



Post Construction Storm Water Storm Water Management Plan (SWMP) Checklist

Shaded areas are to be completed by the City of Birmingham ONLY.

Reviewer: _____	Case No.: _____
Date Received: _____	Date Approved: _____

Property Owner: _____

Property Address: _____

SWMP Preparer: _____

Contact Information: _____

*Directions: Indicate if the item/information is included by placing an X in the Yes, No, or NA boxes. Provide a response for each item.
Yes = Item included. No = Item not available or not included. NA = Not applicable.*

(Maps shall be provided at a scale commensurate with construction drawings, and no less than 1" = 50', except where noted below.)

Yes	No	NA	Item Description and/or Information	City Staff Notes
			<i>General Information</i>	
			1. Applicant information (name, legal address, and telephone number)	
			2. Common address and legal description of site	
			3. Date(s) of report preparation and any revision(s)	
			4. Name and contact information of responsible designer	
			5. Signature and stamp of registered engineer and landscape architect	
			6. Executed maintenance agreement with a map showing property boundaries, address, cross-streets and bounding roadways with names, structures and pavement that will exist onsite after proposed development is complete, and the location and type of all GIPs and BMPs that will be located onsite after the proposed development is complete.	
			7. Vicinity map including:	
			a. North arrow	
			b. Scale	
			c. Adjacent roadways	
			d. Other information as necessary to locate the development site	
			8. Narrative describing the proposed project, better site design and techniques, intrinsic GIPs used, LID practices used, and any structural GIPs and BMPs used for storm water quality, stream erosion, overbank flood and extreme flood protection	
			9. Topography, provided at 2-foot contour intervals with 1-foot accuracy. One-foot contours are preferred where available	
			10. Drainage basin boundaries [and watershed name(s) if known]	
			<i>EXISTING CONDITION Pre-Concept Sketch</i>	
			1. Land cover area map, using the land cover categories: <ul style="list-style-type: none"> • Forest • Urban Forest • Meadow/Turf • Impervious Cover (identify total area [in acres and square feet] and type: building, pavement, gravel, etc.) 	

Post Construction Storm Water Management Plan Checklist continued

Yes	No	NA	Item Description and/or Information	City Staff Notes
			2. Streams, regulatory floodplains, regulated/designated stream buffers, wetlands, karst/sinkhole areas, seeps, springs and slopes greater than 15%	
			3. Areas of known or suspected pollutants (surface or subsurface)	
			4. Water supply basins, groundwater recharge areas, and wellhead protection areas	
			5. Existing conservation areas	
			6. Areas where wet conditions or flooding are known to have occurred	
			7. Areas of cultural, historical or archeological significance	
			8. Areas with threatened and endangered species, if known	
			9. Soils information (refer to Appendix E), including: <ul style="list-style-type: none"> • Soil survey Information • Map and designation of hydrologic soil groups and urban soils • Subsurface conditions (if available) • On-site soil evaluation (if available) • Infiltration test results (if available) • Other available geotechnical information 	
			10. Other _____	
			11. Other _____	
			Hydrologic & Hydraulic Analyses & Compliance Report (<i>analyses shall include the following for on-site sub-basins and appropriate off-site areas</i>)	
			1. Record of Storm Water Pre-Concept Process Meeting	
			2. Maps and narrative describing whether and how the storm water quality performance standard is achieved at the site (i.e., compliance with the Rv criterion and/or the 80% TSS removal criterion), including identification of qualifying limitations, incentives applied, and GIPs/BMPs used	
			3. Statement by the engineer of record relative to the impact of the proposed storm water drainage system on the existing storm sewer system. See Appendix B.	
			4. Proposed condition for all storm water management BMPs and GIP types and locations, including a map showing contributing drainage area to each GIP/BMP	
			5. Proposed condition storm water quality volumes and associated performance standard compliance data (Rv or % TSS Removal) for the development conditions, including all supporting data and calculations	
			6. Map(s) and associate narratives that indicate the measures used to protect storm water quality GIPs after their installation to ensure vegetation survival (if applicable), soil compaction prevention (if applicable), erosion prevention and sediment control within and to the GIP, and structural or environmental damage	
			7. Maps and narratives describing the pre-development and post-development conditions and how the small storm ED, overbank and extreme flood protection performance standards and the downstream hydrologic analysis criterion are achieved at the site	
			8. Drainage basin map with sub-basins and soil conditions identified	
			9. Name(s) and version(s) of software used for analyses	
			10. Curve numbers or C-Factors, other runoff factors used, infiltration rates, etc.	
			11. Times of concentration for pre- and post-development flow paths, other hydrologic factors and travel time parameters	
			12. Rainfall data used	
			13. Proposed condition stream erosion protection compliance, extended detention of the 1-year storm and design release period, including supporting data and required calculations	
			14. Annual Rv calculations demonstrating $Rv \leq 0.22$ or TSS Removal calculations demonstrating 80% TSS removal (can use report from Birmingham Storm Water Quality Design Tool)	
			15. Proposed condition storm water peak discharges for the 1-year frequency, 24-hour duration storm event for the small storm extended detention design requirement (show method used and supporting calculations)	

Post Construction Storm Water Management Plan Checklist continued

Yes	No	NA	Item Description and/or Information	City Staff Notes
			16. Table comparing the pre- and post-construction conditions for each design storm event (2-, 10- and 25-year, 24-hour return frequency events) (show method used and supporting calculations)	
			17. Confirmation that the 100-year frequency, 24-hour storm event will be discharged safely (show method used and supporting calculations and conclusions)	
			18. Proposed condition hydrologic/hydraulic analyses and final sizing specifications for storm water quantity GIP designs, including all supporting data (contributing drainage area, required storage, outlet configuration, etc.) and calculations	
			19. Design water surface elevations, where applicable	
			20. Stage-discharge or outlet rating curves and inflow-outflow hydrographs for storage facilities	
			21. Results and supporting calculations for the downstream hydrologic analysis criterion, including analysis locations, supporting data and calculations and comparison table of pre-development and post-development peak discharges at all analysis locations	
			22. Existing and proposed structure elevations (e.g., pipe inverts, manholes, etc.)	
			23. Proposed condition storm water velocities in all storm water conveyances, at GIP outlets, and at property outfalls (show methods used and supporting calculations)	
			24. Construction notes, specifications, and design details for any storm water system components	
			25. Map(s) and associate narratives that indicate the measures used to protect GIPs and BMPs after their installation to ensure vegetation survival and prevent structural or environmental damage. If BMPs will be used as pre-treatment areas or sediment basins during construction, indicate the measures used to remove sediment from the basin to restore the design capacity, the general timing of sediment removal within the construction schedule, and the measures used to stabilize the soil within and around GIP after sediment removal (if applicable).	
			26. Other _____	
			27. Other _____	
			Vegetation Report (This report is applicable to those BMPs that include vegetation to facilitate runoff reduction, pollutant removal or soil stabilization. Refer to Appendix C. Drawings shall be provided at no greater than 1" = 100').	
			1. A table that lists the proposed GIPs that include vegetation and required vegetation type(s) and coverage percentage(s). Indicate where proposed vegetation type(s) and coverage percentage(s) will not meet GIP requirements and include rationale for non-compliance. If no proposed GIPs include vegetation (this is not common), check NA for all GIP Vegetation Report requirements.	
			2. Individual, proposed condition vegetation map or drawing for each GIP listed in item 1 immediately above, indicating: <ul style="list-style-type: none"> a. Proposed plant density b. Expected vegetation coverage and individual plant spread upon maturity c. Notations providing the vegetation type (e.g., tree, shrub, grass) and indication of native or non-native d. Names of plant species 	
			3. Narrative or explanatory table for each GIP listed in item 1 immediately above, providing: <ul style="list-style-type: none"> a. Expected time of vegetation installation b. Measures to be employed to protect the vegetation after installation c. Measures to be employed to ensure the survival of vegetation after its installation and while the property is still under construction, such as watering, fertilization, pest management, etc. Indicate how often such measures will be needed and where/how water will be obtained. 	

Post Construction Storm Water Management Plan Checklist continued

Yes	No	NA	Item Description and/or Information	City Staff Notes
			4. A map showing all property drainage basins and associated GIPs, showing the proposed land cover within each drainage basin (impervious or pervious) and the expected condition of each land cover (stabilized by paving or permanent vegetation) during and immediately after GIP installation. <i>(Note that construction sequencing shall be such that storm water quality GIPs are installed only after permanent stabilization of the GIP's contributing drainage area.)</i>	
			5. Other _____	
			6. Other _____	
			Construction and Protection Report <i>(This report provides information on preventing soil compaction for infiltration BMPs and providing soil erosion and sediment control.</i>	
			1. Construction equipment and other encroachments are restricted from GIP infiltration areas	
			2. Plan for soil testing, soil restoration, soil amendments, and/or engineered soil media established	
			3. Any existing or proposed stream crossings or wetland/waterway impacts. Copies of state and/or federal permits allowing the crossing or encroachment, if applicable.	
			4. Description and/or drawings indicating the species and planting of proposed vegetation, in accordance with the vegetation requirements stated in Appendix C	
			5. Descriptions and/or drawings indicating the planting practices that will be utilized	
			6. A maintenance and monitoring plan for one full growing season, including specification of proposed watering plans and schedule	
			7. Other _____	
			8. Other _____	
			Operation & Maintenance Report	
			1. A map showing property boundaries, address, cross-streets and bounding roadways with names, structures and pavement that will exist onsite after proposed development is complete, and the location and type of all GIPs and BMPs that will be located onsite after the proposed development is complete. This map also must show the locations of all easements. The language used to identify each GIP and BMP in the map must be consistent with the names used in the City of Birmingham Storm Water Design Manual.	
			2. Location and description GIP/BMP protective measures, as applicable	
			3. Description of maintenance requirements for overall storm water functions and for each GIP and BMP, including cleanout, repair, and vegetation replacement, etc.	
			4. Inspection and maintenance checklists for each type of GIP and BMP that is located on the property	
			5. Other _____	
			6. Other _____	

Notes:
