

**Yahoo! Inc.
CO-7**

Site Location:
701 First Avenue
Sunnyvale, CA

Features:

- Rocky swales
- Multi-story buildings reduce building footprint
- Access to the Bay Trail open space area including parking available for visitors
- Permeable walkways

Stormwater Benefits:

- Natural treatment of runoff
- Reduced impervious surface area
- Reduced directly-connected impervious area (DCIA)



This rocky swale has a storm drain for excess flows.



Rocky swale with curb cuts allows for infiltration to occur.



Rectangular stones are used to create a rocky swale.

Yahoo! Inc.
CO-7 (cont.)



Pervious walkways used to minimize impervious surfaces.



On-site parking is provided for visitors to the Bay Trail (located behind the Yahoo! Campus).



This walkway slopes toward landscaped vegetation; with multi-story buildings in background.



Pervious walkways used between concrete sidewalks.

**Yahoo! Inc.
CO-7 (cont.)**



Curb cuts (see arrow) allow runoff to drain off parking lot into the vegetation.

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**Juniper Networks
CO-8**

Site Location:

1194 N. Mathilda Avenue
Sunnyvale, CA

Features:

- Multi-story buildings reduce building footprint
- Rocky swales and trees in parking lot
- Rooftop runoff drains to landscaping
- Promotes alternative transportation
- Permeable pavement
- Located buildings to protect existing heritage tree

Stormwater Benefits:

- Reduced impervious surface area
- Reduced transportation-related pollutants
- Natural treatment of runoff
- Reduced volume and velocity of runoff
- Reduced directly-connected impervious area (DCIA)



Runoff from rooftop drains into landscaping reducing the directly-connected impervious area (DCIA).



This pathway made of pervious pavers allows infiltration through the sand filled crevices. Also, these benches are provided on pervious surfaces.



Parking lot runoff drains through curb cuts and then filters through the rocky swale. Trees provide visual amenities as well as reduce the volume and velocity of runoff.

**Juniper Networks
CO-8 (cont.)**



The convenience of the Light Rail Station across the street encourages employees to take public transportation to work.



Charging stations allow employees with electric vehicles, like the Sparrow pictured here, to charge-up while at work.



Plenty of carpool parking encourages employees to share rides to work.



Covered bike racks are provided for employees who prefer to ride their bicycles to work.

Juniper Networks CO-8 (cont.)



An existing oak tree was preserved in the development of this project.

Lessons Learned:

- During storms, ponding does occur in parking lots. This can be prevented through better design and construction of the rocky swales to ensure that the infiltration rate of the swale is fast enough to prevent ponding, or by adding a perforated drainage pipe for runoff overflow. It is also important that the site is graded properly to direct water toward the swale.

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**Hillview
CO-10**

Site Location:

3300 Hillview
Palo Alto, CA

Features:

- Parking lot biofilters
- Commercial building courtyard with pervious pavement
- Courtyard also serves a buffer between multi-story building and the creek behind
- Section of parking lot drains to swale of native plants between courtyard and riparian area
- Buildings set back from riparian corridor

Stormwater Benefits:

- Reduced impervious surface area
- Natural treatment of runoff
- Reduced runoff velocity
- Setback from riparian corridor
- Reduced directly-connected impervious area (DCIA)



Pervious pathway placed through the courtyard allows easy access for visitors as well as drainage areas for stormwater. The creek runs behind the trees towards the back. Between the trees and the benches is a swale of native vegetation that treats water from the parking lot.



The parking lot design incorporates biofilters to filter and infiltrate runoff before entering the storm drain. Concrete edging protects the asphalt parking lot from water damage.

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**Baylands Parking Lot
PA-7**

Site Location:

East end of Embarcadero Road
(Adjacent to PA Sailing Station)
Palo Alto, CA

Features:

- Bioswales
- Non-petroleum paving materials

Stormwater Benefits:

- Natural treatment of runoff
- Reduced directly-connected impervious area (DCIA)

Note:

- The bioswale was under construction at the time these photographs were taken (November 13, 2003).



The filtered runoff drains into this storm drain at the downstream end of the swale.



The bioswale surrounds the parking lot, providing runoff treatment before it drains to the storm drain.



Parking lot is graded so that runoff drains into the swale.

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**Ulistac Natural Area
(Guadalupe River)
PA-8**

Site Location:

Lick Mill Boulevard
at Tasman Drive
Santa Clara, CA



Features:

- Provides natural buffer area between the Guadalupe River and urbanized areas
- The City removed existing buildings to put in pocket parks and to restore natural preserve areas
- Provides habitat for flora and fauna
- Promotes community outdoor educational activities including volunteering with restoration efforts

Stormwater Benefits:

- Riparian buffer
- Reduced impervious surface area
- Open space benefits



Photograph courtesy of the Ulistac Natural Area Community Habitat Restoration Project

Trees and open space provide permeability for stormwater runoff, wildlife habitat, and a buffer area for the Guadalupe River.



Photograph courtesy of the Ulistac Natural Area Community Habitat Restoration Project

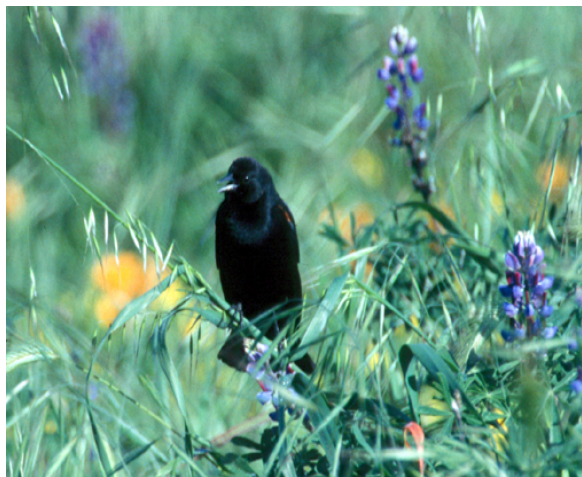
This 40-acre nature area, preserved on January 20, 1997, by the City of Santa Clara, attracts many birds.



Photograph courtesy of the Ulistac Natural Area Community Habitat Restoration Project

Wilcox High School students spend the day in the nature area and help with the restoration efforts by weeding.

**Ulistac Natural Area
(Guadalupe River)
PA-8 (cont.)**



Photograph courtesy of the Ulistac Natural Area Community Habitat Restoration Project

A bird sits on the vegetation at the Ulistac Natural Area, which once served as a pear orchard and golf course.

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Saratoga Trails PA-9

Site Locations:
Saratoga, CA

Features:

- Pedestrian and bike access trails created as part of subdivisions

Stormwater Benefits:

- Reduces transportation-related pollutants (promotes alternative transportation)
- Reduced impervious surface area
- Open space benefits



Photograph courtesy of Ann Welsh (City of Saratoga)

This trail is located on Prospect Road between Beauchamp Lane and Parker Ranch Road and provides open areas for pedestrians to enjoy.



Photograph courtesy of Ann Welsh (City of Saratoga)

This pathway located on Villa Oaks land east of the intersection with Deer Trail Court, provides access for people to hike or bike into the hills beyond the houses.

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**North Park
MU-3**

Site Location:

155 & 175 River Oaks Parkway & 3491
Zanker Road
San Jose, CA

Features:

- High density housing near North First Street Light Rail Line
- Encourages pedestrian activity and public use of outdoor space
- Multi-story building reduces the building footprints

Stormwater Benefits:

- Reduced impervious surface area
- Transportation-related pollutant reduction



Photograph courtesy of Jenny Nusbaum (City of San Jose)

Commercial areas conveniently located below housing units promote pedestrian activity.



Photograph courtesy of Jenny Nusbaum (City of San Jose)

Open space surrounding high density housing for residents to enjoy also provides good drainage areas.



Photograph courtesy of Jenny Nusbaum (City of San Jose)

Multi-story buildings reduce the amount of impervious surface.

North Park MU-3 (cont.)



Photograph courtesy of Jenny Nusbaum (City of San Jose)

Light rail runs within walking distance, conveniently located behind the park and adjacent to housing.

Other Opportunities:

- Disconnected downspouts could have been drained to landscaping to break up directly connected impervious area.

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