

STORMWATER MANAGEMENT PLAN REQUIREMENTS

- 1) ***Stormwater Management Concept Plan.*** The owner/developer shall submit a stormwater management concept plan that provides sufficient information for an initial assessment of the proposed project and whether stormwater management can be provided according to section 8-24(b) of Chapter 8 of the City Code and the Design Manual. Plans submitted for concept approval shall include, but are not limited to:
 - a. A brief narrative description of the overall development project;
 - b. Descriptions of all water courses, impoundments, and wetlands on or adjacent to the site or into which stormwater directly flows;
 - c. A Natural Resources Inventory/Forest Stand Delineation (NRI.FSD) map at a scale specified by the city showing site location, existing natural and man-made features, perennial and intermittent streams, floodplains, twenty-five (25) foot floodplain building restriction line (BRL), required flood protection elevation, wetlands, wetland buffers, stream buffers, other sensitive resources, forest and specimen trees, topography, natural drainage patterns, drainage areas, existing storm drain system, slopes, soil type, soil erodibility, and soil permeability (per Montgomery County Soil Survey), above ground and underground utilities, and other information required by the approving agency;
 - d. The anticipated location of proposed impervious areas, buildings, roadways, parking, sidewalks, utilities, and other site improvements;
 - e. Anticipated development details and site data including site areas, existing impervious area, proposed disturbed area, proposed new impervious area, and proposed total site impervious area;
 - f. The anticipated location of the proposed limits of disturbance and clearing topography, erodible soils, steep slopes, forest conservation areas, stream valley buffers, and other areas to be protected during construction;
 - g. A narrative that supports the concept design and describes how Environmental Site Design (ESD) will be implemented to the Maximum Extent Practicable (MEP);
 - h. Preliminary estimates of stormwater management requirements, the selection and location of ESD practices to be used, stormwater volume computations for ESD practices, and the delineated drainage areas and the locations of all points of discharge from the site;
 - i. A vicinity map; and
 - j. Any other information required by the Design Manual or the City.

- 2) ***Stormwater Management Preliminary Plan.*** Following concept plan approval by the city, the owner/developer shall submit a stormwater management preliminary plan that reflects comments received during the previous review phase. Plans submitted for preliminary stormwater management approval shall be of sufficient detail to allow site development to be reviewed and include but not limited to:
 - a. All information provided during the concept plan review phase and comments received by review agencies;
 - b. Geotechnical investigations including soil maps, borings, site specific recommendations, and any additional information necessary for the preliminary stormwater management design;
 - c. Final site layout, exact impervious area locations and acreages, proposed topography, proposed easements, delineated drainage areas at all points of discharge from the site, stormwater volume computations for ESD practices and quantity control structures, the location, type and size of ESD practices used to the MEP and all nonstructural, alternative surfaces, and micro-sale practices used, proposed hydrology analysis for runoff rates, storage volumes, and discharge velocities, stormwater details and specifications, discharge calculations demonstrating stable conveyance of runoff from the site, and maintenance access for each ESD and structural practice;

- d. A proposed erosion and sediment control plan that contains the limits of disturbance and clearing, the locations and sizes of preservation areas (for protection of forest and sensitive areas as well as to support future infiltration and recharge areas), stabilization strategies, and the phasing and construction sequence for each stage of development that is necessary to limit earth disturbances and impacts to natural resources;
- e. An overlay plan showing the types and locations of ESD and erosion and sediment controls;
- f. Drainage area maps depicting predevelopment and post development runoff flow path segmentation and land use;
- g. Hydrologic computations in accordance with the Design Manual of the applicable ESD and unified sizing criteria according to the Design Manual for all points of discharge from the site;
- h. Hydraulic and structural computations for all ESD practices and structural stormwater management measures to be used;
- i. Existing and proposed topography and proposed drainage areas, including areas necessary to determine downstream analysis for proposed stormwater management facilities;
- j. Analysis of stable conveyance to downstream discharge points;
- k. Representative cross sections and details (existing and proposed structure elevations and water surface elevations);
- l. A narrative that supports the site development design, describes how ESD will be used to meet the minimum control requirements, and justifies any proposed structural stormwater management measure;
- m. Letter of acknowledgement from off-site property owner for any required off-site covenants, easements, and/or rights of way; and
- n. Any other information required by the Design Manual or the City.

3) *Stormwater Management Final Plan/Construction Drawings.* Following preliminary stormwater management plan approval by the City, the owner/developer shall submit final erosion and sediment control and final stormwater management plans/construction drawings that reflect the comments received during the previous review phase. Plans submitted for final approval shall be of sufficient detail to allow all approvals and permits to be issued according to the following:

- a. All information required during the preliminary stormwater management plan review phase, updated to reflect any changes to the site plan, and comments received by review agencies;
- b. Final erosion and sediment control plans shall be submitted according to COMAR 26.17.01.05 and Article II of Chapter 8;
- c. A narrative that supports the final stormwater management design; and
- d. Any other information required by the Design Manual or approving agency;
- e. A vicinity map;
- f. Existing and proposed topography and proposed drainage areas, including areas necessary to determine downstream analysis for proposed stormwater management facilities;
- g. Any proposed improvements including location of buildings or other structures, impervious surfaces, storm drainage facilities, preservation areas, and all grading;
- h. The location of existing and proposed structures and utilities;
- i. Any covenants, easements and rights-of-way onsite or offsite;
- j. The delineation, if applicable, of the floodplain, twenty-five (25) foot floodplain BRL, flood protection elevation, wetlands, wetland buffers, perennial and intermittent streams, and stream valley buffers;
- k. Structural and construction details including representative cross sections for all components of the proposed drainage system or systems, and stormwater management facilities.

- l. All necessary construction specifications;
- m. A sequence of construction;
- n. Data for total site area, disturbed area, new impervious area, and total impervious area;
- o. A table showing the ESD and unified sizing criteria volumes required in the Design Manual;
- p. A table of materials to be used for stormwater management facility planting;
- q. All soil boring logs and locations;
- r. An inspection and maintenance schedule;
- s. A stormwater management infrastructure overview plan that includes the locations of inlets, storm drains, outfalls, manholes, headwalls, easements, all ESD and structural BMPS (identified by type and an unique identification (ID) number), drainage area per structure, and a full list of structure IDs and types;
- t. Certification by the owner/developer that all stormwater management construction and maintenance will be done according to this plan;
- u. Professional certification, seal and signature;
- v. An as-built certification signature block to be executed after project completion;
- w. City of Gaithersburg Approval stamp;
- x. A scanned or digital version of the final plan; and
- y. Any other information required by the City.

Preparation of the stormwater management plan.

The design of stormwater management plans shall be prepared by any individual whose qualifications are acceptable to the city. The city may require that the design be prepared by either a professional engineer, professional land surveyor, or landscape architect licensed in the state, as necessary to protect the public or the environment

If a stormwater BMP requires either a dam safety permit from the Maryland Department of the Environment Water Management Administration or small pond approval from the Montgomery Soil Conservation District, the city shall require that the design be prepared by a professional engineer licensed in the state.