

**MSD's
'Formal'
Plant List
for Bioretention**





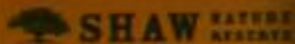
Landscape Guide
for Stormwater
Best Management
Practice Design
St. Louis, Missouri

Metropolitan St. Louis Sewer District • Missouri Department of Conservation
Missouri Botanical Garden • Shaw Nature Reserve
Missouri Department of Agriculture • Grow Native!

Rev. 2 May 2012

MISSOURI BOTANICAL GARDEN

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Stormwater Solutions

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The Shaw Nature Reserve

Hwy. 100 & I-44
P.O. Box 38
Gray Summit, MO 63039
(636)451-3512



MSD Stormwater Best Management Practices

The **MSD Stormwater Best Management Guide** is a collaborative project between the Metropolitan St. Louis Sewer District, Missouri Department of Conservation, Missouri Botanical Garden, Shaw Nature Reserve, and Grow Native!



In recent years interest has increased in the use of innovative methods to retain and treat stormwater. These methods, often called stormwater best management practices (BMPs), rely on natural processes, such as microbial activity, filtration, infiltration, denitrification, nutrient reduction and evapotranspiration, to attain water quality and water quantity goals. Although technical information is available on the design of many types of stormwater best management practices, less information is available on plant species appropriate for these systems. This guide has been developed to assist designers through the process of selecting and planting native plant species appropriate for a variety of stormwater best management practices in St. Louis, Missouri.

• [Landscape guide for stormwater best management practice design](#)

• [BMP toolbox for bioretention](#)

You will find the following in this guide:

- Required BMP Construction Specifications
- Required BMP Plant Lists

Professional Tools

- [MSD Manual](#)
- [Shaw Series at Alberici](#)
- [Stormwater Solutions](#)



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Bioretention

Bioretention is a depressed landscape feature which stores, filters, and infiltrates stormwater runoff. Bioretention is an attractive Best Management Practice (BMP) on many developments because it can be tucked into greenspace such as curb and cul-de-sac islands, streetscape, and planter boxes.

Basic components important to most St. Louis area bioretention "cells" are vegetation; organic soil that will drain well and provide growing media for plants; a graded filter of sands and gravels below the soil; a perforated underdrain pipe beneath the graded filter to ensure the bioretention will drain; and an overflow structure to pass storms larger than the bioretention design storm.

- [Performance Criteria](#)
- [Bioretention Design Details](#)
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- [Maintenance](#)



Related Links

[BMP Technology Matrix](#)



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In the MSD Landscape Guide:

Plant Requirements:

- Plants of Missouri and S. Illinois ecotype are required
 - It is recommended that a minimum of 5 grass/sedge species and 8 forb species be provided for each BMP.
 - Deviation to this is acceptable for aesthetics** if desired for more formal planting areas.
-

From the MSD Bioretention Online Toolbox:

Vegetation

The primary value that vegetation provides is a deep root structure that maintains drainage through the soil media.

Vegetation should **promote social acceptance: bioretention is a landscape feature**, as well as a stormwater BMP.

Formal or informal???



- Typically has a higher diversity of species
- Need to maintain a tight design over time
- More species for maintenance crew to identify
- =higher maintenance





First Community Credit Union

- Planted with informal plant list
- Allowed to reseed, spread
And move around/fill in



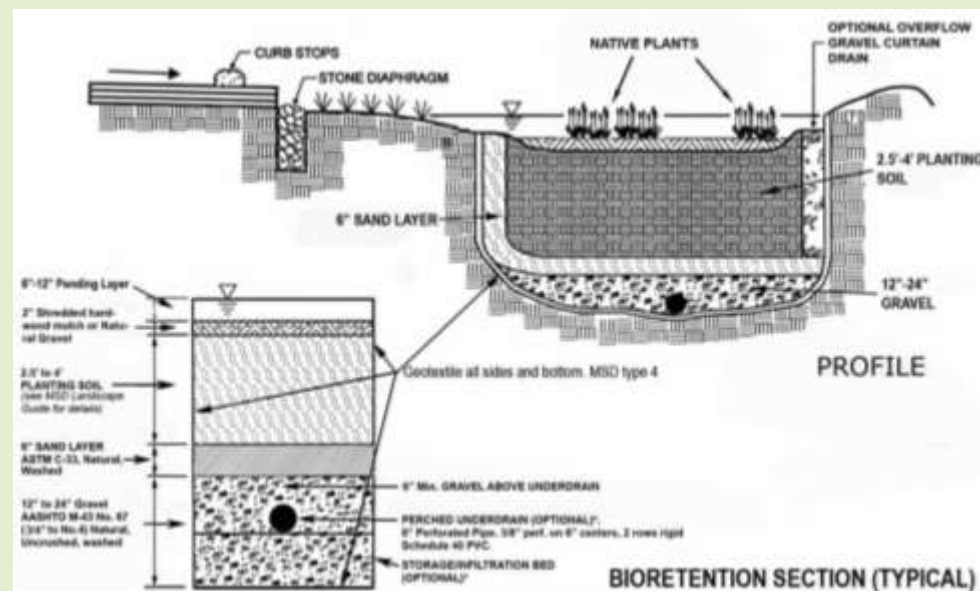
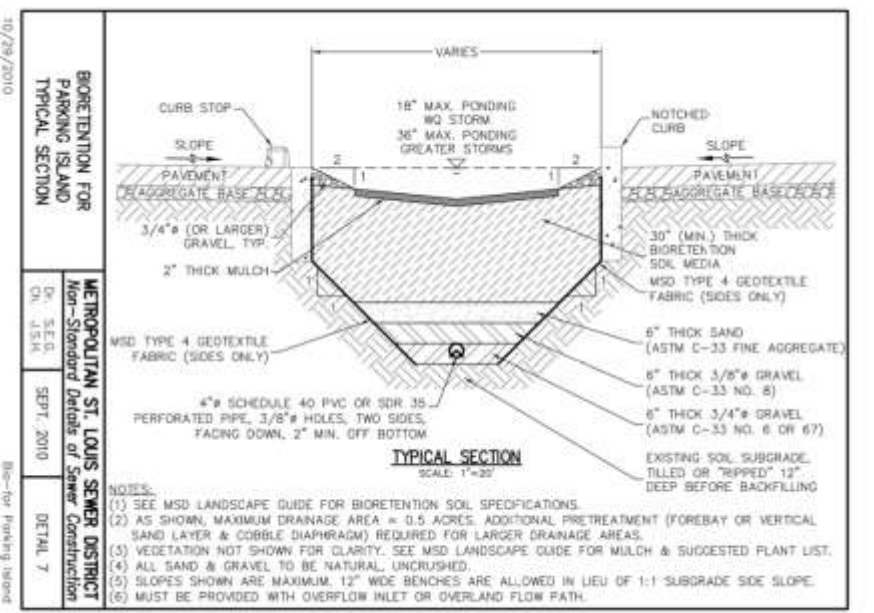
Planted with formal plant list
More maintenance to maintain each plant mass



Lower maintenance
can be achieved
with
Right plant,
Right place



upper slope lower slope pond edge (submerged)
(and permanent water)



10/28/2010
METROPOLITAN ST. LOUIS SEWER DISTRICT
Non-Standard Details of Sewer Construction
Dr. S.E.D.
Ch. J.S.H.
SEPT. 2010
DETAIL 7



**Shade plant in
full sun site...**

**Does not fulfill an
aesthetic function!**



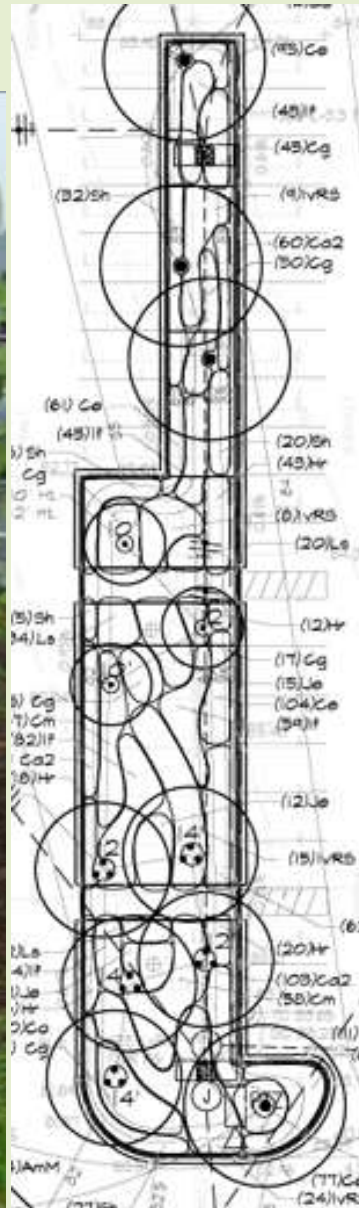
Hancock Elementary School

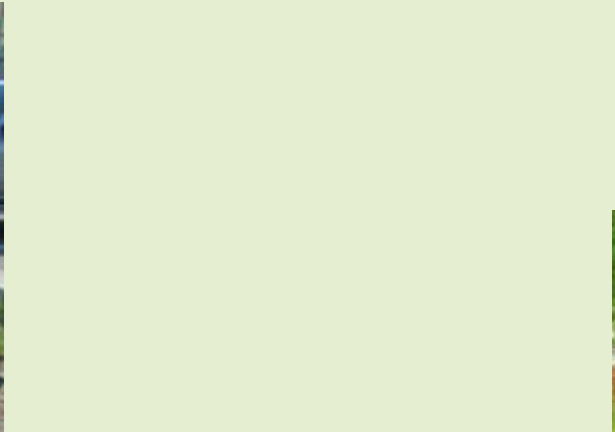


Lion's Choice



Missouri Botanical Garden East Parking Lot Bioretention







SWT Design





Maryville University



Golden Corral







Treasure Room parking lot – Chesterfield Valley