Green Infrastructure & Stormwater Management
CASE STUDY

Loveland Sports Park

Location: Loveland, CO  
Client: City of Loveland, Parks and Recreation Department  
Design Firm(s): Design Concepts and DHM  
Landscape architect/Project contact: Janet Meisel-Burns, ASLA  
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ASLA Chapter: Colorado

Project Specifications
Project Description: The project was designed to capture and retain stormwater within the 55-acre community sports park. The design minimized stormwater pipe and provided bioswales to catch stormwater off of all paved surfaces, transporting water to a retention pond which filters the stormwater along with raw water for irrigation through a constructed wetland for pretreatment before releasing it downstream to an irrigation pond and ultimately releasing over flow water through a small stream to the Big Thompson River. The downstream irrigation pond is designed for 72 hour release during irrigation. Inlets were placed in turf or bioswales again so pre-treatment of stormwater would occur prior to the water moving to the retention/detention ponds.

Project Type: 
Open space - park  
Part of a new development

Design features: Bioretention facility, bioswale, downspout removal, and curb cuts. All parking lots were constructed without curbing on the low-side of the lot and there are no gutters on any of the structures in the park.

This project was designed to meet the following specific requirements or mandates:  
Local ordinance, to meet funding criteria, urban drainage and flood control ordinances

Impervious area managed: greater than 5 acres
Amount of existing green space/open space conserved or preserved for managing stormwater on site: greater than 5 acres. Since this was a park - over 40 acres of the site is green!

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? Yes - all plus maintenance costs and infrastructure depreciation and replacement.

Cost & Jobs Analysis
Estimated Cost of Stormwater Project: $500,000-$1,000,000 (Public funding: State, regional, local. Project was funded by City and grants and donations)

Related Information: A detailed breakout of all stormwater related costs for the project can be provided upon request. Can’t insert the large files in this area.

Was a green vs. grey cost analysis performed? No

Cost impact of conserving green/open space to the overall costs of the site design/development project: It saved the City money since less piping was used to manage and direct stormwater.

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). No specific cost analysis was done as it was evident that a at cost $24-65 /LF of pipe we were going to save money if we didn't need to pipe all of our stormwater.

Number of jobs created: Not available

Job hours devoted to project:
- Planning and Design: 12 month - Approx 5,000 hours
- Construction: 21,000 hours
- Annual Maintenance: < $20,000 for just stormwater maintenance
- Other: $< $300,000 for entire park maintenance

Performance Measures
Stormwater reduction performance analysis:
Stormwater detention was designed for a 2-year release and all stormwater is retained on site with an orifice restriction on the outlet pipes. All water is pretreated throught the bioswales for
settlement in the 2 ponds (1 on-site and 1 off-site). Detention capacity is for a 100-year storm event in several on-site ponds.

**Community & economic benefits that have resulted from the project:** Since this is a public park - we don't generate revenue. The park has increased the value of the surrounding property and provided needed public recreation and open space.

**Project Recognition**
2006 Silver Hard Hat Award - General Contractors of CO, Outstanding Landscape Project;
Voted Best Park in City for several years starting 2006