



Green Infrastructure & Stormwater Management CASE STUDY

Ruskin Heights Homeowners Association Stormwater Management

Location: 114th St and Delmar, Kansas City, MO

Client: Ruskin heights Homeowner's Association and Keep Kansas City Beautiful

Design Firm(s): Syntax Land Design

Landscape architect/Project contact: Hilary Noonan, Associate ASLA

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ASLA Chapter: Prairie Gateway

Project Specifications

Project Description: Neighborhood has rolled curbs and no storm drains except two on 114th St that daylight in the triangle. The neighborhood has problems with water over roadways all year. The design will create berms and swales that will hold water and allow infiltration over a short time period. Channels will create visual interest and direct water and the forebays will allow silt to settle out before entering swale system. The forebays can also be used for snow storage to prevent ice on roads.

Project Type:

Other (please specify)

A retrofit of an existing property

Design features: Rain garden, bioswale, and curb cuts.

This project was designed to meet the following specific requirements or mandates:

Grant from KKCB for green infrastructure

Impervious area managed: 1 acre to 5 acres

Amount of existing green space/open space conserved or preserved for managing stormwater on site: 5,000 sq/ft to 1 acre. The traffic triangle is approx .6 acres.

The regulatory environment and regulator was supportive of the project.

Did the client request that other factors be considered, such as energy savings, usable green space, or property value enhancements? Property values a large concern in determining the overall look of the project.

Cost & Jobs Analysis

Estimated Cost of Stormwater Project: >\$10,000 (Public funding: Local - concrete work in forebays to be provided by City)

Related Information: The forebays and grading to be done professionally. All other work done with volunteers from the neighborhood.

Was a green vs. grey cost analysis performed? No, retrofitting neighborhood with storm drains was too costly to consider.

Cost impact of conserving green/open space to the overall costs of the site design/development project: It is the project. Conserving the space is the reason the cost is so low.

Cost impact of conserving green/open space for stormwater management over traditional site design/site development approaches (grey infrastructure)? Significantly reduced costs (10% or greater savings).

Number of jobs created: 10

Job hours devoted to project:

Planning and Design: 150

Construction: 100

Annual Maintenance: minimal

Performance Measures

Stormwater reduction performance analysis:

City engineer in Water Dept used SWMMP EPA's software to determine benefit. According to engineer 10-year storm will act as 1-year storm in terms of the amount of water on the street and 100-year storm will act as 10-year event.

Community & economic benefits that have resulted from the project: Project to be built during the summer/fall of 2011.