumption
- Job creation/loss
- Wildlife
- Cultural and historic resources
- Riverfront access for unhoused communities
- Recreation
- Traffic and parking
- Fugitive dust emissions
- Contaminant volatilization
- Diesel emissions
- Odor
- Ambient air quality

3.2 Outreach and Engagement on Community Impacts

To support the development of this plan, the EPA met with and received input from community organizations, Tribal representatives, local businesses, PPs and government agencies. The timeline and participants are outlined in the table below.

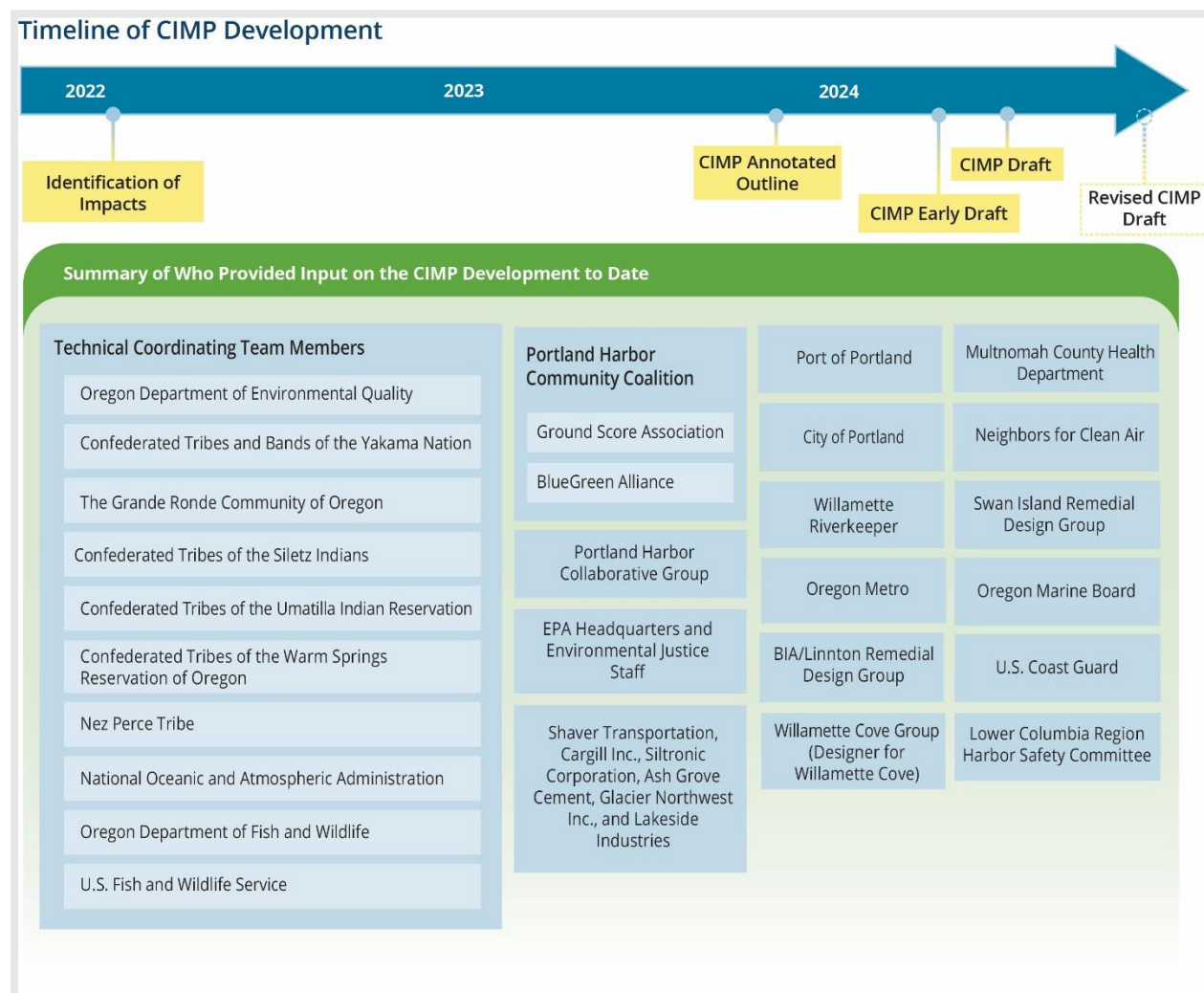


Figure 5 Timeline of CIMP Development and Summary of Who Provided Input on the CIMP Development to Date

Note: The Portland Harbor Collaborative Group represents many different groups. Please see [the Portland Harbor Collaborative Group Charter](#) for more information about the group's membership.

3.3 Input Gathered Through Outreach Process

Members of the organizations listed above have shared feedback and concerns about possible effects of RA activities on the quality of life of people residing near the river or using the river near remediation activities.

[Chapter 4](#) details concerns related to each impact and how they will be addressed. Other concerns shared are listed in [Section 3.3.1](#) and [Section 3.3.2](#) and will be addressed by EPA's communication plans and the CIMP Implementation Committee.

3.3.1 Tribal & General Community Concerns

Tribal concerns noted in the 2020 EPA Portland Harbor Community Involvement Plan that apply to RA include:

- Indigenous Knowledge (IK)²² should be valued and handled with respect by those not in Tribal communities.²³
- Tribal communities need to have access to accurate, timely and equitably distributed information from agencies involved with the Site.²⁴

General community concerns include:

- It may be difficult for those executing RA to maintain communication with all parties affected by RA.
- A high level of community involvement and responsiveness to complaints will need to be maintained throughout the years-long duration of RA.
- Natural disasters or other emergencies may happen during RA that complicate or create hazardous effects to RA.

3.3.2 Site-Specific Concerns

In addition to the Tribal and community concerns above, it is important to note site-specific concerns. Portland Harbor is a large site that encompasses many anticipated work areas. Each work area will have its own uses, surrounding communities and other unique factors. While it is not feasible to list all unique factors and concerns, it is important to consider them during remedial design and action. Examples of these concerns include:

- RA may interfere with team sports, such as rowing, in the work areas near the University of Portland's athletic complex at Triangle Park.
- Community events such as the Cathedral Park Jazz Festival and Fleet Week might be impacted by RA.
- Community-based organizations and businesses with waterfront locations may lose water access temporarily during RA.

²² The term Traditional Ecological Knowledge (TEK) was utilized in the Site's Community Involvement Plan, but Indigenous Knowledge (IK) has been adopted as a more inclusive term.

²³ Portland Harbor Superfund Site Community Involvement Plan, <https://semspub.epa.gov/work/10/100261772.pdf>

²⁴ Portland Harbor Superfund Site Community Involvement Plan, <https://semspub.epa.gov/work/10/100261772.pdf>

For more information about the surrounding communities, visit [Portland Harbor Superfund Site Community Involvement Plan](#).²⁵

3.4 RA Requirements and RA Recommendations

The cleanup process will comply with federal and state applicable or relevant and appropriate requirements (ARARs), identified in the ROD, and be consistent with the EPA's policy. Throughout the RA phase, PPs will comply with the requirements described in this document.

To ensure the protection of the community and the environment, monitoring and communication of potential impacts will be conducted throughout RA. The effectiveness of the RA recommendations will be reviewed as the remediation process continues and adjusted as appropriate.

Specific RA requirements, RA recommendations, accountability measures and communications to address potential impacts are provided in [Chapter 4](#).

3.4.1 What are RA Requirements?

RA requirements in the context of the CIMP, are quantifiable metrics or required actions identified by the EPA to guide PPs toward the successful, efficient and safe completion of remedial activities while minimizing impacts to the community, waterfront businesses and the environment. RA requirements often arise from ARARs,²⁶ which need to be followed by the EPA and PPs in conducting the cleanup.

3.4.2 How Will RA Requirements be Applied and Enforced for Portland Harbor?

Before beginning RA, PPs will submit RA Work Plans and CQC/QAPs to the EPA for approval. The EPA will only approve plans that comply with federal and state environmental laws and are consistent with the EPA's policy. During construction, the EPA will ensure RAs comply with approved Work Plans.

Work Plan compliance will be measured through monitoring, field oversight and ongoing communication with nearby communities. Failure to comply with approved RA Work Plans will likely require corrective action and may subject PPs to enforcement actions, including stipulated penalties. The application and enforcement of RA requirements for each community impact is addressed in [Chapter 4](#).

3.4.3 What Are RA Recommendations?

RA recommendations in the context of the CIMP, are actions that PPs can implement to minimize construction work impacts on communities and waterfront and water-dependent businesses in and around work areas. For example, these actions include ways to minimize nuisance light, promote communications with local communities and reduce disruption to

²⁵ Link: <https://semspub.epa.gov/work/10/100261772.pdf>

²⁶ **Applicable or Relevant and Appropriate Regulations (ARARs)** refer to state and federal environmental laws that the RA must comply with.

wildlife. The identified recommendations are often made in coordination with existing programs, conventional best management practices or lessons learned from similar projects.

3.4.4 How Will RA Recommendations Be Applied at Portland Harbor?

The EPA anticipates reporting PPs' adoption of RA recommendations to increase transparency and promote adherence. These recommendations, which are outlined in [Chapter 4](#), encompass what the EPA has identified as beneficial actions to be taken during RA. However, the EPA encourages individual PPs to consider adopting and expanding upon these recommended practices. Recommendations reporting will be further elaborated in Section 3.5.3.

3.5 CIMP Communications, Transparency and Modifications

3.5.1 Community Communications

The EPA plans to take several actions (often with support of PPs) to ensure timely, robust and transparent communications about RA at Portland Harbor, including construction activities, timelines, locations and any anticipated disruptions or community impacts. The EPA will prioritize proactive communications with Tribes, community organizations, residential areas and businesses that are anticipated to be impacted by the Site cleanup.

The EPA will utilize its existing [Portland Harbor StoryMap](#),²⁷ as well as regular meetings such as the Portland Harbor Community Advisory Group (CAG) and Portland Harbor Collaborative Group to provide project updates publicly. Updates may include:

- Notice of upcoming construction activities.
- Notice of anticipated access closures.
- Status updates, milestones and achievements in RA.
- Information about the overall project, timeline and map.
- Avenues for members of the public to reach the EPA's staff with questions and concerns.

Additional work area-specific communications and outreach will be conducted by the EPA and PPs in advance of remedial activities for each work area. PPs will create an outreach plan in the RA work plan and collaborate with EPA for approval. PPs will be expected to execute this outreach plan and can consult with the EPA for past outreach examples from Superfund Sites, such as Lower Duwamish River. Communications in the outreach plan may include:

- Outreach within 1,000 feet of each sediment handling area and along haul routes that don't typically receive commercial trucking traffic. The outreach approach depends on the specific work area and may include, but is not limited to, visiting businesses, schools, neighborhood associations, residential buildings, houses and unhoused communities. PPs should consider 1,000 feet as a minimum and determine whether outreach to people farther away is warranted. The CIMP Implementation Committee will consider

²⁷ Link: <https://storymaps.arcgis.com/stories/ab89faf239624854a5b9c7723f1c43da>

recommending additional outreach to haul route segments based on feedback from impacted communities.

- Presentations at neighborhood association meetings, interest groups, community organizations or residential building meetings.
- Signage at public beaches, boat launches and other public locations from which RA can be observed.
- Direct outreach to unhoused community members living near RA areas and to the communication networks that serve unhoused community members.
- Developing a contact list that includes building managers, business owners, interested community members and others who would like to be notified via e-mail of upcoming activities.
- Sharing contact information for PPs in case of disturbances or urgent questions.
- Sharing information for the Portland Harbor Superfund Site Information and Complaint Hotline (PHSS Hotline), which is described in [Section 3.5.2](#) below.

3.5.2 Portland Harbor Superfund Site Information and Complaint Hotline

Past Superfund Site cleanups have demonstrated that hotlines are an effective way to recognize and work to address community impacts. The EPA plans to work with PPs to maintain the PHSS Hotline to address any community complaints or questions related to RA conducted at the Site. Note this hotline is not intended to replace normal emergency response actions for spills, leaks, collisions or roadway obstructions that occur on public roadways.

Information and Complaint Hotline Information

PPs will establish and maintain the PHSS Hotline, which will include a phone number and voicemail inbox, an e-mail address and an online form where complaints and information requests related to the Site can be made and tracked. Information about the PHSS hotline, hotline menu and online form will be translated into the most commonly spoken languages²⁸ in proximity to the PHSS.

Information and Complaint Hotline Monitoring and Reporting

Voicemail messages to the hotline will be monitored by PPs, with assistance from translation services as needed. In coordination with the EPA, PPs will be responsible for responding to hotline voicemails and e-mail messages within 24 hours, and this response time will be clearly communicated. Complaints will be reviewed and addressed by a combination of the EPA and PPs. The EPA will have access to incoming voicemail and e-mail messages in order to review, address and track incoming complaints. The EPA may alter its approach based on the volume of calls received.

²⁸ Per the Portland Harbor Community Involvement Plan, languages suggested for translation include Spanish, Chinese, Vietnamese, Russian, Somali, Arabic, Simplified Chinese and Traditional Chinese.

With PPs, the EPA plans to track calls and e-mails received, as well as how they were resolved, and other relevant data related to complaints (e.g., quantity of calls, subject of calls, etc.). The EPA will report information without identifying personal information to the CIMP Implementation Committee (CIMP Committee) to share publicly as a transparency measure and to keep the Portland Harbor community informed. More information about the CIMP Committee can be found in [Section 3.5.3](#). Personal information will only be tracked and shared to the extent necessary to address complaints and will adhere to [EPA's Privacy Policy](#).²⁹

Information and Complaint Hotline Outreach Strategy

The EPA and PPs may advertise the PHSS Hotline by taking the following actions:

- Create a panel to advertise at work areas along the Site with the phone number, e-mail address and a QR code to the EPA's PHSS Website.
- Share flyers with information about the PHSS Hotline and StoryMap in advance of remedial activities.

Coordination with Existing Hotlines

The EPA recognizes that work performed at the PHSS may increase the volume of calls received at existing hotlines in the region, and concerns about issues that are not related to the Portland Harbor cleanup may come into the PHSS Hotline. Accordingly, the EPA plans to redirect and receive redirected calls from the following entities to address and monitor complaints related to the cleanup:

- [The City of Portland Noise Program](#).³⁰
- [DEQ: File an Odor Complaint](#).³¹
- [The City of Portland Bureau of Environmental Services Pollution Control Hotline](#).³²
- [The City of Portland Bureau of Environmental Services Check the Rec: Willamette River Water Quality Testing](#).³³
- [PDX 311](#).³⁴
- [Oregon Health Authority Cyanobacteria Harmful Algae Bloom Program](#)³⁵
- Any local jurisdiction in which PPs are transloading contaminated sediments between trucks, rail and barges. These jurisdictions will be identified during RA.

²⁹ Link: <https://www.epa.gov/sites/default/files/2015-09/documents/2151.1.pdf>

³⁰ Link: <https://www.portland.gov/bds/noise>

³¹ Link: <https://www.oregon.gov/deq/Get-Involved/Pages/File-Pollution-Complaint.aspx>

³² Link: <https://www.portland.gov/bes/preventing-pollution/report-spill-or-pollution>

³³ Link: <https://www.portland.gov/bes/check-rec>

³⁴ Link: <https://www.portland.gov/311>

³⁵ Link: <https://www.oregon.gov/oha/ph/healthyenvironments/recreation/harmfulalgaeblooms/pages/program-information.aspx>

3.5.3 CIMP Implementation Committee

The EPA anticipates convening and facilitating a PHSS CIMP Committee whose purpose would be to provide public transparency and support for PP’s implementation of RA recommendations as outlined in the CIMP.

Committee membership will be comprised of individuals who have responsibility, accountability and community protection roles for the RA.

The CIMP Committee will be comprised of representatives from the EPA, DEQ, the City of Portland (the City), PPs actively engaged in RA and Multnomah County. The U.S. Coast Guard, Oregon Marine Board, the Harbor Master, Oregon Health Authority, the Oregon Department of State Lands (DSL), community group representatives, Tribal representatives, impacted business owners, labor representatives, and interested community members will also be invited to participate. If significant amounts of contaminated sediments are being transported through or to other communities, representatives from those jurisdictions will be invited to participate as well.

CIMP Committee Invitees

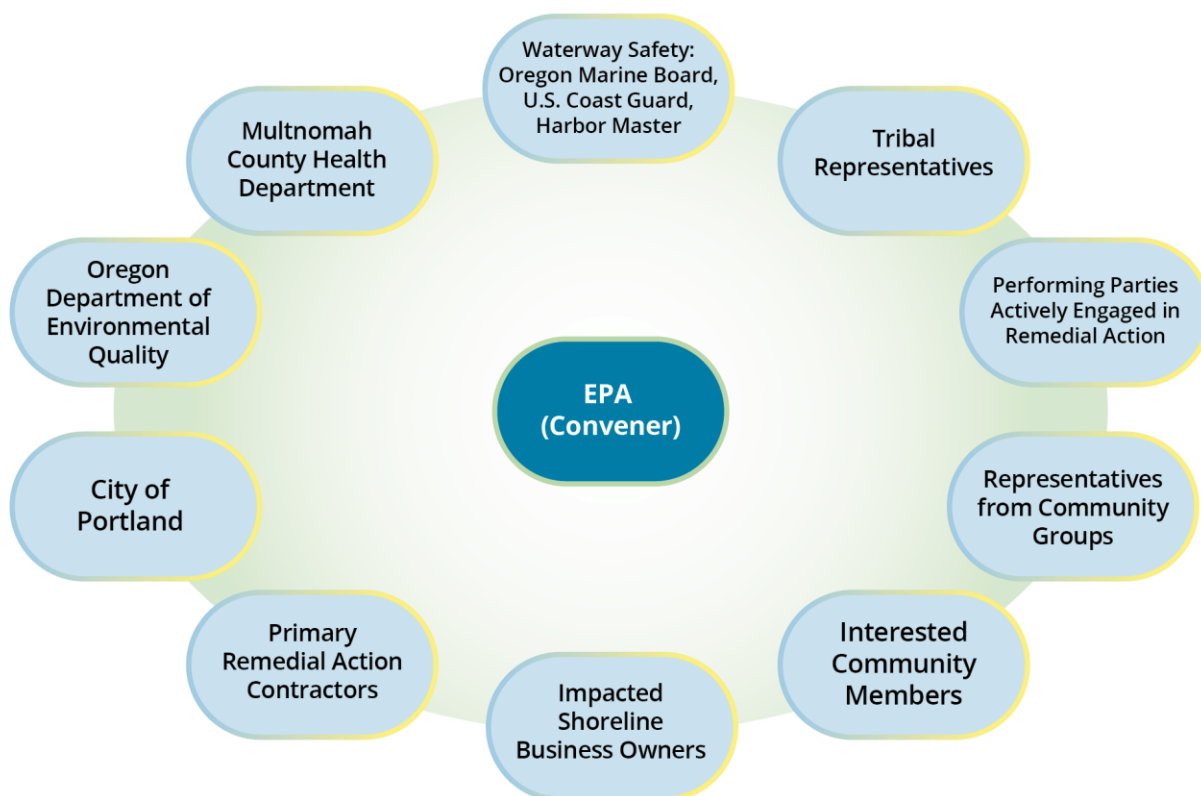


Figure 6 CIMP Committee Invitees

The CIMP Committee’s meeting frequency will align with the RA work windows, following the tentative schedule depicted in Figure 7. Additionally, there will likely be a kickoff meeting to occur at the beginning of RA, that will not be repeated in subsequent years.

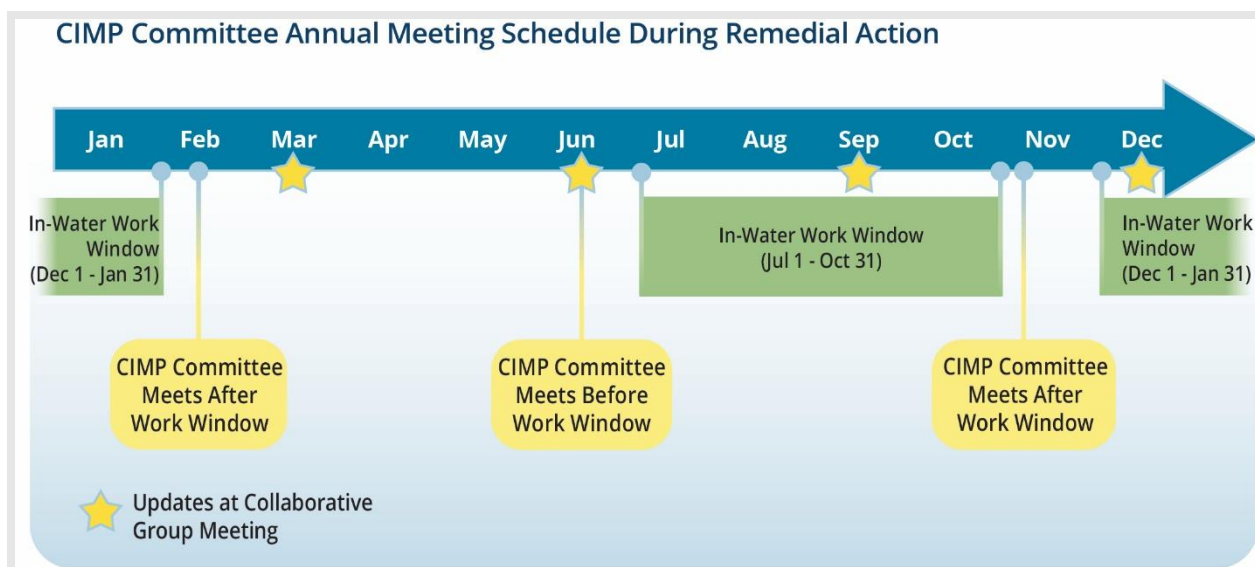


Figure 7 CIMP Committee Annual Meeting Schedule During Remedial Action

The CIMP Committee's proposed responsibilities are as follows:

- Learn about and provide feedback to PPs in the implementation of RA recommendations and communications outlined in this CIMP.
- Provide feedback on CIMP-required or CIMP-recommended plans (e.g., unhoused community communication plan, job plans, traffic plans, etc.). The EPA will consider this feedback in its approval of the plans.
- Review complaints from PHSS Hotline, looking for trends that could inform RA during future work windows. Individual complaints will be addressed directly by the EPA and PPs as they are received.
- Review status of RA recommendations and requirements.
- Approve meeting minutes for public distribution.
- Propose, review and track CIMP amendments or modifications.
- Present updates to the Portland Harbor Collaborative Group.

The CIMP Committee will be consulting on the Portland Harbor cleanup only and will not be setting policy.

The EPA plans to solidify CIMP Committee membership, recruitment, what reporting will look like, and other details as an addendum to the Collaborative Group charter before beginning RA. While the CIMP Committee will likely include members from the Collaborative Group, Collaborative Group membership will not be a prerequisite of becoming a part of the CIMP Committee. The EPA recognizes that participants in the CIMP Committee may have differing levels of engagement and will endeavor to structure the committee and meetings to use time efficiently. As PHSS moves through RA, EPA will continue to evaluate the best processes and organizational structure to complete the functions assigned to the CIMP Committee in this plan.



Portland Harbor Collaborative Group Meeting
Photo Source: Triangle Associates

3.5.4 Modifying the CIMP

The EPA anticipates the potential need to modify recommended and required practices in the CIMP based on lessons learned in the early stage of RA. These potential modifications may be identified by members of the CIMP Committee. Any changes to the CIMP will be made at the EPA's discretion in consultation with PPs, regulatory agencies and members of the CIMP Committee.

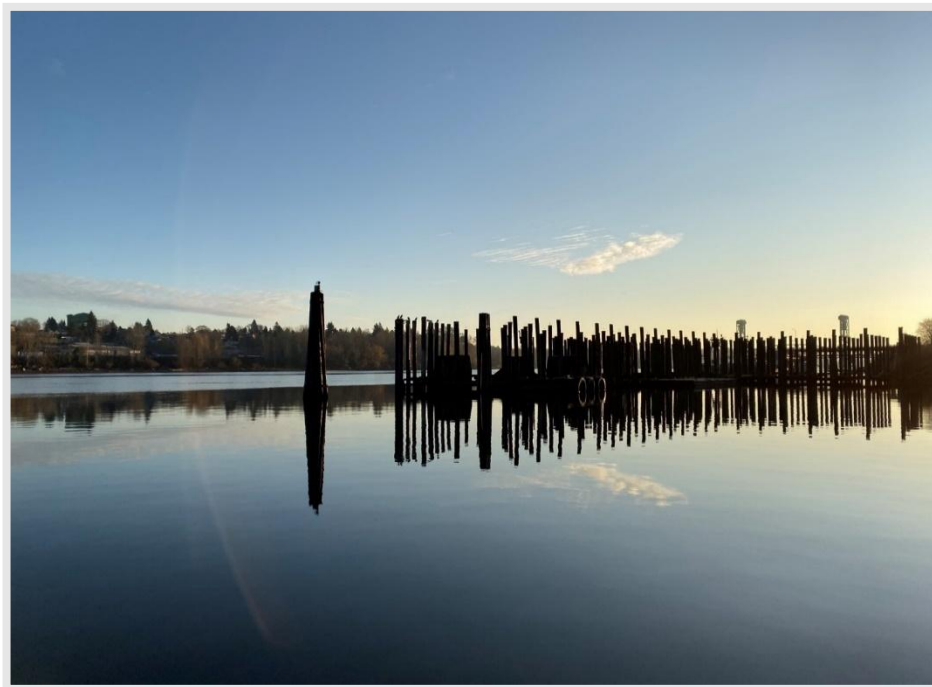
2. Addressing Community Impacts

This chapter covers potential community impacts and the RA requirements and recommendations identified to mitigate them. Each potential community impact may or may not apply to an individual work site; PPs and their contractors will work with the EPA while creating their site-specific plans to determine which impacts are relevant to the site for which they are completing remedial design and action. RA must comply with RA requirements, although EPA has the authority to approve exemptions to requirements on a case-by-case basis. Additionally, sites will vary in what recommendations are most appropriate and effective to adopt; PPs and their contractors will collaborate with the EPA on incorporating recommendations into their site-specific plans. The EPA will work with PPs and contractors to ensure that requirements and recommendations are met wherever possible.

For each potential community impact, the following subsections are covered:

- **Introduction** and explanation of anticipated community impact(s).
- **Summary of Input** documented during the outreach process (see Figure 5 in [Section 3.2](#) for information about who was consulted during this process).
- **Basis of RA Requirements and/or RA Recommendations**, reviewing the sources from which the RA requirements and/or RA recommendations are derived.
- **RA Requirements and/or RA Recommendations**, outlining actions and regulations used to mitigate community impacts.
- **Accountability and Communications**, providing monitoring expectations, potential corrective actions and/or other processes for accountability and reporting for the community.
- **Additional Resources**, documents and organizations in the Portland Metropolitan area and beyond that offer more information regarding the impact.

A table summarizing the RA requirements and recommendations that are most likely to be implemented and that represent the most critical elements of the CIMP is available in [Chapter 5](#).



U.S. Moorings

Photo Source: EPA

4.1 Noise

4.1.1 Introduction

Elevated noise levels may occur throughout the construction of the remedy due to the use of heavy equipment and diesel generators. Portland Harbor is a working commercial harbor, and the sound levels associated with RA will be similar to sound levels associated with typical harbor operations. However, this equipment will likely be operating 24 hours a day during construction.

The source of the loudest noise is anticipated to be driving sheet pile walls, but this will occur infrequently and over short durations. Each active work area is likely to have at least two barges, one dredge or excavator and a couple of smaller supporting boats.

During the removal of contaminated material and placement of clean material in targeted areas of the Willamette River, many of the associated activities may produce noise for nearby receptors. These activities include, but are not limited to, the following:

- Dredging.
- Cap placement.
- Shoreline-based excavation.

- Construction and operation of the sediment processing/transfer facilities and associated buildings, roads and parking lots.
- Dredged/excavated sediment processing (screening) and/or cap material amendment and backfill unloading, staging and loading.
- Transfer of processed materials to barge, truck, or railroad car.
- Booster pump operation along the river (if hydraulic dredging is used).
- Operation of barges/tugs.
- Traffic from construction-related trucks and streetsweepers.
- Operation of support vessels for monitoring and ferrying workers.
- Increased traffic in the project area from project workers commuting to and from work areas.

Noise (or unwanted sound pressure) is measured in decibels (dB). Noise is measured on a logarithmic scale (not linear). For every doubling of distance, the sound level reduces by 6 dB.³⁶ Noise levels expected at work areas are illustrated in the figure below.

³⁶ Acoustical Control Engineers & Consultants, How Sound Reduces with Distance from a Point Source, <https://www.acoustical.co.uk/distance-attenuation/how-sound-reduces-with-distance-from-a-point-source/>.

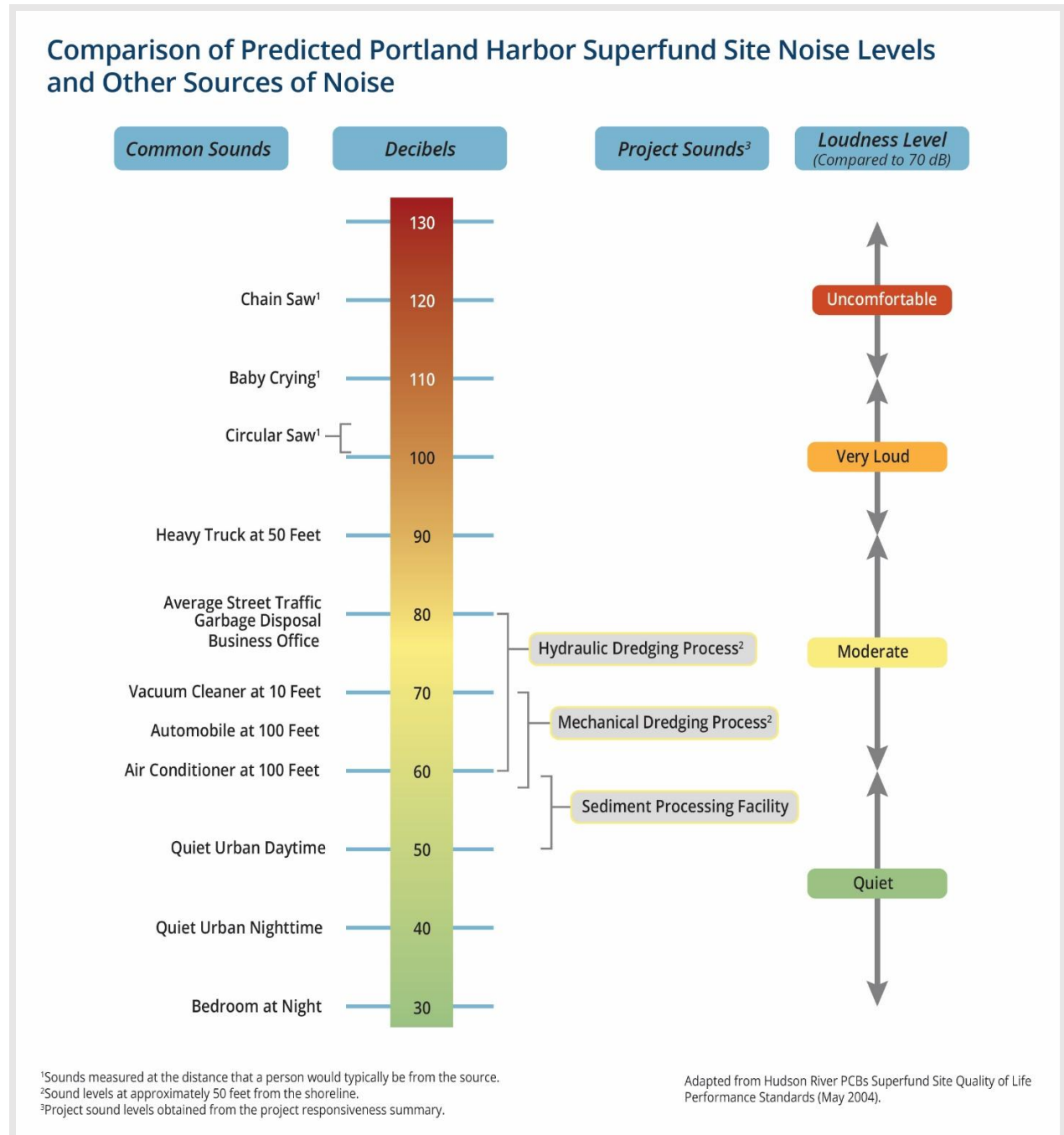


Figure 8 Comparison of Predicted Portland Harbor Superfund Site Noise Levels and Other Sources of Noise

4.1.2 Summary of Input on Noise

Elevated sound levels may result from increased traffic and equipment use. The following concerns were expressed regarding noise:

- Noise during evening and night hours may be disruptive to community members.
- Given existing sources of noise from industry, trains, the racetrack and freeways, there is concern about additional noise for residents.
- An increase in rail traffic from the remedy could increase noise pollution creating a nuisance to local communities, especially due to the lack of gates and barriers at the railroad crossings throughout the Linnton community, which requires trains to blow their horns when crossing the streets.
- Noise from dredging and operation of the materials processing/transfer facilities may disrupt local wildlife.
- Underwater sound from RA could cause disruption to fish.

4.1.3 Basis of RA Requirements and Recommendations

The noise regulations outlined in the City's regulations on construction noise will be the general performance measure against which noise complaints will be evaluated. Specifically, City Code Chapter 18.10.060 Construction Activities and Equipment outlines maximum noise levels permitted for construction activities. For more information, the City's regulations per Code section 18.10.060 are available [online](#).³⁷

The EPA recognizes the prescribed allowable decibel levels vary depending on land use zones in the City, and the Site covers a patchwork of land use areas, making it complicated for community members to compare their experience to the standards. The EPA encourages community members bothered by the noise to call the PHSS Hotline, and either the EPA or the PP will follow up. This direct approach will be more beneficial to the community as it allows flexibility to address specific nuisance noises.

The EPA is consulting with the National Marine Fishery Service on how to conduct RA in ways that minimize impacts to salmon. Minimizing sound is included in the Programmatic Biological Assessment, drafted by the EPA, and the Programmatic Biological Opinion response, drafted by the National Marine Fisheries Service (NMFS). Minimizing sound for salmon will benefit all animals living in the river.

Note: NMFS's Programmatic Biological Opinion is available at <https://semsub.epa.gov/work/10/100633042.pdf>.

4.1.4 RA Requirements and Recommendations

RA Requirements

The City of Portland's City Code, Title 18 Noise Control, will serve as the threshold to evaluate potential noise disturbances associated with the PHSS cleanup. Specifically, City Code Chapter

³⁷ Link: <https://www.portland.gov/code/18/10#toc--18-10-060-construction-activities-and-equipment->

18.10.060 Construction Activities and Equipment outlines maximum noise levels permitted for construction activities. Depending on the time and location, allowable noise ranges from 65-85 dB.³⁸

If noise levels regularly violate these levels and create a community nuisance, the EPA will work with the PP to modify their operation to minimize the nuisance to the extent possible.

The Portland Harbor Programmatic Biological Assessment and Biological Opinion include avoidance and minimization measures for reducing underwater noise impacts to endangered species. Measures may include restricting activities that generate underwater noise to occur only during a fish window and using technologies such as vibratory hammers rather than impact hammers to reduce noise. PP actions are required to follow the terms and conditions of the Biological Opinion.

RA Recommendations

RA recommendations PPs should consider to minimize noise impacts are as follows:

- Adjust work hours for the loudest anticipated activities. For example, driving sheet pile only between the hours of 8am – 6pm.³⁹
- Conduct outreach to communities that may hear the RA, so community members know what is making the sound. The EPA recommends that outreach include residences and businesses within 1,000 feet and along haul routes that don't typically receive commercial truck traffic. Depending on the specific work area, outreach may include visiting businesses, schools, neighborhood associations, residential buildings, houses, unhoused communities, etc. Consider 1,000 feet a minimum and determine whether outreach to people farther away is warranted. The EPA recommends PPs include the following information in their outreach:
 - Location.
 - Duration/Time.
 - Body of work.
 - Expected timing and duration of especially loud work.
 - PHSS Hotline information and a direct phone number to the work area for immediate concerns.
- Operate lower-noise equipment as practicable.
- Do not locate high-noise operations immediately adjacent to residences, businesses and parks as practicable.

³⁸ As measured by a fast dBA instantaneous measurement protocol

³⁹ Unless there are extenuating circumstances, the EPA will only approve work plans that are in alignment with the City of Portland's noise ordinance hours. If extenuating circumstances do occur, PPs will be responsible for communicating plans to the local community.

4.1.5 Accountability and Communications

Compliance with RA recommendations addressing noise will be evaluated by the EPA via complaint-based follow-up. Complaints can be made to the PHSS Hotline described in [Chapter 3](#).

Additionally, the EPA and the PPs will coordinate with the City of Portland's Noise Program to ensure complaints related to RA are redirected to the PHSS Hotline. For more information about the EPA's communication plans, see [Chapter 3](#).

The EPA anticipates noise created by RA will be comparable to other industrial noise that is currently present at the work areas. However, should noise become a persistent concern the EPA recommends PPs implement operational modifications including to further adjust work hours for the loudest activities, reduce vehicle speeds and/or conduct additional outreach to sensitive communities. If a PP does not modify operations appropriately, the EPA will consult the expertise of the City of Portland to address the issue with the PP effectively.

4.1.6 Additional Resources

Resources on noise regulations and monitoring for community members and other interested groups can be found below:

- [The City of Portland Construction Noise Regulations](#).⁴⁰
- [NIOSH Sound Level Meter App](#)⁴¹ is recommended for individual use if people are interested in knowing the approximate decibels they are experiencing in the moment.
- [City of Portland Noise Complaints Map](#).⁴²
- [Portland Noise Office Website](#).⁴³

4.2 Light

4.2.1 Introduction

RA work will likely occur 24 hours per day; therefore, artificial light will be necessary to illuminate work areas during active construction. Lighting will also be needed on project vessels to ensure their safe passage and provide safe working conditions. This artificial light may impact surrounding communities.

During nighttime dredging operations, lighting will be needed for vessel navigation, to illuminate the decks and railings of work equipment and to provide interior lighting for operating control areas. Worker safety will require lighting during nighttime operations at

⁴⁰ Link: <https://www.portland.gov/bds/noise/documents/construction-noise-regulations/download>

⁴¹ Link: https://www.cdc.gov/niosh/noise/about/app.html?CDC_AAref_Val=https://www.cdc.gov/niosh/topics/noise/app.html

⁴² Link: <https://pdx.maps.arcgis.com/apps/webappviewer/index.html?id=9ca4c3011210446f911c6e60eb149bac>

⁴³ Link: <http://www.portlandoregon.gov/oni/noise>

materials processing/transfer facilities, including the dock area, rail yards, staging areas, administrative buildings, parking lots and roads.

Artificial light is increasingly recognized as a hazard for both humans and wildlife. Light pollution has been shown to impact the circadian rhythm of birds, fish, mammals and plants.⁴⁴

Unwanted light in the nighttime environment is a growing concern and can take the form of sky glow, light trespass and glare.

- Glare is the sensation produced by luminance within the visual field that is sufficiently greater than the luminance to which the eyes are adapted, causing annoyance, discomfort, or loss in visual performance and visibility.
- Light trespass effects are caused by light that strays from the intended purpose and becomes an annoyance, a nuisance, or detrimental to visual performance.
- Sky glow is the brightening of the night sky that results from the reflection of radiation (visible and non-visible) scattered from the constituents of the atmosphere (gaseous molecules, aerosols and particulate matter) in the direction of the observer.⁴⁵

In general, cleanup at the PHSS should be accomplished with minimal adverse impacts caused by lighting used for the operation. However, certain unique situations where light is a problem may be encountered during the project and will be handled on a case-by-case basis.

Positioning of lights, brightness and direction are key factors in minimizing the potential for off-site impacts. While nighttime lighting requirements for the proposed work shall conform to established industry safety standards, the use of high-mast lighting systems that can increase the potential for lighting impacts at removal sites and at the materials processing/transfer facilities should be avoided if possible.

4.2.2 Summary of Input on Light

The following concerns were shared regarding impacts related to light:

- Lighting may be disruptive to people in communities local to the RA work.
- Lighting may adversely affect local wildlife.
 - The fall migration begins before the summer work window ends, so construction lighting may adversely impact migrating birds.

4.2.3 Basis of RA Recommendations

Lighting best practices were developed based on existing federal, state and local recommendations and available literature pertaining to lighting. The EPA also met with Willamette Riverkeeper, Oregon Department of Fish and Wildlife, the U.S. Coast Guard (USCG) and other experts (described in [Chapter 3](#)) to gather feedback and information about

⁴⁴ Bird Alliance of Oregon, Resource Guide for Bird-friendly Building Design, <https://birdallianceoregon.org/wp-content/uploads/2019/08/Resource-Guide-for-Bird-safe-Building-Design.pdf>

⁴⁵ Hudson River PCBs Superfund Site, Draft Quality of Life Performance Standards, https://www.epa.gov/sites/default/files/2020-04/documents/final_quality_of_life.pdf

requirements, concerns and solutions for potential impacts related to light at night. Resources used to develop this section include:

- Resource Guide for Bird-friendly Building Design (Oregon Bird Alliance, American Bird Conservancy, The City of Portland, U.S. Fish and Wildlife Service and Together Green).
- Dark Skies: Strategies for Reducing Light Pollution in Portland (Bureau of Planning and Sustainability, City of Portland).

Proper siting and careful layout of land-based operations should effectively limit any lighting nuisance to the local community. It should be noted that preventing a lighting nuisance will not supersede worker health and safety lighting requirements established by Occupational Safety and Health Administration (OSHA).⁴⁶

4.2.4 RA Requirements and Recommendations

RA Requirements

There are no RA requirements related to light.

RA Recommendations

The EPA recommends PPs consider the following actions to minimize potential impacts related to light at night:

- Use shielding to direct light needed for nighttime work to only the work area and away from residential properties.
- Position lights to direct light and reflections away from residential properties and other sensitive uses (such as vehicle bridges).
- Minimize any trespass light from on-water operations to riverbank and upland areas.
- Consider the color of light they use depending on work surroundings. Blue and green light are less impactful to birds, insects and bats. Warmer lights (yellow, orange, red) with longer wavelengths are less impactful to people.
- Use of low- or high-pressure-sodium (LPS and HPS) or metal-halide lamps with wattages that do not cause over lighting.

4.2.5 Accountability and Communications

The EPA will verify that light shielding is included in the project specifications and conduct site visits at night. The EPA will also monitor compliance by complaint-based follow-up. See [Chapter 3](#) for more information about the PHSS Hotline.

⁴⁶ Occupational Safety and Health Administration, Law and Regulations, <https://www.osha.gov/laws-regs>

4.2.6 Additional Resources

- [Resource Guide for Bird-friendly Building Design](#)⁴⁷ (Audubon Society of Portland, American Bird Conservancy, The City of Portland, U.S. Fish and Wildlife Service and Together Green).
- [Dark Skies: Strategies for Reducing Light Pollution in Portland \(Bureau of Planning and Sustainability, City of Portland\)](#).⁴⁸
- Oregon OSHA Occupational Health and Environmental Controls, [Subdivision D, D-16 Illumination](#).⁴⁹

4.3 Water Quality

4.3.1 Introduction

RA in the Lower Willamette River may temporarily increase the amount of turbidity and mobilize contaminants in the water in proximity to dredging and capping.

Water quality is a parameter that will be closely monitored and regulated by the EPA during construction because it is an indicator of whether contaminants are spreading beyond the RA area footprint or into the water column. Preventing the mobilization of contaminants during construction is critical to the success of the remedy and protection of fish. PPs will be required to conduct robust water quality monitoring throughout RA in accordance with the [Portland Harbor Water Quality Monitoring Plan Template, Revision 1](#)⁵⁰ (dated January 3, 2024) and work area-specific monitoring plans.

4.3.2 Summary of Input on Water Quality

Various water quality impacts may be associated with remedial activities, such as impacts to turbidity, dissolved oxygen, pH, temperature and mobilization of contaminants. The following concerns have been raised regarding water quality:

- Remedial activities may impact water quality above ambient water quality standards, notably turbidity, if sediments are kicked up.
- Contamination could enter the water column during these activities.

4.3.3 Basis of RA Requirements and Recommendations

RA must be in substantial compliance with the Clean Water Act (CWA), Oregon's Water Pollution Control Act and the Endangered Species Act (ESA). The EPA has a long and effective history of managing temporary water quality impacts by developing water quality criteria that PPs are required to meet during RA. These criteria are based on federal and state water quality standards, regulations and field experience.

⁴⁷ Link: <https://birdallianceoregon.org/wp-content/uploads/2019/08/Resource-Guide-for-Bird-safe-Building-Design.pdf>

⁴⁸ Link: <https://efiles.portlandoregon.gov/Record/13920774/File/Document>

⁴⁹ Link: <https://osha.oregon.gov/OSHArules/div3/div3D.pdf#1926-56>

⁵⁰ Link: <https://semspub.epa.gov/work/10/100545052.pdf>

4.3.4 RA Requirements and Recommendations

RA Requirements

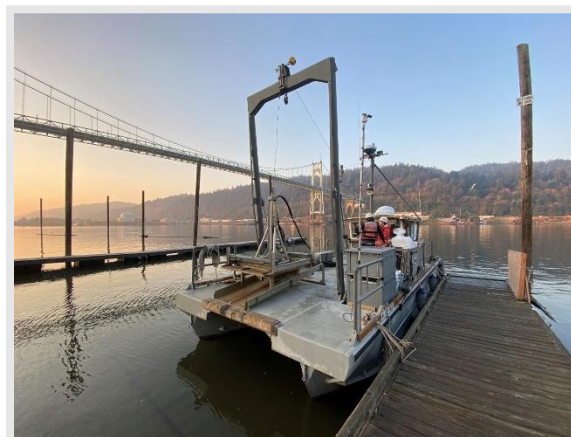
The EPA will oversee parties performing the RA to ensure all reasonable steps are taken to minimize negative water quality impacts. These steps may include and are not limited to:

- Installing silt curtains and other floating barriers or isolation walls around construction activity.
- Pacing the removal (dredging/excavation) activities to minimize turbidity throughout the project.
- Modifying construction activities if water quality monitoring shows ongoing exceedances of acute water quality standards due to construction activities.⁵¹

In addition, PPs are required to meet the terms and conditions of the Programmatic Biological Opinion which includes best management practices to protect salmon for all proposed remedial activities.

Note: NMFS's Programmatic Biological Opinion is available at <https://semspub.epa.gov/work/10/100633042.pdf>.

Parties will monitor water quality during construction to demonstrate that protective measures are effective, and their operations substantively comply with the CWA and Oregon water quality law and regulations. During construction, water quality must be monitored to ensure contaminant concentrations stay below acute water quality standards. Parties will monitor turbidity, dissolved oxygen and pH at a minimum for the duration of their in-water activities. At the beginning of construction and whenever turbidity exceeds a set threshold, PPs will take water samples for work area-specific contaminants that may mobilize into the water column. These contaminants may include PCBs, PAHs, dioxin/furans, pesticides, metals, volatile organic compounds and/or semi-volatile organic compounds.



Marine Sampling Systems, LCC Vessel
Photo Source: EPA

RA Recommendations

There are no RA Recommendations for water quality.

⁵¹ Potential modifications may include changing the type of equipment used, slowing down the pace of work, and implementing additional turbidity controls.

4.3.5 Accountability and Communications

Accountability will be handled as part of construction oversight.

- PPs will develop a Water Quality Monitoring Plan (WQMP) that meets substantive requirements of the CWA and DEQ's 401 Certification. Plans will follow the EPA's [Water Quality Monitoring Plan Template for the PHSS](#)⁵² and will be submitted for the EPA's review and approval. The approved plan will be implemented during construction. The WQMP will require water quality monitoring and describes best management practices or controls that will be implemented and triggers for requiring additional controls.
- PPs will be expected to submit a summary of water quality monitoring results to the EPA on a weekly basis. Water quality exceedances of acute standards, observations of oil/sheen or distressed/dead fish will be reported to the EPA daily.
- The EPA will provide an overview of water quality monitoring results as part of general site updates to the CIMP Committee and the Portland Harbor Collaborative Group as requested.

4.3.6 Additional Resources

- [Oregon Water Quality Standards](#).⁵³
- [Clean Water Act Section 401 Water Quality Certification Improvement Rule September 2023 Overview Fact Sheet](#).⁵⁴
- [U.S. EPA Overview of Clean Water Act Section 401 Certification Website](#).⁵⁵

4.4 Navigation Safety

4.4.1 Introduction

Remedial activities occurring in the waterway may obstruct other river users. Each work area is likely to have barges with heavy equipment, such as cranes and excavators and smaller supporting boats. This equipment is likely to be operating 24 hours a day. Most of this activity will take place near shore, outside of the navigation channel, although some dredging will be done in the navigation channel. RA is not anticipated to block the entire width of the navigation channel and will be intentionally configured and sequenced such that commercial vessel and emergency response traffic can pass.

4.4.2 Summary of Input on Navigation Safety

The following concerns have been expressed regarding navigation:

- RA-generated traffic may interfere with the Harbor Master's ability to serve the public with its water-based emergency services.

⁵² Link: <https://semspub.epa.gov/work/10/100545052.pdf>

⁵³ Link: <https://www.oregon.gov/deq/wq/pages/wq-standards.aspx>

⁵⁴ Link: https://www.epa.gov/system/files/documents/2023-09/Overview%20Fact%20Sheet%20on%20the%20Final%202023%20Rule_508.pdf

⁵⁵ Link: <https://www.epa.gov/cwa-401/overview-cwa-section-401-certification>

4.4.3 Basis of RA Requirements and Recommendations

In developing these recommendations, the EPA consulted the USCG, the Oregon Marine Board (OMB) and Portland's Harbor Master. Because the work is not expected to fully obstruct commercial or recreational traffic, standard navigation safety practices will be adequate. During RA, all appropriate federal and state navigation laws will be complied with, including the Inland Navigation Rules, Code of Federal Regulations (CFR) 33 Subchapter E for navigation and establishing a temporary safety zone. The actions in the following section will include these requirements and additional recommended practices.

Although the EPA anticipates that some public boat ramps will be used to support remedial activities, this is unlikely to cause navigation safety concerns as boat operators will be licensed professionals. Additional discussion of impacts on recreational use is available in [Section 4.5](#).

4.4.4 RA Requirements and Recommendations

RA Requirements

Practices required by the USCG relevant to anticipated RA include the following:

- PPs must coordinate with USCG Sector Columbia River Waterways Management about any in-water RA work a minimum of 6 months in advance to determine if a Temporary Safety Zone should be established and to plan for a Notice to Mariners once the work commences. PPs should use the following email address to contact Sector Columbia River's Waterway Management Branch for coordination: SCRWWM@uscg.mil.
- PPs must notify the Harbor Master prior to beginning work. The Harbor Master will need to know:
 - Location, description and timing of the activity.
 - Contact info (both on-site manager and project manager), including:
 - Name.
 - Role.
 - Mobile phone number.
 - VHF channel.
 - Any temporary use restrictions during activity (e.g., silt curtains, no wake zones).
- PPs must follow all applicable navigation safety requirements including marker buoys, light, signs and other measures that enhance visibility as appropriate when completing in-water RA.

RA Recommendations

In addition to the requirements from the USCG and Harbor Master, the EPA recommends PPs consider the following practices:

- Travel at a slow speed in the river.
- Coordinate with nearby businesses that have on-water activities to establish a line of communication and minimize the risk of accidents.

- The EPA should communicate with agencies such as the Oregon Department of State Lands, Portland Parks and Recreation and Metro about how in-water work may affect navigation and in-water recreation. See [Section 4.5](#) on Recreation for more information.

4.4.5 Accountability and Communications

To ensure accountability to and continued communication with the community on this impact, the following measures should be put into place:

- The project will rely on existing communication channels maintained by USCG and OSMB to spread awareness of on-water activities and temporary safety zones to local mariners.
- The EPA will communicate with USCG, OSMB and the Harbor Master so they can flag any concerns about navigation safety during RA.
- The EPA will continue to solicit feedback and recommendations from members of the Portland Harbor Superfund Site Collaborative Group.
- The EPA will monitor information from the PHSS Hotline.
- The EPA will invite representatives from Sector Columbia River Waterways Management, OSMB and the Harbor Master to participate in the CIMP Committee.

4.4.6 Additional Resources

To learn more about navigation safety in the Lower Willamette River, see the following organizations:

- [Oregon Marine Board: Boater Info](#).⁵⁶
- [Oregon Marine Board: Lower Willamette River Rules for Boat Operation](#).⁵⁷
- [Oregon Marine Board: Boating Obstructions Dashboard](#).⁵⁸
- [U.S. Coast Guard, District 13, Local Notices to Mariners](#).⁵⁹
- [Transportation System Plan, City of Portland](#).⁶⁰

4.5 Recreation

4.5.1 Introduction

The Lower Willamette River is a place of in-water and shoreline recreation such as boating, kayaking, swimming, wildlife viewing, beach-going, recreational fishing, walking and biking. There are several shoreline recreation areas that may be impacted by RA, most notably Cathedral Park, a popular waterfront park in North Portland where community events are frequently held.

⁵⁶ Link: <https://www.oregon.gov/osmb/boater-info/pages/boater%20info%20home.aspx>

⁵⁷ Link: <https://www.oregon.gov/osmb/boater-info/Pages/Lower-Willamette-River-Rules.aspx>

⁵⁸ Link: <https://oregon-boating-obstructions-geo.hub.arcgis.com/apps/59f4dfde321f447b9245a1451c83e054/explore>

⁵⁹ Link: <https://www.navcen.uscg.gov/local-notice-to-mariners?district=13+0&subdistrict=n>

⁶⁰ Link: <https://www.portland.gov/transportation/planning/tsp>

4.5.2 Summary of Input on Recreation

Members of the public identified the following concerns regarding recreation:

- Terrestrial activities, such as walking, biking and hiking, may be impacted by construction traffic or barriers.
- Access to public green spaces may be temporarily limited by construction activities.
- In-water activities, such as kayaking, canoeing, boating, fishing and swimming, may be temporarily blocked by RA in established work zones for safety reasons.
- Recreational boaters may get too close to cleanup operations and create a safety hazard for themselves or cleanup workers.
- RA-generated traffic, including vessel traffic, could disrupt community, business and recreational access to the Willamette River. Specific concerns surrounded boat ramp access and access for crew teams.
- RA-generated vessel traffic may require clear communication with recreationalists and other river users.

4.5.3 Basis of RA Recommendations

Impacts and RA recommendations discussed in this section are intended for areas where there are public access points.

In addressing these impacts, it is important to note that the footprint of remedial activities will primarily be in-water or on private property and take place in discrete areas. The EPA anticipates 3 to 5 active work areas at any one time, leaving the majority of Portland Harbor open to in-water recreational uses.

Recreational boaters will need to avoid remedial work areas, but ample non-remedial work areas will remain available for recreating. Fishing and boating will be able to continue anywhere in the Lower Willamette River that does not have active capping or dredging operations.

The Cathedral Park boat launch may be used regularly as an access point for in-water RA, in addition to other public boat launches (see the City of Portland's [Website](#)⁶¹ for information about public docks and boat ramps). The EPA will monitor congestion at the Cathedral Park boat launch during RA and take mitigating actions if necessary.

4.5.4 RA Requirements and Recommendations

RA Requirements

Practices required by the Portland Parks and Recreation relevant to anticipated RA include the following:

- Any party accessing Portland Parks and Recreation property for work-related purposes will need to have an access agreement.

⁶¹ Link: <https://www.portland.gov/parks/docks>

RA Recommendations

The EPA recommends PPs consider the following practices to mitigate impacts to recreation caused by RA:

- The EPA will coordinate closely with Portland Parks and Recreation, the Harbor Master and OSMB to ensure they are aware of planned on-water activities and can communicate with interested parties. More information on navigation safety is available in [Section 4.4](#).
- If deemed beneficial, coordinate directly with Portland Parks and Recreation and Metro. This detailed coordination may be helpful if the RA is going to directly impact public recreation.
- During RA, reach out to known parties that have regularly scheduled in-water activities, such as University of Portland's rowing team, to provide written information in plain language about how their activities are expected to be impacted. A point of contact for the relevant PP should be provided so that the affected party and the PP can maintain direct communication.
- Minimize barriers to the ongoing uses of public parks to the extent practicable. This may include configuring construction equipment to keep pathways clear or considering community events when scheduling work that requires limiting public access.
- If a recreation area must be closed to the public, clearly post signage at the location, that explains the Site closure, provides the PHSS Hotline number and refers the public to a comparable alternate location that is accessible through public transportation. Translate signage into the languages prevalent in the community.
- If a recreation area is open to the public and will be impacted by RA, post current information on the work area's public website that provides a description of changes to site access and recreation opportunities, information on the RA, the PHSS Hotline number and directions on how to access a comparable alternate location that is accessible by public transportation. Information may be shared on additional communication channels as recommended by Portland Parks and Recreation.
- Establishing a visible perimeter around their work area to prevent recreational boaters from coming too close to ongoing operations.

4.5.5 Accountability and Communications

To ensure accountability and continued communication with the community on this impact, the following measures should be put into place:

- The EPA will continue to solicit feedback and recommendations from members of the Portland Harbor Collaborative Group who have affiliations with local neighborhood associations and recreation groups.

- The EPA will coordinate closely with Portland Parks and Recreation and Metro to ensure they have ample notice of any impact to public recreation areas and can assist with communication to the public.
- The EPA will be available to provide short presentations on RA during regularly scheduled meet-ups of recreational groups, if requested.
- The EPA will monitor information from the PHSS Hotline.

4.5.6 Additional Resources

To learn more about outdoor recreation opportunities in the Portland Metropolitan Area, see the following organizations:

- [Metro: Metro parks and natural areas](#).⁶²
- [Oregon State Parks: Find a Park](#).⁶³
- [Portland Parks and Recreation: Find a park](#).⁶⁴
- [Urban Nature Partners PDX](#).⁶⁵
- [Wild Diversity](#).⁶⁶

4.6 Resident Fish Consumption

4.6.1 Introduction

Fish and shellfish from the Willamette River have been a key source of sustenance for all of human history in this area. Many local people fish on the Willamette, including Tribal, migrant and immigrant communities. The Oregon Health Authority (OHA) issued [a Fish Advisory](#)⁶⁷ for the Lower Willamette River in 2018 that recommends limited servings of resident fish and shellfish. Once RA begins, OHA has indicated that the Fish Advisory will be updated to recommend that people not eat any resident fish. After remedial construction is complete, new fish tissue concentrations will be measured and OHA will develop a new fish consumption advisory.

Multnomah County Public Health has been conducting the Fish Advisory Education and Outreach Program for six years. The first five years were funded by the City of Portland, the State of Oregon and the Port of Portland. The County's work is now under a cooperative agreement with EPA. During RA, PPs will fund the county to continue the program. It serves as the mitigation measure for impacts to fishers and their families in the Lower Willamette River before, during and after RA. More information on the Fish Advisory Education and Outreach

⁶² Link: <https://www.oregonmetro.gov/metro-parks-and-natural-areas>

⁶³ Link: <https://stateparks.oregon.gov/index.cfm?do=visit.find>

⁶⁴ Link: <https://www.portland.gov/parks>

⁶⁵ Link: <https://urban-nature-partners.org/about/>

⁶⁶ Link: <https://wilddiversity.com/>

⁶⁷ Link: <https://www.oregon.gov/oha/ph/healthyenvironments/recreation/fishconsumption/pages/lower-willamette-fish-advisory.aspx>

Program implemented by the Multnomah County Health Department can be found in the [Portland Harbor Programmatic Institutional Control Plan](#).⁶⁸

Once RA begins, Multnomah County Health Department will promote broad awareness of the updated recommendation to eat zero resident fish/shellfish from the Lower Willamette River. The target audience is fishers and people who eat fish from the Lower Willamette River.

The Multnomah County Health Department will rely on Environmental Health's Senior Program Specialist, Program Specialist, communications staff and locally trained community health workers to implement this outreach and engagement plan beginning just prior to RA and on an ongoing basis throughout the cleanup. For more information, including provision of translation services and a timeline of the outreach, please contact Multnomah County's Fish Advisory Education and Outreach Program through their Healthy Homes and Communities team at healthyhomes@multco.us.

The Fish Advisory is not created, issued, nor maintained by EPA and is summarized and addressed in this document as a mitigation measure.

4.6.2 Summary of Input on Resident Fish Consumption

The following concerns were identified regarding fish consumption:

- Fish and shellfish advisories could negatively impact Tribal communities. ***(Tribal concern noted in 2020 EPA Portland Harbor Community Involvement Plan)***.
- Guidelines on fish consumption of resident species going to zero during the cleanup's RA phase may not be clear enough to the public.
- There may not currently be sufficient data to know how and to what extent these guidelines affect local communities.
- Tailored and/or culturally specific outreach will need to be conducted to educate impacted communities about fish consumption guidelines.
- Individuals fishing on the Willamette may not have access to an alternate source for high-nutrient food.
- New or expectant mothers and the babies they breastfeed are especially vulnerable to contaminated fish.

4.6.3 Basis of RA Recommendations

In developing the following recommended practices, the EPA coordinated with the Portland Harbor Community Coalition and Multnomah County Health Department. The primary mitigation action for the changed fish consumption advisory will be the continued implementation of Multnomah County's Fish Advisory Education and Outreach Program.

4.6.4 RA Requirements and Recommendations

RA Requirements

⁶⁸ Link: <https://semspub.epa.gov/work/10/100420101.pdf>

There are no RA requirements for resident fish consumption.

RA Recommendations

The EPA recommends PP consider the following practices to complement the ongoing Fish Advisory Education and Outreach Program at the PHSS:

- Refer individuals impacted by the Fish Advisory to Multnomah County Health Department for more information.
- To minimize confusion, only disseminate information regarding the Fish Advisory to the public that has been approved by Multnomah County Health Department.
- If asked, refer individuals impacted by the Fish Advisory to the Multnomah County Health Department for more information. The program can be reached through their Healthy Homes and Communities Team at healthyhomes@multco.us.
- Work with the Multnomah County Health Department to determine the best placement for Fish Advisory signage as needed at work areas.
- Notify the EPA and Multnomah County Health Department if there is frequent fishing at their work area so the Multnomah County Health Department can conduct outreach.

4.6.5 Accountability and Communications

To ensure accountability and continued communication with the community on the Fish Advisory, the following measures will be put into place:

- The EPA will review the ongoing Fish Advisory Education and Outreach Program assessment and improvement as part of the cooperative agreement. Multnomah County intends to receive a third-party evaluation of the program's effectiveness.
- Multnomah County Health Department will join the CIMP Committee.
- The EPA will invite the Multnomah County Health Department to provide updates on the Fish Advisory Education and Outreach Program at Portland Harbor Collaborative Group meetings. (Note: all Collaborative meetings are open to the public.)
- The EPA will continue to solicit direct feedback and recommendations from Tribal representatives of the Technical Coordinating Team (TCT) and members of the Portland Harbor Collaborative Group who have affiliations with the communities most affected by the Fish Advisory. The EPA will provide feedback to the Multnomah County Health Department.

4.6.6 Additional Resources

To learn more about the current Fish Advisory and to connect with the agencies involved, see below:

- [Oregon Health Authority: Fish and Shellfish Consumption](https://www.oregon.gov/oha/ph/healthyenvironments/recreation/fishconsumption/pages/fishadvisories.aspx).⁶⁹

⁶⁹ Link:

<https://www.oregon.gov/oha/ph/healthyenvironments/recreation/fishconsumption/pages/fishadvisories.aspx>

- [Multnomah County Health Department: Eating Fish from the River](https://www.multco.us/environmental-health-hazards/eating-fish-river).⁷⁰

4.7 Job Creation and Loss

4.7.1 Introduction

Portland Harbor is a major economic hub for the Portland Metropolitan Area. Given the scale of RA at the PHSS, employment at the businesses surrounding the Site and on RA work itself is often cited as a focus for both the businesses and communities in the area.

Concerns regarding job creation and loss have been consolidated into the three following categories that this section will address:

- Job training.
- Loss of business and jobs.
- Hiring practices and access to remediation-related jobs.

Each of these impact categories will be addressed separately according to what is most appropriate for that concern. Information regarding each category's accountability and communications will be included later in this section.

The following actions will take place to follow through on EPA's commitment to providing job training to the regional communities surrounding the PHSS Site:

- The EPA will implement the [SuperJTI](https://www.epa.gov/superfund/learn-about-superfund-job-training-initiative)⁷¹ at the Site. Additionally, the EPA will coordinate with other regional workforce development efforts to increase the likelihood that community members trained for the Site cleanup will be equipped to continue work on important regional infrastructure projects.
- The EPA will outline its job training program for the Site separately from the CIMP, and will include the program's timing, trainings that will be included and coordination efforts with other workforce development efforts in the area.
- The EPA will focus SuperJTI outreach on local community members, especially those most impacted by remedial activities.

Loss of business and jobs at PHSS and how it will be minimized is addressed below:

- Construction of the remedy may temporarily disrupt some waterfront businesses and may require temporary relocation or may result in temporary or permanent loss of some work and associated jobs. Remedial designs will incorporate measures to minimize these negative impacts and disruptions.
- The parties designing the remedy are coordinating directly with waterfront business owners to minimize disruption and plan a remedy that allows for future planned commercial use of the waterfront balanced with healthy habitat and recreational use.

⁷⁰ Link: <https://www.multco.us/environmental-health-hazards/eating-fish-river>

⁷¹ Link: <https://www.epa.gov/superfund/learn-about-superfund-job-training-initiative>

That coordination is happening within the remedial design process and will continue with coordination during RA.

Concerns related to hiring practices and access to remediation-related jobs will be addressed by recommended practices within this document as well as referenced community workforce agreements. The EPA does not have the authority to mandate that PPs use specific hiring or contracting conditions but is very supportive of PPs who engage in hiring practices that benefit local community members who have been impacted by the Site. The EPA would consider issuing a ‘Certificate of Collaboration’ in conjunction with the CIMP Committee at EPA’s discretion. This Certificate of Collaboration will be a public recognition issued by the EPA noting the positive practices utilized by the PPs receiving the certificate. The certificate will acknowledge and commend the additional work that the recipient has done by implementing the recommendations.

4.7.2 Summary of Input on Job Creation and Loss

A project of this scale will impact the local job market. The community has provided feedback on the following topics related to employment:

- Increased traffic in the area may provide a larger market for local businesses and bolster the local economy.
- More jobs in remediation work may be available for local community members and workers.
- Training opportunities, apprenticeships and internships may become available for community members to learn about Superfund Sites and remediation work.
- Employment and professional training opportunities will need to be made available for local community groups. These opportunities must prioritize the local communities that have been negatively impacted by the Site.
- Construction of the remedy will cause business disruption. Shoreline operations will likely need to be temporarily relocated or suspended when relocation is not an option to allow dredging, capping and dock/wharf work to occur. Remedial designs will incorporate measures to minimize disruptions to shoreline operations and associated job impacts. This work will span one or two in-water work windows at any one location. If business operations are suspended or relocated to a place outside of Portland Metro commute area for that period of time, the jobs associated with those operations are likely to be temporarily suspended as a result of the Portland Harbor cleanup. This temporary suspension may result in a loss of market share. Remedial designs will incorporate measures to minimize disruptions to shoreline operations and associated job impacts.

4.7.3 Basis of RA Recommendations

The EPA consulted with shoreline business owners and local organizations including the Portland Harbor Community Coalition, the Portland Business Development Board and 701 Operators Union, as well as local agencies, including the City of Portland and Metro, to develop recommended RA practices.

4.7.4 RA Requirements and Recommendations

RA Requirements

There are no RA requirements for job creation and loss.

RA Recommendations

The EPA recommends PPs engaged in contracting or subcontracting consider the following practices to address hiring at the PHSS:

- Stipulate in their Requests for Proposals (RFPs) that contractors are expected to cooperate with and consider hiring participants from the EPA SuperJTI program and local apprenticeship and pre-apprenticeship programs.
- Outline in RFP agreements that the contractor will comply with the recommended practices outlined in the CIMP, which contractors would sign if contracted.
- Include considerations of the business's hiring practice in their RFP scoring rubric. A template for an RFP rubric with these considerations are available in Appendix C.
- Include a community member on RFP review boards who is involved in the development of the grading rubric and the grading of proposals as appropriate.
- Draft a Skilled and Trained Workforce Plan (including the use of guidelines from Appendix C). This plan should be consistent with or similar in scope to the [local regional workforce agreements](#). This includes detailing the contractor's approach to hiring practices and commitments to the local community.
- Submit a Skilled and Trained Workforce Plan(s) to the CIMP Committee, which will provide feedback and recommendations. Share these plans with enough time to receive feedback from the CIMP Committee prior to start of construction. Use feedback and recommendations to edit the plan appropriately.
- Compensate individuals hired to perform RA work with living wages.

4.7.5 Accountability and Communications

Job training

- The EPA will monitor the quantitative and qualitative success of the SuperJTI program and coordination efforts with other infrastructure projects.
- The EPA will report Super JTI program status updates to the Collaborative Group a minimum of twice a year.
- The EPA will publish SuperJTI program status updates in written form and disseminate via the Portland Harbor StoryMap and other online channels.

Hiring practices and access to remediation work job market

- PPs engaged in contracting should report to the CIMP Committee on the status and outcomes of RFPs for contractors and whether PPs used the recommended practices above.

- PPs should share their and their contractors' RFPs with EPA and the CIMP Committee, who will review these RFPs to determine how the recommended practices concerning RFPs in the CIMP are being executed.
- Job Plans, which include a Hiring Practice Commitment, a Job Retention and Best Contracting Practices Commitment, and/or a Community-negotiated Community Benefits Agreement, should be made available publicly once finalized and authorized by the PP. See Appendix C for more information on these commitments.
- The CIMP Committee should track each contractor's internal hiring efforts and work with contractors to review barriers and successes contractors have experienced.

Loss of business and jobs

- Work to mitigate negative impacts to business and jobs will be done as part of RD.

4.7.6 Additional Resources

To learn more about job equity programs in the Portland Metropolitan Area, visit the following links:

- [City of Portland Regional Workforce Equity Agreement](#).⁷²
- [Portland Business Development Group](#).⁷³

Note: A link to a Community Benefits Agreement is available in [Appendix D](#)

4.8 Wildlife

4.8.1 Introduction

The Willamette River provides habitat for a variety of flora and fauna and is a migratory corridor for many species. NMFS has designated the Lower Willamette River as a critical habitat for Lower Columbia River Chinook Salmon, Lower Columbia Steelhead, Upper Willamette River Chinook Salmon and Upper Willamette River Steelhead. The effects of RA on fish, wildlife and habitat were identified as priority concerns by the local community.

4.8.2 Summary of Input on Wildlife

The following concerns have been expressed regarding potential impacts on the survival, reproduction and development of fish and wildlife:

- Freshwater mussels, clams and fish may be impacted by dredging.
- Fish that live in the Lower Willamette year-round may be harmed by RA through contact with equipment or changes in water quality.

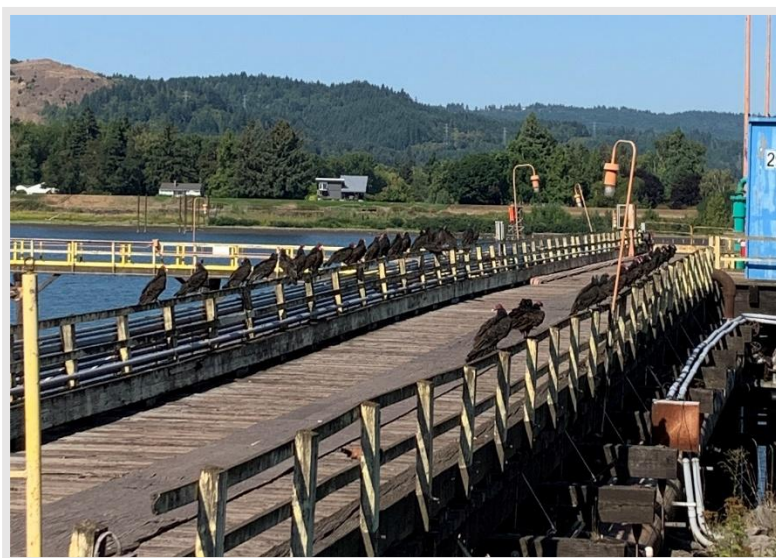
⁷² Link: <https://www.portland.gov/businessopportunities/fcf/documents/regional-workforce-equity-agreement-and-bipoc-contractors-and/download>

⁷³ Link: <https://www.pbdg.org/about>

- RA may be disruptive to the reproductive cycle of birds that nest along the banks of and in structures along the river.
- The Northwestern Pond Turtle has been proposed for listing under the ESA. Any Northwestern Pond Turtles or their habitat present in the RA area will require consideration.
- RA may disrupt the migration of migratory birds.
- Terrestrial RA work may damage riverside plants. Any potential damage to riverside plants may affect the wellbeing of animal and insect populations.

4.8.3 Basis of RA Requirements and Recommendations

The RA must comply with the ESA, the Magnuson-Stevens Fishery Conservation and Management Act, the Migratory Bird Treaty Act, Oregon Department of Fish and Wildlife's (ODFW) Fish Management Plans for the Willamette River and the CWA. These laws require wildlife protection and damage mitigation throughout RA. To develop RA recommendations, the EPA worked with experts from ODFW, U.S. Fish and Wildlife Service (USFWS), National Marine



Wake of Vultures, RM2E
Photo Source: EPA

Fisheries Service, and members of the Bird Alliance of Oregon to gather information on the flora and fauna of the Lower Willamette. Using this information, the EPA developed the following recommendations, which have been reviewed by experts and community members.

4.8.4 RA Requirements and Recommendations

Due to the great diversity of flora and fauna on the Lower Willamette, RA on the PHSS is likely to have many impacts on those flora and fauna, both in-water and upland. The tables below reflect potential mitigation practices, divided by upland and in-water work.

Riverbank and Upland Work		
Stage of RA	RA Requirements and RA Recommendations	Potentially Impacted Species
Pre-RA	Conduct shoreline and upland shrub and tree clearing from October 1 to January 31 to prevent impacts to breeding or nesting animals. Work may be allowed during this window if a survey is conducted and migratory birds, beavers, and	• Migratory birds • Beavers • Turtles

Riverbank and Upland Work		
	turtles are not present at the location of the work. (Required)	
Pre-RA	Check for raptor nest sites prior to RA, collaborating with USFWS to find potential bird nesting sites such as large cottonwoods or Douglas Firs and confirming the presence of nests in-person. If there are nests, avoid the area as much as feasible during RA from January – July when eagles lay eggs and raise their young. (Required)	• Raptors
During RA	Conduct riverbank soil removal activities from June – January to avoid disturbing vulnerable young. (Recommended)	• Beavers • Woodpeckers • Amphibians • Turtles
During RA	Monitor active eagle nests sufficiently to determine whether nestlings successfully fledge from the nest. (Recommended)	• Eagles
During RA	If the Northwestern Pond Turtle has been listed, implement terms and conditions required by USFWS to protect the species. (Required)	• Northwestern Pond Turtles
Post-RA	Consider opportunities for voluntary habitat features targeting habitat impacted by RA. Considerations may include: • Replace and improve nesting structures which must be taken down for an RA project. • Create amphibious animal habitat by laying banks back without placing riprap, replanting with high-shade plants, utilizing logs to create basking and nesting spots. • Consult with the Portland Bureau of Environmental Services Greenway Program and the Natural Areas Group at Portland Parks and Recreation to create effective revegetation plans that will benefit the biodiversity of the area and provide habitat. (All recommended)	• Raptors • Turtles • Bats • Plant life
At all stages	Minimize disturbance to plant life as much as feasible, especially plants used by Tribes such as camas, currents, oso berry, hazel, willows, big leaf maple, wapato and juncus. Limit usage of	• Bees • Plant life

Riverbank and Upland Work		
	pesticides, especially neonicotinoids. (Recommended)	

In-Water Work		
Stage of RA	Recommended Practice	Potentially Impacted Species
Pre-RA	Check for raptor nest sites prior to RA, collaborating with USFWS to find potential bird nesting sites such as large cottonwoods or Douglas Firs and confirming the presence of nests in-person. If there are nests, avoid the area as much as feasible during RA from January – July when eagles lay eggs and raise their young. (Required)	• Raptors
During RA	Collaborate with ODFW and Tribal resource managers to provide information on mussel species and population levels discovered throughout the course sampling and RA to improve resource managers' understanding of where mussels live. (Recommended)	• Freshwater mussels
During RA	Reduce lighting as much as possible during migration periods and avoid habitat patches. (Recommended)	• Birds
During RA	Implement the conditions required by NMFS in the Biological Opinion to protect salmon. This is required by the ESA and the CWA and will be verified as part construction monitoring. (Required)	• Fish • Other aquatic species

4.8.5 Accountability and Communications

- The EPA will review RD and RA plans to ensure compliance with the substantive requirements of the CWA, the ESA, the Magnuson-Stevens Fishery Conservation and Management Act, the Fish and Wildlife Coordination Act, the Bald and Golden Eagle Protection Act, ODFW Fish Management Plans for the Willamette River and the Migratory Bird Treaty Act.
- The EPA will continue to work with state and federal agencies to share information and stay up to date on known data and listing of species.

4.8.6 Additional Resources

To learn more about wildlife organizations in the Portland Metropolitan Area, see the following organizations:

- [Oregon Department of Fish and Wildlife](#).⁷⁴
- [Oregon Wild](#).⁷⁵
- [Bird Alliance of Oregon](#).⁷⁶
- [U.S. Fish and Wildlife Service](#).⁷⁷
- [Willamette Riverkeeper](#).⁷⁸

4.9 Cultural and Historic Resources

4.9.1 Introduction

Since time immemorial, Native peoples have been stewards of the Willamette River Valley. The lower portion of the Willamette River, which includes the PHSS, has remained in largely the same location and shape since it was first surveyed in the 1800s, although there has been significant channelizing, filling and hardening of its banks. The area holds great importance to many Native peoples and Tribes as a natural and cultural resource. As a significant center of human activity, there is potential for cultural and historic resources in the cleanup area. RA may disturb those resources, both archeological and existing natural resources.

4.9.2 Summary of Input on Cultural and Historic Resources

The following concerns were expressed regarding cultural and historic resources:

- Ground-disturbing activities may damage historic or cultural resources.
- Tribal communities may lose access to important and culturally significant foods. (***Tribal concern from 2020 Portland Harbor Community Involvement Plan***).

4.9.3 Basis of RA Requirements

The RA must comply with the substantive conditions of the National Historic Preservation Act (NHPA) section 106. This requires consultation with historic resource managers which include the State Historic Preservation Office and Tribal Historic Preservation Officers.

In addressing access to important and culturally significant food, note that the footprint of the remedial activities will primarily be in-water or on private property and take place in discrete areas. During RA, consumption of resident fish is not advised. The EPA anticipates 3-5 active work areas at any one time, leaving the majority of the Willamette River's riverbanks open to food and plant gathering activities in non-remedial work areas that will remain available for foraging. Therefore, the EPA does not anticipate that access to collect important and culturally significant foods will be limited by RA. In limited instances, riverbank areas may be temporarily unavailable for foraging while riverbank work is underway. For more information about ongoing Tribal uses of native plants, see Greg Archuleta's 2022 presentation linked in [Section 4.9.6](#).

⁷⁴ Link: <https://www.dfw.state.or.us/>

⁷⁵ Link: <https://www.oregonwild.org/>

⁷⁶ Link: <https://birdallianceoregon.org/>

⁷⁷ Link: <https://www.fws.gov/>

⁷⁸ Link: <https://willamette-riverkeeper.org/>

4.9.4 RA Requirements and Recommendations

RA Requirements

- The EPA will consult with State and Tribal Historic Preservation Officers during the remedial design process to ensure that PPs have adequately considered potential impacts to cultural and historic resources as required by section 106 of the NHPA. Impacts that cannot be avoided may require mitigation.
- PPs will create Inadvertent Discovery Plans as part of their RA Work Plans, in case historic or cultural artifacts are discovered unexpectedly during RA.

RA Recommendations

There are no RA recommendations for complying with the National Historic Preservation Act.

4.9.5 Accountability and Communications

- The EPA will review remedial design and RA plans to ensure compliance with the substantive requirements of the NHPA.
- Information on cultural and historic resources is sensitive and protected and will not be made public.

4.9.6 Additional Resources

- [Advisory Council on Historic Preservation](#).⁷⁹
- [“Plants, Indigenous People and the Lower Willamette,” Presentation by Greg Archuleta, Cultural Policy Analyst with the Grand Ronde Tribe](#).⁸⁰
- [“Cultural Impacts of Contamination at the Portland Harbor Superfund Site,” The Confederated Tribes of the Grand Ronde Community of Oregon](#).⁸¹
- [“Cultural Impacts of Contamination at the Portland Harbor Superfund Site,” The Confederated Tribes of Siletz Indians](#).⁸²
- [“Impacts to First Foods and Traditional Use Areas at the Portland Harbor Superfund Site,” The Confederated Tribes of the Umatilla Indian Reservation](#).⁸³

⁷⁹ Link: <https://www.achp.gov/>

⁸⁰ Link: <https://www.youtube.com/watch?v=wVo0tF2Al0w&t=457s>

⁸¹ Link: <https://www.fws.gov/portlandharbor/sites/portland/files/resources/PortlandHarborNRDATribalFactSheet-%20Grand%20Ronde.pdf>

⁸² Link: <https://www.fws.gov/portlandharbor/sites/portland/files/resources/PortlandHarborNRDATribalFactSheet-%20Siletz.pdf>

⁸³ Link: <https://www.fws.gov/portlandharbor/sites/portland/files/resources/PortlandHarborNRDATribalFactSheet-%20CTUIR.pdf>

- [“Cultural Impacts of Contamination at the Portland Harbor Superfund Site,” The Confederated Tribes of the Warm Springs Reservation of Oregon.](#)⁸⁴
- [“Cultural Impacts of Contamination at the Portland Harbor Superfund Site,” The Nez Perce Tribe.](#)⁸⁵
- [“Land of the Yakamas,” Yakama Nation Fisheries.](#)⁸⁶

4.10 Riverfront Access for Housing Insecure Community Members

4.10.1 Introduction

Unhoused community members live in the Site area in tiny homes, houseboats, boats, vehicles and tents. Several concerns exist regarding the impacts of remedial activities on the unhoused community.

4.10.2 Summary of Input on Riverfront Access for Unhoused Community Members

The following concerns have been identified regarding potential impacts. Unhoused community members may:

- Be forced to relocate due to remedial activities.
- Lose access to river water in remedial project areas for personal use, recreation, bathing and gardens.
- Have their long-standing residences and communities affected by RA that are outlined in other parts of the CIMP, such as noise.
- Be disproportionately affected by resident fish and shellfish consumption issues because they fish in the Site as a source of sustenance.
- Be overlooked as an affected party or lack access to traditional communication channels and therefore may not be consulted during community outreach efforts for the Site.
- Have had harmful or traumatic experiences with law enforcement, security guards, or agency officials and interactions with people conducting RA may repeat that trauma.

It is important to acknowledge the history and individual experiences of harassment, dehumanization and disrespect for basic rights of unhoused individuals, including threats to or attacks on their personal safety, livelihood and property. Unhoused community members have likely experienced harmful encounters with figures of authority. As a result, it is especially important to approach interactions with the members of the unhoused community with a trauma-informed lens and consult members of the unhoused community on their communication preferences to acknowledge their experiences and create mutually respectful relationships.

⁸⁴ Link: <https://www.fws.gov/portlandharbor/sites/portland/files/resources/PortlandHarborNRDATribalFactSheet-%20CTWSRO.pdf>

⁸⁵ Link: <https://www.fws.gov/portlandharbor/sites/portland/files/resources/PortlandHarborNRDATribalFactSheet-%20Nez%20Perce.pdf>

⁸⁶ Link: <https://yakamafish-nsn.gov/LandOfTheYakamas>

4.10.3 Basis of RA Requirements and Recommendations

The following recommendations have been reviewed by the Portland Harbor Community Coalition and other community organizations, including the Ground Score Association, a low-barrier waste management association prioritizing work for those facing housing insecurity.

RD on the PHSS, which began in 2018 and will continue through the mid-2020s, has involved collecting soil and water samples and conducting surveys in and near unhoused communities. The EPA and other design parties have endeavored to minimize the impacts of these activities by providing information to unhoused communities at least two months, and again at two weeks prior to the commencement of field activities. The goal of providing this information in advance is to help unhoused community members understand why remedial activities are happening and that RA doesn't affect their dwellings or belongings without advanced communication.

This approach has been successful and serves as the basis for the RA recommendations below.

4.10.4 RA Requirements and Recommendations

RA Requirements

There are no RA Requirements for riverfront access for housing insecure community members.

RA Recommendations

The EPA recommends PPs consider the following practices to address potential impacts to unhoused communities:

- Prior to RA, assess whether unhoused community members are regularly present in the work area. If so, PPs should develop a tailored outreach plan that ensures individuals living in a work area are aware of the planned remedial activities with enough time to relocate if needed. The EPA anticipates PPs being able to provide notice months to years in advance of any construction activities and recommends that outreach should be conducted as soon as construction activities are known. It is recommended that PPs communicate and receive input from work area owner(s). The tailored outreach plan should, at minimum, cover the following topics: plans for ongoing, mutual communication, specific approaches that will be used throughout interactions (i.e., trauma-informed care or nonviolent communication) and avenues to get community feedback or involvement from the unhoused community throughout the outreach process.
- Share tailored outreach plans with the EPA Remedial Project Manager (RPM) for the work area who will coordinate internally with the EPA staff.
- Conduct outreach efforts early and often during the RA so that individuals arriving in the area are informed before they become established at the work area.

- Verbally explain the RA and its effects on the unhoused community members to those community members. Provide unhoused community members with an opportunity to ask questions, provide feedback and give a clear verbal acknowledgement of their understanding. Consider translation, interpretation and appropriate signage to conduct this outreach.
- During RA in locations where unhoused community members are regularly present, consider reaching out to a community-based organization that specializes in working with the unhoused community. Establish contact, inform the organization of the basic information about the RA and determine if the organization would be willing to work in conjunction with PPs, property owners and the EPA RPMs if a conflict with unhoused community members arises. A list of community-based organizations is available in [Section 4.10.6](#) of this document. Those implementing clean up may inquire about any site-specific recommendations.
- Consider creating a plan to compensate any consulted partners at community-based organizations that specialize in working with the unhoused community for their time and expertise during RA.

4.10.5 Accountability and Communications

To ensure accountability to and continued communication with the community on this impact, the following measures should be put into place:

- If RA is expected to affect unhoused community members, a written notice should be made available to the unhoused community and public. This notice should:
 - Explain the anticipated effects in plain language.
 - Include updates when discrete steps of RA affect unhoused community members or their property. Updates should include a brief description of the disturbance, the date of the disturbance and an indication that those implementing clean up in the work area have either contacted or made their best effort to contact the unhoused community members impacted.
 - Provide contact information so that community members can get in touch with their concerns.
 - Be distributed to unhoused community members in and near the work area.
 - Be posted in several mediums. This may include posting in print at the Site, online and in a widely disseminated newsletter or newspaper that reaches unhoused community members, such as [Street Roots](#).⁸⁷ The notice may also be posted at nearby locations that provide support to unhoused community members.

⁸⁷ Link: <https://www.streetroots.org/>

The EPA will continue to solicit feedback and recommendations from members of the Portland Harbor Superfund Site Collaborative Group who have affiliations with community-based organizations focused on serving the unhoused community.

4.10.6 Additional Resources

To learn more about unhoused communities in the Portland Metropolitan Area, see the following organizations:

- [Ground Score Association](#).⁸⁸
- [Joint Office of Homeless Services](#).⁸⁹
- [Portland State University's Homelessness Research & Action Collaborative](#).⁹⁰
- [Street Roots](#).⁹¹

4.11 Traffic and Parking

4.11.1 Introduction

The potential increase in the number of vehicles in the area to conduct RA is a concern for many individuals and organizations.

4.11.2 Summary of Input on Traffic and Parking

Community members identified the following concerns about impacts to traffic and parking while remedial activities are occurring:

- There may be danger or inaccessibility for recreational/transportation activities such as walking and biking.
- Construction and increased traffic may make it difficult for residents and community members to travel.
- There may be parking issues or increased traffic due to the presence of construction workers and construction-related vehicles.

4.11.3 Basis of RA Recommendations

The EPA created these recommendations based on community concerns and experience from other Superfund Sites. The practices listed in [Section 4.11.4](#) are encouraged by the EPA. Additionally, PPs must comply with Portland Bureau of Transportation requirements for use of public roadways, as these requirements are not waived for Superfund Site work.⁹² When haul roads extend outside Portland, PPs must comply with the applicable requirements of the

⁸⁸ Link: <https://www.groundscoreassociation.org/>

⁸⁹ Link: <https://johs.us/>

⁹⁰ Link: <https://www.pdx.edu/homelessness/>

⁹¹ Link: <https://www.streetroots.org/>

⁹² Temporary use or closure of City of Portland right of way require permits from PBOT Temporary Street Use Permitting. Apply at www.tsup.info. If activity taking place outside of PBOT jurisdiction may result in traffic impacts on PBOT streets, a traffic control plan is required to be submitted for coordination review. An example of this would be trucks queueing or staging on PBOT streets to transfer equipment or materials to/from a particular site.

relevant road authorities, including designated routes, permitting, safety requirements, and conditions of access to port facilities.

4.11.4 RA Requirements and Recommendations

RA Requirements

There are no RA requirements for traffic and parking.

RA Recommendations

During remedial design and action, the EPA recommends PPs consider the following:

- Develop a traffic management plan prior to RA for work areas with heavy traffic. This traffic management plan should identify which key routes will be utilized by construction-related vehicles and identify possible ways to mitigate traffic impacts. Plans must comply with the City of Portland's 2035 Transportation System Plan.⁹³ The work area traffic management plan should be available to community members who live or work in proximity to the Site.
- Develop a parking plan for construction-related vehicles prior to RA if public parking areas may be impacted. This plan should identify the most efficient parking arrangements for construction-related vehicles and ensure public parking is not unduly restricted. PPs should update parking plans as needed based on community feedback.
- Post signage and share online information to resources including the PHSS Hotline, where the public can share feedback and concerns related to traffic and parking impacts caused by cleanup work. This signage should be available in the most commonly spoken languages in the neighborhood in which it is posted.
- Check signage and online information regularly to ensure that information is current and legible.
- Develop a robust Transportation and Off-Site Disposal Plan that includes route maps, queueing locations, spill prevention and incident response protocols and safety measures at key conflict points (turn movements, school zones, downtown corridors, steep grades, etc).

4.11.5 Accountability and Communications

To ensure accountability to and continued communication with the community on this impact, the following measures should be put into place:

- The EPA will continue to solicit feedback and recommendations from members of the Portland Harbor Collaborative Group who are affiliated with local neighborhood associations and recreation groups.

⁹³ The City of Portland Transportation System Plan Document Downloads, <https://www.portland.gov/transportation/planning/tsp-document-downloads>

- PP traffic and parking plans should be made available to community members who live or work near the Site. The two plans should be finalized and posted publicly at the work area and online prior to RA. Plans should be updated based on community feedback as appropriate. PPs at these sites should be responsible for fully briefing and ensuring compliance of their staff with the traffic management and parking plans.
- The EPA will monitor the PHSS Hotline for parking and traffic complaints. The EPA will use this information to determine compliance with the traffic and parking plans and to recommend updates to the plans.

4.11.6 Additional Resources

To learn more about traffic in the Portland Metropolitan Area, see the following organizations:

- [Oregon Department of Transportation: Projects](https://www.oregon.gov/odot/Projects/Pages/default.aspx).⁹⁴
- [Portland Bureau of Transportation](https://www.portland.gov/transportation).⁹⁵
- [The City of Portland Transportation System Plan](https://www.portland.gov/transportation/planning/tsp).⁹⁶

4.12 Air Quality

4.12.1 Introduction

Various remedial activities could result in air quality impacts associated with construction equipment (e.g., diesel dredges, tugboats, excavators, front-end loaders, etc.) and materials handling (e.g., sediments and capping material). Potential air quality impacts may include:

- Fugitive dust emissions.
- Contaminant volatilization.
- Diesel emissions.
- Odor.
- Ambient air quality degradation.

Note about Air Quality Information Organization: *Each potential air quality impact listed above will be addressed as separate impacts because they each have unique RA requirements and recommendations despite some overlap. The EPA has followed the same process to identify all RA requirements and recommendations related to air quality, which will be listed once in this section but is applicable to all air quality sections. Additionally, available resources for air quality will also be listed in this section but apply to all air quality impacts.*

4.12.2 Basis of RA Requirements and Recommendations

The EPA consulted the following entities to identify RA requirements and recommendations to minimize air quality impacts during the PHSS cleanup:

⁹⁴ Link: <https://www.oregon.gov/odot/Projects/Pages/default.aspx>

⁹⁵ Link: <https://www.portland.gov/transportation>

⁹⁶ Link: <https://www.portland.gov/transportation/planning/tsp>

- Oregon Department of Environmental Quality.
- Neighbors for Clean Air.
- Port of Portland.

RA requirements and recommendations listed in the following section are derived from state law (Oregon Air Pollution Control Oregon Revised Statute (ORS) 468A, ORS 340-247-8010, OAR 340-093-0210 and 0220) and diesel emission reduction programs.

4.12.3 Additional Resources

Additional resources to learn more about air quality in the PHSS are available below:

- [Oregon Department of Environmental Quality: Air Quality Homepage](#).⁹⁷
- [Oregon Department of Environmental Quality: Air Quality Today](#).⁹⁸
- [AirNow.gov Air Quality Monitoring](#).⁹⁹
- [Neighbors for Clean Air](#).¹⁰⁰

4.13 Air Quality: Fugitive Dust Emissions (Dust)

4.13.1 Introduction

During construction, sediment and debris will be removed from the river and processed on barges or at a shoreline facility prior to transportation to an appropriate permitted landfill. In most cases, these sediments will be wet and therefore not a source of dust. In situations where sediments are processed on shore at a transload facility or other sediment handling area and there is opportunity for drying, airborne dust may be generated and dispersed. To enhance recovery of the river bottom after sediment removal, clean fill material (mostly sand) will be brought in and placed in the river to construct caps. Additionally, some riverbank excavation may occur in dry soils and could generate dust. In these instances, people could be exposed to airborne dust, which may settle in outdoor spaces or enter nearby homes or workplaces.

4.13.2 Summary of Input on Dust

The following concern was raised regarding dust:

- Dust may result from heavy equipment use and vehicle traffic at transload facilities.

4.13.3 RA Requirements and Recommendations

RA Requirements

⁹⁷ Link: <https://www.oregon.gov/deq/air/Pages/default.aspx>

⁹⁸ Link: <https://www.oregon.gov/deq/air/Pages/airquality.aspx>

⁹⁹ Link: <https://www.oregon.gov/deq/air/Pages/airquality.aspx>

¹⁰⁰ Link: <https://neighborsforcleanair.org/>

Sediment handling operations and riverbank excavation are required to comply with Oregon state law that requires the “highest and best practicable treatment and control”¹⁰¹ of fugitive emissions.¹⁰²

- PPs must ensure fugitive dust does not leave the property boundary. This can be verified with a visible emissions survey (EPA Method 22).
- While upland sediment handling areas and riverbank excavations are managing contaminated sediments and riverbank soils, perimeter dust monitoring will be required to confirm that contaminants do not leave the area. PPs will conduct continuous dust monitoring at the perimeter of onshore sediment handling areas for the first two weeks of sediment handling operations. A determination of whether to reduce the frequency of dust monitoring will be made based on the results of these data and will be subject to the EPA’s approval. The details of this monitoring will be defined in the Construction Quality Assurance/Quality Control Plan.
- The EPA will not require fugitive dust surveys for dredging operations or placing clean fill material into the river to construct sediment caps unless visible dust is regularly leaving the work area.
- Trucks transporting contaminated sediments to a landfill will be covered with a tarp to prevent fugitive emissions en route.
- For additional details about anticipated air monitoring, see [Section 4.13.4](#) below.

RA Recommendations

Dust is a common issue on construction sites and the EPA anticipates contractors will be able to stabilize any dry sediment or soil to prevent fugitive dust using standard construction practices.

Actions could include:

- Monitoring stockpiles for moisture content.
- Covering removed material in stockpiles or on trucks.
- Wet soil and road surfaces, or spray water onto soil.
- Washing wheels on trucks moving away from the sediment and soil handling areas.
- Addition of surfactants¹⁰³ or tackifiers¹⁰⁴ to water being sprayed on dirt to minimize dust generation from stockpiled soil.
- Pre-wetting capping material prior to placement in water.

¹⁰¹ Oregon Air Pollution Control ORS 468A, OAR 340-226-0110 through OAR 340-226-0140, <https://secure.sos.state.or.us/oard/viewSingleRule.action?ruleVrsnRsn=296172> and OAR 340-208-0210, <https://secure.sos.state.or.us/oard/viewSingleRule.action?ruleVrsnRsn=256141>

¹⁰² **Fugitive Emissions:** Visible emissions that leave the property of a source for a period or periods totaling more than 18 seconds in a six-minute period. Source: OAR 340-208-0210, <https://secure.sos.state.or.us/oard/viewSingleRule.action?ruleVrsnRsn=296172>

¹⁰³ **Surfactant:** A chemical compound that allows water and oil to mix and can facilitate the detachment of dirt.

¹⁰⁴ **Tackifier:** A non-toxic soil stabilizer commonly used for dust and soil control.

- Additional best practices are available [in EPA guidance](#).¹⁰⁵
- Consider the establishment of gravel/crushed concrete construction access roads.

4.13.4 Accountability and Communications

- PPs will conduct continuous dust monitoring at the perimeter of onshore sediment handling and riverbank excavation areas before operations begin and for the first two weeks of sediment handling operations. The EPA will determine whether to reduce the frequency of dust monitoring based on the results of these data and anticipated future conditions (e.g., warmer temperatures that lead to dryer conditions). Monitoring details will be defined in the Construction Quality Assurance/Quality Control Plan.
- Real-time dust measurements will facilitate real-time decision making regarding the adequacy of dust control measures.
- The EPA will provide dust monitoring results to the public as part of community outreach during RA.
- The EPA will not require dust monitoring for dredging operations unless visible dust is regularly leaving the work area.

4.14 Air Quality: Contaminant Volatilization

4.14.1 Introduction

The sediments being removed from the Willamette River vary significantly in their type and quantity of contamination. Some of the contaminants in the sediment, such as naphthalene, volatilize easily. Other contaminants, such as dioxins, furans and PCBs are more closely bound to sediment particles and volatilize to a lesser degree. The unique contaminants present at each dredge area are being evaluated during RD and will be used to establish appropriate air monitoring during RA.

4.14.2 Summary of Input on Contaminant Volatilization

The following concerns were identified regarding contamination volatilization:

- Human health impacts from possible PCB volatilization while dredging and moving contaminated sediment.
- Release of contaminants in sediment from RA may impact ambient air quality.

4.14.3 RA Requirements and Recommendations

RA Requirements

- PPs will conduct air monitoring at the perimeter of onshore sediment handling areas as outlined in [Section 4.14.4](#) below. In cases where dredging or riverbank excavation is close to residences or businesses, air monitoring for COCs at the shoreline will be considered.

¹⁰⁵ Link: <https://www.epa.gov/system/files/documents/2022-02/fugitive-dust-control-best-practices.pdf>

- The EPA will review the comparison of results from perimeter air monitoring to background conditions, baseline urban air toxics concentrations in Portland and DEQ's Toxicity Reference Values. If RA is resulting in air concentrations below approved project screening levels, no additional action will be required. If RA is generating air concentrations above approved project screening levels, additional evaluation will be required and/or additional actions will be required to limit volatilization.¹⁰⁶
- It will be important during RA to ensure that the sample approach and analytical methods are standard methods that can be appropriately used for comparison with screening levels.
- PCB volatilization has been a particular community concern at Portland Harbor in the past. The EPA evaluated concentrations of PCBs in sediment at the PHSS relative to sediment dredged at other Superfund sites that conducted air monitoring for PCBs such as the [Hudson River](#)¹⁰⁷ and the [Indiana Harbor Canal](#).¹⁰⁸ The concentration of PCBs in sediments at both sites were 10-100 times higher than at Portland Harbor, and they had minimal exceedances of their screening levels. Based on reviewing data from these sites, the EPA does not anticipate PCBs volatilizing from Portland Harbor will result in human health impacts. Therefore, the EPA is not recommending specific practices to mitigate PCB volatilization. However, the EPA plans to require air sampling for PCBs during RA to confirm lack of adverse impacts to human health.

RA Recommendations

Specific practices will be developed as part of construction plans depending on the COCs and sediment concentrations.

4.14.4 Accountability and Communications

- PPs will create air monitoring plans as part of CQC/QAPs that are required to follow Oregon air regulations and will be subject to the EPA's approval as part of the EPA's construction oversight.
- Under those plans, air samples will be analyzed for volatile work area-specific contaminants of concern identified during RD and limited volatile organic compounds associated with diesel emissions (e.g., naphthalene, toluene, formaldehyde, polycyclic organic matter/polycyclic aromatic hydrocarbons (POM/PAH)). More information on diesel emissions in [Section 4.15](#).
- Air samples will be collected before construction starts at the perimeter of sediment handling areas to provide a site-specific baseline.

¹⁰⁶ Oregon Department of Environmental Quality, Chapter 340, Division 247, Health Risk-Based Air Quality Standards for Toxic Air Contaminants,

<https://secure.sos.state.or.us/oard/viewSingleRule.action?ruleVrsnRsn=283437>.

¹⁰⁷ Link: https://www.epa.gov/sites/default/files/2020-01/documents/2010-03-23_phase_1_evaluation_report_appendices.pdf

¹⁰⁸ Link: <https://indianaharbor.evs.anl.gov/air/ambient/index.cfm>

- Air samples will be collected daily during the first two weeks of construction activities (intensive monitoring) and future monitoring frequency and analytes will be set based on the results.
- Monitoring for volatile contaminants in air will continue throughout RA in accordance with the approved air monitoring program unless results demonstrate to EPA that RA is not contributing these chemicals at unacceptable levels beyond the project boundary.
- The EPA will provide monitoring results to the public as part of community outreach during RA. The EPA anticipates that it will take approximately two weeks¹⁰⁹ to get chemical data back and validate it after the air sample is collected.

4.15 Air Quality: Diesel Emissions

4.15.1 Introduction

The Portland Harbor RA will increase motorized traffic on public streets via vehicles such as material haul trucks, worker vehicles and water trucks/sweepers. Dredging, capping and materials handling require the use of barges, tugs, diesel generators and heavy construction equipment, resulting in more air pollution. This equipment emits a wide range of possible diesel emission quantities depending on the equipment. Air toxics released by diesel engines already exceed Oregon's ambient benchmark concentration in the Portland Harbor area. Therefore, the EPA intends to require limited air monitoring for diesel emissions to provide general information on air quality impacts during RA.

4.15.2 Summary of Input on Diesel Emissions

The following concerns were raised regarding diesel emissions:

- Diesel exhaust may result from heavy equipment use and vehicle traffic at transload facilities.
- Diesel exhaust may further increase levels of air toxics that already exceed long term exposure recommendations.

4.15.3 RA Requirements and Recommendations

RA Requirements

Section 14.2.12 of the Portland Harbor ROD includes the following green remediation strategies: use cleaner fuels such as low-sulfur fuel or biodiesel; diesel emissions controls and retrofits and emission reduction strategies.¹¹⁰

Portland's Clean Air Construction requirements set forth a local, vetted, implementable approach to minimizing diesel emissions for non-marine equipment. Construction specifications that meet the substantive requirements of the program will be determined by the EPA to comply with EPA's Green Remediation Policy. The program requires turning off idling diesel

¹⁰⁹ This assumes a 24-hour turnaround time for metals, a 72-hour turnaround time for PCBs, and adds time for data validation and evaluation.

¹¹⁰ Portland Harbor Record of Decision, <https://semspub.epa.gov/src/document/10/100036257>

equipment engines within five minutes of inactivity and emission retrofits on older diesel equipment (Tier 0, 1, 2 and 3 engines). Additional information can be found [from the City of Portland](#).¹¹¹

PPs will be required to conduct perimeter air monitoring at sediment handling areas for targeted components of diesel emissions (e.g., benzene, naphthalene, toluene, formaldehyde, POM/PAH) as outlined in [Section 4.14.4](#). This information will be used to consider modifications to equipment or fuel types for subsequent field mobilizations.

RA Recommendations

PPs and their contractor(s) should consider pursuing the following actions to reduce diesel emissions:

- Use equipment with electric engines when possible.
- Do not use Tier 0, 1, 2 or 3 engines unless they have been retrofitted with an emissions control device. Note the City of Portland has programs to assist companies in paying for retrofits.
- Use ultra-low sulfur diesel.
- Use renewable diesel fuel rather than standard marine diesel in marine equipment. This lowers diesel emissions.
- Minimize idling.

4.15.4 Accountability and Communications

The EPA will consider the diesel emission reduction strategies in construction specifications and CQC/QAPs when determining whether to approve the RA Work Plan at a specific work area.

Due to ongoing developments in cleaner technology, additional options for minimizing diesel emissions may become available during the implementation of RA. The EPA will work with PPs to ensure cleanup operations take advantage of improvements in equipment and fuel sources.

PPs will monitor for targeted components of diesel emissions as outlined in [Section 4.14.4](#) Accountability and Communications for Air Quality: Contaminant Volatilization.

The EPA will track complaints received through the PHSS Hotline described in [Chapter 3](#) and reassess recommended actions as needed. For more information about the EPA's communication plan, see [Chapter 3](#).

4.16 Air Quality: Odor

4.16.1 Introduction

Odor has not been a problem in the early actions or sampling efforts at the PHSS. Therefore, the EPA does not anticipate significant problems with odor during RA, with potential exceptions such as the removal of petroleum contaminated sediments near the Gasco Project Area and

¹¹¹ Link: <https://www.portland.gov/omf/brfs/procurement/clean-air-construction>

any potential dredging on the west side of the river near the railroad bridge at River Mile (RM) 7.

4.16.2 Summary of Input on Odor

The following concerns were raised regarding odor:

- Nuisance odors may result from construction equipment and dredged material from the river.
- Nuisance odors and other ambient air quality concerns may cause impacts to residents and wildlife.

4.16.3 RA Requirements and Recommendations

RA Requirements

There is no RA requirement for odors. The EPA will monitor the PHSS Hotline to identify odor concerns and recommend odor suppressants as appropriate.

RA Recommendations

In limited locations, primarily near the Gasco and RM7 West Project Areas, sediments are contaminated with volatile organic compounds that have a low odor threshold and parties should consider using odor suppressants on stockpiled material.

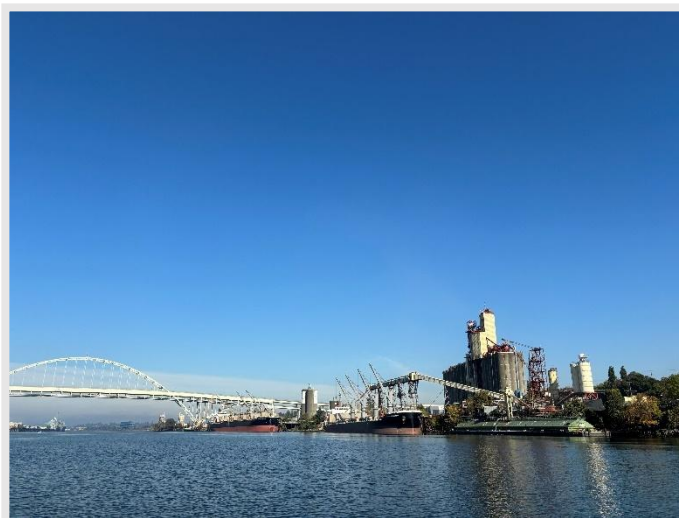
4.16.4 Accountability and Communications

The EPA encourages community members to contact them about concerns or complaints related to odor through the PHSS Hotline described in [Chapter 3](#). The EPA will communicate with PPs to ensure complaints related to RA are addressed and accounted for. Air sampling for contaminants will be required as outlined in [Section 4.14.4](#) and this information will be considered in conjunction with odor complaints to ensure there is no harmful exposure. The project will post a publicly visible signage with work area specific contact information and the PHSS Hotline for complaints. For more information about the PHSS Hotline and the EPA's communication plans, see [Chapter 3](#).

4.17 Air Quality: Ambient Air Quality

4.17.1 Introduction

National ambient air quality is rated by measuring 6 pollutants, called criteria pollutants. EPA has national standards that define a safe level of these criteria pollutants. See DEQ's [2023 Annual Air Quality Report](#)¹¹² for more information about air quality in Portland. DEQ manages several comprehensive air monitoring stations. The station on Southeast Lafayette best represents the air in Portland Harbor based on local air flow. The data from that station is publicly available [online](#).¹¹³



RM11E
Photo Source: EPA

4.17.2 Summary of Input on Ambient Air Quality

The following concerns were raised regarding ambient air quality:

- The Portland Harbor cleanup may degrade ambient air quality.
- Increased incidence of wildfires may exacerbate challenges meeting national ambient air quality standards (NAAQS).

4.17.3 RA Requirements and Recommendations

Due to its relatively minor footprint, RA is not expected to create emissions that would substantially increase concentrations of criteria pollutants. Beyond diesel emissions and fugitive dust control strategies, the CIMP currently does not require measures to mitigate adverse impacts to ambient air quality.

4.17.4 Accountability and Communications

If new information shows an area is not meeting NAAQS, the EPA will consider requiring additional air quality controls or monitoring for the six criteria pollutants. This would be accomplished under the EPA's CERCLA authority to require compliance with the Clean Air Act as part of RA.

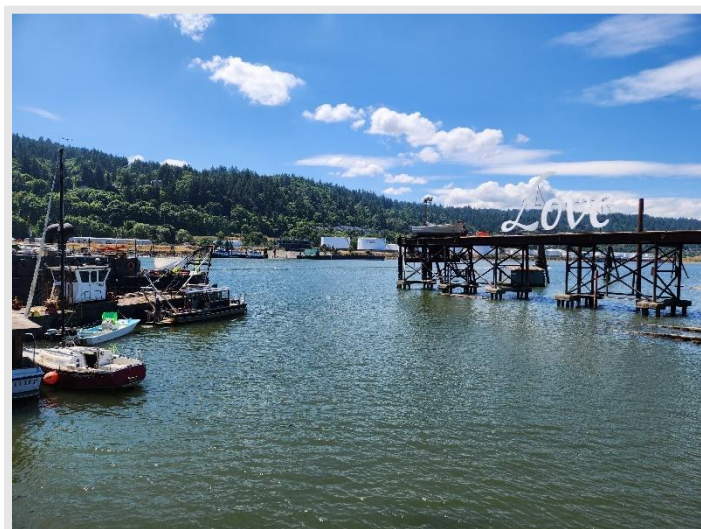
¹¹² Link: <https://www.oregon.gov/deg/aq/Documents/AQMAnnualReport.pdf>

¹¹³ Link: <https://aqi.oregon.gov/>

5. How to Get Involved

The actions described in this document will be largely undertaken by the EPA and PPs, including the execution of communications, outreach, requirements and recommendations related to RA. The CIMP Committee described in [Chapter 3](#) is a primary method to involve other voices in mitigation and accountability measures employed during the PHSS cleanup. The following groups are open to community members who are interested in getting involved in the cleanup:

- CIMP Committee
- Portland Harbor Collaborative Group
- Portland Harbor CAG



Cathedral Park
Photo Source: EPA

Other resources for those interested in learning more are available in [Appendix B](#) of this document.

To learn more or to get in touch with Site contacts, visit [EPA's Portland Harbor Superfund Site Website](#).¹¹⁴

Conclusion

The EPA has determined that potential adverse, short-term impacts to the community and the environment resulting from implementation of the cleanup cannot be avoided. The benefits of implementing a long-term and effective remedy that will be protective of the surrounding Portland communities, ecosystem and wildlife for future generations counterbalance the temporary impacts to the community. The CIMP is one element of the EPA's commitment to address, with PPs and the community, contamination at the Site.

¹¹⁴ Link: <https://cumulis.epa.gov/supercpad/cursites/csinfo.cfm?id=1002155>

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Appendix B: Additional Resources

This appendix summarizes resources, Websites, documents and organizations shared throughout the CIMP.

General Site Resources
- Portland Harbor Community Involvement Plan, https://semspub.epa.gov/work/10/100261772.pdf - Portland Harbor StoryMap, https://storymaps.arcgis.com/stories/ab89faf239624854a5b9c7723f1c43da - EPA’s Information Management Plan, https://semspub.epa.gov/work/10/100390699.pdf - EPA Programmatic Institutional Control Implementation and Assurance Plan (PICIAP), https://semspub.epa.gov/work/10/100420101.pdf
Noise
- The City of Portland Construction Noise Regulations, https://www.portland.gov/bds/noise/documents/construction-noise-regulations/download - NIOSH Sound Level Meter App, https://www.cdc.gov/niosh/noise/about/app.html?CDC_AAref_Val=https://www.cdc.gov/niosh/topics/noise/app.html - City of Portland Noise Complaints Map, https://pdx.maps.arcgis.com/apps/webappviewer/index.html?id=9ca4c3011210446f911c6e60eb149bac - The City of Portland Noise Office Website, http://www.portlandoregon.gov/oni/noise
Light
- Bird Alliance of Oregon, Resource Guide for Bird-friendly Building Design, https://birdallianceoregon.org/wp-content/uploads/2019/08/Resource-Guide-for-Bird-safe-Building-Design.pdf - Dark Skies: Strategies for Reducing Light Pollution in Portland, https://efiles.portlandoregon.gov/Record/13920774/File/Document - Oregon Occupational Safety and Health Division, Division 3, 1926.56 Illumination, https://osha.oregon.gov/OSHARules/div3/div3D.pdf#1926-56
Water Quality
- Oregon Water Quality Standards, www.oregon.gov/deq/wq/pages/wq-standards.aspx - Clean Water Act Section 401 Water Quality Certification Improvement Rule September 2023 Overview Factsheet, https://www.epa.gov/system/files/documents/2023-09/Overview%20Fact%20Sheet%20on%20the%20Final%202023%20Rule%20508.pdf - U.S. EPA Overview of Clean Water Act Section 401 Certification Website, https://www.epa.gov/cwa-401/overview-cwa-section-401-certification
Navigation Safety

• Oregon Marine Board: Boater Info, https://www.oregon.gov/osmb/boater-info/pages/boater%20info%20home.aspx • Oregon Marine Board: Lower Willamette River Rules for Boat Operation, https://www.oregon.gov/osmb/boater-info/Pages/Lower-Willamette-River-Rules.aspx • Oregon Marine Board: Boating Obstructions Dashboard, https://oregon-boating-obstructions-geo.hub.arcgis.com/ • U.S. Coast Guard, District 13, Local Notices to Mariners, https://www.navcen.uscg.gov/local-notice-to-mariners?district=13+0&subdistrict=n • Transportation System Plan (TSP), City of Portland, https://www.portland.gov/transportation/planning/tsp
Recreation
• Metro: Metro parks and natural areas, https://www.oregonmetro.gov/metro-parks-and-natural-areas • Oregon State Parks: Find a Park, https://stateparks.oregon.gov/index.cfm?do=visit.find • Portland Parks and Recreation: Find a park, https://www.portland.gov/parks/search • Urban Nature Partners PDX, https://urban-nature-partners.org/about/ • Wild Diversity, https://wilddiversity.com/
Resident Fish Consumption
• Multnomah County Health Department, https://www.multco.us/health/staying-healthy/eating-fish-river • Oregon Health Authority, https://www.oregon.gov/oha/ph/healthyenvironments/recreation/fishconsumption/pages/fishadvisories.aspx
Job Creation and Loss
• City of Portland Regional Workforce Equity Agreement, https://www.portland.gov/businessopportunities/fcf/documents/regional-workforce-equity-agreement-and-bipoc-contractors-and/download • Portland Business Development Group, https://www.pbdg.org/about
Wildlife
• Oregon Department of Fish and Wildlife, https://www.dfw.state.or.us/ • Oregon Wild, https://www.oregonwild.org/ • Portland Bird Alliance of Oregon, https://birdallianceoregon.org/ • U.S. Fish and Wildlife Service, https://www.fws.gov/ • Willamette Riverkeeper, https://willamette-riverkeeper.org/
Cultural and Historic Resources
• Advisory Council on Historic Preservation, https://www.achp.gov/ • February 9, 2022 Presentation by Greg Archuleta, Cultural Policy Analyst with the Grant Ronde Tribe, https://www.youtube.com/watch?v=wVo0tF2Al0w&t=457s • “Cultural Impacts of Contamination at the Portland Harbor Superfund Site,” The Confederated Tribes of the Grand Ronde Community of Oregon,

https://www.fws.gov/portlandharbor/sites/portland/files/resources/PortlandHarborNRDATribalFactSheet-%20Grand%20Ronde.pdf • “Cultural Impacts of Contamination at the Portland Harbor Superfund Site,” The Confederated Tribes of Siletz Indians, https://www.fws.gov/portlandharbor/sites/portland/files/resources/PortlandHarborNRDATribalFactSheet-%20Siletz.pdf • “Impacts to First Foods and Traditional Use Areas at the Portland Harbor Superfund Site,” The Confederated Tribes of the Umatilla Indian Reservation, https://www.fws.gov/portlandharbor/sites/portland/files/resources/PortlandHarborNRDATribalFactSheet-%20CTUIR.pdf • “Cultural Impacts of Contamination at the Portland Harbor Superfund Site,” The Confederated Tribes of the Warm Springs Reservation of Oregon, https://www.fws.gov/portlandharbor/sites/portland/files/resources/PortlandHarborNRDATribalFactSheet-%20CTWSRO.pdf • “Cultural Impacts of Contamination at the Portland Harbor Superfund Site,” The Nez Perce Tribe, https://www.fws.gov/portlandharbor/sites/portland/files/resources/PortlandHarborNRDATribalFactSheet-%20Nez%20Perce.pdf • “Land of the Yakamas,” Yakama Nation Fisheries, https://yakamafish-nsn.gov/LandOfTheYakamas
Riverfront Access for Unhoused Community Members • Ground Score Association, https://www.groundscoreassociation.org/ • Joint Office of Homeless Services, https://johs.us/ • Portland State University’s Homelessness Research & Action Collaborative, https://www.pdx.edu/homelessness/ • Street Roots, https://www.streetroots.org/
Traffic and Parking • Oregon Department of Transportation: Projects, https://www.oregon.gov/odot/Projects/Pages/default.aspx • Portland Bureau of Transportation, https://www.portland.gov/transportation • Transportation System Plan (TSP), City of Portland, https://www.portland.gov/transportation/planning/tsp
Air Quality • Oregon Department of Environmental Quality: Air Quality Homepage, https://www.oregon.gov/deq/aq/Pages/default.aspx • Oregon Department of Environmental Quality: Air Quality Today, https://www.oregon.gov/deq/aq/Pages/aqi.aspx • AirNow.gov Air Quality Monitoring, https://www.airnow.gov/ • Neighbors for Clean Air, https://neighborsforcleanair.org/

Appendix C: Guidance on Skilled and Trained Hiring

This appendix outlines the suggested RFP scoring template and accompanying scoring guide for PPs and their contractors to utilize in alignment with Section 4.7.4. Recommended Practices

Evaluation Criteria	Score Breakdown	Percentage of Total Score
Project Work Plan / Approach	25	25%
Project Staffing Experience	25	25%
Budget / Cost Proposal Oregon Preference 10%	25	25%
Skilled and Trained Workforce Commitment* a. Hiring Practices Commitment b. Job Retention and Best Contracting Practices Commitment - OR c. Community-negotiated Community Benefits Agreement Commitment	25 15 pts for a 10 pts for b OR 25 pts for c	25%
Total	100	100%

Example template, 2025

*This section of the rubric is meant to encourage PPs and their contractors to engage in hiring and workforce practices that benefit the local community. More information on the subcomponents of this section is below:

a. Hiring Practices Commitment – In the proposal, the contractor issues a concrete commitment to hiring practices that benefit the local Portland Harbor community, including a commitment to hiring from apprenticeship, pre-apprenticeship, and the SuperJTI programs. A scoring recommendation for the full 15 points awarded for Part A is that 20 – 22% of hires come from these programs. If the contractor includes subcontractors in their proposal, the subcontractor should engage in the same hiring practices in order to obtain the full 15 potential points. The hiring local subcontractors should also be considered in this portion of the RFP scoring.

- b. Job Retention and Best Contracting Practices Commitment** – In the proposal, the contractor and any subcontractors included issue a concrete commitment to workforce retention through family health and retirement benefits. Additionally, the contractors demonstrate a minimum of a 3 – 7-year compliance with overtime protocols, Occupational Safety and Health Administration (OSHA) regulations, and environmental laws. To score full points, contractors will seek a public works coverage determination from Bureau of Oregon Labor and Industries (BOLI) to ensure all projects are compliant with state laws as it relates to Oregon’s prevailing wage requirement.

- c. Community-negotiated Community Benefits Agreement** - As an alternative to opting into the commitments of subcomponents a and b, contractors may choose to commit to developing a Community Benefits Agreement, which will be negotiated with the community. An example template of what a Community Benefits Agreement might look like is included in Appendix D.

As it is helpful to the PPs issuing and scoring RFPs, the EPA encourages PPs to bring questions related to scoring RFPs to the CIMP Committee. Additionally, at PPs’ request, EPA staff may connect PPs to community leaders in best hiring and workforce practices to provide consultation.

Appendix D: Community Benefits Agreement Template

A Community Benefits Agreement Template, developed by the Portland Harbor Community Coalition, is available [here](#).