



Green Infrastructure & Stormwater Management CASE STUDY

Westside Park Rainwater Irrigation: Baldwin to Ballona

Location: DWP Power Corridor, East of La Cienega and Fairfax, Los Angeles, CA

Client: City of Los Angeles, Bureau of Sanitation/Watershed Protection Division

Design Firm(s): Bureau of Engineering, Prop O Group (Psomas, Prime consultant)

Landscape architect/Project contact: Deborah Deets, ASLA, BOS/Park and Sub Surface irrigation (SSI) Concept, Mia Lehrer, FASLA, (standard surface) Irrigation plan

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ASLA Chapter: Southern California

Project Specifications

Project Description: The goal of the project was to beneficially reuse dry weather flow and first flush stormwater from the Baldwin Hills area to Ballona Creek for park irrigation without a need for disinfection, and to pilot and monitor a new BMP stormwater filtration option not previously accepted by city or Recreation and Parks Department. Estimated completion date: March 03, 2011

Project Type:

Commercial

A retrofit of an existing property

Design features: Bioretention facility, rain garden, and cistern.

This project was designed to meet the following specific requirements or mandates: Total daily maximum load requirements

Impervious area managed: greater than 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 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.

Cost & Jobs Analysis

Estimated Cost of Stormwater Project: \$1,000,000-\$5,000,000 (Public funding: State, local, state bond and local Prop K funding)

Related Information: Westside Park Rainwater Irrigation, Prop O approved Funding: \$6,904,589 Total Project Budget \$8,304,589 Other potential funding available \$3,400,000 http://www.lapropo.org/sitefiles/docs/engineering/MonthlyReport_January-2011.pdf (includes schedule)

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:

In 2008 The La Cienega/Fairfax Powerline Easement Demonstration Project was a project to incorporate underutilized space within a LADWP powerline easement. The final project was a redesign from the original proposal of a constructed wetland/wet detention pond, and was renamed as the Westside Park Rainwater Irrigation Project. The revised concept report was presented late in the design of the original project due the increasing and unrelenting concern of the local community over the original proposal over odors and vectors. The "emergency" redesign was done by a landscape architect who was trying to get a pilot for sub-surface irrigation installed in the city, and had met road blocks due to the lack of a prior SSI history. When channel day-lighting was ruled out as an option, the new project proposed to install a flow diversion facility from the buried concrete channel (Ballona Creek), a stormwater lift station, and a subsurface rainwater irrigation system that can store up to 180,000 gallons of surface runoff, and a dry creek that filters and collects return water for reuse, or overflows to the storm drain system. Additionally, and as proposed separately by landscape architects from the Department of Recreation and Parks, recreational elements such as spray-play features, park benches, exercise equipments, and playground structures were added under separate funding.

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 land costs. Used LADWP corridor.

Number of jobs created:

http://www.lapropo.org/sitefiles/docs/engineering/MonthlyReport_January-2011.pdf

Job hours devoted to project:

Planning and Design:

http://www.lapropo.org/sitefiles/docs/engineering/MonthlyReport_January-2011.pdf

Construction: http://www.lapropo.org/sitefiles/docs/engineering/MonthlyReport_January-2011.pdf

Annual Maintenance: Not available

Other: FUTURE WORK FOR Landscape Architects-Significant if this remains under the scope of Irrigation rather than engineering.

Performance Measures

Stormwater reduction performance analysis:

Ongoing monitoring report available by request (deborah.deets@lacity.org)

Community & economic benefits that have resulted from the project: All the above.

Reduction in illegal dumping and crime anticipated with increased observation by police park users.

Additional Information

If the early results continue to show that the SSI system is more than just irrigation, but is a type of "sand filter" that reduces bacteria and pollution, then the potential for this as a BMPs watershed-wide is significant. With or without standard surface irrigation, SSI could become a significant design tool for landscape architects and I hope that it will be included under the scope of Irrigation rather than engineering. This emerging BMP is a combined irrigation and stormwater system that should not become another element entrenched within the vast engineering design scope, but rather be embraced and championed by landscape architects as a valuable tool for assisting in water conservation and stormwater management. (Monitoring data available on request).