

Appendix

B.1.1

Supplemental Pond and Wetland Specifications (Non-378)

Supplemental Stormwater Pond and Wetland Specifications (Non-378)

These notes and specifications are in addition to the MD-378 Specifications. If there is any question as to their applicability, the MD-378 Specifications supercede.

1. It is preferred to use the same material in the embankment as is being installed for the core trench. If this is not possible because the appropriate material is not available, a dam core with a shell may be used. The cross-section of the stormwater facility should show the limits of the dam core (up to the 10-year water surface elevation) as well as the acceptable materials for the shell. The shape of the dam core and the material to be used in the shell should be provided by the geotechnical engineer.
2. If the compaction tests for site improvements is using a Modified Proctor (AASHTO T-180), then to maintain on-site consistency, the Modified Proctor may be used in lieu of a Standard Proctor (AASHTO T-99). The minimum required density using the Modified Proctor test method shall be at least 92% of maximum dry density with a moisture content of $\pm 2\%$ of the optimum. The minimum required density using the Standard Proctor test method shall be at least 95% of the maximum dry density with a moisture content of $\pm 2\%$ of the optimum.
3. For all stormwater management facilities, a geotechnical engineer or their representative must be present to verify compaction in accordance with the selected test method. This information needs to be provided in a report to the design engineer, so that certification of the construction of the facility, in accordance with MD-378 specifications, can be made.
4. A 4-inch layer of topsoil shall be placed on all disturbed areas of the dam embankment. Seeding, liming, fertilizing, mulching, etc. shall be in accordance with Maryland Soil Conservation Service MD-342 or the 1994 Maryland Standards and Specifications for Soil Erosion and Sediment Control "Permanent Seeding," Section in Chapter 20. The purpose of the topsoil is to establish a good growth of grass which is not always possible with some of the materials that may be placed for the embankment fill.
5. Geotextile placed beneath rip-rap shall be Class "C" geotextile or better (see Section 24.0, Material Specifications, 1994 Standards and Specifications for Soil Erosion and Sediment Control (MDE, 1994). Some acceptable geotextiles that meet the Class "C" criteria include:

Amoco 4552
GEOLON N70
WEBTEC N07

Carthage FX-70S
Mirafi 180-N

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This is only a partial listing of available geotextiles based on information provided by the manufacturers to the 1997 Specifier's Guide dated December 1996. It is the responsibility of the engineer to verify the adequacy of the material, as there are changes in the manufacturing process and the type of fabric used, which may affect the continued acceptance.

6. A rule of thumb to determine when an excavated pond may need to be considered an embankment pond is as follows:
 - Provide calculation of $10H + 20 \text{ feet} = L$, where H equals height from pond bottom to top of dam. If the projection of L, downstream in a horizontal line from the upstream toe of slope is below existing ground, the pond can be considered an excavated pond. In addition, the existing ground slope, downstream of the toe, must be less than 10%.
7. The design engineer and geotechnical engineer should make the determination that the settlement of the pond will not cause excessive joint extension. For further information on joint extension analysis, see NRCS Publication TR-18.
8. Fill placement **shall not** exceed a maximum 8-inch. Each lift shall be continuous for the entire length of the embankment.
9. The embankment fill **shall not** be placed higher than the centerline of the principal spillway until after the principal spillway has been installed. If the embankment needs to be excavated to install the principal spillway, the side slope shall be no less than 2:1.
10. The side slopes of a cut to repair a dam, install a principal spillway for an excavated pond, or other repair work, shall be no less than 2:1.