



Start HERE! A guide to using stormwater forms

Step 1

All projects must read and complete the Stormwater Calculation Worksheet.

Step 2

Use the quantities reported in this worksheet to determine which minimum requirements apply to your project and what forms will be required using the “Flow Chart for Determining Minimum Requirements.”

Step 2.1

Small Projects may submit the Worksheet S Small Project Certification sheet. Applicants who are able to sign the certification may **STOP HERE. Submit the Stormwater Calculation Worksheet and Worksheet “S” with your application. No additional submittal is necessary.**

Step 2.1

Medium Projects must complete worksheets A1, B1, and C or equivalent. **Large** Projects refer to Worksheet L to determine applicable worksheets are required or if a state-licensed engineer must prepare the submittal.

A Note on Engineered Stormwater Submittal:

-Many applicants complete stormwater submittal forms independently without professional expertise. For example, full dispersion, if feasible on the site (See Worksheet C), is typically easiest to implement for many different surface types such as roof, driveway, patio etc.

-Applicants may opt to submit an engineered stormwater plan even if it isn’t required. This option may be attractive to those who are unsure how some of the requirements will be achieved on the site. In some instances, engineering will be required. Certain Large projects must be engineered (See Worksheet L). Gathering information on infiltration feasibility may need an engineer’s expertise. Or, sites with greater than 15% slopes may require applicants hire a geologist to recommend if a drainage method is appropriate. Discharging directly to a marine water via tightline must be engineered. If you cannot do full dispersion on parcels larger than 5 acres, engineering is required. In other instances, site constraints will require an engineered design.

-Jefferson County staff may assist by providing and/or explaining Department of Ecology Stormwater Management Manual

Circle one:

Yes

no

The project requires or the applicant elects to submit an engineered stormwater plan. The plan is attached hereto with minimum requirement narrative, drawings, calculation, modeling output, construction pollution prevention plan, and site plan.

If you answered **YES** above, **STOP**, no further submittal is required. Otherwise, proceed with the following steps.

Step 3

Complete Worksheet A1 Medium/Large Project Report and Stormwater Site Plan or equivalent.

Step 3.1

Complete Worksheet C to determine which BMPs are possible and appropriate for your site. Circle the first BMP that is feasible (i.e. none of the infeasibility criteria is checked) for each surface type. Circle the corresponding BMP on Worksheet A1.

Step 4

Complete Worksheet B1 Medium/Large Project Construction Pollution Prevention Plan and Worksheet B2 Construction Site Plan or equivalent.

A Note on Commercial Projects:

- Jefferson County Public Works (JCPW) reviews commercial projects and charges a review fee. JCPW may charge additional fees for any required inspections.
- Any commercial projects proposing infiltration facilities may complete Worksheet E—Infiltration Test. Grain size analysis may be used instead of PIT. Commercial projects may elect to use BMP T5.10A and would not need a PIT, just a soil evaluation.
- Any development for cottage industries may require a commercial public works review if full dispersion is infeasible.



DEPARTMENT OF COMMUNITY DEVELOPMENT

621 Sheridan Street, Port Townsend, WA 98368

Tel: 360.379.4450 | Fax: 360.379.4451

Web: www.co.jefferson.wa.us/communitydevelopment

E-mail: dcd@co.jefferson.wa.us



Scan the QR code to access the digital form

STORMWATER CALCULATION WORKSHEET

PARCEL # _____	PROJECT/APPLICANT NAME: _____
----------------	-------------------------------

DETERMINING STORMWATER MANAGEMENT REQUIREMENTS: This stormwater calculation worksheet should be completed first to classify the proposal as “small,” “medium,” or “large.” The size determines whether a Stormwater Site Plan is required in conjunction with a stand-alone stormwater management permit application, building permit application, or other land use approval application that involves stormwater review. The basic information will also be helpful for completing a Stormwater Site Plan, if required.

<u>PARCEL SIZE (I.E., SITE)</u>	
Size of parcel _____ acres	An acre contains 43,560 square feet. Multiply the acreage by this figure.
Size of parcel in square feet _____ sq/ft	

Land-disturbing activity is any activity that results in movement of earth, or a change in the existing soil cover (both vegetative and non-vegetative) and/or the existing soil topography. Land disturbing activities include, but are not limited to clearing, grading, filling, excavation, and compaction associated with stabilization of structures and road construction.

Native vegetation is vegetation comprised of plant species, other than noxious weeds, which reasonably could have been expected to naturally occur on the site. Examples include species such as Douglas fir, western hemlock, western red cedar, alder, big-leaf maple, and vine maple; shrubs such as willow, elderberry, salmonberry, and salal; herbaceous plants such as sword fern, foam flower, and fireweed.

<u>LAND DISTURBING ACTIVITY, CONVERSION OF NATIVE VEGETATION, AND VOLUME OF CUT/FILL</u>	
<p>Calculate the total area to be cleared, graded, filled, excavated, and/or compacted for proposed development project. Include in this calculation the area to be cleared for:</p> <p>Construction site for structures _____ sq/ft</p> <p>Drainfield, septic tank, etc. _____ sq/ft</p> <p>Well, utilities, etc. _____ sq/ft</p> <p>Driveway, parking, roads, etc. _____ sq/ft</p> <p>Lawn, landscaping, etc. _____ sq/ft</p> <p>Other compacted surface, etc. _____ sq/ft</p> <p>Temporary construction area _____ sq/ft</p> <p>Total Land Disturbance _____ sq/ft</p>	<p>Answer the following two questions related to conversion of native vegetation:</p> <p>Does the project convert ¾ acres or more of native vegetation to lawn or landscaped areas?</p> <p>Circle: Yes No</p> <p>Does the project convert 2 ½ acres or more of native vegetation to pasture?</p> <p>Circle: Yes No</p> <p>Indicate Total Volumes of Proposed: (Includes BMP T5.13 Fill Volume)</p> <p>Cut _____ Fill _____ (cu/yd)</p>

STORMWATER CALCULATIONS – IMPERVIOUS SURFACE

Impervious surface is a hard surface that either prevents or slows the entry of water into the soil as under natural conditions prior to development. A hard surface area which causes water to run off the surface in greater quantities or at an increased rate of flow from the flow present under natural conditions prior to development. Common impervious surfaces include, but are not limited to roof tops, walkways, patios, driveways, parking lots or storage areas, concrete or asphalt paving, gravel roads, packed earthen materials, and oiled, macadam or other surfaces which similarly impede the natural infiltration of stormwater.

NEW

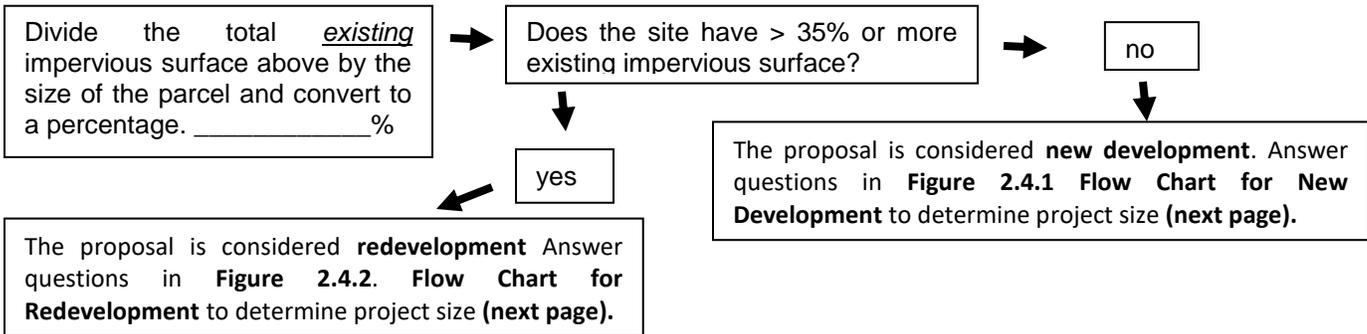
Structures (all roof area) _____ sq/ft
 Sidewalks _____ sq/ft
 Patios _____ sq/ft
 Solid Decks (without infiltration below) _____ sq/ft
 Driveway, parking, roads, etc _____ sq/ft
 Other _____ sq/ft
Total New _____ sq/ft

EXISTING

Structures (all roof area) _____ sq/ft
 Sidewalks _____ sq/ft
 Patios _____ sq/ft
 Solid Decks (without infiltration below) _____ sq/ft
 Driveway, parking, roads, etc _____ sq/ft
 Other _____ sq/ft
Total Existing _____ sq/ft

TOTAL NEW + TOTAL EXISTING* _____ sq/ft *This amount will be used to check total lot coverage.

DEVELOPMENT v. REDEVELOPMENT



~ Applicants for “**small**” projects must comply only with Minimum Requirement #2—Construction Stormwater Pollution Prevention. Please submit the Small Project Certification (Worksheet “s”). The proponent is responsible for employing the 12 Elements to control erosion and prevent sediment and other pollutants from leaving the site during the construction phase of the project. Pick up the **Construction Stormwater Pollution Prevention (SWPPP) Best Management Practices (BMPs) Fact Sheet**.

~ Applicants for “**medium**” projects—those that must meet only Minimum Requirements #1 through #5 must submit Worksheet A1 and B1, a stormwater site plan and a construction stormwater pollution prevention site plan (See Reference A1A and B1A for guidance).).

~ “**Large**” projects—those that must meet all 9 Minimum Requirements— must submit Worksheet A1 and B1, a stormwater site plan and a construction stormwater pollution prevention site plan (See Reference A1A and B1A for guidance). Large projects also may require engineering. See Worksheet L to determine additional large project requirements.

APPLICANT SIGNATURE By signing the Stormwater Calculation Worksheet, I as the applicant/owner attest that the information provided herein is true and correct to the best of my knowledge. I also certify that this application is being made with the full knowledge and consent of all owners of the affected property.

 (LANDOWNER OR AUTHORIZED REPRESENTATIVE SIGNATURE)

 (DATE)

Figure 2.4.1 Flow Chart for New Development

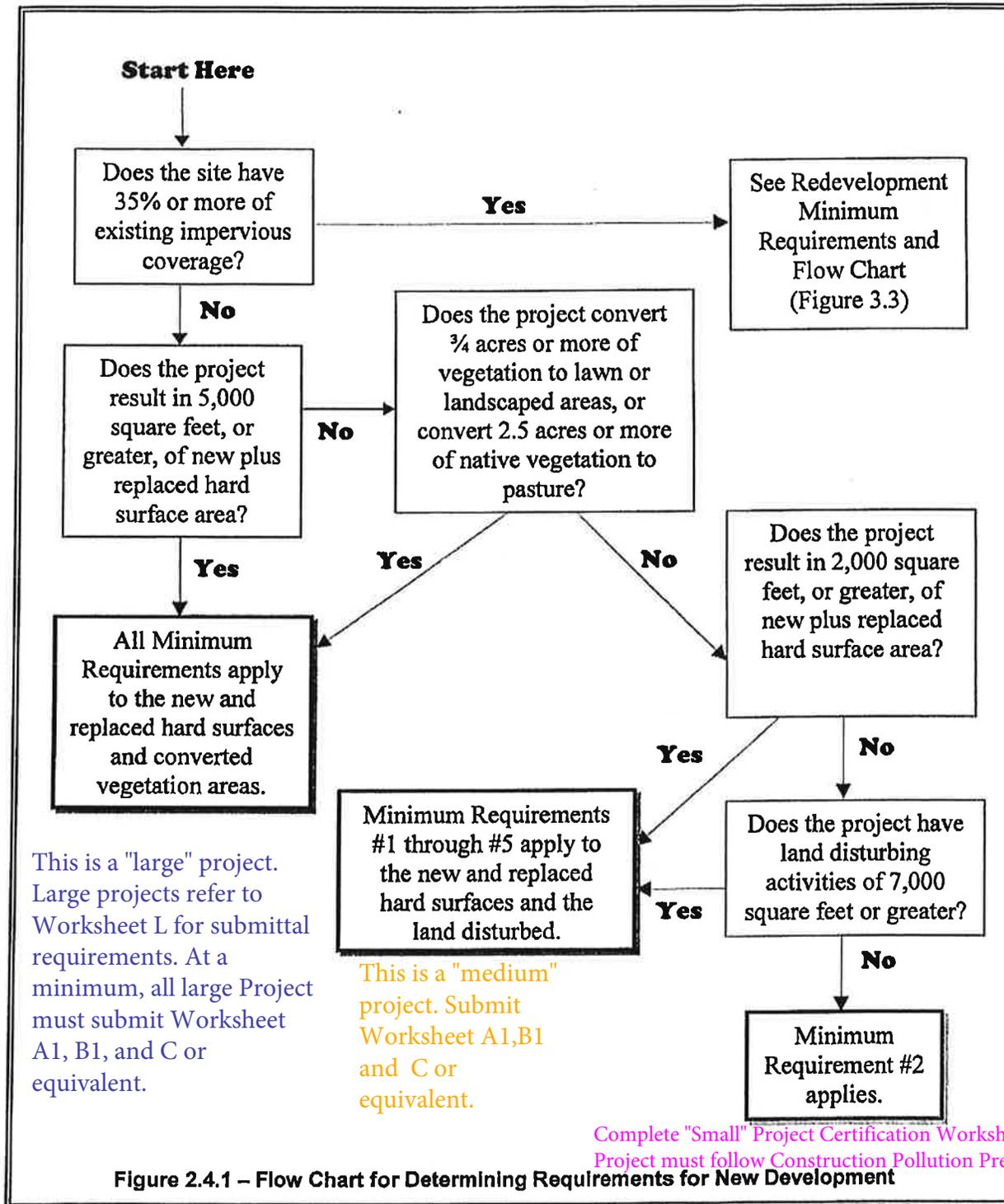


Figure 2.4.2 Flow Chart for Redevelopment

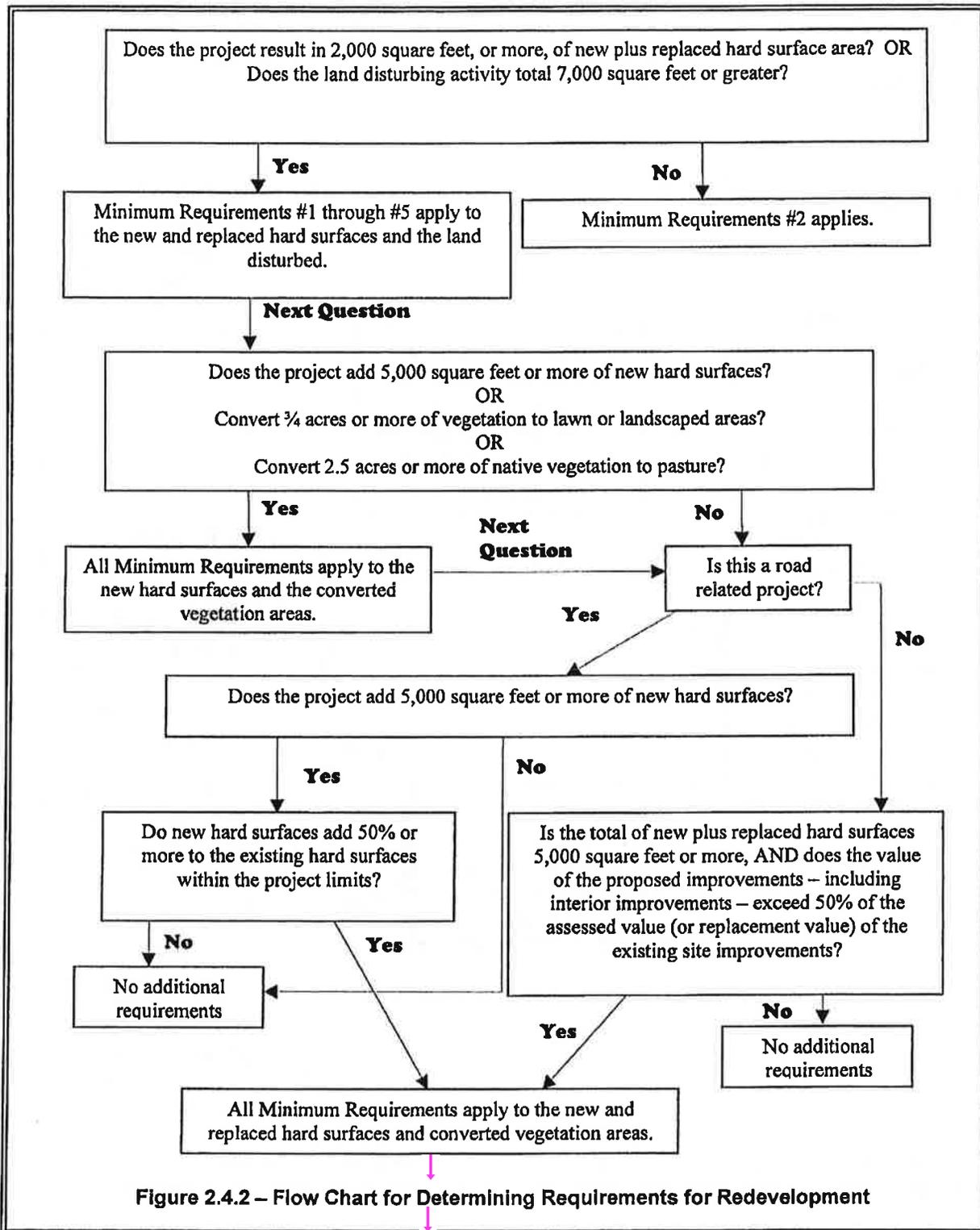


Figure 2.4.2 – Flow Chart for Determining Requirements for Redevelopment

This is a "large" project. Large projects refer to Worksheet L for submittal requirements. At a minimum, all large Project must submit Worksheet A1, B1, and C or equivalent.



DEPARTMENT OF COMMUNITY DEVELOPMENT

621 Sheridan Street, Port Townsend, WA 98368

Tel: 360.379.4450 | Fax: 360.379.4451

Web: www.co.jefferson.wa.us/communitydevelopment

E-mail: dcd@co.jefferson.wa.us

CONSTRUCTION STORMWATER POLLUTION PREVENTION Best Management Practices (BMPs) Fact Sheet

For “small” projects (as determined through the **Stormwater Calculation Worksheet**), submit Worksheet “S” Small Project Certification. Additionally, the applicant shall consider the twelve Construction Stormwater Pollution Prevention elements and implement applicable BMPs. A set of useful BMPs for typical rural residential construction is attached. There is no additional submittal required as part of the permit application.

For “medium” and “large” projects, applicants must submit a Construction Stormwater Pollution Prevention Plan (SWPPP) and a Stormwater Site Plan (applicants may use Worksheet B1 or equivalent).

The following twelve elements must be considered for Construction Stormwater Pollution Prevention before and during the construction phase of the project:

- | | |
|----------------------------------|--|
| 1. Mark Clearing Limits | 7. Protect Drain Inlets |
| 2. Establish Construction Access | 8. Stabilize Channels and Outlets |
| 3. Control Flow Rates | 9. Control Pollutants |
| 4. Install Sediment Controls | 10. Control De-Watering |
| 5. Stabilize Soils | 11. Maintain Best Management Practices |
| 6. Protect Slopes | 12. Manage The Project |

Each of the twelve elements is described in more detail below:

1. **Mark Clearing Limits**

By minimizing the limits of clearing on the site, a builder can minimize stormwater runoff and provide effective control of pollution.

2. **Establish Construction Access**

Much of the sediment that leaves a construction site does so on the wheels of delivery and construction vehicles that drive off a project site. Construction access must be limited to a single location and a properly constructed Stabilized Construction Entrance (BMP C105) should be included on the site.

3. **Control Flow Rates**

Stormwater that leaves a project site unimpeded may exceed the capacity of the existing stormwater control facilities downstream and may contain sediment that may be deposited as the velocity of the runoff decreases. Stormwater protection on a construction site should include measures to control the flow rate of runoff from the site. This can be done by installing a Sediment Trap (BMP C240) or other measure that will impede the flow of water off a construction site.

4. **Install Sediment Controls**

In addition to limiting the rate of stormwater flow off a construction site, measures should be put in place to treat the runoff and remove sediment. Limiting of the cleared area (Element 1) will assist in this effort, but there will be exposed soils that may move with the runoff. Suggested BMPs for controlling sediment include Straw Wattles (BMPC235), Brush Barrier (BMP C231), Gravel Filter Berm (BMP C232), and Silt Fence (BMP C233). Installation of a Sediment Trap (Element 3) is an additional sediment control feature.

5. **Stabilize Soils**

An additional measure that can minimize sediment transport in runoff is to stabilize soils on the site with mulch or some other covering. This will limit the amount of soil that is exposed to rainfall, thus limiting the sediment that could potentially leave the site. BMPs that could be used for this include Mulching (BMP C121), Nets and Blankets (BMP C122), and Plastic Covering (BMP C123). During periods of dry weather dust can become a problem and sediment could be transported from the site in high winds. BMP C140 Dust Control should be followed to limit loss of soils in windy conditions.

6. **Protect Slopes**

If the cleared area includes slopes of 3:1 (Horizontal: Vertical) or steeper, the slopes should be protected to limit runoff. If the slopes are not protected, rills and gullies may form, transporting sediment to the lower elevations and potentially off the construction site. The slopes should be graded to minimize erosion and runoff at the downstream end of the slopes, and runoff should be collected and treated. The following BMPs could be used Surface Roughening (BMP C130), Interceptor Dike and Swale (BMP C200), and Pipe Slope Drains (BMP C204).

7. **Protect Drain Inlets**

Runoff from urban construction sites often discharges into existing stormwater collection systems. Water enters the collection system through drain inlets. If there are drain inlets downstream of a construction site, they should be protected using BMP C220 Storm Drain Inlet Protection.

8. **Stabilize Channels and Outlets**

Any temporary on-site channels or ditches that are used to control runoff should be stabilized to prevent erosion in the channel. BMP C202 Channel Lining and BMP C209 Outlet Protection should be used.

9. **Control Pollutants**

The best way to control pollution is to limit the source of pollution. Construction debris should be maintained in a safe location. Vehicle maintenance on the construction site should be minimized and any spill should be promptly cleaned up. Concrete spillage should be kept to a minimum and cleaning of the concrete trucks after they have unloaded should be done in an area that will not drain off site (see BMP C151 Concrete Handling).

10. **Control Dewatering**

In some cases, excavation for the foundation or below ground structures will encounter ground water. This water must be removed (dewatered) from the excavation. Discharge of this ground water must be treated in a manner that will not cause damage downstream due to flow rates or added pollution. There are no specific BMP identified for this activity, but the water should be handled with care to assure that soils or other pollutants are not added to this flow.

11. **Maintain BMPs**

Installation of the appropriate BMPs is not adequate to completely control stormwater runoff. The BMPs that have been installed on the project must be inspected and maintained during the duration of the construction project. In addition, the temporary controls that were installed for construction should be removed within 30 days of completion of the work. Typically, once construction has been completed, the temporary facilities are not maintained, and by removing the facilities, it will ensure that these won't fail and discharge water or sediment that had been previously trapped or contained.

12. **Manage the Project**

Management of a project has four aspects:

1. Phasing construction to prevent transportation of runoff and sediment,
2. Limiting the work during seasons where large amounts of rainfall could be anticipated,
3. Coordination with Utilities and other Contractors, and
4. Inspection and Monitoring.

All of these for aspects are important and must be followed to ensure a project that will have minimal impact on the environment. Volume II of the Manual contains additional BMPs that could be used on-site. The applicant is encouraged to review the Manual to see if other BMPs may be applicable to, or more useful on, a particular site.

Best Management Practices from 2014 Ecology Stormwater Management Manual

The following BMPs for Construction Stormwater Pollution Prevention are sediment and erosion control measures for the construction phase of typical rural residential development. Some projects may not require implementation of all of these BMPs; others may require additional measures not listed here.

[Click on the BMP to learn more about each BMP's purpose and design:](#)

II-4.1 Source Control BMPs

[BMP C101: Preserving Natural Vegetation](#)

[BMP C102: Buffer Zones](#)

[BMP C103: High Visibility Fence](#)

[BMP C105: Stabilized Construction Entrance /](#)

[Exit](#)

[BMP C106: Wheel Wash](#)

[BMP C107: Construction Road/Parking Area](#)

[Stabilization](#)

[BMP C120: Temporary and Permanent Seeding](#)

[BMP C121: Mulching](#)

[BMP C122: Nets and Blankets](#)

[BMP C123: Plastic Covering](#)

[BMP C124: Sodding](#)

[BMP C125: Topsoiling / Composting](#)

[BMP C126: Polyacrylamide \(PAM\) for Soil](#)

[Erosion Protection](#)

[BMP C130: Surface Roughening](#)

[BMP C131: Gradient Terraces](#)

[BMP C140: Dust Control](#)

[BMP C150: Materials on Hand](#)

[BMP C151: Concrete Handling](#)

[BMP C152: Sawcutting and Surfacing Pollution](#)

[Prevention](#)

[BMP C153: Material Delivery, Storage and](#)

[Containment](#)

[BMP C154: Concrete Washout Area](#)

[BMP C160: Certified Erosion and Sediment](#)

[Control Lead](#)

[BMP C162: Scheduling](#)

II-4.2 Runoff Conveyance and Treatment BMPs

[BMP C200: Interceptor Dike and Swale](#)

[BMP C201: Grass-Lined Channels](#)

[BMP C202: Channel Lining](#)

[BMP C203: Water Bars](#)

[BMP C204: Pipe Slope Drains](#)

[BMP C205: Subsurface Drains](#)

[BMP C206: Level Spreader](#)

[BMP C207: Check Dams](#)

[BMP C208: Triangular Silt Dike \(TSD\)](#)

[\(Geotextile-Encased Check Dam\)](#)

[BMP C209: Outlet Protection](#)

[BMP C220: Storm Drain Inlet Protection](#)

[BMP C231: Brush Barrier](#)

[BMP C232: Gravel Filter Berm](#)

[BMP C233: Silt Fence](#)

[BMP C234: Vegetated Strip](#)

[BMP C235: Wattles](#)

[BMP C236: Vegetative Filtration](#)

[BMP C240: Sediment Trap](#)

[BMP C241: Temporary Sediment Pond](#)

[BMP C251: Construction Stormwater Filtration](#)

