



Clean Water. Healthy Life.

# BEST PRACTICES *for* STORMWATER MANAGEMENT IN METROPOLITAN KANSAS CITY

## BIORETENTION CELLS

Lenexa Fire Station #3, Prairie Star Parkway and Gleason Road, Lenexa, Kansas

### Goals

To use innovative stormwater management techniques, including swales and wetlands, to treat stormwater runoff. These bioretention cells will complement the Prairie Star Parkway system while providing educational features for the development community, public officials, residents, and local governments.

### Description

The facility consists of a fire station with training facilities, and a police substation. Six bioretention cells have been incorporated into the landscape to manage stormwater runoff from the parking lot and the building.

Bioretention cells are soil-based and plant-based areas that filter stormwater runoff from developed sites by mimicking natural vegetated systems. A bioretention cell contains: vegetated filter strip, ponding area, organic mulch layer, planting soil bed, and sand bed.

### Community Benefits & Lessons Learned

This project demonstrates innovative site development through the use of environmentally sensitive stormwater best management practices (BMPs). Areas will be used for public events and classes. Interpretive signs will assist in educating residents and school children.

In order to ensure the best outcome for this project, the city has taken the time to study and analyze the bioretention cell components, especially in terms of structure placement and soil specifications. The city is taking every step to ensure the successful establishment of the native plants and the function of the system as a whole.

### Funding Sources and Partnerships

City of Lenexa Division of Public Works  
Mid-America Regional Council  
U.S. Environmental Protection Agency (EPA) Region 7  
Kansas Dept. of Health and Environment

### Contact

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*Bioretention cells with native vegetation are positioned to filter runoff from the parking lot.*



*Establishment of native vegetation is critical to the function of these cells.*



*Proper sediment and erosion control must be maintained during plant establishment.*