15A NCAC 02H .1054 MDC FOR STORMWATER WETLANDS

The purpose of this Rule is to set forth the design requirements for stormwater wetlands that are constructed to meet the requirements of this Section.

(1) TEMPORARY PONDING DEPTH. The ponding depth for the design volume shall be a maximum of 15 inches above the permanent pool.

(2) PEAK ATTENUATION DEPTH. The wetland may be designed to temporarily pond peak attenuation volume at a depth exceeding 15 inches.

(3) SURFACE AREA. The surface area shall be sufficient to limit the ponding depth to 15 inches or less. The surface area specifications in Items (6) through (9) of this Rule are based on the wetland at its temporary ponding depth.

(4) SOIL AMENDMENTS. The pH, compaction, and other attributes of the first 12-inch depth of the soil shall be adjusted if necessary to promote plant establishment and growth.

(5) LOCATION OF INLET(S) AND OUTLET. The inlet(s) and outlet shall be located in a manner that avoids short circuiting.

(6) FOREBAY. A forebay shall be provided at the inlet to the stormwater wetland. The forebay shall comprise 10 to 15 percent of the wetland surface area. The forebay depth shall be 24 to 40 inches below the permanent pool elevation. The forebay entrance shall be deeper than the forebay exit. If sediment accumulates in the forebay in a manner that reduces its depth to 15 inches, then the forebay shall be cleaned out and returned to its design state.

(7) NON-FOREBAY DEEP POOLS. Deep pools shall be provided throughout the wetland and adjacent to the outlet structure to prevent clogging. The non-forebay deep pools shall comprise 5 to 15 percent of the wetland surface area and shall be designed to retain water between storm events. The deep pools at their deepest points shall be at least 18 inches below the permanent pool elevation.

(8) SHALLOW WATER ZONE. The shallow water zone shall comprise 35 to 45 percent of the wetland surface area. The shallow water zone shall be zero to nine inches below the permanent pool elevation.

(9) TEMPORARY INUNDATION ZONE. The temporary inundation zone shall comprise 30 to 45 percent of the wetland surface area. The temporary inundation zone shall be between 0 and 15 inches above the permanent pool elevation.

(10) DRAWDOWN TIME. The design volume shall draw down to the permanent pool level between two and five days.

(11) PROTECTION OF THE RECEIVING STREAM. The wetland shall discharge the runoff from the one-year, 24-hour storm in a manner that minimizes hydrologic impacts to the receiving channel.

(12) LANDSCAPING PLAN. A landscape plan shall be provided and shall include the following:

(a) delineation of planting zones;

(b) plant layout with species names and locations; and

(c) total number and sizes of all plant species.

(13) SHALLOW WATER PLANTINGS. The shallow water zone shall be planted with a minimum of three diverse species of herbaceous, native vegetation at a minimum density of 50 plants per 200 square feet (equivalent to 2 foot on center spacing).

(14) TEMPORARY INUNDATION ZONE PLANTINGS. The temporary inundation zone shall be planted according to one of the following options:

(a) a minimum of three diverse species of herbaceous, native vegetation at a minimum density of 50 plants per 200 square feet (equivalent to 2 foot on center spacing);

(b) a minimum of eight shrubs per 200 square feet (equivalent to 5 foot on center spacing); or

(c) a minimum of one tree and a minimum of 40 grass-like herbaceous plants per 100 square feet.

(15) DAM STRUCTURE AND PERIMETER FILL SLOPES. On the dam structure and perimeter fill slopes, non-clumping turf grass shall be provided; trees and woody shrubs shall not be allowed.

(16) NO CATTAILS. Cattails shall not be planted in the wetland.

(17) TRASH RACK. A trash rack or other device to trap debris shall be provided on piped outlet structures.

History Note: Authority G.S. 143-214.7B; 143-215.1; 143-215.3(a);

Eff. January 1, 2017.