

*Excerpt from the
Town of Manchester Public Improvement Standards
October 2020*

3.06.02 Stormwater Management Reports

Stormwater Management Reports are written reports detailing stormwater management for the proposed development that include analysis of both existing and proposed drainage facilities. The report shall detail the basic components of stormwater management outlined in Section 3.06.01 as it pertains to the proposed project. **All Stormwater Management Reports submitted to the Town must be signed and sealed by a Professional Engineer licensed in the State of Connecticut.**

Stormwater Management Reports are required for all site development, including, but not limited to, subdivision, inland wetlands, erosion and sedimentation control and special exception applications to local Commissions and Boards, public road construction, and projects that discharge stormwater runoff to public roadways, drainage systems, wetlands or watercourses.

Exception: When approved by the Engineer, a Stormwater Management Report is not required if:

- The proposed project will have little or no impact to the existing drainage patterns and/or downstream conveyance systems (i.e. building renovation with no site work, construction of a single family house, etc.).
- The proposed project already has an approved Stormwater Management Report on file in the Engineering Division. Note that amendments to the originally approved Stormwater Management Report may be required to address compliance with requirements that were not in effect at the time of approval.

At a minimum, the Stormwater Management Report shall include:

- A narrative summarizing the proposed project, design methods used, and a table comparing pre-development and post-development peak flows for the required design storm events at all critical design points (defined as any areas where runoff leaves the site).
- Drainage Area Maps for pre- and post-development conditions at a scale not to exceed 1"=40', with topographical contours showing the upstream contributing drainage areas and labeled to coincide with the drainage computations used to compare pre- and post-development peak flows and for design of proposed drainage systems.
- Limits of the 100-year flood elevation at the site obtained from the

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Flood Profiles provided in the “Flood Insurance Study” as published by the Federal Emergency Management Agency (if applicable).

- Inland Wetland boundaries as defined on the Town of Manchester Inland Wetlands and Watercourses Map or as field delineated by a soil scientist in accordance with the Town of Manchester Inland Wetlands and Watercourses Regulations, as amended.
- An inventory and evaluation of the flow capacity and physical condition of on-site hydraulic structures and watercourses located within the downstream “zone of influence”. The downstream “zone of influence” generally extends to the next two existing structures located downstream of the proposed development. The Engineer will confirm the exact location of the limit of analysis required.
- Identification of all drainage pipes, structures and watercourses that are insufficient to convey stormwater runoff under existing or reasonably anticipated future conditions.
- Identification of the peak rate of runoff and flow velocities at various design points in the watershed and the relative timing of the peak flow rates.
- Supporting calculations for design of all proposed drainage facilities, including but not limited to, piping, structures, riprap, swales, detention basins, drywells, treatment systems, etc. This information shall include calculations for the time of concentration, runoff coefficients, curve numbers, hydraulic grade line, flow velocities, gutter flow, ponding depths for inlets at low points, detailed hydraulic models for the conveyance system and detention basin sizing, etc.
- Identification of any aquifers or aquifer zones of contribution within the limits of the project.
- Optional: Provide photographs of critical areas and general site conditions to substantiate drainage calculations.

The report shall be supplemented with a complete set of subdivision or site development plans in accordance with the Minimum Plan Requirements outlined in Section 2.03. Construction details shall also be provided for all proposed drainage facilities. Drainage structures and pipe systems shall be labeled to coincide with the drainage calculations.

Electronic copies of drainage computations shall be submitted with the Stormwater Management Report upon request of the Engineer.