

APPENDIX 7

Stormwater Management

(A) Intent

An adequate stormwater control and conveyance system shall be provided, including appurtenances such as sediment and detention basins, manholes and piped or professionally designed ditch conveyance systems, to assure that stormwaters discharged from the site are in compliance with the guidelines contained in Section 3 and all other requirements of this ordinance.

(B) Stormwater Management Plan Required

All Subdivision Applications shall contain a surface drainage plan with profiles and cross sections drawn by a registered professional engineer. This plan shall show ditches, culverts, easements, and other proposed improvements, with the statement in writing attached to the drainage plan indicating that the proposed subdivision will not create erosion, drainage, or runoff problems either in the subdivision or in adjacent properties, and file with the Planning Board properly executed easements as required by the Public Works Director. The plan shall also contain a soil erosion and sediment control plan meeting the requirements of Section 5.39 of the Zoning and Site Plan Review Ordinance and containing the endorsement of the Cumberland County Soil and Water Conservation District. [Amended 9/22/03] If applicable, the plan shall also include a post-construction monitoring plan pursuant to Section 5.39A of the Zoning and Site Plan Review Ordinance.

Applications submitted pursuant to this ordinance for projects which will expose more than 60,000 square feet of soil at one time or which will produce more than 10,000 square feet of additional impervious surface must submit a stormwater management plan to the Planning Board for its review and approval, unless the development's storm sewer or ditch network discharges directly into the Presumpscot River or the Atlantic Ocean. Stormwater management plans shall conform to the requirements for a surface drainage plan and shall also meet the requirements of Section 3 of this Appendix.

(C) Performance Standards

Stormwater Management Plans shall show means whereby the peak discharge for the developed site shall not exceed the peak discharge for the undeveloped site for the 2, 10, and 100 year storm. Sediments and other pollutants shall be limited, through appropriate management practices, to prevent adverse downstream water quality impacts. Regulations specifying hydraulic calculation techniques and design standards for facilities to achieve this performance standard may be adopted by the order of the Council.

(D) Design Standards

1. All stormwater systems within the subdivisions shall be designed to meet the criteria of the performance standards based on rainfall data from weather bureau records in Portland.

Flows shall be computed by appropriate professional methods with design computations being submitted for approval.

2. Upstream drainage shall be accomplished by an adequately sized system through the proposed subdivision for existing conditions and future potential development in the upstream drainage area or areas tributary to the proposed subdivision, as determined by the Planning Board.
3. Existing downstream drainage facilities shall be studied to determine the effect of the proposed subdivision's drainage. The developer shall demonstrate to the satisfaction of the Planning Board that the storm drainage from the proposed subdivision will not, in any way, overload or damage existing storm drainage systems downstream from the proposed subdivision.
4. 300 feet shall be considered as the maximum length for carrying open storm water in a street gutter prior to intake at a catch basin for all zones except the Farm and Forest Zone. No stormwater will be permitted to drain across a street or across an intersection.
5. Minimum pipe size for any storm drainage pipe shall be 12 inches.
6. Where open ditches, channels, streams or natural drainage courses are used, either to collect or discharge stormwater, adequately sized perpetual easements shall be provided. Minimum width shall be 30 feet. Approval of the Planning Board shall be required for any open storm drainage system.
7. Where subsurface soils are of the nature requiring an underdrainage system, underdrains shall be installed so that they are discharged by gravity.
8. House foundation drains may be connected to the storm drainage system upon approval by and under the direction of the Public Works Director.
9. All pipe shall be designed to flow at a velocity of two fps. When flowing $\frac{1}{4}$ full.

(E) Storm Drainage Construction Standards

1. Materials:

The following types of new material shall be utilized for storm drain construction:

- a. Reinforced Concrete Pipe - Reinforced Concrete Pipe shall meet the requirements of ASTM Designation C-76. Pipe classes of safety of 1.2 on the 0.01 inch crack strength with a class B bedding. Joins shall be of the rubber gasket type meeting ASTM Designation C 443-70, or of an approved preformed plastic jointing material such as "Ramnek".

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- b. Underdrain Pipe - Underdrain Pipe may be of perforated bituminous coated corrugated metal or other pipe meeting similar requirements to that of standard drain pipe.
- c. Catch Basins - Catch Basins shall be of precast concrete construction. Castings shall be square cast iron cascade grate and frame as required for the particular inlet condition with the gratings perpendicular to the curb line. All catch basins shall be provided with a Type I curb face inlet. Precast sections shall meet the requirements of ASTM Designation C-478 and C-76.

(F) General Construction Requirements

1. Trenching - All trenching shall be accomplished in accordance with all appropriate state and federal requirements.
2. Maximum trench width at the pipe crown shall be the outside diameter of the pipe plus 2 feet.
3. Pipe shall be bedded in a granular material with a minimum depth of 6 inches below the bottom of the pipe and extending to 6 inches above the top of the pipe.
4. Drain alignment shall be straight in both horizontal and vertical alignment, unless specific approval of a curvilinear drain is obtained in writing from the Planning Board.
5. Catch basins shall be provided at all changes in vertical or horizontal alignments, and at all junctions. On straight runs, catch basins shall be placed at a maximum of 400 foot intervals.
6. All drain outlets shall be terminated in an endwall of concrete construction, or shall be riprapped to prevent erosion. Facilities for energy dissipation shall be provided.
7. Underdrains shall be laid with perforation down.