DINWIDDIE COUNTY

PLANNING, ZONING, CODE COMPLIANCE AND ENVIRONMENTAL

VEGETATED ROOF

Site Design Checklist

Plan Name: _____ Date Submitted: _____

The following checklist only identifies the information and details that must be included in the SWM plan

VEGETATED ROOF: ☐ Level 1 ☐ Level 2

LEVEL 1 MINMUM DESIGN CRITERIA:

The required treatment volume must be calculated using the following formula: Tv = 1.0 (Rv)*(A)/12 (*typically 0.95, unless otherwise documented)	○
The media depth must be at least 4 inches	
At a minimum, drainage mats are incorporated	○
The media must contain no more than 20% of organic matter	
The design must be in conformance to the ASTM (2005) International Green Roof Standards	○

LEVEL 2 MINMUM DESIGN CRITERIA:

The required treatment volume must be calculated using the following formula: Tv = 1.1 (Rv)*(A)/12 (*typically 0.95, unless otherwise documented)	○
The media depth must be at least 4 – 8 inches	
At a minimum, a 2-inch stone drainage layer must be incorporated	○
The media must contain no more than 10% of organic matter	
The design must be in conformance to the ASTM (2005) International Green Roof Standards	○

MINMUM DESIGN CRITERIA:

The structural capacity of the roof must be assessed by a qualified professional (structural engineer, architect, or other). Provide appropriate documentation to ensure the roof has the structural capacity to support the additional weight of water and planting media of the vegetated roof.	
Vegetated roofs must account for special design adaptations for cold climate and winter performance, unless accounted for in the maintenance agreement.	
Vegetated roof surfaces will not be located near rooftop electrical or HVAC systems.	
Vegetated roof surfaces will comply with the Virginia Uniform Statewide Building Code with respect to roof drains and emergency overflow devices.	

PLAN REQUIREMENTS:

In plan, profile and section views, provide the following descriptive features for the Vegetated Roof: - A 2 foot wide vegetation-free zone must be designed along the perimeter of the roof with a 1 foot vegetation free zone around all roof penetrations to act as a fire break; - The roof design must include strategically located non-vegetated walkways to allow easy access to the roof for weeding and maintenance; - The layout of the outlet or overflow system and location of all roof drains must be shown; - Roof drains immediately adjacent to the growing media must be boxed and protected by flashing extending at least 3 inches above the growing media.	
Provide a summary of the long term maintenance requirements for the SWM facility on the SWM plan.	
Prohibit the use of herbicides, insecticides, or fungicides.	
Avoid power washing.	
Inspections required by the Maintenance Agreement must be conducted by 1) a person who is licensed as a professional engineer, architect, landscape architect, or land surveyor pursuant to Sec. 54.1-400 et seq. of the Code of Virginia; 2) a person who works under the direction and oversight of a licensed professional engineer, architect, landscape architect, or land surveyor; or 3) a person who holds a Stormwater Inspector or Stormwater Combined Administrator certificate of competence from the State Water Control Board.	
The sequence of construction must address the SWM facility installation and appropriate inspections, including: initial site preparation, excavation/grading, and installation of the embankment, principal outlet structure, and emergency spillway. We recommend the County staff be involved in these inspections.	
The sequence of construction must clearly state that a construction record drawing and certification that the stormwater management facility has been constructed in accordance with the approved plan must be submitted to the County and approved prior to Environmental Compliance Bond (ECB) release.	

LANDSCAPING:

Provide a landscape plan prepared by a landscape architect, botanist, or other professional with experience with vegetated roofs.	○

ACCESS AND LOCATION:

Provide adequate access to the roof for delivery and stockpile of construction materials and to perform routine maintenance. The access will not be less than 16 sq. ft. in area with a minimum dimension of 24 inches.	○

COMPUTATIONS:

Provide the appropriate hydraulic calculations.	○
The drainage layer below the growing media must be designed to convey the 10-year storm without backing up water into the growing media, conveying the flow to an outlet or overflow system.	
Provide the complete input used for the hydrograph generation on the plans	○
Provide a stage/storage table	
Provide a stage/discharge for each component of the outlet structure	○
Provide a composite stage/discharge table	
Provide an outlet control analysis	○

Engineer Signature:_____ Date:_____