Bioretention Areas

Definition/Purpose

Bioretention is the use of plants and soils for removal of pollutants from stormwater runoff. Bioretention can also be effective in reducing peak runoff rates, runoff volumes and recharging groundwater by infiltrating runoff.

Policies

1. Bioretention areas are intended to treat impervious surface areas of greater than 2500 ft^2. Refer to backyard rain garden practice if treating less than 2500 ft^2.

2. The seasonal high water table must be at least two feet below the proposed bottom of the facility.

3. Bioretention facilities may be constructed using native soils when the soil infiltration rate is at least 1 inch/hour. Installation in clay soils will require an imported soil mix and underdrains to achieve the minimum infiltration rate.

4. In draining to nutrient sensitive waters, the bioretention facility shall utilize a soil media with a P-Index between 15-40 to promote phosphorus removal.

5. Grassed swales, filter strips, or other structural practices such as forebays should be considered as a method of pretreatment to reduce sediment loading.

6. Native plant species capable of tolerating the extreme moisture conditions typical of this practice should be specified over non-native, invasive, or exotic species that require excessive care.

BIORETENTION AREA	
Lifespan	5 years single-family home, 10 years all other properties
BMP Units	SQUARE FEET
Required Effects	• Total Nitrogen • Total Phosphorus *Use SNAP tool (Stormwater Nitrogen and Phosphorus tool)*
JAA	There is no job approval authority for bioretention, a Professional Engineer must design this practice

CS2 Reference Materials	• NC-CSP-11 Signature Page • Map with BMP location •

Standards

https://files.nc.gov/ncdeq/Energy+Mineral+and+Land+Resources/Stormwater/BMP+Manual/C-2%20%20Bioretention%201-19-2018%20FINAL.pdf

N. C. NRCS Technical Guide, Section IV, Specifications #393 (Filter Strip), #412 (Grassed Waterway).

Additional Resources
NC Stormwater Manual, Bioretention Cell -
https://files.nc.gov/ncdeq/Energy+Mineral+and+Land+Resources/Stormwater/BMP+Manual/C-2%20%20Bioretention%201-19-2018%20FINAL.pdf