



City of Battle Ground

List #2 - LID Infeasibility Checklist – Roofs

For each No answer, move on to the subsequent question within the BMP.

If a Yes answer is given, then the BMP is infeasible in the TDA and is not required in accordance with Minimum Requirement #5.

For each surface type, stop at the first BMP that is feasible. Answers to questions must consider site-specific information, and some may require professional written evaluation as justification.

#1 FULL DISPERSION (BMP T5.30)		
Infeasibility Criteria	YES	NO
1. Is the project unable to protect and maintain 65% or more of the site or a Threshold Discharge Area (on-site area draining to a single natural discharge location) of the site in a forested native condition?		
2. Does a professional geotechnical evaluation recommend dispersion not be used due to concerns about erosion, slope failure, or flooding?		
3. Is the only location available for the system outlet less than 100 feet up slope of a septic system?		
4. Is the only area available for the required length of the dispersion system flow path (100 ft. reqd.) on a slope greater than 15% (7:1)?		
5. Is the only area available for placement of the dispersion system flow path (100 ft. reqd.) above an erosion hazard or toward a landslide hazard area?		
6. Is the only area available to place the dispersion device located in a critical area or critical area buffer (i.e. wetlands, critical habitat, geologic hazard areas, flood hazard areas, or critical aquifer recharge areas) as identified on Clark County GIS?		
7. Is the only area available to place the dispersion device located on a slope greater than 20% (5:1) or within 50 feet of a slope or geologic hazard as identified on Clark County GIS?		
8. Is the only area available to place the dispersion device or flow path less than 10 feet from any structure, property line, or sensitive area? Sensitive areas include, but are not limited to, water bodies, storm water facilities, bioswales, storm drains, and wetlands.		
9. Are there Competing Needs (see Low Impact Development Stormwater Application Checklist)? If so, attach a narrative justifying the use of Competing Needs criteria.		
Determination: Is Full Dispersion infeasible?		

#1 Continued - ROOF DOWNSPOUT FULL INFILTRATION (BMPs T5.10A and COBG ST-12.00 - ST-12.02)		
Infeasibility Criteria	YES	NO
<i>The following require professional technical evaluation.</i>		
1. Has the geotechnical investigation determined that soils in the infiltration zone at the location of the roof downspout infiltration system do not fall within USDA textural classes of coarse to medium sands, loam, or cobbles and gravels?		
2. Is there less than 3 feet of permeable soil from the proposed finished ground elevation at the drywell or trench location to the seasonal high groundwater table?		
3. Is there less than 1 foot of soil from the proposed bottom elevation of the roof downspout infiltration trench or drywell to the groundwater elevation?		
4. Is the proposed location of the system on a slope of 25% (4:1) or greater and cannot be located elsewhere?		



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# 1 Continued - ROOF DOWNSPOUT FULL INFILTRATION <i>(Continued from above)</i>		
Infeasibility Criteria	YES	NO
5. Will the system be located less than 100 feet from a closed or active landfill and cannot be located elsewhere?		
6. Will the system be located less than 10 feet from a septic drain field, including reserve areas and grey water reuse systems, and cannot be located elsewhere?		
7. Will the system be located less than 10 feet from an underground storage tank and its connecting pipes that is used to store petroleum products, chemicals, or liquid hazardous wastes in which 10% or more of the storage volume of the tank and connecting pipes is beneath the ground and cannot be located elsewhere?		
8. Is the proposed location of the system less than 100 feet up slope of a septic system unless topography clearly prohibits subsurface flows from intersecting the drain field and cannot be located elsewhere?		
9. Is the proposed location less than 10 feet from any structure, property line, or sensitive area and cannot be located elsewhere?		
10. Is the proposed location less than 50 feet from the top of any slope greater than 40% (2.5:1) and cannot be located elsewhere?		
11. Are there Competing Needs (see Low Impact Development Stormwater Application Checklist)? If so, attach a narrative justifying the use of Competing Needs criteria.		
Determination: Is Roof Downspout Full Infiltration infeasible?		

# 2 - BIORETENTION <i>(BMP T7.30 and COBG ST-11.01 – ST-11.08) in accordance with Ch. 7 of Vol. V of the SWMMWW</i>		
Infeasibility Criteria	YES	NO
<i>The following require professional technical evaluation.</i>		
1. Does a professional geotechnical evaluation recommend infiltration not be used due to concerns about erosion, slope failure or flooding?		
2. Does the site have groundwater that drains into an erosion hazard or landslide hazard area?		
3. Does the only area available for siting the bioretention facility threaten the safety or reliability of existing underground utilities, underground storage tanks, structures and basements, or road or parking lot surfaces or sub-grades?		
4. Is the only area available for siting the bioretention facility one that does not allow for a safe overflow pathway to the municipal separate storm sewer system or to a private storm sewer system?		
5. Is the site a redevelopment project that lacks usable space?		



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# 2 Continued - BIORETENTION (BMP T7.30 and COBG ST-11.01 – ST-11.08) in accordance with Ch. 7 of Vol. V of the SWMMWW		
Infeasibility Criteria	YES	NO
6. Would infiltrating water threaten existing basements?		
7. Would infiltrating water threaten shoreline structures such as bulkheads?		
8. Will the Bioretention Facility be located within setbacks from structures as established by the local jurisdiction?		
9. Has the Responsible Official determined that the facility is not compatible with surrounding drainage systems?		
10. Is the land for the bioretention facility within an area designated as an erosion hazard or landslide hazard by the geotechnical report or county critical areas mapping?		
11. Can the site not be designed to locate the bioretention facility on slopes less than 8% (12:1)?		
12. Will the bioretention facility be less than 50 feet from the top of slopes greater than 20% (5:1) and with more than 10 feet of elevation difference and cannot be located elsewhere?		
13. Is the proposed bioretention facility less than 100 feet from a landfill (active or closed) and cannot be located elsewhere?		
14. Is the proposed bioretention facility less than 100 feet from a well or a spring used for drinking water and cannot be located elsewhere?		
15. Is the proposed bioretention facility less than 10 feet from any small on-site sewage disposal drain field, including reserve areas, and grey water reuse systems and cannot be located elsewhere? (For setbacks from a "large on-site sewage disposal system," see Chapter 246-272B WAC).		
16. Is the proposed bioretention facility less than 10 feet from an underground storage tank and its connecting pipes that is used to store petroleum products, chemicals, or liquid hazardous wastes in which 10% or more of the storage volume of the tank and connecting pipes is underground and when the capacity of the tank and pipe system is less than 1100 gallons and cannot be located elsewhere?		
17. Is the proposed bioretention facility less than 100 feet from an underground storage tank and its connecting underground pipes when the capacity of the tank and pipe system is greater than 1100 gallons and cannot be located elsewhere?		
18. For bioretention facilities that serve a drainage area that is: <ul style="list-style-type: none"> • Less than 5,000 SF of pollution generating impervious surface, and • Less than 10,000 SF of impervious surface, and • Less than 3/4 acres of pervious surface; • Is there less than one foot of vertical separation below the rain garden or bioretention and the seasonal high water table, bedrock or other impervious layer? 		
19. For bioretention that serves a drainage area that is: <ul style="list-style-type: none"> • Equal to or more than 5,000 SF of pollution generating impervious surface, or • Equal to or more than 10,000 SF of impervious surface, or • Equal to or more than 3/4 acres of pervious surface, • and cannot be broken into amounts smaller than the thresholds above; • Is there less than three feet of vertical separation below the bioretention and the seasonal high water table, bedrock or other impervious layer? 		
20. Does field testing indicate that soils have a measured (a.k.a. initial) native soil coefficient of permeability less than 0.3 inches per hour?		



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# 2 Continued - BIORETENTION (BMP T7.30 and COBG ST-11.01 – ST-11.08) in accordance with Ch. 7 of Vol. V of the SWMMWW		
Infeasibility Criteria	YES	NO
21. Are there Competing Needs (see Low Impact Development Stormwater Application Checklist)? If so, attach a narrative justifying the use of Competing Needs criteria.		
<i>On properties with known soil or groundwater contamination (typically federal Superfund sites or state cleanup sites under the Model Toxics Control Act (MTCA)) and any of the following criteria:</i>		
22. Is the proposed bioretention facility within 100 feet of an area known to have deep soil contamination?		
23. Is the site is in an area where groundwater modeling indicates infiltration will likely increase or change the direction of the migration of pollutants in groundwater?		
24. Is the proposed bioretention facility located in an area where surface soils have been found to be contaminated, and contaminated soils are still in place within 10 horizontal feet of the infiltration area?		
25. Is the proposed bioretention facility within any area where it would be prohibited by an approved cleanup plan under the state Model Toxics Control Act or Federal Superfund Law, or an environmental covenant under Chapter 64.70 RCW?		
Determination: Is Bioretention infeasible?		

# 3 - DOWNSPOUT SPLASH BLOCKS (BMP T5.10B, Vol III, Section 3.1.2 and COBG ST-12.05)		
Infeasibility Criteria	YES	NO
1. Would the Downspout Splash Blocks discharge to a vegetated flow path less than 50 feet in length as measured from the downspout to the downstream property line, structure, slope over 15% (7:1), stream, wetland, or other impervious surface?		
2. Is the vegetated flow path less than 25 feet?		
3. Will the Downspout Splash Blocks discharge up gradient of a septic system drain field?		



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# 3 Continued - DOWNSPOUT SPLASH BLOCKS <i>(BMP T5.10B, Vol III, Section 3.1.2 and COBG ST-12.05)</i>		
Infeasibility Criteria	YES	NO
4. Are there Competing Needs (see Low Impact Development Stormwater Application Checklist)? If so, attach a narrative justifying the use of Competing Needs criteria.		
Determination: Are Downspout Splash Blocks infeasible?		

# 3 Continued - DISPERSION TRENCHES <i>(BMP T5.10B, Vol. III, Section 3.1.2 and COBG ST-12.03 – ST-12.04)</i>		
Infeasibility Criteria	YES	NO
1. Will a vegetated flow path be less than 25 feet in length between the outlet of the trench and any property line, structure, stream, wetland, or impervious system?		
2. Will the vegetated flow path be less than 50 feet to any slope steeper than 15% (7:1)?		
3. Will the dispersion trench system be serving more than 3500 square feet of roof area?		
4. Will the edge of the trench be closer than 5 feet to any structure or property line?		
5. Can erosion or flooding of downstream properties result with the implementation of this BMP?		
Note: Have a geotechnical engineer or a licensed geologist, hydrogeologist, or engineering geologist evaluate runoff discharged towards landslide hazard areas if applicable. Do not place the discharge point on or above slopes greater than 15% or above erosion hazard areas without evaluation by a geotechnical engineer or qualified geologist and jurisdictional approval.		
6. For purposes of maintaining adequate separation of flows discharged from adjacent dispersion devices, will the outer edge of the vegetated flow path segment for the dispersion trench overlap other flow path segments, other than those associated with sheet flow from a non-native pervious surface?		
7. Are there Competing Needs (see Low Impact Development Stormwater Application Checklist)? If so, attach a narrative justifying the use of Competing Needs criteria.		
Determination: Is a Dispersion Trench infeasible?		



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#4 – PERFORATED STUB-OUT CONNECTIONS <i>(BMP T5.10C, Vol. III, Section 3.1.3 and COBG ST-12.06)</i>		
Infeasibility Criteria	YES	NO
1. Is there less than 1 foot of soil from the proposed bottom elevation of the perforated stub-out trench to the groundwater elevation?		
2. Is the only available location for the perforated pipe portion of the system under impervious or heavily compacted (e.g. driveway and parking areas) surfaces?		
3. Is the proposed location of the system on a slope of 20% (5:1) or greater and cannot be located elsewhere?		
4. Will the system be located less than 100 feet from a closed or active landfill and cannot be located elsewhere?		
5. Will the system be located less than 10 feet from a septic drain field, including reserve areas and grey water reuse systems, and cannot be located elsewhere?		
6. Will the system be located less than 10 feet from an underground storage tank and its connecting pipes that is used to store petroleum products, chemicals, or liquid hazardous wastes in which 10% or more of the storage volume of the tank and connecting pipes is beneath the ground and cannot be located elsewhere?		
7. Is the proposed location of the system less than 100 feet up slope of a septic system unless topography clearly prohibits subsurface flows from intersecting the drain field and cannot be located elsewhere?		
8. Is the proposed location less than 10 feet from any structure, property line, or sensitive area and cannot be located elsewhere?		
9. Is the proposed location less than 50 feet from the top of any slope greater than 40% (2.5:1) and cannot be located elsewhere?		
10. Does the professional geotechnical evaluation recommend infiltration not be used due to concerns about erosion, slope failure or flooding?		
11. Are there Competing Needs (see Low Impact Development Stormwater Application Checklist)? If so, attach a narrative justifying the use of Competing Needs criteria.		
Determination: Are Perforated Stub-out Connections infeasible?		