

City of Seattle Green Stormwater Infrastructure Requirement Calculator (05-11-10)

Project Type →

Project Area → sf

New plus Replaced Impervious Area → sf

Area Requiring Mitigation → sf
(1,500 sf credit for SFR projects)

| Runoff Reduction Methods | Facility Size | Credit | Area Mitigated |
|---|--|----------------------------|---------------------------|
| Retained Trees | | | |
| Existing Evergreen # Trees <input type="text"/> | Total Canopy Area of Trees <input type="text"/> sf | x 20% (or min 100 sf/tree) | = <input type="text"/> sf |
| Existing Deciduous # Trees <input type="text"/> | Total Canopy Area of Trees <input type="text"/> sf | x 10% (or min 50 sf/tree) | = <input type="text"/> sf |
| New Trees | | | |
| New Evergreen # Trees <input type="text"/> | | x 50 sf | = <input type="text"/> sf |
| New Deciduous # Trees <input type="text"/> | | x 20 sf | = <input type="text"/> sf |
| Dispersion ¹ | | | |
| Downspout or Sheet Flow Dispersion | Dispersed Impervious Area <input type="text"/> sf | x 78.0% | = <input type="text"/> sf |

| Infiltrating and Reuse Facilities | Facility Size | Sizing Factor | Area Mitigated |
|---|--|----------------|---------------------------|
| Infiltrating Facilities | | | |
| Bioretention Cell (without Underdrain) | | | |
| Ponding Depth <input type="text"/> in | Bioretention Bottom Area <input type="text"/> sf | + Select Depth | = <input type="text"/> sf |
| Design Infiltration Rate <input type="text"/> in/hr | | | |
| Permeable Pavement Facility (may receive run-on) | | | |
| Ponding Depth ² <input type="text"/> in | Permeable Pavement Area <input type="text"/> sf | + Select Depth | = <input type="text"/> sf |
| Design Infiltration Rate <input type="text"/> in/hr | | | |
| Reuse Facilities ¹ | | | |
| Rainwater Harvesting | Applicant must provide documentation of mitigation | | <input type="text"/> sf |

| Impervious Surface Reduction Methods | Facility Size | Credit | Area Mitigated |
|---|--|--------------|---------------------------|
| Alternative Pavement Surfaces | | | |
| Permeable Pavement Surface (Subgrade Slope ≤2%) | Permeable Pavement Area <input type="text"/> sf | x 100.0% | = <input type="text"/> sf |
| Permeable Pavement Surface (Subgrade Slope 2-5%) | Permeable Pavement Area <input type="text"/> sf | x 40.0% | = <input type="text"/> sf |
| Alternative Roof Surfaces ¹ | | | |
| Green Roof (Single-Course / 4" Growth Medium) | Green Roof Area <input type="text"/> sf | x 38.0% | = <input type="text"/> sf |
| Green Roof (Multi-Course / 4" Growth Medium) | Green Roof Area <input type="text"/> sf | x 38.0% | = <input type="text"/> sf |
| Green Roof (Multi-Course / 8" Growth Medium) | Green Roof Area <input type="text"/> sf | x 55.0% | = <input type="text"/> sf |
| Partial Infiltration ¹ | | | |
| Bioretention Cell with Detention (without Underdrain) | | | |
| Contributing Area <input type="text"/> sf | Bioretention Bottom Area <input type="text"/> sf | Select Depth | = <input type="text"/> sf |
| Ponding Depth <input type="text"/> in | | | |
| Design Infiltration Rate <input type="text"/> in/hr | | | |

| Non-Infiltrating Facilities | Facility Size | Sizing Factor/Credit | Area Mitigated |
|---|--|----------------------|---------------------------|
| Non Infiltrating Facilities | | | |
| Bioretention Planter (with underdrain) | | | |
| Contributing Area <input type="text"/> sf | Bioretention Bottom Area <input type="text"/> sf | + Select Depth | = <input type="text"/> sf |
| Ponding Depth <input type="text"/> in | | | |
| Detention Cistern with Harvesting Capacity ³ | | | |
| Contributing Area <input type="text"/> sf | Min Cistern Area <input type="text"/> sf | | = <input type="text"/> sf |
| | Min Live Cistern Volume <input type="text"/> gal | | |

Total Area Mitigated → sf

Area Requiring Mitigation → sf

% Impervious Area Mitigated → %

GSI Requirement Achieved? →

Notes:

GSI - Green Stormwater Infrastructure sf - square feet in - inch NA - not applicable eqn - equation
 min - minimum ft - feet in/hr - inch per hour gal - gallons

1. Single family residential projects are not required to evaluate this BMP.
 2. Average subsurface ponding depth in aggregate storage reservoir.
 3. Cistern area must be rounded up to next commercially available product. Cistern need not have more than 3 feet of live storage volume above orifice.
 This calculator does not provide conveyance flow calculations.
 Applicant is responsible to ensure system overflow conveyance is provided per Section 4.2.5 of the Stormwater Manual Volume 3.