

APPENDIX 12 – Structural Stormwater Controls Project List

Instructions for Appendix 12 Reporting

Each year, Phase I City and County Permittees must submit an updated list of structural stormwater control (SSC) projects to Ecology with their Annual Reports. Table 1 provides a format for this reporting. This section provides additional information and instructions for completing Table 1, as required, per Permit section S5.C.7.c.

Even though the defined level of effort is due to be tallied at the end of 2022, annual reporting of SSC Program projects provides the opportunity to track and report progress. Fill in all values as completely as possible each year. In subsequent years, Permittees should update the values for each project and add projects to new rows, as needed. You may remove projects that are cancelled or otherwise will not be used toward achieving the defined level of effort (as expressed in SSC Program Points). Projects that were completed prior to July 1, 2019, may not be included.

Enter Design and Construction of Project Types 1, 2, 3, 4, or 6 (Table 2) on separate lines. Only show the Design Status until the project is completed. Then add the new line for the Construction status.

Table 1: SSC Project List Template

Project Name	Project Type	Status	Cost Est.	Basin Area (ac)	LID Equiv. Area	LID Point Factor	RT Equiv. Area	RT Point Factor	FC Equiv. Area	FC Point Factor	Other Project Area - Ac or ml	Other Point Factor	Total SSC Program Points	Lat / Long (X,Y)	Receiving waterbody name	Comments

Project List & Project Name

Permittees shall assign each SSC project its own row. Project names may change over time. If a project name changes, include a note or parenthetical that ties the new name to the old name. Maintenance actions with a recurring event frequency over multiple years must be named uniquely for each year (e.g., Sweeping for WQ 2020).

Type

Ecology assigned each project type a number as described in Table 2 and this document. The project type numbers reflect the order in which they are listed in S5.C.7.a.

Status

The defined level of effort can be reflected in SSC Program Points calculated for either of two project stages: Design and Completion/Maintenance. Projects at or beyond the 60% design stage by

December 31, 2022, shall be counted toward the defined level of effort allowed for design-stage projects. The Complete/Maintenance stage is for on-line facility construction projects, fully executed property purchases, implemented maintenance actions (that are associated with Project Types #6 and #11), and completed restoration projects. A restoration project is not considered completed until any maintenance warranty times established with the construction contract have been completed, or vegetation establishment can be verified. For tracking purposes, update the status of projects for each yearly submittal.

Cost Estimate

Estimate total costs during the Design stage and provide actual costs for the Complete/Maintenance stage. Update costs over the course of the project where known.

Where known, include local/state/federal funding sources by percentage in the 'Comments' field. Once a project is complete, the comments should reflect the accurate funding source distribution. For projects still underway, you may want to include an explanatory note to distinguish between funding sources that are secured and funding sources that you estimate.

Basin Area

Enter the total area served by the structural stormwater control project (e.g., the full basin area). For stormwater facilities, this is the catchment area contributing runoff to the facility, including upstream facilities working as a system. For other project types, this is the area purchased or otherwise conserved or restored. For line cleaning projects, this is the line miles cleaned. For street sweeping projects, enter the formula variables for curb miles swept x (# events/year – 1) event.
[e.g., 20 miles x (12 -1 sweeping events)]

LID Equivalent Area and SSC Program Points

For each structural stormwater control project that you expect to result in a hydrologic benefit for small storms, use the LID Performance Standard Equivalent Area process described in the section titled 'How to Calculate Equivalent Area'. Enter the calculated LID Equivalent Area in the relevant column, then use Table 3 to identify the appropriate LID SSC Program Points.

If the project also provides benefits for standard flow control and/or runoff treatment, calculate equivalent areas and SSC Program Points for each benefit. There can be different SSC Program Points for each of the three equivalent areas. The SSC Program Points for LID, runoff treatment and flow control can be summed.

Runoff Treatment (RT) Equivalent Area and SSC Program Points

For each structural stormwater control project that you expect to result in a runoff treatment benefit (e.g., TSS, dissolved Copper, dissolved Zinc, or Total Phosphorus), calculate Runoff Treatment Equivalent Area as described in the section titled, "How to Calculate Equivalent Area." Enter the calculated RT Equivalent Area in the relevant column then use Table 3 to identify the appropriate RT SSC Program Points.

If the project also provides benefits for LID and/or standard flow control, calculate equivalent areas and SSC Program Points for each benefit. There can be different SSC Program Points for each of the three equivalent areas. The SSC Program Points for LID, runoff treatment and flow control can be summed.

Flow Control (FC) Equivalent Area and SSC Program Points

For each structural stormwater control project that you expect to result in a hydrologic benefit for larger storms, use the Flow Control Equivalent Area process described in the section titled 'How to Calculate Equivalent Area'. Enter the calculated FC Equivalent Area then use Table 3 to identify the appropriate FC SSC Program Points.

If the project also provides benefits for LID and/or runoff treatment, calculate equivalent areas and SSC Program Points for each benefit. There can be different SSC Program Points for each of the three equivalent areas. The SSC Program Points for LID, runoff treatment and flow control can be summed.

Other Program Points

For each structural stormwater control project that is not Project Type 1, 2, 3, or 4, use Table 3 to identify the appropriate SSC Program Points and populate the "Other Project Area- Ac or mi" and "Other Program Point" column with the appropriate values.

Total SSC Program Points

Refer to Table 3 and associated project details to determine the SSC Program Points for each SSC project. Insert the calculated value in the SSC Program Points column.

For Project Types 1, 2, 3 and 4 that provide benefits for LID, runoff treatment and flow control, calculate SSC Program Points for each benefit based on the appropriate Equivalent Areas and SSC Program Points. Then add the results of the three calculations together to obtain the total SSC Program Points.

Latitude/Longitude and Receiving Water Body Name

If your project has multiple locations, include a Lat/Long for each location and describe the reason why in an explanatory note. Report Lat/Long in decimal degrees to six decimal places, and include the Geographic Coordinate System (e.g., WGS84). Maintenance actions that cover a geographic area shall provide zip codes for the area addressed and attach a map at the time the SSC Program Points are calculated. If a receiving water body is unnamed, also include the name of the water body that the unnamed creek/lake is a tributary.

Comments

If your project implements an Ecology-approved basin plan (refer to Appendix 1, Section 7) or Watershed-Scale Stormwater Plan from the 2013-2018 *Phase I Municipal Stormwater Permit*, Special Condition S5.C.5.c, or a TMDL (refer to Appendix 2) or an Ecology-approved adaptive Management Plan (refer to S4F and Appendix 13), note the specific plan in this field. This section should also be used to identify if a project is located in an overburdened community.

This section can also be used to note any other information you feel is relevant, that is not addressed in other columns.

Project Types

The allowance of a program designed to implement small-scale projects that are not planned in advance (S5.C.7.a.iv) is not considered a project type in itself. Instead, those projects are expected to be reflected in the other project type categories as applicable.

(1) New flow control facilities (S5.C.7.a.i.(a))—Flow control facilities need not be regional. These facilities do not have to meet the “standard flow control requirement” (refer to Appendix 1, Section 4.7) but they shall be new facilities designed to control stormwater flow from existing development. Project proponents that don’t follow design criteria from the SWMMWW, or equivalent manual, should be prepared to provide additional project details at Ecology’s request to support calculations for equivalent area, water quality benefits, and SSC Program Points. Qualifying projects in this category will be compared against the Flow Control Standard for SSC Program Point calculations.

(2) New runoff treatment facilities (S5.C.7.a.i.(b))—Runoff treatment facilities include facilities that provide oil control, phosphorus treatment, enhanced (dissolved metals) treatment, and basic treatment. Facilities in this category do not have to meet runoff treatment requirements (e.g. treat 91% of the average annual runoff) but they shall be new facilities that provide a treatment benefit for existing development. Project proponents that don’t follow design criteria from the SWMMWW, or equivalent manual, should be prepared to provide additional project details at Ecology’s request to support calculations for equivalent area, water quality benefits, and SSC Program Points. Maintenance activities are not classified under this project type. Qualifying projects in this category will be compared against the Runoff Treatment Standard for SSC Program Point calculations.

(3) New LID BMPs (S5.C.7.a.i.(c))—These facilities are consistent with the lists of On-Site Stormwater Management BMPs of Minimum Requirement 5 and reduce the volume of runoff by infiltrating runoff from the small, more frequent storms. Qualifying new LID BMP projects result in the reduction or prevention of hydrologic changes through use of on-site (e.g., infiltration, dispersion, evapotranspiration, rainwater harvesting) stormwater management BMPs. LID principles reflected in site design techniques do not qualify because projects that apply LID principles in a retrofit setting should be accommodated in other qualifying project types (such as property acquisition and restoration of forest cover). Qualifying projects in this category will be compared against the LID Performance Standard for SSC Program Point calculations.

(4) Retrofitting of existing treatment and/or flow control facilities (S5.C.7.a.i.(d))—Retrofitting is expected to occur on previously constructed stormwater facilities that, if modified, would provide additional hydrologic or runoff treatment benefits. For example, Ecology considers the retrofit of a stormwater pond to provide a settling area and more storage, a retrofit to a stormwater facility. Maintenance

Table 2: Qualifying Project Types

1. New flow control facility
2. New runoff treatment facility (or treatment and flow control facility)
3. New LID BMPs
4. Retrofit of existing treatment and/or flow control facility
5. Property acquisition
6. Maintenance with capital construction costs \geq \$25,000
7. Restoration of riparian buffer
8. Restoration of forest cover
9. Floodplain reconnection projects
10. Removal of impervious surfaces
11. Other actions to address stormwater runoff into or from the MS4 not otherwise required in S5.C.

activities such as removing sediment to re-establish wet pool volume but not increasing volume beyond the initial design are not classified under this project type.

(5) **Property acquisition for water quality and/or flow control benefits** (S5.C.7.a.i.(e))— This category excludes the purchase of property for the siting of a stormwater facility. Instead, purchase of a likely development site to permanently prevent it from being developed would qualify under this category. This category includes forest protection and conservation easements. Riparian habitat acquisition qualifies under this project type. Property used for dispersion does not qualify under this project type; it is considered a new LID BMP (Project Type 3).

(6) **Maintenance with capital construction costs \geq \$25,000** (S5.C.7.a.i.(f)) — This project type applies to repair projects that improve the hydrologic or treatment performance of stormwater facilities. This project type is directly related to Operations and Maintenance Program requirements at S5.C.10.a.ii.(c) which reflects that maintenance projects, including repairs, which require capital construction \geq \$25,000 are not subject to the required 2-year window for completing the maintenance. These projects typically compete with the other types of retrofit projects for limited capital construction funding. Ecology intends that these projects be reflected in the SSC program in order to provide a comprehensive view of MS4 maintenance activities and requirements. Permittees may develop criteria for identifying maintenance projects that reach the capital construction cost threshold on an area-wide or system-wide basis per the requirement in S5.C.7.b.ii.(g). A maintenance project that removes sediment from an existing pond to re-establish the original design volume, will qualify under this project type.

(7) **Restoration of riparian buffers** (S5.C.7.a.ii.(a)) — This project type describes planting and restoring of riparian buffers above the ordinary high watermark that can reduce the discharge of pollutants, and reduce impacts to waters of the state by protecting or restoring hydrologic capacity.

(8) **Restoration of forest cover** (S5.C.7.a.ii.(b)) — This project type describes planting and restoring of forest cover that can reduce the discharge of pollutants, and reduce impacts to waters of the state by protecting or restoring hydrologic capacity.

(9) **Floodplain reconnection projects on water bodies that are not flow control exempt per Appendix 1** (S5.C.7.a.ii.(c)) – Qualifying floodplain reconnection projects will provide flow reduction and runoff treatment benefits.

(10) **Permanent removal of impervious surfaces** (S5.C.7.a.ii.(d)) This project type describes permanent removal of impervious surfaces and replacement with pervious vegetated surfaces meeting BMP T5.13 or trees that promote infiltration, dispersion, and uptake by plants or reduce the amount of pollution generating impervious surfaces.

(11) **Other actions to address stormwater runoff into or from the MS4 not otherwise required in S5.C** (S5.C.7.a.ii.(e)) Ecology intends this category to encompass the following “enhanced maintenance” projects, not otherwise used to comply with S5.C.10.

Limitations and details of specific applications of this project type are provided below.

Street Sweeping Programs – Ecology intends street sweeping projects to qualify under the SSC program, and be counted toward the SSC minimum level of effort, only if they are designed, executed, and documented to have the following characteristics:

- Only using a high efficiency sweeper.
- Only street sweeping routes from applicable MS4 service areas can be used to support runoff treatment benefit calculations.
- The SSC Program Points for a qualifying street sweeping program is based on curb miles swept (as documented through broom use and tracking of parked cars, vegetation, and other conditions that prevent the sweeper from reaching the edge of the roadway) and frequency of sweeping. Ecology added sweeping frequency because qualifying sweeping projects service the same surfaces (e.g., repeat routes swept) more than once per year. Each year this activity qualifies it shall be reported as an individual line item (not summed over the entire tallying period). Implementing the action over a documented route counts as one event. A street sweeping event that occurs only once per year, or less frequently, does not qualify under the SSC Program.

Line Cleaning Programs - SSC Program Points are based solely on line feet cleaned during the specified time period. Line cleaning of the same section of stormwater conveyance pipe within a 5-year permit cycle does not qualify under the SSC Program. Portions of lines that were inaccessible during line cleaning cannot be included in the calculation. If line cleaning is used to comply with S5.C.10.d.i Catch Basin Inspection Alternative (c), it cannot be counted toward the SSC program.

Non-Qualifying Projects

The following projects and project characteristics DO NOT qualify:

- Projects that do not have a nexus with the current MS4 or do not prevent future MS4 impacts.
- Projects that occur within the receiving water do not qualify, such as:
 - In-channel habitat and stream restoration
 - Fish barrier removal
 - Stabilization of down cutting
 - In-stream culvert replacement
 - Mitigation projects otherwise required to compensate for problems caused by excessive stormwater runoff peak flows and geomorphologically significant flows

Wetland restoration projects may qualify if existing degraded wetlands are designed to become treatment wetlands in accordance with the SMMWW. Such a project would be a “New Treatment Facility” Project Type (Project type 2).

SSC Program Point multipliers are described in Table 3.

Table 3: SSC Program Point Multipliers

Relevant Project Type #s	Project Achievement Description	SSC Program Point Multipliers
#1 & #4	Flow Control	1.0 times Flow Control Equivalent area
#1 & #4	Flow Control in a known flow control problem area.	1.5 times Flow Control Equivalent area
#2 & #4	Runoff Treatment	1.0 times Runoff Treatment Equivalent area
#2 & #4	Runoff Treatment in a known water quality problem area	1.5 times Runoff Treatment Equivalent area
#2 & #4	Achieves Enhanced or Phosphorus Treatment	2.0 times Runoff Treatment Equivalent area
#2 & #4	Meets WQ standards for target pollutant	2.5 times Runoff Treatment Equivalent area
#3	Provides LID Performance (i.e. On-site infiltration to manage low flows)	1.5 times LID Equivalent area
#5	Property Acquisition	0.50 times acres acquired
#6 & #11	Maintenance with capital construction costs \geq \$25,000 or other maintenance actions per S5.C.7.a.ii.(e).	0.25 times the area served by the maintenance activity, or 0.25 times (curb miles swept x (# events/year-1)), or 0.025 times the linear feet of lines cleaned.
#7	Restoration of Riparian Buffer	0.35 times acres restored
#8	Restoration of Forest Cover	0.25 times acres restored
#9	Floodplain Reconnection	0.10 times acres reconnected, with a maximum of 200 points
#10	Permanent removal of impervious surfaces	1.0 times the sq. ft. of impervious surface removed

Notes:

1. Project Type #11 may involve projects that are not maintenance activities addressed in this document. For such projects, Ecology expects that the SSC Program Points can be calculated based on the project's quantified water quality benefit as assigned to Project Types 1 – 3.
2. Multiply SSC point total by 0.10 for completed capital projects related to the MS4 which implement an Ecology-approved basin plan (refer to Permit Appendix 1, Section 7) or Watershed-Scale Stormwater Plan from the 2013 *Phase I Municipal Stormwater Permit*, Special Condition S5.C.5.c, or a TMDL (refer to Appendix 2), or an Ecology-approved Adaptive Management Plan (refer to Permit's Special Condition S4F and Appendix 13). Cite the specific plan associated with the project in the 'Comments' field of Table 1.
3. Multiply SSC point total by 0.10 for completed capital projects related to the MS4 which occur in overburdened communities.
4. Use the appropriate area or length unit (acres, curb miles, linear feet) for Project types 5 through 11.

How to Calculate Equivalent Area

LID Performance Standard (MR#5) Benefit Ratio and Equivalent Area Process

1. Determine the total area (in acres) draining to the project. This is called the “full basin” in these steps.
2. Run the Western Washington Hydrology Model (WWHM), or other approved continuous simulation model, to determine if the BMP meets the LID Performance Standard for the full basin area.
 - If the project meets the LID Performance Standard, the Equivalent Area equals the area draining to the BMP.
 - If the project uses Full Dispersion functionally equivalent to BMP T 5.30 in Chapter 5 of Volume V of the *Stormwater Management Manual for Western Washington*, the Equivalent Area equals the area draining to the BMP.
3. If the project does not meet the LID Performance Standard for the full basin use the Western Washington Hydrology Model (WWHM 2012), or other approved continuous simulation model, to calculate the infiltration area of the BMP required to meet the LID Performance Standard Requirement (refer to Permit Appendix 1, Section 4.5) (e.g., match developed discharge durations to applicable pre-developed durations for the range of pre-developed discharge rates from 8% of the 2-year peak flow up to 50% of the 2-year peak flow). Identify the area available for infiltration in the new facility. This is the “required” New/Redevelopment infiltration area for a new BMP project, or the “required” area added through a project that retrofits an existing BMP.
4. Determine the infiltration area provided by the project under consideration. This is the “actual” infiltration area.
5. Divide the actual infiltration area (4) by required New/Redevelopment infiltration area (3) to get the LID Benefit ratio.
6. Multiply the LID Benefit ratio (5) by the full basin area (1) to get LID Equivalent area. The equivalent area cannot be greater than the full basin area.
7. Multiply the LID Equivalent area (6) by the appropriate SSC Program Points to calculate the Flow Control SSC Program Points for the project.

Runoff Treatment (MR#6) Benefit Ratio and Equivalent Area Process

1. Determine the total area (in acres) draining to the project. This is called the “full basin” in these steps.
2. Use an approved continuous simulation model to determine the required New/Redevelopment Runoff Treatment flow (cfs) or Volume (ac-ft) for the full basin using WWHM 2012.
3. Determine the flow rate or volume provided by the project. This is the “actual” runoff treatment flow rate or volume of a new BMP project, or the “actual” flow rate or volume added through a project that retrofits an existing BMP.

4. Divide the actual flow rate or volume (3) by the full basin required flow rate or volume (2) to get the Runoff Treatment Benefit ratio.
5. Multiply the Runoff Treatment Benefit ratio (4) by the full basin area (1) to get the MR #6 Runoff Treatment Equivalent area. The equivalent area cannot be greater than the full basin area.
6. Identify the appropriate SSC Program Points from Table 3.
7. Multiply the Runoff Treatment Equivalent area (5) by the appropriate SSC Program Points (6) to calculate the Runoff Treatment SSC Program Points for the project.

Flow Control (MR#7) Benefit Ratio and Equivalent Area Process

1. Determine the total area (in acres) draining to the project. This is called the “full basin” in these steps. This area can include basins upstream of the new pond that are upstream of other retention/detention facilities if there is a series of facilities that work together to control stormwater flows.
2. Use an approved continuous simulation model, to calculate the amount of retention/detention storage required to meet the Standard Flow Control Requirement (refer to Permit Appendix 1, Section 4.7) (e.g., match developed discharge durations to applicable pre-developed durations for the range of pre-developed discharge rates from 50% of the 2-year peak flow up to the full 50-year peak flow) for the full basin.
3. Identify the volume of retention/detention at the overflow installed for the project (ac-ft). This is the “actual” retention/detention volume of a new BMP project, or the “actual” volume added through a project that retrofits an existing BMP.
4. Divide the actual retention/detention volume (3) by the full basin required New/Redevelopment retention/detention volume (2) to get the Flow Control Benefit ratio. If the ratio is greater than 1.0, use 1.0 as your Flow Control Benefit ratio.
5. Multiply the Flow Control Benefit ratio (4) by the full basin area (1) to get the Flow Control Equivalent area. The equivalent area cannot be greater than the full basin area.
6. Identify the appropriate SSC Program Points from Table 3.
7. Multiply the Flow Control Equivalent area (5) by the appropriate SSC Program Points (6) to calculate the Flow Control SSC Program Points for the project.