

<b>APPENDIX D</b> <b>INFORMATION REQUIRED WITH STORMWATER MANAGEMENT PLANS</b>
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All residential development disturbing one acre or more and all nonresidential development disturbing one-half acre or more shall be required to control and treat the stormwater runoff generated by a 1-inch rain event.

Stormwater management plans shall be certified by a North Carolina registered stormwater professional to be in conformity with the North Carolina Stormwater Best Management Practices Manual.

**A. Stormwater Management Plans shall include the following information:**

1. Applicant information (Name, legal address, and telephone number).
2. Common address and legal description of the property.
3. Vicinity map.
4. Existing conditions and proposed site layout (recommended scale of 1"=50') including at a minimum the following:
  - (a) Existing topography (recommended minimum of 2-foot contours).
  - (b) Perennial and intermittent streams.
  - (c) Mapping of predominant soils from USDA soil surveys.
  - (d) Boundaries of existing predominant vegetation and proposed limits of clearing and grading.
  - (e) Location and boundaries of all resource protection areas (e.g. floodplains, riparian buffers, wetlands, water supply watersheds).
  - (f) Location of floodplain/floodway limits and relationship of site to upstream and downstream properties and drainages.
  - (g) Location of existing and proposed roads, buildings, parking lots, and other impervious surfaces.
  - (h) Location of existing and proposed utilities (e.g. water, wastewater, gas, electric) and easements.
  - (i) Location of existing and proposed stormwater conveyance systems such as grass channels, swales, and storm drains.
  - (j) Location of proposed channel modifications, such as bridge or culvert crossings.
  - (k) Sediment and erosion control features.

- (l) Location, size, maintenance access, and limits of disturbance of proposed stormwater management practices.
- 5. Signature and stamp of registered engineer, landscape architect, or other certified professional and designer/owner certification.
- 6. Hydrologic and hydraulic analysis including:
  - (a) Hydrologic analysis for existing conditions including runoff rates, volumes, and velocities showing methodologies used and supporting calculations (the analysis must use accepted engineering coefficients representative of the soils and conditions on the proposed site).
  - (b) Hydrologic analysis for proposed (post-development) conditions including runoff rates, volumes and velocities showing the methodologies used and supporting calculations (the analysis must use accepted engineering coefficients representative of the soils and conditions on the proposed site).
  - (c) Hydrologic and hydraulic analysis of the stormwater management system for all applicable design storms.
  - (d) Final sizing calculations for structural stormwater controls including contributing drainage area, storage, and outlet configuration.
  - (e) Stage-discharge or outlet rating curves and inflow and outflow hydrographs for storage facilities.
  - (f) Final analysis of potential downstream impact and effects of project, where necessary.
  - (g) Dam safety and breach analysis, where necessary.
- 7. Representative cross-section and profile drawings and details of structural stormwater controls and conveyances which include:
  - (a) Existing and proposed structural elevations (e.g., invert of pipes, manholes, etc.).
  - (b) Design water surface elevations.
  - (c) Structural details of structural control designs, outlet structures, embankments, spillways, grade control structures, conveyance channels, etc.
- 8. Applicable construction specifications.
- 9. Landscaping plans for structural stormwater controls and any site reforestation or revegetation.
- 10. Evidence of acquisition of all applicable local and non-local permits.
- 11. Evidence of acquisition of all necessary legal agreements (e.g., easements, covenants, land trusts, etc.).

**B. Operation and Maintenance of Stormwater Control Structures.** The Stormwater Operation and Maintenance Plan shall also include the following information:

1. Name, legal address and phone number of responsible parties for maintenance activities.
2. Description and schedule of maintenance tasks.
3. Description of applicable easements.
4. Description of funding source.
5. Review of access and safety issues.

