



Santa Clara Valley
Urban Runoff
Pollution Prevention Program



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Site Design for Protecting Water Quality – Award Winning Approaches

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Presentation Overview

- **Background**
- **Purpose of Awards Program**
- **Past Winners**
- **2008 Awards**
- **Available Resources for Site Design Practices**

Effects of New Development



Stormwater Pollutants of Concern

- Sediment
- Metals (mercury, copper, zinc, lead)
- Petroleum hydrocarbons
- Pesticides
- Trash
- Nutrients (N,P)
- Bacteria
- Flow





Current New Development and Redevelopment Requirements

- **Projects that create/replace > 10,000 sq.ft. impervious surface required to include:**
 - **Site design measures**
 - **Pollutant source controls**
 - **Stormwater treatment measures**
 - **Flow control measures (certain projects > 1 acre impervious area)**
- **Proper site design can help reduce or avoid other types of mitigations**

Site Design Concepts

- **Define Development Envelope**
 - Minimize land disturbance
 - Protect native vegetation
 - Preserve open space
- **Minimize Impervious Area**
 - Reduce building footprint
 - Use pervious paving
- **Use Drainage as Design Element**
 - Reduce speed of, detain, infiltrate runoff in landscaping



Permeable Pavements



Permeable Pavements – Turf Block

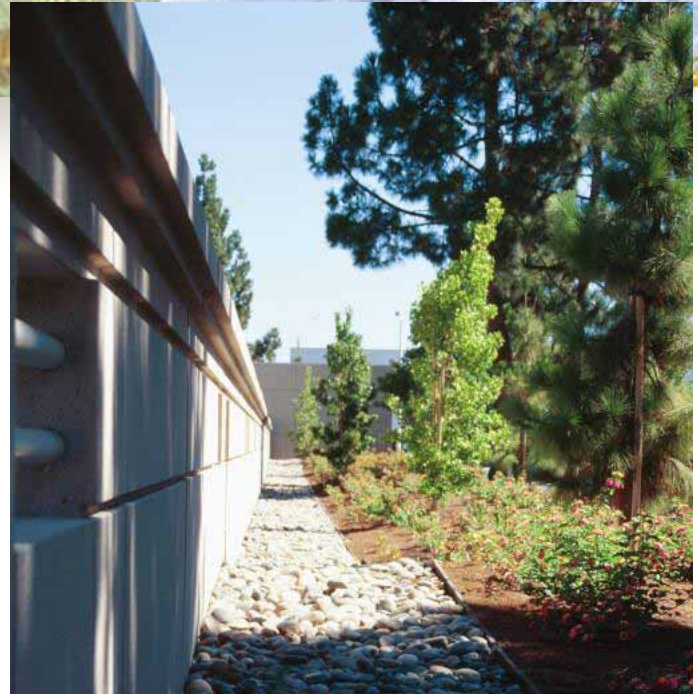


Drainage to Landscaping Swales/Biofilters



Disconnected Roof Downspouts





Parking Lots

- Biofilters/Swales
- Infiltration Trench
- Parking Structures
- Permeable Pavement



Green Roofs

■ Environmental Benefits

- 70% of rainfall can be captured
- Reduce noise and air pollution, increase energy efficiency
- Reduce Urban Heat Island effect



Site Design Guidebook





Site Design Awards Program

- Recognizes public agency and private development leaders who are solving site design challenges, protecting water quality and meeting permit requirements.
- Awards given to completed projects with site design measures that:
 - Reduce volume & velocity of runoff
 - Provide stormwater treatment
 - Serve as a visual amenity
 - Serve as a model for similar projects

Past Site Design Award Winners



**Permeable
Pavers, Mayfield
Playing Fields,
Palo Alto**



**Natural Detention Area,
Willow Glen Reflections,
San Jose**

**Landscaped
Detention Area,
Alum Rock Library,
San Jose**



Past Site Design Award Winners



**Pervious Paving,
Starbucks/Taco del Mar,
Palo Alto**

**Vegetated Bioswale,
Tully Library, San Jose**



**Pervious Concrete
Parking Lot,
Congregation Sinai,
San Jose**



2008 Award Winners

- **Private Project, Residential –
Modern Ice, San Jose**
- **Private Project, Commercial –
IDeAs (Integrated Design Associates,
Inc.), San Jose**
- **Honorable Mention –**
 - **Santa Clara Valley Water District, Water
Quality Laboratory, San Jose**
 - **Verizon Wireless Maintenance Switch Center,
Sunnyvale**
 - **Fowler Creek Community Park, San Jose**

Modern Ice - Description

- **Location: north-central San Jose**
- **First phase of 202-unit townhouse project (98 units)**
- **9.6 ac., including 1.2 ac. public park**
- **Previously an ice and cold storage facility, almost 100% impervious**



Modern Ice – Site Design Features

- Clustered buildings to allow open space
- Minimized paved area for vehicles
- Disconnected downspouts
- Detention in drought tolerant landscaping
- Vegetated swales



Modern Ice Highlights



- Excellent example of urban infill residential project with many different stormwater management strategies



- Extra effort to “start at the source”
- Met density and stormwater requirements
- Site design amenities are visually pleasing
- Overcame many site constraints (soil contamination, high groundwater)

IDeAs - Description

- **Location: 1084 Foxworthy Ave, San Jose**
- **Commercial office building (converted from former B of A building)**
- **Redevelopment project submitted prior to C.3. – voluntary LID measures**



IDeAs – Site Design Features

- **Converted impervious parking area to stormwater detention area (rock garden)**
- **Replaced walkways with pervious pavers**
- **Added landscaping with drought tolerant plants**



IDeAs – Highlights



- Good example of retrofit of commercial building on small lot
- Maximized the use of the site for stormwater detention and infiltration
- Water conserving landscaping
- Created aesthetically pleasing building and grounds

Honorable Mention – SCVWD Water Quality Lab



Honorable Mention – Verizon Wireless Maintenance Switch Center



Honorable Mention – Fowler Creek Community Park





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 - Eric Anderson, City of Mountain View
 - Genevieve Fire, consultant
 - Christina Hovland & Jill Bicknell, SCVURPPP
- **2008 Awards Applicants**