

Planning *by* Design

Enhancing Stormwater Management

Drainage Swales

Stormwater management facilities such as drainage swales, detention basins, culverts, and various drainage structures are a necessary part of land development and the built environment. While the amount of discharge is regulated by federal and state agencies, aesthetic considerations are rarely guided by existing legislation. As a result, functional drainage features and basins often result in unattractive maintenance problems in existing and new land developments.



Visual Enhancement

The intentional planting of vegetation, using types that are adaptable to periodic flooding or surface water runoff, can greatly enhance the visual aspects of stormwater management facilities. A combination of native and ornamental plantings, as shown in the photo above, provides color, texture, and seasonal interest while controlling soil erosion, reducing surface runoff velocities and removing sediments from the stormwater.

Drainage swales used to convey surface runoff between residences can be planted with wet-tolerant plant species to enhance the visual characteristics of the site.

Planting Recommendations

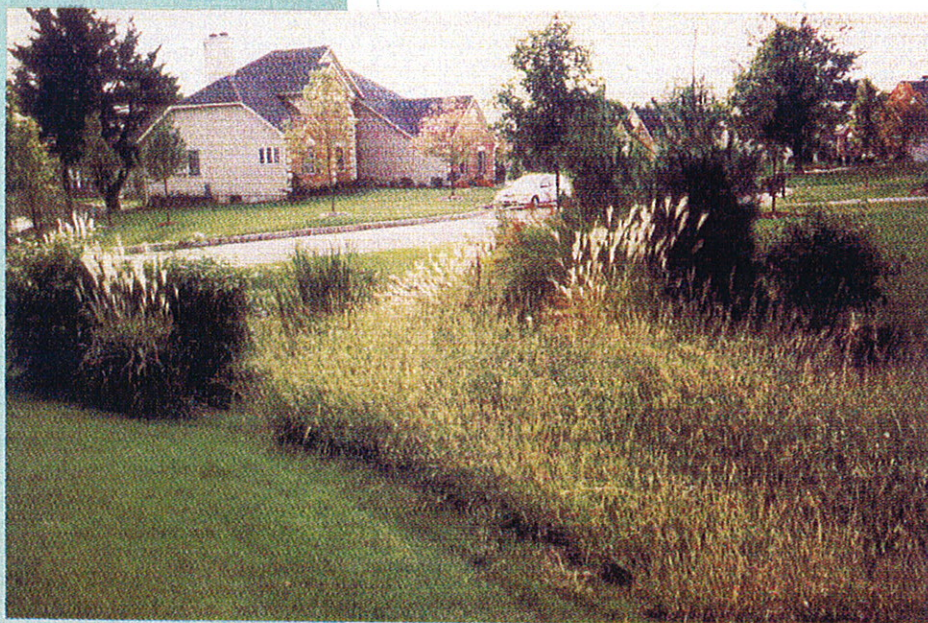
Herbaceous plantings, such as grasses, flowering perennials, and wetland emergent vegetation, serve to control soil erosion, enhance the removal of water-borne sediments, increase wildlife habitat and food value, and provide year round visual interest with diverse color and textural patterns.

Shrub plantings can serve to stabilize the soil, hide concrete structures and provide habitat and food for wildlife, without adding significant costs to the project. Suggestions for appropriate shrub species include: silky dogwood (*Cornus amomum*), arrowwood (*Viburnum dentatum*), buttonbush (*Cephalanthus occidentalis*), winterberry (*Ilex verticillata*), red chokecherry (*Aronia arbutifolia*), serviceberry (*Amelanchier canadensis*), elderberry (*Sambucus canadensis*) and spicebush (*Lindera benzoin*).

Trees planted adjacent to stormwater drainage structures provide additional soil stability, wildlife habitat value, vertical dimension to the landscape, as well as add greater visual interest and screening. The planting of trees in the stormwater management design can

add value which appreciates over the long term, with an initial cost at installation time.

While providing the added interest and ecological value, these plantings also reduce the maintenance problems of mowing turfgrass in wet soils, on steep slopes, and around awkward structures.



Additional information on stormwater management techniques and recommended plantings is available from MCPC.

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