EPA United States Environmental Protection Agency

Welcome to the

Lower Duwamish Waterway Roundtable Meeting

TUESDAY, AUGUST 1, 2023

Do you have your meeting materials?

Meeting materials (English, Vietnamese, Spanish, and Khmer) can be found on the Lower Duwamish Waterway Roundtable Website:
https://www.duwamishwaterwayroundtable.org/meetings
or scan the QR code on the right

For **Spanish, Khmer, or Vietnamese** (**Español, ខ្មែរ , Tiếng Việt)** audio, select your language in the Zoom toolbar on the bottom right of your screen during the meeting.

For **English** audio, please **select English**.

Facilitator's Notes

- Keep your microphone muted unless you are speaking.
- Balance speaking time and stay on the agenda topic.
- Introduce yourself when speaking: "This is (name) with (affiliation, caucus/seat)"
- In disagreements, share the reason why you feel as you do, and ask questions to find out how others feel.
- Be respectful and courteous.
- Be patient with potential internet connectivity issues - we will do our best to create a seamless experience!

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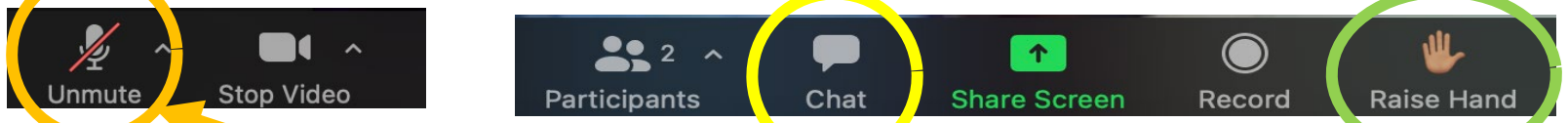
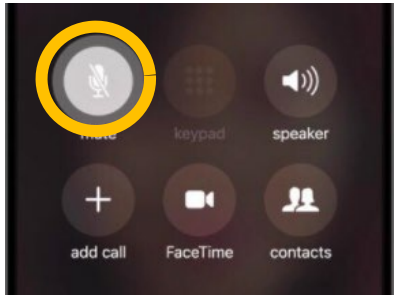
For **English** audio, please **select English**.

Tips for Using Zoom

If you have a **technical problem or want to type a question**, please type them in the chat! Or, ask your interpreter to type for you.

If you want to **comment or ask a question verbally**, please click 'Raise Hand' and we will call on you.





Please **keep yourself muted** unless you are speaking.

If joining by phone - Use your phone's mute button or "*6"

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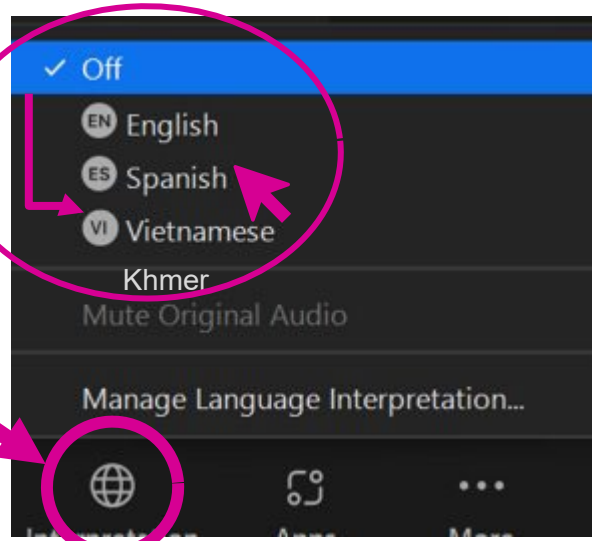


Multilingual Meeting Best Practices

English participants should…

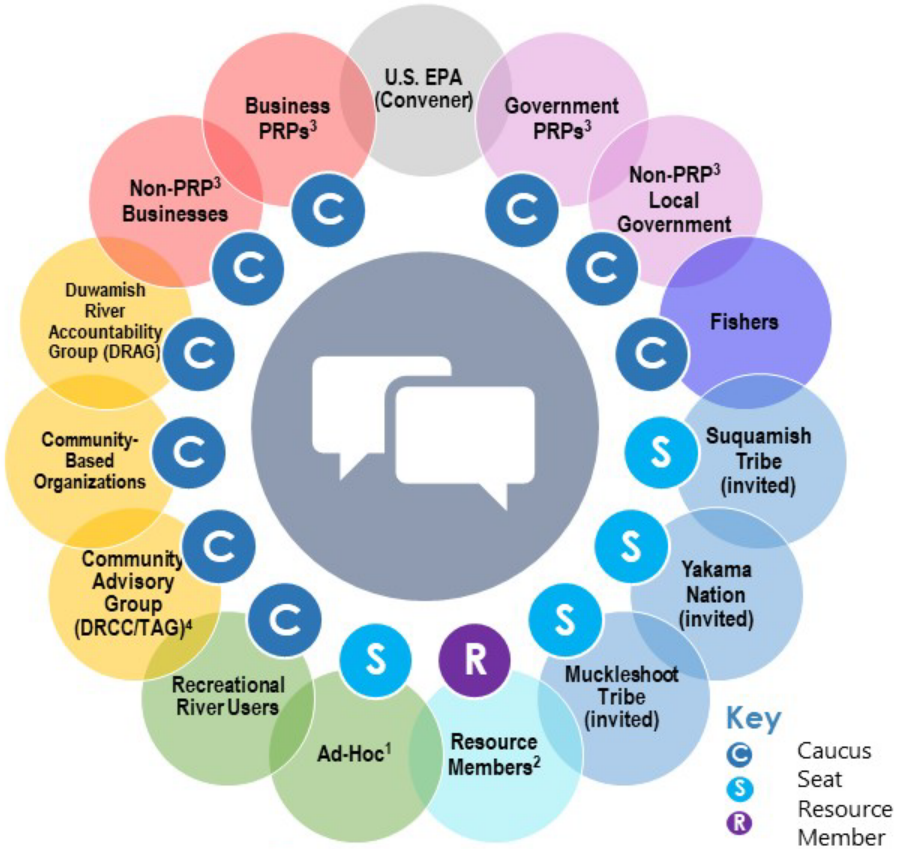
- Speak slowly!
- Take pauses every 2-3 sentences
- Avoid acronyms
- Use common language

EPA

Lower Duwamish Waterway Roundtable

Purpose

To provide a forum for interested and affected parties to make recommendations for the United States Environmental Protection Agency (U.S. EPA) to consider throughout the Lower Duwamish Waterway Superfund cleanup.



[1] Non-governmental community members or interest groups not represented in the Community Caucus.

[2] Government entities that contribute information but do not develop recommendations, including but not limited to the Washington State Department of Ecology and others.

[3] PRP = Potentially Responsible Party

[4] Duwamish River Cleanup Coalition/Technical Advisory Group

v. 2022/03/21

Purpose of the Roundtable

The Lower Duwamish Waterway (LDW) Roundtable is a forum for those **affected by the cleanup** of the *Lower Duwamish Waterway Superfund Site* to make **recommendations** to the U.S. Environmental Protection Agency (EPA) during the **design and construction** of the cleanup.

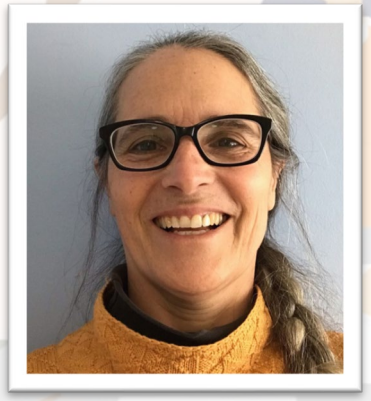
Today's Meeting Purpose

For Roundtable members to **learn about the near-final cleanup design for the Upper Reach** of the Lower Duwamish Waterway and the status of **source control**, and to **discuss with EPA outreach and job opportunities related to the cleanup**.

Today's Agenda

- Welcome, Introductions, and Where We Left Off
- Presentation on 90% Design & Supporting Plans
- Upper Reach Source Control Sufficiency
- Discuss Job Training Initiative & Local Hiring
- Updates from around the Waterway
- Announcements from Caucus members
- Comments & Questions from Observers
- Wrap Up and Next Steps
- Optional Debrief and Informational Networking

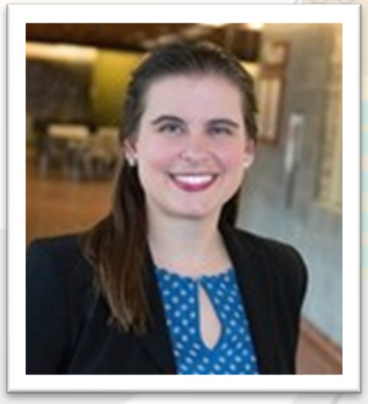
Welcome and Roundtable Introductions



Elly Hale

Remedial Project Manager

U.S Environmental Protection Agency (EPA)



Laura Knudsen

Community Involvement Coordinator

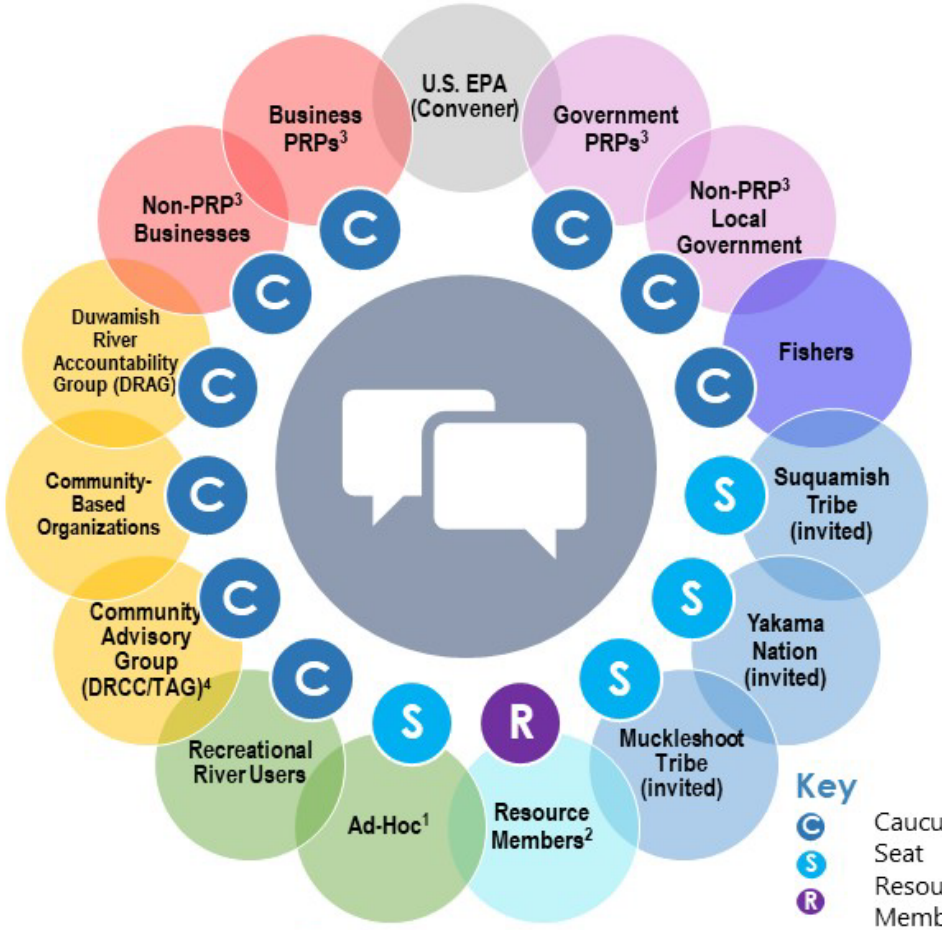
U.S Environmental Protection Agency (EPA)

Welcome and Roundtable Introductions

The facilitator will review the Roundtable caucuses and caucus leads.

Purpose

To provide a forum for interested and affected parties to make recommendations for the United States Environmental Protection Agency (U.S. EPA) to consider throughout the Lower Duwamish Waterway Superfund cleanup.



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Roundtable Steering Committee

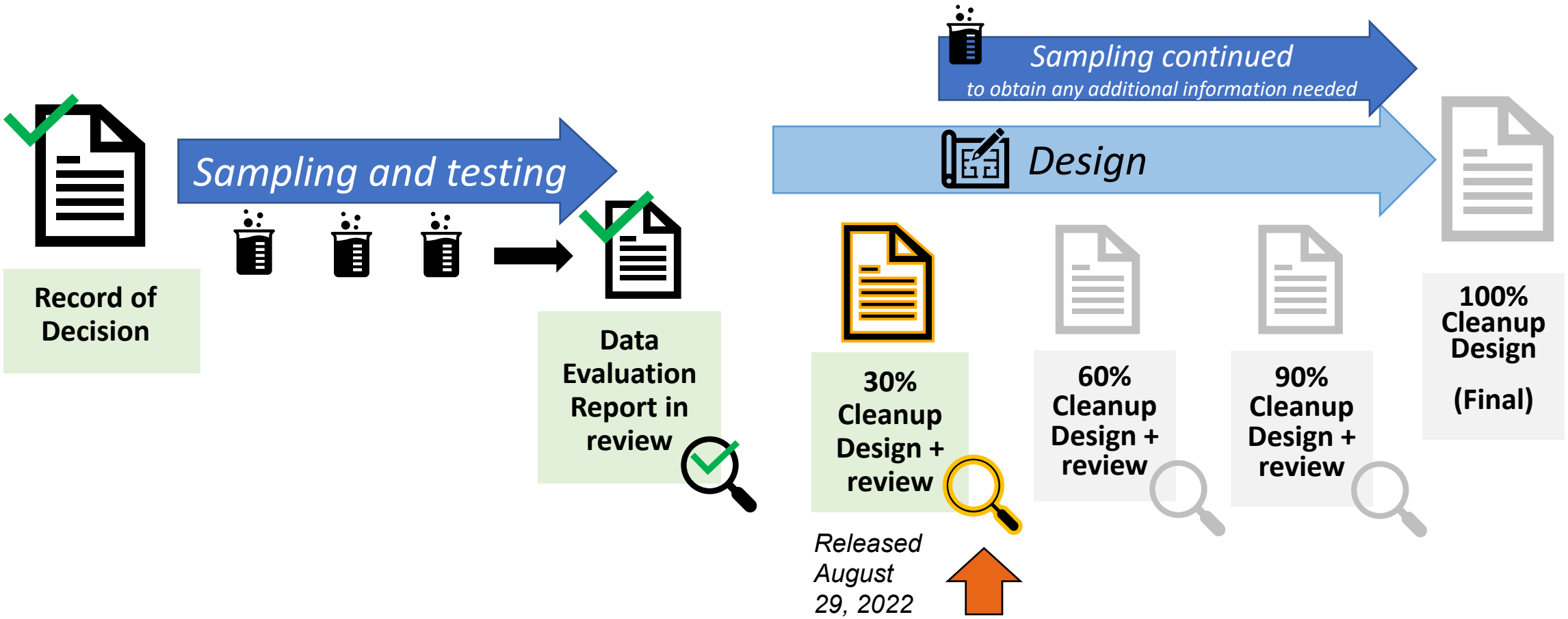
Coordinates with EPA to guide the work of the Roundtable, including soliciting agenda topics, drafting meeting agendas, and developing Roundtable work plans.

Includes members from three interest groups:

- Residents
  - Primary: Jamie Hearn, DRCC
  - Alternate: Edwin Hernandez Reto, community member
- Business/Industry/Labor
  - Primary: Pat Jablonski, Nucor
  - Alternate: Jonathan Hall, Holcim (La Farge)
- Fishers
  - Rotating: Sophorn Sim, Emma Maceda, Kevin Duong

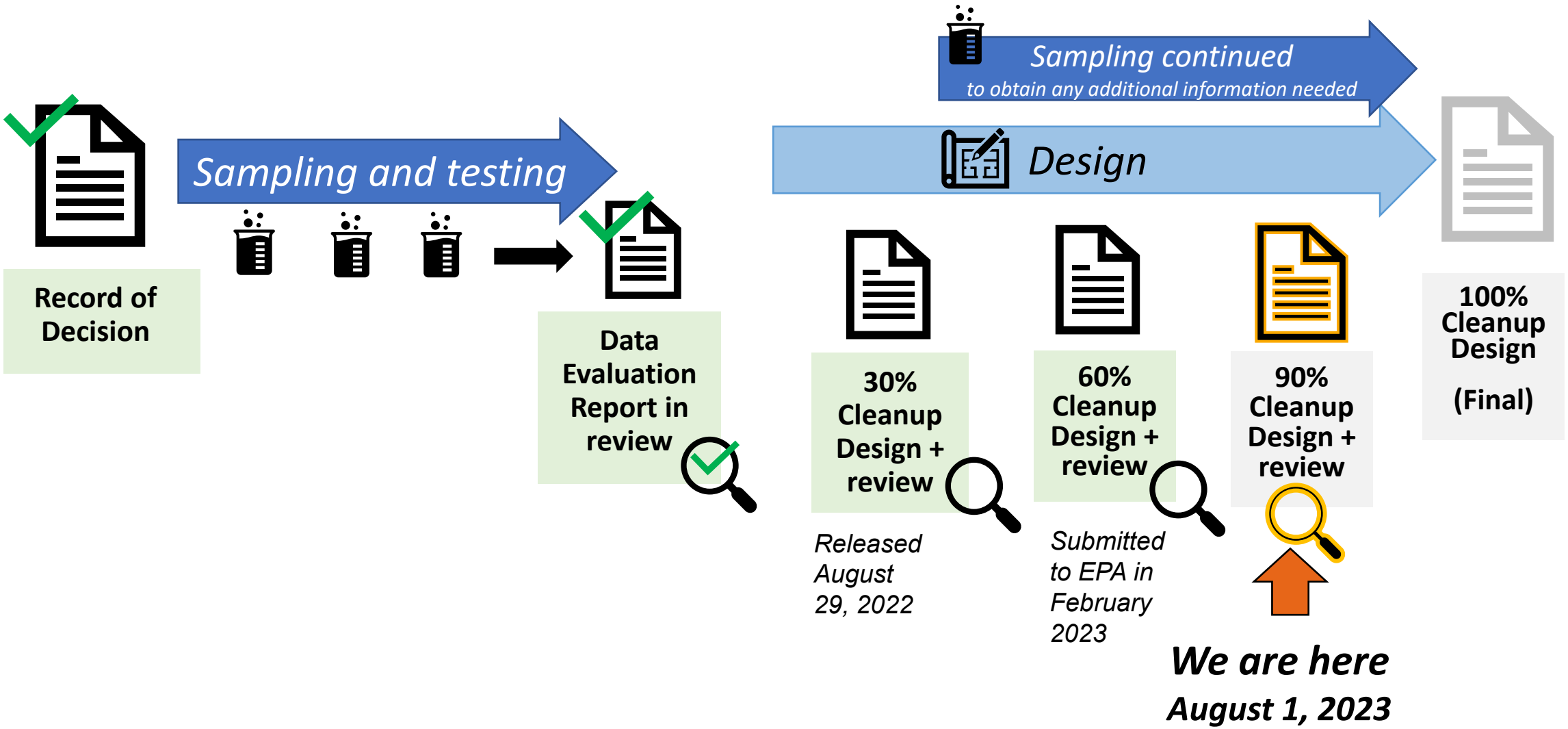
UPPER REACH: Where we were at the last Roundtable

Sampling in 2020 and 2021, combined with data from the Remedial Investigation and other studies, was used to refine the cleanup boundaries.



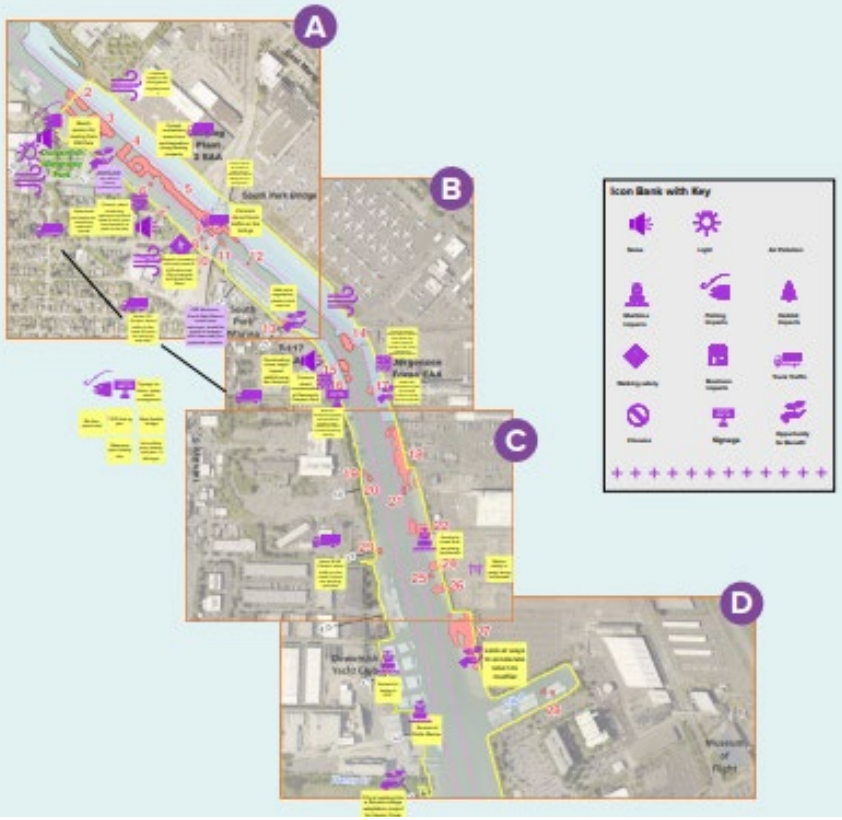
UPPER REACH: Where we are now

Sampling in 2020 and 2021, combined with data from the Remedial Investigation and other studies, was used to refine the cleanup boundaries.



At the previous Roundtable meeting, we…

- Saw examples of specific equipment
- Identified potential impacts **at specific areas in the Upper Reach**



At today's Roundtable meeting, we will…

- Discuss what is in the Upper Reach **90% cleanup design**
- Hear how the status of **source control** is informing the Upper Reach design
- Discuss **potential job opportunities** related to the cleanup

REMEDIAL DESIGN UPDATES

LDW Roundtable Meeting
August 1, 2023

- 2023 Seafood Sampling
- Update on Upper Reach
- Update on Middle Reach

2023 Sitewide Seafood Sampling

Same as seafood sampling done in 2017/18 - clams, fish, crabs.

During June low tides (June 3 – 7), clams were collected in potential clamming areas of LDW.

During August, crews on boats will collect fish (English sole and Shiner surfperch) and crabs.

Labs will measure the four human health contaminants of concern: PCBs, dioxins/furans, arsenic, and carcinogenic PAHs.

At two locations, "passive samplers" will measure dissolved PCBs in water near the bottom.

Report to EPA in February 2024.

Photo source, Suzanne Replinger, Anchor QEA

Photo source: Kristen Kerns, USACE

Upper Reach Design is nearly done!

- EPA commented on the 60% design in April.
- 90% design arrived July 24 and is in review.
- The 90% design includes specifications and several draft plans.
  - Community Outreach and Communications Plan
  - Construction Quality Assurance Plan (CQAP) and Water Quality Monitoring Plan
  - Framework for Long Term Monitoring and Maintenance

Draft Supporting Plans

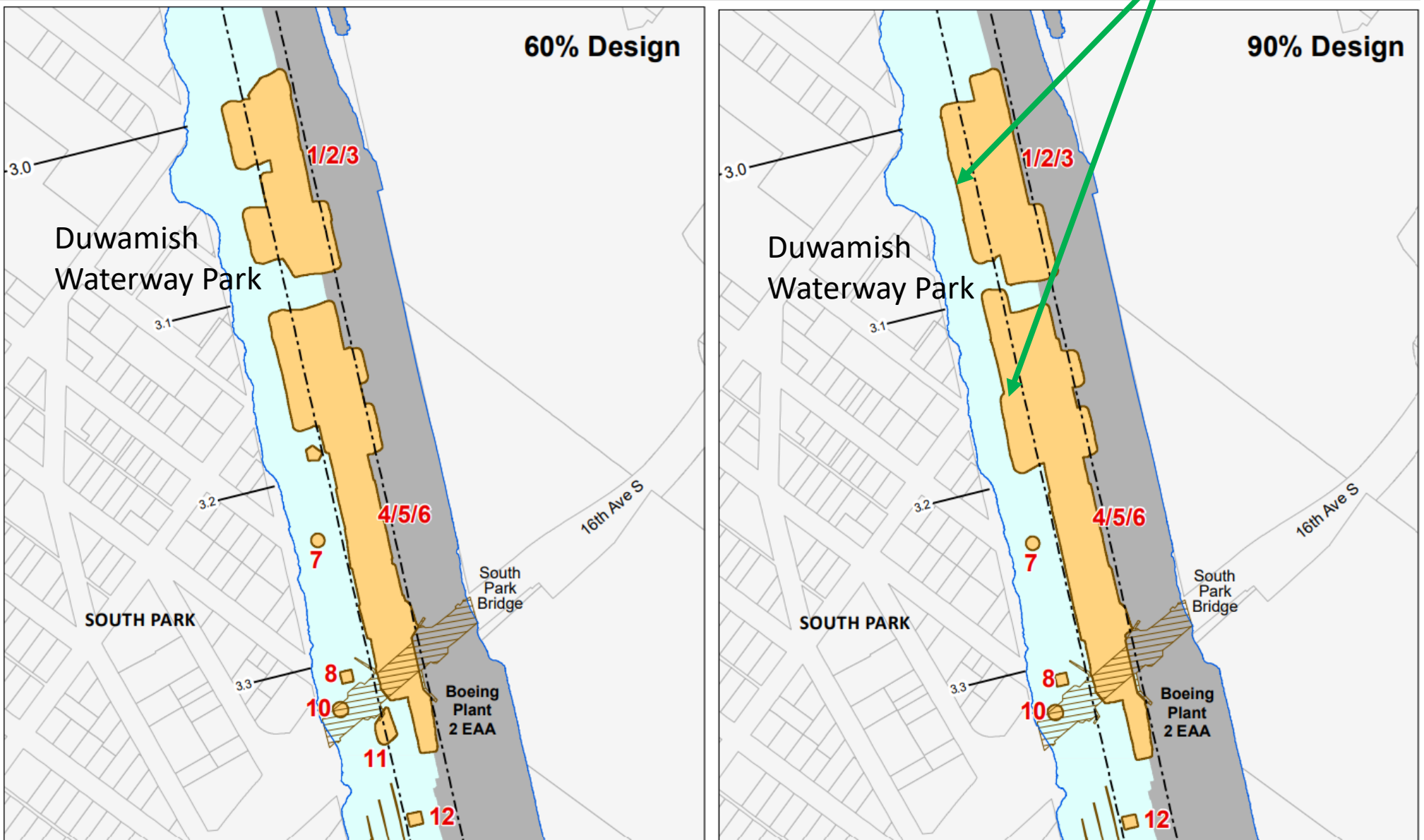
Plan Name	Purpose of Plan
Community Outreach and Communications Plan	Describes how LDWG will communicate construction plans and public safety matters to the public and hear community concerns
Construction Quality Assurance Plan (CQAP)	Describes the approach to monitoring and contingency actions.
Vessel Management Plan	To be finalized by contractor. Describes the coordination that will occur between commercial vessels and the contractor to allow safe passage during construction.
Water Quality Monitoring Plan	Looks at whether water quality impacts are happening outside the work area.

Draft Supporting Plans

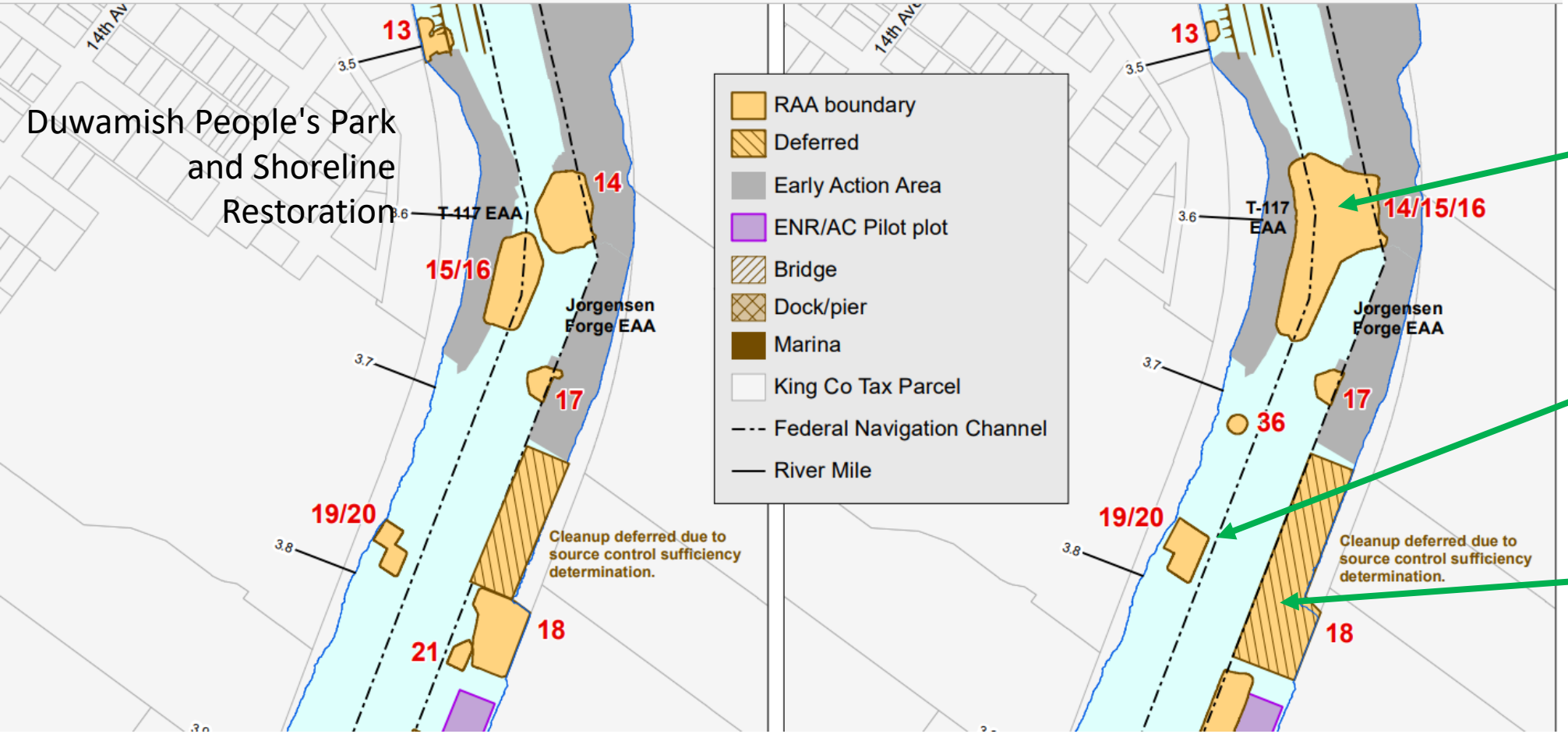
Plan Name	Purpose of Plan
Quality Assurance Project Plan	Details of sampling and lab analyses to ensure data of known quality during remedial action construction and monitoring activities. A health and safety plan will apply to this work.
Specifications for other plans	The specifications require the contractor to submit a remedial action work plan with detailed plans for construction, including construction health and safety plan, community impacts mitigation plan, emergency response plan, transportation and disposal, site access, vessel management.
Framework for Long-Term Monitoring Plan	This outlines how and when monitoring will be done over the years as cleanup of LDW progresses and for many years after.

Changes as a result of Phase 3 sampling:

The dredging area in the channel near Duwamish Waterway Park is bigger.



Changes as a result of Phase 3 sampling:

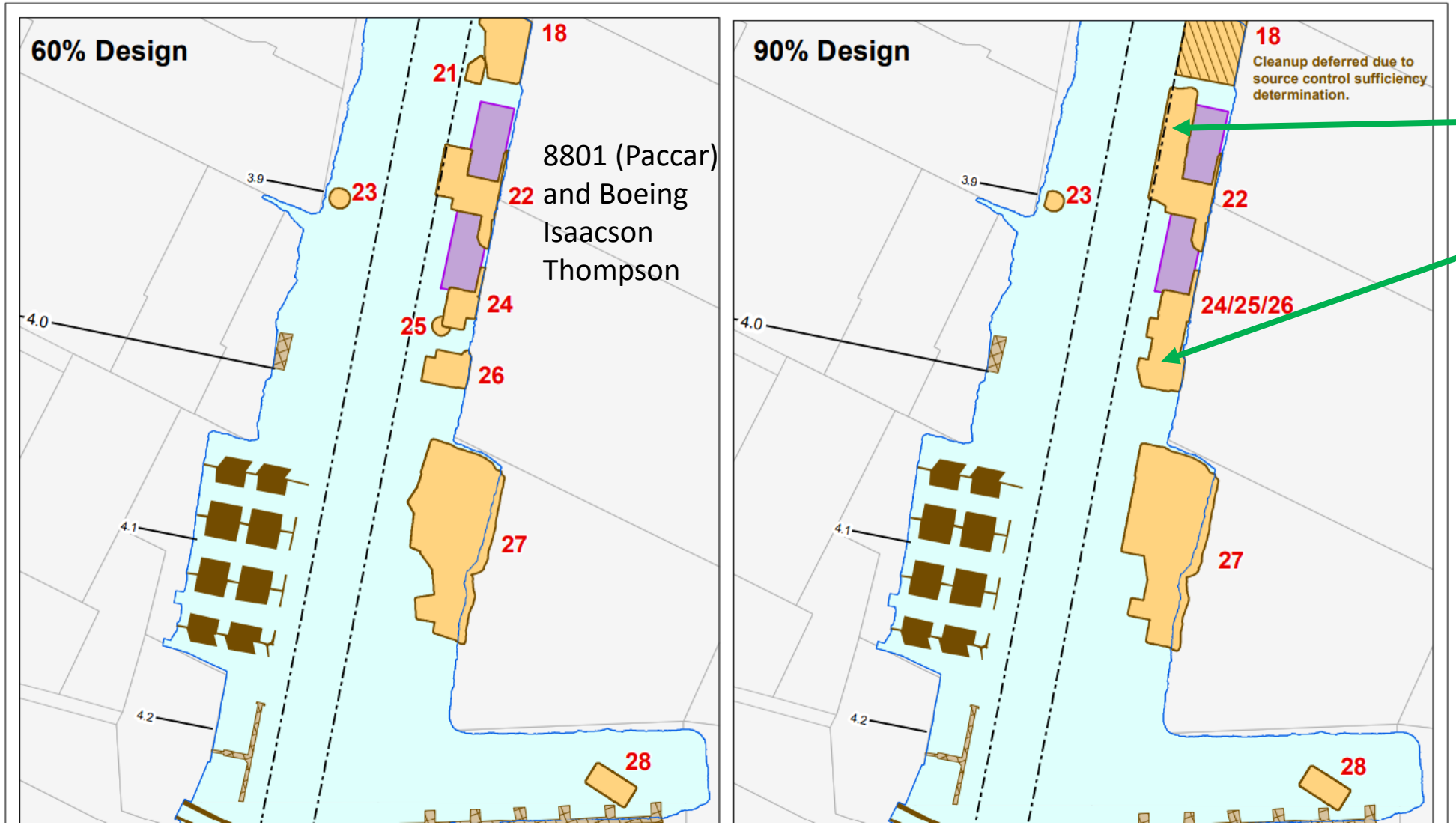


Between Terminal 117 and Boeing Plant 2, two areas are combined and will be dredged and capped.

Area 19/20 is bigger.

All of Area 18 will be deferred.

Changes as a result of Phase 3 sampling:



Near southern part of Boeing Isaacson Thompson and next to 8801 E. Marginal (Paccar) the dredging areas are bigger.

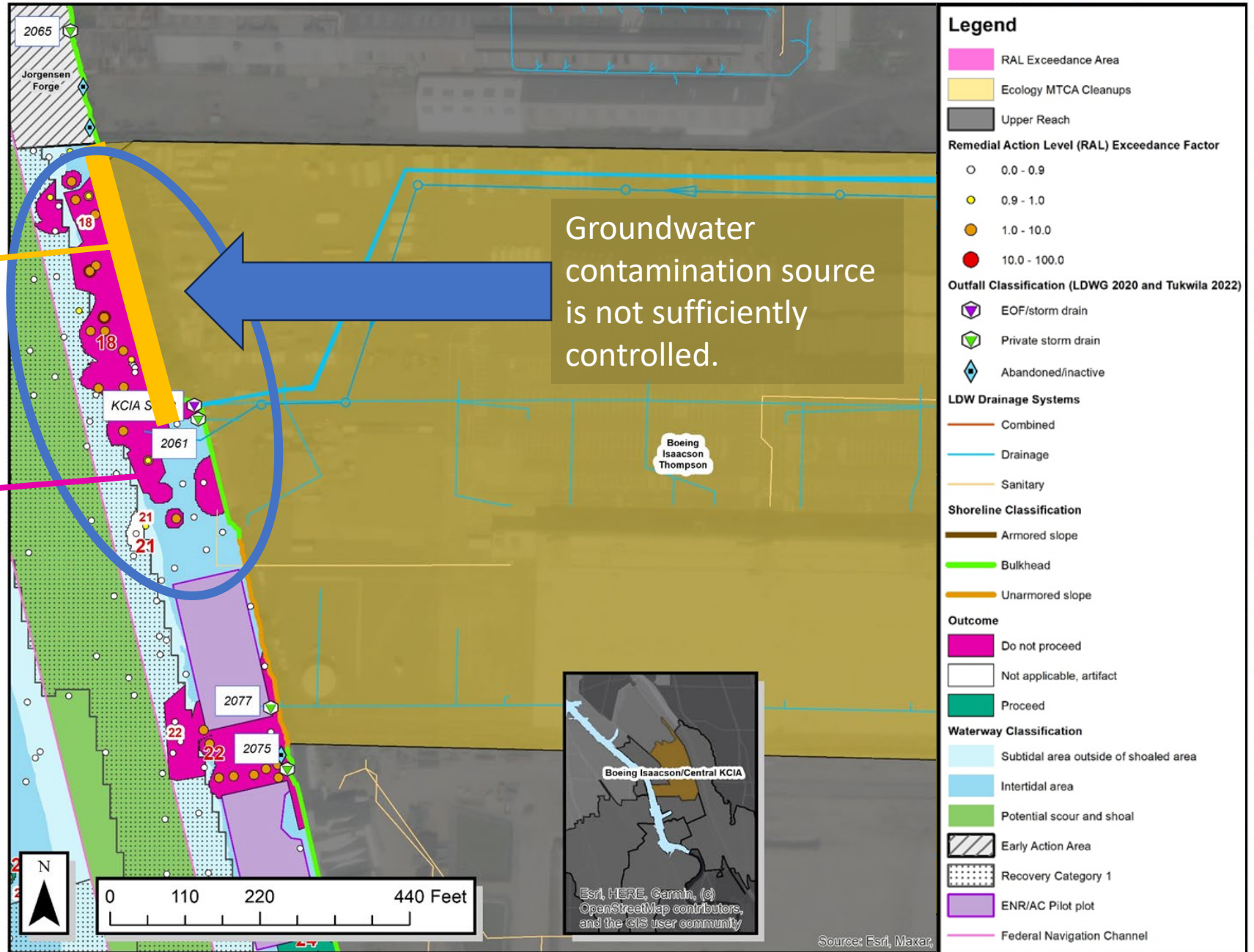
Source Control for Upper Reach – Is it Sufficient?

- Ecology has reviewed data for sources of contamination to the upper reach cleanup areas.
- Report finalized June 30
- Ecology recommends proceeding with sediment cleanup at all areas of the upper reach, with one exception.
- Sediment Area 18 is on east side of waterway, next to the Boeing Isaacson Thompson MTCA site. Arsenic in groundwater needs to be controlled.

Boeing Isaacson Thompson & Sediment Area 18

Orange Strip Area: Sliver of Port of Seattle land

Pink Area: Area 18 sediment cleanup area



Themes of Questions from September 2022 Roundtable Meeting

- General Process
- Traffic impacts; haul routes
- Protect shorelines/adjacent sediments
- Boats, fishing, fish consumption during cleanup
- Use of environmental dredge equipment
- Local hires/job training initiatives
- Testing during construction
- Community communication, impacts and environmental requirements
- Public and worker safety concerns during construction
- Waterway use interference/impacts
- Climate change adaptation
- Long-term monitoring
- Communications during construction and public feedback

General Process

Addressed in design or in construction plans

Summarized Response from LDWG

- Many answers are in 90% design “basis of design report”, engineering drawings, contract specifications, and plans.
- Some answers will come after contractor selected. 'Contract specifications' outline in words the requirements the construction contractor must follow.
- The selected construction contractor will prepare work plans with details, such as sequence and schedule of work, transportation and disposal plan, health and safety plans.
- Contractor plans for upper reach expected in mid-2024.
- Approved contractor plans will be shared with the community.

Photo source: Triangle Associates

Traffic impacts; haul routes

Basis of Design Report; Specifications

Summarized Response from LDWG

- Traffic impacts and haul routes depend on “transloading facility”.
- Transloading means getting dredged sediments from barges onto land.
  - Dredged sediments will be loaded directly onto trains or taken by truck to a local 'transfer station' for loading onto train.
  - A permitted transloading facility will be used.
- Train or truck containers will be sealed to prevent leakage.
- For cleanup areas next to shore, land-based equipment will be used. This material will be carried away by truck.
- Specification will restrict use of residential roads. Will use arterials.
- The contractor work plan will propose a transloading facility, haul methods, and haul routes for EPA approval.
- The Community Impacts Mitigation Plan will describe how impacts to residents will be minimized, with specific routes.

Photo source: Anchor QEA

Protect shorelines/adjacent sediments

Basis of Design Report; Specifications, CQAP

Summarized Response from LDWG

- The design includes Best Management Practices to limit residuals.
- The Construction Quality Assurance Plan (in 90% design) details how water quality monitoring, sediment sampling, and inspections will make sure the contractors are protecting the environment. Public shorelines and habitat restoration areas will be monitored closely.
- Sediment sampling and placing clean sand cover in and around dredged areas will make sure remedial action levels (RALs) are met.

Photo source: Anchor QEA

Boats, fishing, fish consumption during cleanup

No changes in advisory. See specifications, contractor plans.

Summarized Response from LDWG

- Construction plans will specify how contractors will ensure safe passage by recreational boaters and fishers, commercial vessels, and Tribal fishers.
- For safety during construction, observers will warn people in boats away from construction equipment.
- People should not fish near active construction for safety reasons. Other areas will be open for fishing.
- Resident fish should not be eaten. Salmon are still the safer choice because they spend a short part of their lives in the river. Follow healthy fish consumption guidelines from Public Health –Seattle & King County (click here to read).

Image from PHS&KC: recreational fishing in the Duwamish
Photo by: Alex Montalvo of Revel Riter Media

Use of environmental dredge equipment

Basis of Design Report; Specifications

Summarized Response from LDWG

- The specifications require contractor to use a closed dredge bucket, called ‘environmental bucket’, as the primary method to use when possible.
- In areas that have debris or other conditions, contractors may need to use different dredge buckets and equipment. EPA and LDWG will be overseeing the work, but the design allows this flexibility.
- All bucket types raise some fine sediment in the water, and these "dredge residuals" settle back on the river bottom in and near the dredge area.

Environmental bucket (above)
Clamshell bucket (below)

Photo Source: Anchor QEA

Local hires/job training initiatives

Not design; during contracting by Implementing Entity

Summarized Response from LDWG

- The LDWG partners and EPA share the goal of optimizing local hiring in the cleanup construction.
- Public contracting mechanisms include “Community Workforce Agreements” encouraging local hires. EPA has a separate Job Training Initiative that can provide free training to local community members.
- LDWG members are working with EPA to coordinate these programs and plan community outreach, so that community members can understand and participate in the training and local hire programs.

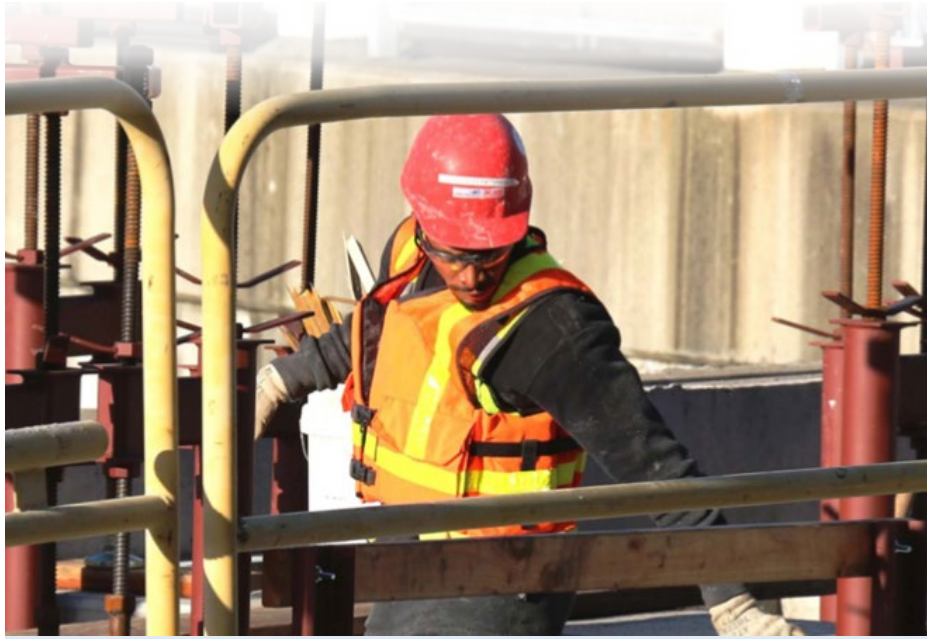


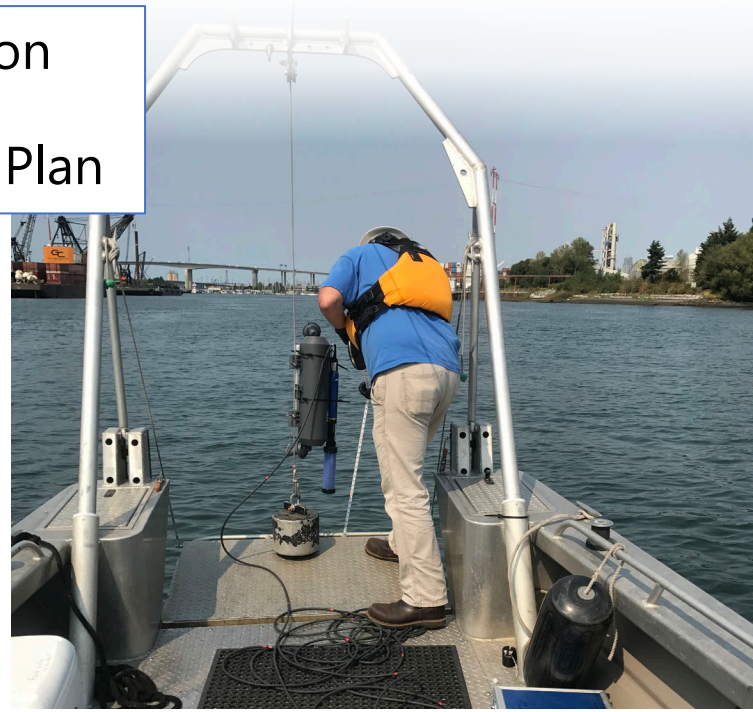
Photo Source: City of Seattle

Testing during construction

Construction Quality Assurance Plan

Summarized Response from LDWG

- The Construction Quality Assurance Plan describes testing plans. The CQAP is in the 90% design.
- EPA and LDWG oversee the construction work and use CQAP measurements to show that the work is done as the design specifies.
- Water quality tests help us protect the aquatic environment and show us if changes to construction practices are needed.
- Water depth (bathymetry) will show when the dredging meets design requirements.
    - Testing of the bottom of dredge areas will show whether more dredging is needed. If not, clean backfill will be placed where required.
    - If sample results trigger a second "pass" of dredging, after that, a layer of clean sandy material will cover the bottom.
- Water depth will also show if backfill or cap was placed correctly.
- Next to dredged areas, some areas will be covered with clean sandy material after dredging in case there are dredging "residuals" that need to be covered ("residuals management cover"). Other areas will be sampled to tell us whether to use a residuals management cover.



Water Sampling Activities
Photo Source: LDWG 2017

Community communication, impacts and environmental requirements

Basis of Design Report Section 11.3; Specifications, COCP

Summarized Response from LDWG

- LDWG is seeking input on the draft Community Outreach and Communications Plan (discussed later).
- The contractor will prepare a Community Impacts Mitigation Plan, which will outline specific practices to limit impacts.
- The specifications promote contractor use of modern equipment, cleaner fuels, alternative energy sources and equipment, to the extent possible, to minimize impacts.
- Sediment cleanup construction will occur during in-water work windows designated for the LDW (approximately October 1 through February 15). Short time extensions may be considered.

Photo Source: EPA

Public and worker safety concerns during construction

Specifications;
Contractor's Community Impacts Mitigation Plan (CIMP)

Summarized Response from LDWG

- The safety of construction workers, monitors, and waterway users is a top priority.
- Measures to protect the public during construction activities will be presented in the Community Impacts Mitigation Plan.
- The contractor will prepare a Health and Safety Plan that must comply with federal and state safety regulations.
- The contractor will secure work areas. Members of the public should avoid approaching construction equipment.

Photo Source: Anchor QEA

Waterway use interference/impacts

Specifications;
Community Outreach and Communications Plan (COCP)

Summarized Response from LDWG

- Construction will be done in small areas at a time. Most areas of the waterway will be available for public use.
- Construction equipment may briefly obstruct docks and piers. Activities will be coordinated with affected businesses.
- Construction equipment will pass Duwamish Waterway Park and Duwamish People's Park for short periods to get to the work areas.
- Cleanup work near these parks will likely be in winter 2026 (contractor's schedule will be developed by September 2024). Equipment will be away from the beach. Access to the waterway may be constrained for that period.

Photo Source: Anchor QEA

Climate change adaptation

Basis of Design Report 11.4

Summarized Response from LDWG

- Climate change doesn't affect dredging or construction.
- Sea level rise is considered in the design. Cap and backfill armoring accounts for predicted higher water levels.
- Changes in dam operations and rainfall intensity were considered but are not predicted to increase erosion.
- Long-term monitoring will help identify any climate change impacts that may affect the cleanup long-term.
- The cleanup does not solve issues related to local flooding. Other governmental efforts are involved in those issues.

South Park community model in Duwamish Hub. *Photo: Triangle Associates*

Long-term monitoring

Framework for Long-term Monitoring and Maintenance Plan (LTMMP)

Summarized Response from LDWG

- Long-term monitoring evaluates how well the cleanup is protecting the river long-term.
  - Do caps need maintenance?
  - Is natural recovery making sediments cleaner?
  - What changes do we see in fish?
  - Are some areas being affected by erosion or new contamination sources?
- The framework for the Long-Term Monitoring and Maintenance Plan is in 90% design. The plan will be adjusted after each reach of construction.
- Long Term Monitoring will include, at a minimum:
  - sitewide sediment sampling
  - sampling of fish, crabs, clams
  - water sampling
  - Cap monitoring to see if maintenance or repair is needed
- We have data from before construction, so that post-construction conditions can be compared.

Photo Source: Triangle Associates

Communications during construction and public feedback

Community Outreach and Communications Plan (COCP)

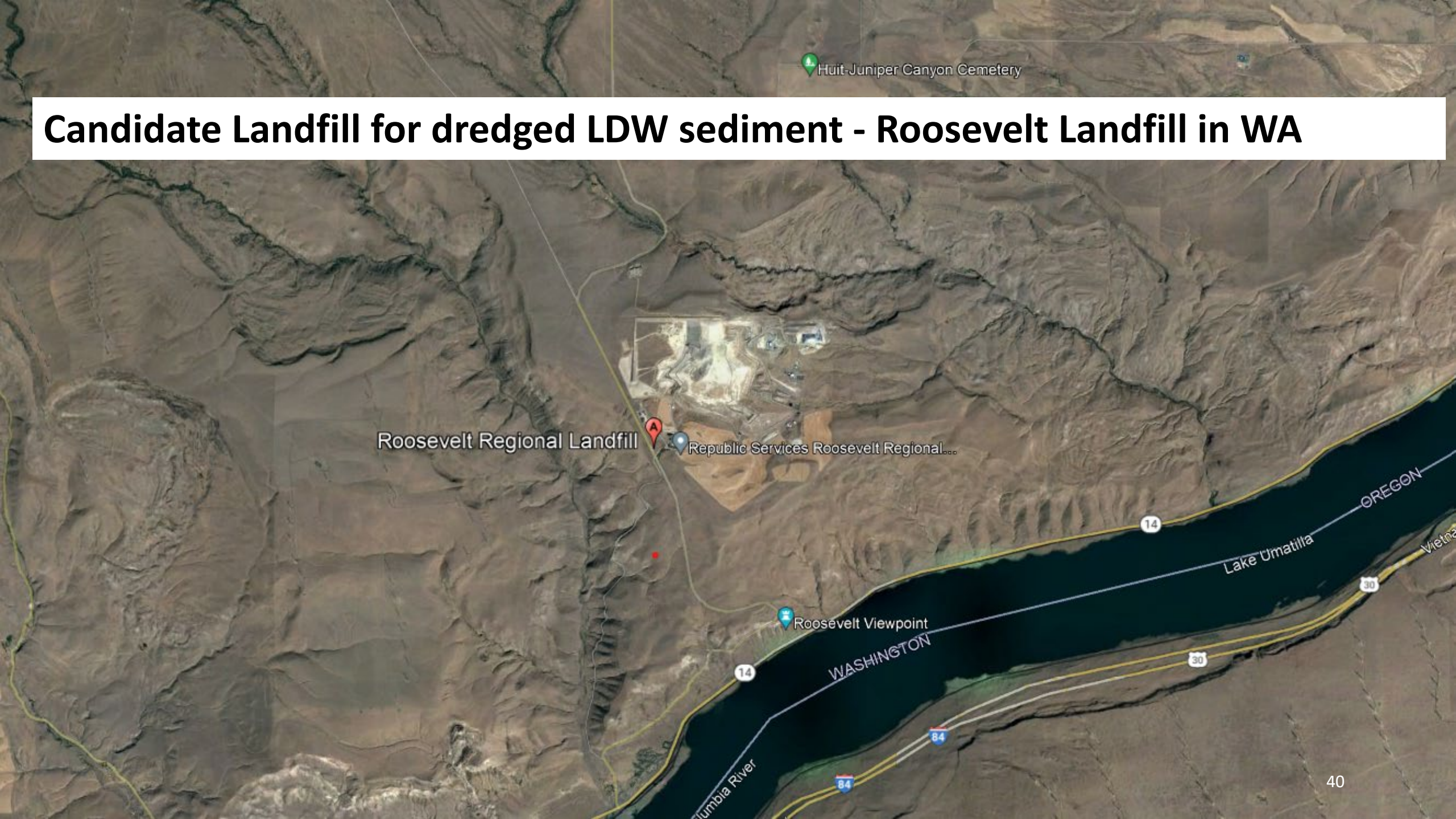
Summarized Response from LDWG

- EPA and LDWG are conducting outreach to the community to finalize the Community Outreach and Communications Plan. Draft is in the 90% design.
- This plan will provide mechanisms for communication and feedback from the public during construction.
- Possible methods of communication include:
  - Signs
  - QR codes
  - flyers and posters
  - a dedicated telephone hotline
  - a regularly updated project website

Photo Source: Triangle Associates

Candidate Landfill for dredged LDW sediment – Columbia Ridge Landfill in OR

Candidate Landfill for dredged LDW sediment - Roosevelt Landfill in WA



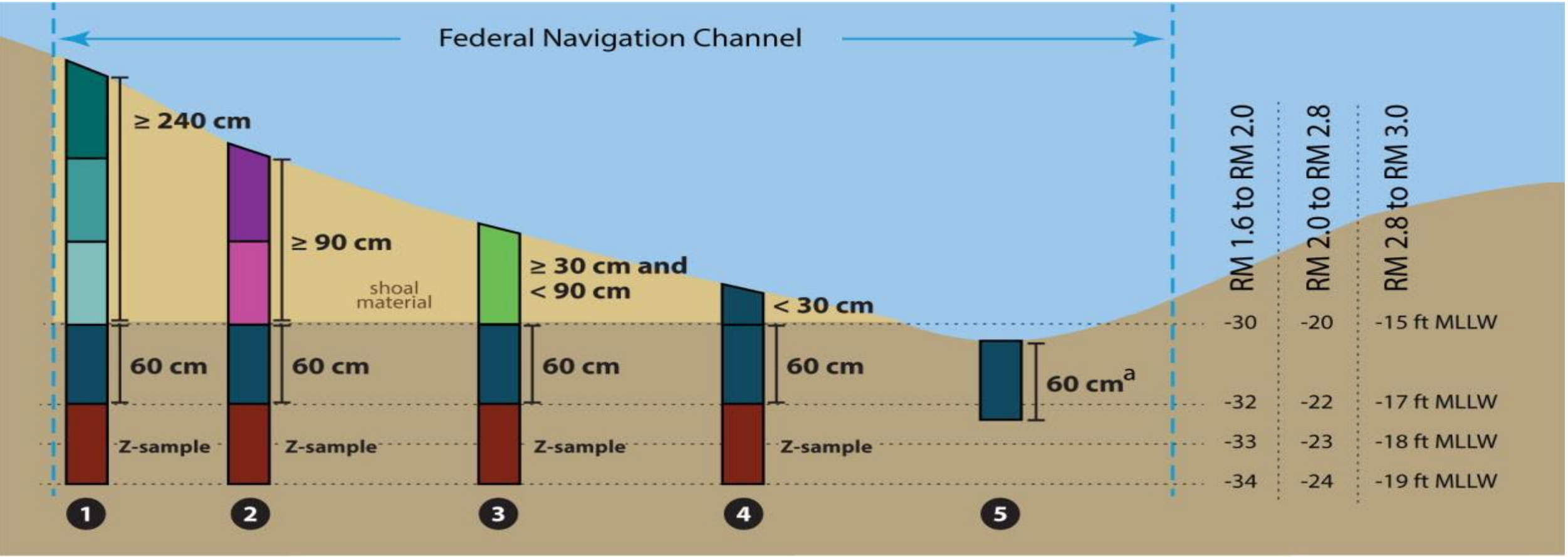
Middle Reach – Pre-Design Phase 1 Sampling

- Sampling was done between January and early May 2023:
  - mostly from boats
  - under piers and docks by divers
  - on beaches by sampling crews on foot at low tide.

- Some locations required businesses to relocate boats or barges to allow sampling below.

Middle Reach – Pre-Design Phase 1 Sampling

- So far (partial results as of early June) the data for the navigation channel indicate....
  - Mostly PCBs, with a few other organics and metals.
  - Most shallow samples (10-centimeter depth) not above the RAL.
  - In shoaled areas of the navigation channel, the bottom layer was tested first.
    - Where this layer is above the RAL, all shoaled material will need to be dredged.
    - Where the bottom layer is below the RAL, the layers above are being analyzed at the lab. If all are clean, that area doesn't require cleanup.



Navigation channel authorized depths, maintenance depths, and shoaling area samples. Teal interval is analyzed first.

Middle Reach – Pre-Design Phase 1 Sampling

- **Next Steps:**
  Using new Phase 1 data and earlier data, we will:
  - Put the data on maps for the data evaluation report
  - Run statistical analyses
  - Decide if archived samples need analysis
  - Select locations for coring

- Phase 1 Data Evaluation Report due in December 2023, with plans for Phase 2 sampling.

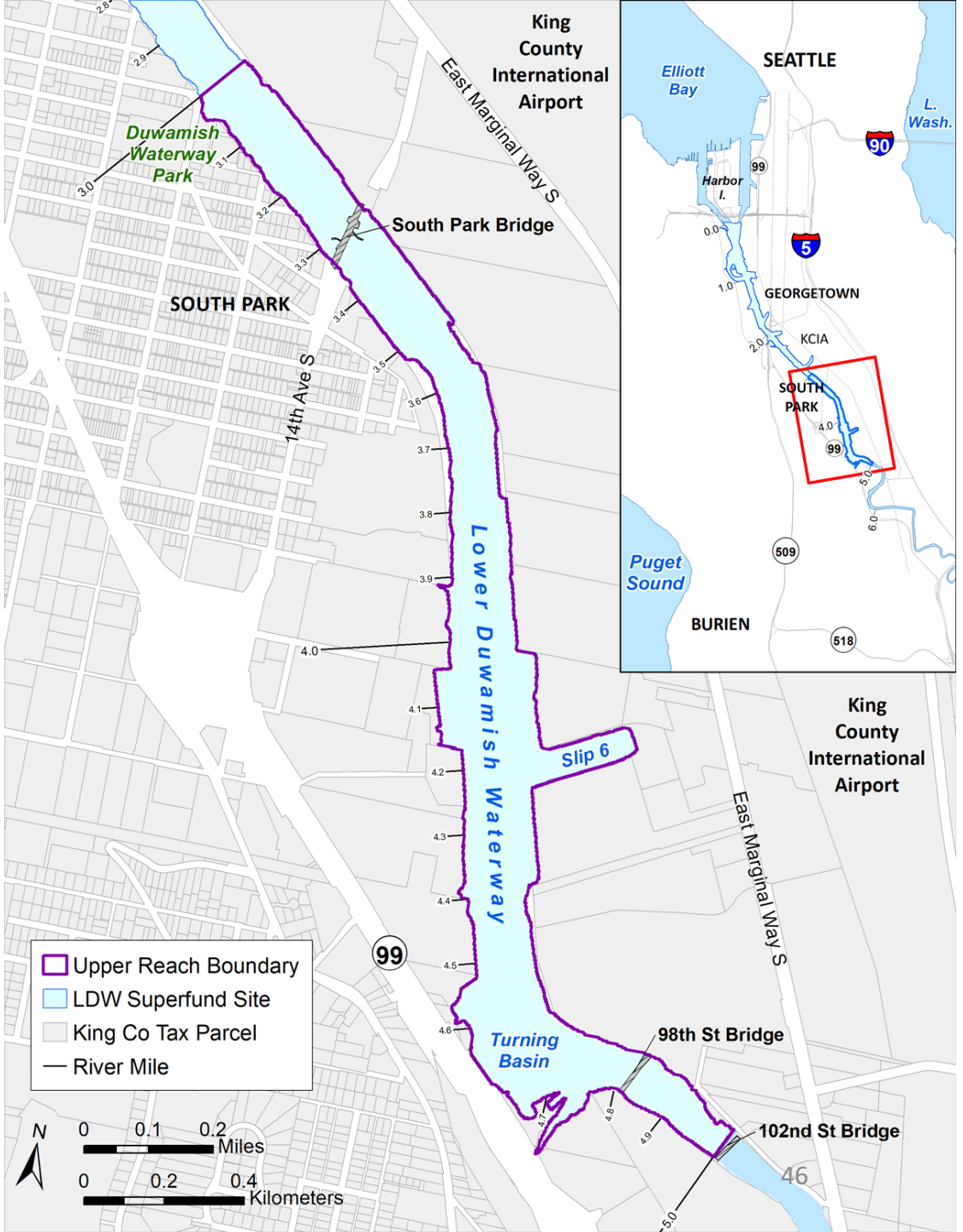
LOWER DUWAMISH WATERWAY GROUP

Upper Reach construction:
late 2024 – early 2027

Tell us what's important to you during cleanup construction!

Community Outreach and Communications Plan

- Upper reach construction is scheduled to start in late 2024.
- Construction from October to February
- Over 3-year period.



Map courtesy of LDWG

Community Outreach and Communications Plan

- With EPA's oversight, the Lower Duwamish Waterway Group is developing a construction Community Outreach and Communications Plan.
- This plan identifies:
  - general interests related to cleanup activities
  - ways the project team will communicate cleanup construction activities to the community
  - Ways the community can ask questions and voice concerns.
- Previous engagement and input from the Roundtable and other groups is incorporated into the draft plan.

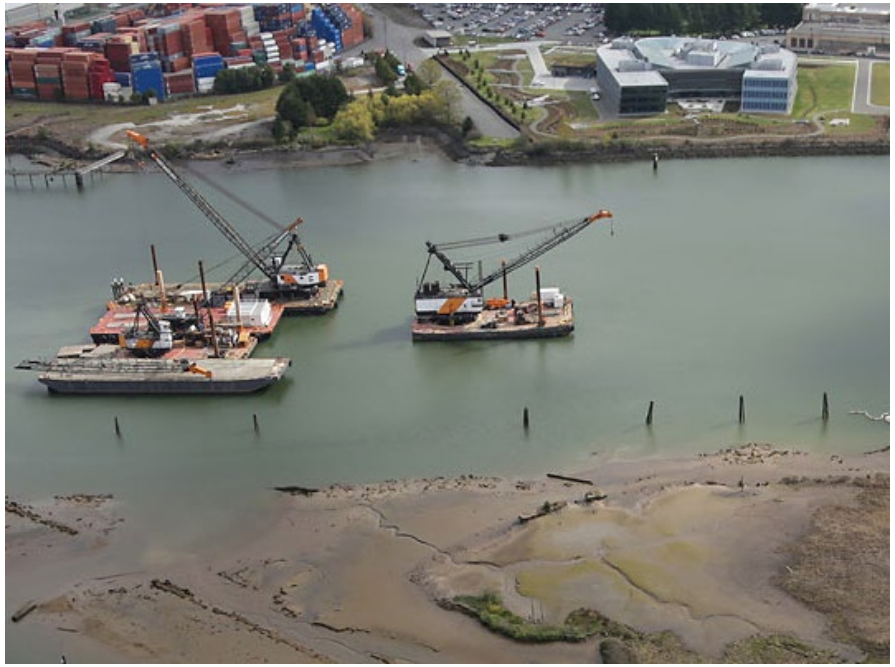


Photo: LDWG

Community Outreach and Communications Plan

Opportunities for additional feedback:

- Draft Community Outreach and Communications Plan available for your review this month.
- Community-wide mailer and survey available this month.
- Please share these with your communities and provide additional feedback by **September 8**.

Photo: King County

Visit www.LDWG.org to learn more

Community Outreach and Communications Plan

What's Next?

- Incorporate additional community feedback to finalize the **Community Outreach and Communications Plan** in Fall 2023.
- Develop a **Community Impacts Mitigation Plan (CIMP)** after design but before construction begins.
- This additional plan describes activities to be performed such as:
  - **Reduce and manage the impacts** from cleanup construction.
  - **Conduct monitoring and communicate results** from cleanup construction.
  - **Restore community resources if damaged** during cleanup.

Source Control Sufficiency Evaluation Report
Lower Duwamish Waterway, Upper Reach

August 1, 2023

Anthony Wenke
Source Control Scientist
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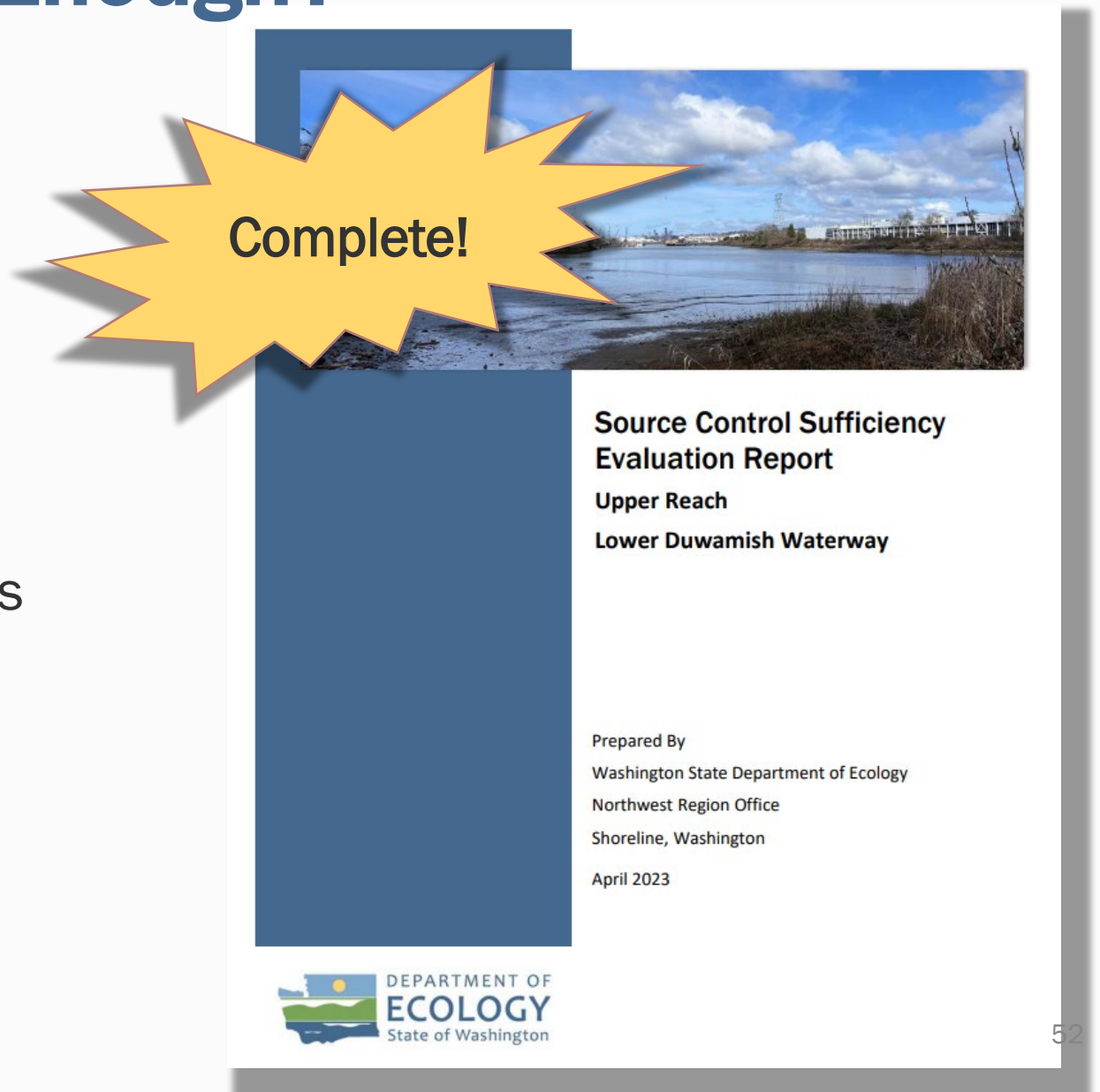
LDW Source Control Refresher

- Ecology leads the LDW Source Control program, guided by our 2016 LDW Source Control Strategy.
- Ecology partners with local governments to conduct source control activities. We are known as the "Source Control Work Group" (SCWG).
- SCWG's work involves:
  - Tracking and completing source control actions
  - Cleaning up upland contaminated sites
  - Water quality permitting compliance
  - Additional activities planned by our partners
  - Studies to understand more about pollution sources to the LDW
- Near-term goal: Control sources ***sufficiently*** to allow active sediment cleanup actions to start, minimizing the likelihood that sediments will be recontaminated and require more cleanup.

Are Sources Controlled Enough?

- Our report is available!
- We reviewed:
  - Active remedial action areas & main pollutants
  - Information on contaminated site soil and groundwater
  - Information about direct discharges
- We provided recommendations to the EPA

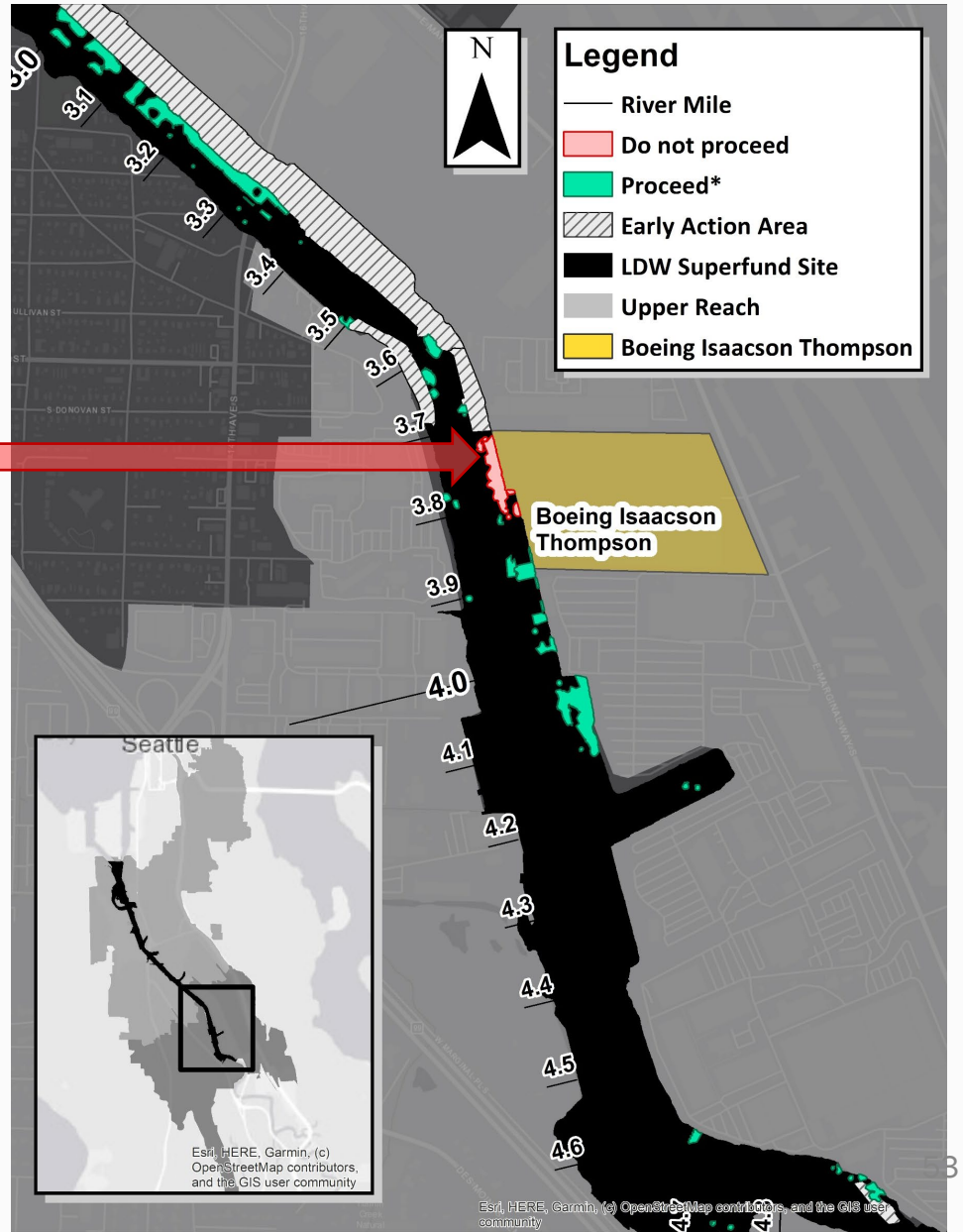
To access the report, visit Lower Duwamish Waterway - (1643)
https://apps.ecology.wa.gov/cleanupsearch/site/1643#site-documents



Yes, mostly, sources are controlled enough!

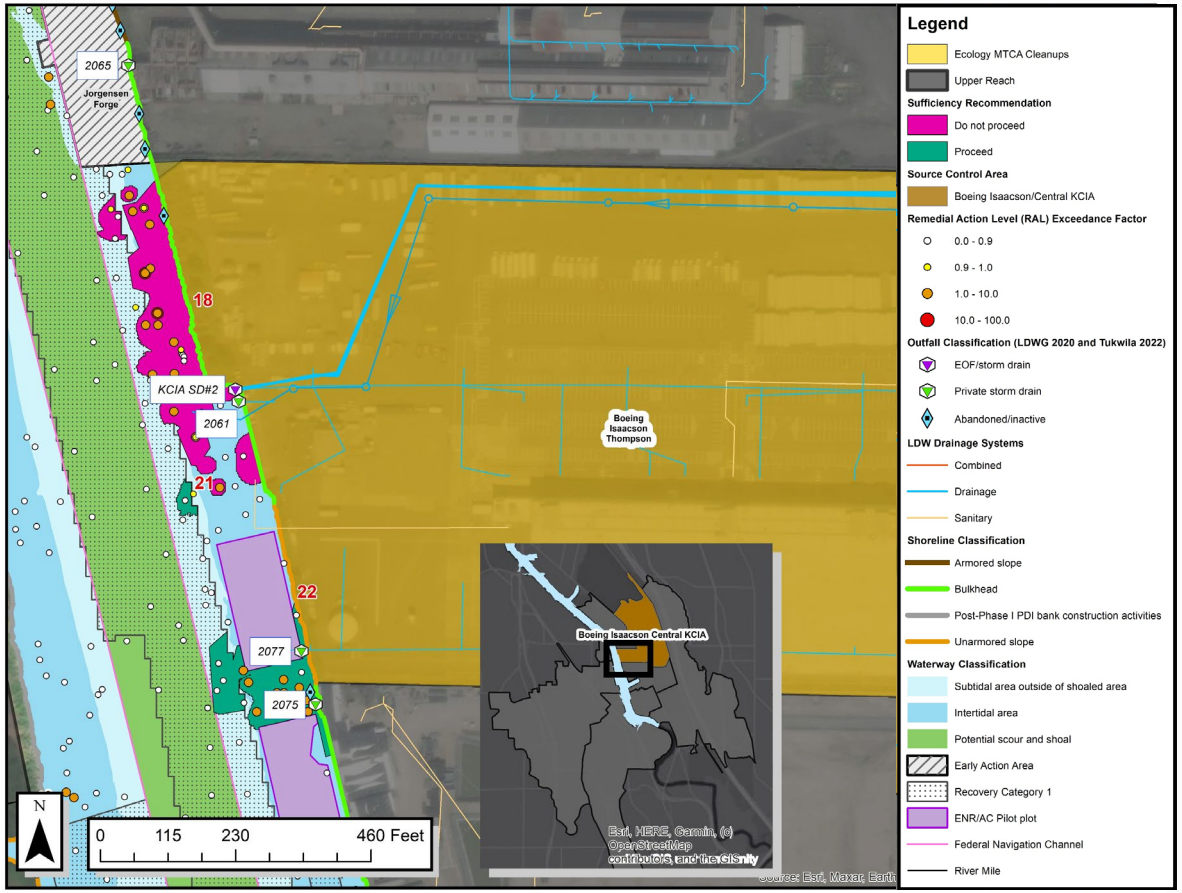
- Ecology recommends EPA proceed with sediment cleanup, with one exception…

- One sediment area is not ready for cleanup
  - associated with the Boeing Isaacson Thompson upland Site cleanup [Boeing Isaacson Thompson - (1944) (wa.gov)]
  - Sources will not be controlled until after sediment cleanup begins
  - Why is this cleanup not ready?



Boeing Isaacson Thompson Site Background & History

- Contaminant sources
  - Metals resulting from historical wood treating
  - Metals in Slip 5 historical fill material
- Agreed Order 2010: Remedial Investigation, Feasibility Study and draft Cleanup Action Plan
- Final Feasibility Study is available for public review
- Next steps…



https://apps.ecology.wa.gov/cleanupsearch/document/126698

Relevant Webpages

- **Ecology's Lower Duwamish Waterway Page**
  - LDW Source Control Sufficiency Focus Sheet
  - LDW Source Control Strategy
- **LDW Source Control Work Group**
  - City of Seattle's LDW Webpage and Information
  - King County's LDW Webpage and Information
  - Port of Seattle's Maritime Stormwater Program
    - Port of Seattle's Salmon Safe Certification Program
  - City of Tukwila's NPDES Permit Program

Source Control Work Group Partners

DEPARTMENT OF ECOLOGY State of Washington
EPA
King County
City of Seattle
CITY OF TUKWILA
Port of Seattle

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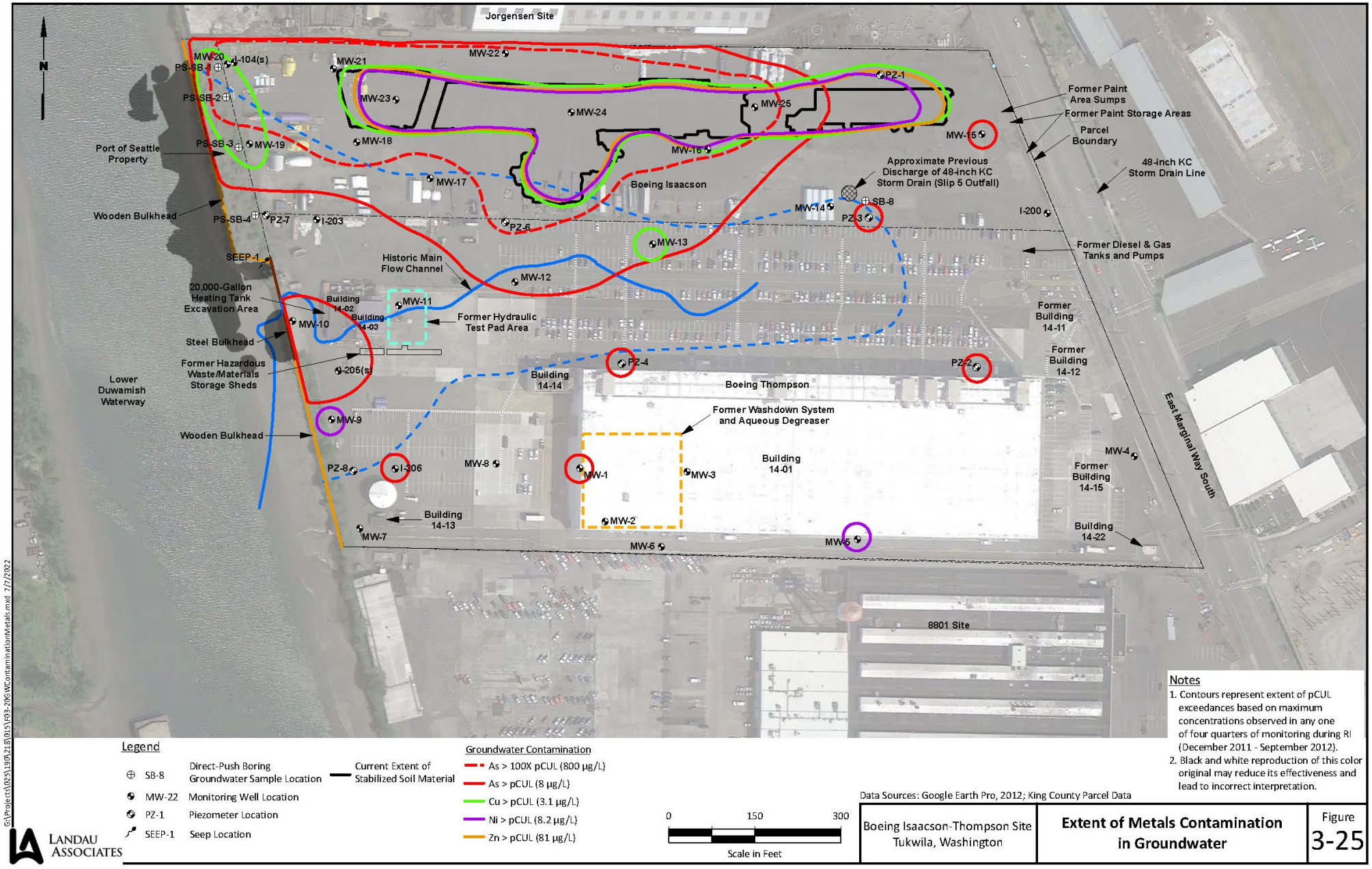

Notes
1. Contours represent extent of pCUL exceedances based on maximum concentrations observed in any one of four quarters of monitoring during RI (December 2011 - September 2012).
2. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

Legend

SB-8	Direct-Push Boring Groundwater Sample Location
MW-22	Monitoring Well Location
PZ-1	Piezometer Location
SEEP-1	Seep Location
	Current Extent of Stabilized Soil Material

Groundwater Contamination
- As > 100X pCUL (800 µg/L)
- As > pCUL (8 µg/L)
- Cu > pCUL (3.1 µg/L)
- Ni > pCUL (8.2 µg/L)
- Zn > pCUL (81 µg/L)

0 150 300
Scale in Feet

Data Sources: Google Earth Pro, 2012; King County Parcel Data

LANDAU ASSOCIATES

Boeing Isaacson-Thompson Site Tukwila, Washington	**Extent of Metals Contamination in Groundwater**	Figure 3-25

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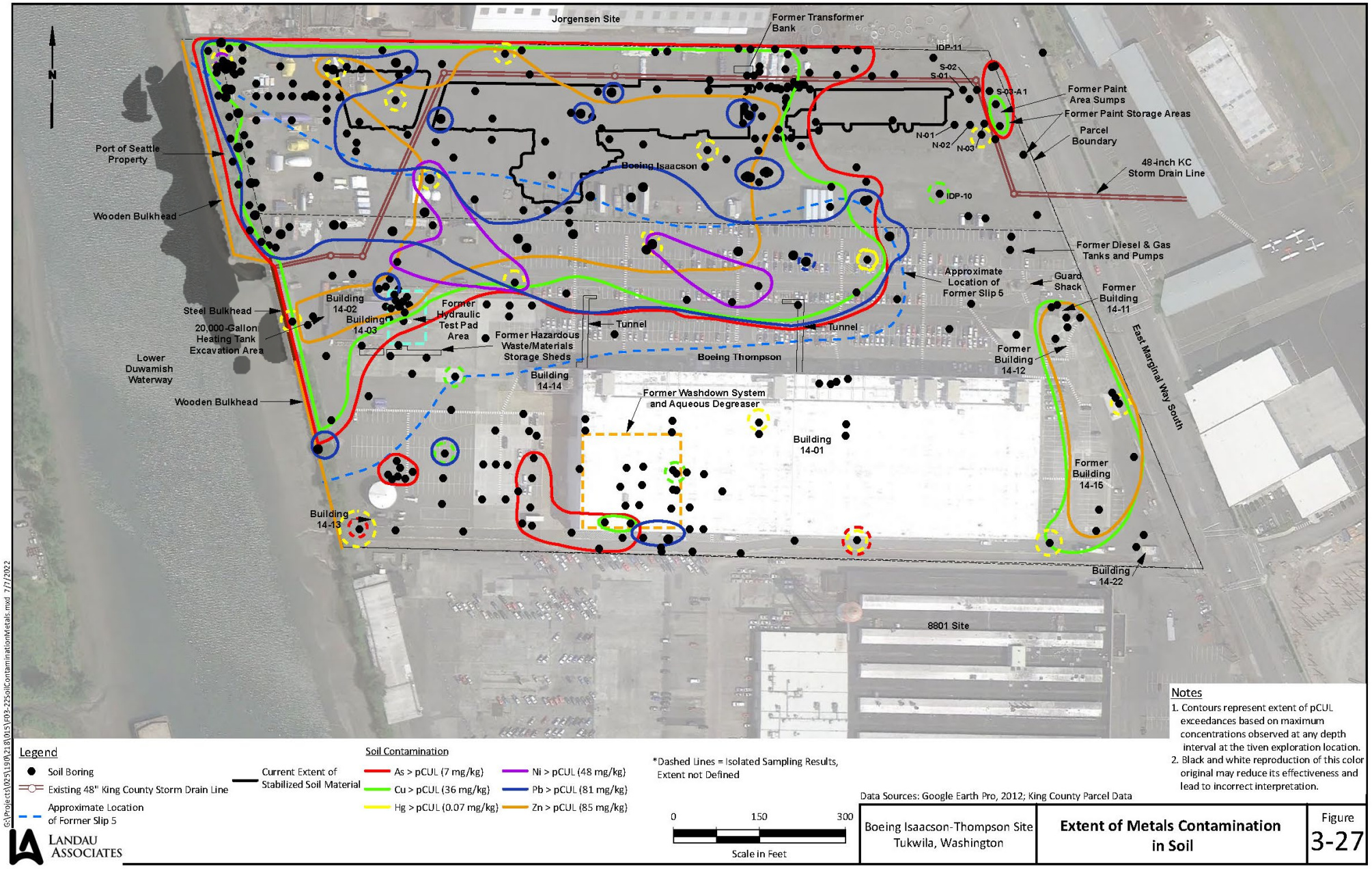
Source: https://apps.ecology.wa.gov/cleanupsearch/document/119175



Source: https://apps.ecology.wa.gov/cleanupsearch/document/119175