

CITY OF KIRKLAND - CONSTRUCTION STORMWATER POLLUTION PREVENTION (CSWPP) PLAN TEMPLATE



Project Name	Click here to enter text.
City of Kirkland Permit #	Click here to enter text.
Date of Submittal	Click here to enter text.

TABLE OF CONTENTS

PROJECT & CSWPP INFORMATION 3

PURPOSE 4

INSTRUCTIONS FOR USE..... 4

‘NOTICE OF INTENT’ ADVISORY 5

CSWPP SUPERVISOR..... 5

Part A – EROSION AND SEDIMENT CONTROL (ESC) PLAN [REQUIRED FOR ALL PROJECTS] 10

1. CLEARING LIMITS 11

2. COVER MEASURES..... 13

3. PERIMETER PROTECTION 15

4. TRAFFIC AREA STABILIZATION 17

5. SEDIMENT RETENTION..... 19

6. SURFACE WATER COLLECTION 22

7. DEWATERING CONTROL 24

8. DUST CONTROL 26

9. FLOW CONTROL..... 28

10. CONTROL OF POLLUTANTS 30

11. PROTECT EXISTING AND PROPOSED FLOW CONTROL BMPs 31

12. MAINTAIN PROTECTIVE BMPs..... 33

13. MANAGE THE PROJECT 35

Part B - STORMWATER POLLUTION PREVENTION AND SPILL (SWPPS) MEASURES [REQUIRED FOR ALL PROJECTS] 36

1. CONCRETE HANDLING 37

2. CONCRETE WASHOUT AREA 38

3. SAWCUTTING AND SURFACING POLLUTION PREVENTION 39

4. MATERIAL DELIVERY, STORAGE AND CONTAINMENT 40

5. CONSTRUCTION STORMWATER CHEMICAL TREATMENT 41

6. CONSTRUCTION STORMWATER FILTRATION 43

7. HIGH pH NEUTRALIZATION USING CO₂ 44

8. pH CONTROL FOR HIGH pH WATER..... 46

9. USE OF HIGH pH SOIL AMENDMENTS ON CONSTRUCTION SITES..... 48

10. MAINTAIN PROTECTIVE BMPs..... 49

11. MANAGE THE PROJECT 50

Part C – SITE INSPECTION, MONITORING, AND SAMPLING REQUIREMENTS AND ENFORCEMENT 51

SITE INSPECTIONS 51

TURBIDITY CONTROL REQUIREMENTS FOR CONSTRUCTION STORMWATER DISCHARGE..... 51

MONITORING OF DISCHARGES..... 51

ENFORCEMENT OF TURBIDITY CONTROL REQUIREMENTS 52

pH CONTROL REQUIREMENTS FOR CONSTRUCTION STORMWATER DISCHARGE ... 55

PROJECT & CSWPP INFORMATION

Project

Project Name	Click here to enter text.
Site Address	Click here to enter text.
City of Kirkland Permit #	Click here to enter text.
Parcel Number(s)	Click here to enter text.
Receiving Waterbody	Click here to enter text.

Applicant Contact

Permittee/Owner	Click here to enter text.
Phone Number	Click here to enter text.
Address	Click here to enter text.
Developer	Click here to enter text.
Phone Number	Click here to enter text.
Address	Click here to enter text.
Operator/Contractor	Click here to enter text.
Phone Number	Click here to enter text.
Address	Click here to enter text.

CSWPP Supervisor

Name	Click here to enter text.
Organization	Click here to enter text.
Phone Number	Click here to enter text.

CSWPP Prepared By

Name	Click here to enter text.
Organization	Click here to enter text.
Phone Number	Click here to enter text.
Date of Submittal	Click here to enter text.

Project Construction Dates

Activity/Phase	Click here to enter text.
Start Date	Click here to enter text.
End Date	Click here to enter text.

NOTE: Bring the contact information for the CSWPP Supervisor and the contractor to the pre-conference. Complete this form with the best information available, update it as personnel/construction timeline changes.

PURPOSE

A Construction Stormwater Pollution Prevention (CSWPP) Plan shall be completed for project proposals within the City of Kirkland (COK) that require a targeted or full drainage review to comply with the following:

- [Core Requirement #5 of the 2016 King County Stormwater Design Manual \(KCSWDM\)](#), and [Appendix D of the KCSWDM \(1.2.5.2.C/D.2.3.3\)](#).
- [Storm Drainage Policy D-12 of the COK Pre-Approved Plans](#).

Information provided in this document and on the plans shall be considered a minimum. The contractor shall be solely responsible for providing necessary and adequate measures for proper control of erosion and sediment runoff from the site, along with proper maintenance and inspection.

The general contractor is responsible for keeping streets clean and free of contaminants at all times and for preventing an illicit discharge (defined in KMC 15.52) into the municipal storm drain system. If construction activity causes an illicit discharge to the municipal storm drain system, the City of Kirkland Storm Maintenance Division will be instructed to clean the public storm system, and other affected public infrastructure.

The Permittee, Contractor(s), Property Owner, and any other responsible party may be subject to cost recovery associated with the clean-up and response and may also be assessed monetary penalties (defined in KMC 1.12.200) associated with an illicit discharge. The minimum penalty is \$500. A fine may be reduced or waived for parties who immediately self-report violation to the City at (425) 587-3900.

A Final Inspection of the project will not be granted until all costs associated with a cost recovery and penalties are paid to the City of Kirkland.

The CSWPP shall include project-related content in accordance with the Implementation Requirements outlined in the current KCSWDM. The following plans are **REQUIRED FOR ALL PROPOSED PROJECTS:**

- **Erosion and Sediment Control (ESC) Plan**, and
- **Stormwater Pollution Prevention and Spill (SWPPS) Plan**

INSTRUCTIONS FOR USE

- 1. Proceed through the template in order and provide information about the project as instructed (*in italics*) for each section. Project details should correspond to the project plan set found onsite during construction to guide the contractor in establishing erosion and sediment control.**

2. **If an entire section is not applicable to the project, please indicate this in the provided textbox and state why it is not applicable.**
3. **Place drawings (e.g. ESC plan and details) directly after the page where they are requested.**
4. **Other additions (calculations, Best Management Practices [BMP], maintenance guidelines, etc.) should be placed in an appendix. Update the table of contents accordingly (e.g. insert sheet as PDF for appendices and after the default table of contents).**
5. **Update documents when the CSWPP Supervisor has noted a deficiency in BMPs or deviation from original design.**

If this project does not require a full or targeted drainage review, please see the following:

- **Simplified Drainage Review – submit a Simplified CSWPP as outlined in [COK Policy D-12](#). The Simplified Drainage Review Template is found [here](#).**
- **Basic Drainage Review – not required to submit a CSWPP or Simplified CSWPP. However, a drainage plan and ESC plan are still required for this type of review per [COK Policy D-2](#).**

'NOTICE OF INTENT' ADVISORY

For projects 1 acre or larger, applicants are required to submit a Notice of Intent (NOI) to WA State Department of Ecology (Ecology) and obtain coverage under [Ecology's Construction Stormwater General Permit](#) (CSWGP) issued as part of the Federal Clean Water Act. Applicants **instead** must submit a draft Ecology CSWPP at COK permit submittal, and final Ecology CSWPP at the COK Pre-Construction Meeting. The Ecology CSWPP meets King County and COK requirements listed above. For additional information, see the following Ecology website: <https://ecology.wa.gov/Regulations-Permits/Permits-certifications/Stormwater-general-permits/Construction-stormwater-permit>

CSWPP SUPERVISOR

For all projects required to submit a CSWPP or Simplified CSWPP, the applicant must comply with the following:

- **The applicant shall designate a CSWPP Supervisor who will be responsible for the performance, maintenance, and review of ESC and SWPPS measures and for compliance with all permit conditions relating to the CSWPP as described**

in the instructions of this template.

- **The CSWPP Supervisor shall keep an organized logbook of construction activities.**
- **The applicant's selection of a CSWPP Supervisor may require approval by the City. City approval may be rescinded for non-compliance or not meeting qualifications, requiring the applicant to select another CSWPP Supervisor and obtain City approval prior to continuing work on the project site.**

The CSWPP 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 CSWPP when the CSWPP Supervisor (or any individual involved with the project) has noted a deficiency in BMPs or deviation from original design.

Existing Conditions

Total limits of disturbance area (area of all construction activity):

Click here to enter text. acres or square feet

Disturbed area (area of all construction and demolition):

Click here to enter text. acres or square feet

Hydrology and topography (average slope, soil, presence of groundwater):

- Drainage patterns: *Click here to enter text.*
- Critical Areas (wetlands, streams, high erosion risk, steep or difficult to stabilize slopes):
Click here to enter text.

City of Kirkland Waterbodies

Check the box next to the pollution type(s) (Category 5, unless advised otherwise) if the project site currently drains, or will drain during construction or developed condition, to the following waterbodies:

- Forbes Lake:
 - Phosphorus
- Forbes Creek:
 - Bioassessment
 - Temperature
 - Dissolved Oxygen
 - Bacteria
- Totem Lake:
 - Dissolved Oxygen
- Juanita Creek:
 - Dissolved Oxygen
 - Temperature
 - Bacteria
- Lake Washington @ Marina Park:
 - Bacteria
- Other:

If the project site will cause an adverse impact to existing 303(d) impairments at one or more of the listed waterbodies above, indicate how the project site will control those pollutants

and/or mitigate impacts. An adverse impact may be caused by diverting stormwater to and/or away from a waterbody.

Refer to <https://fortress.wa.gov/ecy/waterqualityatlas/map.aspx> for unnamed waterbodies with impairments if applicable to project site location and discharge.

Proposed Construction Activities

Total proposed impervious area (addition of):

Click here to enter text. acres or square feet

Final developed site impervious area (existing plus new and replaced impervious surface):

Click here to enter text. acres or square feet

Description of site development (example: subdivision):

Description of construction activities (example: site preparation, demolition, excavation):

Description of site drainage including flow from and onto adjacent properties. Must be consistent with Site Map to be attached:

Description of final stabilization (example: extent of revegetation, paving, landscaping):

Part A – EROSION AND SEDIMENT CONTROL (ESC) PLAN [REQUIRED FOR ALL PROJECTS]

The implementation of this ESC plan and the construction, maintenance, replacement, and upgrading of applicable BMP facilities is the responsibility of the Permittee/Contractor until all construction is approved.

The ESC Plan may also include any and all of the following:

- Locations of all receiving waterbodies.
- Direction of stormwater flows from facilities.
- Locations of all ditches, pipes, swales, drains, inlets, outfalls or other stormwater conveyances existing or used during the construction phase.
- Location of construction stormwater discharge point(s).
- Locations of secondary containment structures.
- Locations and quantities of potential stormwater pollutants.
- Areas where spills occurred previously.
- Stormwater monitoring locations.
- Locations of fueling stations, offloading areas, outdoor maintenance and equipment storage, tanks, and transfer areas.
- Sources of run-on from adjacent properties that could cause pollution.
- Background turbidity levels.

*Following this page, attach the ESC plan. See [COK General Policy G-7](#) for plan submittal requirements. See [COK Pre-Approved Plan CK-E.04](#) for an example plan. Design ESC elements to City of Kirkland standards. If a City standard is not available, refer to the equivalent King County design standards. If a County standard is not available, refer to the equivalent Ecology design standards found in the latest Stormwater Management Manual of Western Washington (SWMMWW). **Reference the standard(s) being used where appropriate.** Under the Design & Installation and Maintenance textboxes, add relevant information concerning the BMPs.*

1. CLEARING LIMITS

(Reference KCSWDM D.2.1.1, p. D-11 and COK Policy D-12 for additional information)

Check this box if this section is not applicable to the project.

Prior to any site clearing or grading, areas to remain undisturbed during project construction will be delineated on the project's ESC plan and physically marked on the project site. The purpose of clearing limits is to prevent disturbance of those areas of the project site that are not designated for clearing or grading.

- Clearing Control Fence (Note #19 Erosion Control Plan Notes, KCSWDM D.2.1.1.1)
- Silt Fence (CK-E.03)
- Tree Protection Fence (CK-R.49)

Design & Installation (or why section is not applicable)

Use the following space to specify how clearing limits are to be delineated, and instructions on their installation.

Maintenance

Use the following space to specify maintenance requirements for the clearing limits measures.

2. COVER MEASURES

(Reference KCSWDM D.2.1.2, p. D-12 and COK Pre-Approved Plans for additional information)

Check this box if this section is not applicable to the project.

Temporary and permanent cover measures will be provided to protect all disturbed areas, including the faces of cut and fill slopes. The purpose of covering exposed soils is to prevent erosion, thus reducing reliance on less effective methods that remove sediment after it is entrained in runoff.

If project site is within a landslide hazard area describe how slopes will be designed, constructed, and protected to minimize erosion; additional protective measures may be required.

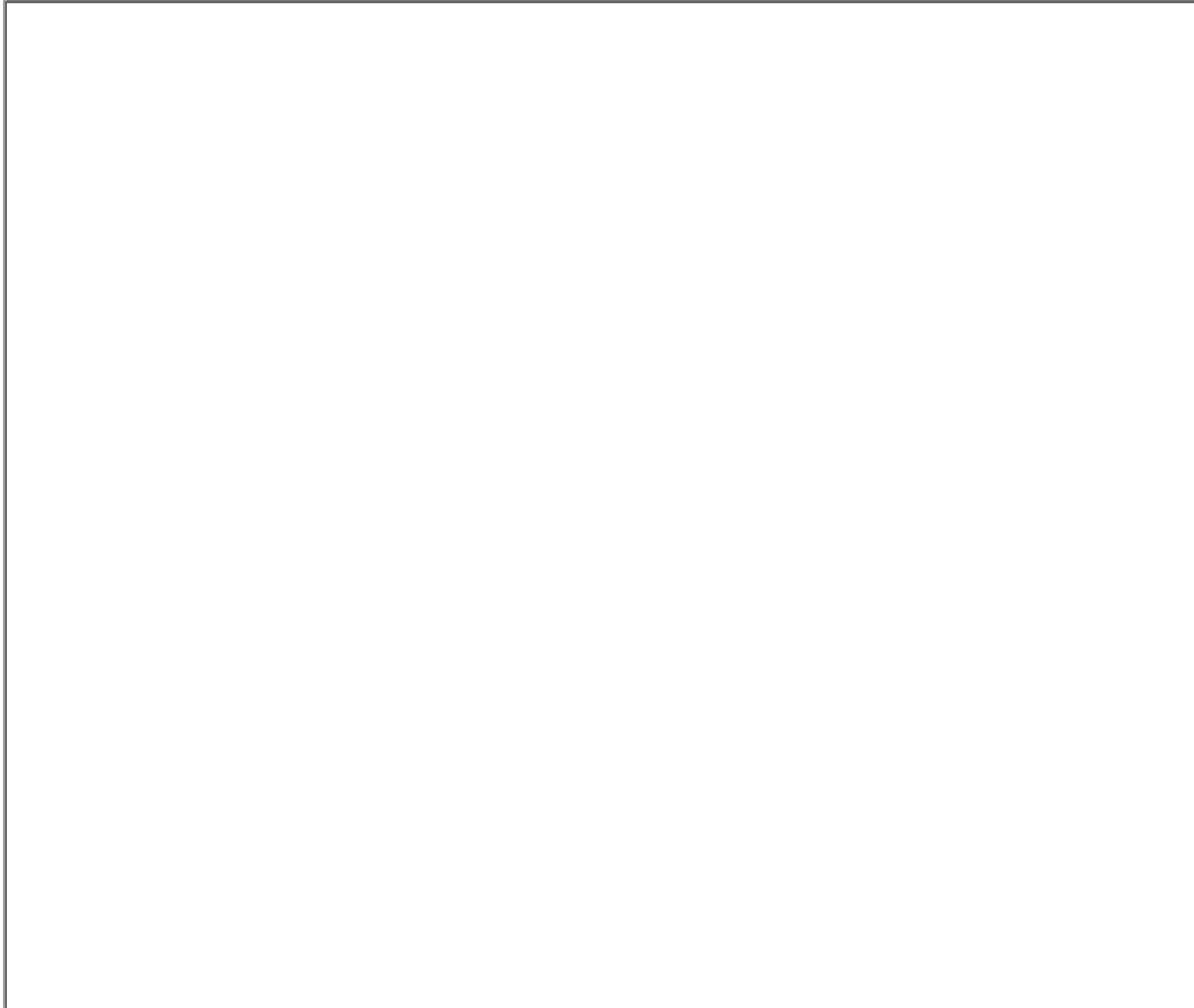
- Surface Roughening (D.2.1.2.1, p. D-13)
- Mulching (D.2.1.2.2, p. D-16)
- Nets and Blankets (D.2.1.2.3, p. D-18 and CK-E.06)
- Plastic Covering (D.2.1.2.4, p. D-20 and CK-E.05)
- Straw Wattles (D.2.1.2.5, p. D-21 and CK-E.10)
- Temporary and Permanent Seeding (D.2.1.2.6, p. D-24)
- Sodding (D.2.1.2.7, p. D-28)
- Polyacrylamide for Soil Erosion Protection (D.2.1.2.8, p. D-29)
- Compost Blankets (D.2.1.2.9, p. D-31)

Design & Installation (or why section is not applicable)

Use the following space to specify the design and installation of cover measures.

Maintenance

Use the following space to specify maintenance requirements for the cover measures.

A large, empty rectangular box with a thin black border, intended for the user to specify maintenance requirements for cover measures.

3. PERIMETER PROTECTION
(Reference KCSWDM D.2.1.3, p. D-33 and COK Pre-Approved Plans)

Check this box if this section is not applicable to the project.

Perimeter protection to filter sediment from sheetflow will be located downslope of all disturbed areas and will be installed prior to upslope grading. The purpose of perimeter protection is to reduce the amount of sediment transported beyond the disturbed areas of the construction site.

- Silt Fence (D.2.1.3.1, p. D-33 and CK-E.03)
- Brush Barrier (D.2.1.3.2, p. D-36)
- Vegetated Strip (D.2.1.3.3, p. D-37)
- Triangular Silt Dike (D.2.1.3.4, p. D-37)
- Compost Berms (D.2.1.3.5, p. D-38)
- Compost Socks (D.2.1.3.6, p. D-40)

Design & Installation (or why section is not applicable)

Use the following space to specify the design and installation of perimeter protection.

Maintenance

Use the following space to specify maintenance requirements for the perimeter protection.

4. TRAFFIC AREA STABILIZATION
(Reference KCSWDM D.2.1.4, p. D-41 and COK Pre-Approved Plans

Check this box if this section is not applicable to the project.

Unsurfaced entrances, roads, and parking areas used by construction traffic will be stabilized to minimize erosion and tracking of sediment offsite. The purpose of traffic area stabilization is to reduce the amount of sediment transported offsite by construction vehicles and to reduce the erosion of areas disturbed by vehicle traffic.

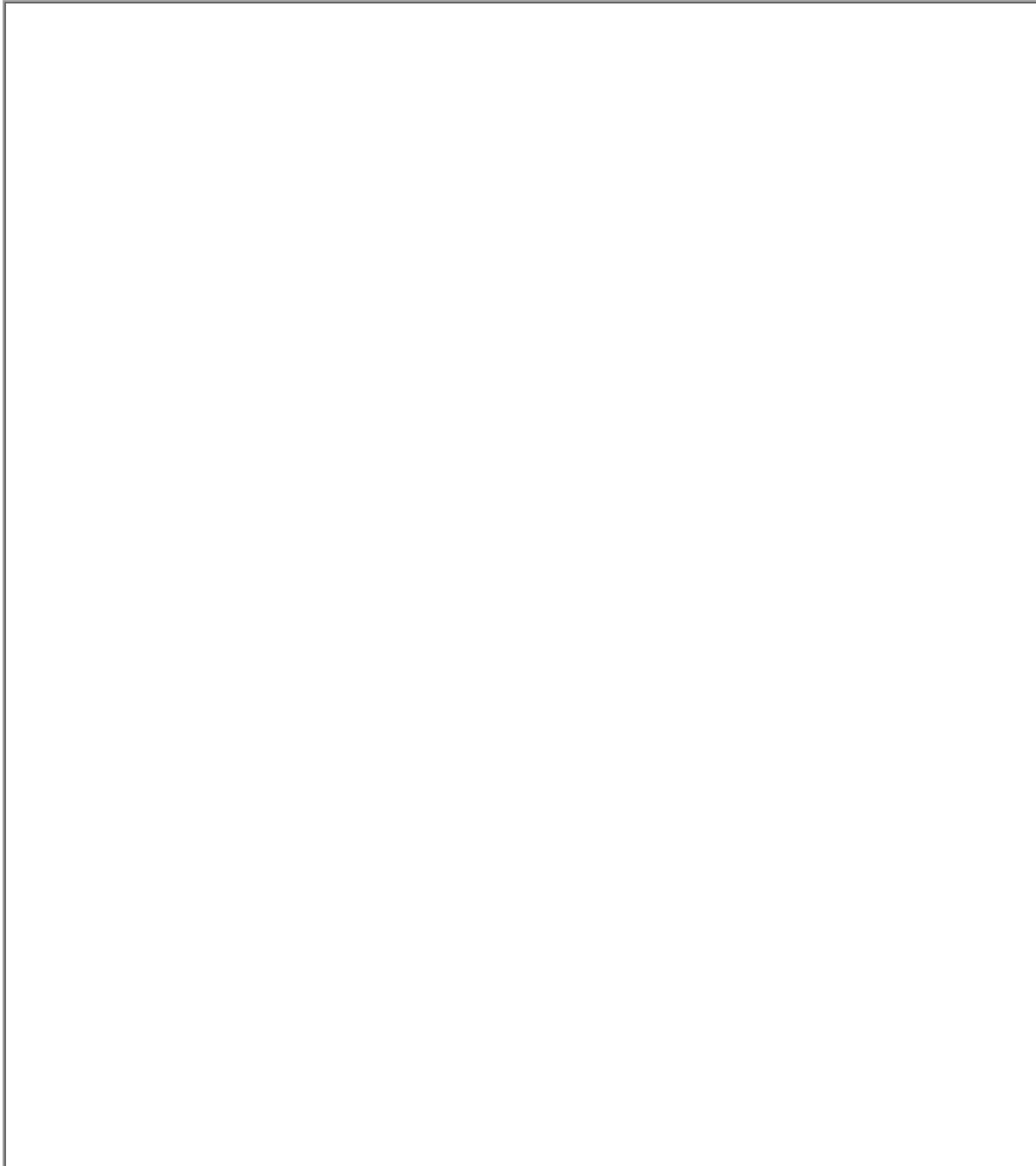
- Stabilized Construction Entrance (D.2.1.4.1, p. D-42 and CK-E.01, E.02)
- Construction Road/Parking Area Stabilization (D.2.1.4.2, p. D-44)
- Wheel Wash (D.2.1.4.3, p. D-45)

Design & Installation (or why section is not applicable)

Use the following space to specify the design and installation of traffic area stabilization measures.

Maintenance

Use the following space to specify maintenance requirements for the traffic area stabilization measures.

A large, empty rectangular box with a thin black border, intended for the user to specify maintenance requirements for traffic area stabilization measures.

5. SEDIMENT RETENTION

(Reference KCSWDM D.2.1.5, p. D-47 and COK Pre-Approved Plans

Check this box if this section is not applicable to the project.

Surface water collected from disturbed areas of the site will be routed through a sediment pond or trap or similar BMP prior to release from the site. The purpose of sediment retention facilities is to remove sediment from runoff generated from disturbed areas.

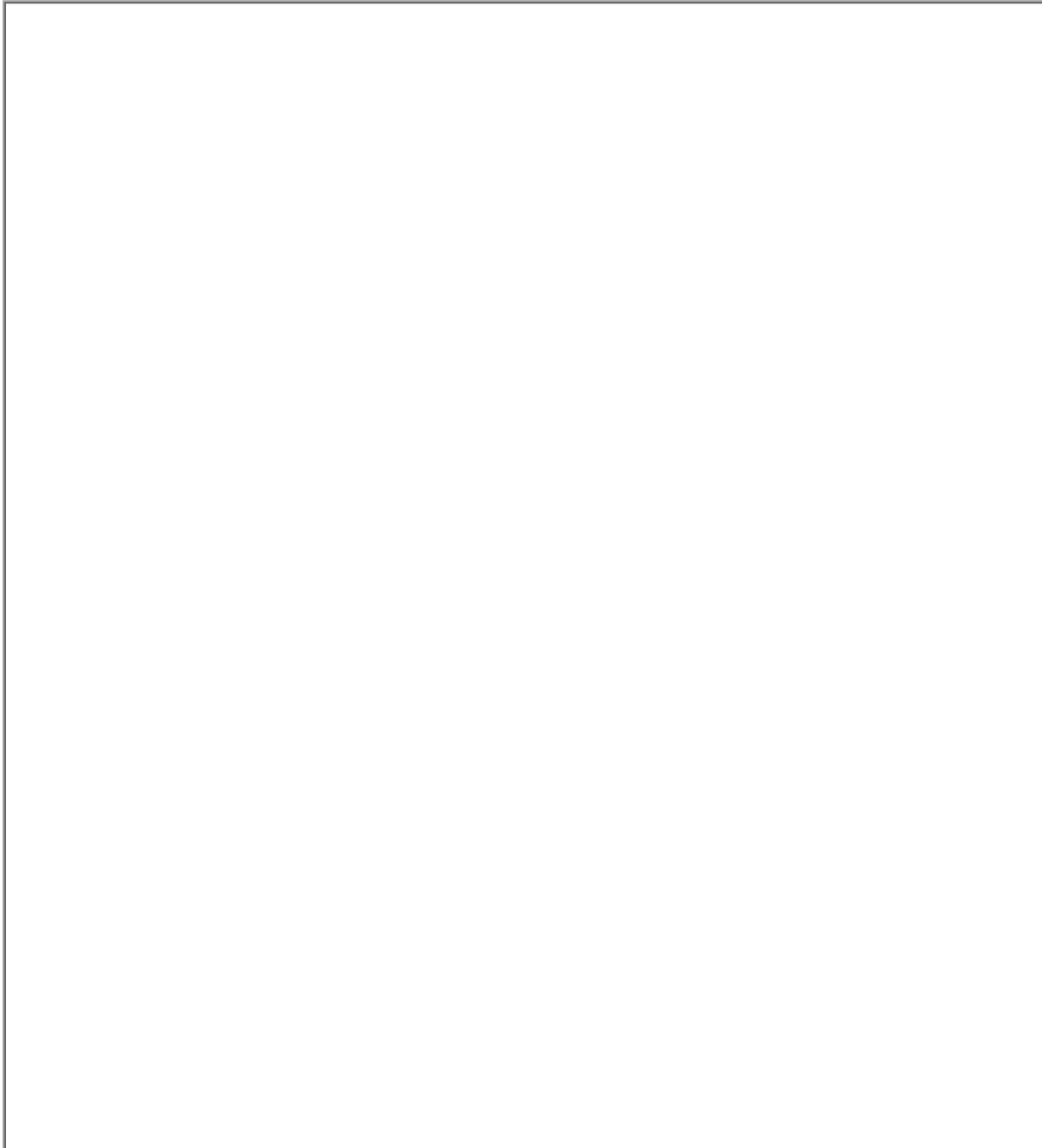
- Sediment Trap (D.2.1.5.1, p. D-48 and CK-E.09A)
- Sediment Pond (D.2.1.5.2, p. D-50 and CK-E.09)
- Storm Drain Inlet Protection (D.2.1.5.3, p. D-53 and CK-E.08, E.11)
- Temporary Sediment Settling Tank

Design & Installation (or why section is not applicable)

Use the following space to specify the design and installation of sediment retention measures. Include 2- and 10-year peak flows modeled on a 15-minute time step for the developed conditions. Paste calculations under 'Sizing' section.

Maintenance

Use the following space to specify maintenance requirements for the sediment retention measures.

A large, empty rectangular box with a thin black border, intended for specifying maintenance requirements for sediment retention measures. The box is currently blank.

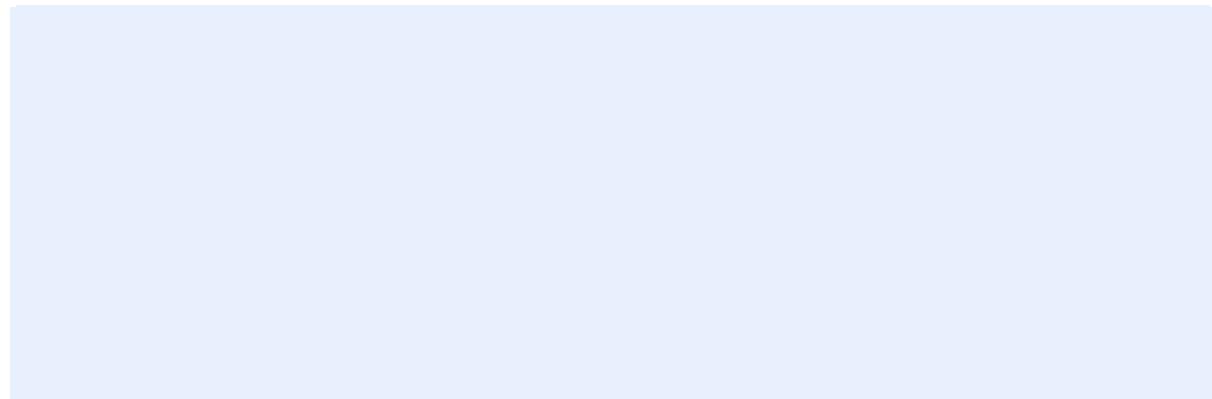
Sizing

In the space below, upload an image (or attach after this section of the report) from WWHM/MGS Flood stating the 2- and 10-year peak flows modeled on a 15-minute time step for the developed conditions.



The point of connection (POC) will be the basin outlet comparing pre-developed and post-clear-and-graded conditions.

In the space below or as attachment, upload calculations showing the sizing requirements.



6. SURFACE WATER COLLECTION
(Reference KCSWDM D.2.1.6, p. D-59 and COK Pre-Approved Plan CK-E.07 for additional information)

Check this box if this section is not applicable to the project.

All surface water from disturbed areas will be intercepted, conveyed to a sediment pond or trap, and discharged downslope of any disturbed areas. The purpose of surface water control is to collect and convey surface water so that erosion is minimized, and runoff from disturbed areas is treated by a sediment pond or trap.

- Interceptor Dike and Swale (D.2.1.6.1, p. D-60)
- Check Dam (D.2.1.3.4, p. D-37 and CK-E.07)
- Pipe Slope Drains (D.2.1.6.2, p. D-62)
- Subsurface Drains (D.2.1.6.3, p. D-63)
- Ditches (D.2.1.6.4, p. D-64)
- Outlet Protection (D.2.1.6.5, p. D-66)
- Level Spreader (D.2.1.6.6, p. D-66)

Design & Installation (or why section is not applicable)

Use the following space to specify the design and installation of surface water collection measures.

Maintenance

Use the following space to specify maintenance requirements for the surface water collection measures.

7. DEWATERING CONTROL
(Reference KCSWDM D.2.1.7, p. D-68 for additional information)

Check this box if this section is not applicable to the project.

The purpose of dewatering control is to prevent the untreated discharge of sediment-laden water from dewatering of utilities, excavated areas, foundations, etc.

- Infiltration (D.2.1.7.1.a, p. D-68)
- Vehicle transport offsite (D.2.1.7.1.b, p. D-68)
- Approved discharge to sanitary sewer (D.2.1.7.1.c, p. D-68)
- Sedimentation bags for small volumes of localized dewatering (D.2.1.7.1.d, p. D-68)

Construction dewatering discharges shall always meet water quality guidelines listed in COK Policy E-1. Specifically, discharges to the public stormwater drainage system must be below 25 NTU, and not considered an illicit discharge (per KMC 15.52.090, enforcement measures covered in Part C of this template). Temporary discharges to sanitary sewer require prior authorization and permit from King County Industrial Waste Program [(206) 263-3000] and notification to the Public Works Construction Inspector.

Design & Installation (or why section is not applicable)

Use the following space to specify the design and installation of dewatering control measures. If not applicable, include language from geotechnical report stating that no groundwater will be present on site. Note if there are contaminated soils on site.

Maintenance

Use the following space to specify maintenance requirements for the dewatering control measures.

[Empty rectangular box for specifying maintenance requirements]

8. DUST CONTROL

(Reference KCSWDM D.2.1.8, p. D-69 for additional information)

Check this box if this section is not applicable to the project.

Preventative measures to minimize the wind transport of soil will be taken when a traffic hazard may be created or when sediment transported by wind is likely to be deposited in water resources or adjacent properties. The purpose of dust control is to prevent wind transport of dust from exposed soil surfaces onto roadways, drainage ways, and surface waters.

Water

Other from Table D.2.1.8.A (Specify: [Click here to enter text.](#))

Design & Installation (or why section is not applicable)

Use the following space to specify the design and installation of dust control measures.

Maintenance

Use the following space to specify maintenance requirements for the dust control measures.

[Empty rectangular box for specifying maintenance requirements for dust control measures.]

9. FLOW CONTROL

(Reference KCSWDM D.2.1.9, p. D-71 for additional information)

Check this box if this section is not applicable to the project.

Surface water from disturbed areas must be routed through the project's onsite flow control facility or other provisions must be made to prevent increases in the existing site conditions 2-year and 10-year runoff peaks discharging from the project site during construction. The purpose of stormwater flow control is to mitigate increases in runoff peaks that occur during construction as a result of clearing vegetation, compacting the soil, and adding impervious surface. Such increases can cause or aggravate downstream flooding and erosion.

Design & Installation (or why section is not applicable)

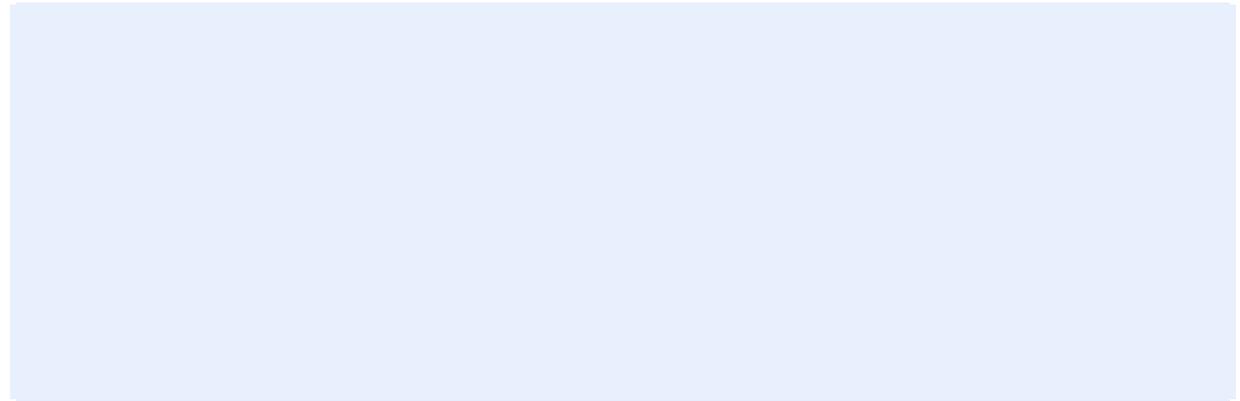
Use the following space to specify the design and installation of flow control measures. Include 2- and 10-year peak flows for the developed conditions. Paste calculations under 'Sizing' section.

Maintenance

Use the following space to specify maintenance requirements for the flow control measures.

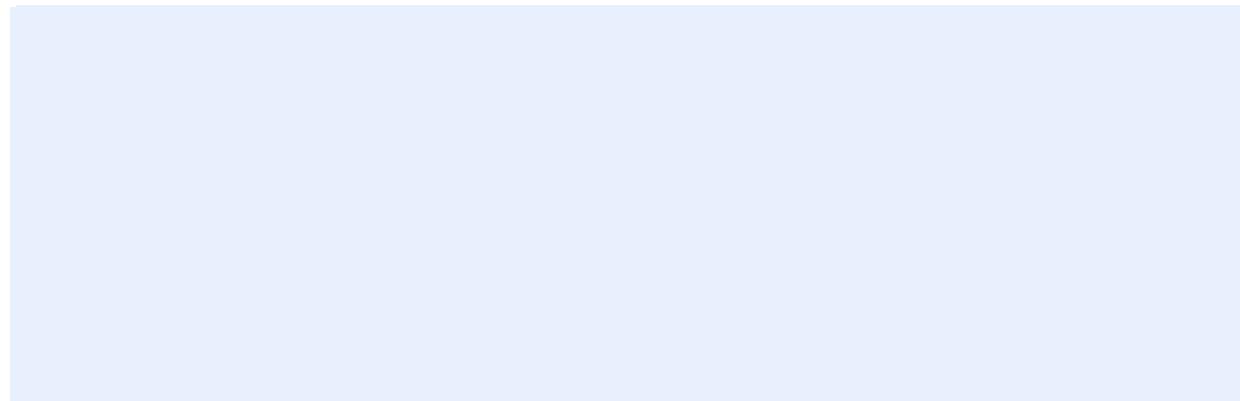
Sizing

In the space below, upload an image (or attach after this section of the report) from WWHM/MGS Flood stating the 2- and 10-year peak flows modeled on a 15-minute time step for the developed conditions.



The point of connection (POC) will be the basin outlet comparing pre-developed and post- clear-and-graded conditions.

In the space below or as attachment, upload calculations showing the sizing requirements.



10. CONTROL OF POLLUTANTS

The requirements for this section are covered in the SWPPS Plan, Part B of this document. SPPPS measures are required to prevent, reduce, or eliminate the discharge of pollutants to onsite or adjacent stormwater systems or water courses from construction-related activities such as materials delivery and storage, onsite equipment fueling and maintenance, demolition of existing buildings and disposal of demolition materials and other waste, and concrete handling, washout and disposal.

**11. PROTECT EXISTING AND PROPOSED FLOW CONTROL BMPs
(Reference KCSWDM D.2.1.10, p. D-71 for additional information)**

Check this box if this section is not applicable to the project.

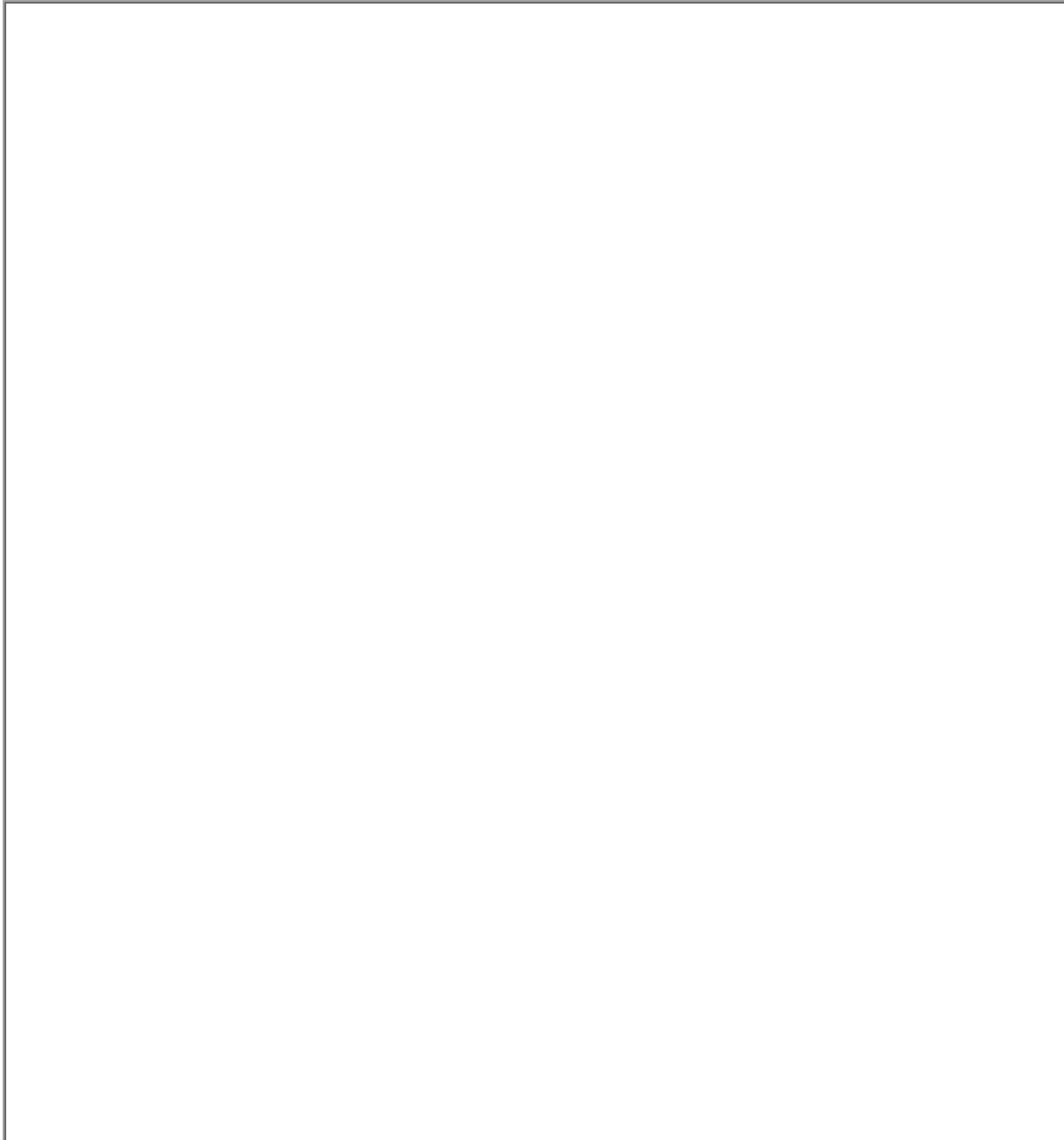
Protection measures will be applied/installed and maintained to prevent adverse impacts to existing flow control BMPs and areas of proposed flow control BMPs for the project. The purpose of protecting existing and proposed flow control BMP areas is to avoid sedimentation and soil compaction that would adversely affect infiltration, and also avoid contamination by other pollutants.

Design & Installation (or why section is not applicable)

Use the following space to specify the design and installation of flow control BMP protection measures.

Maintenance

Use the following space to specify maintenance requirements for the flow control BMP protection measures.



12. MAINTAIN PROTECTIVE BMPs
(Reference KCSWDM D.2.1.11, p. D-72 for additional information)

Check this box if this section is not applicable to the project.

The purpose of maintaining protective BMPs is to provide continuous ESC protection throughout the life of the project, and avoid sedimentation, soil compaction and contamination by other pollutants that would adversely affect infiltration and surface runoff.

Maintenance (or why section is not applicable)

Use the following space to specify maintenance requirements for the protective BMPs.

13. MANAGE THE PROJECT
(Reference KCSWDM D.2.1.12, p. D-72 for additional information)

Projects shall assign a qualified CSWPP Supervisor (Section D.2.3.1) to be the primary contact for ESC issues and reporting, coordination with subcontractors and implementation of the CSWPP.

Considerations:

1. Phase development projects to the maximum degree practicable and consider seasonal work limits.
2. Inspection and monitoring – Inspect, maintain, and repair all BMPs as needed to assure continued performance of their intended function throughout the life of the project.
3. Maintaining an updated CSWPP – Maintain, update, and implement the CSWPP throughout the life of the project.
4. Keep public works inspector informed on any changes.

The CSWPP Supervisor or inspector must have the skills to:

- **Assess site conditions and construction activities that could impact the quality of stormwater (e.g., site grading operations, or concrete construction and dewatering operations for a detention vault).**
- **Assess effectiveness of ESC measures used to control the quality of stormwater discharges at least weekly and within 24 hours of significant storms (0.5 inches or greater).**
- **Examine stormwater visually for the presence of suspended sediment, turbidity, discoloration, and oil sheen.**
- **Assess effectiveness of BMPs and determine if it is necessary to install, maintain, or repair BMPs to improve the quality of stormwater discharges (procedure covered in Part C of this template).**
- **Update the site logbook accordingly with pertinent information related to above bullets.**

Part B - STORMWATER POLLUTION PREVENTION AND SPILL (SWPPS) MEASURES
[REQUIRED FOR ALL PROJECTS]

(Reference KCSWDM D.2.2, p. D-74 for additional information)

The purpose of SWPPS control is to prevent, reduce, or eliminate the discharge of pollutants to onsite or adjacent stormwater systems or watercourses from construction-related activities such as materials delivery and storage, onsite equipment fueling and maintenance, demolition of existing buildings and disposition of demolition materials and other waste, and concrete handling, washout and disposal.

The implementation of this SWPPS plan and the construction, maintenance, replacement, and upgrading of the SWPPS facilities is the responsibility of the Permittee/Contractor until all construction is approved.

Contaminated Site Information:

Proposed activities regarding contaminated soils or groundwater (example: onsite treatment system, authorized sanitary sewer discharge) should be listed below:

All significant spills that have occurred in the past three years should be documented in Part B.

*Following this page, attach the SWPPS plan. See [COK General Policy G-7](#) for plan submittal requirements. The level of detail should be similar to that of [COK Pre-Approved Plan CK-E.04](#). Plan for SWPPS measures to City of Kirkland standards. If a City standard is not available, refer to the equivalent King County design standards. If a County standard is not available, refer to the equivalent Ecology design standards found in the latest Stormwater Management Manual of Western Washington (SWMMWW). **Reference the standard(s) being used where appropriate.** Under the Design & Installation and Maintenance textboxes, add relevant information concerning the BMPs.*

1. CONCRETE HANDLING
(Reference D.2.2.1, p. D-75 for additional information)

Check this box if this section is not applicable to the project.

Concrete work can generate process water and slurry that contain fine particles and high pH, both of which can violate water quality standards in the receiving water. Concrete spillage or concrete discharge to surface waters of the State is prohibited. Use this BMP to minimize and eliminate concrete, concrete process water, and concrete slurry from entering waters of the state.

Procedures (or why section is not applicable)

*Describe the management practices to be employed to prevent concrete washwater from discharging offsite. **Specifically identify where unused concrete will be placed and how project will prevent washwater or slurry from discharging into storm drain.***

2. CONCRETE WASHOUT AREA
(Reference D.2.2.2, p. D-76 for additional information)

Check this box if this section is not applicable to the project.

Prevent or reduce the discharge of pollutants to stormwater from concrete waste by conducting washout offsite, or performing onsite washout in a designated area to prevent pollutants from entering surface waters or ground water.

Design and Installation Specifications (or why section is not applicable)

*If concrete washout is performed onsite, specify the design and installation of the washout containment area(s). **Specifically describe the type, size and location on site, and how you will prevent washwater or slurry from discharging into storm drain.***

Maintenance

*Prescribe inspection and maintenance schedules and procedures to be conducted on the washout containment area(s). **Specifically explain how you will ensure that containers don't overtop or leak.***

**3. SAWCUTTING AND SURFACING POLLUTION PREVENTION
(Reference D.2.2.3, p. D-81 for additional information)**

Check this box if this section is not applicable to the project.

Sawcutting and surfacing operations generate slurry and process water that contains fine particles and high pH (concrete cutting), both of which can violate the water quality standards in the receiving water. Concrete spillage or concrete discharge to surface waters of the State is prohibited. Use this BMP to minimize and eliminate process water and slurry created through sawcutting or surfacing from entering waters of the State.

Procedures (or why section is not applicable)

*Specify the management practices to be employed to prevent sawcutting and surfacing pollution from discharging offsite. **Specifically describe how you will prevent slurry, cuttings or process water from discharging into storm drain.***

**4. MATERIAL DELIVERY, STORAGE AND CONTAINMENT
(Reference D.2.2.4, p. D-82 for additional information)**

Check this box if this section is not applicable to the project.

Prevent, reduce, or eliminate the discharge of pollutants to the stormwater system or watercourses from material delivery and storage. Minimize the storage of hazardous materials onsite, store materials in a designated area, and install secondary containment.

Design and Installation Specifications (or why section is not applicable)

Specify the design and installation of measures to protect prevent hazardous materials from discharging offsite. ***Specifically describe the type, size and location on site of secondary containment and/or cover measures.***

**5. CONSTRUCTION STORMWATER CHEMICAL TREATMENT
(Reference D.2.2.5, p. D-84 for additional information)**

Check this box if this section is not applicable to the project.

This BMP applies when using stormwater chemicals in batch treatment or flow-through treatment. Chemical treatment can reliably provide exceptional reductions of turbidity and associated pollutants. Chemical treatment may be required to meet turbidity stormwater discharge requirements, especially when construction is to proceed through the wet season.

Design and Installation Specifications (or why section is not applicable)

Specify the design and installation of the chemical treatment system(s) to be employed at the site.

Maintenance

Prescribe inspection and maintenance schedules and procedures to be conducted on the chemical treatment systems.

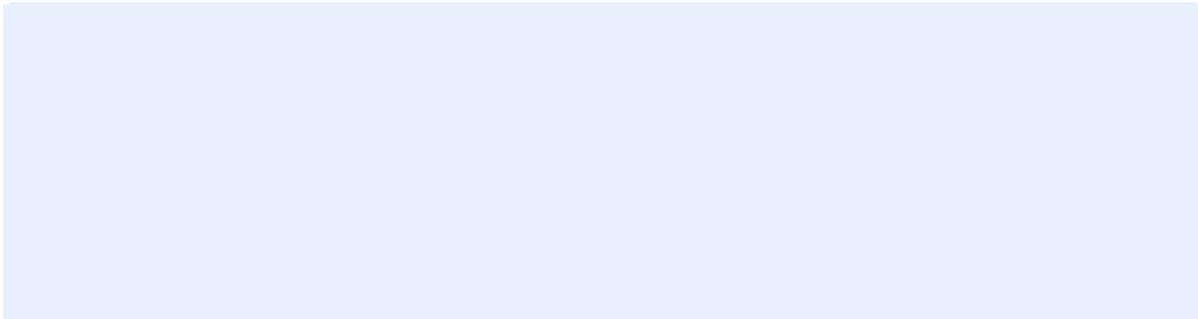
Sizing

In the space below, upload an image of the report from WWHM stating the 2- and 10-year peak flows modeled on a 15-minute time step for the developed conditions.



The point of connection (POC) will be the basin outlet comparing pre-developed and post- clear-and-graded conditions.

In the space below, upload calculations showing the sizing requirements.



6. CONSTRUCTION STORMWATER FILTRATION
(Reference D.2.2.6, p. D-90 for additional information)

Check this box if filtration will not be used on this project.

Filtration removes sediment from runoff originating from disturbed areas of the site.

Design and Installation Specifications (or why section is not applicable)

Specify the design and installation of the filtration system(s) to be employed at the site.

Specifically describe the type, size and location on site of stormwater filtration

Maintenance Standards

Prescribe inspection and maintenance schedules and procedures to be conducted on the filtration system(s).

7. HIGH pH NEUTRALIZATION USING CO₂
(Reference D.2.2.7, p. D-93 for additional information)

Check this box if CO₂ sparging will not be used on this project.

When pH levels in stormwater rise above 8.5 it is necessary to lower the pH levels to the acceptable range of 6.5 to 8.5, this process is called pH neutralization. pH neutralization involves the use of solid or compressed carbon dioxide gas in water requiring neutralization. Neutralized stormwater may be discharged to surface waters under the General Construction National Pollution Discharge Elimination System (NPDES) permit.

Design and Installation Specifications (or why section is not applicable)

Specify the design and installation of the CO₂ sparging system to be employed at the site.

Specifically describe the type, capacity and location onsite of the sparging system.

Maintenance Standards

Prescribe inspection and maintenance schedules and procedures to be conducted on the filtration system(s).



8. pH CONTROL FOR HIGH pH WATER
(Reference D.2.2.8, p. D-96 for additional information)

Check this box if this section is not applicable to the project.

When pH levels in stormwater rise above 8.5 it is necessary to lower the pH levels to the acceptable range of 6.5 to 8.5, this process is called pH neutralization. Stormwater with pH levels exceeding water quality standards may be treated by infiltration, dispersion in vegetation or compost, pumping to a sanitary sewer, disposal at a permitted concrete batch plant with pH neutralization capabilities, or carbon dioxide sparging (see previous page).

- Infiltration
- Dispersion
- Sanitary Sewer Disposal
- Concrete Batch Plant Disposal

Design and Installation Specifications (or why section is not applicable)

Specify the design and installation of the pH control system(s) to be employed at the site.

Maintenance Standards

Prescribe inspection and maintenance schedules and procedures to be conducted on the pH control system(s).

pH monitoring is required for “Significant concrete work” (i.e. greater than 1000 cubic yards poured concrete or recycled concrete over the life of the project). The use of engineered soils (soil amendments including but not limited to Portland cement-treated base [CTB], cement kiln dust [CKD] or fly ash) also requires pH monitoring.

For significant concrete work, pH sampling will start the first day concrete is poured and continue until it is cured, typically three (3) weeks after the last pour.

For engineered soils and recycled concrete, pH sampling begins when engineered soils or recycled concrete are first exposed to precipitation and continues until the area is fully stabilized.

If the measured pH is 8.5 or greater, the following measures will be taken:

1. **Prevent high pH water from entering storm sewer systems or surface water.**
2. **Adjust or neutralize the high pH water to the range of 6.5 to 8.5 su using appropriate technology such as carbon dioxide (CO₂) sparging (liquid or dry ice).**
3. **Written approval will be obtained from Ecology prior to the use of chemical treatment other than CO₂ sparging or dry ice.**

Method for sampling pH:

Check the analysis method you will use:

Table 8 – pH Sampling Method

<input type="checkbox"/>	pH meter
<input type="checkbox"/>	pH test kit
<input type="checkbox"/>	Wide range pH indicator paper

**9. USE OF HIGH pH SOIL AMENDMENTS ON CONSTRUCTION SITES
(Reference D.2.2.9, p. D-97 and COK Policy D-16 for additional information)**

Check this box if high pH soil amendments will not be used on this site.

Soil amendments used for stability purposes (as described on page D-97) are often high pH and require approval from City of Kirkland before use. Please use the following space to describe how the project will meet the conditions of COK Policy D-16 and Section D.2.2.9.

Conditions (or why section is not applicable)

10. MAINTAIN PROTECTIVE BMPs
(Reference D.2.2.10, p. D-106 for additional information)

Check this box if this section is not applicable to the project.

Pollutant protection measures will be maintained to assure continued performance of their intended function. Reporting and documentation will be kept current and made available to City of Kirkland as indicated.

Maintenance (or why section is not applicable)

Describe the procedures required to maintain all pollutant control BMPs.

11. MANAGE THE PROJECT **(Reference D.2.2.1.1, p. D-107 for additional information)**

Projects shall assign a qualified CSWPP Supervisor (Section D.2.3.1) to be the primary contact for SWPPS issues and reporting, coordination with subcontractors and implementation of the CSWPP.

Considerations:

1. Phase development projects to the maximum degree practicable and consider seasonal work limits.
2. Inspection and monitoring – Inspect, maintain, and repair all BMPs as needed to assure continued performance of their intended function throughout the life of the project.
3. Maintaining an updated CSWPP – Maintain, update, and implement the CSWPP throughout the life of the project.
4. Keep public works inspector informed on any changes.

The CSWPP Supervisor or inspector must have the skills to:

- **Assess site conditions and construction activities that could impact the quality of stormwater (e.g., site grading operations, or concrete construction and dewatering operations for a detention vault).**
- **Assess effectiveness of ESC measures used to control the quality of stormwater discharges at least weekly and within 24 hours of significant storms (0.5 inches or greater).**
- **Examine stormwater visually for the presence of suspended sediment, turbidity, discoloration, and oil sheen.**
- **Assess effectiveness of BMPs and determine if it is necessary to install, maintain, or repair BMPs to improve the quality of stormwater discharges (procedure covered in Part C of this template).**
- **Update the site logbook accordingly with pertinent information related to above bullets.**

Part C – SITE INSPECTION, MONITORING, AND SAMPLING REQUIREMENTS AND ENFORCEMENT

A site logbook shall be maintained for all onsite construction activities and may include:

- Previous versions of the CSWPP and other permits related to the CSWPP.
- Dated visual site inspections.
- Stormwater sampling data (water quality parameters of concern).

SITE INSPECTIONS

Site inspections will occur in all areas disturbed by construction activities and at all stormwater discharge points. The CSWPP Supervisor shall evaluate and document the effectiveness of the installed BMPs and determine if it is necessary to repair or replace any of the BMPs to improve the quality of stormwater discharges. All maintenance and repairs shall be documented in the site logbook. All new BMPs that are used shall be detailed in the amended CSWPP.

TURBIDITY CONTROL REQUIREMENTS FOR CONSTRUCTION STORMWATER DISCHARGE

The contractor is responsible for reporting an Illicit Discharge Detection and Elimination (IDDE) when construction stormwater discharge is released offsite during a construction project that does not meet City water quality standards. City staff will investigate concerns as a violation of the Kirkland Municipal Code (KMC) 15.52. If a violation is determined, a sample will be taken at any location deemed to be a discharge point. This may be a point source (pipe) or non-point source (runoff). The public works construction inspector assigned to the project will work with the contractor to implement changes needed on the project's ESC and SWPPS plans to assure effort has been taken to reduce pollution caused by construction stormwater discharge.

Basis of Requirements:

Refer to the [2016 KCSWDM, Core Requirement 5, Chapter 1.2.5](#) and [Appendix D](#), and [Policy E-1 of the City of Kirkland Pre-Approved Plans](#) for more information on site discharge requirements. Refer to KMC 15.52.090 and KMC 01.12.200 for rules on enforcement.

If a violation results in a corrective action notice, the proposed changes found within the notice should be reflected in the updated CSWPP, technical information report (TIR), and plan set, if applicable.

The CSWPP Supervisor may create their own Discharge Sampling Log or use the Discharge Sampling Log used by the City, provided at the end of this template.

MONITORING OF DISCHARGES

Following the guidelines detailed by King County (KCSWDM D.2.4.4), the CSWPP Supervisor shall do the following:

Daily:

- Inspect ESC and SWPPS facilities.
- Maintain ESC and SWPPS facilities to ensure continued proper functioning (KCSWDM D.4.1).
- Review the site for ESC and SWPPS during periods of active construction where maintenance conditions change with construction activity.

At least weekly, and within 24 hours of significant storms (see below for definition of *significant storm*) review the site for ESC and SWPPS:

- Sample at discharge locations, or any location where discharge off-site is occurring.
- Keep a log of all turbidity measurements (recorded as Nephelometric Turbidity Units [NTUs]) and make it available to the City of Kirkland upon request. If the project site is subject to a NPDES general permit for construction issued by the Ecology, then the project must also comply with the monitoring requirements of that permit.
- A *significant storm* is quantified as one resulting in greater than 0.5 inches of rain within the timespan of 24 hours; if temporary surface flow control or water quality facilities used for construction are overcapacity, a storm event can be categorized as significant.

ENFORCEMENT OF TURBIDITY CONTROL REQUIREMENTS

Enforcement will follow this procedure:

- 1. To verify turbidity readings, the CSWPP Supervisor will analyze discharge samples with a turbidity meter (following the procedures of KCSWDM 1.2.5.2.B/D.2.3.2).**
- 2. If a discharge of the following characteristics is made to the municipal separate storm sewer system (MS4) or waters of the state, this may be considered an illicit discharge:**
 - **Turbidity test results in greater than the benchmark value of 25 NTU, but less than 250 NTU.**
 - **Observed to have a visible sheen or suspected to contain a pollutant.**

The CSWPP Supervisor shall do all of the following in response:

- A. Report incident(s) to the City of Kirkland at (425) 587-3900.**
- B. Review the ESC and SWPPS plans for compliance and make appropriate revisions as soon as possible but no later than 7 days of the discharge that exceeded the benchmark of 25 NTU. The City of Kirkland will issue a Corrective Action Notice as reference for advised improvements. The Permittee may be subject to code compliance for cost recovery related to an illicit discharge as reimbursement of work completed by the City of Kirkland.**

- C. Fully implement and maintain appropriate ESC and SWPPS measures as soon as possible but no later than 10 days after the discharge that exceeded the benchmark.
- D. Document the ESC and SWPPS implementation and maintenance in the site logbook.

For projects discharging to a sensitive area (e.g. onsite wetland), see the following:

- a. If the turbidity level is found to be less than 5 NTU above background level if background turbidity is 50 NTU or less, OR
 - b. If the turbidity level is found to be less than 10% above background level if background turbidity is greater than 50 NTU, THEN
 - c. This discharge is allowed **BUT INCIDENT SHALL STILL BE RECORDED AND REPORTED TO THE CITY OF KIRKLAND**. Correction Action Notice may be provided but cost recovery and fines are not anticipated.
 - d. Procedures for reducing turbidity are the same as above except the benchmark value is the background turbidity (instead of 25 NTU).
3. If the turbidity reading is higher than 250 NTUs for discharges made to the municipal separate storm sewer system (MS4) or waters of the state, the CSWPP Supervisor shall do all of the following:
- A. Report incident(s) to the City of Kirkland at (425) 587-3900.
 - B. Review the ESC and SWPPS plans for compliance and make appropriate revisions as soon as possible but no later than 7 days of the discharge that exceeded the benchmark of 25 NTU. The City of Kirkland will issue a Corrective Action Notice as reference for advised improvements. The City may impose a "Stop Work Order" until turbidity levels return to a safe level (less than 250 NTUs). The Permittee may be subject to code compliance for cost recovery related to a discharge violation as reimbursement of work completed by the City of Kirkland. Cost recovery would be in addition to fines in relation to a violation of KMC 15.52.090.
 - C. Fully implement and maintain appropriate ESC and SWPPS measures as soon as possible but no later than 10 days after the discharge that exceeded the benchmark.
 - D. Document the ESC and SWPPS implementation and maintenance in the site logbook.
 - E. Continue to sample discharges until turbidity is 25 NTU or lower, or the turbidity is no more than 10% over background turbidity. "Stop Work Order" is lifted when turbidity samples are below 250 NTU.

- 4. If the project site is subject to a NPDES general permit for construction issued by the Ecology, then the project must also comply with the monitoring requirements of that permit.**

pH CONTROL REQUIREMENTS FOR CONSTRUCTION STORMWATER DISCHARGE

Prior to discharge, treated stormwater shall be sampled and tested for compliance with pH levels. pH shall be within the range of 6.5 to 8.5 standard units and not cause a change in the pH of the receiving water of more than 0.2 standard units.

pH monitoring is required for "Significant concrete work" (i.e. greater than 1000 cubic yards poured concrete or recycled concrete over the life of the project). The use of engineered soils (soil amendments including but not limited to Portland cement-treated base [CTB], cement kiln dust [CKD] or fly ash) also requires pH monitoring.

For significant concrete work, pH sampling will start the first day concrete is poured and continue until it is cured, typically three (3) weeks after the last pour.

For engineered soils and recycled concrete, pH sampling begins when engineered soils or recycled concrete are first exposed to precipitation and continues until the area is fully stabilized.

If the measured pH is expected to be 8.5 or greater, the following measures will be taken:

- 1. Prevent high pH water from entering storm sewer systems or surface water.**
- 2. Method for sampling pH shall be by pH meter probe.**
- 3. Adjust or neutralize the high pH water to the range of 6.5 to 8.5 standard units (su) using appropriate technology such as carbon dioxide (CO₂) sparging (liquid or dry ice).**
- 4. Written approval will be obtained from Ecology prior to the use of chemical treatment other than CO₂ sparging or dry ice.**

Recycled concrete and cement treatment are construction activities that result in the need for the pH control requirement. See [COK Policy D-16](#) for more information on these common practices to be better prepared for properly controlling pH in construction stormwater discharge.

DISCHARGE SAMPLING LOG

CSWPP Supervisor Name: _____
 24-Hour Emergency Contact Number: _____
 Applicant: _____ Permit No.: _____ - _____
 Site Address: _____
 Background Turbidity: _____ NTUs

	Activity Date	Turbidity Reading (NTUs)	Discharge Location (Storm, Stream, Sanitary sewer, or non-point source)	Corrective Notice?	Stop Work Order?
Discharge Incident	__/__/__				
Water Quality Sample After Incident	__/__/__	__ NTUs	Storm system, Stream, Sanitary sewer, or non-point source	Yes/No	Yes/No
Corrective Notice/Stop Work Order	__/__/__				
Water Quality Sample After Notice/Stop Work Order	__/__/__	__ NTUs	Storm system, Stream, Sanitary sewer, or non-point source	Yes/No	Yes/No
Corrective Notice/Stop Work Order	__/__/__				

Notes/Comments:

*Add rows as necessary to accommodate more incidents.