

Guidance to Help Local Governments Determine When Low Impact Development Practices Should Not Be Required

More and more local governments are taking steps to require the use of low impact development (LID) for stormwater management unless site and soil conditions make LID infeasible. Determining absolute infeasibility of LID best management practices (BMPs) is difficult and includes many factors related to a specific site, such as soil infiltrative capacity, depth to groundwater, existing and historic land use, and site location. This guidance is intended to help local governments that require the use of LID BMPs determine when site conditions are such that LID BMPs should not be required, and project proponents should be granted flexibility to use more conventional BMPs. For most LID BMPs, the infeasibility of LID is determined by site conditions, not financial costs. For the purpose of this guidance, we recommend that vegetated roofs and roof rainwater collection systems be the only LID BMPs that local jurisdictions use cost considerations as a factor in determining feasibility.

1. BIORETENTION

- **Soils:** Bioretention should not be required where the infiltration rate is less than 0.1 inches per hour. However, even on poor-draining soils with infiltration rates less than 0.1 inches per hour, bioretention may still be an option depending on the size, location, and amount of water the bioretention area is designed to hold, and if an underdrain is used.
- **Site Topography:** Bioretention should not be required on slopes of 10% or greater, unless designed by an engineer to meet specific topographical considerations.
- **Bluffs, Erosion Hazards, and Steep Slope Landslide Areas:**
 - Bioretention should not be required within any of these areas, as per the jurisdiction's critical areas ordinance.
 - Bioretention should not be required within a minimum of at least 50 feet from the tops of slopes >15%, as per the *Stormwater Management Manual for Western Washington, 2005*. Jurisdictions may wish to require that a qualified geotechnical engineer perform a detailed analysis before any site clearing, development or infiltration occurs near a potentially steep slope or shoreline bluff.
- **Drinking Wells and On-site Sewage Systems:**
 - Bioretention should not be required within locally required minimum setbacks from wellheads, on-site sewage systems, basements, foundations, and utilities.

- Bioretention should not be required within at least 100 feet from drinking water wells, septic tanks, drainfields, and springs used for drinking water supplies, as per the *Stormwater Management Manual for Western Washington, 2005*.
- **Depth to Water Table:**
 - Bioretention should not be required if there is less than a 1 foot separation from the seasonal high water mark to the bottom of the bioretention area where the contributing area of the bioretention has less than 5,000 square feet of pollution-generating impervious-surface; and less than 10,000 square feet of impervious surface; and less than $\frac{3}{4}$ acres of lawn.
 - Bioretention should not be required if there is less than a 3 feet separation from the seasonal high water mark to the bottom of the bioretention, where the contributing area of the bioretention area is equal to or exceeds any of the following limitations: 5,000 square feet of pollution-generating impervious surface; or 10,000 square feet of impervious surface; or $\frac{3}{4}$ acres of lawn and landscape (See Bioretention Areas in Chapter 7 of the *LID Technical Guidance Manual for Puget Sound, 2005*).

2. AMENDING CONSTRUCTION SITE SOILS.

- Amending soils disturbed by construction with compost should be required on every site.

3. PERMEABLE PAVING

- Permeable paving should not be required when the following site/soil conditions exist:
 - Sites where excessive sediment is deposited on the surface on a regular basis after construction (e.g., construction and landscaping material yards).
 - Sites that are downslope of steep, erosion prone areas that are likely to deliver sediment and clog the pervious pavement.
 - Sites where concentrated pollutant spills are possible such as gas stations, truck stops, and industrial chemical storage sites.
 - Sites where seasonally high groundwater creates prolonged saturated conditions at or near ground surface and within the pavement section.
 - Sites that receive regular, heavy applications of sand to maintain traction during winter.

- Sites with slopes greater than 5% unless permitted in the manufacturer's recommendations or unless a qualified engineer documents it is possible with adjustments to design.

4. DISPERSION INTO NATIVE VEGETATION AREAS

- Dispersion should not be required (and the flow credit should not be applied) where site conditions are not conducive to the minimum flow path, flow control, and dispersion area requirements set forth in BMP T5.30 of the *Stormwater Management Manual for Western Washington, 2005*.

5. VEGETATED ROOFS

- Vegetated roofs may be determined to be not required based on a cost evaluation.

6. MINIMAL EXCAVATION FOUNDATIONS

- Wall configurations should not be required on sites with slopes greater than 10%.
- Pier configurations should not be required on sites with slopes greater than 30% (unless a local critical areas ordinance contains siting limits less than 30%).
- Minimal excavation foundations should not be required where underlying soils are impenetrable due to excessively rocky conditions.

7. ROOF RAINWATER COLLECTION SYSTEMS

- Roof rainwater collection systems may be determined to be not required based on a cost evaluation.