June 27, 2024

David Lacey
Oregon Department of Environmental Quality
700 NE Multnomah Street, Suite 600
Portland, Oregon 97232

Re: Riverbank Monitoring Report
Swan Island Upland Facility - Operable Unit 5
Portland, Oregon
ECSI No. 271
1115-25

Dear David:

Apex Companies, LLC (Apex) prepared this *Riverbank Monitoring Report* on behalf of the Port of Portland (Port) for the Swan Island Upland Facility – Operable Unit 5 (OU5; Figures 1 and 2). This report documents monitoring of the OU5 riverbank completed on December 19, 2023 according to the *Revised Riverbank Monitoring Work Plan* (Work Plan; Apex, 2018).

BACKGROUND

Source control measures (SCM) at OU5 were implemented in 2016 (Apex, 2017). The general scope of the SCM included regrading of erosion scarps; placement of protective rip rap; removal of invasive plant species; placement of topsoil; and planting of native grasses, shrubs, and trees. The work was conducted on a portion of the OU5 riverbank (approximately 600 lineal feet adjacent to the Daimler leasehold) between 25 feet landward of the top of the bank and the ordinary line of high water. The SCM construction included placement of 150 cubic yards of imported rip rap and 220 cubic yards of imported topsoil in the source control action area. Filter fabric and a demarcation layer (orange plastic construction fencing) were placed on the riverbank between the existing soil and the rip rap. Site restoration included planting 690 shrubs and 30 trees. The SCM at OU5 was combined with the completion of landscaping associated with the OU2 removal action completed in January 2015.

Actions below the ordinary line of high water were deferred until implementation of the in-water remedy. To assure that the SCM is effective and deferral of a portion of the SCM would be protective, the Oregon Department of Environmental Quality (DEQ) requested long-term monitoring of the full length of the OU5 riverbank.

MONITORING REQUIREMENTS

The requirements for long-term monitoring of the OU5 riverbank are summarized below. A detailed description of these items is presented in the Work Plan.

Inspection Items. The following lists the items to be inspected during each monitoring event:

1. Rip Rap
    a. Coverage of scarp repair areas

   b. Visibility of soil/filter fabric/orange demarcation layer
   c. Change in rip rap in areas outside scarp repair
2. Existing Erosion Features
   a. Change in size or location
3. New Erosional Features
   a. Change in surface vegetation/fills
   b. Soil exposure/soft ground/erosion/slope movement
   c. Springs/seeps
4. Sprinkler System
   a. Condition of tank and pipes
   b. Adequate coverage
5. Revegetation
   a. General condition of plants
   b. Topsoil
   c. Tree staking
   d. Invasive species
6. Additional Inspection Items
   a. Fencing
   b. Unauthorized encampments
   c. Vandalism

Inspection Checklist. The inspection checklist included in the Work Plan was used in the field to document the inspection.

Photographic Record. Photograph stations (shown on Figure 3) were established to allow direct comparison of the riverbank between monitoring events. Photos from these stations are taken during each event (or from the same general area given limitations such as driftwood and vegetation).

ACTIONS COMPLETED

Monitoring of the OU5 riverbank was conducted on December 19, 2023. The event was conducted according to the Work Plan. The elevation of the Willamette River tide ranged from 4.81 feet to 5.36 feet with low tide (3.86 feet) occurring after the December 2023 inspection (USGS 2023). The results of the inspections are presented on the Inspection Checklists included as Attachment A and summarized below. Representative photographs of the repair areas taken during the December 2023 inspection event are presented in Attachment B. The photolog from the *Source Control Measures Work Plan* (Apex, 2015) is included as Attachment C to allow comparison to previous conditions.

Rip Rap. The rip rap coverage at repaired scarp locations J, L, M, and N as shown on Figure 3 was mostly consistent with the locations of the scarps as verified by utilizing previous inspection photos and landmarks along the riverbank. Minor exposure of filter fabric and depleted rip rap was observed at location L due to trespass. No other disturbances of the rip rap in areas outside the scarp repair were observed.

Existing Erosional Features. Existing erosional features B, D, E, I, J, O, and P were inspected for any change in size or location. Representative photographs in Attachment B show the existing conditions of these features. No significant changes in these features were observed during the 2023 inspection event.

New Erosional Features. The riverbank was inspected for new erosional features including scouring, scarps, slides, erodible soil, soft ground, depressions, or other changes. In general, no significant changes due to natural erosion were observed during the 2023 inspection event. However, the previously observed location of unauthorized steps show some erosion with exposure of filter fabric at the northern edge of J1. The exposure of filter fabric and depletion of rip rap observed at location L also appeared to be recent.

Sprinkler System. The sprinkler system is no longer in place at the riverbank. The system was removed in 2017 after operating for two growing seasons in accordance with the revegetation plan.

Revegetation. The vegetation planted during the SCM was inspected during the monitoring event. The entire revegetation area was covered with either trees, grass, or shrubs. No topsoil was visible in the revegetation areas. Grass and shrubs appeared healthy. Trees were dormant at the time of the inspection. The staking of trees was adequate.

Himalayan blackberry (*Rubus armeniacus*) was identified on the edges of the revegetation area. This is the only invasive species identified within the revegetation area. The areas adjacent to the revegetation area are rip rap and concrete debris. These areas were not vegetated and are dense with blackberries.

Additional Items. The fencing along the top of the SCM area separating the Vigor Industries, Cemex, and Daimler properties was in good condition with the exception of a loose top bar in one section adjacent to Cemex. This fencing exception was reported to Cemex/Heidelberg Materials for repair. The gate, gate latch, and padlock at the Daimler leasehold are operational. The riverbank was inspected for vandalism and signs of unauthorized encampments or use. There were several unauthorized encampments observed along the riverbank with the highest concentration located between locations J and O. However, it appears that recent cleanup of unauthorized encampments has been conducted.

PROPOSED CORRECTIVE ACTIONS

No corrective action is proposed at this time. No significant changes have been observed as a result of natural erosion and the minor exposed bank repair demarcation and filter fabric layers will be addressed in coordination of in-water remedy activities. However, minor disturbance has been observed on the riverbank as a result of unauthorized encampment activities and will be addressed at a future time.

If you have any questions regarding the contents of this letter, please do not hesitate to call me at (503) 974-0429.

Sincerely,

Steve Misner, R.G.
Project Manager

REFERENCES

Apex Companies, LLC, 2015. *Source Control Measures Work Plan, Swan Island Upland Facility, Operable Unit 5.* September 18, 2015.

Apex Companies, LLC, 2017. *Source Control Measures Completion Report. Swan Island Upland Facility, Operable Units 2 and 5*. February 10, 2017

Apex Companies, LLC, 2018. *Revised Riverbank Monitoring Work Plan. Swan Island Upland Facility – OU5.* March 8, 2018.

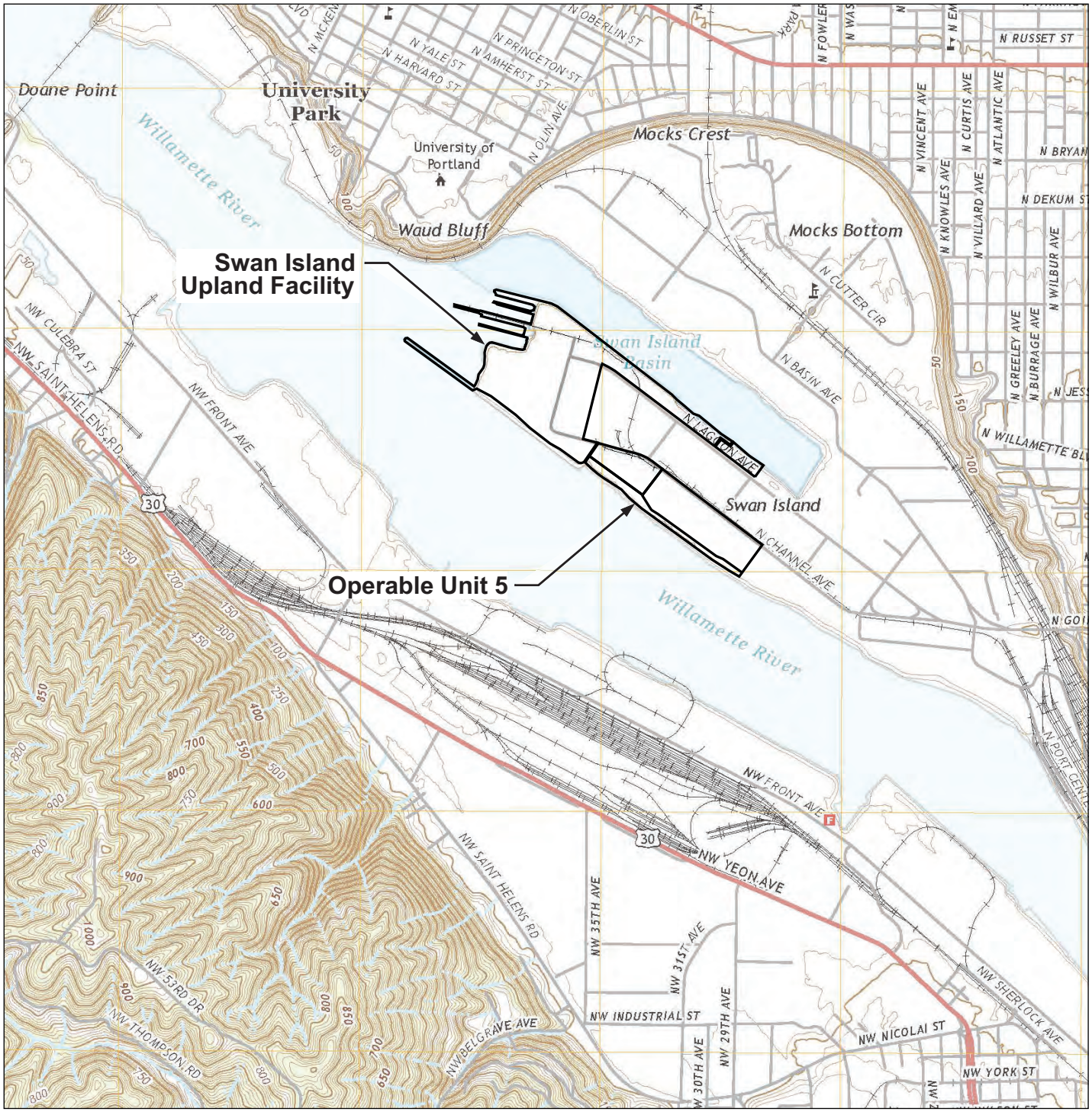
USGS (Dec. 19, 2023). Willamette River at Portland Oregon retrieved from https://waterdata.usgs.gov/monitoring-location/14211720.

ATTACHMENTS

Figure 1 – Facility Location Map
Figure 2 – Facility Vicinity Plan
Figure 3 – Erosional Features

Attachment A – Source Control Inspection Checklists
Attachment B – 2023 Photograph Log
Attachment C – Source Control Measures Work Plan Photograph Log

cc: Eva DeMaria, US Environmental Protection Agency
Laura Hanna, US Environmental Protection Agency
Dwight Leisle, Port of Portland
Daniel Read, Port of Portland
Crystal Chase, Port of Portland
Kerry Gallagher, Port of Portland
Herb Clough, Apex



Note: Base map prepared from USGS 7.5-minute quadrangle of Portland, OR, dated 2020 as provided by USGS.gov.

0 2,000 4,000

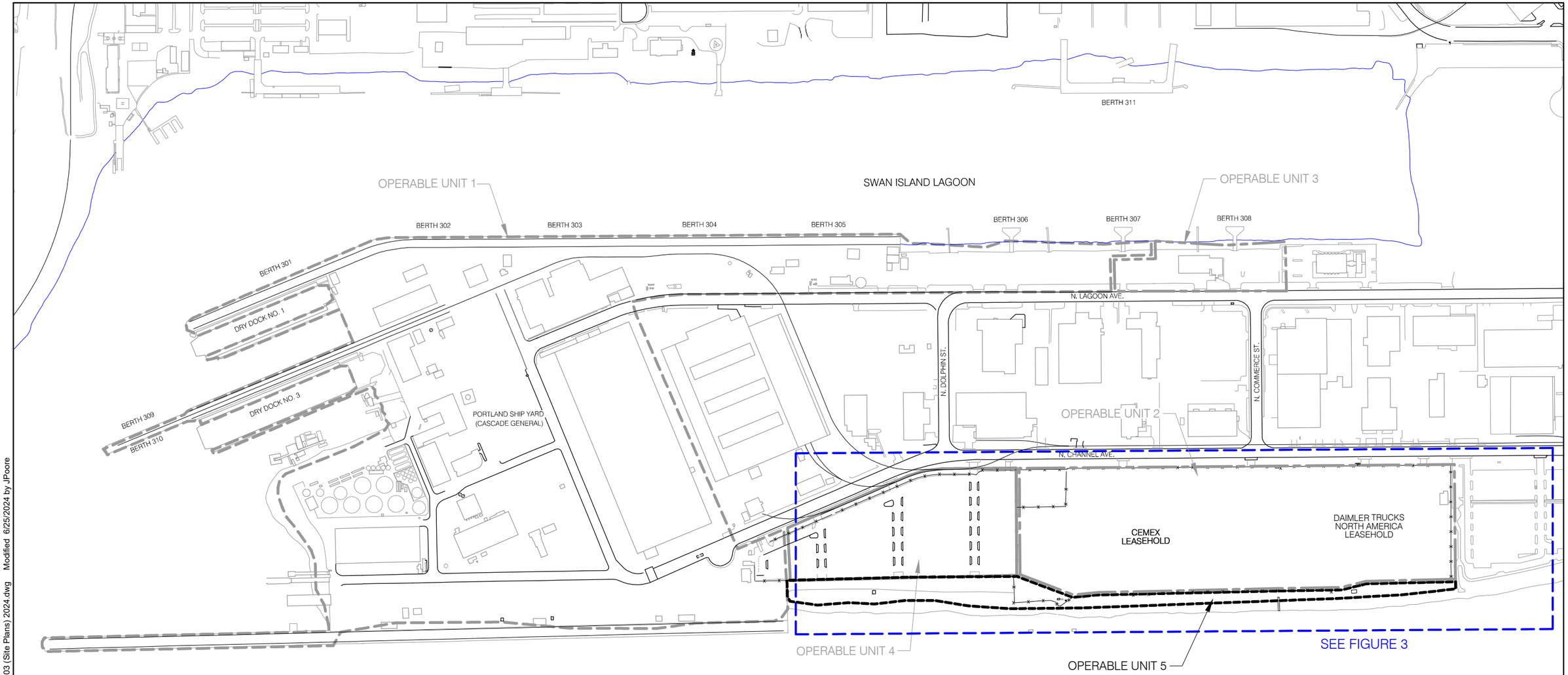
Approximate Scale in Feet

Facility Location Map

Riverbank Monitoring Report
Swan Island Upland Facility Operable Unit 5
Portland, Oregon

Apex Companies, LLC 15618 SW 72nd Avenue Tigard, Oregon 97224	Project Number: 320001115-25	Drawn: JP	Approved: SM	Figure 1
	June 2024			

I:\Client\Port of Portland\00-PH905\06 SIUF\2022 OU5 Letter Report\320001115-25 01 (Location Map).des



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Legend:

- Operable Unit 1 Boundary
- Operable Unit 2 Boundary
- Operable Unit 3 Boundary
- Operable Unit 4 Boundary
- Operable Unit 5 Boundary

N

0 400 800

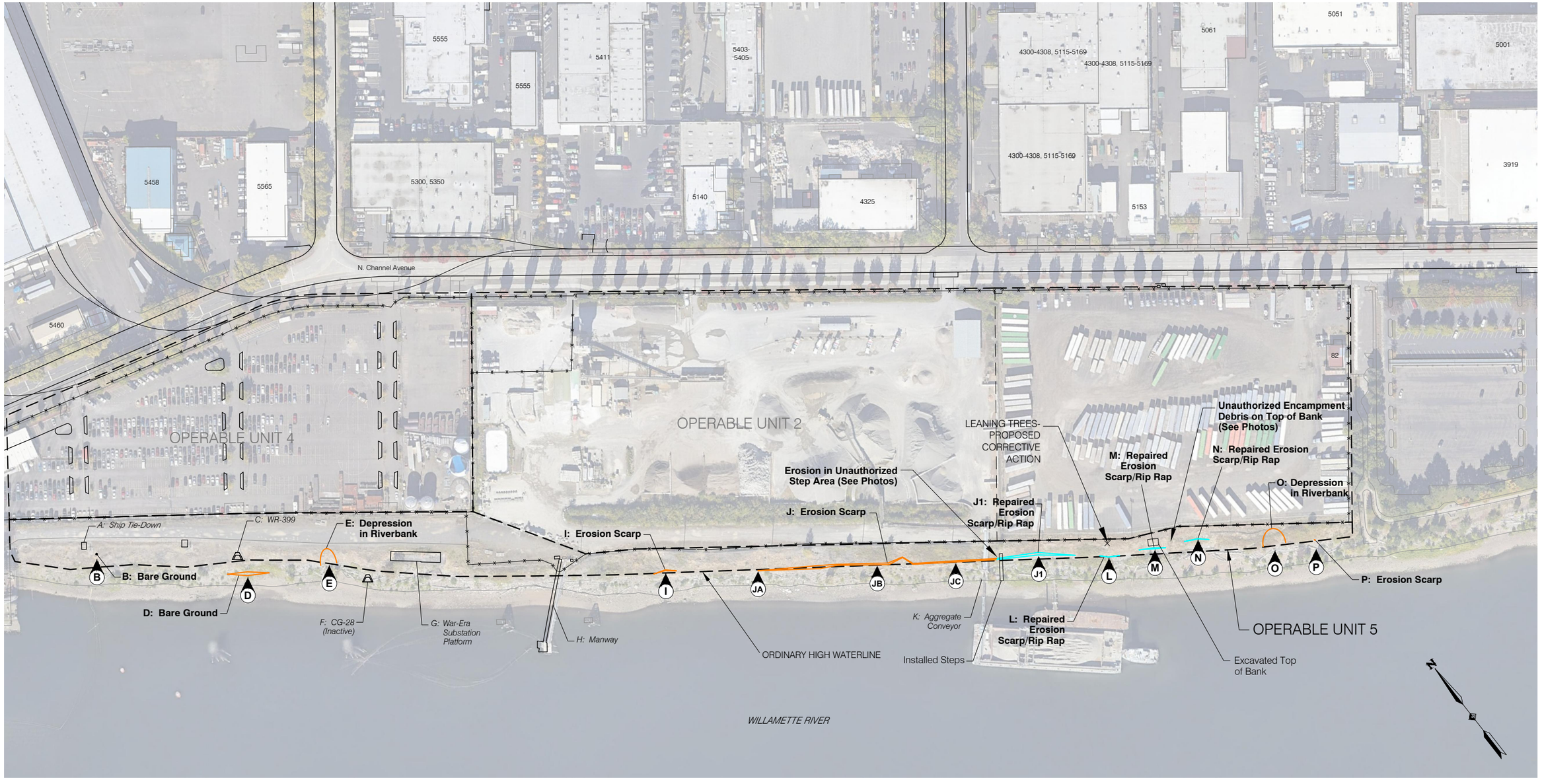
Scale in Feet

NOTE:
1. Prepared from AutoCAD base map received from the Port of Portland in June 2007.

Facility Vicinity Plan

Riverbank Monitoring Report
Swan Island Upland Facility Operable Unit 5
Portland, Oregon

Apex Companies, LLC 15618 SW 72nd Avenue Tigard, Oregon 97224	Project Number: 320001115-25	Drawn: JP	Approved: SM	Figure **2**
	June 2024			



Legend:

D: Bare Ground — Existing Erosional Feature

A: Ship Tie-Down — Historical Erosional Feature

B — Photograph Location, Identification, and Direction Taken

J1: Repaired Erosion Scarp/Rip Rap — Repaired Erosional Feature

0 200 400

Scale in Feet

NOTES:

1. Prepared from AutoCAD base map received from the Port of Portland in June 2007.
2. Aerial photograph from Google Earth Pro. Imagery dated July 20, 2018.

Erosional Features

Riverbank Monitoring Report
Swan Island Upland Facility Operable Unit 5
Portland, Oregon

Apex Companies, LLC
15618 SW 72nd Avenue
Tigard, Oregon 97224

Project Number:	Drawn:	Approved:	Figure
320001115-25	JP	SM	3

June 2024

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Attachment A

Source Control Inspection Checklists

SOURCE CONTROL INSPECTION CHECKLIST				
Date / Time: December 19, 2023 / 1300-1500		Inspector (Full Name): Steve Misner and David Kolpacki		
USGS River Stage (ft msl), if available: 5.36 ft @ 1300, 4.81 ft @ 1500, High tide: 6.02 ft @ 1105, Low tide: 3.86 ft @ 1845		River Level relative to base of Rip Rap (e.g., below, at, above), or Beach Exposed: Below base of rip rap, some beach exposed		
Weather Conditions: Mostly cloudy, ~50° F				
Feature	**Inspection Item**	**Response**	**Comment**	**Corrective Action Required?** *(To Be Completed by Project Manager)*
Rip Rap (at repaired Scarps J, L, M, N)	Is rip rap coverage consistent with scarp locations? *Verify scarp coordinates (with GPS) to assess rip rap placement. Use the table of station coordinates to locate Stations A through Q to verify rip rap coverage at each location.*	Yes ☒ No ☐		Yes ☐ No ☒ Riverbank ☐
	Has rip rap been disturbed in other locations other than the survey stations? *Collect GPS coordinates and photos of disturbance.*	Yes ☐ No ☒		Yes ☐ No ☒ Riverbank ☐
	Is the orange demarcation layer visible? *Collect GPS coordinates and photos where visible.*	Yes ☒ No ☐	Minor exposure of demarcation layer between location J1 and JC at eastern edge adjacent to unauthorized installed steps. Bank repairs are intact.	Yes ☐ No ☒ Riverbank ☐
	Is filter fabric visible? *Collect GPS coordinates and photos where visible.*	Yes ☒ No ☐	Minor exposure of filter fabric and depleted rip rap was observed at location L.	Yes ☐ No ☒ Riverbank ☐

SOURCE CONTROL INSPECTION CHECKLIST				
Existing Erosional Features	Have existing erosional features changed (e.g., area, slope, depth)? *Locate existing erosional features B, D, E, I, J (along Cemex only), O, and P along the OU5 riverbank. Describe changes in each feature and, as needed, collect GPS coordinates to describe the location of new/increased erosion.*	Yes ☐ No ☒	No significant changes have been observed since the 2022 inspection.	Yes ☐ No ☒ Top of Bank ☐ Riverbank ☐
New Erosional Features	Have new erosional features developed along the riverbank, including scouring, scarps, slides, etc? *Check the entire length of the OU5 area. Collect GPS coordinates to describe the location of each end, top edge, and bottom edge of each scarp (as documented for a repaired scarp).*	Yes ☒ No ☐	The previously observed location of the unauthorized steps, near the aggregate conveyor, appear to have mostly disappeared and the area now displays some erosion with exposure of filter fabric at the northern edge of J1.	Yes ☒ No ☐ Top of Bank ☒ Riverbank ☐
Sprinkler System	Is the sprinkler system installed in the revegetated area adjacent to the Daimler leasehold?	Yes ☐ No ☐	NA	Yes ☐ No ☐ Top of Bank ☐ Riverbank ☐
	Is the water tank installed on the Daimler leasehold parking area?	Yes ☐ No ☐	NA	Yes ☐ No ☐ Top of Bank ☐ Riverbank ☐
	Does the sprinkler system appear to be in working order? *Indicate if operation is observed.*	Yes ☐ No ☐	NA	Yes ☐ No ☐ Top of Bank ☐ Riverbank ☐

SOURCE CONTROL INSPECTION CHECKLIST				
	Is the watering coverage adequate to support and maintain the landscaped vegetation?	Yes ☐ No ☐	NA	Yes ☐ No ☐ Top of Bank ☐ Riverbank ☐
Fencing	Is the fencing along the Vigor Industries property and the Cemex and Daimler leaseholds in good repair?	Yes ☒ No ☐	Exception: Top bar and base of one panel of Cemex fence is broken but still attached. Hole in fence at top of manway on west end of Cemex.	Yes ☐ No ☒ Top of Bank ☐ Riverbank ☐
	Do the gate latch and padlock work at the Daimler fence?	Yes ☒ No ☐		Yes ☐ No ☒ Top of Bank ☐ Riverbank ☐
Habitation & Recreation	Are there any signs that OU5 is being used for encampment, hiking, recreation, etc? *Describe any impacts on source controls, including topsoil, rip rap, and vegetation.*	Yes ☒ No ☐	Moderate unauthorized encampment structures and litter were observed. Minor riverbank disturbances due to unauthorized digging into bank with hand tools and the burning of litter/encampment structures.	Yes ☐ No ☒ Top of Bank ☐ Riverbank ☐
Vandalism	Are there any signs of vandalism? *Describe.*	Yes ☒ No ☐	See fencing/habitation and recreation section.	Yes ☐ No ☒ Top of Bank ☐ Riverbank ☐

ADDITIONAL COMMENTS:

SOURCE CONTROL INSPECTION CHECKLIST				
Do not complete the following pages after November 2018				
Feature	**Inspection Item**	**Response**	**Comment**	**Corrective Action Required?**
Re-Vegetation	Are trees and bushes healthy in the revegetated area adjacent to the Daimler leasehold? *Describe.*	Yes ☐ No ☐		Yes ☐ No ☐ Top of Bank ☐ Riverbank ☐
	Do any trees require re-staking? *Describe.*	Yes ☐ No ☐		Yes ☐ No ☐ Top of Bank ☐ Riverbank ☐
	Do any trees require trimming? *Describe.*	Yes ☐ No ☐		Yes ☐ No ☐ Top of Bank ☐ Riverbank ☐
	Is grass coverage adequate? *Describe.*	Yes ☐ No ☐		Yes ☐ No ☐ Top of Bank ☐ Riverbank ☐

SOURCE CONTROL INSPECTION CHECKLIST				
Invasive Species	Are invasive species growing in the landscaped area adjacent to the Daimler leasehold? *Describe.*	Yes ☐ No ☐		Yes ☐ No ☐ Top of Bank ☐ Riverbank ☐
	Do invasive species require removal? *Describe.*	Yes ☐ No ☐		Yes ☐ No ☐ Top of Bank ☐ Riverbank ☐
Topsoil	Is topsoil thickness and coverage adequate adjacent to the Daimler leasehold? *Collect GPS coordinates to describe areas requiring repair.*	Yes ☐ No ☐		Yes ☐ No ☐ Top of Bank ☐ Riverbank ☐

ADDITIONAL COMMENTS:

Attachment B

2023 Photograph Log

ATTACHMENT B
2023 PHOTOGRAPH LOG

Project Name: Riverbank Monitoring Report, OU5
Project Number: 1115-25

Client: Port of Portland
Location: Portland, Oregon

Photo Station: B **Photo Date:** 12/19/2023 **Orientation:** Northwest **Description:** Existing erosional feature B adjacent to Vigor Industries.	
Photo Station: D **Photo Date:** 12/19/2023 **Orientation:** Northeast **Description:** Existing erosional feature D adjacent to Vigor Industries.	

ATTACHMENT B
2023 PHOTOGRAPH LOG

Project Name: Riverbank Monitoring Report, OU5
Project Number: 1115-25

Client: Port of Portland
Location: Portland, Oregon

Photo Station: E **Photo Date:** 12/19/2023 **Orientation:** Northeast **Description:** Existing erosional feature E (depression in riverbank) adjacent to Vigor Industries.	
Photo Station: E **Photo Date:** 12/19/2023 **Orientation:** North **Description:** Existing erosional feature E (depression in riverbank) adjacent to Vigor Industries.	

ATTACHMENT B
2023 PHOTOGRAPH LOG

Project Name: Riverbank Monitoring Report, OU5
Project Number: 1115-25
Client: Port of Portland
Location: Portland, Oregon

Photo Station: I **Photo Date:** 12/19/2023 **Orientation:** Northeast **Description:** Erosional feature I (erosion scarp) adjacent to Cemex leasehold.	
Photo Station: JA **Photo Date:** 12/19/2023 **Orientation:** Northeast **Description:** Existing erosional feature JA (west end of erosion scarp) adjacent to Cemex leasehold.	

ATTACHMENT B
2023 PHOTOGRAPH LOG

Project Name: Riverbank Monitoring Report, OU5
Project Number: 1115-25

Client: Port of Portland
Location: Portland, Oregon

Photo Station: JB **Photo Date:** 12/19/2023 **Orientation:** Northeast **Description:** Existing erosional feature JB (center of erosion scarp) adjacent to Cemex leasehold.	
Photo Station: JC **Photo Date:** 12/19/2023 **Orientation:** Northeast **Description:** Existing erosional feature JC (east end of erosion scarp) adjacent to Cemex leasehold.	

ATTACHMENT B
2023 PHOTOGRAPH LOG

Project Name: Riverbank Monitoring Report, OU5
Project Number: 1115-25

Client: Port of Portland
Location: Portland, Oregon

Photo Station: J1	
Photo Date: 12/19/2023	
Orientation: Northeast	
Description: Erosional feature J1 (repaired former erosion scarp) rip rap at west end of Daimler leasehold. Note: Rip rap in place and silt fence still visible.	
Photo Station: L	
Photo Date: 12/19/2023	
Orientation: Northeast	
Description: Erosional feature L (repaired former erosion scarp) rip rap adjacent to Daimler leasehold. Note: Exposed filter fabric and depleted rip rap.	

ATTACHMENT B
2023 PHOTOGRAPH LOG

Project Name: Riverbank Monitoring Report, OU5
Project Number: 1115-25

Client: Port of Portland
Location: Portland, Oregon

Photo Station: M **Photo Date:** 12/19/2023 **Orientation:** Northeast **Description:** Erosional feature M (repaired former erosion scarp) rip rap adjacent to Daimler leasehold. Note: Area of former unauthorized encampment structures.	
Photo Station: N **Photo Date:** 12/19/2023 **Orientation:** Northeast **Description:** Erosional feature N (repaired former erosion scarp) rip rap adjacent to Daimler leasehold.	

ATTACHMENT B
2023 PHOTOGRAPH LOG

Project Name: Riverbank Monitoring Report, OU5
Project Number: 1115-25
Client: Port of Portland
Location: Portland, Oregon

Photo Station: O **Photo Date:** 12/19/2023 **Orientation:** Northeast **Description:** Erosional feature O (depression in riverbank) adjacent to Daimler leasehold. Note: Burned former unauthorized encampment structures. Large concrete blocks in the area.	
Photo Station: O **Photo Date:** 12/19/2023 **Orientation:** North **Description:** Erosional feature O (depression in riverbank) adjacent to Daimler leasehold. Note: Burned former unauthorized encampment structures. Large concrete blocks in the area.	

ATTACHMENT B
2023 PHOTOGRAPH LOG

Project Name: Riverbank Monitoring Report, OU5
Project Number: 1115-25

Client: Port of Portland
Location: Portland, Oregon

Photo Station: P **Photo Date:** 12/19/2023 **Orientation:** Northeast **Description:** Erosional feature P (erosion scarp) near east end of Daimler leasehold. Note: Burned former unauthorized encampment structures.	
Photo Station: N/A **Photo Date:** 12/19/2023 **Orientation:** Northwest **Description:** Top of bank near features M and N. Note: Observed unauthorized encampment structures and litter.	

ATTACHMENT B
2023 PHOTOGRAPH LOG

Project Name: Riverbank Monitoring Report, OU5
Project Number: 1115-25

Client: Port of Portland
Location: Portland, Oregon

Photo Station: N/A **Photo Date:** 12/19/2023 **Orientation:** South **Description:** Top of bank near features M and N. Note: Observed burned unauthorized encampment litter.	
Photo Station: N/A **Photo Date:** 12/19/2023 **Orientation:** South **Description:** Previously noted location of the unauthorized installed steps at the north end of J1. Note: Erosional features with exposure of filter fabric at the northern edge of the repaired scarp J1. The steps appear to have mostly disappeared.	

ATTACHMENT B
2023 PHOTOGRAPH LOG

Project Name: Riverbank Monitoring Report, OU5
Project Number: 1115-25

Client: Port of Portland
Location: Portland, Oregon

Photo Station: N/A	
Photo Date: 12/19/2023	
Orientation: North	
Description: Previously noted location of the unauthorized installed steps at the north end of J1. Note: Erosional features with exposure of filter fabric at the northern edge of the repaired scarp J1. The steps appear to have mostly disappeared.	

Attachment C

Source Control Measures Work Plan Photograph Log

ATTACHMENT C
SOURCE CONTROL MEASURES WORK PLAN PHOTOGRAPH LOG

Project Name: SIUF – OU5 Source Control Work Plan
Project Number: 1115-05

Client: Port of Portland
Location: Portland, Oregon

Photo Station: B	
Photo Date: October 7, 2010	
Orientation: Northeast	
Description: Feature B – Bare ground approximately 1 foot in diameter.	
Photo Station: D	
Photo Date: October 7, 2010	
Orientation: East	
Description: Southeast end of Feature D – Bare ground below Outfall WR-399 with dimensions of approximately 3 feet by 80 feet.	

ATTACHMENT C
SOURCE CONTROL MEASURES WORK PLAN PHOTOGRAPH LOG

Project Name: SIUF – OU5 Source Control Work Plan
Project Number: 1115-05

Client: Port of Portland
Location: Portland, Oregon

Photo Station: E	
Photo Date: October 7, 2010	
Orientation: East	
Description: Feature E – Depression in riverbank to left of individual in photograph. Width is approximately 30 feet. Topography is hummocky and surface is densely vegetated.	
Photo Station: I	
Photo Date: October 7, 2010	
Orientation: North	
Description: Feature I – Erosion scarp 35 feet long and up to 1.5 feet high.	

ATTACHMENT C
SOURCE CONTROL MEASURES WORK PLAN PHOTOGRAPH LOG

Project Name: SIUF – OU5 Source Control Work Plan
Project Number: 1115-05

Client: Port of Portland
Location: Portland, Oregon

Photo Station: JA	
Photo Date: October 6, 2010	
Orientation: Northeast	
Description: Feature J – Erosion scarp 635 feet in length. Height is variable up to 6.6 feet. This photograph shows a minimal height scarp (hidden in vegetation).	
Photo Station: JC	
Photo Date: October 6, 2010	
Orientation: North	
Description: Feature J – Erosion scarp 635 feet in length. Height is variable up to 6.6 feet. This photograph shows a maximal scarp.	

ATTACHMENT C
SOURCE CONTROL MEASURES WORK PLAN PHOTOGRAPH LOG

Project Name: SIUF – OU5 Source Control Work Plan
Project Number: 1115-05

Client: Port of Portland
Location: Portland, Oregon

Photo Station: L	
Photo Date: October 6, 2010	
Orientation: Northeast	
Description: Feature L – Erosion scarp 56 feet long and up to 3 feet high.	
Photo Station: M	
Photo Date: October 7, 2010	
Orientation: Northeast	
Description: Feature M - Erosion scarp 53 feet long and up to 2.7 feet high.	

ATTACHMENT C
SOURCE CONTROL MEASURES WORK PLAN PHOTOGRAPH LOG

Project Name: SIUF – OU5 Source Control Work Plan
Project Number: 1115-05

Client: Port of Portland
Location: Portland, Oregon

Photo Station: N	
Photo Date: October 6, 2010	
Orientation: Northeast	
Description: Feature N – Erosion scarp within depression in riverbank. Erosion scarp is 49 feet long and up to 2 feet high. Depression width is approximately 80 feet. Topography is hummocky and surface is densely vegetated.	
Photo Station: O	
Photo Date: October 6, 2010	
Orientation: Northeast	
Description: Feature O – Depression in riverbank. Width is approximately 50 feet. Topography is hummocky and surface is densely vegetated.	

ATTACHMENT C
SOURCE CONTROL MEASURES WORK PLAN PHOTOGRAPH LOG

Project Name: SIUF – OU5 Source Control Work Plan
Project Number: 1115-05

Client: Port of Portland
Location: Portland, Oregon

Photo Station: P	
Photo Date: October 6, 2010	
Orientation: Northeast	
Description: Feature P – Erosion scarp 2.1 feet long and up to 1.1 feet high.	