



Planning, Community, & Economic Development Department
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13 Elements of SWPPP (Construction Stormwater Pollution Prevention Plan)

Please check off boxes to show that each element has been read and understood. Provide details where applicable and if certain aspects are unnecessary or exempt, clearly justify. Details of the 13 Elements and the correlating BMPs are listed on **Pg. 236** of the 2014 Stormwater Management Manual for Western Washington (SWMMWW). A link is provided on the City of Anacortes website, under Planning, Community, & Economic Development Department, as well as under Stormwater on the Engineering Division of Public Work's page.

If needed, please attach a narrative to further explain plans or justification.

The Stormwater checklist or building permit determined that:

- The 13 elements must be addressed for construction activity adding under 2,000 sq. ft. of hard surface area.
- These elements must be addressed for construction activity adding 2,000 sq. ft. or more of hard surface area. This means that an attached narrative and site plan are required with this document.

ELEMENT 1: Preserve Vegetation/Mark Clearing Limits

- 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.
- Retain the duff layer, native top soil, and natural vegetation in an undisturbed state to the maximum degree practical.

Explain, or if unnecessary, justify:

ELEMENT 2: Establish Construction Access

- Limit construction vehicle access and exit to one route, if possible.
- Stabilize access points with a pad of quarry spalls, crushed rock, or other equivalent BMPs, to minimize tracking onto roads.
- Locate wheel wash or tire baths on site, if the stabilized construction entrance is not effective in preventing tracking sediment onto roads.
- If sediment is tracked off site, clean the affected roadway thoroughly at the end of each day, or more frequently as necessary (ex: wet weather). Remove sediment from roads by shoveling, sweeping, or pick up and transport the sediment to a controlled sediment disposal area.

- Conduct street washing only after sediment is removed in accordance with the above bullet.
- Control street wash wastewater by pumping back on site or otherwise preventing it from discharging into systems tributary to waters of the State.

Explain, or if unnecessary, justify:

ELEMENT 3: Control Flow Rates

- Protect properties and waterways downstream of development 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.
- Where necessary to comply with the bullet above, construct stormwater retention or detention facilities as one of the first steps in grading. Assure that detention facilities function properly before constructing site improvement (e.g. impervious surfaces).
- If permanent infiltration ponds are used for flow control during construction, protect these facilities from siltation during the construction phase.

Explain, or if unnecessary, justify:

ELEMENT 4: Install Sediment Controls

- Design, install, and maintain effective erosion controls and sediment controls to minimize the discharge of pollutants.
- Construct sediment control BMPs (sediment ponds, traps, filters, etc.) as one of the first steps in grading. These BMPs shall be functional before other land disturbing activities take place.
- 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.
- 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 in Element #3, bullet #1.
- 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.
- Provide and maintain natural buffers around surface waters, direct stormwater to vegetated areas to increase sediment removal, and maximize stormwater infiltration.
- 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.

Explain, or if unnecessary, justify:

ELEMENT 5: Stabilize Soils

- 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 early on areas to be paved, and dust control.
- Control stormwater volume and velocity within the site to minimize soil erosion.
- 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.
- Soils must not remain exposed and unworked for more than the time periods set forth below to prevent erosion.
 - During the dry season (May 1 – Sept 30): 7 days
 - During the wet season (Oct 1 – Apr 30): 2 days
- Stabilize soils at the end of the shift before a holiday or weekend if needed based on the weather forecast.
- Stabilize soil stockpiles from erosion, protect with sediment trapping measures, and where possible, be located away from storm drain inlets, waterways, and drainage channels.
- Minimize the amount of soil exposed during construction activity.
- Minimize the disturbance of steep slopes.
- Minimize soil compaction and, unless infeasible, preserve topsoil.

Explain, or if unnecessary, justify:

ELEMENT 6: Protect Slopes

- 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 (Ex: track walking).
- Divert off-site stormwater (run-on) or ground water 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.
- At the top of slopes, collect drainage in pipe slope drains or protected channels to prevent erosion.
 - *Temporary pipe slope drains must handle the peak volumetric flow rate calculated

using a 10-minute time step from a Type 1A, 10-year, 24-hour frequency storm for the developed condition. Alternatively, the 10-year, 1-hour flow rate predicted/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 Western Washington Hydrology Model (WWHM) to predict flows, bare soil areas should be modeled as “landscaped” area.

- Where 15-minute time steps are available in an approved continuous runoff model, they may be used directly without a correction factor.
- Place excavated material on the uphill side of trenches, consistent with safety and space considerations.
- Place check dams at regular intervals within constructed channels that are cut down a slope.
- Consider soil types and its potential for erosion.
- Stabilize soils on slopes, as specified in Element 5.
- BMP combinations are the most effective method of protecting slopes with disturbed soils. Ex: Use both mulching and straw erosion control blankets.

Explain, or if unnecessary, justify:

ELEMENT 7: Protect Drain Inlets

- 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.
- 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).
- Where possible, protect all existing storm drain inlets so that stormwater runoff does not enter the conveyance system without first being filtered or treated to remove sediment.
- Keep all approach roads clean. Do not allow sediment and street wash water to enter storm drains without prior and adequate treatment unless treatment is provided before the storm drain discharges to waters of the State.
- Inlets should be inspected weekly at a minimum and daily during storm events.

Explain, or if unnecessary, justify:

ELEMENT 8: Stabilize Channels and Outlets

- Design, construct, and stabilize all on-site conveyance channels to prevent erosion from the following expected peak flows:
 - *Channels must handle same peak volumetric flow rate as temporary pipe slope drains listed in Element 6, above.
- Provide stabilization, including armoring material, adequate to prevent erosion of outlets, adjacent streambanks, slopes, and downstream reaches at the outlets of all conveyance systems.
- The best method for stabilizing channels is to completely line the channel with a blanket product first, then add check dams as necessary to function as an anchor and to slow the flow of water.

Explain, or if unnecessary, justify:

ELEMENT 9: Control Pollutants

- Design, install, implement, and maintain effective pollution prevention measures to minimize the discharge of pollutants.
- 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.
- 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. 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 contained in the largest tank within the containment structure. Double-walled tanks do not require additional secondary containment.
- Conduct maintenance, fueling, and repair of heavy equipment and vehicles using spill prevention and control measures. Clean contaminated surfaces immediately following any spill incident.
- 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. Wheel wash or tire bath wastewater should not include wastewater from concrete washout areas.
- 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.
- 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, waste streams generated from concrete grinding and sawing, exposed aggregate processes, dewatering concrete vaults, concrete pumping, and mixer washout waters. Adjust the pH of stormwater if necessary to prevent violations of the water quality standards.
- Assure that washout of concrete trucks is performed off-site or in designated concrete washout areas only. Do not wash out concrete trucks onto the ground, or into storm drains, open ditches, streets, or streams. Do not dump excess concrete on site, except in designated concrete

washout areas. Concrete spillage or concrete discharge to surface waters of the State is prohibited. Do not use upland land applications for discharging wastewater from concrete washout areas.

- Obtain written approval from Ecology and provide to the City before using chemical treatment other than CO₂ or dry ice to adjust pH.
- Woody debris may be chopped and spread on site.
- Conduct oil changes, hydraulic system drain down, solvent and de-greasing cleaning operations, fuel tank drain down and removal, and other activities which may result in discharge or spillage of pollutants to the ground or into stormwater runoff using spill prevention measures, such as drip pans.
- Clean contaminated surfaces immediately following any discharge or spill incident. Emergency repairs may be performed on-site using temporary plastic placed beneath and, if raining, over the vehicle.

Explain, or if unnecessary, justify:

ELEMENT 10: Control De-Watering

- Discharge foundation, vault, and trench dewatering water, which have characteristics similar to stormwater runoff at the site, into a controlled conveyance system before discharge to a sediment trap or sediment pond.
- Discharge clean, non-turbid de-watering water, such as well-point ground water, to systems tributary to, or directly into surface waters of the State, as specified in Element 8, provided the de-watering flow does not cause erosion or flooding of receiving waters or interfere with the operation of the system. 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.
- Handle highly turbid or contaminated dewatering water separately from stormwater.
- Other treatment or disposal options may include:
 1. Infiltration
 2. Transport off-site in a vehicle, such as a vacuum flush truck, for legal disposal in a manner that does not pollute state waters.
 3. Ecology-approved on-site chemical treatment or other suitable treatment technologies.
 4. Sanitary or combined sewer discharge with local sewer district approval, if there is no other option.
 5. Use of a sedimentation bag with outfall to a ditch or swale for small volumes of localized dewatering.
- Construction equipment operation, clamshell digging, concrete tremie pour, or work inside a cofferdam can create highly turbid or contaminated dewatering water.
- Discharging sediment-laden (muddy) water into waters of the State likely constitutes a violation of water quality standards for turbidity. The easiest way to avoid discharging muddy water is through infiltration and preserving vegetation.

Explain, or if unnecessary, justify:

ELEMENT 11: Maintain BMPs

- 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.
- 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. Some temporary erosion and sediment control BMPs are bio-degradable and designed to remain in place following construction such as compost socks.
- Provide protection to all BMPs installed for the permanent control of stormwater from sediment and compaction. All BMPs that are to remain in place following completion of construction shall be examined and placed in full operating conditions. If sediment enters the BMPs during construction, it shall be removed and the facility shall be returned to the conditions specified in the construction documents.
- Remove or stabilize trapped sediment on site. Permanently stabilize disturbed soil resulting from removal of BMPs or vegetation.

Explain, or if unnecessary, justify:

ELEMENT 12: Manage the Project – Projects subject to Minimum Requirements 1-9 must have a Certified Erosion and Sediment Control Lead (CESCL) for site inspections. Projects subject to Minimum Requirements 1-5 do not require the inspector to be certified. By the initiation of construction, the SWPPP must identify the CESCL or inspector, who shall be present on-site or on-call at all times. Management details starting on **Pg. 250**.

- Phase development projects to the maximum degree practicable and take into account seasonal work limits to prevent soil erosion and prevent transporting sediment from the site during construction.
- Inspection and monitoring – Inspect, maintain, and repair all BMPs as needed to assure continued performance of their intended function.
- Maintain, update, and implement the SWPPP.
- Clearing and grading activities for developments shall be permitted only if conducted using an approved site development plan (e.g., subdivision approval).
- From Oct 1 through Apr 30, clearing, grading, and other soil disturbing activities is permitted only if shown that the site operator will prevent silt-laden runoff from leaving the site through a combination of the following:

1. Site conditions including existing vegetative coverage, slope, soil type, and proximity to receiving waters.
2. Limit activities and the extent of disturbed areas.
3. Proposed erosion and sediment control measures.

Weather conditions can influence the seasonal limitation on site disturbance. The City of Anacortes has the authority to take enforcement action per AMC 19.76 Stormwater.

- The following activities are exempt from the seasonal clearing and grading limitations:
 1. Routine maintenance and necessary repair of erosion and sediment control BMPs;
 2. Routine maintenance of public facilities or existing utility structures that do not expose the soil or result in the removal of the vegetative cover to soil
 3. Activities where there is 100% infiltration of surface water runoff within the site in approved and installed erosion and sediment control facilities.

Explain, or if unnecessary, justify:

ELEMENT 13: Protect Low Impact Development BMPS

- If implementing any bioretention facilities or rain gardens, see [Pg. 253](#) for requirements.

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