Construction Stormwater General Permit (CSWGP)

Stormwater Pollution Prevention Plan (SWPPP)

for

Lower Duwamish Waterway Upper Reach Remedial Action at SMA-5

Prepared for:
Department of Ecology
Northwest Regional Office

Permittee / Owner	Developer	Operator / Contractor
King County	King County	Pacific Pile and Marine, LLC

Project Location:
Lower Duwamish Waterway, River Mile 3.0 – 5.0, King County, Washington

Certified Erosion and Sediment Control Lead (CESCL)

Name	Organization	Contact Phone Number
Marty Locke	Pacific Pile	206.963.8927

SWPPP Prepared By

Name	Organization	Contact Phone Number
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SWPPP Preparation Date
Rev 0: June/12/2024
Rev 1: July /10/ 2024
Rev 2: July/19/2024
Rev 3: August/23/2024
Rev 4: August/28/2024

Project Construction Dates

Activity / Phase	Start Date	End Date
Construction SMA-5	October 2026	July 2027

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List of Acronyms and Abbreviations

Acronym / Abbreviation	Explanation
303(d)	Section of the Clean Water Act pertaining to Impaired Waterbodies
BMP(s)	Best Management Practice(s)
CESCL	Certified Erosion and Sediment Control Lead
CO_2	Carbon Dioxide
CRO	Central Regional Office of the Department of Ecology
CSWGP	Construction Stormwater General Permit
CWA	Clean Water Act
DMR	Discharge Monitoring Report
DO	Dissolved Oxygen
Ecology	Washington State Department of Ecology
EPA	United States Environmental Protection Agency
ERO	Eastern Regional Office of the Department of Ecology
ERTS	Environmental Report Tracking System
ESC	Erosion and Sediment Control
GULD	General Use Level Designation
NPDES	National Pollutant Discharge Elimination System
NTU	Nephelometric Turbidity Units
NWRO	Northwest Regional Office of the Department of Ecology
pH	Power of Hydrogen
RCW	Revised Code of Washington
SPCC	Spill Prevention, Control, and Countermeasure
su	Standard Units
SWMMEW	Stormwater Management Manual for Eastern Washington
SWMMWW	Stormwater Management Manual for Western Washington
SWPPP	Stormwater Pollution Prevention Plan
TESC	Temporary Erosion and Sediment Control
SWRO	Southwest Regional Office of the Department of Ecology
TMDL	Total Maximum Daily Load
VFO	Vancouver Field Office of the Department of Ecology
WAC	Washington Administrative Code
WSDOT	Washington Department of Transportation
WWHM	Western Washington Hydrology Model

1.0 Project Information

Project/Site Name: Lower Duwamish Waterway Upper Reach Remedial Action for SMA 5
Street/Location: Lower Duwamish Waterway at River Mile 4.1, SMA 5
Receiving waterbody: Duwamish Waterway

1.1 Existing Conditions

Total acreage (including support activities such as off-site equipment staging yards, material storage areas, borrow areas).

Total acreage: 2.23

Disturbed acreage: 2.23

Existing structures: None

Landscape topography: The river bottom is relatively flat and slopes gently up towards the bank. The riverbank in this area is sloped at approximately 2:1, these slopes will be set back to approximately 2.5:1 upon completion of the project. Above the top of the bank the ground is relatively flat until it meets the pavement of an adjacent parking lot.

Drainage patterns: Stormwater flow travels northwest across site and downgradient towards the approximately 2:1 riverbank slope and into the LDW.

Existing Vegetation: The bank contains concrete rubble and vegetation. Above the top of the bank is gravel and trees. Critical Areas (wetlands, streams, high erosion risk, steep or difficult to stabilize slopes):
The work will occur on the bank of the Lower Duwamish Waterway, which is a difficult to stabilize slope, the selected BMPs were selected to achieve slope stabilization.

List of known impairments for 303(d) listed or Total Maximum Daily Load (TMDL) for the receiving waterbody

Temperature, bacteria – enterococci, and bacteria – fecal coliform.

Table 1 includes a list of suspected and/or known contaminants associated with the construction activity.

Table 1 – Summary of Site Pollutant Constituents

Constituent (Pollutant)	Location	Depth	Concentration
Total PCBs	RM 4.1	0-5’	30 – 1,300 ug/kg dw
cPAHs	RM 4.1	0-5’	150 - 1,500 ug TEQ/kg dw
Arsenic	RM 4.1	0-5’	9 - 15 mg/kg dw
Dioxins/Furans	RM 4.1	0-5’	5-10 ng TEQ/kg dw

Notes:
PCBs = polychlorinated biphenyls
cPAHs = carcinogenic polycyclic aromatic hydrocarbons
RM = river mile
ft = feet
TEQ = toxic equivalent
dw = dry weight
ug/kg = microgram per kilogram
mg/kg = milligram per kilogram
ng/kg = nanogram per kilogram

1.2 Proposed Construction Activities

Description of site development:
The purpose of this work is to remove contaminated sediment from the bank of the Lower Duwamish Waterway. The sediment will be disposed of off-site, and an engineered cap will be placed on the bank. The area above the top of the bank will be repaired with seed and plantings.

Description of construction activities:
Site preparation, clearing and grubbing, bank excavation, handling and loading of excavated material into trucks for off-site disposal, placement of clean imported materials for an engineered cap, site restoration, and demobilization.

Description of site drainage including flow from and onto adjacent properties. Must be consistent with Site Map in Appendix A:

Sheet flow from parking lot travels northwest across the site down the existing riverbank slope into the LDW. Adjacent properties do not receive flow from site drainage as they drain in the same direction.

Description of final stabilization:

Upon completion, the bank will be stabilized with an erosion protection layer that was designed to resist erosive forces. Final stabilization will include replanting at the top of bank and armoring the bank per the Material Placement Plan and Soil Preparation Plan. Planting will be conducted with the temporary slope stabilization BMPs

Contaminated Site Information:
Proposed activities regarding contaminated soils or groundwater:
The work will remove contaminated sediment from the riverbank. Contaminated sediment will be temporarily stockpiled on Site before being loaded into trucks for off-site disposal.

2.0 Construction Stormwater Best Management Practices (BMPs)

The SWPPP is a living document reflecting current conditions and changes throughout the life of the project. These changes may be informal (i.e. hand-written notes and deletions). Update the SWPPP when the CESCL has noted a deficiency in BMPs or deviation from original design.

2.1 The 13 Elements

2.1.1 Element 1: Preserve Vegetation / Mark Clearing Limits

The work site will be delineated with Construction Zone signs to indicate restricted areas, exits, and entrances. The limits of soil disturbance and grading will be clearly identified in the field with high visibility fence. No land disturbing activity will be conducted outside of the established limits. Native trees will be protected using standard tree protection fencing at the dripline of the trees. No work will occur within the dripline with the exception of hand removal of invasive vegetation. No other natural vegetation will be preserved in the staging area or excavation limits. At the completion of excavation activities, the topsoil will be cleared, grubbed, and seeded for final restoration. Final restoration will be completed in accordance with the approved revegetation plan for the project.

To preserve vegetation on the project site, and adjoining properties, the best management practices (BMPs) (and its respective Department of Ecology identification number) described below will be implemented prior to land disturbing activities and are applicable to activities during active construction:

BMP C101: Preserving Natural Vegetation

BMP C102: Buffer Zones

BMP C103: High-Visibility Fence

BMP C233: Silt Fence

- Install tree protection barriers around trees to be retained;
- Stage equipment and stockpiles away from trees to be retained so that roots are protected; and
- Keep in place all tree protection fencing until the project is completed.

Installation Schedules: Prior to construction.

Removal Schedules: After land disturbing activities have been completed, and temporary stabilization BMPs have been implemented.

Inspection and Maintenance plan: Weekly inspection of BMPs.

- Preserving Natural Vegetation: Inspect flagged and/or fenced areas to make sure flagging or fencing has not been removed or damaged. If the flagging or fencing has

been damaged or visibility reduced, it shall be repaired or replaced immediately and visibility restored.

- Preserving Natural Vegetation: If tree roots have been exposed or injured, “prune” cleanly with pruning saw or loppers directly above the damaged roots and recover with native soils. Treatment of sap flowing trees (fir, hemlock, pine, soft maples) is not advised as sap forms a natural healing barrier.
- Buffer Zones: Inspect the area frequently to make sure flagging remains in place and the area remains undisturbed. Replace all damaged flagging immediately. Remove all materials located in the buffer area that impede the ability of the vegetation to act as a filter.
- High-Visibility Fencing: If the fence has been damaged or visibility reduced, it shall be repaired or replaced immediately and visibility restored.
- Silt Fence:
    - Repair any damage immediately
    - Check the uphill side of the silt fence for signs of the fence cogging and acting as a barrier to flow and then causing channelization of flows parallel to the fence. If this occurs, replace the fence and remove the trapped sediment.
    - Remove sediment deposits when the deposit reaches approximately one-third the height of the silt fence, or install a second silt fence.
    - Replace geotextile fabric that has deteriorated due to ultraviolet breakdown.

Responsible Staff: CESCL

2.1.2 Element 2: Establish Construction Access

The site will be accessible with one route through the Container Properties paved parking lot from East Marginal Way South. For vehicles exiting the site, wheel washing will be conducted as necessary to prevent any sediment from being tracked out onto the roads and to prevent dust generation. No wheel wash wastewater will be discharged into any waters of the State. All wheel wash wastewater will be collected into Baker Tanks and discharged after treatment and measurements to the sanitary sewer (SS), with approval by King County, or a licensed facility. See Element 10 for approval details for SS discharge. If roadways do develop sediment track-out, a skid steer or a vacuum street sweeper shall remove it from the pavement.

To prevent the escape of sediment from the project site, the best management practices (and its respective Department of Ecology identification number) described below will be implemented:

BMP C105: Stabilized Construction Entrance

BMP C106: Wheel Wash

BMP C107: Construction Road/ Parking Stabilization

Additional practices include the following:

- Dust generation will be minimized by wetting excavation areas and unpaved traffic lanes;
- Water will be applied directly to stockpiles as needed if they are in use to suppress fugitive dust and odors or stockpiles will be covered with plastic sheet if they are not in use;
- Haul trucks will not be overloaded;
- Loading areas will be cleaned daily to reduce vehicles tracking material offsite;
- Truck, loading area and access roads will be inspected throughout each shift to confirm no material has been spilled or tracked onto public roads;
- Tires and truck bodies will be cleaned to removed sediment, before leaving the site;
- Construction entrances will be installed according to Site documents and drawing that reduce vehicles tracking material offsite;
- If wet materials are to be transported the transport vehicle will be lined or sealed to reduce the risk of sediment or water being released during transport; and
- When working dump trucks or other equipment on paved streets and roadways the streets will be cleaned with a vacuum sweeping truck at the end of each work day and as directed by the Project Representative.

Installation Schedules: Construction Phase

Inspection and Maintenance plan: Daily

- Stabilized construction entrance:

    - Any sediment that is tracked onto pavement shall be removed by shoveling or street sweeping.
    - Any rock loosened from the pad, which end up on the roadway shall be removed immediately.
- Wheel Wash:
    - Ensure that the wheel wash has adequate fresh water daily.
    - Ensure that water generated is contained and pumped to onsite baker tanks.
- Construction Road/Parking Area Stabilization
    - Crushed rock, gravel base, etc., shall be added as required to maintain a stable driving surface and to stabilize any areas that have eroded.

Responsible Staff: CESCL

2.1.3 Element 3: Control Flow Rates

Due to the location of the LDW being immediately downgradient from excavation, no stormwater detention facilities are planned. The staging activities planned at SMA 5 take place on impermeable surface. Area of SMA 5 near the LDW capable of infiltration will be protected by a turbidity curtain and filter sock.

Will you construct stormwater retention and/or detention facilities?
Yes (No)

Will you use permanent infiltration ponds or other low impact development (example: rain gardens, bio-retention, porous pavement) to control flow during construction?
Yes (No)

BMPs for flow control are not anticipated,and will be updated based on inspections.

2.1.4 Element 4: Install Sediment Controls

Stormwater runoff from excavation areas will always pass through the sediment filtration structures before leaving the site boundaries. Silt fencing will be installed along the top of the riverbank slope at about +19 ft elevation. A turbidity curtain will be installed in the LDW to filter out suspended material created from excavation activities. These BMPs shall always be functional during all earth-disturbing work. The turbidity curtain will be installed with a floating boom to allow for the curtain to fluctuate with the tide cycles. The curtain length will be adjusted to maintain a minimum height of 2' above the mudline which will allow for movement of fish. The turbidity curtain will be anchored per the manufacture's recommendation. In the event that sediment controls are ineffective and turbid water is observed with the risk of discharging from the Site operations shall cease, the Project Representative will be notified, and mitigation measures outlined in the Water Quality Protection Plan (Appendix V of the RAWP) will be assessed and implemented. The in-water work window minimizes interference with the movement of juvenile salmonids.

BMPs will include:

- **C233** Silt Fencing
- In-water Turbidity Curtain

Installation Schedules: Prior to land disturbing activities

Inspection and Maintenance plan: Weekly inspections will be performed.

- Silt Fence:
  - Repair any damage immediately
  - – Check the uphill side of the silt fence for signs of the fence cogging and acting as a barrier to flow and then causing channelization of flows parallel to the fence. If this occurs, replace the fence and remove the trapped sediment.
  - Remove sediment deposits when the deposit reaches approximately one-third the height of the silt fence, or install a second silt fence.
  - Replace geotextile fabric that has deteriorated due to ultraviolet breakdown.
- Turbidity Curtain: Debris will be removed from the turbidity curtain and any damaged sections will be repaired or replaced.

Responsible Staff: CESCL

2.1.5 Element 5: Stabilize Soils

The majority of sediment disturbances will take place in the LDW and on the slopes of the riverbank at SMA 5, which will be restored with an armored cap as excavation progresses. Planting requirements for SMA 5 will follow immediately behind the excavation and material placement process. Therefore, it is not necessary to use temporary seeding, mulching, erosion control fabrics, etc. to stabilize exposed and unworked soils during the excavation and material placement phase of SMA 5. Permanent seeding above the top of the bank will be included as part of the final restoration. All soil stockpiles generated from construction activities will be stored in bins or contained by ecology block structures, underlain with plastic sheeting. Cuts and fills will be performed during the same tide cycles to minimize the amount of soil exposed during the life of the project. No steep slopes will be present with the exception of immediate excavation areas. Prior to work being conducted at SMA 5 additional information to describe how slopes will be designed, constructed, and protected to minimize erosion will be submitted for approval. Soil compaction will be avoided if possible and restricted outside the limit of disturbance. Soil stockpiles will be covered at the end of each workday to minimize dust, and prevent additional water that will need to be managed.

West of the Cascade Mountains Crest

Season	Dates	Number of Days Soils Can be Left Exposed
During the Dry Season	May 1 – September 30	7 days
During the Wet Season	October 1 – April 30	2 days

Soils must be stabilized at the end of the shift before a holiday or weekend if needed based on the weather forecast.

Anticipated project dates: Start date: October 2026 End date: July 2027

Will you construct during the wet season?

Yes No

BMPs will include the following:

- Stockpiling will be conducted on impermeable surfaces, such as concrete, asphalt, or plastic sheeting;
- Stockpile areas will be contained with ecology blocks, silt fences with wire backing, and sealed bins to control runoff;
- Water will be applied directly to stockpiles as needed if they are in use to suppress fugitive dust and odors or stockpiles will be covered with plastic sheet if they are not in use;

- Stockpile containment areas will be installed in a manner that allows liquids to be collected separately from other site stormwater, additional detail on stockpile containment installation will be submitted for approval prior to work being performed at SMA 5; and
- Stockpile sizes will be limited in size to reduce the risk of erosion. Assessment of stockpile sizes needed at SMA 5 will be completed prior to the execution of work which is expected to take place between December 2026 and March 2027.

Installation Schedules: During Construction

Inspection and Maintenance plan: Weekly

Responsible Staff: CESCL

2.1.6 Element 6: Protect Slopes

Steep slopes include the bank within the excavation area, and will be protected by the placement of the cap including armoring and revegetation at the top of bank. BMPs will be in place to control runoff. Project management and sequencing of removal and stabilization will prevent erosion and sediment mobilization.

Will steep slopes be present at the site during construction?

Yes No

List and describe BMPs:

C130 Surface Roughening

Aggregate Cap

Installation Schedules: Slope construction details will be provided prior to the execution of work which is expected to take place between December 2026 and March 2027.

Inspection and Maintenance plan: Daily inspect BMPs.

- Surface Roughening:
  - Areas that are surface roughened should be seeded as quickly as possible.
  - Regular inspections should be made of the area. If rills appear, they should be re-roughened and re-seeded immediately.

Responsible Staff: CESCL

2.1.7 Element 7: Protect Drain Inlets

List and describe BMPs:

BMP C220 Inlet protection

Installation Schedules: Prior to construction

Inspection and Maintenance plan:

- Remove sediment and replace inserts when inserts are no longer providing filtration according to manufacturer's recommendations.
- Remove if the insert has reached the average life of product according to manufacturer's recommendations.

Responsible Staff: CESCL

Erosion and sediment control devices will be inspected weekly and within 24 hours of any stormwater discharge from SMA 5. Please see the Erosion and Sediment Control Plan for more details. Inlet protection details will be updated prior to work being performed in SMA 5.

2.1.8 Element 8: Stabilize Channels and Outlets

This Element is not applicable to this project.

2.1.9 Element 9: Control Pollutants

The following pollutants are anticipated to be present on-site:

Table 2 – Pollutants

Pollutant (and source, if applicable)
Dust from contaminated soil
Contaminated soil stockpiles
Petroleum products from (on-site fueling, grease, etc.)
Demolition debris
Sanitation waste

List and describe BMPs:

- All vehicles, equipment, and petroleum product storage/dispensing areas will be inspected regularly to detect any leaks or spills, and to identify maintenance needs to prevent leaks or spills.
- On-site fueling tanks and petroleum product storage containers shall include secondary containment.
- Spill prevention measures, such as drip pans, will be used when conducting maintenance and repair of vehicles or equipment.
- In order to perform emergency repairs on site, temporary plastic will be placed beneath and, if raining, over the vehicle.
- Contaminated surfaces shall be cleaned immediately following any discharge or spill incident.
- Portable sanitation facilities will be firmly secured, regularly maintained, and emptied when necessary.

Installation Schedules: All phases of the project

Inspection and Maintenance plan: Daily

Responsible Staff: CESCL

Will maintenance, fueling, and/or repair of heavy equipment and vehicles occur on-site?

(Yes) No

Fuel will be stored in a 500 gallon double walled fuel tank within an impervious fuel containment berm. Fueling and maintenance will occur within a designated area with spill kits and containment materials available nearby. Pacific Pile and Marine will prepare a Spill Prevention, Control, and Countermeasure Response Plan that will describe spill prevention and control measures while conducting maintenance, refueling, and minor repair of equipment and vehicles. This plan will be provided by Pacific Pile and Marine as an additional attachment to this SWPPP 30 days prior to mobilization.

BMPs include the following:

- Locate materials, refueling locations, and equipment away from drainage pathways, waterways, and other sensitive areas to the maximum extent possible.
- Inspect secondary containment vessels, fuel hoses, lubrication equipment, hydraulically operated equipment, oil drums, and other equipment and facilities regularly for drips, leaks, or signs of damage and maintain and store properly to prevent spills.

Installation Schedules: Construction

Inspection and Maintenance plan: Weekly

Responsible Staff: CESCL

Will wheel wash or tire bath system BMPs be used during construction?

Yes No

Collected water be collected in baker tanks and allowed to settle before being pumped offsite pending analysis. This water can be discharged to the sanitary sewer with approval from the King County Industrial Waste Program.

BMPS include:

C106 Wheel Wash

Installation Schedules: Construction

Inspection and Maintenance plan: Weekly

Responsible Staff: CESCL

Will pH-modifying sources be present on-site?

Yes No If yes, check the source(s).

Table 3 – pH-Modifying Sources

X	None
	Bulk cement
	Cement kiln dust
	Fly ash
	Other cementitious materials
	New concrete washing or curing waters
	Waste streams generated from concrete grinding and sawing
	Exposed aggregate processes

	Dewatering concrete vaults
	Concrete pumping and mixer washout waters
	Recycled concrete
	Other (i.e. calcium lignosulfate) [please describe]

Concrete trucks must not be washed out onto the ground, or into storm drains, open ditches, streets, or streams. Excess concrete must not be dumped on-site, except in designated concrete washout areas with appropriate BMPs installed.

2.1.10 Element 10: Control Dewatering

Dewatering will occur in contaminated soil stockpiles and in the decontamination area.. Dewatering and decontamination water will be pumped to baker tanks to settle and water will be tested for turbidity, total suspended solids, and pH. Details regarding disposal of baker tank water will be submitted for approval prior to work being conducted at SMA 5.

Dewatering from clean fill material will be disposed of onsite for infiltration. Depending on the volume, this water will be collected and contained for offsite or onsite sanitary sewer discharge. If the sanitary discharge is utilized a permit will be required from the KCIWP, and will require analytical results, and daily flowrate measurements for the site discharge. The overall volume of this water is expected to be minimal and can be managed onsite, using stockpile management BMPs.

Stockpiles will be completely contained with the use of 40 mil plastic liners and ecology blocks. The stockpile area will have perforated pipe that will be used as a collection sump to remove and direct this water from the stockpile into Baker tanks to allow for settling, prior to disposal.

Table 4 – Dewatering BMPs and Selected Disposal Option

	Infiltration
	Use of sedimentation bag with discharge to ditch or swale (small volumes of localized dewatering)
	Transport off-site in a vehicle (vacuum truck for legal disposal)
X	Ecology-approved on-site chemical treatment and discharge to the Lower Duwamish Waterway
	Sanitary or combined sewer discharge after testing with local sewer district approval (last resort)

List and describe BMPs:

- Stockpile Management
- Dewatering systems
- Containment Structures

Installation Schedules: Construction

Inspection and Maintenance plan: Daily, during dewatering

Responsible Staff: CESCL

2.1.11 Element 11: Maintain BMPs

All temporary and permanent Erosion and Sediment Control (ESC) BMPs shall be maintained and repaired as needed to ensure continued performance of their intended function.

Maintenance and repair shall be conducted in accordance with each particular BMP specification (see *Volume II of the SWMMWW or Chapter 7 of the SWMMEW*).

Visual monitoring of all BMPs installed at the site will be conducted daily and within 24 hours of any stormwater or non-stormwater discharge from the site. If the site becomes inactive and is temporarily stabilized, the inspection frequency can be reduced to once every calendar month.

All temporary ESC BMPs shall be removed within 30 days after final site stabilization is achieved or after the temporary BMPs are no longer needed.

Trapped sediment shall be stabilized on-site or removed. Disturbed soil resulting from removal of either BMPs or vegetation shall be permanently stabilized.

Additionally, protection must be provided for all BMPs installed for the permanent control of stormwater from sediment and compaction. BMPs that are to remain in place following completion of construction shall be examined and restored to full operating condition. If sediment enters these BMPs during construction, the sediment shall be removed and the facility shall be returned to conditions specified in the construction documents.

2.1.12 Element 12: Manage the Project

The project will be managed based on the following principles:

- Project activities at SMA5 will be phased in small 15-25' wide swaths and will depend on the tidal fluctuations. Excavation and material placement for each swath will occur within one tidal cycle to manage water levels and minimize sediment disturbances. Excavated material will be directly loaded into haul trucks for transportation and disposal or stockpiled onsite when work takes place at night and haul trucks are not available for transportation. SMA 5 material placement will begin immediately following the required excavation grades being achieved and after post-excavation sampling is completed for each excavation swath. Monitoring of the BMPs will be conducted throughout each phase of this project. When all excavation, material placement, and plantings are completed for SMA 5 the BMPs will be removed. See the Dredging and Excavation Plan (Appendix J of the RAWP) and the Material Placement (Appendix L of the RAWP) for more details.
- Inspection and monitoring:
    - Inspection, maintenance, and repair of all BMPs will occur as needed to ensure performance of their intended function.
    - Site inspections and monitoring will be conducted in accordance with Special Condition S4 of the CSWGP. Sampling locations are indicated on the Site Map. Sampling station(s) are located in accordance with applicable requirements of the CSWGP.
- Maintain an updated SWPPP.
    - The SWPPP will be updated, maintained, and implemented in accordance with Special Conditions S3, S4, and S9 of the CSWGP.

As site work progresses the SWPPP will be modified routinely to reflect changing site conditions.

Table 5 – Management

X	Design the project to fit the existing topography, soils, and drainage patterns
X	Emphasize erosion control rather than sediment control
X	Minimize the extent and duration of the area exposed
X	Keep runoff velocities low
	Retain sediment on-site
X	Thoroughly monitor site and maintain all ESC measures
	Schedule major earthwork during the dry season
	Other (please describe)

2.1.13 Element 13: Protect Low Impact Development (LID) BMPs

This project does not include LIDs, this section is not applicable.

3.0 Pollution Prevention Team

Table 7 – Team Information

Title	Name(s)	Phone Number
Certified Erosion and Sediment Control Lead (CESCL)	Marty Locke	206.963.8927
Resident Engineers	Jeff Denman Sam DeMers (Conditions Inspector)	352.445.1527 425.894.8073
Emergency Ecology Contact	Northwest Region	206.594.0000
Emergency Permittee/ Owner Contact	Matt Miller	206.715.7466
Non-Emergency Owner Contact	Marty Locke	206.963.8927
Monitoring Personnel	TBD*	TBD*
Ecology Regional Office	Northwest Regional Office	425-649-7000

Notes: * Monitoring personnel will be provided prior to the execution of work in SMA 5.

4.0 Monitoring and Sampling Requirements

Monitoring includes visual inspection, sampling for water quality parameters of concern, and documentation of the inspection and sampling findings in a site log book. A site log book will be maintained for all on-site construction activities and will include:

- A record of the implementation of the SWPPP and other permit requirements
- Site inspections
- Stormwater sampling data

A blank site inspection form is under Appendix C.

The site log book must be maintained on-site within reasonable access to the site and be made available upon request to Ecology or the local jurisdiction.

Numeric effluent limits may be required for certain discharges to 303(d) listed waterbodies. See CSWGP Special Condition S8 and Section 5.

4.1 Site Inspection

Site inspections will be conducted daily and within 24 hours following any discharge from the site. For sites that are temporarily stabilized and inactive, the required frequency is reduced to once per calendar month.

The discharge point(s) are indicated on the Site Map (see Appendix A) and in accordance with the applicable requirements of the CSWGP.

4.2 Stormwater Quality Sampling

4.2.1 Turbidity Sampling

Requirements include calibrated turbidity meter or transparency tube to sample site discharges for compliance with the CSWGP. Sampling will be conducted at all discharge points at least once per calendar week.

Method for sampling turbidity:

Table 8 – Turbidity Sampling Method

X	Turbidity Meter/Turbidimeter (required for disturbances 5 acres or greater in size)
	Transparency Tube (option for disturbances less than 1 acre and up to 5 acres in size)

The benchmark for turbidity value is 25 nephelometric turbidity units (NTU) and a transparency less than 33 centimeters.

If the discharge's turbidity is 26 to 249 NTU **or** the transparency is less than 33 cm but equal to or greater than 6 cm, the following steps will be conducted:

1. Review the SWPPP for compliance with Special Condition S9. Make revisions within 7 days of the date the discharge exceeded the benchmark.

2. Immediately begin the process to fully implement and maintain source control and/or treatment BMPs as soon as possible. Address the problems within 10 days of the date the discharge exceeded the benchmark. If installation of necessary treatment BMPs is not feasible within 10 days, Ecology may approve additional time when the Permittee requests an extension within the initial 10-day response period.
3. Document BMP implementation and maintenance in the site log book.

If the turbidity exceeds 250 NTU **or** the transparency is 6 cm or less at any time, the following steps will be conducted:

1. Telephone or submit an electronic report to the applicable Ecology Region's Environmental Report Tracking System (ERTS) within 24 hours. https://www.ecology.wa.gov/About-us/Get-involved/Report-an-environmental-issue
    - Northwest Region (King, Kitsap, Island, San Juan, Skagit, Snohomish, Whatcom): (425) 649-7000
2. Immediately begin the process to fully implement and maintain source control and/or treatment BMPs as soon as possible. Address the problems within 10 days of the date the discharge exceeded the benchmark. If installation of necessary treatment BMPs is not feasible within 10 days, Ecology may approve additional time when the Permittee requests an extension within the initial 10-day response period
3. Document BMP implementation and maintenance in the site log book.
4. Continue to sample discharges daily until one of the following is true:
    - Turbidity is 25 NTU (or lower).
    - Transparency is 33 cm (or greater).
    - Compliance with the water quality limit for turbidity is achieved.
        - 1 - 5 NTU over background turbidity, if background is less than 50 NTU
        - 1% - 10% over background turbidity, if background is 50 NTU or greater
    - The discharge stops or is eliminated.

4.2.2 pH Sampling

pH monitoring is not applicable to this work.

5.0 Discharges to 303(d) or Total Maximum Daily Load (TMDL) Waterbodies

5.1 303(d) Listed Waterbodies

Is the receiving water 303(d) (Category 5) listed for turbidity, fine sediment, phosphorus, or pH?

Yes (No)

The receiving waterbody, Duwamish Waterway is a 303(d) water quality listings for: temperature, bacteria – enterococci, and bacteria – fecal coliform. All stormwater and dewatering discharges from the site are subject to an **effluent limit** of 8.5 su for pH and/or 25 NTU for turbidity.

The Construction Stormwater General Permit Proposed New Discharge to an Impaired Water Body form is included in Appendix D

If yes, discharges must comply with applicable effluent limitations in S8.C and S8.D of the CSWGP.

Describe the method(s) for 303(d) compliance:

List and describe BMPs:

No additional BMPs are required for 303(d) compliance.

6.0 Reporting and Record Keeping

6.1 Record Keeping

6.1.1 Site Log Book

A site log book will be maintained for all on-site construction activities and will include:

- A record of the implementation of the SWPPP and other permit requirements
- Site inspections
- Sample logs

6.1.2 Records Retention

Records will be retained during the life of the project and for a minimum of three (3) years following the termination of permit coverage in accordance with Special Condition S5.C of the CSWGP.

Permit documentation to be retained on-site:

- CSWGP
- Permit Coverage Letter
- SWPPP
- Site Log Book

Permit documentation will be provided within 14 days of receipt of a written request from Ecology. A copy of the SWPPP or access to the SWPPP will be provided to the public when requested in writing in accordance with Special Condition S5.G.2.b of the CSWGP.

6.1.3 Updating the SWPPP

The SWPPP will be modified if:

- Found ineffective in eliminating or significantly minimizing pollutants in stormwater discharges from the site.
- There is a change in design, construction, operation, or maintenance at the construction site that has, or could have, a significant effect on the discharge of pollutants to waters of the State.

The SWPPP will be modified within seven (7) days if inspection(s) or investigation(s) determine additional or modified BMPs are necessary for compliance. An updated timeline for BMP implementation will be prepared.

6.2 Reporting

6.2.1 Discharge Monitoring Reports

Cumulative soil disturbance is one (1) acre or larger; therefore, Discharge Monitoring Reports (DMRs) will be submitted to Ecology monthly to demonstrate substantial compliance. If there was no discharge during a given monitoring period the DMR will be submitted as required, reporting "No Discharge". The DMR due date is fifteen (15) days following the end of each calendar month.

DMRs will be reported online through Ecology's WQWebDMR System.

6.2.2 Notification of Noncompliance

If any of the terms and conditions of the permit is not met, and the resulting noncompliance may cause a threat to human health or the environment, the following actions will be taken:

1. Ecology will be notified within 24-hours of the failure to comply by calling the applicable Regional office ERTS phone number (Regional office numbers listed below).
2. Immediate action will be taken to prevent the discharge/pollution or otherwise stop or correct the noncompliance. If applicable, sampling and analysis of any noncompliance will be repeated immediately and the results submitted to Ecology within five (5) days of becoming aware of the violation.
3. A detailed written report describing the noncompliance will be submitted to Ecology within five (5) days, unless requested earlier by Ecology.

Anytime turbidity sampling indicates turbidity is 250 NTUs or greater, or water transparency is 6 cm or less, the Ecology Regional office will be notified by phone within 24 hours of analysis as required by Special Condition S5.A of the CSWGP.

- Northwest Region at (425) 649-7000 for Island, King, Kitsap, San Juan, Skagit, Snohomish, or Whatcom County

Include the following information:

1. Your name and Phone number
2. Permit number
3. City / County of project
4. Sample results
5. Date / Time of call
6. Date / Time of sample
7. Project name

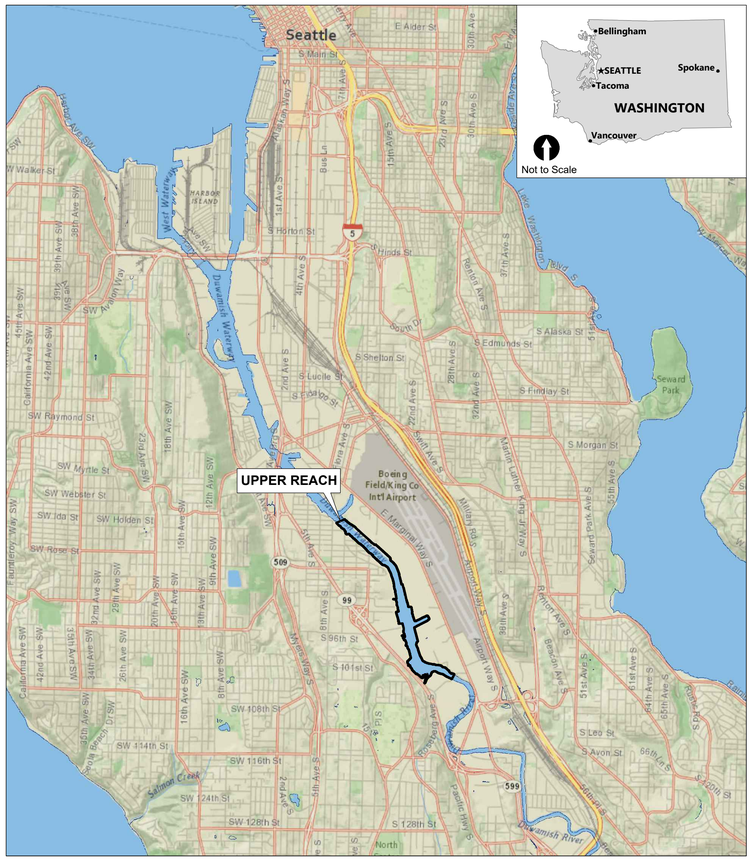
In accordance with Special Condition S4.D.5.b of the CSWGP, the Ecology Regional office will be notified if chemical treatment other than CO_2 sparging is planned for adjustment of high pH water.

Appendix A Site Contract Drawings SMA 5

100% DESIGN SUBMITTAL

LOWER DUWAMISH WATERWAY UPPER REACH

LOWER DUWAMISH WATERWAY GROUP



SOURCE: NATIONAL GEOGRAPHIC WORLD MAP - NATIONAL GEOGRAPHIC, ESRI, GARMIN, HERE, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, INCREMENT P CORP.

VICINITY MAP

0 4000 8000

SCALE IN FEET

SOURCE: AERIAL PHOTOGRAPH FROM ©MICROSOFT, BING MAPS

LOCATION MAP

0 1000 2000

SCALE IN FEET

COLOR IMAGE

THIS DRAWING IS COMPOSED USING COLOR IMAGES OR PHOTOGRAPHS AND MUST BE PLOTTED, PRINTED, AND REPRODUCED IN COLOR TO BE VIEWED ACCURATELY.

NO	REVISION DESCRIPTION	BY	APVD	DATE

Lower Duwamish Waterway Group
City of Seattle / King County / The Boeing Company

ANCHOR QEA

FINAL ISSUE DRAWING
INFORMATION ONLY
BID DOCUMENTS
DECEMBER 2023

JOHN P. LAPLANTE STATE OF WASHINGTON 38792 REGISTERED PROFESSIONAL ENGINEER 12-14-23

DESIGNED/DRAWN: BIGSBY/GRIGA	CHECKED: K. GROSS
PROJECT ENGINEER: J. LAPLANTE	SCALE: AS NOTED
DESIGN APPROVAL: J. ABDALKHANI	PROJECT FILE NO: E00559E18
PROJECT ACCEPTANCE: G. STEINER	CONTRACT NO: KC001065

King County

DEPARTMENT OF NATURAL RESOURCES & PARKS
WASTEWATER TREATMENT DIVISION
LOWER DUWAMISH WATERWAY UPPER REACH
REMEDIAL ACTION

COVER SHEET

DATE: DECEMBER 2023

DRAWING NO: **G001**

SHT NO 1 / TOTAL 91 | REV NO: **0**

DRAWING INDEX		
SHT #	DWG #	TITLE
--	COVER	
1	G001	COVER SHEET
2	G002	DRAWING SHEET INDEX
3	G003	GENERAL NOTES & ABBREVIATIONS
4	G004	OVERVIEW MAP
5	G005	PRE-APPROVED WORK SITE ACCESS AND STAGING PLAN
6	G006	SMA 5 DETAILED ACCESS PLAN
7	V101	EXISTING CONDITIONS (RM 2.93 TO 3.15)
8	V102	EXISTING CONDITIONS (RM 3.09 TO 3.29)
9	V103	EXISTING CONDITIONS (RM 3.23 TO 3.44)
10	V104	EXISTING CONDITIONS (RM 3.49 TO 3.56)
11	V105	EXISTING CONDITIONS (RM 3.54 TO 3.71)
12	V106	EXISTING CONDITIONS (RM 3.73 TO 3.84)
13	V107	EXISTING CONDITIONS (RM 3.85 TO 3.99)
14	V108	EXISTING CONDITIONS (RM 3.98 TO 4.13)
15	V109	EXISTING CONDITIONS (RM 4.14 TO 4.23)
16	V110	EXISTING CONDITIONS (RM 4.57 TO 4.66)
17	V111	EXISTING CONDITIONS (RM 4.64 TO 4.76)
18	V112	EXISTING CONDITIONS (RM 4.84 TO 4.95)
19	V201	LOCATION OF IDENTIFIED DEBRIS AND PILING FOR REMOVAL (1 OF 5)
20	V202	LOCATION OF IDENTIFIED DEBRIS AND PILING FOR REMOVAL (2 OF 5)
21	V203	LOCATION OF IDENTIFIED DEBRIS AND PILING FOR REMOVAL (3 OF 5)
22	V204	LOCATION OF IDENTIFIED DEBRIS AND PILING FOR REMOVAL (4 OF 5)
23	V205	LOCATION OF IDENTIFIED DEBRIS AND PILING FOR REMOVAL (5 OF 5)
24	IM101	INSPECTION AND MONITORING (RM 3.23 TO 3.44)
25	IM102	INSPECTION AND MONITORING (RM 3.49 TO 3.56)
26	IM103	INSPECTION AND MONITORING (RM 3.85 TO 3.99)
27	IM104	INSPECTION AND MONITORING (RM 3.98 TO 4.13)
28	IM105	INSPECTION AND MONITORING (RM 4.14 TO 4.23)
29	IM106	INSPECTION AND MONITORING (RM 4.57 TO 4.66)
30	IM107	INSPECTION AND MONITORING (RM 4.77 TO 4.87)
31	IM108	INSPECTION AND MONITORING (RM 4.84 TO 4.95)
32	C101	DREDGE PLAN (RM 2.93 TO 3.15)
33	C102	DREDGE PLAN (RM 3.09 TO 3.29)
34	C103	DREDGE PLAN (RM 3.23 TO 3.44)
35	C104	DREDGE PLAN (RM 3.49 TO 3.56)

DRAWING INDEX		
SHT #	DWG #	TITLE
36	C105	DREDGE PLAN (RM 3.54 TO 3.71)
37	C106	DREDGE PLAN (RM 3.73 TO 3.84)
38	C107	DREDGE PLAN (RM 3.85 TO 3.99)
39	C108	DREDGE PLAN (RM 3.98 TO 4.13)
40	C109	DREDGE PLAN (RM 4.14 TO 4.23)
41	C110	DREDGE PLAN (RM 4.57 TO 4.66)
42	C111	DREDGE PLAN (RM 4.64 TO 4.76)
43	C112	DREDGE PLAN (RM 4.84 TO 4.95)
44	C151	MATERIAL PLACEMENT PLAN (RM 2.93 TO 3.15)
45	C152	MATERIAL PLACEMENT PLAN (RM 3.09 TO 3.29)
46	C153	MATERIAL PLACEMENT PLAN (RM 3.23 TO 3.44)
47	C154	MATERIAL PLACEMENT PLAN (RM 3.49 TO 3.56)
48	C155	MATERIAL PLACEMENT PLAN (RM 3.54 TO 3.71)
49	C156	MATERIAL PLACEMENT PLAN (RM 3.73 TO 3.84)
50	C157	MATERIAL PLACEMENT PLAN (RM 3.85 TO 3.99)
51	C158	MATERIAL PLACEMENT PLAN (RM 3.98 TO 4.13)
52	C159	MATERIAL PLACEMENT PLAN (RM 4.14 TO 4.23)
53	C160	MATERIAL PLACEMENT PLAN (RM 4.57 TO 4.66)
54	C161	MATERIAL PLACEMENT PLAN (RM 4.64 TO 4.76)
55	C162	MATERIAL PLACEMENT PLAN (RM 4.84 TO 4.95)
56	C201	CROSS SECTIONS (1 OF 15)
57	C202	CROSS SECTIONS (2 OF 15)
58	C203	CROSS SECTIONS (3 OF 15)
59	C204	CROSS SECTIONS (4 OF 15)
60	C205	CROSS SECTIONS (5 OF 15)
61	C206	CROSS SECTIONS (6 OF 15)
62	C207	CROSS SECTIONS (7 OF 15)
63	C208	CROSS SECTIONS (8 OF 15)
64	C209	CROSS SECTIONS (9 OF 15)
65	C210	CROSS SECTIONS (10 OF 15)
66	C211	CROSS SECTIONS (11 OF 15)
67	C212	CROSS SECTIONS (12 OF 15)
68	C213	CROSS SECTIONS (13 OF 15)
69	C214	CROSS SECTIONS (14 OF 15)
70	C215	CROSS SECTIONS (15 OF 15)
71	C301	OFFLOADING, STOCKPILING, AND BMPs
72	C302	DREDGING DETAILS
73	C303	MATERIAL PLACEMENT DETAILS (1 OF 3)
74	C304	MATERIAL PLACEMENT DETAILS (2 OF 3)
75	C305	MATERIAL PLACEMENT DETAILS (3 OF 3)

DRAWING INDEX		
SHT #	DWG #	TITLE
76	L101	PLANTING AND RESTORATION PLAN (RM 3.98 TO 4.13)
77	L301	PLANTING DETAILS
78	S001	STRUCTURAL ABBREVIATIONS AND SYMBOLS
79	S002	STRUCTURAL GENERAL NOTES AND SOIL PRESSURE DIAGRAM
80	S003	STATEMENT OF SPECIAL INSPECTIONS AND TESTING
81	S100	SOUTH PARK BRIDGE PLAN AND PHOTOS
82	S121	BULKHEAD WALL 1 PLAN AND PHOTOS
83	S125	BULKHEAD WALL 1 PLAN AND PROFILE
84	S131	BULKHEAD WALL 1 SECTIONS AND DETAILS
85	S140	L-SHAPE PIER & DOLPHINS PLAN, PHOTOS AND PILE REPLACEMENT DETAILS
86	S150	WHARF & PILE FIELD PLAN AND PHOTOS
87	S151	GROIN PILES PLAN AND PHOTOS
88	S200	OUTFALLS 2075 & 2073 PLAN AND PHOTOS
89	S201	OUTFALLS 2094 & 2093 PLAN AND PHOTOS
90	S202	OUTFALL ENERGY DISSIPATION PLANS, ELEVATIONS AND SECTIONS 1 OF 2
91	S203	OUTFALL ENERGY DISSIPATION PLANS, ELEVATIONS AND SECTIONS 2 OF 2

COLOR IMAGE

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NO	REVISION DESCRIPTION	BY	APVD	DATE

Lower Duwamish Waterway Group
City of Seattle / King County / The Boeing Company

ANCHOR QEA

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DECEMBER 2023

JOHN P. LAPLANTE STATE OF WASHINGTON 38792 REGISTERED PROFESSIONAL ENGINEER
12-14-23

DESIGNED/DRAWN: BIGSBY/GRIGA	CHECKED: K. GROSS
PROJECT ENGINEER: J. LAPLANTE	SCALE: AS NOTED
DESIGN APPROVAL: J. ABDALKHANI	PROJECT FILE NO: E00559E18
PROJECT ACCEPTANCE: G. STEINER	CONTRACT NO: KC001065

King County

DEPARTMENT OF NATURAL RESOURCES & PARKS
WASTEWATER TREATMENT DIVISION
LOWER DUWAMISH WATERWAY UPPER REACH
REMEDIAL ACTION

DRAWING SHEET INDEX

DATE: DECEMBER 2023
DRAWING NO: **G002**
SHT NO 2 / TOTAL 91
REV NO: **0**

REFERENCE 0 1"

BORDER FILE EDITION: xKCWTD-Dsize-TB-Border_AQByLayer
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PLOTTED: Jan 12, 2024-10:09:18am By jbigsby

GENERAL NOTES:

1. FOR DRAWINGS THAT INCLUDE AERIAL PHOTOGRAPHS, THE PHOTOGRAPH REPRESENTS CONDITIONS AT THE TIME IT WAS TAKEN. THE CONTRACTOR SHALL FIELD VERIFY SITE CONDITIONS BEFORE CONSTRUCTION.
2. IN LIEU OF COORDINATE CONTROL TABLES, CONTRACTOR WILL BE PROVIDED ELECTRONIC CAD FILES OF THE DRAWINGS.

HORIZONTAL DATUM: WASHINGTON STATE PLANE NORTH ZONE, NAD83 (2011), U.S. SURVEY FEET.

VERTICAL DATUM: MEAN LOWER LOW WATER (MLLW) EPOCH: 1983-2001. THE CONVERSION BETWEEN NAVD88 AND MLLW WAS DETERMINED USING NOAA/NOS VDATUM 3.9. THE VDATUM CALCULATED SEPARATION BETWEEN NAVD88 AND MLLW AT THE NOAA/NOS TIDE STATION 9447130 (SEATTLE) IS 2.34 FEET. (EXAMPLE: 10.00 FT NAVD88 = 12.34 FT MLLW).

GENERAL SURVEY NOTES:

1. TOPOGRAPHIC AND BATHYMETRIC SURVEY DATA WERE MERGED BY ANCHOR QEA TO PROVIDE A CONTINUOUS ELEVATION DATA SET. DATA SET INCLUDE 2019/2020 BATHYMETRY DATA, 2021/2022 TOPOGRAPHY DATA, 2016 LIDAR DATA, AND VARIOUS INTERPOLATED PATCHES.

BATHYMETRIC SURVEY NOTES:

1. THE BATHYMETRIC HYDROGRAPHIC SURVEY WAS COMPLETED BY NORTHWEST HYDRO INC.
2. SURVEY DATA COLLECTED APRIL APRIL 18-MAY 15, 2019 WITH ADDITIONAL SURVEY JUNE 2020.
3. ALL HORIZONTAL POSITIONING AND VESSEL ALTITUDE WAS PROVIDED IN REAL TIME USING AN APPLANIX POS/MV RTK GPS AIDED INERTIAL SENSOR. REAL TIME RTK CORRECTIONS FROM THE WSRN GNSS NETWORK WERE UTILIZED DURING ALL FIELDWORK FOR THIS PROJECT.
4. SOUNDINGS WERE COLLECTED USING A R2SONIC 2022 MULTIBEAM SONAR OPERATING AT 400 KHz. DATA PROCESSING WAS COMPLETED USING HYPACK HYSWEEP SOFTWARE.
5. THE BATHYMETRIC SURVEY IS REPRESENTATIVE OF THE GENERAL CONDITION OF THE WATERWAY BED AT THE TIME OF THE SURVEY. THE CONDITION OF THE BOTTOM MAY CHANGE AT ANY TIME AFTER THE DATE OF THE SURVEY.
6. ALL BATHYMETRIC DATA WERE COLLECTED IN ACCORDANCE WITH THE U.S ARMY CORPS OF ENGINEERS HYDROGRAPHIC SURVEY MANUAL EM-112-02-1003 (NOVEMBER 2013). SURVEY CLASSIFICATION: NAVIGATION AND DREDGING SUPPORT SURVEYS, BOTTOM CLASSIFICATION OF SOFT.

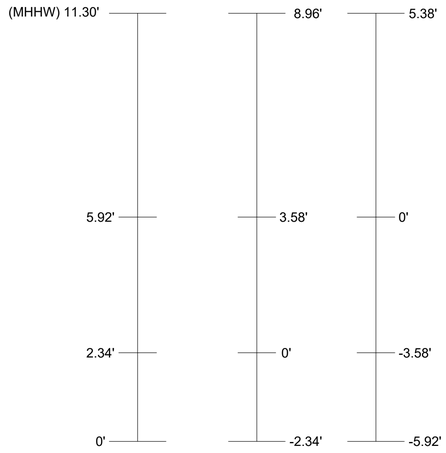
TOPOGRAPHIC SURVEY NOTES:

1. THE UPLAND TOPOGRAPHIC SURVEY WAS COMPLETED BY TRUE NORTH LAND SURVEYING, INC. DATE OF SURVEY: JULY 1-AUGUST 10, 2021 AND OCTOBER 5-7, 2022.
2. HORIZONTAL DATUM CONTROL: WSDOT MON GP17005-176 & GP17005-181
3. VERTICAL BENCHMARK: COS BM 3765-4302 2" BRASS DISK SET AT 8TH AVE S & S PORTLAND ST IN CENTER OF CONC WALK. EL: 13.322 (NAVD88) CONVERTED EL: 15.662 (MLLW)
4. COS BM SNV-5411 2" BASS DISK STAMPED COS TOP OF CURB AROUND US BANK SIGN, AT SOUTHEAST CORNER, EAST MARGINAL WAY S & S MICHIGAN ST. EL: 16.866 (NAVD88) CONVERTED EL: 19.226 (MLLW)
5. EQUIPMENT USED: LEICA TS 16 AND GS 16.

DATUM INFORMATION:

1. IN-WATER ELEVATIONS ARE IN FEET MLLW, BASED ON THE NOAA/NOS TIDE STATION 9447130 (SEATTLE).
2. TO CONVERT ELEVATIONS FROM NAVD88 TO MLLW, ADD +2.34 FEET TO NAVD88 ELEVATIONS (EXAMPLE: 10.00 FEET NAVD88 = 12.34 FEET MLLW).
3. MHHW IS EQUAL TO 11.30 FEET BASED ON MLLW DATUM (8.96 FEET BASED ON NAVD88 DATUM).

DATUM CONVERSION:

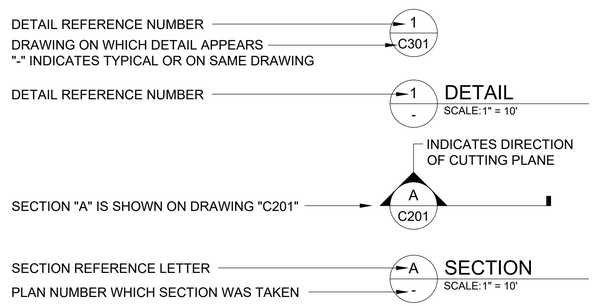


NOT TO SCALE

ABBREVIATIONS:

BLDG	BUILDING
BMP	BEST MANAGEMENT PRACTICE
CONC	CONCRETE
CONT	CONTINUED OR CONTINUOUS
CMP	CORRUGATED METAL PIPE
CP	CONTROL POINT
CY	CUBIC YARD
DI	DUCTILE IRON
DIA	DIAMETER
DWG	DRAWING
E	EAST
EAA	EARLY ACTION AREA
EL, ELEV	ELEVATION
ENR	ENHANCED NATURAL RECOVERY
EX	EXISTING
FT	FOOT OR FEET
IE	INVERT ELEVATION
IN	INCH OR INCHES
KCIW	KING COUNTY INDUSTRIAL WASTE DIVISION
LDW	LOWER DUWAMISH WATERWAY
LIDAR	LIGHT DETECTION AND RANGING
MAX	MAXIMUM
MH	MANHOLE
MHHW	MEAN HIGHER HIGH WATER
MIN	MINIMUM
MLLW	MEAN LOWER LOW WATER
MW	MONITORING WELL
N	NORTH
NAD83	NORTH AMERICAN DATUM OF 1983
NAVD88	NORTH AMERICAN VERTICAL DATUM OF 1988
NPDES	NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
OD	OVERDREDGE
PVC	POLYVINYL CHLORIDE
RAA	REMEDIAL ACTION AREA
RCP	REINFORCED CONCRETE PIPE
RMC	RESIDUALS MANAGEMENT COVER
ROW	RIGHT OF WAY
S	SOUTH
SD	STORM DRAIN
SF	SQUARE FOOT OR SQUARE FEET
SHT	SHEET
SMA	SEDIMENT MANAGEMENT AREA
SPEC	SPECIFICATION
STA	STATION
STD	STANDARD
TESC	TEMPORARY EROSION AND SEDIMENT CONTROL
TYP	TYPICAL
W	WEST
WSDOT	WASHINGTON STATE DEPARTMENT OF TRANSPORTATION

DETAIL AND SECTION REFERENCING:



COLOR IMAGE

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NO	REVISION DESCRIPTION	BY	APVD	DATE

Lower Duwamish Waterway Group
City of Seattle / King County / The Boeing Company

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JOHN P. LAPLANTE STATE OF WASHINGTON 38792 REGISTERED PROFESSIONAL ENGINEER
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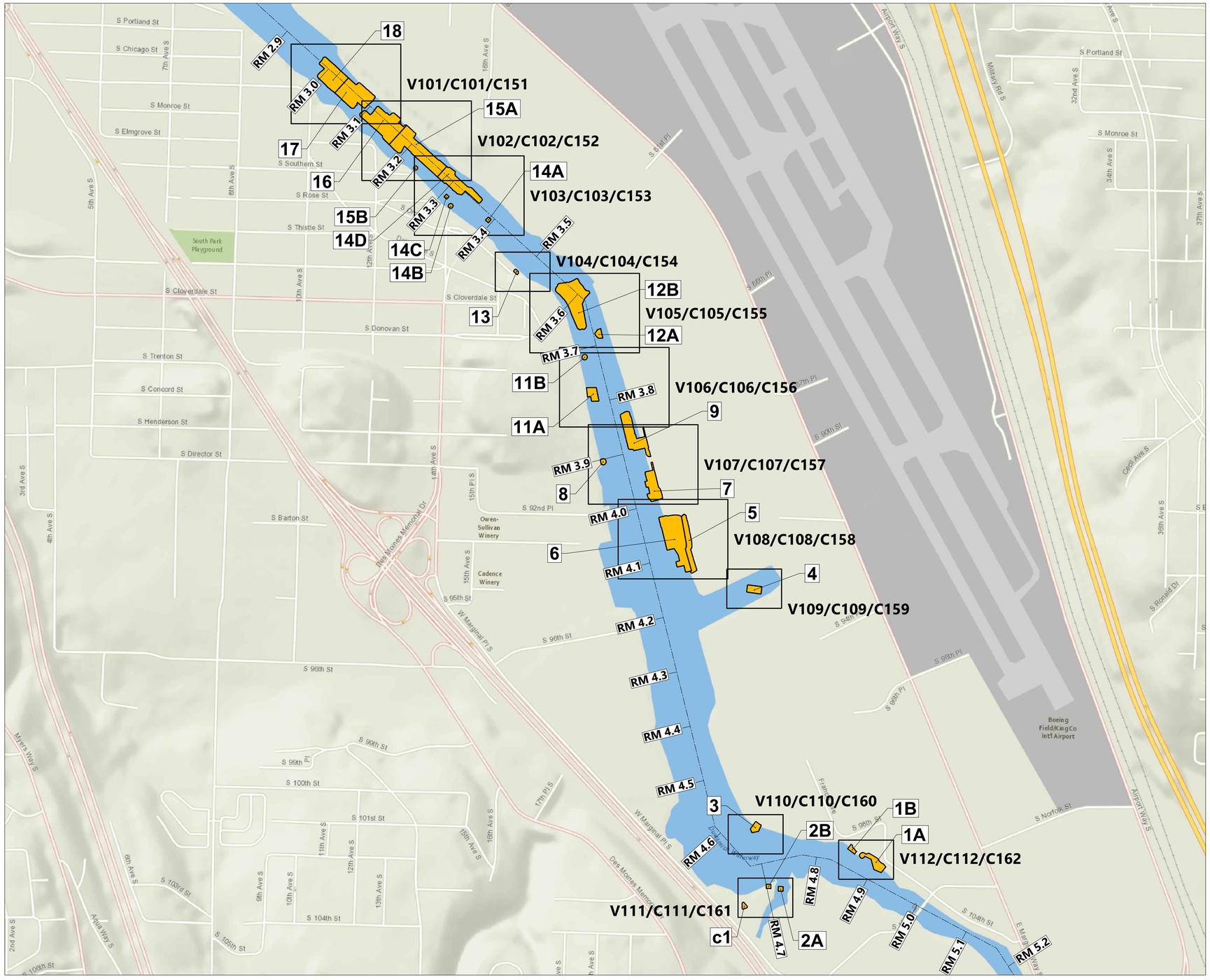
King County

DEPARTMENT OF NATURAL RESOURCES & PARKS
WASTEWATER TREATMENT DIVISION
LOWER DUWAMISH WATERWAY UPPER REACH REMEDIAL ACTION

GENERAL NOTES & ABBREVIATIONS

DATE: DECEMBER 2023
DRAWING NO: **G003**
SHT NO 3 / TOTAL 91 | REV NO: **0**



LEGEND:

- EXTENT OF SEDIMENT MANAGEMENT AREAS
- C108 — SHEET EXTENTS AND DRAWING NUMBER
- 14 — SEDIMENT MANAGEMENT AREA NUMBER

COLOR IMAGE

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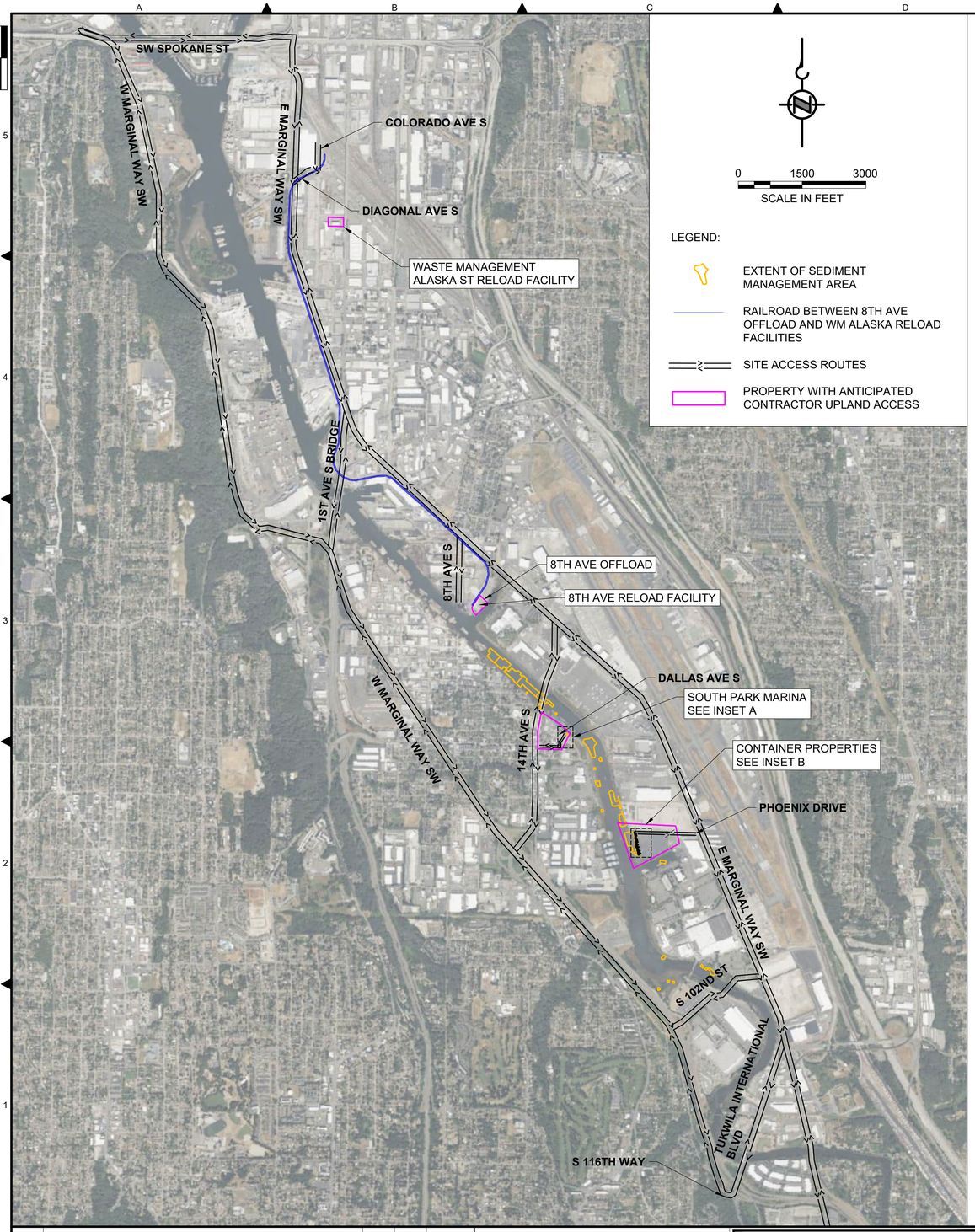
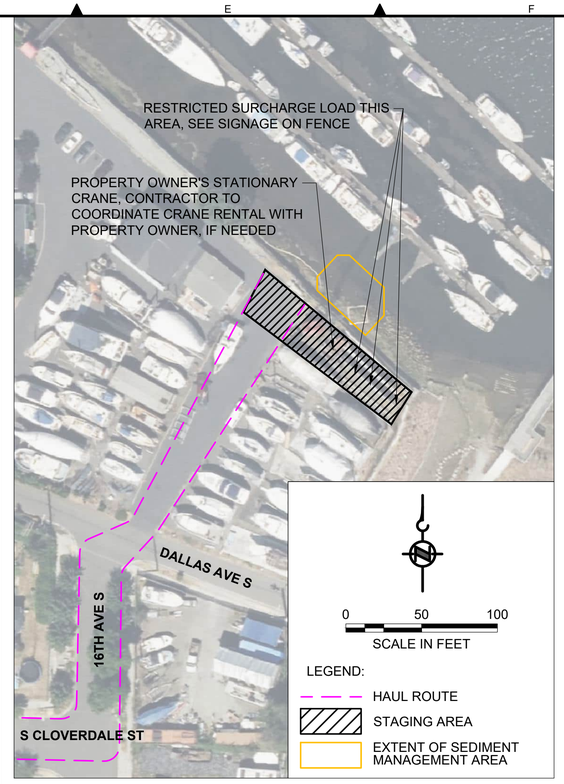
DEPARTMENT OF NATURAL RESOURCES & PARKS
WASTEWATER TREATMENT DIVISION
LOWER DUWAMISH WATERWAY UPPER REACH
REMEDIAL ACTION

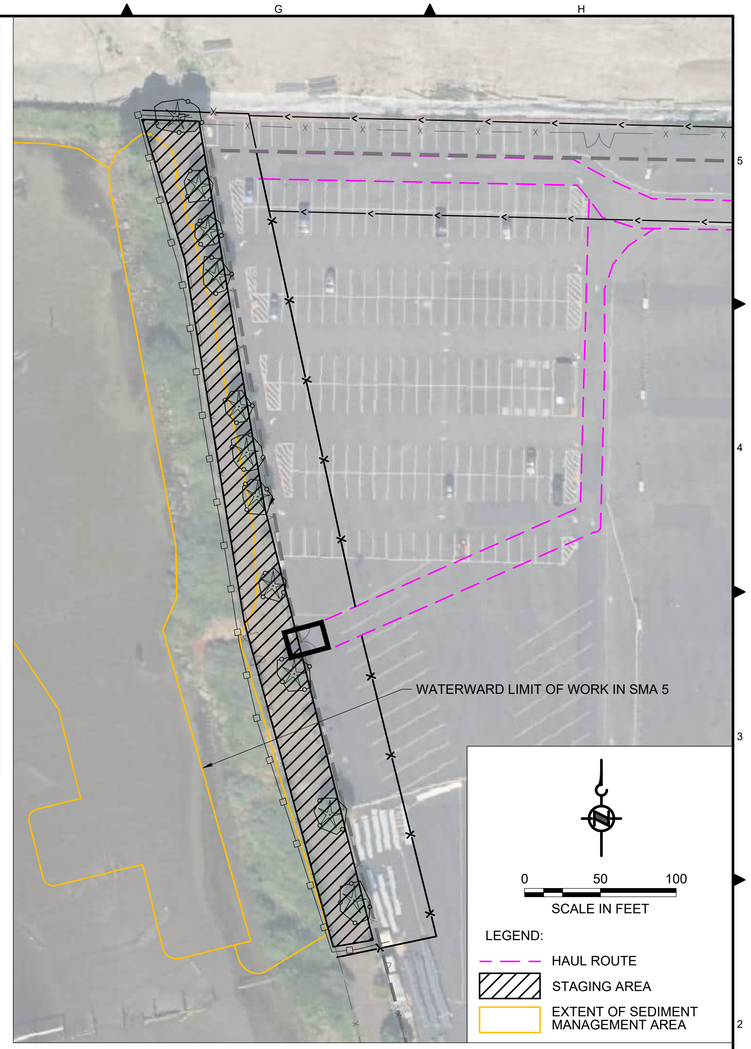
OVERVIEW MAP

DATE: DECEMBER 2023
DRAWING NO: **G004**
SHT NO 4 / TOTAL 91 | REV NO: 0





INSET A: SOUTH PARK MARINA ACCESS



INSET B: CONTAINER PROPERTIES ACCESS

GENERAL NOTES:

1. HORIZONTAL DATUM: WASHINGTON STATE PLANE NORTH ZONE, NAD83 (2011), U.S. SURVEY FEET
2. AERIAL SOURCE: BING MAPS
3. CONTAINER PROPERTIES ACCESS FOR WORK IN SMA 5 ONLY.

COLOR IMAGE

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NO	REVISION DESCRIPTION	BY	APVD	DATE

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King County

DEPARTMENT OF NATURAL RESOURCES & PARKS
WASTEWATER TREATMENT DIVISION
LOWER DUWAMISH WATERWAY UPPER REACH REMEDIAL ACTION

PRE-APPROVED WORK SITE ACCESS AND STAGING PLAN

DATE: DECEMBER 2023
DRAWING NO: **G005**
SHT NO 5 / TOTAL 91 | REV NO: **0**

BORDER FILE EDITION: xKCWTD-Dsize-TB-Border_AQ$y\Layer
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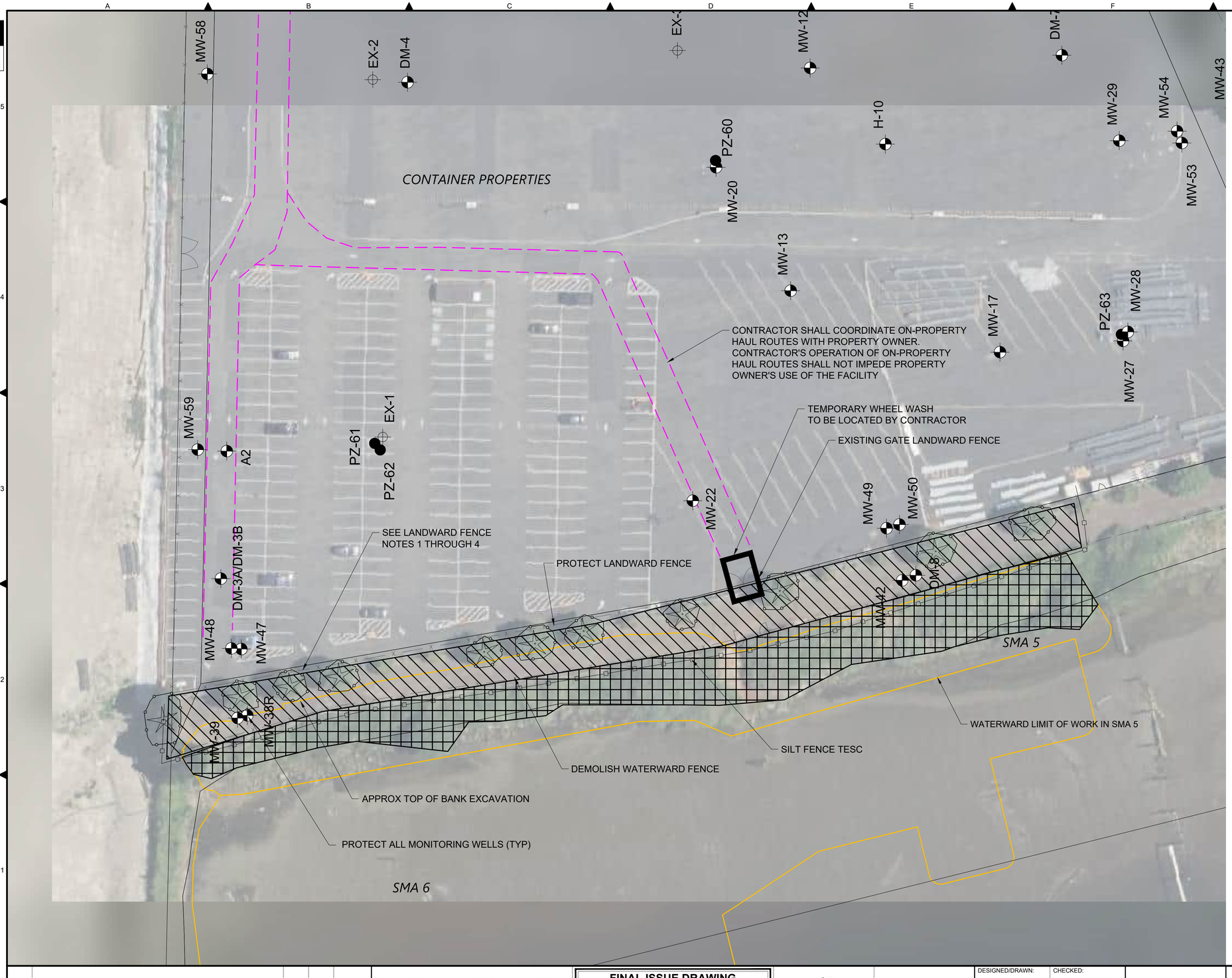
PLOTTED: Jan 12, 2024-10:10:08am By jbigsby



LEGEND:

- EXTENT OF SEDIMENT MANAGEMENT AREA
- HAUL ROUTE
- CLEAR AND GRUB LIMITS
- UPLAND STAGING AREA
- TEMPORARY TREE PROTECTION

GENERAL NOTES:

1. HORIZONTAL DATUM: WASHINGTON STATE PLANE NORTH ZONE, NAD83 (2011), U.S. SURVEY FEET
2. AERIAL SOURCE: BING MAPS
3. CONTAINER PROPERTIES ACCESS FOR WORK IN SMA 5 ONLY.

LANDWARD FENCE NOTES:

CONTRACTOR MAY PROPOSE ADDITIONAL ACCESS GATE IN LANDWARD FENCE TO FACILITATE SHORELINE ACCESS.

1. ALL MODIFICATIONS REQUIRED FOR ACCESS SHALL BE COORDINATED WITH THE PROPERTY OWNER.
2. MODIFICATIONS, SUCH AS ADDITIONAL ACCESS GATES, SHALL BE CONSTRUCTED USING THE SAME FENCE GAUGE, FENCE MATERIAL, FENCE HEIGHT, AND FENCE APPURTENANCES (E.G. BARBED WIRE) AS EXISTING FENCE.
3. CONTRACTOR SHALL MAINTAIN SECURE SITE AT ALL TIMES AND PREVENT UNAUTHORIZED ACCESS TO CONTAINER PROPERTIES.
4. CONTRACTOR SHALL CONDUCT LANDWARD FENCE MODIFICATIONS USING METHODS THAT PROTECT ALL TREES AND UTILITIES ALONG FENCE LINE.

TEMPORARY TREE PROTECTION NOTES:

1. PROTECT EXISTING NATIVE TREES WITHIN AND DIRECTLY ADJACENT TO SMA 5 WORK.
2. INSTALL TEMPORARY TREE PROTECTION FENCING AT DRIPLINE OF TREES. NO WORK SHALL OCCUR WITHIN DRIPLINE WITH THE EXCEPTION OF HAND REMOVAL OF INVASIVE VEGETATION .
3. TEMPORARY TREE PROTECTION FENCING AREAS SHOWN ON THE DRAWINGS ARE DIAGRAMMATIC AND SHALL BE CONFIRMED IN FIELD.

0 30 60
SCALE IN FEET

COLOR IMAGE
THIS DRAWING IS COMPOSED USING COLOR IMAGES OR PHOTOGRAPHS AND MUST BE PLOTTED, PRINTED, AND REPRODUCED IN COLOR TO BE VIEWED ACCURATELY.

NO	REVISION DESCRIPTION	BY	APVD	DATE

Lower Duwamish Waterway Group
City of Seattle / King County / The Boeing Company
ANCHOR QEA

FINAL ISSUE DRAWING
INFORMATION ONLY
BID DOCUMENTS
DECEMBER 2023

JOHN P. LAPLANTE STATE OF WASHINGTON 38792 REGISTERED PROFESSIONAL ENGINEER
12-14-23

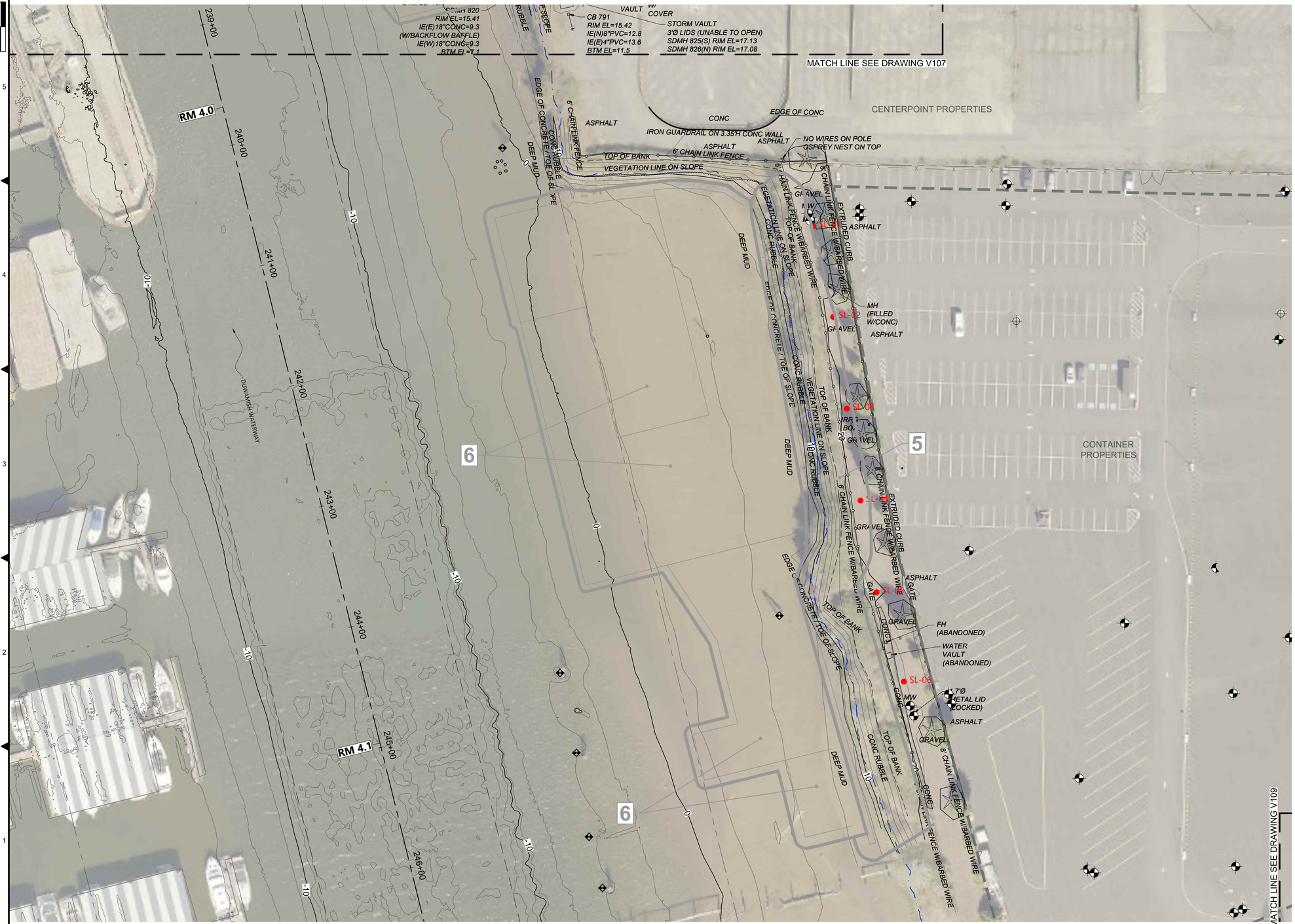
DESIGNED/DRAWN: BIGSBY/GRIGA	CHECKED: K. GROSS
PROJECT ENGINEER: J. LAPLANTE	SCALE: AS NOTED
DESIGN APPROVAL: J. ABDALKHANI	PROJECT FILE NO: E00559E18
PROJECT ACCEPTANCE: G. STEINER	CONTRACT NO: KC001065

King County

DEPARTMENT OF NATURAL RESOURCES & PARKS
WASTEWATER TREATMENT DIVISION
LOWER DUWAMISH WATERWAY UPPER REACH
REMEDIAL ACTION

SMA 5 DETAILED ACCESS PLAN

DATE: DECEMBER 2023
DRAWING NO: **G006**
SHT NO 6 / TOTAL 91 | REV NO: **0**



LEGEND:

- USACE CHANNEL CENTERLINE AND STATIONING (250+00)
- FEDERAL NAVIGATION CHANNEL
- RM 3.0 — RIVER MILE LABEL
- KING COUNTY PARCEL
- LDW UPPER REACH APPROXIMATE BOUNDARY
- EXISTING GRADE MERGED DATA SET CONTOURS (2' & 10' INTERVALS)
- OUTFALL LOCATION (ACTIVE) - LOCATION APPROXIMATE
- OUTFALL LOCATION (PRESUMED ABANDONED, INACTIVE, OR REMOVED) - LOCATION APPROXIMATE
- DOLPHIN
- PILE
- VERTICAL DELINEATION CORE LOCATION
- SEDIMENT MANAGEMENT AREA BOUNDARY
- 14 — SEDIMENT MANAGEMENT AREA NUMBER
- MONITORING WELL
- UPLAND SOIL SAMPLE LOCATIONS
- TREE

NOTES:

1. HORIZONTAL DATUM: WASHINGTON STATE PLANE NORTH ZONE, NAD83 (2011), U.S. SURVEY FEET
2. VERTICAL DATUM: MLLW
3. AERIAL SOURCE: KING COUNTY 2021
4. THESE DRAWINGS DISPLAY THE LOCATION OF VERTICAL DELINEATION CORES ONLY. THE FULL DESIGN DATASET IS AVAILABLE AS A REFERENCE DOCUMENT, SEE SPECIFICATION SECTION 01 13 00.
5. OUTFALLS ARE SHOWN ON DRAWINGS AS ACTIVE OR PRESUMED ABANDONED, INACTIVE, OR REMOVED. THE CONTRACTOR SHALL TAKE CARE TO AVOID CONTACT WITH OR IMPACT TO ACTIVE OUTFALLS WHILE WORKING IN THEIR VICINITY.
6. ITALICIZED TEXT REPRESENT SURVEYOR'S FIELD NOTES. CONTRACTOR TO VERIFY ANY NOTES RELEVANT TO THE CONTRACTOR'S WORK.

N

0 40 80

SCALE IN FEET

COLOR IMAGE

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DESIGN APPROVAL: J. ABDALKHANI	PROJECT FILE NO: E00559E18
PROJECT ACCEPTANCE: G. STEINER	CONTRACT NO: KC001065

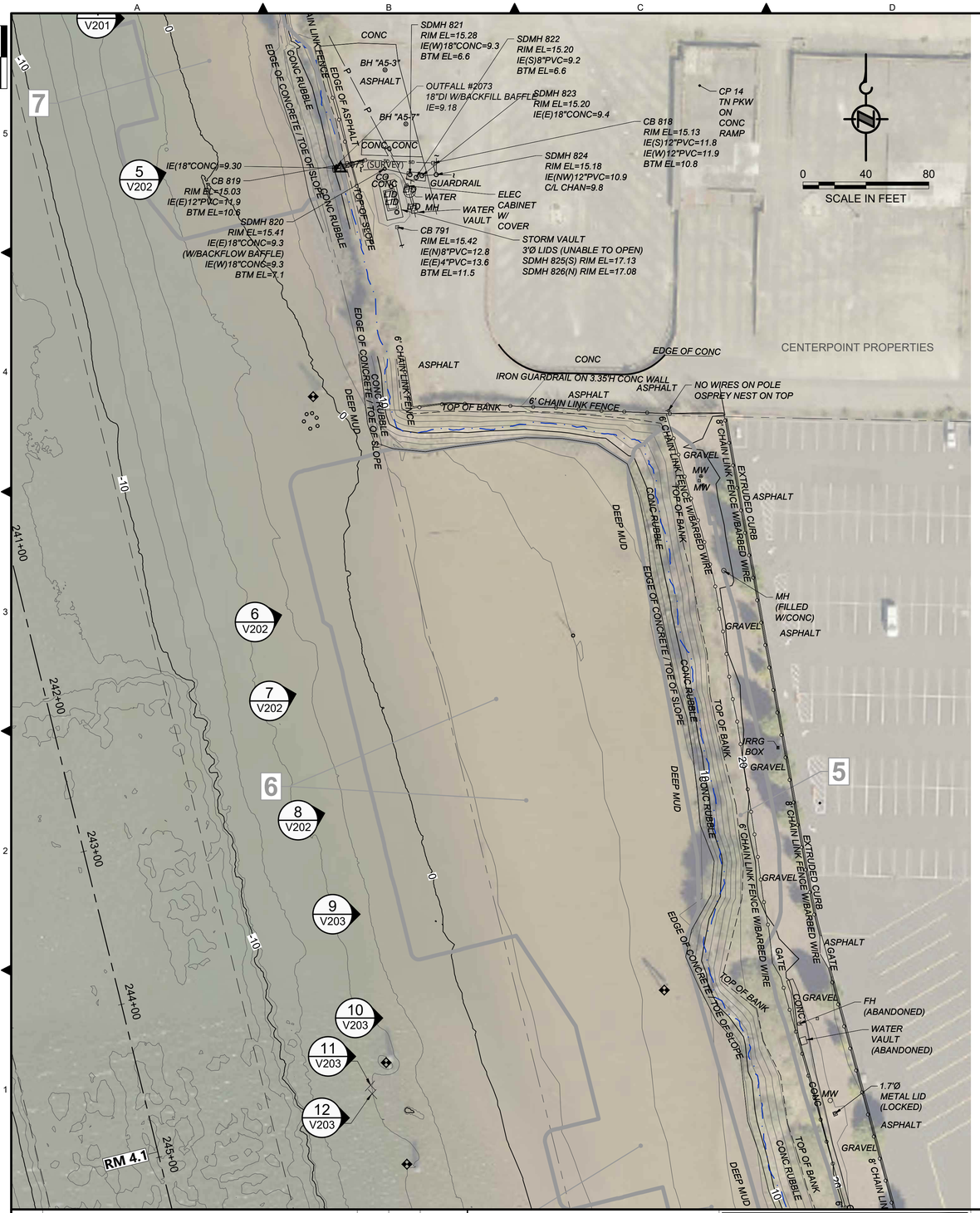
King County

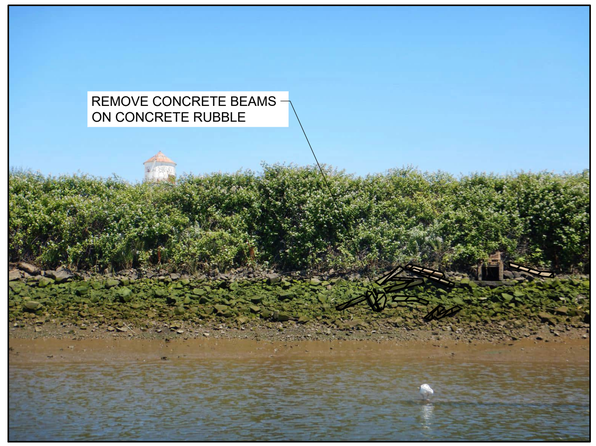
DEPARTMENT OF NATURAL RESOURCES & PARKS
WASTEWATER TREATMENT DIVISION
LOWER DUWAMISH WATERWAY UPPER REACH REMEDIAL ACTION

EXISTING CONDITIONS (RM 3.98 TO 4.13)

DATE: DECEMBER 2023
DRAWING NO: **V108**
SHT NO 14 / TOTAL 91 | REV NO: 0

BORDER FILE EDITION: xKCWTD-Dsize-TB-Border_AGByLayer
\\gaiacad\Projects\0067-King County\LDW Upper Reach Engineering Services\Construction Plans\0067-LDWUR-PL-Existing Conditions.dwg | Layout: V108
PLOTTED: Jan 12, 2024-10:17:35am By jbigsby





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SCALE: NONE

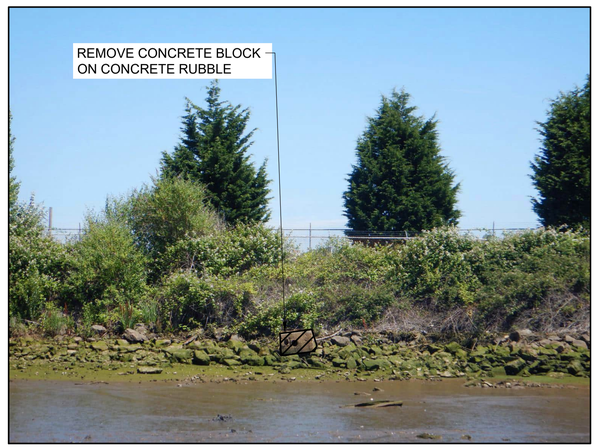

PHOTO ID 821 — 6 V202
SCALE: NONE

PHOTO ID 820 — 7 V202
SCALE: NONE

PHOTO ID 819 — 8 V202
SCALE: NONE

LEGEND:

- USACE CHANNEL CENTERLINE AND STATIONING (250+00)
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- RM 3.0 — RIVER MILE LABEL
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- OUTFALL LOCATION (PRESUMED ABANDONED, INACTIVE, OR REMOVED) - LOCATION APPROXIMATE
- DOLPHINS
- PILES
- SEDIMENT MANAGEMENT AREA BOUNDARY
- 14 — SEDIMENT MANAGEMENT AREA NUMBER
- REMOVAL OF IDENTIFIED DEBRIS
- REMOVAL OF PILING

NOTES:

1. HORIZONTAL DATUM: WASHINGTON STATE PLANE NORTH ZONE, NAD83 (2011), U.S. SURVEY FEET
2. VERTICAL DATUM: MLLW
3. AERIAL SOURCE: KING COUNTY 2021
4. CONTRACTOR SHALL REMOVE PILING AS SHOWN ON THE PLANS AND AS INDICATED IN THE PHOTOGRAPHS (36 PILINGS ESTIMATED FOR REMOVAL). IF ADDITIONAL PILINGS ARE ENCOUNTERED IN THE DREDGE PRISM, CONTRACTOR SHALL COORDINATE WITH THE PROJECT REPRESENTATIVE PRIOR TO REMOVAL.
5. PHOTOGRAPH POINT LOCATIONS AND INDICATION OF DIRECTION ARE APPROXIMATE.
6. ITALICIZED TEXT REPRESENT SURVEYOR'S FIELD NOTES. CONTRACTOR TO VERIFY ANY NOTES RELEVANT TO THE CONTRACTOR'S WORK.

COLOR IMAGE
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PROJECT ACCEPTANCE: G. STEINER	CONTRACT NO: KC001065

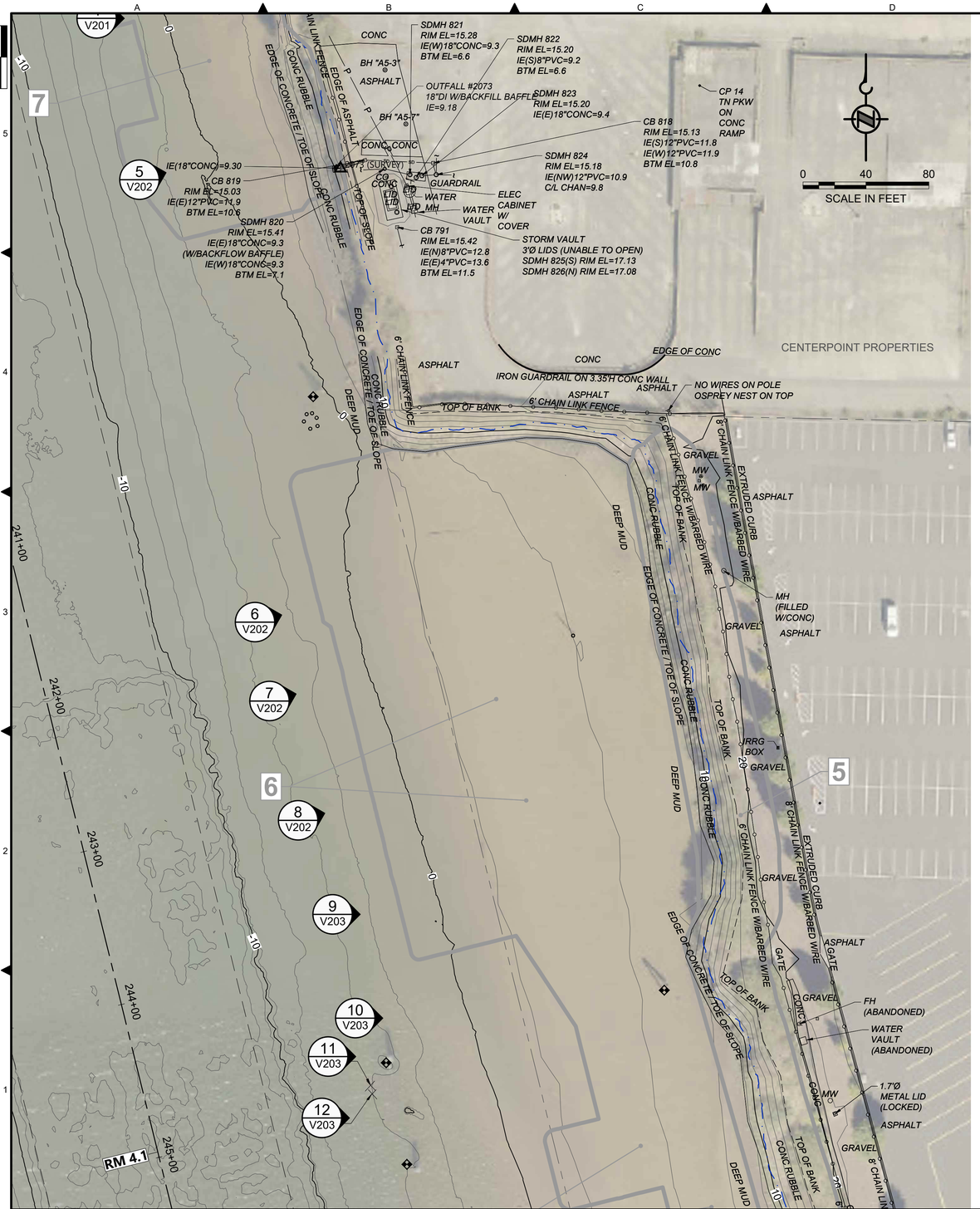
King County

DEPARTMENT OF NATURAL RESOURCES & PARKS
WASTEWATER TREATMENT DIVISION
LOWER DUWAMISH WATERWAY UPPER REACH REMEDIAL ACTION

LOCATION OF IDENTIFIED DEBRIS AND PILING FOR REMOVAL (2 OF 5)

DATE: DECEMBER 2023
DRAWING NO: V202
SHT NO 20 / TOTAL 91 — REV NO: 0

BORDER FILE EDITION: xKCWTD-Dsize-TB-Border_AQByLayer
\\galaCAD\Projects\0067-King County\LDW Upper Reach Engineering Services\Construction Plans\0067-LDWUR-PL-IndentifiedDebris.dwg | Layout: V202
PLOTTED: Jan 12, 2024-10:23:25am By jbigsby



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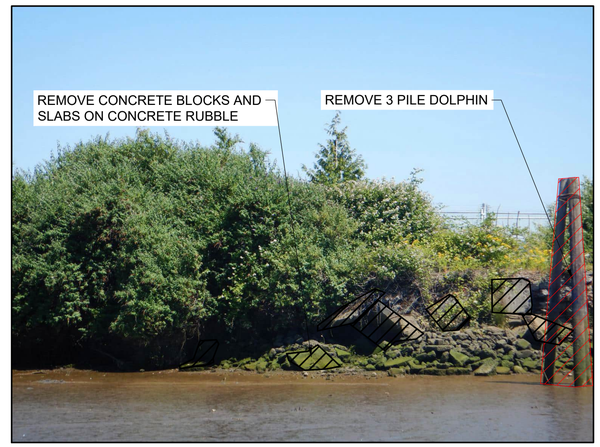

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SCALE: NONE

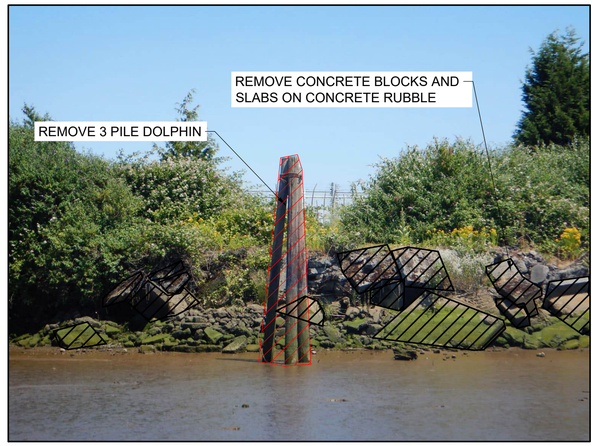

PHOTO ID 816 — 11 V203
SCALE: NONE

PHOTO ID 815 — 12 V203
SCALE: NONE

LEGEND:

- USACE CHANNEL CENTERLINE AND STATIONING (250+00)
- FEDERAL NAVIGATION CHANNEL
- RM 3.0 — RIVER MILE LABEL
- KING COUNTY PARCEL
- LDW UPPER REACH APPROXIMATE BOUNDARY
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- PILES
- SEDIMENT MANAGEMENT AREA BOUNDARY
- 14 — SEDIMENT MANAGEMENT AREA NUMBER
- REMOVAL OF IDENTIFIED DEBRIS
- REMOVAL OF PILING

NOTES:

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4. CONTRACTOR SHALL REMOVE PILING AS SHOWN ON THE PLANS AND AS INDICATED IN THE PHOTOGRAPHS (36 PILINGS ESTIMATED FOR REMOVAL). IF ADDITIONAL PILINGS ARE ENCOUNTERED IN THE DREDGE PRISM, CONTRACTOR SHALL COORDINATE WITH THE PROJECT REPRESENTATIVE PRIOR TO REMOVAL.
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Lower Duwamish Waterway Group
City of Seattle / King County / The Boeing Company

ANCHOR QEA

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DECEMBER 2023

JOHN P. LAPLANTE — STATE OF WASHINGTON — 38792 — REGISTERED PROFESSIONAL ENGINEER — 12-14-23

DESIGNED/DRAWN: BIGSBY/GRIGA	CHECKED: K. GROSS
PROJECT ENGINEER: J. LAPLANTE	SCALE: AS NOTED
DESIGN APPROVAL: J. ABDALKHANI	PROJECT FILE NO: E00559E18
PROJECT ACCEPTANCE: G. STEINER	CONTRACT NO: KC001065

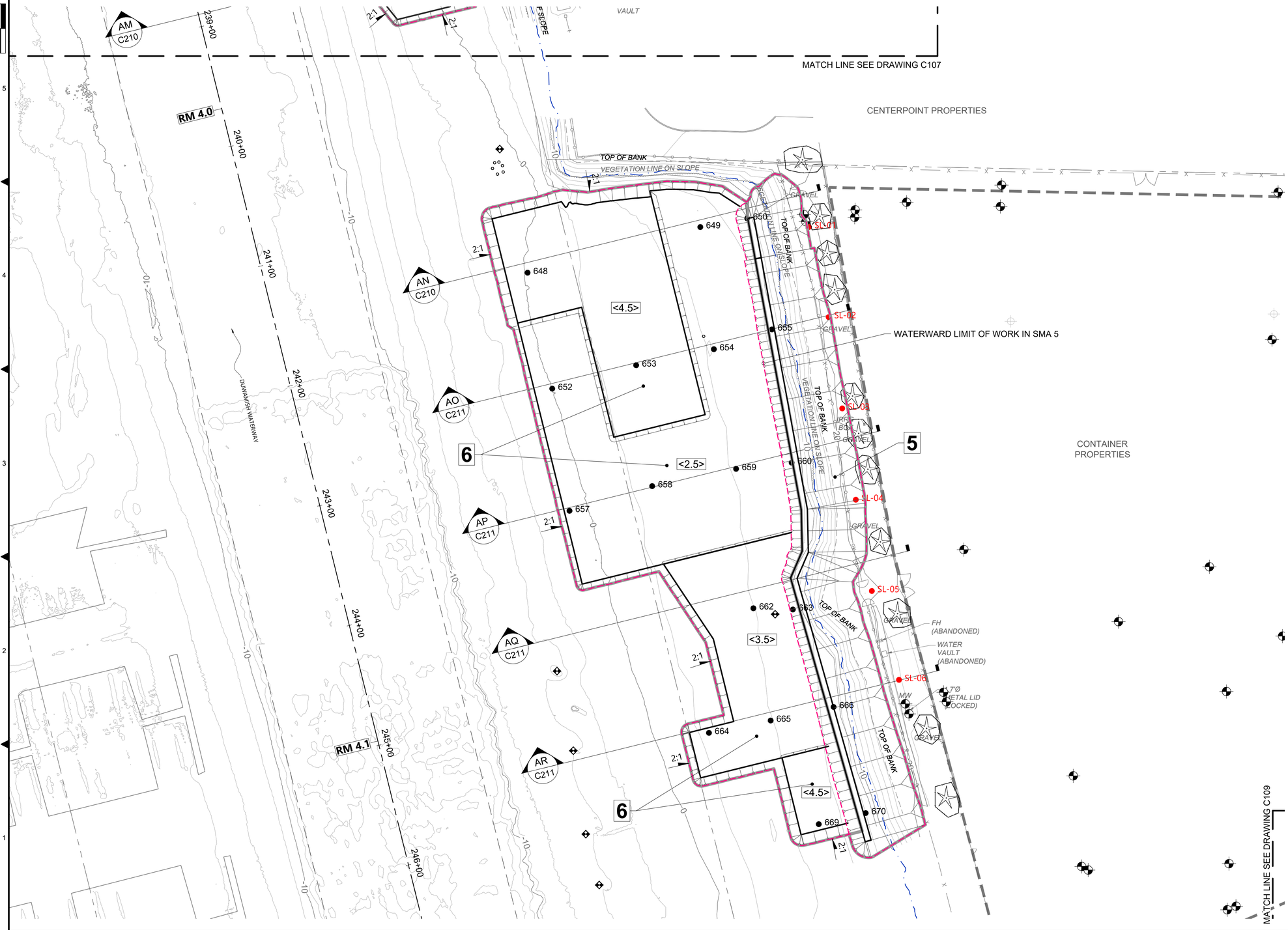
King County

DEPARTMENT OF NATURAL RESOURCES & PARKS
WASTEWATER TREATMENT DIVISION
LOWER DUWAMISH WATERWAY UPPER REACH
REMEDIAL ACTION

LOCATION OF IDENTIFIED DEBRIS AND PILING FOR REMOVAL (3 OF 5)

DATE: DECEMBER 2023
DRAWING NO: **V203**
SHT NO 21 / TOTAL 91 | REV NO: 0

BORDER FILE EDITION: xKCWTD-Dsize-TB-Border_AGByLayer
\\gala\CAD\Projects\0067-King County\LDW Upper Reach Engineering Services\Construction Plans\0067-LDWUR-PL-IndentifiedDebris.dwg | Layout: V203
PLOTTED: Jan 12, 2024-10:24:14am By jbigsby



REFERENCE 1"

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- OUTFALL LOCATION (PRESUMED ABANDONED, INACTIVE, OR REMOVED) - LOCATION APPROXIMATE
- EXISTING DOLPHINS
- EXISTING PILES
- VERTICAL DELINEATION CORE LOCATION
- DREDGE PRISM FOOTPRINT BOUNDARY (TOE OF CUT)
- ESTIMATED DREDGE PRISM DAYLIGHT BOUNDARY
- DREDGE SLOPE SYMBOL
- [-22.0] — REQUIRED DREDGE ELEVATION IN FEET MLLW
- <2.0> — REQUIRED DREDGE THICKNESS IN FEET
- SEDIMENT MANAGEMENT AREA BOUNDARY
- 14 — SEDIMENT MANAGEMENT AREA NUMBER
- EXISTING MONITORING WELL
- UPLAND SAMPLING LOCATIONS
- EXISTING TREE

NOTES:

1. HORIZONTAL DATUM: WASHINGTON STATE PLANE NORTH ZONE, NAD83 (2011), U.S. SURVEY FEET
2. VERTICAL DATUM: MLLW
3. EXTERNAL SIDESLOPES ARE REQUIRED AND INTERIOR SIDESLOPES ARE APPROXIMATE.
4. ITALICIZED TEXT REPRESENT SURVEYOR'S FIELD NOTES. CONTRACTOR TO VERIFY ANY NOTES RELEVANT TO THE CONTRACTOR'S WORK.

COLOR IMAGE

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Lower Duwamish Waterway Group
City of Seattle / King County / The Boeing Company

ANCHOR QEA

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DECEMBER 2023

JOHN P. LAPLANTE — STATE OF WASHINGTON — 38792 — REGISTERED PROFESSIONAL ENGINEER
12-04-23

DESIGNED/DRAWN: BIGSBY/GRIGA	CHECKED: K. GROSS
PROJECT ENGINEER: J. LAPLANTE	SCALE: AS NOTED
DESIGN APPROVAL: J. ABDALKHANI	PROJECT FILE NO: E00559E18
PROJECT ACCEPTANCE: G. STEINER	CONTRACT NO: KC001065

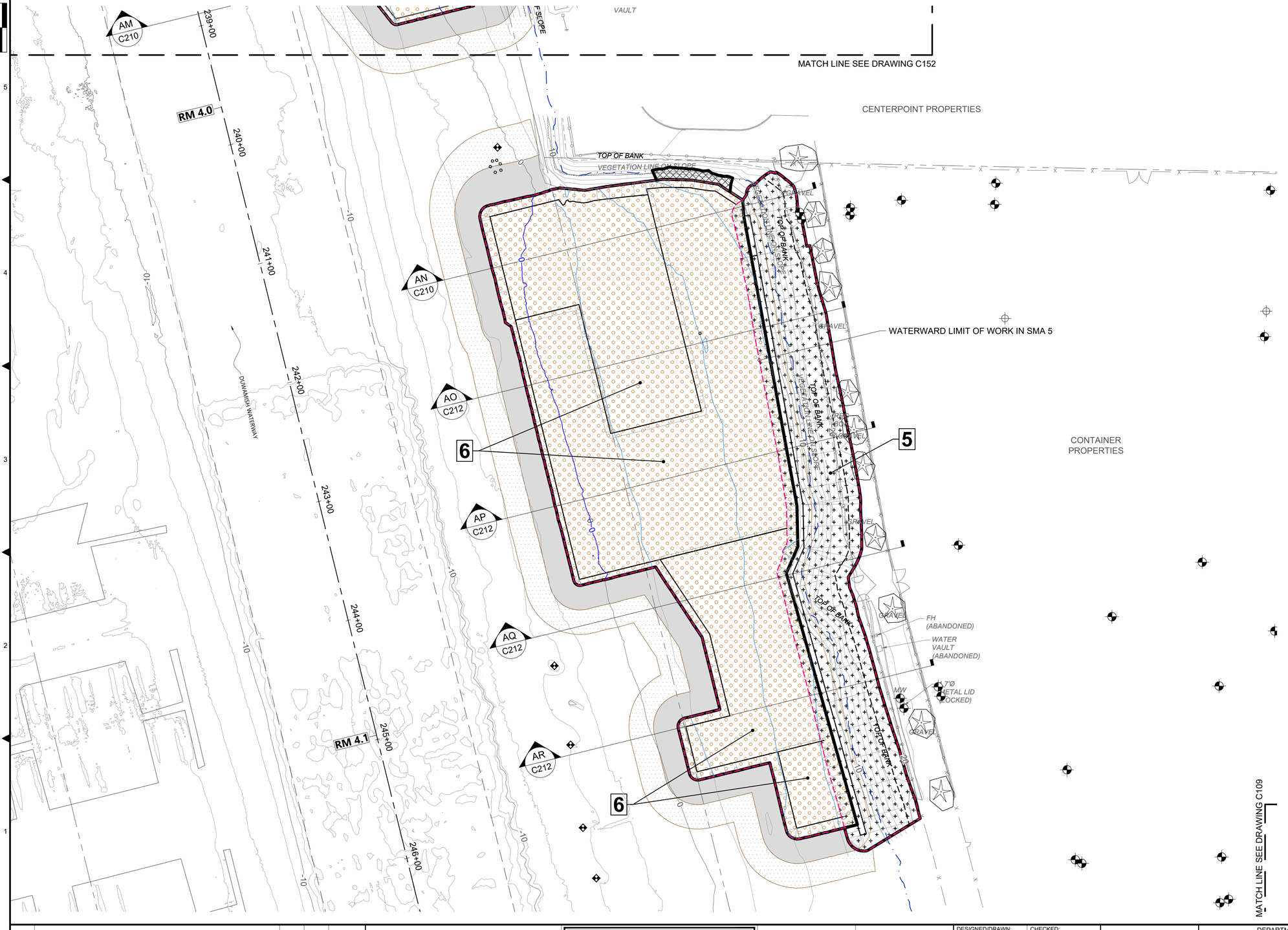
King County

DEPARTMENT OF NATURAL RESOURCES & PARKS
WASTEWATER TREATMENT DIVISION
LOWER DUWAMISH WATERWAY UPPER REACH REMEDIAL ACTION

DREDGE PLAN (RM 3.98 TO 4.13)

DATE: DECEMBER 2023
DRAWING NO: **C108**
SHT NO 39 / TOTAL 91 | REV NO: 0

BORDER FILE EDITION: xKCWTD-Dsize-TB-Border_AQByLayer
\\gaia\cad\Projects\0067-King County\LDW Upper Reach Engineering Services\Construction Plans\0067-LDWUR-PL-Dredge.dwg | Layout: C108
PLOTTED: Jan 12, 2024-10:41:46am By jbigsby



LEGEND:

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- RM 3.0 — RIVER MILE LABEL
- LDW UPPER REACH APPROXIMATE BOUNDARY
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- OUTFALL LOCATION (ACTIVE) - LOCATION APPROXIMATE
- OUTFALL LOCATION (PRESUMED ABANDONED, INACTIVE, OR REMOVED) - LOCATION APPROXIMATE
- EXISTING PILES
- EXISTING DOLPHINS
- MONITORING WELL
- EXTRACTION WELL
- EXISTING TREE
- ESTIMATED DREDGE PRISM
- SEDIMENT MANAGEMENT AREA BOUNDARY
- 14 — SEDIMENT MANAGEMENT AREA NUMBER
- 10 — BACKFILL B W/ PROPOSED CONTOURS (2' & 10' INTERVALS) (2/C303)
- REQUIRED RMC (WITHIN DREDGE FOOTPRINT) AND INNER PERIMETER RMC (6/C303)
- REQUIRED RMC AREA ON SIDESLOPES (7/C303)
- CONTINGENT OUTER PERIMETER RMC ONLY AS DIRECTED BY THE PROJECT REPRESENTATIVE (6/C303)
- REMEDIAL ACTION AREA: ENR (3/C303)
- REMEDIAL ACTION AREA: AMENDED COVER (4/C303)
- ENR/AC PILOT PLOT: AREA-SPECIFIC TECHNOLOGY A
- ENGINEERED CAP A FOOTPRINT (1/C305)

NOTES:

1. HORIZONTAL DATUM: WASHINGTON STATE PLANE NORTH ZONE, NAD83 (2011), U.S. SURVEY FEET
2. VERTICAL DATUM: MLLW
3. MATERIAL PLACEMENT EXTENTS ARE APPROXIMATE AND WILL BE ADJUSTED BASED ON ACTUAL EXTENTS OF DREDGING.
4. NO MATERIAL PLACEMENT ALLOWED UNTIL AUTHORIZED BY THE PROJECT REPRESENTATIVE.
5. ITALICIZED TEXT REPRESENT SURVEYOR'S FIELD NOTES. CONTRACTOR TO VERIFY ANY NOTES RELEVANT TO THE CONTRACTOR'S WORK.

0 40 80
SCALE IN FEET

COLOR IMAGE
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12-14-23

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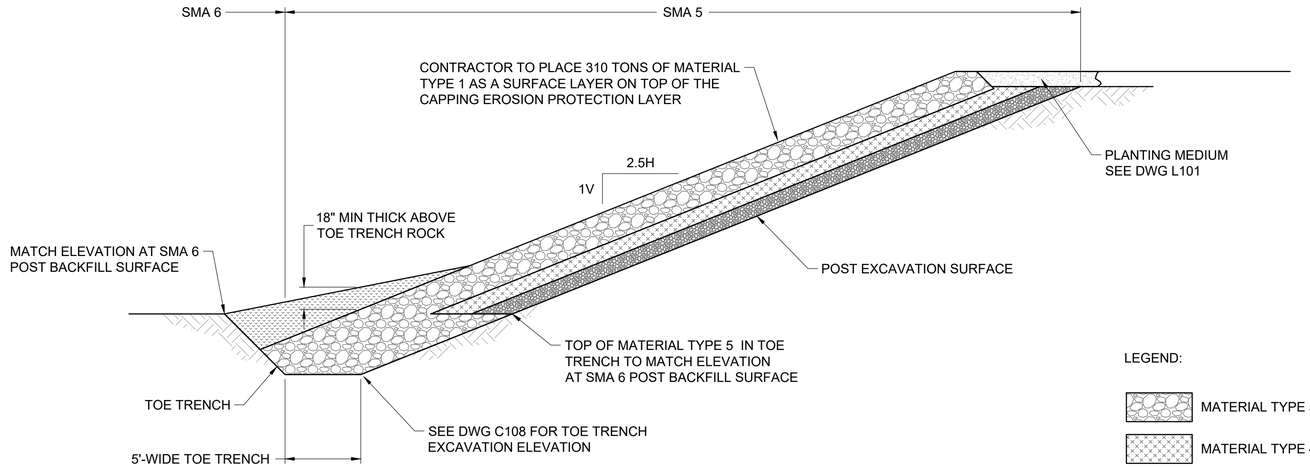
WASTEWATER TREATMENT DIVISION
LOWER DUWAMISH WATERWAY UPPER REACH
REMEDIAL ACTION

MATERIAL PLACEMENT PLAN (RM 3.98 TO 4.13)

DATE: DECEMBER 2023
DRAWING NO: C158
SHT NO 51 / TOTAL 91
REV NO: 0

BORDER FILE EDITION: xKCWTD-Dsize-TB-Border_AQByLayer
\\gala\CAD\Projects\0067-King County\LDW Upper Reach Engineering Services\Construction Plans\0067-LDWUR-PL-Material Placement.dwg | Layout: C158
PLOTTED: Jan 12, 2024-10:52:47am By jbigsby



LEGEND:

- MATERIAL TYPE 5 (12" MIN THICKNESS)
- MATERIAL TYPE 4 (6" MIN THICKNESS)
- MATERIAL TYPE 1A (12" MIN THICKNESS)
- MATERIAL TYPE 2 (18" MIN THICKNESS)

ENGINEERED CAP A (SMA 5 REVETMENT)

DETAIL 1 / -

SCALE: NOT TO SCALE

MATERIAL TYPE 1

U.S. STANDARD SIEVE SIZE	PERCENT BY DRY WEIGHT, PASSING
1-1/2 INCHES	100
3/4 INCH	73 TO 83
5/8 INCH	60 TO 70
1/2 INCH	56 TO 66
1/4 INCH	54 TO 64
U.S. NO. 4	48 TO 58
U.S. NO. 10	27 TO 37
U.S. NO. 40	8 TO 18
U.S. NO. 200	0 TO 5

MATERIAL TYPE 1A

U.S. STANDARD SIEVE SIZE	PERCENT BY DRY WEIGHT, PASSING
1-1/4 INCHES	99 TO 100
1 INCH	80 TO 100
5/8 INCH	50 TO 80
U.S. NO. 4	25 TO 45
U.S. NO. 40	3 TO 18
U.S. NO. 200	0 TO 5

MATERIAL TYPE 2

U.S. STANDARD SIEVE SIZE	PERCENT BY DRY WEIGHT, PASSING
3/8 INCH	100
U.S. NO. 4	99
U.S. NO. 8	75 TO 82
U.S. NO. 16	44 TO 59
U.S. NO. 30	19 TO 37
U.S. NO. 50	4 TO 16
U.S. NO. 100	1 TO 5
U.S. NO. 200	0 TO 2

MATERIAL TYPE 4

U.S. STANDARD SIEVE SIZE	PERCENT BY DRY WEIGHT, PASSING
2-1/2 INCHES	100
2 INCHES	65 TO 100
3/4 INCH	40 TO 80
U.S. NO. 4	0 TO 5
U.S. NO. 200	0 TO 1

MATERIAL TYPE 5

U.S. STANDARD SIEVE SIZE	PERCENT BY DRY WEIGHT, PASSING
8 INCHES	100
3 INCHES	40 MAX
3/4 INCH	10 MAX

MATERIAL TYPE 3:
MATERIAL TYPE 3 SHALL BE MATERIAL TYPE 1 BLENDED WITH GAC MATERIAL AT THE DOSAGE REQUIRED AND PROCEDURES DESCRIBED SECTION 35 37 10 - MATERIAL PLACEMENT

COLOR IMAGE
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12-14-23

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WASTEWATER TREATMENT DIVISION
LOWER DUWAMISH WATERWAY UPPER REACH
REMEDIAL ACTION

MATERIAL PLACEMENT DETAILS (3 OF 3)

DATE: DECEMBER 2023
DRAWING NO: C305
SHT NO 75 / TOTAL 91 | REV NO: 0

REFERENCE 1" 0

MATCH LINE SEE DRAWING C152

CENTERPOINT PROPERTIES

CONTAINER PROPERTIES

TEMPORARY WIRE MESH HERBIVORE EXCLUSION FENCING (6/L301)

RESTORED LANDWARD FENCE

PREPARE PLANTING AREA WITH TOPSOIL AT ENGINEERED CAP INTERFACE (1/L301)

NORTHERN PLANTING AREA MAXIMUM 10-FT WIDTH STARTING 2.5' LANDWARD OFFSET FROM POST-CAP TOP OF BANK (1/L301)

EXTEND RIPARIAN SEED MIX PLANT COMMUNITY FROM EDGE OF MATERIAL TYPE 4 (1/L301)

SOUTHERN PLANTING AREA MAXIMUM 25-FT WIDTH STARTING 2.5' LANDWARD OFFSET FROM POST-CAP TOP OF BANK (1/L301)

PLANTING AREA

F.SLOPE

VAULT

TOP OF BANK

GRAVEL

FH (ABANDONED)

WATER VAULT (ABANDONED)

1.7'Ø METAL LID (LOCKED)

5

6

PLANT SCHEDULE

	SCIENTIFIC NAME	COMMON NAME	SIZE	SPACING	QUANTITY	NOTES	DETAIL
	RIPARIAN SEED MIX						
	SEE SPECIFICATION FOR SEED MIX SPECIES		N/A	N/A	3,289 SQUARE FEET	SEE SPECIFICATIONS FOR PERCENT BY WEIGHT AND APPLICATION RATES	1/L301
	RIPARIAN UNDERSTORY						
	ARCOSTAPHYLOS UVA-URSI	KINNICKINNICK	4-INCH POT	2' O.C.	390	CLUSTER SPECIES IN GROUPS OF 3-5	2/L301, 4/L301, 5/L301
	FRAGARIA CHILEONSIS	BEACH STRAWBERRY	4-INCH POT	2' O.C.	390		
	HOLODISCUS DISCOLOR	OCEANSPRAY	1 GAL. CONTAINER	5' O.C.	44		
	ROSA NUTKANA	NOOTKA ROSE	1 GAL. CONTAINER	5' O.C.	44		
	RUBUS URSINUS	TRAILING BLACKBERRY	1 GAL. CONTAINER	5' O.C.	44		
	SYMPHORICARPUS ALBA	SNOWBERRY	1 GAL. CONTAINER	5' O.C.	44		
	RIPARIAN TREES						
	ACER MACROPHYLLUM	BIG LEAF MAPLE	5 GAL. CONTAINER	AS SHOWN	8		3/L301, 5/L301
	ALNUS RUBRA	RED ALDER	5 GAL. CONTAINER	AS SHOWN	5		
	CRATAEGUS DOUGLASII	DOUGLAS HAWTHORNE	5 GAL. CONTAINER	AS SHOWN	6		
	MALUS FUSCA	PACIFIC CRABAPPLE	5 GAL. CONTAINER	AS SHOWN	6		
	PINUS CONTORTA VAR. CONTORTA	SHORE PINE	5 GAL. CONTAINER	AS SHOWN	6		
	PSEUDOTSUGA MENZIESII	DOUGLAS FIR	5 GAL. CONTAINER	AS SHOWN	8		

EXISTING SURVEY AND REMEDIAL ACTION LEGEND:

- 250+00 — USACE CHANNEL CENTERLINE AND STATIONING
- FEDERAL NAVIGATION CHANNEL
- RM 3.0 — RIVER MILE LABEL
- LDW UPPER REACH APPROXIMATE BOUNDARY
- EXISTING GRADE MERGED DATA SET CONTOURS (2' & 10' INTERVALS)
- SEDIMENT MANAGEMENT AREA BOUNDARY
- 14 — SEDIMENT MANAGEMENT AREA NUMBER
- EXISTING TREE

PLANTING LEGEND

- PLANTING AREA
- TEMPORARY WIRE MESH HERBIVORE EXCLUSION FENCING
- RESTORED LANDWARD FENCE

NOTES:

1. HORIZONTAL DATUM: WASHINGTON STATE PLANE NORTH ZONE, NAD83 (2011), U.S. SURVEY FEET
2. VERTICAL DATUM: MLLW
3. PLANTING SHALL OCCUR AFTER CONSTRUCTION OF ENGINEERED CAP.
4. CONTRACTOR TO COORDINATE WITH PROPERTY OWNER ON LANDWARD FENCE RESTORATION REQUIREMENTS AND SHALL REINSTALL FENCE OF THE SAME TYPE AND DETAIL AS THE FENCE THAT WAS REMOVED.
5. LANDWARD FENCE RESTORATION SHALL ALLOW FOR CONTRACTOR MAINTENANCE ACCESS DURING THE MAINTENANCE PERIOD.

MATCH LINE SEE DRAWING C109

0 40 80
SCALE IN FEET

COLOR IMAGE
THIS DRAWING IS COMPOSED USING COLOR IMAGES OR PHOTOGRAPHS AND MUST BE PLOTTED, PRINTED, AND REPRODUCED IN COLOR TO BE VIEWED ACCURATELY.

NO	REVISION DESCRIPTION	BY	APVD	DATE

Lower Duwamish Waterway Group
City of Seattle / King County / The Boeing Company

ANCHOR QEA

FINAL ISSUE DRAWING
INFORMATION ONLY
BID DOCUMENTS
DECEMBER 2023

STATE OF WASHINGTON · ANNA HOOK SPOONER · 22945 · REGISTERED LANDSCAPE ARCHITECT · 12-14-23

DESIGNED/DRAWN: R. FARNSWORTH	CHECKED: A. SPOONER
PROJECT ENGINEER: J. LAPLANTE	SCALE: AS NOTED
DESIGN APPROVAL: J. ABDALKHANI	PROJECT FILE NO: E00559E18
PROJECT ACCEPTANCE: G. STEINER	CONTRACT NO: KC001065

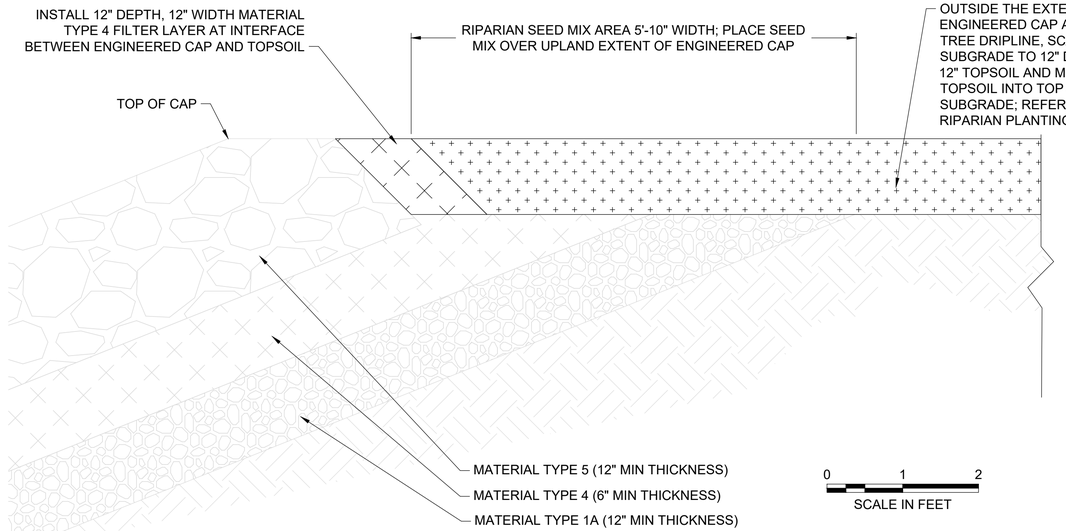
King County

DEPARTMENT OF NATURAL RESOURCES & PARKS
WASTEWATER TREATMENT DIVISION
LOWER DUWAMISH WATERWAY UPPER REACH
REMEDIAL ACTION

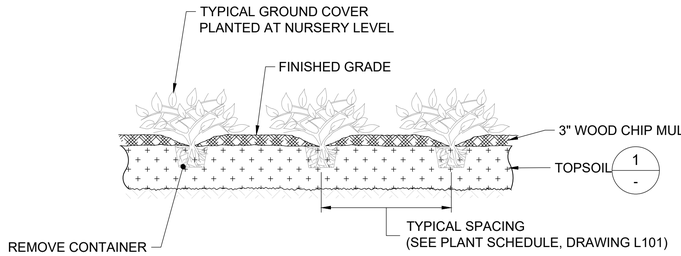
PLANTING AND RESTORATION PLAN (RM 3.98 TO 4.13)

DATE: DECEMBER 2023
DRAWING NO: L101
SHT NO 76 / TOTAL 91
REV NO: 0

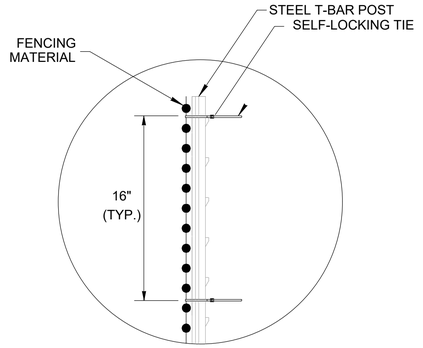
BORDER FILE EDITION: xKCWTD-Dsize-TB-Border_AQByLayer
\\galaCAD\Projects\0067-King County\LDW Upper Reach Engineering Services\Construction Plans\0067-LDWUR-PL-Planting.dwg | Layout: L101
PLOTTED: Jan 12, 2024-11:07:13am By jbigsby



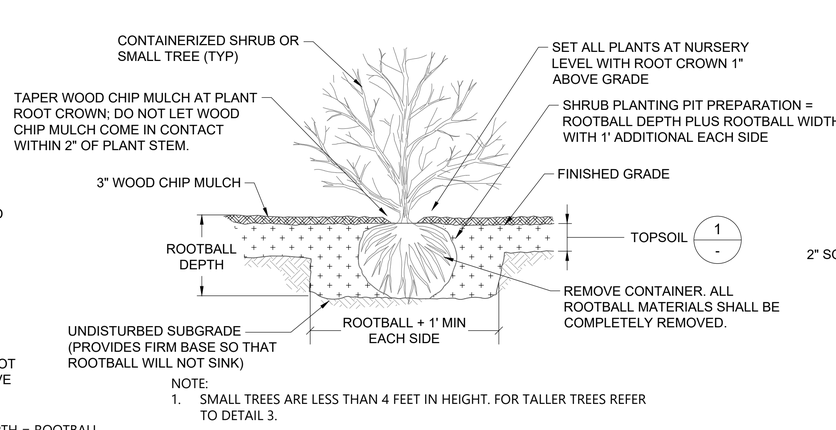
1 / L01 ENGINEERED CAP AND TOPSOIL INTERFACE
SCALE:1" = 1'



2 / L01 TYPICAL GROUNDCOVER PLANTING
SCALE:NOT TO SCALE

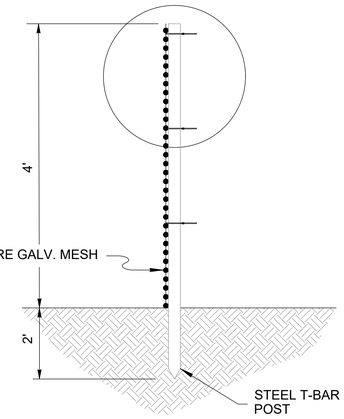


FENCE CONNECTION - STEEL T-BAR POST



NOTE:
1. SMALL TREES ARE LESS THAN 4 FEET IN HEIGHT. FOR TALLER TREES REFER TO DETAIL 3.

4 / L01 SMALL TREE OR SHRUB PLANTING - SECTION
SCALE:NOT TO SCALE



NOTE:
1. INSTALL STEEL T-BAR POST AT MINIMUM 6-FT SPACING. AVOID INSTALLING T-POST WITHIN DRIPLINE OF TREES. IF NECESSARY TO ACHIEVE MINIMUM SPACING, VERIFY LOCATION WILL NOT COME WITHIN 6-INCHES OF EXISTING TREE ROOTS.

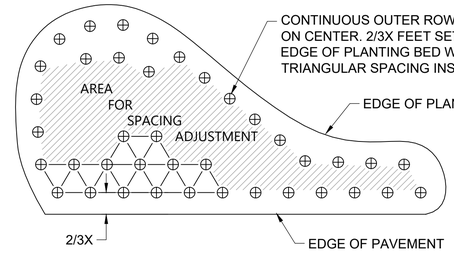
6 / L01 TEMPORARY WIRE MESH HERBIVORE EXCLUSION FENCING
SCALE:NOT TO SCALE

CONIFER TREE

DECIDUOUS TREE

TREE PLANTING NOTES:
1. REFER TO SPECIFICATION 32 93 00 FOR TREE STAKING REQUREMENTS.
2. STAKE TREES WITH (2) 2"-DIAMETER (8'-0" LENGTH) LODGE POLE PINE OR DOUGLAS FIR STAKES.
3. CHAINLOCK (OR EQUAL) TREE TIE. LOOP EACH TIE AROUND TREE LOOSELY TO PROVIDE 1" SLACK FOR DIAMETER GROWTH.
4. ONE STAKE PER TREE ON WINDWARD SIDE; SECOND STAKE ON LEEWARD SIDE.
5. ALL ROOTBALL MATERIALS SHALL BE COMPLETELY REMOVED.
6. ROUGHEN SIDES OF PLANTING HOLE. MAXIMIZE EXCAVATED AREA WITHOUT UNDERMINING ADJACENT CONDITIONS.
7. SHAPE SOIL TO PROVIDE 3'-DIAMETER OR ROOTBALL DIAMETER, WHICHEVER IS GREATER, WATERING RING.
8. DO NOT LET MULCH COME INTO CONTACT WITHIN 2" OF THE PLANT STEM.
9. MULCH AREA TO BE CLEAR OF GRASS, WEEDS, ETC. TO REDUCE COMPETITION WITH TREE ROOTS.

3 / L01 TREE PLANTING AND STAKING
SCALE:NOT TO SCALE



⊕ PLANT LOCATION
X = PLANT SPACING (SEE PLANT SCHEDULE L101)

5 / L01 SHRUB AND GROUNDCOVER PLANTING LAYOUT - PLAN
SCALE:NOT TO SCALE

COLOR IMAGE
THIS DRAWING IS COMPOSED USING COLOR IMAGES OR PHOTOGRAPHS AND MUST BE PLOTTED, PRINTED, AND REPRODUCED IN COLOR TO BE VIEWED ACCURATELY.

NO	REVISION DESCRIPTION	BY	APVD	DATE

Lower Duwamish Waterway Group
City of Seattle / King County / The Boeing Company
ANCHOR QEA

FINAL ISSUE DRAWING
INFORMATION ONLY
BID DOCUMENTS
DECEMBER 2023

STATE OF WASHINGTON · ANNA HOOK SPOONER · 16345 · EXP. 06/ 09/2025 · LICENSED LANDSCAPE ARCHITECT · 12-11-23

DESIGNED/DRAWN: R. FARNSWORTH	CHECKED: A. SPOONER
PROJECT ENGINEER: J. LAPLANTE	SCALE: AS NOTED
DESIGN APPROVAL: J. ABDALKHANI	PROJECT FILE NO: E00559E18
PROJECT ACCEPTANCE: G. STEINER	CONTRACT NO: KC001065

King County

DEPARTMENT OF NATURAL RESOURCES & PARKS
WASTEWATER TREATMENT DIVISION
LOWER DUWAMISH WATERWAY UPPER REACH REMEDIAL ACTION

PLANTING DETAILS

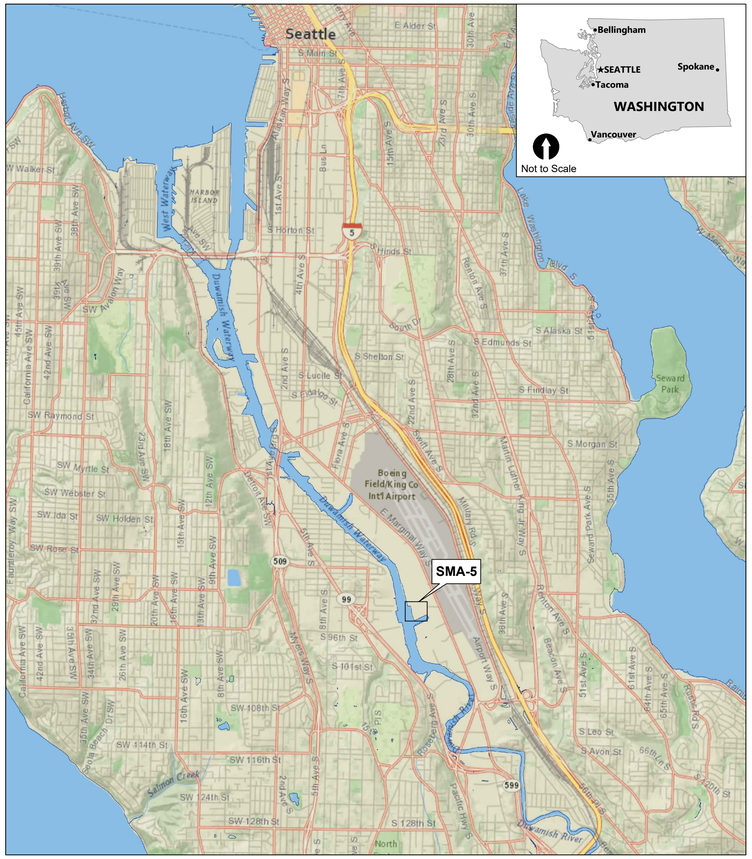
DATE: DECEMBER 2023
DRAWING NO: L301
SHT NO 77 / TOTAL 91 | REV NO: 0

BORDER FILE EDITION: xKCWTD-Dsize-TB-Border_AQByLayer
\\galacad\Projects\0067-King County\LDW Upper Reach Engineering Services\Construction Plans\0067-LDWUR-PL-Planting.dwg | Layout: L301
PLOTTED: Jan 12, 2024-11:08:56am By jbigsby

Appendix B ESC Plan

LOWER DUWAMISH WATERWAY UPPER REACH SMA-5

Erosion and Sediment Control Plan

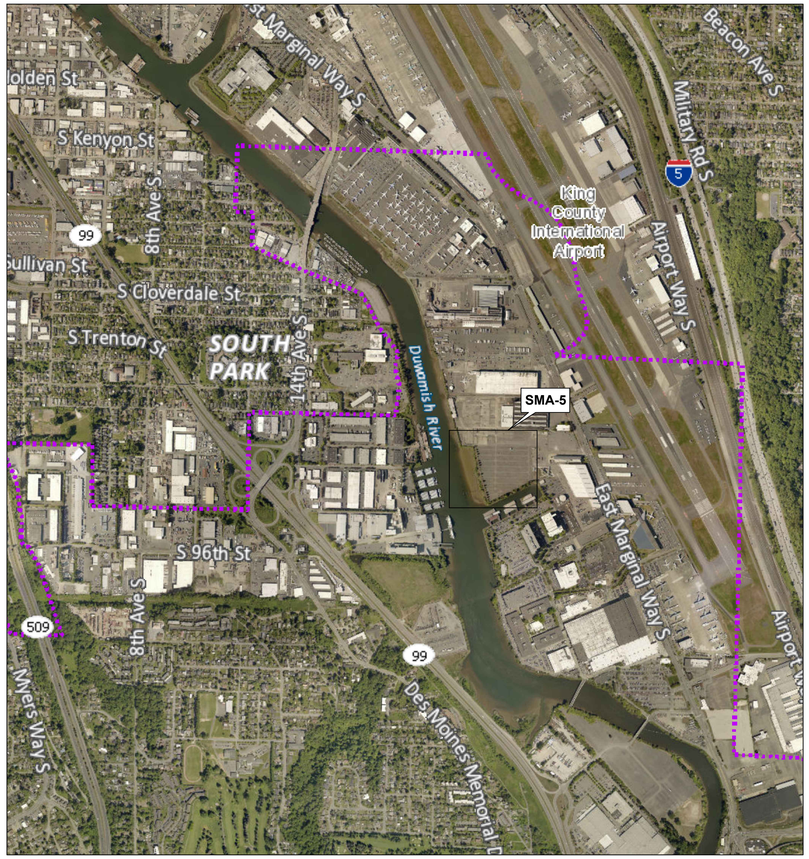


SOURCE: NATIONAL GEOGRAPHIC WORLD MAP - NATIONAL GEOGRAPHIC, ESRI, GARMIN, HERE, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, INCREMENT P CORP.

VICINITY MAP

0 4000 8000

SCALE IN FEET



SOURCE: AERIAL PHOTOGRAPH FROM ©MICROSOFT, BING MAPS

LOCATION MAP

0 1000 2000

SCALE IN FEET

SHEET NUMBER	TITLE	REVISION
1	COVER	1
2	EROSION AND SEDIMENT CONTROL PLAN - PROPOSED CONDITIONS	1
3	NOTES AND DETAILS	1

AECOM

SHEET 1

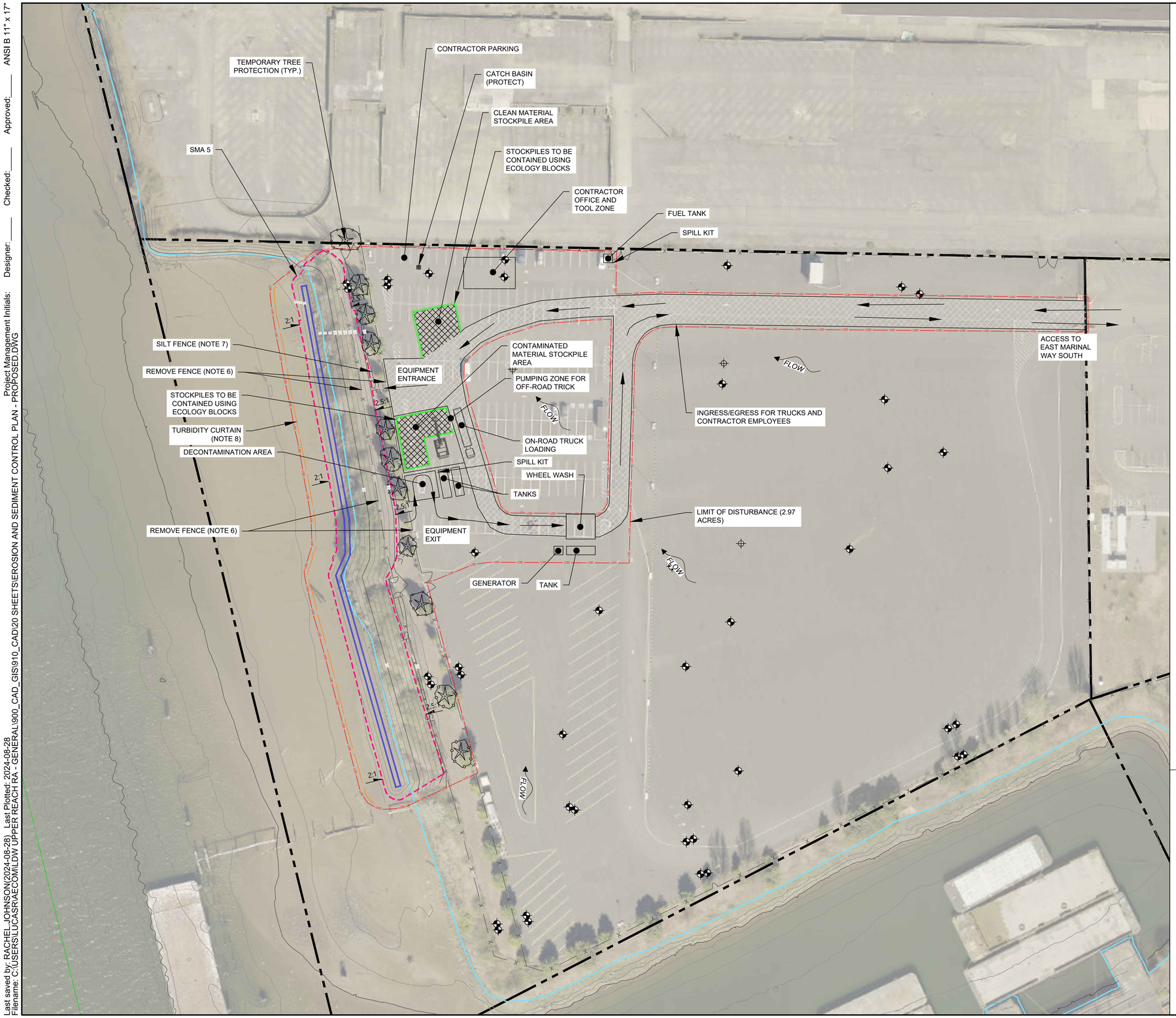
EROSION & SEDIMENT CONTROL PLAN
COVER SHEET

LOWER DUWAMISH WATERWAY UPPER REACH
REMEDIAL ACTION

Contract KC001065 Date: 2024-07-09

Last saved by: FLAHERTYD(2024-08-19) Last Plotted: 2024-08-19
Filename: C:\USERS\FLAHERTYD\AECOM\LDW UPPER REACH RA - GENERAL\900_CAD_GIS\910_CAD\20 SHEETS\EROSION AND SEDIMENT CONTROL PLAN - COVER.DWG

Project Management Initials: Designer:____ Checked:____ Approved:____ ANSI B 11" x 17"



NOTES:

1. CONDUCT PUBLIC ROAD SWEEPING WITH A VACUUM SWEEPER AT THE END OF EACH WORKDAY (OR MORE FREQUENTLY AS NEEDED) IF SEDIMENT TRACKING BEYOND WHEEL WASH OCCURS ON ROADWAY.

STOCKPILE LOCATIONS MUST BE FIELD VERIFIED. THEY MAY BE MOVED TO ALTERNATIVE LOCATIONS WITHIN THE LIMIT OF DISTURBANCE, AS NEEDED.

2. ANY WASTE NOT APPROVED FOR REUSE ON SITE WILL BE TRANSPORTED TO AND DISPOSED OF AT AN APPROVED WASTE FACILITY.

3. SOIL DISTURBANCE ACTIVITIES WILL BE LIMITED TO THE EXTENTS OF THE LIMIT OF DISTURBANCE.

4. DEWATERING IS NECESSARY FOR SITE STOCKPILES. ALL DEWATERING WATER WILL BE TREATED WITH APPROPRIATE BMPS. ALL WATER WILL BE PUMPED THROUGH A PUMPED WATER FILTER BAG BEFORE BEING DISCHARGED THROUGH COMPOST FILTER SOCK AND ULTIMATELY FLOWING OFF SITE. INSTALL COMPOST FILTER SOCK ON THE DOWNSLOPE SIDE OF THE PUMPED WATER FILTER BAG.
   - 4.1. STOCKPILING WILL BE CONDUCTED ON CONTAINED IMPERMEABLE SURFACES, SUCH AS ASPHALT, CONCRETE, OR PLASTIC SHEETING TO PREVENT WATER GENERATED FROM INFILTRATING THE GROUND SURFACE.
   - 4.2. STOCKPILE AREAS WILL BE CONTAINED USING A COMBINATION OF ECOLOGY BLOCKS, SILT FENCES WITH WIRE BACKING, AND SEALED BINS TO CONTROL RUNOFF.
   - 4.3. WATER GENERATED DURING DEWATERING WILL BE PUMPED TO BAKER TANKS TO SETTLE AND WATER WILL BE TESTED FOR TURBIDITY, TOTAL SUSPENDED SOILS, AND pH. DETAILS REGARDING DISPOSAL OF BAKER TANK WATER WILL BE SUBMITTED FOR APPROVAL PRIOR TO WORK BEING CONDUCTED AT SMA 5.

5. LANDWARD FENCE SHALL BE PROTECTED. ONLY REMOVE SECTION OF LANDWARD FENCE REQUIRED FOR CONSTRUCTION VEHICLE ENTRANCE/EXIT. REPLACE LANDWARD FENCE AFTER COMPLETION OF WORK. WATERWARD FENCE SHALL BE REMOVED.

6. SILT FENCE SHALL BE PLACED AT TOP OF EXCAVATION SLOPE AND DOWNGRADIENT FROM STOCKPILE AREAS.

7. SEE THE WATER QUALITY PROTECTION PLAN (APPENDIX V OF THE RAWP) FOR A TYPE 2 DOT CURTAIN SPECIFICATION AND DIAGRAM

0 100 200 Feet

N

LEGEND

- TOP OF REMOVAL AREA
- BOTTOM OF REMOVAL AREA
- EDGE OF SHORELINE
- PROPERTY LINE
- LIMIT OF DISTURBANCE
- SILT FENCE
- TEMPORARY TREE PROTECTION
- TURBIDITY CURTAIN
- TRUCK ROUTE
- PROPOSED STOCKPILE
- EXISTING MONITORING WELL
- EXISTING EXTRACTION WELL
- ECOLOGY BLOCK
- CATCH BASIN (PROTECTION)

AECOM

SHEET 2

EROSION & SEDIMENT CONTROL PLAN PROPOSED CONDITIONS

LOWER DUWAMISH WATERWAY UPPER REACH
REMEDIAL ACTION

Contract KC001065 Date: 2024-08-28

Project Management Initials: Designer: Checked: Approved: ANSI B 11" x 17"

Last saved by: RACHEL.JOHNSON(2024-08-28) Last Plotted: 2024-08-28
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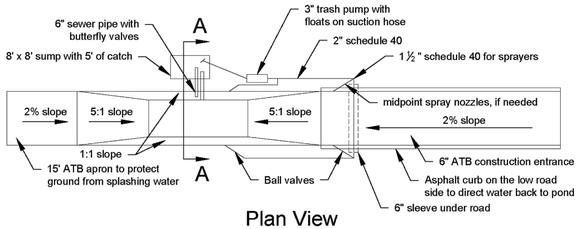
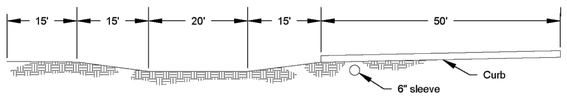
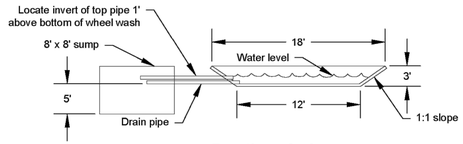


Plan View



Elevation View

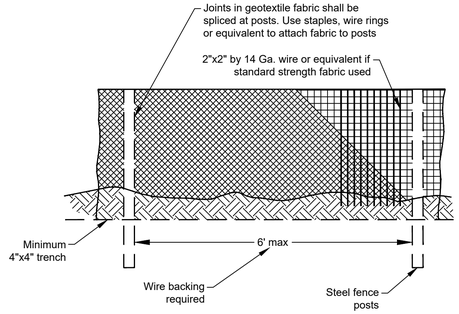


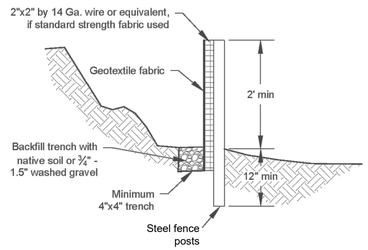
Section A-A

Notes:
1. Build 8' x 8' sump to accomodate cleaning by trackhoe.

NOT TO SCALE

WHEEL WASH
N.T.S





SILT FENCE
N.T.S

STANDARD E&S NOTES:

1. ALL EARTH DISTURBANCES, INCLUDING CLEARING AND GRUBBING AS WELL AS CUTS AND FILLS SHALL BE DONE IN ACCORDANCE WITH THE APPROVED E&S PLAN. A COPY OF THE DRAWINGS MUST BE AVAILABLE AT THE PROJECT SITE AT ALL TIMES.
2. ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE SEQUENCE PROVIDED ON THE PLAN DRAWINGS.
3. CLEARING, GRUBBING, AND TOPSOIL STRIPPING SHALL BE LIMITED TO THOSE AREAS DESCRIBED IN EACH STAGE OF THE CONSTRUCTION SEQUENCE. GENERAL SITE CLEARING, GRUBBING AND TOPSOIL STRIPPING MAY NOT COMMENCE IN ANY STAGE OR PHASE OF THE PROJECT UNTIL THE E&S BMPs SPECIFIED BY THE BMP SEQUENCE FOR THAT STAGE OR PHASE HAVE BEEN INSTALLED AND ARE FUNCTIONING AS DESCRIBED IN THIS E&S PLAN.
4. AT NO TIME SHALL CONSTRUCTION VEHICLES BE ALLOWED TO ENTER AREAS OUTSIDE THE LIMIT OF DISTURBANCE BOUNDARIES SHOWN ON THE PLAN MAPS. THESE AREAS MUST BE CLEARLY MARKED AND/OR FENCED OFF BEFORE CLEARING AND GRUBBING OPERATIONS BEGIN.
5. TOPSOIL REQUIRED FOR THE ESTABLISHMENT OF VEGETATION SHALL BE STOCKPILED IN THE AMOUNT NECESSARY TO COMPLETE THE FINISH GRADING OF ALL EXPOSED AREAS THAT ARE TO BE STABILIZED BY VEGETATION. EACH STOCKPILE SHALL BE PROTECTED IN THE MANNER SHOWN ON THE PLAN DRAWINGS. STOCKPILE SLOPES SHALL BE 2H:1V OR FLATTER.
6. IMMEDIATELY UPON DISCOVERING UNFORESEEN CIRCUMSTANCES POSING THE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION, THE PPM SHALL IMPLEMENT APPROPRIATE BMPs TO MINIMIZE THE POTENTIAL FOR EROSION AND SEDIMENT POLLUTION AND NOTIFY THE PROJECT REPRESENTATIVE.
7. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ANY MATERIAL BROUGHT ON SITE IS CLEAN FILL.
8. UNTIL THE SITE IS STABILIZED, ALL EROSION AND SEDIMENT BMPs SHALL BE MAINTAINED PROPERLY AS STATED IN THE STORMWATER MANAGEMENT MANUAL FOR WESTERN WASHINGTON
9. A LOG SHOWING DATES THAT E&S BMPs WERE INSPECTED AS WELL AS ANY DEFICIENCIES FOUND AND THE DATE THEY WERE CORRECTED SHALL BE MAINTAINED ON THE SITE AND BE MADE AVAILABLE TO REGULATORY AGENCY OFFICIALS AT THE TIME OF INSPECTION.
10. SEDIMENT TRACKED ONTO ANY PUBLIC ROADWAY OR SIDEWALK SHALL BE RETURNED TO THE CONSTRUCTION SITE BY THE END OF EACH WORK DAY AND DISPOSED. IN NO CASE SHALL THE SEDIMENT BE WASHED, SHOVELED, OR SWEPT INTO ANY ROADSIDE DITCH, STORM SEWER, OR SURFACE WATER.
11. ALL SEDIMENT REMOVED FROM BMPs SHALL BE DISPOSED OF AT AN APPROPRIATE FACILITY IN ACCORDANCE WITH APPLICABLE REGULATIONS.
12. ALL FILLS SHALL BE COMPACTED AS REQUIRED TO REDUCE EROSION, SLIPPAGE, SETTLEMENT, SUBSIDENCE, OR OTHER RELATED PROBLEMS. FILL INTENDED TO SUPPORT BUILDINGS, STRUCTURES AND CONDUITS, ETC. SHALL BE COMPACTED IN ACCORDANCE WITH LOCAL REQUIREMENTS OR CODES.
13. FILL MATERIALS SHALL BE FREE OF FROZEN PARTICLES, BRUSH, ROOTS, SOD, OR OTHER FOREIGN OR OBJECTIONABLE MATERIALS THAT WOULD INTERFERE WITH OR PREVENT CONSTRUCTION OF SATISFACTORY FILLS.
14. FROZEN MATERIALS OR SOFT, MUCKY, OR HIGHLY COMPRESSIBLE MATERIALS SHALL NOT BE INCORPORATED INTO FILLS.
15. FILL SHALL NOT BE PLACED ON SATURATED OR FROZEN SURFACES.
16. PERMANENT STABILIZATION IS DEFINED AS A MINIMUM UNIFORM, PERENNIAL 75% VEGETATIVE COVER OR OTHER PERMANENT NON-VEGETATIVE COVER WITH A DENSITY SUFFICIENT TO RESIST ACCELERATED EROSION. CUT AND FILL SLOPES SHALL BE CAPABLE OF RESISTING FAILURE DUE TO SLUMPING, SLIDING, OR OTHER MOVEMENTS.
17. E&S BMPs SHALL REMAIN FUNCTIONAL AS SUCH UNTIL ALL AREAS TRIBUTARY TO THEM ARE PERMANENTLY STABILIZED.
18. ALL CHANNELS SHALL BE KEPT FREE OF OBSTRUCTIONS INCLUDING BUT NOT LIMITED TO FILL, ROCKS, LEAVES, WOODY DEBRIS, ACCUMULATED SEDIMENT, EXCESS VEGETATION, AND CONSTRUCTION MATERIAL/WASTE.

TEMPORARY AND PERMANENT SEEDING TO CONFORM WITH THE SEEDING STANDARDS IN 2024 STORMWATER SMMWW.

NAME	% WEIGHT	% PURITY	% GERMINATION
Turf type perennial rye (blend of three approved varieties from the Seattle Standard Specification 9-14.2(1)	50	98	90
Creeping red fescue	20	98	90
Chewings fescue	20	98	90
Hard fescue	20	98	90

TEMPORARY AND PERMANENT SEEDING NOTES:

USE SEEDING THROUGHOUT THE PROJECT ON DISTURBED AREAS THAT HAVE REACHED FINAL GRADE OR THAT WILL REMAIN UNWORKED FOR MORE THAN 30 DAYS.

THE OPTIMUM SEEDING WINDOWS FOR WESTERN WASHINGTON ARE APRIL 1 THROUGH JUNE 30 AND SEPTEMBER 1 THROUGH OCTOBER 1.

BETWEEN JULY 1 AND AUGUST 30 SEEDING REQUIRES IRRIGATION UNTIL 75 PERCENT GRASS COVER IS ESTABLISHED.

BETWEEN OCTOBER 1 AND MARCH 30 SEEDING REQUIRES A COVER OF MULCH OR AN EROSION CONTROL BLANKET UNTIL 75 PERCENT GRASS COVER IS ESTABLISHED.

REVIEW ALL DISTURBED AREAS IN LATE AUGUST TO EARLY SEPTEMBER AND COMPLETE ALL SEEDING BY THE END OF SEPTEMBER. OTHERWISE, VEGETATION WILL NOT ESTABLISH ITSELF ENOUGH TO PROVIDE MORE THAN AVERAGE PROTECTION.

MULCH IS REQUIRED AT ALL TIMES FOR SEEDING BECAUSE IT PROTECTS SEEDS FROM HEAR, MOISTURE LOSS, AND TRANSPORT DUE TO RUNOFF. MULCH CAN BE APPLIED ON TOP OF THE SEED OR SIMULTANEOUSLY BY HYDROSEEDING.

SEED AND MULCH ALL DISTURBED AREAS NOT OTHERWISE VEGETATED AT FINAL SITE STABILIZATION. FINAL STABILIZATION MEANS THE COMPLETION OF ALL SOIL DISTURBING ACTIVITIES AT THE SITE AND THE ESTABLISHMENT OF PERMANENT VEGETATIVE COVER, OR EQUIVALENT PERMANENT STABILIZATION MEASURES (SUCH AS PAVEMENT, RIPRAP, GABIONS, OR GEOTEXTILES) WHICH WILL PREVENT EROSION.

AECOM

SHEET 3

EROSION & SEDIMENT CONTROL PLAN
NOTES AND DETAILS

LOWER DUWAMISH WATERWAY UPPER REACH
REMEDIAL ACTION

Contract KC001065 Date: 2024-08-28

Last saved by: RACHEL.JOHNSON(2024-08-19) Last Plotted: 2024-08-28
Filename: C:\USERS\LUCASR\AECOM\LDW UPPER REACH RA - GENERAL\900_CAD_GIS\910_CAD\20 SHEETS\EROSION AND SEDIMENT CONTROL PLAN - DETAILS.DWG

Project Management Initials: Designer:____ Checked:____ Approved:____ ANSI B 11" x 17"

Appendix C Site Inspection Form

Construction Stormwater Site Inspection Form

Project Name _____ Permit # _____ Inspection Date _____ Time _____

Name of Certified Erosion Sediment Control Lead (CESCL) or qualified inspector if *less than one acre*
Print Name: _____

Approximate rainfall amount since the last inspection (in inches): _____

Approximate rainfall amount in the last 24 hours (in inches): _____

Current Weather Clear ☐ Cloudy ☐ Mist ☐ Rain ☐ Wind ☐ Fog ☐

A. Type of inspection: Weekly ☐ Post Storm Event ☐ Other ☐

B. Phase of Active Construction (*check all that apply*):

Pre Construction/installation of erosion/sediment controls	☐	Clearing/Demo/Grading	☐	Infrastructure/storm/roads	☐
Concrete pours	☐	Vertical Construction/buildings	☐	Utilities	☐
Offsite improvements	☐	Site temporary stabilized	☐	Final stabilization	☐

C. Questions:

1. Were all areas of construction and discharge points inspected? Yes ___ No ___
2. Did you observe the presence of suspended sediment, turbidity, discoloration, or oil sheen Yes ___ No ___
3. Was a water quality sample taken during inspection? (*refer to permit conditions S4 & S5*) Yes ___ No ___
4. Was there a turbid discharge 250 NTU or greater, or Transparency 6 cm or less?* Yes ___ No ___
5. If yes to #4 was it reported to Ecology? Yes ___ No ___
6. Is pH sampling required? pH range required is 6.5 to 8.5. Yes ___ No ___

If answering yes to a discharge, describe the event. Include when, where, and why it happened; what action was taken, and when.

_____

_____

_____

_____

*If answering yes to # 4 record NTU/Transparency with continual sampling daily until turbidity is 25 NTU or less/ transparency is 33 cm or greater.

Sampling Results: Date: _____

Parameter	Method (circle one)	Result			Other/Note
		NTU	cm	pH	
Turbidity	tube, meter, laboratory				
pH	Paper, kit, meter				

D. Check the observed status of all items. Provide "Action Required "details and dates.

Element #	Inspection	BMPs Inspected			BMP needs maintenance	BMP failed	Action required (describe in section F)
		yes	no	n/a			
1 Clearing Limits	Before beginning land disturbing activities are all clearing limits, natural resource areas (streams, wetlands, buffers, trees) protected with barriers or similar BMPs? (high visibility recommended)						
2 Construction Access	Construction access is stabilized with quarry spalls or equivalent BMP to prevent sediment from being tracked onto roads?						
	Sediment tracked onto the road way was cleaned thoroughly at the end of the day or more frequent as necessary.						
3 Control Flow Rates	Are flow control measures installed to control stormwater volumes and velocity during construction and do they protect downstream properties and waterways from erosion?						
	If permanent infiltration ponds are used for flow control during construction, are they protected from siltation?						
4 Sediment Controls	All perimeter sediment controls (e.g. silt fence, wattles, compost socks, berms, etc.) installed, and maintained in accordance with the Stormwater Pollution Prevention Plan (SWPPP).						
	Sediment control BMPs (sediment ponds, traps, filters etc.) have been constructed and functional as the first step of grading.						
	Stormwater runoff from disturbed areas is directed to sediment removal BMP.						
5 Stabilize Soils	Have exposed un-worked soils been stabilized with effective BMP to prevent erosion and sediment deposition?						

Element #	Inspection	BMPs Inspected			BMP needs maintenance	BMP failed	Action required (describe in section F)
		yes	no	n/a			
5 Stabilize Soils Cont.	Are stockpiles stabilized from erosion, protected with sediment trapping measures and located away from drain inlet, waterways, and drainage channels?						
	Have soils been stabilized at the end of the shift, before a holiday or weekend if needed based on the weather forecast?						
6 Protect Slopes	Has stormwater and ground water been diverted away from slopes and disturbed areas with interceptor dikes, pipes and or swales?						
	Is off-site storm water managed separately from stormwater generated on the site?						
	Is excavated material placed on uphill side of trenches consistent with safety and space considerations?						
	Have check dams been placed at regular intervals within constructed channels that are cut down a slope?						
7 Drain Inlets	Storm drain inlets made operable during construction are protected.						
	Are existing storm drains within the influence of the project protected?						
8 Stabilize Channel and Outlets	Have all on-site conveyance channels been designed, constructed and stabilized to prevent erosion from expected peak flows?						
	Is stabilization, including armoring material, adequate to prevent erosion of outlets, adjacent stream banks, slopes and downstream conveyance systems?						
9 Control Pollutants	Are waste materials and demolition debris handled and disposed of to prevent contamination of stormwater?						
	Has cover been provided for all chemicals, liquid products, petroleum products, and other material?						
	Has secondary containment been provided capable of containing 110% of the volume?						
	Were contaminated surfaces cleaned immediately after a spill incident?						
	Were BMPs used to prevent contamination of stormwater by a pH modifying sources?						

Element #	Inspection	BMPs Inspected			BMP needs maintenance	BMP failed	Action required (describe in section F)
		yes	no	n/a			
9 Cont.	Wheel wash wastewater is handled and disposed of properly.						
10 Control Dewatering	Concrete washout in designated areas. No washout or excess concrete on the ground.						
	Dewatering has been done to an approved source and in compliance with the SWPPP.						
	Were there any clean non turbid dewatering discharges?						
11 Maintain BMP	Are all temporary and permanent erosion and sediment control BMPs maintained to perform as intended?						
12 Manage the Project	Has the project been phased to the maximum degree practicable?						
	Has regular inspection, monitoring and maintenance been performed as required by the permit?						
	Has the SWPPP been updated, implemented and records maintained?						
13 Protect LID	Is all Bioretention and Rain Garden Facilities protected from sedimentation with appropriate BMPs?						
	Is the Bioretention and Rain Garden protected against over compaction of construction equipment and foot traffic to retain its infiltration capabilities?						
	Permeable pavements are clean and free of sediment and sediment laden-water runoff. Muddy construction equipment has not been on the base material or pavement.						
	Have soiled permeable pavements been cleaned of sediments and pass infiltration test as required by stormwater manual methodology?						
	Heavy equipment has been kept off existing soils under LID facilities to retain infiltration rate.						

E. Check all areas that have been inspected. ✔

All in place BMPs ☐ All disturbed soils ☐ All concrete wash out area ☐ All material storage areas ☐
All discharge locations ☐ All equipment storage areas ☐ All construction entrances/exits ☐

F. Elements checked "Action Required" (section D) describe corrective action to be taken. List the element number; be specific on location and work needed. Document, initial, and date when the corrective action has been completed and inspected.

Element #	Description and Location	Action Required	Completion Date	Initials

Attach additional page if needed

Sign the following certification:

"I certify that this report is true, accurate, and complete, to the best of my knowledge and belief"

Inspected by: (print) _____ (Signature) _____ Date: _____

Title/Qualification of Inspector: _____

Appendix D Construction Stormwater General Permit (CSWGP)

Issuance Date: November 18, 2020
Effective Date: January 1, 2021
Expiration Date: December 31, 2025

CONSTRUCTION STORMWATER GENERAL PERMIT

National Pollutant Discharge Elimination System (NPDES) and State Waste Discharge General Permit for Stormwater Discharges Associated with Construction Activity

State of Washington
Department of Ecology
Olympia, Washington 98504

In compliance with the provisions of
Chapter 90.48 Revised Code of Washington
(State of Washington Water Pollution Control Act)
and
Title 33 United States Code, Section 1251 et seq.
The Federal Water Pollution Control Act (The Clean Water Act)

Until this permit expires, is modified, or revoked, Permittees that have properly obtained coverage under this general permit are authorized to discharge in accordance with the special and general conditions that follow.

Vincent McGowan, P.E.
Water Quality Program Manager
Washington State Department of Ecology

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LIST OF TABLES

SUMMARY OF PERMIT REPORT SUBMITTALS

Refer to the Special and General Conditions within this permit for additional submittal requirements. Appendix A provides a list of definitions. Appendix B provides a list of acronyms.

Table 1 Summary of Required Submittals

Permit Section	Submittal	Frequency	First Submittal Date
S5.A and S8	High Turbidity/Transparency Phone Reporting	As Necessary	Within 24 hours
S5.B	Discharge Monitoring Report	Monthly*	Within 15 days following the end of each month
S5.F and S8	Noncompliance Notification – Telephone Notification	As necessary	Within 24 hours
S5.F	Noncompliance Notification – Written Report	As necessary	Within 5 Days of non-compliance
S9.D	Request for Chemical Treatment Form	As necessary	Written approval from Ecology is required prior to using chemical treatment (with the exception of dry ice, CO_2 or food grade vinegar to adjust pH)
G2	Notice of Change in Authorization	As necessary	
G6	Permit Application for Substantive Changes to the Discharge	As necessary	
G8	Application for Permit Renewal	1/permit cycle	No later than 180 days before expiration
S2.A	Notice of Permit Transfer	As necessary	
G19	Notice of Planned Changes	As necessary	
G21	Reporting Anticipated Non-compliance	As necessary	

NOTE: *Permittees must submit electronic Discharge Monitoring Reports (DMRs) to the Washington State Department of Ecology monthly, regardless of site discharge, for the full duration of permit coverage. Refer to Section S5.B of this General Permit for more specific information regarding DMRs.

Table 2 Summary of Required On-site Documentation

Document Title	Permit Conditions
Permit Coverage Letter	See Conditions S2, S5
Construction Stormwater General Permit (CSWGP)	See Conditions S2, S5
Site Log Book	See Conditions S4, S5
Stormwater Pollution Prevention Plan (SWPPP)	See Conditions S5, S9
Site Map	See Conditions S5, S9

SPECIAL CONDITIONS

S1. PERMIT COVERAGE

A. Permit Area

This Construction Stormwater General Permit (CSWGP) covers all areas of Washington State, except for federal operators and Indian Country as specified in Special Condition S1.E.3 and 4.

B. Operators Required to Seek Coverage Under this General Permit

1. Operators of the following construction activities are required to seek coverage under this CSWGP:

    a. Clearing, grading and/or excavation that results in the disturbance of one or more acres (including off-site disturbance acreage related to construction-support activity as authorized in S1.C.2) and discharges stormwater to surface waters of the State; and clearing, grading and/or excavation on sites smaller than one acre that are part of a larger common plan of development or sale, if the common plan of development or sale will ultimately disturb one acre or more and discharge stormwater to surface waters of the State.

        i. This category includes forest practices (including, but not limited to, class IV conversions) that are part of a construction activity that will result in the disturbance of one or more acres, and discharge to surface waters of the State (that is, forest practices that prepare a site for construction activities); and

    b. Any size construction activity discharging stormwater to waters of the State that the Washington State Department of Ecology (Ecology):

        i. Determines to be a significant contributor of pollutants to waters of the State of Washington.

        ii. Reasonably expects to cause a violation of any water quality standard.

2. Operators of the following activities are not required to seek coverage under this CSWGP (unless specifically required under Special Condition S1.B.1.b, above):

    a. Construction activities that discharge all stormwater and non-stormwater to groundwater, sanitary sewer, or combined sewer, and have no point source discharge to either surface water or a storm sewer system that drains to surface waters of the State.

    b. Construction activities covered under an Erosivity Waiver (Special Condition S1.F).

    c. Routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of a facility.

C. Authorized Discharges

1. ***Stormwater Associated with Construction Activity.*** Subject to compliance with the terms and conditions of this permit, Permittees are authorized to discharge stormwater associated with construction activity to surface waters of the State or to a storm sewer system that drains to surface waters of the State. (Note that "surface waters of the

State" may exist on a construction site as well as off site; for example, a creek running through a site.)

2. ***Stormwater Associated with Construction Support Activity.*** This permit also authorizes stormwater discharge from support activities related to the permitted construction site (for example, an on-site portable rock crusher, off-site equipment staging yards, material storage areas, borrow areas, etc.) provided:

    a. The support activity relates directly to the permitted construction site that is required to have an NPDES permit; and

    b. The support activity is not a commercial operation serving multiple unrelated construction projects, and does not operate beyond the completion of the construction activity; and

    c. Appropriate controls and measures are identified in the Stormwater Pollution Prevention Plan (SWPPP) for the discharges from the support activity areas.

3. ***Non-Stormwater Discharges.*** The categories and sources of non-stormwater discharges identified below are authorized conditionally, provided the discharge is consistent with the terms and conditions of this permit:

    a. Discharges from fire-fighting activities.

    b. Fire hydrant system flushing.

    c. Potable water, including uncontaminated water line flushing.

    d. Hydrostatic test water.

    e. Uncontaminated air conditioning or compressor condensate.

    f. Uncontaminated groundwater or spring water.

    g. Uncontaminated excavation dewatering water (in accordance with S9.D.10).

    h. Uncontaminated discharges from foundation or footing drains.

    i. Uncontaminated or potable water used to control dust. Permittees must minimize the amount of dust control water used.

    j. Routine external building wash down that does not use detergents.

    k. Landscape irrigation water.

The SWPPP must adequately address all authorized non-stormwater discharges, except for discharges from fire-fighting activities, and must comply with Special Condition S3. At a minimum, discharges from potable water (including water line flushing), fire hydrant system flushing, and pipeline hydrostatic test water must undergo the following: dechlorination to a concentration of 0.1 parts per million (ppm) or less, and pH adjustment to within 6.5 – 8.5 standard units (su), if necessary.

D. Prohibited Discharges

The following discharges to waters of the State, including groundwater, are prohibited:

1. Concrete wastewater

2. Wastewater from washout and clean-up of stucco, paint, form release oils, curing compounds and other construction materials.

3. Process wastewater as defined by 40 Code of Federal Regulations (CFR) 122.2 (See Appendix A of this permit).

4. Slurry materials and waste from shaft drilling, including process wastewater from shaft drilling for construction of building, road, and bridge foundations unless managed according to Special Condition S9.D.9.j.

5. Fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance.

6. Soaps or solvents used in vehicle and equipment washing.

7. Wheel wash wastewater, unless managed according to Special Condition S9.D.9.

8. Discharges from dewatering activities, including discharges from dewatering of trenches and excavations, unless managed according to Special Condition S9.D.10.

E. Limits on Coverage

Ecology may require any discharger to apply for and obtain coverage under an individual permit or another more specific general permit. Such alternative coverage will be required when Ecology determines that this CSWGP does not provide adequate assurance that water quality will be protected, or there is a reasonable potential for the project to cause or contribute to a violation of water quality standards.

The following stormwater discharges are not covered by this permit:

1. Post-construction stormwater discharges that originate from the site after completion of construction activities and the site has undergone final stabilization.

2. Non-point source silvicultural activities such as nursery operations, site preparation, reforestation and subsequent cultural treatment, thinning, prescribed burning, pest and fire control, harvesting operations, surface drainage, or road construction and maintenance, from which there is natural runoff as excluded in 40 CFR Subpart 122.

3. Stormwater from any federal operator.

4. Stormwater from facilities located on ***Indian Country*** as defined in 18 U.S.C.§1151, except portions of the Puyallup Reservation as noted below.

   Indian Country includes:

   a. All land within any Indian Reservation notwithstanding the issuance of any patent, and, including rights-of-way running through the reservation. This includes all federal, tribal, and Indian and non-Indian privately owned land within the reservation.

   b. All off-reservation Indian allotments, the Indian titles to which have not been extinguished, including rights-of-way running through the same.

   c. All off-reservation federal trust lands held for Native American Tribes.

Puyallup Exception: Following the *Puyallup Tribes of Indians Land Settlement Act of 1989*, 25 U.S.C. §1773; the permit does apply to land within the Puyallup Reservation except for discharges to surface water on land held in trust by the federal government.

5. Stormwater from any site covered under an existing NPDES individual permit in which stormwater management and/or treatment requirements are included for all stormwater discharges associated with construction activity.

6. Stormwater from a site where an applicable Total Maximum Daily Load (TMDL) requirement specifically precludes or prohibits discharges from construction activity.

F. Erosivity Waiver

Construction site operators may qualify for an Erosivity Waiver from the CSWGP if the following conditions are met:

1. The site will result in the disturbance of fewer than five (5) acres and the site is not a portion of a common plan of development or sale that will disturb five (5) acres or greater.

2. Calculation of Erosivity "R" Factor and Regional Timeframe:

    a. The project's calculated rainfall erosivity factor ("R" Factor) must be less than five (5) during the period of construction activity, (See the CSWGP homepage http://www.ecy.wa.gov/programs/wq/stormwater/construction/index.html for a link to the EPA's calculator and step by step instructions on computing the "R" Factor in the *EPA Erosivity Waiver Fact Sheet*). The period of construction activity starts when the land is first disturbed and ends with final stabilization. In addition:

    b. The entire period of construction activity must fall within the following timeframes:

        i. For sites west of the Cascades Crest: June 15 – September 15.

        ii. For sites east of the Cascades Crest, excluding the Central Basin: June 15 – October 15.

        iii. For sites east of the Cascades Crest, within the Central Basin: no timeframe restrictions apply. The Central Basin is defined as the portions of Eastern Washington with mean annual precipitation of less than 12 inches. For a map of the Central Basin (Average Annual Precipitation Region 2), refer to: http://www.ecy.wa.gov/programs/wq/stormwater/construction/resourcesguidance.html.

3. Construction site operators must submit a complete Erosivity Waiver certification form at least one week before disturbing the land. Certification must include statements that the operator will:

    a. Comply with applicable local stormwater requirements; and

    b. Implement appropriate erosion and sediment control BMPs to prevent violations of water quality standards.

4. This waiver is not available for facilities declared significant contributors of pollutants as defined in Special Condition S1.B.1.b or for any size construction activity that could

reasonably expect to cause a violation of any water quality standard as defined in Special Condition S1.B.1.b.ii.

5. This waiver does not apply to construction activities which include non-stormwater discharges listed in Special Condition S1.C.3.

6. If construction activity extends beyond the certified waiver period for any reason, the operator must either:

    a. Recalculate the rainfall erosivity "R" factor using the original start date and a new projected ending date and, if the "R" factor is still under 5 *and* the entire project falls within the applicable regional timeframe in Special Condition S1.F.2.b, complete and submit an amended waiver certification form before the original waiver expires; *or*

    b. Submit a complete permit application to Ecology in accordance with Special Condition S2.A and B before the end of the certified waiver period.

S2. APPLICATION REQUIREMENTS

A. Permit Application Forms

1. *Notice of Intent Form*

a. Operators of new or previously unpermitted construction activities must submit a complete and accurate permit application (Notice of Intent, or NOI) to Ecology.

b. Operators must apply using the electronic application form (NOI) available on Ecology's website (http://ecy.wa.gov/programs/wq/stormwater/construction/index.html). Permittees unable to submit electronically (for example, those who do not have an internet connection) must contact Ecology to request a waiver and obtain instructions on how to obtain a paper NOI.

> Department of Ecology
> Water Quality Program - Construction Stormwater
> PO Box 47696
> Olympia, Washington 98504-7696

c. The operator must submit the NOI at least 60 days before discharging stormwater from construction activities and must submit it prior to the date of the first public notice (See Special Condition S2.B, below, for details). The 30-day public comment period begins on the publication date of the second public notice. Unless Ecology responds to the complete application in writing, coverage under the general permit will automatically commence on the 31st day following receipt by Ecology of a *completed* NOI, or the issuance date of this permit, whichever is later; unless Ecology specifies a later date in writing as required by WAC173-226-200(2). See S8.B for Limits on Coverage for New Discharges to TMDL or 303(d)-Listed Waters.

d. If an applicant intends to use a Best Management Practice (BMP) selected on the basis of Special Condition S9.C.4 ("demonstrably equivalent" BMPs), the applicant must notify Ecology of its selection as part of the NOI. In the event the applicant selects BMPs after submission of the NOI, the applicant must provide notice of the

selection of an equivalent BMP to Ecology at least 60 days before intended use of the equivalent BMP.

e. Applicants must notify Ecology if they are aware of contaminated soils and/or groundwater associated with the construction activity. Provide detailed information with the NOI (as known and readily available) on the nature and extent of the contamination (concentrations, locations, and depth), as well as pollution prevention and/or treatment BMPs proposed to control the discharge of soil and/or groundwater contaminants in stormwater. Examples of such detail may include, but are not limited to:

   i. List or table of all known contaminants with laboratory test results showing concentration and depth,

   ii. Map with sample locations,

   iii. Related portions of the Stormwater Pollution Prevention Plan (SWPPP) that address the management of contaminated and potentially contaminated construction stormwater and dewatering water,

   iv. Dewatering plan and/or dewatering contingency plan.

2. ***Transfer of Coverage Form***

The Permittee can transfer current coverage under this permit to one or more new operators, including operators of sites within a Common Plan of Development, provided:

   i. The Permittee submits a complete Transfer of Coverage Form to Ecology, signed by the current and new discharger and containing a specific date for transfer of permit responsibility, coverage and liability (including any Administrative Orders associated with the permit); and

   ii. Ecology does not notify the current discharger and new discharger of intent to revoke coverage under the general permit. If this notice is not given, the transfer is effective on the date specified in the written agreement.

When a current discharger (Permittee) transfers a portion of a permitted site, the current discharger must also indicate the remaining permitted acreage after the transfer. Transfers do not require public notice.

3. ***Modification of Coverage Form***

Permittees must notify Ecology regarding any changes to the information provided on the NOI by submitting an Update/Modification of Permit Coverage form in accordance with General Conditions G6 and G19. Examples of such changes include, but are not limited to:

   i. Changes to the Permittee's mailing address,

   ii. Changes to the on-site contact person information, and

   iii. Changes to the area/acreage affected by construction activity.

B. Public Notice

For new or previously unpermitted construction activities, the applicant must publish a public notice at least one time each week for two consecutive weeks, at least 7 days apart, in a newspaper with general circulation in the county where the construction is to take place. The notice must be run after the NOI has been submitted and must contain:

1. A statement that "*The applicant is seeking coverage under the Washington State Department of Ecology's Construction Stormwater NPDES and State Waste Discharge General Permit*."
2. The name, address, and location of the construction site.
3. The name and address of the applicant.
4. The type of construction activity that will result in a discharge (for example, residential construction, commercial construction, etc.), and the total number of acres to be disturbed over the lifetime of the project.
5. The name of the receiving water(s) (that is, the surface water(s) to which the site will discharge), or, if the discharge is through a storm sewer system, the name of the operator of the system and the receiving water(s) the system discharges to.
6. The statement: *Any persons desiring to present their views to the Washington State Department of Ecology regarding this application, or interested in Ecology's action on this application, may notify Ecology in writing no later than 30 days of the last date of publication of this notice. Ecology reviews public comments and considers whether discharges from this project would cause a measurable change in receiving water quality, and, if so, whether the project is necessary and in the overriding public interest according to Tier II antidegradation requirements under WAC 173-201A-320. Comments can be submitted to: Department of Ecology, PO Box 47696, Olympia, Washington 98504-7696 Attn: Water Quality Program, Construction Stormwater*.

S3. COMPLIANCE WITH STANDARDS

A. Discharges must not cause or contribute to a violation of surface water quality standards (Chapter 173-201A WAC), groundwater quality standards (Chapter 173-200 WAC), sediment management standards (Chapter 173-204 WAC), and human health-based criteria in the Federal water quality criteria applicable to Washington. (40 CFR Part 131.45) Discharges that are not in compliance with these standards are prohibited.

B. Prior to the discharge of stormwater and non-stormwater to waters of the State, the Permittee must apply All Known, Available, and Reasonable methods of prevention, control, and Treatment (AKART). This includes the preparation and implementation of an adequate SWPPP, with all appropriate BMPs installed and maintained in accordance with the SWPPP and the terms and conditions of this permit.

C. Ecology presumes that a Permittee complies with water quality standards unless discharge monitoring data or other site-specific information demonstrates that a discharge causes or contributes to a violation of water quality standards, when the Permittee complies with the following conditions. The Permittee must fully:

1. Comply with all permit conditions, including; planning, sampling, monitoring, reporting, and recordkeeping conditions.

2. Implement stormwater BMPs contained in stormwater management manuals published or approved by Ecology, or BMPs that are demonstrably equivalent to BMPs contained in stormwater management manuals published or approved by Ecology, including the proper selection, implementation, and maintenance of all applicable and appropriate BMPs for on-site pollution control. (For purposes of this section, the stormwater manuals listed in Appendix 10 of the *Phase I Municipal Stormwater Permit* are approved by Ecology.)

D. Where construction sites also discharge to groundwater, the groundwater discharges must also meet the terms and conditions of this CSWGP. Permittees who discharge to groundwater through an injection well must also comply with any applicable requirements of the Underground Injection Control (UIC) regulations, Chapter 173-218 WAC.

S4. MONITORING REQUIREMENTS, BENCHMARKS, AND REPORTING TRIGGERS

A. Site Log Book

The Permittee must maintain a site log book that contains a record of the implementation of the SWPPP and other permit requirements, including the installation and maintenance of BMPs, site inspections, and stormwater monitoring.

B. Site Inspections

Construction sites one (1) acre or larger that discharge stormwater to surface waters of the State must have site inspections conducted by a Certified Erosion and Sediment Control Lead (CESCL). Sites less than one (1) acre may have a person without CESCL certification conduct inspections. (See Special Conditions S4.B.3 and B.4, below, for detailed requirements of the Permittee's CESCL.)

Site inspections must include all areas disturbed by construction activities, all BMPs, and all stormwater discharge points under the Permittee's operational control.

1. The Permittee must have staff knowledgeable in the principles and practices of erosion and sediment control. The CESCL (sites one acre or more) or inspector (sites less than one acre) must have the skills to assess the:

    a. Site conditions and construction activities that could impact the quality of stormwater; and

    b. Effectiveness of erosion and sediment control measures used to control the quality of stormwater discharges. The SWPPP must identify the CESCL or inspector, who must be present on site or on-call at all times. The CESCL (sites one (1) acre or more) must obtain this certification through an approved erosion and sediment control training program that meets the minimum training standards established by Ecology. (See BMP C160 in the manual, referred to in Special Condition S9.C.1 and 2.)

2. The CESCL or inspector must examine stormwater visually for the presence of suspended sediment, turbidity, discoloration, and oil sheen. BMP effectiveness must be evaluated to

determine if it is necessary to install, maintain, or repair BMPs to improve the quality of stormwater discharges.

Based on the results of the inspection, the Permittee must correct the problems identified, by:

a. Reviewing the SWPPP for compliance with Special Condition S9 and making appropriate revisions within 7 days of the inspection.

b. Immediately beginning the process of fully implementing and maintaining appropriate source control and/or treatment BMPs, within 10 days of the inspection. If installation of necessary treatment BMPs is not feasible within 10 days, Ecology may approve additional time when an extension is requested by a Permittee within the initial 10-day response period.

c. Documenting BMP implementation and maintenance in the site log book.

3. The CESCL or inspector must inspect all areas disturbed by construction activities, all BMPs, and all stormwater discharge points at least once every calendar week and within 24 hours of any discharge from the site. (For purposes of this condition, individual discharge events that last more than one (1) day do not require daily inspections. For example, if a stormwater pond discharges continuously over the course of a week, only one (1) inspection is required that week.) Inspection frequency may be reduced to once every calendar month for inactive sites that are temporarily stabilized.

4. The Permittee must summarize the results of each inspection in an inspection report or checklist and enter the report/checklist into, or attach it to, the site log book. At a minimum, each inspection report or checklist must include:

   a. Inspection date and time.

   b. Weather information.

   c. The general conditions during inspection.

   d. The approximate amount of precipitation since the last inspection.

   e. The approximate amount of precipitation within the last 24 hours.

   f. A summary or list of all implemented BMPs, including observations of all erosion/sediment control structures or practices.

   g. A description of:

      i. BMPs inspected (including location).

      ii. BMPs that need maintenance and why.

      iii. BMPs that failed to operate as designed or intended, and

      iv. Where additional or different BMPs are needed, and why.

   h. A description of stormwater discharged from the site. The Permittee must note the presence of suspended sediment, turbidity, discoloration, and oil sheen, as applicable.

i. Any water quality monitoring performed during inspection.

j. General comments and notes, including a brief description of any BMP repairs, maintenance, or installations made following the inspection.

k. An implementation schedule for the remedial actions that the Permittee plans to take if the site inspection indicates that the site is out of compliance. The remedial actions taken must meet the requirements of the SWPPP and the permit.

l. A summary report of the inspection.

m. The name, title, and signature of the person conducting the site inspection, a phone number or other reliable method to reach this person, and the following statement: *I certify that this report is true, accurate, and complete to the best of my knowledge and belief.*

Table 3 Summary of Primary Monitoring Requirements

Size of Soil Disturbance[1]	Weekly Site Inspections	Weekly Sampling w/ Turbidity Meter	Weekly Sampling w/ Transparency Tube	Weekly pH Sampling[2]	CESCL Required for Inspections?
Sites that disturb less than 1 acre, but are part of a larger Common Plan of Development	Required	Not Required	Not Required	Not Required	No
Sites that disturb 1 acre or more, but fewer than 5 acres	Required	Sampling Required – either method[3]		Required	Yes
Sites that disturb 5 acres or more	Required	Required	Not Required[4]	Required	Yes

[1] Soil disturbance is calculated by adding together all areas that will be affected by construction activity. Construction activity means clearing, grading, excavation, and any other activity that disturbs the surface of the land, including ingress/egress from the site.

[2] If construction activity results in the disturbance of 1 acre or more, and involves significant concrete work (1,000 cubic yards of concrete or recycled concrete placed or poured over the life of a project) or the use of engineered soils (soil amendments including but not limited to Portland cement-treated base [CTB], cement kiln dust [CKD], or fly ash), and stormwater from the affected area drains to surface waters of the State or to a storm sewer stormwater collection system that drains to other surface waters of the State, the Permittee must conduct pH sampling in accordance with Special Condition S4.D.

[3] Sites with one or more acres, but fewer than 5 acres of soil disturbance, must conduct turbidity or transparency sampling in accordance with Special Condition S4.C.4.a or b.

[4] Sites equal to or greater than 5 acres of soil disturbance must conduct turbidity sampling using a turbidity meter in accordance with Special Condition S4.C.4.a.

C. Turbidity/Transparency Sampling Requirements

1. Sampling Methods

    a. If construction activity involves the disturbance of five (5) acres or more, the Permittee must conduct turbidity sampling per Special Condition S4.C.4.a, below.

    b. If construction activity involves one (1) acre or more but fewer than five (5) acres of soil disturbance, the Permittee must conduct either transparency sampling *or* turbidity sampling per Special Condition S4.C.4.a or b, below.

2. Sampling Frequency

    a. The Permittee must sample all discharge points at least once every calendar week when stormwater (or authorized non-stormwater) discharges from the site or enters any on-site surface waters of the state (for example, a creek running through a site); sampling is not required on sites that disturb less than an acre.

    b. Samples must be representative of the flow and characteristics of the discharge.

    c. Sampling is not required when there is no discharge during a calendar week.

    d. Sampling is not required outside of normal working hours or during unsafe conditions.

    e. If the Permittee is unable to sample during a monitoring period, the Permittee must include a brief explanation in the monthly Discharge Monitoring Report (DMR).

    f. Sampling is not required before construction activity begins.

    g. The Permittee may reduce the sampling frequency for temporarily stabilized, inactive sites to once every calendar month.

3. Sampling Locations

    a. Sampling is required at all points where stormwater associated with construction activity (or authorized non-stormwater) is discharged off site, including where it enters any on-site surface waters of the state (for example, a creek running through a site).

    b. The Permittee may discontinue sampling at discharge points that drain areas of the project that are fully stabilized to prevent erosion.

    c. The Permittee must identify all sampling point(s) in the SWPPP and on the site map and clearly mark these points in the field with a flag, tape, stake or other visible marker.

    d. Sampling is not required for discharge that is sent directly to sanitary or combined sewer systems.

    e. The Permittee may discontinue sampling at discharge points in areas of the project where the Permittee no longer has operational control of the construction activity.

4. Sampling and Analysis Methods

   a. The Permittee performs turbidity analysis with a calibrated turbidity meter (turbidimeter) either on site or at an accredited lab. The Permittee must record the results in the site log book in nephelometric turbidity units (NTUs).

   b. The Permittee performs transparency analysis on site with a 1¾ inch diameter, 60 centimeter (cm)-long transparency tube. The Permittee will record the results in the site log book in centimeters (cm).

Table 4 Monitoring and Reporting Requirements

Parameter	Unit	Analytical Method	Sampling Frequency	Benchmark Value
Turbidity	NTU	SM2130	Weekly, if discharging	25 NTUs
Transparency	Cm	Manufacturer instructions, or Ecology guidance	Weekly, if discharging	33 cm

5. Turbidity/Transparency Benchmark Values and Reporting Triggers

   The benchmark value for turbidity is 25 NTUs. The benchmark value for transparency is 33 centimeters (cm). Note: Benchmark values do not apply to discharges to segments of water bodies on Washington State's 303(d) list (Category 5) for turbidity, fine sediment, or phosphorus; these discharges are subject to a numeric effluent limit for turbidity. Refer to Special Condition S8 for more information and follow S5.F – Noncompliance Notification for reporting requirements applicable to discharges which exceed the numeric effluent limit for turbidity.

   a. Turbidity 26 – 249 NTUs, or Transparency 32 – 7 cm:

      If the discharge turbidity is 26 to 249 NTUs; or if discharge transparency is 32 to 7 cm, the Permittee must:

      i. Immediately begin the process to fully implement and maintain appropriate source control and/or treatment BMPs, and no later than 10 days of the date the discharge exceeded the benchmark. If installation of necessary treatment BMPs is not feasible within 10 days, Ecology may approve additional time when the Permittee requests an extension within the initial 10-day response period.

      ii. Review the SWPPP for compliance with Special Condition S9 and make appropriate revisions within 7 days of the date the discharge exceeded the benchmark.

      iii. Document BMP implementation and maintenance in the site log book.

   b. Turbidity 250 NTUs or greater, or Transparency 6 cm or less:

      If a discharge point's turbidity is 250 NTUs or greater, or if discharge transparency is less than or equal to 6 cm, the Permittee must complete the reporting and adaptive

management process described below. For discharges which are subject to a numeric effluent limit for turbidity, see S5.F – Noncompliance Notification.

i. Within 24 hours, telephone or submit an electronic report to the applicable Ecology Region's Environmental Report Tracking System (ERTS) number (or through Ecology's Water Quality Permitting Portal [WQWebPortal] – Permit Submittals when the form is available), in accordance with Special Condition S5.A.

- **Central Region** (Okanogan, Chelan, Douglas, Kittitas, Yakima, Klickitat, Benton): (509) 575-2490
- **Eastern Region** (Adams, Asotin, Columbia, Ferry, Franklin, Garfield, Grant, Lincoln, Pend Oreille, Spokane, Stevens, Walla Walla, Whitman): (509) 329-3400
- **Northwest Region** (Kitsap, Snohomish, Island, King, San Juan, Skagit, Whatcom): (425) 649-7000
- **Southwest Region** (Grays Harbor, Lewis, Mason, Thurston, Pierce, Clark, Cowlitz, Skamania, Wahkiakum, Clallam, Jefferson, Pacific): (360) 407-6300

These numbers and a link to the ERTS reporting page are also listed at the following website: http://www.ecy.wa.gov/programs/wq/stormwater/construction/index.html.

ii. Immediately begin the process to fully implement and maintain appropriate source control and/or treatment BMPs as soon as possible, addressing the problems within 10 days of the date the discharge exceeded the benchmark. If installation of necessary treatment BMPs is not feasible within 10 days, Ecology may approve additional time when the Permittee requests an extension within the initial 10-day response period.

iii. Sample discharges daily until:

a) Turbidity is 25 NTUs (or lower); or

b) Transparency is 33 cm (or greater); or

c) The Permittee has demonstrated compliance with the water quality standard for turbidity:

1) No more than 5 NTUs over background turbidity, if background is less than 50 NTUs, or

2) No more than 10% over background turbidity, if background is 50 NTUs or greater; or

*Note: background turbidity in the receiving water must be measured immediately upstream (upgradient) or outside of the area of influence of the discharge.

d) The discharge stops or is eliminated.

iv. Review the SWPPP for compliance with Special Condition S9 and make appropriate revisions within seven (7) days of the date the discharge exceeded the benchmark.

v. Document BMP implementation and maintenance in the site log book.

Compliance with these requirements does not relieve the Permittee from responsibility to maintain continuous compliance with permit benchmarks.

D. pH Sampling Requirements – Significant Concrete Work or Engineered Soils

If construction activity results in the disturbance of 1 acre or more, *and* involves significant concrete work (significant concrete work means greater than 1000 cubic yards placed or poured concrete or recycled concrete used over the life of a project) or the use of engineered soils (soil amendments including but not limited to Portland cement-treated base [CTB], cement kiln dust [CKD], or fly ash), and stormwater from the affected area drains to surface waters of the State or to a storm sewer system that drains to surface waters of the State, the Permittee must conduct pH sampling as set forth below. Note: In addition, discharges to segments of water bodies on Washington State's 303(d) list (Category 5) for high pH are subject to a numeric effluent limit for pH; refer to Special Condition S8.

1. The Permittee must perform pH analysis on site with a calibrated pH meter, pH test kit, or wide range pH indicator paper. The Permittee must record pH sampling results in the site log book.

2. During the applicable pH monitoring period defined below, the Permittee must obtain a representative sample of stormwater and conduct pH analysis at least once per week.

    a. For sites with significant concrete work, the Permittee must begin the pH sampling period when the concrete is first placed or poured and exposed to precipitation, and continue weekly throughout and after the concrete placement, pour and curing period, until stormwater pH is in the range of 6.5 to 8.5 (su).

    b. For sites with recycled concrete where monitoring is required, the Permittee must begin the weekly pH sampling period when the recycled concrete is first exposed to precipitation and must continue until the recycled concrete is fully stabilized with the stormwater pH in the range of 6.5 to 8.5 (su).

    c. For sites with engineered soils, the Permittee must begin the pH sampling period when the soil amendments are first exposed to precipitation and must continue until the area of engineered soils is fully stabilized.

3. The Permittee must sample pH in the sediment trap/pond(s) or other locations that receive stormwater runoff from the area of significant concrete work or engineered soils before the stormwater discharges to surface waters.

4. The benchmark value for pH is 8.5 standard units. Anytime sampling indicates that pH is 8.5 or greater, the Permittee must either:

    a. Prevent the high pH water (8.5 or above) from entering storm sewer systems or surface waters of the state; *or*

    b. If necessary, adjust or neutralize the high pH water until it is in the range of pH 6.5 to 8.5 (su) using an appropriate treatment BMP such as carbon dioxide (CO_2) sparging, dry ice or food grade vinegar. The Permittee must obtain written approval from Ecology before using any form of chemical treatment other than CO_2 sparging, dry ice or food grade vinegar.

S5. REPORTING AND RECORDKEEPING REQUIREMENTS

A. High Turbidity Reporting

Anytime sampling performed in accordance with Special Condition S4.C indicates turbidity has reached the 250 NTUs or more (or transparency less than or equal to 6 cm), high turbidity reporting level, the Permittee must notify Ecology within 24 hours of analysis either by calling the applicable Ecology Region's Environmental Report Tracking System (ERTS) number by phone or by submitting an electronic ERTS report (through Ecology's Water Quality Permitting Portal (WQWebPortal) – Permit Submittals when the form is available). See the CSWGP website for links to ERTS and the WQWebPortal. (http://www.ecy.wa.gov/programs/wq/stormwater/construction/index.html) Also, see phone numbers in Special Condition S4.C.5.b.i.

B. Discharge Monitoring Reports (DMRs)

Permittees required to conduct water quality sampling in accordance with Special Conditions S4.C (Turbidity/Transparency), S4.D (pH), S8 (303[d]/TMDL sampling), and/or G12 (Additional Sampling) must submit the results to Ecology.

Permittees must submit monitoring data using Ecology's WQWebDMR web application accessed through Ecology's Water Quality Permitting Portal.

Permittees unable to submit electronically (for example, those who do not have an internet connection) must contact Ecology to request a waiver and obtain instructions on how to obtain a paper copy DMR at:

Department of Ecology
Water Quality Program - Construction Stormwater
PO Box 47696
Olympia, WA 98504-7696

Permittees who obtain a waiver not to use WQWebDMR must use the forms provided to them by Ecology; submittals must be mailed to the address above. Permittees must submit DMR forms to be received by Ecology within 15 days following the end of each month.

If there was no discharge during a given monitoring period, all Permittees must submit a DMR as required with "no discharge" entered in place of the monitoring results. DMRs are required for the full duration of permit coverage (from the first full month following the effective date of permit coverage up until Ecology has approved termination of the coverage). For more information, contact Ecology staff using information provided at the following website: www.ecy.wa.gov/programs/wq/permits/paris/contacts.html.

C. Records Retention

The Permittee must retain records of all monitoring information (site log book, sampling results, inspection reports/checklists, etc.), Stormwater Pollution Prevention Plan, copy of the permit coverage letter (including Transfer of Coverage documentation) and any other documentation of compliance with permit requirements for the entire life of the construction project and for a minimum of five (5) years following the termination of permit coverage. Such information must include all calibration and maintenance records, and records of all data used to complete the application for this permit. This period of retention must be extended during

the course of any unresolved litigation regarding the discharge of pollutants by the Permittee or when requested by Ecology.

D. Recording Results

For each measurement or sample taken, the Permittee must record the following information:

1. Date, place, method, and time of sampling or measurement.
2. The first and last name of the individual who performed the sampling or measurement.
3. The date(s) the analyses were performed.
4. The first and last name of the individual who performed the analyses.
5. The analytical techniques or methods used.
6. The results of all analyses.

E. Additional Monitoring by the Permittee

If the Permittee samples or monitors any pollutant more frequently than required by this permit using test procedures specified by Special Condition S4 of this permit, the sampling results for this monitoring must be included in the calculation and reporting of the data submitted in the Permittee's DMR.

F. Noncompliance Notification

In the event the Permittee is unable to comply with any part of the terms and conditions of this permit, and the resulting noncompliance may cause a threat to human health or the environment (such as but not limited to spills or fuels or other materials, catastrophic pond or slope failure, and discharges that violate water quality standards), or exceed numeric effluent limitations (see S8 – Discharges to 303(d) or TMDL Waterbodies), the Permittee must, upon becoming aware of the circumstance:

1. Notify Ecology within 24 hours of the failure to comply by calling the applicable Regional office ERTS phone number (refer to Special Condition S4.C.5.b.i, or go to https://ecology.wa.gov/About-us/Get-involved/Report-an-environmental-issue to find contact information for the regional offices.)
2. Immediately take action to prevent the discharge/pollution, or otherwise stop or correct the noncompliance, and, if applicable, repeat sampling and analysis of any noncompliance immediately and submit the results to Ecology within five (5) days of becoming aware of the violation (See S5.F.3, below, for details on submitting results in a report).
3. Submit a detailed written report to Ecology within five (5) days of the time the Permittee becomes aware of the circumstances, unless requested earlier by Ecology. The report must be submitted using Ecology's Water Quality Permitting Portal (WQWebPortal) – Permit Submittals, unless a waiver from electronic reporting has been granted according to S5.B. The report must contain a description of the noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and the steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

The Permittee must report any unanticipated bypass and/or upset that exceeds any effluent limit in the permit in accordance with the 24-hour reporting requirement contained in 40 C.F.R. 122.41(l)(6).

Compliance with these requirements does not relieve the Permittee from responsibility to maintain continuous compliance with the terms and conditions of this permit or the resulting liability for failure to comply. Upon request of the Permittee, Ecology may waive the requirement for a written report on a case-by-case basis, if the immediate notification is received by Ecology within 24 hours.

G. Access to Plans and Records

1. The Permittee must retain the following permit documentation (plans and records) on site, or within reasonable access to the site, for use by the operator or for on-site review by Ecology or the local jurisdiction:

    a. General Permit

    b. Permit Coverage Letter

    c. Stormwater Pollution Prevention Plan (SWPPP)

    d. Site Log Book

    e. Erosivity Waiver (if applicable)

2. The Permittee must address written requests for plans and records listed above (Special Condition S5.G.1) as follows:

    a. The Permittee must provide a copy of plans and records to Ecology within 14 days of receipt of a written request from Ecology.

    b. The Permittee must provide a copy of plans and records to the public when requested in writing. Upon receiving a written request from the public for the Permittee's plans and records, the Permittee must either:

        i. Provide a copy of the plans and records to the requester within 14 days of a receipt of the written request; *or*

        ii. Notify the requester within 10 days of receipt of the written request of the location and times within normal business hours when the plans and records may be viewed; and provide access to the plans and records within 14 days of receipt of the written request; *or*

            Within 14 days of receipt of the written request, the Permittee may submit a copy of the plans and records to Ecology for viewing and/or copying by the requester at an Ecology office, or a mutually agreed location. If plans and records are viewed and/or copied at a location other than at an Ecology office, the Permittee will provide reasonable access to copying services for which a reasonable fee may be charged. The Permittee must notify the requester within 10 days of receipt of the request where the plans and records may be viewed and/or copied.

S6. PERMIT FEES

The Permittee must pay permit fees assessed by Ecology. Fees for stormwater discharges covered under this permit are established by Chapter 173-224 WAC. Ecology continues to assess permit fees until the permit is terminated in accordance with Special Condition S10 or revoked in accordance with General Condition G5.

S7. SOLID AND LIQUID WASTE DISPOSAL

The Permittee must handle and dispose of solid and liquid wastes generated by construction activity, such as demolition debris, construction materials, contaminated materials, and waste materials from maintenance activities, including liquids and solids from cleaning catch basins and other stormwater facilities, in accordance with:

A. Special Condition S3, Compliance with Standards.

B. WAC 173-216-110.

C. Other applicable regulations.

S8. DISCHARGES TO 303(d) OR TMDL WATERBODIES

A. Sampling and Numeric Effluent Limits For Certain Discharges to 303(d)-Listed Water Bodies

1. Permittees who discharge to segments of water bodies listed as impaired by the State of Washington under Section 303(d) of the Clean Water Act for turbidity, fine sediment, high pH, or phosphorus, must conduct water quality sampling according to the requirements of this section, and Special Conditions S4.C.2.b-f and S4.C.3.b-d, and must comply with the applicable numeric effluent limitations in S8.C and S8.D.

2. All references and requirements associated with Section 303(d) of the Clean Water Act mean the most current listing by Ecology of impaired waters (Category 5) that exists on January 1, 2021, or the date when the operator's complete permit application is received by Ecology, whichever is later.

B. Limits on Coverage for New Discharges to TMDL or 303(d)-Listed Waters

Construction sites that discharge to a TMDL or 303(d)-listed waterbody are not eligible for coverage under this permit *unless* the operator:

1. Prevents exposing stormwater to pollutants for which the waterbody is impaired, and retains documentation in the SWPPP that details procedures taken to prevent exposure on site; *or*

2. Documents that the pollutants for which the waterbody is impaired are not present at the site, and retains documentation of this finding within the SWPPP; *or*

3. Provides Ecology with data indicating the discharge is not expected to cause or contribute to an exceedance of a water quality standard, and retains such data on site with the SWPPP. The operator must provide data and other technical information to Ecology that sufficiently demonstrate:

    a. For discharges to waters without an EPA-approved or -established TMDL, that the discharge of the pollutant for which the water is impaired will meet in-stream water quality criteria at the point of discharge to the waterbody; *or*

    b. For discharges to waters with an EPA-approved or -established TMDL, that there is sufficient remaining wasteload allocation in the TMDL to allow construction stormwater discharge and that existing dischargers to the waterbody are subject to compliance schedules designed to bring the waterbody into attainment with water quality standards.

    Operators of construction sites are eligible for coverage under this permit only after Ecology makes an affirmative determination that the *discharge will not cause or contribute to the existing impairment or exceed the TMDL.*

C. Sampling and Numeric Effluent Limits for Discharges to Water Bodies on the 303(d) List for Turbidity, Fine Sediment, or Phosphorus

1. Permittees who discharge to segments of water bodies on the 303(d) list (Category 5) for turbidity, fine sediment, or phosphorus must conduct turbidity sampling in accordance with Special Condition S4.C.2 and comply with either of the numeric effluent limits noted in Table 5 below.

2. As an alternative to the 25 NTUs effluent limit noted in Table 5 below (applied at the point where stormwater [or authorized non-stormwater] is discharged off-site), Permittees may choose to comply with the surface water quality standard for turbidity. The standard is: no more than 5 NTUs over background turbidity when the background turbidity is 50 NTUs or less, or no more than a 10% increase in turbidity when the background turbidity is more than 50 NTUs. In order to use the water quality standard requirement, the sampling must take place at the following locations:

    a. Background turbidity in the 303(d)-listed receiving water immediately upstream (upgradient) or outside the area of influence of the discharge.

    b. Turbidity at the point of discharge into the 303(d)-listed receiving water, inside the area of influence of the discharge**.**

3. Discharges that exceed the numeric effluent limit for turbidity constitute a violation of this permit.

4. Permittees whose discharges exceed the numeric effluent limit must sample discharges daily until the violation is corrected and comply with the non-compliance notification requirements in Special Condition S5.F.

Table 5 Turbidity, Fine Sediment & Phosphorus Sampling and Limits for 303(d)-Listed Waters

Parameter identified in 303(d) listing	Parameter Sampled	Unit	Analytical Method	Sampling Frequency	Numeric Effluent Limit[1]
• Turbidity • Fine Sediment • Phosphorus	Turbidity	NTU	SM2130	Weekly, if discharging	25 NTUs, at the point where stormwater is discharged from the site; ***OR*** In compliance with the surface water quality standard for turbidity (S8.C.2.a)

[1] Permittees subject to a numeric effluent limit for turbidity may, at their discretion, choose either numeric effluent limitation based on site-specific considerations including, but not limited to, safety, access and convenience.

D. Discharges to Water Bodies on the 303(d) List for High pH

1. Permittees who discharge to segments of water bodies on the 303(d) list (Category 5) for high pH must conduct pH sampling in accordance with the table below, and comply with the numeric effluent limit of pH 6.5 to 8.5 su (Table 6).

Table 6 pH Sampling and Limits for 303(d)-Listed Waters

Parameter identified in 303(d) listing	Parameter Sampled/Units	Analytical Method	Sampling Frequency	Numeric Effluent Limit
High pH	pH /Standard Units	pH meter	Weekly, if discharging	In the range of 6.5 – 8.5 su

2. At the Permittee's discretion, compliance with the limit shall be assessed at one of the following locations:

   a. Directly in the 303(d)-listed waterbody segment, inside the immediate area of influence of the discharge; *or*

   b. Alternatively, the Permittee may measure pH at the point where the discharge leaves the construction site, rather than in the receiving water.

3. Discharges that exceed the numeric effluent limit for pH (outside the range of 6.5 – 8.5 su) constitute a violation of this permit.

4. Permittees whose discharges exceed the numeric effluent limit must sample discharges daily until the violation is corrected and comply with the non-compliance notification requirements in Special Condition S5.F.

E. Sampling and Limits for Sites Discharging to Waters Covered by a TMDL or another Pollution Control Plan

1. Discharges to a waterbody that is subject to a Total Maximum Daily Load (TMDL) for turbidity, fine sediment, high pH, or phosphorus must be consistent with the TMDL. Refer to http://www.ecy.wa.gov/programs/wq/tmdl/TMDLsbyWria/TMDLbyWria.html for more information on TMDLs.

    a. Where an applicable TMDL sets specific waste load allocations or requirements for discharges covered by this permit, discharges must be consistent with any specific waste load allocations or requirements established by the applicable TMDL.

        i. The Permittee must sample discharges weekly, unless otherwise specified by the TMDL, to evaluate compliance with the specific waste load allocations or requirements.

        ii. Analytical methods used to meet the monitoring requirements must conform to the latest revision of the *Guidelines Establishing Test Procedures for the Analysis of Pollutants* contained in 40 CFR Part 136.

        iii. Turbidity and pH methods need not be accredited or registered unless conducted at a laboratory which must otherwise be accredited or registered.

    b. Where an applicable TMDL has established a general waste load allocation for construction stormwater discharges, but has not identified specific requirements, compliance with Special Conditions S4 (Monitoring) and S9 (SWPPPs) will constitute compliance with the approved TMDL.

    c. Where an applicable TMDL has not specified a waste load allocation for construction stormwater discharges, but has not excluded these discharges, compliance with Special Conditions S4 (Monitoring) and S9 (SWPPPs) will constitute compliance with the approved TMDL.

    d. Where an applicable TMDL specifically precludes or prohibits discharges from construction activity, the operator is not eligible for coverage under this permit.

S9. STORMWATER POLLUTION PREVENTION PLAN

The Permittee must prepare and properly implement an adequate Stormwater Pollution Prevention Plan (SWPPP) for construction activity in accordance with the requirements of this permit beginning with initial soil disturbance and until final stabilization.

A. The Permittee's SWPPP must meet the following objectives:

1. To identify best management practices (BMPs) which prevent erosion and sedimentation, and to reduce, eliminate or prevent stormwater contamination and water pollution from construction activity.

2. To prevent violations of surface water quality, groundwater quality, or sediment management standards.

3. To control peak volumetric flow rates and velocities of stormwater discharges.

B. General Requirements

1. The SWPPP must include a narrative and drawings. All BMPs must be clearly referenced in the narrative and marked on the drawings. The SWPPP narrative must include documentation to explain and justify the pollution prevention decisions made for the project. Documentation must include:

    a. Information about existing site conditions (topography, drainage, soils, vegetation, etc.).

    b. Potential erosion problem areas.

    c. The 13 elements of a SWPPP in Special Condition S9.D.1-13, including BMPs used to address each element.

    d. Construction phasing/sequence and general BMP implementation schedule.

    e. The actions to be taken if BMP performance goals are not achieved—for example, a contingency plan for additional treatment and/or storage of stormwater that would violate the water quality standards if discharged.

    f. Engineering calculations for ponds, treatment systems, and any other designed structures. When a treatment system requires engineering calculations, these calculations must be included in the SWPPP. Engineering calculations do not need to be included in the SWPPP for treatment systems that do not require such calculations.

2. The Permittee must modify the SWPPP if, during inspections or investigations conducted by the owner/operator, or the applicable local or state regulatory authority, it is determined that the SWPPP is, or would be, ineffective in eliminating or significantly minimizing pollutants in stormwater discharges from the site. The Permittee must then:

    a. Review the SWPPP for compliance with Special Condition S9 and make appropriate revisions within 7 days of the inspection or investigation.

    b. Immediately begin the process to fully implement and maintain appropriate source control and/or treatment BMPs as soon as possible, addressing the problems no later than 10 days from the inspection or investigation. If installation of necessary treatment BMPs is not feasible within 10 days, Ecology may approve additional time when an extension is requested by a Permittee within the initial 10-day response period.

    c. Document BMP implementation and maintenance in the site log book.

    The Permittee must modify the SWPPP whenever there is a change in design, construction, operation, or maintenance at the construction site that has, or could have, a significant effect on the discharge of pollutants to waters of the State.

C. Stormwater Best Management Practices (BMPs)

BMPs must be consistent with:

1. *Stormwater Management Manual for Western Washington* (most current approved edition at the time this permit was issued), for sites west of the crest of the Cascade Mountains; *or*

2. *Stormwater Management Manual for Eastern Washington* (most current approved edition at the time this permit was issued), for sites east of the crest of the Cascade Mountains; *or*

3. Revisions to the manuals listed in Special Condition S9.C.1 & 2, or other stormwater management guidance documents or manuals which provide an equivalent level of pollution prevention, that are approved by Ecology and incorporated into this permit in accordance with the permit modification requirements of WAC 173-226-230; *or*

4. Documentation in the SWPPP that the BMPs selected provide an equivalent level of pollution prevention, compared to the applicable stormwater management manuals, including:

    a. The technical basis for the selection of all stormwater BMPs (scientific, technical studies, and/or modeling) that support the performance claims for the BMPs being selected.

    b. An assessment of how the selected BMP will satisfy AKART requirements and the applicable federal technology-based treatment requirements under 40 CFR part 125.3.

D. SWPPP – Narrative Contents and Requirements

The Permittee must include each of the 13 elements below in Special Condition S9.D.1-13 in the narrative of the SWPPP and implement them unless site conditions render the element unnecessary and the exemption from that element is clearly justified in the SWPPP.

1. Preserve Vegetation/Mark Clearing Limits

    a. Before beginning land-disturbing activities, including clearing and grading, clearly mark all clearing limits, sensitive areas and their buffers, and trees that are to be preserved within the construction area.

    b. Retain the duff layer, native topsoil, and natural vegetation in an undisturbed state to the maximum degree practicable.

2. Establish Construction Access

    a. Limit construction vehicle access and exit to one route, if possible.

    b. Stabilize access points with a pad of quarry spalls, crushed rock, or other equivalent BMPs, to minimize tracking sediment onto roads.

    c. Locate wheel wash or tire baths on site, if the stabilized construction entrance is not effective in preventing tracking sediment onto roads.

    d. If sediment is tracked off site, clean the affected roadway thoroughly at the end of each day, or more frequently as necessary (for example, during wet weather). Remove sediment from roads by shoveling, sweeping, or pickup and transport of the sediment to a controlled sediment disposal area.

    e. Conduct street washing only after sediment removal in accordance with Special Condition S9.D.2.d.

    f. Control street wash wastewater by pumping back on site or otherwise preventing it from discharging into systems tributary to waters of the State.

3. Control Flow Rates

    a. Protect properties and waterways downstream of construction sites from erosion and the associated discharge of turbid waters due to increases in the velocity and peak volumetric flow rate of stormwater runoff from the project site, as required by local plan approval authority.

    b. Where necessary to comply with Special Condition S9.D.3.a, construct stormwater infiltration or detention BMPs as one of the first steps in grading. Assure that detention BMPs function properly before constructing site improvements (for example, impervious surfaces).

    c. If permanent infiltration ponds are used for flow control during construction, protect these facilities from sedimentation during the construction phase.

4. Install Sediment Controls

    The Permittee must design, install and maintain effective erosion controls and sediment controls to minimize the discharge of pollutants. At a minimum, the Permittee must:

    a. Construct sediment control BMPs (sediment ponds, traps, filters, infiltration facilities, etc.) as one of the first steps in grading. These BMPs must be functional before other land disturbing activities take place.

    b. Minimize sediment discharges from the site. The design, installation and maintenance of erosion and sediment controls must address factors such as the amount, frequency, intensity and duration of precipitation, the nature of resulting stormwater runoff, and soil characteristics, including the range of soil particle sizes expected to be present on the site.

    c. Direct stormwater runoff from disturbed areas through a sediment pond or other appropriate sediment removal BMP, before the runoff leaves a construction site or before discharge to an infiltration facility. Runoff from fully stabilized areas may be discharged without a sediment removal BMP, but must meet the flow control performance standard of Special Condition S9.D.3.a.

    d. Locate BMPs intended to trap sediment on site in a manner to avoid interference with the movement of juvenile salmonids attempting to enter off-channel areas or drainages.

    e. Provide and maintain natural buffers around surface waters, direct stormwater to vegetated areas to increase sediment removal and maximize stormwater infiltration, unless infeasible.

    f. Where feasible, design outlet structures that withdraw impounded stormwater from the surface to avoid discharging sediment that is still suspended lower in the water column.

5. Stabilize Soils

    a. The Permittee must stabilize exposed and unworked soils by application of effective BMPs that prevent erosion. Applicable BMPs include, but are not limited to: temporary and permanent seeding, sodding, mulching, plastic covering, erosion

control fabrics and matting, soil application of polyacrylamide (PAM), the early application of gravel base on areas to be paved, and dust control.

b. The Permittee must control stormwater volume and velocity within the site to minimize soil erosion.

c. The Permittee must control stormwater discharges, including both peak flow rates and total stormwater volume, to minimize erosion at outlets and to minimize downstream channel and stream bank erosion.

d. Depending on the geographic location of the project, the Permittee must not allow soils to remain exposed and unworked for more than the time periods set forth below to prevent erosion.

West of the Cascade Mountains Crest
During the dry season (May 1 - September 30): 7 days
During the wet season (October 1 - April 30): 2 days

East of the Cascade Mountains Crest, except for Central Basin*
During the dry season (July 1 - September 30): 10 days
During the wet season (October 1 - June 30): 5 days

The Central Basin*, East of the Cascade Mountains Crest
During the dry Season (July 1 - September 30): 30 days
During the wet season (October 1 - June 30): 15 days

***Note: The Central Basin** is defined as the portions of Eastern Washington with mean annual precipitation of less than 12 inches.

e. The Permittee must stabilize soils at the end of the shift before a holiday or weekend if needed based on the weather forecast.

f. The Permittee must stabilize soil stockpiles from erosion, protected with sediment trapping measures, and where possible, be located away from storm drain inlets, waterways, and drainage channels.

g. The Permittee must minimize the amount of soil exposed during construction activity.

h. The Permittee must minimize the disturbance of steep slopes.

i. The Permittee must minimize soil compaction and, unless infeasible, preserve topsoil.

6. Protect Slopes

a. The Permittee must design and construct cut-and-fill slopes in a manner to minimize erosion. Applicable practices include, but are not limited to, reducing continuous length of slope with terracing and diversions, reducing slope steepness, and roughening slope surfaces (for example, track walking).

b. The Permittee must divert off-site stormwater (run-on) or groundwater away from slopes and disturbed areas with interceptor dikes, pipes, and/or swales. Off-site stormwater should be managed separately from stormwater generated on the site.

c. At the top of slopes, collect drainage in pipe slope drains or protected channels to prevent erosion.

i. West of the Cascade Mountains Crest: Temporary pipe slope drains must handle the peak 10-minute flow rate from a Type 1A, 10-year, 24-hour frequency storm for the developed condition. Alternatively, the 10-year, 1-hour flow rate predicted by an approved continuous runoff model, increased by a factor of 1.6, may be used. The hydrologic analysis must use the existing land cover condition for predicting flow rates from tributary areas outside the project limits. For tributary areas on the project site, the analysis must use the temporary or permanent project land cover condition, whichever will produce the highest flow rates. If using the Western Washington Hydrology Model (WWHM) to predict flows, bare soil areas should be modeled as "landscaped area."

ii. East of the Cascade Mountains Crest: Temporary pipe slope drains must handle the expected peak flow rate from a 6-month, 3-hour storm for the developed condition, referred to as the short duration storm.

d. Place excavated material on the uphill side of trenches, consistent with safety and space considerations.

e. Place check dams at regular intervals within constructed channels that are cut down a slope.

7. Protect Drain Inlets

a. Protect all storm drain inlets made operable during construction so that stormwater runoff does not enter the conveyance system without first being filtered or treated to remove sediment.

b. Clean or remove and replace inlet protection devices when sediment has filled one-third of the available storage (unless a different standard is specified by the product manufacturer).

8. Stabilize Channels and Outlets

a. Design, construct and stabilize all on-site conveyance channels to prevent erosion from the following expected peak flows:

i. West of the Cascade Mountains Crest: Channels must handle the peak 10-minute flow rate from a Type 1A, 10-year, 24-hour frequency storm for the developed condition. Alternatively, the 10-year, 1-hour flow rate indicated by an approved continuous runoff model, increased by a factor of 1.6, may be used. The hydrologic analysis must use the existing land cover condition for predicting flow rates from tributary areas outside the project limits. For tributary areas on the project site, the analysis must use the temporary or permanent project land cover condition, whichever will produce the highest flow rates. If using the WWHM to predict flows, bare soil areas should be modeled as "landscaped area."

ii. East of the Cascade Mountains Crest: Channels must handle the expected peak flow rate from a 6-month, 3-hour storm for the developed condition, referred to as the short duration storm.

b. Provide stabilization, including armoring material, adequate to prevent erosion of outlets, adjacent stream banks, slopes, and downstream reaches at the outlets of all conveyance systems.

9. Control Pollutants

Design, install, implement and maintain effective pollution prevention measures to minimize the discharge of pollutants. The Permittee must:

a. Handle and dispose of all pollutants, including waste materials and demolition debris that occur on site in a manner that does not cause contamination of stormwater.

b. Provide cover, containment, and protection from vandalism for all chemicals, liquid products, petroleum products, and other materials that have the potential to pose a threat to human health or the environment. Minimize storage of hazardous materials on-site. Safety Data Sheets (SDS) should be supplied for all materials stored. Chemicals should be kept in their original labeled containers. On-site fueling tanks must include secondary containment. Secondary containment means placing tanks or containers within an impervious structure capable of containing 110% of the volume of the largest tank within the containment structure. Double-walled tanks do not require additional secondary containment.

c. Conduct maintenance, fueling, and repair of heavy equipment and vehicles using spill prevention and control measures. Clean contaminated surfaces immediately following any spill incident.

d. Discharge wheel wash or tire bath wastewater to a separate on-site treatment system that prevents discharge to surface water, such as closed-loop recirculation or upland land application, or to the sanitary sewer with local sewer district approval.

e. Apply fertilizers and pesticides in a manner and at application rates that will not result in loss of chemical to stormwater runoff. Follow manufacturers' label requirements for application rates and procedures.

f. Use BMPs to prevent contamination of stormwater runoff by pH-modifying sources. The sources for this contamination include, but are not limited to: bulk cement, cement kiln dust, fly ash, new concrete washing and curing waters, recycled concrete stockpiles, waste streams generated from concrete grinding and sawing, exposed aggregate processes, dewatering concrete vaults, concrete pumping and mixer washout waters. (Also refer to the definition for "concrete wastewater" in Appendix A – Definitions.)

g. Adjust the pH of stormwater or authorized non-stormwater if necessary to prevent an exceedance of groundwater and/or surface water quality standards.

h. Assure that washout of concrete trucks is performed off-site or in designated concrete washout areas only. Do not wash out concrete truck drums onto the ground, or into storm drains, open ditches, streets, or streams. Washout of small concrete handling equipment may be disposed of in a formed area awaiting concrete where it will not contaminate surface or groundwater. Do not dump excess concrete on site, except in designated concrete washout areas. Concrete spillage or concrete discharge directly to groundwater or surface waters of the State is

prohibited. At no time shall concrete be washed off into the footprint of an area where an infiltration BMP will be installed.

i. Obtain written approval from Ecology before using any chemical treatment, with the exception of CO_2, dry ice or food grade vinegar, to adjust pH.

j. Uncontaminated water from water-only based shaft drilling for construction of building, road, and bridge foundations may be infiltrated provided the wastewater is managed in a way that prohibits discharge to surface waters. Prior to infiltration, water from water-only based shaft drilling that comes into contact with curing concrete must be neutralized until pH is in the range of 6.5 to 8.5 (su).

10. Control Dewatering

a. Permittees must discharge foundation, vault, and trench dewatering water, which have characteristics similar to stormwater runoff at the site, in conjunction with BMPs to reduce sedimentation before discharge to a sediment trap or sediment pond.

b. Permittees may discharge clean, non-turbid dewatering water, such as well-point groundwater, to systems tributary to, or directly into surface waters of the State, as specified in Special Condition S9.D.8, provided the dewatering flow does not cause erosion or flooding of receiving waters. Do not route clean dewatering water through stormwater sediment ponds. Note that "surface waters of the State" may exist on a construction site as well as off site; for example, a creek running through a site.

c. Other dewatering treatment or disposal options may include:

i. Infiltration

ii. Transport off site in a vehicle, such as a vacuum flush truck, for legal disposal in a manner that does not pollute state waters.

iii. Ecology-approved on-site chemical treatment or other suitable treatment technologies (See S9.D.9.i, regarding chemical treatment written approval).

iv. Sanitary or combined sewer discharge with local sewer district approval, if there is no other option.

v. Use of a sedimentation bag with discharge to a ditch or swale for small volumes of localized dewatering.

d. Permittees must handle highly turbid or contaminated dewatering water separately from stormwater.

11. Maintain BMPs

a. Permittees must maintain and repair all temporary and permanent erosion and sediment control BMPs as needed to assure continued performance of their intended function in accordance with BMP specifications.

b. Permittees must remove all temporary erosion and sediment control BMPs within 30 days after achieving final site stabilization or after the temporary BMPs are no longer needed.

12. Manage the Project

    a. Phase development projects to the maximum degree practicable and take into account seasonal work limitations.

    b. Inspect, maintain and repair all BMPs as needed to assure continued performance of their intended function. Conduct site inspections and monitoring in accordance with Special Condition S4.

    c. Maintain, update, and implement the SWPPP in accordance with Special Conditions S3, S4, and S9.

13. Protect Low Impact Development (LID) BMPs

    The primary purpose of on-site LID Stormwater Management is to reduce the disruption of the natural site hydrology through infiltration. LID BMPs are permanent facilities.

    a. Permittees must protect all LID BMPs (including, but not limited to, Bioretention and Rain Garden facilities) from sedimentation through installation and maintenance of erosion and sediment control BMPs on portions of the site that drain into the Bioretention and/or Rain Garden facilities. Restore the BMPs to their fully functioning condition if they accumulate sediment during construction. Restoring the facility must include removal of sediment and any sediment-laden bioretention/ rain garden soils, and replacing the removed soils with soils meeting the design specification.

    b. Permittees must maintain the infiltration capabilities of LID BMPs by protecting against compaction by construction equipment and foot traffic. Protect completed lawn and landscaped areas from compaction due to construction equipment.

    c. Permittees must control erosion and avoid introducing sediment from surrounding land uses onto permeable pavements. Do not allow muddy construction equipment on the base material or pavement. Do not allow sediment-laden runoff onto permeable pavements or base materials.

    d. Permittees must clean permeable pavements fouled with sediments or no longer passing an initial infiltration test using local stormwater manual methodology or the manufacturer's procedures.

    e. Permittees must keep all heavy equipment off existing soils under LID BMPs that have been excavated to final grade to retain the infiltration rate of the soils.

E. SWPPP – Map Contents and Requirements

The Permittee's SWPPP must also include a vicinity map or general location map (for example, a USGS quadrangle map, a portion of a county or city map, or other appropriate map) with enough detail to identify the location of the construction site and receiving waters within one mile of the site.

The SWPPP must also include a legible site map (or maps) showing the entire construction site. The following features must be identified, unless not applicable due to site conditions.

1. The direction of north, property lines, and existing structures and roads.

2. Cut and fill slopes indicating the top and bottom of slope catch lines.

3. Approximate slopes, contours, and direction of stormwater flow before and after major grading activities.

4. Areas of soil disturbance and areas that will not be disturbed.

5. Locations of structural and nonstructural controls (BMPs) identified in the SWPPP.

6. Locations of off-site material, stockpiles, waste storage, borrow areas, and vehicle/equipment storage areas.

7. Locations of all surface water bodies, including wetlands.

8. Locations where stormwater or non-stormwater discharges off-site and/or to a surface waterbody, including wetlands.

9. Location of water quality sampling station(s), if sampling is required by state or local permitting authority.

10. Areas where final stabilization has been accomplished and no further construction-phase permit requirements apply.

11. Location or proposed location of LID facilities.

S10. NOTICE OF TERMINATION

Partial terminations of permit coverage are not authorized.

A. The site is eligible for termination of coverage when it has met any of the following conditions:

1. The site has undergone final stabilization, the Permittee has removed all temporary BMPs (except biodegradable BMPs clearly manufactured with the intention for the material to be left in place and not interfere with maintenance or land use), and all stormwater discharges associated with construction activity have been eliminated; *or*

2. All portions of the site that have not undergone final stabilization per Special Condition S10.A.1 have been sold and/or transferred (per Special Condition S2.A), and the Permittee no longer has operational control of the construction activity; *or*

3. For residential construction only, the Permittee has completed temporary stabilization and the homeowners have taken possession of the residences.

B. When the site is eligible for termination, the Permittee must submit a complete and accurate Notice of Termination (NOT) form, signed in accordance with General Condition G2, to:

Department of Ecology
Water Quality Program - Construction Stormwater
PO Box 47696
Olympia, WA 98504-7696

When an electronic termination form is available, the Permittee may choose to submit a complete and accurate Notice of Termination (NOT) form through the Water Quality Permitting Portal rather than mailing a hardcopy as noted above.

The termination is effective on the 31st calendar day following the date Ecology receives a complete NOT form, unless Ecology notifies the Permittee that termination request is denied because the Permittee has not met the eligibility requirements in Special Condition S10.A.

Permittees are required to comply with all conditions and effluent limitations in the permit until the permit has been terminated.

Permittees transferring the property to a new property owner or operator/Permittee are required to complete and submit the Notice of Transfer form to Ecology, but are not required to submit a Notice of Termination form for this type of transaction.

GENERAL CONDITIONS

G1. DISCHARGE VIOLATIONS

All discharges and activities authorized by this general permit must be consistent with the terms and conditions of this general permit. Any discharge of any pollutant more frequent than or at a level in excess of that identified and authorized by the general permit must constitute a violation of the terms and conditions of this permit.

G2. SIGNATORY REQUIREMENTS

A. All permit applications must bear a certification of correctness to be signed:

1. In the case of corporations, by a responsible corporate officer.
2. In the case of a partnership, by a general partner of a partnership.
3. In the case of sole proprietorship, by the proprietor.
4. In the case of a municipal, state, or other public facility, by either a principal executive officer or ranking elected official.

B. All reports required by this permit and other information requested by Ecology (including NOIs, NOTs, and Transfer of Coverage forms) must be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:

1. The authorization is made in writing by a person described above and submitted to Ecology.
2. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility, such as the position of plant manager, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters.

C. Changes to authorization. If an authorization under paragraph G2.B.2 above is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of paragraph G2.B.2 above must be submitted to Ecology prior to or together with any reports, information, or applications to be signed by an authorized representative.

D. Certification. Any person signing a document under this section must make the following certification:

I certify under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

G3. RIGHT OF INSPECTION AND ENTRY

The Permittee must allow an authorized representative of Ecology, upon the presentation of credentials and such other documents as may be required by law:

A. To enter upon the premises where a discharge is located or where any records are kept under the terms and conditions of this permit.

B. To have access to and copy, at reasonable times and at reasonable cost, any records required to be kept under the terms and conditions of this permit.

C. To inspect, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, methods, or operations regulated or required under this permit.

D. To sample or monitor, at reasonable times, any substances or parameters at any location for purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act.

G4. GENERAL PERMIT MODIFICATION AND REVOCATION

This permit may be modified, revoked and reissued, or terminated in accordance with the provisions of Chapter 173-226 WAC. Grounds for modification, revocation and reissuance, or termination include, but are not limited to, the following:

A. When a change occurs in the technology or practices for control or abatement of pollutants applicable to the category of dischargers covered under this permit.

B. When effluent limitation guidelines or standards are promulgated pursuant to the CWA or Chapter 90.48 RCW, for the category of dischargers covered under this permit.

C. When a water quality management plan containing requirements applicable to the category of dischargers covered under this permit is approved, or

D. When information is obtained that indicates cumulative effects on the environment from dischargers covered under this permit are unacceptable.

G5. REVOCATION OF COVERAGE UNDER THE PERMIT

Pursuant to Chapter 43.21B RCW and Chapter 173-226 WAC, the Director may terminate coverage for any discharger under this permit for cause. Cases where coverage may be terminated include, but are not limited to, the following:

A. Violation of any term or condition of this permit.

B. Obtaining coverage under this permit by misrepresentation or failure to disclose fully all relevant facts.

C. A change in any condition that requires either a temporary or permanent reduction or elimination of the permitted discharge.

D. Failure or refusal of the Permittee to allow entry as required in RCW 90.48.090.

E. A determination that the permitted activity endangers human health or the environment, or contributes to water quality standards violations.

F. Nonpayment of permit fees or penalties assessed pursuant to RCW 90.48.465 and Chapter 173-224 WAC.

G. Failure of the Permittee to satisfy the public notice requirements of WAC 173-226-130(5), when applicable.

The Director may require any discharger under this permit to apply for and obtain coverage under an individual permit or another more specific general permit. Permittees who have their coverage revoked for cause according to WAC 173-226-240 may request temporary coverage under this permit during the time an individual permit is being developed, provided the request is made within ninety (90) days from the time of revocation and is submitted along with a complete individual permit application form.

G6. REPORTING A CAUSE FOR MODIFICATION

The Permittee must submit a new application, or a supplement to the previous application, whenever a material change to the construction activity or in the quantity or type of discharge is anticipated which is not specifically authorized by this permit. This application must be submitted at least sixty (60) days prior to any proposed changes. Filing a request for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not relieve the Permittee of the duty to comply with the existing permit until it is modified or reissued.

G7. COMPLIANCE WITH OTHER LAWS AND STATUTES

Nothing in this permit will be construed as excusing the Permittee from compliance with any applicable federal, state, or local statutes, ordinances, or regulations.

G8. DUTY TO REAPPLY

The Permittee must apply for permit renewal at least 180 days prior to the specified expiration date of this permit. The Permittee must reapply using the electronic application form (NOI) available on Ecology's website. Permittees unable to submit electronically (for example, those who do not have an internet connection) must contact Ecology to request a waiver and obtain instructions on how to obtain a paper NOI.

Department of Ecology
Water Quality Program - Construction Stormwater
PO Box 47696
Olympia, WA 98504-7696

G9. REMOVED SUBSTANCE

The Permittee must not re-suspend or reintroduce collected screenings, grit, solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of stormwater to the final effluent stream for discharge to state waters.

G10. DUTY TO PROVIDE INFORMATION

The Permittee must submit to Ecology, within a reasonable time, all information that Ecology may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The Permittee must also submit to Ecology, upon request, copies of records required to be kept by this permit [40 CFR 122.41(h)].

G11. OTHER REQUIREMENTS OF 40 CFR

All other requirements of 40 CFR 122.41 and 122.42 are incorporated in this permit by reference.

G12. ADDITIONAL MONITORING

Ecology may establish specific monitoring requirements in addition to those contained in this permit by administrative order or permit modification.

G13. PENALTIES FOR VIOLATING PERMIT CONDITIONS

Any person who is found guilty of willfully violating the terms and conditions of this permit shall be deemed guilty of a crime, and upon conviction thereof shall be punished by a fine of up to ten thousand dollars ($10,000) and costs of prosecution, or by imprisonment at the discretion of the court. Each day upon which a willful violation occurs may be deemed a separate and additional violation.

Any person who violates the terms and conditions of a waste discharge permit shall incur, in addition to any other penalty as provided by law, a civil penalty in the amount of up to ten thousand dollars ($10,000) for every such violation. Each and every such violation shall be a separate and distinct offense, and in case of a continuing violation, every day's continuance shall be deemed to be a separate and distinct violation.

G14. UPSET

Definition – "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the Permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

An upset constitutes an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the requirements of the following paragraph are met.

A Permittee who wishes to establish the affirmative defense of upset must demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence that: 1) an upset occurred and that the Permittee can identify the cause(s) of the upset; 2) the permitted facility was being properly operated at the time of the upset; 3) the Permittee submitted notice of the upset as required in Special Condition S5.F, and; 4) the Permittee complied with any remedial measures required under this permit.

In any enforcement proceeding, the Permittee seeking to establish the occurrence of an upset has the burden of proof.

G15. PROPERTY RIGHTS

This permit does not convey any property rights of any sort, or any exclusive privilege.

G16. DUTY TO COMPLY

The Permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Clean Water Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.

G17. TOXIC POLLUTANTS

The Permittee must comply with effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants within the time provided in the regulations that establish those standards or prohibitions, even if this permit has not yet been modified to incorporate the requirement.

G18. PENALTIES FOR TAMPERING

The Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than two years per violation, or by both. If a conviction of a person is for a violation committed after a first conviction of such person under this condition, punishment shall be a fine of not more than $20,000 per day of violation, or imprisonment of not more than four (4) years, or both.

G19. REPORTING PLANNED CHANGES

The Permittee must, as soon as possible, give notice to Ecology of planned physical alterations, modifications or additions to the permitted construction activity. The Permittee should be aware that, depending on the nature and size of the changes to the original permit, a new public notice and other permit process requirements may be required. Changes in activities that require reporting to Ecology include those that will result in:

A. The permitted facility being determined to be a new source pursuant to 40 CFR 122.29(b).

B. A significant change in the nature or an increase in quantity of pollutants discharged, including but not limited to: a 20% or greater increase in acreage disturbed by construction activity.

C. A change in or addition of surface water(s) receiving stormwater or non-stormwater from the construction activity.

D. A change in the construction plans and/or activity that affects the Permittee's monitoring requirements in Special Condition S4.

Following such notice, permit coverage may be modified, or revoked and reissued pursuant to 40 CFR 122.62(a) to specify and limit any pollutants not previously limited. Until such modification is effective, any new or increased discharge in excess of permit limits or not specifically authorized by this permit constitutes a violation.

G20. REPORTING OTHER INFORMATION

Where the Permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to Ecology, it must promptly submit such facts or information.

G21. REPORTING ANTICIPATED NON-COMPLIANCE

The Permittee must give advance notice to Ecology by submission of a new application or supplement thereto at least forty-five (45) days prior to commencement of such discharges, of any facility expansions, production increases, or other planned changes, such as process modifications, in the permitted facility or activity which may result in noncompliance with permit limits or conditions. Any maintenance of facilities, which might necessitate unavoidable interruption of

operation and degradation of effluent quality, must be scheduled during non-critical water quality periods and carried out in a manner approved by Ecology.

G22. REQUESTS TO BE EXCLUDED FROM COVERAGE UNDER THE PERMIT

Any discharger authorized by this permit may request to be excluded from coverage under the general permit by applying for an individual permit. The discharger must submit to the Director an application as described in WAC 173-220-040 or WAC 173-216-070, whichever is applicable, with reasons supporting the request. These reasons will fully document how an individual permit will apply to the applicant in a way that the general permit cannot. Ecology may make specific requests for information to support the request. The Director will either issue an individual permit or deny the request with a statement explaining the reason for the denial. When an individual permit is issued to a discharger otherwise subject to the construction stormwater general permit, the applicability of the construction stormwater general permit to that Permittee is automatically terminated on the effective date of the individual permit.

G23. APPEALS

A. The terms and conditions of this general permit, as they apply to the appropriate class of dischargers, are subject to appeal by any person within 30 days of issuance of this general permit, in accordance with Chapter 43.21B RCW, and Chapter 173-226 WAC.

B. The terms and conditions of this general permit, as they apply to an individual discharger, are appealable in accordance with Chapter 43.21B RCW within 30 days of the effective date of coverage of that discharger. Consideration of an appeal of general permit coverage of an individual discharger is limited to the general permit's applicability or nonapplicability to that individual discharger.

C. The appeal of general permit coverage of an individual discharger does not affect any other dischargers covered under this general permit. If the terms and conditions of this general permit are found to be inapplicable to any individual discharger(s), the matter shall be remanded to Ecology for consideration of issuance of an individual permit or permits.

G24. SEVERABILITY

The provisions of this permit are severable, and if any provision of this permit, or application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit shall not be affected thereby.

G25. BYPASS PROHIBITED

A. Bypass Procedures

Bypass, which is the intentional diversion of waste streams from any portion of a treatment facility, is prohibited for stormwater events below the design criteria for stormwater management. Ecology may take enforcement action against a Permittee for bypass unless one of the following circumstances (1, 2, 3 or 4) is applicable.

1. Bypass of stormwater is consistent with the design criteria and part of an approved management practice in the applicable stormwater management manual.

2. Bypass for essential maintenance without the potential to cause violation of permit limits or conditions.

Bypass is authorized if it is for essential maintenance and does not have the potential to cause violations of limitations or other conditions of this permit, or adversely impact public health.

3. Bypass of stormwater is unavoidable, unanticipated, and results in noncompliance of this permit.

   This bypass is permitted only if:

   a. Bypass is unavoidable to prevent loss of life, personal injury, or severe property damage. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which would cause them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass.

   b. There are no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, maintenance during normal periods of equipment downtime (but not if adequate backup equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventative maintenance), or transport of untreated wastes to another treatment facility.

   c. Ecology is properly notified of the bypass as required in Special Condition S5.F of this permit.

4. A planned action that would cause bypass of stormwater and has the potential to result in noncompliance of this permit during a storm event.

   The Permittee must notify Ecology at least thirty (30) days before the planned date of bypass. The notice must contain:

   a. A description of the bypass and its cause

   b. An analysis of all known alternatives which would eliminate, reduce, or mitigate the need for bypassing.

   c. A cost-effectiveness analysis of alternatives including comparative resource damage assessment.

   d. The minimum and maximum duration of bypass under each alternative.

   e. A recommendation as to the preferred alternative for conducting the bypass.

   f. The projected date of bypass initiation.

   g. A statement of compliance with SEPA.

   h. A request for modification of water quality standards as provided for in WAC 173-201A-110, if an exceedance of any water quality standard is anticipated.

   i. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the bypass.

5. For probable construction bypasses, the need to bypass is to be identified as early in the planning process as possible. The analysis required above must be considered during

preparation of the Stormwater Pollution Prevention Plan (SWPPP) and must be included to the extent practical. In cases where the probable need to bypass is determined early, continued analysis is necessary up to and including the construction period in an effort to minimize or eliminate the bypass.

Ecology will consider the following before issuing an administrative order for this type bypass:

a. If the bypass is necessary to perform construction or maintenance-related activities essential to meet the requirements of this permit.

b. If there are feasible alternatives to bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, stopping production, maintenance during normal periods of equipment down time, or transport of untreated wastes to another treatment facility.

c. If the bypass is planned and scheduled to minimize adverse effects on the public and the environment.

After consideration of the above and the adverse effects of the proposed bypass and any other relevant factors, Ecology will approve, conditionally approve, or deny the request. The public must be notified and given an opportunity to comment on bypass incidents of significant duration, to the extent feasible. Approval of a request to bypass will be by administrative order issued by Ecology under RCW 90.48.120.

B. Duty to Mitigate

The Permittee is required to take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit that has a reasonable likelihood of adversely affecting human health or the environment.

APPENDIX A – DEFINITIONS

AKART is an acronym for "**A**ll **K**nown, **A**vailable, and **R**easonable methods of prevention, control, and **T**reatment." AKART represents the most current methodology that can be reasonably required for preventing, controlling, or abating the pollutants and controlling pollution associated with a discharge.

Applicable TMDL means a TMDL for turbidity, fine sediment, high pH, or phosphorus, which was completed and approved by EPA before January 1, 2021, or before the date the operator's complete permit application is received by Ecology, whichever is later. TMDLs completed after a complete permit application is received by Ecology become applicable to the Permittee only if they are imposed through an administrative order by Ecology, or through a modification of permit coverage.

Applicant means an *operator* seeking coverage under this permit.

Benchmark means a pollutant concentration used as a permit threshold, below which a pollutant is considered unlikely to cause a water quality violation, and above which it may. When pollutant concentrations exceed benchmarks, corrective action requirements take effect. Benchmark values are not water quality standards and are not numeric effluent limitations; they are indicator values.

Best Management Practices (BMPs) means schedules of activities, prohibitions of practices, maintenance procedures, and other physical, structural and/or managerial practices to prevent or reduce the pollution of waters of the State. BMPs include treatment systems, operating procedures, and practices to control stormwater associated with construction activity, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

Buffer means an area designated by a local jurisdiction that is contiguous to and intended to protect a sensitive area.

Bypass means the intentional diversion of waste streams from any portion of a treatment facility.

Calendar Day A period of 24 consecutive hours starting at 12:00 midnight and ending the following 12:00 midnight.

Calendar Week (same as **Week**) means a period of seven consecutive days starting at 12:01 a.m. (0:01 hours) on Sunday.

Certified Erosion and Sediment Control Lead (CESCL) means a person who has current certification through an approved erosion and sediment control training program that meets the minimum training standards established by Ecology (See BMP C160 in the SWMM).

Chemical Treatment means the addition of chemicals to stormwater and/or authorized non-stormwater prior to filtration and discharge to surface waters.

Clean Water Act (CWA) means the Federal Water Pollution Control Act enacted by Public Law 92-500, as amended by Public Laws 95-217, 95-576, 96-483, and 97-117; USC 1251 et seq.

Combined Sewer means a sewer which has been designed to serve as a sanitary sewer and a storm sewer, and into which inflow is allowed by local ordinance.

Common Plan of Development or Sale means a site where multiple separate and distinct construction activities may be taking place at different times on different schedules and/or by different contractors, but still under a single plan. Examples include: 1) phased projects and projects with multiple filings or lots, even if the separate phases or filings/lots will be constructed under separate contract or by separate owners (e.g., a development where lots are sold to separate builders); 2) a development plan that may be phased over multiple years, but is still under a consistent plan for long-term development; 3) projects in a contiguous area that may be unrelated but still under the same contract, such as construction of a building extension and a new parking lot at the same facility; and 4) linear projects such as roads, pipelines, or utilities. If the project is part of a common plan of development or sale, the disturbed area of the entire plan must be used in determining permit requirements.

Composite Sample means a mixture of grab samples collected at the same sampling point at different times, formed either by continuous sampling or by mixing discrete samples. May be "time-composite" (collected at constant time intervals) or "flow-proportional" (collected either as a constant sample volume at time intervals proportional to stream flow, or collected by increasing the volume of each aliquot as the flow increases while maintaining a constant time interval between the aliquots.

Concrete Wastewater means any water used in the production, pouring and/or clean-up of concrete or concrete products, and any water used to cut, grind, wash, or otherwise modify concrete or concrete products. Examples include water used for or resulting from concrete truck/mixer/pumper/tool/chute rinsing or washing, concrete saw cutting and surfacing (sawing, coring, grinding, roughening, hydro-demolition, bridge and road surfacing). When stormwater comingles with concrete wastewater, the resulting water is considered concrete wastewater and must be managed to prevent discharge to waters of the State, including groundwater.

Construction Activity means land disturbing operations including clearing, grading or excavation which disturbs the surface of the land (including off-site disturbance acreage related to construction-support activity). Such activities may include road construction, construction of residential houses, office buildings, or industrial buildings, site preparation, soil compaction, movement and stockpiling of topsoils, and demolition activity.

Construction Support Activity means off-site acreage that will be disturbed as a direct result of the construction project and will discharge stormwater. For example, off-site equipment staging yards, material storage areas, borrow areas, and parking areas.

Contaminant means any hazardous substance that does not occur naturally or occurs at greater than natural background levels. See definition of “hazardous substance” and WAC 173-340-200.

Contaminated soil means soil which contains contaminants, pollutants, or hazardous substances that do not occur naturally or occur at levels greater than natural background.

Contaminated groundwater means groundwater which contains contaminants, pollutants, or hazardous substances that do not occur naturally or occur at levels greater than natural background.

Demonstrably Equivalent means that the technical basis for the selection of all stormwater BMPs is documented within a SWPPP, including:

1. The method and reasons for choosing the stormwater BMPs selected.
2. The pollutant removal performance expected from the BMPs selected.

3. The technical basis supporting the performance claims for the BMPs selected, including any available data concerning field performance of the BMPs selected.
4. An assessment of how the selected BMPs will comply with state water quality standards.
5. An assessment of how the selected BMPs will satisfy both applicable federal technology-based treatment requirements and state requirements to use all known, available, and reasonable methods of prevention, control, and treatment (AKART).

Department means the Washington State Department of Ecology.

Detention means the temporary storage of stormwater to improve quality and/or to reduce the mass flow rate of discharge.

Dewatering means the act of pumping groundwater or stormwater away from an active construction site.

Director means the Director of the Washington State Department of Ecology or his/her authorized representative.

Discharger means an owner or operator of any facility or activity subject to regulation under Chapter 90.48 RCW or the Federal Clean Water Act.

Domestic Wastewater means water carrying human wastes, including kitchen, bath, and laundry wastes from residences, buildings, industrial establishments, or other places, together with such groundwater infiltration or surface waters as may be present.

Ecology means the Washington State Department of Ecology.

Engineered Soils means the use of soil amendments including, but not limited, to Portland cement treated base (CTB), cement kiln dust (CKD), or fly ash to achieve certain desirable soil characteristics.

Equivalent BMPs means operational, source control, treatment, or innovative BMPs which result in equal or better quality of stormwater discharge to surface water or to groundwater than BMPs selected from the SWMM.

Erosion means the wearing away of the land surface by running water, wind, ice, or other geological agents, including such processes as gravitational creep.

Erosion and Sediment Control BMPs means BMPs intended to prevent erosion and sedimentation, such as preserving natural vegetation, seeding, mulching and matting, plastic covering, filter fences, sediment traps, and ponds. Erosion and sediment control BMPs are synonymous with stabilization and structural BMPs.

Federal Operator is an entity that meets the definition of "Operator" in this permit and is either any department, agency or instrumentality of the executive, legislative, and judicial branches of the Federal government of the United States, or another entity, such as a private contractor, performing construction activity for any such department, agency, or instrumentality.

Final Stabilization (same as **fully stabilized** or **full stabilization**) means the completion of all soil disturbing activities at the site and the establishment of permanent vegetative cover, or equivalent permanent stabilization measures (such as pavement, riprap, gabions, or geotextiles) which will prevent erosion. See the applicable Stormwater Management Manual for more information on vegetative cover expectations and equivalent permanent stabilization measures.

Groundwater means water in a saturated zone or stratum beneath the land surface or a surface waterbody.

Hazardous Substance means any dangerous or extremely hazardous waste as defined in RCW 70.105.010 (5) and (6), or any dangerous or extremely dangerous waste as designated by rule under chapter 70.105 RCW; any hazardous sub-stance as defined in RCW 70.105.010(14) or any hazardous substance as defined by rule under chapter 70.105 RCW; any substance that, on the effective date of this section, is a hazardous substance under section 101(14) of the federal cleanup law, 42U.S.C., Sec. 9601(14); petroleum or petroleum products; and any substance or category of substances, including solid waste decomposition products, determined by the director by rule to present a threat to human health or the environment if released into the environment. The term hazardous substance does not include any of the following when contained in an underground storage tank from which there is not a release: crude oil or any fraction thereof or petroleum, if the tank is in compliance with all applicable federal, state, and local law.

Injection Well means a well that is used for the subsurface emplacement of fluids. (See **Well**.)

Jurisdiction means a political unit such as a city, town or county; incorporated for local self-government.

National Pollutant Discharge Elimination System (NPDES) means the national program for issuing, modifying, revoking and reissuing, terminating, monitoring, and enforcing permits, and imposing and enforcing pretreatment requirements, under sections 307, 402, 318, and 405 of the Federal Clean Water Act, for the discharge of pollutants to surface waters of the State from point sources. These permits are referred to as NPDES permits and, in Washington State, are administered by the Washington State Department of Ecology.

Notice of Intent (NOI) means the application for, or a request for coverage under this general permit pursuant to WAC 173-226-200.

Notice of Termination (NOT) means a request for termination of coverage under this general permit as specified by Special Condition S10 of this permit.

Operator means any party associated with a construction project that meets either of the following two criteria:

- The party has operational control over construction plans and specifications, including the ability to make modifications to those plans and specifications; or
- The party has day-to-day operational control of those activities at a project that are necessary to ensure compliance with a SWPPP for the site or other permit conditions (e.g., they are authorized to direct workers at a site to carry out activities required by the SWPPP or comply with other permit conditions).

Permittee means individual or entity that receives notice of coverage under this general permit.

pH means a liquid's measure of acidity or alkalinity. A pH of 7 is defined as neutral. Large variations above or below this value are considered harmful to most aquatic life.

pH Monitoring Period means the time period in which the pH of stormwater runoff from a site must be tested a minimum of once every seven days to determine if stormwater pH is between 6.5 and 8.5.

Point Source means any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, and container from which pollutants are or may be discharged to surface waters of the State. This term does not include return flows from irrigated agriculture. (See the Fact Sheet for further explanation)

Pollutant means dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, domestic sewage sludge (biosolids), munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt, and industrial, municipal, and agricultural waste. This term does not include sewage from vessels within the meaning of section 312 of the CWA, nor does it include dredged or fill material discharged in accordance with a permit issued under section 404 of the CWA.

Pollution means contamination or other alteration of the physical, chemical, or biological properties of waters of the State; including change in temperature, taste, color, turbidity, or odor of the waters; or such discharge of any liquid, gaseous, solid, radioactive or other substance into any waters of the State as will or is likely to create a nuisance or render such waters harmful, detrimental or injurious to the public health, safety or welfare; or to domestic, commercial, industrial, agricultural, recreational, or other legitimate beneficial uses; or to livestock, wild animals, birds, fish or other aquatic life.

Process Wastewater means any non-stormwater which, during manufacturing or processing, comes into direct contact with or results from the production or use of any raw material, intermediate product, finished product, byproduct, or waste product. If stormwater commingles with process wastewater, the commingled water is considered process wastewater.

Receiving Water means the waterbody at the point of discharge. If the discharge is to a storm sewer system, either surface or subsurface, the receiving water is the waterbody to which the storm system discharges. Systems designed primarily for other purposes such as for groundwater drainage, redirecting stream natural flows, or for conveyance of irrigation water/return flows that coincidentally convey stormwater are considered the receiving water.

Representative means a stormwater or wastewater sample which represents the flow and characteristics of the discharge. Representative samples may be a grab sample, a time-proportionate *composite sample*, or a flow proportionate sample. Ecology's Construction Stormwater Monitoring Manual provides guidance on representative sampling.

Responsible Corporate Officer for the purpose of signatory authority means: (i) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or (ii) the manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures (40 CFR 122.22).

Sanitary Sewer means a sewer which is designed to convey domestic wastewater.

Sediment means the fragmented material that originates from the weathering and erosion of rocks or unconsolidated deposits, and is transported by, suspended in, or deposited by water.

Sedimentation means the depositing or formation of sediment.

Sensitive Area means a waterbody, wetland, stream, aquifer recharge area, or channel migration zone.

SEPA (State Environmental Policy Act) means the Washington State Law, RCW 43.21C.020, intended to prevent or eliminate damage to the environment.

Significant Amount means an amount of a pollutant in a discharge that is amenable to available and reasonable methods of prevention or treatment; or an amount of a pollutant that has a reasonable potential to cause a violation of surface or groundwater quality or sediment management standards.

Significant Concrete Work means greater than 1000 cubic yards placed or poured concrete or recycled concrete used over the life of a project.

Significant Contributor of Pollutants means a facility determined by Ecology to be a contributor of a significant amount(s) of a pollutant(s) to waters of the State of Washington.

Site means the land or water area where any "facility or activity" is physically located or conducted.

Source Control BMPs means physical, structural or mechanical devices or facilities that are intended to prevent pollutants from entering stormwater. A few examples of source control BMPs are erosion control practices, maintenance of stormwater facilities, constructing roofs over storage and working areas, and directing wash water and similar discharges to the sanitary sewer or a dead end sump.

Stabilization means the application of appropriate BMPs to prevent the erosion of soils, such as, temporary and permanent seeding, vegetative covers, mulching and matting, plastic covering and sodding. See also the definition of Erosion and Sediment Control BMPs.

Storm Drain means any drain which drains directly into a *storm sewer system*, usually found along roadways or in parking lots.

Storm Sewer System means a means a conveyance, or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains designed or used for collecting or conveying stormwater. This does not include systems which are part of *a combined sewer* or Publicly Owned Treatment Works (POTW), as defined at 40 CFR 122.2.

Stormwater means that portion of precipitation that does not naturally percolate into the ground or evaporate, but flows via overland flow, interflow, pipes, and other features of a stormwater drainage system into a defined surface waterbody, or a constructed infiltration facility.

Stormwater Management Manual (SWMM) or **Manual** means the technical Manual published by Ecology for use by local governments that contain descriptions of and design criteria for BMPs to prevent, control, or treat pollutants in stormwater.

Stormwater Pollution Prevention Plan (SWPPP) means a documented plan to implement measures to identify, prevent, and control the contamination of point source discharges of stormwater.

Surface Waters of the State includes lakes, rivers, ponds, streams, inland waters, salt waters, and all other surface waters and water courses within the jurisdiction of the state of Washington.

Temporary Stabilization means the exposed ground surface has been covered with appropriate materials to provide temporary stabilization of the surface from water or wind erosion. Materials include, but are not limited to, mulch, riprap, erosion control mats or blankets and temporary cover crops. Seeding alone is not considered stabilization. Temporary stabilization is not a substitute for the more permanent “final stabilization.”

Total Maximum Daily Load (TMDL) means a calculation of the maximum amount of a pollutant that a waterbody can receive and still meet state water quality standards. Percentages of the total maximum daily load are allocated to the various pollutant sources. A TMDL is the sum of the allowable loads of a single pollutant from all contributing point and nonpoint sources. The TMDL calculations must include a "margin of safety" to ensure that the waterbody can be protected in case there are unforeseen events or unknown sources of the pollutant. The calculation must also account for seasonable variation in water quality.

Transfer of Coverage (TOC) means a request for transfer of coverage under this general permit as specified by Special Condition S2.A of this permit.

Treatment BMPs means BMPs that are intended to remove pollutants from stormwater. A few examples of treatment BMPs are detention ponds, oil/water separators, biofiltration, and constructed wetlands.

Transparency means a measurement of water clarity in centimeters (cm), using a 60 cm transparency tube. The transparency tube is used to estimate the relative clarity or transparency of water by noting the depth at which a black and white Secchi disc becomes visible when water is released from a value in the bottom of the tube. A transparency tube is sometimes referred to as a “turbidity tube.”

Turbidity means the clarity of water expressed as nephelometric turbidity units (NTUs) and measured with a calibrated turbidimeter.

Uncontaminated means free from any contaminant. See definition of “contaminant” and WAC 173-340-200.

Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the Permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

Waste Load Allocation (WLA) means the portion of a receiving water’s loading capacity that is allocated to one of its existing or future point sources of pollution. WLAs constitute a type of water quality based effluent limitation (40 CFR 130.2[h]).

Water-Only Based Shaft Drilling is a shaft drilling process that uses water only and no additives are involved in the drilling of shafts for construction of building, road, or bridge foundations.

Water Quality means the chemical, physical, and biological characteristics of water, usually with respect to its suitability for a particular purpose.

Waters of the State includes those waters as defined as "waters of the United States" in 40 CFR Subpart 122.2 within the geographic boundaries of Washington State and "waters of the State" as defined in Chapter 90.48 RCW, which include lakes, rivers, ponds, streams, inland waters, underground waters, salt

waters, and all other surface waters and water courses within the jurisdiction of the state of Washington.

Well means a bored, drilled or driven shaft, or dug hole whose depth is greater than the largest surface dimension. (See **Injection Well**.)

Wheel Wash Wastewater means any water used in, or resulting from the operation of, a tire bath or wheel wash (BMP C106: Wheel Wash), or other structure or practice that uses water to physically remove mud and debris from vehicles leaving a construction site and prevent track-out onto roads. When stormwater comingles with wheel wash wastewater, the resulting water is considered wheel wash wastewater and must be managed according to Special Condition S9.D.9.

APPENDIX B – ACRONYMS

AKART	All Known, Available, and Reasonable Methods of Prevention, Control, and Treatment
BMP	Best Management Practice
CESCL	Certified Erosion and Sediment Control Lead
CFR	Code of Federal Regulations
CKD	Cement Kiln Dust
cm	Centimeters
CPD	Common Plan of Development
CTB	Cement-Treated Base
CWA	Clean Water Act
DMR	Discharge Monitoring Report
EPA	Environmental Protection Agency
ERTS	Environmental Report Tracking System
ESC	Erosion and Sediment Control
FR	Federal Register
LID	Low Impact Development
NOI	Notice of Intent
NOT	Notice of Termination
NPDES	National Pollutant Discharge Elimination System
NTU	Nephelometric Turbidity Unit
RCW	Revised Code of Washington
SEPA	State Environmental Policy Act
SWMM	Stormwater Management Manual
SWPPP	Stormwater Pollution Prevention Plan
TMDL	Total Maximum Daily Load
UIC	Underground Injection Control
USC	United States Code
USEPA	United States Environmental Protection Agency
WAC	Washington Administrative Code
WQ	Water Quality
WWHM	Western Washington Hydrology Model

Appendix E 303(d) List Waterbodies / TMDL Waterbodies Information

Water Quality Assessment 303(d)/305(b) List

Approved WQ Assessment Contact UsWQ Atlas

Water Quality Listing Policy

Listing ID: 7036

Main Listing Information

Listing ID

7036

Waterbody Name

DUWAMISH RIVER

Medium

Water

Parameter

Temperature

WQI Project

None

Designated Use

Aquatic Life - Salmonid Rearing and Migration Only

Current Category

5

Assessment Unit

Assessment Unit ID

17110013000013_001_001

Size

6.971 Kilometers

Associated Components(s)

Reach: 17110013000013 0% - 100%, Type: Rivers/Streams

County

King

WRIA

Duwamish-Green

Basis Table

Assessment Year

2018

xcursion Count	Sample Count	Criterion/Threshold	Aggregate	Calculated Value
	41	17.5 deg C	7-DADMax	23.14

Basis Statement

HISTORICAL INFORMATION

King County unpublished data from station 309 (Green River RM 7.0) show temperature criterion was exceeded in 1998 and 2000.

U.S.Geological Survey data from NWIS database station 12113390 (Duwamish R at Golf Course at Tukwila) shows 1 excursions beyond the criterion out of 71 samples collected between 01/93 - 10/00.

Remarks

Assessment Cycle 2018 - During 2006, the standards were exceeded at least 2 times in the year.
Combined Listing: Listing IDs 48618, 15499 were rolled into this listing
As a result of merging two stream reaches into a single assessment unit in 2014, this Listing has changed from Category 2 to Category 5 due to the inclusion of data formerly associated with Listing IDs 15499 and 48618.
Data for 2006 does not cover the core critical season for temperature. Maximum temperatures may be higher than observed data; ;

Data Sources

Study Id	Location Id	Source Database
	USGS-12113390	Water Quality Portal
	USGS-12113400	Water Quality Portal
	USGS-12113406	Water Quality Portal
	USGS-12113415	Water Quality Portal
KCstrm-1	KCM-0309	EIM
MROB003	09-GRE-COM	EIM
PbTrends09	DUWAMISH-PB	EIM
PbTrends10	DUWAMISH-PB	EIM
PbTrends11	DUWAMISH-PB	EIM
PbTrends12	DUWAMISH-PB	EIM
PbTrends13	DUWAMISH-PB	EIM
PbTrends14	DUWAMISH-PB	EIM

Map Link

Map Link