CITY OF MERCER ISLAND

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TIP SHEET: SMALL PROJECT STORMWATER REQUIREMENTS

Small projects that only trigger Minimum Requirements #1-5, include projects that:

1. Result in ≥ 2,000, but < 5,000 square feet of new plus replaced hard surface area
2. Have a land disturbing activity of ≥ 7,000 square feet, but < ¾ acres of vegetation converted to lawn or landscaped areas or < 2.5 acres of native vegetation converted to pasture, or
3. Result in a net increase of impervious surface of ≥ 500 square feet, but < 5,000 square feet of new plus replaced hard surface area.

Minimum Requirements #1-5 (and associated sections of the City's submittal package) include:

MR#1	Stormwater Site Plans (Section A)
MR#2	Construction Stormwater Pollution Prevention (Section B)
MR#3	Source Control (Section A)
MR#4	Preservation of Natural Drainage Systems and Outfalls (Section A)
MR#5	On-site Stormwater Management (Sections A, C, and D)

Single-family residential rain garden

What are the benefits of (LID)?

Low Impact Development (LID) provides many benefits to communities on a large and small-scale. Not only can it make your neighborhood a greener and more aesthetically pleasing place to be, it simultaneously reduces flooding, improves water quality, and improves groundwater recharge. LID can enhance the local environment, protect public health, and improve community livability.

What is on-site stormwater management?

On-site stormwater management is a stormwater and land use management strategy that mimics how water at a site would naturally react prior to development, and uses design techniques for infiltration, filtration, storage, evaporation and transpiration. Instead of conveying and detaining stormwater in large facilities located at the bottom of drainage areas, LID addresses stormwater through small, distributed features located at the lot level.

Single-family residential rain garden

Permeable pavement driveway

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WHAT ARE BEST MANAGEMENT PRACTICES (BMPS)?

A best management practice (or BMP) is a structural or management practice designed to prevent or reduce the release of pollutants.

Stormwater management BMPs are control measures taken to mitigate changes to both quantity and quality of urban runoff caused through changes to land use. Generally, BMPs focus on water quality problems caused by increased impervious surfaces from land development.

BMPs are designed to reduce stormwater volume, peak flows, and/or pollution through infiltration, filtration, storage, evaporation, and transpiration.

TYPES OF LID BMPS

- Bioretention
- Rain gardens
- Permeable pavement
- Roof downspout controls
- Dispersion
- Soil quality and depth
- Vegetated roofs
- Rainwater harvesting

Single-family residential rain garden

Permeable pavement driveway

Rain garden collecting road runoff

Rain garden collecting road runoff

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Which BMPs should be evaluated?

List #1

For each category, select the first feasible **item on the list:**

Lawn and landscaped areas

Post-construction soil quality and depth

Roofs

1. Full dispersion or downspout full infiltration systems
2. Rain gardens or bioretention
3. Downspout dispersion systems
4. Perforated stub-out connections
5. On-site detention

Other hard surfaces

1. Full dispersion
2. Permeable pavement, rain gardens, or bioretention
3. Sheet flow dispersion or concentrated flow dispersion
4. On-site detention

List #2

Projects that trigger the full set of Minimum Requirements #1-9 are required to implement List #2 or the LID performance standard in accordance with the Stormwater Manual adopted in Section 15.09.050 of the City's municipal code.

On-site detention is added to the feasibility evaluation for List #2 (similar to List #1 above) if all of the other on-site stormwater management BMPs are determined to be infeasible for Roofs and Other hard surfaces.

Bioretention during installation

Permeable pavement installation

Established bioretention facility

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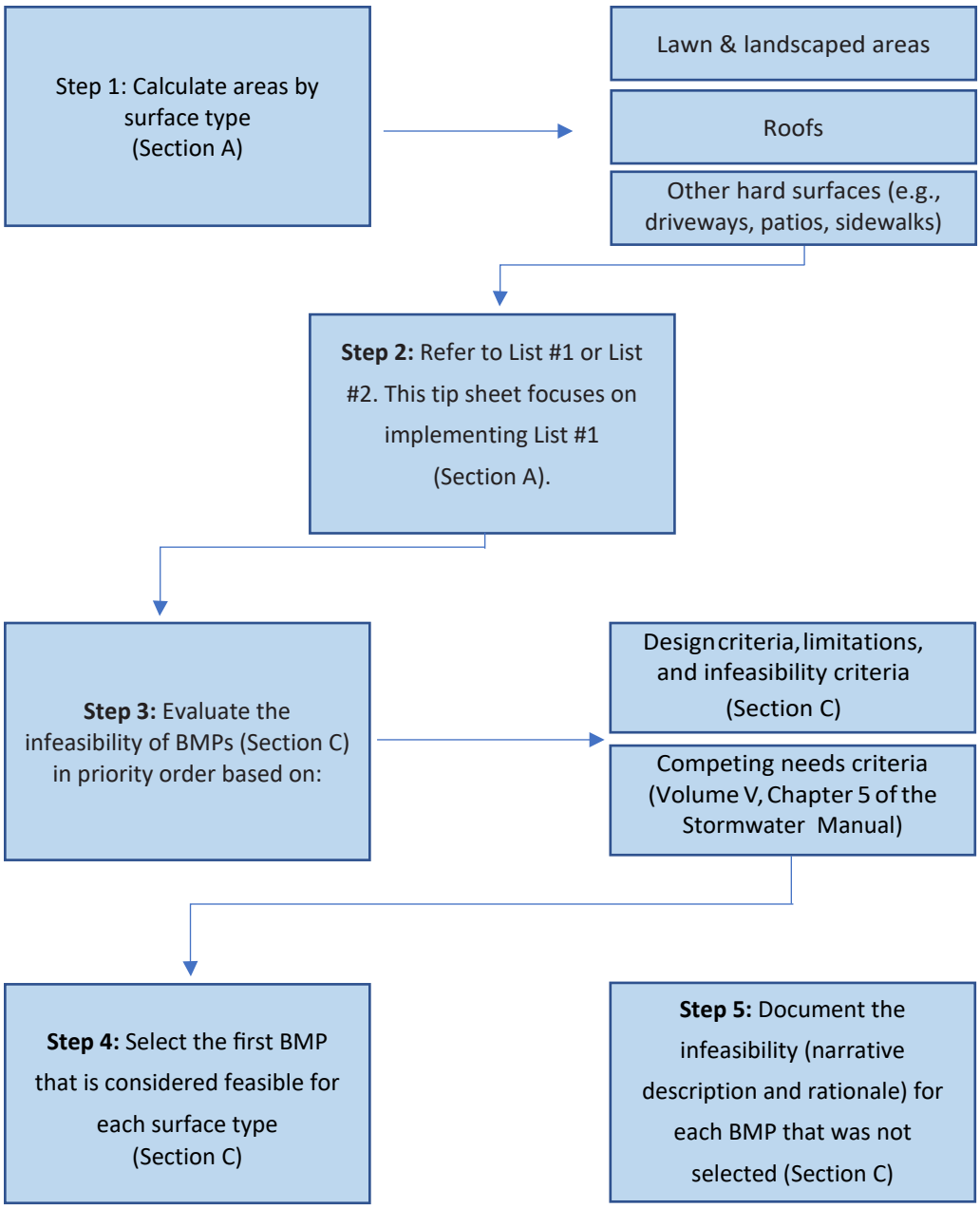
How to Implement Minimum Requirement #5 (On-Site Stormwater Management)



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TIP SHEET: POST-CONSTRUCTION SOIL MANAGEMENT

Benefits of Healthy Soils

1. Reduced need for irrigation, fertilizers, and pesticides
2. Decreased stormwater runoff
3. Decreased erosion
4. Improved plant health
5. Marketable buildings and landscapes

Photo source: City of Port Angeles Before

Photo source: City of Port Angeles After

5 Step Implementation Process

Step 1 – Retain and protect native vegetation and soil

Identify areas of the site that will not be disturbed during construction (cleared, graded, or driven on). Fence those areas to prevent impacts during construction. If neither soils nor vegetation are disturbed, these areas do not require amendment.

Step 2 – Loosen compacted subsoil, if needed

In disturbed areas (compacted by construction activities):

1. Scarify the top 12 inches of subsoil for Option 1 below or the top 4 inches of subsoil for Option 3 below.
2. Use a cat mounted ripper, tractor mounted disc, or tiller to mix the first lift of topsoil into the subsoil (known as scarifying, ripping, or tilling).

Step 3 – Restore soils that are disturbed during construction

Three options to restore disturbed soils include:

1. Till compost (1.75 inches for turf areas; 3 inches for planting beds) into existing soil, or
2. Stockpile and reuse existing topsoil (amend if needed to meet 5% organic matter content for turf areas; 10% organic matter content for planting beds), or
3. Import 8 inches of compost amended topsoil (25% compost for turf areas; 40% compost for planting beds).

Step 4 – Add mulch to planting beds

Spread mulch (coarse bark or wood chips) in the spring or fall (after planting) to control weeds, reduce the need for irrigation, and prevent erosion. Apply 2 inches of mulch on planting beds and around shallow-rooted annuals. Apply 2 to 4 inches of mulch around trees and woody perennials, but make sure to keep mulch 2 to 3 inches away from tree trunks.

Step 5 – Protect restored soils from erosion and re-compaction

Prevent runoff from roads or open slopes onto amended soil areas. Compost blankets are an approved erosion control Best Management Practice (BMP) that can be used during construction and then tilled into the existing soil at the end of the construction process prior to planting. Once soils have been amended, vehicle traffic should be prohibited to prevent re-compaction from occurring.

Photo source: City of Port Angeles Compost options require tilling to a depth of 8”

Exemptions

The following portions of the project area are exempt from soil amendment requirements:

1. Areas covered by an impervious surface, or
2. Areas incorporated into a drainage facility, or
3. Structural fill or engineered slopes
4. On till slopes greater than 33%