Green Infrastructure & Stormwater Management CASE STUDY

Hacienda Hills Trailhead, Barbara Fish Trail

Location: Hacienda Hills, CA
Client: Puente Hills Landfill Native Habitat Preservation Authority
Design Firm(s): Mountains Recreation and Conservation Authority Landscape Architecture Division
Landscape architect/Project contact: Stephanie V. Landregan, FASLA
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ASLA Chapter: California Southern

Project Specifications

Project Description: This project entailed the restoration and daylighting of a streambed from a superelevated 100 ft road into a series of retention ponds and trails.

Project Type:
Open Space-Park
A retrofit of an existing property

Design features: Bioretention facility.

This project was designed to meet the following specific requirements or mandates:
Local ordinance, to meet funding criteria

Impervious area managed: 1 acre to 5 acres

Amount of existing green space/open space conserved or preserved for managing stormwater on site: 1 acre to 5 acres.

The regulatory environment and regulator was apprehensive about the project.

Did the client request that other factors be considered, such as energy savings, usable green space, or property value enhancements? No

Cost & Jobs Analysis

Estimated Cost of Stormwater Project: $100,000-$500,000 (Public funding: State, regional)

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: The project connected the community to an existing trail head along a partially developed road right of way. This 100 ft wide graded road base was reconfigured into several stream basins, re-vegetated and trails woven from the street entry to the existing Shabarum Trail. Several grants were secured to deal with the runoff and erosion from the 7% grade of the roadway, to transform the road into a smaller access roadway of 24 ft with 70 ft stream to the west and a 10 ft vegetated buffer to the east.

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). Significantly reduced maintenance costs and erosion clean up costs.

Number of jobs created: 12

Job hours devoted to project:

Planning and Design: 300
Construction: 350
Annual Maintenance: 400

Performance Measures

Stormwater reduction performance analysis:
To date, all stormwater has been retained on site within the stream retention system, and no erosion or debris has been deposited on the main road.

Community & economic benefits that have resulted from the project: The adjacent neighbors have reported increased property values until the recent economic downturn. House prices were 5% HIGHER for comparable homes not adjacent to the park/ stream restoration.

Additional Information

Links to images: http://www.habitatauthority.org/trailaccess.shtml

This property was originally designed to carry runoff within a pipe-to-the-sea design. However, erosion was significant due to the super elevated road base which was dormant for years. When the property was purchased by the Puente Hills Landfill Native Habitate Authority, the connection and clean of large washes of sediment lead to reintroduction of the stream and velocity reduction basins. This BMP has performed as designed, with minimal biannual pre-storm maintenance of sediment removal from the upstream area of the gabion check dams.