City of Battle Ground

Stormwater Site Plan Short Form

March 2017

City of Battle Ground Stormwater Site Plan Short Form

The Stormwater Site Plan Short Form is a form designed to fulfill Minimum Requirements #1 - #5 of the *2014 Stormwater Management Manual for Western Washington*. This form may be revised by the Local Official.

Table of Contents

Section 1 — Submittal Requirements 4
Section 2 — Project Overview 5
City Permit 5
Applicant Information 5
Property Owner Information 5
Property Information 5
Other Permits 5
Project Description 6
Project Impacts 6
Section 3 — Existing Conditions Summary 9
Section 4 — Soils Assessment 12
1. Soil Description 13
2. Infiltration Rate Testing 13
3. Groundwater Assessment 14
Section 5 — Minimum Requirements Discussion and Narrative 15
Minimum Requirement #1 — Preparation of a Stormwater Site Plan 15
Minimum Requirement #2 — Erosion and Sediment Control during Construction 16
Minimum Requirement #3 — Source Control of Pollution 16
Minimum Requirement #4 — Preserve Natural Drainage Systems and Outfalls 17
Minimum Requirement #5 — On-site Stormwater Management 18
Section 6 — Erosion and Sediment Control During Construction 21
Section 7 — Maps, Plans, and Drawings 21
Section 8 — On-Site BMP Design Criteria and Drawings 26
Section 9 — Erosion and Sediment Control BMPs 26

The Stormwater Site Plan Short Form (Site Plan Short Form) may be used for projects that trigger only Minimum Requirements #1-#5, which may be residential, agricultural, or commercial projects. See the *2014 Stormwater Management Manual for Western Washington*, Volume I, Section 2.5.2 to determine eligibility to use this form.

The guidelines in this form help apply the requirements of City of Battle Ground Municipal Code (BGMC) 18.250, 18.255 and the 2014 Stormwater Management Manual for Western Washington to small project sites. If conflicts arise, the City of Battle Ground Municipal Code and the 2014 Stormwater Management Manual for Western Washington supersede the requirements, processes, and guidelines described herein.

Section 1 — Submittal Requirements

The following submittals are required:

- Project Overview (Section 2)
- Existing Conditions Summary (Section 3)
- Soils Assessment (see Section 4)
- Minimum Requirements Narrative (Section 5)
- Erosion and Sediment Control Plan (Section 6)
- Maps, Plans and Drawings (see Section 7)
- LID Feasibility Checklist, if required (Section 8)

Section 2 — Project Overview

City Permit

Building Permit Number(s): _____

Associated City of Battle Ground Permit Number(s) (e.g. land use permits, critical areas permits):_____

Applicant Information

Name:_____

Address: _____

Phone Number:_____E-mail: _____

Property Owner Information

Name:_____

Address: _____

Phone Number:_____E-mail: _____

Property Information

Project Address: _____

Parcel Number_____Size of Parcel (ac. or sq. ft.): _____

Other Permits

Identify other agency permits required or associated with the subject parcel (e.g. hydraulic permits, Army Corps 404 permits). Provide Permit numbers if available: _____

_____

_____

Project Description

Describe current and future site conditions below, or attach a separate sheet.

Current site condition and use: _____

_____

_____

_____

Proposed site condition and use: _____

_____

_____

_____

_____

Project Impacts

Fill in the following table to summarize the site disturbance and new or replaced surfaces planned for the site. Definitions are found on the next page.

If the site includes more than one Threshold Discharge Area, copy this sheet, fill out the table below for each TDA, and submit one sheet for each TDA.

Definitions of terms are shown on the following page.

Threshold Discharge Area	**Square Feet**
New hard surfaces	
Replaced hard surfaces	
Total New + Replaced Hard Surfaces	
New and replaced pollution generating hard surfaces (PGHS)	
Vegetation (including pasture) converted to lawn/landscape	
Native vegetation converted to pasture	
Total land disturbing activity	

Definitions

Hard Surface – An impervious surface, a permeable pavement, or a vegetated roof.

Impervious Surface – A non-vegetated surface which either prevents or retards the entry of water into the soil below, causing water to run off the surface in greater quantities or at an increased rate compared to natural conditions prior to development. Common impervious surfaces include roofs, walkways, patios, driveways, parking lots, storage areas, gravel roads, and packed earthen materials.

Replaced Hard Surface – For structures, the removal and replacement of hard surfaces down to the foundation. For other hard surfaces, the removal down to bare soil or base course and replacement.

Pollution-generating Hard Surface (PGHS) – Hard surfaces that are a significant source of pollutants in stormwater runoff, such as those subject to vehicular traffic and industrial activities. Surfaces include roads, driveways, parking areas, most metal roofs, and areas that receive direct rainfall or run-on and which are used to store erodible stockpiles, wastes, or chemicals.

Converted Vegetation (areas) – Surfaces on a project site where native vegetation, pasture, scrub/shrub, or unmaintained non-native vegetation (e.g., Himalayan blackberry, scotch broom) are converted to lawn or landscaped areas, or where native vegetation is converted to pasture.

Land Disturbing Activity – Any activity that results in a change in the existing soil cover (both vegetative and non-vegetative) and/or the existing soil topography. Land disturbing activities include grading, filling, and excavation. Compaction associated with stabilization of structures and road construction shall also be considered a land disturbing activity. Landscape maintenance and gardening are not included.

Native Vegetation – Plants that are indigenous to the coastal Pacific Northwest and which naturally could have occurred on the site. Examples include Douglas Fir, Western Hemlock, Western Red Cedar, Alder, Big-leaf Maple, and Vine Maple; shrubs such as willow, elderberry, salmonberry and salal; and plants such as sword fern, foam flower, and fireweed.

Threshold Discharge Area – An on-site area draining to a single natural discharge location or multiple natural discharge locations that combine within one-quarter mile downstream (as determined by the shortest flow path), as shown in the illustration below.

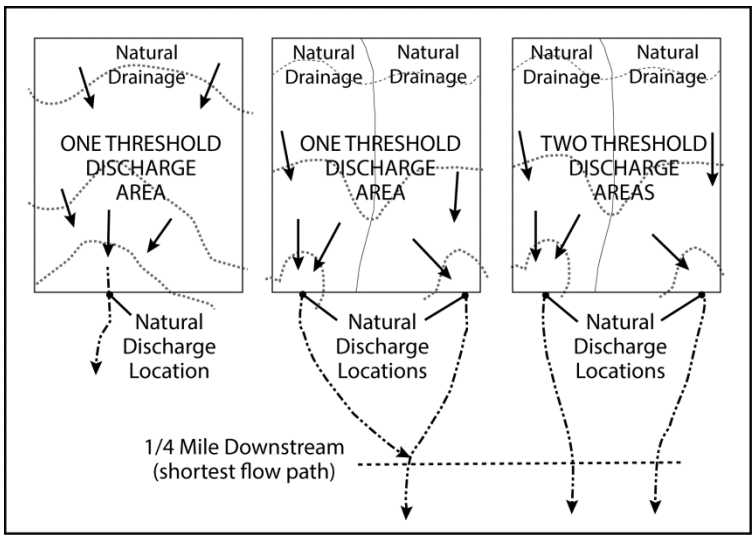

Figure 1: Threshold Discharge Area

Section 3 — Existing Conditions Summary

Describe the existing site conditions. If there are multiple choices, check all that apply. Some information may be found on Clark County Maps Online at http://gis.clark.wa.gov/mapsonline/.

1. Describe the existing site conditions.

☐ Forest ☐ Prairie ☐ Pasture ☐ Pavement
☐ Landscaping ☐ Brush ☐ Trees ☐ Other _____

2. Describe how surface water (stormwater) drainage flows across/from the site.

☐ Overland ☐ Gutter ☐ Catch Basin ☐ Ditch/Swale
☐ Storm Sewer Pipe ☐ Stream ☐ Other _____

3. Describe, discuss and identify the following for the project site:

- Topography — is the site: ☐ Flat ☐ Rolling ☐ Steep
- Natural and man-made drainage patterns (which direction does stormwater flow and how):

_____

_____

_____

- Are there any known historical drainage problems such as flooding, erosion, etc.)?

_____

_____

_____

- Are sensitive and/or critical areas present on the site (check all that apply)? See http://gis.clark.wa.gov/mapsonline/

☐ Streams† ☐ Lakes/Ponds ☐ Wetlands† ☐ Steep Slopes/Geohazard†
☐ Floodplain ☐ Springs ☐ Habitat† ☐ Critical Aquifer Recharge Area

† If the site is on a critical area, the City of Battle Ground may require additional information, engineering, or other permits.

- Existing utilities

  ☐ Storm ☐ Water ☐ Sewer ☐ Other

- Are fuel tanks present on the site?

  ☐ Yes ☐ No

- Are groundwater wells present on the site and/or within 100 feet of the site?

  ☐ Yes ☐ No

- Are septic systems present on the site and/or within 100 feet of the site?

  ☐ Yes ☐ No

- Are there existing public and/or private easements on the project site?

  ☐ Yes ☐ No

  If Yes, Provide Recording Number(s): _____

Adjacent Areas

Describe adjacent properties and roads. Attach a separate sheet, if necessary.

1. Check any adjacent areas that may be affected by site disturbance and describe below (check all that apply):

☐ Streams‡ ☐ Lakes ☐ Wetlands‡ ☐ Steep Slopes/Geohazards‡
☐ Residential Areas ☐ Roads ☐ Ditches, pipes, culverts
☐ Other _____

_____

_____

_____

_____

_____

_____

‡ If the site is adjacent to a critical area, the City of Battle Ground may require additional information, engineering, or other permits.

2. Describe how and where surface water enters the site from upstream properties:

3. Describe how and where surface water exits the site and the downstream drainage, including flooding problems, if known:

Section 4 — Soils Assessment

Obtain a Soils Assessment of the site performed by a qualified professional. Ask the qualified professional to fill out items 1 – 3, below, and attach a written report to this form. The professional will need to consult the 2014 Stormwater Management Manual for Western Washington, Volume III, Section 3.3.5.

For all sites, the Soils Assessment must include a soils description (item 1, below). Some sites also require infiltration rate testing (item 2, below) and a groundwater assessment (item 3, below).

Qualified professionals include certified soil scientist, professional engineer, geologist, hydrogeologist or engineering geologist registered in the State of Washington or suitably trained persons working under the supervision of the above professionals. A licensed on-site sewage designer can be used to complete the soil description (item 1) and to conduct infiltration tests (item 2) but may not be used to complete a groundwater assessment (item 3) or a slope stability analysis, if required.

1. Soil Description

A soil description is required for all sites.

☐ Soils on the site are described by a qualified professional in accordance with the 2014 Stormwater Management Manual for Western Washington, Volume III, Section 3.3.5 Site Characterization Criteria.

☐ A Soils Report is attached.

Describe the soils on the site:

_____

_____

_____

_____

2. Infiltration Rate Testing

Infiltration rate testing is required for sites that are proposing to use rain gardens, bioretention, downspout full infiltration or permeable pavements to fulfill Minimum Requirement #5 (see Section 5).

☐ Infiltration rate testing N/A

☐ Infiltration rate testing conducted by a qualified professional in accordance with the 2014 Stormwater Management Manual for Western Washington, Volume III, Section 3.3.4, Steps for the Design of Infiltration Facilities – Simplified Approach.

☐ Infiltration testing method, logs, results, and rates are attached or described in the Soils Report.

List the infiltration rate(s) found on the site:

_____

_____

_____

3. Groundwater Assessment

A groundwater assessment is required if permeable pavement is proposed and the seasonal high groundwater elevation in the area is known to be less than five feet below the proposed surface.

☐ Groundwater assessment N/A

☐ Groundwater assessment conducted by a qualified professional in accordance with the 2014 Stormwater Management Manual for Western Washington, Volume I, Section 3.1.1, Site Analysis: Collect and Analyze Information on Existing Conditions.

☐ Groundwater assessment attached or included with the Soils Report.

Section 5 — Minimum Requirements Discussion and Narrative

The applicant must demonstrate how five Minimum Requirements will be met. Minimum Requirements describe the minimum stormwater controls and technical specifications for the site.

Generally, small projects must:

- Control erosion and sedimentation during construction (Minimum Requirement #2).
- Prevent stormwater from coming into contact with pollutants (Minimum Requirement #3).
- Preserve the natural drainage patterns on the site (Minimum Requirement #4).
- Capture and control runoff from the site's new and replaced hard surfaces using practices such as rain gardens, dispersion, or infiltration trenches and drywells (Minimum Requirement #5).
- Demonstrate how the Minimum Requirements will be met using the COBG Stormwater Site Plan Short Form (this form) and other required submittals (Minimum Requirement #1).

Minimum Requirements are discussed below.

Instructions

1. Read each Minimum Requirement.
2. Follow any instructions given in the description.
3. Fill out the "Documentation" section for each Minimum Requirement.

Minimum Requirement #1 — Preparation of a Stormwater Site Plan

Minimum Requirement

All projects shall prepare and submit a Stormwater Site Plan (site plan) for review. The site plan will demonstrate how the project will comply with BGMC 18.250, 18.255 and the *2014 Stormwater Management Manual for Western Washington* for control of stormwater. The site plan will be reviewed for compliance and to ensure that stormwater best management practices (BMPs) are correct. A Stormwater Site Plan shall display site-appropriate development principles to retain native vegetation and minimize impervious surfaces to the extent feasible.

Documentation

☐ Stormwater Site Plan Short Form (this form)

Attachments (when required)

- ☐ Soils Assessment (see Section 4)
  - Groundwater Assessment: ☐ Attached ☐ N/A
- ☐ Erosion and Sediment Control Plan (see Section 6)
- ☐ LID Infeasibility Checklist, if required (see Section 8)

Drawings (see Section 7)

- ☐ Vicinity Map
- ☐ Existing Site Map
- ☐ Site Plan
- ☐ BMP Drawings
- ☐ Erosion and Sediment Control Site Plan

Minimum Requirement #2 — Erosion and Sediment Control during Construction

Minimum Requirement

All construction projects are responsible for preventing discharge of sediment and other pollutants from the site during construction. Instructions for documenting and complying with erosion and sediment control requirements are given in the COBG Small Project SWPPP.

Documentation

- ☐ Erosion and Sediment Control Plan (Section 6 of this form) completed
- ☐ Erosion and Sediment Control Site Plan included with required drawings (see Section 7)
- ☐ Completed COBG Small Project Construction SWPP

Minimum Requirement #3 — Source Control of Pollution

Minimum Requirement

Development and redevelopment projects must use source control BMPs to prevent contamination of stormwater. Source control BMPs must be selected and designed in accordance with the 2014 Stormwater Management Manual for Western Washington.

Description

Sites that will include any activities in the list below, must consult the 2014 Stormwater Management Manual for Western Washington, Volume IV, and determine the structural and operational source control BMPs that are required for the site. Show any required structural source control BMPs on the site plan, and list any required operational source control BMPs in the "Documentation" section below.

Commercial Site Activities

Check any activity that will take place on the site after construction.

- ☐ Manufacturing
- ☐ Transportation and Communication Business
- ☐ Retail and Wholesale Business
- ☐ Service Business
- ☐ Public Agency
- ☐ Pools, Spas, Hot Tubs and Fountains

Documentation

☐ Consult the 2014 Stormwater Management Manual for Western Washington, Volume IV and list all required BMPs to be installed to provide source control for activities checked above, or check ☐ N/A if no activities above are selected:

_____

_____

_____

_____

☐ Show any required structural source control BMPs on the site plan.

Minimum Requirement #4 — Preserve Natural Drainage Systems and Outfalls

Minimum Requirement

Maintain natural and existing drainage patterns through the site and onto adjacent property as much as possible.

Documentation

☐ The natural drainage patterns have been maintained to the maximum extent feasible.

☐ Energy dissipation will be provided at all outfalls.

Minimum Requirement #5 — On-site Stormwater Management

Minimum Requirement

Projects must use On-site Stormwater Management BMPs to disperse, infiltrate, and retain stormwater runoff from the site's roofs, driveways, parking areas, patios, and landscaped areas to the extent feasible without causing flooding or erosion impacts.

Description

Stormwater generated from hard surfaces on the site must be infiltrated or dispersed into vegetation on the site using BMPs such as rain gardens, infiltration trenches and drywells, and dispersion.

Minimum Requirement #5 requires the use of On-Site Stormwater Management BMPs selected from a prioritized list or to meet the LID Performance Standard in accordance with the 2014 Stormwater Management Manual for Western Washington, Volume III, Section 2.2.3. In order to select a lower priority BMP from the list, the applicant must first establish the infeasibility of using the higher-priority BMP(s).

Infeasibility is established by comparing specific site conditions and requirements with a list of infeasibility criteria given for the BMP. Refer to the appropriate City of Battle Ground LID Infeasibility Checklists and COBG Stormwater Standard Details. Refer to the 2014 Stormwater Management Manual for Western Washington, Vol. III, Chapter 3 and Volume V, Chapter 5 for additional information.

Documentation

☐ Yes ☐ No Did the project developer choose to meet the LID Performance Standard? If yes, attach supporting WWHM documentation, skip the COBG LID Infeasibility Checklists and select BMPs.

Go through the selection process described below. For each surface to be constructed as part of the project, fill in the first BMP that is feasible using the selection processes.

☐ COBG LID Infeasibility Checklists complete.

☐ Lawn and Landscape Area will be installed or re-graded.

☐ BMP T5.13 Post Construction Soil Quality and Depth will be used. (See City of Battle Ground Soil Management Plan)

☐ Roofs will be constructed.

BMP Selected for Roofs: _____

☐ Other Hard Surfaces will be constructed (e.g. driveway, parking, patio, etc.).

BMP Selected for Other Hard Surfaces: _____

Selection

Project sites usually construct or create up to three types of surfaces that generate stormwater runoff – lawn and landscaped areas, roofs, and other hard surfaces (driveways, patios, parking, etc.).

For each surface constructed or created as part of the project, select a BMP from a prioritized list of required BMPs below. Select the first BMP in the list that is not infeasible (see below for establishing infeasibility). Only one BMP for each surface is required.

Lawn and Landscaped Areas

1. Post Construction Soil Quality and Depth BMP T5.13 is required for all lawn and landscaped areas created or re-graded as part of the project.

Roofs

Select the first BMP in the list that is not infeasible for each new roof on the site (See appropriate COBG LID Infeasibility Checklists):

1. Full Dispersion BMP T5.30 or Downspout Full Infiltration BMP T5.10A.
2. Rain Garden BMP T5.14A.
3. Downspout Dispersion BMP T5.10B.
4. Perforated Stub-out Connection BMP T5.10C.

Other Hard Surfaces

Select the first BMP in the list that is not infeasible for each new or replaced hard surface on the site:

1. Full Dispersion BMP T5.30A and BMP T5.30B.
2. Either Rain Garden BMP T5.14A or Permeable Pavement BMP T5.15.
3. Either Sheet Flow Dispersion BMP T5.12 or Concentrated Flow Dispersion BMP T5.11.

Establishing Infeasibility

The feasibility or infeasibility of using a BMP is established by comparing specific site conditions and requirements with a list of infeasibility criteria given for the BMP in the appropriate COBG LID Infeasibility Checklists. Infeasibility must be ascertained using measured or mapped site-specific information, not by general knowledge. Some infeasibility criteria require evaluation by a qualified professional.

Infeasibility must be documented in writing using the COBG LID Infeasibility Checklists.

Section 6 — Erosion and Sediment Control During Construction

In accordance with Minimum Requirement #2, all construction projects are responsible for preventing discharge of sediment and polluted stormwater from the site during construction.

The best methods of preventing sediment and polluted stormwater from leaving the site are:

- Remove as little vegetation as possible.
- Limit cutting, filling, and grading to the least amount needed for the project.
- Keep bare soils and stockpiles covered and protected from rain and flows as much as possible.
- Stabilize proposed landscape and lawn areas as soon as possible after construction using BMP T5.13 (see COBG Soil Management Plan).

See COBG Small Project SWPPP, COBG Erosion Control Standard Details and the 2014 Stormwater Management Manual for Western Washington, Volume II for a description of each ESC BMP and the minimum requirements for using the BMP on a small site.

Section 7 — Maps, Plans, and Drawings

Submit maps, plans, and drawings on 8½ x11 or 11x17 paper as directed below. Some information may be found or a map may be produced using Clark County Maps Online at http://gis.clark.wa.gov/mapsonline/.

Maps and plans may be drawn by hand on graph paper or may be drafted electronically. See page 25 for blank graph paper.

1. **Vicinity Map** — Mark the site on a vicinity map showing the nearest cross-streets; include a North arrow. See http://gis.clark.wa.gov/mapsonline/.
2. **Existing Site Map** — Show the following items:

- Address, parcel number, and street names. See http://gis.clark.wa.gov/mapsonline/.
- North arrow
- Parcel boundaries with dimensions or scale
- Elevation contours. See http://gis.clark.wa.gov/mapsonline/.
- Existing site drainage patterns
  - Include natural and constructed drainages
  - Identify the primary discharge point or points from the site

- Identify any storm drainage systems receiving site runoff (e.g. roadside ditch)

- Boundaries of water bodies
- Boundaries of Critical Areas, if any, including:
  - Wetlands (BGMC 18.270)
  - Fish and Wildlife Habitat Conservation Areas (BGMC 18.280)
  - Critical Aquifer Recharge Areas (BGMC 18.290)
  - Geologically Hazardous Areas (BGMC 18.300)
  - Frequently Flooded Areas (BGMC 18.310)
  - Shoreline Management (BGMC 18.320)
  - Also see http://gis.clark.wa.gov/mapsonline/
- Boundaries of existing vegetation (e.g. trees, grassy areas, pastures, native vegetation)
- Locations of water wells and septic system drain fields on the parcel or within 100 feet of the parcel boundary
- Locations and dimensions of all existing improvements, including underground utilities

3. **Site Plan** —Show proposed improvements and how stormwater will be handled after construction. Show the following items:

- Address, Parcel Number, and Street Names. See http://gis.clark.wa.gov/mapsonline/.
- North Arrow
- Parcel boundaries with dimensions or scale
- Proposed elevation contours (10' interval)
- Proposed site drainage patterns
  - Include natural and constructed drainages
  - Identify the primary discharge point or points from the site
  - Identify any storm drainage systems receiving site runoff (e.g. roadside ditch)
- Proposed site drainage pattern
- Boundaries of water bodies
- Boundaries of Critical Areas, if any, including:
  - Wetlands (BGMC 18.270)
  - Fish and Wildlife Habitat Conservation Areas (BGMC 18.280)
  - Critical Aquifer Recharge Areas (BGMC 18.290)
  - Geologically Hazardous Areas (BGMC 18.300)
  - Frequently Flooded Areas (BGMC 18.310)
  - Shoreline Management (BGMC 18.320)

- Also see http://gis.clark.wa.gov/mapsonline/.

- Identify existing vegetation to be protected
- Location and dimensions of all existing and proposed improvements, including:
  - Buildings and outbuildings
  - Hard and impervious surfaces
  - Stormwater BMPs
    - Include pipe types for all proposed stormwater pipes
    - If dispersion is proposed, show the location of the flowpath
    - If a rain garden is proposed, show the overflow path
    - Location of proposed easements for on-site stormwater management BMPs

4. **BMP Drawings** —If Downspout Drywell, Downspout Infiltration Trench, Rain Garden, or Permeable Pavement are proposed, submit a drawing for each BMP showing a plan view and a profile view (cross-section) of the facility. Include the following details:

   - Plan View:
     - North arrow
     - Horizontal dimensions (length and width)
     - Notation showing types or sizes of filter fabric, rock, or other required components with a minimum specification in the BMP Design Criteria (Section 8)
   - Profile View (cross-section):
     - Depth of entire facility
     - Depth of any component that has a minimum or maximum depth dimension specified in the BMP Design Criteria (Section 8) – e.g. depth of aggregate base for Permeable Pavement, depth of topsoil/amended soil for Rain Garden
     - Slopes (e.g. side slopes of a berm, slope of Permeable Pavement surface)

5. **Erosion and Sediment Control Site Plan** —Show the location of improvements, grading, filling, and construction ESC BMPs. Show the following items on the site plan:

   - Address, Parcel Number, and Street names. See http://gis.clark.wa.gov/mapsonline/.
   - North Arrow
   - Boundaries of existing vegetation (e.g. trees, pasture, fields, etc.)
   - Critical areas and associated buffers (e.g. wetlands, steep slopes, streams, etc.).
   - Delineate areas that are to be cleared and graded.
   - Cut and fill slopes, indicating top and bottom of slope catch lines.
   - Locations where upstream run-on enters the site and where runoff leaves the site.

- Existing surface water flow direction(s).
- Final grade contours and proposed surface water flow direction and surface water conveyance systems (e.g. pipes, catch basins, ditches, etc.).
- Show grades, dimensions, and direction of flow in all (existing and proposed) ditches, swales, culverts, and pipes.
- Identify and locate all ESC BMPs to be used during and after construction.

Section 8 — On-Site BMP Design Criteria and Drawings

This section describes the applicability, infeasibility criteria, and design criteria for each On-site Stormwater Management BMP required in Minimum Requirement #5 (see City of Battle Ground LID Infeasibility Checklists and COBG Standard Details for Stormwater). Use these checklists and standard details to select the appropriate BMP to meet Minimum Requirement #5. After selection, use the design criteria and standard details to plan and design the BMPs selected for use on the site.

Section 9 — Erosion and Sediment Control BMPs

Refer to Stormwater Management Manual for Western Washington, Volume II and City of Battle Ground Standard Details for Erosion Control.