Green Infrastructure & Stormwater Management
CASE STUDY

Ehlers & Associates, Inc. Site Expansion

Location: Roseville, MN
Design Firm(s): Solution Blue, Inc.
Landscape architect/Project contact: Mitchell Cookas, Associate ASLA
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ASLA Chapter: Minnesota

Photo: Solution Blue, Inc.

Project Specifications
Project Description: A building expansion was proposed, however, the property was part of a larger planned unit development (PUD), which had already reached its stormwater capacity. In addition, no enough parking was available and the property contained a regional detention basin encumbered by drainage and utility easements. A creative solution was developed to increase parking as well as to ensure the reduced detention volume would not hinder the PUD, or City/Watershed District stormwater system.
Project Type: Commercial
A retrofit of an existing property

Design features: Bioretention facility, rain garden, bioswale, porous pavers.

This project was designed to meet the following specific requirements or mandates:
State statute, county ordinance, local ordinance, to meet funding criteria, developer/client preference

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 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? Rain harvesting and green roof analysis

Cost & Jobs Analysis
Estimated Cost of Stormwater Project: $100,000-$500,000 (Public funding: Local)

Related Information: Labor 25% Material 50% Equipment 15% Design 10%

Was a green vs. grey cost analysis performed? Yes, because of site PUD constraints the green system was the only option available and most cost effective.

Cost impact of conserving green/open space to the overall costs of the site design/development project: A significant cost savings was realized by the property owner, as redeveloping this property ment new land would not need to be aquired and buildings/parking lots/ infrastructure would not need to be built.

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). Redevelopment expansion onsite vrs. new land purchase and new buidling construction

Number of jobs created: 25

Job hours devoted to project:
Planning and Design: 200
Construction: 1,600
Performance Measures

Stormwater reduction performance analysis:
Due to nature of insitu soils and the ability to infiltrate stromwater, a reduction in volume was not feasible. However, a reduction in runoff rates of discharge for the 2-year storm event resulted in a decrease of over 54 percent.

Community & economic benefits that have resulted from the project: New economic development, enhanced aesthetics of business park, increases property values significantly and outdoor eating amenity.

Additional Information

Links to images: www.solutionblue.com/heading30page29.html