

SMPs Can Be Aesthetic



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L A N D S C A P E
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A R C H I T E C T S
A S S O C I A T E S

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■ Topics

- **Costs and Benefits**
- **Landscape Preference Themes**
- **Influencing Design Factors**
- **Landscape Architect's Role**
- **Appropriate Plantings**
- **Conclusions**

Costs and Benefits of SMPs

■ Costs of SMPs

- Construction costs range from \$2000 to \$50000 per impervious acre of drainage area
- One third is for the quality component; two thirds is for flood control
- The cost of land used for SMP
- Professional services fees
- Operation and maintenance fees

■ Costs and Benefits of SMPs

■ Benefits of SMP

- Some SMPs are less expensive than traditional drainage systems
- Stormwater ponds and wetlands create a water front effect
 - EPA studies indicate that commercial space leases faster next to well designed SMPs
 - Residential land sells at a premium if next or within view of a well designed SMP
 - Studies also show that properties next to traditional detention basins or poorly designed wet ponds sell for less than the surrounding lots

“When designed and sited correctly, artificial lakes and wetlands can help developers reduce negative environmental impacts caused by the development process and increase the value of the property.” (USEPA, September 1995)

Water Landscape Preference Themes

- **Water is important part of life**
- **There are regional preferences for water**
- **There are demographic preferences for water**
- **Generally, people prefer:**
 - water that is clean with a neat landscape surrounding it and abundant wildlife
 - the opportunity to view and interact with the water
 - water to be in a more natural configuration
 - to live or be near water
 - to vacation in a water landscape
- **People do not understand storm water and the impacts on the landscape**

Influencing Design Factors

- **The shape**
 - Size
 - Topography
 - Proximity to other features
- **The grading**
 - Side slopes
- **The structures**
 - The riser
 - The emergency spillway
 - The trash racks
- **Access**
 - Maintenance
 - Safety Bench
- **Views**
 - Proximity to other features
- **Plantings**

The Landscape Architect's Role

- **A Landscape Architect is trained to:**
 - **Create the water place where people and nature interact.**
 - Ponds instead of detention basins
 - Gardens instead of bioretention
 - **Understand the feasibility of a site for the requirements of the project**
 - Review storm water management plan with engineer
 - Review site plan and discuss non structural SMPs
 - Assist in placing the SMP
 - Assist in selecting the type of SMP
 - Assist in safety strategies
 - **Design with people in mind**
 - Assist in shape of SMP
 - Assist in grading of SMP
 - Assist in placing of structures including safety fencing
 - Interface with environmental consultants to create a planting plan
 - Specify soil mixes, seed mixes, and installation techniques

The Landscape Architect's Role

- **A Landscape Architect is more knowledgeable about parts of an SMP construction**
 - Specifying soil mixes
 - Specifying seed mixes
 - Specifying plant material
 - Specifying final installation
- **A Landscape Architect can provide valuable information for the operation and maintenance of an SMP**
 - Assist in developing the operation and maintenance plan
 - Maintenance of plant material

Plantings Appropriate for an SMP

■ Factors to consider regarding plant selection

- Soil moisture content
- Water fluctuations
- Solar conditions
- Plant zone
- Native non invasive plants
- Mature size
- Flowering
- Winter character
- Deer resistant
- Soil character, nutrient level, ph, etc

Plantings Appropriate for an SMP

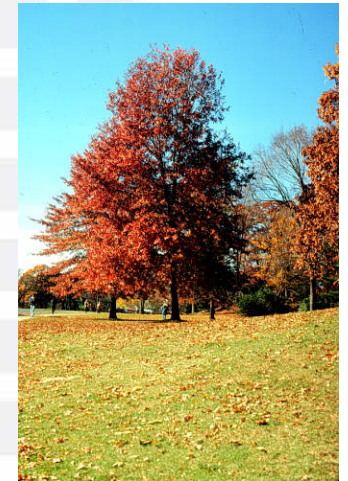
■ Type of planting areas

- Upland Buffers
 - 15-25' wide
 - Upland plant material
 - Native to area
 - Withstand drought conditions
- Edge plantings
 - Withstand high soil moisture content
 - Withstand inundation
- Emergents
 - Needs 6-18" of water

Plantings Appropriate for an SMP

Trees

- Shade Trees
 - Red Maple – Edge and buffer
 - Red Oak - Buffer
- Medium/small trees
 - River Birch – Edge and Buffer
 - Shadblow – Buffer
 - Redbud - Buffer
- Evergreen Trees
 - White Pine – Buffer
 - White Spruce – Buffer



Plantings Appropriate for an SMP

Shrubs

Tall

- Elderberry – Edge and buffer
- Winterberry – Edge and buffer
- Spicebush – Edge and buffer



Medium

- Sweet Pepperbush – Edge and buffer
- Red Twig Dogwood – Edge and buffer



Small

- Azalea – Edge and buffer
- Pasture Rose – Buffer



Plantings Appropriate for an SMP

Perennials (Forbs)

Foliage

- Sedge - Emergents
- Rushes - Emergents
- Variety of Ferns – Edge
- Andropogon – Buffer



Flowering

- Blue Flag - Emergent
- Cardinal Flower - Edge
- Joe Pye Weed – Edge and Buffer
- Milkweed – Edge and Buffer
- Aster - Buffer



Conclusion

- **SMPs can be a visual and marketable asset to any project**
- **Successful SMPs need to be placed and designed using a team approach**
- **A Landscape Architect can be a vital member of that team**
- **With proper planting an SMP can become a garden**