

**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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**Ryland Mews
Transit-Oriented Development Corridor
MF-4**

Site Location:

4115 North 2nd Street
San Jose, CA

Features:

- High density housing near First Street Light Rail Line
- Located near downtown
- Disconnected downspouts drain to landscaping
- Multi-story buildings reduce the building footprint

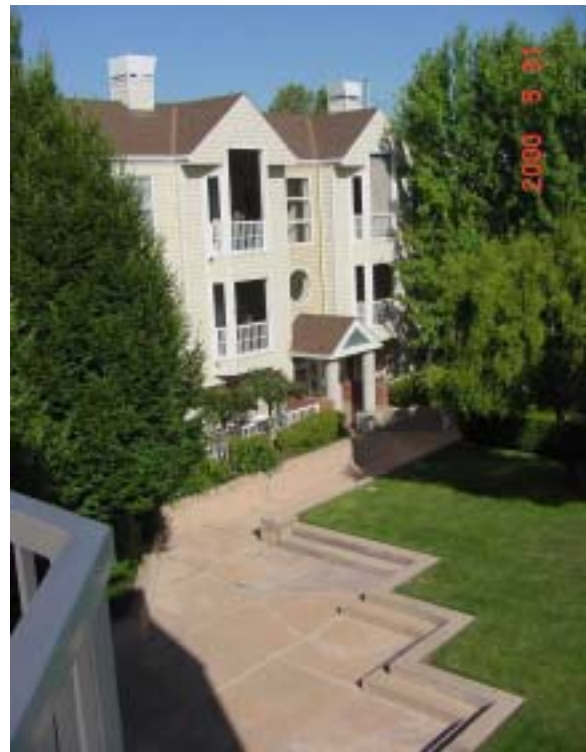


Photograph courtesy of Jenny Nusbaum (City of San Jose)

Light Rail runs nearby, promoting the use of alternative transportation. Motor vehicles can be the sources of metals, oil, and grease which can be harmful to aquatic organisms and, in high enough quantities, can contaminate drinking water supplies. (BASMAA, 1999) Using alternate transportation can reduce the amount of these pollutants from entering waterways.

Stormwater Benefits:

- Reduced impervious surface area
- Reduced directly-connected impervious area (DCIA)
- Transportation-related pollution reduction



Photograph courtesy of Jenny Nusbaum (City of San Jose)

Open space surrounding high density housing allows residents to enjoy the outdoors (e.g., grass and trees) and also provides good drainage areas.

**Ryland Mews
Transit-Oriented Development Corridor
MF-4 (cont.)**



Photograph courtesy of Jenny Nusbaum (City of San Jose)

Rooftop runoff drains through downspouts to landscaping where it has the opportunity to be filtered by plant material and infiltrate into the soil. Disconnecting impervious surface area reduces the speed and amount of water which can result in benefits such as lower peak flows downstream and reduced flood and erosion potential.

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The Crossings MU-1

Site Location:

2255 Showers Drive
Mountain View, CA

Features:

- High density (multi-story) housing with reduced building footprints integrated with commercial areas
- Located near mass transit including bus lines and CalTrain station
- Disconnected downspouts drain into landscaping
- Turf block fire lanes
- Landscaped center of driving circle

Stormwater Benefits:

- Transportation-related pollutant reduction
- Reduced impervious surface area
- Reduced velocity of runoff
- Reduced directly-connected impervious area (DCIA)
- Natural treatment of runoff



“The Crossings” is conveniently located across the street from the San Antonio CalTrain Rail Station.



Turf block fire lane provides access during emergencies. The bollards can be removed for emergency access.

**The Crossings
MU-1 (cont.)**



Multi-story housing reduces the building footprint and, thus, impervious surface area. Rooftop runoff drains into landscaping rather than directly to the storm drain system.



This rain gutter drains into landscaping reducing the amount of directly-connected impervious area (DCIA).



Drive around circle has a landscaped island, providing an area for infiltration.



The Crossings is located within walking distance to major commercial areas for groceries and other shopping needs, thereby reducing the need for auto use.

The Crossings MU-1 (cont.)



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Mixed use commercial businesses located within the Crossings encourage residents to walk to shops thereby reducing the reliance on motor vehicles.

Other Opportunities:

- To improve the site design from a stormwater quality perspective, the island could have been designed to accept runoff from the street through such features as concave landscaping with pavement protection, curb cuts, and grading the street to drain to the island.

**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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Bike Station Project PA-12

Site Location:

Palo Alto Caltrain Station
95 University Avenue
Palo Alto, CA

Features:

- Promotes several modes of alternative transportation including bicycles, the Caltrain commuter rail, Santa Clara County and Sam Mateo County bus lines (SamTrans and VTA), Dumbarton Express, the Palo Alto Free Shuttle and Stanford University Marguerite shuttle lines.
- Attended bicycle parking– Free during regular business hours.
- Bicycle lockers for after-hours parking
- Bicycle repairs and sales
- Bicycles rentals – Offered by the hour for short commute trips or leisure rides.

Stormwater Benefits:

- Reduced transportation-related pollutants.



Photograph courtesy of Amanda Jones (City of Palo Alto)

Bike lockers store bikes, a service that is free during regular business hours. The Bike Station project currently serves about 50 commuters per day.



Photograph courtesy of Amanda Jones (City of Palo Alto)

The Bike Station provides not only free valet parking, but also coffee and bikes for sale.

**Bike Station Project
PA-12 (cont.)**



Photograph courtesy of Amanda Jones (City of Palo Alto)

The City of Palo Alto and its sponsors provide this service to local commuters.



Photograph courtesy of Amanda Jones (City of Palo Alto)

This Bike Station employee tags the bicycle for storage in the bike lockers, while the commuter takes an alternate mode of transportation to her destination.



Photograph courtesy of Amanda Jones (City of Palo Alto)

Commuters can take their bicycles on the Caltrain and bike from the Caltrain station to and from work and/or home.

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**Bike Station Project
PA-12 (cont.)**

Other:

- The City of Palo Alto also provides a \$20/month benefit to encourage City of Palo Alto employees to ride bicycles to work, and provides bicycle education classes to the public.
- The City of Palo Alto Alternative Transportation Coordinator is available to consult, free of charge, with local employers and residents for all transportation demand management programs.