



Clean Water. Healthy Life.

BEST PRACTICES *for* STORMWATER MANAGEMENT IN METROPOLITAN KANSAS CITY

BIOSWALES

Platte Purchase Park, 108th and N. Platte Purchase Road, Kansas City, Missouri

Goals

To manage parking lot runoff through the use of bioswales and provide an educational opportunity for the public on stormwater Best Management Practices (BMPs) using native plant species. Additional goals are to demonstrate the utility of using native plants in assisting with stormwater management, providing soil stabilization, and water conservation.

Description

Platte Purchase Park is a 140-acre county park with multiple ball fields, linear trails, natural areas and a wetland/stream/pond system. The parking area for the southwest ball fields is located along the west side of a headwater tributary to Second Creek. Stormwater runoff currently enters this tributary directly from the parking area resulting in sediment transport and other water quality problems.

Stormwater swales have been constructed along the southeast end of the new softball complex. The bioswales have a structural base with a soil matrix that will facilitate water drainage. The swales are planted with native grasses to maximize infiltration of water once it enters the bioswale. The plantings act as a siphon and an initial filter to cleanse the water before it is released into the stream.

Community Benefits & Lessons Learned

There are many benefits to constructing this parking lot with bio-swale drainage. The bio-swales will filter chemicals and oils from stormwater, slow down drainage of the water, and decrease erosion. The bio-swales will also capture stormwater at its source and decrease its impact on creeks in the watershed.

The site must be stabilized before the bioswales are constructed to minimize the amount of sediment entering the bioswales while the vegetation is becoming established. Construction sediment, numerous rainfall events, and regular flooding of the bioswales has contributed to the problems encountered. Additional drain pipes have been added to minimize water storage time while the swales are revegetated.

Funding Sources and Partnerships

Platte County Parks and Recreation Department, Mid-America Regional Council
U.S. Environmental Protection Agency (EPA) Region 7

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Platte Purchase Park is a multi-use recreational park with active and passive recreation.



Native plants representative of those which will serve in the Platte Purchase Bioswales



Drainage issues have been a major problem for the bioswales.