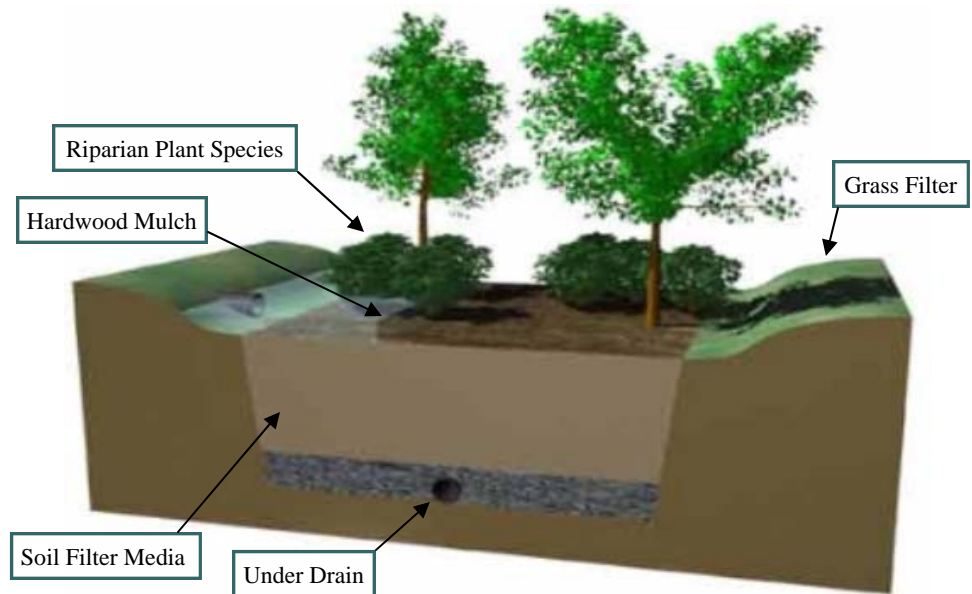


# Bioretention Area and its Maintenance



Bioretention areas, or cells, are storm water treatment structures designed to give the impression of landscaping features. It is a simple method of filtering storm water runoff while giving a pleasing aesthetic look that cannot be provided by a typical storm water basin. They are commonly located in parking lot islands or within small pockets for residential land uses. The surface water runoff generated in the parking lots or residential lots is directed into the shallow, landscaped depressions to be filtered through a mulch and prepared soil media. Bioretention areas are designed to pond a small rain event and allow it to pass through the mulch and soil media. The water passing through the media is filtered of pollutants and cooled before collecting in a under drain and discharging into a storm system or nearby stream. Runoff from larger storms is diverted past the facility directly to a storm drain system. Bioretention systems are generally applied to small sites, but can be applied to a wide range of development. They are very versatile in that they can be built in almost any soil or topography since runoff percolates through a made soil bed, and is returned to the storm water system.

Bioretention areas require intense maintenance initially, this includes correct plant selection and watering. Once the plants become established, less maintenance is required in the long term. The long term maintenance tasks are often only needed seasonally and can be completed by a landscaping contractor, who may already be hired at the site. In addition to regular maintenance, bioretention areas should incorporate design features to reduce maintenance and allow easy access for cleanout and repair.

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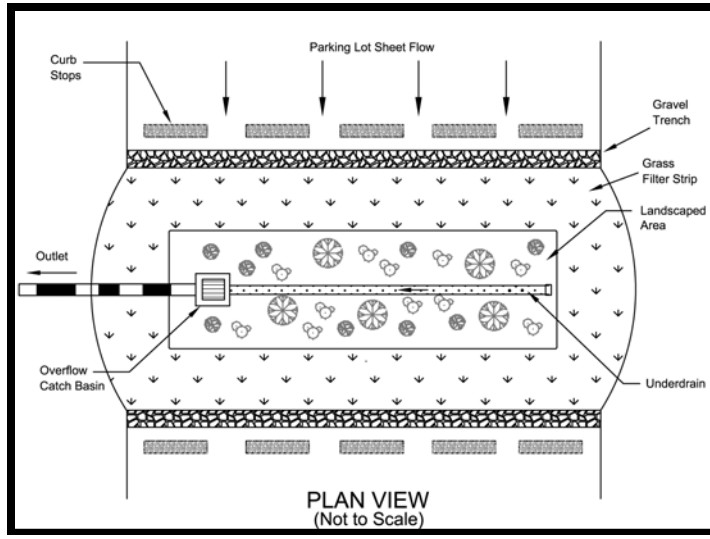


***Plant Selection***

The selected plants should include species that can tolerate extremes. There will be periods of water inundation and very dry periods. Most riparian plant species will do well. Riparian species are those that naturally form around streams and wetlands. The choice of species should include plants that mimic forest habitat and have aesthetic landscape value (ie: flowers, trees, etc.)

**Typical Maintenance Activities for Bioretention Areas**

Activity	Schedule
<ul style="list-style-type: none"> <li>• Remulch void areas with hardwood mulch</li> <li>• Treat diseased trees and shrubs</li> </ul>	As needed
<ul style="list-style-type: none"> <li>• Water Plants daily for two (2) weeks</li> </ul>	At project completion
<ul style="list-style-type: none"> <li>• Inspect soil and repair eroded areas</li> <li>• Remove litter and debris</li> </ul>	Monthly
<ul style="list-style-type: none"> <li>• Remove and replace dead and diseased plants</li> </ul>	Twice per year
<ul style="list-style-type: none"> <li>• Add additional hardwood mulch</li> <li>• Check planting soil and filter layer for clogging</li> </ul>	Once per year



**Top view of a bioretention area**



**Typical Bioretention Area**

This brochure is not a legal document but only to be used as a general guide because each site may have specific requirements or physical differences. Always resort to the most recent edition of the ODNR "Rainwater and Land Development Handbook" and Ohio EPA General Construction Permit or contact the Trumbull SWCD Office at (330) 637-2056 ext. 101 or the Trumbull County Engineers Office at (330) 675-2640 for assistance.