Home | Critical Habitat for Threatened & Endangered Species [USFWS]

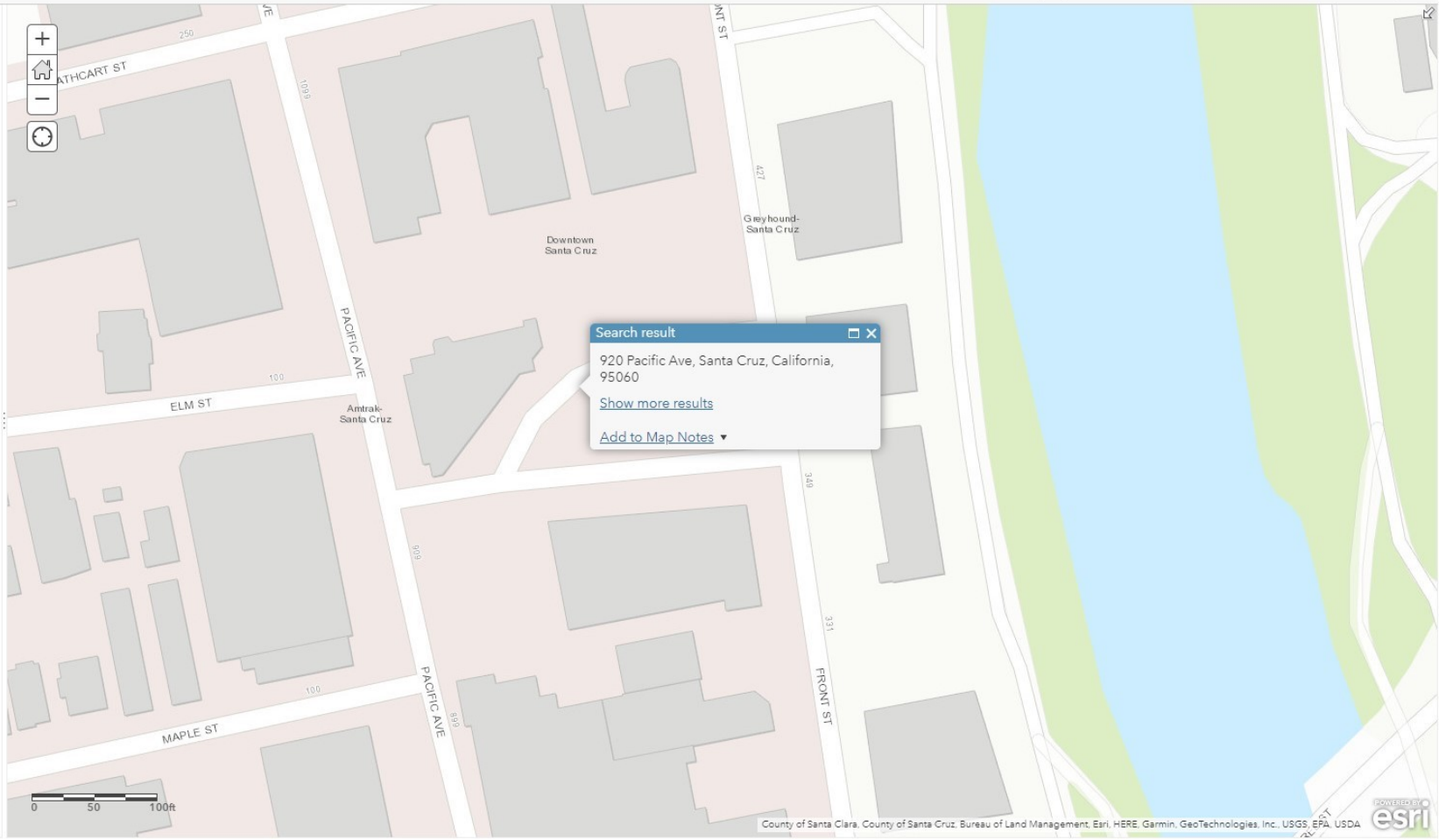
Open in new Map Viewer | Modify Map | Sign In

Details | Basemap | Share | Print | Measure | Bookmarks | 920 Pacific Avenue, Santa Cruz, CA

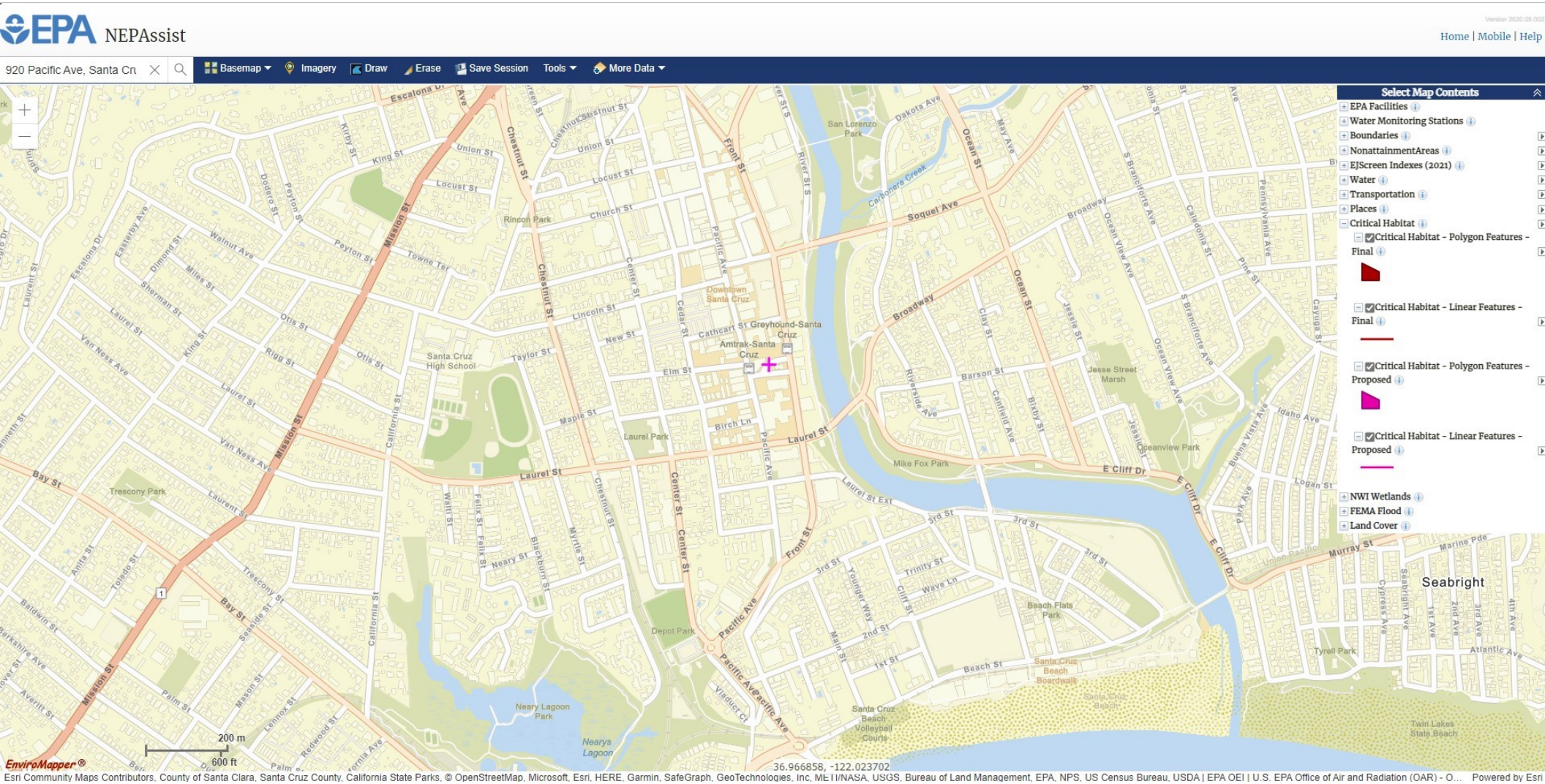
About | Content | Legend

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EPA NEPAssist
Version 2020.05.002
Home | Mobile | Help
920 Pacific Ave, Santa Cru
Basemap
Imagery
Draw
Erase
Save Session
Tools
More Data
Select Map Contents
EPA Facilities
Water Monitoring Stations
Boundaries
NonattainmentAreas
EJScreen Indexes (2021)
Water
Transportation
Places
Critical Habitat
Critical Habitat - Polygon Features - Final
Critical Habitat - Linear Features - Final
Critical Habitat - Polygon Features - Proposed
Critical Habitat - Linear Features - Proposed
NWI Wetlands
FEMA Flood
Land Cover
Mission St
Soquel Ave
Broadway
Ocean St
Chestnut St
Front St
Pacific Ave
Laurel St
Bay St
Center St
Lincoln St
Church St
Locust St
Union St
Water St
Escalona Dr
Walnut Ave
Peyton St
Towne Ter
Sherman St
Miles St
Laurel St
Otis St
Van Ness Ave
Rigg St
King St
California St
Maple St
Taylor St
New St
Elm St
Cathcart St
Cedar St
Dakota Ave
May Ave
Carbonera Creek
Rincon Park
San Lorenzo Park
Downtown Santa Cruz
Greyhound-Santa Cruz
Amtrak-Santa Cruz
Santa Cruz High School
Laurel Park
Birch Ln
Depot Park
Mike Fox Park
Jesse Street Marsh
Oceanview Park
Beach Flats Park
Seabright
Tyrell Park
Santa Cruz Beach Boardwalk
Santa Cruz Beach Volleyball Courts
Neary Lagoon Park
Nearys Lagoon
Twin Lakes State Beach
Trescony Park
Laurel St Ext
3rd St
Trinity St
Wave Ln
Younger Way
Cliff St
Main St
2nd St
1st St
Beach St
E Cliff Dr
Murray St
Marine Pde
Seabright Ave
Cypress Ave
1st Ave
2nd Ave
3rd Ave
4th Ave
Atlantic Ave
Broadway
Riverside Ave
Barson St
Cantfield Ave
Bixby St
Clay St
Jessie St
Pine St
Pennsylvania Ave
Caledonia St
S Branciforte Ave
Ocean View Ave
Idaho Ave
Logan St
Park Ave
Buena Vista Ave
Union Pacific
Viaduct Ct
Pacific Ave
Mission St
Redwood St
Palm St
Mason St
Lennox St
Seaside St
Blackburn St
Myrtle St
Neary St
Felix St
Walt St
Anita St
Toledo St
Baldwin St
Berkshire Ave
Averill St
200 m
600 ft
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36.966858, -122.023702
Esri Community Maps Contributors, County of Santa Clara, Santa Cruz County, California State Parks, © OpenStreetMap, Microsoft, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, US Census Bureau, USDA | EPA OEI | U.S. EPA Office of Air and Radiation (OAR) - O...
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Acceptable Separation Distance (ASD) Electronic Assessment Tool

The Environmental Planning Division (EPD) has developed an electronic-based assessment tool that calculates the Acceptable Separation Distance (ASD) from stationary hazards. The ASD is the distance from above ground stationary containerized hazards of an explosive or fire prone nature, to where a HUD assisted project can be located. The ASD is consistent with the Department's standards of blast overpressure (0.5 psi-buildings) and thermal radiation (450 BTU/ft^2 - hr - people and 10,000 BTU/ft^2 - hr - buildings). Calculation of the ASD is the first step to assess site suitability for proposed HUD-assisted projects near stationary hazards. Additional guidance on ASDs is available in the Department's guidebook "Siting of HUD- Assisted Projects Near Hazardous Facilities" and the regulation 24 CFR Part 51, Subpart C, Sitting of HUD-Assisted Projects Near Hazardous Operations Handling Conventional Fuels or Chemicals of an Explosive or Flammable Nature.

Note: Tool tips, containing field specific information, have been added in this tool and may be accessed by hovering over the ASD result fields with the mouse.

Acceptable Separation Distance Assessment Tool

Is the container above ground?	**Yes:** ☑ **No:** ☐
Is the container under pressure?	**Yes:** ☐ **No:** ☑
Does the container hold a cryogenic liquified gas?	**Yes:** ☐ **No:** ☐
Is the container diked?	**Yes:** ☐ **No:** ☑
What is the volume (gal) of the container?	599
What is the Diked Area Length (ft)?	
What is the Diked Area Width (ft)?	
Calculate Acceptable Separation Distance	
Diked Area (sqft)	
ASD for Blast Over Pressure (ASDBOP)	

ASD for Thermal Radiation for People (ASDPPU)	223.40
ASD for Thermal Radiation for Buildings (ASDBPU)	39.67
ASD for Thermal Radiation for People (ASDPNPD)	
ASD for Thermal Radiation for Buildings (ASDBNPD)	

For mitigation options, please click on the following link: Mitigation Options **(/resource/3846/acceptable-separation-distance-asd-hazard-mitigation-options/)**

Providing Feedback & Corrections

After using the ASD Assessment Tool following the directions in this User Guide, users are encouraged to provide feedback on how the ASD Assessment Tool may be improved. Users are also encouraged to send comments or corrections for the improvement of the tool.

Please send comments or other input using the **Contact Us (https://www.hudexchange.info/contact-us/)** form.

Related Information

- **ASD User Guide (/resource/3839/acceptable-separation-distance-asd-assessment-tool-user-guide/)**
- **ASD Flow Chart (/resource/3840/acceptable-separation-distance-asd-flowchart/)**


Ruler
Line
Path
Polygon
Circle
3D path
3D polygon
Measure the distance between two points on the ground
Map Length: 706.72 Feet
Ground Length: 706.72
Heading: 213.84 degrees
Mouse Navigation
Save
Clear
211 Cedar St
Cathcart St
Pacific Ave
Elm St
Maple St
Birch Ln
Laurel St
Spruce St
Cedar St
Center St
Washington St
Broadway
Riverside Ave
Barson St
Laurel Street Extension
San Lorenzo River
Santa Cruz Riverwalk
San Lorenzo Blvd
Mimi De Marta Park
Laurel Park
Sesame Korean Grill
1010 Pacific Apartments
Hula's Island Grill
The Catalyst
Progressive Missionary Baptist Church
El Huarache Taqueria
Sherwin-Williams Paint Store
Nuevo Sol
Well Within Spa
Zachary's
Bagelry
Far West Fungi
Cruz Kitchen & Taps
ACE Hardware
Fosters Freeze
De La Hacienda Taqueria
Hernandez Market II
Kaiser Permanente Arena
Yan Flower
Pacific Blue Inn
Firefly Coffee House
River's Edge Complex
Chestnut Street Apartments
Santa Cruz Police Department
Image Landsat / Copernicus
Google Earth
36°58'17.86" N 122°01'34.28" W elev 14 ft eye alt 2091 ft

Acceptable Separation Distance (ASD) Electronic Assessment Tool

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What is the volume (gal) of the container?	599
What is the Diked Area Length (ft)?	
What is the Diked Area Width (ft)?	
Calculate Acceptable Separation Distance	
Diked Area (sqft)	
ASD for Blast Over Pressure (ASDBOP)	

ASD for Thermal Radiation for People (ASDPPU)	223.40
ASD for Thermal Radiation for Buildings (ASDBPU)	39.67
ASD for Thermal Radiation for People (ASDPNPD)	
ASD for Thermal Radiation for Buildings (ASDBNPD)	

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Acceptable Separation Distance (ASD) Electronic Assessment Tool

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Acceptable Separation Distance Assessment Tool

Is the container above ground?	**Yes:** ☑ **No:** ☐
Is the container under pressure?	**Yes:** ☐ **No:** ☑
Does the container hold a cryogenic liquified gas?	**Yes:** ☐ **No:** ☐
Is the container diked?	**Yes:** ☐ **No:** ☑
What is the volume (gal) of the container?	5999
What is the Diked Area Length (ft)?	
What is the Diked Area Width (ft)?	
Calculate Acceptable Separation Distance	
Diked Area (sqft)	
ASD for Blast Over Pressure (ASDBOP)	

ASD for Thermal Radiation for People (ASDPPU)	583.37
ASD for Thermal Radiation for Buildings (ASDBPU)	115.11
ASD for Thermal Radiation for People (ASDPNPD)	
ASD for Thermal Radiation for Buildings (ASDBNPD)	

For mitigation options, please click on the following link: Mitigation Options **(/resource/3846/acceptable-separation-distance-asd-hazard-mitigation-options/)**

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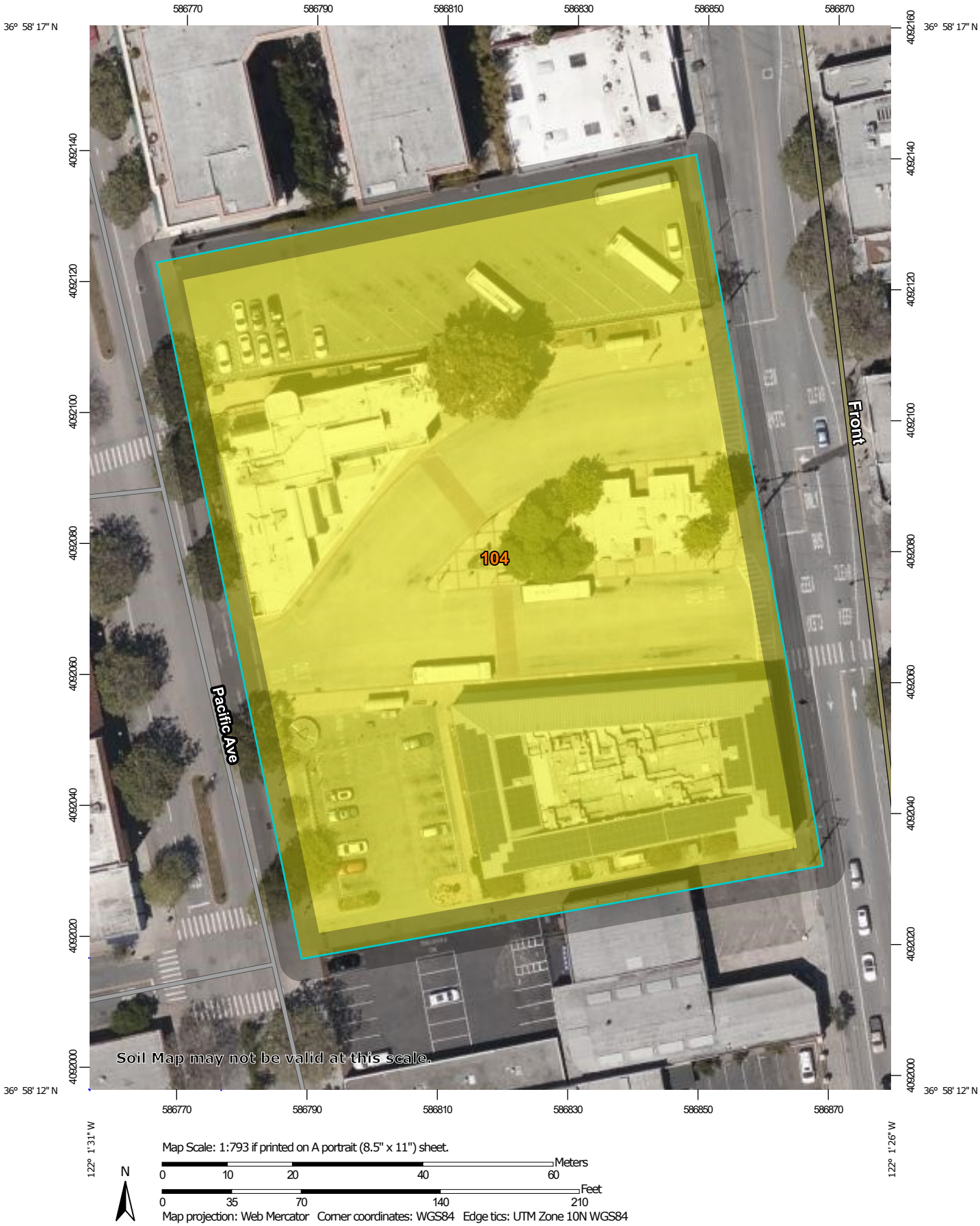
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- **ASD Flow Chart (/resource/3840/acceptable-separation-distance-asd-flowchart/)**


Ruler
Line
Path
Polygon
Circle
3D path
3D polygon
Measure the distance between two points on the ground
Map Length: 3,362.93 Feet
Ground Length: 3,362.91
Heading: 200.82 degrees
Mouse Navigation
Save
Clear
110 California St
Santa Cruz Wastewater Treatment Facility
Depot Park
Neary Lagoon Park
Neary Lagoon Pier
Cypress Point Apartments
Babbling Brook Inn
Santa Cruz Sell Stuff
Skateworks Santa Cruz
Kaiser Permanente Arena
Firefly Coffee House
Courtyard by Marriott Santa Cruz
Santa Cruz Hostel
Pacific Point Market & Cafe
Santa Cruz Beach Boardwalk Parking
Santa Cruz Beach Boardwalk
Beach Street Inn and Suites
Santa Cruz Beach
Monterey Bay National Marine Sanctuary...
The Picnic Basket
Cowell Beach
West Cliff Inn, A Four Sisters Inn
Dream Inn
Sea & Sand Inn
Hotel Solares
Riverside Inn & Suites
Little Caesars Pizza
Zachary's
The Catalyst
Well Within Spa
Laurel St
Maple St
Birch Ln
Elm St
Barson St
San Lorenzo Blvd
Riverside Ave
Center St
Cedar St
Pacific Ave
Front St
Sycamore St
Washington St
Neary St
Jenne St
Felix St
Walnut St
Myrtle St
Bixby St
Crescent St
3rd St
Trinity St
Wave Ln
Younger Way
Cliff St
Second St
Main St
First St
W Cliff Dr
Beach St
Bay St
Cowell St
Image Landsat / Copernicus
Google Earth
1985
36°57'57.24" N 122°01'30.92" W elev 31 ft eye alt 4872 ft

SiteID	EI_ID	SiteName	Address	City	EI_Description	Distance	Size	ASD	Acceptable	Not Acceptable
84763	10192144	WASTEWATER TREATMENT FACILITY	110 CALIFORNIA ST	SANTA CRUZ	Aboveground Petroleum Storage	3360'	5999gal D	583'	X	
129765	10192228	LAS ANIMAS CONCRETE INC	146 ENCINAL ST	SANTA CRUZ	Aboveground Petroleum Storage	1 Mile +	N/A			
150961	10192108	SANTA CRUZ SEASIDE CO	400 BEACH ST	SANTA CRUZ	Aboveground Petroleum Storage	2750'	599gal D&G	223.4'	X	
387632	10154073	BAYSIDE OIL II INC	210 ENCINAL ST	SANTA CRUZ	Aboveground Petroleum Storage	1 MIle +	N/A			
		SANTA CRUZ MOTORSPORTS	211 CEDAR ST	SANTA CRUZ	Aboveground Petroleum Storage	706'	599gal	223.4'	X	



Map Scale: 1:793 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 10 20 40 60

Feet: 0 35 70 140 210

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

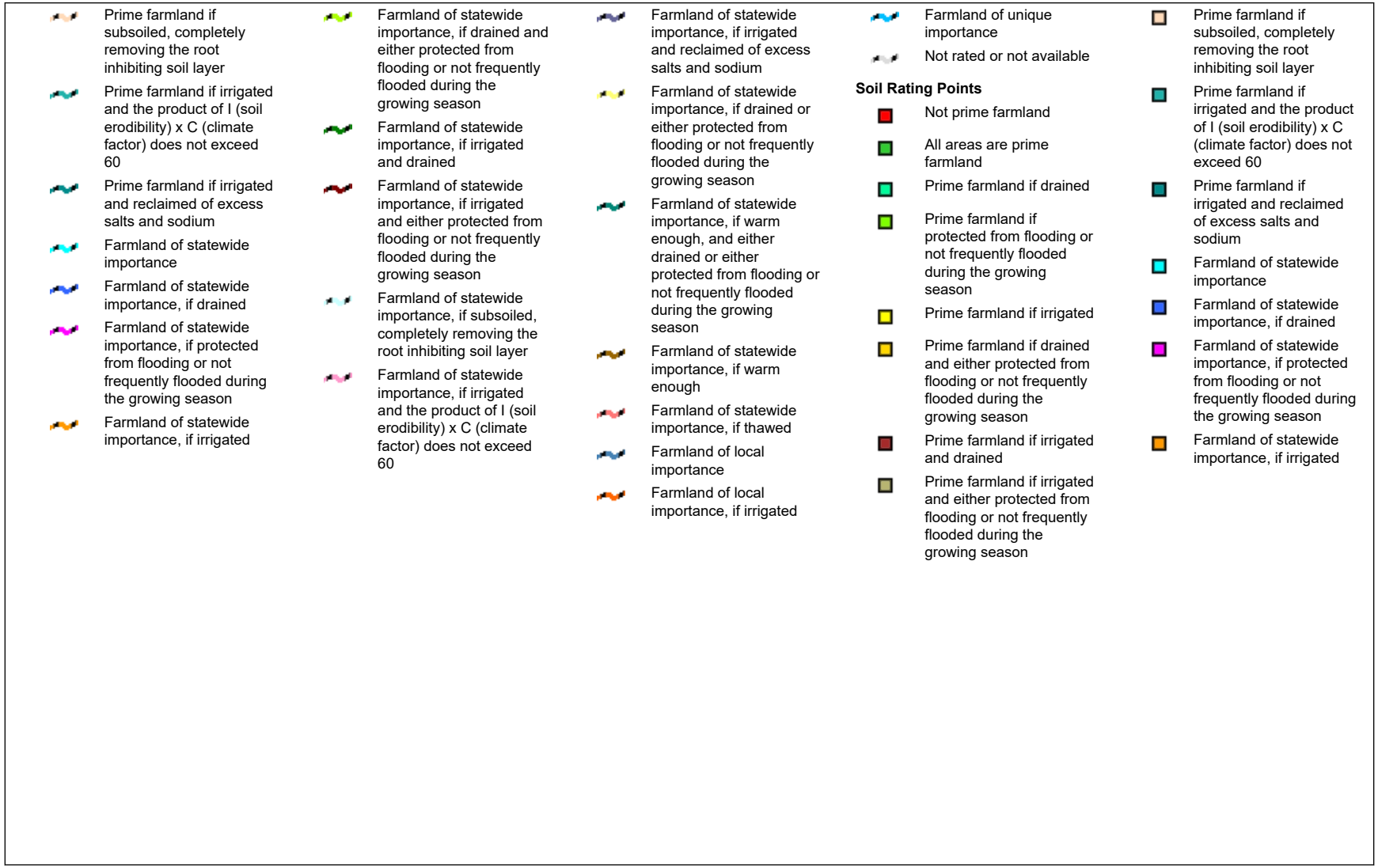
Soils

Soil Rating Polygons

- Not prime farmland
- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated and drained
- Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if subsoiled, completely removing the root inhibiting soil layer
- Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Prime farmland if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance
- Farmland of statewide importance, if drained
- Farmland of statewide importance, if protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if irrigated
- Farmland of statewide importance, if drained and either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if irrigated and drained
- Farmland of statewide importance, if irrigated and either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if subsoiled, completely removing the root inhibiting soil layer
- Farmland of statewide importance, if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Farmland of statewide importance, if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance, if drained or either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if warm enough, and either drained or either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if warm enough
- Farmland of statewide importance, if thawed
- Farmland of local importance
- Farmland of local importance, if irrigated
- Farmland of unique importance
- Not rated or not available

Soil Rating Lines

- Not prime farmland
- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated and drained
- Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season


Prime farmland if subsoiled, completely removing the root inhibiting soil layer
Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
Prime farmland if irrigated and reclaimed of excess salts and sodium
Farmland of statewide importance
Farmland of statewide importance, if drained
Farmland of statewide importance, if protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if irrigated
Farmland of statewide importance, if drained and either protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if irrigated and drained
Farmland of statewide importance, if irrigated and either protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if subsoiled, completely removing the root inhibiting soil layer
Farmland of statewide importance, if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
Farmland of statewide importance, if irrigated and reclaimed of excess salts and sodium
Farmland of statewide importance, if drained or either protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if warm enough, and either drained or either protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if warm enough
Farmland of statewide importance, if thawed
Farmland of local importance
Farmland of local importance, if irrigated
Farmland of unique importance
Not rated or not available
Soil Rating Points
Not prime farmland
All areas are prime farmland
Prime farmland if drained
Prime farmland if protected from flooding or not frequently flooded during the growing season
Prime farmland if irrigated
Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
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Farmland of statewide importance
Farmland of statewide importance, if drained
Farmland of statewide importance, if protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if irrigated

- Farmland of statewide importance, if drained and either protected from flooding or not frequently flooded during the growing season
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- Farmland of statewide importance, if warm enough
- Farmland of statewide importance, if thawed
- Farmland of local importance
- Farmland of local importance, if irrigated
- Farmland of unique importance
- Not rated or not available

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Santa Cruz County, California
Survey Area Data: Version 15, Sep 9, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Apr 13, 2020—Apr 24, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Farmland Classification

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
104	Baywood loamy sand, 0 to 2 percent slopes	Prime farmland if irrigated	2.3	100.0%
Totals for Area of Interest			**2.3**	**100.0%**

Description

Farmland classification identifies map units as prime farmland, farmland of statewide importance, farmland of local importance, or unique farmland. It identifies the location and extent of the soils that are best suited to food, feed, fiber, forage, and oilseed crops. NRCS policy and procedures on prime and unique farmlands are published in the "Federal Register," Vol. 43, No. 21, January 31, 1978.

Rating Options

Aggregation Method: No Aggregation Necessary

Tie-break Rule: Lower

California Important Farmland Finder

Ca. Dept of Conservation



Legend

California Important Farmland: Most Recent

Most Recent

- Prime Farmland
- Farmland of Statewide Importance
- Unique Farmland
- Grazing Land
- Farmland of Local Importance
- Farmland of Local Potential
- Other Land
- Confined Animal Agriculture
- Nonagricultural or Natural Vegetation
- Vacant or Disturbed Land
- Rural Residential Land
- Semi-agricultural and Rural Commercial Land
- Urban and Built-Up Land
- Water Area
- Irrigated Farmland
- Nonirrigated Farmland

Search & Select Map | Recorded Maps & Docs | Select & Query Layers | Measure & Lat/Long | Draw & Print | Links & Help

APN | Address | Street | Intersection

005-152-30, 005-152-31, 005-152-32, 005-152-33

Select Overlay

Select Base Map

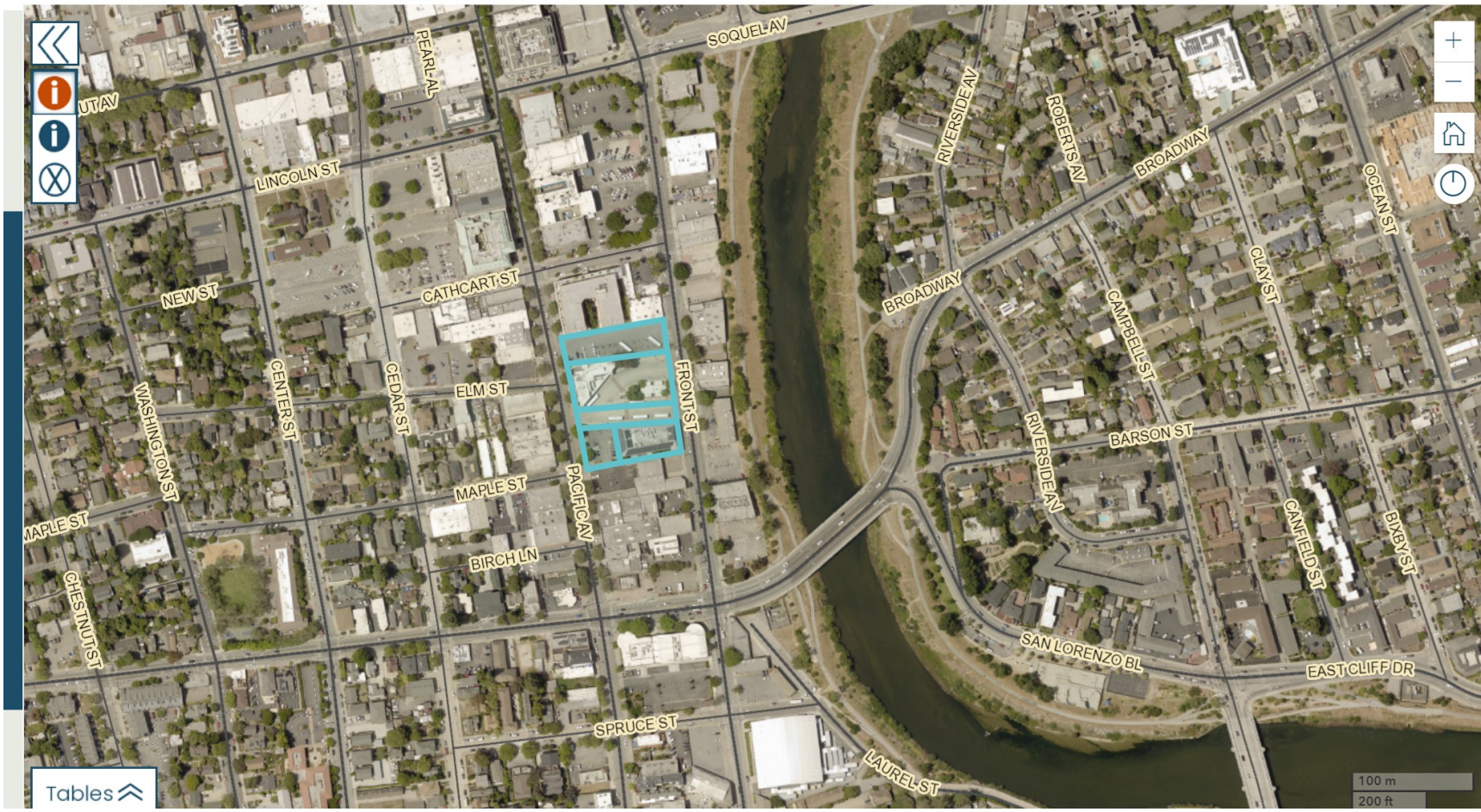
Property Report

Zoning Report

- ADU parking exemption for transit proximity
- Rodeo Gulch Cannabis Overlay – SCCC 7.128/13.10
- Dispensary Exclusion Areas
- Vacation and Hosted Rentals
- Designated Areas Blocks (Vacation and Hosted Rentals)
- Designated Areas (Vacation and Hosted Rentals)
- Airport Safety Compatibility Zones
- Archeologic Reports
- Archeologic Resources
- Ag Resource Area
- Parks
- Important Farmlands
  - Prime Farmland
  - Farmland of Statewide Importance
  - Unique Farmland
  - Farmland of Local Importance
  - Grazing Land
- Special Design Review
- No Shoot Areas
- Assessors Land Use

General Plan

Special Districts



Tables

CITY OF SANTA CRUZ

ECONOMIC DEVELOPMENT & HOUSING DEPARTMENT

337 Locust Street • Santa Cruz, CA 95060 • (831) 420-5150 • www.cityofsantacruz.com

August 16, 2023

Ms. Julianne Polanco
State Historic Preservation Officer
Office of Historic Preservation
1725 23rd Street, Suite 100
Sacramento, CA 95816

RE: Section 106 Consultation – 130-Unit Mixed Use Commercial & Affordable Housing Project
902, 912, 920, & 1004 Pacific Avenue & 333 Front Street, Santa Cruz, CA 95060
USGS Santa Cruz Quad - T11S, R2W, Section 13
APNs: 005-152-33, 005-152-05, 005-152-31, 005-152-30, and 005-152-32

Trigger: Receipt of HUD Project-Based Vouchers

Dear Ms. Polanco;

The purpose of this letter is to complete the SHPO consulting requirements pursuant to Section 106 of the National Historic Preservation Act and its implementing regulations found at 36 CFR Part 800 prior to the above-referenced project receiving HUD funds from the County of Santa Cruz Housing Authority. The proposed 130-unit multifamily y affordable housing project will be developed on several parcels located at 333 Front Street and 902, 912, 920 and 1004 Pacific Avenue, Santa Cruz, California. The use of federal funds in the project requires that a NEPA environmental review be conducted on the project site, which includes Section 106 consultation with SHPO.

Conclusion

The City of Santa Cruz has concluded that the proposed project will not cause any significant impact to archaeological or historic resources in the project area and, therefore, has made a finding of *"No Historic Properties Affected"* per CFR 36 Part 800.4 (d)(1) and that no additional studies or mitigations need to be undertaken. The City of Santa Cruz requests your concurrence in this finding.

Proposed Project

The proposed up to 130-unit affordable housing project will be built on 5 parcels totaling approximately 2.11 acres located at 902, 912, 920, and 1004 Pacific Avenue and 333 Front Street in the City of Santa Cruz, Santa Cruz County, California (APNs: 005-152-33, 005-152-05, 005-152-31, 005-152-30, and 005-152-32). Surrounding site uses include commercial buildings on all sides and a mixed-use residential building also to the north.

Area of Potential Effect (APE)

The APE is the project site.

California Historical Resources Information System (CHRIS)

Page & Turnbull requested a CHRIS report in early January 2021. The following is an excerpt from their March 30, 2"021 memorandum summarizing the CHRIS report (see memorandum for citation references):

To identify such resources, Page & Turnbull requested a records search with the Northwest Information Center (NWIC) of the California Historical Resources Information System (CHRIS) and reviewed relevant documentation of archaeological resources and sensitivity.

On February 26, 2021, staff of the NWIC conducted a records search for previously recorded resources and studies within the proposed project site and a one-quarter-mile radius (NWIC File No.: 20-1540). No previously recorded archaeological or built environment resources are located within the proposed project site. One previously recorded archaeological resource, a prehistoric archaeological site associated with an ethnographically recorded Ohlone village location, is located just over 1,000 feet to the south of the proposed project site.

One previous archaeological report. for which the study area slightly overlaps the proposed project site at its north side, was prepared following archaeological monitoring of construction at 1010 Pacific Avenue in 2002. The letter report notes that monitors observed evidence of historic-period archaeological deposits, including sawn bone and a late 19th-century ceramic fragment.4 No prehistoric archaeological materials or deposits are noted in this report, though monitors could not observe deeply buried deposits due to groundwater inundation of excavated areas.

No archaeological sites or resources within the proposed project site are referenced in the 1971 California Coastline Preservation and Recreation Plan.5 The one previously recorded site within a quarter-mile radius of the proposed project site, CA-SCR-12 or the "Beach Hill Area," is noted in Cultural Resources Element of the 2003 version of the City of Santa Cruz General Plan and Local Coastal Program."

The project site is also covered entirely with hardscape and structures; therefore, with no native soil visible, an archaeological survey is not being prepared prior to demolition of the structures. As the site is located in an area identified by the City in the General Plan Update as a Sensitive Zone for prehistoric resources and historic archaeological resources, upon completion of demolition of the structures and hardscape, a registered professional archaeologist will inspect the soils to determine if any cultural materials are present.

Page & Turnbull Cultural Resources Consultation Memorandum – March 30, 2021

Historical Evaluation

"333 Front Street

The building at 333 Front Street, commonly known as the NIAC Building, was originally constructed in 1966 as a furniture store for McMahan's Furniture Company. It is considered age-eligible for historic evaluation as it is greater than 50 years old. Therefore, State of California Department of Parks and Recreation (DPR) 523 historic survey forms were prepared to determine whether that property is eligible for listing in the National Register of Historic Places and/or the California Register of Historical Resources. The evaluation determined that the building is not historically significant and is therefore not eligible for listing. A parking lot to the rear of 333 Front Street was built on a vacant parcel around 1966,

when 333 Front Street was built, and has remained in use as a parking lot since that time."

"920 Pacific Avenue (Santa Cruz METRO Center Buildings)

The existing bus station and walk-up restaurant buildings that comprise the Santa Cruz Metro Center at 920 Pacific Avenue were completed in 1984, according to historic information provided in the Santa Cruz Sentinel newspaper.1 The buildings were completed in time for the Metro Center's dedication on June 8, 1984.2 In addition to newspaper research, Page & Turnbull conducted archival research of Sanborn fire insurance maps, newspapers, and historic aerial photographs to confirm the year built for the bus station and walk-up restaurant building."

Summary

"In summary, no previously identified archaeological resources are located within the project site. No project-specific mitigation measures are recommended at this time. In the event that archaeological materials or deposits are inadvertently discovered during project activities, the procedures described in Sections 5 through 11 of Chapter 24.12.430 of the Municipal Code of the City of Santa Cruz, regarding the Protection of Archaeological Resources, should be followed."

Native American Heritage Commission (NAHC)

A response letter from NAHC dated October 12, 2022, stated that a Sacred Lands File for the area of potential effect was completed with Positive results. NAHC requested that the City contact the Costanoan Ohlone Rumsen-Mutsen Tribe for more information. NAHC provided a list of 6 Native American contacts, including the Costanoan Ohlone Rumsen-Mutsen Tribe.

Tribal Consultations

Consultation letters were sent to all Tribes on the NAHC list on May 31, 2023. One response was received by the City. Irene Zwierlein of the Amah Mutsun Tribal Band of San Juan Bautista & AMTB Inc. sent a Letter of Response via email on June 5, 2023 containing several recommendations for any identified positive cultural or historic sensitivity within one mile of the project site and provided its cost breakdown for use of its consultation services.

National Register of Historic Places

An internet search of the National Register of Historic Places found eleven (10) results for registered historic sites within 0.5 miles of the project site. The nearest listed site, the Hotel Metropole is shown approximately 260'from the project site but has been demolished. The next nearest site is the Octagon Building located approximately 1228' north of the project site with several city blocks in between. There will be no effect on this site.

City of Santa Cruz Historic Landmarks

In 1976, 1989 and 2013 the City of Santa Cruz conducted an Historic Building Survey to determine buildings that were of historic significance and worth protecting. As of July 2017, there are "623 buildings (569 from Survey I/II and 54 from Survey III), 27 walls, stairways, steps or curbs, as well as 5 hitching posts, hitching rails or mounting blocks are listed in the City's Historic Survey. Buildings of greatest historical and architectural significance have been designated "landmarks" pursuant to section 24.12.430 of the City's Zoning Ordinance. Currently there are 24 designated landmarks in the City. Fourteen properties are listed on the National Register of Historic Places and the following three sites are listed in the California Historical Landmarks: Site of Mission Santa Cruz, Site of Center of Villa Branciforte and the Santa Cruz Beach Boardwalk."

The enclosed aerial photo shows City listed structures in the vicinity of the project site.

Other Area Developments

There are two additional projects under development on the immediate sites to the south of the project site.

I hope this information is helpful to you. Please feel free to contact me should you have any questions or comments about this project.

Sincerely,

Jessica de Wit, Housing & Community Development Division Manager
City of Santa Cruz Economic Development Office

cc: R. L. Hastings & Associates, LLC
roy@rlhastings.com

Enclosures:

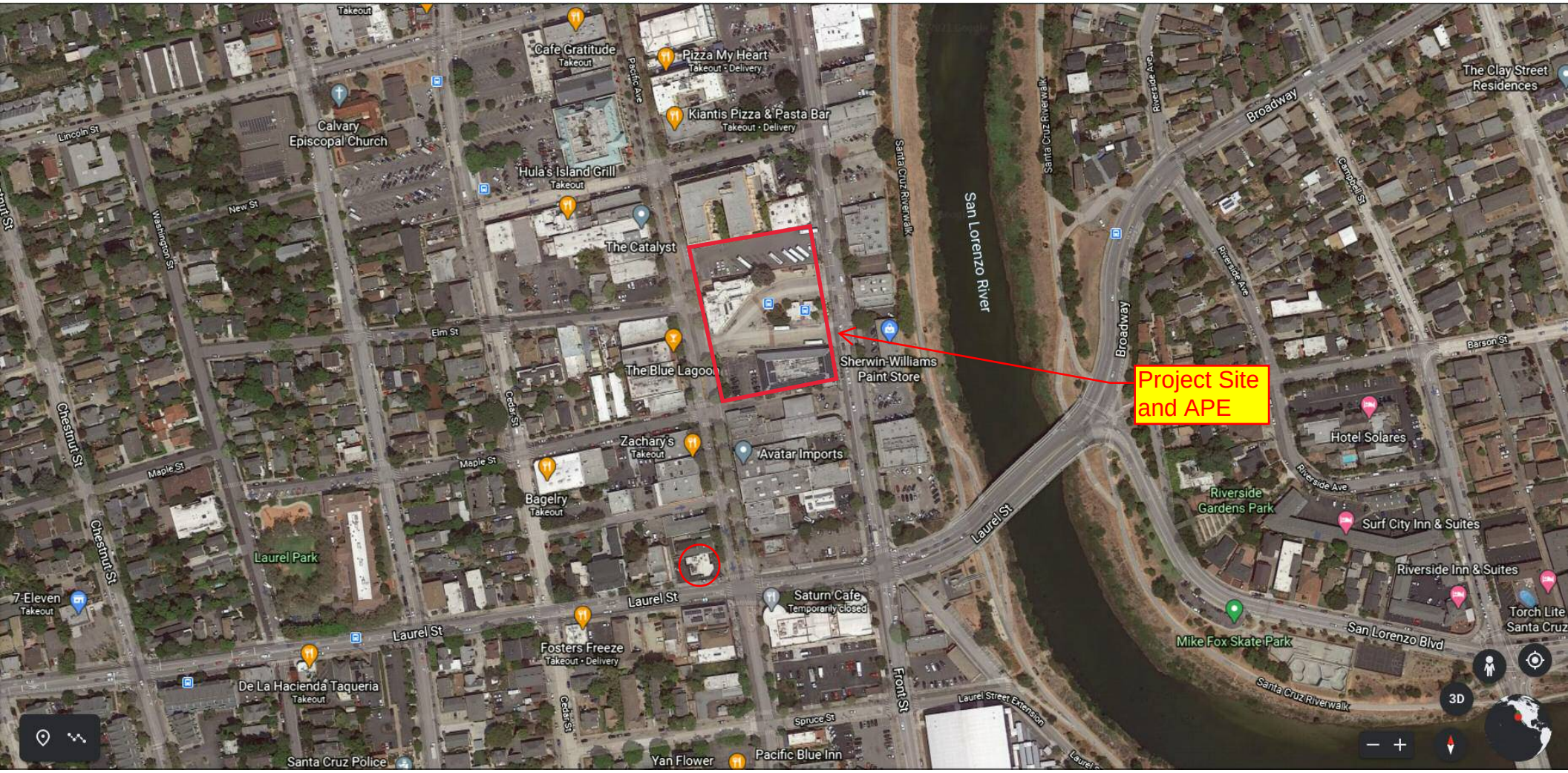
USGS Topographic Map with Project Site Outlined
Map of Area of Potential Effects (APE)
Page & Turnbull Cultural Resources Consultation Memorandum
333 Front Street Primary Record [DPR 523A]
NAHC Response Letter
Tribal Consultation Letters
Amah Mutsun Tribal Band of San Juan Bautista & AMTB Inc. Response
NRHP Internet Search Results

U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

The National Map US Topo

SANTA CRUZ QUADRANGLE
CALIFORNIA - SANTA CRUZ COUNTY
7.5-MINUTE SERIES


-122.1250°
-122.0000°
37.0000°
36.8750°
Santa Cruz Mountains
Cave Gulch
Old Dairy Gulch
Peasley Gulch
Antonelli Pond
Wilder Beach
Younger Lagoon
Terrace Point
Four Mile Beach
Three Mile Beach
SANTA CRUZ
Univ of California Santa Cruz Campus
Bay Street Reservoir
Evergreen Cem
Home of Peace Cem
Independent Order of Oddfellows Cem
Bolcoff Hill
Project Site
San Lorenzo River
Woods Lagoon
Seabright
Seabright Beach
Twin Lakes Beach
Neary's Lagoon
Santa Cruz Anchorage
Steamer Lane
Lighthouse Field
Point Santa Cruz
Seal Rock
Mitchell Cove
Monterey Bay
PACIFIC OCEAN
Baldwin Loop
Enchanted Loop
Eucalyptus Loop Trail
Twin Oaks Trail
Old Cabin Trail
Wild Boar Trail
Zane Gray Cut Off
Wilder Ridge Loop
Horseman's Trail
Cowboy Trail
Coast Rd
Mission St Exd
Grandview St
Delaware Ave
Plateau Ave
Alta Ave
Oxford Way
Pelton Ave
Modesto Ave
W Cliff Dr
Golf Club Dr
Encinal St
Harvey West Blvd
Highland Ave
Escalona Dr
Meder St
Western Dr
Mission St
Water St
Soquel Ave
Broadway
Barson St
San Lorenzo Blvd
Riverside Ave
Beach St
Municipal Wharf
Ocean St
Bay St
Laurel St
Van Ness Ave
Lincoln St
Walnut Ave
Chestnut St
Myrtle St
Center St
Cedar St
Front St
Pacific Ave
California St
Anthony St
King St
Olive St
Trescony St
Dufour St
Younglove Ave
Ghirkey St
Santa Cruz St
Wilkes Cir
Almar Ave
Fair Ave
Swift St
John St
Getchell St
Woodrow Ave
Columbia St
National St
Centennial St
Lighthouse Ave
Escalona Dr
Ranch View Rd
Spring St
High St
Moore St
Laurent St
Morell Dr
Alta Vista Dr
Miramar Dr
Almond Ave
Natural Bridges Dr
Shaffer Rd
Escalona Dr
Empire Grade
Hagar Dr
Glenn Coolidge Dr
Heller Dr
McLaughlin Dr
Steinhart Way
Stevenson Way
Emma McCrary Trail
Holums Dr
Graham Hill Rd
Ocean View Ave
Lee St
Delaveaga Park Dr
Upper Park Rd
Old Sand Pit Rd
Bonair Dr
Vista Bella Dr
Isabel Dr
Circle Dr
El Rancho Dr
Goss Ave
Rooney St
Fairmount Ave
Chilverton St
Button St
Grant St
Market St
Linden St
Stanford Ave
Morrissey Blvd
El Camino Ave
San Juan Ave
Marbell Ave
Trevethan St
Melrose Ave
Water St
May Ave
Dakota Ave
Gault St
Hanover St
Summer St
Frederick St
Windsor St
Windham St
Darwin St
Pine St
Ocean View Ave
N Branciforte Ave
S Branciforte Ave
Seabright Ave
Cayuga St
E Cliff Dr
3rd St
2nd St
3rd Ave
4th Ave
5th Ave
Lighthouse Rd
Woodrow Ave
Swift St
Fair Ave
Getchell St
John St
Escape
Horizon
Mc Callister Way
Natural Bridges Dr
Shaffer Rd
Almar Ave
Wilkes Cir
Delaware Ave
Plateau Ave
Alta Ave
Oxford Way
Pelton Ave
Modesto Ave
W Cliff Dr
Wilder Cr
Baldwin Cr
Majors Cr
Meder Cr
Carbonera Cr
San Lorenzo River
Wilder Cr
Baldwin Loop
Eagle Trail
Dineo Ln
Wilder Ridge Loop
Zane Gray Cut Off
Wild Boar Trl
Old Cabin Trail
Twin Oaks Trail
Enchanted Loop
Eucalyptus Loop Trail
Cowboy Trail
Horseman's Trail
Coast Rd
Mission St Exd
Grandview St
Delaware Ave
Plateau Ave
Alta Ave
Oxford Way
Pelton Ave
Modesto Ave
W Cliff Dr
Golf Club Dr
Encinal St
Harvey West Blvd
Highland Ave
Escalona Dr
Meder St
Western Dr
Mission St
Water St
Soquel Ave
Broadway
Barson St
San Lorenzo Blvd
Riverside Ave
Beach St
Municipal Wharf
Ocean St
Bay St
Laurel St
Van Ness Ave
Lincoln St
Walnut Ave
Chestnut St
Myrtle St
Center St
Cedar St
Front St
Pacific Ave
California St
Anthony St
King St
Olive St
Trescony St
Dufour St
Younglove Ave
Ghirkey St
Santa Cruz St
Wilkes Cir
Almar Ave
Fair Ave
Swift St
John St
Getchell St
Woodrow Ave
Columbia St
National St
Centennial St
Lighthouse Ave
Escalona Dr
Ranch View Rd
Spring St
High St
Moore St
Laurent St
Morell Dr
Alta Vista Dr
Miramar Dr
Almond Ave
Natural Bridges Dr
Shaffer Rd
Escape
Horizon
Mc Callister Way


Project Site and APE
Cafe Gratitude
Takeout
Pizza My Heart
Takeout · Delivery
Kiantis Pizza & Pasta Bar
Takeout · Delivery
Calvary Episcopal Church
Hula's Island Grill
Takeout
The Catalyst
The Blue Lagoon
Sherwin-Williams Paint Store
San Lorenzo River
Santa Cruz Riverwalk
Pacific Ave
Riverside Ave
Broadway
Campbell St
Barson St
The Clay Street Residences
Hotel Solares
Riverside Gardens Park
Surf City Inn & Suites
Riverside Inn & Suites
Torch Lite Santa Cruz
Mike Fox Skate Park
San Lorenzo Blvd
Laurel St
Front St
Laurel Street Extension
Spruce St
Cedar St
Chestnut St
Maple St
Elm St
New St
Lincoln St
Washington St
Laurel Park
Zachary's
Takeout
Avatar Imports
Bagelry
Takeout
Saturn Cafe
Temporarily closed
Fosters Freeze
Takeout · Delivery
De La Hacienda Taqueria
Takeout
7-Eleven
Takeout
Santa Cruz Police
Yan Flower
Pacific Blue Inn
3D

MEMORANDUM

DATE	March 30, 2021	PROJECT No.	21018
TO	Ava Kuo Senior Project Manager	PROJECT	920 Pacific & 333 Front Street, Santa Cruz
OF	First Community Housing 75 East Santa Clara St. Suite 1300 San Jose, CA 95113	FROM	Josh Bevan, Cultural Resources Planner Stacy Kozakavich, Archaeologist Page & Turnbull
CC	Ruth Todd, Page & Turnbull Christina Dikas, Page & Turnbull	VIA	Email

REGARDING Cultural Resources Consultation Memorandum

This memorandum has been prepared at the request of First Community Housing in advance of the proposed Maple North Housing & Transit Center Project in downtown Santa Cruz. The project would demolish three existing buildings, including a two-story commercial building at 333 Front Street (APN 00515232), a one-story bus station building at 920 Pacific Avenue (APN 00515231), and a one-story walk-up restaurant building also located at 920 Pacific Avenue, which comprise the Santa Cruz METRO Center. The project boundary will also encompass a surface parking lot at 1004 Pacific Avenue (APN 00515230), the existing bus driveway addressed 912 Pacific Avenue and a surface parking lot (APN 00515233) to the rear (west) of 333 Front Street **(Figure 1 to Figure 5)**. The project requires a Coastal Development Permit from the California Coastal Commission.



Figure 4: Surface parking lot (APN 00515230), at 1004 Pacific Avenue, outlined with blue.
Source: County of Santa Cruz Assessor's Office, online.

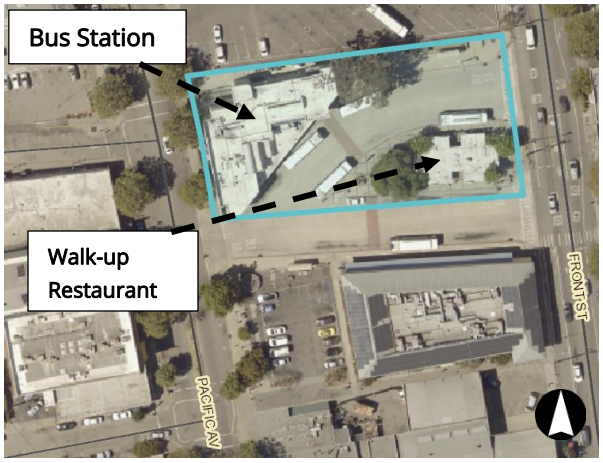


Figure 2: 920 Pacific Avenue (APN 00515231) outlined with blue, contains the bus station and walk up restaurant buildings. Source: County of Santa Cruz Assessor's Office, online.



Figure 3: 912 Pacific Avenue (APN 0515233) outlined with blue, is the driveway for the Santa Cruz METRO Center. Source: County of Santa Cruz Assessor's Office, online.



Figure 4: Surface parking lot (APN 00515233), at the rear of 333 Front Street, outlined with blue. Source: County of Santa Cruz Assessor's Office, online.



Figure 5: 333 Front Street (APN 00515232) outlined with blue, contains the NIAC Building. Source: County of Santa Cruz Assessor's Office, online.

333 Front Street

The building at 333 Front Street, commonly known as the NIAC Building, was originally constructed in 1966 as a furniture store for McMahan's Furniture Company. It is considered age-eligible for historic evaluation as it is greater than 50 years old. Therefore, State of California Department of Parks and Recreation (DPR) 523 historic survey forms were prepared to determine whether that property is eligible for listing in the National Register of Historic Places and/or the California Register of Historical Resources. The evaluation determined that the building is not historically significant and is therefore not eligible for listing. A parking lot to the rear of 333 Front Street was built on a vacant

parcel around 1966, when 333 Front Street was built, and has remained in use as a parking lot since that time.

920 Pacific Avenue (Santa Cruz METRO Center Buildings)

The existing bus station and walk-up restaurant buildings that comprise the Santa Cruz Metro Center at 920 Pacific Avenue were completed in 1984, according to historic information provided in the *Santa Cruz Sentinel* newspaper.[1] The buildings were completed in time for the Metro Center's dedication on June 8, 1984.[2] In addition to newspaper research, Page & Turnbull conducted archival research of Sanborn fire insurance maps, newspapers, and historic aerial photographs to confirm the year built for the bus station and walk-up restaurant building.

Prior to the current buildings on the site, there was a one-story garage building that stood where the current bus station driveway is located, which was used as a bus service facility by 1950. The bus service facility was demolished by 1984, when the Santa Cruz Metro Center was built to provide space for the driveway accessing the bus station. An adjacent auto sales and service building at 916 Pacific Avenue stood approximately at the existing location of the bus station building at 920 Pacific Avenue, and was demolished by 1984 when the existing bus station building was constructed.

Aerial photographs from 1982 and 1993 capture the changes brought to the site of the Santa Cruz Metro Center, and show that only the building at 333 Front Street and the parking lots at 1004 Pacific Avenue and west of 333 Front Street pre-date the Santa Cruz Metro Center's development in 1984 **(Figure 1 and Figure 2)**.

[1] "Now that it's almost built, Transit Center fits the mall," *Santa Cruz Sentinel*, February 26, 1984, A-4.
[2] "Metro Center dedicated," *Santa Cruz Sentinel*, June 10, 1984, A-2.



Figure 1: Aerial of proposed project site (outlined with red dashed line) and vicinity, 1982. Source: HistoricAerials.com. Edited by Page & Turnbull.



Figure 2: Aerial of proposed project site (outlined with red dashed line) and vicinity, 1993. Source: HistoricAerials.com. Edited by Page & Turnbull.



A-4—Santa Cruz Sentinel — Sunday, Feb. 26, 1984

Now that it's almost built, transit center fits the mall

By PAUL BEATTY
Sentinel Staff Writer

SANTA CRUZ — There was an air of affront among our town-fathers and town-mothers when plans for the new Santa Cruz Metro bus center were unveiled in the fall of 1981.

"What's this?" they asked each other. "A holdover of the Last Picture Show?" "A garage for Kaisers and Frazers?" "A return to the bubble-gum architecture of the 1940's and 50's?"

"Ugh," said more than one city official, "we don't want it here."

"It's not worthy of the Pacific Garden Mall," said an outspoken zoning board member when looking at the rounded contours of the center on paper.

But, today, the bus depot (whoops, "intermodal transfer facility") is there in all its art moderne — or is that really art deco — grandeur.

And, it looks good.

Just right, say passers-by, like it belongs on the mall.

An understatement. It fits. Like Santa Cruz.

The transit center cost $3,140,000, a price tag that includes $1 million for land and $200,000 for extension of the Pacific Garden Mall. The town and street merchants got the mall extension free of charge. Slightly more than half of the total cost come from state funding.

However, the city lost some parking spaces and some downtown merchants and residents have complained loudly about that.

Buses will start using the center in June and General Manager Scott Galloway says that 10,000 people a day will go through the center.

"That's a lot of walk-by traffic for merchants along this street," he points out. And, the word is that some merchants who were going to sell when the center was proposed, have decided to stay. Other property in the neighborhood is going up in value, he says.

The transit center is still operating off the street along Soquel, between Pacific and Front, an operation that has been less than desirable to the public, city officials and the transit district, itself.

Buses are scheduled to start using the center's broad through streets in June. The center provides for four lanes of parked buses and four lanes of moving buses.

The interior of the main building and the "bus island" will provide lease spaces for businesses and for offices of the district managers.

It will have a security force, janitors and even a bathroom attendant who unofficially can accept tips for keeping the restrooms clean.

The information booth is geared — as is the rest of the facility — for the handicapped. It has a photo for the deaf for both outgoing calls and in-house communications.

Galloway's a little bit in love with it.

"We've set it up to be self-supporting, for the leases to pay for the security and the janitorial work," he says.

At the main building, which will offer heated refuge when the weather is bad, there's going to be an indoor-out restaurant and some office space upstairs. One room that will be used for a rest break area, someday will be the communications room for the center, overlooking the bus lanes.

There's a couple of major covered areas for waiting for the bus to come by and one of them will be backed by enclosed art displays.

Passengers will be able to buy a taco and other Mexican food specialties, yogurt, flowers, coffee and orange juice from the island while waiting.

Galloway says the architecture is "sort of an art deco."

He may be wrong.

Edna Kimbro, chairperson of the Historical Preservation Commission, says, "No. It's art moderne. Rather, a revival of art moderne from the 1940s.

"Someday," she claims, "future historians will throw themselves down in awe when they come up these buildings."

Scott Galloway and Ed van der Zande in main lobby and waiting area

Sentinel photos by Pete Amos

In June, passenges will line up around "bus island"

Entrance at south side of center

Figure 3: Article in *Santa Cruz Sentinel*, February 26, 1984, noting bus service would start at Santa Cruz Metro Center in June of 1984. The photo at bottom left shows the walk-up restaurant building within the bus island, and the building at 333 Front Street at middle-right.

ARCHAEOLOGICAL RESOURCES

According to Coastal Zone Regulations for Santa Cruz County, "sensitive coastal resource areas" include those within which "Archaeological sites referenced in the California Coastline and Recreation Plan or as designated by the State Historic Preservation Officer" are located.[3] To identify such resources, Page & Turnbull requested a records search with the Northwest Information Center (NWIC) of the California Historical Resources Information System (CHRIS) and reviewed relevant documentation of archaeological resources and sensitivity.

On February 26, 2021, staff of the NWIC conducted a records search for previously recorded resources and studies within the proposed project site and a one-quarter-mile radius (NWIC File No.: 20-1540). No previously recorded archaeological or built environment resources are located within the proposed project site. One previously recorded archaeological resource, a prehistoric archaeological site associated with an ethnographically recorded Ohlone village location, is located just over 1,000 feet to the south of the proposed project site.

One previous archaeological report. for which the study area slightly overlaps the proposed project site at its north side, was prepared following archaeological monitoring of construction at 1010 Pacific Avenue in 2002. The letter report notes that monitors observed evidence of historic-period archaeological deposits, including sawn bone and a late 19th-century ceramic fragment.[4] No prehistoric archaeological materials or deposits are noted in this report, though monitors could not observe deeply buried deposits due to groundwater inundation of excavated areas.

No archaeological sites or resources within the proposed project site are referenced in the 1971 *California Coastline Preservation and Recreation Plan*.[5] The one previously recorded site within a quarter-mile radius of the proposed project site, CA-SCR-12 or the "Beach Hill Area," is noted in Cultural Resources Element of the 2003 version of the *City of Santa Cruz General Plan and Local Coastal Program*.[6]

[3] Santa Cruz County Code Section 13.20.040, electronic resource at https://www.codepublishing.com/CA/SantaCruzCounty/html/SantaCruzCounty13/SantaCruzCounty1320.html, accessed March 1, 2021.
[4] Mary Doane, Letter Report by Archaeological Consulting regarding "1010 Pacific Avenue, APN 005-152-19, 20 & 21"(Salinas: Prepared for Pacific Union Commercial Development, December 30, 2002).
[5] State of California Department of Parks and Recreation, *California Coastline Preservation and Recreation Plan* (Sacramento, 1971).
[6] City of Santa Cruz, "Cultural Resources Element," October 25, 1994, in *City of Santa Cruz General Plan and Local Coastal Program, Volume I* (Santa Cruz, Adopted October 27, 1992, Amended October 28, 2003).

According to the information provided by the City of Santa Cruz GIS map, Santa CruzMap, the proposed project area is within an area of sensitivity for historical archaeological resources.[7] According to the "2030 Archaeological Areas Update" map layer, the northern portion of the proposed project site, including 1004 Pacific Avenue and 920 Pacific Avenue, is within an area of high archaeological sensitivity. The southern portion, including 333 Front Street, is within an area of general archaeological sensitivity. According to the "2030 Archaeological Areas" map layer, the entire proposed project site is within an area of archaeological sensitivity. Based on a 2006 review of archaeological sensitivity conducted by LSA Associates, Inc. for the City of Santa Cruz General Plan 2030 EIR, these sensitivity categories are described as follows.

> The "Highly Sensitive" areas are parcels with recorded archaeological deposits or confirmed archaeological sensitivity in which the property qualifies under any of the following three conditions: (1) the parcel contains all or portions of a recorded archaeological deposit; (2) the parcel lies wholly or partially within a 20-meter (65-foot) buffer around the boundaries of a recorded archaeological deposit;3 or (3) the parcel contains unrecorded archaeological materials identified by an archaeologist during prior study. "Other Sensitive" designations apply to parcels that do not have recorded archaeological sites, but are located within sensitive areas based on the consultant's review and GIS analysis. Areas shown as "Discovery Requirement Only" are sites that have had professional archaeological investigations with negative results (i.e., no archaeological deposits were identified), but are located in sensitive areas.[8]

In summary, no previously identified archaeological resources are located within the project site. No project-specific mitigation measures are recommended at this time. In the event that archaeological materials or deposits are inadvertently discovered during project activities, the procedures described in Sections 5 through 11 of Chapter 24.12.430 of the Municipal Code of the City of Santa Cruz, regarding the Protection of Archaeological Resources, should be followed.

[7] City of Santa Cruz, "Santa CruzMap," https://vw8.cityofsantacruz.com/cruzMap/
[8] City of Santa Cruz, *General Plan 2030 Draft EIR*, State Clearinghouse #2009032007, September 2011, 4.9-11.

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary #_____
HRI #_____
Trinomial_____
NRHP Status Code 6Z
Other Listings_____
Review Code_____ Reviewer_____ Date_____

 Resource name(s) or number (assigned by recorder) 333 Front Street

P1. Other Identifier: Nonprofits Insurance Alliance of California (NIAC) Building

***P2. Location:** ☐Not for Publication ☒Unrestricted ***a. County** Santa Cruz

***b. USGS 7.5' Quad** Santa Cruz, Calif. **Date** 2018

*c. **Address** 333 Front Street **City** Santa Cruz **Zip** 95060

*e. **Other Locational Data:** Assessor's Parcel Number 00515232

***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries.)

333 Front Street (APN 028-283-130) is an approximately one-third of an acre parcel in downtown Santa Cruz, which contains a two-story, commercial-office building constructed in 1966 and remodeled in 2000 **(Figure 1)**. The building is commonly known as the NIAC Building but was originally built to house a McMahan's Furniture Company store. The property is bounded by Front Street to the east, the driveway accessing the Santa Cruz METRO Center to the north, a surface parking lot to the west, and Maple Alley to the south. The building's footprint is wedge-shaped, with a slightly narrower primary (east) façade and a wider rear (west) façade, and it occupies nearly the entire parcel **(Figure 2)**. The building rests on a concrete foundation, has a stucco covered exterior, and a flat roof with standing seam mansard parapets at the perimeter. The exterior is minimally adorned and features a molded stucco entablature at the east, south, and west facades. Fenestration primarily consists of modern metal sash windows set in pairs and divided by vertical stucco mullions. Windows at the first story and second story are vertically aligned and feature projecting sills that are set deep into the façade **(**Error! Reference source not found.**)**.

Primary Façade

The primary façade is oriented parallel to Front Street and is divided into six fenestrated bays, with three bays flanking a central blind bay. The second to northernmost bay contains the main entrance at the first story, which is set beneath a metal canopy **(**Error! Reference source not found.**)**. The entrance contains a modern aluminum-frame door. The northernmost bay contains a massive double-height rectangular window with a grid of 15 lites.

North Façade

The north façade is not fenestrated and features a canvas canopy that provides shade for patrons of the Santa Cruz METRO Center **(Figure 1)**.

(See Continuation Sheet, page 2)

***P3b. Resource Attributes:** (list attributes and codes) HP6. 1-3 story commercial building

***P4. Resources Present:** ☒Building ☐Structure ☐Object ☐Site ☐District ☐Element of District ☐Other

P5a. Photo



Figure 1: View of 333 Front Street from east side of Front Street, looking southeast.

P5b. Photo: (view and date) View of the primary façade, February 26, 2021.

***P6. Date Constructed/Age and Sources:** ☒ historic. 1966, original building permit and historic newspaper article. See References.

***P7. Owner and Address:**

***P8. Recorded by:**
Page & Turnbull, Inc.
170 Maiden Lane, 5th Floor
San Francisco, CA 94010

***P9. Date Recorded:**
March 5, 2021

***P10. Survey Type:** Intensive level for California Register Eligibility

***P11. Report Citation:** (Cite survey report and other sources, or enter "none") None

***Attachments:** ☐None ☐Location Map ☐Sketch Map ☒Continuation Sheet ☒Building, Structure, and Object Record ☐Archaeological Record ☐District Record ☐Linear Feature Record ☐Milling Station Record ☐Rock Art Record ☐Artifact Record ☐Photograph Record ☐ Other (list)

***P3a. Description: (continued)**



Figure 2: Aerial view of 333 Front Street. Approximate property boundary is shown with a red dashed line. Source: Bing Maps, 2021. Edited by Page & Turnbull.



Figure 3: Entrance Canopy at primary (east) façade, looking south.



Figure 4: Detail of deep window sills at primary façade, looking south.

Rear (east) Façade

The rear façade abuts a surface parking lot and contains six fenestrated bays that are concrentated toward the center of the façade as well as a rear entrance bay near the northwest corner of the building. The entrance bay contains a single-entry steel door with a small square upper lite; the entrance is recessed into the façade and is surmounted by a metal canopy **(Figure 5)**.



Figure 5: Rear (east) façade of 333 Front Street, looking east.

South Façade

The south façade is accessible along Maple Alley, a narrow, pedestrian-only extension of Maple Street. The south façade contains eight fenestrated bays, the easternmost (closest to the front of the building) projects southward. Trees and mechanical equipment situated directly adjacent to the façade are enclosed by modern metal fencing **(Figure 6 to Figure 8)**.



Figure 6: Looking east at rear section of south façade.



Figure 7: Looking east toward middle section of south façade.



Figure 8: Looking west at front section of south façade from Front Street.

BUILDING, STRUCTURE, AND OBJECT RECORD

 ***NRHP Status Code** 6Z

***Resource Name or #** 333 Front Street
B1. Historic name: McMahan's Furniture
B2. Common name: 333 Front Street
B3. Original Use: Furniture Store
B4. Present use: Office Building
***B5. Architectural Style**: Vernacular Commercial (altered)
***B6. Construction History:** (Construction date, alterations, and date of alterations)

Summary of Alterations: The following summary references permits provided in the construction chronology table (see Continuation Sheet, page 5) and alteration information found in historic newspaper articles and online publications. The building was originally constructed in 1966 as a purpose-built furniture store for McMahan's Furniture. In 1976, interior new partitions were installed. Exterior alterations are first documented in 1998, when it appears that sheet metal covering the façade was removed and slumpstone (faux adobe masonry material) at the façade was restored. This indicates the building likely featured a slumpstone exterior when built in 1966. A mansard canopy was also installed at the exterior, replacing a preexisting canopy at the rear of the building. Between 2000 and 2002, the building's interior was renovated as part of a major remodeling effort by National Insurance Alliance of California (NIAC) to provide a second story; previously the building featured a double-height interior space. It also appears that the building's exterior was covered with new stucco. Tenant improvements were carried out at both the first and second floors to provide office spaces for new occupants. In 2009, the stucco exterior installed in 2000 was determined to require replacement due to cracking. Accordingly, the stucco was replaced. Windows were also replaced concurrently.
(See Continuation Sheet, page 5)

***B7. Moved?** ☒No ☐Yes ☐Unknown **Date:** _____ **Original Location:**_____
***B8. Related Features:** N/A **B9a. Architect:** N/A **b. Builder:** Harris Construction Co. Inc.
***B10. Significance: Theme** Commercial Architecture in Santa Cruz **Area** Santa Cruz, Santa Cruz County, California
Period of Significance N/A **Property Type** Commercial-Office **Applicable Criteria** N/A
(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity)

Historic Context – City of Santa Cruz:

The Mission La Exaltation de la Santa Cruz emerged as California's twelfth mission town in 1791 after the area's discovery by Spanish explorer, Don Gaspar de Portola, in 1769. Named for "Holy Cross," Mission Santa Cruz developed alongside Villa de Branciforte (modern day East Santa Cruz) along the San Lorenzo River.[1] Over the course of the next half-century, Santa Cruz transitioned from a Spanish mission town to a Mexican-governed settlement, and finally in 1850 to an American-governed town in the State of California.

Santa Cruz's initial development was largely focused around its optimal position along the Pacific Coast and proximity to abundant natural resources including timber forests, lime deposits, and rich land used for a variety of purposes from agricultural to viticulture.[2] The city's first wharf was established in 1851. Gradually, the growing town's seaside and connections to broader transportation networks from streetcars to regional railroads shifted economic focus toward tourism and away from the historic, mission-based core. One sign of the streetcar's impact on downtown development was the emergence of Pacific Avenue as Santa Cruz's true "main street" in the mid-1860s, despite the existence of Main Street (now Front Street) along the western San Lorenzo Riverfront. In 1876, Santa Cruz was officially incorporated as a city, coinciding with 50 percent population growth during the 1870s.[3]
(See Continuation Sheet, page 5)

B11. Additional Resource Attributes: None
***B12. References:** See continuation sheet, Page 12
B13. Remarks: None
***B14. Evaluator:** Josh Bevan, Page & Turnbull, Inc.
***Date of Evaluation:** March 5, 2021

(This space reserved for official comments.)

Satellite image of subject property (outlined with cyan). Source: County of Santa Cruz GIS, online, 2021. Edited by Page & Turnbull.



[1] City of Santa Cruz, *History,* City of Santa Cruz Online, 2016. https://www.cityofsantacruz.com/community/our-city/history-of-santa-cruz. Accessed February 25, 2021.
[2] Edward Sanford Harrison, *History of Santa Cruz County, California,* (San Francisco: Pacific Free Press Publishing Co., 1892), 154-156.
[3] Susan Lehmann, *Santa Cruz History: Making a Living,* "Commercial Development," in *Santa Cruz County History-Making a Living,* Santa Cruz Public Libraries Online, 2000. https://history.santacruzpl.org/omeka/items/show/134510#?c=0&m=0&s=0&cv=0. Accessed February 25, 2021. See also, Susan Lehmann, *Fully Developed Historic Context Statement for the City of Santa Cruz,* (Santa Cruz, CA, City of Santa Cruz Planning and Community Development Dept., 20 October 2000), 19-21.

***B6. Construction History (continued):** The following building permits are on file at the City of Santa Cruz Building & Safety Division. This list does not include permits listed as expired, nor electrical and mechanical permits that were described as being supplemental to building permits already listed in the table.

Permit #	Date	Owner	Builder/Contractor	Description
A12961	5/12/1966	McMahan's Furniture	Harris Construction Co. Inc. A.L. Berry, Project Supervisor	Construct new store building and paved area. Replace curb, gutter and sidewalk on Front Street side.
A22513	4/27/1976	McMahan's Furniture	B&B Construction	Install partitions throughout store building.
A22734	7/6/1976	McMahan's Furniture	Ontario Neon	Remove existing canopy and replace with incombustible mansard also 12 feet long over rear door. Back of permit notes: Site supervision and design permit to "remodel store front and rear." Additional description of store front alterations was not provided.
D000307	11/20/1998	Green Valley Corporation	Green Valley Corporation, Contractor Michael Holden, Architect	Remove sheet metal soffit/façade from face of Helig/Meyers Building and restore slump stone building face.
B000242	2/29/2000	Green Valley Corporation	Thacher &Thompson, Architect Green Valley Corp, Contractor	Remodel 1st floor and add second floor to become NIAC Building.
B000667	6/1/2000	Green Valley Corp	Swenson, Contractor Thacher & Thompson, Architect	Tenant improvement at 2nd floor.
B0011694	12/26/2000	Nonprofits Insurance Alliance	Green Valley Corp, Contractor Thacher & Thompson, Architect	Improve 1st floor space for occupancy by the offices of Society for Advancement of Chicanos and Native Americans in Science.
B010236	2/26/2001	Nonprofits Insurance Alliance	Green Valley Corp, Contractor Thacher & Thompson, Architect	First floor tenant improvements for three remaining spaces on first floor (Ombudsman, Advocate Inc., Ecology Action) and general office electrical and mechanical permit.
B021511	11/14/2002	Nonprofits Insurance Alliance	Slatter Construction Inc., Contractor William S. Bagnall, Architects	Interior floor plan change to add new offices.
M061062	9/1/2006	Nonprofits Insurance Alliance	Hardy Quality Air Inc.	Replace all existing exposed roof ducts.
M071063	9/19/2007	Nonprofits Insurance Alliance	Hardy Quality Air Inc.	Remove and replace ducts.
M9-1011	10/12/2009	Nonprofits Insurance Alliance	Hardy Quality Air Inc.	Replace air conditioning unit.
B090606	7/8/2009	Nonprofits Insurance Alliance	Draeger Construction Inc., Contractor	Remove and replace stucco and windows.
E10-0164	9/7/2010	Nonprofits Insurance Alliance	Solar Technologies, Contractor	Installation of solar photovoltaic roof-mounted panels.

***B10. Significance (Continued):**

The 1880s and early 1890s saw the development of housing tracts beyond the city core, largely the result of streetcar line extensions between the coast and the downtown. A major fire in 1894 swept through many downtown buildings including the City's Chinatown located toward the north end of Front Street.[4] Combined with economic recession, the city was forced to emphasize its bourgeoning resort identity to ensure progress during the early 20th century.[5] According to accounts by contemporary historian Edward Sanford Harrison, Santa Cruz was indeed one of California's most-favored seaside resorts **(Figure 9)**. The city and surrounding suburbs had a population of roughly 7,500 in 1892 and maintained two key advantages:

[4] Susan Lehmann, *Fully Developed Historic Context Statement for the City of Santa Cruz,* (Santa Cruz, CA, City of Santa Cruz Planning and Community Development Dept., 20 October 2000), 17.
[5] Susan Lehmann, *Fully Developed Historic Context Statement for the City of Santa Cruz,* (Santa Cruz, CA, City of Santa Cruz Planning and Community Development Dept., 20 October 2000), 14.

> […] equable and salubrious temperatures, and freedom from fog… [Santa Cruz was considered by tourists] a natural sanitarium of the coast."[6] One factor leading to Harrison's assertion was an abundance of beachfront hotels that maintained connection to the Southern Pacific RR which extended during the early-20th century northward to the major cities such as San Jose, San Francisco, and Oakland, enabling an influx of Bay Area vacationers to seek escape to Santa Cruz during summer months. Santa Cruz Casino was constructed in 1904 and in 1914, the city's Municipal Pier was completed adding additional attraction to the city's coastal frontage.[7]

At the turn of the 20th century, the area near the intersection of Pacific Avenue and Front Street emerged as a municipal center where a county jail, Hall of Records, and City Hall were located. From this earlier downtown development, Front Street shifted to a commercial and services corridor by mid-century **(Figure 10)**.[8] Between 1910 and 1920, Santa Cruz's population dropped, however, as housing development continued to spread beyond the city limits. Streetcar service in Santa Cruz lasted until 1927, signaling the end of the predominance of rail-based transit in the city and the emergence of the automobile as a popularized form of transportation and catalyst of development beyond the city. In the decades leading up to the Great Depression in 1929, Santa Cruz's industrial economy struggled to maintain pace as it had between ca. 1850 and ca.1900. The opening of "Suntan Special" travel by the Southern Pacific Railroad in 1927 hedged against some economic downturn, providing relatively affordable travel to 5,000 to 7,000 tourists from the Bay Area every Sunday.[9]



Figure 9: Sea Beach Hotel constructed in 1890, pictured in 1900. Source: C.L. Aydelotte. Clyde Arbuckle Photograph Collection. San Jose Public Library.



Figure 10: Pacific Avenue at Front Street intersection c. 1900. Streetcar lines enabled the downtown to connect with the waterfront. Source: California State Library. Photograph: Pacific Ave., Santa Cruz, Cal., #70.

Throughout the 1930s, Santa Cruz dealt with the effects of the Great Depression as its downtown accepted the emergence of the automobile. Despite the downturn, the city's connection with the coast continued to be maintained. Between 1936 and 1938, Santa Cruz's surfing scene developed, initiating what has become a recognizable cultural phenomenon in the city.[10] From Pacific Avenue to the city's Municipal Wharf, automobiles abounded. Accordingly, Pacific Avenue, and Front Street to the south, welcomed a variety of automobile-oriented businesses. Front Street in particular saw an influx of roadside development that resulted in a concentration of auto dealerships and showrooms, garages, and supply stores that was maintained into the 1980s. This pattern included the subject property, which was developed in 1966 as a furniture store after a few decades of use as a car dealership lot.[11] Plat maps from the 1930s and 1940s show Front Street's narrow commercial lots along the San Lorenzo River's west bank. Morris Abrams appears as the owner of land containing the future site of 333 Front Street in 1931, and owners James A. & A.

[6] Edward Sanford Harrison, *History of Santa Cruz County, California*, 154-156.
[7] John Chase, ed. by Judith Steen, Daniel P. Gregory, *The Sidewalk Companion to Santa Cruz Architecture,* (Santa Cruz, CA: The Museum of Art and History, 2005), xvi.
[8] Lehmann, *Fully Developed Historic Context Statement for the City of Santa Cruz,* 18.
[9] G. William Domhoff, "History of Santa Cruz: The 1800s: Lumber & Railroads" in *The Leftmost City: Power & Progressive Politics in Santa Cruz,* Who Rules America? Online, G. William Domhoff, 2016. http://www2.ucsc.edu/whorulesamerica/santacruz/history.html. February 25, 2021.
[10] Susan Lehmann, *Historic Context Statement for the City of Santa Cruz: Context I-Economic Development in the City of Santa Cruz 1850*-1950, (Santa Cruz, CA: City of Santa Cruz Planning and Community Development Department, October 2000), 17.
[11] State of California-Department of Parks and Recreation, Primary Record: 428 Front Street, (Santa Cruz, CA: 9 May 2009), 1.

Thornton were listed on the 1947 Stanford map as owners, prior to redevelopment of the property in 1966 **(Figure 11 and Figure 12)**.[12] Additionally, the maps show widespread changes in ownership within the span of almost two decades, suggesting that the downtown, built around the automobile's emergence, was adapting to notable urban change between the Great Depression and immediate post-war years.

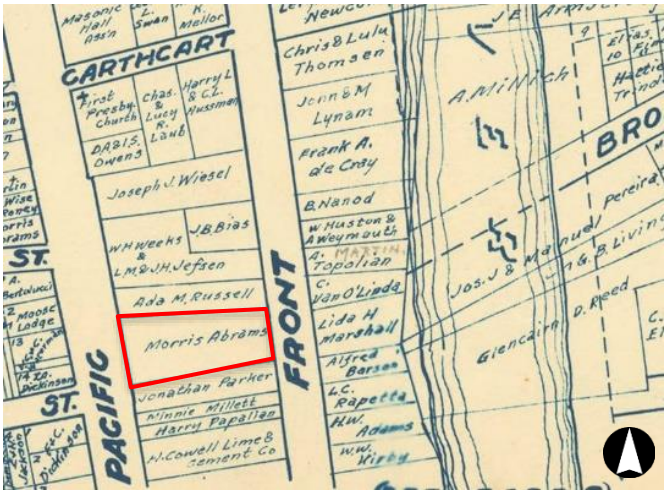


Figure 11: 1931 "Standard" Plat Book Map showing ownership along Front Street. Source: Standard Map Service, Santa Cruz, CA. UC Santa Cruz Digital Collections. Edited by Page & Turnbull.

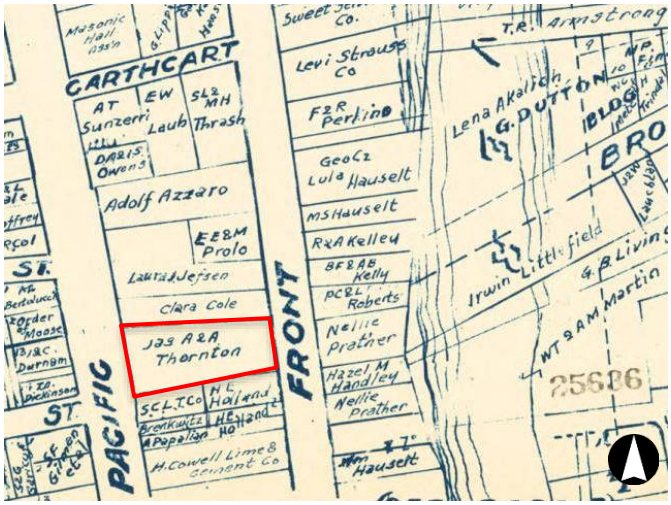


Figure 12: 1947 "Standard" Plat Book Map showing ownership along Front Street. Source: Standard Map Service, Santa Cruz, CA. UC Santa Cruz Digital Collections. Edited by Page & Turnbull.

World War II impacted the city's tourist economy in the form of travel restrictions and gas rationing which led to a diminished level of summer activity. Following the war, the Santa Cruz Casino was renovated. In August 1940, Highway 17 (Los Gatos-Santa Cruz Highway) neared completion and by September saw roughly 9,000 vehicles per day.[13] Throughout the 1940s and 1950s, the automobile supplanted the streetcar in Santa Cruz and nationwide. Whereas the streetcar once connected the pier to the downtown, by the 1940s, automobiles provided similar connection for residents and tourists, and were even parked on the city's Municipal Pier.

Desire to establish a small craft harbor proximal to the pier gained momentum in the late 1940s with the establishment of the Santa Cruz Harbor Development Corporation in 1949. After a decade of back-and-forth between proponents and federal and state funders, construction finally commenced in 1962 and was completed in 1964.[14] In 1960, Santa Cruz again experienced a great transition as the city was selected as the Central Coast location for the establishment of an additional University of California (UC) campus. As part of the lobbying effort to convince the University to place a new campus at Santa Cruz, the city's Chamber of Commerce argued that the city had proven itself capable of seasonal population surges in the form of thousands of summer tourists that effectively doubled the City's day-to-day population.[15] By 1965, the completed campus joined other major infrastructural projects such as the San Lorenzo River Flood Control Project and an 80-acre downtown urban redevelopment project as key definers of 1960s Santa Cruz.[16] The 1960s also saw the city shift away from its street car-accessed waterfront attractions as streetcar lines were phased out and automobile-based tourism took hold assertively.

Downtown Santa Cruz maintained its character through the 1980s, but was greatly impacted by a lagging economy in the years leading up to the Loma Prieta earthquake in 1989. The downtown's commercial district along Pacific Avenue was challenged to compete with the emergence of suburban shopping malls and nearby Capitola's own commercial center mall that provided convenient automobile access.[17] In the midst of economic struggle, the 1989 earthquake dealt a major blow to the fabric of the historic downtown. Many historic buildings along Pacific Avenue and Front Street were demolished following extensive damage. So

[12] Standard Map Service, Santa Cruz, CA. UC Santa Cruz Digital Collections.
[13] Richard A. Beal, *Highway 17: The Road to Santa Cruz,* (Aptos, CA: The Pacific Group, 1991), 16-17.
[14] Frank Perry, "The Great Seaport Dream," *Santa Cruz County History Journal* Issue 2, 1995, 53-61.
[15] Compiled by Gordon Sinclair, photos by Ed Webber, *An Invitation to the University of California from Santa Cruz,* (Santa Cruz, CA: Greater Santa Cruz Chamber of Commerce, 1958), 4.
[16] *An Invitation to the University of California from Santa Cruz,* 22.
[17] Michael A. Burayidi, *Downtowns: Revitalizing the Centers of Small Urban Communities*, (New York: Routledge, 2013), 151.

many historic buildings were demolished, in fact, that the City's Pacific Avenue Historic District was removed from the National Register of Historic Places due to the loss of over 30 historically significant buildings.[18] With many buildings lost following the earthquake, the City of Santa Cruz adopted its *Downtown Recovery Plan* in 1991. The plan has undergone several updates aimed at refining zoning and development along Pacific Avenue and Front Street. In June 2012, the City shifted its approach away from "recovery" and adopted its *City of Santa Cruz: 2030 General Plan* in pursuit of adaption to present-day planning needs.

333 Front Street: Site Development History

Prior to the construction of the subject building in 1966, the site was not occupied by any buildings or structures according to Sanborn Map Co. fire insurance survey maps, which were published and updated between the late nineteenth century and 1950 **(Figure 13)**. The backed up to the Greystone Hotel property that stood at 302-304 Pacific Avenue to the west, which is now occupied by the parking lot to the rear of the subject building. By 1950, an auto repair and sales property at 325 Front Street stood to the south of the subject site. Review of Santa Cruz city directories and newspaper advertisements indicates that property was occupied by businesses including Holland Motor Sales and Auto Dealers/Holland Body Shop (ca. 1955-1960), Merritt Rambler (1964), and Putney and Perry Auto Repair (1966). To the north, a bus service facility addressed 912 Pacific Avenue fronted onto Pacific Avenue and extended eastward through the width of the block to Front Street. In 1966, the *Santa Cruz Sentinel* reported that furniture brand McMahan Furniture, which originated in Bakersfield, California in 1919 and at the time was owned by R.O. McMahan, was issued a building permit to construct a new store at 333 Front Street. The article noted that Harris Construction Company, Inc. of Fresno, California was the builder. The new store at 333 Front Street was to be the McMahan company's second Santa Cruz location, the first having been located nearby at 428 Front Street but was flooded in 1955.[19] McMahan's new store opened on November 10, 1966, with attendance from about 2,500 people. An interior picture featured in the *Santa Cruz Sentinel* shows that the store had a double-height ceiling, with square post supports, providing ample space for furniture display **(Figure 14)**.

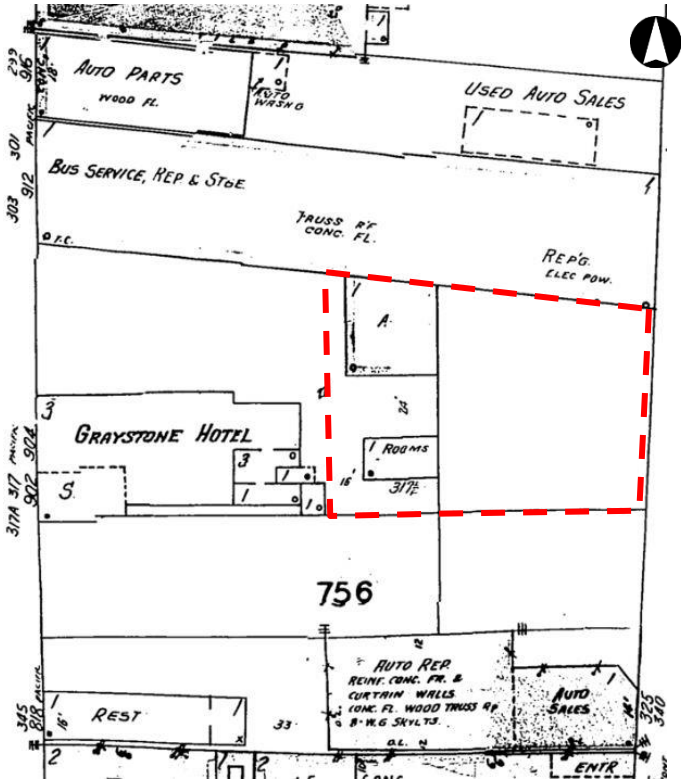


Figure 13: 1950 Sanborn Map Co. fire insurance survey map of Santa Cruz, illustrating the subject property and vicinity. A red dashed line shows the current approximate boundary of 333 Front Street. Source: San Francisco Public Library, Proquest Digital Sanborn Maps. Edited by Page & Turnbull.


16— Santa Cruz Sentinel
Friday, Nov. 11, 1966

New Store Is Staging Its Opening

About 2500 individuals visited Santa Cruz' newest place of business yesterday, McMahan's Furniture store at 333 Front street.

Grand opening ceremonies are still in progress, until 9 o'clock tonight and from 9 a. m. until 9 p.m. tomorrow.

The Santa Cruz operation is the sixth McMahan's Furniture, according to Paul Opperman. There was an earlier McMahan's store here, but it was flooded out in 1955.

In the pictures at right can be seen part of the huge crowd that visited yesterday, along with a drawing for prizes.

Miss California, Charlene Diane Dallas, picks a lucky winner while Roy Hoffman, left, store manager, and Opperman look on. A feature of the grand opening is the presentation of $4500 worth of free prizes.

JURY SELECTED

San Francisco (AP). — A jury was picked yesterday for the trials of Max Ward and Carl Black, who are charged with murder and conspiracy to commit murder in the death of labor leader Dow Wilson.

FRATERNITY SECEDES

Stanford (AP). — The Stanford University chapter of Sigma Chi has seceded from the national fraternity with the statement "there is no place for racial discrimination on the modern college campus."

TONY ZIRO
BACK IN BUSINESS
NEW LOCATION
3623 PORTOLA DRIVE
(Behind Wells Fargo Bank)

Figure 14: Article reporting the opening of McMahan's Furniture at 333 Front Street, 1966. Source: *Santa Cruz Sentinel*.

[18] Ibid, 147-151.
[19] "New Store is Staging Its Opening," *Santa Cruz Sentinel*, November 11, 1966.

A 1968 aerial photograph shows that the subject building was originally constructed directly adjacent to or abutting the bus service facility at 912 Pacific Avenue **(Figure 15)**. In 1968, McMahan's Furniture, owner of the lot to the rear of 333 Front Street, which contained a 21-space parking lot, decided to lease the parking lot to the City on a month-to-month basis for an amount equal to the amount of property taxes assessed against the lot annually.[20] That property continues to contain a parking lot as of this evaluation.

The subject building's setting began to change around 1982, by which time the preexisting bus service facility at 902 Pacific Avenue had been demolished and construction of the existing Santa Cruz METRO/Greyhound station was planned **(Figure 16)**. This resulted in the subject building becoming freestanding, and the building's north façade, overlooking the bus station, became fully visible. In 1989, Santa Cruz and many other communities in the region were heavily impacted by the Loma Prieta earthquake, which occurred on October 17. The event caused the collapse of several downtown buildings and fatalities. The subject building was spared from major damage. In 1994, 92 of the McMahan's Furniture stores were acquired by Virginia-based furniture company Heilig-Meyers, who owned over 500 furniture stores nationwide and offered a similar array of products and services. The store at the subject property was among those acquired and became known as Heilig-Meyers.[21] At the time of Heilig-Meyers acquisition, McMahan's was based in Carlsbad, San Diego, but operated stores throughout California, with additional locations in Arizona, Colorado, New Mexico, Nevada, Oregon, and Texas.[22]

The building's use as a furniture store continued into the late 1990s, and in 2000, the property was acquired by the Nonprofits Insurance Alliance of California (NIAC). In 2001, NIAC remodeled the former commercial building to house its own offices on the second floor and to provide space for nonprofit organizations on the ground floor. The building became known as the NIAC Building and remained in use by NIAC until approximately 2018, when NIAC sold the property and planned a new headquarters location in Santa Cruz.[23]



Figure 15: 1968 aerial of subject property and vicinity. Source: HistoricAerials.com. Edited by Page & Turnbull.

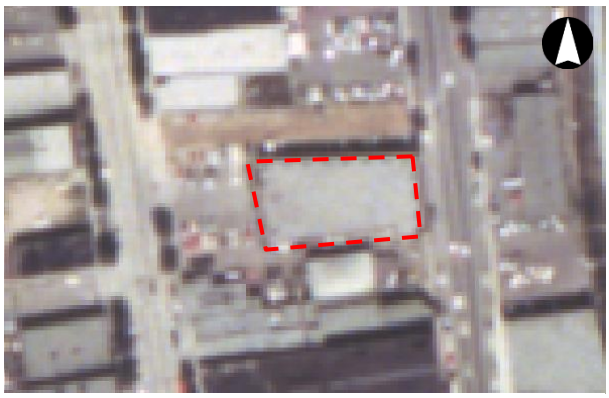


Figure 16: Figure 17: Aerial photograph of subject site and vicinity, 1982. Source: UC Santa Barbara FrameFinder, National Ocean Service, Flight NOS-82-EC, Frame 297. Edited by Page & Turnbull.

***B10. Significance (continued):**

Evaluation

333 Front Street is not currently listed in the National Register or the California Register. It is not a Santa Cruz City Landmark. The building does not appear in the State of California Office of Historic Preservation's (OHP) Built Environmental Resource Directory (BERD) as of 2020, indicating that no record of a previous survey or evaluation is on file.

In order for a property to be considered eligible for listing as an individual resource in the California Register of Historical Resources (California Register) or National Register of Historic Places (National Register), the property must possess significance under at least one of four criteria, and retain integrity to convey that significance. The evaluative criteria used by the California Register for determining eligibility are closely based on those developed by the National Park Service for the National Register. The subject property's historical significance is evaluated according to each of the four criteria below.

[20] *Santa Cruz Sentinel*, October 7, 1968, 12.
[21] Guy Lasner, "Virginia Chain Buys 92-Store McMahan's," *Santa Cruz Sentinel*, February 3, 1994.
[22] Ibid.
[23] "NIAC Ready to Build," *Santa Cruz Sentinel*, September 19, 2018.

Criterion A/1 (Events): Associated with events that have made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California or the United States.

333 Front Street does not appear to be individually eligible for listing in the National Register under Criterion A or the California Register under Criterion 1 (Events) for its association with any events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States. The subject building was constructed in 1966, during a period of post-World War II development in downtown Santa Cruz, which saw many new businesses such as automobile dealerships and retailers locate along Pacific Avenue and Front Street. While the building at 333 Front Street is generally associated with the post-World War II development in the City of Santa Cruz, the building is not uniquely representative of that era and was not among the earliest buildings constructed during that period. Additionally, 333 Front Street does not appear to be associated with any significant event. The building's grand opening in 1966 was well attended, but was not of particular significance relative to the broader pattern of commerce in the downtown that occurred in post-World War II decades. Research has also not identified the building as a significant or influential example of its type, or for having been particularly influential to commerce, despite its four-decade operation as a furniture store. Research of historic newspapers and the Santa Cruz Historic Context Statement did not identify the building as a location of any significant historic events. Therefore, 333 Front Street does not appear to rise to the level of significance to be eligible for listing under Criterion A/1.

Criterion B/2 (Persons): Associated with the lives of persons important to local, California or national history.

333 Front Street does not appear to be individually eligible for listing in the National Register under Criterion B or the California Register under Criterion 2 (Persons). The subject building was constructed in 1966 as a new location for the McMahan's Furniture Company brand, led by R.O. McMahan. During the mid-1950s, the brand was located at 428 Front Street in Santa Cruz, but was forced to leave that location due to a flood in 1956. Previous research prepared for 428 Front Street found that McMahan continued to own that building and leased it to a thrift store business after flood damage was prepared. The McMahan's Furniture Company expanded from its original Bakersfield location to comprise eight California locations when the Santa Cruz store at 333 Front Street opened in 1966. In ensuing decades, the brand expanded much further with numerous California stores and others in the western United States. Although R.O. McMahan was a successful businessman, and his success as an executive of the McMahan's Furniture Company is notable, research has not found that McMahan's achievements were of major importance to California history. Additionally, as one of several store locations, rather than a headquarters building or facility, the subject building has not been found to have strong association with the foundation of the McMahan's brand, or to directly represent the achievements of any significant persons. Therefore, 333 Front Street does not individually associate with any individuals who have made significant contributions to California history. Therefore, 333 Front Street does not appear to rise to the level of significance to be eligible for listing under Criterion B/2.

Criterion C/3 (Architecture): Embodies the distinctive characteristics of a type, period, region or method of construction or represents the work of a master or possesses high artistic values.

333 Front Street does not appear to be individually eligible for listing in the National Register under Criterion C or the California Register under Criterion 3 (Architecture) as a building that embodies the distinctive characteristics of a type, period, or method of construction or is the work of a notable local architect. 333 Front Street is a two-story, vernacular commercial office building that was originally constructed as a tall one-story commercial-retail building for the McMahan's Furniture Company. The building was constructed by Harris Construction Company, Inc. of Fresno, California. Research of building permit and plan records and historic newspapers did not identify a professional architect associated with the building's original design. In 2000, the building was extensively remodeled to accommodate a new use as an office building for nonprofits, and has since been commonly known as the NIAC Building. The building's footprint, height, and frontage to Pacific Avenue, and relationship to a parking lot to its are associated with the building's original design, yet the building's exterior finishes, fenestration, and perimeter roof parapet are representative of its remodeling in 2000. Overall, the building does not embody distinctive characteristics of a type, period, region, or method of construction as it does not represent its original 1966 design in most respects. Additionally, the building does not represent the work of a master. Research and available scholarship on Harris Construction Company, Inc. is limited, and archival research does not support a finding that the company or any of its employees were master design professionals. The building's design does not possess high artistic value. Therefore, 333 Front Street does not appear to rise to the level of significance to be eligible for listing under Criterion C/3.

Criterion D/4 (Information Potential): Has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California or the nation.

333 Front Street was not evaluated for the National Register under Criterion D or the California Register under Criterion 4 as a building that has the potential to provide information important to the prehistory or history of the City of Santa Cruz, the state, or the nation. The evaluation of this property was limited to age-eligible resources above ground and evaluation for purposes of archaeological investigation was outside the scope of this report.

Conclusion
The building at 333 Front Street was constructed in 1966 by Harris Construction Co. Inc. and was designed in a vernacular commercial style as a location for McMahan's Furniture Company. The subject property does not appear to be individually eligible for listing in the National Register or the California Register under any criteria. The California Historical Resource Status Code (CHRSC) of "6Z" has been assigned to 333 Front Street, as it has been found to appear not eligible for the California Register through survey evaluation.[24]

***B12. References:**

Ancestry.com.

Beal, Richard A. *Highway 17: The Road to Santa Cruz.* Aptos, CA: The Pacific Group, 1991.

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NATIVE AMERICAN HERITAGE COMMISSION

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NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

October 12, 2022

Roy Hastings
R. L. Hastings & Associates, LLC

Via Email to: roy@rlhastings.com

Re: 902, 912, 920, & 1004 Pacific Avenue & 333 Front Street Project, Santa Cruz County

Dear Mr. Hastings:

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information submitted for the above referenced project. The results were positive. Please contact the Costanoan Ohlone Rumsen-Mutsen Tribe on the attached list for information. Please note that tribes do not always record their sacred sites in the SLF, nor are they required to do so. A SLF search is not a substitute for consultation with tribes that are traditionally and culturally affiliated with a project's geographic area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites, such as the appropriate regional California Historical Research Information System (CHRIS) archaeological Information Center for the presence of recorded archaeological sites.

Attached is a list of Native American tribes who may also have knowledge of cultural resources in the project area. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. Please contact all of those listed; if they cannot supply information, they may recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call or email to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from tribes, please notify the NAHC. With your assistance, we can assure that our lists contain current information.

If you have any questions or need additional information, please contact me at my email address: Cody.Campagne@nahc.ca.gov.

Sincerely,

Cody Campagne

Cody Campagne
Cultural Resources Analyst

Attachment

Native American Heritage Commission
Native American Contact List
Santa Cruz County
10/12/2022

Amah Mutsun Tribal Band
Valentin Lopez, Chairperson
P.O. Box 5272
Galt, CA, 95632
Phone: (916) 743 - 5833
vlopez@amahmutsun.org

Costanoan
Northern Valley
Yokut

Amah MutsunTribal Band of Mission San Juan Bautista
Irene Zwierlein, Chairperson
3030 Soda Bay Road
Lakeport, CA, 95453
Phone: (650) 851 - 7489
Fax: (650) 332-1526
amahmutsuntribal@gmail.com

Costanoan

Costanoan Ohlone Rumsen-Mutsen Tribe
Patrick Orozco, Chairman
644 Peartree Drive
Watsonville, CA, 95076
Phone: (831) 728 - 8471
yanapvoic97@gmail.com

Ohlone

Indian Canyon Mutsun Band of Costanoan
Kanyon Sayers-Roods, MLD Contact
1615 Pearson Court
San Jose, CA, 95122
Phone: (408) 673 - 0626
kanyon@kanyonkonsulting.com

Costanoan

Indian Canyon Mutsun Band of Costanoan
Ann Marie Sayers, Chairperson
P.O. Box 28
Hollister, CA, 95024
Phone: (831) 637 - 4238
ams@indiancanyons.org

Costanoan

Wuksache Indian Tribe/Eshom Valley Band
Kenneth Woodrow, Chairperson
1179 Rock Haven Ct.
Salinas, CA, 93906
Phone: (831) 443 - 9702
kwood8934@aol.com

Foothill Yokut
Mono

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed 902, 912, 920, & 1004 Pacific Avenue & 333 Front Street Project, Santa Cruz County.

CITY OF SANTA CRUZ

ECONOMIC DEVELOPMENT & HOUSING DEPARTMENT

337 Locust Street • Santa Cruz, CA 95060 • (831) 420-5150 • www.cityofsantacruz.com

August 16, 2023

Ms. Julianne Polanco
State Historic Preservation Officer
Office of Historic Preservation
1725 23rd Street, Suite 100
Sacramento, CA 95816

RE: Section 106 Consultation – 130-Unit Mixed Use Commercial & Affordable Housing Project
902, 912, 920, & 1004 Pacific Avenue & 333 Front Street, Santa Cruz, CA 95060
USGS Santa Cruz Quad - T11S, R2W, Section 13
APNs: 005-152-33, 005-152-05, 005-152-31, 005-152-30, and 005-152-32

Trigger: Receipt of HUD Project-Based Vouchers

Dear Ms. Polanco;

The purpose of this letter is to complete the SHPO consulting requirements pursuant to Section 106 of the National Historic Preservation Act and its implementing regulations found at 36 CFR Part 800 prior to the above-referenced project receiving HUD funds from the County of Santa Cruz Housing Authority. The proposed 130-unit multifamily y affordable housing project will be developed on several parcels located at 333 Front Street and 902, 912, 920 and 1004 Pacific Avenue, Santa Cruz, California. The use of federal funds in the project requires that a NEPA environmental review be conducted on the project site, which includes Section 106 consultation with SHPO.

Conclusion

The City of Santa Cruz has concluded that the proposed project will not cause any significant impact to archaeological or historic resources in the project area and, therefore, has made a finding of *"No Historic Properties Affected"* per CFR 36 Part 800.4 (d)(1) and that no additional studies or mitigations need to be undertaken. The City of Santa Cruz requests your concurrence in this finding.

Proposed Project

The proposed up to 130-unit affordable housing project will be built on 5 parcels totaling approximately 2.11 acres located at 902, 912, 920, and 1004 Pacific Avenue and 333 Front Street in the City of Santa Cruz, Santa Cruz County, California (APNs: 005-152-33, 005-152-05, 005-152-31, 005-152-30, and 005-152-32). Surrounding site uses include commercial buildings on all sides and a mixed-use residential building also to the north.

Area of Potential Effect (APE)

The APE is the project site.

California Historical Resources Information System (CHRIS)

Page & Turnbull requested a CHRIS report in early January 2021. The following is an excerpt from their March 30, 2"021 memorandum summarizing the CHRIS report (see memorandum for citation references):

To identify such resources, Page & Turnbull requested a records search with the Northwest Information Center (NWIC) of the California Historical Resources Information System (CHRIS) and reviewed relevant documentation of archaeological resources and sensitivity.

On February 26, 2021, staff of the NWIC conducted a records search for previously recorded resources and studies within the proposed project site and a one-quarter-mile radius (NWIC File No.: 20-1540). No previously recorded archaeological or built environment resources are located within the proposed project site. One previously recorded archaeological resource, a prehistoric archaeological site associated with an ethnographically recorded Ohlone village location, is located just over 1,000 feet to the south of the proposed project site.

One previous archaeological report. for which the study area slightly overlaps the proposed project site at its north side, was prepared following archaeological monitoring of construction at 1010 Pacific Avenue in 2002. The letter report notes that monitors observed evidence of historic-period archaeological deposits, including sawn bone and a late 19th-century ceramic fragment.4 No prehistoric archaeological materials or deposits are noted in this report, though monitors could not observe deeply buried deposits due to groundwater inundation of excavated areas.

No archaeological sites or resources within the proposed project site are referenced in the 1971 California Coastline Preservation and Recreation Plan.5 The one previously recorded site within a quarter-mile radius of the proposed project site, CA-SCR-12 or the "Beach Hill Area," is noted in Cultural Resources Element of the 2003 version of the City of Santa Cruz General Plan and Local Coastal Program."

The project site is also covered entirely with hardscape and structures; therefore, with no native soil visible, an archaeological survey is not being prepared prior to demolition of the structures. As the site is located in an area identified by the City in the General Plan Update as a Sensitive Zone for prehistoric resources and historic archaeological resources, upon completion of demolition of the structures and hardscape, a registered professional archaeologist will inspect the soils to determine if any cultural materials are present.

Page & Turnbull Cultural Resources Consultation Memorandum – March 30, 2021

Historical Evaluation

"333 Front Street

The building at 333 Front Street, commonly known as the NIAC Building, was originally constructed in 1966 as a furniture store for McMahan's Furniture Company. It is considered age-eligible for historic evaluation as it is greater than 50 years old. Therefore, State of California Department of Parks and Recreation (DPR) 523 historic survey forms were prepared to determine whether that property is eligible for listing in the National Register of Historic Places and/or the California Register of Historical Resources. The evaluation determined that the building is not historically significant and is therefore not eligible for listing. A parking lot to the rear of 333 Front Street was built on a vacant parcel around 1966,

when 333 Front Street was built, and has remained in use as a parking lot since that time."

"920 Pacific Avenue (Santa Cruz METRO Center Buildings)

The existing bus station and walk-up restaurant buildings that comprise the Santa Cruz Metro Center at 920 Pacific Avenue were completed in 1984, according to historic information provided in the Santa Cruz Sentinel newspaper.1 The buildings were completed in time for the Metro Center's dedication on June 8, 1984.2 In addition to newspaper research, Page & Turnbull conducted archival research of Sanborn fire insurance maps, newspapers, and historic aerial photographs to confirm the year built for the bus station and walk-up restaurant building."

Summary

"In summary, no previously identified archaeological resources are located within the project site. No project-specific mitigation measures are recommended at this time. In the event that archaeological materials or deposits are inadvertently discovered during project activities, the procedures described in Sections 5 through 11 of Chapter 24.12.430 of the Municipal Code of the City of Santa Cruz, regarding the Protection of Archaeological Resources, should be followed."

Native American Heritage Commission (NAHC)

A response letter from NAHC dated October 12, 2022, stated that a Sacred Lands File for the area of potential effect was completed with Positive results. NAHC requested that the City contact the Costanoan Ohlone Rumsen-Mutsen Tribe for more information. NAHC provided a list of 6 Native American contacts, including the Costanoan Ohlone Rumsen-Mutsen Tribe.

Tribal Consultations

Consultation letters were sent to all Tribes on the NAHC list on May 31, 2023. One response was received by the City. Irene Zwierlein of the Amah Mutsun Tribal Band of San Juan Bautista & AMTB Inc. sent a Letter of Response via email on June 5, 2023 containing several recommendations for any identified positive cultural or historic sensitivity within one mile of the project site and provided its cost breakdown for use of its consultation services.

National Register of Historic Places

An internet search of the National Register of Historic Places found eleven (10) results for registered historic sites within 0.5 miles of the project site. The nearest listed site, the Hotel Metropole is shown approximately 260'from the project site but has been demolished. The next nearest site is the Octagon Building located approximately 1228' north of the project site with several city blocks in between. There will be no effect on this site.

City of Santa Cruz Historic Landmarks

In 1976, 1989 and 2013 the City of Santa Cruz conducted an Historic Building Survey to determine buildings that were of historic significance and worth protecting. As of July 2017, there are "623 buildings (569 from Survey I/II and 54 from Survey III), 27 walls, stairways, steps or curbs, as well as 5 hitching posts, hitching rails or mounting blocks are listed in the City's Historic Survey. Buildings of greatest historical and architectural significance have been designated "landmarks" pursuant to section 24.12.430 of the City's Zoning Ordinance. Currently there are 24 designated landmarks in the City. Fourteen properties are listed on the National Register of Historic Places and the following three sites are listed in the California Historical Landmarks: Site of Mission Santa Cruz, Site of Center of Villa Branciforte and the Santa Cruz Beach Boardwalk."

The enclosed aerial photo shows City listed structures in the vicinity of the project site.

Other Area Developments

There are two additional projects under development on the immediate sites to the south of the project site.

I hope this information is helpful to you. Please feel free to contact me should you have any questions or comments about this project.

Sincerely,

Jessica de Wit, Housing & Community Development Division Manager
City of Santa Cruz Economic Development Office

cc: R. L. Hastings & Associates, LLC
roy@rlhastings.com

Enclosures:

USGS Topographic Map with Project Site Outlined
Map of Area of Potential Effects (APE)
Page & Turnbull Cultural Resources Consultation Memorandum
333 Front Street Primary Record [DPR 523A]
NAHC Response Letter
Tribal Consultation Letters
Amah Mutsun Tribal Band of San Juan Bautista & AMTB Inc. Response
NRHP Internet Search Results

CITY OF SANTA CRUZ

ECONOMIC DEVELOPMENT DEPARTMENT

337 Locust Street • Santa Cruz, CA 95060 • (831) 420-5150 • www.cityofsantacruz.com

May 31, 2023

Amah Mutsun Tribal Band of Mission San Juan Bautista
Irene Zwierlein, Chairperson
3030 Soda Bay Road
Lakeport, CA 95453
amahmutsuntribal@gmail.com

RE: Native American Consultation Request

Subject Property: 902, 912, 920, & 1004 Pacific Avenue & 333 Front Street, Santa Cruz, CA 95060
APNs: 005-152-33, 005-152-05, 005-152-31, 005-152-30, and 005-152-32
USGS Santa Cruz Quad - T11S, R2W, Section 13

Dear Chairperson Zweirlein,

The Pacific Station North project will be receiving HUD funds in the form of 42 Project-Based Vouchers (PBV) from the Housing Authority of the County of Santa Cruz to fund the construction up to 130 units of affordable housing to be located at 902, 912, 920, and 1004 Pacific Avenue and 333 Front Street in the City of Santa Cruz, Santa Cruz County, California. The receipt of federal funds requires that a NEPA environmental review be conducted on the project site. Consultation with Native American groups or individuals and the State Historic Preservation Officer (SHPO) is a required part of the NEPA process.

Proposed Project

The proposed up to 130-unit affordable housing project will be built on 5 parcels totaling approximately 2.11 acres located at 902, 912, 920, and 1004 Pacific Avenue and 333 Front Street in the City of Santa Cruz, Santa Cruz County, California (APNs: 005-152-33, 005-152-05, 005-152-31, 005-152-30, and 005-152-32). Surrounding site uses include commercial buildings on all sides and a mixed-use residential building also to the north.

Archaeological and Cultural Resources

The City of Santa Cruz would appreciate your providing information on any Native American resources that might be adversely affected by the development of this project.

If you have any questions or need additional information, please contact Roy Hastings at 916.397.6795, or by email at roy@rlhastings.com.

Sincerely,

Jessica de Wit

CITY OF SANTA CRUZ

ECONOMIC DEVELOPMENT DEPARTMENT

337 Locust Street • Santa Cruz, CA 95060 • (831) 420-5150 • www.cityofsantacruz.com

May 31, 2023

Amah Mutsun Tribal Band
Valentin Lopez, Chairperson
P.O. Box 5272
Galt, CA 95632
vlopez@amahmutsun.org

RE: Native American Consultation Request

Subject Property: 902, 912, 920, & 1004 Pacific Avenue & 333 Front Street, Santa Cruz, CA 95060
APNs: 005-152-33, 005-152-05, 005-152-31, 005-152-30, and 005-152-32
USGS Santa Cruz Quad - T11S, R2W, Section 13

Dear Chairperson Lopez,

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Sincerely,

Jessica de Wit

CITY OF SANTA CRUZ

ECONOMIC DEVELOPMENT DEPARTMENT

337 Locust Street • Santa Cruz, CA 95060 • (831) 420-5150 • www.cityofsantacruz.com

May 31, 2023

Wuksache Indian Tribe/Eshom Valley Band
Kenneth Woodrow, Chairperson
1179 Rock Haven Ct.
Salinas, CA 93906
kwood8934@aol.com

RE: Native American Consultation Request
Subject Property: 902, 912, 920, & 1004 Pacific Avenue & 333 Front Street, Santa Cruz, CA 95060
APNs: 005-152-33, 005-152-05, 005-152-31, 005-152-30, and 005-152-32
USGS Santa Cruz Quad - T11S, R2W, Section 13

Dear Chairperson Woodrow,

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Archaeological and Cultural Resources

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If you have any questions or need additional information, please contact Roy Hastings at 916.397.6795, or by email at roy@rlhastings.com.

Sincerely,

Jessica de Wit

CITY OF SANTA CRUZ

ECONOMIC DEVELOPMENT DEPARTMENT

337 Locust Street • Santa Cruz, CA 95060 • (831) 420-5150 • www.cityofsantacruz.com

May 31, 2023

Indian Canyon Mutsun Band of Costanoan
Kanyon Sayers-Roods, MLD
1615 Pearson Court
San Jose, CA 95122

RE: Native American Consultation Request

Subject Property: 902, 912, 920, & 1004 Pacific Avenue & 333 Front Street, Santa Cruz, CA 95060
APNs: 005-152-33, 005-152-05, 005-152-31, 005-152-30, and 005-152-32
USGS Santa Cruz Quad - T11S, R2W, Section 13

Dear Ms. Sayers-Roods,

The Pacific Station North project will be receiving HUD funds in the form of 42 Project-Based Vouchers (PBV) from the Housing Authority of the County of Santa Cruz to fund the construction up to 130 units of affordable housing to be located at 902, 912, 920, and 1004 Pacific Avenue and 333 Front Street in the City of Santa Cruz, Santa Cruz County, California. The receipt of federal funds requires that a NEPA environmental review be conducted on the project site. Consultation with Native American groups or individuals and the State Historic Preservation Officer (SHPO) is a required part of the NEPA process.

Proposed Project

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If you have any questions or need additional information, please contact Roy Hastings at 916.397.6795, or by email at roy@rlhastings.com.

Sincerely,

Jessica de Wit

CITY OF SANTA CRUZ

ECONOMIC DEVELOPMENT DEPARTMENT

337 Locust Street • Santa Cruz, CA 95060 • (831) 420-5150 • www.cityofsantacruz.com

May 31, 2023

Indian Canyon Mutsun Band of Costanoan
Ann Marie Sayers, Chairperson
P.O. Box 28
Hollister, CA 95024
ams@indiancanyons.org

RE: Native American Consultation Request

Subject Property: 902, 912, 920, & 1004 Pacific Avenue & 333 Front Street, Santa Cruz, CA 95060
APNs: 005-152-33, 005-152-05, 005-152-31, 005-152-30, and 005-152-32
USGS Santa Cruz Quad - T11S, R2W, Section 13

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If you have any questions or need additional information, please contact Roy Hastings at 916.397.6795, or by email at roy@rlhastings.com.

Sincerely,

Jessica de Wit

CITY OF SANTA CRUZ

ECONOMIC DEVELOPMENT DEPARTMENT

337 Locust Street • Santa Cruz, CA 95060 • (831) 420-5150 • www.cityofsantacruz.com

May 31, 2023

Costanoan Ohlone Rumsen-Mutsen Tribe
Patrick Orozco, Chairman
644 Peartree Drive
Watsonville, CA 95076
yanapvoic97@gmail.com

RE: Native American Consultation Request

Subject Property: 902, 912, 920, & 1004 Pacific Avenue & 333 Front Street, Santa Cruz, CA 95060
APNs: 005-152-33, 005-152-05, 005-152-31, 005-152-30, and 005-152-32
USGS Santa Cruz Quad - T11S, R2W, Section 13

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If you have any questions or need additional information, please contact Roy Hastings at 916.397.6795, or by email at roy@rlhastings.com.

Sincerely,

Jessica de Wit

The Amah Mutsun Tribal Band of San Juan Bautista
&
A.M.T.B. Inc.

Letter of Response

To whom it may concern:

It is our pride and privilege to be of service for any Native American Cultural Resource Monitoring, Consulting and/ or Sensitivity Training you may need or require. We take our Heritage and History seriously and are diligent about preserving as much of it as we can. Construction is a constant in the Bay Area and with that new discoveries are bound to happen. If you choose our services we will gladly guide all personnel through proper procedures to safely protect and preserve: Culture, Heritage, and History.

It is highly recommended, if not previously done, to search through Sacred Lands Files (SLF) and California Historical Resource Information Systems (CHRIS) as well as reaching out to the Native American Heritage Commission (NAHC) In order to determine whether you are working in a Cultural and/ or Historic sensitivity.

If you have received any positive cultural or historic sensitivity within 1 mile of the project area here is A.M.T.B Inc's and Amah Mutsun Tribal Band of San Juan Bautista's recommendations:

- All Crews, Individuals and Personnel who will be moving any earth be Cultural Sensitivity Trained.
- A Qualified California Trained Archaeological Monitor is present during any earth movement.
- A Qualified Native American Monitor is present during any earth movement.

If further Consultation, Monitoring or Sensitivity Training is needed please feel free to contact A.M.T.B. Inc. or Myself Directly.

Sincerely, Irenne Zwierlein

Irenne Zwierlein

3030 Soda Bay Road, Lakeport
CA 95453
amtbinc21@gmail.com
(650)851-7489

Amah Mutsun Tribal Band of San Juan Bautista
&
AMTB Inc.

3030 Soda Bay Road Lakeport, CA 95453

Our rates for 2023

$250.00 per hour.

4 hours minimum

Cancellations not 48 hours (about 2 days) prior will be charged a 4-hour minimum. There is a round trip mileage charge if canceled after they have traveled to site.

Anything over 8 hours a day is charged as time and a half.

Weekends are charged at time and a half.

Holidays are charged at double time.

For fiscal year (FY) 2023, standard per diem rate of $329 ($255 lodging, $74 M&IE).

M&IE Breakdown FY 2023

M&IE Total[1]	Continental Breakfast/ Breakfast[2]	Lunch[2]	Dinner[2]	Incidental Expenses	First & Last Day of Travel[3]
$74.00	$17.00	$18.00	$34.00	$5.00	$55.50

Beginning on July 1st, 2022, the standard mileage rates for the use of a car round trip (also vans, pickups or panel trucks) will be: $62.50 cents per mile driven for business use or what the current federal standard is at the time.

Our Payment terms are 5 days from date on invoice.

Our Monitors are Members of the Amah Mutsun Tribal Band of Mission San Juan Bautista.

If you have any questions, please feel free to contact the A.M.T.B. Inc. at the below contact information.

Sincerely,
Irenne Zwierlein

Irenne Zwierlein

3030 Soda Bay Rd, Lakeport
CA 95453
amtbinc21@gmail.com
(650)851-7489

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 7/25/2022

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER	CONTACT NAME: Brenda Aldaco	
Allied Brokers 591 Lytton Avenue Palo Alto CA 94301	PHONE (A/C, No, Ext): (650) 328-1000	FAX (A/C, No): (650) 324-1142
	E-MAIL ADDRESS: BusinessVIP@alliedbrokers.com	
	INSURER(S) AFFORDING COVERAGE	NAIC #
	INSURER A: Scottsdale Insurance Company	41297
INSURED Amah Mutsun Tribal Band 3030 SODA BAY RD LAKEPORT CA 95453	INSURER B: United States Liability Insurance Company	25895
	INSURER C:	
	INSURER D:	
	INSURER E:	
	INSURER F:	

COVERAGES CERTIFICATE NUMBER: REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS		
A	[X] COMMERCIAL GENERAL LIABILITY [ ] CLAIMS-MADE [X] OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: [X] POLICY [ ] PRO-JECT [ ] LOC [ ] OTHER:			CPS7617452	07/09/2022	07/09/2023	EACH OCCURRENCE	$	1,000,000
							DAMAGE TO RENTED PREMISES (Ea occurrence)	$	100,000
							MED EXP (Any one person)	$	5,000
							PERSONAL & ADV INJURY	$	1,000,000
							GENERAL AGGREGATE	$	2,000,000
							PRODUCTS - COMP/OP AGG	$	2,000,000
							Deductible	$	500
	AUTOMOBILE LIABILITY [ ] ANY AUTO [ ] OWNED AUTOS ONLY [ ] SCHEDULED AUTOS [ ] HIRED AUTOS ONLY [ ] NON-OWNED AUTOS ONLY						COMBINED SINGLE LIMIT (Ea accident)	$	
							BODILY INJURY (Per person)	$	
							BODILY INJURY (Per accident)	$	
							PROPERTY DAMAGE (Per accident)	$	
								$	
	[ ] UMBRELLA LIAB [ ] OCCUR [ ] EXCESS LIAB [ ] CLAIMS-MADE [ ] DED [ ] RETENTION $						EACH OCCURRENCE	$	
							AGGREGATE	$	
								$	
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY Y / N ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? [ ] N / A (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below						[ ] PER STATUTE [ ] OTH-ER		
							E.L. EACH ACCIDENT	$	
							E.L. DISEASE - EA EMPLOYEE	$	
							E.L. DISEASE - POLICY LIMIT	$	
B	Professional Liability			SP 1573468B	06/21/2022	06/21/2023	Each Claim		$1,000,000
							Aggregate		$1,000,000
							Deductible		$2,500

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

PROOF OF COVERAGE

CERTIFICATE HOLDER

For Your Information

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

Brenda Aldaco

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3D path
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Measure the circumference or area of a circle on the ground
Radius: 0.50 Miles
Area: 0.79 Square Miles
Circumference: 3.14 Miles
Mouse Navigation
Save
Clear
Mission Santa Cruz 1791
Water St
Mission St
Chestnut St
Hotel Paradox, Autograph Collection
Ocean St
Santa Cruz Riverwalk Park
Santa Cruz Museum of Art & History
Chevron
Mission Hill Middle School
King St
Santa Cruz
Pacific Ave
The Walnut Avenue Cafe
Soquel Ave
Hyatt Place Santa Cruz
Front St
Santa Cruz High School
The Catalyst
920 Pacific Ave
Hotel Solares
Ocean View Park
Copal
Laurel St
San Lorenzo Blvd
Kaiser Permanente Arena
McDonald's
E Cliff Dr
Bay St
Cypress Point Apartments
Depot Park
Cliff St
Second St
Park Pl
Beach St
Seaside St
Image Landsat / Copernicus
Santa Cruz Beach Boardwalk
Google Earth
Neary Lagoon Park
1985
36°58'15.48" N 122°01'29.69" W elev 30 ft eye alt 7655 ft


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Ruler
Line
Path
Polygon
Circle
3D path
3D polygon
Measure the distance between two points on the ground
Map Length: 260.53 Feet
Ground Length: 260.53
Heading: 340.15 degrees
Mouse Navigation
Save
Clear
Hotel Metropole
Historic Place Name: Hotel Metropole
Address: 1111 Pacific Ave.
City: Santa Cruz
County: Santa Cruz
State: CALIFORNIA
Geographic Coordinates:
Latitude: 36.97189
Longitude: -122.0255
NPS Reference Number: 79000553
Date Listed: 19790523
Notes:
Type: point
Geocode Match: 1
A Service of:
National Register of Historic Places
National Park Service
Directions: To here - From here
Santa Cruz River
Soquel Ave
Walnut Ave
Center St
Riverside Ave
Broadway
Chestnut St
I Love Sushi
The Catalyst
920 Pacific Ave
Well Within Spa
Zachary's
Image Landsat / Copernicus
Google Earth
1985
36°58'32.80" N 122°01'34.06" W elev 59 ft eye alt 2836 ft

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WIKIMEDIA

Hotel Metropole (Santa Cruz, California)

From Wikipedia, the free encyclopedia

Coordinates: 36°58′19″N 122°01′29″W

The **Hotel Metropole**, built in 1908, was added to the National Register of Historical Places in 1979.[1] It was demolished after being severely damaged in the 1989 Loma Prieta earthquake.

It was built as a hotel to offer "forty-eight 'furnished rooms for transient and permanent guests' at fifty cents per day", and also offered space for "a millinery, the offices of C. W. Waldron, a partner of McPherson's, and the C.O.D. Grocery." It was later renamed as the **Hotel Al Rose** in 1935 and as the **Hotel Drake** in 1946, and was operated as a hotel until 1961. In 1976, the building housed Plaza Books / Paper Vision.[2]

It was deemed notable in 1978 as "a unique Santa Cruz example of turn-of-the-century commercial architecture in the late Italianate style in which pressed-metal ornamentation replaced the more costly and fancy Victorian plaster work it often copied. The four pediments atop the third-story windows, and the acanthus design cornices are particularly handsome. The building is an important part of the physical fabric of the Pacific Garden Mall and contributes to the historical continuity and sense of urbanity along the street. In addition to its inherent architectural value, the building also contributes significant scale to this portion of the street, which is much broader than the tight portion of Pacific Avenue at its northern end."[2]

Metropole Hotel

U.S. National Register of Historic Places





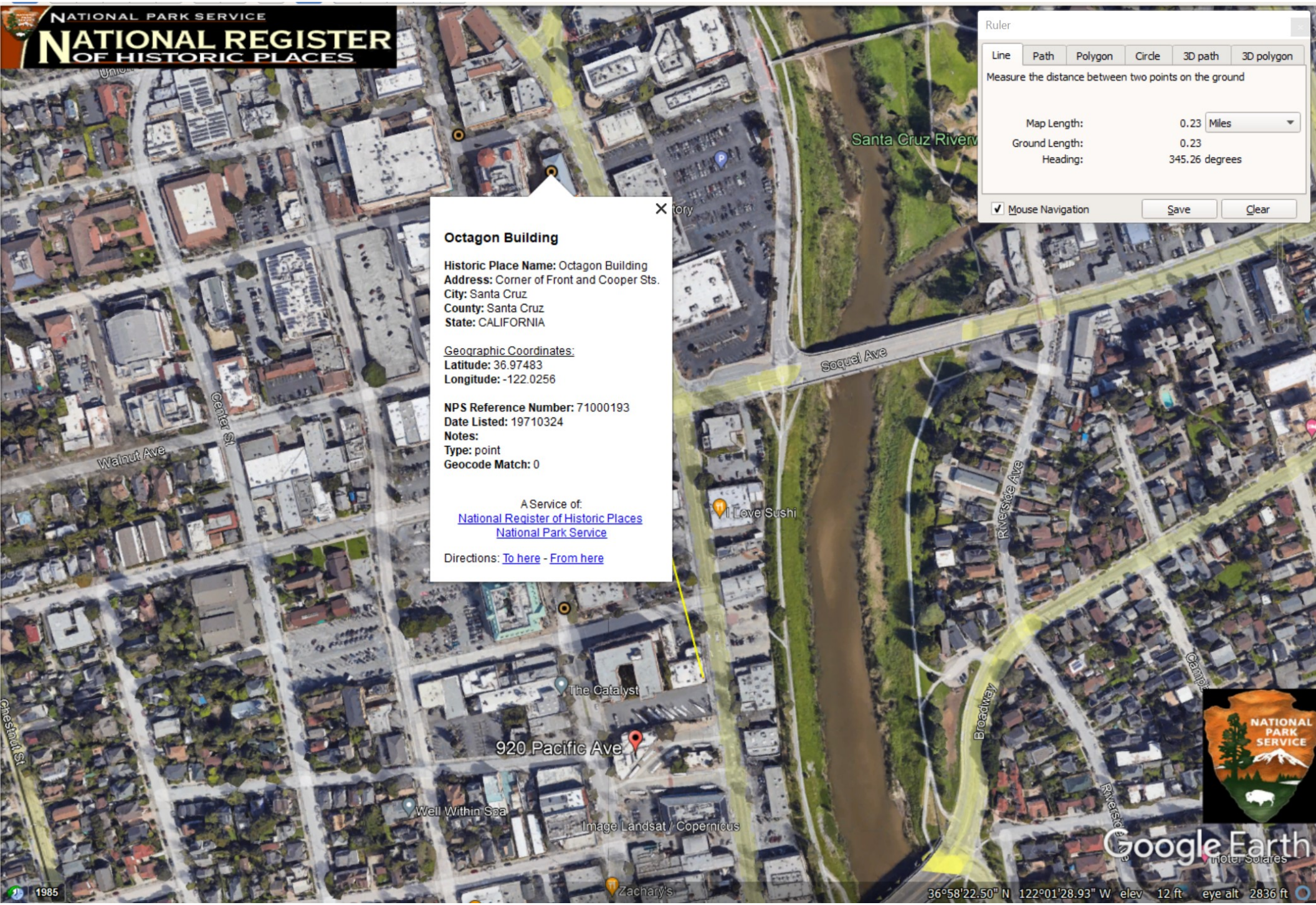
Location	1111 Pacific Avenue, Santa Cruz, California

References [edit]

1. ^ [a] [b] "National Register Information System". *National Register of Historic Places*. National Park Service. July 9, 2010.
2. ^ [a] [b] Richard Arvid Peterson (December 15, 1978). "National Register of Historic Places Inventory/Nomination: Hotel Metropole / Plaza Books / Paper Vision". National Park Service. Retrieved May 2, 2019. With accompanying seven photos from 1978 and two from 1908

External links [edit]

- National Register of Historic Places in Santa Cruz County, at Noehill.com


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Ruler
Line
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Polygon
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3D path
3D polygon
Measure the distance between two points on the ground
Map Length: 0.23 Miles
Ground Length: 0.23
Heading: 345.26 degrees
Mouse Navigation
Save
Clear
Octagon Building
Historic Place Name: Octagon Building
Address: Corner of Front and Cooper Sts.
City: Santa Cruz
County: Santa Cruz
State: CALIFORNIA
Geographic Coordinates:
Latitude: 36.97483
Longitude: -122.0256
NPS Reference Number: 71000193
Date Listed: 19710324
Notes:
Type: point
Geocode Match: 0
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National Register of Historic Places
National Park Service
Directions: To here - From here
Santa Cruz River
Soquel Ave
Walnut Ave
Center St
Riverside Ave
Broadway
Chestnut St
I Love Sushi
The Catalyst
920 Pacific Ave
Well Within Spa
Zachary's
Image Landsat / Copernicus
Google Earth
1985
36°58'22.50" N 122°01'28.93" W elev 12 ft eye alt 2836 ft

National Register of Historic Places

Digital Archive on NPGallery (https://npgallery.nps.gov)

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Bank of Santa Cruz County





National Register of Historic Places
Continuation Sheet

Bayview Hotel





National Register of Historic Places
Registration Form

Bockius, Godfrey M., House





Branciforte Adobe





Brown, Allan, Site





National Register of Historic Places
Inventory—Nomination Form

1. Name

2. Location

3. Classification

4. Owner of Property

5. Location of Legal Description

6. Representation in Existing Surveys

Carmelita Court





DATA SHEET

NATIONAL REGISTER OF HISTORIC PLACES
INVENTORY—NOMINATION FORM

Castro, Jose Joaquin, Adobe





National Register of Historic Places
Inventory—Nomination Form

1. Name

2. Location

3. Classification

4. Owner of Property

5. Location of Legal Description

6. Representation in Existing Surveys

Cope Row Houses





Cowell Lime Works Historic District





Davenport Jail





Felton Covered Bridge



Felton Presbyterian Church





Garfield Park Branch Library





Glen Canyon Covered Bridge





Golden Gate Villa





Grace Episcopal Church





Headquarters Administration Building





Hihn Building





Hinds, A. J., House





Hotel Metropole





Judge Lee House

1 2 3 > View: List Sort: Name

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Your search returned 47 results, Showing page 2 of 3, Items 22 through 42



Lettunich Building




DATA SHEET

NATIONAL REGISTER OF HISTORIC PLACES
INVENTORY – NOMINATION FORM

1 NAME

2 LOCATION

3 CLASSIFICATION

4 OWNER OF PROPERTY

5 LOCATION OF LEGAL DESCRIPTION

6 REPRESENTATION IN EXISTING SURVEYS

Live Oak Ranch


United States Department of the Interior
National Park Service

National Register of Historic Places
Inventory—Nomination Form

1. Name

2. Location

3. Classification

4. Owner of Property

5. Location of Legal Description

6. Representation in Existing Surveys

Looff Carousel and Roller Coaster on the Santa Cruz Beach Boardwalk


National Register of Historic Places



National Register of Historic Places Registration Form

Lower Sky Meadow Residential Area Historic District





National Register of Historic Places Inventory—Nomination Form

1. Name
2. Location
3. Classification
4. Owner of Property
5. Location of Legal Description
6. Representation in Existing Surveys

Madison House





National Register of Historic Places Inventory—Nomination Form

1. Name
2. Location
3. Classification
4. Owner of Property
5. Location of Legal Description
6. Representation in Existing Surveys

Mansion House Hotel




DATA SHEET

NATIONAL REGISTER OF HISTORIC PLACES
INVENTORY – NOMINATION FORM

Mission Hill Area Historic District




DATA SHEET

Neary-Rodriguez Adobe





Octagon Building





Old Riverview Historic District





National Register of Historic Places
Inventory—Nomination Form

1. Name

2. Location

3. Classification

4. Owner of Property

5. Location of Legal Description

6. Representation in Existing Surveys

Phillipshurst-Riverwood





National Register of Historic Places
Registration Form

Redman House





National Register of Historic Places
Registration Form

Rispin Mansion





Robinson, Elias H., House





Sand Hill Bluff Site



Santa Cruz Downtown Historic District



Scott, Hiram D., House





National Register of Historic Places
Inventory—Nomination Form

1. Name
2. Location
3. Classification
4. Owner of Property
5. Location of Legal Description
6. Representation in Existing Surveys

Six Sisters-Lawn Way Historic District





National Register of Historic Places
Inventory—Nomination Form

1. Name
2. Location
3. Classification
4. Owner of Property
5. Location of Legal Description
6. Representation in Existing Surveys

Stoesser Block and Annex





NATIONAL REGISTER OF HISTORIC PLACES
INVENTORY—NOMINATION FORM

1 NAME
2 LOCATION
3 CLASSIFICATION
4 AGENCY
5 LOCATION OF LEGAL DESCRIPTION
6 REPRESENTATION IN EXISTING SURVEYS

US Post Office--Santa Cruz Main





National Register of Historic Places
Inventory—Nomination Form

1. Name

2. Location

3. Classification

4. Owner of Property

5. Location of Legal Description

6. Representation in Existing Surveys

Valencia Hall

< 1 2 3 > View: List Sort: Name

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U.S. Department (//www.nps.gov)
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National Register of Historic Places

Digital Archive on NPGallery (https://npgallery.nps.gov)

Your search returned 47 results, Showing page 3 of 3, Items 43 through 47



Venetian Court Apartments





National Register of Historic Places
Registration Form

Veterans Memorial Building



National Register of Historic Places
Inventory—Nomination Form

1. Name
2. Location
3. Classification
4. Owner of Property
5. Location of Legal Description
6. Representation in Existing Surveys

Watsonville City Plaza



National Register of Historic Places



Watsonville-Lee Road Site



Wee Kirk

< 1 2 3 View: List Sort: Name

National Register of Historic Places

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Your search returned 22 results, Showing page 1 of 2, Items 1 through 21



Bank of Santa Cruz County





Branciforte Adobe





Brown, Allan, Site





National Register of Historic Places
Inventory—Nomination Form

1. Name

2. Location

3. Classification

4. Owner of Property

5. Location of Legal Description

6. Representation in Existing Surveys

Carmelita Court





National Register of Historic Places
Inventory—Nomination Form

1. Name

2. Location

3. Classification

4. Owner of Property

5. Location of Legal Description

6. Representation in Existing Surveys

Cope Row Houses





NATIONAL REGISTER OF HISTORIC PLACES
CONTINUATION SHEET

Cowell Lime Works Historic District



Garfield Park Branch Library



Glen Canyon Covered Bridge




DATA SHEET

NATIONAL REGISTER OF HISTORIC PLACES
INVENTORY – NOMINATION FORM

Golden Gate Villa



United States Department of the Interior
National Register of Historic Places
Inventory—Nomination Form

1. Name
2. Location
3. Classification
4. Owner of Property
5. Location of Legal Description
6. Representation in Existing Surveys

Hinds, A. J., House



PHOTO 76.77

NATIONAL REGISTER OF HISTORIC PLACES
INVENTORY – NOMINATION FORM

Hotel Metropole



DATA SHEET

NATIONAL REGISTER OF HISTORIC PLACES
INVENTORY – NOMINATION FORM

Live Oak Ranch



United States Department of the Interior
National Park Service

National Register of Historic Places
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1. Name

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Looff Carousel and Roller Coaster on the Santa Cruz Beach Boardwalk





United States Department of the Interior
National Park Service

National Register of Historic Places Inventory—Nomination Form

1. Name
2. Location
3. Classification
4. Owner of Property
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Looff Carousel and Roller Coaster on the Santa Cruz Beach Boardwalk





DATA SHEET

NATIONAL REGISTER OF HISTORIC PLACES
INVENTORY – NOMINATION FORM

1 NAME
2 LOCATION
3 CLASSIFICATION
4 OWNER OF PROPERTY
5 LOCATION OF LEGAL DESCRIPTION
6 REPRESENTATION IN EXISTING SURVEYS

Mission Hill Area Historic District




DATA SHEET

Neary-Rodriguez Adobe





Octagon Building





Robinson, Elias H., House





Sand Hill Bluff Site





Santa Cruz Downtown Historic District



US Post Office--Santa Cruz Main

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National Register of Historic Places

Digital Archive on NPGallery (https://npgallery.nps.gov)

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< 1 2 View: List Sort: Name



Veterans Memorial Building

< 1 2 View: List Sort: Name

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State of California • Natural Resources Agency
Gavin Newsom, *Governor*

DEPARTMENT OF PARKS AND RECREATION
OFFICE OF HISTORIC PRESERVATION
Armando Quintero, *Director*

Julianne Polanco, State Historic Preservation Officer
1725 23rd Street, Suite 100, Sacramento, CA 95816-7100
Telephone: (916) 445-7000 FAX: (916) 445-7053
calshpo.ohp@parks.ca.gov www.ohp.parks.ca.gov

September 15, 2023 Refer to HUD_2023_0817_003

Ms. Jessica de Witt
Housing and Community Development Division Manager
City of Santa Cruz
337 Locust Street
Santa Cruz, CA 95060

Re: Request for Section 106 Review of a HUD project: Affordable Housing and Commercial Development at Pacific Avenue and Front Street, Santa Cruz, CA.

Dear Ms. De Witt:

The California State Historic Preservation Officer (SHPO) received the consultation submittal for the above referenced undertaking for our review and comment pursuant to Section 106 of the National Historic Preservation Act and its implementing regulations found at 36 CFR Part 800. The regulations and advisory materials are located at www.achp.gov.

Undertaking
The proposed Project would develop 130 units of affordable housing on five parcels totaling approximately 2.11 acres. The surrounding sites will include commercial buildings and a mixed-use residential building to the north.

Area of Potential Effects (APE)
The City of Santa Cruz has defined the APE as 2.11 acres , at Pacific Avenue and Front Street in Santa Cruz, CA at APNs: 005-152-33; 005-152-05; 005-152-31; 005-152-30; and 005-152-32. No vertical aspect was provided.

- Please provide to the SHPO the vertical aspect of the APE, i.e. the depth below ground surface.

Identification of Historic Properties
The City of Santa Cruz's efforts to identify historic properties included a records search, and consultation with Native Americans. A pedestrian survey was not possible at this time, due to the hardscape still existing. The records search indicated that while sites have been previously identified in the vicinity of the project area, no sites had been previously recorded within the project's APE. However, the City and its consultants have identified the area of the APE as one of high archaeological sensitivity.

Tribal Consultation
The County of Santa Barbara received a Sacred Lands File search report for the APE from the Native American Heritage Commission (NAHC) which was *positive*. Following Tribal notification the City received a response from Amah Mutsun Tribal Band of San Juan Bautista and A.M.T.B. Inc. that recommended:

- Cultural Sensitivity Training for construction work crews
- A qualified Archaeological monitor during ground-disturbing activity

- A Native American monitor during ground-disturbing activity.

- Please provide to the SHPO the City's response to the Tribe's recommendations as outlined above. Did the City agree to these recommendations?

Finding of Effect

- The SHPO is unable to comment on the City of Santa Cruz's finding at this time, due to inadequacy of documentation, pursuant to 36 CFR § 800.11(a). Please provide the information requested above, with OHP's file number, to calshpo.hud@parks.ca.gov to continue this consultation.

We appreciate the City of Santa Cruz's efforts to comply with Section 106 of the National Historic Preservation Act, and we look forward to consulting further on this undertaking. If you have questions please contact Susan Negrete, State Historian II, with the Local Government & Environmental Compliance Unit at susan.negrete@parks.ca.gov.

Sincerely,

Julianne Polanco
State Historic Preservation Officer

Cc: Roy Hastings, roy@rlhastings.com

CITY OF SANTA CRUZ

ECONOMIC DEVELOPMENT DEPARTMENT
337 Locust Street • Santa Cruz, CA 95060 • (831) 420-5150 • www.cityofsantacruz.com

September 19, 2023

Julianne Polanco
State Historic Preservation Officer
California Office of Historic Preservation
1725 23rd Street, Suite 100
Sacramento, CA 95816
916-445-7000
Julianne.Polanco@parks.ca.gov

Dear Ms. Polanco,

Thank you for your response. Per your request for more information on the APE, the vertical APE is 15 to 25 feet. Per your request for more information on the City's response to the Tribe's recommendations, please see the attached correspondence that has been sent to the Tribes. The City is requiring cultural sensitivity training for the project's construction crew.

If you have any questions or need additional information, please contact Roy Hastings at 916.397.6795, or by email at roy@rlhastings.com.

Sincerely,

Jessica de Wit
Housing Manager
City of Santa Cruz

CITY OF SANTA CRUZ

ECONOMIC DEVELOPMENT DEPARTMENT
337 Locust Street • Santa Cruz, CA 95060 • (831) 420-5150 • www.cityofsantacruz.com

September 19, 2023

Amah Mutsun Tribal Band of Mission San Juan Bautista
Irene Zwierlein, Chairperson
3030 Soda Bay Road
Lakeport, CA 95453
amtbinc21@gmail.com

RE: Native American Consultation Request

Subject Property: 902, 912, 920, & 1004 Pacific Avenue & 333 Front Street, Santa Cruz, CA 95060
APNs: 005-152-33, 005-152-05, 005-152-31, 005-152-30, and 005-152-32
USGS Santa Cruz Quad - T11S, R2W, Section 13

Dear Chairperson Zweirlein,

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September 19, 2023

Indian Canyon Mutsun Band of Costanoan
Kanyon Sayers-Roods, MLD
1615 Pearson Court
San Jose, CA 95122
admin@kanyonkonsulting.com

RE: Native American Consultation Request

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Dear Kanyon Sayers-Roods,

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If you have any questions or need additional information, please contact Roy Hastings at 916.397.6795, or by email at roy@rlhastings.com.

Sincerely,

Jessica de Wit
Housing Manager
City of Santa Cruz

State of California • Natural Resources Agency
Gavin Newsom, *Governor*

DEPARTMENT OF PARKS AND RECREATION
OFFICE OF HISTORIC PRESERVATION
Armando Quintero, *Director*

Julianne Polanco, State Historic Preservation Officer
1725 23rd Street, Suite 100, Sacramento, CA 95816-7100
Telephone: (916) 445-7000 FAX: (916) 445-7053
calshpo.ohp@parks.ca.gov www.ohp.parks.ca.gov

October 25, 2023 Refer to HUD_2023_0817_003

Ms. Jessica de Witt
Housing and Community Development Division Manager
City of Santa Cruz
337 Locust Street
Santa Cruz, CA 95060

Re: Continuing Section 106 Consultation of a HUD project: Affordable Housing and Commercial Development at Pacific Avenue and Front Street, Santa Cruz, CA.

Dear Ms. De Witt:

The California State Historic Preservation Officer (SHPO) received the consultation submittal for the above referenced undertaking for our review and comment pursuant to Section 106 of the National Historic Preservation Act and its implementing regulations found at 36 CFR Part 800. The regulations and advisory materials are located at www.achp.gov.

Undertaking
The proposed Project would develop 130 units of affordable housing on five parcels totaling approximately 2.11 acres. The surrounding sites will include commercial buildings and a mixed-use residential building to the north.

Area of Potential Effects (APE)
The City of Santa Cruz has defined the APE as 2.11 acres , at Pacific Avenue and Front Street in Santa Cruz, CA at APNs: 005-152-33; 005-152-05; 005-152-31; 005-152-30; and 005-152-32. In email correspondence on September 26, 2023 Ms. De Witt informed the SHPO that the vertical aspect of the APE was 15 to 25 feet below ground level.

- Pursuant to 36 CFR § 800.4(a)(1), I have no comments on the City of Santa Cruz's APE.

Identification of Historic Properties
The City of Santa Cruz's efforts to identify historic properties included a records search, and consultation with Native Americans. A pedestrian survey was not possible at this time, due to the hardscape still existing. The records search indicated that while sites have been previously identified in the vicinity of the project area, no sites had been previously recorded within the project's APE. However, the City and its consultants have identified the area of the APE as one of high archaeological sensitivity.

Tribal Consultation
The City of Santa Cruz received a Sacred Lands File search report for the APE from the Native American Heritage Commission (NAHC) which was *positive*. Following Tribal notification the City received a response from Amah Mutsun Tribal Band of San Juan Bautista and A.M.T.B. Inc. that recommended:

- Cultural Sensitivity Training for construction work crews.

- A qualified Archaeological monitor during ground-disturbing activity
- A Native American monitor during ground-disturbing activity.

According to the City (September 26, 2023) the City will be requiring cultural sensitivity training for work crews. The SHPO strongly recommends that the City employ a qualified archaeological monitor and invite the participation of Tribal monitors during ground-disturbing activities.

Finding of Effect

- Pursuant to 36 CFR § 800.4(d)(1) the City of Santa Cruz has made a finding of No Historic Properties Affected. **I do not object**.

We appreciate the City of Santa Cruz's efforts to comply with Section 106 of the National Historic Preservation Act. If you have questions please contact Susan Negrete, State Historian II, with the Local Government & Environmental Compliance Unit at susan.negrete@parks.ca.gov.

Sincerely,



Julianne Polanco
State Historic Preservation Officer

The Amah Mutsun Tribal Band of San Juan Bautista
&
A.M.T.B. Inc.

Letter of Response

To whom it may concern:

It is our pride and privilege to be of service for any Native American Cultural Resource Monitoring, Consulting and/ or Sensitivity Training you may need or require. We take our Heritage and History seriously and are diligent about preserving as much of it as we can. Construction is a constant in the Bay Area and with that new discoveries are bound to happen. If you choose our services we will gladly guide all personnel through proper procedures to safely protect and preserve: Culture, Heritage, and History.

It is highly recommended, if not previously done, to search through Sacred Lands Files (SLF) and California Historical Resource Information Systems (CHRIS) as well as reaching out to the Native American Heritage Commission (NAHC) In order to determine whether you are working in a Cultural and/ or Historic sensitivity.

If you have received any positive cultural or historic sensitivity within 1 mile of the project area here is A.M.T.B Inc's and Amah Mutsun Tribal Band of San Juan Bautista's recommendations:

- All Crews, Individuals and Personnel who will be moving any earth be Cultural Sensitivity Trained.
- A Qualified California Trained Archaeological Monitor is present during any earth movement.
- A Qualified Native American Monitor is present during any earth movement.

If further Consultation, Monitoring or Sensitivity Training is needed please feel free to contact A.M.T.B. Inc. or Myself Directly.

Sincerely, Irenne Zwierlein

Irenne Zwierlein

3030 Soda Bay Road, Lakeport
CA 95453
amtbinc21@gmail.com
(650)851-7489

Amah Mutsun Tribal Band of San Juan Bautista
&
AMTB Inc.

3030 Soda Bay Road Lakeport, CA 95453

Our rates for 2023

$250.00 per hour.

4 hours minimum

Cancellations not 48 hours (about 2 days) prior will be charged a 4-hour minimum. There is a round trip mileage charge if canceled after they have traveled to site.

Anything over 8 hours a day is charged as time and a half.

Weekends are charged at time and a half.

Holidays are charged at double time.

For fiscal year (FY) 2023, standard per diem rate of $329 ($255 lodging, $74 M&IE).

M&IE Breakdown FY 2023

M&IE Total[1]	Continental Breakfast/ Breakfast[2]	Lunch[2]	Dinner[2]	Incidental Expenses	First & Last Day of Travel[3]
$74.00	$17.00	$18.00	$34.00	$5.00	$55.50

Beginning on July 1st, 2022, the standard mileage rates for the use of a car round trip (also vans, pickups or panel trucks) will be: $62.50 cents per mile driven for business use or what the current federal standard is at the time.

Our Payment terms are 5 days from date on invoice.

Our Monitors are Members of the Amah Mutsun Tribal Band of Mission San Juan Bautista.

If you have any questions, please feel free to contact the A.M.T.B. Inc. at the below contact information.

Sincerely,
Irenne Zwierlein

Irenne Zwierlein

3030 Soda Bay Rd, Lakeport
CA 95453
amtbinc21@gmail.com
(650)851-7489

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 7/25/2022

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER	CONTACT NAME: Brenda Aldaco	
Allied Brokers 591 Lytton Avenue Palo Alto CA 94301	PHONE (A/C, No, Ext): (650) 328-1000	FAX (A/C, No): (650) 324-1142
	E-MAIL ADDRESS: BusinessVIP@alliedbrokers.com	
	INSURER(S) AFFORDING COVERAGE	NAIC #
	INSURER A: Scottsdale Insurance Company	41297
INSURED Amah Mutsun Tribal Band 3030 SODA BAY RD LAKEPORT CA 95453	INSURER B: United States Liability Insurance Company	25895
	INSURER C:	
	INSURER D:	
	INSURER E:	
	INSURER F:	

COVERAGES CERTIFICATE NUMBER: REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS		
A	[X] COMMERCIAL GENERAL LIABILITY [ ] CLAIMS-MADE [X] OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: [X] POLICY [ ] PRO-JECT [ ] LOC [ ] OTHER:			CPS7617452	07/09/2022	07/09/2023	EACH OCCURRENCE	$	1,000,000
							DAMAGE TO RENTED PREMISES (Ea occurrence)	$	100,000
							MED EXP (Any one person)	$	5,000
							PERSONAL & ADV INJURY	$	1,000,000
							GENERAL AGGREGATE	$	2,000,000
							PRODUCTS - COMP/OP AGG	$	2,000,000
							Deductible	$	500
	AUTOMOBILE LIABILITY [ ] ANY AUTO [ ] OWNED AUTOS ONLY [ ] SCHEDULED AUTOS [ ] HIRED AUTOS ONLY [ ] NON-OWNED AUTOS ONLY						COMBINED SINGLE LIMIT (Ea accident)	$	
							BODILY INJURY (Per person)	$	
							BODILY INJURY (Per accident)	$	
							PROPERTY DAMAGE (Per accident)	$	
								$	
	[ ] UMBRELLA LIAB [ ] OCCUR [ ] EXCESS LIAB [ ] CLAIMS-MADE [ ] DED [ ] RETENTION $						EACH OCCURRENCE	$	
							AGGREGATE	$	
								$	
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY Y / N ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? [ ] N / A (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below						[ ] PER STATUTE [ ] OTH-ER		
							E.L. EACH ACCIDENT	$	
							E.L. DISEASE - EA EMPLOYEE	$	
							E.L. DISEASE - POLICY LIMIT	$	
B	Professional Liability			SP 1573468B	06/21/2022	06/21/2023	Each Claim		$1,000,000
							Aggregate		$1,000,000
							Deductible		$2,500

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

PROOF OF COVERAGE

CERTIFICATE HOLDER

For Your Information

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

Brenda Aldaco

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CITY OF SANTA CRUZ

ECONOMIC DEVELOPMENT DEPARTMENT
337 Locust Street • Santa Cruz, CA 95060 • (831) 420-5150 • www.cityofsantacruz.com

September 19, 2023

Amah Mutsun Tribal Band of Mission San Juan Bautista
Irene Zwierlein, Chairperson
3030 Soda Bay Road
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Thanks again for providing feedback on the Pacific Station North affordable housing project. The City has reviewed the information you provided and made the determination that cultural sensitivity training shall be provided for the project construction crew. Pacific Station South, the sister project to Pacific Station North and located directly adjacent to this project, is close to construction completion and has not uncovered any cultural resources. In addition, there has already been soil remediation performed in coordination with other agencies at the Pacific Station North project site in prior years and no cultural resources have been uncovered. The City is committed to ensuring that construction crews respond in the appropriate matter if any cultural resources are found on site. Therefore, cultural sensitivity training has been added as a requirement for this project. The developer has indicated that they plan to have the Evans Deshazo firm, a consultant they have used on several projects, conduct the training. However, we appreciate you sending your firm information and will keep it readily available for developers that are interested in seeking these services.

If you have any questions or need additional information, please contact Roy Hastings at 916.397.6795, or by email at roy@rlhastings.com.

Sincerely,

Jessica de Wit
Housing Manager
City of Santa Cruz

From: KKLLC Admin <admin@kanyonkonsulting.com>
Sent: Wednesday, May 31, 2023 5:17 PM
To: Jessica de Wit <jdewit@santacruzca.gov>
Subject: 902, 912, 920 and 1004 Pacific Avenue and 333 Front Street

miSmin Tuuhis [Good Day]
Kan rakat Kanyon Sayers-Roods. I am writing this on behalf of the Indian Canyon Band of Costanoan Ohlone People as requested, responding to your letter
As this project's Area of Potential Effect (APE) overlaps or is near the management boundary of a potentially eligible cultural site, I am interested in consulting and voicing our concerns. With some instances like this, usually we recommend that a Native American Monitor and an Archaeologist be present on-site at all times during any/all ground disturbing activities. The presence of a Native monitor and archaeologist will help the project minimize potential effects on the cultural site and mitigate inadvertent issues.

Kanyon Konsulting, LLC has numerous Native Monitors available for projects such as this, if applicable, we recommend a Cultural Sensitivity Training at the beginning of each project. This service is offered to aid those involved in the project to become more familiar with the indigenous history of the peoples of this land that is being worked on.

Kanyon Konsulting is a strong proponent of honoring truth in history, when it comes to impacting Cultural Resources and potential ancestral remains, we need to recognise the history of the territory we are impacting. We have seen that projects like these tend to come into an area to consult/mitigate and move on shortly after - barely acknowledging the Cultural Representatives of the territory they steward and are responsible for. Because of these possibilities, we highly recommend that you receive a specialized consultation provided by our company as the project commences, bringing in considerations about the Indigenous peoples and environment of this territory that you work, have settled upon and benefit from.

As previously stated, our goal is to Honor Truth in History. And as such we want to ensure that there is an effort from the project organizer to take strategic steps in ways that #HonorTruthinHistory. This will make all involved aware of the history of the Indigenous communities whom we acknowledge as the first stewards and land managers of these territories.
Potential Approaches to Indigenous Cultural Awareness/History:
➢Signs or messages to the audience or community of the territory being developed. (ex. A commerable plaque, page on the website, mural, display, or an Educational/Cultural Center with information about the history/ecology/resources of the land)
➢Commitment to consultation with the Native Peoples of the territory in regards to presenting and messaging about the Indigenous history/community of the land (Land Acknowledgement on website, written material about the space/org/building/business/etc, Cultural display of cultural resources/botanical knowledge or Culture sharing of Traditional Ecological Knowledge - Indigenous Science and Technology)
➢Advocation of supporting indigenous lead movements and efforts. (informing one's audience and/or community about local present Indigenous community)

We look forward to working with you.
Tumsan-ak kannis [Thank You]
Kanyon Sayers-Roods
Consultant / Tribal Monitor [ICMBCO]
Kanyon Konsulting, LLC

CITY OF SANTA CRUZ

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Sincerely,

Jessica de Wit
Housing Manager
City of Santa Cruz

12 September 2023

Jim Rendler
902 Pacific Avenue Investors, L.P.
22645 Grand Street
Hayward, CA 94541
jrendler@ftfhousing.com

Subject: **Pacific Station North – Santa Cruz, CA**
Environmental Noise Study
Salter Project: 23-0363

Dear Jim:

As requested, we have conducted an environmental noise study for the project. Our analysis is based on progress plans dated 01 August 2023. The purpose of the study is to determine the noise environment at the proposed site, compare the measured data with applicable standards, and recommend mitigation measures as necessary. This report summarizes the results of our study.

PROJECT CRITERIA

California Building Code Title 24, Part 2

Section 1207.4 of the 2016 California Building Code requires that the indoor noise level not exceed DNL[1] 45 dB in multi-family residential units.

CALGreen Criteria

The CALGreen code[2] addresses acoustical issues for non-residential spaces in Section 5.507.4.3, which states that where exterior levels regularly exceed 65 dB, the building envelope must have wall and roof-ceiling assemblies designed to provide an interior noise environment *"that does not exceed an hourly equivalent noise level $L_{eq}(h)$[3] of 50 dBA[4] in occupied areas during any hour of operation."*

---

1 DNL (Day-Night Average Sound Level) – A descriptor for a 24-hour A-weighted average noise level. DNL accounts for the increased acoustical sensitivity of people to noise during the nighttime hours. DNL penalizes sound levels by 10 dB during the hours from 10 PM to 7 AM. For practical purposes, the DNL and CNEL are usually interchangeable. DNL is sometimes written as L_{dn}.

2 Section 5.507.4.2, Part 11 of Title 24, California Green Building Standards (CALGreen) Code

3 $L_{eq}(h)$ – The equivalent steady-state A-weighted sound level that, in a stated period of time, would contain the same acoustic energy as the time-varying sound level during the same period.

4 A-Weighted Sound Level – The A-weighted sound pressure level, expressed in decibels (dB). Sometimes the unit of sound level is written as dB(A). A weighting is a standard weighting that accounts for the sensitivity of human hearing to the range of audible frequencies. People perceive a 10 dB increase in sound level to be twice as loud.

We assumed that the hours of operation for the commercial tenant and amenity spaces within the building would be from 7 am to 10 pm and have used the loudest $L_{eq}(h)$ measured during that period as the basis of design.

City of Santa Cruz General Plan Noise Element Land Use Community Standards

These standards address land use compatibility for various noise environments in the community. In accordance with the California Building Code, the City of Santa Cruz requires that interior noise in all new multifamily housing not exceed DNL 45 dB with windows and doors closed. For outdoor activity areas, a noise level target of DNL 65 dB is not to be exceeded (State of California Noise Insulation Standards)[5]. For multi-family housing, noise levels of DNL 65 dB or less are considered "normally acceptable", DNL 60 to 70 dB are considered "conditionally acceptable", DNL 70 to 75 dB are considered "normally unacceptable", and above DNL 75 dB are considered "clearly unacceptable". For commercial use, up to DNL 70 dB are considered "normally acceptable", DNL 67 to 77 dB are considered "conditionally acceptable", and above DNL 75 dB are considered "normally unacceptable"[6].

NOISE ENVIRONMENT

The project is located in Santa Cruz, California along Pacific Avenue. The major noise sources at the project site are traffic on this street, as well as Front Street, which the project site also borders. There will be a new Bus Metro station located alongside the project, with office facilities on the first floor.

To quantify the existing noise environment with respect to vehicular traffic, we conducted one long-term noise measurement of the existing Metro station at the project site between 31 August and 1 September. The results of two previous long-term noise measurements at the project site between 4 and 11 May 2021 (see Figure 1 for the measurement locations and measured noise levels) were also used. The monitor was located on a tree approximately 12 feet above street level.

A future traffic analysis was not provided for this project. However, we have added 1 dB to the data in our calculations to account for future traffic increases.[7] We also have assumed that Metro bus activity will be similar to present conditions when the project is fully built out.

RECOMMENDATIONS

The following mitigation recommendations should be included in the project to meet the applicable noise criteria.

---

5 Sections HZ3.2.2 and HZ3.2.3 of the City of Santa Cruz 2030 General Plan

6 City of Santa Cruz 2030 General Plan Land Use-Noise Compatibility Standards Figure 2 (p. 90)

7 The California Department of Transportation assumes a traffic volume increase of three-percent per year, which corresponds to a 1 dB increase in DNL over a ten-year period.

Exterior Noise

The drawings indicate two roof deck play areas at the center of the building on the second floor. These outdoor activity areas have an approximately 4-ft parapet wall on the east and west sides of the project. Based on the measured site noise levels and orientation of the play areas, we estimate noise levels would be less than DNL 60 dBA at the center of both play areas. Noise levels would be higher at the edge of the play areas near the parapet walls. This assumes that the parapet wall is a solid wall with a minimum surface weight of three pounds per square foot with no cracks or gaps, especially at the bottom.

Commercial and Amenity Spaces

To meet the CALGreen interior noise criterion of $L_{eq}(h)$ 50 dB, the window system sound isolation performance, in terms of STC,[8] would need to be as shown in Figures 2.

Residential Interior Noise

To meet the indoor noise criterion of DNL 45 dB at the residences, it will be necessary for all of the facades to be sound-rated. We calculated the window and exterior door STC ratings needed to meet the project criterion to be as shown in Figures 3 and 4.

The recommended STC ratings are for full window and door assemblies (glass and frame) rather than just the glass itself. Tested sound-rated assemblies should be used. For reference, typical one-inch glazing assemblies (two 1/4-inch-thick panes with 1/2-inch airspace) achieve an STC rating of 32. Where STC ratings above 33 are required, at least one pane may need to be laminated, depending on the manufacturer.

Where windows need to be closed to achieve an indoor DNL of 45 dB, an alternative method of supplying fresh air (e.g., mechanical ventilation) should be provided. This issue should be discussed with the project mechanical engineer.

* * *

[8] STC (Sound Transmission Class) – A single-number rating defined in ASTM E90 that quantifies the airborne sound insulating performance of a partition under laboratory conditions. Increasing STC ratings correspond to improved airborne sound insulation.

This concludes our environmental noise study for the Pacific Station project. Should you have any questions, please let us know.

Best,

CHARLES M. SALTER ASSOCIATES, INC.



Ben Gold
Consultant



Alexander K. Salter, PE
Vice President

Enclosure

Salter

San Francisco

San Jose

Los Angeles

Honolulu

Seattle

www.salter-inc.com



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FOR ACOUSTICAL DESIGN INFORMATION ONLY

PACIFIC STATION NORTH
MEASUREMENT LOCATIONS AND MEASURED NOISE LEVELS

FIGURE 1

Salter #	BSG/AKS
23–0363	09.12.23

Salter

San Francisco

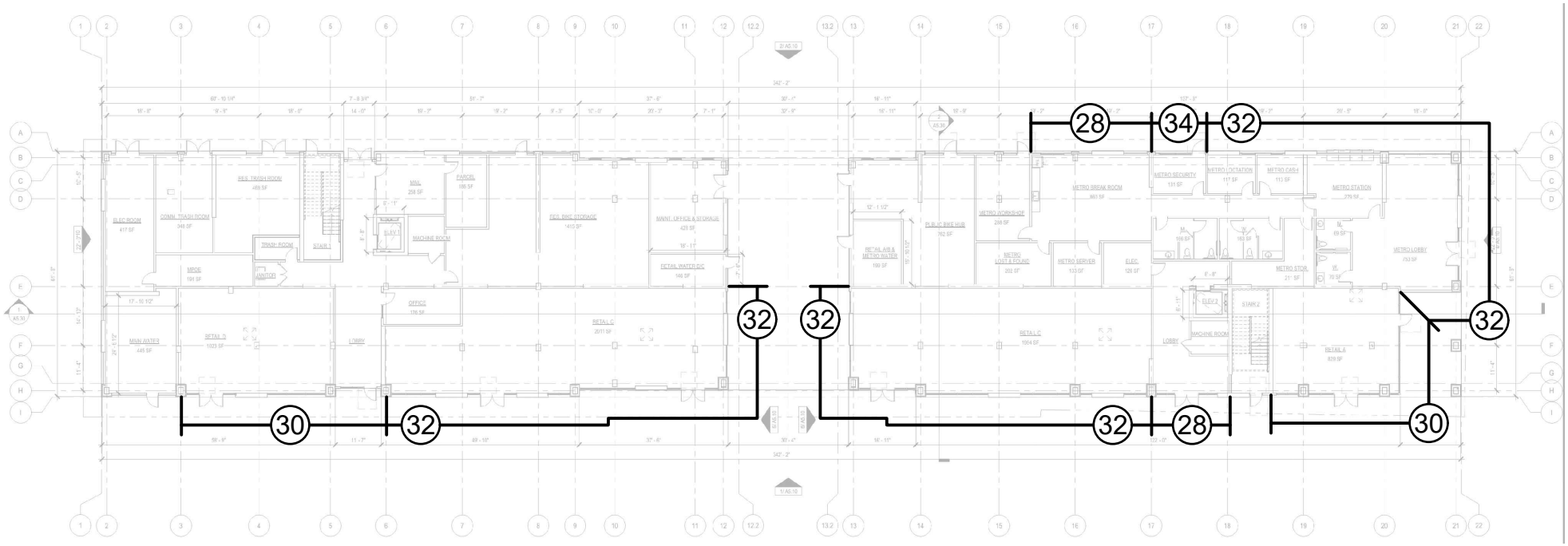
San Jose

Los Angeles

Honolulu

Seattle

www.salter-inc.com



NOTE: STC RATINGS ARE FOR THE COMPLETE ASSEMBLY (E.G., GLASS, FRAME, AND OPERABLE SECTIONS) BASED ON TEST REPORTS FROM AN NVLAP-ACCREDITED LAB

SALTER © 2023
FOR ACOUSTICAL DESIGN INFORMATION ONLY

PACIFIC STATION NORTH
MINIMUM CODE–REQUIRED STC RATINGS FOR WINDOWS AND EXTERIOR DOORS (FLOOR 1)

FIGURE 2

Salter #	BSG/AKS
23–0363	09.12.23

Salter

San Francisco

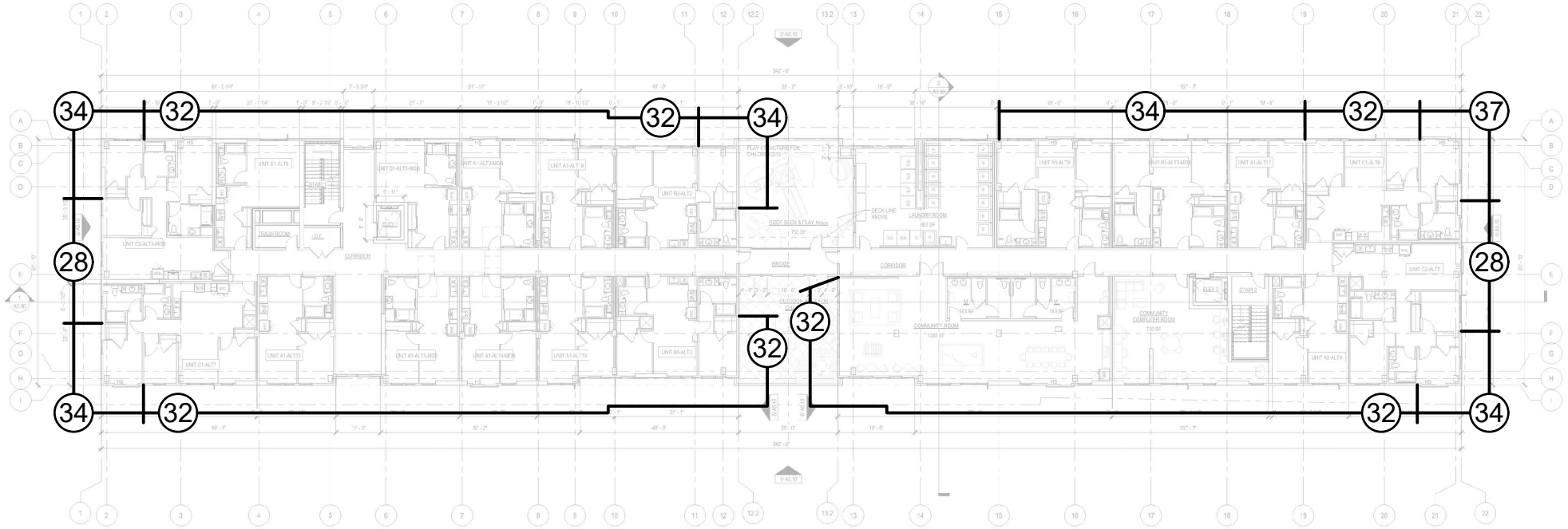
San Jose

Los Angeles

Honolulu

Seattle

www.salter-inc.com



NOTE: STC RATINGS ARE FOR THE COMPLETE ASSEMBLY (E.G., GLASS, FRAME, AND OPERABLE SECTIONS) BASED ON TEST REPORTS FROM AN NVLAP-ACCREDITED LAB

SALTER © 2023
FOR ACOUSTICAL DESIGN INFORMATION ONLY

PACIFIC STATION NORTH
MINIMUM CODE–REQUIRED STC RATINGS FOR WINDOWS AND EXTERIOR DOORS (FLOOR 2)

FIGURE 3

Salter #	BSG/AKS
23–0363	09.12.23

Salter

San Francisco

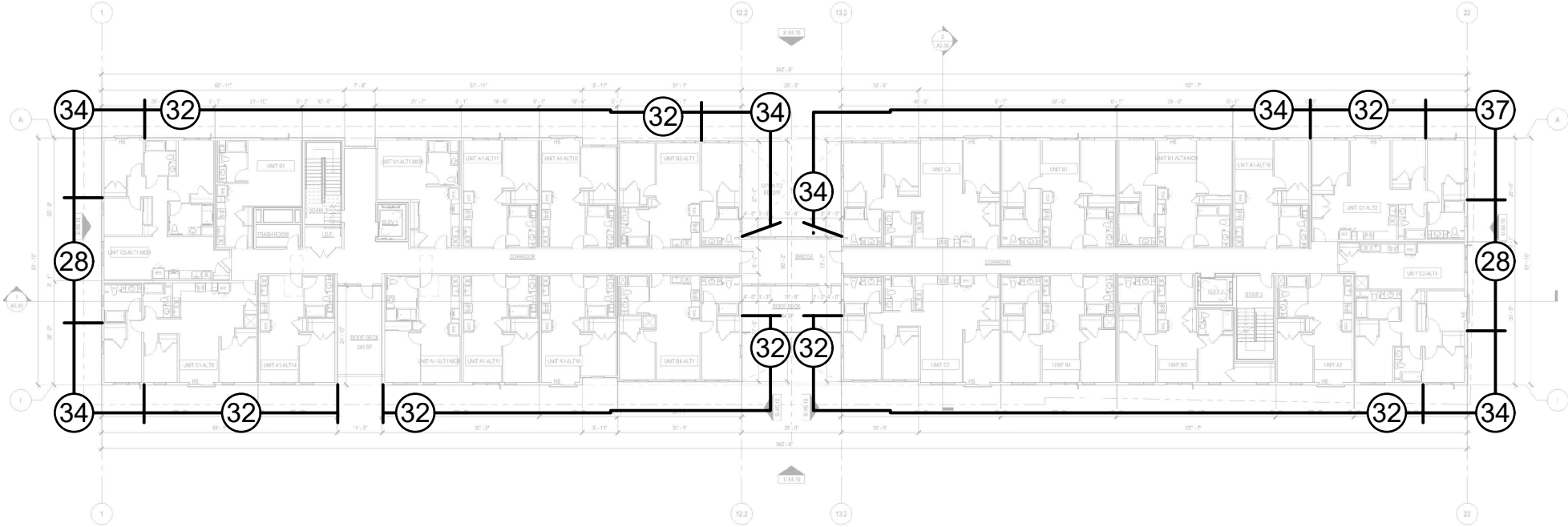
San Jose

Los Angeles

Honolulu

Seattle

www.salter-inc.com



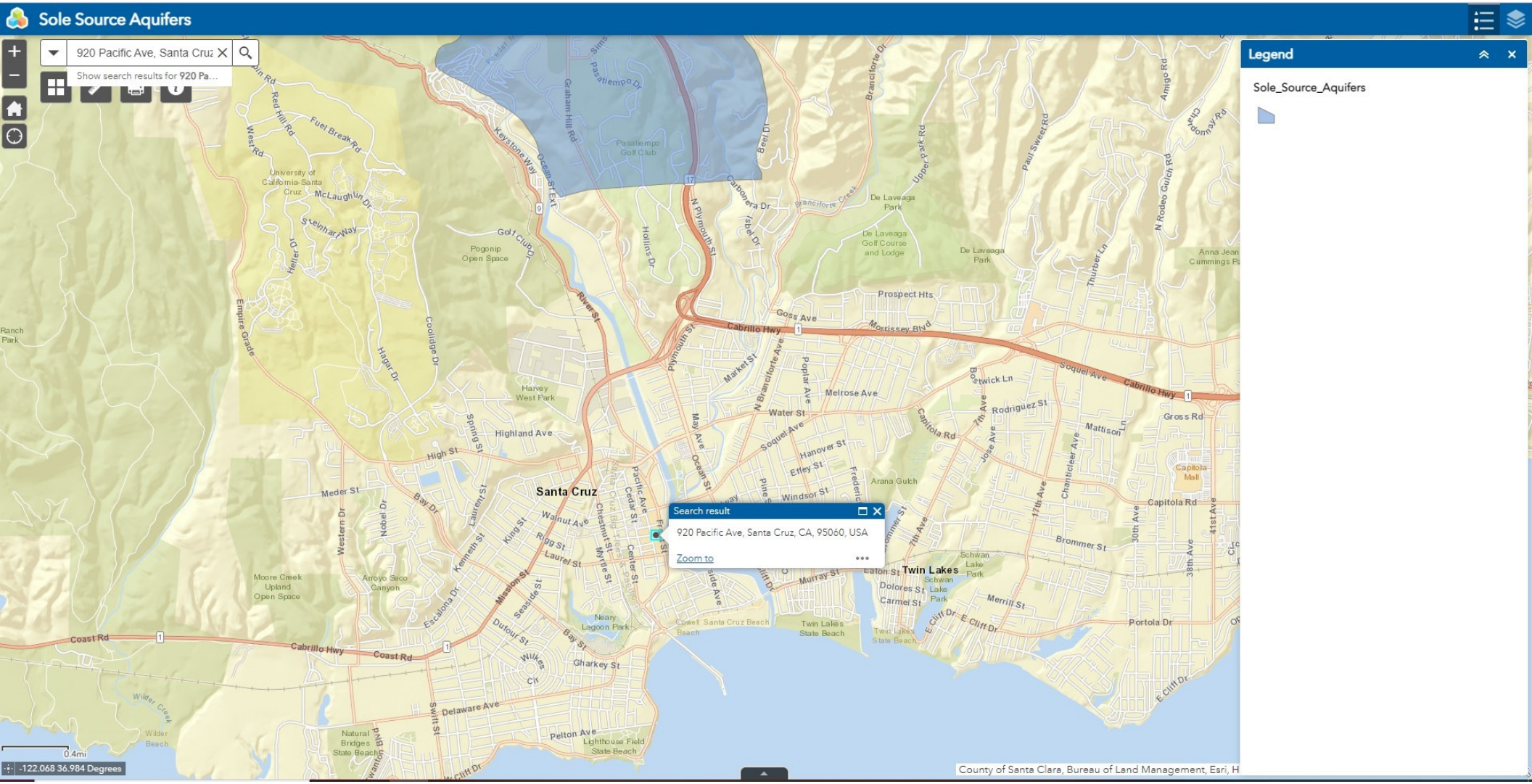
NOTE: STC RATINGS ARE FOR THE COMPLETE ASSEMBLY (E.G., GLASS, FRAME, AND OPERABLE SECTIONS) BASED ON TEST REPORTS FROM AN NVLAP-ACCREDITED LAB

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FOR ACOUSTICAL DESIGN INFORMATION ONLY

PACIFIC STATION NORTH
MINIMUM CODE–REQUIRED STC RATINGS FOR WINDOWS AND EXTERIOR DOORS (FLOORS 3 TO 7)

FIGURE 4

Salter #	BSG/AKS
23–0363	09.12.23


Sole Source Aquifers
920 Pacific Ave, Santa Cruz
Show search results for 920 Pa...
Legend
Sole_Source_Aquifers
Search result
920 Pacific Ave, Santa Cruz, CA, 95060, USA
Zoom to
Santa Cruz
Twin Lakes
Cabrillo Hwy
Coast Rd
Soquel Ave
Morrissey Blvd
Water St
Highland Ave
Mission St
Ocean St
Pacific Ave
Portola Dr
Capitola Rd
Gross Rd
Prospect Hts
Harvey West Park
Pogonip Open Space
De Laveaga Park
De Laveaga Golf Course and Lodge
Pasatiempo Golf Club
University of California-Santa Cruz
Moore Creek Upland Open Space
Arroyo Seco Canyon
Neary Lagoon Park
Cowell Santa Cruz Beach
Twin Lakes State Beach
Natural Bridges State Beach
Lighthouse Field State Beach
Wilder Beach
Capitola Mall
Schwan Lake Park
Arana Gulch
0.4mi
-122.068 36.984 Degrees
County of Santa Clara, Bureau of Land Management, Esri, H

U.S. Fish and Wildlife Service
National Wetlands Inventory

902, 912, 920 Pacific Ave_None

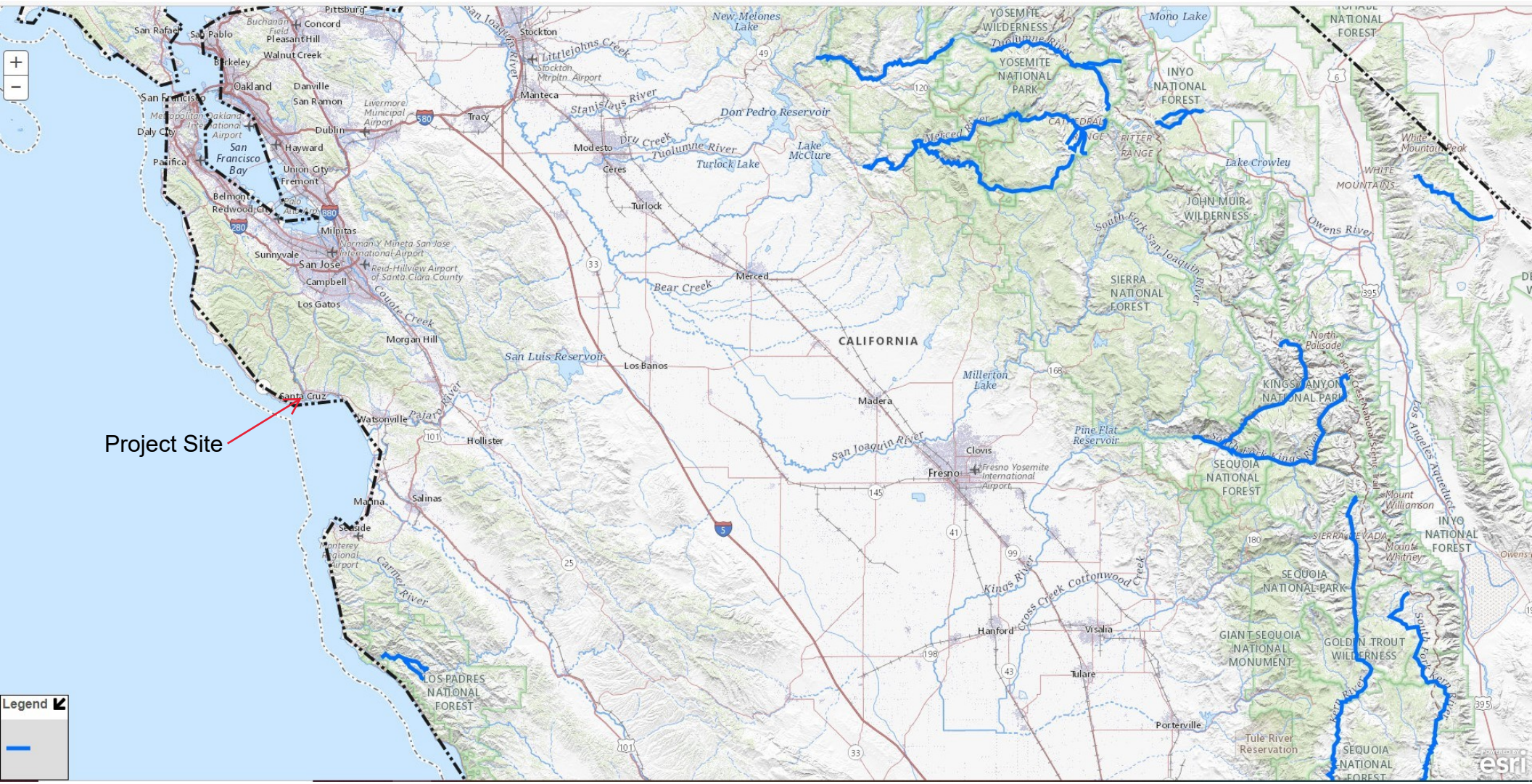


June 7, 2022

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.


Project Site
Legend
CALIFORNIA
Santa Cruz
Watsonville
Hollister
Salinas
Marina
Seaside
Monterey Regional Airport
Morgan Hill
Gilroy
San Luis Reservoir
Los Banos
Merced
Madera
Fresno
Fresno Yosemite International Airport
Clovis
Pine Flat Reservoir
Millerton Lake
Hanford
Visalia
Tulare
Porterville
Tule River Reservation
Bear Creek
Coyote Creek
Pajaro River
San Joaquin River
Kings River
Cross Creek
Cottonwood Creek
Carmel River
Los Angeles Aqueduct
LOS PADRES NATIONAL FOREST
SEQUOIA NATIONAL FOREST
SEQUOIA NATIONAL PARK
KINGS CANYON NATIONAL PARK
GIANT SEQUOIA NATIONAL MONUMENT
GOLDEN TROUT WILDERNESS
SIERRA NATIONAL FOREST
INYO NATIONAL FOREST
YOSEMITE NATIONAL PARK
YOSEMITE WILDERNESS
JOHN MUIR WILDERNESS
Mount Whitney
Mount Williamson
Lake Crowley
Mono Lake
New Melones Lake
Don Pedro Reservoir
Lake McClure
Turlock Lake
Dry Creek
Tuolumne River
Stanislaus River
Littlejohns Creek
Owens River
San Francisco Bay
Oakland
San Francisco
San Jose
Sunnyvale
Santa Clara
Milpitas
Fremont
Union City
Hayward
Dublin
Livermore Municipal Airport
Norman Y Mineta San Jose International Airport
Reid-Hillview Airport of Santa Clara County
Stockton
Manteca
Tracy
Modesto
Ceres
Turlock
Concord
Walnut Creek
Danville
San Ramon
Pleasant Hill
Berkeley
San Rafael
San Pablo
Pittsburg
Buchanan Field
Daly City
Pacifica
Belmont
Redwood City
Palo Alto
Campbell
Los Gatos
Stockton Mtrpltn Airport
Metropolitan Oakland International Airport
Esri

EJScreen Report (Version 2.0)

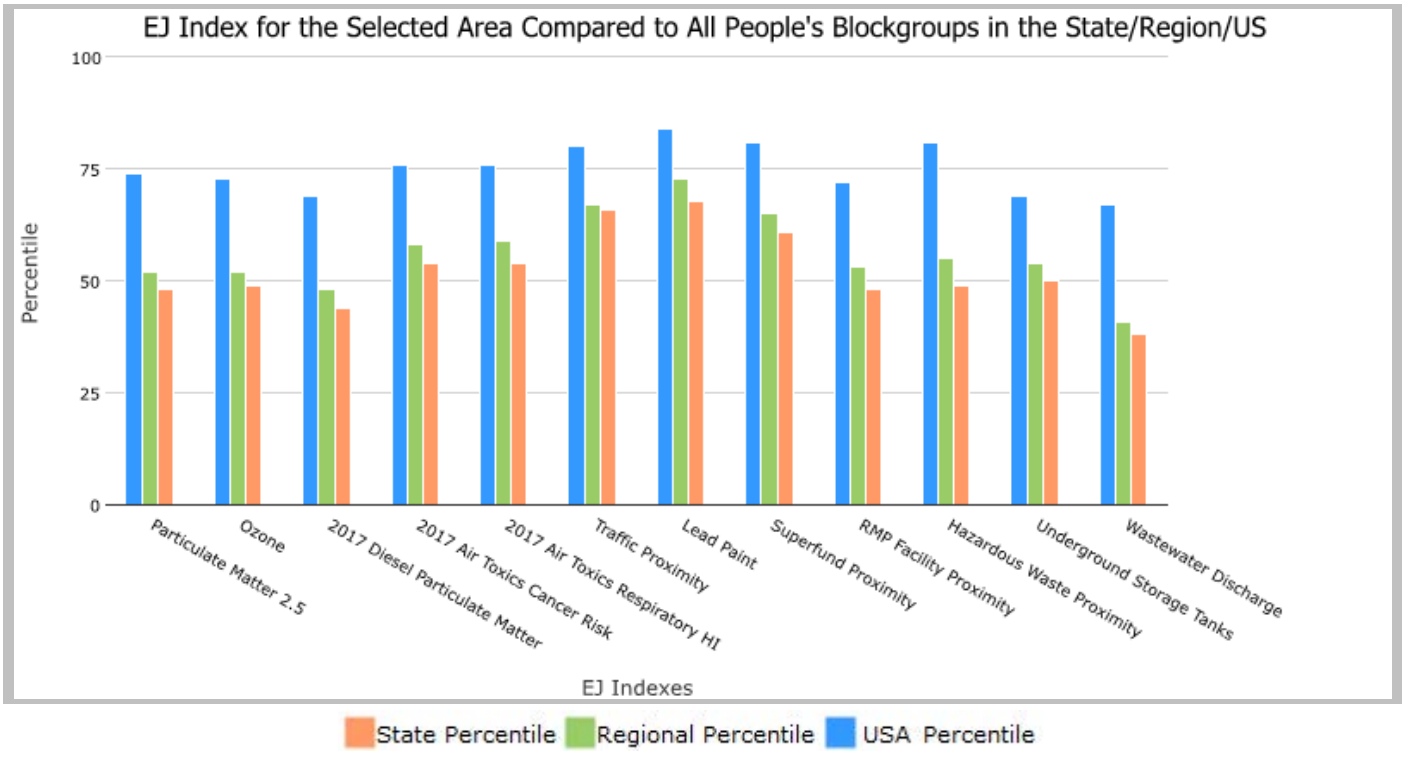
0.125 miles Ring Centered at 36.970913,-122.024645, CALIFORNIA, EPA Region 9

Approximate Population: 482

Input Area (sq. miles): 0.05

EJScreen_0.125 Mile

Selected Variables	State Percentile	EPA Region Percentile	USA Percentile
Environmental Justice Indexes			
EJ Index for Particulate Matter 2.5	48	52	74
EJ Index for Ozone	49	52	73
EJ Index for 2017 Diesel Particulate Matter*	44	48	69
EJ Index for 2017 Air Toxics Cancer Risk*	54	58	76
EJ Index for 2017 Air Toxics Respiratory HI*	54	59	76
EJ Index for Traffic Proximity	66	67	80
EJ Index for Lead Paint	68	73	84
EJ Index for Superfund Proximity	61	65	81
EJ Index for RMP Facility Proximity	48	53	72
EJ Index for Hazardous Waste Proximity	49	55	81
EJ Index for Underground Storage Tanks	50	54	69
EJ Index for Wastewater Discharge	38	41	67



This report shows the values for environmental and demographic indicators and EJSCREEN indexes. It shows environmental and demographic raw data (e.g., the estimated concentration of ozone in the air), and also shows what percentile each raw data value represents. These percentiles provide perspective on how the selected block group or buffer area compares to the entire state, EPA region, or nation. For example, if a given location is at the 95th percentile nationwide, this means that only 5 percent of the US population has a higher block group value than the average person in the location being analyzed. The years for which the data are available, and the methods used, vary across these indicators. Important caveats and uncertainties apply to this screening-level information, so it is essential to understand the limitations on appropriate interpretations and applications of these indicators. Please see EJSCREEN documentation for discussion of these issues before using reports.

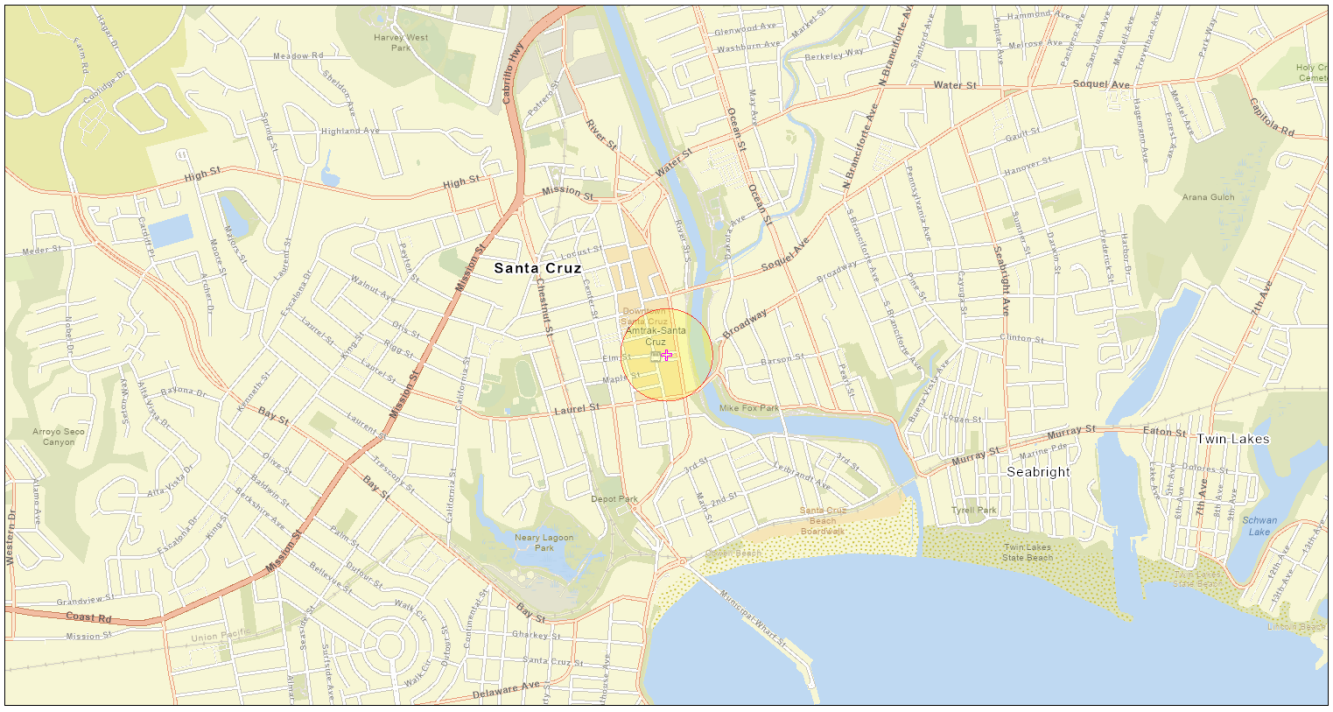
EJScreen Report (Version 2.0)

0.125 miles Ring Centered at 36.970913,-122.024645, CALIFORNIA, EPA Region 9

Approximate Population: 482

Input Area (sq. miles): 0.05

EJScreen_0.125 Mile



Sites reporting to EPA	
Superfund NPL	0
Hazardous Waste Treatment, Storage, and Disposal Facilities (TSDF)	0

EJScreen Report (Version 2.0)

0.125 miles Ring Centered at 36.970913,-122.024645, CALIFORNIA, EPA Region 9

Approximate Population: 482

Input Area (sq. miles): 0.05

EJScreen_0.125 Mile

Selected Variables	Value	State Avg.	%ile in State	EPA Region Avg.	%ile in EPA Region	USA Avg.	%ile in USA
Pollution and Sources							
Particulate Matter 2.5 (µg/m^3)	7.93	11.7	5	10.8	17	8.74	31
Ozone (ppb)	33	48.1	10	49.6	8	42.6	7
2017 Diesel Particulate Matter* (µg/m^3)	0.129	0.33	11	0.33	<50th	0.295	<50th
2017 Air Toxics Cancer Risk* (lifetime risk per million)	30	31	76	30	70-80th	29	80-90th
2017 Air Toxics Respiratory HI*	0.4	0.43	66	0.41	60-70th	0.36	80-90th
Traffic Proximity (daily traffic count/distance to road)	520	1300	58	1300	60	710	69
Lead Paint (% Pre-1960 Housing)	0.34	0.29	63	0.23	69	0.28	67
Superfund Proximity (site count/km distance)	0.11	0.18	60	0.15	66	0.13	69
RMP Facility Proximity (facility count/km distance)	0.28	1.1	32	1	38	0.75	47
Hazardous Waste Proximity (facility count/km distance)	2	5.2	29	4.4	38	2.2	70
Underground Storage Tanks (count/km^2)	0.52	3.7	30	3.3	32	3.9	36
Wastewater Discharge (toxicity-weighted concentration/m distance)	1.7E-05	74	10	59	11	12	20
Socioeconomic Indicators							
Demographic Index	56%	47%	65	46%	67	36%	79
People of Color	44%	63%	27	60%	31	40%	60
Low Income	68%	31%	94	31%	94	31%	93
Unemployment Rate	2%	6%	13	6%	14	5%	20
Linguistically Isolated	2%	9%	26	8%	31	5%	57
Less Than High School Education	6%	17%	28	16%	30	12%	36
Under Age 5	2%	6%	12	6%	13	6%	13
Over Age 64	11%	14%	41	15%	41	16%	31

*Diesel particular matter, air toxics cancer risk, and air toxics respiratory hazard index are from the EPA's 2017 Air Toxics Data Update, which is the Agency's ongoing, comprehensive evaluation of air toxics in the United States. This effort aims to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that the air toxics data presented here provide broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. Cancer risks and hazard indices from the Air Toxics Data Update are reported to one significant figure and any additional significant figures here are due to rounding. More information on the Air Toxics Data Update can be found at: https://www.epa.gov/haps/air-toxics-data-update.

For additional information, see: www.epa.gov/environmentaljustice

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EJScreen Report (Version 2.0)

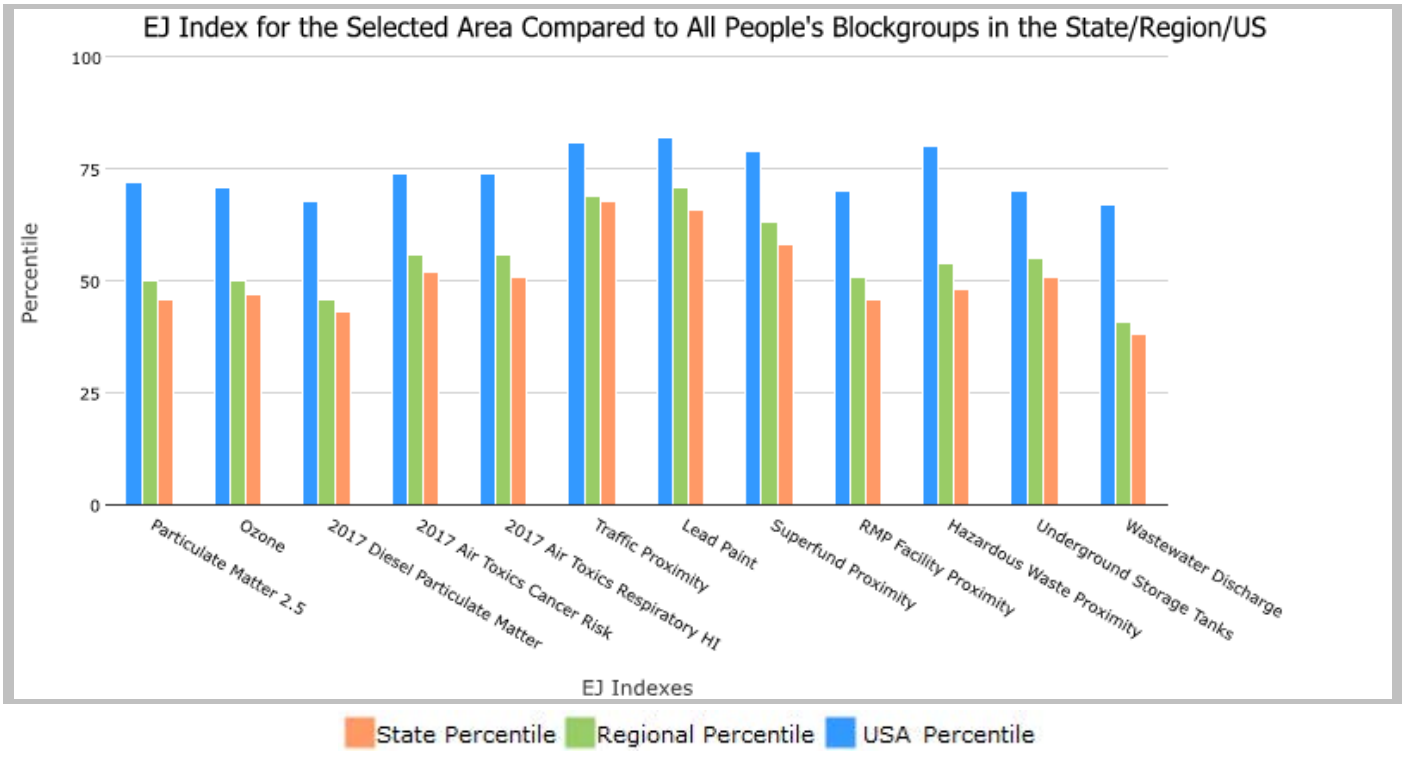
0.25 miles Ring Centered at 36.970913,-122.024645, CALIFORNIA, EPA Region 9

Approximate Population: 1,511

Input Area (sq. miles): 0.20

EJScreen_0.25 Mile

Selected Variables	State Percentile	EPA Region Percentile	USA Percentile
Environmental Justice Indexes			
EJ Index for Particulate Matter 2.5	46	50	72
EJ Index for Ozone	47	50	71
EJ Index for 2017 Diesel Particulate Matter*	43	46	68
EJ Index for 2017 Air Toxics Cancer Risk*	52	56	74
EJ Index for 2017 Air Toxics Respiratory HI*	51	56	74
EJ Index for Traffic Proximity	68	69	81
EJ Index for Lead Paint	66	71	82
EJ Index for Superfund Proximity	58	63	79
EJ Index for RMP Facility Proximity	46	51	70
EJ Index for Hazardous Waste Proximity	48	54	80
EJ Index for Underground Storage Tanks	51	55	70
EJ Index for Wastewater Discharge	38	41	67



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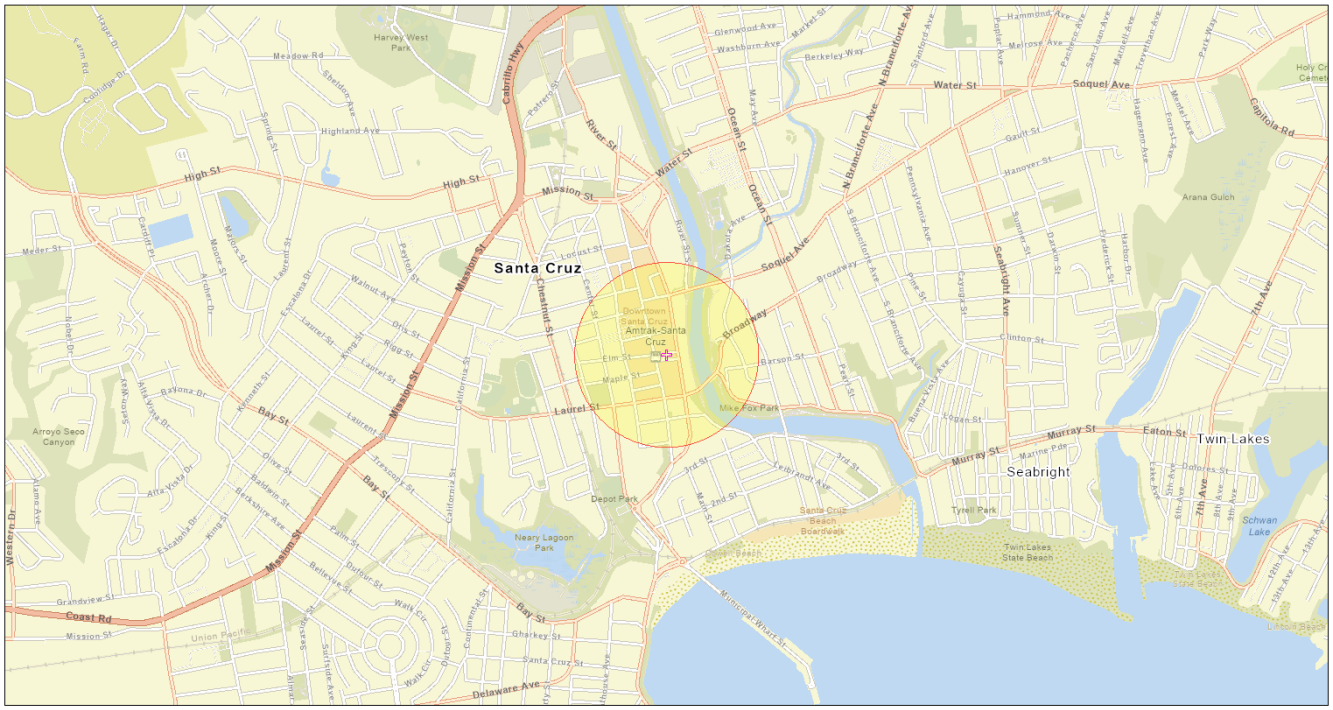
EJScreen Report (Version 2.0)

0.25 miles Ring Centered at 36.970913,-122.024645, CALIFORNIA, EPA Region 9

Approximate Population: 1,511

Input Area (sq. miles): 0.20

EJScreen_0.25 Mile



Sites reporting to EPA	
Superfund NPL	0
Hazardous Waste Treatment, Storage, and Disposal Facilities (TSDF)	0

EJScreen Report (Version 2.0)

0.25 miles Ring Centered at 36.970913,-122.024645, CALIFORNIA, EPA Region 9

Approximate Population: 1,511

Input Area (sq. miles): 0.20

EJScreen_0.25 Mile

Selected Variables	Value	State Avg.	%ile in State	EPA Region Avg.	%ile in EPA Region	USA Avg.	%ile in USA
Pollution and Sources							
Particulate Matter 2.5 (µg/m^3)	7.95	11.7	5	10.8	17	8.74	32
Ozone (ppb)	33.1	48.1	10	49.6	8	42.6	7
2017 Diesel Particulate Matter* (µg/m^3)	0.129	0.33	11	0.33	<50th	0.295	<50th
2017 Air Toxics Cancer Risk* (lifetime risk per million)	30	31	76	30	70-80th	29	80-90th
2017 Air Toxics Respiratory HI*	0.4	0.43	66	0.41	60-70th	0.36	80-90th
Traffic Proximity (daily traffic count/distance to road)	660	1300	63	1300	65	710	75
Lead Paint (% Pre-1960 Housing)	0.39	0.29	66	0.23	72	0.28	70
Superfund Proximity (site count/km distance)	0.11	0.18	61	0.15	66	0.13	69
RMP Facility Proximity (facility count/km distance)	0.29	1.1	33	1	39	0.75	47
Hazardous Waste Proximity (facility count/km distance)	2.1	5.2	31	4.4	39	2.2	71
Underground Storage Tanks (count/km^2)	1	3.7	38	3.3	41	3.9	46
Wastewater Discharge (toxicity-weighted concentration/m distance)	1.9E-05	74	10	59	11	12	21
Socioeconomic Indicators							
Demographic Index	48%	47%	51	46%	54	36%	71
People of Color	42%	63%	25	60%	29	40%	59
Low Income	53%	31%	83	31%	82	31%	83
Unemployment Rate	3%	6%	27	6%	28	5%	36
Linguistically Isolated	1%	9%	19	8%	24	5%	49
Less Than High School Education	6%	17%	28	16%	30	12%	36
Under Age 5	3%	6%	17	6%	17	6%	18
Over Age 64	6%	14%	15	15%	15	16%	11

*Diesel particular matter, air toxics cancer risk, and air toxics respiratory hazard index are from the EPA's 2017 Air Toxics Data Update, which is the Agency's ongoing, comprehensive evaluation of air toxics in the United States. This effort aims to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that the air toxics data presented here provide broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. Cancer risks and hazard indices from the Air Toxics Data Update are reported to one significant figure and any additional significant figures here are due to rounding. More information on the Air Toxics Data Update can be found at: https://www.epa.gov/haps/air-toxics-data-update.

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EJScreen Report (Version 2.0)

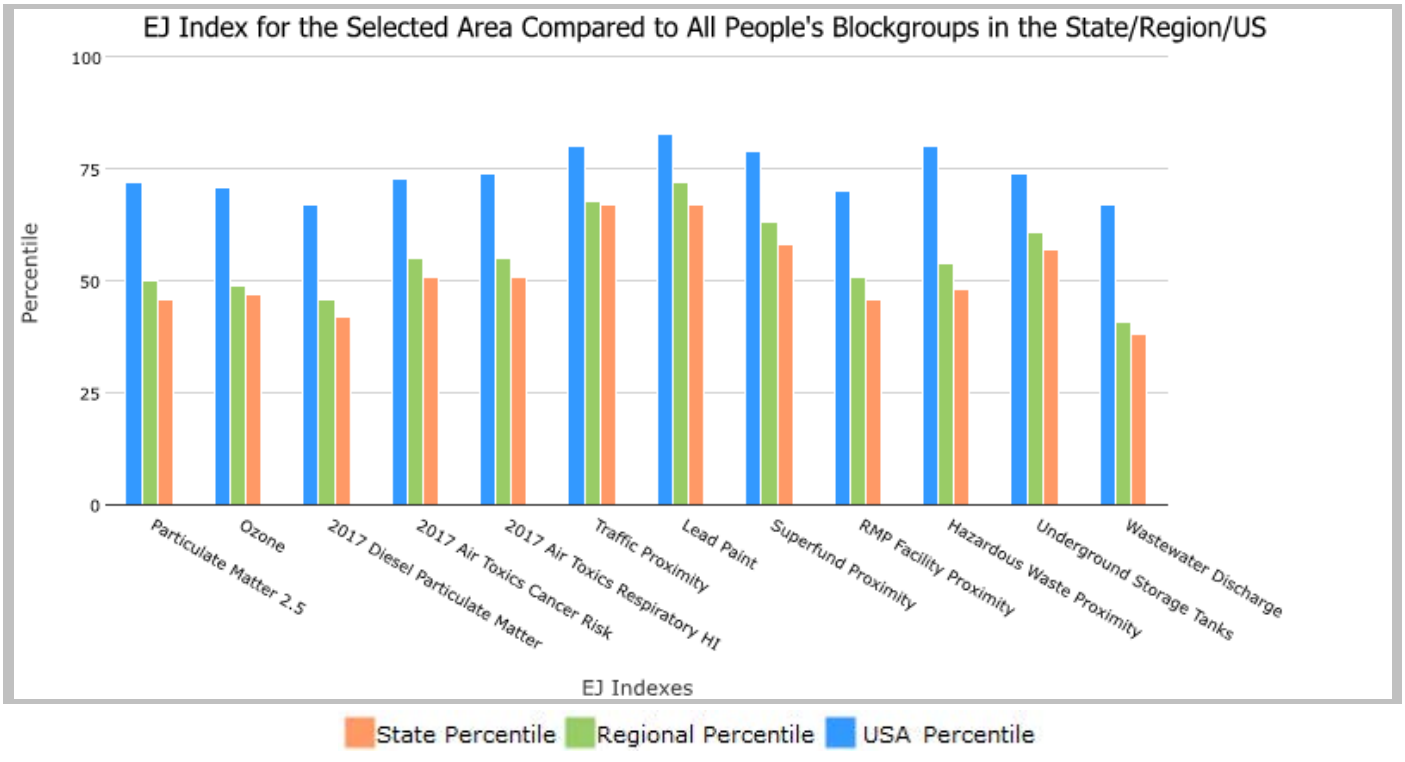
0.5 miles Ring Centered at 36.970913,-122.024645, CALIFORNIA, EPA Region 9

Approximate Population: 8,492

Input Area (sq. miles): 0.79

EJScreen_0.5 Mile

Selected Variables	State Percentile	EPA Region Percentile	USA Percentile
Environmental Justice Indexes			
EJ Index for Particulate Matter 2.5	46	50	72
EJ Index for Ozone	47	49	71
EJ Index for 2017 Diesel Particulate Matter*	42	46	67
EJ Index for 2017 Air Toxics Cancer Risk*	51	55	73
EJ Index for 2017 Air Toxics Respiratory HI*	51	55	74
EJ Index for Traffic Proximity	67	68	80
EJ Index for Lead Paint	67	72	83
EJ Index for Superfund Proximity	58	63	79
EJ Index for RMP Facility Proximity	46	51	70
EJ Index for Hazardous Waste Proximity	48	54	80
EJ Index for Underground Storage Tanks	57	61	74
EJ Index for Wastewater Discharge	38	41	67



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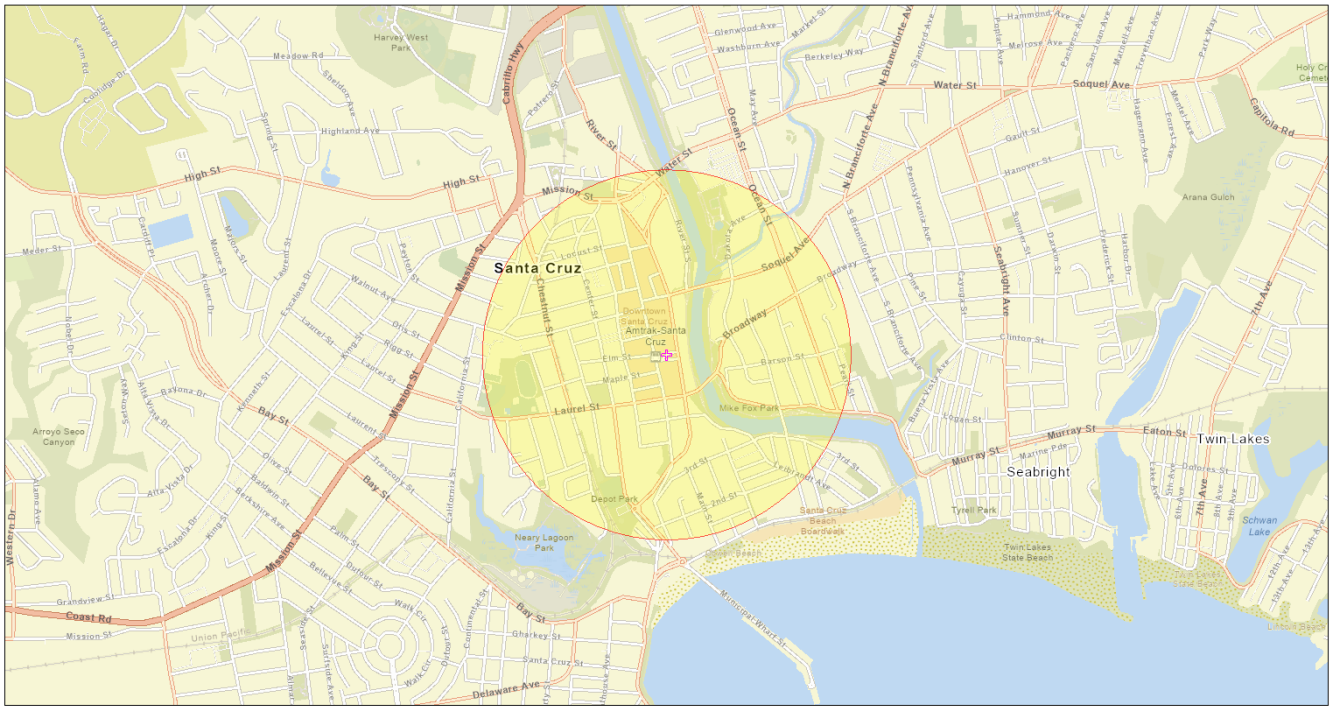
EJScreen Report (Version 2.0)

0.5 miles Ring Centered at 36.970913,-122.024645, CALIFORNIA, EPA Region 9

Approximate Population: 8,492

Input Area (sq. miles): 0.79

EJScreen_0.5 Mile



Sites reporting to EPA	
Superfund NPL	0
Hazardous Waste Treatment, Storage, and Disposal Facilities (TSDF)	0

EJScreen Report (Version 2.0)

0.5 miles Ring Centered at 36.970913,-122.024645, CALIFORNIA, EPA Region 9

Approximate Population: 8,492

Input Area (sq. miles): 0.79

EJScreen_0.5 Mile

Selected Variables	Value	State Avg.	%ile in State	EPA Region Avg.	%ile in EPA Region	USA Avg.	%ile in USA
Pollution and Sources							
Particulate Matter 2.5 (µg/m^3)	7.96	11.7	5	10.8	18	8.74	32
Ozone (ppb)	33.2	48.1	10	49.6	8	42.6	7
2017 Diesel Particulate Matter* (µg/m^3)	0.13	0.33	11	0.33	<50th	0.295	<50th
2017 Air Toxics Cancer Risk* (lifetime risk per million)	30	31	76	30	70-80th	29	80-90th
2017 Air Toxics Respiratory HI*	0.4	0.43	66	0.41	60-70th	0.36	80-90th
Traffic Proximity (daily traffic count/distance to road)	860	1300	68	1300	70	710	80
Lead Paint (% Pre-1960 Housing)	0.4	0.29	67	0.23	73	0.28	71
Superfund Proximity (site count/km distance)	0.11	0.18	61	0.15	66	0.13	70
RMP Facility Proximity (facility count/km distance)	0.29	1.1	33	1	39	0.75	48
Hazardous Waste Proximity (facility count/km distance)	2.2	5.2	32	4.4	40	2.2	72
Underground Storage Tanks (count/km^2)	3.8	3.7	67	3.3	70	3.9	72
Wastewater Discharge (toxicity-weighted concentration/m distance)	2E-05	74	10	59	12	12	21
Socioeconomic Indicators							
Demographic Index	48%	47%	52	46%	55	36%	72
People of Color	46%	63%	29	60%	33	40%	62
Low Income	51%	31%	81	31%	80	31%	81
Unemployment Rate	5%	6%	49	6%	50	5%	57
Linguistically Isolated	3%	9%	30	8%	36	5%	61
Less Than High School Education	10%	17%	42	16%	44	12%	53
Under Age 5	3%	6%	18	6%	18	6%	20
Over Age 64	8%	14%	26	15%	26	16%	19

*Diesel particular matter, air toxics cancer risk, and air toxics respiratory hazard index are from the EPA's 2017 Air Toxics Data Update, which is the Agency's ongoing, comprehensive evaluation of air toxics in the United States. This effort aims to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that the air toxics data presented here provide broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. Cancer risks and hazard indices from the Air Toxics Data Update are reported to one significant figure and any additional significant figures here are due to rounding. More information on the Air Toxics Data Update can be found at: https://www.epa.gov/haps/air-toxics-data-update.

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EJScreen Report (Version 2.0)

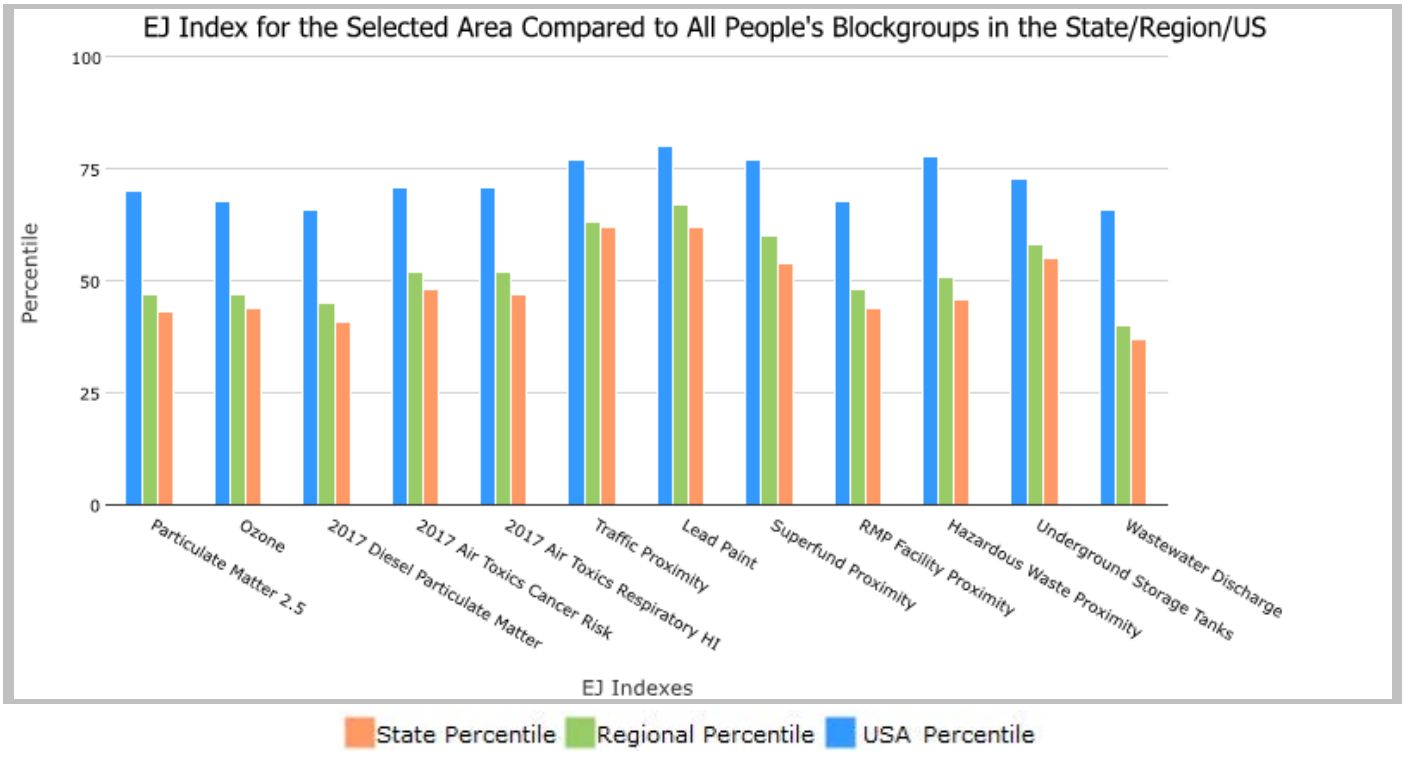
0.75 miles Ring Centered at 36.970913,-122.024645, CALIFORNIA, EPA Region 9

Approximate Population: 15,870

Input Area (sq. miles): 1.77

EJScreen_0.75 Mile

Selected Variables	State Percentile	EPA Region Percentile	USA Percentile
Environmental Justice Indexes			
EJ Index for Particulate Matter 2.5	43	47	70
EJ Index for Ozone	44	47	68
EJ Index for 2017 Diesel Particulate Matter*	41	45	66
EJ Index for 2017 Air Toxics Cancer Risk*	48	52	71
EJ Index for 2017 Air Toxics Respiratory HI*	47	52	71
EJ Index for Traffic Proximity	62	63	77
EJ Index for Lead Paint	62	67	80
EJ Index for Superfund Proximity	54	60	77
EJ Index for RMP Facility Proximity	44	48	68
EJ Index for Hazardous Waste Proximity	46	51	78
EJ Index for Underground Storage Tanks	55	58	73
EJ Index for Wastewater Discharge	37	40	66



This report shows the values for environmental and demographic indicators and EJSCREEN indexes. It shows environmental and demographic raw data (e.g., the estimated concentration of ozone in the air), and also shows what percentile each raw data value represents. These percentiles provide perspective on how the selected block group or buffer area compares to the entire state, EPA region, or nation. For example, if a given location is at the 95th percentile nationwide, this means that only 5 percent of the US population has a higher block group value than the average person in the location being analyzed. The years for which the data are available, and the methods used, vary across these indicators. Important caveats and uncertainties apply to this screening-level information, so it is essential to understand the limitations on appropriate interpretations and applications of these indicators. Please see EJSCREEN documentation for discussion of these issues before using reports.

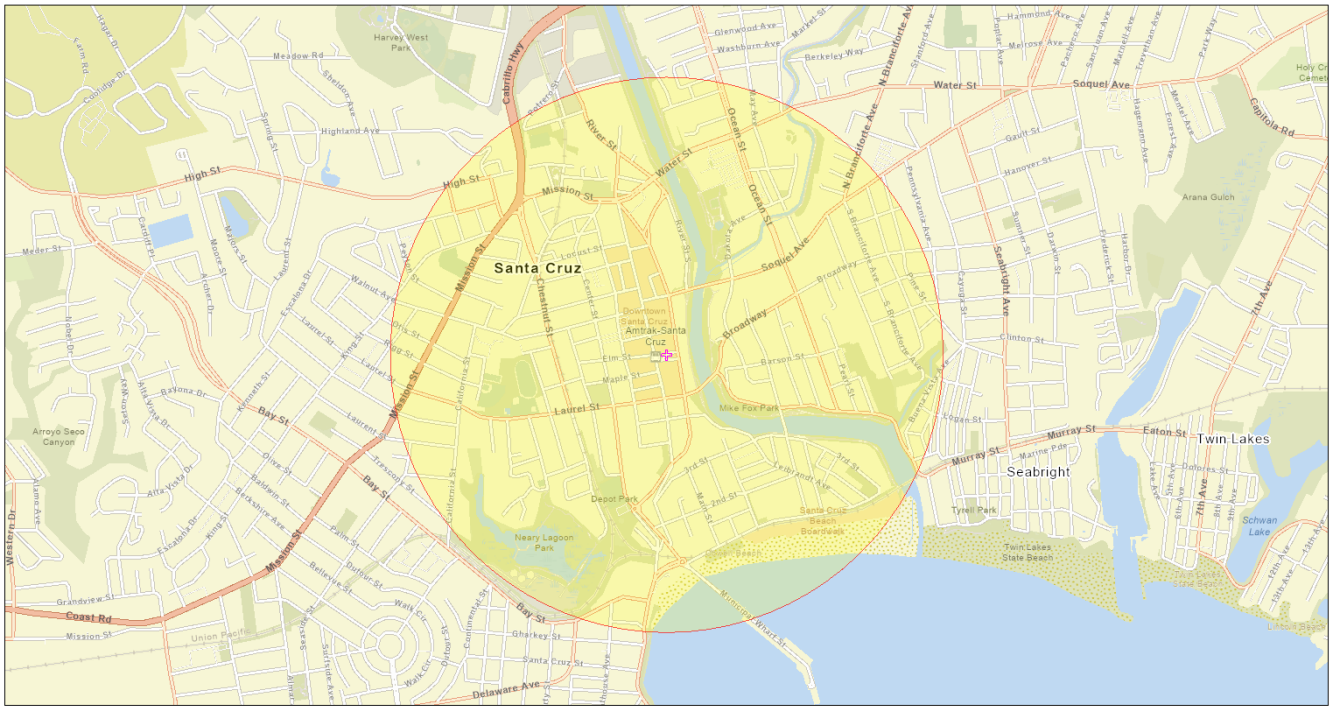
EJScreen Report (Version 2.0)

0.75 miles Ring Centered at 36.970913,-122.024645, CALIFORNIA, EPA Region 9

Approximate Population: 15,870

Input Area (sq. miles): 1.77

EJScreen_0.75 Mile



Sites reporting to EPA	
Superfund NPL	0
Hazardous Waste Treatment, Storage, and Disposal Facilities (TSDF)	0

EJScreen Report (Version 2.0)

0.75 miles Ring Centered at 36.970913,-122.024645, CALIFORNIA, EPA Region 9

Approximate Population: 15,870

Input Area (sq. miles): 1.77

EJScreen_0.75 Mile

Selected Variables	Value	State Avg.	%ile in State	EPA Region Avg.	%ile in EPA Region	USA Avg.	%ile in USA
Pollution and Sources							
Particulate Matter 2.5 (µg/m^3)	7.96	11.7	5	10.8	18	8.74	32
Ozone (ppb)	33.2	48.1	10	49.6	8	42.6	7
2017 Diesel Particulate Matter* (µg/m^3)	0.13	0.33	11	0.33	<50th	0.295	<50th
2017 Air Toxics Cancer Risk* (lifetime risk per million)	29	31	72	30	70-80th	29	80-90th
2017 Air Toxics Respiratory HI*	0.39	0.43	64	0.41	60-70th	0.36	70-80th
Traffic Proximity (daily traffic count/distance to road)	990	1300	70	1300	72	710	82
Lead Paint (% Pre-1960 Housing)	0.4	0.29	67	0.23	73	0.28	71
Superfund Proximity (site count/km distance)	0.11	0.18	61	0.15	67	0.13	70
RMP Facility Proximity (facility count/km distance)	0.3	1.1	34	1	40	0.75	48
Hazardous Waste Proximity (facility count/km distance)	2.3	5.2	33	4.4	41	2.2	73
Underground Storage Tanks (count/km^2)	5	3.7	74	3.3	77	3.9	77
Wastewater Discharge (toxicity-weighted concentration/m distance)	1.9E-05	74	10	59	11	12	21
Socioeconomic Indicators							
Demographic Index	46%	47%	48	46%	51	36%	69
People of Color	44%	63%	27	60%	31	40%	60
Low Income	48%	31%	77	31%	77	31%	78
Unemployment Rate	5%	6%	52	6%	53	5%	60
Linguistically Isolated	3%	9%	32	8%	38	5%	63
Less Than High School Education	10%	17%	42	16%	45	12%	53
Under Age 5	4%	6%	25	6%	26	6%	28
Over Age 64	10%	14%	37	15%	37	16%	28

*Diesel particular matter, air toxics cancer risk, and air toxics respiratory hazard index are from the EPA's 2017 Air Toxics Data Update, which is the Agency's ongoing, comprehensive evaluation of air toxics in the United States. This effort aims to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that the air toxics data presented here provide broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. Cancer risks and hazard indices from the Air Toxics Data Update are reported to one significant figure and any additional significant figures here are due to rounding. More information on the Air Toxics Data Update can be found at: https://www.epa.gov/haps/air-toxics-data-update.

For additional information, see: www.epa.gov/environmentaljustice

EJScreen is a screening tool for pre-decisional use only. It can help identify areas that may warrant additional consideration, analysis, or outreach. It does not provide a basis for decision-making, but it may help identify potential areas of EJ concern. Users should keep in mind that screening tools are subject to substantial uncertainty in their demographic and environmental data, particularly when looking at small geographic areas. Important caveats and uncertainties apply to this screening-level information, so it is essential to understand the limitations on appropriate interpretations and applications of these indicators. Please see EJScreen documentation for discussion of these issues before using reports. This screening tool does not provide data on every environmental impact and demographic factor that may be relevant to a particular location. EJScreen outputs should be supplemented with additional information and local knowledge before taking any action to address potential EJ concerns.

EJScreen Report (Version 2.0)

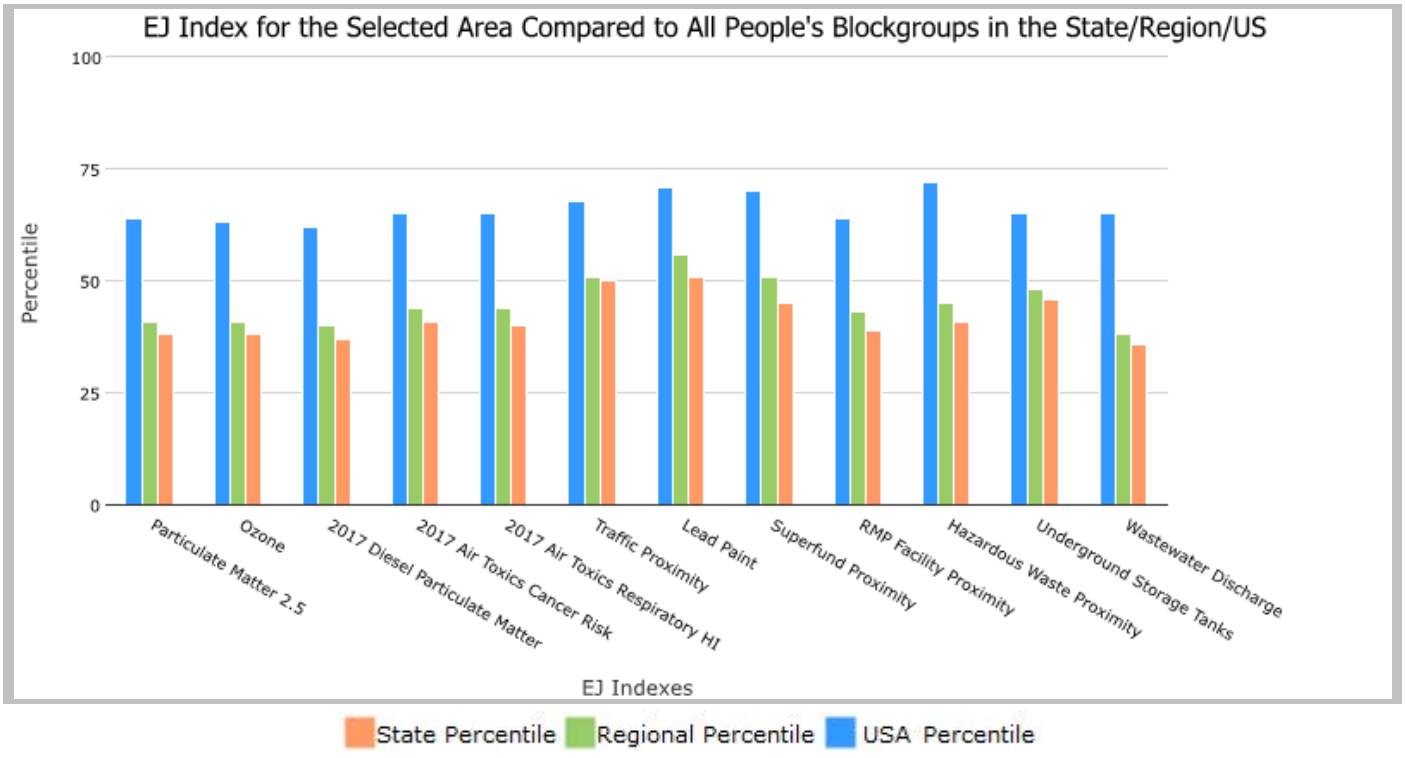
1 mile Ring Centered at 36.970913,-122.024645, CALIFORNIA, EPA Region 9

Approximate Population: 24,612

Input Area (sq. miles): 3.14

EJScreen_1.0 Mile

Selected Variables	State Percentile	EPA Region Percentile	USA Percentile
Environmental Justice Indexes			
EJ Index for Particulate Matter 2.5	38	41	64
EJ Index for Ozone	38	41	63
EJ Index for 2017 Diesel Particulate Matter*	37	40	62
EJ Index for 2017 Air Toxics Cancer Risk*	41	44	65
EJ Index for 2017 Air Toxics Respiratory HI*	40	44	65
EJ Index for Traffic Proximity	50	51	68
EJ Index for Lead Paint	51	56	71
EJ Index for Superfund Proximity	45	51	70
EJ Index for RMP Facility Proximity	39	43	64
EJ Index for Hazardous Waste Proximity	41	45	72
EJ Index for Underground Storage Tanks	46	48	65
EJ Index for Wastewater Discharge	36	38	65



This report shows the values for environmental and demographic indicators and EJSCREEN indexes. It shows environmental and demographic raw data (e.g., the estimated concentration of ozone in the air), and also shows what percentile each raw data value represents. These percentiles provide perspective on how the selected block group or buffer area compares to the entire state, EPA region, or nation. For example, if a given location is at the 95th percentile nationwide, this means that only 5 percent of the US population has a higher block group value than the average person in the location being analyzed. The years for which the data are available, and the methods used, vary across these indicators. Important caveats and uncertainties apply to this screening-level information, so it is essential to understand the limitations on appropriate interpretations and applications of these indicators. Please see EJSCREEN documentation for discussion of these issues before using reports.

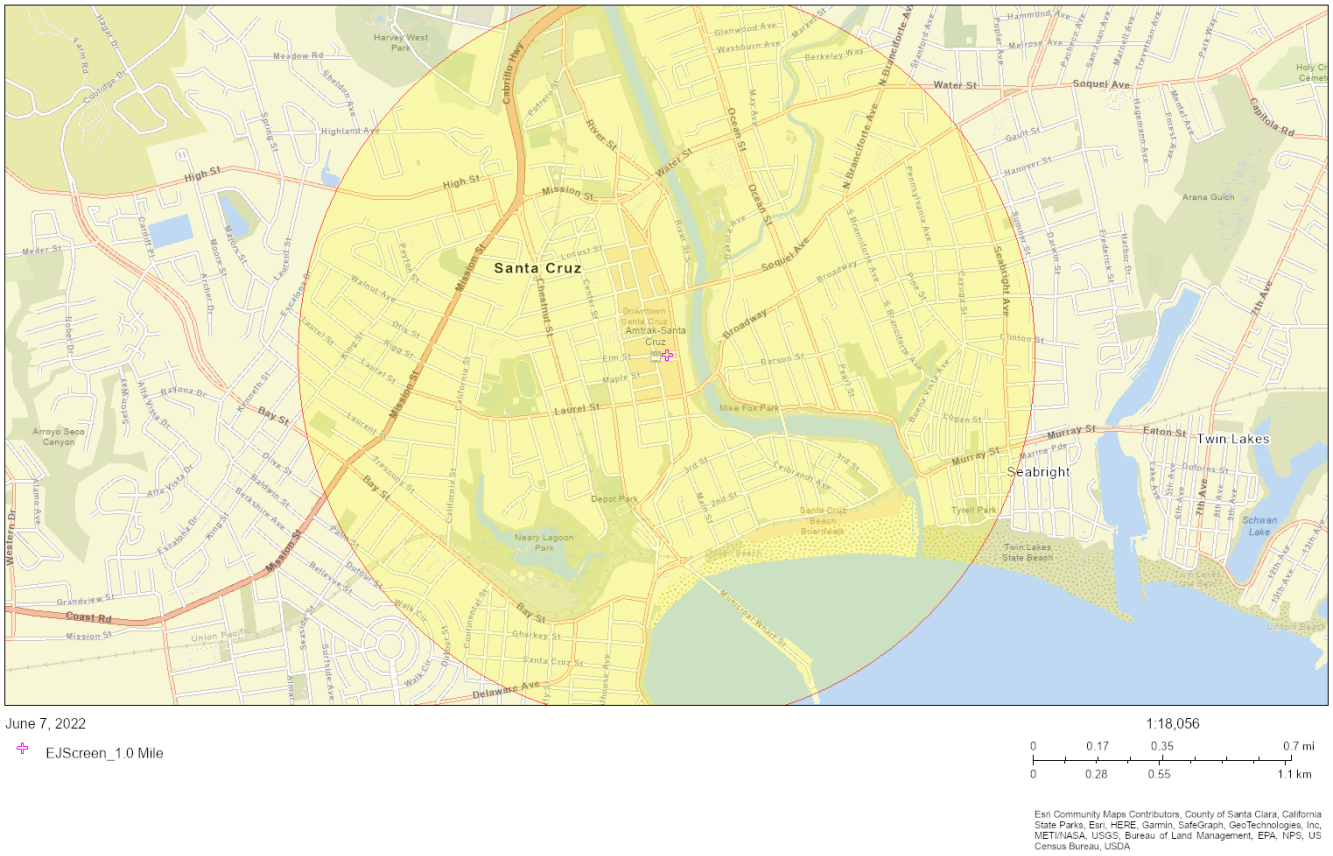
EJScreen Report (Version 2.0)

1 mile Ring Centered at 36.970913,-122.024645, CALIFORNIA, EPA Region 9

Approximate Population: 24,612

Input Area (sq. miles): 3.14

EJScreen_1.0 Mile



Sites reporting to EPA	
Superfund NPL	0
Hazardous Waste Treatment, Storage, and Disposal Facilities (TSDF)	0

EJScreen Report (Version 2.0)

1 mile Ring Centered at 36.970913,-122.024645, CALIFORNIA, EPA Region 9

Approximate Population: 24,612

Input Area (sq. miles): 3.14

EJScreen_1.0 Mile

Selected Variables	Value	State Avg.	%ile in State	EPA Region Avg.	%ile in EPA Region	USA Avg.	%ile in USA
Pollution and Sources							
Particulate Matter 2.5 (µg/m^3)	7.97	11.7	5	10.8	18	8.74	32
Ozone (ppb)	33.2	48.1	10	49.6	8	42.6	7
2017 Diesel Particulate Matter* (µg/m^3)	0.13	0.33	11	0.33	<50th	0.295	<50th
2017 Air Toxics Cancer Risk* (lifetime risk per million)	28	31	65	30	60-70th	29	70-80th
2017 Air Toxics Respiratory HI*	0.38	0.43	60	0.41	60-70th	0.36	70-80th
Traffic Proximity (daily traffic count/distance to road)	1100	1300	71	1300	74	710	84
Lead Paint (% Pre-1960 Housing)	0.43	0.29	69	0.23	75	0.28	73
Superfund Proximity (site count/km distance)	0.11	0.18	61	0.15	67	0.13	70
RMP Facility Proximity (facility count/km distance)	0.3	1.1	34	1	40	0.75	49
Hazardous Waste Proximity (facility count/km distance)	2.4	5.2	34	4.4	43	2.2	74
Underground Storage Tanks (count/km^2)	5.6	3.7	78	3.3	80	3.9	80
Wastewater Discharge (toxicity-weighted concentration/m distance)	2.1E-05	74	11	59	12	12	21
Socioeconomic Indicators							
Demographic Index	39%	47%	38	46%	40	36%	62
People of Color	38%	63%	21	60%	25	40%	55
Low Income	40%	31%	68	31%	68	31%	69
Unemployment Rate	6%	6%	57	6%	57	5%	64
Linguistically Isolated	3%	9%	31	8%	37	5%	62
Less Than High School Education	9%	17%	38	16%	41	12%	49
Under Age 5	4%	6%	26	6%	26	6%	28
Over Age 64	12%	14%	48	15%	48	16%	38

*Diesel particular matter, air toxics cancer risk, and air toxics respiratory hazard index are from the EPA's 2017 Air Toxics Data Update, which is the Agency's ongoing, comprehensive evaluation of air toxics in the United States. This effort aims to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that the air toxics data presented here provide broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. Cancer risks and hazard indices from the Air Toxics Data Update are reported to one significant figure and any additional significant figures here are due to rounding. More information on the Air Toxics Data Update can be found at: https://www.epa.gov/haps/air-toxics-data-update.

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EJSCREEN ACS Summary Report

Location: User-specified point center at 36.970913, -122.024645
Ring (buffer): 0.125-miles radius
Description: EJScreen_0.125 Mile

Summary of ACS Estimates	2015 - 2019
Population	482
Population Density (per sq. mile)	9,162
People of Color Population	211
% People of Color Population	44%
Households	367
Housing Units	409
Housing Units Built Before 1950	133
Per Capita Income	22,808
Land Area (sq. miles) (Source: SF1)	0.05
% Land Area	100%
Water Area (sq. miles) (Source: SF1)	0.00
% Water Area	0%

	2015 - 2019 ACS Estimates	Percent	MOE (±)
Population by Race			
Total	482	100%	359
Population Reporting One Race	448	93%	584
White	370	77%	335
Black	17	3%	50
American Indian	7	1%	28
Asian	45	9%	116
Pacific Islander	0	0%	12
Some Other Race	10	2%	43
Population Reporting Two or More Races	34	7%	79
Total Hispanic Population	117	24%	254
Total Non-Hispanic Population	365		
White Alone	271	56%	242
Black Alone	17	3%	50
American Indian Alone	7	1%	28
Non-Hispanic Asian Alone	45	9%	116
Pacific Islander Alone	0	0%	12
Other Race Alone	0	0%	12
Two or More Races Alone	26	5%	68
Population by Sex			
Male	271	56%	207
Female	212	44%	268
Population by Age			
Age 0-4	10	2%	46
Age 0-17	64	13%	114
Age 18+	418	87%	314
Age 65+	51	11%	81

Data Note: Detail may not sum to totals due to rounding. Hispanic population can be of any race.
N/A means not available. **Source:** U.S. Census Bureau, American Community Survey (ACS) 2015 - 2019 .

EJSCREEN ACS Summary Report

Location: User-specified point center at 36.970913, -122.024645
Ring (buffer): 0.125-miles radius
Description: EJScreen_0.125 Mile

	2015 - 2019 ACS Estimates	Percent	MOE (±)
Population 25+ by Educational Attainment			
Total	283	100%	208
Less than 9th Grade	0	0%	12
9th - 12th Grade, No Diploma	17	6%	57
High School Graduate	25	9%	81
Some College, No Degree	106	38%	150
Associate Degree	14	5%	45
Bachelor's Degree or more	121	43%	134
Population Age 5+ Years by Ability to Speak English			
Total	472	100%	355
Speak only English	313	66%	276
Non-English at Home[1+2+3+4]	159	34%	224
[1]Speak English "very well"	121	26%	192
[2]Speak English "well"	17	4%	53
[3]Speak English "not well"	21	4%	75
[4]Speak English "not at all"	0	0%	12
[3+4]Speak English "less than well"	21	4%	75
[2+3+4]Speak English "less than very well"	37	8%	91
Linguistically Isolated Households*			
Total	7	100%	31
Speak Spanish	7	100%	29
Speak Other Indo-European Languages	0	0%	12
Speak Asian-Pacific Island Languages	0	0%	12
Speak Other Languages	0	0%	12
Households by Household Income			
Household Income Base	367	100%	201
< $15,000	141	38%	198
$15,000 - $25,000	81	22%	136
$25,000 - $50,000	46	12%	80
$50,000 - $75,000	57	16%	78
$75,000 +	43	12%	73
Occupied Housing Units by Tenure			
Total	367	100%	201
Owner Occupied	49	13%	158
Renter Occupied	317	87%	156
Employed Population Age 16+ Years			
Total	433	100%	308
In Labor Force	310	72%	293
Civilian Unemployed in Labor Force	5	1%	21
Not In Labor Force	123	28%	118

Data Note: Datail may not sum to totals due to rounding. Hispanic population can be of anyrace.
N/A means not available. **Source:** U.S. Census Bureau, American Community Survey (ACS)
*Households in which no one 14 and over speaks English "very well" or speaks English only.

EJSCREEN ACS Summary Report

Location: User-specified point center at 36.970913, -122.024645
Ring (buffer): 0.125-miles radius
Description: EJScreen_0.125 Mile

	2015 - 2019 ACS Estimates	Percent	MOE (±)
Population by Language Spoken at Home*			
Total (persons age 5 and above)	N/A	N/A	N/A
English	N/A	N/A	N/A
Spanish	N/A	N/A	N/A
French	N/A	N/A	N/A
French Creole	N/A	N/A	N/A
Italian	N/A	N/A	N/A
Portuguese	N/A	N/A	N/A
German	N/A	N/A	N/A
Yiddish	N/A	N/A	N/A
Other West Germanic	N/A	N/A	N/A
Scandinavian	N/A	N/A	N/A
Greek	N/A	N/A	N/A
Russian	N/A	N/A	N/A
Polish	N/A	N/A	N/A
Serbo-Croatian	N/A	N/A	N/A
Other Slavic	N/A	N/A	N/A
Armenian	N/A	N/A	N/A
Persian	N/A	N/A	N/A
Gujarathi	N/A	N/A	N/A
Hindi	N/A	N/A	N/A
Urdu	N/A	N/A	N/A
Other Indic	N/A	N/A	N/A
Other Indo-European	N/A	N/A	N/A
Chinese	N/A	N/A	N/A
Japanese	N/A	N/A	N/A
Korean	N/A	N/A	N/A
Mon-Khmer, Cambodian	N/A	N/A	N/A
Hmong	N/A	N/A	N/A
Thai	N/A	N/A	N/A
Laotian	N/A	N/A	N/A
Vietnamese	N/A	N/A	N/A
Other Asian	N/A	N/A	N/A
Tagalog	N/A	N/A	N/A
Other Pacific Island	N/A	N/A	N/A
Navajo	N/A	N/A	N/A
Other Native American	N/A	N/A	N/A
Hungarian	N/A	N/A	N/A
Arabic	N/A	N/A	N/A
Hebrew	N/A	N/A	N/A
African	N/A	N/A	N/A
Other and non-specified	N/A	N/A	N/A
Total Non-English	N/A	N/A	N/A

Data Note: Detail may not sum to totals due to rounding. Hispanic popultion can be of any race.
N/A meansnot available. **Source:** U.S. Census Bureau, American Community Survey (ACS) 2015 - 2019.
*Population by Language Spoken at Home is available at the census tract summary level and up.

EJSCREEN ACS Summary Report

Location: User-specified point center at 36.970913, -122.024645
Ring (buffer): 1-miles radius
Description: EJScreen_1.0 Mile

Summary of ACS Estimates	2015 - 2019
Population	24,612
Population Density (per sq. mile)	9,060
People of Color Population	9,286
% People of Color Population	38%
Households	10,910
Housing Units	11,790
Housing Units Built Before 1950	3,856
Per Capita Income	46,877
Land Area (sq. miles) (Source: SF1)	2.72
% Land Area	88%
Water Area (sq. miles) (Source: SF1)	0.36
% Water Area	12%

	2015 - 2019 ACS Estimates	Percent	MOE (±)
Population by Race			
Total	24,612	100%	623
Population Reporting One Race	23,250	94%	1,487
White	18,525	75%	591
Black	620	3%	160
American Indian	103	0%	33
Asian	1,305	5%	195
Pacific Islander	37	0%	47
Some Other Race	2,660	11%	461
Population Reporting Two or More Races	1,362	6%	176
Total Hispanic Population	6,308	26%	648
Total Non-Hispanic Population	18,304		
White Alone	15,326	62%	512
Black Alone	583	2%	160
American Indian Alone	51	0%	33
Non-Hispanic Asian Alone	1,232	5%	172
Pacific Islander Alone	30	0%	47
Other Race Alone	134	1%	91
Two or More Races Alone	947	4%	176
Population by Sex			
Male	12,187	50%	386
Female	12,425	50%	493
Population by Age			
Age 0-4	926	4%	165
Age 0-17	3,387	14%	293
Age 18+	21,225	86%	446
Age 65+	2,939	12%	156

Data Note: Detail may not sum to totals due to rounding. Hispanic population can be of any race.
N/A means not available. **Source:** U.S. Census Bureau, American Community Survey (ACS) 2015 - 2019 .

EJSCREEN ACS Summary Report

Location: User-specified point center at 36.970913, -122.024645
Ring (buffer): 1-miles radius
Description: EJScreen_1.0 Mile

	2015 - 2019 ACS Estimates	Percent	MOE (±)
Population 25+ by Educational Attainment			
Total	16,388	100%	381
Less than 9th Grade	972	6%	224
9th - 12th Grade, No Diploma	443	3%	93
High School Graduate	2,179	13%	132
Some College, No Degree	3,658	22%	205
Associate Degree	1,163	7%	87
Bachelor's Degree or more	7,973	49%	276
Population Age 5+ Years by Ability to Speak English			
Total	23,686	100%	634
Speak only English	17,687	75%	497
Non-English at Home[1+2+3+4]	5,999	25%	434
[1]Speak English "very well"	4,051	17%	255
[2]Speak English "well"	923	4%	118
[3]Speak English "not well"	735	3%	213
[4]Speak English "not at all"	290	1%	208
[3+4]Speak English "less than well"	1,025	4%	246
[2+3+4]Speak English "less than very well"	1,948	8%	257
Linguistically Isolated Households*			
Total	310	100%	105
Speak Spanish	201	65%	99
Speak Other Indo-European Languages	0	0%	12
Speak Asian-Pacific Island Languages	109	35%	66
Speak Other Languages	0	0%	12
Households by Household Income			
Household Income Base	10,910	100%	201
< $15,000	2,082	19%	211
$15,000 - $25,000	1,026	9%	136
$25,000 - $50,000	1,840	17%	178
$50,000 - $75,000	1,440	13%	113
$75,000 +	4,522	41%	181
Occupied Housing Units by Tenure			
Total	10,910	100%	201
Owner Occupied	3,660	34%	158
Renter Occupied	7,250	66%	200
Employed Population Age 16+ Years			
Total	21,754	100%	466
In Labor Force	15,623	72%	429
Civilian Unemployed in Labor Force	921	4%	262
Not In Labor Force	6,131	28%	330

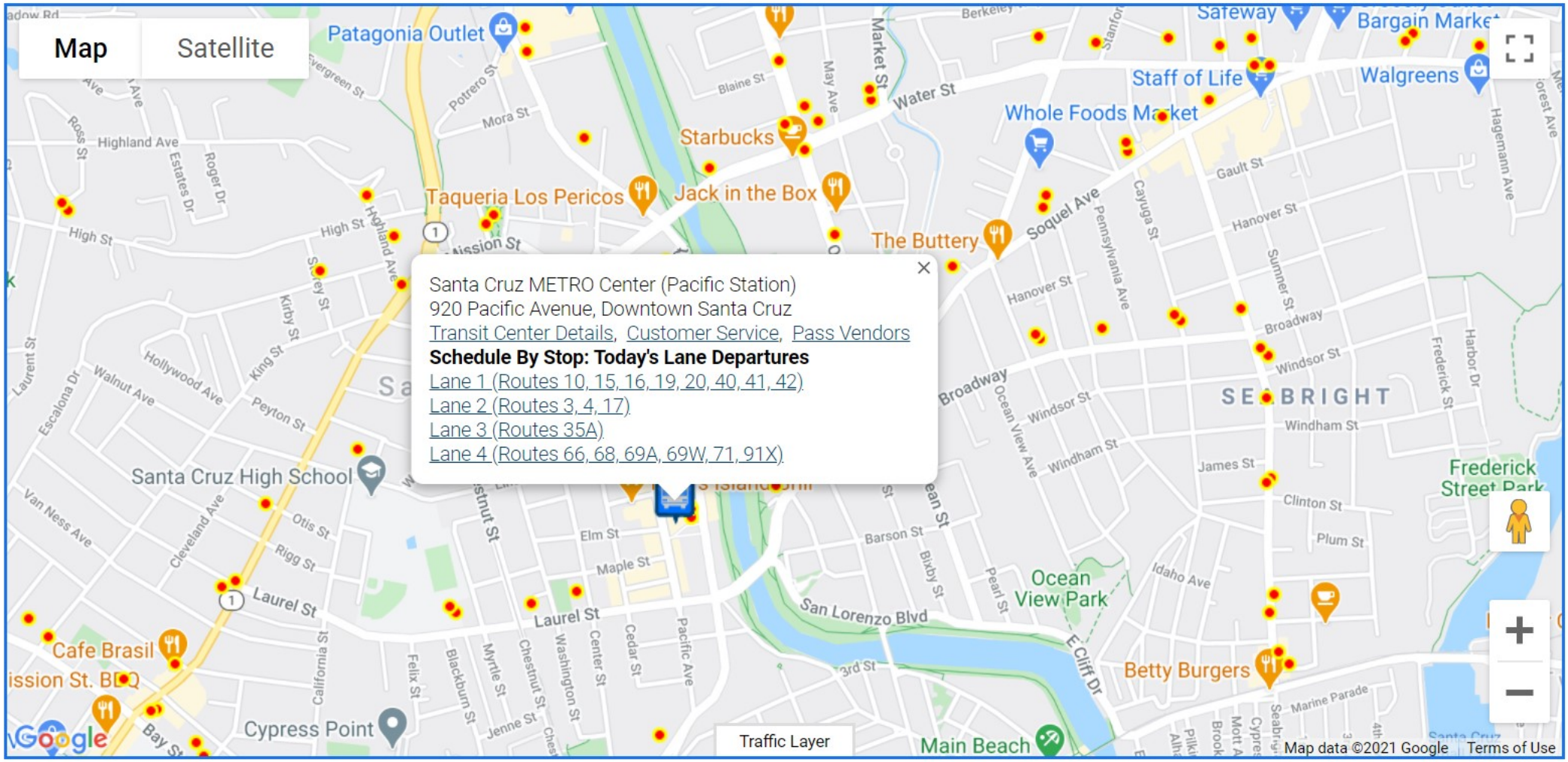
Data Note: Datail may not sum to totals due to rounding. Hispanic population can be of anyrace.
N/A means not available. **Source:** U.S. Census Bureau, American Community Survey (ACS)
*Households in which no one 14 and over speaks English "very well" or speaks English only.

EJSCREEN ACS Summary Report

Location: User-specified point center at 36.970913, -122.024645
Ring (buffer): 1-miles radius
Description: EJScreen_1.0 Mile

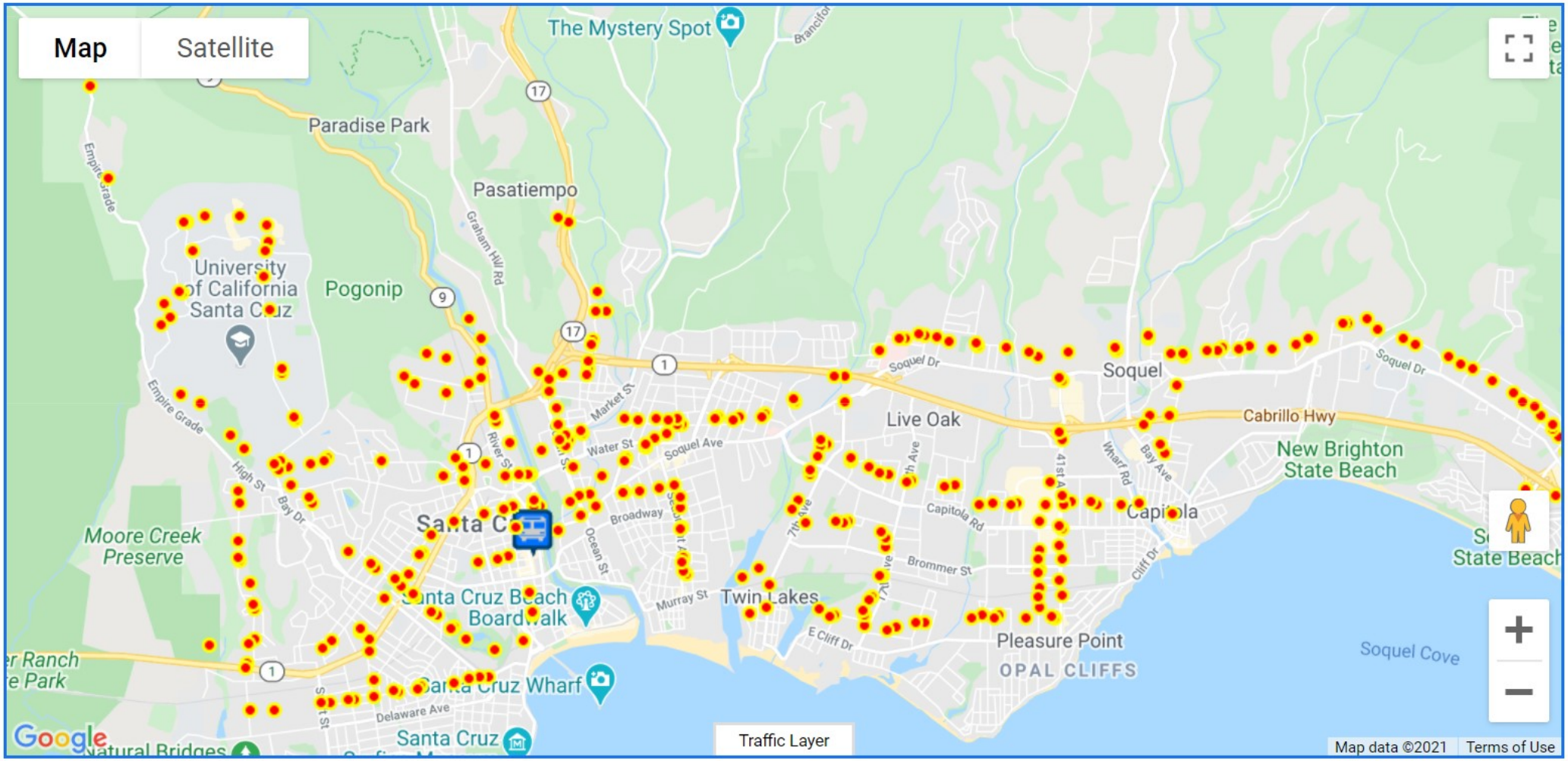
	2015 - 2019 ACS Estimates	Percent	MOE (±)
Population by Language Spoken at Home*			
Total (persons age 5 and above)	22,912	100%	772
English	17,201	75%	662
Spanish	3,739	16%	754
French	251	1%	134
French Creole	N/A	N/A	N/A
Italian	N/A	N/A	N/A
Portuguese	N/A	N/A	N/A
German	99	0%	108
Yiddish	N/A	N/A	N/A
Other West Germanic	N/A	N/A	N/A
Scandinavian	N/A	N/A	N/A
Greek	N/A	N/A	N/A
Russian	N/A	N/A	N/A
Polish	N/A	N/A	N/A
Serbo-Croatian	N/A	N/A	N/A
Other Slavic	N/A	N/A	N/A
Armenian	N/A	N/A	N/A
Persian	N/A	N/A	N/A
Gujarathi	N/A	N/A	N/A
Hindi	N/A	N/A	N/A
Urdu	N/A	N/A	N/A
Other Indic	N/A	N/A	N/A
Other Indo-European	433	2%	147
Chinese	315	1%	202
Japanese	N/A	N/A	N/A
Korean	47	0%	41
Mon-Khmer, Cambodian	N/A	N/A	N/A
Hmong	N/A	N/A	N/A
Thai	N/A	N/A	N/A
Laotian	N/A	N/A	N/A
Vietnamese	148	1%	91
Other Asian	236	1%	98
Tagalog	195	1%	127
Other Pacific Island	N/A	N/A	N/A
Navajo	N/A	N/A	N/A
Other Native American	N/A	N/A	N/A
Hungarian	N/A	N/A	N/A
Arabic	0	0%	17
Hebrew	N/A	N/A	N/A
African	N/A	N/A	N/A
Other and non-specified	99	0%	157
Total Non-English	5,711	25%	1,017

Data Note: Detail may not sum to totals due to rounding. Hispanic popultion can be of any race.
N/A meansnot available. **Source:** U.S. Census Bureau, American Community Survey (ACS) 2015 - 2019.
*Population by Language Spoken at Home is available at the census tract summary level and up.


Map
Satellite
Santa Cruz METRO Center (Pacific Station)
920 Pacific Avenue, Downtown Santa Cruz
Transit Center Details, Customer Service, Pass Vendors
Schedule By Stop: Today's Lane Departures
Lane 1 (Routes 10, 15, 16, 19, 20, 40, 41, 42)
Lane 2 (Routes 3, 4, 17)
Lane 3 (Routes 35A)
Lane 4 (Routes 66, 68, 69A, 69W, 71, 91X)
Patagonia Outlet
Starbucks
Taqueria Los Pericos
Jack in the Box
The Buttery
Safeway
Staff of Life
Walgreens
Whole Foods Market
Santa Cruz High School
Cafe Brasil
Cypress Point
Ocean View Park
Betty Burgers
Main Beach
Frederick Street Park
SEABRIGHT
Traffic Layer
Map data ©2021 Google
Terms of Use

Route:

Pick a Route




Elm St
Pacific Ave
Maple St
Front St
San Lorenzo Riverway
238 ft
© 2021 Google
Imagery Date: 8/9/2018 36°58'14.64" N 122°01'27.89" W elev 0


Walnut Ave
Soquel Ave
Lincoln St
Center St
Cedar St
Cathcart St
New St
Elm St
Washington St
Maple St
Birch Ln
Pacific Ave
Front St
Broadway
Roberts St
Campbell St
Clay St
Barson St
San Lorenzo Blvd
Laurel St
Laurel Street Extension
Spruce St
627 ft
© 2021 Google
Google Earth
1985
Imagery Date: 8/9/2018 36°58'14.90" N 122°01'26.49" W elev 0 ft eye alt 2710 ft

VI-9. REGIONAL PLANNING

Collaborating, in mutually beneficial regional partnerships, is the key for ensuring sustainable transportation and land use investments that will affect the future of Santa Cruz and the greater region.

KEY RECOMMENDATIONS

Successful regional collaboration can address:

- Existing and future regional vehicle traffic congestion problems on Highway 1
- The location, extent and balance of future employment and population growth, including the provision of mixed-use development and affordable housing near transit, to preserve open space
- The type and availability of transit services and accessible routes to expand person-trip travel options
- Managing multi-modal travel way capacity more efficiently
- Managing parking availability and cost to increase carpooling and transit, and to encourage more efficient, compact land use
- Expanding regional bicycle and recreational trail networks.

Key partners include UCSC, Metro, SCCRTC, Santa Cruz County, Caltrans, Downtown Merchant's Association and major Santa Cruz employers.

The challenge of transportation planning is that solutions to one issue generally have both beneficial and negative consequences for related issues. Therefore, success relies upon regional collaboration and relying on the principles of sustainable transportation planning. Applying the principles will reflect core community values and help achieve balanced and integrated regional transportation and land use solutions. This approach offers a comprehensive perspective to frame issues and solutions. Santa Cruz should:

1. **Support regional funding and implementation of key regional projects that can significantly benefit the city, including:**
    - Metrobase Transit District Consolidations Operations Facility
    - Right-of-way acquisition on rail corridor
    - Bike and pedestrian path on rail right-of-way
    - Local bike projects
    - Expanding local and regional bus service
2. **Ensure, as the proposed Regional Transportation Commission Highway 1 widening project moves forward, that the following criteria are sufficiently**

evaluated so selection and funding of future projects are consistent with the MTS vision and community needs.

- *New travel choices.* Make a major regional transportation investment to provide new travel choices to ensure high-occupancy, high-frequency regional transit service and carpooling that serves local and regional activity centers as the primary means to address vehicle traffic congestion and increase person-trip mobility.
- *Funding availability for transit.* Ensure that Highway 1 widening project capital, operating and maintenance costs, which would be covered by an increase in sales tax, do not reduce funding for bus and transit services. In addition, ensure that sales tax funds are annually available to support other priority transportation projects.
- *Acceptable levels of local street vehicle congestion.* Ensure that there are no significant local street vehicle traffic congestion and increased SOV traffic impacts induced by Highway 1 widening or as a result of construction impacts related to the widening project.
- *Support local transit, carpooling pedestrian and bicycle travel.* Ensure that the design and operations of the widening project connect to the local street system in a manner that can support transit and carpooling operations as a priority on local arterial streets. Additionally, support pedestrian and bicycle connections across the highway to interconnect north and south neighborhoods.
- *Demonstrate sufficient benefits relative to other feasible alternatives to justify project costs and impacts.* Ensure that the future travel benefits and travel time savings for transit and carpooling are sufficient to justify the costs and environmental impacts of a Highway 1 widening project when compared with other feasible alternatives, including a BRT system on the rail corridor.
- *Minimize auto-oriented land use impacts both regionally and locally.* Conduct an evaluation of the land use impacts of a Highway 1 widening project. It should monitor progress in promoting compact, walkable, mixed-use and transit-oriented development (moving away from inducing low density, auto-oriented development). The evaluation should identify other feasible alternatives that support sustainable land use.

BACKGROUND

Regional Setting

The City of Santa Cruz is located on the Monterey Bay between the San Francisco Bay Area to the north and the Monterey Peninsula to the south. As the home for the University of California at Santa Cruz, county government, and several of the County's largest employers, Santa Cruz is an employment center for Santa Cruz County. With coastal mountains, sandy beaches and a vibrant downtown, Santa Cruz is also a major tourist destination and recreation attraction for the San Francisco Bay Area and the Monterey Bay Area.

Population and Employment Growth

As shown in Table 1, Association of Monterey Bay Area Governments (AMBAG) forecasts for population and employment growth for the City and County of Santa Cruz indicate that:

- Local programs can influence 74% of Santa Cruz peak hour travel demand. 50% are local trips and 24% are commute trips into the City.
- 26% are commute trips out of the City, which are significantly less influenced by local programs.
- The City of Santa Cruz contributes less than 20% to total regional PM peak hour trips, declining from 18% in 2000 to 17% in 2020.
- Santa Cruz County's population, residential housing construction and employment are projected to increase at a greater rate than the City's between 2000 and 2020.
- 69 percent of regional population growth by 2020 will be in Watsonville and the unincorporated areas of Santa Cruz County, increasing by 31,561 from 180,334 to 211,895 by 2020.
- Approximately 211,895 people will live in South County, approximately 70 percent of the County's projected 2020 population. Due to South County's low-density development pattern, future growth will continue to contribute to increased auto dependence and is less responsive to transit services.
- A net 19% of the County workforce commutes to areas outside of the County for employment in areas such as Monterey County and the Bay Area, with the majority of these trips going to the Silicon Valley area in Santa Clara County.
- Population in Santa Cruz County is anticipated to increase by 17,8% between 2000 and 2020 growing from 257,739 to 303,646.
- Employment in Santa Cruz County is anticipated to increase by 19% between 2000 and 2020, growing from 140,589 to 168,532 jobs.

Table 1: Population and Employment Growth, Santa Cruz County 2000 - 2020

	2000	Size in Region	2020	Growth	Rate	Percent of Region	Percent of Growth
Employment							
Santa Cruz County	140,589		168,532	27,943	19.9%		
Population							
Capitola	11,172	4%	11,750	578	5.2%	4%	1%
Santa Cruz	55,013	21%	64,386	9,373	17.0%	21%	20%
Scotts Valley	11,218	4%	15,615	4,397	39.2%	5%	10%
Watsonville	43,620	17%	55,875	12,255	28.1%	18%	27%
Unincorporated	136,714	53%	156,020	19,306	14.1%	51%	42%
Santa Cruz County	257,737	100%	303,646	45,909	17.8%	100%	100%
Unincorporated + Watsonville	180,334	70%	211,895	31,561	42%	70%	69%

TRANSPORTATION SETTING

Network

Regionally, State Highway Route I is the major inter and intra county route for the County, following the coast from San Francisco and San Mateo County south through the City of Santa Cruz. Within the city, Highway 1, traverses from the recently improved Mission Street, traverses east to its junction with Highway 17. At Highway 17 Highway 1 forms a four-lane freeway extending south to Watsonville and Monterey County. State Highway 17, which traverses the Santa Cruz mountains, terminates in Santa Cruz and connects Santa Cruz County to the greater San Francisco Bay area.

Highways I and 17 experience average annual daily traffic volumes of up to 110,000 and 66,000, respectively. The two highways serve regional traffic, motorists who commute every day to the high-tech job centers in the Silicon Valley, and motorists who travel into Santa Cruz County to enjoy the scenic recreation opportunities offered by the region. Highway 17 is often subject to high accident rates, primarily due to motorists driving faster than is safe for conditions.

Traffic Volume/Capacity

Annual Average Daily Traffic (AADT) along Route I range from 36,000 near the Monterey County line to in excess of 110,000 near the "fishhook" interchange with Route 17. Between State Park Drive and Morrissey Boulevard, current AADT ranges from 83,000 to 110,000 with the highest daily volumes occurring between the Soquel and Morrissey interchanges.

Peak hour travel demand in the study area exceeds the carrying capacity of the highway. Route 1 operates at Level of Service (LOS) "F" for multiple hours each day. Typical northbound AM mid week recurrent morning congestion lasts for over 3.5 hours; mid week southbound PM congestion lasts for over 4 hours.

Recurrent congestion related queuing on State Route 1 extends for several miles during peak hours. In the PM, southbound traffic queues from the Bay Porter Interchange back through the 1/17 Junction towards Pasatiempo Drive and north on Route 1 towards the Route 9 Junction. In the AM peak period, northbound congested queuing typically extends from Morrissey Drive to beyond Freedom Boulevard. Accidents, events, and other incidents in the corridor can further increase congestion related delays in either direction, on any day, including weekends.

The AMBAG travel forecasting model projects that the 2020 Average Annual Daily Traffic (AADT) volumes in the study area will range from 115,000 near State Park Drive to 144,000 between Morrissey and Soquel. With this projected increase in travel demand, the extent and duration of congestion in the study area will significantly increase. The duration of daily northbound congested conditions would increase by several hours with weekday recurrent congestion related queues extending as far back as Watsonville during both the AM and PM peak periods. In the southbound direction, the anticipated increase in travel demands will further impact Route 17, Route 9, Ocean Street, and Mission Street as congestion queues extend north. Soquel Avenue, Seabright neighborhood, Morrissey Boulevard and the Hwy 1/9 intersection also experience high levels of vehicle traffic.

Accident Data

During the five year period, there were a total of 921 accidents on Hwy 1 from Morrissey-St. Park with no fatalities and 281 injuries resulting in a total accident rate of 1.22, which is below the statewide average rate of 1.60. The types of collisions were rear end (287), hit object (66), and sideswipe (47). The primary collision factors for these types of accidents were speeding (263); improper turn (40), and tailgating (45). The times of the day when a large percentage of these accidents occurred were 8:00 a.m. (60), 9:00 a.m. (36), and 5:00 p.m. (70).

Transit Services

Regional bus routes provide service to destinations in Santa Clara and Monterey Counties. Weekday service is provided by the Highway 17 Express Bus, which serves Santa Cruz, Scotts Valley and San Jose (destinations include the Caltrain Station and San Jose State University). Amtrak buses provide service to downtown Santa Cruz's transit center and to the San Jose Caltrain station, with train connections to San Francisco, Sacramento, Stockton and intermediate cities. Limited Amtrak bus service is also available between Watsonville and San Jose. Greyhound buses serve downtown Santa Cruz, Los Gatos and the San Jose Airport.

Modal Choice/Transit

Although the urbanized portions of the County, especially University oriented areas of Santa Cruz, exhibit support for alternative transportation modes including transit and bicycling, the preponderance of new growth has been at lower, less transit conducive densities in communities and unincorporated area lying south of Santa Cruz. As a result, a recent survey indicates that 83% of the County's workers commute in single occupant vehicles. Those who live in Santa Cruz County and work elsewhere also impact Highway 1. According to the 1990 Census approximately 20% of employed Santa Cruz County residents travel to jobs in Silicon Valley and beyond; a significant proportion of these travelers use Highway 1 to access Highway 17 over the Santa Cruz Mountains.

The Route 1 facility currently includes park and ride lots in support of transit use, vanpools, and high occupancy vehicles. "Express Buses", including Route 17 Express Service are trapped in mixed flow lanes with all other traffic, and no incentives such as ramp meter HOV bypass lanes or mainline HOV lanes exist to encourage ridesharing.

Lack of Alternative Routes

Owing to geography, topography and historical development patterns, Route 1 is the lifeline for transportation through the County and its urbanized areas. While Route 1 is the only continuous route through the County, Soquel Drive/Soquel Ave and other local arterials including Capitola Road and Murray Street/East Cliff Drive, serve as parallel routes within certain sections of the urbanized area. These roadways, however, are themselves congested during peak hours and little opportunity exists to expand their capacity. An underutilized branch rail line provides potential for future transit growth in the corridor, and including potential use for as a bicycle and pedestrian path. The closest parallel State highway for interregional travel is U.S Route 101, which is separated from Route 1 by coastal mountains.

REGIONAL TRANSPORTATION PLANNING

Institutional Context

The regional transportation planning agency for Santa Cruz County is the Santa Cruz County Regional Transportation Commission (SCCRTC). SCCRTC oversees planning and funding programs for local & regional projects using state and federal transportation funds. The City of Santa Cruz has one City representative on the 12-member SCCRTC board and many City transportation projects are funded through grant programs administered by the SCCRTC.

Adopted Plans and Programs

Three regional transportation planning efforts directly affect the future of transportation planning for the City of Santa Cruz:

1. The Master Transportation Investment Study (MTIS), approved by the RTC in 1999, which sets forth a program of $260 million in transportation projects for the Watsonville - Santa Cruz - UCSC corridor to be pursued over the next 15 years.
2. The Regional Transportation Plan (RTP), adopted by the RTC in October 2001, which is the comprehensive regional transportation planning document providing guidance for transportation policy and projects to improve mobility through 2025 and incorporates the MTIS decision.
3. The 2002 Regional Transportation Improvement Program (RTIP), adopted by the RTC in December 2001, which implements the RTP, proposes how regional funds should be spent to the California Transportation Commission, and is the summary document which tracks state and federal transportation funding through fiscal year 2006/07.

Key Regional Projects

The adopted RTP confirmed the recommendations of the MTIS, with the following projects having significant potential to affect the mobility future for the City of Santa Cruz:

- **Acquisition of the Santa Cruz Branch rail line** for future transportation resource for the community.
- **Development of a bicycle and pedestrian pathway adjacent to the rail line**, where freight operations will continue and future transit options will not be precluded.
- **Implementation of the Highway 1/17 Merge Lanes project**. This project provides operational improvements by widening the existing to add merge lanes between Highway 17 and Morrissey Blvd. It is funded with $52 million in State Transportation Improvement Program (STIP) funds and is scheduled to start construction in 2004. It can be characterized as the next step toward full highway widening (with Mission St. widening as the first step).
- **Planning for Highway 1 widening from four lanes to six lanes to add HOV lane both ways is beyond the limits of the upcoming Highway 1/17 Merge Lanes project.** This project would modify six interchanges and ten structures, including three additional structures for pedestrian over crossings and sound walls. The extended Highway 1 widening project is not yet funded and will require a local sales or gas tax to enable future construction.

- **Funding for a 15-year growth plan for increasing bus service**, including new buses, bus stops, equipment and upgraded maintenance/operations facilities.
- **Funding for high priority local bike projects**, including around schools, and an **electric bike program** allowing discounted distribution and sale of electric bikes to people committed to driving less.

None of these projects are fully funded yet.

CONSISTENCY WITH MTS GOALS

Table 2 presents 2002 Regional Transportation Improvement Program funded projects and longer-term RTP projects that will affect future City of Santa Cruz travel. The table provides a conceptual evaluation for consistency with the MTS goals. All identified RTIP and RTP projects are consistent with the MTS, with the following comments:

MTS High Priority Projects

The following projects are MTS high priority projects:

- Metrobase Transit District Consolidations Operations Facility.
- Right of Way Acquisition on rail corridor.
- Bike and pedestrian path on rail right-of-way.
- Local bike projects.
- Expanded Bus Service

Projects Requiring Further Evaluation

The proposed Highway 1 widening projects, both the 1) widening of existing on-ramps, adding auxiliary lanes and ramp metering, and 2) adding one HOV lane each direction - widening Highway 1 from 4 to 6 lanes - modification to 6 interchanges and 10 structures, including 3 pedestrian over crossing and sound walls, require additional design and operational information to evaluate project impacts and ensure consistency with MTS goals.

Key questions to be analyzed in the environmental analysis are:

1. The potential effect of increasing SOV use with the addition of HOV lanes.
2. Local street system peak hour traffic impacts associated with increased HOV and SOV traffic including the Highway 1 and Mission Street corridors, as well as on Soquel Avenue.
2. Operational efficiency and travel timesaving with the design of the transitions from Hwy 1 HOV lanes to local city streets including the flow of transit and ridesharing to UC, downtown and employment center locations.

4. Opportunities for new bicycle lanes and pedestrian connections across Highway 1 to link the north and south areas of Santa Cruz together.

A proposed Route 1 strategy for MTS is to

1. Recognize the regional problem;
2. Raise questions regarding the problem and potential solutions for consideration;
3. Identify issues, solutions and alternatives to address potential impacts for environmental analysis. Items identified by the Steering Committee are:

- Park and ride at Hwy 1/9 is critical.
- Park and ride all along the Hwy 1 corridor.
- Transit stops directly along Hwy 1 corridor (on the freeway).
- Consider Hwy 1 corridor/ROW as accommodating other very high occupancy transit systems (fixed guide way).
- Increase efficiency of Hwy 1 corridor.
- Provide better housing opportunities for those working in the City and currently residing in the County.
- Balance jobs & housing.
- Widening of all bridges across the corridor to accommodate bike lanes and pedestrian facilities.
- Parking pricing options.
- Consider appropriate transit technologies given regional distribution of land use, i.e. that 50% future growth is in low density, auto dependent unincorporated areas of county.
- Provide land use alternatives in EIR analysis for region.
- Providing alternatives, including HOV lanes, improve SOV travel.
- City hire separate EIR consultant to independently evaluate HOV lane impacts.
- Offer choices.
- Recommend rationale to council.
- Ensure that if there is a 1/2 cent sales tax to pay for the widening, that it does not eliminate funding for transit.
- What are the local street impacts of the Highway 1 widening?

Table 2: Regional Projects

Project	Cost	Consistent MTS	Remarks
Hwy 1 widening - merge lanes cost increases	$52 million	- Projects Funded in the RTIP that Affect the City --	need additional information to evaluate impacts & insure consistency with MTS goals
Metrobase - Transit District Consolidated Operations Facility	$31 million	Yes	**MTS high priority** *needs additional funds*
Traffic management - Hwy 1 freeway service patrol	$240,000	Yes	non capacity increasing project that improves safety and traffic flow
Traffic management - Commute solutions	$444,000	Yes	regional carpool program
Project management - SB45 planning funds	$230,000	Yes	helps track funding for all projects
Sanctuary Scenic Trail	$1.5 million		Only $150,000 currently funded
Santa Cruz Metro Center Rehabilitation	$6 million		
Highway 17 Bus Purchases	$4 million		
Santa Cruz Branch Rail Line Acquisition needs additional funds	$15 million	yes	**MTS high priority**
Regional Vanpool Incentive Program	$100,000		
Santa Cruz Area TMA Program	$90,000/yr		
Electric Bicycle Commuter Incentive Program	$1 million	yes	*needs additional funds*
One in Five (Don't Drive) Rideshare Promotion	$1 million	yes	*needs additional funds*
Bike & pedestrian path on rail right-of-way only environmental and planning phase funded	$12 million	yes	**MTS high priority**
Battery Backup of Signals program	$200,000		

City of Santa Cruz Projects

San Lorenzo River bike/ pedestrian bridge needs additional funds	$3 million	yes	**MTS high priority**
Santa Cruz Multimodal Station at Depot Site	$4 million		
Broadway-Brommer Bike Path	$2 million		
Beach Street Contraflow Bikeway	$600,000		
Front St. pavement rehabilitation	$325,000	yes	
High St./Highland Ave. pavement rehabilitation	$611,000	yes	
Water St. pavement rehabilitation	$195,000	yes	
EastCliff/Murray St. pavement rehabilitation	$395,000	yes	

Project	Cost	Consistent MTS	Remarks
San Lorenzo/E. Cliff/Riverside pavement rehabilitation	$900,000	yes	
West Cliff Dr Path Widening	$888,000	yes	*may need additional funds*
Mission St/Hwy 1 Lighting	$1 million	yes	*needs additional funds*
Water, Soquel, and Broadway pavement rehabilitation	$395,000	yes	aka "arterial roadway rehab"
Mission St/Hwy 1 Landscaping	$625,000		

RTP Projects that may be implemented/constructed 2002-2025 (Not currently funded)

Bus service improvements		yes	**MTS high priority**
-Bus stop improvements	$7.5 million		
-Fleet preventative maintenance	$1.1 million		
-Hwy 17 Express Service Expansion	$21 million		
-Local transit service expansion	$32.2 million		
-Replacement Buses	$69 million		
-Metro System Automated Customer Service	$200,000		
-Transit Alternative Fuel Conversions	$3.2 million		
-Transit Mobility Training Program Expansion	$1.2 million		
-Transit Service Operations and maintenance	$732 million		
-Transit Technological Improvements	$5 million		
-UCSC Bus Service Expansion	$12.3 million		
-Web-based Transit Rte Info	$300,000		
-ADA Paratransit fleet and service	$21.5 million		
-Countywide Specialized Transportation	$34.5 million		
-Liftline Consolidated Op Facility	$10 million		
-Non-ADA Paratransit Service Expansion	$17 million		
Hwy Improvements			
Adding 1 HOV lane each direction by Widening Hwy 1 from 4 to 6 lanes, Morrissey Blvd to State Park Drive	$300 million		need additional information to evaluate impacts & insure consistency with MTS goals
Hwy 1/9 intersection modifications and park and ride lot	$6 million	yes	
Intelligent Transportation Systems on Hwy 1	$3 million		
Bike/Ped bridge on Hwy1 @ Mattison	$2 million		
Hwy 1 Ramp Metering	$2.5 million		

Project	Cost	Consistent MTS	Remarks
Hwy 1/San Lorenzo Bridge Widening	$10 million		
Hwy 17 ITS	$7 million		
Hwy 17 Operational Improvements	$50 million		
Hwy 17 CHP Safety Program	$2.5 million		
local road improvements (MTS project listing) evaluate impacts & ensure consistency with MTS goals		yes	need additional information to
Neighborhood Traffic Management	$2.5 million		
Countywide bicycle projects	$75 million	yes	MTS high priority
Local Arterial EMS and HAR System	$600,000		
Intracity Rail Transit	$10 million		Passenger rail in City of SC
Other Regional Projects/Programs			
Bike to Work Project (Ecology Action)	$620,000		
Electric Vehicle Recharging Stations	$2 million		
Integrated Transportation Info Center			
Park and Ride Lot Development	$8 million		
Transit Oriented Development Program	$5 million		
Car sharing Program (SC TMA)	$2.5 million		

4.7 TRAFFIC & TRANSPORTATION

This section analyzes traffic and transportation impacts of the proposed project based on the trip generation, distribution and level of service analyses prepared by Kimley-Horn (May 2017) that was reviewed by the City of Santa Cruz Public Works Department staff and consulting traffic engineer, Ron Marquez. A summary of the methodology is included in Appendix F of this document.

Public and agency comments related to traffic and transportation were received during the public scoping period in response to the Notice of Preparation (NOP). Issues raised in these comments include:

- Traffic should be considered in the EIR.

To the extent that issues identified in public comments involve potentially significant effects on the environment according to the California Environmental Quality Act (CEQA) and/or are raised by responsible agencies, they are identified and addressed within this EIR. Public comments received during the public scoping period are included in Appendix B.

4.7.1 Environmental Setting

Regulatory Setting

A number of local, regional and state agencies are involved with transportation planning and implementation of transportation programs and improvements within the City of Santa Cruz. The City maintains local roadways and transportation facilities. The California Department of Transportation (Caltrans) has jurisdiction over State highway segments that traverse the City, including portions of Highways 1, 9, and 17. To address roadway and intersection improvements needed as a result of impacts of new development, the City has developed a "Traffic Impact Fee" (TIF) program. The TIF is applied to new development and redevelopment and is collected at the time of issuance of building permits (see discussion below in the "Planned Transportation Improvements" subsection for more details). The City also is active in acquiring transportation funding from federal, state, and local sources.

Other local and regional agencies responsible for transportation services and/or transportation planning are summarized below.

- *The Association of Monterey Bay Area Governments* (AMBAG) is the federally designated Metropolitan Planning Organization (MPO) for transportation planning activities in the tri-county Monterey Bay region (Santa Cruz, Monterey and San Benito counties). It is the lead agency responsible for developing and administering plans and programs to maintain eligibility and receive federal funds for the transportation systems in the region. AMBAG conducts regional transportation planning activities through its Metropolitan Transportation Plan (MTP), the Metropolitan Transportation Improvement Program

(MTIP), maintenance of a regional travel demand model and demographic forecasts. AMBAG works with regional transportation planning agencies, transit providers, the Monterey Bay Unified Air Pollution Control District (MBUAPCD), state and federal governments, and organizations having interest in or responsibility for transportation planning and programming.

- *The Santa Cruz Regional Transportation Commissio*n (SCCRTC) is the State designated Regional Transportation Planning Authority (RTPA) for transportation planning activities in Santa Cruz County. SCCRTC oversees planning and funding programs for local and countywide projects within Santa Cruz County using state and federal transportation funds. The City of Santa Cruz has one City representative on the 12-member SCCRTC board and some City transportation projects are funded through grant programs administered by the SCCRTC.
- *The Santa Cruz Metropolitan Transit District* (SCMTD) provides transit services throughout Santa Cruz County.

Study Area

The project area consists of the downtown area generally covered by the Downtown Recovery Plan (DRP) and the Central Business District zone, and specifically the lower downtown area generally between Soquel Avenue and Laurel Street on the north and south, and Cedar Street and the San Lorenzo River on the west and east. (Locations are shown on Figures 1-2 an d 2-1 in Section 3, Project Description.) The study area includes properties adjacent to the western San Lorenzo River levee.

Since the proposed project includes an amendment to the land use designation text for the Regional Visitor Commercial land use designation, the study area also includes lands located within this designation. In addition to the downtown area, the Regional Visitor Commercial (RVC) land use designation is applied to sites in the Beach area and upper Ocean Street adjacent.

The City's "Transportation Impact Study Guidelines" (2011), requires a traffic impact analyses to be conducted where a project would result in an increase of 50 or more trips during the weekday PM peak hour. In the City of Santa Cruz, the PM peak hour (between 4 PM and 6 PM) generally has the highest number of trips compared to the AM peak hour (between 7 AM and 9 AM) or the midday peak hour (City of Santa Cruz, April 2012-DEIR), and is considered the peak hour period for traffic impact studies in the City.

Based on the Transportation Impact Study Guidelines and the trip generation of the project, study intersections were selected for evaluation by the City Public Works Department and include those listed below. AM and PM peak traffic count data was collected on Thursday, May 22, 2014 and Tuesday November 17, by Kimley-Horn Associates.

1. Front Street / Laurel Street
2. Pacific Avenue / Laurel Street
3. Front Street / Cathcart Street
4. Front Street / Metro Station Driveway
5. Pacific Avenue / Metro Station Driveway
6. Pacific Avenue / Maple Street
7. Pacific Avenue / Front Street / Mission-Water Street
8. Front Street / Soquel Avenue
9. Pacific Avenue / Cathcart Street
10. Soquel Avenue / Pacific Avenue
11. Ocean Street / Water Street
12. Highway 1 / Highway 9
13. Chestnut Street / Mission Street / Highway 1

Roadway Network

Local Streets and Roads

Project site access will be provided primarily from Pacific Avenue, Front Street, Laurel Street and Soquel Avenue. Other local streets and roads include Maple Street, Elm Street and Cathcart Street.

Pacific Avenue is a north-south street and is classified as arterial in the City of Santa Cruz General Plan (City of Santa Cruz, June 2012). Between Laurel Street and Cathcart Street it is a two lane divided roadway. North of Cathcart Street, Pacific becomes a one-way roadway. There is two hour metered on-street parallel parking and sidewalks are present on both sides of the street. SCMTD buses use Pacific Avenue to enter Pacific Station, a large transit center providing regional service to the City of Santa Cruz.

Front Street is a north-south two lane arterial with left turn pockets. Between Cathcart Street and Soquel Avenue, Front Street becomes three lanes. Sidewalks and bicycle lanes are present on both sides of the street. Metered on-street parallel parking is provided on the east side of the street as well. Front Street provides direct access to three surface parking lots and one parking structure. SCMTD buses use Front Street to enter and exit the Metro Station transit center.

Laurel Street is an east-west arterial with left turn pockets. Bicycle lanes and sidewalks are present on both sides of the street. There is no on-street parking allowed on Laurel Street in the study area.

Soquel Avenue is an east-west arterial that provides a major east-west connection over the San Lorenzo River to downtown and to the eastern portion of the City. Near the study area it is a four lane roadway with sidewalks and bicycle lanes on both sides of the street. Limited, metered, parallel parking is provided on both sides of the street between Pacific Avenue and Front Street.

Water Street is an east-west four lane arterial with left turn pockets between Center Street and Branciforte Avenue east of the study area. At its intersection with Center Street, Water Street becomes Mission Street. Between Chestnut Street Extension and Center Street, Mission Street is a two lane arterial. There are bicycle lanes on both sides of the street and crosswalks at every intersection within the study area. There is on-street twelve hour metered parallel parking on the north side of the street between Center Street and River Street. East of Pacific Avenue twelve hour metered on-street parallel parking is available on the south side of the street until River Street.

Cedar Street is a north-south two lane arterial parallel to Pacific Avenue. There are bicycle lanes on both sides of the street and crosswalks at every intersection in the study area. Metered on-street parallel parking is provided as well as access to several paid surface parking lots and parking structure. At its intersection with Laurel Street, vehicles are restricted to right turns only southbound.

River Street is a north-south arterial that parallels the San Lorenzo River. It connects to State Route 9 at its northern terminus with State Route 1. South of Water Street it splits into River Street and S. River Street. River Street terminates at Front Street and S. River Street terminates at Soquel Avenue. Bicycle lanes are provided on both sides of the roadway on River Street between Front Street and State Route 9. While there is no bicycle facility on S. River Street the San Lorenzo Riverwalk runs parallel to it. (See below for more information on the San Lorenzo Riverwalk.) There are textured colored crosswalks connecting to the pedestrian bridge over the San Lorenzo River at the Regal Cinemas theater. Twelve hour metered on-street parallel parking is provided on the west side of S. River Street and on the east side of River Street between Front Street and S. River Street.

State Highways

State highways that are in the vicinity of the project site include segments of State Routes 1 and 17; State Route 1 is located approximately 1/2 mile driving distance northwest of the project site. Though referenced as “state routes” in Caltrans documents, the more common term, “highway”, is used in this EIR. Highways 1 and 17 serve regional traffic, including motorists who commute to jobs in the Santa Clara Valley and motorists who travel into Santa Cruz County for recreational opportunities offered in the county (City of Santa Cruz, April 2012, DEIR volume).

Highway 1 provides access to San Francisco to the north and Monterey to the south. Regionally, Highway 1 is the major inter- and intra-county route for Santa Cruz County. Within the City of Santa Cruz, it is oriented in an east-west direction, although the interregional alignment of Highway 1 is primarily north-south. It is a four-lane arterial along Mission Street from the west

side of Santa Cruz to Chestnut Street Extension, a four-lane expressway between Mission Street-Chestnut Street and River Street, and a four-lane freeway east of River Street. The speed limit on Highway 1 is 25 mph along Mission Street, 45 mph along the expressway section, and 55 and 65 mph on the freeway sections. Recurrent congestion results in queuing on Highway 1 that extends for several miles during peak hours. Accidents, events, and other incidents in the corridor can further increase congestion related delays in either direction, on any day, including weekends (City of Santa Cruz, April 2012, DEIR volume).

Highway 9 is a multi-lane highway between Highway 1 and Encinal Street. It is two-lanes north of Encinal Street that connects the City of Santa Cruz with the San Lorenzo Valley, and eventually, Saratoga and Los Gatos.

Highway 17 connects Santa Cruz with Scotts Valley and San Jose and other Santa Clara County communities. It is a four-lane freeway north of the Highway 1/ Highway 9 intersection. Highway 17 is the primary route between the Santa Clara Valley and Santa Cruz County that serves as both a commute route for Santa Cruz County residents that work in Santa Clara County and as a route for recreational visitors that come to Cruz County. Congestion occurs both during weekday commute times and on summer weekends. This winding, four-lane road has steep sections, frequent road crossings, and substandard median shoulders and outside shoulders for most of its length. In addition to the challenging roadway configuration, weather-related conditions such as thick fog, heavy rains and mudslides affect roadway operations (City of Santa Cruz, April 2012, DEIR volume).

Other Transportation Modes

Pedestrian and Bicycle Facilities

Pedestrian facilities within the study area include sidewalks, crosswalks, ADA ramps and pedestrian signal heads. The sidewalks on Pacific Avenue are 10 to 25 feet wide and crosswalks with ADA ramps are provided at every intersection. The sidewalks on Front Street are generally 8 to 10 feet wide and crosswalks are provided at intersections as well as in front of the Pacific Station transit center. Bicycle amenities include bicycle parking (located at Pacific Station), Class II facilities (bicycle lanes) and the San Lorenzo Riverwalk.

The San Lorenzo Riverwalk is a north-south bicycle and pedestrian path that follows the San Lorenzo River in Santa Cruz for approximately 2.5 miles. The paved trail is on the river levee on both the east and west sides of the river, except for a short segment in the vicinity of the County Building north of Soquel Avenue, which is currently under construction. A pedestrian/bicycle bridge north of Soquel Avenue connects both sides of the levee trail system, and can be accessed from River Street, approximately 750 feet north of the project site.

Public Transit Service

Public transit service in the City and County of Santa Cruz is provided by the Santa Cruz Metropolitan Transit District (SCMTD). Pacific Station, located on the east side of Pacific Avenue between Elm Street and Maple Street, is the largest transit center for SCMTD bus service. There are four bus departure lanes and a staffed customer service information booth. All routes except 33-34, 55, and 72-79 service the station. In September 2016, SCMTD implemented a large service reduction to address funding shortfalls. This reduction affected some of the routes servicing Pacific Station, however it is still provides high frequency service.

Existing Traffic Conditions

According to City data, from the years 2010 to 2014, 63% of commuters within the City drove alone, 11% walked, 10% bicycled, 8% carpooled, 6% took the bus, and 2% used other modes such as taxi, motorcycle (City of Santa Cruz, 2016 Annual Traffic Safety Report). This data shows significant progress towards the City's Climate Action Plan goals to increase biking and walking and decrease single-occupancy vehicle use within the City. Santa Cruz has one of the highest bicycle mode splits in the country, and a lower "Drive Alone" mode split than most California cities (Ibid.).

Vehicle Traffic

Vehicle traffic conditions are measured by average daily traffic (ADT), peak hour traffic volumes, level of service (LOS), average delay, and/or volume to capacity (V/C) ratio. Average daily traffic is the total number of cars passing over a segment of the roadway, in both directions on an average day. Peak hour volumes are the total number of cars passing over a roadway segment during the peak hour in the morning (AM) or afternoon/evening (PM) (City of Santa Cruz, April 2012, DEIR Volume).

To evaluate the performance of roadways and levels of traffic congestion, many jurisdictions, including the city of Santa Cruz, use LOS. "Level of Service" is a qualitative measure that describes the level of traffic congestion and delay at intersections based on the amount of vehicle traffic that a roadway or intersection can accommodate and factors such as maneuverability, driver dissatisfaction, and delay. Traffic flow along roadways is typically controlled by the volume and capacity of the nearest intersection, therefore intersections are analyzed using LOS as an indicator of congestion. Intersections are rated based on a scale of LOS "A" through LOS "F," with LOS A representing free-flowing conditions and LOS F representing congested conditions. The intermediate levels of service represent incremental levels of congestion and delay between these two extremes. Table 4.7-1 relates the operational characteristics to each associated LOS category for signalized and unsignalized intersections.

The signalized intersection LOS methodology addresses the LOS for the intersection as a whole, whereas LOS methodology for unsignalized intersections computes delay for the minor

movements. The critical volume to capacity ratio (V/C) is another measure of the operating conditions of an intersection as opposed to LOS. It is not the average of all the movements at the intersection and is not used as a measure to define the levels of service.

The City of Santa Cruz General Plan 2030 seeks to maintain LOS D or better at signalized intersections during the PM peak hour (Action M3.1.3). However, the General Plan also accepts a lower level of service and higher congestion at major regional intersections if necessary improvements would be prohibitively costly or result in significant, unacceptable environmental impacts (Action M3.1.4).

Caltrans, which has jurisdiction over state highways, endeavors to maintain a target LOS at the transition between LOS C and D. However, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS (Caltrans, December 2002). If an existing State highway facility is operating at less than the appropriate target LOS, the existing LOS should be maintained (Ibid.).

TABLE 4.7-1: Intersection Level of Service Definitions

Level of Service	Description	Signalized (sec/veh.)	Unsignalized (sec/veh.)*
A	Free flow with no delays. Users are virtually unaffected by others in the traffic stream.	≤ 10	≤ 10
B	Stable traffic. Traffic flows smoothly with few delays.	>10 – 20	>10 – 15
C	Stable flow but the operation of individual users becomes affected by other vehicles. Modest delays.	>20 – 35	>15 – 25
D	Approaching unstable flow. Operation of individual users becomes significantly affected by other vehicles. Delays may be more than one cycle during peak hours.	>35 – 55	>25 – 35
E	Unstable flow with operating conditions at or near the capacity level. Long delays and vehicle queuing.	>55 – 80	>35 – 50
F	Forced or breakdown flow that causes reduced capacity. Stop and go traffic conditions. Excessive long delays and vehicle queuing.	> 80	> 50

*Two-way stop control intersection

SOURCE: Transportation Research Board, *Highway Capacity Manual 2010*, National Research Council as cited in City of Santa Cruz General Plan 2030 EIR.

Intersection Levels of Service

Intersection turning movement counts were conducted on Thursday, May 22, 2014 and Tuesday November 17, 2015 at the study intersections during the PM peak period (4:00 pm to 6:00 pm). From these counts the peak one-hour period was identified. Figure 4.7-1 shows the traffic volumes during the PM peak one-hour period. LOS for the project traffic study intersections was calculated using methods defined in the *Highway Capacity Manual, 2010 and 2000* (HCM) and Synchro 8 traffic analysis software. HCM 2010 was used for all intersections except for the intersection of Pacific Avenue / Front Street / Mission-Water Street due to the presence of a fifth approach at this location, which HCM 2010 cannot analyze correctly. Therefore, HCM 2000 was used to analyze this study intersection. The delay and corresponding LOS for each of the study intersections was calculated.

Table 4.7-2 shows the resulting LOS based on approach to the intersection. All intersections operate at an acceptable LOS except Highway 1 / Highway 9 and Chestnut Street / Mission Street, which operate at LOS E.

State Highway Operations

Based on the most recent (2015) Caltrans Traffic Census Program (Caltrans 2015) data, the annual average daily traffic (AADT) on state highways within Santa Cruz is as follows:

- Highway 1
  - At Highway 17, AADT is approximately 61,000 to 86,000 trips with 4,950 to 6,300 trips occurring during the peak hour.
  - At Emeline Street Connection, AADT is approximately 85,000 to 86,000 trips with approximately 5,900 to 6,300 trips occurring during the peak hour.
  - At Morrissey Boulevard, AADT is approximately 85,000 to 94,000 trips with 5,900 to 6,300 trips occurring during the peak hour.
- Highway 17, at Pasatiempo (between Santa Cruz and Scotts Valley). AADT is approximately 67,000 to 70,000 trips with 5,700 to 6,000 trips occurring during the peak hour.
- Highway 9 within Santa Cruz City Limits. AADT is approximately 5,000 to 5,200 trips with 530 to 550 trips occurring during the peak hour as measured at the City limits, north of Encinal.

Review by the City's consulting traffic engineer, Ron Marquez, indicates that the highway segments in the vicinity of the project site are operating at LOS of C and D during the peak hour as summarized on Table 4.7-3.

TABLE 4.7-2: Existing Intersection Weekday PM Peak Hour Levels of Service

#	Intersection	Control Type	Jurisdiction	Threshold[2]	Existing Conditions[1]		
					PM Peak Hour		
					Movement	Delay[3]	LOS
1	Front Street / Laurel Street	Signal	Santa Cruz	D	Overall	30.8	C
2	Pacific Avenue / Laurel Street	Signal	Santa Cruz	D	Overall	17.9	B
3	Front Street / Cathcart Street	Signal	Santa Cruz	D	Overall	19.0	B
4	Front Street / Metro Station Access	Signal	Santa Cruz	D	Overall	4.9	A
5	Pacific Avenue / Metro Station Access	SSSC	Santa Cruz	D	Overall	1.1	A
		Worst Approach	Santa Cruz	D	WB	11.4	B
6	Pacific Avenue / Maple Street	AWSC	Santa Cruz	D	Overall	8.1	A
7	Pacific Avenue / Front Street / Mission-Water Street	Signal	Santa Cruz	D	Overall	20.2	C
8	Front Street / Soquel Avenue	Signal	Santa Cruz	D	Overall	21.9	C
9	Pacific Avenue / Cathcart Street	AWSC	Santa Cruz	D	Overall	8.8	A
10	Soquel Avenue / Pacific Avenue	SSSC	Santa Cruz	D	Overall	3.6	A
		Worst Approach		D	WB	10.3	B
11	Ocean Street / Water Street	Signal	Santa Cruz	D	Overall	35.3	D
12	Highway 1 / Highway 9	Signal	Caltrans	C-D	**Overall**	**71.7**	**E**
13	Chestnut Street / Mission Street / Highway 1	Signal	Caltrans	C-D	**Overall**	**74.1**	**E**

Source: Kimley-Horn May 2017.

Notes:

1. Analysis performed using HCM 2010 methodologies, except for Intersection 7 where HCM 2000 methodology was applied.
2. The City of Santa Cruz has established LOS D as the minimum acceptable LOS for overall intersection operations during the AM and PM peak hours. Caltrans maintains a standard of between LOS C and D.
3. Delay indicated in seconds/vehicle.
4. Intersections that fall below the LOS threshold are shown in **bold**.

TABLE 4.7-3: Existing Highway Traffic Volumes and Peak Hour Levels of Service

Segment	Direction	Number of Lanes	Volume	Max Flow Rate for C	Max Flow Rate for D	LOS
Route 1: Route 9 to Route 17	N	2	2,080	2,761	3,444	C
	S	2	3,120	2,761	3,444	D
Route 1: Route 17 to Emeline	N	2	2,820	2,761	3,444	D
	S	2	1,880	2,761	3,444	C
Route 17: Route 1 to Pasatiempo	N	3	3,300	3,888	5,165	C
	S	3	2,700	3,888	5,165	C
Peak hour volumes from Caltrans 2015 Peak hour factor-.92, free flow speed – 55, heavy vehicle factor-.985 (Exhibit 11-17 HCM 2010)						

SOURCE: Ron Marquez, Traffic Engineer Consultant

Planned Transportation System Improvements

Metropolitan Transportation Improvement Program

AMBAG, as an MPO, is required by state and federal laws to develop and adopt a Metropolitan Transportation Improvement Program (MTIP), a multi-year transportation project program that includes multi-modal projects, including but not limited to major highway, arterial, transit, bikeway and pedestrian projects. The 2016 MTIP is a four-year program that covers the federal fiscal years from October 1, 2016 through September 30, 2020. The MTIP implements the 2035 Monterey Bay Area Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS) adopted by the AMBAG Board of Directors in June 2014. The 2035 MTP/SCS is a financially constrained document and includes identified transportation improvement projects for the region. Once the projects are included in the MTP, they become eligible for inclusion in the MTIP and FSTIP. The projects included in the 2016 MTIP are consistent with the 2035 MTP/SCS (AMBAG, September 2016). Planned projects in the vicinity of Ocean Street and Ocean Street Extension include improvements to the Highway/9 intersection, Highway 1 auxiliary lanes (Soquel Avenue to 41st Avenue), and High Occupancy Vehicle (HOV) lanes between the Morrissey and San Andreas interchanges.

City of Santa Cruz Planned Improvements

The City's adopted Capital Improvements Program (CIP) is a multi-year schedule of projects with their associated costs and proposed funding sources. The CIP represents the best efforts to allocate available resources toward projects that maximize benefit and address the most critical needs. Major improvements on the current 2018-2020 CIP include: Highway 1 / Highway 9-River Street intersection improvement (programmed for 2018/19) described below; intersection improvements at the Ocean Street/Water Street intersection (programmed for completion in 2018); Branciforte Creek bike/pedestrian bridge path connection on the San Lorenzo River levee (under construction); and preliminary work to replace the Highway 1 bridge over the San Lorenzo River.

The City of Santa Cruz has adopted a "Traffic Impact Fee" (TIF) program based on future projected trips generated for each new development or redevelopment project. The TIF program, originally adopted in June 2005, evaluated over 60 intersections and identified numerous projects within the City which were needed in order to address the effects of cumulative development, and established fees. The fees are used to fund planned improvements at intersections and roadways included in the program. New development and redevelopment projects are required to pay traffic impact fees, which are paid at the time of building permit issuance. The TIF was updated in November 2012 to reflect traffic conditions associated with buildout accommodated by the City's General Plan as identified in the City's *General Plan 2030* EIR. All of the projects noted above are TIF program intersections, except for the Highway 1 bridge project. The program also funds bike and pedestrian projects (15% of fees collected) and neighborhood improvement projects adjacent to significant development (5% of fee collected).

Bicycle and Pedestrian Improvements

The City's recently adopted *Active Transportation Plan* (2017) includes the following paths that are included in the FY2018-2020 CIP: Branciforte Creek Connection to complete the levee path over Branciforte Creek and under the Soquel Bridge, Monterey Bay Sanctuary Scenic Trail Network Segment 7 along the railroad track on the west side of the City, and the San Lorenzo River Trestle Bridge trail widening project. The Plan also includes numerous other infill and improvements to existing bike and pedestrian facilities.

Regional Transportation Plan Improvements

The SCCRTC periodically completes a Regional Transportation Plan (RTP) and Regional Transportation Improvement Program (RTIP) according to state guidelines to guide short- and long-range transportation planning and project implementation for the county. This 2014 RTP provides guidance for transportation policy and projects through the year 2035. Projects identified in the RTP that are within the project vicinity include:

- Highway 1/Highway 9 Intersection Modifications (also on City CIP and MTIP).
- Highway 1 bridge replacement over San Lorenzo River (also on City CIP).
- Highway 17: Preparation of study to determine long-range solutions to access, operations and safety on this route.
- Branciforte Creek multi-use path and bridge (also on City CIP and under construction)
- Ocean Street Widening from Soquel to East Cliff
- Hwy 1/Mission St at Chestnut/King/Union Intersection Modification
- Pacific Station: Bike Station
- River St/River Street South Intersection Modification
- Water Street Signal Synchronization
- Soquel/Branciforte/Water (San Lorenzo River to Branciforte) Bike Lane Treatments

Planned State Highway Improvements

Highway 1. As indicated above, improvements for the Highway 1 Soquel to Morrissey Auxiliary Lanes Project are complete. In addition, the SCCRTC has been working with Caltrans and the Federal Highway Administration since 1986 on studies for longer-term improvements to Highway 1. The current Caltrans Route Concept Report for Highway 1 includes the addition of HOV lanes to Highway 1 to reduce congestion, encourage carpooling, expand express bus service, and improve safety in the Watsonville to Santa Cruz corridor. (Caltrans, April 2006). This project will add a lane in each direction from Morrissey Boulevard in the City of Santa Cruz to San Andreas/Larkin Valley Road. Caltrans' *Corridor System Management Plan* for Routes 1 and 183 also supports HOV lanes on Highway 1 in conjunction with other transportation demand management strategies (Caltrans, October 2011).

A Draft EIR for the Highway 1 Corridor Investment Program was prepared and released for public review and comment in November 2015 (Caltrans and FHWA, November 2015). The Draft EIR considers three alternatives including an HOV Lane alternative with auxiliary lanes and a Transportation System Management alternative without HOV lanes. A final decision on the preferred alternative has not been made yet. The Draft EIR provides a program level analysis of the Highway 1 corridor alternatives using a two tiered approach. Tier I is a long term, program-level analysis for the future of the Highway 1 corridor between Santa Cruz and Aptos. The Tier I concept for the corridor would be built over time through a series of smaller incremental projects (referred to as Tier II projects). The Tier II analysis includes project-level analysis of smaller incremental projects within the Tier I corridor which would move forward based on available funding. Each of the Tier II projects would undergo separate environmental and public review. Caltrans received a total of 263 letters, emails, and recorded comments from public agencies, organizations and individuals, on the Draft EIR. Based on review of the comments received, the project team has identified a need to update the air quality, natural environment, and traffic operations studies, as well as reporting of the cumulative impacts of the project alternatives prior to completion and release of a Final EIR.

Caltrans has prepared and approved a "Corridor System Management Plan" (CSMP) for Highway 1 from the junction of Highway 68 in Monterey County to King Street/Mission Street in Santa Cruz. The following strategies will be used to manage State Route 1 over the next 20 years:

- Cost-effective maintenance and preservation of the roadway.
- Support improvement of transit service, including new express bus service on HOV lanes if implemented in the Santa Cruz corridor.
- Support land use and transportation planning efforts through participating in local development review and regional planning efforts.
- Reduce congestion through transportation demand management to increase the use of transit, improve bicycle and pedestrian programs, and encourage programs such as carpools, ridesharing, telecommuting, and park-and-ride facilities.

- Implement Intelligent Transportation Systems/Traveler Information/Traffic Management to improve incident management and provide real time traveler information which helps reduce delay.
- Increase modal options such as Caltrain and integrate transit, bicycle and pedestrian transportation into a coordinated multimodal system.
- Collaborate with local partners on a ramp metering plan.
- Operational Improvements, including auxiliary lanes, intersection improvements, and other system refinements to enhance existing services and reduce delay.
- Upgrade intersections to maximize throughput on the State highway and parallel routes.
- Increase the capacity, operational efficiency and connections on parallel roads to reduce local traffic demand on Highway 1.
- Improve mobility, accessibility, reliability, reduce congestion and improve safety by improving capacity on the existing system (Caltrans, October 2011).

Highway 17. Highway 17 connects Santa Cruz with Scotts Valley and San Jose and other Santa Clara County communities. It is a four-lane freeway north of the Highway 1/ Highway 9 intersection. The highway is the primary route between the Santa Clara Valley and Santa Cruz County that serves as both a commute route for Santa Cruz County residents that work in Santa Clara County and for recreational visitors that come to Cruz County. Congestion occurs both during weekday commute times and on summer weekends. This winding, four-lane road has steep sections, frequent road crossings, and substandard median shoulders and outside shoulders for most of its length. In addition to the challenging roadway configuration, weather-related conditions such as thick fog, heavy rains and mudslides affect roadway operations (City of Santa Cruz, April 2012-DEIR volume). According to the Transportation Concept Report for State Route 17 in District 5, (Caltrans District 5, January 2006), the target level of service for Highway 17 between Ocean Street and Scotts Valley is LOS E. The highway segment between Santa Cruz and Scotts Valley is considered to be a four-lane freeway (Caltrans, January 2006).

Highway 9. The current Caltrans Route Concept Report for Highway 9 includes recommendations to widen the shoulders to accommodate bicycle traffic, widening to four lanes from the junction of Highway 1 and Highway 9 to the Santa Cruz city limits, and other left turn improvements outside of the City of Santa Cruz (Caltrans, September 2007).

The Highway 1/Highway 9-River Street intersection, which is controlled by a signal, currently operates at LOS E during the both the PM and Design Day peak hours, which does not meet Caltrans standards. The City is working with Caltrans to implement lane modifications at this intersection. The improvements require Caltrans approval and an encroachment permit. With implementation of these improvements, the intersection would continue to operate at LOS E during the existing PM peak hours, but the average delay would be reduced by approximately 20 seconds.

The following improvements are identified for the Highway 1/Highway 9-River Street intersection, and are included in the current City Traffic Impact Fee (TIF) Program:

- Northbound Approach: Modify the intersection to consist of one left/thru, one-thru, two right lanes and a bike lane; add one northbound lane on Highway 9 and a shoulder/bike lane.
- Southbound Approach: Modify the intersection to consist of two-left, one-left/thru, one-thru, one right lane and a bike lane.
- Eastbound Approach: Reconstruct to consist of two left, three through, and one right-turn lanes.
- Upgrade all sidewalks and access ramps to meet ADA requirements.

Currently, a Project Report, preliminary engineering and associated studies, and environmental review are complete. Construction is anticipated in 2018.

4.7.2 Impacts and Mitigation Measures

Thresholds of Significance

In accordance with the California Environmental Quality Act (CEQA); State CEQA Guidelines (including Appendix G); City of Santa Cruz plans, policies and/or guidelines; and agency and professional standards, a project impact would be considered significant if the project would:

7a Conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit (see discussion of City standards below);

7b Change the level of service of a State Highway roadway segment from acceptable operation (LOS A, B, or C) to deficient operation (LOS D, E or F) or result in a change in LOS for a segment currently operating at a deficient level based on Caltrans significance criteria[1];

7c Conflict with an applicable congestion management program, including, but not limited to, level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways;

7d Substantially increase hazards due to a design feature (for example, sharp curves or dangerous intersections) or incompatible uses (for example, farm equipment);

[1] Caltrans. December 2002. "Guide for the Preparation of Traffic Impact Studies."

7e Result in inadequate emergency access; or

7f Conflict with adopted policies, plans, or programs regarding public transit, bicycle or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

The City of Santa Cruz General Plan 2030 strives to maintain a LOS of "D" or better as the acceptable level of service for intersections. A significant impact would result if LOS dropped below a "D" level of service or where a project would contribute traffic increases of more than three percent at intersections currently operating at unacceptable levels (E or F), as further described below. This criteria is applied only to intersections within the City's jurisdiction, but not to Caltrans intersections. The City's General Plan 2030 also accounts for accepting a LOS below "D" at major regional intersections where improvements would be prohibitively costly or result in significant, unacceptable environmental impacts. There are no other adopted plans, ordinances, or policies that establish "measures of effectiveness" for the performance of the circulation system.

For City intersections that already operate at unacceptable levels of service (E or F), the City considers project impacts to be significant if congestion will worsen measurably at the intersection as a result of the project. "Measurably worse" is considered to be a three percent increase in trips at the affected intersection. The City has used the three percent significance criterion for project trip contribution at existing impacted intersections, except for Caltrans-maintained intersections (which are subject to the criteria in 3b above), in part based on directives in the City's existing General Plan to accept a certain level of congestion during peak hours at major intersections, as well as to reflect variations in daily traffic volumes. The three percent criterion has been used throughout the City and is based upon the likelihood that a project will result in an observable increase in congestion at a given intersection or road segment. This is based in part on information provided by Caltrans, in the yearly "Traffic Volumes" reports, which identifies the standard deviation expected with regard to reliability of traffic count data. The standard deviation ranges indicate a 12 percent deviation at 10,000 vehicle trips, meaning that if a traffic count totals 10,000 vehicles per day, then approximately 90 percent of the time, the actual traffic counts will lie within a range of 8,800 to 11,200 vehicles. Thus, the three percent reflects this variation in daily traffic conditions (California Department of Transportation, June 2015).

Regarding Caltrans' intersections and other Caltrans maintained facilities, the Caltrans Traffic Impact Study Guidelines (Caltrans 2002) state that Caltrans endeavors to maintain a target LOS at the transition between LOS C and LOS D on State highway facilities. As such, LOS C through D is considered to be acceptable traffic operations during the peak hour at intersections maintained by Caltrans. The Guidelines also state that if an existing State highway facility is operating at less than the appropriate target LOS, the existing MOE (LOS) should be maintained (Caltrans, 2002).

Vehicle Miles Traveled

In September 2013 Governor Brown signed Senate Bill 743 which made significant changes to how transportation impacts are to be assessed under CEQA. SB 743 directs the Governor's Office of Planning and Research (OPR) to develop a new metric to replace LOS as a measure of impact significance and suggests vehicle miles travelled as that metric. According to the legislation, upon certification of the guidelines, automobile delay, as described solely by LOS shall not be considered a significant impact (Section 21009(a)(2)). SB 743 also creates a new CEQA exemption for certain projects that are consistent with the regional Sustainable Communities Strategy.

OPR has released draft CEQA Guidelines to address this requirement; however, at the time this analysis was completed the Guidelines have not been finalized or certified. It is anticipated that the revisions to the CEQA Guidelines will be finalized in 2017. According to the most recent draft CEQA Guidelines released by the OPR, lead agencies would have a grace period of two years to update and adopt new thresholds once the final Guidelines have been adopted. The City of Santa Cruz will update its transportation standards of significance to reflect SB 743 once the state has finalized the guidelines. Because there are no adopted thresholds and the revised State CEQA Guidelines' have not yet been certified, vehicle miles travelled is not utilized as a standard of significance in this EIR. However, VMT estimates are provided in the Impact 4.7-1 discussion as an informational item.

Analytical Method

The proposed project consists of amendments to the City's Downtown Recovery Plan, General Plan, Local Coastal Plan and Zoning Code regarding development in the downtown area and Central Business District. The proposed project would not directly result in new development. However, the proposed Downtown Plan amendment would expand areas for potential additional building height that could accommodate intensified redevelopment of existing developed sites. City staff estimates that the proposed amendments could indirectly lead to development, resulting in a potential net increase of 711 new residential units and 2,200 square feet of office space with a net decrease of approximately 14,700 square feet of commercial building space over existing conditions within the downtown area. The proposed General Plan amendment would increase FAR in areas designated as RVC in the General Plan, but would not lead to development on sites not already considered in the General Plan and General Plan EIR. The proposed LCP and Zoning Code amendments would not result in changes that could indirectly lead to intensified development.

A project traffic impact study was prepared for the project in accordance with City requirements. As indicated, above, the City of Santa Cruz uses LOS To evaluate the performance of roadways and levels of traffic congestion. The project traffic impact study was based on intersection turning movement counts taken on Thursday, May 22, 2014 and Tuesday November 17, 2015 at the study intersections during the PM peak period (4:00 pm to 6:00 pm), from which the PM peak hour was determined.

The traffic study computed intersection LOS using the 2010 and 2000 HCM methodology and Synchro 8 software. The result of the HCM calculations is an estimate of average control delay at the intersection which corresponds to an LOS grade as shown in Table 4.7-1 above. Project trip generation is provided in the traffic impact study, and traffic distributed on city streets utilizing the City's traffic model that was developed as part of the General Plan 2030 using Traffix software. AMBAG maintains a regional travel demand model, but it was not used as the City's model is more detailed and specific to conditions in the City. The study scenarios analyzed include existing conditions, existing with the project, and cumulative conditions, including the project. The traffic impact analysis also includes evaluation of other travel modes based on adopted regional plans and review with City of Santa Cruz staff.

Impacts and Mitigation Measures

As described in the Initial Study (see Appendix A), there are no adopted congestion management programs[2] for the project area (7c). The following impact analyses address impacts to City streets and intersections (7a) and state highways (7b), the potential to substantially increase hazards or result in inadequate emergency access (7d-e), and potential project conflicts with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities or impacts to the performance of these facilities (7f).

Traffic Impacts

Impact 4.7-1: **Circulation System Impacts.** The project will result in an increase in daily and peak hour trips, but would not cause existing or planned intersections to operate at an unacceptable Level of Service (LOS) or further degrade intersections that already operate at an unacceptable LOS (7a). Therefore, the impact is *less than significant.*

A LOS analysis was completed to comply with City regulations, and as discussed above, LOS is the performance measure used to evaluate the effectiveness of the circulation system. In order to identify the potential traffic impacts of the project using LOS, a multi-step process was utilized. The first step is calculating trip generation, which estimates the total arriving and departing traffic during a peak hour and on a daily basis. Trip generation was estimated for the project by applying vehicle trip generation rates to the project development based on land use. Figure 4.7-2 shows the downtown project area zones and study intersections. Trip rates specific to the downtown area were used from the City of Santa Cruz General Plan EIR (City of Santa Cruz 2012). The project area was divided into zones and trip generation was calculated separately for each zone. Trip generation calculations include a 40 percent trip reduction due to proximity to the downtown transit center, mixed use development, bicycle use and walking trips. The project

[2] The Code of Federal Regulations, Title 23 Volume 1, adopted in April 2005 require Transportation Management Areas (TMAs) to prepare Congestion Management Programs. TMAs are defined as urbanized areas with a population over 200,000. There are eight such areas in California plus Santa Barbara that asked to be included (City of Santa Cruz, 2012).

would generate 293 weekday PM peak hour trips (188 in and 106 out) between 4 and 6 PM and 2,627 daily trips as summarized on Table 4.7-4.

TABLE 4.7-4: Project Trip Generation

Land Uses	Size	Units	Daily Trips	PM Peak Hour		
				Total Peak Hour	IN	OUT
Trip Generation Rates[1]						
Commercial		1,000 Sq Ft	44.32	2.71	44%	56%
Office		1,000 Sq Ft	11.01	1.49	17%	83%
Townhomes[2]		Dwelling Unit(DUs)	7.50	0.62	65%	35%
Apartments		DUs	6.65	0.62	65%	35%
Trips Generated						
Area X - Riverfront						
Commercial	11,171	Sq Ft	496	30	13	17
Office	18,296	Sq Ft	202	27	5	22
Townhomes	321	DUs	2,408	199	129	70
Apartments	0	DUS	0	0	0	0
Area X Total Trips			*3,106*	*256*	*147*	*109*
40% Reduction for Downtown Area[3]			*(1,242)*	*(102)*	*(59)*	*(44)*
Area X Net Trips			***1,864***	***154***	***88***	***65***
Area Y - E. Pacific/W. Front Pacific Station						
Commercial	(27,864)	Sq Ft	(1,236)	(76)	(33)	(43)
Office	(16,105)	Sq Ft	(178)	(24)	(4)	(20)
Townhomes	0	DUs	0	0	0	0
Apartments	370	DUs	2,462	229	149	80
Area Y Total Trips			*1,048*	*129*	*112*	*17*
40% Reduction for Downtown Area[3]			*(419)*	*(52)*	*(45)*	*(7)*
Parking Garage Added Trips[4]				*52*	*26*	*26*
Area Y Net Trips			***629***	***129***	***93***	***36***
Area Z - W. Pacific						
Commercial	2,000	Sq Ft	90	5	2	3
Office	0	Sq Ft	0	0	0	0
Townhomes	0	DUs	0	0	0	0
Apartments	20,000	DUs	134	12	8	4
Area Z Total Trips			*224*	*17*	*10*	*7*
40% Reduction for Downtown Area[3]			*(90)*	*(7)*	*(4)*	*(3)*
Area Z Net Trips			***134***	***10***	***6***	***4***
Total Project Trips			***2,627***	***293***	***188***	***106***

Source: Kimley Horn, May 2017.

Notes:

1. Trip generation rates obtained from Appendix C of the City of Santa Cruz General Plan 2030 EIR.
2. ITE Land Use 270 Rates used for Townhomes per City direction (email correspondence with Ron Marquez dated 04/22/16).
3. 40% Reduction for mixed use development in Downtown Santa Cruz per City direction (email correspondence with Ron Marquez dated 04/22/16).
4. Required parking per City Code= 414+880+871=2,165 spaces. With 20% reduction=1,732, so 259 additional spaces (1,991-1,732) that will generate traffic. 10% in the AM peak = 26 trips; 20% in the PM peak = 52 trips.

The second step of the forecasting process is trip distribution, which identifies the origins and destinations of inbound and outbound project traffic. These origins and destinations are typically based on demographics and existing or anticipated travel patterns in the study area. Figure 4.7-2 shows the trip distribution that was applied to the study area roadway network.

The third step is traffic assignment, which involves the allocation of project traffic to streets and intersections in the study area. Traffic distribution patterns are indicated by percentage orientation, while traffic assignment allocates specific volume forecasts to individual roadway links and intersection turning movements throughout the study area. Figure 4.7-3 depicts project trip assignment.

With the forecasting process complete and project traffic assignments developed, the impact of the project is identified by comparing operational (LOS) conditions with and without the project at the study intersections. Table 4.7-5 summarizes the PM peak hour LOS at the study intersections for Existing Conditions with and without the project. See Figure 4.7-4 for intersection traffic volumes with the addition of project traffic.

As shown, traffic associated with the project will not degrade LOS to below acceptable levels at any of the study intersections under the jurisdiction of the City. The two Caltrans intersections of Highway 1 / Highway 9 and Chestnut Street / Mission Street would continue operate at LOS E as a result of the proposed project. There are improvements identified for the Highway 1/Highway 9-River Street intersection as discussed above, which are included in the current City Traffic Impact Fee (TIF) Program, and the Chestnut Street / Mission Street intersection is included in the RTIP. The improvements are already required under existing conditions without the project. Traffic associated with the project does not further degrade the LOS at the two Caltrans intersections, and would not substantially increase delay. Therefore, based on the significance criteria discussed above, traffic associated with the project would not cause existing or planned intersections to operate at an unacceptable Level of Service (LOS) or further degrade intersections that already operate at an unacceptable LOS. Therefore, the impact is less than significant.

For informational purposes, a per capita VMT resulting from potential development accommodated by the proposed plan amendments was estimated utilizing trip length information from the California Statewide Travel Demand Model and percentages for different trip types, i.e., home to work, included in the CalEEMod air emissions model. Estimated new net development, including reduction in commercial uses, is estimate to result in a total of weekday VMT of 14,059 trips. Based on U.S. Census data for the downtown area and employee projections in the City's General Plan 2030 EIR, total residential and employee population is estimated at approximately 1,280, which results in a weekday per capita VMT of 11.0. According to the Santa Cruz County Regional Transportation Commission, VMT per capita within Santa Cruz County is estimated to decrease by 17% from approximately 15.3 to approximately 12.5 between 2005 and 2035 (Santa Cruz County Regional Transportation Commission. Although no VMT standards have been developed within the City, this preliminary project per capita VMT

estimate shows that VMT would be below existing and projected county-wide estimates, which in large part is a reflection of the project's location downtown and in proximity to transit, bicycle and pedestrian facilities.

Mitigation Measures

No mitigation measures are required as a significant impact has not been identified.

TABLE 4.7-5: Intersection Weekday PM Peak Hour Levels of Service with Project

#	Intersection	LOS Threshold[1]	Existing Conditions[2]			Existing Plus Project Conditions[2]		
			PM Peak Hour			PM Peak Hour		
			Movement	Delay[3]	LOS	Movement	Delay[3]	LOS
1	Front Street / Laurel Street	D	Overall	30.8	C	Overall	31.2	C
2	Pacific Avenue / Laurel Street	D	Overall	17.9	B	Overall	18.5	B
3	Front Street / Cathcart Street	D	Overall	19.0	B	Overall	18.9	B
4	Front Street / Metro Station Driveway	D	Overall	4.9	A	Overall	5.1	A
5	Pacific Avenue / Metro Station Driveway	D	Overall	1.1	A	Overall	1.1	A
		D	WB	11.4	B	WB	11.6	B
6	Pacific Avenue / Maple Street	D	Overall	8.1	A	Overall	8.2	A
7	Pacific Avenue / Front Street / Mission-Water Street	D	Overall	20.2	C	Overall	21.1	C
8	Front Street / Soquel Avenue	D	Overall	21.9	C	Overall	23.1	C
9	Pacific Avenue / Cathcart Street	D	Overall	8.8	A	Overall	8.9	A
10	Soquel Avenue / Pacific Avenue	D	Overall	3.6	A	Overall	3.6	A
		D	WB	10.3	B	WB	10.3	B
11	Ocean Street / Water Street	D	Overall	35.3	D	Overall	35.6	D
12	Highway 1 / Highway 9	C-D	**Overall**	**71.7**	**E**	**Overall**	**74.1**	**E**
13	Chestnut Street / Mission Street / Highway 1	C-D	**Overall**	**74.1**	**E**	**Overall**	**73.8**	**E**

Impact 4.7-2: **Highway Segment Impacts.** The project will result in an increase in daily and peak hour trips, but would not result in a change to an unacceptable LOS along state highway segments (7a). This is a *less-significant impact*.

The project will result in approximately 38 to 59 additional PM peak hour trips along Highway 1 and 20 additional peak hour trips along Highway 17, representing a 0.2 to 1.8 percent increase. All of the study highway segments would operate at acceptable levels of service according the LOS targets established by Caltrans as summarized on Table 4.7-6.

TABLE 4.7-6: Highway Traffic Volumes and Peak Hour Levels of Service

Segment	Direction	Number of Lanes	Max Flow Rate for C	Max Flow Rate for D	Existing		Existing plus Project			
					Volume	LOS	Project Trips	Volume	Percent Change	LOS
Route 1: Route 9 to Route 17	N	2	2,761	3,444	2,080	C	38	2,118	1.8%	C
	S	2	2,761	3,444	3,120	D	21	3,141	0.7%	D
Route 1: Route 17 to Emeline	N	2	2,761	3,444	2,820	D	24	2,844	0.9%	D
	S	2	2,761	3,444	1,880	C	14	1,894	0.7%	C
Route 17: Route 1 to Pasatiempo	N	3	3,888	5,165	3,300	C	7	3,307	0.2%	C
	S	3	3,888	5,165	2,700	C	13	2,713	0.5%	C
Peak hour volumes from Caltrans 2015 Peak hour factor-.92, free flow speed – 55, heavy vehicle factor-.985 (Exhibit 11-17 HCM 2010)										

SOURCE: Ron Marquez, Traffic Engineer Consultant

Mitigation Measures

No mitigation measures are required as a significant impact has not been identified.

Access and Hazards

Impact 4.7-3: **Project Access.** The project will not result in creation of hazards due to design of the project circulation system or introduction of incompatible uses (7d). Therefore, the project would result in *no impact*.

The proposed project does not include any design features that would change vehicle circulation or access. The project includes some minor changes to clarify the locations of pedestrian access to open space and areas around downtown. However, these changes do not result in hazardous features such as sharp curves or dangerous intersections. Therefore, there is no impact as a result of the project.

Mitigation Measures

No mitigation measures are required as a significant impact has not been identified.

Impact 4,7-4: **Emergency Access.** The project will not result in inadequate emergency access (7e). Therefore, the project would result in *no impact*.

There are no proposed changes to vehicle circulation and the proposed project does not modify emergency access from existing conditions. Therefore, there is no impact related to emergency access.

Mitigation Measures

No mitigation measures are required as a significant impact has not been identified.

Transit, Pedestrian and Bicycle Travel

Impact 4.7-5: **Transit, Pedestrian and Bicycle Travel.** The project will not conflict with adopted policies, plans, or programs regarding public transit, bicycle or pedestrian facilities, or otherwise decrease the performance or safety of such facilities (7f). Therefore, the project would result in *no impact*.

The Santa Cruz City Council recently accepted an Active Transportation Plan (ATP) (City of Santa Cruz, February 2017). The ATP includes a number of recommendations including programs and projects to create an integrated network of walkways and bikeways that connect neighborhoods to employment centers, commercial land uses, educational facilities, and recreational opportunities. The recommended projects in the ATP are prioritized and ranked based on a number of criteria including crash data, proximity to trip generators, traffic counts and public comments.

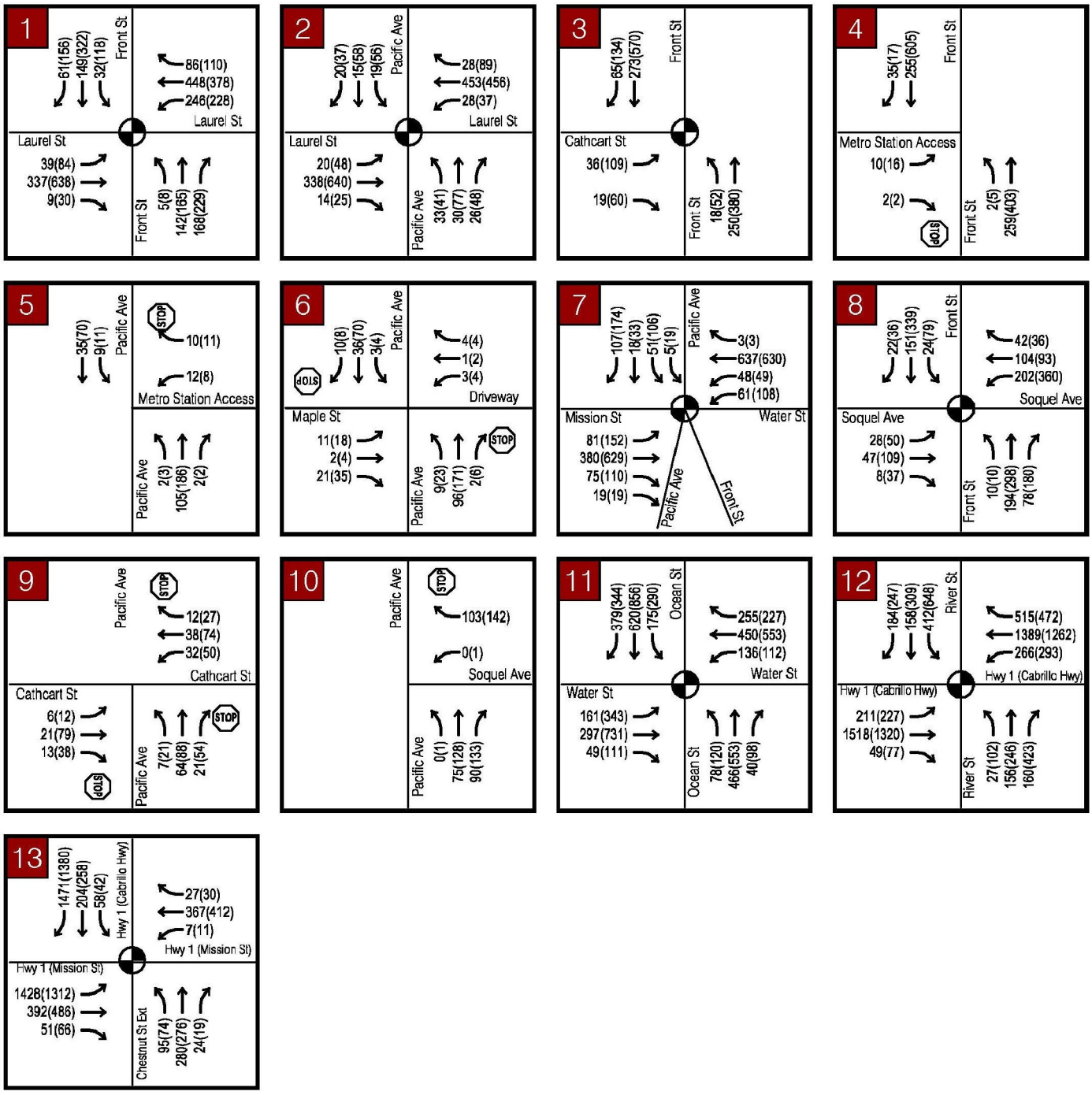
The SCMTD completes a Short Range Transit Plan (SRTP) every five years that contains a review of procedures and an analysis of existing services that results in service improvements and investments. The most recent SRTP (SCMTD 2013) contains a number of policy, practice, and service recommendations. Policy and practice recommendations primarily address SCMTD infrastructure. In 2016, SCMTD underwent a comprehensive operational analysis to reduce operating expenses in order to address a structural deficit of $6.5 million. The operating analysis resulted in a number of service changes that help to reduce operating costs and superseded the recommendations in the SRTP.

The Downtown Recovery Plan has a strong emphasis on pedestrian scale design and accessibility and includes a new pedestrian connection between Pacific Avenue and Front Street in the vicinity of Elm Street as well as bicycle access at the Elm Street extension to the San Lorenzo Riverwalk. None of the design features in the Downtown Recovery Plan conflict with the ATP or the SRTP and the design emphasis on pedestrians supports the objectives and goals of the ATP. Therefore, there is no impact related to conflicts with plans or programs related to active transportation and transit.

Mitigation Measures

No mitigation measures are required as a significant impact has not been identified.

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SOURCE: Kimley Horn

FIGURE 4.7-1

Existing PM Peak Hour Traffic Volumes

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City of Santa Cruz Downtown Plan Amendments EIR

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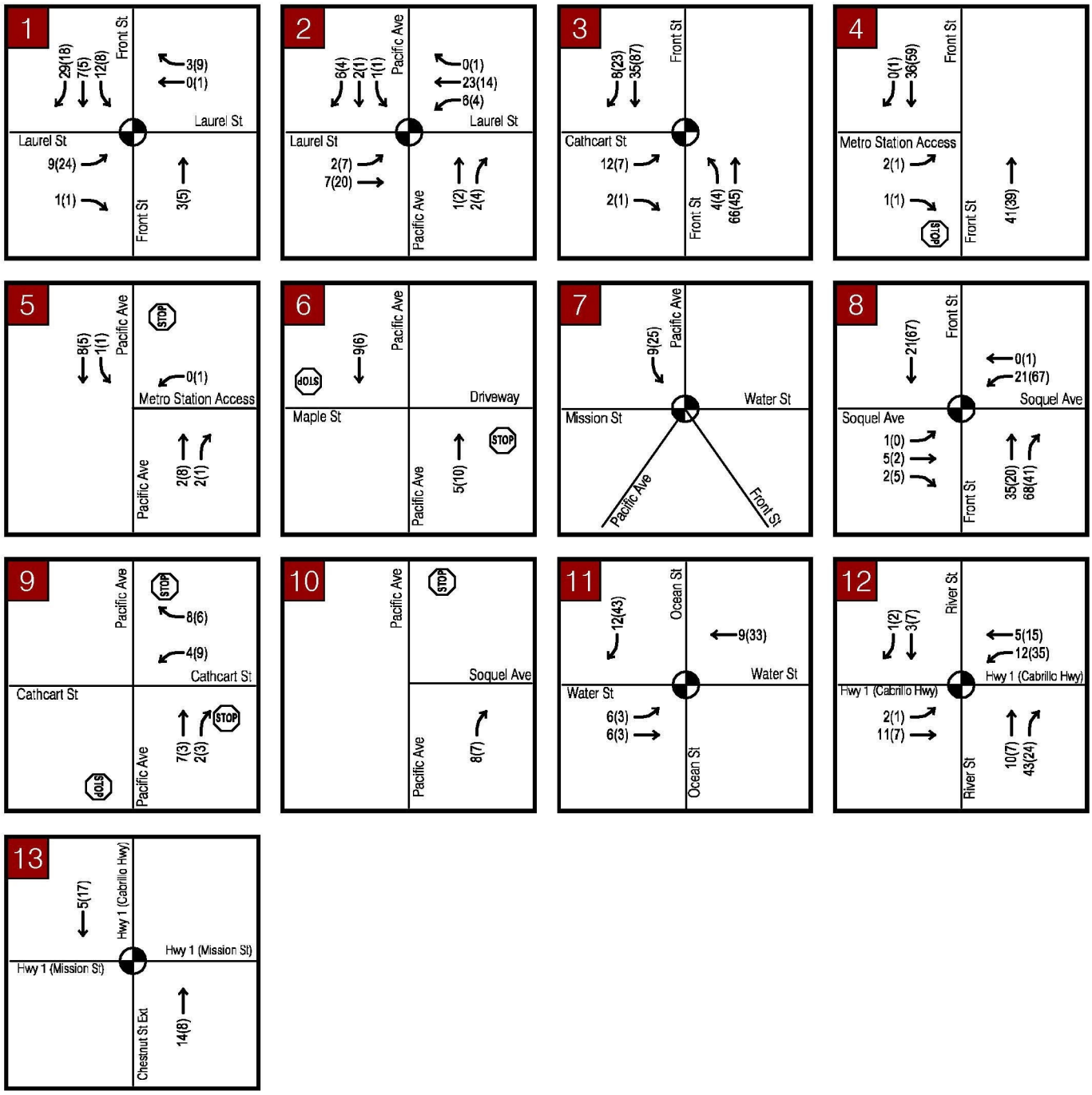
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FIGURE 4.7-2

Project Trip Distribution

City of Santa Cruz Downtown Plan Amendments EIR

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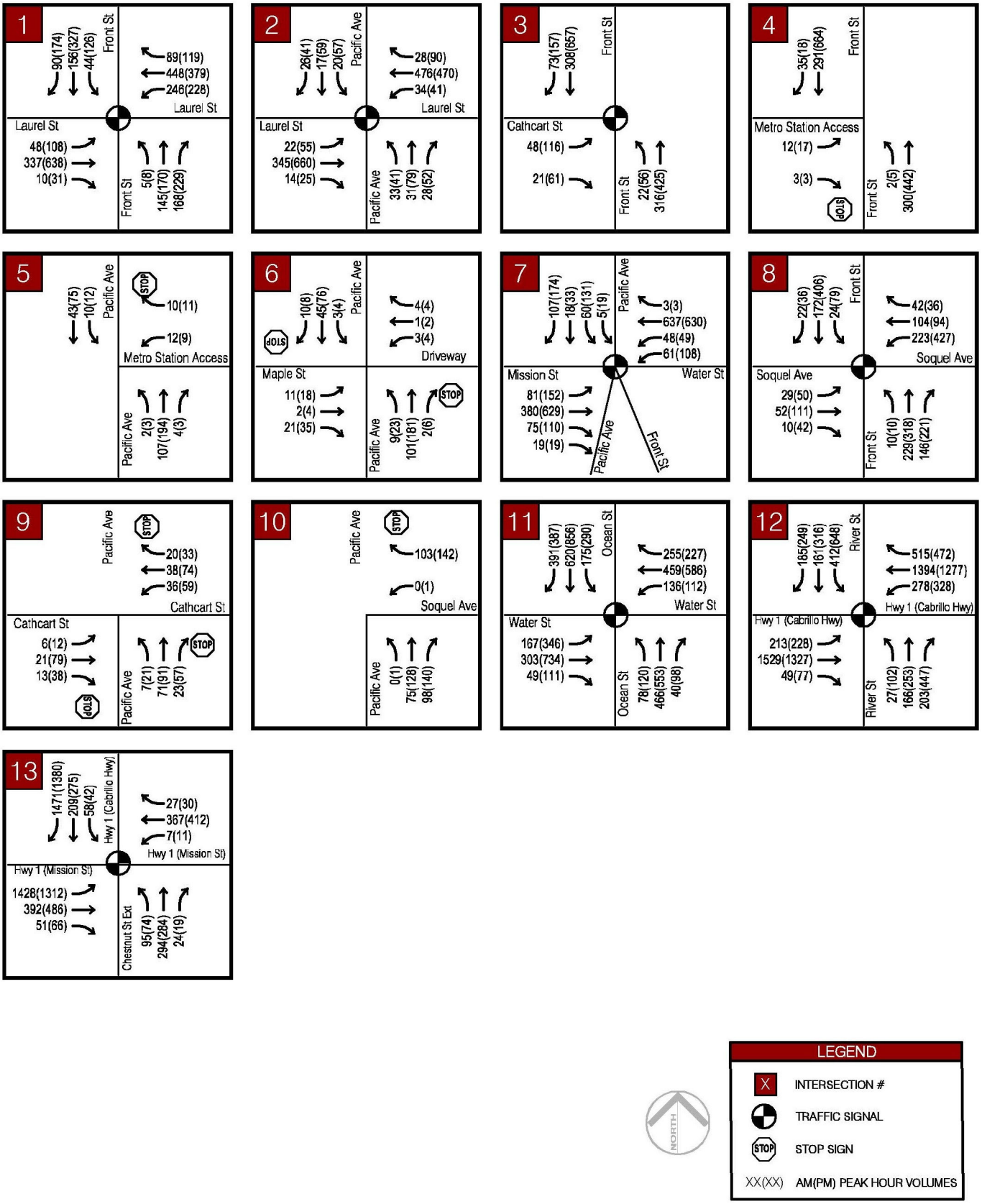
FIGURE 4.7-3

Project Trip Assignment

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SOURCE: Kimley Horn

FIGURE 4.7-4

Peak Hour Traffic Volumes with Project

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City of Santa Cruz Downtown Plan Amendments EIR

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4.4 TRANSPORTATION & TRAFFIC

4.4.1 ENVIRONMENTAL SETTING

IN THIS SECTION:

- Regulatory Setting
- Summary of Transportation Modes & Use
- Transportation Plans & Studies
- Road Network & Traffic Conditions
- Bicycle & Pedestrian Circulation
- Public Transit
- Rail Service
- Planned Improvements
- Transportation Management
- Parking

This section was prepared with assistance from Ron Marquez, traffic consultant to the City of Santa Cruz Public Works Department, and Jeff Waller of Hatch Mott MacDonald (formerly Higgins and Associates), who ran the TRAFFIX model and developed Level of Service calculations under the direction of City staff and consultants. A summary of the traffic analysis methodology is included in Appendix C. Traffic volumes and intersection level of service calculations are included in Technical Appendices F-5 and F-6, respectively. The technical appendices are available for review at the City of Santa Cruz Planning Department[1] and are also included on the Draft EIR CD and on the online version of the Draft EIR on the City's website at www.cityofsantacruz.com, Planning Department.

REGULATORY SETTING

A number of local, regional and state agencies are involved with transportation planning and implementation of transportation programs and improvements within the City of Santa Cruz. The City maintains local roadways and bike and pedestrian facilities. The California Department of Transportation (Caltrans) has jurisdiction over State highway segments that traverse the City, including portions of Highways 1, 9, and 17. To help fund local roadway and intersection improvements, the City has developed a "Traffic Impact Fee" (TIF) that is applied to new development at the time of issuance of building permits (see discussion below in the "Planned Transportation Improvements" subsection for more details), and the City is active in acquiring transportation funding from federal and state sources.

[1] Located at 809 Center Street, Room 107, Santa Cruz, California during business hours: Monday through Thursday, 8 AM to 12 PM and 1 to 5 PM.

The City's Zoning Ordinance includes a trip reduction program requirement for specified classifications of employers (Chapter 10.46-Citywide Trip Reduction Program). Key purposes are: to establish programs and requirements for new and existing employers that will help to reduce traffic congestion and to improve air quality; to assist employers in identifying and utilizing cost-effective programs and methods to reduce vehicle trips made by employees; and to ensure the City plays a significant role in promoting alternatives to the use of single-occupant vehicles. The Zoning Ordinance also provides regulations regarding parking and parking space requirements for different land uses in Chapter 12 that include provisions for reduced parking for specified shared parking opportunities.

In addition to the City and Caltrans, other local and regional agencies responsible for transportation services and/or transportation planning include:

- *The Association of Monterey Bay Area Governments* (AMBAG) addresses transportation problems and concerns through its regional transportation system management element and preparation of regional traffic forecasts related to local land use and population projections. AMBAG is the federally designated Metropolitan Planning Organization (MPO) for transportation planning activities in the tri-county Monterey Bay Region. It is the lead agency responsible for developing and administering plans and programs to maintain eligibility and receive federal funds for the transportation systems in the region. AMBAG works with regional transportation planning agencies, transit providers, the Monterey Bay Unified Air Pollution Control District (MBUAPCD), state and federal governments, and organizations having interest in or responsibility for transportation planning and programming. AMBAG also coordinates transportation planning and programming activities with the three counties and 18 local jurisdictions within the Monterey Bay Region. AMBAG develops the Metropolitan Transportation Plan (MTP) and the Metropolitan Transportation Improvement Program (MTIP). (AMBAG website; online at http://www.ambag.org/programs/met_transp_plann.html).
- *The Santa Cruz Metropolitan Transit District* (SCMTD) provides transit services throughout Santa Cruz County.
- *The Santa Cruz Regional Transportation Commissio*n (SCCRTC) oversees planning and funding programs for local and regional projects within Santa Cruz County using state and federal transportation funds. The City of Santa Cruz has one City representative on the 12-member SCCRTC board and many City transportation projects are funded through grant programs administered by the SCCRTC (Fukuji Planning and Design, July 2003).
- *The University of California at Santa Cruz (UCSC)* implements a transportation systems management and parking program that provides a comprehensive package of commute options, including carpools, bicycles, and transit; free bus passes; and shuttle buses serving all areas of the campus.

SUMMARY OF TRANSPORTATION MODES & USE

The movement of people and goods is provided via a range of transportation modes including private and shared auto on a network of local and regional roads and highways; public transit; bicycle; walking; and rail service that is currently used for freight movement and limited seasonal visitor use. Transportation modes provide access for work, shopping, recreation, and

personal and social purposes. The state highways through the City also carry regional and statewide traffic. Key activity centers in the City include:

- The Mission Street corridor in the Westside;
- Ocean Street;
- Soquel Avenue in the eastside; the downtown area; the beach-Boardwalk area;
- the Harvey West-River Street area; and
- UCSC (Fukiji Planning and Design, July 2003).

The joint City-UCSC "Master Transportation Study" (MTS) found that 70% of daily residential mobility within the City is for local trips. For peak-hour travel citywide, 50% is local and 50% is regional travel. Of regional trips, commute in and commute out trips are roughly split in half (Fukiji Planning and Design, July 2003). Surveys conducted as part of the MTS found that 30% of trips in Santa Cruz are for work compared to 25% for social purposes, 18% for personal purposes, 14% for school, and 13% for shopping (Ibid.).

Daily citywide residential trips were made by auto, bus, bicycle and walking. City resident travel patterns identified in the MTS are shown on Figure 4.4-1.[2] For the PM peak period (4 PM to 7 PM), 80% of all travel modes used a car (68% drove alone and 12% carpooled) and 20% bicycled, walked or rode transit. Of these travel groups, full and part-time employees comprised 84% of the trips, compared to 16% for students and retired persons (Fukiji Planning and Design, July 2003). The Santa Cruz County Regional Transportation Commission reports that the number of people per vehicle has remained fairly constant over the last 15 years at an average of 1.2 persons per vehicle in the morning and 1.3 in the evening based on annual vehicle occupancy counts for Highway 1 and Highway 17 (Santa Cruz County Regional Transportation Commission, June 2010).

LOCAL & REGIONAL TRANSPORTATION PLANS & STUDIES

City-UCSC Master Transportation Study

In April 2000, the City of Santa Cruz and the University of California at Santa Cruz initiated a partnership to jointly fund a community-based approach to planning the City's transportation future that resulted in the completion of "The Master Transportation Study" (MTS). The Mission Statement of the study is to *"Create a Transportation Plan for the City of Santa Cruz that is inspiring, innovative and implementable with broad-based community support."* The MTS integrates pedestrian, bicycle, transit and street transportation plans and programs as a foundation for updating the City's General Plan, City zoning ordinance, UCSC's Long Range Development Plan and other city and regional transportation planning documents (Fukuji Planning and Design, July 2003). The MTS is not an adopted plan, but was reviewed and accepted by the City Council.

The MTS recommends a series of City-initiated strategies, short-term transit strategies and long-term recommendations to reduce single-occupant trips, increase multiple-occupant vehicles,

[2] All EIR figures are included in Chapter 7.0 at the end of the EIR (before appendices) for ease of reference as some figures are referenced in several sections.

increase transit, bicycle and pedestrian modes, and improve traffic system efficiency. Elements of these recommendations include an emphasis on carpooling and recommended support of a Bus Rapid Transit (BRT) system. The recommended travel mode splits as envisioned in the MTS would shift as follows:

- SINGLE-OCCUPANT VEHICLES (SOV): Decrease by 13% for internal trips and 4% for external trips.
- MULTIPLE-OCUPPANT VEHICLES (MOV): Increase by 4% for internal trips and 3% for external trips.
- BUS USE: Increase by 2% for internal trips and 1% for external trips.
- BIKE USE: Increase by 3% for internal trips.
- PEDESTRIAN USE: Increase by 4% for internal trips (Fukuji Planning and Design, July 2003).

  (Fukuji Planning and Design, July 2003).

The following projects are identified as MTS high priority projects:

- Metrobase Transit District Consolidations Operations Facility,
- Right-of-Way Acquisition on rail corridor,
- Bike and pedestrian path on rail right-of-way,
- Local bike projects and expanded bus service.

Santa Cruz County Regional Transportation Plan (RTP)

The Santa Cruz County Regional Transportation Commission (SCCRTC) deals with transportation issues in Santa Cruz County. The purpose of the SCCRTC is to:

- Set priorities for major capital improvements to the County's transportation infrastructure, including highways, major roads, rail and alternative transportation facilities.
- Pursue and allocate funding for all elements of the County's transportation system.
- Adopt policies to improve mobility, access and air quality.
- Plan for future projects and programs to improve the regional transportation system.
- Inform businesses and the public about alternatives to driving alone and the need to better manage our existing transportation system.
- Conduct programs to encourage the use of alternative transportation modes (Santa Cruz County Regional Transportation Commission website: www.sccrtc.org).

The *Regional Transportation Plan* (RTP) is a state-mandated, long-range plan that serves as a blueprint to guide future transportation funding decisions. The RTP, prepared by the SCCRTC, outlines transportation challenges and establishes investment priorities for all of Santa Cruz County. The plan includes lists of transit, highway, local road, bike, and pedestrian needs in the region and estimates the amount of local, state and federal dollars that may be available for these projects over the next 25 years. The plan is updated to reflect the latest funding and project needs every four to five years (Santa Cruz County Regional Transportation Commission website, online at: http://www.sccrtc.org/rtp.html.)

The current version was adopted by the SCCRTC in June 2010. The "2010 RTP" is a minor update of the last version, completed in 2005, and provides guidance for transportation policy and projects through the year 2035. The 2010 RTP is the SCCRTC's comprehensive planning document, which identifies the goals, projects, and programs that will maintain and improve the County's transportation system over the next twenty-five years. Identified improvements and projects are categorized as either "Constrained", meaning there are foreseeable funds for the improvement or "Unconstrained", meaning new revenues would need to be generated or become available. Individual projects listed in the 2010 RTP must still undergo separate design and environmental processes, and can only be implemented as local, state and federal funds become available (Santa Cruz County Regional Transportation Commission, June 2010).

The 2010 RTP carries forward goals from the 2001 and 2005 RTPs, which are to:

- Preserve and maintain the existing transportation system, emphasizing safety and efficiency
- Increase mobility by providing an improved and integrated multi-modal transportation system.
- Coordinate land use and transportation decisions to ensure that the region's social, cultural, and economic vitality are sustained for current and future generations.
- Ensure that the transportation system complements and enhances the natural environment of the Monterey Bay region and reduce greenhouse gas emissions.
- Make the most efficient use of limited transportation financial resources.
- Solicit broad public input on all aspects of regional and local transportation plans. Santa Cruz County Regional Transportation Commission, June 2010).

The 2010 RTP assigns future transportation funds to a range of projects and programs designed to maintain the current transportation system, provide traffic congestion relief and broaden transportation options. Key proposals include:

- Maintenance of the existing transportation network including roads, highways, bike lanes, sidewalks, and transit.
- Safety and operational improvements to Highways 1, 9, 17, 129 and 152.
- Adding auxiliary lanes and High Occupancy Vehicle (HOV) lanes on Highway 1 between Aptos and Santa Cruz.
- Modifications to major arterial roads -- including bus, pedestrian and bicycle facilities.
- Expanded bus service, with additional Highway 17 Express buses and more Park and Ride lots to serve Silicon Valley, University of California Santa Cruz (UCSC), and south county commuters.
- Construction of the Monterey Bay Sanctuary Scenic Trail Network along the coast.
- Local bicycle and pedestrian projects designed to increase bicycle commuting, and provide safe bicycle and pedestrian routes to schools.
- Expansion of specialized transport services in response to projected increases in senior and disabled populations.

- Increased availability of information about road conditions, transit operations, and other transportation options.
- Landscaping and lighting improvements to make transportation corridors part of livable communities (Santa Cruz County Regional Transportation Commission, June 2010).

The 2010 RTP also includes a new discussion on greenhouse gas (GHG) emissions in relation to transportation planning. In the absence of tools to measure the effectiveness of specific RTC policies towards reducing GHGs and without having the specific GHG reduction targets from the state during development of the 2010 RTP, the new chapter introduces some of the best practices which could be included in a portfolio of strategies to meet future emission reduction goals in Santa Cruz County. The RTP includes many projects that pro-actively implement GHG reduction strategies such as: operating a Commute Solutions program to encourage ridesharing; funding freeway service patrols to remove incidents and improve traffic flow; adding high occupancy vehicle lanes in the Highway 1 corridor to encourage carpools, vanpools and transit use; acquiring the rail corridor for goods movement, bicycle and pedestrian access and possible passenger service; and supporting bicycle, pedestrian and transit projects (Santa Cruz County Regional Transportation Commission, June 2010).

Monterey Bay Area Metropolitan Transportation Plan (AMBAG)

AMBAG is the MPO (Metropolitan Planning Organization) for the Monterey Bay Area, and as the region's MPO, AMBAG is required to produce certain documents that maintain the region's eligibility for federal transportation assistance. The Metropolitan Transportation Plan (MTP) is the federally mandated long-range transportation plan for the Monterey Bay Area. This plan lays out a financially constrained list of transportation projects over the following 25 years that will enhance regional mobility (AMBAG website, "Metropolitan Transportation Plan", online at: http://www.ambag.org/programs/met_transp_plann/mtp.html).

Federal regulations require that this long-range transportation plan be both financially constrained and fall under the on-road motor vehicle emissions budget included in the Federal Air Quality Maintenance Plan. The MTP, referenced as *Monterey Bay Area Mobility 2035*, was approved by the AMBAG Board of Directors on June 8, 2010, and includes goals, policies, programs and projects to meet the stated objectives and meet the transportation needs and deficiencies. Programs and projects are taken from each county's RTP and first incorporated, in their entirety, into the MTP (AMBAG, June 2010).

As a region that meets federal standards for ozone precursors, the region is considered to be in 'attainment' for those standards. As an attainment region, the MTP is only required to be updated every five years. Because new state legislation, SB 375, calls for MPOs to prepare a Sustainable Communities Strategy (SCS) to be used to synchronize and coordinate both the metropolitan transportation planning process and the regional housing needs allocation process, AMBAG is treating this 2010 update of the MTP as a minor update. Beginning with the 2012 update, AMBAG is moving to a four-year update cycle to align regional planning efforts for transportation with an eight year housing planning cycle. (AMBAG website, "Metropolitan Transportation Plan", online at: http://www.ambag.org/programs/met_transp_plann/mtp.html).

Caltrans' Corridor System Management Plan

Caltrans is in the process of developing a "Corridor System Management Plan" (CSMP) for Highway 1 from the junction of Highway 68 in Monterey County to King Street/Mission Street in Santa Cruz to develop strategies to manage the corridor and sustain existing transportation investments (Caltrans, October 2010). The draft plan indicates that the following strategies will be used to manage State Route 1 over the next 20 years:

- Maintenance and preservation of the roadway.
- Support improvement of transit service, including new express bus service on the HOV lanes planned for the Santa Cruz corridor.
- Support land use and transportation planning efforts such as AMBAG's "Blueprint Plan".
- Reduce congestion by encouraging programs that increase the use of transit, improve bicycle and pedestrian programs and encourage programs such as carpools, ridesharing, telecommuting and park-and-ride facilities to reduce demand.
- Intelligent Transportation Systems/Traveler Information/Traffic Management to clear congestion after collisions.
- Operational Improvements, including auxiliary lanes, intersection improvements, ramp metering (Caltrans, October 2010).

ROAD NETWORK & TRAFFIC CONDITIONS

Road and Highway Network

LOCAL ROADWAYS

The City's road system consists of arterial highways and arterial, collector and local streets (see Figure4.4-2). These different classifications relate to different transportation functions and are classified in terms of access, mobility, design and use. Additionally, visitor/coastal access and truck routes have been designated to facilitate the movement of visitor traffic and commodities.

Highways and arterial streets carry the City's heaviest traffic flows and provide regional and inter-community access. State highways through the City are described in the following section. Major arterial streets within the City include:

- Ocean Street (the primary north-south arterial);
- Mission Street, Water Street, Soquel Avenue and Broadway Avenue-Laurel Street (the primary east-west arterials);
- Other designated arterial streets include Bay Street, Delaware Avenue, Morrissey Blvd., Murray Street-San Lorenzo Blvd., Seabright Avenue, Market Street, Beach Street, Second Street, Front Street, Pacific Avenue, Cedar Avenue, Center Street, Walnut Street, River Street and High Street.

Collector streets provide circulation within and between neighborhoods and commercial and industrial areas. These streets usually serve relatively short trips and are meant to collect traffic from local streets and distribute them to the arterial network. Examples of collector streets

include: California Street, Chestnut Street, Escalona Drive, Fairmount Street, Frederick Street, King Street, Swift Street, and West Cliff Drive.

Local streets provide direct access to abutting land uses, collectors, or arterials, and usually do not accommodate bus routes.

Visitor/coastal access routes are intended to be inviting to visitors and to provide convenient, clear access to and from visitor and coastal destinations. Highways 1 and 17, Ocean Street and Mission Street are key visitor routes into Santa Cruz and the City's beach areas. West Cliff Drive also provides a scenic route along the coast.

Truck routes are intended to channel trucks through the community and away from residential and other areas where they would be a nuisance. The truck routes in the City are Highway 1 – Mission Street, Highway 17, Bay Street north of Mission, Empire Grade west of Bay, Highway 9, Morrissey Boulevard, and Soquel Avenue.

STATE HIGHWAYS

State highways that go through the City of Santa Cruz include segments of Highways 1, 17, and 9. Though referenced as "state routes" in Caltrans documents, the more common term, "highway", is used in this EIR. Highways 1 and 17 serve regional traffic, including motorists who commute to jobs in the Santa Clara Valley and motorists who travel into Santa Cruz County for recreational opportunities offered in the county. A short segment of Highway 9 also is within city limits.

Highway 1 provides access to San Francisco to the north and Monterey to the south. Regionally, Highway 1 is the major inter- and intra-county route for Santa Cruz County. Within the City of Santa Cruz, it is oriented in an east-west direction, although the interregional alignment of Highway 1 is primarily north-south. It is a four-lane arterial along Mission Street from the west side of Santa Cruz to Chestnut Street Extension, a four-lane expressway between Mission Street-Chestnut Street and River Street, and a four-lane freeway east of River Street. The speed limit on Highway 1 is 25 miles per hour (mph) along Mission Street, 45 mph along the expressway section, and 55 and 65 mph on the freeway sections further east. Recurrent congestion results in queuing on Highway 1 that extends for several miles during peak hours. Accidents, events, and other incidents in the corridor can further increase congestion related delays in either direction, on any day, including weekends.

Highway 9 is a two-lane state highway that connects the City of Santa Cruz with the San Lorenzo Valley, and eventually, Saratoga and Los Gatos. Approximately 0.5 miles of Route 9 are located within Santa Cruz city limits.

Highway 17 connects Santa Cruz with Scotts Valley and San Jose and other Santa Clara County communities. It is a four-lane freeway north of the Highway 1/ Highway 9 intersection. Highway 17 is the primary route between the Santa Clara Valley and Santa Cruz County that serves as both a commute route for Santa Cruz County residents that work in Santa Clara County and for recreational visitors that come to Cruz County. Congestion occurs both during weekday commute times and on summer weekends. This winding, four-lane road has steep sections, frequent road crossings, and substandard median shoulders and outside shoulders for

most of its length. In addition to the challenging roadway configuration, weather-related conditions such as thick fog, heavy rains and mudslides affect roadway operations.

Existing Traffic Conditions & Level of Service

Traffic conditions are measured by average daily traffic (ADT), peak hour traffic volumes, and level of service (LOS), average delay, and volume to capacity (V/C) ration. Average daily traffic is the total number of cars passing over a segment of the roadway, in both directions, on an average day. Peak hour volumes are the total number of cars passing over a roadway segment during the peak hour in the morning (AM) or afternoon/evening (PM). In the City of Santa Cruz, the peak hour for weekdays occurs in the evening.

"Level of Service" (LOS) is used to identify the magnitude of traffic congestion and delay at intersections. Traffic flows along city streets are typically controlled by the volume and capacity of the nearest intersection (City of Santa Cruz, 1994). Intersections are rated based on a grading scale of LOS "A" through LOS "F", with LOS A representing free flowing conditions and LOS F representing forced flow conditions. The intermediate levels of service represent incremental levels of congestion and delay between these two extremes.

The signalized intersection LOS methodology addresses the capacity, LOS, and other performance measures for lane groups and intersection approaches and the LOS for the intersection as a whole. Capacity is evaluated in terms of the ratio of demand flow rate to capacity (v/c ratio), whereas LOS is evaluated on the basis of control delay per vehicle (in seconds per vehicle). Control delay is the portion of the total delay attributed to traffic signal operation for signalized intersections. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay as listed in the following table from the *Highway Capacity Manual 2000,* Transportation Research Board.

LOS CRITERIA FOR SIGNALIZED INTERSECTIONS

LOS	LOS Control Delay per Vehicle (seconds/vehicle)
A	≤ 10
B	> 10–20
C	> 20–35
D	> 35–55
E	> 55–80
F	> 80

Capacity analysis at two-way stop control (TWSC) intersections depends on a clear description and understanding of the interaction of drivers on the minor or stop-controlled approach with drivers on the major street. Both gap acceptance and empirical models have been developed to describe this interaction. LOS for a TWSC intersection is determined by the computed or measured control delay and is defined for each minor movement. LOS is not defined for the intersection as a whole as shown in the following table.

LOS CRITERIA FOR TWSC INTERSECTIONS

LOS	LOS Control Delay per Vehicle (s/veh)
A	**0–10**
B	**> 10–15**
C	**> 15–25**
D	**> 25-35**
E	**> 35-50**
F	**> 50**

SOURCE: *Highway Capacity Manual 2000,* Transportation Research Board

The City of Santa Cruz has established LOS D as the minimum acceptable LOS for overall intersection operations during weekday AM and PM peak hours. However, the existing General Plan recognizes that some major regional intersections (which were once part of the "Congestion Management Program" – a formerly mandated state program[3]) as experiencing lower levels of service than the City's LOS D standard. Thus, the existing General Plan accepts a lower (i.e., worse) LOS at these intersections (listed below) per existing Circulation Policy 5.1.2 due to environmental, economic, and/or feasibility constraints with implementing improvements at these locations.

- Mission St. / Chestnut St.-Hwy 1 (F)
- Highway 1 / River St.-Hwy 9 (F)
- Ocean St. / Plymouth St. (F)
- Water St. / Ocean St. (F)
- Soquel Ave. / Ocean St. (F)
- Soquel Ave. / Water St. / Morrissey Blvd. (E)

Caltrans, which has jurisdiction over state highways, endeavors to maintain a target LOS at the transition between LOS C and D. However, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS (Caltrans, December 2002). If an existing State highway facility is operating at less than the appropriate target LOS, the existing LOS should be maintained (Ibid.).

The critical volume to capacity ratio (V/C) is another measure of the operating conditions of an intersection as opposed to LOS. The ratio provided in the worksheets is a calculation of the volume to capacity for the critical movements at the intersection. It is not the average of all the movements at the intersection. V/C is not used as a measure to define the levels of service.

[3] The Code of Federal Regulations, Title 23 Volume 1, adopted in April. 2005 require Transportation Management Areas (TMAs) to prepare Congestion Management Programs. TMAs are defined as urbanized areas with a population over 200,000. There are eight such areas in California plus Santa Barbara that asked to be included.

LOCAL INTERSECTION LEVELS OF SERVICE

Weekday Peak Hour Traffic Conditions. In the City of Santa Cruz, the peak hour for weekdays occurs in the evening. The PM peak hour (roughly 4 PM to 7PM) generally has the highest number of trips compared to the AM peak hour (7 AM to 10 AM) or the midday peak hour (Fukuji Planning and Design, July 2003). Intersection traffic counts were collected during the weekday PM peak hour (4:00 – 6:00 PM) at nearly 80 intersections throughout the City. The counts were done in May 2006, November 2006 and February 2007. The intersection counts are included in Appendix F-5.

The City's consulting traffic engineer compared traffic counts taken for the General Plan traffic with counts taken in 2008 and 2009 that were obtained from the SCCRTC to ensure the validity of the counts for the General Plan EIR analysis. The review indicates that all but one of the counts the City made in 2006 were higher than those reported by the Commission (Marquez, March 2010; see Appendix C for details). Traffic counts were also compared to traffic volumes reported by Caltrans; overall the counts reported for 2006 are 8% higher than those reported in 2008 (Ibid.).

In Fall 2010, UCSC completed new traffic counts at intersections within the City. Of the 24 intersections that the City was able to compare, traffic volumes increased for about half of these and half decreased. Overall, on average, traffic has decreased by 5%. The increased traffic increases were at intersections along Mission Street, High Street, and at the River/Water, Bay/W. Cliff, Delaware/Swift and Front/Laurel intersections (see Appendix C). The increased traffic has been addressed in the City's traffic model. Traffic from projects that were being constructed and/or occupied after the General Plan traffic counts were taken have been added to the "Existing" baseline conditions (see Appendix C) as these projects would be generating traffic at the time the EIR NOP was released. As a result, the existing-baseline condition for this EIR is slightly higher overall than the 2010 counts (Marquez, personal communication, February 2011), except for three intersections – Bay/West Cliff, King/Storey, and Laurel/Front. However, overall, the City continues to see lower counts than were experienced four years ago. Thus, the traffic estimates made for the General Plan 2030 are conservatively high and represent a worst-case scenario for CEQA purposes.

Quantitative Levels of Service (LOS) analysis was performed for the study intersections based the *2000 Highway Capacity Manual* methodologies, prepared by the Transportation Research Board. Intersection operations were evaluated using the Traffix analysis software. Intersection traffic flow operations are evaluated using a level of service (LOS) concept. The technical LOS calculations are included in Technical Appendix F-6, which is available for review at the City of Santa Cruz Planning Department[4] and is also included on the Draft EIR CD and on the online version of the Draft EIR on the City's website at www.cityofsantacruz.com, Planning Department.

Existing intersection PM peak hour levels of service are summarized in Table 4.4-1. All of the study intersections currently operate at an acceptable LOS except for the following 11 intersections, of which six intersections are signalized, and five intersections are unsignalized.

[4] Located at 809 Center Street, Room 107, Santa Cruz, California during business hours: Monday through Thursday, 8 AM to 12 PM and 1 to 5 PM.

For these intersections. Table 4.4-1 also identifies the delay (in seconds) and V/C ratio[5] for the intersections operating at unacceptable levels. For unsignalized intersections, the unacceptable LOS is usually due to delays on a minor leg of the intersection.

- Highway 1 / Highway 9-River Street (F)
- Highway 9-River / Street-Encinal (E)
- Ocean Street / San Lorenzo Blvd. -East Cliff Drive (E)
- Ocean Street / Water Street (E)
- Mission Street / Bay Street (E)
- Bay Street / Escalona Drive (F)
- Bay Street / California Street (F)
- Bay Street / California Avenue (F)
- Laurent Street / High Street (F)
- Western Drive / High Street (E)
- Seabright Avenue / Water Street (F)

Summer and Weekend Peak Hour Traffic Conditions. The City also experiences significant traffic during the summers and holiday weekends due to tourist traffic. A portion of the City's circulation system is affected by seasonal surges resulting from coastal access demands from all of northern California. Santa Cruz has recognized that it is not practical to build to accommodate this seasonal demand, and has considered beach access congestion to be acceptable as long as it does not divert traffic onto residential streets. The 2030 Plan has focused on addressing the congestion associated with the weekday travel of City residents, employees and customers.

STATE HIGHWAY TRAFFIC OPERATIONS & LEVEL OF SERVICE

Based on the most recent Caltrans traffic data (2009 counts), the average daily trips (ADT) on state highways within Santa Cruz is as follows:

- Highway 1, Morrissey Boulevard. ADT is approximately 88,000 to 97,000 trips with 6,300 to 6,900 trips occurring during the peak hour.
- Highway 17, between Santa Cruz and Scotts Valley. ADT is approximately 63,000 - 73,000 trips with 5,700 – 6,300 trips occurring during the peak hour.
- Highway 9 within Santa Cruz City Limits. ADT is approximately 5,000 trips with approximately 510-550 trips in the peak hour as measured at the City limits, north of Encinal.

[5] The V/C ratio is the average adjusted volume of vehicles for each movement over the serviceable capacity of each movement at the intersection. The volume for each approach is adjusted for percentage of trucks and buses, for peaking characteristics, and for abutting parking characteristics. The capacity of each movement is adjusted for lane width, grade, and green time available.

TABLE 4.4-1
Existing Intersection PM Peak Hour Levels of Service

	Intersection	PM Peak LOS	Delay [in seconds]	V/C Ratio
SIGNALIZED INTERSECTIONS				
1	Hwy 1/Western	B		
2	Mission/Swift	B		
3	Mission/Miramar	B		
4	Mission/Almar-Younglove	B		
5	**Mission/Bay**	**E**	**55.8**	**0.944**
6	Mission/Laurel	B		
7	Mission/Walnut	B		
8	Mission/King-Union	C		
9	Mission/Chestnut-Hwy. 1	D		
10	High/Moore	A		
11	Bay-Coolidge/High	D		
12	Bay/Nobel-Iowa	B		
13	Bay/King	B		
14	California/Laurel	C		
15	Chestnut/Laurel	B		
16	Center/Laurel	B		
17	Center/Mission	B		
18	Pacific/Laurel	B		
19	Front/Laurel	C		
20	Front/Metro Center	A		
21	Front/Cathcart	A		
22	Front/Soquel	C		
23	Front/Cooper	A		
24	Front-Pacific/Mission-Water	B		
25	River/Water	C		
26	N. Pacific/River	B		
27	River/Potrero	B		
28	**River/Hwy. 1**	**F**	**83.9**	**0.942**
29	**River/Encinal**	**E**	**73.9**	**1.099**
30	San Lorenzo/Laurel-Broadway	B		
31	Riverside/San Lorenzo	C		
32	Riverside/Third	C		
33	Riverside/Beach	A		
34	**Ocean/San Lorenzo-East Cliff**	**E**	**64.7**	**1.061**
35	Ocean/Broadway	C		
36	Ocean/Soquel	D		
37	**Ocean/Water**	**E**	**73.6**	**1.081**
38	Ocean/Kennan-Washburn	A		
39	Ocean-Hwy.17/Ocean-Plymouth	C		
40	Market/Water	C		

TABLE 4.4-1
Existing Intersection PM Peak Hour Levels of Service

	Intersection	PM Peak LOS	Delay [in seconds]	V/C Ratio
41	N. Branciforte/Water	D		
42	Branciforte/Soquel	C		
43	S. Branciforte/Broadway	B		
44	Seabright/Soquel	C		
45	Seabright/Broadway	B		
46	Seabright/Murray	D		
47	Morrissey/Water-Soquel	C		
48	Morrissey/Fairmount	A		
49	Frederick/Soquel	C		
50	Hagemann-Trevethan/Soquel	A		
51	Park/Soquel	B		
52	Capitola Rd./Soquel Ave.	C		
53	La Fonda/Soquel	B		
54	Riverside-Dakota/Soquel (new)	A		
55	River S./Soquel	B		
56	Seventh Ave./Soquel Ave.	C		
57	Seventh Ave./Capitola Rd.	C		
58	Seventh Ave./Eaton	D		
UNSIGNALIZED INTERSECTIONS				
59	**Bay/California St**	**F**	**434.0**	**1.704**
60	**Bay/California Ave**	**F**	**67.6**	**1.130**
61	West Cliff/Bay	C		
62	Beach/Pacific Ave	C		
63	Pacific Avenue/Center	B		
64	Storey/King	B		
65	River/Fern	B		
66	King/Laurel	B		
67	**Laurent/High**	**F**	**59.6**	**1.066**
68	Market/Isbel-Goss	B		
69	North Branciforte/Goss	B		
70	Highway 1/Shaffer Rd	B		
71	Cedar/Laurel	C		
72	**Bay/Escalona**	**F**	**782.2**	**2.015**
73	**Western/High**	**E**	**45.9**	**05.44**
74	Cliff/Beach	B		
75	Riverside/Second-Liebrandt	A		
76	**Seabright/Water**	**F**	**112.8**	**0.589**
77	Swift and Delaware	C		
78	Seventh Ave./Brommer	C		
79	Seventh Ave./E. Cliff	C		

SOURCE: Hatch Mott MacDonald

State Route 1 (Highway 1). The highest average daily traffic volumes along Highway 1 within Santa Cruz County occur in Capitola at the 41st Avenue interchange with 94,000 to 104,000 ADT (Caltrans, October 2010). The segment near the Morrissey Blvd. interchange carried the second highest volume of traffic. Highway 1 west of Morrissey Boulevard is currently operating at LOS D-E (Caltrans, October 2010). Congestion along Highway 1 extends for several miles during peak hours.

According to the *Transportation Concept Report* for Highway 1, the target level of service for State Highway 1 east of Morrissey Boulevard is LOS D (Caltrans, April 2006). Additionally, according to the *Caltrans Guide for the Preparation of Traffic Impact Studies (Caltrans, 2002),* if an existing State Highway facility is operating at less than the target LOS, the guide states that the existing LOS should be maintained (Caltrans, 2002).

Caltrans is in the process of developing a "Corridor System Management Plan" (CSMP) for Highway 1 from the junction of Highway 68 in Monterey County to King Street/Mission Street in Santa Cruz to develop strategies to manage the traffic and congestion along the corridor and sustain existing transportation investments. According to the draft plan released in October 2010, a small segment of the City is located in Segment 4 (Larkin Valley to Branciforte Creek Bridge), with the remainder of the City being located in Segment 5 (Branciforte Creek Bridge to King Street). The draft CSMP indicates that between Branciforte Creek and King Street, traffic volumes are projected to increase from 54,000 average daily trips (AADT) in 2008 to 60,000 in 2025. Existing and future LOS along Highway 1 as identified by Caltrans in this draft plan is identified below (Caltrans, October 2010).

	Existing LOS (2007)	Future LOS (2030)
❑ Hwy 1, Larkin Valley Road to Branciforte Creek Bridge	E - F	F
❑ Branciforte Creek Bridge to King St.	D - E	E - F

The *Concept Report* for Highway 1 indicates that to achieve LOS D on Highway 1, added capacity, operational improvements, and investment in the multi-modal system will be required (Caltrans, April 2006). The Route Concept Report for Highway 1 includes the addition of High Occupancy Vehicle (HOV) lanes to Highway 1 in each direction to reduce congestion, encourage carpooling, expand express bus service, and improve safety from Morrissey Boulevard to San Andreas/Larkin Valley Road. Caltrans' draft *Corridor System Management Plan* for Routes 1 and 183 indicates that LOS along added Highway 1 HOV lanes during peak hours would range between B and C in the year 2035 (Caltrans, October 2010). While the overall LOS would remain unchanged in the other lanes with addition of an HOV lane, average speeds would be increased and delays and average travel time would be reduced (Ibid.).

In October 2008, Caltrans completed improvements to Highways 1 and 17 as part of the Route 1/17 Merge Lanes Project, which was designed to improve merging by adding additional merge lanes from Highway 1 to Highway 17. The project added merge lanes to the connection between northbound Route 1 and northbound Route 17 and to southbound Route 1 through the 1/17 interchange. Existing bridge structures were widened or replaced, soundwalls were constructed, and landscaping was installed.

State Route 17 (Highway 17). Highway 17 near Pasatiempo Boulevard is currently operating at LOS F (Caltrans, April 2006). According to the *Transportation Concept Report* for Highway 17, the target peak level of service for State Highway 17 between the Ocean Street and Scotts Valley is LOS E (Caltrans, January 2006). The Route Concept Report for Highway 17 indicates that widening is not envisioned and this segment of the highway is considered to be a four-lane freeway (Caltrans, January 2006).

Traffic Forecasts

The SCCRTC's *Regional Transportation Plan* (RTP) indicates that annual Vehicle Miles Traveled (VMT) throughout Santa Cruz County will increase over 2005 levels within the next 30 years. These VMT projections are made using AMBAG's Regional Travel Demand Model (RTDM). The current RTDM is developed and calibrated for 2005 and forecast for the year 2035.[6] Overall the RTP forecasts the following traffic conditions between the years 2005 and 2035 within Santa Cruz County:

- Daily person trips (trips per person) are projected to increase by 16%.
- Single-occupant auto travel for work trips is projected to increase by 13%.
- Daily vehicle miles of travel are projected to increase by 40%.
- The largest increases in vehicle miles traveled are projected to be on freeways (Santa Cruz County Regional Transportation Commission, June 2010, page 2-10).

According to the SCCRTC, there are three reasons why traffic congestion is a major issue in Santa Cruz County, as well as elsewhere in the state and nation. First, more people are driving more miles and per person vehicle registrations are at an all time high. Second, investment in transportation facilities and services has not kept pace with growing demands for road space and transportation alternatives due to decreases in the amount of transportation funding available for local projects. Third, there has been a lack of consensus on how to invest in the County's transportation system (Santa Cruz County Regional Transportation Commission, June 2010).

The joint City-UCSC "Master Transportation Study" (MTS) also made traffic projections for the years 2000 to 2020 based on AMBAG traffic model projections and population projections, which have now been superseded by more current projections as described in the POPULATION AND HOUSING (Chapter 4.2) section of this EIR. The AMBAG projections at the time the MTS was prepared assumed a 15% increase in population growth within the City (from 67,900 to 78,100 people in 2020) and a 24% increase in employment growth (from 37,800 workers to 47,000 workers 2020) (Fukuji Planning and Design, July 2003). However, current adopted AMBAG forecasts show a lower level of forecast growth with estimated population at 65,884 in 2030 and 41,548 workers in 2030.

[6] The AMBAG model relies on land-use and socio-economic data from the AMBAG forecast and road and transit network information to estimate traffic volumes and determine trip generation rates by mode. Where possible, the model is calibrated using existing roadway data (Santa Cruz County Regional Transportation Commission, June 2010).

The MTS includes a goal of no net growth in traffic between 2000 and 2020 and examined two scenarios to substantially decrease single-occupant travel and increase use of other transportation modes. One scenario increases transit use moderately and carpooling substantially. The second scenario increases transit substantially and carpooling moderately. Both scenarios were based on implementation of regional transportation improvements of either the addition of a HOV lane on Highway 1 or development of a Bus Rapid Transit (BRT) corridor along the Union Pacific Railroad right-of-way (Fukuji Planning and Design, July 2003). In Scenario 1, to achieve no growth in the year 2020 traffic, single-occupant travel internal to Santa Cruz needs to be reduced by 29%, carpooling increased by 75%, transit use increased by 50%, and bicycling and walking modes increased by 38% and 100%, respectively (Ibid.). Without a change in travel patterns, the MTS predicted a 19% increase in vehicle miles traveled between the years 2000 and 2020.

BICYCLE & PEDESTRIAN CIRCULATION

Bicycle Circulation

The existing bikeway system in the City of Santa Cruz has developed over the last 35 years. The City of Santa Cruz' bicycle system is comprised of off-street multi-use paths (Class I), on-street bicycle lanes (Class II) and on-street bicycle routes (Class III). Class I and Class II bike facilities are shown on Figure 4.4-3. Class I bike paths are currently limited to West Cliff Drive, the San Lorenzo River levees, a new path under Highway 1 from the river levee, and a new path under Highway 1 at Lee Street, all of which are also shared by pedestrians. A Class I path also is provided on the UCSC campus.

Support facilities include different classes of bicycle parking facilities, which are required by City parking regulations, and shower facilities at major employment facilities. All of the SCMTD buses are equipped with front-mounted bicycle racks capable of carrying two bicycles (City of Santa Cruz, November 2008). The University of California operates a bike shuttle near the intersection of Bay/Mission Streets to transport bicycles to the University.

In October 2007, the City of Santa Cruz was awarded the Silver Level Bicycle Friendly Community by the League of American Bicyclists. According to data contained in the 2000 Census, approximately 4.7% of the commuters within the City of Santa Cruz are bicyclists (City of Santa Cruz, 2008). The City's existing Bicycle Plan, adopted in November 2008, forecasts a bicycling increase to 7% of the peak hour traffic within a 5-year period.

The emphasis of the 2008 Bicycle Transportation Plan shifted from earlier plans in 2000 and 2004 Plans, which were focused on completing large-scale bicycle projects on the major commute corridors. Many of those significant projects have been completed—Bay Street, Beach Street, Broadway-Laurel, High Street, Soquel Avenue, and major portions of the San Lorenzo River Path. The bicycling projects to be pursued in the next five years include completing those significant projects begun in the earlier Plans, as well as building the connector projects that can get bicyclists from origin to destination easily and safely. One new possibility for an east-west bicycle travel corridor is the Union Pacific rail right-of- way, which the SCCRTC has purchased and begun a planning process.

Pedestrian Circulation

The City has approximately 135 miles of sidewalks. Approximately 50 miles of sidewalk is missing from the existing system; predominate problem areas are the upper eastside and Westlake areas that have large continuous sidewalk links missing (Fukuji Planning and Design, July 2003).

The "Pedestrian System" chapter of the Master Transportation Study is considered the City's Pedestrian Plan. The MTS was accepted by the City Council on December 9, 2003. The MTS goals for Santa Cruz's pedestrian system are to:

- Provide multiple transportation modes thereby creating a flexible and adaptive transportation system throughout the City of Santa Cruz.
- Close all "gaps" in the pedestrian network and connect all major destinations and activity centers.
- Ensure that the City's diverse user groups have access to a sustainable and efficient mode of transportation / Create a system that is "scaleable" and responds to changing community needs, and provide flexibility and variety in the City's transportation network.
- Adopt design standards for the pedestrian system to assure a high level of user amenities, safety and quality.

Overall, priorities for the City's pedestrian system include completion and maintenance of the City sidewalk system, improve safety, adopt pedestrian-friendly street designs, enhance key pedestrian connections, and encourage walking (Fukuji Planning and Design, July 2003). .

PUBLIC TRANSIT

Transit service within Santa Cruz County is primarily provided by the Santa Cruz Metropolitan Transit District (SCMTD). Regional bus routes provide service to destinations in Santa Clara and Monterey Counties including daily weekday service via Highway 17 by the SCMTD. SCMTD buses provide service from the downtown Santa Cruz transit center to the San Jose Caltrain station, with connections to San Francisco, Sacramento, Stockton and other cities. Greyhound bus service also is provided from Downtown Santa Cruz to select destinations.

The City of Santa Cruz operated the Summer Beach Shuttle in the past when private donations were available. The Shuttle provided service to and from destinations within the City of Santa Cruz, such as the Downtown and the Santa Cruz Boardwalk. Use of the County Government Center parking lot was used in conjunction with the beach shuttle. Due to lack of funding, the Summer Beach Shuttle was discontinued over ten years ago. Recently the business sector has initiated a Beach-Downtown Shuttle for the summer of 2010. Budget constraints have prevented the City from continuing operation of a beach shuttle.

SCMTD Service

The Santa Cruz Metropolitan Transit District (SCMTD), also known as Santa Cruz Metro, provides transit service within Santa Cruz County. SCMTD provides the following types of service: regional (Highway 17 Express), intercity (8 routes), urban local-feeder (16 routes), UCSC (7 routes) and rural routes (7 routes) (Wilbur Smith Associates, December 2008). The Highway 17 Express Bus service was initiated after the 1989 Loma Prieta earthquake in response to an emergency need for transit over the Hill while Highway 17 was being repaired, and is currently a joint operation between the SCMTD, . Amtrak, and the Santa Clara Valley Transportation Authority (VTA). The route currently connects Santa Cruz (downtown METRO station) and San Jose (Diridon station); at the Diridon station, passengers can connect to the Santa Clara Valley Transportation Authority' transit system and Caltrain and Amtrak regional rail systems (Ibid.).

The District serves transit centers in Santa Cruz, Capitola, Felton, Scotts Valley and downtown Watsonville. SCMTD routes also meet Monterey-Salinas Transit (MST) routes at the Watsonville Transit Center. The two operators have provided reciprocal transfers since 1989. Additionally, SCMTD partners with the University of California, Santa Cruz (UCSC) to provide late night fixed route and demand response service in the general Westside Santa Cruz area (AMBAG, June 2010).

The SCMTD complements its regular fixed-route bus service with ParaCruz, a shared ride-door-to-door paratransit service that provides public transportation for persons who are unable to independently use fixed route buses due to a disability some or all of the time. It is provided by public transportation systems as part of the requirements of the Americans with Disabilities Act of 1990 (ADA). Rides are scheduled in advance and frequently include picking up and dropping off other customers along the way. ParaCruz operates a fleet of lift-equipped small buses and ramp-equipped minivans. On November 1, 2004, Santa Cruz METRO assumed direct operation of the ParaCruz (Santa Cruz Metropolitan Transit District, "METRO Para Cruz ADA Paratransit Service").

SCMTD's total ridership on fixed route service for Fiscal Year 2008-09 was 5,987,518; annual expenses for providing these transit services, including ParaCruz, were approximately $37 million (Santa Cruz County Regional Transportation Commission, June 2010). From 2003 to 2007, there had been a general increase in fare revenues and total operating cost, while ridership and hours of operation declined (Wilbur Smith Associates, December 2008). However, the SCCRTC noted a 7% increase in ridership since Fiscal Year 2004/05 due to rising gasoline prices, traffic congestion, and job market uncertainty (Santa Cruz County Regional Transportation Commission, June 2010).

Increasing congestion on highways and the local transportation network in Santa Cruz County is expected to generate more transit service demand (AMBAG, June 2010). However, the SCCRTC's RTP does not envision expansion of transit services without additional revenues. In order to increase transit service to levels needed to meet projected population growth, greenhouse gas emission reduction goals, and significantly increase the percentage of people using transit, bus service would need to be increased by 25% at an additional annual cost of approximately $11 million (Santa Cruz County Regional Transportation Commission, June 2010). To accommodate this demand, the SCMTD would like to increase service, but due to

ongoing funding shortfalls, SCMTD is struggling to maintain existing service (Ibid.). Due to declining sales tax and other non-fare revenue sources, the SCMTD reduced service in the fall of 2010. It is expected that transit service will continue with minor improvements without major route cuts or rate changes for about five years, however, additional funding will be necessary in the future for expansion of service (White, SCMTD, personal communication, August 2011).

In recent years, Metro has been working on upgrading its transit operations facilities in an effort to reduce operating costs, improve efficiency, and allow for future expansion of the transit system (Santa Cruz County Regional Transportation Commission, June 2010). In 2008, Santa Cruz METRO completed the compressed natural gas-CNG fueling station and conversion of 40 buses.

Bus Rapid Transit (BRT)

The joint City-UCSC "Master Transportation Study" (MTS) recommends "Bus Rapid Transit" (BRT) for long-term implementation as the technology with the highest potential to increase ridership and shift travel modes to transit. BRT is a rubber tire vehicle system operation on an exclusive transit way or dedicated busway with flexibility to operate on surface streets with mixed flow traffic. According to the MTS, a BRT system has significant potential to affect a regional commute shift away from SOV to transit for trips to and from the UCSC campus, downtown and the Harvey West area. A BRT busway could operate on a dedicated HOV lane along Highway 1 or on a shared bus/freight/bicycle lane using the Union Pacific rail corridor. Application to Soquel Avenue and Water Street was also considered (Fukuji Planning and Design, July 2003).

RAIL SERVICE

Freight Service

The former Union Pacific Railroad rail line forms a continuous, single-track, 32-two mile corridor from Davenport to the City of Watsonville. The Santa Cruz County Regional Transportation Commission is in the process of purchasing the right-of-way and is awaiting final approval from the state. This branch rail line extends from Watsonville Junction in Pajaro north to Davenport and passes through much of the county's urban area. For many years, freight deliveries to and from the CEMEX cement plant in Davenport occurred three times per week. As of 2010, CEMEX plant operations ceased due to the economic downturn. The rail line is currently operated by Sierra Northern. Sierra Northern Railway. Sierra runs trains twice per week to serve existing freight customers and stores empty rail cars in the unused northern section of the rail line. Sierra will be responsible for operations, maintenance and start-up costs associated with rail service (Santa Cruz County Transportation Commission, February 2011).

Recreational Service

The Santa Cruz Big Trees and Pacific Railway Company operates a tourist-oriented passenger service between Felton and the Santa Cruz Beach Boardwalk on its 9-mile track line from Santa Cruz to its current terminus at Roaring Camp. The service is provided daily during mid June through the end of August, and weekends and holidays in May, early June, September through

October, late November, and December. The trains run twice in each direction every day during regular operations, and partially use the Union Pacific Railway tracks that cross Pacific Avenue just north of the intersection of Pacific Avenue and Beach Street. The line is occasionally used for freight (AMBAG, June 2010). Historically the line crossed the Santa Cruz Mountains to Los Gatos, but was abandoned in 1939 past Olympia. The tunnel sections are now used as records storage for major corporations in the San Francisco Bay Area (Ibid.).

Passenger Service

The Santa Cruz Branch line has been the subject of a number of studies regarding its potential for passenger rail service. A 1996 study analyzed the potential viability of inter-city passenger rail service between Santa Cruz and Watsonville to San Jose. The 1999 Major Transportation Investment Study examined three options for passenger rail on the Santa Cruz Branch line along the Watsonville- Santa Cruz-UCSC corridor. Also in 1999, the Around-the-Bay Rail Study looked at the feasibility of partnering with Monterey County to bring passenger rail from the San Francisco Bay Area to both counties, as well as linking the two counties via a wharf-to-wharf type rail transit service.

On May 6, 2010, the SCCRTC unanimously agreed to acquire the Santa Cruz Branch Rail Line right-of-way, which is being finalized. Future transportation uses could include passenger rail service, transit, bicycle and pedestrian facilities, and freight rail service. This project was one of the selected outcomes for the Watsonville-Santa Cruz-UCSC corridor from the SCCRTC's 1999 Major Transportation Investment Study. The SCCRTC also intends to maintain the existing freight service on the rail line. The *2005 Regional Transportation Plan* (Policy 3.4.5) supports reserving areas adjacent to rail lines for future rail and bus facilities as part of new development adjacent to rail lines. Passenger service to from Santa Cruz to Davenport is currently being considered by the SCCRTC.

PLANNED IMPROVEMENTS

State Highways

STATE ROUTE 1

Beginning in 1986 the Santa Cruz County Regional Transportation Commission (SCCRTC), working with Caltrans and the Federal Highway Administration, conducted a series of studies to identify an affordable and appropriate response to the growing congestion problem on Highway 1, including feasibility studies for Highway Occupancy Vehicle Lanes (HOV) on Highway 1 and a toll lane feasibility study in 2002. The current Caltrans Route Concept Report for Highway 1 includes the addition of High Occupancy Vehicle (HOV) lanes to Highway 1 (California Department of Transportation, April 2006). This project will add a lane in each direction to reduce congestion, encourage carpooling, expand express bus service, and improve safety. The limits of this project extend from Morrissey Boulevard to San Andreas/Larkin Valley Road. Preliminary traffic performance data shows the anticipated shift in traffic volumes from local arterials to Highway 1 with the HOV Lane Alternative (Santa Cruz Regional Transportation Commission website, http://www.sccrtc.org/hov.html). Caltrans' draft *Corridor System Management Plan* for Routes 1 and 183 also supports HOV lanes on Highway 1 in

conjunction with other transportation demand management strategies (Caltrans, October 2010).Detailed project design and environmental data is in development and is expected to be available in the winter of 2012. Funding is not secured to advance the project beyond the current environmental study. The SCCRTC's *2010 Regional Transportation Plan* assumes adoption of a transportation sales tax measure to provide a significant amount of the funding needed to advance this project into the next development phase – final design, right-of-way, and construction (Santa Cruz Regional Transportation Commission website, http://www.sccrtc.org/hov.html).

In 2006, the Santa Cruz County Regional Transportation Commission initiated work on the preliminary design and environmental review phase of the Highway 1 Soquel to Morrissey Auxiliary Lanes Project spanning the busiest section of Highway 1 in Santa Cruz County (carrying 115,000 vehicles per day in 2006). An auxiliary lane connects an adjacent highway on-ramp with the next highway off-ramp thereby extending the weaving and merging distance between the ramps and improving traffic flow and safety on the highway. An auxiliary lane is not designed for use by through traffic, but to provide greater separation between vehicles entering and exiting the freeway from mainline traffic. The Soquel/Morrissey Auxiliary Lanes project proposes to add 12–foot wide auxiliary lanes northbound and southbound between Soquel Avenue and Morrissey Boulevard, respectively. This project includes reconstruction of the La Fonda Avenue overcrossing; the La Fonda Avenue overcrossing must be replaced to accommodate the auxiliary lanes under the bridge. The new La Fonda Avenue bridge will be wider to provide bike lanes and wider sidewalks for pedestrians. This project is designed to complement the work recently completed as part of the Highway 1/17Merge Lanes Project, by eliminating the proposed lane drop north of the La Fonda Avenue resulting from the Highway 1/Highway 17 Project. Design is nearly complete, and the final environmental documents were approved by Caltrans, although the project is contingent on approval by the California Transportation Commission.. Funding has been secured for the project. Construction could begin in 2012 or 2013.

STATE ROUTE 17

According to the Transportation Concept Report for State Route 17 in District 5 (Caltrans District 5, January 2006), the target level of service for State Highway 17 between the Ocean Street and Scotts Valley is LOS E. The Route Concept Report for Highway 17 indicates that the highway segment between Santa Cruz and Scotts Valley accommodates local and regional trips. Recognizing the existing policy of the Santa Cruz County Regional Transportation Commission, widening is not envisioned and this segment of the highway is considered to be a four-lane freeway (Caltrans, January 2006).

Reconstruction of the highway to meet current standards would be both exorbitantly expensive and environmentally destructive. Thus, over the past two decades, the Santa Cruz County Regional Transportation Commission (SCCRTC) has consistently opted to keep Highway 17 a four-lane highway, targeting funds for safety and operational improvements. Median barriers, acceleration-deceleration lanes, motorist call boxes and changeable message signs are improvements that have been installed over the past decade.

In the fall of 2000, Caltrans completed a Project Report that assessed the operational value and cost of constructing a 1.1-mile truck climbing lane on northbound Highway 17 at the

summit. As a result of the study, Caltrans recommended, and the Regional Transportation Commission concurred, not building the project ("No Build"), as the potential benefits of the project were not justified by the high cost and potentially significant environmental impacts. As an alternative, Caltrans continued to evaluate other potential safety and operational improvements on Highway 17. The products of this analysis were two safety improvement projects on Highway 17 at Laurel Curve and Glenwood Curve.

In response to the need for further safety and reliability improvements in this corridor, the *Highway 17 Transportation Improvement Study* was conducted to provide SCCRTC, Santa Clara Valley Transit Authority (VTA), and SCMTD to recommend safety and efficiency improvement projects with the following two main objectives: 1) recommend steps *to optimize* the Highway 17 Express Bus service reliability; and 2) *expand* Highway 17 Express Bus ridership in the corridor in order to reduce vehicle trips, miles traveled, and emissions. Recognizing that the roadway and traffic conditions along Highway 17 affect the operation of the Highway 17 Express Bus service, an additional objective was to recommend safety and operational improvements to add reliability, speed and functionality to the project corridor to benefit both the patrons of the Highway 17 Express Bus service and the motorists traveling along this route. A series of recommendations were made to support and expand the existing transit service on Highway 17, including provision of weekend service.

STATE ROUTE 9

The Highway 1/Highway 9 intersection, which is controlled by a signal, currently operates at LOS E during the both the PM and Design Day peak hours, which does not meet Caltrans standards. The City is working with Caltrans to implement lane modifications at this intersection. The improvements require Caltrans approval and an encroachment permit. With implementation of these improvements, the intersection would operate at LOS D during both the existing PM and Design Day peak hours.

The following improvements are included in the Highway 1/Highway 9 intersection planned improvement:

- Widen and add a left-thru turn lane from Highway 9 southbound.
- Improve the northbound River Street approach to modify the existing exclusive left-turn lane to a shared thru/left-turn lane.
- Widen and add a second left-turn lane from Highway 1 southbound onto Highway 9.
- Widen and add a second northbound lane on Highway 9.
- Modify signal.
- Add bike lane and shoulder

Currently, a Project Report, preliminary engineering, associated studies and environmental review are underway. The improvements are already required under existing conditions.

Planned City Improvements

The City faces an ongoing challenge to meet its capital needs with limited resources. Preparing and adopting a Capital Improvements Program (CIP) is an important part of the City's planning

process to identify and meet those needs. It is a multi-year schedule of projects with their associated costs and proposed funding sources. The CIP represents the best efforts to allocate available resources toward projects that provide the most benefit for the people of Santa Cruz. In addition to the Highway 1 / Highway 9 intersection improvement described above, other major improvements on the current CIP include: intersection improvements at Mission/Bay and Mission/Chestnut (design and environmental review); intersection signalization (Bay/West Cliff); installation of a roundabout at the Pacific/Beach intersection;

The City operates a "Traffic Impact Fee" (TIF) program based on future projected trips generated for each new project. The TIF program, adopted in June 2005, evaluated over 60 intersections and identified numerous projects within the City which were needed to address the effects of cumulative development, and fees established. The fees are used to fund planned improvements at those intersections and roadways included in the program. New development and redevelopment projects are required to pay traffic impact fees, which are calculated at the time of building permit issuance. The TIF includes highway intersections on Mission (Highway 1) and at the Highway 1 / Highway 9 intersection.

The City's TIF program includes both a City-wide TIF fee and a Beach/South of Laurel (B/SOL) TIF. New projects that are located in the B/SOL area are required to pay both fees. The fee program is updated annually in July. The fees are based on project trip generation and are calculated at the time the project applies for a building permit. By ordinance the City has identified the per trip fee, which was determined by dividing the total cost of all projects identified in the City's "Cumulative Development Traffic Study" by the total cumulative additional trips added by new development. The fee assumes the City will fund 25% of the cost of improvements as a result of existing capacity differences. In addition, 15% of the fee is dedicated to alternative transportation. The current City-wide fee is $405 per trip. The current B/SOL fee is $94 per trip.

Bicycle and Pedestrian Path Improvements

The City's adopted *Bicycle Transportation Plan* (2008) includes the following new paths: Arana Gulch path to connect Broadway with Brommer Street; Branciforte Creek Connection to complete the levee path under the Soquel Bridge; Monterey Bay Sanctuary Scenic Trail Network (as discussed below); and Spring Street Connection to UCSC. The Plan also includes numerous other improvements to existing bike lanes and facilities.

The Monterey Bay Sanctuary Scenic Trail Network (MBSST) is proposed to span the Monterey Bay from Lover's Point in Pacific Grove to Wilder Ranch in Santa Cruz. The SCCRTC is in the process of developing a more detailed plan for the Santa Cruz County portion of the trail. The MBSST efforts will ultimately result in a network of continuous multi-use recreational, interpretive and transportation pathways spanning the Monterey Bay that will also be an important piece of the 1,300 mile statewide California Coastal Trail (Santa Cruz Regional Transportation Commission, January 2008). If the SCCRTC is successful in its rail line acquisition efforts, part of the network may be built within the rail line right-of-way (Ibid.).

The SCCRTC is working on a comprehensive Master Planning process that will include: developing goals and objectives; identifying and assessing possible segments; setting design options; soliciting and incorporating input from interested parties and the community at large;

preparing cost estimates for segments; and conducting environmental analysis of the Plan. In addition to identifying new trails, the MBSST Network is intended to link together (and upgrade where needed) trail segments that already exist and to fill in gaps in the existing trail system (Santa Cruz Regional Transportation Commission, January 2008).

TRANSPORTATION MANAGEMENT

Transportation System Management

Transportation Systems Management (TSM) refers to methods to find optimum strategies to relieve, lessen or control traffic congestion with minimum roadway widening. These strategies can reduce vehicle travel time and enhance system accessibility with little impact on other modes (Fukuji Planning and Design, July 2003). Examples of TSM measures include signal synchronization, intersection modifications, access management, i.e., consolidation of driveways, railroad crossing modifications, highway ramp metering, preferential treatment for high occupancy vehicles, and signage and lighting upgrades.

Transportation Demand Management

Transportation Demand Management (TDM) refers to measures that can be implemented to encourage the use of alternative modes of transportation to single occupancy vehicles. TDM emphasizes the movement of people and goods rather than motor vehicles, and gives priority to public transit, ridesharing and non-motorized travel, particularly under congested conditions (Fukuji Planning and Design, July 2003). TDM is a demand side strategy with the purpose to change human travel behavior through incentives and disincentives in order to reduce the number of peak-hour vehicle trips, shift trips to non-peak times, and increase the percentage of people bicycling, walking, riding transit, carpooling and vanpooling (Ibid.). Examples include carpool and vanpool rideshare matching, employer outreach and assistance, emergency ride home programs, telecommuting, bike loan programs, bicycle parking subsidies, bicycle advocacy, and parking pricing and management strategies.

Existing agencies and programs that support and promote TDM in the city of Santa Cruz include the following as presented in the "Master Transportation Study":

- *Santa Cruz Regional Transportation Commission* (SCCRTC) serves many transportation roles in Santa Cruz County, including housing "Commute Solutions" and providing bicycle planning and funding to the region. Commute Solutions provides carpool and vanpool ride matching to commuters throughout Santa Cruz County, especially long-distance commuters.
- *Transportation Membership Services* is run by Ecology Action and offers programs that encourage member employees to use transportation modes other than driving alone to commute to and from work, including Emergency Ride Home Programs, 0% Interest Bicycle Loan Programs and Discount Metro Bus Passes.
- *Ecology Action* supports "Bike to Work," a 10-year old community-based effort that seeks to increase the number of people riding bikes. Ecology Action also receives funds for the Electric Bike Commuter Incentive Program.

- *Onsite Employer Programs*. Major employers within the City that implement TDM measures include: UCSC, SCMTD, the City of Santa Cruz, the County of Santa Cruz, the Seaside Company, the Santa Cruz Medical Clinic, and others.

Traffic Calming

Measures to reduce speeding and cutting through neighborhoods has been a focus over the years as these issues have been raised by residents. Measures include installation of traffic claming measures, signage, and improving the arterial street system.

PARKING

The City of Santa Cruz maintains both on-street and off-street public parking throughout the City, including the Downtown Parking District. Amendments to the State CEQA Guidelines, effective in March 2010, eliminated the environmental checklist question regarding adequacy of parking. Nonetheless, general background on existing conditions is provided below.

Downtown Parking District

Public parking in the downtown area is managed by the Downtown Parking District, which includes the most concentrated City ownership and operation of parking in the City and is the only parking district in the City. In 2007, there were 4,510 parking spaces available to the public, including 820 on-street spaces, 2,247 off-street spaces, and 1,443 private spaces ("Downtown Parking Study, 2007"). In 2010, there were 4,583 parking spaces available to the public, including 830 on-street spaces, 2,226 off-street parking spaces and 1,527 private parking spaces. In 2010, the parking supply (4,583 spaces) in the Downtown Parking District exceeded demand (4,504 spaces). However, by the year 2012 with new projects in place, the demand (4,731 spaces) is estimated to exceed supply (4,638 spaces) by 93 spaces.

The City-operated spaces include a wide variety of parking types dispersed throughout the District, including meters that have different time periods. The municipal parking garages have an average peak occupancy of approximately 85%, with the Cedar/Church garage almost 100% occupied at peak times (Fukuji Planning and Design, July 2003).

New businesses are exempt from typical parking requirements required elsewhere in the City. Business owners have the option of providing required parking or paying a Deficiency Fee that is used to fund, operate and maintain parking facilities. The District charges an annual deficiency fee.

Beach / South of Laurel Area

The Beach / South of Laurel area includes the area directly adjacent to the Downtown Parking District and stretching down to the Beach. It provides parking for both its own set of uses, though also experiences overflow demand from the Downtown and the Beach Areas. The Beach Area itself includes the largest supply of privately provided for-charge parking in the City, as well as a mix of publicly provided parking (Fukuji Planning and Design, July 2003).

The Beach / South of Laurel Area includes about 7,800 parking spaces with over 80% of which, about 6,300 space, are in the Beach Area. A total of 4,145 spaces, a little over 50% of the total, are available to the general public, independent of intended activity. A total of 3,562 of these spaces are in the in the Beach Area and 583 spaces are in the South of Laurel district. Unrestricted publicly available Beach Area spaces are dominated by the two Seaside Company lots, with a combined total of 1,771 spaces, and the City owned and operated 430-space Wharf lot. Other spaces include other City operated lots, on-street meters, and free curbside spaces. South of Laurel general public access spaces include small City operated lots, on-street meters, and free curbside parking spaces. The City operates 633 on-street meters in the Beach and South of Laurel areas (Fukuji Planning and Design, July 2003).

Residential Parking Permit Programs

Due to seasonal influx of visitors and UCSC students and encroachment into residential neighborhoods, the City implements a residential parking program in the following neighborhoods: beach area, downtown, Lighthouse/Cowell neighborhood, eastside, Seabright, and Westside. Residents in these areas must purchase permits to park on streets without citations. According to information on the City's Public Works Department website, the coastal permit programs are enforced seasonally from May 15th through September 30th, between the hours of 9 AM and 9 PM, everyday. The Westside permit program is enforced from September 15th through June 30th, Monday through Friday, during posted hours (excluding City holidays). Parking in these areas without a permit is subject to a citation and fine. The downtown and eastside area permit requirements are enforced all year.

4.4.2 RELEVANT PROJECT ELEMENTS

PROPOSED GOALS, POLICIES & ACTIONS

The proposed *General Plan 2030* includes goals, policies and actions that address transportation planning, management and traffic. The MOBILITY chapter of the draft *General Plan 2030* corresponds to the required circulation element. Its purpose is to set forth policies and ways to ease the ability of people and vehicles to move around, out of, and into the City in the long term, through 2030. This chapter looks at ways to facilitate transportation alternatives, keep transportation and road systems safe and efficient, and systematically interconnect bicycle and pedestrian ways. The proposals below aim to encourage greater use of alternative transportation modes and reduce automobile travel in concert with other parts of the Plan that foster supportive land uses, building types, and activities. The City Council accepted the following key principle with regard to Mobility:

> *We will provide an accessible, comprehensive, and effective transportation system that integrates automobile use with sustainable and innovative transportation options—including enhanced public transit, bicycle, and pedestrian networks throughout the community.*

The draft General Plan includes four goals and 19 associated policies with 94 accompanying actions that address transportation management and modes of travel. The four goals related to transportation are outlined below. Overall, the accompanying policies and actions Furthermore, proposed General Plan policies seek to maintain an acceptable LOS D or better at signalized intersections with acceptance of a lower LOS at major regional intersections (M3.1.3, M3.1.4) and promote transportation system management strategies (M2.5.2) and other alternative transportation modes.

GOAL M1	Land use patterns, street design, parking, and access solutions that facilitate multiple transportation alternatives.
GOAL M2	A safe, sustainable, efficient, adaptive, and accessible transportation system.
GOAL M3	A safe, efficient, and adaptive road system.
GOAL M4	A citywide interconnected system of safe, inviting, and accessible pedestrian ways and bikeways.

Other goals, policies and actions promote sustainable land use patterns, such as encouraging mixed-use development along the City's four major transportation corridors that have easy access to pedestrian, bike and transit facilities, and encouraging use of alternative transportation modes.

PROPOSED IMPROVEMENTS

The draft *General Plan 2030* includes several policies and actions that call for implementation of road, pedestrian, bicycle and transit improvements through the City's Capital Improvement Program and other sources (M2.1.3, M2.3.2, M3.2.2). The draft Plan supports regional funding and implementation of key regional projects "that can significantly benefit Santa Cruz and further the City's mobility policies" (M2.1.4). There are no specific road transportation improvements identified for specific locations, except for improvement of access to/from the Harvey West area, including a possible new approach to Highway 1 (M3.1.13), and that the circulation system of the specific plan for the Swenson parcel shall be from Shaffer Road (LU1.1.4).

Several policies address visitor traffic improvements. .Policy ED1.2.1 specifically encourages transportation improvements and pedestrian activity along Ocean Street to stimulate economic vitality. Policy ED1.8.4 directs the City to improve access to and routes between tourist and visitor designations and lodging facilities as part of the City's economic development policies. The proposed General Plan also calls for updating the Beach and South of Laurel Area Plan to reflect needed improvements along the Visitor/Beach Area travel corridors (M3.3.3) with improvement of access along these corridors through coordinated signs and street naming, protected turn lanes, remote parking/shuttle programs, and other strategies (M3.3.2).

The draft Plan promotes alternative transportation improvements with TSM strategies, road improvements and widening/expansion projects that can achieve an acceptable LOS (M2.32). Action M4.3.2 seeks to develop bike commute routes along the railroad right-of-way, West Cliff Drive, Broadway, King and other streets. The draft General Plan also includes a policy that prohibits approval or construction of an Eastern Access to the University without a citywide

vote (M2.1.5). No other specific road or alternative transportation projects are identified for specific support. The draft *General Plan 2030* also encourages passenger rail transit or other alternative transportation options along the existing rail corridor via the continued support, acquisition, and expansion of railroad rights-of-way (M2.2) and encourages the continuing transport of goods by rail (M2.2.1). Policy LU4.5 supports securing land for development of a transit center along the rail line, and evaluation of a rail transit stop is to be included in the Area Plan analysis for the Golf Club Drive area (LU1.15). Pedestrian and bicycle access to Pogonip and nearby employment areas are also to be included in this future area plan.

POTENTIAL FUTURE DEVELOPMENT

The *General Plan 2030* Land Use Map and land use designations are largely unchanged from the 1990-2005 General Plan / Local Coastal Program, except for three new mixed use land designations that have been developed and applied to the following major transportation corridors: Mission Street, Ocean Street, Soquel Avenue, and Water Street. Additionally, land use designation changes are proposed for three specified sites: Swenson, Golf Club Drive area, and an addition to the Dimeo Lane landfill site. The Swenson and Golf Club Drive sites are designated for residential uses. A 5.5-acre parcel immediately south of and adjacent to the City's Landfill and Resource Recovery Center on Dimeo Lane has been acquired by the City, and it is expected that future uses would be ancillary to the landfill and Resource Recovery Center uses. Specific uses have not yet been identified and will be determined in the future, however, the parcel is not planned for expansion of the landfill disposal operations (Arman, personal communication, April 2010).

Additionally, some of the *General Plan 2030* policies and actions also support mixed use districts and/or intensified redevelopment along transit and commercial corridors (Policies LU3.3.1 and LU4.1). In addition, the proposed *General Plan 2030* supports development of a downtown performing arts center or expansion of the Civic Center (Policy HA2.2.5).

4.4.3 IMPACTS AND MITIGATION MEASURES

CRITERIA FOR DETERMINING SIGNIFICANCE

In accordance with the California Environmental Quality Act (CEQA), State CEQA Guidelines (including Appendix G), City of Santa Cruz plans, policies and/or guidelines, and agency and professional standards, a project impact would be considered significant if the project would:

4a Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit (see discussion of City standards below);

4b Change the level of service of a State Highway roadway segment from acceptable operation (LOS A, B, or C) to deficient operation (LOS D, E or F) based on Caltrans significance criteria[7];

4c Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways;

4d Substantially increase hazards due to a design feature (for example, sharp curves or dangerous intersections) or incompatible uses (for example, farm equipment);

4e Result in inadequate emergency access; or

4f Conflict with adopted policies, plans, or programs regarding public transit, bicycle or pedestrian facilities or otherwise decrease the performance or safety of such facilities.

The City of Santa Cruz considers "D" or better to be an acceptable intersection level of service for intersections, which is a policy in the City's existing General Plan as well as in the proposed General Plan. A significant impact would result if LOS dropped below a "D" level of service or where a project would contribute traffic increases of more than 3% at intersections currently operating at unacceptable levels (E or F), as further described below. The existing and proposed General Plans also account for accepting a LOS below "D" at major regional intersections where improvements would be prohibitively costly or result in significant, unacceptable environmental impacts. There are no other adopted plans, ordinances or policies that establish "measures of effectiveness" for the performance of the circulation system.

For City intersections that already operate at unacceptable levels of service (E or F), the City considers project impacts to be significant if congestion will measurably worsen at the intersection as a result of the project. "Measurably worse" is considered to be a 3% increase in trips at the affected intersection. The City has used the 3% significance criterion for project trip contribution at existing impacted intersections, in part based on directives in the City's existing General Plan to accept a certain level of congestion during peak hours at major intersections, as well as to reflect variations in daily traffic volumes. The 3% criterion has been used throughout the City and is based upon the likelihood that a project will result in an observable increase in congestion at a given intersection or road segment. This is based in part on information provided by Caltrans in the yearly "Traffic Volumes" reports that identifies the standard deviation expected with regards to reliability of traffic count data. The standard deviation ranges indicate a 12% deviation at 10,000 vehicle trips, meaning that if a traffic count totals 10,000 vehicles per day, then approximately 90% of the time, the actual traffic counts will lie within a range of 8,800 to 11,200 vehicles. Thus, the 3% reflects this variation in daily traffic conditions (California Department of Transportation, June 2006).

[7] Caltrans. December 2002. "Guide for the Preparation of Traffic Impact Studies."

IMPACT ANALYSIS

Based on the significance criteria identified above, the following impact analyses address potential impacts to the City's circulation system (4a); potential traffic impacts on state highways (4b); potential increase in hazards (4d); and potential conflicts with adopting policies, plans or programs that support alternative transportation (4f). There are no applicable congestion management programs in effect within the City of Santa Cruz (4c), and thus this is not an issue that needs discussion. Emergency access issues (4e) are addressed in the "Fire Protection" and "Police Protection" subsections of the PUBLIC SERVICES (Chapter 4.8) section of this EIR.

Potential Future Development & Buildout

Adoption and implementation of the proposed *General Plan 2030* would not directly result in increased new development. However, the draft General Plan includes policies and a land use map that support additional development. The proposed General Plan would accommodate future development. As described in the PROJECT DESCRIPTION and LAND USE sections of this EIR (Chapters 3.0 and 4.1, respectively), buildout projections were estimated for the draft General Plan to provide an estimate of the amount of development that is expected to occur by the year 2030.[8] The projections indicate the following level of new development by the year 2030:

- 3,350 residential units
- 1,087,983 square feet of commercial development and 311 hotel rooms
- 1,273,913 square of office space
- 776,926 square feet of industrial development.

The proposed *General Plan 2030* supports infill development along transportation corridors to promote alternative land use patterns to help reduce automobile travel. Development under the proposed General Plan would primarily occur on vacant infill sites, on underutilized properties that could redeveloped at higher densities and/or land use intensities, and in the new mixed-use districts along the City's four major street corridors: Mission Street, Ocean Street, Soquel Avenue, and Water Street. Based on the estimated development occurring under the proposed plan,[9] approximately 55 percent of all new housing, 45 percent of new commercial development and 52 percent of new office development would located along these corridors. Thus, new development would be concentrated in specific areas.

The proposed General Plan also includes other policies and actions that could result in development that supports year-round expanded performances, events, visitors that would result in potential traffic increases. These potential uses include:

[8] The projections are based on the draft Land Use Map, taking into account land use map changes, vacant lands, sites subject to reuse or redevelopment, and underutilized parcels, assuming that not all development will occur at maximum density. On average it is assumed that all new development will occur at 80% of the permitted residential density or floor area ratio. See Appendix B for further discussion.

[9] See Table 3-3 in the PROJECT DESCRIPTION (Chapter 3.0) section of this EIR and Figure 2-3 for estimated distribution of new development per specific areas in the City.

- Supporting a downtown performing arts center or expansion of the Civic Center (HA2.2.5),
- Amending the Zoning Ordinance to allow development of arts and cultural facilities in a wide variety of districts (HA2.2.4),
- Supporting Santa Cruz as a year-round conference destination (Policy ED1.4), and supporting development of a new conference center (ED1.4.1) or developments that accommodate conferences (ED1.5.1),
- Encouraging development of new lodging facilities (ED1.5) and attracting top-end, full-service hotels (ED1.5.2),
- Supporting year-round events (HA3.2.4), and promoting Santa Cruz as a year-round arts destination, and
- Promoting Santa Cruz as a principal retail, cultural, recreational, entertainment and commercial destination in the region (ED1.1).

There are no specific locations or intensity of development anticipated for these types of uses. It is likely that development of such entertainment and/or visitor-serving uses would be within the total square footage of commercial development that has been estimated for the proposed *General Plan 2030* buildout. Adoption of Arts and Entertainment Districts also is supported in the draft plan (HA3.1.1), but most performances do not occur during peak commute hours.

Impact 4.4-1: Traffic Impacts on Intersections Levels of Service (LOS) Adoption and implementation of the proposed *General Plan 2030* would accommodate future development that would result in increased vehicle trips and traffic, resulting in changes in intersection levels of service to unacceptable levels or further deterioration of intersections currently operating at unacceptable levels of service. With implementation of proposed *General Plan 2030* policies and actions, including road improvements identified in an updated Traffic Impact Fee program, intersection operations would be improved and traffic levels would be reduced, except at eight intersections. This is considered a *significant impact*.

PROJECT TRIP GENERATION AND DISTRIBUTION

Adoption and implementation of the proposed *General Plan 2030* would not directly result in increased population or new development. However, the draft General Plan includes policies and a land use map that support additional development as summarized above. This potential development would generate an estimated 78,260 new daily trips with approximately 7,180 trips occurring during the PM peak hour. The Traffix model was used for the traffic impact analysis, which estimates the trip generation for all uses and distributes these new trips to the existing road network.

The trip generation is based on the new potential development expected with buildout under the *General Plan 2030*. Results of surveys conducted for the MTS indicate that 58% of all trips by City residents are made for shopping, work or personal purposes. In addition about 75% of

all trips made by residents remain within the City of Santa Cruz. If it is assumed that this distribution will remain relatively constant for all new residents in the City then approximately 44% of all trips made by new residents will be to commercial, office, industrial or personal service facilities within the City (Marquez, March 2010). Appendix C provides a full description of trip generation assumptions. A reduction was also included for trips generated along the new mixed-use corridors in which transportation modes other than vehicles would be used.

The traffic forecast includes assumptions regarding trip reduction due to mixed use and smart growth developments, which in part utilized information identified in the MTS regarding travel patterns, taking into account travel patterns identified in the City's "Master Transportation Study." See Appendix C for further discussion of these underlying assumptions and the details of determining trip generation rates.

INTERSECTION LEVEL OF SERVICE

Project traffic volumes were calculated by adding peak-hour project trips generated by the estimated General Plan buildout to the existing volumes, which are provided in Appendix F-5. The LOS calculations are included in Technical Appendix F-6, which is available for review at the City of Santa Cruz Planning Department[10] and is also included on the Draft EIR CD and on the online version of the Draft EIR on the City's website at www.cityofsantacruz.com, Planning Department.

Intersection levels of service during the PM peak hour with addition of new development accommodated by the *General Plan 2030* are summarized on Table 4.4-2. A majority of the intersections would drop from LOS B or C to LOS C or D, but would remain within the City's acceptable LOS of "D". However, 21 intersections would operate at unacceptable levels of service. Of these, the following ten intersections would degrade from acceptable to unacceptable levels of service as follows, which include three unsignalized intersections:

- Mission / Laure1 – from LOS B to **F**
- Mission / King-Union – from LOS C to **F**
- Mission / Chestnut – from LOS D to **F**
- Ocean / Broadway – From LOS C to **F**
- N. Branciforte / Water – From LOS D to **E**
- Branciforte / Soquel – From LOS C to **E**
- Seabright / Murray – From LOS D to **E**
- Beach / Pacific – From LOS C to **E**
- River / Fern – From LOS B to **F**
- Swift / Delaware– From LOS C to **F**

Five intersections would drop from an unacceptable "E" to "F" LOS s to include the following, of which only one is unsignalized (Western/High):

- Mission / Bay – From LOS **E** to **F**
- River / Encinal – From LOS **E** to **F**
- Ocean / San Lorenzo-East Cliff – From **E** to **F**

[10] Located at 809 Center Street, Room 107, Santa Cruz, California during business hours: Monday through Thursday, 8 AM to 12 PM and 1 to 5 PM.

- Ocean / Water – From **E** to **F**
- Western / High – From **E** to **F**

Six intersections would continue to operate at unacceptable levels of service E or F as identified below, which are unsignalized, except for the signalized River/Highway 1 intersection. For unsignalized intersections the delays are experienced on the minor approach.

- River / Highway 1 – Remain at **F** with further delays
- Bay / Escalona – Remain at **F** with further delays
- High / Laurent – Remain at **F** with further delays
- Seabright / Water – Remain at **F** with further delays
- Bay / California Ave. – Remain at **F** with further delays
- Bay / California St. – Remain at **F** with further delays

Improvements have been identified for the intersections forecast to operate at unacceptable levels of service as a result of future development accommodated by the *General Plan 2030*. Many of the impacted intersections can be improved to an acceptable LOS with signalization, turning restrictions, and/or other improvements. Table 4.4-3 summarizes these improvements and resulting LOS and delays for the impacted intersections. However, even with improvements, the following eight intersections would remain at an unacceptable LOS:

- Western / High – Would improve from **F** to **E**
- River / Highway 1 – Would remain at **F**
- Bay / Mission – Would remain at **E**
- Laurel / Mission – Would remain at **F**
- Chestnut / Mission – Would remain at **F**
- Ocean / Water – Would improve from **F** to **E**
- Seabright / Water – Would improve from **F** to **E**
- Seabright / Murray – Would remain at **E**

Intersections that are identified in the current TIF Program as requiring improvement in the future are those listed below. The proposed General Plan 2030 supports maintaining and updating the City's Traffic Impact Fee (TIF) program to implement road improvements (M3.1.5, M2.1.3). The TIF Program would be updated to reflect new intersections and/or new or revised improvements identified as a result of the EIR analyses and recommendations. Improvement costs and potentially revised impact fees would be calculated.

- Western/High (Extended two-way left turn lane)
- High/Laurent (Signalization)
- River-Hwy 9/Hwy 9
- Bay/Escalona (turn Restrictions
- Mission/Bay
- Mission/Chestnut
- Ocean/Water
- Bay/California Street
- Branciforte/Soquel
- Ocean/San Lorenzo-E. Cliff Dr
- Seabright/Murray
- Beach/Pacific

TABLE 4.4-2
Intersection PM Peak Hour Levels of Service with *General Plan 2030* Buildout

	Intersection	PM Peak LOS	Delay [in seconds]	V/C Ratio
SIGNALIZED INTERSECTIONS				
1	Western/Hwy. 1	B		
2	Swift/Mission	D		
3	Miramar/Mission	C		
4	Almar-Younglove/Mission	C		
5	**Bay/Mission**	**F**	**164.1**	**1.347**
6	**Laurel/Mission**	**F**	**87.9**	**1.201**
7	Walnut/Mission	D		
8	**King-Union/Mission**	**F**	**90.5**	**1.143**
9	**Chestnut-Hwy. 1/Mission**	**F**	**121.8**	**1.228**
10	Moore/High	A		
11	Bay/High/Coolidge	D		
12	Bay/Nobel-Iowa	B		
13	Bay/King	C		
14	California/Laurel	C		
15	Chestnut/Laurel	C		
16	Center/Laurel	C		
17	Center/Mission	C		
18	Pacific/Laurel	D		
19	Front/Laurel	D		
20	Front/Metro Center	A		
21	Front/Cathcart	A		
22	Front/Soquel	C		
23	Front/Cooper	A		
24	Front-Pacific/Mission-Water	C		
25	River/Water	D		
26	N. Pacific/River	B		
27	River/Potrero	B		
28	**River/Hwy. 1**	**F**	**209.0**	**1.540**
29	**River/Encinal**	**F**	**198.7**	**1.715**
30	San Lorenzo/Laurel-Broadway	B		
31	Riverside/San Lorenzo	D		
32	Riverside/Third	D		
33	Riverside/Beach	A		
34	**Ocean/San Lorenzo-East Cliff**	**F**	**113.9**	**1.168**
35	**Ocean/Broadway**	**F**	**90.8**	**1.153**
36	Ocean/Soquel	D		
37	**Ocean/Water**	**F**	**169.4**	**1.454**
38	Ocean/Kennan-Washburn	B		
39	Ocean-Hwy.17/Ocean-Plymouth	D		
40	Market/Water	C		

TABLE 4.4-2
Intersection PM Peak Hour Levels of Service with *General Plan 2030* Buildout

	Intersection	PM Peak LOS	Delay [in seconds]	V/C Ratio
41	**N. Branciforte/Water**	**E**	**73.7**	**1.117**
42	**Branciforte/Soquel**	**E**	**67.6**	**1.073**
43	S. Branciforte/Broadway	B		
44	Seabright/Soquel	D		
45	Seabright/Broadway	C		
46	**Seabright/Murray**	**E**	**62.7**	**1.013**
47	Morrissey/Water-Soquel	D		
48	Morrissey/Fairmount	B		
49	Frederick/Soquel	D		
50	Hagemann-Trevethan/Soquel	B		
51	Park/Soquel	B		
52	Capitola Rd./Soquel Ave.	C		
53	La Fonda/Soquel	B		
54	Riverside-Dakota/Soquel (new)	A		
55	River S./Soquel	B		
56	Seventh Ave./Soquel Ave.	C		
57	Seventh Ave./Capitola Rd.	C		
58	Seventh Ave./Eaton	D		
UNSIGNALIZED INTERSECTIONS				
59	**Bay/California St**	**F**	**OVRFLW**	**2.917**
60	**Bay/California Ave**	**F**	**150.3**	**1.429**
61	West Cliff/Bay	C		
62	**Beach/Pacific Ave**	**E**	**39.9**	**1.058**
63	Pacific Avenue/Center	C		
64	Storey/King	D		
65	**River/Fern**	**F**	**OVRFLW**	**1,251**
66	King/Laurel	D		
67	**Laurent/High**	**F**	**94.1**	**1.190**
68	Market/Isbel-Goss	C		
69	North Branciforte/Goss	C		
70	Highway 1/Shaffer Rd	C		
71	Cedar/Laurel	D		
72	**Bay/Escalona**	**F**	**OVRFLW**	
73	**Western/High**	**F**	**69.5**	**0.678**
74	Cliff/Beach	B		
75	Riverside/Second-Liebrandt	A		
76	**Seabright/Water**	**F**	**OVRFLW**	**2.963**
77	**Swift and Delaware**	**F**	**241.6**	**2.751**
78	Seventh Ave./Brommer	D		
79	Seventh Ave./E. Cliff	C		

SOURCE: Hatch Mott MacDonald

TABLE 4.4-3
Intersection PM Peak Hour Levels of Service with Recommended Improvements

Intersection	Existing		Buildout		Recommended Improvement	With Mitigation	
	LOS	Delay	LOS	Delay		LOS	Delay
Western Dr/High St	E	45.9	F	69.5	TWLTL	**E**	38.1
High/Laurent	F	59.6	F	94.1	Signalize	B	18.2
River-Hwy 9/Hwy 1	F	83.9	F	209	Ebnd 2l 3t 1r, wbnd 2l 3t 1r, nbnd 1tl 1t 2r, sbnd 2l 1tl 1t 1r	**F**	80.8
River/Fern	B	14.5	F	Ovrfl	Signalize no l esbnd	B	15.1
River/Encinal	E	73.9	F	198.7	Ebnd 1l 1tr 1r, wbnd 1l 1tr, nbnd 1l, 1t, 1r, sbnd 1l,1t, 1tr	D	37.9
Bay St/Escalona Dr	F	782.2	F	Ovrfl	Escalona right turns only	C	18.3
Bay/Mission	E	55.8	F	164.1	Ebnd 1l, 2t,1r, wbnd 1l,2t,1r,nbnd 1l,1t,1r, sbnd 2l,1t,1r	**E**	57.7
Mission/Laurel	C	24.9	F	87.9	Add Ebnd r	**F**	85.6
Mission/King	C	32.7	F	90.5	Ebnd no l, 2t, 1tr, wbnd 1l, 1t, 1tr,nbnd 1ltr, sbnd 2l 1ltr	D	50.8
Mission/Chestnut	D	42.9	F	121.8	Ebnd 2l, 2t, 1r, wbnd 1lt,1t, 1r, nbnd 1l, 1t, 1tr, sbnd 1l,2t, 2r	**F**	112.9
Ocean/Water	E	73.6	F	169.4	Ebnd 2l, 2t, 1r, wbnd 1l,2t, 1r, nbnd 1l, 2t, 1tr, sbnd 2l, 3t, 1r	**F**	130.7
Seabright/Water	F	112.8	F	Ovrfl	Extend TWLTL & add nbnd r	**E**	39
Water/Branciforte	D	36.6	E	73.7	Add ebnd 1, nbound r & sbnd r	D	53.6
California Ave/Bay	F	67.6	F	150.3	Allow nbnd t free	D	26.4
California St/Bay	F	434	F	Ovrfl	Allow sbnd t free	B	12.5
Branciforte/Soquel	C	23.6	E	67.6	Esbnd 1 l, 1t, 1 tr, wsbnd 1l, 1tr no splt phase	C	24.5
Ocean St/Broadway	C	34.3	F	90.8	Prohibit lfts from Ocean	D	36.5
Pacific/Beach	C	20.9	E	39.9	Roundabout	C	
Ocean St/San Lorenzo-ECliff Dr	E	64.7	F	113.9	Add sbnd r	D	53.2
Seabright/Murray	D	43.7	E	62.7	ADD wsbnd r, nbnd r & sbnd r	**E**	59.4
Swift/Delaware	C	23.9	F	241.6	Roundabout/Signal	C	20.1

The mitigation measure column reflects the recommended lane geometry where r = right turn lane, rt = right/through lane, l = left turn lane, lt = left/through lane, t = through lane, and twltl = two-way left turn lane.

SOURCE: Ron Marquez

IMPACT DISCUSSION

The proposed *General Plan 2030* strives to maintain LOS D or better at signalized intersections with acceptance of a lower LOS at major regional intersections if necessary improvements would be too costly or result in significant environmental impacts (Policies M3.1.3, M3.1.4). In conjunction with this directive, Policies M2.1.3, M2.1.4 and ED1.9.2 direct the City to implement pedestrian, bike, mass transit, and road system improvements through the Capital Improvements Program (CIP), and draft plan supports "regional funding and implementation of key regional projects that can significantly benefit Santa Cruz and further the City's mobility policies," although it is not clear what these projects may be. As most of the recommended improvements to impacted intersections are within the City's TIF Program or would be added with proposed updating of the TIF (M3.1.5), the needed improvements are expected to be implemented over time as projects are added to the City's CIP. Intersections along state highways would also come under the jurisdiction of Caltrans. Overall, intersection improvements would be constructed within existing developed rights-of way, and would not be expected to required construction on undeveloped land that would result in potential significant impacts. However, an appropriate level of environmental review would be required at the time a specific intersection improvement is proposed.

As shown on Table 4.4-3, eight intersections would remain at unacceptable levels of service even with implementation of identified improvements. These include four major intersections within the City that carry regional and visitor traffic: River-Highway 9/Highway 1; Mission/Chestnut, Mission/Bay and Ocean/Water. For these intersections, the proposed *General Plan 2030* accepts a lower LOS at major regional intersections (M3.1.4). These intersections would be considered major intersections, and are also included in the existing General Plan as deficient intersections for which a lower LOS would be accepted. However, while, the City may be willing to accept a lower LOS at the intersections along Highway 1- Mission Street, these intersections are within the jurisdiction of Caltrans and would not meet its desired C-D LOS. The recommended intersection improvements would improve delay to slightly less than what occurs under existing conditions even though an acceptable LOS still would not be achieved with the improvements at one of these intersections: River-Highway 9/Highway 1.

The other four intersections that would remain at unacceptable levels of service include: Mission/Laurel (Caltrans intersection), High/Western, Seabright/Water and Seabright/Murray. As shown on Table 4.4-3, delays would be reduced below existing levels with implementation of the recommended improvements at the High/Western and Seabright/Water intersections. The level of service calculation for these two intersections is based on the left turn movement from the minor stop controlled street. Overall both of these intersection operate well, despite the LOS. However, the Mission/Laurel and Seabright/Murray intersection would operate at an unacceptable level of service.

The Draft *General Plan 2030* includes goals, policies and actions that set forth comprehensive measures to reduce vehicle trips, increase vehicle occupancy, encourage use of alternative transportation modes, and promote alternative-sustainable land use patterns, all of which would help reduce vehicle trips, and avoid and minimize adverse impacts related to traffic. A summary of the proposed *General Plan 2030* policies that serve to reduce/mitigate impacts of increased traffic is presented in Table 4.4-4.

Policy M2.3 and its four accompanying actions seek to increase the efficiency of the City's multi-modal transportation system to design for and accommodate multiple transportation modes (M2.3.1), as well as TSM measures and road improvements to achieve an acceptable level of service (M2.3.2). Policies M3.1.1 and M3.1.2 direct the City to seek ways to reduce vehicle trip demand, reduce the number of peak hour vehicle trips, and encourage high occupant vehicle travel. A significant rise in vehicle occupancy from the existing average of 1.2-1.3 persons per vehicle would provide additional road capacity, increase the efficiency of the existing transportation and roadway system and reduce the need for costly improvement to the road system (Santa Cruz County Regional Transportation Commission, June 2010).

TABLE 4.4-4
Proposed General Plan Policies and Actions that Reduce Traffic Impacts

Type of Measure / Action	Policies / Actions

MAINTAIN LEVEL OF SERVICE STANDARD & IMPLEMENT TRANSPORTATION IMPROVEMENTS	• Maintain LOS D or better at signalized intersections; accept lower LOS at major regional intersections: M3.1.3, M3.1.4
	• Implement road improvements & alternative transportation to achieve acceptable LOS: M2.3.2
	• Manage, reduce congestion: M.3.1, M2.4.4 (work with UCSC)
	• Maintain road system with efficient arterial operations: M3.2.2, M3.3.6, M3.1.12 (coordinated signal timing)
	• Promote TSM strategies: M2.5.2
	• Improve access along the Visitor/Beach Area travel corridors: M3.3.2
	• Maintain/update Traffic Impact Fee and implement road improvements: M3.1.5; M2.1.3
	  ⅄ Implement pedestrian, bike, transit & road improvement through CIP: M2.1.3, ED1.9.2
	  ⅄ Support regional funding & implementation of key regional projects that benefit Santa Cruz: M2.1.4
	  ⅄ Transportation improvements on Ocean: ED1.2.1
	  ⅄ Visitor access improvements: ED1.8.4

REDUCE AUTO/VEHICLE TRIPS & INCREASE VEHICLE OCCUPANCY	• Reduce auto dependence, vehicle trips and peak hour trip & increase vehicle occupancy: M1.1, M3.1.1, M3.1.2 • Encourage employment-related strategies (i.e., flex-time, telecommuting, parking management, ridesharing): M3.1.7, M3.1.8, M2.4.4
ENCOURAGE MULTI-MODAL SYSTEMS	• Design, accommodate & increase efficiency of multiple transportation modes: M2.3, M2.3.1, ED1.9.2 (alternative transportation), NRC4.4.2, M3.1.11 (studies to determine deficiencies) • Include pedestrian, bike, transit facilities in ROW acquisition, street design, bridge & road projects: M1.4.1, M1.4.2, M2.3.3 • Develop Depot Park as multi-modal center: LU3.5.2 • Multi-modal use of future rights-of-way: M1.4.2
ENCOURAGE ALTERNATIVE TRANSPORTATION MODES	• Encourage use of alternative transportation modes: M.2.1.2 • Promote alternative transportation with TSM strategies: M2.3.2, M2.5.2 • Connect activity centers with pedestrian & bike paths: M1.1.2 • Encourage hotels to provide bike/shuttle programs: M2.3.4 • Employment and parking-related strategies: M3.1.7, M3.1.8, M3.1.9 **(CONTINUED ON NEXT PAGE)**

TABLE 4.4-4
Proposed General Plan Policies and Actions that Reduce Traffic Impacts

Type of Measure / Action	Policies / Actions
➤ Bicycle Use	• Interconnected bike network & maintain/update Bike Plan: M4.2, M4.2.1, M4.2.2, M4.2.3 • Implement bicycle improvements: M2.1.3 • Bike lanes: M4.3.1, 4.5.4 • Bike commute routes: M4.3.2 (rail r-o-w, West Cliff, Broadway) • Support bicycle improvements, amenities & maintenance: M4.4 & actions, M4.2.6, M4.3, M4.5 & actions, PR1.6.4 (at parks); CC8.4 (at educational facilities)
➤ Pedestrian Use	• Connected street and pedestrian network: CD5.1, M1.1.2, M1.1.3, M4.1.5 (development dedication) • Implement pedestrian improvements: M2.1.3, M1.3.1 • Implement MTS pedestrian recommendations; update/implement Pedestrian Master Plan: CD5.1.1, M1.2, M4.1.1 • Encourage walking: M4.1, M4.1.3 and pedestrian access: CC8.4 • Neighborhood parking strategies & development designs to foster pedestrians: CD 5.2.3, M4.1.7
➤ Transit Use & Expansion	• Encourage transit options & increased transit service, capacity & ridership: M1.1.3, M2.1.1, M2.4, M2.4.2, M2.4.6, M2.4.7, M2.4.8 (commuter travel), M2.4.9 • Implement transit improvements: M2.1.3 • Consider giving priority to transit on City corridors: M2.4.5 • Conveniently located transit stops, centers & transit links: M.1.4, M2.4.11 and as part of new development: M2.4.12, M2.4.12 • Encourage maintenance/upgrading of transit infrastructure: M.2.4.10 • Encourage Beach shuttle: M2.4.1
➤ Rail	• Encourage/support passenger rail transit & other modes along rail ROW: M2.2, M2.2.1 • Rail Land Use Plan: LU4.2.4 • Rail Transit Center: LU4.5, LU4.5.2 • Condition development along rail-potential stops: LU4.5.2 • Encourage transport of good by rail: M2.2.2
LAND USES / PATTERNS TO REDUCE VEHICLE TRIPS	• Reduce auto use with pedestrian/transit-oriented activity centers & development centers (M1.1) • Expand neighborhood facilities (LU4.3, LU4.3.1) • Encourage land use changes that reduce auto use: LU4.2); locate community facilities within walking distance to residential areas and transit: (CC2.1.4) • Encourage home occupations & telecommuting: LU4.4, LU4.4.1 and live-work units: LU4.1.4, HA4.4 (artists) • Ensure optimum utilization of infill parcels (LU1.1, LU1.1.1) and Consolidation of Underutilized Parcels (LU1.1.2) • Encourage mixed uses: LU3.5 (Lower Pacific), LU3.6 (River) , LU4.1.1, LU4.2.2 (new districts), LU4.2.3, LU4.1.3 • Encourage assembly of small parcels along transit: CD3.3, CD3.3.1, CD3.3.2 **(CONTINUED ON NEXT PAGE)**

TABLE 4.4-4
Proposed General Plan Policies and Actions that Reduce Traffic Impacts

Type of Measure / Action	Policies / Actions
	• Encourage higher/maximum densities: LU3.6.1 (Lower Front St), LU3.7, LU3.7.1, LU3.8 • Encourage higher densities along transit/commercial corridors: LU4.1, LU4.1.1 • Encourage University shopping/services on UC lands: LU4.2.5
REDUCE & DISCOURAGE THROUGH-TRAFFIC IN NEIGHBORHOODS	• Discourage, reduce, and slow through-traffic: M3.3 • Enhance neighborhood livability through road& transit design: M3.3.1 • New development to be designed to discourage through traffic and encourage bicycle or pedestrian connections: M3.3.5 • Reduce traffic in residential neighborhoods by improving arterial and collector streets: M3.3.6 • Develop neighborhood traffic control plans where necessary to minimize traffic impacts on local streets: M3.3.7

Policy M2.1.2 encourages use of alternative modes of transportation, and numerous policies and actions support expanded and improved bicycle and pedestrian facilities, a well as increased transit use. Several policies support higher land use densities along transit corridors (LU4.1, LU4.2, M1.1) to support land use patterns that reduce reliance on automobiles. Home occupations and telecommuting also are encouraged (LU4.4). The draft General Plan also directs the City to improve access to and routes between tourist and visitor designations and lodging facilities as part of the City's economic development policies ED1.8.4).

These policies would serve to help reduce project vehicular traffic and thus reduce traffic impacts in addition to proposed intersection improvements. Of the eight identified intersections that would remain at unacceptable levels of service with implementation of identified improvements, four are at major intersections where the City has historically accepted a lower level of service at major regional intersections where improvements would be too prohibitively costly or could result in unacceptable significant environmental impacts, and this policy is maintained in the proposed General Plan (M3.1.4), although the intersections within Caltrans' jurisdiction would not meet Caltrans LOS standards. Additionally, the delays at these intersections would be less than without the improvement, and at the Highway 1/Highway 9 intersection, the delay would be less than under existing conditions. The other four intersections that would remain at unacceptable levels of service, although delays would be reduced to levels below existing conditions at the Western/High and Seabright/Water intersections.

Roadway, as well as bicycle and other non-vehicular improvements, would be contingent on future funding. The potential growth estimated to result from implementation of the proposed *General Plan 2030* could generate nearly $32 million in impact fees at current rates that could be used for improvements, of which 15% would be for alternative transportation. However the TIF program, including improvements, costs and impact fees, would be updated pursuant to actions specified in the draft General Plan (M3.1.5). Improvements to intersections along state highways would be contingent on Caltrans approval and state and/or federal funding. Revenues for transportation, including road and other transportation mode improvements, have not kept pace with the multimodal needs of travelers in Santa Cruz County (Santa Cruz County

Regional Transportation Commission, June 2010). Given chronic state budget deficits, as well as reduced local revenues funding road, bicycle, and pedestrian improvements will continue to be a challenge. Additionally, the lack of community consensus on regional highway improvements and local multi-use paths further constrain the feasibility of either roadway or alternative transportation mode improvements being implemented (Santa Cruz County Regional Transportation Commission, June 2010).

Revenue issues and service cuts have reduced the SCMTD's level of service, affecting the ability to increase transit service. It is estimated that 1,500 to 2,000 additional transit passengers may need to be served with projected General Plan buildout. It is expected that service would continue along major the City's major transportation corridors and where high use is concentrated. However, additional funding will be necessary to expand transit service in the future and provide implementation of "Sustainable Community" strategies,[11] and such funding, is at this time uncertain (SCMTD, White, personal communication, August 2011).

Conclusion. Future development accommodated by the proposed *General Plan 2030* would generate traffic that would result in unacceptable levels of service at 21 intersections, all of which could be improved to acceptable levels with intersection improvements, except for four local intersections and four intersections on state highways. Therefore, these intersections could not be improved to an acceptable LOS to meet City or Caltrans' standards, and the resulting effects on these eight intersections would be considered a significant impact unavoidable impact as no feasible improvements have been identified. With implementation of the identified improvements and proposed *General Plan 2030* policies and actions to reduce vehicular traffic, increase vehicle occupancy and support/encourage use of alternative transportation measures, the impact could be reduced to a less-than-significant level at the remaining impacted intersections. However, funding availability likely will remain constrained for major facility improvements and expansion of transit service into the foreseeable future. Thus, implementation of recommended improvements and alternative transportation facilities cannot be assured, and thus, the impact to the intersections identified as operating at unacceptable levels of service under the proposed *General Plan 2030* remains significant.

Mitigation Measures

With implementation of the proposed *Plan 2030* policies and actions to reduce vehicular traffic, increase vehicle occupancy and support/encourage use of alternative transportation measures, the impact could be reduced to a less-than-significant level at all but four intersections along state highways and the four local intersections. Impacts would remain significant and unavoidable. With uncertainly regarding funding and implementation of transportation projects for the other intersections, the impact remains

[11] Senate Bill 375 (SB 375) provides a means for addressing greenhouse gas (GHG) emissions by aligning regional transportation planning efforts, regional GHG reduction targets, and land use and housing allocation, thereby discouraging urban sprawl and reducing vehicle miles traveled, with an emphasis on increasing land use intensity along transit corridors. See the GLOBAL CLIMATE CHANGE (Chapter 4.12) section of this EIR for further discussion.

significant and unavoidable. However, revision of the following *General Plan 2030* action is recommended.

Recommended Revisions to the *Draft General Plan 2030*

Revise or add policies/actions as indicated below. Deleted text is shown in ~~strikeout~~ typeface, and new text is shown in underlined typeface.

M3.1.4 Accept a lower level of service and higher congestion at major regional intersections if necessary improvements would be ~~too~~ prohibitively costly or result in significant, unacceptable environmental impacts.

Impact 4.4-2: Traffic Impacts on State Highway Levels of Service (LOS) Adoption and implementation of the proposed *General Plan 2030* would accommodate future development that would result in increased vehicle trips and traffic on state highways in the regions (Routes 1, 17, and 9), which would further exacerbate existing unacceptable levels of service. This is considered a *significant impact*.

The proposed project would result in increased traffic on state highway segments. It is estimated that the proposed project would generate approximately 78,235 weekday daily trips. Based on the results of the TRAFFIX model, the distribution of project traffic to state highways is estimated as follows:

- Highway 1, southbound: 24.6% of all trips
- Highway 9, north of City Limits: 1.9% of all trips
- Highway 17, northbound: 20.5% of all trips

Based on this distribution, traffic resulting from future development accommodated by the proposed *General Plan 2030* would increase traffic on southbound Highway 1 by approximately 19,250 daily trips, on northbound Highway 17 by approximately 16,000 daily trips, and on northbound Highway 9 by about 1,500 daily trips. This represents an increase of approximately 20% on Highway 1 and 22% on Highway 17, which would be considered a substantial increase.

According to the Transportation Concept Report for state highways, the target level of service for State Highway 1 west of Morrissey Boulevard is LOS D, and the target level of service for State Highway 17 south of Pasatiempo is LOS E (Caltrans, April 2006, January 2006). However, according to the Caltrans Guide for the Preparation of Traffic Impact Studies (Caltrans, 2002), if an existing State Highway facility is operating at less than the target LOS, the guide states that the existing LOS should be maintained. Highway 1 between Morrissey and Branciforte Creek Bridge operates at a E-F LOS (Caltrans, October 2010), and Highway 17 operates at LOS F (Caltrans, January 2006).

The addition of project-related traffic would contribute to significantly worsened conditions. However, some of this traffic would be within projected future volumes estimated by Caltrans. According to Caltrans' studies, Highway 1 traffic near Morrissey-Branciforte Creek Bridge is expected to increase by 50,000 daily trips in 2030-2035 (Caltrans, October 2010). Future year traffic volumes were projected using growth rates from AMBAG's regional travel demand model, version April 2007, applied to 2007 counts (Ibid.). By incorporating trip reduction and smart growth design in the proposed General Plan policies and actions, the forecast of increased traffic on Route 1 as a result of potential development accommodated by the *General Plan 2030* is significantly less than that anticipated in Caltrans Corridor Systems Management Plan.

The Route Concept Report for Highway 1 includes the addition of High Occupancy Vehicle (HOV) lanes to Highway 1. This project will add a lane in each direction to reduce congestion, encourage carpooling, expand express bus service, and improve safety. The limits of this project extend from Morrissey Boulevard to San Andreas Road/Larkin Valley Road. Project environmental review and preliminary design are underway. Caltrans' draft "Corridor System Management Plan's" strategy for Highway 1 includes new express bus services on the planned HOV lanes, support of land use and transportation efforts to reduce traffic, and overall reduction of congestion by encouraging alternative transportation facilities and programs. The County and Caltrans are also working on design and environmental review for reconstruction of the La Fonda Avenue overcrossing as part of the Auxiliary Lane Project.

The Route Concept Report for Highway 17 identifies an increase of about 8,100 daily trips to the year 2023 (Caltrans, January 2006). The report acknowledges that Highway 17 will remain a 4-lane freeway without widening. Using the traffic forecast in the Corridor System Management Plan for Route 1 the increase in volume on Route 17 would range from 30,000 to 40,000 vehicles per day by the year 2035. Again this figure is well above the volume forecast for the general plan.

As discussed above in the Impact 4.4-1 analysis, the Draft *General Plan 2030* includes goals, policies and actions that set forth comprehensive measures to reduce vehicle trips, increase vehicle occupancy, encourage use of alternative transportation modes, and promote alternative-sustainable land use patterns, all of which would help reduce vehicle trips, and avoid and minimize adverse impacts related to traffic. The draft Plan encourages use of alternative modes of transportation, and numerous policies and actions support expanded and improved bicycle and pedestrian facilities, as well as increased transit use. Several policies support higher land use densities along transit corridors to support land use patterns that reduce reliance on automobiles. The draft Plan supports regional funding and implementation of key regional projects "that can significantly benefit Santa Cruz and further the City's mobility policies" (M2.1.4).

Caltrans is responsible for improvements along state routes and has proposed a series of improvements along Highway 1, which would improve transit and carpooling with addition of an HOV lane. While overall levels of service would remain unchanged if the additional lane were not an HOV lane, average speeds would be increased and delays reduced (Caltrans, October 2010). Similarly, Highway 17 is forecast to remain at an unacceptable LOS in the future with no potential improvements having been identified. Both the Highway 1 planned HOV lanes and Soquel/Morrissey auxiliary lanes are supported in the current Regional

Transportation Plan. The SCCRTC assumes that a half-cent, 30-year sales tax measure or similar local funding mechanism will be ultimately be approved (Santa Cruz Regional Transportation Plan, June 2010).

The increase of 1,500 vehicles per day on Route 9 will not result in a significant impact. The existing volumes on Route 9 range from 5,000 AADT to 5,600 ADT north of City limits during peak months. Traffic volumes have increased on this highway approximately 1,000 vehicles per day in the last 30 years. Route 9 is a conventional undivided two-lane highway which is classified as a major collector. No major improvements are planned in the corridor from Santa Cruz to Felton north of the City limits. (Transportation Planning Fact Sheet State Route (SR) 9 in Santa Cruz County, Caltrans).

Conclusion. Future development accommodated by the proposed *General Plan 2030* would generate traffic that would contribute to existing and future forecast unacceptable levels of service along Highway 1 and Highway 17. Project traffic represents a significant addition, although the estimated General Plan buildout traffic is less than the future forecasts estimated by Caltrans in its draft "Corridor System Management Plan." With implementation of the proposed *General Plan 2030* policies and actions to reduce vehicular traffic, increase vehicle occupancy and support/encourage use of alternative transportation measures, and with future improvements along Highway 1 that are planned by Caltrans, traffic congestion along Highway 1 will be minimized. However, highway operations would continue to remain at unacceptable levels. Thus, the impact remains significant.

Mitigation Measures

None are known beyond those being considered for Highway 1 by Caltrans as discussed above.

Impact 4.4-3: Traffic Hazards
Adoption and implementation of the proposed *General Plan 2030* would not result in new roads that could potentially create hazards, and with implementation of proposed *General Plan 2030* policies and actions to ensure road safety, the project would not result in direct or indirect impacts related to increased hazards. Therefore, there is *no impact* related to road safety/hazards.

The proposed *General Plan 2030* does not include new roads or road alignments, and thus, would not create or increase hazards due to a road or intersection design. Action M3.1.13 does support an approach to Highway 1 to from the Harvey west area, but a specific location is not identified. If this option were to be considered in the future, it would require Caltrans' approval, and would be subject to project-level design and environmental review.

Furthermore, Policy M3.2 seeks to ensure road safety for all users. To this end, the plan proposes to maintain the condition of the existing road system (M3.2.1), ensure safe and

efficient arterial operations and designs (M3.2.2, M3.2.11), ensure adequate street widths and designs for emergency vehicles (M3.2.3), and improve traffic safety and flow, including at high collision and congested areas (M3.2.4, M3.2.5). Regular inspection and maintenance of street pavements is supported to help encourage bicycling (M3.2.6).

Conclusion. The proposed *General Plan 2030* does not include new roads or road alignments, and thus, would not create or increase hazards due to a road or intersection design. Implementation of the proposed *General Plan 2030* policies and actions would help to maintain road safety and prevent hazardous conditions due to future designs of roadway or intersection improvements. Therefore, there is no impact associated with creating or increasing hazards due a specific roadway design feature.

Mitigation Measures

No mitigation measures are required as a significant impact has not been identified.

Impact 4.4-4: Conflicts with Adopted Plans
Adoption and implementation of the proposed *General Plan 2030* would not result in conflicts with adopted plans, policies or programs that support alternative transportation, as the proposed goals, policies and actions directly support implementation and use of alternative transportation modes. Therefore, there is *no impact* related to potential conflicts with plans and policies.

Both the SCCRTC's *Regional Transportation Plan* and AMBAG's *Monterey Bay Area Mobility 2035* support and promote transit, bicycling, walking, carpooling and other alternative transportation modes. The proposed *General Plan 2030* directly supports these alternative modes as well. Action M2.1.2 encourages use of alternative modes of transportation, and numerous policies and actions support expanded and improved bicycle and pedestrian facilities, a well as increased transit use and passenger rail transit, as summarized on Table 4.4-4. Policy M2.3 seeks to increase the efficiency of the City's multi-modal transportation system. Several policies support higher land use densities along transit corridors (LU4.1, LU4.2, M1.1) to support land use patterns that reduce reliance on automobiles.

Conclusion. The proposed *General Plan 2030* directly supports regional plans and policies that support alternative transportation modes as it includes numerous policies and actions that encourage use of alternative modes of transportation, and support expanded and improved bicycle and pedestrian facilities, a well as increased transit use. Therefore, there is no impact related to potential conflict with adopted plans and policies that support alternative transportation.

Mitigation Measures

No mitigation measures are required as a significant impact has not been identified.

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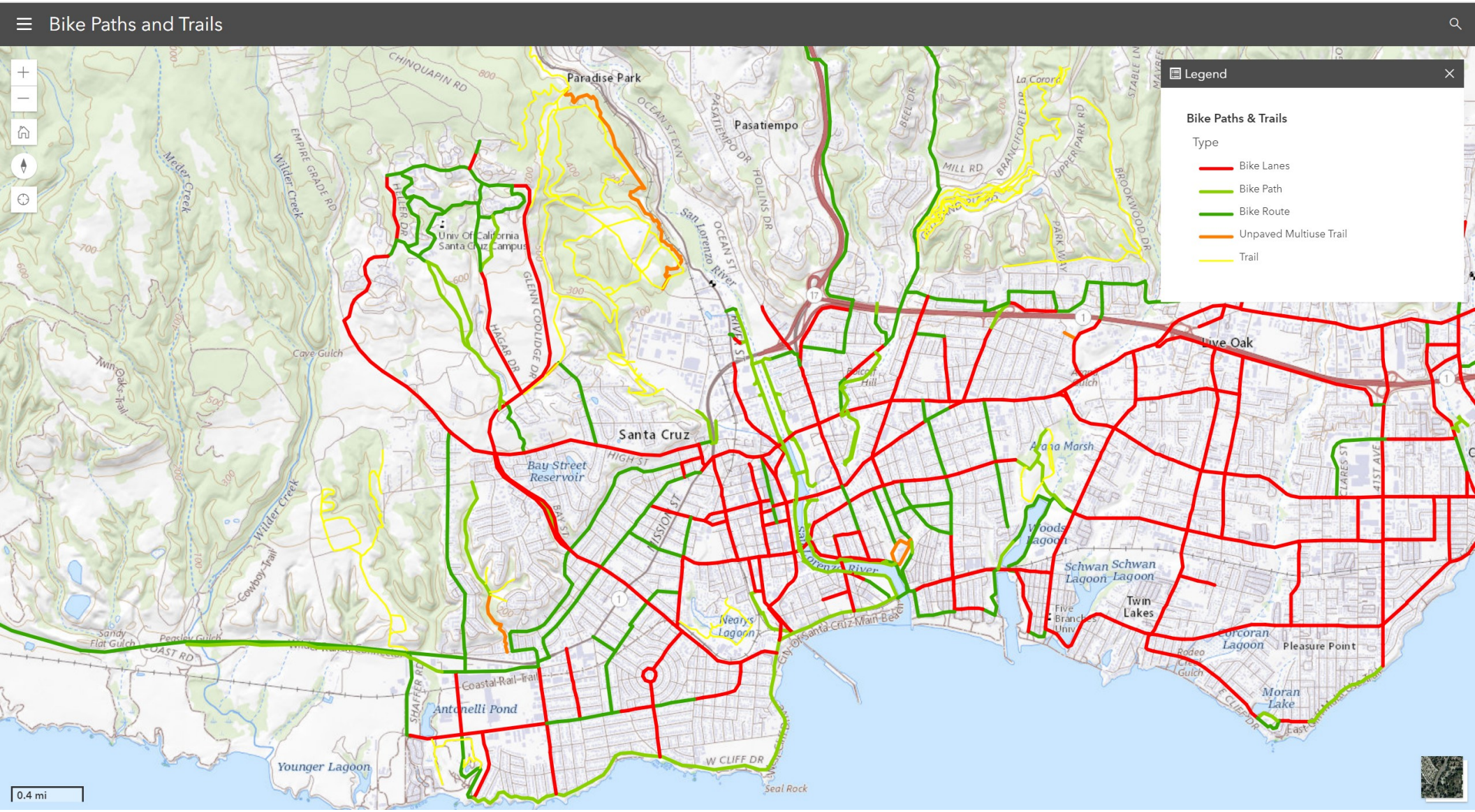
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Bike Paths and Trails
Legend
Bike Paths & Trails
Type
Bike Lanes
Bike Path
Bike Route
Unpaved Multiuse Trail
Trail
Paradise Park
Pasatiempo
Santa Cruz
Live Oak
Twin Lakes
Pleasure Point
Bay Street Reservoir
Antonelli Pond
Younger Lagoon
Seal Rock
Moran Lake
Schwan Lagoon
Woods Lagoon
Neary's Lagoon
Cave Gulch
Wilder Creek
Meder Creek
Coastal Rail Trail
Cowboy Trail
Twin Oaks Trail
Univ Of California Santa Cruz Campus
San Lorenzo River
W CLIFF DR
COAST RD
0.4 mi

*NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

GENERAL PERMIT FOR
WASTE DISCHARGE REQUIREMENTS (WDRs)
FOR
STORM WATER DISCHARGES FROM SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS (MS4s)

ORDER NO. 2013-0001-DWQ
NPDES NO. CAS000004

This Order was adopted by the State Water Resources Control Board on:	**February 5, 2013**
This Order shall become effective on:	**July 1, 2013**
This Order shall expire on:	**June 30, 2018**

IT IS HEREBY ORDERED that, as of July 1, 2013, this Order supersedes Order No. 2003-0005-DWQ.

I, Jeanine Townsend, Clerk to the Board, do hereby certify that this Order, with all attachments, is a full, true, and correct copy of an Order adopted by the State Water Resources Control Board, on **February 5, 2013.**

AYE: Chairman Charles R. Hoppin
Vice Chair Frances Spivy-Weber
Board Member Tam M. Doduc
Board Member Steven Moore
Board Member Felicia Marcus

NAY: None

ABSENT: None

ABSTAIN: None

Jeanine Townsend
Clerk to the Board

STATE WATER RESOURCES CONTROL BOARD
WATER QUALITY ORDER NO. 2013-0001-DWQ
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
GENERAL PERMIT NO. CAS000004

WASTE DISCHARGE REQUIREMENTS (WDRs) FOR STORM WATER DISCHARGES FROM SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS (MS4s) (GENERAL PERMIT)

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Monitoring Flow Chart

FINDINGS

The State Water Resources Control Board (State Water Board) finds that:

1. Storm water is a resource and an asset and should not be treated as a waste product. Managing rainwater and storm water at the source is a more effective and sustainable alternative to augmenting water supply, preventing impacts from flooding, mitigating storm water pollution, creating green space, and enhancing fish and wildlife habitat. California encourages alternative, innovative, multi-objective solutions to help use and protect this valuable resource, while at the same time controlling pollution due to urban runoff.

2. As human population increases, urban development creates new pollution sources and brings with it proportionately higher levels of car emissions, car maintenance wastes, municipal sewage, pesticides, household hazardous wastes, pet wastes, trash, etc. which can either be washed or directly dumped into the municipal separate storm sewer system (MS4). As a result, the runoff leaving the developed urban area is greater in pollutant load than the pre-development runoff from the same area. Also, when natural vegetated pervious ground cover is converted to impervious surfaces such as paved highways, streets, rooftops, walkways and parking lots, the natural absorption and infiltration abilities of the land are lost. Therefore, runoff leaving developed urban area is significantly greater in runoff volume, velocity, peak flow rate, and duration than pre-development runoff from the same area. The increased volume, velocity, rate, and duration of runoff greatly accelerate the erosion of downstream natural channels. In addition, the greater the impervious cover the greater the significance of the degradation.

3. Pollutants of concern found in urban runoff include sediments, non-sediment solids, nutrients, pathogens, oxygen-demanding substances, petroleum hydrocarbons, heavy metals, floatables, polycyclic aromatic hydrocarbons (PAHs), trash, pesticides and herbicides.

4. Trash and litter are a pervasive problem in California. Controlling trash is a priority, because trash adversely affects our use of California's waterways. Trash impacts aquatic life in streams, rivers, and the ocean as well as terrestrial species in adjacent riparian and shore areas. Trash, particularly plastics, persists for years. It concentrates organic toxins, entangles and ensnares wildlife, and disrupts feeding when animals mistake plastic for food and ingest it. Additionally, trash creates aesthetic impacts, impairing our ability to enjoy our waterways.

5. The State Water Resources Control Board (State Board) is developing a statewide policy for trash control in California's waterways. The draft Trash Policy will identify trash as a separate pollutant and establish methods to control trash pollution in waterways, statewide. Following adoption of the draft Trash Policy, the State Water Board may re-open this Order to incorporate water body trash pollution control methods and introduce Trash Reduction Program requirements.

6. A higher percentage of impervious area in urban areas correlates to a greater pollutant loading, resulting in turbid water, nutrient enrichment, bacterial contamination, organic matter loads, toxic compounds, temperature increases, and increases in trash or debris.

7. Conventional landscaping features large lawns, non-native plants, abundant irrigation, and heavy use of fertilizers, herbicides, and pesticides. It frequently requires significant mowing,

blowing, trimming, and removal of plants debris. Adopting more storm water-friendly landscape practices reduces pollutants and also provides tangible water conservation, wildlife habitat, and energy saving benefits.

8. The State Water Board recognizes that this Order affects varied and diverse entities, including agencies that are required to carry out water conservation regulations, wastewater discharge regulations, and land use regulations that may implement, all or in part, provisions of this Order. The State Water Board seeks to minimize duplicate efforts and maximize resources to achieve the greatest water quality benefit; thus the State Water Board recognizes specified related regulations, cited in the body of this Order, as equivalent to implementing designated provisions of this Order.

9. When water quality impacts are considered during the planning stages of a project, new development and many redevelopment projects can more efficiently incorporate measures to protect water quality.

10. In California, urban storm water is listed as the primary source of impairment for ten percent of all rivers, ten percent of all lakes and reservoirs, and 17 percent of all estuaries (2010 Integrated Report). Although these numbers may seem low, urban areas cover just six percent of the land mass of California and so their influence is disproportionately large. Urbanization causes changes in the landscape, including increased loads of chemical pollutants, increased toxicity, changes to flow magnitude, frequency, and seasonality of various discharges, physical changes to stream, lake, or wetland habitats, changes in the energy dynamics of food webs, sunlight, and temperature; and biotic interactions between native and exotic species. In addition to surface water impacts, urbanization can alter the amount and quality of storm water that infiltrates and recharges groundwater aquifers.

11. Education and awareness programs help change human behavior with respect to reducing the amount of pollution generated from storm water sources within the Permittee's MS4 system. In addition to education, encouraging public participation in local storm water programs can lead to program improvement as well as enabling people to identify and report a pollution-causing activity, such as spotting an illicit discharge.

12. Field experience in conducting outfall surveys indicates that illicit discharges may be present at 2 to 5 percent of all outfalls at any given time. Given that pollutants are being introduced into the receiving water during dry weather, illicit discharges may have an amplified effect on water quality and biological diversity.[1] Therefore, implementation of an effective Illicit Discharge and Detection Elimination program in conjunction with focused wet weather monitoring, as necessary, is an essential component of an effective municipal storm water program.

13. In 1990, the U.S. Environmental Protection Agency (U.S. EPA) promulgated rules establishing Phase I of the National Pollutant Discharge Elimination System (NPDES) storm water program. The Phase I program for MS4s requires operators of "medium" and "large" MS4s, that is, those that generally serve populations of 100,000 or greater, to implement a storm water management program as a means to control polluted discharges from these MS4s.

[1] Urban Stormwater Management in the United States, National Research Council, 2008

14. A MS4 is a conveyance or system of conveyances that is: 1) owned by a state, city, town, village, or other public entity that discharges to waters of the United States; 2) designed or used to collect or convey storm water (including storm drains, pipes, ditches, etc.); 3) not a combined sewer; and 4) not part of a Publicly Owned Treatment Works or sewage treatment plant.

15. On December 8, 1999, U.S. EPA promulgated Phase II storm water regulations under authority of the Clean Water Act section 402(p)(6). The Phase II Storm Water requires State Water Board to issue NPDES storm water permits to operators of Small MS4s.

16. On April 30, 2003, the State Water Board adopted Water Quality Order No. 2003-0005-DWQ, NPDES General Permit CAS000004 WDRs for Storm Water Discharges from Small Municipal Separate Storm Sewer Systems (General Permit) to comply with Clean Water Act section 402(p)(6).

17. Title 40 of the Code of Federal Regulations (40 C.F.R.) section122.26(b)(16) defines Small MS4s as those not defined as "large" or "medium" MS4s under section122.26(b)(4) or (b)(7) or designated under 40 Code of Federal Regulations section122.26(a)(1)(v). The term Small MS4s includes systems similar to separate storm sewer systems in municipalities, such as systems at military bases, large hospital or prison complexes, and highways and other thoroughfares. (40 C.F.R. §122.26(b)(16)(iii).) These latter subsets of Small MS4s are referred to herein as Non-traditional Small MS4s. Non-traditional Small MS4s discharge the same types of pollutants that are typically associated with urban runoff. Separate storm sewers in very discrete areas, such as individual buildings, are not defined as Small MS4s.

18. Of the Small MS4s defined by federal regulations, only "Regulated Small MS4s" (also referred to as "Permittees" herein) must obtain an NPDES permit. Small MS4s are designated as Regulated Small MS4s in this Order in accordance with the criteria described in Findings 19-25.[2]

19. Under 40 Code of Federal Regulations section 122.32(a)(1) all Small MS4s located within an "urbanized area" as determined by the latest Decennial Census by the Bureau of the Census (Urbanized Area) are automatically designated as Regulated Small MS4s.

20. Under 40 Code of Federal Regulations sections 122.32(a)(2) and 123.35(b) the State Water Board is directed to develop a process, as well as criteria, to designate Small MS4s located outside of an Urbanized Area as Regulated Small MS4s. These criteria are to evaluate whether a storm water discharge results in or has the potential to result in exceedances of water quality standards, including impairment of designated uses, or other significant water quality impacts, including habitat and biological impacts.

21. Under guidance provided in 40 Code of Federal Regulations secton123.35(b)(1)(ii), for determining other significant water quality impacts, U.S. EPA recommends a balanced consideration of the following designation criteria on a watershed or other local basis: discharge to sensitive waters, high growth or growth potential, high population density,

[2] In addition to the designation criteria specified in this Order, the State Water Board may designate a Small MS4 as a Regulated Small MS4 in response to a petition received under 40 Code of Federal Regulations section 122.26(f). Any person may petition the State Water Board to require an NPDES permit for a discharge composed entirely of storm water that contributes to a violation of a water quality standard or is a significant contributor of pollutants to the waters of the United States. (*Id.*). The State Water Board must make a final determination on any petition within 180 days after receiving the petition. (40 C.F.R. §123.35(c).)

contiguity to an urbanized area, significant contributor of pollutants to waters of the U.S., and ineffective protection of water quality by other programs.

22. The State Water Board is required to apply the designation criteria at a minimum to all Small MS4s located outside of Urbanized Areas serving jurisdictions with a population density of at least 1,000 people per square mile and a population of at least 10,000. (40 C.F.R. §123.35(b)(2).) The State Water Board has discretion to apply the criteria to jurisdictions with smaller population or lower density. All such jurisdictions are then Regulated Small MS4s.

23. In developing the designation criteria, the State Water Board included factors indicative of the potential to result in exceedances of water quality standards and other significant water quality impacts. The following criteria are used to designate Small MS4s outside of Urbanized Areas as Regulated Small MS4s in this Order.

    a. The Small MS4 has high population *and* high population density – High population means a population of 10,000 or more. High population density means a density of 1,000 residents per square mile or greater. Also to be considered in this definition is a high density created by a non-residential population, such as tourists or commuters.

    b. The Small MS4 discharges to Areas of Special Biological Significance (ASBS) as defined in the California Ocean Plan.

24. Designation of additional Small MS4s as Regulated Small MS4s may be made by the Regional Water Boards on a case by case basis. Case by case determinations of designation shall be based on the potential of a Small MS4's discharges to result in exceedances of water quality standards, including impairment of designated uses, or other significant water quality impacts, including habitat and biological impacts. Where such case by case designations have been recommended by the Regional Water Boards prior to adoption of this Order, the designated Small MS4s are listed on the relevant Attachments to the Order and the reasons for designation are laid out in the Fact Sheet. The Regional Water Boards may continue to make case by case determinations of designation during the permit term. Such designations must be approved by the Regional Water Board after public review and comment.

25. 40 Code of Federal Regulations section 123.35(b)(4) requires designation as a Regulated Small MS4 of any Small MS4 outside an Urbanized Area that contributes substantially to the pollutant loadings of a physically interconnected MS4 regulated by the NPDES storm water program. A Small MS4 is interconnected with a separately permitted MS4 if storm water that has entered the Small MS4 is allowed to flow directly into a permitted MS4. In general, if the Small MS4 discharges more than ten percent of its storm water to the permitted MS4, or its discharge makes up more than ten percent of the permitted MS4's total storm water volume, it is a significant contributor of pollutants to the permitted MS4. In specific cases, the MS4s involved or third parties may show that the ten percent threshold is inappropriate for the MS4 in question.

26. Regulated Small MS4s may seek a waiver from Phase II requirements if they meet criteria specified in 40 Code of Federal Regulations sections 122.32(c)-(e).[3] The State

[3] Waiver criteria also found at 40 C.F.R. 123.35(d).

Water Board has additionally provided for a waiver for those communities outside of urbanized areas with a population of 20,000 or less with an annual median household income (MHI) that is less than 80 percent of the statewide annual MHI. (Wat. Code, § 79505.5, subd. (a)).

27. Small MS4s face highly variable conditions both in terms of threats to water quality from their storm water discharges and resources available to manage those discharges. Therefore, one set of prescriptive requirements is not an appropriate regulatory approach for all Regulated Small MS4s. This Order distinguishes between New and Renewal Traditional Small MS4 Permittees. Additionally, this Order addresses differences between Traditional and Non-traditional Small MS4s by detailing Non-traditional Small MS4 specific provisions in Section F Non-Traditional Small MS4 Provisions. Provisions are tailored to address the diverse program structures of Non-traditional Small MS4s to allow for an appropriate regulatory approach.

28. There are variable levels of resources available to Regulated Small MS4s for public outreach and education and water quality monitoring. Recognizing this, the Order gives Permittees numerous compliance options in these two program areas. However, all Regulated Small MS4s that discharge to ASBS or impaired water bodies[4] must conduct monitoring as specified in Attachment C and Attachment G, respectively. All Regulated Small MS4s with a population of 50,000 or more must conduct monitoring specified in Sections E.13.d.1. or E.13.d.2. of the Order or as approved by the Executive Officer of the applicable Regional Board. Additionally, for the public outreach program, the Regional Water Boards may require the Regulated Small MS4s to utilize the approach of Community-Based Social Marketing.

29. Renewal Traditional Small MS4 Permittees shall comply with Section E. Certain provisions within Section E contain compliance dates that are past the effective date of this Order, in these cases, the Permittee shall implement its existing program until that date.

30. This Order modifies the existing General Permit, Order 2003-0005-DWQ by establishing the storm water management program requirements in the Order and defining the minimum acceptable elements of the municipal storm water management program. Minimum permit requirements are known at the time of permit issuance and not left to be determined later through Regional Water Board review and approval of Storm Water Management Plans (SWMPs).

31. The State Water Board recognizes the necessity of a storm water program guidance document specific to each Permittee to provide planning and guidance for each program area and to identify responsible implementing parties. Permittees must develop and implement a storm water program guidance document and must submit the document during the application process.

32. The State Water Board recognizes that in some instances Renewal Permittees' SWMPs that were approved under the prior General Permit, Order 2003-0005-DWQ have incorporated BMPs designed to address locality-specific storm water issues and that in some cases these

[4] A waterbody that has been determined under state policy and federal law not meet water quality standards. An impaired water is a water that has been listed on the California 303(d) list or has not yet been listed but otherwise meets the criteria for listing. A water is a portion of a surface water of the state, including ocean, estuary, lake, river, creek, or wetland. The water currently may not be meeting state water quality standards or may be determined to be threatened and have the potential to not meet standards in the future. The State of California's 303(d) list can be found at http://www.swrcb.ca.gov/quality.html.

BMPs may, because of locality-specific factors, be more protective of water quality than the minimum requirements established by this Order. Renewal Permittees will additionally include in the guidance document the following: identification and brief description of each BMP and associated measurable goal included in the Permittee's previously approved SWMP under the prior General Permit, Order 2003-0005-DWQ, that constitutes a more specific local or tailored level of implementation that may be more protective of water quality than the minimum requirements of this Order; and identification of whether the Permittee proposes to maintain, reduce, or cease implementation for each more protective, locally-tailored BMP. In no instance may a BMP be reduced or ceased if it is required by the minimum standards set by this Order.

33. Minimum measures have been established in this Order to simplify assessment of compliance and allow the public to more easily assess each Permittee's compliance.

34. Each provision establishes the required task description, minimum implementation levels (i.e., escalating enforcement, reporting requirements for tracking projects, number of monitoring sites, etc.), and reporting elements to substantiate that the Permittee meets these implementation levels. Regional Water Board staff will be able to evaluate each individual Permittee's compliance through Annual Report review and the program evaluation (audit) process.

35. The provisions contained in this Order were derived from two main U.S. EPA documents: MS4 Program Evaluation Guide[5] and the MS4 Permit Improvement Guide[6] along with interviews and information gathered from a lengthy collaborative stakeholder process.

36. Consistent with Clean Water Act section 402(p)(3)(B)(iii), this Order requires controls to reduce pollutants from the MS4 to the maximum extent practicable (MEP). The MEP standard requires Permittees to apply Best Management Practices (BMPs) that are effective in reducing or eliminating the discharge of pollutants to the waters of the U.S. MEP emphasizes pollutant reduction and source control BMPs to prevent pollutants from entering storm water runoff. MEP may require treatment of the storm water runoff if it contains pollutants. The MEP standard is an ever-evolving, flexible, and advancing concept, which considers technical and economic feasibility. BMP development is a dynamic process and may require changes over time as the Permittees gain experience and/or the state of the science and art progresses. To do this, the Permittees must conduct and document evaluation and assessment of each relevant element of its program, and their program as a whole, and revise activities, control measures/BMPs, and measurable goals, as necessary to meet MEP. MEP is the cumulative result of implementing, evaluating, and creating corresponding changes to a variety of technically appropriate and economically feasible BMPs, ensuring that the most appropriate BMPs are implemented in the most effective manner.

37. The Order's Receiving Water Limitations language is consistent with State Water Board Order WQ 99-05 (*Orange County)* adopted by the State Water Board on June 17, 1999. Receiving Water Limitations apply to all Permittees subject to this Order. The State Water Board held a workshop on November 20, 2012, to hear comments on the receiving water limitations provisions in MS4 permits. This Order has a reopener clause that will allow the State Water Board to reopen the Order if the Board directs changes to the Receiving Water Limitations language based on comments received.

38. Non-storm water discharges consist of all discharges from an MS4 that do not originate from precipitation events. This Order effectively prohibits non-storm water discharges through an

[5] Municipal Separate Storm Sewer System (MS4) Program Evaluation Guidance, USEPA, EPA-833-R-07-003, January 1, 2007
[6] MS4 Permit Improvement Guide, USEPA, April 1, 2010

MS4 into waters of the U.S. Certain categories of non-storm water discharges are conditionally exempt as specified at 40 Code of Federal Regulations section 122.26(d)(2)(iv)(B)(1). Non-storm water discharges that are regulated by a separate NPDES permit are not subject to the discharge prohibition. Prohibited non-storm water discharges include conditionally exempt discharges that are found to be a significant source of pollutants to waters of the U.S.

39. Non-storm water discharges to ASBS are prohibited except as specified in the General Exception. Certain enumerated non-storm water discharges are allowed under the General Exception if essential for emergency response purposes, structural stability, slope stability, or if occur naturally. In addition, an NPDES permitting authority may authorize non-storm water discharges to an MS4 with a direct discharge to an ASBS to the extent the NPDES permitting authority finds that the discharge does not alter natural ocean water quality in the ASBS. This Order allows utility vault discharges to an MS4 with a direct discharge to an ASBS, provided the discharge is authorized by the General NPDES Permit for Discharges from Utility Vaults and Underground Structures to Surface Water, NPDES No. CAG 990002. The State Water Board is in the process of reissuing the General NPDES Permit for Utility Vaults. As part of the renewal, the State Water Board will require a study to characterize representative utility vault discharges to an MS4 with a direct discharge to an ASBS and will impose conditions on such discharges to ensure the discharges do not alter natural ocean water quality in the ASBS. Given the limited number and intermittent nature of utility vault discharges to MS4s that discharge directly to an ASBS, the State Water Board finds that discharges from utility vaults and underground structures to an MS4 with a direct discharge to an ASBS are not expected to result in a substantial alteration of natural ocean water quality in the ASBS in the interim period while the General NPDES Permit for Discharges from Utility Vaults is renewed and the study is completed. Other short-duration, intermittent non-storm water discharges related to LUPs (e.g. groundwater dewatering, potable water system flushing, hydrotest discharges) are regulated under NPDES permits issued by the Regional Water Boards. Although such discharges are not specifically enumerated in the General Exception as essential for emergency response purposes, structural stability, or slope stability, they may be required to ensure the safety and stability of the utility systems or for operations and maintenance and for extending these essential services. For this reason, and because the short-duration and intermittent nature of these discharges renders them unlikely to result in substantial alteration of natural ocean water quality in the ASBS, this Order permits such discharges to a segment of the MS4 with a direct discharge to an ASBS provided they are authorized by an NPDES permit issued by the State Water Board or relevant Regional Water Board. However, if a Regional Water Board determines a specific discharge from a utility vault or underground structure does alter the natural ocean water quality in an ASBS, the Regional Water Board may prohibit the discharge as specified in this Order.

40. Total Maximum Daily Loads (TMDL) are numerical calculations of the maximum amount of a pollutant that a water body can assimilate and still meet water quality standards. A TMDL is the sum of the allowable loads of a single pollutant from all contributing point sources (waste load allocations) and non-point sources (load allocations), background contribution, plus a margin of safety. Discharges from Small MS4s are point source discharges subject to TMDLs. This Order requires Permittees to comply with all applicable TMDLs approved pursuant to 40 Code of Federal Regulations section 130.7 that assign a Waste Load Allocation to Permittee and that have been identified in Attachment G. The high variance in the level of detail and specificity of TMDLs necessitates the development of more specific permit requirements in many cases to provide clarity to the Permittees regarding responsibilities for compliance. The Regional Water Boards have submitted TMDL-specific permit requirements to the State Water Board, for applicable TMDLs, along with statements explaining how the requirements are designed to achieve the goals of the TMDLs (incorporated into the Fact Sheet). The TMDL-specific permit requirements are summarized

in Attachment G and are an enforceable component of this Order. The Regional Water Boards are additionally being directed through this Order to review the TMDL-specific permit requirements of Attachment G in consultation with the Permittees and the State Water Board staff and propose any revisions to the State Water Board within one year of the effective date of this Order. TMDLs applicable to non-traditional dischargers in the region of the Los Angeles Regional Water Board are listed in Attachment G without TMDL-specific permit requirements. The Los Angeles Water Board is being directed to develop and propose TMDL-specific permit requirements for Attachment G in consultation with the Permittees and the State Water Board staff within one year of the effective date of this Order. Any such revisions will be incorporated into the permit through a reopener.

41. Degraded watershed processes lead to degraded water quality. To fully protect beneficial uses, post-construction runoff retention and hydromodification control criteria for individual projects must be derived with a knowledge of dominant watershed processes. Watershed management zones will be delineated by the State Board during this permit term. The Watershed management zones will be used to identify applicable areas and appropriate criteria for runoff retention and hydromodification control to be incorporated into the next permit. Regional Water Boards that approve watershed process-based criteria for post-construction during this permit term will be permitted to require Permittees to implement these criteria.

42. The post-construction requirements and design standards contained in this Order are consistent with State Water Board Order WQ 2000-11 (*Bellflower)*.

43. State Water Board, California State Parks and the State Historic Preservation Officer may coordinate efforts to manage post-construction projects involving historic sites, structures or landscapes that cannot alter their original configuration in order to maintain their historic integrity.

44. Permittees will submit Annual Reports electronically using the State Water Board's Storm Water Multi-Application Reporting and Tracking System (SMARTS). The purpose of the Annual Report is to evaluate (1) the implementation of Permittees' storm water program; (2) the effectiveness of BMPs and Measurable Goals, (3) the Permittee's improvement opportunities to achieve MEP, and (4) any supplemental information required by a Regional Water Board in accordance with the Regional Water Board's specific requirements.

45. To apply for General Permit coverage authorizing storm water discharges to surface waters pursuant to this Order, the Permittees shall electronically file a Notice of Intent (NOI) using SMARTS and mail the appropriate permit fee to the State Water Board. The NOI represents the Permittee's commitment to comply with the BMPs specified in this Order to achieve compliance with the minimum control measures specified at 40 Code of Federal Regulations sections122.34 (b)(1) through (b)(6).

46. Under 40 Code of Federal Regulations section 122.35, a Separate Implementing Entity (SIE) can implement a storm water management program for another entity such as a municipality, agency, or special district. The SIE implements parts or all of a storm water program for a Permittee. Permittees relying on a SIE to implement their entire program must electronically file an NOI using SMARTS and mail appropriate fee to the State Water Board.

47. Each Permittee is individually responsible for adoption and enforcement of ordinances and/or policies, implementation of identified control measures/BMPs needed to prevent or reduce pollutants in storm water and operation and maintenance (O&M). Enforcement actions concerning this Order will be pursued only against the individual Permittee responsible for specific violations of this Order.

48. In accordance with 40 Code of Federal Regulations section122.28(b)(3), a Regional Water Board may issue an individual MS4 NPDES Permit to a Permittee otherwise subject to this Order, or adopt an alternative general permit that covers storm water discharges regulated by this Order. In accordance with Code of Federal Regulations section 122.34(b)(3), a Regulated Small MS4 in the same urbanized area as a medium or large MS4 may jointly with the medium or large MS4 seek a modification of the other MS4s permit to be added as a limited co-permittee. The applicability of this Order is automatically terminated on the effective date of the individual permit or joint permit or the date of approval for coverage under the alternative general permit.

49. Certain BMPs implemented or required by Permittees for urban runoff management may create a habitat for vectors (e.g., mosquitoes and rodents) if not properly designed or maintained. Close collaboration and cooperation among the Permittees, local vector control agencies, Regional Water Board staff, and the California Department of Public Health is necessary to identify and implement appropriate vector control measures that minimize potential nuisances and public health impacts resulting from vector breeding.

50. 40 Code of Federal Regulations section 131.12 requires that state water quality standards include an anti-degradation policy consistent with the federal policy. The State Water Board established California's anti-degradation policy in State Water Board Resolution No. 68-16. Resolution No. 68-16 incorporates the federal anti-degradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing quality of waters be maintained unless degradation is justified based on specific findings. The Regional Water Board's Water Quality Control Plans (Basin Plans) implement, and incorporate by reference, both the State and federal anti-degradation policies.

51. This action to adopt an NPDES permit is exempt from the provisions of the California Environmental Quality Act (Public Resources Code § 21100, et seq.) in accordance with Water Code section13389. (*County of Los Angeles v. Cal. Water Boards*, (2006), 143 Cal.App.4th 985.)

52. Following public notice in accordance with State and federal laws and regulations, the State Water Board, in a public hearing on August 8, 2012, heard and considered all comments. The State Water Board has prepared written responses to all significant comments.

53. The State Water Board has considered the costs of complying with this Order and whether the required BMPs meet the minimum MEP Standard required by federal law. Further discussion of cost of compliance is included in the Fact Sheet.

54. This Order shall serve and become effective as an NPDES permit and the Permitees shall comply with all its requirements pursuant to the timeframes identified within the permit.

IT IS HEREBY ORDERED that operators of Small MS4s subject to this Order shall comply with the following:

A. APPLICATION REQUIREMENTS FOR ALL SMALL MS4 PERMITTEES

Any Small MS4s designated under this Order that chooses to apply for an individual permit or request to join the permit of a Phase I Permittee must notify the Regional Water Board of its intent to do so by July 1, 2013. Census Designated Places (CDPs) listed on Attachment A that are located within an existing NPDES permit area are not required to file for separate coverage and pay separate fees.

A.1. Small MS4 Permittees (Except for Department of Defense and Department of Corrections and Rehabilitation Permittees)

a. New Permittees shall electronically file an NOI via SMARTS and mail the appropriate fee to the State Water Board by July 1, 2013. Renewal Permittees shall electronically file an NOI via SMARTS and pay the appropriate application fee to the State Water Board. Any Renewal Permittees with paid 2013 application fee invoices shall receive a prorated refund. If the Permittee is designated as a Regulated Small MS4 by a Regional Water Board after adoption of this Order, the Permittee shall file the NOI and mail the appropriate fee within six months of the date of designation.

b. General Permit coverage will be in effect upon receipt of the following:
   1) NOI via SMARTS
   2) Appropriate Fee (in accordance with the most recent fee schedule[7])
   3) Permit boundary map delineating permit jurisdiction: At a minimum the map shall include the following:

      (a) Phase II MS4 permit boundary based on 2010 Census data. For cities, the permit area boundary is the city boundary. For Counties, permit boundaries must include urbanized areas and places identified in Attachment A located within their jurisdictions. The boundaries must be proposed in the permit boundary map and may be developed in conjunction with the applicable Regional Water Board
      (b) City/County Boundaries
      (c) Main Arterial Streets
      (d) Highways
      (e) Waterways
      (f) Phase I MS4 Permit Boundary (if applicable)

   4) Guidance document: The document shall at least include the following:

      New Permittees:
      (a) Overall program planning
      (b) Identifification of all permit requirements and responsible implementing parties

      Renewal Permittees:
      (a) Overall program planning
      (b) Identification of all permit requirements and responsible implementing parties

[7] California Code of Regulations. Title 23. Division 3. Chapter 9 Waste Discharge Reports and Requirements. Article 1 Fees.

(c) Identification and brief description of each BMP and associated measurable goal included in the Permittee's most current SWMP that constitutes a more specific local or tailored level of implementation that may be more protective of water quality than the minimum requirements of this Order.
(d) Identification of whether the Permittee will maintain, reduce, or cease implementation for each more protective, locally-tailored BMP.
(e) For any more protective, locally-tailored BMP and associated measurable goal for which the Renewal Permittee will reduce or cease implementation, the Renewal Permittee shall demonstrate to the Executive Officer of the relevant Regional Water Board that the reduction or cessation is in compliance with this Order and the maximum extent practicable standard, and will not result in increased pollutant discharges. The demonstration by the Permittee will be subject to public comment before any approval by the Executive Officer of reduction or cessation of BMPs In no instance may the Renewal Permittee reduce or cease a BMP if it is required by the minimum standards set by this Order.

The guidance document may be in spreadsheet, tabular or narrative format.

A.2. Department of Defense and Department of Corrections and Rehabilitation Permittees

a. Permittee shall electronically file an NOI via SMARTS and mail the appropriate fee to the State Water Board by July 1, 2013. If the Permittee is designated as a Regulated Small MS4 by a Regional Water Board after adoption of this Order, the Permittee shall file the NOI and mail the appropriate fee within six months of the date of designation.

b. General Permit coverage will be in effect upon receipt of the following:
   1) NOI via SMARTS
   2) Appropriate fee (in accordance with the most recent fee schedule[8])
   3) Permit boundary map as developed by the Permittee

Renewal MS4s must continue implementing their current storm water management programs until submittal of a NOI via SMARTS.

A.3. Waiver Certification

Regulated Small MS4s may seek a waiver from the General Permit requirements if they meet criteria specified in 40 C.F.R. §122.32(c)-(e) or additional criteria specified in A.3.b.(3) below.

In order for a Regional Water Board to waive requirements for a Regulated Small MS4, (1) the Regulated Small MS4 must certify that its discharges do not cause or contribute to, or have the potential to cause or contribute to, a water quality impairment, and (2) the Regulated Small MS4 must meet one of the waiver options in Section b below:

a. Waiver Certification Application Requirements - A Waiver Certification will only be in effect upon completion of the following:

[8] California Code of Regulations. Title 23. Division 3. Chapter 9 Waste Discharge Reports and Requirements. Article 1 Fees.

1) Annual Waiver Certification submitted via SMARTS.
2) Annual Waiver Certification renewal fee of $200 plus any applicable surcharge.
3) Letter via SMARTS from Regional Water Board or its Executive Officer waiving requirements.

Requirements are automatically waived if the Regional Water Board does not respond within six months.

b. Waiver Criteria

(1) Option 1

(a) The jurisdiction served by the system is less than 1,000 people;
(b) The system is not contributing substantially (as defined in Finding 25) to the pollutant loadings of a physically interconnected regulated MS4; and
(c) If the small MS4 discharges any pollutants identified as a cause of impairment of any water body to which it discharges, storm water controls are not needed based on WLAs that are part of a U.S.EPA approved or established TMDL that addresses the pollutant(s) of concern.

(2) Option 2

(a) The jurisdiction served by the system is less than 10,000 people;
(b) The Regional Water Board has evaluated all waters of the U.S. that receive a discharge from the system;
(c) The Regional Water Board has determined that storm water BMPs are not needed based on WLAs that are part of a U.S. EPA approved or established TMDL that addresses the pollutant(s) of concern or an equivalent analysis; and
(d) The Regional Water Board has determined that future discharges from the Regulated Small MS4 do not have the potential to result in exceedances of water quality standards.

(3) Option 3 (applicable to Small MS4s outside an Urbanized Area only)

Small Disadvantaged Community – The Regulated Small MS4 certifies that it is a community with a population of 20,000 or less with an annual median household income (MHI) that is less than 80 percent of the statewide annual MHI. (Wat. Code, § 79505.5 , subd.(a)).

If the Waiver Certification Application Requirements or conditions of any waiver option are not met by the Regulated Small MS4, then the Regulated Small MS4 must submit a NOI via SMARTS and appropriate fee for coverage under this General Permit or apply for an individual NPDES permit.

The State Water Board or a Regional Water Board can, at any time, require a previously waived Regulated Small MS4 to comply with this General Permit or an individual NPDES permit if circumstances change so that the conditions of the waiver are no longer met. Changed circumstances can also allow a Regulated Small MS4 to request a waiver at any time.

B. DISCHARGE PROHIBITIONS

1. Discharges of waste from the MS4 that are prohibited by Statewide Water Quality Control Plans or applicable Regional Water Quality Control Plans (Basin Plans) are prohibited.

2. Discharges of storm water from the MS4 to waters of the U.S. in a manner causing or threatening to cause a condition of pollution or nuisance as defined in Water Code § 13050 are prohibited.

3. Discharges through the MS4 of material other than storm water to waters of the U.S. shall be effectively prohibited, except as allowed under this Provision or as otherwise authorized by a separate NPDES permit. The following non-storm water discharges are not prohibited provided any pollutant discharges are identified and appropriate control measures to minimize the impacts of such discharges, are developed and implemented under the Permittee's storm water program. This provision does not obviate the need to obtain any other appropriate permits for such discharges.

    a. water line flushing;
    b. individual residential car washing;
    c. diverted stream flows;
    d. rising ground waters;
    e. uncontaminated ground water infiltration (as defined at 40 C.F.R. §35.2005(20)) to separate storm sewers;
    f. uncontaminated pumped ground water;
    g. discharges from potable water sources;
    h. foundation drains;
    i. air conditioning condensation;
    j. springs;
    k. water from crawl space pumps;
    l. footing drains;
    m. flows from riparian habitats and wetlands;
    n. dechlorinated swimming pool discharges; and
    o. incidental runoff from landscaped areas(as defined and in accordance with Section B.4 of this Order).

    Discharges or flows from fire-fighting activities are excluded from the effective prohibition against non-storm water and need only be addressed where they are identified as significant sources of pollutants to waters of the U.S.

    If a Permittee or a Regional Water Board Executive Officer determines that any individual or class of non-storm water discharge(s) listed above may be a significant source of pollutants to waters of the U.S. or physically interconnected MS4, or poses a threat to water quality standards (beneficial uses), the Regional Water Board Executive Officer may require the appropriate Permittee to monitor and submit a report and to implement BMPs on the discharge.

4. Discharges in excess of an amount deemed to be incidental runoff shall be controlled. Regulated Small MS4s shall require parties responsible for such to implement Sections B.4.a-d below. Incidental runoff is defined as unintended amounts (volume) of runoff,

such as unintended, minimal over-spray from sprinklers that escapes the area of intended use. Water leaving an intended use area is not considered incidental if it is part of the facility design, if it is due to excessive application, if it is due to intentional overflow or application, or if it is due to negligence.

Parties responsible for controlling runoff in excess of incidental runoff shall:

a. Detect leaks (for example, from broken sprinkler heads) and correct the leaks within 72 hours of learning of the leak;

b. Properly design and aim sprinkler heads;

c. Not irrigate during precipitation events; and

d. Manage pond containing recycled water such that no discharge occurs unless the discharge is a result of a 25-year, 24-hour storm event or greater, and the appropriate Regional Water Board is notified by email no later than 24 hours after the discharge. The notification is to include identifying information, including the Permittee's name and permit identification number.

Non-storm water runoff discharge that is not incidental is prohibited, unless otherwise specified in Section B.3 above.

Incidental runoff may be regulated by waste discharge requirements or, where necessary, waste discharge requirements that serve as a NPDES permit, including MS4 permits.

5. Discharge to Areas of Special Biological Significance (ASBS) is prohibited except in compliance with the ASBS Special Protection Provisions in Attachment C. Regulated Small MS4s that discharge to an ASBS are listed in Attachment D and are subject to the ASBS Special Protection Provisions.

C. EFFLUENT LIMITATIONS

1. Permittees shall implement controls as required by this Order to reduce the discharge of pollutants from their MS4s to waters of the U. S. to the MEP. Permittees shall additionally reduce the discharge of pollutants (1) to achieve TMDL waste load allocations (WLAs) established for discharges by the MS4s and (2) to comply with the Special Protections for discharges to ASBS.

2. Storm water discharges regulated by this Order shall not contain a hazardous substance in amounts equal to or in excess of a reportable quantity listed in 40 C.F.R. Part 117 or 40 C.F.R. Part 302.

D. RECEIVING WATER LIMITATIONS

Discharges shall not cause or contribute to an exceedance of water quality standards contained in a Statewide Water Quality Control Plan, the California Toxics Rule (CTR), or in the applicable Regional Water Board Basin Plan.

The Permittee shall comply with Receiving Water Limitations through timely implementation of control measures/BMPs and other actions to reduce pollutants in the discharges and other requirements of this Order including any modifications. The storm water program shall be designed to achieve compliance with Receiving Water Limitations. If exceedance(s) of water quality objectives or water quality standards persist notwithstanding implementation of other storm water program requirements of this Order, the Permittee shall assure compliance with Receiving Water Limitations by complying with the following procedure:

1. Upon a determination by either the Permittee or the Regional Water Board that MS4 discharges are causing or contributing to an exceedance of an applicable water quality standard, the Permittee shall promptly notify and thereafter submit a report to the Regional Water Board that describes BMPs that are currently being implemented and additional BMPs that will be implemented to prevent or reduce any pollutants that are causing or contributing to the exceedance of water quality standards. The report shall include an implementation schedule. The Regional Board may require modifications to the report;

2. Submit any modifications to the report required by the Regional Water Board within 30 days of notification;

3. Implement the actions specified in the report in accordance with the approved schedule;

4. So long as the Permittee has complied with the procedure set forth above and is implementing the actions, the Permittee does not have to repeat the same procedure for continuing or recurring exceedances of the same receiving water limitations unless directed by the State Water Board or the Regional Water Board to develop additional BMPs.

E. PROVISIONS FOR ALL TRADITIONAL SMALL MS4 PERMITTEES

E.1. RENEWAL TRADITIONAL SMALL MS4 PERMITTEES

All Renewal Traditional Small MS4s Permittees shall comply with this Section. Where the requirements of a certain subsection provide a compliance date that is past the effective date of this Order, the Renewal Traditional Small MS4 shall implement its existing program until that date.

E.2. NEW TRADITIONAL SMALL MS4 PERMITTEES

New Traditional Small MS4s shall comply with this Section.

E.3. NON-TRADITIONAL SMALL MS4S PERMITTEES

E.3.a. All Renewal Non-Traditional Small MS4 Permittees shall comply with Section F of this Order. Where the requirements of a certain subsection provide a compliance date that is past the effective date of this Order, the Renewal Non-Traditional Small MS4 shall implement its existing program until that date.

E.3.b. New Non-Traditional Small MS4s Permittees shall comply with Section F of this Order.

E.4. SMALL MS4 ASBS PERMITTEES

Both Traditional and Non-traditional Small MS4s Permittees that discharge to ASBS as listed on Attachment D shall comply with Attachment C in addition to all other applicable provisions of this Order.

E.5. SEPARATE IMPLEMENTING ENTITY (SIE)

Permittees, both Traditional and Non-traditional Small MS4s, may rely on a SIE to satisfy one or more of the permit obligations, if the SIE can appropriately and adequately address the storm water issues of the Permittee. The SIE must agree to implement the BMPs, or components thereof, to achieve compliance with this Order. If the SIE fails to implement the BMPs, the Permittee remains responsible for compliance with this Order.

E.6. PROGRAM MANAGEMENT ELEMENT

To effectively implement a coordinated storm water program, the Permittee shall have an overarching Program Management element in its storm water management program. The Program Management element shall include the following:

E.6.a. Legal Authority

(i) **Task Description** – Within the second year of the effective date of the permit, the Permittee shall review and revise relevant ordinances or other regulatory mechanisms, or adopt any new ordinances or other regulatory mechanisms, to obtain adequate legal authority, to the extent allowable under state or local law, to control pollutant discharges into and from, as applicable, its MS4, and to meet the requirements of this Order.

(ii) **Implementation Level** –At a minimum, the Permittee shall have adequate legal authority to:

(a) Effectively prohibit non-storm water discharges through the MS4. Exceptions to this prohibition are NPDES-permitted discharges of non-storm water and non-storm water discharges in B.3 that are considered non-significant contributors of pollutants. Where the non-storm water discharge is to a segment of an MS4 that discharges directly to an ASBS, exceptions to the non-storm water prohibition are specified in Attachment C.

(b) Detect and eliminate illicit discharges and illegal connections to the MS4. Illicit connections include pipes, drains, open channels, or other conveyances that have the potential to allow an illicit discharge to enter the MS4. Illicit discharges include all non-storm water discharges not otherwise authorized in this Order, including discharges from organized car washes, mobile cleaning and pressure wash operations,

(c) Respond to the discharge of spills, and prohibit dumping or disposal of materials other than storm water into the MS4.

(d) Require parties responsible for runoff in excess of incidental runoff to implement Discharge Prohibition B.4.a-e.

(e) Require operators of construction sites, new or redeveloped land; and industrial and commercial facilities to minimize the discharge of pollutants to the MS4 through the installation, implementation, or maintenance of BMPs consistent with the California Storm Water Quality Association (CASQA) Best Management Practice Handbooks or equivalent.

(f) Require information deemed necessary to assess compliance with this Order. The Permittee shall only require information in compliance with the Homeland Security Act or any other federal law that concerns security in the United States. The Permittee shall also have the authority to review designs and proposals for new development and redevelopment to determine whether adequate BMPs will be installed, implemented, and maintained during construction and after final stabilization (post-construction).

(g) Enter private property for the purpose of inspecting, at reasonable times, any facilities, equipment, practices, or operations for active or potential storm water discharges, or non-compliance with local ordinances/standards or requirements in this Order, as consistent with any applicable state and federal laws.

(h) Require that dischargers promptly cease and desist discharging and/or cleanup and abate a discharge, including the ability to:

1) Effectively require the discharger to abate and clean up their discharge, spill, or pollutant release within 72 hours of notification; high risk spill should be cleaned up as soon as possible.

2) Require abatement within 30 days of notification, for uncontrolled sources of pollutants that could pose an environmental threat;

3) Perform the clean-up and abatement work and bill the responsible party, if necessary;

4) Provide the option to order the cessation of activities until such problems are adequately addressed if a situation persists where pollutant-causing sources or activities are not abated;

5) Require a new timeframe and notify the appropriate Regional Water Board when all parties agree that clean-up activities cannot be completed within the original timeframe and notify the appropriate Regional Water Board in writing within five business days of the determination that the timeframe requires revision.

(i) When warranted, have the ability to:

1) Levy citations or administrative fines against responsible parties either immediately at the site, or within a few days.

2) Require recovery and remediation costs from responsible parties.

(j) Impose more substantial civil or criminal sanctions (including referral to a city or district attorney) and escalate corrective response, consistent with its Enforcement Response Plan developed pursuant to Section E.6.c., for persistent non-compliance, repeat or escalating violations, or incidents of major environmental harm.

E.6.b. Certification

(i) **Task Description –** Within the second year of the effective date of the permit, the Permittee shall certify by its Principal Executive Officer, Ranking Elected Official, or Duly Authorized Representative as described in 40 Code of Federal Regulations section 122.22(b) that the Permittee has and will maintain full legal authority to implement and enforce each of the requirements contained in this Order.

(ii) **Implementation Level** – The Permittee's certification statement shall include the following:

(a) Identification of all departments within the Permittee's jurisdiction that conduct storm water-related activities and their roles and responsibilities under this Order.

(b) Citation of storm water runoff related ordinances, identification of the topics each ordinance addresses;

(c) Identification of the local administrative and legal procedures and ordinances available to mandate compliance with storm water-related ordinances and therefore with the conditions of this Order.

(d) A description of how storm water related-ordinances are reviewed and implemented.

(e) A statement that the municipality will implement enforcement actions consistent with its Enforcement Response Plan developed pursuant to Section E.6.c.

(iii) **Reporting** – All Permittees shall submit in the second year online Annual Report, a statement signed by an authorized signatory certifying the Permittee has adequate legal authority to comply with all Order requirements.

E.6.c. Enforcement Measures and Tracking

(i) **Task Description** – Within the third year of the effective date of the permit, the Permittee shall develop and implement an Enforcement Response Plan. The Enforcement Response Plan shall contain enforcement procedures and actions and identify the Permittee's responses to violations and describe how the Permittee will address repeat and continuing violations by implementing progressively stricter responses as needed to achieve compliance.

(ii) **Implementation Level -** The Enforcement Response Plan shall describe how the Permittee will use each of the following types of enforcement responses based on the type of violation:

(a) Verbal Warnings – Verbal warnings are primarily consultative in nature. At a minimum, verbal warnings shall specify the nature of the violation and required corrective action.

(b) Written Notices – Written notices shall include nature of the violation and the required corrective action, with deadlines for taking such action.

(c) Escalated Enforcement Measures – The Permittee shall establish legal authority to employ any combination of the enforcement actions below (or their functional equivalent), and to escalate enforcement responses where necessary to correct persistent non-compliance, repeat or escalating violations, or incidents of major environmental harm:

1) Citations (with Fines) – The Enforcement Response Plan shall describe when the Permittee will assess monetary fines, which may include civil and administrative penalties.

2) Stop Work Orders – The Enforcement Response Plan shall describe when the Permittee will issue stop work orders that require construction activities to be halted, except for those activities directed at cleaning up, abating discharge, and installing appropriate BMPs.

3) Withholding of Plan Approvals or Other Authorizations – Where a facility is in non-compliance, the Enforcement Response Plan shall describe how the Permittee's own approval or authorization processes that affect the facility's ability to discharge to the MS4 can be used to abate the violation.

4) Additional Measures – The Enforcement Response Plan may also describe other escalated measures the Permittee has under its local legal authorities. For example, the Permittee may need to improve erosion control measures and collect the funds to pay for work and materials from the responsible party by either collecting against the project's bond or directly billing the responsible party.

(d) NPDES Permit Referrals–For those construction projects or industrial facilities subject to the State's Construction General Permit (CGP) or Industrial General Permit (IGP), the Permittee shall:

1) Refer non-filers (i.e., those facilities that cannot demonstrate that they obtained permit coverage) to the appropriate Regional Water Board within 30 days of making that determination, or file a complaint on the State Water Board's website: http://www.dtsc.ca.gov/database/CalEPA_Complaint/index.cfm. In making such referrals, at a minimum include the following documentation:

a) Construction project or industrial facility location.

b) Name of owner or operator.

c) Estimated construction project size or type of industrial activity (including the Standard Industrial or the North American Industry Classification, if known).

d) Records of communication with the owner or operator regarding filing requirements.

2) Refer ongoing violations to the appropriate Regional Water Board provided that the Permittee has made a good faith effort of progressive enforcement to achieve compliance with its own ordinances. At a minimum, the Permittee's good faith effort shall include documentation

of two follow-up inspections and two warning letters or notices of violation. In making such referrals, the Permittee shall include, at a minimum, the following information:

a) Construction project or industrial facility location

b) Name of owner or operator

c) Estimated construction project size or type of industrial activity (including Standard Industrial Classification or North American Industry Classification System if known)

d) Records of communication with the owner or operator regarding the violation, including at least two follow-up inspections, two warning letters or notices of violation, and any response from the owner or operator

e) Enforcement Tracking –Track instances of non-compliance via hard-copy files or electronically. The enforcement tracking documentation shall include, at a minimum, the following:

(1) Name of owner/operator

(2) Location of construction project or industrial facility

(3) Description of violation

(4) Required schedule for returning to compliance

(5) Description of enforcement response used, including escalated responses if repeat violations occur or violations are not resolved within the time specified in the enforcement action.

(6) Accompanying documentation of enforcement response (e.g., notices of noncompliance, notices of violations, etc.)

(7) Any referrals to different departments or agencies

f) Recidivism Reduction – The Permittee shall identify chronic violators of any provision of this Order or of any related local ordinance or regulation and reduce the rate of noncompliance recidivism. The Permittee shall develop incentives, disincentives, or increase inspection frequency at the operator's sites to prevent chronic violations.

(iii) **Reporting** – The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section E.16.a.for compliance directions.

E.7. EDUCATION AND OUTREACH PROGRAM

Traditional Small MS4 Permittees may be required to implement Community-Based Social Marketing (CBSM) requirements as detailed in Attachment E upon determination by a Regional Board Executive Officer. The Regional Board Executive Officer shall notify Permittees within

three months of the permit adoption date of their determination to require CBSM.[9] The notification shall include a statement of reasons why the Executive Officer finds that implementation of CBSM is appropriate. If the Permittee disagrees with the Executive Officer determination, the Permittee may bring the dispute to the State Water Board Executive Director or his designee as specified under the Dispute Resolution provision of this Order.

E.7.a. Public Education and Outreach

Within the first year of the effective date of the permit, all Permittees shall comply with the requirements in this Section by selecting one or more of the following Public Education and Outreach options:

1) Contributing to a countywide storm water program, as determined appropriate by the Permittee members, so that the countywide storm water program conducts outreach and education on behalf of its members; or
2) Contributing to a regional outreach and education collaborative effort (a regional outreach and education collaborative effort occurs when all or a majority of the Permittees collaborate to conduct regional outreach and education. Regional outreach and education collaboration includes Permittees defining a uniform and consistent message, deciding how best to communicate the message, and how to facilitate behavioral changes, then collaboratively apply what is learned through local jurisdiction groups, pooling resources and skills.); or
3) Fulfilling outreach and education requirements within their jurisdictional boundaries on their own; or
4) A combination of the previous options, so that all requirements are fulfilled.

Reporting – By the first year Annual Report, the Permittee shall submit information indicating which Public Education and Outreach option(s) it will use to comply with this Section. For each option involving a contribution to a countywide storm water program or regional outreach and education collaborative effort, the Permittee shall complete and have available in the first year Annual Report documentation, such as a written agreement, letter or similar document, which confirms the collaboration with other MS4s.

(i)**Task Description** – Within the second year of the effective date of the permit, the Permittee shall develop and implement a comprehensive storm water public education and outreach program. The public education and outreach program shall be designed to reduce pollutant discharges in storm water runoff and non-storm water discharges to the MS4 through increased storm water knowledge and awareness in target communities. The Public Education and Outreach Program shall be designed to measurably increase the knowledge and awareness of targeted audience regarding the municipal storm drain system, impacts of urban runoff and non-storm water discharges on receiving waters, and potential BMP solutions for the target audiences, thereby reducing pollutant releases to the MS4 and the environment.

[9] Getting in Step, A Guide to, Conducting Watershed Outreach Campaigns, 3rd Edition, November 2010, EPA 841-B-10-002, USEPA, Office of Water.

(ii) **Implementation Level** –The Permittee shall, at a minimum:

(a) Develop and implement a public education strategy that establishes education tasks based on water quality problems, target audiences, and anticipated task effectiveness. The strategy must include identification of who is responsible for implementing specific tasks and a schedule for task implementation. The strategy must demonstrate how specific high priority storm water quality issues in the community or local pollutants of concern are addressed.

(b) Implement surveys at least twice during the permit term to gauge the level of awareness in target audiences and effectiveness of education tasks.

(c) Develop and convey a specific storm water message that focuses on the following:
1) Local pollutants of concern
2) Target audience
3) Regional water quality issues

(d) Develop and disseminate appropriate educational materials to target audiences and translate into applicable languages when appropriate (e.g. the materials can utilize various media such as printed materials, billboard and mass transit advertisements, signage at select locations, stenciling at storm drain inlets, radio advertisements, television advertisements, and websites);
(e) Utilize public input (e.g., the opportunity for public comment, or public meetings) in the development of the program;
(f) Distribute the educational materials, using whichever methods and procedures determined appropriate during development of the public education strategy;
(g) Convey messages to explain the benefits of water-efficient and storm water-friendly landscaping[10], using existing information if available;
(h) Develop and convey messages specific to reducing illicit discharges with information about how the public can report incidents to the appropriate authorities. The Permittee must promote, publicize, and facilitate public reporting of illicit discharges or water quality impacts associated with discharges into or from MS4s through a central contact point, including phone numbers for complaints and spill reporting, and publicize to both internal Permittee staff and the public. If 911 is selected, the Permittee must also create, maintain, and publicize a staffed, nonemergency phone number with voicemail, which is checked daily;
(i) Develop and convey messages specific to proper application of pesticides, herbicides, and fertilizers;
(j) Within the Permittee's jurisdiction, provide independent, parochial, and public schools with materials to effectively educate school –age children about storm water runoff and how they can help protect water quality habitat in their local watershed (s). The Permittee is encouraged to use environmental and place-based, experiential learning materials that are integrated into school curricula and school facility management[11]. In the case that an environmental and place-

[10] For example, Surfrider's Ocean Friendly Garden Program (http://www.surfrider.org/programs/entry/ocean-friendly-gardens) and the Water Efficient Landscape Ordinance (WELO)
[11] For example, Splash (*www.sac**splash**.org/*),Effie Yeaw Nature Center (www.sacnature.net) or Yolo Basin (www. yolobasin.org)

based, experiential learning local program does not exist, the Permittee may use California's Education and Environment Initiative Curriculum[12] or equivalent.

(k) Develop (or coordinate with existing, effective programs) and convey messages specific to reducing discharges from organized car washes, mobile cleaning and pressure washing operations, and landscape irrigation.

(l) Conduct storm water-friendly education for organized car wash participants and provide information pertaining to car wash discharge reduction. The Permittee may use the Sacramento Stormwater Quality Partnership's River Friendly Carwash Program[13], or equivalent, for guidance.

(m) Develop and convey messages specific to mobile cleaning and pressure wash businesses.

(iii) **Reporting** – The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section E.16.a.for compliance directions.

E.7.b. Staff and Site Operator Training and Education

E.7.b.1. Illicit Discharge Detection and Elimination Training

(i) **Task Description** – Within the third year of the effective date of the permit, the Permittee shall develop and implement a training program for all Permittee staff who, as part of their normal job responsibilities, may be notified of, come into contact with, or otherwise observe an illicit discharge or illegal connection to the storm drain system.

(ii) **Implementation Level** – The training program shall include at a minimum:

(a) Identification of an illicit discharge or illegal connection.

(b) Proper procedures for reporting and responding to the illicit discharge or illegal connection.

(c) Follow-up training shall be provided as needed to address changes in procedures, techniques, or staffing.

(d) An annual assessment of their trained staff's knowledge of illicit discharge response and refresher training as needed.

(e) Training for new staff who, as part of their normal job responsibilities may be notified of, come into contact with, or otherwise observe an illicit discharge or illegal connection shall be trained no later than six months after the start of employment.

(f) Contact information, including the procedure for reporting an illicit discharge, shall be included in each of the Permittee's fleet vehicles that are used by field staff.

(g) Focused education on identified illicit discharges and associated illicit discharge locations.

[12] http://www.californiaeei.org/
[13] http://www.beriverfriendly.net/riverfriendlycarwashing/

(iii) **Reporting** – The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section E.16.a.for compliance directions.

E.7.b.2. Construction Outreach and Education

(a) Permittee Staff Training

(i) **Task Description** – Within the second year of the effective date of the permit, the Permittee shall ensure that all staff implementing the construction site storm water runoff control program are adequately trained.

(ii) **Implementation Level** – The Permittee may conduct in-house training or contract with consultants. Training shall be provided to the following staff positions of the MS4:

(a) Plan Reviewers and Permitting Staff - The Permittee shall ensure plan reviewers and permitting staff are qualified individuals, knowledgeable in the technical review of local erosion and sediment control plans, (including proper control measure selection, installation, implementation, and maintenance, as well as administrative requirements such as inspection reporting/tracking and the use of the Permittee's enforcement responses), and are certified pursuant to a State Water Board sponsored program as a Qualified Storm Water Pollution Prevention Plan (SWPPP) Developer (QSD), or a designated person on staff possesses the QSD credential.

(b) Erosion Sediment Control/Storm Water Inspectors - The Permittee shall ensure inspectors are qualified individuals, knowledgeable in inspection procedures, and are certified pursuant to a State Water Board sponsored program as either (1) a Qualified SWPPP Developer (QSD); (2) a Qualified SWPPP Practitioner (QSP); or (3) a designated person on staff possesses each credential (QSD to supervise plan review, QSP to supervise inspection operations).

(c) Third-Party Plan Reviewers, Permitting Staff, and Inspectors - If the Permittee utilizes outside parties to review plans and/or conduct inspections, the Permittee shall ensure these staff are trained.

(iii) **Reporting** – The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section E.16.a.for compliance directions.

(b) Construction Site Operator Education

(i) **Task Description** – Within the third year of the effective date of the permit, the Permittee shall develop and distribute educational materials to construction site operators.

(ii) **Implementation Level** – The Permittee shall do the following:

(a) Each year, provide information on training opportunities for construction operators on BMP selection, installation, implementation, and maintenance as well as overall program compliance.

(b) Develop or utilize existing outreach tools (i.e. brochures, posters, etc.) aimed at educating construction operators on appropriate selection, installation, implementation, and maintenance of storm water BMPs, as well as overall program compliance.

(c) Distribute appropriate outreach materials to all construction operators who will be disturbing land within the MS4 boundary. The Permittee's contact information and website shall be included in these materials.

(d) Update the existing storm water website, as necessary, to include information on appropriate selection, installation, implementation, and maintenance of BMPs.

(iii) **Reporting –** The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this program element . The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section E.16.a.for compliance directions.

E.7.b.3. Pollution Prevention and Good Housekeeping Staff Training

The Permittee shall train employees on how to incorporate pollution prevention/good housekeeping techniques into Permittee operations.

(i) **Task Description** – Within the second year of the effective date of the permit, the Permittee shall develop a biennial employee training program for appropriate employees involved in implementing pollution prevention and good housekeeping practices as specified in Section E.11. Pollution Prevention/Good Housekeeping for Permittee Operations of this Order. The Permittee shall determine the need for interim training during alternate years when training is not conducted, through an evaluation of employee Pollution Prevention/Good Housekeeping knowledge. All new hires whose jobs include implementation of pollution prevention and good housekeeping practices must receive this training within the first year of their hire date.

(ii) **Implementation Level** – The training program shall include the following:

(a) Biennial training for all employees implementing this program element. This biennual training shall include a general storm water education component, any new technologies, operations, or responsibilities that arise during the year, and the permit requirements that apply to the staff being trained. Employees shall

receive clear guidance on appropriate storm water BMPs to use at municipal facilities and during typical O&M activities.

(b) A biennual assessment of trained staff's knowledge of pollution prevention and good housekeeping and shall revise the training as needed.

(c) A requirement that any contractors hired by the Permittee to perform O&M activities shall be contractually required to comply with all of the storm water BMPs, good housekeeping practices, and standard operating procedures described above.

(d) The Permittee shall provide oversight of contractor activities to ensure that contractors are using appropriate BMPs, good housekeeping practices and following standard operating procedures.

(iii) **Reporting** – The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section E.16.a.for compliance directions.

E.8. PUBLIC INVOLVEMENT AND PARTICIPATION PROGRAM

(i) **Task Description** – Within the second year of the effective date of the permit, the Permittee shall involve the public in the development and implementation of activities related to the program. The public participation and involvement program shall encourage volunteerism, public comment and input on policy, and activism in the community. The Permittee shall also be involved in their Integrated Regional Water Management Plan (IRWMP) or other watershed-level planning effort, if applicable.

(ii) **Implementation Level** – At a minimum, the Permittee shall:

(a) Develop a public involvement and participation strategy that establishes who is responsible for specific tasks and goals.

(b) Consider development of a citizen advisory group (either a stand-alone group or utilize an existing group or process). The advisory group may consist of a balanced representation of all affected parties, including residents, business owners, and environmental organizations in the MS4 service area and/or affected watershed. The Permittee may invite the citizen advisory group to participate in the development and implementation of all parts of the community's storm water program.

(c) Create opportunities for citizens to participate in the implementation of BMPs through sponsoring activities (e.g., stream/beach/lake clean-ups, storm drain stenciling, volunteer monitoring and educational activities).

(d) Ensure the public can easily find information about the Permittee's storm water program.

(e) Actively engage in the Permittee's IRWMP or other watershed-level planning effort.

(iii) **Reporting** – The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section E.16.a.for compliance directions.

E.9. ILLICIT DISCHARGE DETECTION AND ELIMINATION

The Permittee shall develop an Illicit Discharge Detection and Elimination program to detect, investigate, and eliminate illicit discharges, including illegal dumping, into its system, to the extent allowable under law.[14] The Permittee may utilize the CWP's guide on Illicit Discharge Detection and Elimination as guidance.

E.9.a. Outfall Mapping

(i) **Task Description** – Within the second year of the effective date of the permit, the Permittee shall create and maintain an up-to-date and accurate outfall map[15]. The map may be in hard copy and/or electronic form or within a geographic information system (GIS) the development of the outfall map shall include a visual outfall inventory involving a site visit to each outfall. Renewal Permittees that have an existing up-to-date outfall map that includes the minimum requirements specified in Section E.9.a.(ii)(a-e) are not required to re-create the outfall map. This does not exempt Renewal Permittees with an existing outfall map from conducting the field sampling specified in Section E.9.c.

(ii) **Implementation Level** - The outfall map shall at a minimum show:

(a) The location of all outfalls[16] that are operated by the Permittee within the urbanized area, drainage areas, and land use(s) contributing to those outfalls that are operated by the Permittee, and that discharge within the Permittee's jurisdiction to a receiving water. Each mapped outfall shall be located using coordinates obtained from a global positioning system (GPS) and given an individual alphanumeric identifier, which shall be noted on the map. Photographs or an electronic database shall be utilized to provide baseline information and track operation and maintenance needs over time.

(b) The location (and name, where known to the Permittee) of all water bodies receiving direct discharges from those outfall pipes.

(c) Priority areas, including, but not limited to the following:

[14] The Permittee shall use the Center for Watershed Protection's guide on Illicit Discharge Detection and Elimination (IDDE): A Guidance Manual for Program Development and Technical Assistance (available at www.cwp.org) or equivalent when developing an IDDE program. Guidance can also be found at: http://cfpub.epa.gov/npdes/stormwater/idde.cfm.

[15] The Permittee may utilize existing forms such as the CWP Outfall Reconnaissance Inventory/Sample Collection Field Sheet while conducting the mapping inventory and Field Sampling as specified below, in Section E.9.c.(http://cfpub.epa.gov/npdes/stormwater/idde.cfm).

[16] Submerged outfalls or other outfalls that may pose a threat to public safety and/or that are inaccessible are not required to be inventoried.

1) Areas with older infrastructure that are more likely to have illegal connections and a history of sewer overflows or cross-connections
2) Industrial, commercial, or mixed use areas;
3) Areas with a history of past illicit discharges;
4) Areas with a history of illegal dumping;
5) Areas with onsite sewage disposal systems;
6) Areas upstream of sensitive water bodies;
7) Areas that drain to outfalls greater than 36 inches that directly discharge to the ocean; and
8) Other areas that are likely to have illicit discharges

The priority area list shall be updated annually.

(d) Field sampling stations

(e) The permit boundary

Submerged outfalls or other outfalls that may pose a threat to public safety and/or that are inaccessible are not required to be inventoried.

(iii) **Reporting** – The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section E.16.a.for compliance directions.

E.9.b. Illicit Discharge Source/Facility Inventory

(i) **Task Description** – Within the second year of the effective date of the permit, the Permittee shall maintain an inventory of all industrial/commercial facilities/sources within the Permittee's jurisdiction (regardless of ownership) that could discharge pollutants in storm water to the MS4. The Permittee shall utilize the inventory to identify facilities for inspections of potential illicit discharges.

(ii) **Implementation Level** - The inventory shall include the following:
(a) Minimum information for each industrial facility/source:
- Facility name;
- Address;
- Nature of business or activity;
- Physical location (decimal latitude-longitude) of storm drain receiving discharge;
- Name of receiving water and if the facility/source is tributary to a Clean Water Act Section 303(d) listed water body segment or water body segment subject to a TMDL;
- Incorporation of facility information into GIS is optional.

(b) At a minimum, the following industrial and commercial facilities/sources shall be included in the inventory.

- Vehicle salvage yards
- Metal and other recycled materials collection facilities
- Waste transfer facilities
- Vehicle mechanical repair, maintenance or cleaning
- Building trade central facilities or yards
- Corporation yards
- Landscape nurseries and greenhouses
- Building material retailers and storage
- Plastic manufacturers
- Other facilities designated by the Permittees or Regional Water Boards to have reasonable potential to contribute to pollution of storm water runoff

(c) The Permittee shall determine if the facilities that are required to be covered under the Statewide Industrial General Permit have done so. Upon discovering any facilities requiring permit coverage but are not yet permitted, the Permittee shall notify the appropriate Regional Water Board, and include copies of the notification in the online Annual Report.

(d) The Permittee shall update the inventory annually. The update shall be accomplished through collection of new information obtained during inspections and contacts with commercial and industrial facility operators and owners, or through other readily available intra-agency informational databases (e.g., business licenses, pretreatment permits, sanitary sewer hook-up permits, and SMARTS database.

(e) The Permittee shall develop and implement procedures to proactively identify illicit discharges originating from priority areas identified in Section E.9.a.(ii).(c). The Permittee shall implement the procedures to assess priority areas for the presence of illicit discharges at least once over the length of the permit term. The procedures shall include field observations, field screening, inspections, and any other appropriate and effective survey methods. Alternatively, Permittees may establish a self--certification program where Permittees require reports from authorized parties demonstrating the prevention and elimination of illicit discharges at their facilities in priority areas at least once over the length of the permit term.

(iii) **Reporting –** The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section E.16.a.for compliance directions.

E.9.c. Field Sampling to Detect Illicit Discharges

(i) **Task Description** – Within the second year of the effective date of the permit (e.g. while conducting the outfall inventory under Section E.9.a.), the Permittee shall sample

any outfalls that are flowing or ponding more than 72 hours after the last rain event. The Permittee shall also conduct dry weather sampling (more than 72 hours since the last rain event) of outfalls annually identified as priority areas.

(ii) **Implementation Level** – The Permittee shall:

(a) Conduct monitoring[17] for the following indicator parameters identified in Table 1 to help determine the source of the discharge. Alternatively, the Permittee may select parameters based on local knowledge of pollutants of concern in lieu of sampling for the parameters listed in Table 1. Modifications and associated justifications shall be identified within SMARTS prior to conducting field sampling as specified in Section E.9.c.(i).

Table 1. Indicator Parameters

Indicator Parameters Used to Detect Illicit Discharges					
Parameter	**Discharge Types It Can Detect**				
	Sewage	**Washwater**	**Tap Water**	**Industrial or Commercial Liquid Wastes**	**Laboratory/Analytical Challenges**
Ammonia	●	◉	○	◉	Can change into other nitrogen forms as the flow travels to the outfall
Color	◉	◉	○	◉	
Conductivity	◉	◉	○	◉	Ineffective in saline waters
Detergents – Surfactants	●	●	○	◉	Reagent is a hazardous waste
Fluoride*	○	○	●	◉	Reagent is a hazardous waste Exception for communities that do not fluoridate their tap water
Hardness	◉	◉	◉	◉	
pH	○	◉	○	◉	
Potassium	◉	○	○	●	May need to use two separate analytical techniques, depending on the concentration
Turbidity	◉	◉	○	◉	

● Can almost always (>80% of samples) distinguish this discharge from clean flow types (e.g., tap water or natural water). For tap water, can distinguish from natural water.
◉ Can sometimes (>50% of samples) distinguish this discharge from clean flow types depending on regional characteristics, or can be helpful in combination with another parameter
○ Poor indicator. Cannot reliably detect illicit discharges, or cannot detect tap water
N/A: Data are not available to assess the utility of this parameter for this purpose.
Data sources: Pitt (
*Fluoride is a poor indicator when used as a single parameter, but when combined with additional parameters (such as detergents, ammonia and potassium), it can almost always distinguish between sewage and wash water.

[17] A description of indicator parameter sampling equipment is described in Chapter 12: Indicator Monitoring in the CWP IDDE: Guidance Manual found at: http://www.epa.gov/npdes/pubs/idde_manualwithappendices.pdf. Sampling may be conducted using field test kits.

(b) Verify that indicator parameters, as specified in Table 2. Action Level Concentrations for Indicator Parameters are not exceeded. Alternatively, the Permittee may tailor Table 2 to align with parameters based on local knowledge of pollutants of concern. Modifications and associated justifications shall be identified within SMARTS prior to conducting field sampling as specified in Section E.9.c.(i).

Table 2. Action Level Concentrations for Indicator Parameters

Indicator Parameter	Action Level Concentration
Ammonia	>= 50 mg/L
Color	>= 500 units
Conductivity	>= 2,000 µS/cm
Hardness	<= 10 mg/L as CaCO3 or >= 2,000 mg/L as CaCO3
pH	<= 5 or >=9
Potassium	>= 20 mg/L
Turbidity	>= 1,000 NTU

(c) Conduct follow up investigations per Section E.9.d. if the action level concentrations are exceeded.

(iii) **Reporting** – The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section E.16.a.for compliance directions.

E.9.d. Illicit Discharge Detection and Elimination Source Investigations and Corrective Actions

(i) **Task Description** – Within the second year of the effective date of the permit, the Permittee shall develop written procedures for conducting investigations into the source of all non-storm water discharges suspected to be illicit discharges, including approaches to requiring such discharges to be eliminated, and procedures to implement corrective actions (e.g., BMPs). These procedures shall be included as part of the Illicit Discharge Detection and Elimination program. The Permittee may leverage existing inspection procedures and personnel to conduct illicit discharge detection and elimination source investigations and corrective actions.

(ii) **Implementation Level -** At a minimum, the Permittee shall conduct an investigation(s) to identify and locate the source of any suspected illicit discharge within 72 hours of becoming aware of the suspected illicit discharge. For investigations that require more than 72 hours, the Permittee shall identify the actions being taken to identify and locate the source of the suspected illicit discharge.

(a) Non-storm water discharges suspected of being sanitary sewage and/or significantly contaminated shall be investigated within 24 hours.

(b) The Permittee shall prioritize investigations of suspected sanitary sewage and/or significantly contaminated discharges over investigations of non-storm water discharges suspected of being cooling water, wash water, or natural flows.

(c) Report immediately the occurrence of any flows believed to be an immediate threat to human health or the environment to local Health Department.

(d) Determine and document through its investigations the source of all non-storm water discharges. If the source of the non-storm water discharge is found to be a discharge authorized under this General Permit, or authorized under another NPDES permit, no further action is required.

(e) Corrective Action to Eliminate Illicit Discharge – Once the source of the illicit discharge has been determined, the Permittee shall immediately notify the responsible party of the problem, and require the responsible party to conduct all necessary corrective actions to eliminate the non-storm water discharge within 72 hours of notification. Upon being notified that the discharge has been eliminated, conduct a follow-up investigation and field screening to verify that the discharge has been eliminated using BMPs or some other corrective action. The Permittee shall document its follow-up investigation. The Permittee may seek recovery and remediation costs from responsible parties or require compensation for the cost of field screening and investigations. Resulting enforcement actions shall follow the program's Enforcement Response Plan as specified in E.6.c.

(iii) **Reporting** – The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section E.16.a.for compliance directions.

E.9.e. Spill Response Plan

(i) **Task Description** – Within the first year of the effective date of the permit, the Permittee shall develop and implement a spill response plan.

(ii) **Implementation Level** - At a minimum, the spill response plan will incorporate the information from Section E.9.c. and outline the following:

(a) Agency roles and responsibilities (e.g. County Department of Environmental Health, local police department, local fire department, etc.)
(b) The procedures for responding to complaints
(c) How investigations are to be conducted
(d) How clean up is initiated or conducted
(e) How reporting is completed and what information is required

(iii) **Reporting** – The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this

program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section E.16.a.for compliance directions.

E.10. CONSTRUCTION SITE STORM WATER RUNOFF CONTROL PROGRAM

The Permittee shall develop, implement, and enforce a program to prevent construction site discharges of pollutants and impacts on beneficial uses of receiving waters. The program shall include the development of an enforceable construction site storm water runoff control ordinance for all projects that disturb less than one acre of soil. The construction site storm water runoff control ordinance shall include, at a minimum, requirements for erosion and sediment controls, soil stabilization, dewatering, source controls, pollution prevention measures and prohibited discharges.

Projects that disturb one acre or more of soil or disturb less than one acre but are part of a larger common plan or development or sale are subject to the CGP in addition to the construction site storm water runoff control ordinance.

E.10.a. Construction Site Inventory

(i) **Task Description -** Within the first year of the effective date of the permit, the Permittee shall maintain an inventory of all projects subject to the local construction site storm water runoff control ordinance within its jurisdiction.

(ii) **Implementation Level** –The Permittee shall maintain an inventory of all construction projects and continuously update as new projects are permitted and projects are completed. The inventory shall address all projects subject to the local construction site storm water runoff control ordinance. For projects subject to the CGP the Permittee may obtain the inventory from the SMARTS database and shall supplement as needed by the Permittee.

The inventory shall contain, at a minimum:
(a) Relevant contact information for each project (e.g., name, address, phone, email, etc. for the owner and contractor);
(b) The basic site information including location, status, size of the project and area of disturbance;
(c) The location of the project with respect to all waterbodies, waterbodies listed as impaired by sediment-related pollutants, and waterbodies listed as impaired for sediment or turbidity under the CWA Section 303(d) and approved by U.S. EPA;
(d) Project threat to water quality;
(e) Current construction phase;
(f) The required inspection frequency per the local construction site storm water runoff control ordinance;
(g) The project start and anticipated completion dates; and
(h) The date the Permittee approved the erosion and sediment control plan in accordance with this Section.

(iii) **Reporting** – The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section E.16.a.for compliance directions.

E.10.b. Construction Plan Review and Approval Procedures

(i) **Task Description** – Within the first year of the effective date of the permit, the Permittee shall develop procedures to review and approve relevant construction plan documents.

(ii) **Implementation Level** – The review procedures shall meet the following minimum requirements:

(a) Prior to issuing a grading or building permit, the Permittee shall require each operator of a construction activity within its jurisdiction to prepare and submit an erosion and sediment control plan for the Permittee's review and written approval. The Permittee shall not approve any erosion and sediment control plan unless it contains appropriate site-specific construction site BMPs that meet the minimum requirements of the Permittee's construction site storm water runoff control ordinance. If the erosion and sediment control plan is revised, the Permittee shall review and approve those revisions.

(b) Require that the erosion and sediment control plan include the rationale used for selecting BMPs including supporting soil loss calculations, if necessary.

(c) Require that the erosion and sediment control plan list applicable permits directly associated with the grading activity, including, but not limited to the State Water Board's CGP, State Water Board 401 Water Quality Certification, U.S. Army Corps 404 permit, and California Department of Fish and Game 1600 Agreement. Include as a condition of the grading permit that the operator submit evidence to the MS4 that all permits directly associated with the grading activity have been obtained prior to commencing the soil disturbing activities authorized by the grading permit.

(d) Conduct and document review of each erosion and sediment control plan using a checklist or similar process.

(e) The SWPPP developed pursuant to the CGP may substitute for the erosion and sediment control plan for projects where a SWPPP is developed. The Permittee is responsible for reviewing applicable portions of the SWPPP for compliance with the Permittee's construction site storm water runoff control ordinance and this Order.

(iii) **Reporting** – The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section E.16.a.for compliance directions.

E.10.c. Construction Site Inspection and Enforcement

(i) **Task Description** – Within the second year of the effective date of the permit, the Permittee shall use legal authority to implement procedures for inspecting public and private construction projects and conduct enforcement if necessary. The Permittee may leverage existing inspection procedures and personnel to conduct construction site inspections and enforcement.

(ii) **Implementation Level –** The inspection procedures shall be implemented to verify compliance with the Permittee's construction site storm water control ordinance. At a minimum, inspections must be conducted at priority construction sites (defined below) prior to land disturbance (during the rainy season), during active construction and following active construction. Construction site inspections shall include assessment of compliance with the Permittee's construction site storm water runoff control ordinance, and other applicable ordinances. A Permittee may propose, for Regional Water Board Executive Officer approval, an alternative approach for construction site oversight, provided the Permittee demonstrates the approach will be equally effective at reducing the discharge of pollutants from construction sites to the maximum extent practicable.

Prior to allowing an operator to commence land disturbance during the rainy season, the Permittee must perform an inspection, to ensure all necessary sediment controls are in place. During active construction, the Permittee shall conduct inspections, based on prioritization of construction sites. Active construction inspections shall include at a minimum: inspection of maintenance of BMPs, effectiveness of BMPs installed and verification that pollutants of concern are not discharged into receiving water bodies.

Prioritization criteria shall be based on project threat to water quality. Project threat to water quality includes soil erosion potential, site slope, projects size and type, sensitivity of receiving water bodies, proximity to receiving water bodies, non-storm water discharges, projects more than one acre that are not subject to the CGP (sites that have obtained an Erosivity Waiver) and past record of non-compliance by the operator of the construction site. Inspection frequencies shall be conducted based on the prioritization criteria described above.

At the conclusion of the project, the Permittee must inspect to ensure that all disturbed areas have been stabilized and that all temporary erosion and sediment control measures that are no longer needed have been removed as required by the local construction site storm water control ordinance.

(iii) **Reporting –** The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section E.16.a.for compliance directions.

E.11. POLLUTION PREVENTION/GOOD HOUSEKEEPING FOR PERMITTEE OPERATIONS PROGRAM

The Permittee shall develop and implement a program to prevent or reduce the amount of pollutant runoff from Permittee operations. The Permittee shall implement appropriate BMPs for preventing or reducing the amount of storm water pollution generated by Permittee operations.

E.11.a. Inventory of Permittee-Owned and Operated Facilities

(i) **Task Description** - Within the second year of the effective date of the permit, the Permittee shall develop and maintain an inventory of Permittee-owned or operated facilities within their jurisdiction that are a threat to water quality, if applicable.

(ii) **Implementation Level** - The inventory shall include all Permittee-owned or operated facilities within their jurisdiction that are potential significant sources of pollution in storm water, including the following if applicable:

- Airports
- Animal control facilities
- Chemical storage facilities
- Composting facilities
- Equipment storage and maintenance facilities (including landscape-related operations)
- Fuel farms
- Hazardous waste disposal facilities
- Hazardous waste handling and transfer facilities
- Incinerators
- Landfills
- Materials storage yards
- Pesticide storage facilities
- Public buildings, including schools, libraries, police stations, fire stations, Permittee (municipal) buildings, restrooms, and similar buildings (i.e., buildings with a similar potential to be sources of storm water pollution as the examples provided)
- Public parking lots
- Public golf courses
- Public swimming pools
- Public parks
- Public works yards
- Public marinas
- Recycling facilities
- Salt or de-icing storage facilities
- Solid waste handling and transfer facilities
- Transportation hubs (e.g. bus transfer stations)
- Vehicle storage and maintenance areas
- Vehicle fueling facilities
- Other (as directed by appropriate Regional Water Board)

(iii) **Reporting** – The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section E.16.a.for compliance directions.

E.11.b. Map of Permittee-Owned or Operated Facilities

(i) **Task Description –** Within the second year of the effective date of the permit, submit a map of the area within the permit boundary and identify where the inventoried Permittee-owned or operated facilities are located.

(ii) **Implementation Level** - The map identifying the location of the inventoried Permittee-owned or operated facilities shall identify the storm water drainage system (e.g., storm water outfalls or other mechanisms in which storm water leaves the site) corresponding to each of the facilities as well as the receiving waters to which these facilities discharge. The map shall also show the facility and the manager of each facility, including contact information.

(iii) **Reporting** – The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section E.16.a.for compliance directions.

E.11.c. Facility Assessment

(i) **Task Description** – Within the third year of the effective date of the permit, for all the inventoried Permittee-owned or operated facilities, the Permittee shall conduct a comprehensive inspection and assessment of pollutant discharge potential and identification of pollutant hotspots using the Center for Watershed Protection's (CWP) guide on Urban Subwatershed and Site Reconnaissance, or equivalent.[18]

(ii) **Implementation Levels** - Conduct an annual review and assessment of all municipally owned or operated facilities to determine their potential to impact surface waters. The assessment shall include the following:

(a) Identification of pollutant hotspots:

Based on the annual assessment, the Permittee shall identify those facilities that have a high potential to generate storm water and non-storm water pollutants as pollutant hotspots and assign them a high priority. Among the factors to be considered are the type and volume of pollutants stored at the site, the presence of improperly stored materials,

[18] The Permittee shall use the Center for Watershed Protection's Restoration Manual Series guide on Urban Subwatershed and Site Reconnaissance: a User's Manual (available as a free download at www.cwp.org) or equivalent when identifying priority areas. Hotspots are specific operations in a subwatershed that may generate high storm water pollution.

activities that should not be performed outside (e.g., changing automotive fluids, vehicle washing), proximity to water bodies, poor housekeeping practices, and the discharge of pollutant(s) of concern to receiving water(s). Pollutant hotspots shall include, at a minimum, the Permittee's maintenance yards, hazardous waste facilities, fuel storage and/or dispensing locations, airports marinas, and any other facilities at which chemicals or other materials have a high potential to be discharged in storm water.

(b) Documentation of the comprehensive assessment procedures and results:

The Permittee shall document the procedures it uses for conducting the comprehensive assessment along with a copy of any site evaluation checklists used to conduct the comprehensive assessment.

(iii) **Reporting** – The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section E.16.a.for compliance directions.

E.11.d. Storm Water Pollution Prevention Plans

(i) **Task Description** – Within the fourth year of the effective date of the permit, the Permittee shall develop and implement SWPPPs for pollutant hotspots. If a Permittee has an existing document such as Hazardous Materials Business Plan, Spill Prevention Plan, or other equivalent document the Permittee is not required to develop a SWPPP.

(ii) **Implementation Level** – The Permittee shall implement the following:

(a) The Permittee shall develop and implement a site-specific SWPPP that identifies existing storm water BMPs and a set of storm water BMPs to be installed, implemented, and maintained to minimize the discharge of pollutants to protect water quality. The Permittee may utilize the CWP guide on Urban Subwatershed and Site Reconnaissance, or equivalent, as guidance.

(b) The SWPPP(s) shall be kept on-site at each of the Permittee-owned or operated facilities' offices for which it was completed. The SWPPP shall be updated as necessary.

(c) At a minimum the SWPPP will address the following:

1) Facility specific information (location, owner, address, etc.)
2) Purpose of the document
3) Key staff/contacts at the facility
4) Site map with drainage identified

5) Identification of significant materials that are handled and stored at the facility that may be exposed to storm water
6) Description of potential pollutant sources
7) Facility BMPs
8) Spill control and cleanup – response to spills
9) Inspection schedule
10) Inspection procedures and checklist for inspections conducted to ensure proper selection, implementation, and maintenance of all BMPs

(iii) **Reporting** – The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section E.16.a.for compliance directions.

E.11.e. Inspections, Visual Monitoring and Remedial Action

(i) **Task Description** – Within the fifth year of the effective date of the Permit, the Permittee shall conduct regular inspections of Permittee-owned and operated facilities.

(ii) **Implementation Level** – Inspections shall be conducted as follows:

(a) Quarterly visual hotspot inspections – Perform quarterly visual inspections, in accordance with the inspection procedures and inspection checklist developed for each Permittee-owned or operated hotspot, to ensure materials and equipment are clean and orderly; to minimize the potential for pollutant discharge; and to ensure effective selection, implementation, and maintenance of BMPs. The Permittee shall look for evidence of spills and immediately clean them up to prevent contact with precipitation or runoff. The quarterly inspections shall be tracked in a log for every facility, and records kept with the SWPPP (records may be kept electronically). The inspection report shall also include any identified deficiencies and the corrective actions taken to correct the deficiencies.

(b) Annual Hotspot comprehensive inspections – At least once per year, the Permittee shall conduct a comprehensive inspection of each hotspot facility, including all storm water BMPs, in accordance with the facility-specific inspection procedures and inspection checklist. The Permittee shall pay specific attention, without limiting its attention, to: waste storage areas, dumpsters, vehicle and equipment maintenance/fueling areas, material handling areas, and similar potential pollutant-generating areas. The annual inspection results shall be documented and records kept with the SWPPP. The inspection report shall also include any identified deficiencies and the corrective actions taken to correct deficiencies.

(c) Quarterly Hotspot visual observation of storm water and non-storm water discharges – At least once per quarter visually observe discharge locations from hotspot facilities. Where discharges are observed identify any observed

problems (e.g., color, foam, sheen, turbidity) associated with pollutant sources or BMPs shall be remedied as soon as practicable or before the next storm event, whichever is sooner. Visual observations shall be documented, and records kept with the SWPPP. This inspection shall be done in accordance with the developed standard operating procedures. The inspection report shall also include any identified deficiencies and the corrective actions taken to correct the deficiencies.

(d) Non-Hotspot Inspection – At a minimum, inspect each inventoried municipal facility that is not a hotspot, once per permit term.

(iii) **Reporting** – The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section E.16.a.for compliance directions.

E.11.f. Storm Drain System Assessment and Prioritization

(i) **Task Description** – Within the second year of the effective date of the permit, the Permittee shall develop and implement procedures to assess and prioritize MS4 storm drain system maintenance, including but not limited to, catch basins, pipe and pump infrastructure, above-ground conveyances, including receiving water bodies within the Permittee's urbanized area and detention basins.

If flood conveyance maintenance is undertaken by another entity, the Permittee shall coordinate with the flood conveyance management entity by year three to assess and prioritize maintenance of the MS4 storm drain system.

(ii) **Implementation Level** – The Permittee shall:

Assess/prioritize storm drain system facilities for cleanout – Assign a priority to MS4 storm drain facilities within the Permittee's urbanized areas based on accumulation of sediment, trash and/or debris. In particular, assign high priority to catch basin meeting any of the following criteria:

1) Catch basins known to accumulate a significant amount of sediment, trash, and/or debris;
2) Catch basins collecting large volumes of runoff;
3) Catch basin collecting runoff from area that do not receive regular sweet sweeping;
4) Catch basins collecting runoff from drainage areas with exposed or disturbed soil; or
5) Catch basins that receive citizen complaints/reports.

(iii) **Reporting** – The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment

and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section E.16.a.for compliance directions.

E.11.g. Maintenance of Storm Drain System

(i) **Task Description** – Within the third year of the effective date of the permit, the Permittee shall begin maintenance of all high priority storm drain systems on an ongoing schedule.

(ii) **Implementation Level** – The Permittee shall begin maintenance of storm drain systems according to the procedures and priorities developed according to this Section. At a minimum the Permittee shall:

(a) Inspect storm drain systems – Based on the priorities assigned above in Section E.11.f.(ii)(a), develop and implement a strategy to inspect storm drain systems within the Permittee's jurisdiction. At a minimum, inspect all high priority catch basins and systems annually.

(b) Clean storm drains – Develop and implement a schedule to clean high priority catch basins and other systems. Cleaning frequencies shall be based on priority areas, with higher priority areas receiving more frequent maintenance.

(c) Labeling catch basins – Ensure that each catch basin in high foot traffic areas includes a legible storm water awareness message (e.g., a label, stencil, marker, or pre-cast message such as “drains to the creek” or “only rain in the drain”). Catch basins with illegible or missing labels shall be recorded and re-labeled within one month of inspection.

(d) Maintain surface drainage structures – High priority facilities, such as those with recurrent illegal dumping, shall be reviewed and maintained annually as needed. Non-priority facilities shall be reviewed as needed. Removal of trash and debris from high priority areas shall occur annually prior to the rainy season.

(e) Dispose of waste materials – Develop and implement a procedure to dewater and dispose of materials extracted from catch basins. This procedure shall ensure that water removed during the catch basin cleaning process and waste material will not reenter the MS4.

(iii) **Reporting** – The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section E.16.a.for compliance directions.

E.11.h. Permittee Operations and Maintenance Activities (O&M)

(i) **Task Description –** Within the third year of the effective date of the permit, the Permittee shall assess their O&M activities for potential to discharge pollutants in storm water and inspect all O&M BMPs on a quarterly basis.

(ii) **Implementation Level** - The Permittee shall:

(a) Develop and implement a program to assess O&M activities and subsequently develop applicable BMPs. The following Permittee O&M activities shall be included in the assessment for their potential to discharge pollutants in storm water:

1) Road and parking lot maintenance, including sidewalk repair, curb and gutter repair, pothole repair, pavement marking, sealing, and re-paving
2) Bridge maintenance, including re-chipping, grinding, saw cutting, and painting
3) Cold weather operations, including plowing, sanding, and application of deicing compounds and maintenance of snow disposal areas
4) Right-of-way maintenance, including mowing, herbicide and pesticide application, and planting vegetation
5) Storm water relevant Permittee-sponsored or sanctioned events such as large outdoor festivals, parades, or street fairs (eg. Earth Day, Coastal Cleanup Day, Creek Week)
6) Green waste deposited in the street
7) Graffiti removal
8) Hydrant flushing

(b) Identify all materials that could be discharged from each of these O&M activities, and which materials contain pollutants. Typical pollutants associated with these activities include metals, chlorides, hydrocarbons (e.g. benzene, toluene, ethylbenzene, and xylene), sediment, green waste, herbicide, pesticide, dried paint, and trash.

(c) Develop and implement a set of BMPs that, when applied during Permittee O&M activities, will reduce pollutants in storm water and non-storm water discharges. The Permittee shall use the CASQA Municipal Handbook or equivalent.

(d) Evaluate BMPs – All BMPs implemented during O&M activities shall be evaluated quarterly.

(iii) **Reporting** – The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section E.16.a.for compliance directions.

E.11.i. Incorporation of Water Quality and Habitat Enhancement Features in New Flood Management Facilities

(i) **Task Description** – Within the third year of the effective date of the permit, the Permittee shall develop and implement a process for incorporating water quality and habitat enhancement features into new and rehabilitated flood management facilities.

(ii) **Implementation Level** – The Permittee shall develop and implement a process to incorporate water quality and habitat enhancement features in the design of all new

and rehabilitated flood management projects that are associated with the MS4 or that discharge to the MS4.

(iii) **Reporting –** The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section E.16.a.for compliance directions.

E.11.j. Landscape Design and Maintenance

(i) **Task Description** – Within the second year of the effective date of the permit**,** the Permittee shall implement a landscape design and maintenance program to reduce the amount of water, pesticides, herbicides and fertilizers used during Permittee operations and activities[19].

(ii) **Implementation Tasks** – At a minimum, the Permittee shall:

(a) Evaluate pesticides, herbicides and fertilizers used and application activities performed and identify pollution prevention and source control opportunities.

(b) Implement practices that reduce the discharge of pesticides, herbicides and fertilizers. At a minimum the Permittee shall:

1) Implement educational activities for municipal applicators and distributors.

2) Implement landscape management measures that rely on non-chemical solutions, including:

a) Create drought-resistant soils by amending soils with compost;
b) Create soil microbial community through the use of compost, compost tea, or inoculation;
c) Use native and/or climate appropriate plants to reduce the amount of water, pesticides, herbicides and fertilizers used;
d) Practice grasscycling on decorative turf landscapes to reduce water use and the need for fertilizers;
e) Keeping grass clippings and leaves away from waterways and out of the street using mulching, composting, or landfilling;
f) Preventing application of pesticides, herbicides and fertilizers during irrigation or within 48 hours of predicted rainfall with greater than 50% probability as predicted by National Oceanic and Atmospheric Administration (NOAA)[20];
g) Limiting or replacing herbicide and pesticide use (e.g., conducting manual weed and insect removal);
h) Prohibiting application of pesticides, herbicides and fertilizers as required by the regulations DPR 11-004 Prevention of Surface Water Contamination by Pesticides enacted by the Department of Pesticide Regulation;

[19] Water Efficient Landscape Ordinance can be found at: http://www.water.ca.gov/wateruseefficiency/docs/MWELO09-10-09.pdf

[20] www.srh.noaa.gov/forecast

i) Reducing mowing of grass to allow for greater pollutant removal, but not jeopardizing public safety.

3) Collect and properly dispose of unused pesticides, herbicides, and fertilizers.

4) Minimize irrigation run-off by using an evapotranspiration-based irrigation schedule and rain sensors.

(c) Record the types and amounts of pesticides, herbicides and fertilizers used in the permit area.

(iii) **Reporting** - The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section E.16.a.for compliance directions.

E.12. POST CONSTRUCTION STORM WATER MANAGEMENT PROGRAM

E.12.a. Post-Construction Measures

Permittees shall regulate development to comply with the following Sections:

- E.12.b Site Design Measures
- E.12.c. Regulated Projects
- E.12.d. Source Control Measures
- E.12.e. Low Impact Development (LID) Design Standards
- E.12.f. Hydromodification Measures
- E.12.g. Enforceable Mechanisms
- E.12.h. Operation and Maintenance of Storm Water Control Measures
- E.12.i. Post-Construction Best Management Practice Condition Assessment
- E.12.j. Planning and Development Review Process
- E.12.k. Post-Construction Storm Water Management Requirements Based on Assessment and Maintenance of Watershed Processes
- E.12.l. Alternative Post-Construction Storm Water Management Program

E.12.b. Site Design Measures

(i) **Task Description** – Within the second year of the effective date of the permit, the Permittee shall require implementation of site design measures for all projects that create and/or replace (including projects with no net increase in impervious footprint) between 2,500 square feet and 5,000 square feet of impervious surface, including detached single family homes that create and/or replace 2,500 square feet or more of impervious surface and are not part of a larger plan of development. Site design measures as specified in this section are not applicable to linear underground/overhead projects (LUPs).

(ii) **Implementation Level** - Projects shall implement one or more of the following site design measures to reduce project site runoff:

(a) Stream Setbacks and Buffers - a vegetated area including trees, shrubs, and herbaceous vegetation, that exists or is established to protect a stream system, lake reservoir, or coastal estuarine area;
(b) Soil Quality Improvement and Maintenance - improvement and maintenance soil through soil amendments and creation of microbial community;
(c) Tree Planting and Preservation - planting and preservation of healthy, established trees that include both evergreens and deciduous, as applicable;
(d) Rooftop and Impervious Area Disconnection - rerouting of rooftop drainage pipes to drain rainwater to rain barrels, cisterns, or permeable areas instead of the storm sewer;
(e) Porous Pavement - pavement that allows runoff to pass through it, thereby reducing the runoff from a site and surrounding areas and filtering pollutants;
(f) Green Roofs - a vegetative layer grown on a roof (rooftop garden);
(g) Vegetated Swales - a vegetated, open-channel management practice designed specifically to treat and attenuate storm water runoff;
(h) Rain Barrels and Cisterns - system that collects and stores storm water runoff from a roof or other impervious surface.

Project proponents shall use the State Water Board SMARTS Post-Construction Calculator[21], or equivalent to quantify the runoff reduction resulting from implementation of site design measures.

(iii) **Reporting** - The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section E.16.a.for compliance directions.

E.12.c. Regulated Projects

(i) **Task Description** – Within the second year of the effective date of the permit, the Permittee shall implement standards to effectively reduce runoff and pollutants associated with runoff from Regulated Projects as defined below.

(ii) **Implementation Level** - The Permittee shall regulate all projects that create and/or replace 5,000 square feet or more of impervious surface (Regulated Projects). The Permittee shall require these Regulated Projects to implement measures for site design, source control, runoff reduction, storm water treatment and baseline hydromodification management as defined in this Order.

Regulated Projects do not include:

- Detached single family home projects that are not part of a larger plan of development;
- Interior remodels;

[21] The State Water Board SMARTS Post-Construction Calculator can be found at: https://smarts.waterboards.ca.gov/smarts/faces/SwSmartsLogin.jsp

- Routine maintenance or repair such as: exterior wall surface replacement, pavement resurfacing within the existing footprint.
- LUPs - Unless the LUP has a discrete location that has 5,000 square feet or more of newly constructed contiguous impervious surface. When the LUP has a discrete location that has 5,000 sq-ft or more of new contiguous impervious surface, only that specific discrete location is subject to Section E.12.c.

Regulated Projects include development projects. Development includes new and redevelopment projects on public or private land that fall under the planning and permitting authority of a Permittee. Redevelopment is any land-disturbing activity that results in the creation, addition, or replacement of exterior impervious surface area on a site on which some past development has occurred. Redevelopment does not include trenching, excavation and resurfacing associated with LUPs; pavement grinding and resurfacing of existing roadways; construction of new sidewalks, pedestrian ramps, or bike lanes on existing roadways; or routine replacement of damaged pavement such as pothole repair or replacement of short, non-contiguous sections of roadway. The following (a-c) describe specific Regulated Project requirements for redevelopment, road projects and LUPs:

(a) Where a redevelopment project results in an increase of more than 50 percent of the impervious surface of a previously existing development, runoff from the entire project, consisting of all existing, new, and/or replaced impervious surfaces, must be included to the extent feasible.

(b) Where a redevelopment project results in an increase of less than 50 percent of the impervious surface of a previously existing development, only runoff from the new and/or replaced impervious surface of the project must be included.

(c) Road Projects and LUPs - Any of the following types of road projects and LUPs that create 5,000 square feet or more of newly constructed contiguous impervious surface and that are public road projects and/or fall under the building and planning authority of a Permittee shall comply with Section E.12.e. Low Impact Development Standards except that treatment of runoff of the 85th percentile that cannot be infiltrated onsite shall follow U.S. EPA guidance regarding green infrastructure to the extent feasible. Types of projects include:

1) Construction of new streets or roads, including sidewalks and bicycle lanes built as part of the new streets or roads.
2) Widening of existing streets or roads with additional traffic lanes.
    a) Where the addition of traffic lanes results in an alteration of more than 50 percent of the impervious surface of an existing street or road, runoff from the entire project, consisting of all existing, new, and/or replaced impervious surfaces, must be included in the treatment system design.
    b) Where the addition of traffic lanes results in an alteration of less than 50 percent (but 5,000 square feet or more) of the impervious surface

of an existing street or road, only the runoff from new and/or replaced impervious surface of the project must be included in the treatment system design.

3) Construction of linear underground/overhead projects (LUPs)
4) Specific exclusions are:
   a) Sidewalks built as part of new streets or roads and built to direct storm water runoff to adjacent vegetated areas.
   b) Bicycle lanes that are built as part of new streets or roads that direct storm water runoff to adjacent vegetated areas.
   c) Impervious trails built to direct storm water runoff to adjacent vegetated areas, or other non-erodible permeable areas, preferably away from creeks or towards the outboard side of levees.
   d) Sidewalks, bicycle lanes, or trails constructed with permeable surfaces.
   e) Trenching, excavation and resurfacing associated with LUPs; pavement grinding and resurfacing of existing roadways and parking lots; construction of new sidewalks, pedestrian ramps, or bike lanes on existing roadways; or routine replacement of damaged pavement such as pothole repair or replacement of short, non-contiguous sections of roadway.

Effective Date for Applicability of Low Impact Development Runoff Standards to Regulated Projects: By the second year of the effective date of the permit, the Permittee shall require these Post-Construction Standards be applied on applicable new and redevelopment Regulated Projects, both private development requiring municipal permits and public projects, to the extent allowable by applicable law. These include discretionary permit projects that have not been deemed complete for processing and discretionary permit projects without vesting tentative maps that have not requested and received an extension of previously granted approvals. Discretionary projects that have been deemed complete prior to the second year of the effective date of this Order are not subject to the Post-Construction Standards herein. For the Permittee's Regulated Projects, the effective date shall be the date their governing body or designee approves initiation of the project design.

Permittee's Development Projects - The Permittee shall develop and implement an equivalent approach, to the approach used for private development projects, to apply the most current version of the low impact development runoff standards to applicable public development projects, to the extent allowable by applicable law.

E.12.d. Source Control Measures

(i) **Task Description** – Regulated Projects with pollutant-generating activities and sources shall be required to implement standard permanent and/or operation source control measures as applicable.

(ii) **Implementation Level** - Measures for the following pollutant generating activities and sources shall be designed consistent with recommendations from the CASQA

Stormwater BMP Handbook for New Development and Redevelopment or equivalent manual, and include:

(a) Accidental spills or leaks
(b) Interior floor drains
(c) Parking/storage areas and maintenance
(d) Indoor and structural pest control
(e) Landscape/outdoor pesticide use
(f) Pools, spas, ponds, decorative fountains, and other water features
(g) Restaurants, grocery stores, and other food service operations
(h) Refuse areas
(i) Industrial processes
(j) Outdoor storage of equipment or materials
(k) Vehicle and equipment cleaning
(l) Vehicle and equipment repair and maintenance
(m) Fuel dispensing areas
(n) Loading docks
(o) Fire sprinkler test water
(p) Drain or wash water from boiler drain lines, condensate drain lines, rooftop equipment, drainage sumps, and other sources
(q) Unauthorized non-storm water discharges
(r) Building and grounds maintenance

E.12.e. Low Impact Development (LID) Design Standards

(i) **Task Description –** The Permittee shall require all Regulated Projects to implement low impact development (LID) standards designed to reduce runoff, treat storm water, and provide baseline hydromodification management to the extent feasible, to meet the Numeric Sizing Criteria for Storm Water Retention and Treatment under Section E.12.e(ii)(c).

(ii) **Implementation Level –** The Permittee shall adopt and implement requirements and standards to ensure design and construction of development projects achieve the following LID Design Standards.

(a) **Site Assessment**

At the earliest planning stages, the Permittee shall require Regulated Projects to assess and evaluate how site conditions, such as soils, vegetation, and flow paths, will influence the placement of buildings and paved surfaces. The evaluation will be used to meet the goals of capturing and treating runoff and assuring these goals are incorporated into the project design. The Permittee may adopt or reference an existing LID site assessment methodology[22]Permittees shall require Regulated Projects to consider optimizing the site layout through the following methods:

1) Define the development envelope and protected areas, identifying areas that are most suitable for development and areas to be left undisturbed.

[22] Low Impact Development Manual for Southern California (Low Impact Development Center – See CASQA's LID website at: http://www.casqa.org/LID/tabid/240/Default.aspx.

2) Concentrate development on portions of the site with less permeable soils and preserve areas that can promote infiltration.
3) Limit overall impervious coverage of the site with paving and roofs.
4) Set back development from creeks, wetlands, and riparian habitats.
5) Preserve significant trees.
6) Conform the site layout along natural landforms.
7) Avoid excessive grading and disturbance of vegetation and soils.
8) Replicate the site's natural drainage patterns.
9) Detain and retain runoff throughout the site.

(b) **Drainage Management Areas**

The Permittee shall require each Regulated Project to provide a map or diagram dividing the developed portions of the project site into discrete Drainage Management Areas (DMAs), and to manage runoff from each DMA using Site Design Measures, Source Controls and/or Storm Water Treatment and Baseline Hydromodification Measures.

(c) **Numeric Sizing Criteria for Storm Water Retention and Treatment**

The Permittees shall require facilities designed to evapotranspire, infiltrate, harvest/use, and biotreat storm water to meet at least one of the following hydraulic sizing design criteria:

1) Volumetric Criteria:

   a) The maximized capture storm water volume for the tributary area, on the basis of historical rainfall records, determined using the formula and volume capture coefficients in Urban Runoff Quality Management, WEF Manual of Practice No. 23/ASCE Manual of Practice No. 87 (1998) pages 175-178 (that is, approximately the 85th percentile 24-hour storm runoff event); or

   b) The volume of annual runoff required to achieve 80 percent or more capture, determined in accordance with the methodology in Section 5 of the CASQA's Stormwater Best Management Practice Handbook, New Development and Redevelopment (2003), using local rainfall data.

2) Flow-based Criteria:

   a) The flow of runoff produced from a rain event equal to at least 0.2 inches per hour intensity; or

   b) The flow of runoff produced from a rain event equal to at least 2 times the 85th percentile hourly rainfall intensity as determined from local rainfall records.

(d) **Site Design Measures**

The Permittee shall implement Site Design Measures (as defined in Section E.12.b. Site Design Measures and Section E.12.e(ii)(a) Site Assessment), site layout and design measures, based on the objective of achieving infiltration, evapotranspiration and/or harvesting/reuse of the 85th percentile 24-hour storm runoff event. Site design measures shall be used to reduce the amount of runoff, to the extent technically feasible, for which retention and runoff is required . Any remaining runoff from impervious DMAs may then be directed to one or more bioretention facilities as specified in Section E.12.e.(ii)(f), below.

(e) **Source Controls**

The Permittee shall implement Source Controls as defined in Section E.12.d. Source Control Measures.

(f) **Storm Water Treatment Measures and Baseline Hydromodification Management Measures**

After implementation of Site Design Measures, remaining runoff from impervious DMAs must be directed to one or more facilities designed to infiltrate, evapotranspire, and/or bioretain the amount of runoff specified in Section E.12.e(ii)(c) Numeric Sizing Criteria for Storm Water Retention and Treatment. The facilities must be demonstrated to be at least as effective as a bioretention system with the following design parameters:

1) Maximum surface loading rate of 5 inches per hour, based on the flow rates calculated. A sizing factor of 4% of tributary impervious area may be used.
2) Minimum surface reservoir volume equal to surface area times a depth of 6 inches.
3) Minimum planting medium depth of 18 inches. The planting medium must sustain a minimum infiltration rate of 5 inches per hour throughout the life of the project and must maximize runoff retention and pollutant removal. A mixture of sand (60%-70%) meeting the specifications of American Society for Testing and Materials (ASTM) C33 and compost (30%-40%) may be used.
4) Subsurface drainage/storage (gravel) layer with an area equal to the surface area and having a minimum depth of 12 inches.
5) Underdrain with discharge elevation at top of gravel layer.
6) No compaction of soils beneath the facility, or ripping/loosening of soils if compacted.
7) No liners or other barriers interfering with infiltration.
8) Appropriate plant palette for the specified soil mix and maximum available water use.

(g) **Alternative Designs —** Facilities, or a combination of facilities, of a different design than in Section E.12.e.(ii)(f) may be permitted if all of the following

measures of equivalent effectiveness are demonstrated:

1) Equal or greater amount of runoff infiltrated or evapotranspired;
2) Equal or lower pollutant concentrations in runoff that is discharged after biotreatment;
3) Equal or greater protection against shock loadings and spills;
4) Equal or greater accessibility and ease of inspection and maintenance.

(h) **Allowed Variations for Special Site Conditions** - The bioretention system design parameters in Section E.12.e.(ii)(f) may be adjusted for the following special site conditions:

1) Facilities located within 10 feet of structures or other potential geotechnical hazards established by the geotechnical expert for the project may incorporate an impervious cutoff wall between the bioretention facility and the structure or other geotechnical hazard.
2) Facilities with documented high concentrations of pollutants in underlying soil or groundwater, facilities located where infiltration could contribute to a geotechnical hazard, and facilities located on elevated plazas or other structures may incorporate an impervious liner and may locate the underdrain discharge at the bottom of the subsurface drainage/storage layer (this configuration is commonly known as a “flow-through planter”).
3) Facilities located in areas of high groundwater, highly infiltrative soils or where connection of underdrain to a surface drain or to a subsurface storm drain are infeasible, may omit the underdrain.
4) Facilities serving high-risk areas such as fueling stations, truck stops, auto repairs, and heavy industrial sites may be required to provide additional treatment to address pollutants of concern unless these high-risk areas are isolated from storm water runoff or bioretention areas with little chance of spill migration.

(i) **Exceptions to Requirements for Bioretention Facilities** - Contingent on a demonstration that use of bioretention or a facility of equivalent effectiveness is infeasible, other types of biotreatment or media filters (such as tree-box-type biofilters or in-vault media filters) may be used for the following categories of Regulated Projects:

1) Projects creating or replacing an acre or less of impervious area, and located in a designated pedestrian-oriented commercial district (i.e., smart growth projects), and having at least 85% of the entire project site covered by permanent structures;
2) Facilities receiving runoff solely from existing (pre-project) impervious areas;and
3) Historic sites, structures or landscapes that cannot alter their original configuration in order to maintain their historic integrity.

By the second year of the effective date of the permit, each Permittee shall adopt or reference appropriate performance criteria for such biotreatment and media filters.

(iii) **Reporting** – The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section E.16.a.for compliance directions.

E.12.f. Hydromodification Management

(i) **Task Description** – Within the third year of the effective date of the permit, the Permittee shall develop and implement Hydromodification Management procedures. Hydromodification management projects are Regulated Projects that create and/or replace one acre or more of impervious surface. A project that does not increase impervious surface area over the pre-project condition is not a hydromodification management project.

(ii) **Implementation Level** - The Permittee shall implement the following Hydromodification Standard:

(a) Post-project runoff shall not exceed estimated pre-project flow rate for the 2-year, 24-hour storm in the following geomorphic provinces (Figure 1):

- Coast Ranges
- Klamath Mountains
- Cascade Range
- Modoc Plateau
- Basin and Range
- Sierra Nevada
- Great Valley

(b) Post-project runoff shall not exceed estimated pre-project flow rate for the 10-year, 24-hour storm in the following geomorphic provinces (Figure 1):

- Transverse Ranges
- Peninsular Ranges
- Mojave Desert
- Colorado Desert



Figure 1. California Geomorphic Provinces

Alternatively, the Permittee may use a geomorphically based hydromodification standard or set of standards and analysis procedures designed to ensure that Regulated Projects do not cause a decrease in lateral (bank) and vertical (channel bed) stability in receiving stream channels. The alternative hydromodification standard or set of standards and analysis procedures must be reviewed and approved by the Regional Board Executive Officer.

(iii) **Reporting** –The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section E.16.a.for compliance directions.

E.12.g. Enforceable Mechanisms

(i) **Task Description** - Within the third year of the effective date of the permit, the Permittee shall develop and/or modify enforceable mechanisms that will effectively implement the requirements in Section E.12.b through f (if necessary).

(ii) **Implementation Level** - The Permittee shall develop and/or modify enforceable mechanisms that will effectively implement the requirements in Section E.12.b through E.12.f and may include municipal codes, regulations, standards, and specifications. The Permittee shall:

(a) Conduct an analysis of all applicable codes, regulations, standards, and/or specifications to identify modifications and/or additions necessary to fill gaps and remove impediments to effective implementation of project-scale development requirements.
(b) Approve new and/or modified enforceable mechanisms that effectively resolve regulatory conflicts and implement the requirements in Sections E.12.b through E.12.f (if necessary)
(c) Apply new and/or modified enforceable mechanisms to all applicable new and redevelopment projects. Develop and make available specific guidance for LID BMP design
(d) Complete a Tracking Report indicating the Permittee's accomplishments in education and outreach supporting implementation of LID requirements for new and redevelopment projects.

E.12.h. Operation and Maintenance of Post-Construction Storm Water Management Measures

(i) **Task Description** –Within the second year of the effective date of the permit, the Permittee shall implement an O&M Verification Program for storm water treatment and baseline hydromodification management structural control measures defined in Section E.12.e(ii)(f). Storm Water Treatment Measures and Baseline Hydromodification Management Measures on all Regulated Projects.

(ii) **Implementation Level** – At a minimum, the O&M Verification Program shall include the following elements:

(a) All Regulated Projects shall at a minimum, require at least one of the following from all project proponents and their successors in control of the Project or successors in fee title:

1) The project proponent's signed statement accepting responsibility for the O&M of structural control measure(s) until such responsibility is legally transferred to another entity;
2) Written conditions in the sales or lease agreements or deed for the project that requires the buyer or lessee to assume responsibility for the O&M of the installed treatment system(s) and hydromodification control(s) (if any) until such responsibility is legally transferred to another entity;

3) Written text in project deeds, or conditions, covenants and restrictions for multi-unit residential projects that require the homeowners association or, if there is no association, each individual owner to assume responsibility for the O&M of the installed treatment system(s) and hydromodification control(s) (if any) until such responsibility is legally transferred to another entity; or

4) Any other legally enforceable agreement or mechanism, such as recordation in the property deed, that assigns the O&M responsibility for the installed treatment system(s) and hydromodification control(s) (if any) to the project owner(s) or the Permittee.

(b) Coordination with the appropriate mosquito[23] and vector control agency with jurisdiction to establish a protocol for notification of installed treatment systems and hydromodification management controls. On an annual basis, before the wet season, prepare a list of newly installed (installed within the reporting period) storm water treatment systems and hydromodification management controls to the local mosquito and vector control agency and the appropriate Regional Water Board. The Permittee may submit the list of Regulated Projects as described in Section E.12.h.(ii)(e). This list shall include the facility locations and a description of the storm water treatment measures and hydromodification management controls installed.

(c) Conditions of approval or other legally enforceable agreements or mechanisms for all Regulated Projects that require the granting of site access to all representatives of the Permittee for the sole purpose of performing O&M inspections of the installed treatment system(s) and hydromodification control(s) (if any).

(d) A written implementation plan that describes O&M (including inspection) of all Regional Projects and regional controls that are Permittee-owned and/or operated.

(e) A database or equivalent tabular format of all Regulated Projects (public and private) that have installed treatment systems. This database or equivalent tabular format shall include the following information for each Regulated Project:

1) Name and address of the Regulated Project;
2) Specific description of the location (or a map showing the location) of the installed treatment system(s) and hydromodification control(s) (if any);
3) Date(s) that the treatment system(s) and hydromodification controls (if any) is/are installed;
4) Description of the type and size of the treatment system(s) and hydromodification control(s) (if any) installed;
5) Responsible operator(s) of each treatment system and hydromodification control (if any);
6) Dates and findings of inspections (routine and follow-up) of the treatment system(s) and hydromodification control(s) (if any) by the Permittee; and
7) Any problems and corrective or enforcement actions taken.

[23] California Department of Public Health. (2012). Best Management Practices for Mosquito Control in California. Retrieved on July 20, 2012 from http://www.westnile.ca.gov/resources.php

8) Maintenance Approvals: The Permittee shall ensure that systems and hydromodification controls installed at Regulated Projects are properly operated and maintained for the life of the projects. In cases where the responsible party for a treatment system or hydromodification control has worked diligently and in good faith with the appropriate state and federal agencies and the Permittee to obtain approvals necessary to complete maintenance activities for the treatment system or hydromodification management control, but these approvals are not granted, the Permittee shall be deemed to be in compliance with this Provision.

(iii) **Reporting –** The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section E.16.a.for compliance directions.

E.12.i. Post-Construction Best Management Practice Condition Assessment

(i) **Task Description** – Within the third year of the effective date of the permit, the Permittee shall inventory and assess the maintenance condition of structural post-construction BMPs (including BMPs used for flood control) within the Permittee's jurisdiction.

(ii) **Implementation Level** – The Permittee shall develop and implement a plan to inventory, map, and determine the relative maintenance condition of structural post-construction BMPs. Maintenance condition shall be determined through a self-certification program where Permittees require annual reports from authorized parties demonstrating proper maintenance and operations. The plan shall include:

(a) An inventory and map of existing structural post-construction BMPs, in GIS if available.
(b) Assessments of the self-certification program annual reports. Assessment shall include a ranking of structural BMPs and verification that BMPs are operating to remove pollutants as designed. Regional BMPs should receive higher priority than lot-scale BMPs, and BMPs designed to remove pollutants for which receiving water is impaired should receive priority attention over other BMPs.
(c) Appropriate escalating enforcement based on the Permittee Enforcement Response Plan to ensure proper maintenance of BMPs and submittal of self-certification annual reports.
(d) Self-Certification Annual Reports. At a minimum, the self-certification annual reports shall include:

1) Field observations to determine the effectiveness of the structural post construction BMPs in removing pollutants of concern from storm water runoff and/or reducing hydromodification impacts as designed.

2) Long-term plan for conducting regular maintenance of BMPs, including the frequency of such maintenance.

(iii) **Reporting** – The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section E.16.a.for compliance directions.

E.12.j. Planning and Development Review Process

(i) **Task Description** – The Permittee shall review their planning and permitting process to assess any gaps or impediments impacting effective implementation of these post-construction requirements specified in Section E.12, and where these are found to exist, seek solutions to promote implementation of these requirements within the context of public safety and community goals for land use. The Permittee shall prioritize review of the landscape code (code detailing landscaping requirements and considerations which should be implemented to protect environmental quality) to correct gaps and impediments impacting effective implementation of post-construction requirements.

(ii) **Implementation Level** – During years 1 – 3, the Permittee shall conduct the review using an existing guide or template already developed for MS4s (such as the Municipal Regulatory Update Assistance Program (MRUAP)[24] conducted by AHBL, Inc. for the Low Impact Development Initiative (LIDI) on the Central Coast). By the fourth year of the effective date of the permit, any changes to the planning and permitting process will be completed to effectively administer these provisions. Priority shall be placed on review of the landscape code, with the following implementation level.

(a) Within the first year of the effective date of this permit, the Permittee shall conduct an analysis of the landscape code to correct gaps and impediments impacting effective implementation of post-construction requirements.

(b) Within the second year of the effective date of the permit, the Permittee shall complete any changes to the landscape code to effectively administer post-construction requirements.

(iii) **Reporting** – By the second year Annual Report and annually thereafter, complete and have available a summary of the review process, and any proposed or completed changes to the Permittee's program.

[24] http://www.casqa.org/LIDDemo/LIDTraining/tabid/246/Default.aspx

E.12.k. Post-Construction Storm Water Management Requirements Based on Assessment and Maintenance of Watershed Processes

Small MS4s subject to Section E of this Order, in place of complying with the requirements set forth in Section E.12, except for Sections E.12.j. Planning and Development Review Process and E.12.e(ii)(e) Source Control Requirements, shall comply with post-construction storm water management requirements based on a watershed-process approach developed by Regional Water Board that include the following:

- Completion of a comprehensive assessment of dominant watershed processes affected by urban storm water
- LID site design and runoff reduction measures, numeric runoff treatment and retention controls, and hydromodification controls that will maintain watershed processes and protect water quality and beneficial uses.
- A process by which Regional Board staff will actively engage Permittees to adaptively manage requirements as determined by the assessment of watershed processes.
- An annual reporting program that involves Regional Board staff and State Board staff to inform statewide watershed process based criteria.

The regional watershed-process based approach must be approved by the Regional Water Board following a public process.

E.12.l. Alternative Post-Construction Storm Water Management Program

A Permittee may propose alternative post-construction measures in lieu of some or all of Section E.12. requirements for multiple benefit projects. Multiple-benefit projects include projects that may address any of the following, in addition to water quality: water supply, flood control, habitat enhancement, open space preservation, recreation, climate change. Multiple-benefit projects may be applied at various scales including project site, municipal or sub-watershed level. Multiple-benefit projects may include, but are not limited to, projects developed under Watershed Improvement Plans (Water Code §16100 et seq.), IRWMP implementation and green infrastructure projects. Multiple benefit projects must be equally or more protective of water quality than Section E.12. requirements.

The Regional Water Board or the Executive Officer, may approve alternative post-construction measures for multiple-benefit projects, as described above, after an opportunity for public comment, if the Regional Water Board or Executive Officer finds that the alternative measures are consistent with the MEP standard.

E.13. WATER QUALITY MONITORING

Traditional Small MS4 Permittees that are required to conduct monitoring of discharges to ASBS, TMDL, or 303(d) impaired water bodies, as described in Sections E.13.(a)-(c), are not required to perform additional monitoring as specified in Sections E.13.d.1. and E.13.d.2.

Permittees are encouraged to participate in a regional monitoring program in order to cost-effectively combine resources and water quality information. Regional monitoring is the

collaboration of local and regional monitoring programs that are designed to create a more comprehensive picture of water quality conditions within a watershed. The following management questions may be used to assist in guiding the development of a regional monitoring program, as applicable[25]:

1) Are water quality standards being met in receiving waters?
2) What is the extent and magnitude of the current or potential receiving water problems[26]?
3) What is the relative urban runoff contribution to the receiving water problem(s)?
4) What are the sources to urban runoff that contribute to the receiving water problem(s)?
5) Are conditions in receiving waters getting better or worse?

Regional monitoring programs shall be reviewed and approved by the Executive Officer of the applicable Regional Water Board[27].

Where a regional monitoring group has initiated plans, before the effective date of this Order, to conduct monitoring that achieves Section E.13. compliance, the Permittee may request the Executive Officer of the applicable Regional Board tailor compliance dates to synchronize with such efforts. Additionally, existing regional water monitoring efforts shall be reviewed and approved by a Regional Water Board Executive Officer.

Where a Permittee receives grant funding to conduct monitoring that achieves Section E.13. compliance, the Permittee may request the Regional Water Board Executive Officer tailor compliance dates to synchronize with such efforts.

E.13.a. ASBS Monitoring

All Permittees that discharge to an ASBS and are covered by an Ocean Plan exception shall comply with the monitoring requirements described in the terms, prohibitions and special conditions in Attachment C.

E.13.b. TMDL Monitoring

All Permittees that are assigned a wasteload allocation or identified as a responsible party in a TMDL approved by the U.S. EPA where urban runoff is listed as the source, shall comply with the monitoring requirements included in Attachment G and consult with the Regional Water Board within one year of the effective date of the permit to determine the monitoring study design and a monitoring implementation schedule. Where a TMDL is limited to a single

[25] The five core management questions are based on the Stormwater Monitoring Coalition's Model Monitoring Technical Committee Technical Report # 419: Model Monitoring Program for Municipal Separate Storm Sewer Systems in Southern California.
[26] Water quality problems include exceedances of water quality standards, including impairment of designated uses, or other significant water quality impacts, including habitat and biological impacts.
[27] The regional monitoring programs may deviate from the specific requirements in Section E.13.a. to the extent approved by the Executive Officer, except that the regional monitoring program shall be SWAMP comparable and that all data shall be placed in the California Environmental Data Exchange Network (CEDEN).

constituent within a single reach of the watershed, the Regional Water Board Executive Officer may require additional monitoring, per Water Code § 13383. Permittees shall implement TMDL monitoring as specified by the Regional Water Board Executive Officer.

E.13.c. 303(d) Monitoring

All Permittees that discharge to waterbodies listed as impaired on the 303(d)[28] list where urban runoff is listed as the source, shall consult with the Regional Water Board within one year of the effective date of the permit to assess whether monitoring is necessary and if so, determine the monitoring study design and a monitoring implementation schedule. Permittees shall implement monitoring of 303(d) impaired water bodies as specified by the Regional Water Board Executive Officer.

E.13.d. Receiving Water Monitoring and Special Studies

Traditional Small MS4 Permittees with a population greater than 50,000 listed in Attachment A that are not already conducting ASBS, TMDL or 303(d) monitoring efforts shall participate in one of the following monitoring programs, subject to Regional Water Board Executive Officer approval:

- E.13.d.1. Receiving Water Monitoring
- E.13.d.2. Special Studies

E.13.d.1. Receiving Water Monitoring

(i) **Task Description –** Within the second year of the effective date of the permit, the Permittee shall develop and implement a receiving water monitoring program to (1) Monitor receiving water quality at upstream location in an area undergoing development and evaluate changes in receiving water quality over time, and (2) Monitor receiving water quality at a downstream location in an urban area and evaluate changes in receiving water quality over time. Permittees may, to the extent allowed by law, establish a monitoring fund into which all new development contributes on a proportional basis (% development fee, size/number of lots, etc.). Monitoring funding may be overseen by municipalities or coalition of municipalities.

(ii) **Implementation Level -** By the first year of the permit, the Permittee shall select one (1) urban/rural interface monitoring site to monitor receiving water quality at an upstream location in an area undergoing development and evaluate changes in receiving water quality over time, and; one (1) urban area monitoring site to monitor receiving water quality at a downstream location in an urban area and evaluate changes in receiving water quality over time. Site selection shall include the following:

(a) Urban/Rural Interface. Identify one characteristic waterway at the top, or upstream, of a HUC 12 level watershed planned for development in the near future that traverses an urban/rural interface, using the 2010 Census Data and urban area maps, and establish a permanent monitoring location at the

[28] http://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2010.shtml

identified urban/rural interface[29]. Monitoring at the urban/rural interface shall address the question: Does receiving water quality change as LID BMPs are integrated into new development?

(b) Urban Downstream. Identify one characteristic waterway at the bottom, or downstream, of the same HUC 12 watershed as the urban/rural interface monitoring location and within an urbanized area and establish a permanent monitoring location at the identified urbanized area waterway. Monitoring at the urban area site shall address the question: Does receiving water quality improve as a result of efforts to control the sources of pollution and educate the public?

By the second year of the permit term and after establishment of site selection, the Permittee shall monitor the urban/rural interface site to address the hypothesis that receiving water quality will remain the same as new development proceeds, and the urban area site to address the hypothesis that receiving water quality will improve over time as storm water and other water quality programmatic efforts are implemented. Monitoring shall be implemented in accordance with Table 3. Receiving Water Monitoring Parameters and Protocols.

Table 3: Receiving Water Monitoring Parameters and Protocol

Urban/Rural Interface:

Objective: Monitor receiving water quality at upstream location in an area undergoing development. Evaluate changes in receiving water quality over time.

Question: Does receiving water quality change as LID BMPs are integrated into new development?

Hypothesis: Receiving water quality will remain the same as new development proceeds.

Urban Downstream:

Objective: Monitor receiving water quality at a downstream location in an urban area. Evaluate changes in receiving water quality over time.

Question: Does receiving water quality improve as a result of efforts to control the sources of pollution and educate the public?

Hypothesis: Receiving water quality will improve over time as storm water and other water quality programmatic efforts are implemented.

PARAMETER	ENDPOINT	BENEFICIAL USED PROTECTED	JUSTIFICATION	PROTOCOL
Water Quality	Pyrethroids* (sediment)	Aquatic Life	Pyrethroids** among the most ubiquitous urban contaminant in storm water. Highly toxic to aquatic life.	Method with detection limit of 1 pptr (5 pptr for permethrin only) such as the GC-MS-MS method of Water Pollution Control Lab. Yearly in spring at urban/rural interface only. Refer to pending SWAMP guidelines.
	Dissolved oxygen (DO)	Aquatic life, recreation	DO reports on presence of excessive nutrients (N, P) and effects of organic matter loading into a waterbody. High DO during day, low DO at night suggests algae overgrowth.	Option 1: One week of evening grab samples (a minimum of 2 hours after dusk or 2 hours before sunrise) in spring (as soon as safe to get into waterway), summer, & fall. OR Option 2: Continuous sampling. 1

[29] The urban/rural interface is identified as the geographical location at which urban land use and rural land use interact

				week in spring summer, fall. In rivers or lakes, 2 samplers to obtain depth-integrated values.
	Temperature	Aquatic life	Aquatic life can survive within a temperature window, exceedances lethal. If loggers are deployed, DO probes often also measure temperature.	Option 1: Daytime measurement between noon – 5 pm, at the same time of day, for 2 weeks in the spring, summer, and fall. Option 2: Continuous sample. Same as for dissolved oxygen.
	Bacteria	Recreation	Increase cell count linked to poor management practices, high bacteria levels limit recreational use of waterways.	Once yearly in later summer or fall. Collect 1 sample weekly x 4 weeks. Calculate geometric mean. Measure e. coli.
	Nutrients	Aquatic life Recreation Other	Excess nutrients can cause eutrophication of waterways leading to low dissolved oxygen which harms aquatic life. Algal overgrowth can also impair flows, adversely affect aesthetics, limiting recreation.	Benthic algal biomass and % cover (benthic chlorophyll a) from sediment in wadeable and non-wadeable streams or planktonic algal biomass (water column chlorophyll) from non-wadeable rivers and lakes. 3 times per year at beginning, middle, and end of growing season. Use SWAMP protocol.
Physical Habitat	PHAB assessment	Aquatic life	Expect to see few changes in habitat with effective LID implementation	Once yearly in spring. Use SWAMP protocol.
	Channel cross sections	Aquatic life	Reports on stability of creek/river channel	Once yearly in spring.
	Flow	Aquatic life	Expect minimal changes in flow rate if LID practices minimizes changes in hydrograph usually seen with urbanization	Option 1: Pressure transducer. Use channel cross sections put in same time as DO probe. Measure spring, summer, and fall Option 2: Install stage gage, develop rating curve. Evaluate spring, summer, and fall for 2 weeks.
	Photo documentation	Overall conditions	Pictures and flood prone area will aid in the interpretation of the data	Once yearly in spring.
Aquatic Life	Bioassessment	Aquatic life	BMIs integrate the sum of all conditions. Use early measurements as the baseline. In some cases, expect improved BMIs, depending on previous use of land.	In spring as soon as safe to enter water, use SWAMP protocol

* Pyrethroid monitoring is required at the urban/rural interface site only.

**Currently, pyrethroids are the pesticide of greatest concern and abundance in urban/suburban waterways. However, new regulations enacted by the Dept. of Pesticide Regulation restrict how pyrethroids may be applied. Initial models by UC Davis researchers suggest that this could result in a runoff reduction of 80-90%, depending on the amount of impervious cover in the watershed. In the future, other pesticides may become more of a threat to aquatic life in urban waterways. One pesticide that is being used with greater frequency is fipronil, a phenylpyrazole insecticide, that is more water soluble than pyrethroids. In order to use the resources of the permittees most efficiently, the State Water Resource Control Board reserves the right to modify the terms and conditions of the permit based on new information on pesticide use and toxicity. This could include substituting another pesticide for monitoring or eliminating this endpoint.

(iii) **Reporting –** By the second year Annual Report, the Permittee shall complete and have available a report (50 page maximum) that includes a summary of baseline data collections and discussion of monitoring program results;

By the fifth year Annual Report, the Permittee shall complete and have available a report (50 page maximum) that includes a comparison of data collection to baseline data, and discussion of monitoring program results.

At a minimum, the second and fifth year Annual Reports shall include the following information:

(a) The purpose of the monitoring, brief contextual background and a brief description of the study design and rationale.
(b) Sampling site(s) locations, including latitude and longitude coordinates, water body name and water body segment if applicable. Sampling design, including sampling protocol, time of year, sampling frequency and length of sampling.
(c) Methods used for sample collection: list methods used for sample collection, sample or data collection identification, collection date, and media if applicable.
(d) Results of data collection, including concentration detected, measurement units, and detection limits if applicable.
(e) Quantifiable assessment, analysis and interpretation of data for each monitoring parameter.
(f) Comparison to reference sites (if applicable), guidelines or targets
(g) Discussion of whether data collected addresses the objective(s) or question(s) of study design
(h) Quantifiable discussion of program/study pollutant reduction effectiveness.

Where applicable, the Permittee shall prepare, maintain, and implement a Quality Assurance Project Plan (QAPP) in accordance with the Surface Water Ambient Monitoring Program. All monitoring samples shall be collected and analyzed according to the Program QAPP developed for the purpose of compliance with this Order. SWAMP Quality Assurance Program Plan (2008) is available at:

http://www.waterboards.ca.gov/water_issues/programs/swamp/docs/qapp/qaprp082209.pdf

A formatted Microsoft Word document that includes guidelines and boilerplate language for developing the permit QAPP is available at:

http://www.waterboards.ca.gov/water_issues/programs/swamp/tools.shtml#qa

Water quality data shall be uploaded to SMARTS and must conform to California Environmental Data Exchange Network (CEDEN) Minimum Data Templates format. CEDEN Minimum Data Templates are also available at: http://ceden.org/

E.13.d.2. Special Studies

(i) **Task Description –** Within the first year of the effective date of the permit, the Permittee, as an alternative to Section E.13.d.1. Receiving Water Monitoring, may develop and implement a special study monitoring program to assess and evaluate the effectiveness of water quality projects or storm water program elements designed to reduce specific water quality pollutants that are causing or contributing to beneficial use impairment. The special studies must demonstrate the nexus between storm water program implementation, water quality protection and pollutant reduction effectiveness and may include, but are not limited to:

(a) Assessment of effectiveness of habitat enhancement efforts and assessment of effectiveness of stream restoration projects (i.e., stream channel restoration as related to implementation of hydromodification standards);
(b) Assessment of effectiveness of low impact development pilot projects, and assessment of storm water program components through pollutant load reduction quantification and/or discharge water quality monitoring (i.e., reduction of impervious surface related to implementation of Post-Construction Storm Water Management Program).

(ii) **Implementation Level** – By the first year of the permit, the Permittee shall develop and implement a special study plan and shall submit to an applicable Regional Board for review and approval. Within the second year of the effective date of the permit, the Permittee shall begin implementation of the approved special study plan. The study plan shall include, at a minimum:

(a) Purpose/objective of the monitoring (sampling rationale), including reasoning to implement a special study in lieu of the Receiving Water Monitoring described in Section E.13.d.1.
(b) Brief project background information and overall study design (i.e., surrounding land uses, reference monitoring data, if applicable, and site conditions)
(c) Parameters that are being measured, how parameters are measured and rationale for parameter selection.
(d) Frequency that parameters are being measured (sampling frequency)
(e) Sampling site location
(f) Description of how the data will be managed, analyzed (including statistical analysis) and reported
(g) Expected results based on study plan design and hypothesis

(iii) **Reporting –** By the second year Annual Report, the Permittee shall complete and have available a report (50 page maximum) that includes a summary of baseline data collections and discussion of monitoring program results.

By the fifth year Annual Report, the Permittee shall complete and have available a report (50 page maximum) that includes a comparison of data collection to baseline data, and discussion of monitoring program results.

At a minimum, the second and fifth year Annual Reports shall include the following information:

(a) The purpose of the monitoring, contextual background and a description of the study design and rationale.
(b) Sampling site(s) locations, including latitude and longitude coordinates, water body name and water body segment if applicable. Sampling design, including sampling protocol, time of year, sampling frequency and length of sampling.
(c) Methods used for sample collection: list methods used for sample collection, sample or data collection identification, collection date, and media if applicable.
(d) Results of data collection, including concentration detected, measurement units, and detection limits if applicable.
(e) Quantifiable assessment analysis and interpretation of data for each monitoring parameter or other data type.
(f) Comparison to reference sites (if applicable), guidelines or targets
(g) Discussion of whether data collected addresses the objective(s) or question(s) in the study plan
(h) Quantifiable discussion of program/study pollutant reduction effectiveness.

Where applicable, the Permittee shall prepare, maintain, and implement a QAPP in accordance with SWAMP. All monitoring samples shall be collected and analyzed according to the Program QAPP developed for the purpose of compliance with this Order. SWAMP Quality Assurance Program Plan (2008) is available at:

http://www.waterboards.ca.gov/water_issues/programs/swamp/docs/qapp/qaprp082209.pdf

A formatted Microsoft Word document that includes guidelines and boilerplate language for developing the permit QAPP is available at:

http://www.waterboards.ca.gov/water_issues/programs/swamp/tools.shtml#qa

Water quality data shall be uploaded to the Storm Water Multi-Application Reporting and Tracking System (SMARTS) and must conform to "CEDEN Minimum Data Templates" format. CEDEN Minimum Data Templates are also available at: http://ceden.org/

E.14. PROGRAM EFFECTIVENESS ASSESSMENT AND IMPROVEMENT

E.14.a. Program Effectiveness Assessment and improvement Plan

(i) **Task Description -** The Permittee shall develop and implement a Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. The Program Effectiveness Assessment and Improvement Plan will assist the Permittee to document compliance with permit conditions and to adaptively manage its storm water program and make necessary modifications to the program to improve program effectiveness at reducing pollutants of concern, achieving the MEP standard, and protecting water quality. The Program Effectiveness Assessment and Improvement Plan shall identify the strategy used to gauge the effectiveness of prioritized BMPs and program implementation as a whole. Prioritized BMPs include BMPs implemented based on pollutants of concern. Where pollutants of concern are unidentified, prioritized BMPs are based on common urban pollutants (i.e., sediment, bacteria, trash, nutrients). The annual effectiveness assessments will help identify potential modifications to the program to ensure long-term effectiveness.

(ii) **Implementation Level** - The Program Effectiveness Assessment and Improvement Plan may be modeled upon the most recent version (if applicable) Municipal Storm Water Program Effectiveness Assessment Guidance (CASQA, May 2007) or equivalent.

(a) The Program Effectiveness Assessment and Improvement Plan shall include the following elements, at a minimum as applicable:

1) Identification of overall program goals including pollutants of concern and prioritized BMPs
2) Documentation of the level of implementation of storm water program elements
3) Identification and targeting of target audience(s)
4) Assessment of BMP performance at achieving outcome levels
5) Assessment of pollutant source reductions achieved by individual BMPs
6) Quantification of pollutant loads and pollutant load reductions achieved by the program as a whole
7) MS4 discharge quality, where available, including analysis of the data
8) Receiving water quality data, including analysis of the data
9) Identification of long-term effectiveness assessment, to be implemented beyond the permit term

(b) The Program Effectiveness Assessment and Improvement Plan shall assess BMP and program effectiveness in terms of the following Outcome Levels:

1) Storm water program activities
2) Awareness
3) Behavior
4) Pollutant load reductions
5) MS4 discharge quality (where assessment is supported by MS4 discharge quality data)

6) Receiving water conditions

(c) The Program Effectiveness Assessment and Improvement Plan shall identify assessment methods for privately owned BMPs.

(d) The Program Effectiveness Assessment and Improvement Plan shall identify assessment methods the Permittee will use to quantitatively assess BMP performance at reducing pollutant loads wherever feasible, using the following or equivalent methods:

1) Direct quantitative measurement of pollutant load removal for BMPs that lend themselves to such measurement (e.g., measuring sediment collected through street-sweeping activities);
2) Science-based estimates of pollutant load removal for BMPs where direct measurement of pollutant removal is overly challenging (e.g., removal of heavy metals through a bioswale);
3) Direct quantitative measurement of behaviors that serve as proxies of pollutant removal or reduction (e.g., the percentage of construction sites demonstrated by inspection to be in compliance with permit conditions); or
4) Visual comparison (e.g., using photographs to compare the amount of trash in a creek between one year and the next).

(e) The Program Effectiveness Assessment and Improvement Plan shall ask and answer the following Management Questions for prioritized BMPs for which answers to management questions can be based on quantitative data appropriate to the question being answered.

1) Were prioritized BMPs or group of BMPs implemented in accordance with the permit requirements? The Permittee shall develop quantitative data using the following or equivalent methods:
   a) Confirmation – Documenting whether an activity or task has been completed, expressed as positive or negative outcome (i.e., yes or no)
   b) Tabulation – Simple accounting expressed in absolute (e.g., number of people participating), or relative terms (e.g. percent increase in recycled household hazardous waste)
2) To what extent did prioritized BMPs or group of BMPs change the target audience's behavior? The Permittee shall develop quantitative data using the following or equivalent methods:
   a) Surveys or interviews to discern knowledge, attitudes, awareness, behavior of specific population, etc.
   b) Interviews of site personnel to discern awareness and behavior
   c) Inspections or site visits to directly observe or assess a practice.
3) To what extent did prioritized BMPs or group of BMPs reduce pollutant loads from their sources to the storm drain system?

(f) The Program Effectiveness Assessment and Improvement Plan shall include water quality monitoring data, where available, to answer the following long-term management questions, effectiveness of BMPs and the overall storm water program will be assessed in future permit terms.

1) To what extent did implementation of the BMP, group of BMPs, or storm water program enhance or change the urban runoff and discharge quality?
2) To what extent did implementation of the BMP, group of BMPs, or storm water program enhance or change receiving water quality?
3) Did exceedance(s) of water quality objectives or water quality standards persist notwithstanding implementation of the storm water program?

The Program Effectiveness Assessment and Improvement Plan shall include documentation of the effectiveness of BMPs implemented to reduce the discharge of pollutants to the MS4 to the MEP and protect water quality.

(iii) **Reporting** – By the second year Annual Report complete and submit the Program Effectiveness Assessment and Improvement Plan. The Plan shall include the strategy the Permittee will use to assess the effectiveness of the program, the specific measures the Permittee will use to assess the effectiveness of BMPs and/or groups of BMPs, and how the Permittee will use the information obtained through effectiveness assessment to modify individual BMPs and the program as a whole to increase short and long-term effectiveness. In subsequent Annual Reports, describe implementation of the Program Effectiveness Assessment and Improvement Plan, summarize data obtained through effectiveness assessment measures and the short and long-term progress of the storm water program, and provide an analysis of the data to improve program effectiveness, to achieve the MEP standard, protect water quality, and to document the Permittee's compliance with permit conditions. Permittees that have a Program Effectiveness Assessment and Improvement Plans, or equivalent, approved by the applicable Regional Board, or that have a schedule approved by the applicable Regional Board to develop and implement such a Plan, shall adhere to the Plan and/or schedule approved by the Regional Board unless otherwise directed by the Regional Board. By the fifth year annual report, complete and submit an analysis of the effectiveness of modifications made at improving BMP and/or program effectiveness.

E.14.b. Storm Water Program Modifications

(i) **Task Description** –The Permittee shall modify BMPs and/or the program as a whole to improve compliance with permit conditions and improve program effectiveness at reducing pollutant loads, achieving the MEP standard, and protecting water quality. The Permittee shall use information gained through effectiveness assessment and MS4 discharge and receiving water monitoring to identify priority areas for program improvement. In addition, the Permittee shall identify and make modifications to BMPs, including new BMPs or modification to existing BMPs, to improve effectiveness in each priority area. The Permittee shall consult with the applicable Regional Water Board in setting expectations for the scope, timing, and frequency of BMP modifications.

(ii) **Implementation Level** – Within the fifth year of the effective date of the permit, the Permittee shall identify and summarize BMP and/or program modifications identified in priority program areas. Modifications shall include:

(a) Improving upon BMPs that are underperforming

(b) Continuing and expanding upon BMPs that proved to be effective, including identifying new BMPs or modifications to existing BMPs designed to increase pollutant load reductions;
(c) Discontinuing BMPs that may no longer be productive and replacing with more effective BMPs; and
(d) Shifting priorities to make more effective use of resources

(iii) **Reporting –** By the fifth year Annual Report, complete and submit the list of BMP and/or program modifications, as specified in E.14.c(ii), the Permittee will make for priority program areas, including identification of priority program areas and the schedule the Permittee will follow to complete identified modifications during the next permit term. The modifications shall be aimed at the goal of reducing pollutant loads, achieving the MEP standard and protecting water quality.

E.15. TOTAL MAXIMUM DAILY LOADS COMPLIANCE REQUIREMENTS

E.15.a. The Permittee shall comply with all applicable TMDLs approved pursuant to 40 Code of Federal Regulations section 130.7 that assign a Waste Load Allocation to the Permittee and that have been identified in Attachment G.

E.15.b. WLA, Load Allocations (LA), effluent limitations, implementation requirements, and monitoring requirements are specified in the adopted and approved Regional Water Board Basin Plans and authorizing resolutions which are incorporated herein by reference as enforceable parts of this Order. Applicable Basin Plan amendments and resolutions are identified in Attachment G. Attachment G additionally contains a list of TMDL-specific permit requirements developed by the Regional Water Boards for compliance with the implementation requirements of the relevant TMDLs. These requirements are an enforceable component of this Order. In some cases, dates are given that fall outside the term of this Order. Compliance dates that have already passed are enforceable on the effective date of this Order. Compliance dates that exceed the term of this Order are included for reference, and become enforceable in the event that this Order is administratively extended.

E.15.c. The Regional Water Boards are directed to review, within one year of the effective date of this Order, the TMDL-specific permit requirements contained in Attachment G and to develop or propose revisions, as appropriate, to TMDL-specific permit requirements to the State Water Board after consultation with the Permittees and State Water Board staff. Any proposed revisions by the Regional Water Boards shall be supported by an explanation of how the proposed TMDL-specific permit requirements are consistent with the assumptions and requirements of applicable WLAs and with the goals of the TMDL. Where a TMDL is limited to a single constituent within a single reach of the watershed, the Regional Water Board Executive Officer may require additional monitoring, per Water Code § 13383. The State Water Board will incorporate any necessary revisions through a reopener. The State Water Board may additionally revise this Order through a reopener to incorporate any modifications or revisions to the TMDLs in Attachment G, or to incorporate any new TMDLs adopted during the term of this Order that assign a WLA to a Regulated Small MS4 or that identify a Regulated Small MS4 as a responsible

party. In revising Attachment G, the State Water Board will allow adequate notice and public review.

E.15.d. The Permittee shall complete and report the status of their implementation of the specific TMDL implementation requirements that have been incorporated into the permit with each Annual Report via SMARTS. Reporting on TMDL implementation shall include the following information:

(i) A description of BMPs implemented, including types, number, and locations
(ii) An assessment of the effectiveness of implemented BMPs in progressing towards attainment of wasteload allocations within the TMDLs' specified timeframes
(iii) All monitoring data, including a statistical analysis of the data to assess progress towards attainment of wasteload allocations within the TMDLs' specified timeframes
(iv) Based on results of the effectiveness assessment and monitoring, a description of the additional BMPs that will be implemented to attain wasteload allocations within the TMDLs specified timeframes

E.15.e. The Permittee shall comply with implementation requirements specified in Category 4b demonstrations associated with Clean Water Act Sections 303d, 306b, and 314 Integrated Reporting and Listing Decisions. Implementation requirements described in Category 4b demonstrations are effective upon Regional Water Board approval of that region's Integrated Reporting and Listing Decisions and associated Category 4b demonstrations. The most recent Integrated Reporting and Listing Decisions and associated Category 4b demonstrations are available at http://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2010.shtml.

E.16. ANNUAL REPORTING PROGRAM

E.16.a. The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities for each program element and certify compliance with all requirements of this permit. If a Permittee is unable to certify compliance with a requirement, the Permittee must submit in SMARTS the reason for failure to comply, a description and schedule of tasks necessary to achieve compliance, and an estimated date for achieving full compliance.

E.16.b. Permittees shall complete and retain all Annual Report information on the previous fiscal year beginning July 1 and ending June 30. The Annual Reporting requirements are set forth in Provisions E. The Permittee shall retain documentation as necessary to support their Annual Report. The Permittee shall make this supporting information available during normal business hours, unless agreed to by the applicable Regional Water Board's Executive Officer.

E.16.c. The Permittee shall submit when requested by the Executive Officer of the applicable Regional Water Board a detailed written online annual report or in-

person presentation of the annual report that addresses the activities described in Provision E. The detailed Annual Report must clearly refer to the permit requirements and describe in quantifiable terms, the status of activities undertaken to comply with each requirement.

E.16.d. Permittees involved in regional programs may coordinate with the members to identify reporting responsibility. The one report submitted on behalf of Permittees involved in a regional program must include a summary of the past year activities for each program element and certification of compliance with all requirements of this Order for each of the Permittees in the regional program.

F. NON – TRADITIONAL SMALL MS4 PERMITTEE PROVISIONS

F.1. Non-Traditional Small MS4 Categories

The Non-Traditional Small MS4s identified in Attachment B or by a Regional Water Board Executive Officer shall comply with the specific provisions in this Section. For military installations, this permit applies to areas, where the activities and population density resemble that of a traditional small MS4, as defined in the permit boundary map in Section A.2.b.(3). For Department of Corrections and Rehabilitation Permittees, this permit applies to facilities that are in active operation (i.e., does not apply to closed facilities lacking management oversight).

F.2. Security Concerns

Department of Defense, Department of Corrections and Rehabilitation Permittees, ports and transportation agencies are exempt from Annual Reporting of any provision in this section that could pose a security risk and/or compromise facility security.

F.3. Maximize Efficiency

Permittees may incorporate the required storm water provisions into already existing programs and leverage existing staff to implement BMPs during its day to day business and operations.

F.4. Equivalent or Existing Document

A Permittee may utilize an equivalent or existing document such as a Standard Operations and Procedures manual, Operation and Maintenance Plan, or Spill Response Plan if that document includes the necessary information required to comply with the provisions of this section.

F.5. PROVISIONS

F.5.a. PROGRAM MANAGEMENT ELEMENT

F.5.a.1. Legal Authority

(i) **Task Description** - Permittee shall have adequate legal authority to meet the requirements of this Order

(ii) **Implementation Level** – Within the second year of the effective date of the permit, the Permittee shall review, revise or adopt new relevant policies, contractual provisions, base orders, resolutions or other regulatory mechanisms, to the extent allowable under state or local law, to ensure it has at a minimum the legal authority to:

(a) Effectively prohibit non-storm water discharges through the MS4. Exceptions to this prohibition are NPDES-permitted discharges of non-storm water and non-storm water discharges from B.3 that are considered non-significant contributors of pollutants. Where the non-storm water discharge is to a segment of an MS4 that discharges directly to an ASBS, exceptions to the non-storm water prohibition are specified in Attachment C.

(b) Detect and eliminate illicit discharges and illegal connections to the MS4. Illicit connections include pipes, drains, open channels, or other conveyances that have the potential to allow an illicit discharge to enter the MS4. Illicit discharges include all non-storm water discharges not otherwise authorized in this Order, including, but not limited to discharges from mobile cleaning and pressure washing operations.

(c) Respond to spills, and prohibit dumping or disposal of materials other than storm water into the MS4.

(d) Require vendors, contractors and operators of commercial facilities to minimize the discharge of pollutants to the MS4 through the installation, implementation, and maintenance of BMPs consistent with the CASQA Best Management Practice Handbooks or equivalent.

(e) Ensure construction site or industrial facility operators provide a Waste Discharge Identification Number for coverage under the CGP and IGP and comply with the appropriate permit.

(f) Review designs and proposals for new development and redevelopment to determine whether adequate BMPs will be installed, implemented, and maintained during construction and after final stabilization (post-construction).

(g) Promptly cease and desist discharges and/or cleanup and abate a discharge, including the ability to:

1) Effectively require the discharger to abate and clean up their discharge, spill, or pollutant release within 72 hours of notification;

2) Require abatement, within 30 days of notification, for uncontrolled sources of pollutants that could pose an environmental threat;

3) Perform the cleanup and abatement work and bill the responsible party, if necessary;
4) Provide the option to order the cessation of activities until such problems are adequately addressed if a situation persists where pollutant-causing sources or activities are not abated;
5) Require a new timeframe and notify the appropriate Regional Water Board when all parties agree that clean-up activities cannot be completed within the original timeframe and notify the appropriate Regional Water Board in writing within five business days of the determination that the timeframe requires revision.

(iii) **Reporting** – All Permittees shall submit by the second year online Annual Report, a statement signed by both the Permittee's legal counsel and an authorized signatory certifying the Permittee has adequate legal authority to comply with all Order requirements.

F.5.b. EDUCATION AND OUTREACH PROGRAM

F.5.b.1. Compliance Participation Options

All Permittees shall comply with the requirements in this Section by participating in one or more of the following:

(a) Contributing to a countywide storm water program, as determined appropriate by the Permittee members, so that the countywide storm water program conducts education and outreach on behalf of its members; or
(b) Contributing to a regional education and outreach collaborative effort (a regional education and outreach collaborative effort occurs when all or a majority of the Permittees collaborate to conduct regional education and outreach. Regional education and outreach collaboration includes Permittees defining a uniform and consistent message, deciding how best to communicate the message, and how to facilitate behavioral changes. Then collaboratively apply what is learned through local jurisdiction groups, pooling resources and skills.); or
(c) Fulfilling education and outreach requirements within their jurisdictional boundaries on their own. Some level of coordination of education and outreach efforts with an adjacent Phase I MS4 Permittee is recommended/anticipated for watershed/region-wide consistency.; or
(d) A combination of the previous options, so that all requirements are fulfilled.

Reporting – By the first year online Annual Report, the Permittee shall submit information indicating which compliance participation option it will use to comply with the public education and outreach requirements in this Section. For each public education and outreach requirement in this Section that the Permittee will comply with through contribution to a countywide storm water program or regional education and outreach collaborative effort, the Permittee shall include in the first year online Annual Report documentation, such as a written agreement, letter or similar document, which confirms the collaboration with other MS4s.

F.5.b.2. Public Education and Outreach

The public for a Non-traditional MS4 Permittee is considered the following, if applicable:

- Faculty
- Inmates
- Military personnel
- Residents
- Students
- Staff
- Visitors

(i) **Task Description –** Within the second year of the effective date of the permit, the Permittee shall develop and implement a comprehensive storm water public education and outreach program. The public education and outreach program shall be designed to inform the public about storm water pollution and steps that can be taken to reduce storm water pollution. The Public Education and Outreach Program shall measurably increase the public's knowledge regarding the storm drain system, impacts of urban runoff and illicit discharges on receiving waters, and potential BMP solutions for the target audiences.

(ii) **Implementation Level** –The Permittee shall, at a minimum:

(a) Develop and implement a public education strategy that establishes education tasks based on water quality problems, target audiences, and anticipated task effectiveness. The strategy must include identification of who is responsible for implementing specific tasks and a schedule for task implementation. The strategy must demonstrate how specific high priority storm water quality issues in their jurisdiction or local pollutants of concern are addressed.

(b) Implement BMPs that gauge level of awareness in target audiences and effectiveness of education tasks.

(c) Develop and convey a specific storm water message that focuses on the following:
   1) Local pollutants of concern
   2) Target audience
   3) Regional water quality issues

(d) Develop and disseminate appropriate educational materials to target audiences and translate into applicable languages when appropriate (e.g. the materials can utilize various media such as printed materials, billboard and mass transit advertisements, signage at select locations, stenciling at storm drain inlets, radio advertisements, television advertisements, and websites);

(e) Distribute educational materials, using whichever methods and procedures determined appropriate during development of the public education strategy;

(f) Develop and convey messages to explain the benefits of water-efficient landscaping (if appropriate);

(g) Utilize information from storm water-friendly landscaping[30] programs (if appropriate);

[30] For example, Surfrider's Ocean Friendly Garden Program (http://www.surfrider.org/programs/entry/ocean-friendly-gardens)

(h) Develop and convey messages specific to reducing illicit discharges with information about how the public can report incidents to the appropriate authorities;
(i) Develop and convey of messages specific to proper application of pesticides, herbicides, and fertilizers;
(j) Within the Permittee's jurisdiction, provide independent, parochial and public schools with materials to effectively educate school-age children, if applicable, about storm water and how they can help to protect water quality habitat in their local watersheds. The Permittee is encouraged to use environmental and place-based, experiential learning materials that are integrated into school curricula and school facility management[31]. In the case that a local program does not exist, the Permittee may use California's Education and Environment Initiative Curriculum[32] or equivalent;
(k) Develop (or coordinate with existing effective programs) and convey messages specific to reducing discharges from pressure washing operations and landscape irrigation;
(l) If applicable, utilize storm water-friendly education for organized car wash participants and provide information pertaining to car wash discharge reduction. The Permittee may use the Sacramento Stormwater Quality Partnership's River Friendly Carwash Program[33], or equivalent, for guidance;
(m) The Permittee shall conduct focused education in identified illicit discharge flow areas based on identified illicit discharge(s).

(iii) **Reporting** – The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section F.5.j.2.for compliance directions.

F.5.b.3. Staff and Site Operator Training and Education: Illicit Discharge Detection and Elimination Training

(i) **Task Description** – Permittees shall develop and implement a training program for all Permittee staff, who, as part of their normal job responsibilities, may be notified of, come into contact with, or otherwise observe an illicit discharge or illegal connection to the storm drain system.

(ii) **Implementation Level** – Within the third year of the effective date of the permit, the Permittee shall develop the training program. The training program shall include at a minimum:

(a) Identification of an illicit discharge or illegal connection;
(b) Proper procedures for reporting and responding to the illicit discharge or illegal connection;
(c) Follow-up training provided as needed to address changes in procedures, techniques, or staffing;

[31] For example, Splash (*www.sac**splash**.org/*),Effie Yeaw Nature Center (www.sacnature.net) or Yolo Basin (www.yolobasin.org)
[32] http://www.californiaeei.org/
[33] http://www.beriverfriendly.net/riverfriendlycarwashing/

(d) Annual assessment of their trained staff's knowledge of illicit discharge response and shall provide refresher training as needed;
(e) Training of new staff who, as part of their normal job responsibilities may be notified of, come into contact with, or otherwise observe an illicit discharge or illegal connection;
(f) Contact information, including the procedure for reporting an illicit discharge, shall be included in each of the Permittee's fleet vehicles that are used by field staff.

(iii) **Reporting** – The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section F.5.j.2.for compliance directions.

F.5.b.4. Staff Pollution Prevention and Good Housekeeping

The Permittee shall train employees on how to incorporate pollution prevention/good housekeeping techniques into Permittee operations.

(i) **Task Description** – The Permittee shall provide a biennial training program for appropriate employees involved in implementing pollution prevention and good housekeeping practices in the Pollution Prevention/Good Housekeeping for Permittee Operations sections of this permit. The Permittee shall determine the need for interim training during alternate years when training is not conducted, through an evaluation of employee Pollution Prevention/Good Housekeeping knowledge.

(ii) **Implementation Level** – The biennial training program shall include the following:

(a) General storm water education component, any new technologies, operations, or responsibilities that arise during the year and the permit requirements which apply to the staff being trained. Clear guidance on appropriate storm water BMPs to use at Permittee owned facilities and during typical Operation and Maintenance activities.

(b) An assessment of trained staff's knowledge of pollution prevention and good housekeeping and shall revise the training as needed.

(c) A requirement that any contractors hired by the Permittee to perform Operation and Maintenance activities shall be contractually required to comply with all of the storm water BMPs, good housekeeping practices, and standard operating procedures described above.

(d) The Permittee shall provide oversight of contractor activities to ensure that contractors are using appropriate BMPs, good housekeeping practices and following standard operating procedures.

(iii) **Reporting –** The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of

this program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section F.5.j.2.for compliance directions.

F.5.c. PUBLIC INVOLVEMENT AND PARTICIPATION PROGRAM

(i) **Task Description -** Within the third year of the effective date of the permit, the Permittee shall involve its public in the development and implementation of activities related to the program. The public participation and involvement program shall encourage volunteerism, public comment and input on policy, and activism in the community.

(ii) **Implementation Level** – The Permittee shall, at a minimum:

(a) Ensure that high priority storm drain inlets include a labeled, stenciled or other effective method (e.g., clearly visible sign strategically placed in area of high pedestrian activity) of communicating a storm water awareness message such as “drains to creek” or “only rain in the drain”.
(b) Integrate storm water awareness messages and information on a publicly accessible website

(iii) **Reporting –** The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section F.5.j.2.for compliance

F.5.d. ILLICIT DISCHARGE DETECTION AND ELIMINATION PROGRAM

The Permittee shall develop an Illicit Discharge Detection and Elimination program to detect, investigate, and eliminate illicit discharges, including illegal dumping, into its system or coordinate with an adjacent Phase I MS4 Permittees existing program. The existing program, at a minimum, must include the provisions in this section.

F.5.d.1 Outfall Mapping

(i) **Task Description** – Within the second year of the effective date of the permit, the Permittee shall maintain an up-to-date and accurate outfall map. The map may be in hard copy and/or electronic form or within a geographic information system (GIS). The development of the outfall map shall include a visual outfall inventory involving a site visit to each outfall. It is recommended the Permittee coordinate with an adjacent Phase I MS4 Permittee to collect outfall data for which they may discharge to. Renewal Permittees that have an existing and up-to-date outfall map that includes the minimum requirements specified in Section F.5.d.1.(ii)(a-b) are not required to re-create the outfall map. This does not exempt renewal Permittees with an existing outfall map from conducting the field sampling specified in Section F.5.d.2.

(ii) **Implementation Level** - The outfall map shall at a minimum show:

(a) The location of all outfalls and drainage areas within the urbanized area, contributing to those outfalls that are operated by the Permittee, and that directly discharge within the Permittee's jurisdiction to a receiving water. Each mapped outfall shall be given an individual alphanumeric identifier, which shall be noted on the map. Photographs shall be taken or an electronic database shall be utilized to provide baseline information and track operation and maintenance needs over time.

(b) The location (and name, where known to the Permittee) of all water bodies receiving direct discharges from those outfall pipes.

Submerged outfalls or other outfalls that may pose a threat to public safety are not required to be inventoried.

(iii) **Reporting** – The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section F.5.j.2.for compliance.

F.5.d.2. Field Sampling to Detect Illicit Discharges

(i) **Task Description** – Within the second year of the effective date of the permit, the Permittee shall conduct field sampling to detect potential illicit discharges while conducting the outfall inventory specified in Section F.5.d. Outfall Inventory. If while conducting the outfall inventory specified in Section F.5.d., an outfall is flowing or ponding and it has been more than 72 hours since the last rain event, then the Permittee shall sample the discharge.

(ii) **Implementation Level** – If an outfall is flowing or ponding and it has been more than 72 hours since the last rain event, the Permittee shall:

(a) Conduct monitoring for the following indicator parameters identified in Table 1. Field Sampling Indicator Parameters (following page) to help determine the source and identification of the discharge. Alternatively, the Permittee may select parameters based on local knowledge of pollutants of concern in lieu of sampling for the parameters listed in Table 1. Modifications and associated justifications shall be identified within SMARTS prior to conducting field sampling as specified in Section F.5.d.2.

Table 1. Field Sampling Indicator Parameters

Indicator Parameters Used to Detect Illicit Discharges					
Parameter	**Discharge Types It Can Detect**				
	Sewage	**Washwater**	**Tap Water**	**Industrial or Commercial Liquid Wastes**	**Laboratory/Analytical Challenges**
Ammonia	●	◉	○	◉	Can change into other nitrogen forms as the flow travels to the outfall
Color	◉	◉	○	◉	
Conductivity	◉	◉	○	◉	Ineffective in saline waters
Detergents – Surfactants	●	●	○	◉	Reagent is a hazardous waste
Fluoride*	○	○	●	◉	Reagent is a hazardous waste Exception for communities that do not fluoridate their tap water
Hardness	◉	◉	◉	◉	
pH	○	◉	○	◉	
Potassium	◉	○	○	●	May need to use two separate analytical techniques, depending on the concentration
Turbidity	◉	◉	○	◉	

● Can almost always (>80% of samples) distinguish this discharge from clean flow types (e.g., tap water or natural water). For tap water, can distinguish from natural water.
◉ Can sometimes (>50% of samples) distinguish this discharge from clean flow types depending on regional characteristics, or can be helpful in combination with another parameter
○ Poor indicator. Cannot reliably detect illicit discharges, or cannot detect tap water
N/A: Data are not available to assess the utility of this parameter for this purpose.
Data sources: Pitt (this study)
*Fluoride is a poor indicator when used as a single parameter, but when combined with additional parameters (such as detergents, ammonia and potassium), it can almost always distinguish between sewage and wash water.

(c) Verify that indicator parameters with the following action level concentrations specified in Table 2. Action Level Concentrations for Indicator Parameters are not exceeded. Alternatively, the Permittee may tailor Table 2 to align with parameters based on local knowledge of pollutants of concern. Modifications and associated justifications shall be identified within SMARTS prior to conducting field sampling as specified in Section F.5.d.2.:

Table 2. Action Level Concentrations for Indicator Parameters

Indicator Parameter	**Action Level Concentration**
Ammonia	>= 50 mg/L
Color	>= 500 units
Conductivity	>= 2,000 µS/cm
Hardness	<= 10 mg/L as CaCO3 or >= 2,000 mg/L as CaCO3
pH	<= 5 or >=9
Potassium	>= 20 mg/L
Turbidity	>= 1,000 NTU

(d) Conduct follow up investigations per Section F.5.d.3. if the action level concentrations are exceeded.

(iii) **Reporting** – The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section F.5.j.2.for compliance

F.5.d.3. Illicit Discharge Detection and Elimination Source Investigations and Corrective Actions

(i) **Task Description** – Within the second year of the effective date of the permit, the Permittee shall develop written procedures for conducting investigations into the source of all non-storm water discharges suspected to be illicit discharges, including approaches to requiring such discharges to be eliminated, and procedures to implement corrective actions (e.g., BMPs). These procedures shall be included as part of the Illicit Discharge Detection and Elimination program.

(ii) **Implementation Level -** At a minimum, the Permittee shall conduct an investigation(s) to identify and locate the source of any suspected illicit discharge within 72 hours of becoming aware of the suspected illicit discharge. For investigations that require more than 72 hours, the Permittee shall identify the actions being taken to identify and locate the source of the suspected illicit discharge. The Permittee shall prioritize investigations of suspected sanitary sewage and/or significant contributors over investigations of non-storm water discharges suspected of being cooling water, wash water, or natural flows.

(a) Report immediately the occurrence of any dry weather flows believed to be an immediate threat to human health or the environment to local Health Department.

(b) Determine and document through its investigations the source of all non-storm water discharges. If the source of the non-storm water discharge is found to be a discharge authorized under this permit, or authorized under another NPDES permit, no further action is required.

(c) Corrective Action to Eliminate Illicit Discharge – Once the source of the illicit discharge has been determined, the Permittee shall immediately notify the responsible party of the problem.

(d) Report immediately to the owners/operators of the downstream MS4 a non-storm water discharge suspected of being sanitary sewage and/or significantly contaminated.

(iii) **Reporting** – The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of

this program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section F.5.j.2.for compliance

F.5.e. CONSTRUCTION SITE RUNOFF CONTROL PROGRAM

The Permittee shall develop, implement, and enforce a program to prevent Construction site discharges of pollutants and impacts on beneficial uses of receiving waters. The program shall include the development of contract language ensuring the Permittee's in-house construction operators or outside contractors comply with the CGP.

(i) **Task Description –** Within the first year of the effective date of the permit, each Permittee shall develop and implement contract language ensuring all outside contractors comply with the CGP and implement appropriate BMPs. Contract language shall apply to all projects that result in a total land disturbance of either one acre or more or that result in a total land disturbance of less than one acre if part of a larger common plan or development or sale.

(ii) **Implementation Level** – The Permittee shall include CGP compliance requirements in construction contract language for all projects one acre or more or that result in a total land disturbance of less than one acre if part of a larger common plan or development or sale.

(iii) **Reporting –** The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section F.5.j.2.for compliance.

F.5.f. POLLUTION PREVENTION/GOOD HOUSEKEEPING FOR PERMITTEE OPERATIONS PROGRAM

The Permittee shall develop and implement a program to prevent or reduce the amount of pollutant runoff from Permittee operations. The Permittee shall train employees on how to incorporate pollution prevention/good housekeeping techniques into Permittee operations. Permittee shall implement appropriate BMPs for preventing or reducing the amount of storm water pollution generated by Permittee operations.

F.5.f.1. Inventory of Permittee-Owned or Operated Facilities

(i) **Task Description** - Prepare an inventory of Permittee-owned or operated facilities within their jurisdiction that are a threat to water quality, and are not covered by another storm water General Permit.

(ii) **Implementation Level** - Within the second year of the effective date of the permit, the Permittee shall develop and maintain an inventory that shall include facilities that may impact storm water.

(iii) **Reporting** – The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section F.5.j.2.for compliance.

F.5.f.2. Map of Permittee-Owned or Operated Facilities

(i) **Task Description –** Within the second year of the effective date of the permit, prepare and submit a map of the urban area covered by the MS4 permit and identify where the Permittee-owned or operated facilities are located.

(ii) **Implementation Level** - The Permittee shall complete and have available a map that identifies the storm water drainage system corresponding to each of the facilities as well as the receiving waters to which these facilities discharge. The map shall also show the facility and the manager of each facility, including contact information. Historic storm water collection facilities, conveyances and drainages located at historic places that are being operated for public interpretation and education shall be noted on this map so that the Regional Water Board can differentiate between modern and historic during site reviews or audits.

(iii) **Reporting** - The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section F.5.j.2.for compliance.

F.5.f.3. Facility Assessment

(i) **Task Description** –Within the third year of the effective date of the permit, conduct an inspection and assessment of pollutant discharge potential and pollutant hotspots.

(ii) **Implementation Levels** - The Permittee shall conduct an annual review and assessment of all Permittee-owned or operated facilities to determine their potential to impact surface waters. The assessment shall include the following:

(a) Identification of pollutant hotspots based on the assessment, the Permittee shall identify as pollutant hotspots those facilities that have a high potential to generate storm water and non-storm water pollutants. Among the factors to be considered are the type and volume of pollutants stored at the site, the presence of improperly stored materials, activities that should not be performed outside (e.g., changing automotive fluids, vehicle washing), proximity to water bodies, poor housekeeping practices, and the discharge of pollutant(s) of concern to receiving water(s). Pollutant hotspots shall include, at a minimum, the Permittee’s maintenance yards, hazardous waste facilities, fuel storage

locations, and any other facilities at which chemicals or other materials have a high potential to be discharged in storm water.

(b) Documentation of the assessment procedures and results. The Permittee shall document the procedures it uses for conducting the assessment along with a copy of any site evaluation checklists used to conduct the assessment.

(iii) **Reporting** – The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section F.5.j.2.for compliance.

F.5.f.4. Storm Water Pollution Prevention Plans

(i) **Task Description** – the Permittee shall develop and implement SWPPPs for pollutant hotspots at high priority sites. If a Permittee has an existing or equivalent document such as Hazardous Materials Business Plan or Spill Prevention Plan, the Permittee is not required to develop a SWPPP if that document includes the necessary information required within a SWPPP.

(ii) **Implementation Level** – Within the fourth year of the effective date of this permit, the Permittee shall implement the following:

(a) The Permittee shall develop and implement a site-specific SWPPP that identifies a set of storm water BMPs to be installed, implemented, and maintained to minimize the discharge of pollutants in storm water.

(b) The SWPPP(s) shall be kept on-site at each of the Permittee-owned or operated facilities' offices for which it was completed. The SWPPP shall be updated as necessary.

(c) At a minimum the SWPPP will address the following:

1) Facility specific information (location, owner, address, etc.)
2) Purpose of the document
3) Key staff/contacts at the facility
4) Site map with drainage identified
5) Identification of significant materials that are handled and stored at the facility that may be exposed to storm water
6) Description of potential pollutant sources
7) BMPs employed at facility
8) Spill control and cleanup – response to spills

(iii) **Reporting** – The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment

and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section F.5.j.2.for compliance.

F.5.f.5. Inspections, Visual Monitoring and Remedial Action

(i) **Task Description** –Within the fifth year of the effective date of the permit, the Permittee shall conduct regular inspections of Permittee-owned and operated facilities not covered by another storm water General Permit. The Permittee may incorporate storm water inspections into existing, routine facility inspections.

(ii) **Implementation Level** – The Permittee shall conduct inspections as follows:

(a) Quarterly hotspot visual inspections – Perform quarterly visual inspections in accordance with the developed standing operating procedures of all hotspot Permittee-owned or operated facilities to ensure materials and equipment are clean and orderly, to minimize the potential for pollutant discharge, and to ensure implementation of BMPs. The Permittee shall look for evidence of spills and immediately clean them up to prevent contact with precipitation or runoff. The quarterly inspections shall be tracked in a log for every facility, and records kept with the SWPPP. The inspection report shall also include any identified deficiencies and the corrective actions taken to correct the deficiencies.

(b) Quarterly Hotspot comprehensive inspections – At least once per quarter, a comprehensive inspection of hotspot facilities, including all storm water BMPs, shall be performed, with specific attention paid to the following, but not limited to waste storage areas, dumpsters, vehicle and equipment maintenance/fueling areas, material handling areas, and similar potential pollutant-generating areas. The quarterly inspection results shall be documented and records kept with the SWPPP. This inspection shall be performed in accordance with the developed standard operating procedures. The inspection report shall also include any identified deficiencies and the corrective actions taken to correct deficiencies.

(c) Quarterly Hotspot visual observation of storm water and non-storm water discharges – At least once per quarter, visually observe discharge location from hotspot facilities. Where discharges are observed identify any observed problems (e.g., color, foam, sheen, turbidity) associated with pollutant sources or BMPs shall be remedied within seven days or before the next storm event, whichever is sooner. Visual observations shall be documented, and records kept with the SWPPP. This inspection shall be done in accordance with the developed standard operating procedures. The inspection report shall also include any identified deficiencies and the corrective actions taken to correct the deficiencies.

(d) Non-Hotspot Inspection – At a minimum, inspect each inventoried facility that is not a hotspot, once per permit term. The inspection shall investigate and assess each of the items identified above.

(iii) **Reporting** – The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this program element. The summary shall also address the relationship between the

program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section F.5.j.2.for compliance.

F.5.f.6. Storm Drain System Assessment and Prioritization

(i) **Task Description** –Within the second year of the effective date of the permit, the Permittee shall develop and implement procedures to assess and prioritize the MS4 storm drain system, including but not limited to catch basins, pipe and pump infrastructure, above-ground conveyances, including receiving waterbodies within the Permittee's urbanized area and detention basins.

(ii) **Implementation Level** – The Permittee shall:

Assess/prioritize storm drain system facilities for cleanout– Assign a priority to all storm drain system facilities within the Permittee's urbanized areas based on accumulation of sediment, trash and/or debris. In particular, assign high priority to catch basins meeting the following criteria:

1) Catch basins known to accumulate a significant amount of sediment, trash, and/or debris;
2) Catch basins collecting large volumes of runoff;
3) Catch basin collecting runoff from area that do not receive regular sweet sweeping;
4) Catch basins collecting runoff from drainage areas with exposed or disturbed soil; and
5) Catch basins that receive citizen complaints/reports.

(iii) **Reporting** – The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section F.5.j.2.for compliance.

F.5.f.7. Maintenance of Storm Drain System

(i) **Task Description** –The Permittee shall begin maintenance of all high priority storm drain systems at least annually prior to the rainy season.

(ii) **Implementation Level** – Within the third year of the effective date of the permit, the Permittee shall begin a maintenance program of high priority storm drain systems that, at a minimum includes:

(a) Storm drain systems inspection – Based on the priorities assigned above, in Section F.5.f.6, develop a strategy to inspect storm drain systems within the Permittee's jurisdiction. At a minimum, inspect all catch basins of high priority systems annually, prior to the rainy season.

(b) Storm drain cleaning – Develop and implement a schedule to clean high priority catch basins and other systems. Cleaning frequencies shall be based on priority areas, with higher priority areas receiving more frequent maintenance.

(c) Maintenance of surface drainage structures –Visually monitor all Permittee-owned open channels, detention basins, and other drainage structures for debris at least once per year and identify and prioritize problem areas. At a minimum, removal of trash and debris from open channels and other drainage structures shall occur annually.

(d) Disposal of waste materials - Develop a procedure to dewater and dispose of materials extracted from catch basins. This procedure shall ensure that water removed during the catch basin cleaning process and waste material will not reenter the MS4.

(iii) **Reporting** – The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section F.5.j.2.for compliance.

F.5.f.8. Permittee Operations and Maintenance Activities (O&M)

(i) **Task Description –**The Permittee shall assess their O&M activities for potential to discharge pollutants in storm water and inspect all BMPs on a quarterly basis.

(ii) **Implementation Level** - Within the third year of the effective date of the permit, the Permittee shall:

(a) Develop and implement O&M activity assessment. The O&M activities assessment shall include, but not be limited to, the potential to discharge pollutants in storm water.

(b) Identify all materials that could be discharged from each of these O&M activities.

(c) Develop and implement a set of BMPs that, when applied during Permittee O&M activities, will reduce the discharge of pollutants in storm water. The Permittee shall use the CASQA Municipal Handbook or equivalent.

(d) Evaluate annually all BMPs implemented during O&M activities.

(iii) **Reporting** – The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm

water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section F.5.j.2.for compliance.

F.5.f.9. Pesticide, Herbicide, and Fertilizer Application and New Landscape Design and Maintenance Management

(i) **Task Description** –The Permittee shall implement a program which focuses on pollution prevention, source control BMPs, and landscape design and maintenance to reduce the amount of pesticides, herbicides and fertilizers used during their Permittee operations and activities. The Permittee shall implement the landscape design and maintenance on new or decorative landscapes.

(ii) **Implementation Tasks** – Within the second year of the effective date of the permit, the Permittee shall implement the following:

(a) Evaluate pesticides, herbicides and fertilizers used and application activities performed to identify pollution prevention and source control opportunities.

(b) Implement practices that reduce the discharge of pesticides, herbicides and fertilizers. At a minimum the Permittee shall do the following, but not limited to:

1) Educate applicators and distributors of storm water issues.

2) Implement integrated pest management measures that rely on non-chemical solutions, including:

a) Use of native and climate appropriate plants (reduces water usage and fertilization) for decorative landscape applications
b) Keeping clippings and leaves away from waterways and out of the street using mulching, composting, or landfilling
c) Preventing application of pesticides and fertilizers when two or more consecutive days with greater than 50% chance of rainfall are predicted by NOAA[34]
d) Limiting or replacing herbicide and pesticide use (e.g., conducting manual weed and insect removal)
e) Limiting or eliminating the use of fertilizers, including prohibiting application within five feet of pavement, 25 feet of a storm drain inlet, or 50 feet of a water body
f) Reducing mowing of grass to allow for greater pollutant removal, but not jeopardizing public safety

3) Collect and properly dispose of unused pesticides, herbicides, and fertilizers.

4) Minimize irrigation run-off.

(iii) **Reporting** - The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm

[34] www.srh.noaa.gov/forecast

water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section F.5.j.2.for compliance.

F.5.g. POST CONSTRUCTION STORM WATER MANAGEMENT PROGRAM

Permittees shall regulate development to comply with the following Sections:

- F.5.g.1. Site Design Measures
- F.5.g.2. Low Impact Development Design Standards
- F.5.g.3. Alternative Post-Construction Storm Water Management Program
- F.5.g.4. Operation and Maintenance of Post Construction Storm Water Management Measures

Non-traditional Permittees with Regional Water Board approved post-construction storm water management requirements based on a watershed process approach, as described in Section E.12.j. Post-Construction Storm Water Management Requirements Based on Assessment and Maintenance of Watershed Processes, shall implement those post-construction requirements in lieu of Section F.5.g. Post Construction Storm Water Management Program.

F.5.g.1. Site Design Measures

(i) **Task Description** – Within the second year of the effective date of the permit, the Permittee shall require implementation of site design measures for all projects that create and/or replace (including projects with no net increase in impervious footprint) between 2,500 square feet and 5,000 square feet of impervious surface, including detached single family homes that are not part of a larger plan of development.

(ii) **Implementation Level** - Projects shall implement one or more of the following site design measures to reduce project site runoff:

(a) Stream Setbacks and Buffers – a vegetated area including trees, shrubs, and herbaceous vegetation, that exists or is established to protect a stream system, lake reservoir, or coastal estuarine area;
(b) Soil Quality Improvement and Maintenance - improvement and maintenance soil through soil amendments and creation of microbial community;
(c) Tree planting and preservation – planting and preservation of healthy, established trees that include both evergreens and deciduous, as applicable;
(d) Rooftop and Impervious Area Disconnection - rerouting of rooftop drainage pipes to drain rainwater to rain barrels, cisterns, or permeable areas instead of the storm sewer;
(e) Porous Pavement - pavement that allows runoff to pass through it, thereby reducing the runoff from a site and surrounding areas and filtering pollutants;
(f) Green Roofs – a vegetative layer grown on a roof (rooftop garden);
(g) Vegetated Swales - a vegetated, open-channel management practice designed specifically to treat and attenuate storm water runoff;
(h) Rain Barrels and Cisterns - system that collects and stores storm water runoff from a roof or other impervious surface.

Project proponents shall use the State Water Board SMARTS Post-Construction Calculator[35], or equivalent to quantify the runoff reduction resulting from implementation of site design measures.

(iii) **Reporting** - The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section F.5.j.2.for compliance.

F.5.g.2. Low Impact Development (LID) Design Standards

(i) **Task Description** – Within the second year of the effective date of the permit, the Permittee shall implement standards to effectively reduce runoff and pollutants associated with runoff from development projects.

(ii) **Implementation Level** - The Permittee shall regulate all development projects that create and/or replace 5,000 square feet or more of impervious surface (Regulated Projects). The Permittee shall require these Regulated Projects to implement measures for site design, source control, runoff reduction, storm water treatment and baseline hydromodification management as defined in this Order.

Regulated Projects do not include:

(a) Interior remodels;
(b) Routine maintenance or repair such as: exterior wall surface replacement, roof replacement or pavement resurfacing within the existing footprint.

Regulated Projects include development projects. Development includes new and redevelopment projects on public or private land that fall under the planning and permitting authority of a Permittee. Redevelopment is any land-disturbing activity that results in the creation, addition, or replacement of exterior impervious surface area on a site on which some past development has occurred. The following (a-c) describe specific Regulated Project requirements for redevelopment and road projects:

(a) Where a redevelopment project results in an increase of more than 50 percent of the impervious surface of a previously existing development, runoff from the entire project, consisting of all existing, new, and/or replaced impervious surfaces, must be included to the extent feasible.

(b) Where a redevelopment project results in an increase of less than 50 percent of the impervious surface of a previously existing development, only runoff from the new and/or replaced impervious surface of the project must be included.

[35] The State Water Board SMARTS Post-Construction Calculator can be found at: https://smarts.waterboards.ca.gov/smarts/faces/SwSmartsLogin.jsp

(c) Road Projects - Any of the following types of road projects that create 5,000 square feet or more of newly constructed contiguous impervious surface and that are public road projects and/or fall under the building and planning authority of a Permittee shall comply with Low Impact Development Standards except that treatment of runoff of the 85th percentile 24-hour storm runoff event) that cannot be infiltrated onsite shall follow U.S. EPA guidance regarding green infrastructure to the extent feasible. Types of projects include:

(1) Construction of new streets or roads, including sidewalks and bicycle lanes built as part of the new streets or roads which create 5,000 square feet or more of impervious surface.
(2) Widening of existing streets or roads with additional traffic lanes.
   a) Where the addition of traffic lanes results in an alteration of more than 50 percent of the impervious surface (5,000 square feet or more) of an existing street or road, runoff from the entire project, consisting of all existing, new, and/or replaced impervious surfaces, must be included in the treatment system design.
   b) Where the addition of traffic lanes results in an alteration of less than 50 percent (but 5,000 square feet or more) of the impervious surface of an existing street or road, only the runoff equivalent from new and/or replaced impervious surface of the project must be included in the treatment system design.
(3) Specific exclusions are:
   a) Sidewalks built as part of new streets or roads and built to direct storm water runoff to adjacent vegetated areas.
   b) Bicycle lanes that are built as part of new streets or roads that direct storm water runoff to adjacent vegetated areas.
   c) Impervious trails built to direct storm water runoff to adjacent vegetated areas, or other non-erodible permeable areas, preferably away from creeks or towards the outboard side of levees.
   (d) Sidewalks, bicycle lanes, or trails constructed with permeable surfaces.

Effective Date for Applicability of Low Impact Development Runoff Standards to Regulated Projects: By the second year of the effective date of the permit, the Permittee shall require these Post-Construction Standards be applied on applicable new and redevelopment Regulated Projects. These include Regulated Projects that have not been deemed complete for processing, Regulated Projects without vesting tentative maps that have not requested and received an extension of previously granted approvals, and Regulated Projects that have received Project Planning Guide funding. Discretionary projects that have been deemed complete prior to the second year of the effective date of this permit are not subject to the Post-Construction Standards herein. For the Permittee's Regulated Projects, the effective date shall be the date their governing body or designee approves initiation of the project design.

Permittee's Development Projects - The Permittee shall develop and implement an equivalent approach, to the approach used for private development projects, to apply the most current version of the low impact development runoff standards to applicable public development projects.

Where Project Planning Guide funding is applicable, Permittees shall ensure that adequate funding is available to implement post-construction treatment measures for Regulated Projects approved after the effective date of this permit.

Where State of California project approvals are applicable, Permittees shall implement post-construction treatment measures for Regulated Projects approved after the effective date of this permit.

F.5.g.2.a. Source Control Measures

(i) **Task Description** – Regulated Projects with pollutant-generating activities and sources shall be required to implement standard permanent and/or operational source control measures as applicable.

(ii) **Implementation Level** - Measures for the following pollutant-generating activities and sources shall be designed consistent with recommendations from the CASQA Stormwater BMP Handbook for New Development and Redevelopment or equivalent manual, and include:

(a) Accidental spills or leaks
(b) Interior floor drains
(c) Parking/Storage area maintenance
(d) Indoor and structural pest control
(e) Landscape/outdoor pesticide use
(f) Pools, spas, ponds, decorative fountains, and other water features
(g) Restaurants, grocery stores, and other food service operations
(h) Storage and handling of solid waste
(i) Outdoor storage of equipment or materials
(j) Vehicle and equipment cleaning
(k) Vehicle and equipment repair and maintenance
(l) Fuel dispensing areas
(m) Loading docks
(n) Fire sprinkler test water
(o) Drain or wash water from boiler drain lines, condensate drain lines, rooftop equipment, drainage sumps, and other sources
(p) Unauthorized non-storm water discharges
(q) Building and grounds maintenance

F.5.g.2.b. Numeric Sizing Criteria for Storm Water Retention and Treatment

The Permittees shall require facilities designed to evapotranspire, infiltrate, harvest/use, and biotreat storm water to meet at least one of the following hydraulic sizing design criteria:

(1) Volumetric Criteria:

a) The maximized capture storm water volume for the tributary area, on the basis of historical rainfall records, determined using the formula and volume capture coefficients in Urban Runoff Quality Management, WEF Manual of Practice No. 23/ASCE Manual of Practice No. 87 (1998) pages 175-178 (that is, approximately the 85th percentile 24-hour storm runoff event); or

b) The volume of annual runoff required to achieve 80 percent or more capture, determined in accordance with the methodology in Section 5 of CASQA's Stormwater Best Management Practice Handbook, New Development and Redevelopment (2003), using local rainfall data.

(2) Flow-based Criteria

a) The flow of runoff produced from a rain event equal to at least 0.2 inches per hour intensity; or

b) The flow of runoff produced from a rain event equal to at least 2 times the 85th percentile hourly rainfall intensity as determined from local rainfall records.

F.5.g.2.c. Site Design Measures as defined in Section F.5.g.1. shall be based on the objective of achieving infiltration, evapotranspiration and/or harvesting/reuse of the 85th percentile rainfall event, to the extent feasible, to meet Section F.5.g.2.b. Numeric Sizing Criteria for Storm Water Retention and Treatment. Site design measures shall be used to reduce the amount of runoff, to the extent technically feasible, for which retention and runoff is required. Any remaining runoff from impervious DMAs may then be directed to one or bioretention facility as specified in Section F.5.g.2.d. Storm Water Treatment Measures and Baseline Hydromodification Management Measures, described below.

F.5.g.2.d. Storm Water Treatment Measures and Baseline Hydromodification Management Measures After implementation of Site Design Measures in F.5.g.2.c., runoff from remaining impervious DMAs must be directed to one or more facilities designed to infiltrate, evapotranspire, and/or biotreat the amount of runoff specified in Section F.5.g.2.b. Numeric Sizing Criteria for Storm Water Retention and Treatment. The facilities must be demonstrated to be at least as effective as a bioretention system with the following design parameters.

(1) Maximum surface loading rate of 5 inches per hour, based on the flow rates calculated. A sizing factor of 4% of tributary impervious area may be used.
(2) Minimum surface reservoir volume equal to surface area times a depth of 6 inches.
(3) Minimum planting medium depth of 18 inches. The planting medium must sustain a minimum infiltration rate of 5 inches per hour throughout the life of the project and must maximize runoff retention and pollutant removal. A mixture of sand (60%-70%) meeting the specifications of American Society for Testing and Materials (ASTM) C33 and compost (30%-40%) may be used.

(4) Subsurface drainage/storage (gravel) layer with an area equal to the surface area and having a minimum depth of 12 inches.
(5) Underdrain with discharge elevation at top of gravel layer.
(6) No compaction of soils beneath the facility, or ripping/loosening of soils if compacted.
(7) No liners or other barriers interfering with infiltration.
(8) Appropriate plant palette for the specified soil mix and maximum available water use.

a) **Alternative Designs for Bioretention Facilities —** Facilities, or a combination of facilities, of a different design than in Section F.5.g.2.d. may be permitted if the following measures of equivalent effectiveness are demonstrated:

(1) Equal or greater amount of runoff infiltrated or evapotranspired
(2) Equal or lower pollutant concentrations in runoff that is discharged after bioretention
(3) Equal or greater protection against shock loadings and spills
(4) Equal or greater accessibility and ease of inspection and maintenance

b) **Allowed Adjustments for Bioretention Facilities for Special Site Conditions** - The bioretention design parameters as specified in Section F.5.g.2.d. may be adjusted for the following special site conditions:

(1) Facilities located within 10 feet of structures or other potential geotechnical hazards established by the geotechnical expert for the project may incorporate an impervious cutoff wall between the bioretention facility and the structure or other geotechnical hazard.
(2) Facilities in areas with documented high concentrations of pollutants in underlying soil or groundwater, facilities located where infiltration could contribute to a geotechnical hazard, and facilities located on elevated plazas or other structures may incorporate an impervious liner and may locate the underdrain discharge at the bottom of the subsurface drainage/storage layer (this configuration is commonly known as a “flow-through planter”).
(3) Facilities located in areas of highly infiltrative soils or high groundwater, or where connection of underdrain to a surface drain or to a subsurface storm drain are infeasible, may omit the underdrain.

c) **Exceptions to Requirements for Bioretention Facilities** - Contingent on a demonstration that use of bioretention or a facility of equivalent effectiveness is infeasible, other types of biotreatment or media filters (such as tree-box-type biofilters or in-vault media filters) may be used for the following:

(1) Projects creating or replacing an acre or less of impervious area, and located in a designated pedestrian-oriented commercial district (i.e., smart growth projects), and having at least 85% of the entire project site covered by permanent structures;
(2) Facilities receiving runoff solely from existing (pre-project) impervious areas;
(3) Historic sites, structures, or landscapes that cannot alter their original configuration in order to maintain their historic integrity.

(iii) **Reporting** – The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section F.5.j.2.for compliance.

F.5.g.3. Alternative Post-Construction Storm Water Management Program

A Permittee may propose alternative post-construction measures in lieu of some or all of Section F.5.g. requirements for multiple benefit projects. Multiple-benefit projects include projects that may address any of the following, in addition to water quality: water supply, flood control, habitat enhancement, open space preservation, recreation, climate change. Multiple-benefit projects may be applied at various scales including project site, municipal or sub-watershed level. Multiple-benefit projects may include, but are not limited to, projects developed under Watershed Improvement Plans (Water Code §16100 et seq.), IRWMP implementation and green infrastructure projects. Multiple benefit projects must be equally or more protective of water quality than Section E.12. requirements.

The Regional Water Board or the Executive Officer may approve alternative post-construction measures for multiple-benefit projects, as described above, after an opportunity for public comment, if the Regional Water Board or Executive Officer finds that the alternative measures are consistent with the MEP standard.

F.5.g.4. Operation and Maintenance (O&M) of Post-Construction Storm Water Management Measures

(i) **Task Description** –Within the third year of the effective date of the permit, the Permittee shall implement an O&M Verification Program for new development projects regulated under this Order.

(ii) **Implementation Level** – At a minimum, the O&M Verification Program shall include the following elements:

(a) Projects shall at a minimum, require at least one of the following from all project proponents and their successors in control of the Project or successors in fee title:

(1) Written conditions in the sales or lease agreements or deed for the project that requires the buyer or lessee to assume responsibility for the O&M of the installed treatment system(s) and hydromodification control(s) (if any) until such responsibility is legally transferred to another entity;

(2) Any other legally enforceable agreement or mechanism, such as recordation in the property deed, that assigns the O&M responsibility for the installed treatment system(s) and hydromodification control(s) (if any) to the project owner(s) or the Permittee.

(b) Coordination with the appropriate mosquito[36] and vector control agency with jurisdiction to establish a protocol for notification of installed treatment systems and hydromodification management controls. On an annual basis, before the wet season, prepare a list of newly installed (installed within the reporting period) storm water treatment systems and hydromodification management controls to the local mosquito and vector control agency and the appropriate Regional Water Board. This list shall include the facility locations and a description of the storm water treatment measures and hydromodification management controls installed.

(c) A database or equivalent tabular format of all projects that have installed treatment systems. This database or equivalent tabular format shall include the following information for each project:

(1) Name and address of the project;
(2) Specific description of the location (or a map showing the location) of the installed treatment system(s) and hydromodification control(s) (if any);
(3) Date(s) that the treatment system(s) and hydromodification controls (if any) is/are installed;
(4) Description of the type and size of the treatment system(s) and hydromodification control(s) (if any) installed;
(5) Responsible operator(s) of each treatment system and hydromodification control (if any);
(6) Dates and findings of inspections (routine and follow-up) of the treatment system(s) and hydromodification control(s) (if any) by the Permittee; and
(7) Any problems and corrective or enforcement actions taken.

(d) Maintenance Approvals: The Permittee shall ensure that systems and hydromodification controls installed at projects are properly operated and maintained for the life of the projects. In cases where the responsible party for a treatment system or hydromodification control has worked diligently and in good faith with the appropriate State and federal agencies and the Permittee to obtain approvals necessary to complete maintenance activities for the treatment system or hydromodification management control, but these approvals are not granted, the Permittee shall be deemed to be in compliance with this Provision.

(iii) **Reporting -** The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section F.5.j.2.for compliance.

[36] "Best Management Practices for Mosquito Control on California State Properties" are available from the California West Nile virus website at http://www.westnile.ca.gov/resources.php. Please see Table 1, page 22, for a list of California mosquito control agencies or visit http://mvcac.org .

F.5.h. PROGRAM EFFECTIVENESS ASSESSMENT AND IMPROVEMENT

F.5.h.1. Program Effectiveness Assessment and Improvement Plan

(i) **Task Description -** The Permittee shall develop and implement a Program Effectiveness Assessment and Improvement Plan that tracks short and long-term progress of the storm water program. The Program Effectiveness Assessment and Improvement Plan will assist the Permittee to adaptively manage its storm water program and make necessary modifications to the program to improve program effectiveness, reduce pollutants of concern, achieve the MEP standard, and protect water quality, and to document the Permittee's compliance with permit conditions. The Program Effectiveness Assessment and Improvement Plan shall identify the strategy used to gauge the effectiveness of prioritized BMPs and program implementation as a whole. Prioritized BMPs include BMPs implemented based on pollutants of concern. Where pollutants of concern are unidentified, prioritized BMPs are based on common pollutants of concern (i.e., sediment, bacteria, trash, nutrients). The effectiveness assessments will build upon each other from one year to the next and shall identify modifications to the program the Permittee must undertake to improve effectiveness.

(ii) **Implementation Level** - The Program Effectiveness Assessment and Improvement Plan may be modeled upon the most recent version (if applicable) Municipal Storm Water Program Effectiveness Assessment Guidance (CASQA, May 2007) or equivalent.

(a) The Program Effectiveness Assessment and Improvement Plan shall include the following minimum elements:

(1) Implementation of storm water program elements
(2) Identification and targeting of Target Audience(s)

(iii) **Reporting -** By the second year Annual Report complete and submit the Program Effectiveness Assessment and Improvement Plan. At a minimum, the Plan shall include implementation of storm water program elements and identification of the Targeted Audience(s).

F.5.h.2 Storm Water Program Modifications

(i) **Task Description** – Within the fifth year of the effective date of the permit, based on the information gained from the effectiveness assessment, the Permittee shall identify modifications to control measures/significant activities, including new BMPs or modification to existing BMPs. The Permittee shall consult with the Regional Water Board in setting expectations for the scope, timing, and frequency of BMP modifications for the next permit cycle.

(ii) **Implementation Level** –The Permittee shall identify program modifications to include:

(a) Improving upon BMPs that did not accomplish goals;
(b) Continuing and expanding upon BMPs that proved to be effective, including identifying new BMPs or modifications to existing BMPs designed to increase pollutant load reductions;

(c) Discontinuing BMPs that may no longer be productive and replacing with more effective BMPs; and
(d) Shifting priorities to make more effective use of resources

(iii) **Reporting** – By the fifth year Annual Report complete and have available a list of maintenance activities of highest priority BMPs. By the fifth year Annual Report, complete and have available a summary of proposed modifications to the storm water program to improve program effectiveness, to achieve the MEP standard, and to protect water quality.

F.5.i. TOTAL MAXIMUM DAILY LOADS COMPLIANCE REQUIREMENTS

F.5.i.1. The Permittee shall comply with all applicable TMDLs approved pursuant to 40 Code of Federal Regulations § 130.7 that assign a Waste Load Allocation to the Permittee and that have been identified in Attachment G.

F.5.i.2. Waste Load Allocations (WLA), Load Allocations (LA), effluent limitations, implementation requirements, and monitoring requirements are specified in the adopted and approved Regional Water Board Basin Plans and authorizing resolutions which are incorporated herein by reference as enforceable parts of this Order. Applicable Basin Plan amendments and resolutions are identified in Attachment G. With the exception of the TMDLs for the Los Angeles Regional Water Board, Attachment G additionally contains a list of TMDL-specific permit requirements developed by the Regional Boards for compliance with the implementation requirements of the relevant TMDLs. These requirements are an enforceable component of this Order. In some cases, dates are given that fall outside the term of this Order. Compliance dates that have already passed are enforceable on the effective date of this Order. Compliance dates that exceed the term of this Order are included for reference, and become enforceable in the event that this Order is administratively extended.

F.5.i.3. The Regional Water Boards are directed to review, within one year of the effective date of this Order, the TMDL-specific permit requirements contained in Attachment G and to propose to the State Water Board any appropriate revisions after consultation with the Permittees and State Water Board staff. The Los Angeles Regional Water Board will develop TMDL-specific permit requirements within one year of the effective date of this Order in consultation with the Permittees and State Water Board staff. Any proposed revisions by the Regional Water Boards shall be supported by a statement of reasons explaining how the proposed TMDL-specific permit requirements are consistent with the assumptions and requirements of applicable WLAs and with the goals of the TMDL. The State Water Board will incorporate into this Order any necessary revisions, including the statements of reasons through a reopener. The State Water Board may additionally revise this Order through a reopener to incorporate any modifications or revisions to the TMDLs in Attachment G, or to incorporate any new TMDLs adopted during the term of this General Permit that assign a WLA to the Permittee or that identify the Permittee as a responsible party. Where a TMDL is limited to a single constituent within a single reach of the watershed, the Regional Water Board Executive Officer may require additional monitoring, per Water Code § 13383. In revising Attachment G, the State Water Board will allow adequate notice and public review.

F.5.i.4. The Permittee shall complete and have available a report that includes the status of their implementation of the specific TMDL implementation requirements that have been incorporated into the Order with each Annual Report. The TMDL implementation report shall include the following information:

(a) A description of BMPs implemented, including types, number, and locations
(b) An assessment of the effectiveness of implemented BMPs in progressing towards attainment of wasteload allocations within the TMDLs' specified timeframes
(c) All monitoring data, including a statistical analysis of the data to assess progress towards attainment of wasteload allocations within the TMDLs' specified timeframes
(d) Based on results of the effectiveness assessment and monitoring, a description of the additional BMPs that will be implemented to attain wasteload allocations within the TMDLs/ specified timeframes

F.5.i.5. The Permittee shall comply with implementation requirements specified in Category 4b demonstrations associated with Clean Water Act Sections 303d, 306b, and 314 Integrated Reporting and Listing Decisions. Implementation requirements described in Category 4b demonstrations are effective upon Regional Water Board approval of that region's Integrated Reporting and Listing Decisions and associated Category 4b demonstrations.

F.5.j. ONLINE ANNUAL REPORTING

F.5.j.1. Department of Defense and Department of Corrections, ports, transportation agencies and Rehabilitation Permittees are exempt from Annual Reporting of any provision that could pose a security risk and compromise facility security. Any requested information to determine compliance with this Order [40 C.F.R. 122.41(h)] by the Water Boards or U.S. EPA shall be furnished during normal business hours.

F.5.j.2. The Permittee shall use State Water Board's SMARTS to submit a summary of the past year activities for each program element and certify compliance with all requirements of this permit. If a Permittee is unable to certify compliance with a requirement, it must submit in SMARTS the reason for failure to comply, a description and schedule of tasks necessary to achieve compliance, and an estimated date for achieving full compliance.

F.5.j.3. Permittees shall complete and retain all Annual Report information on the previous fiscal year beginning July 1 and ending June 30. The Annual Reporting requirements are set forth in Provisions E. The Permittee shall retain documentation as necessary to support their Annual Report. The Permittee shall make this supporting information available during normal business hours, unless agreed to by the Regional Water Board's Executive Officer.

F.5.j.4. The Permittee shall submit when requested by the Executive Officer of the applicable Regional Water Board a detailed written online annual report or in-person presentation of the annual report that addresses the activities described in Provision F. The detailed Annual Report must clearly refer to the permit

requirements and describe in quantifiable terms, the status of activities undertaken to comply with each requirement.

F.5.j.5. Permittees involved in regional programs may coordinate with the members to identify reporting responsibility. The one report submitted on behalf of Permittees involved in a regional program must include a summary of the past year activities implemented for each program element and certification of compliance for each of the Permittees in the regional program.

G. REGIONAL WATER BOARD AUTHORITIES

Regional Water Boards are responsible for overseeing compliance with this Order. Oversight may include, but is not limited to, reviewing reports, requiring modification to storm water program components and various submissions, imposing region-specific monitoring requirements, conducting inspections and program evaluations (audits), taking enforcement actions against violators of this Order. Permittees shall modify and implement their storm water management programs and monitoring as required by the Regional Water Board Executive Officer. The Regional Water Board may designate additional Small MS4s as Regulated Small MS4s under this Order consistent with the criteria articulated in Finding 24 of this Order. Such designations must be approved by the Regional Water Board following public review and comment. The Executive Director of the State Water Board may amend Attachments A and B to add Regional Water Board designations. The Regional Water Boards may also issue individual permits to Regulated Small MS4s, and alternative general permits to categories of Regulated Small MS4s. Upon issuance of such permits by a Regional Water Board, this Order shall no longer regulate the affected Small MS4(s).

H. DISPUTE RESOLUTION

In the event of a disagreement between a Permittee or other interested party and a Regional Water Board over the interpretation or implementation of any provision of this Order, a Permittee or interested party shall first attempt to resolve the issue with the Executive Officer of the Regional Water Board. If a satisfactory resolution is not obtained at the Regional Water Board level, a Permittee or interested party may submit the issue in writing to the Executive Director of the State Water Board or his designee for resolution, with a copy to the Executive Officer of the Regional Water Board. The issue must be submitted to the Executive Director within thirty days of any final determination by the Executive Officer of the Regional Water Board; after thirty days the Permittee or interested party will be deemed to have accepted the Regional Water Board Executive Officer's determination. The Executive Officer of the Regional Water Board will be provided an opportunity to respond. The Executive Director or his/her designee shall make a determination on the request within 60 days. Determinations of the Regional Water Board Executive Officers in interpreting and implementing this permit are considered actions of the State Water Board except where the Regional Water Board itself acts or the Executive Officer acts under Water Code Sections 13300, 13304, or 13383.

I. PERMIT RE-OPENER

This Order may be modified, revoked and reissued, or terminated for cause due to promulgation of amended regulations, receipt of U.S. EPA guidance concerning regulated activities, judicial decision, or in accordance with 40 Code of Federal Regulations 122.62, 122.63, 122.64, and 124.5. The State Board may additionally reopen and modify this Order at any time prior to its expiration under any of the following circumstances:

1. Present or future investigations demonstrate that the discharge(s) regulated by this Order may have the potential to cause or contribute to adverse impacts on water quality and/or beneficial uses.

2. New or revised Water Quality Objectives come into effect, or any TMDL is adopted or revised that is applicable to the Permittees

3. TMDL-specific permit requirements for adopted TMDLs are developed or revised by a Regional Water Board for incorporation into this Order.

4. The State Water Board determines, after opportunity for public comment and a public workshop, that revisions are warranted to those provisions of the Order addressing compliance with water quality standards in the receiving water or those provisions of the Order laying out an iterative process for implementation of management practices to achieve compliance with water quality standards in the receiving water.

5. The State Board completes the delineation of statewide watershed management zones based on watershed processes and the development of watershed based criteria for hydromodification measures.

6. The State Water Board completes the statewide policy for trash control in California's waterways.

J. PERMIT EXPIRATION

This Order expires on June 30, 2018. If this Order is not reissued or replaced prior to the expiration date, it will be administratively continued in accordance with 40 Code of Federal Regulations section 122.6 and remain in full force and effect. If you wish to continue an activity regulated by this Order after the expiration date of this Order, you must apply for and obtain authorization as required by the new permit once it is issued.

CERTIFICATION

The undersigned, Clerk to the Board, does hereby certify that the foregoing is a full, true, and correct copy of an order duly and regularly adopted at a meeting of State Water Board held on February 5, 2013.

AYE:	Chairman Charles R. Hoppin Vice Chair Frances Spivy-Weber Board Member Tam M. Doduc Board Member Steven Moore Board Member Felicia Marcus
NAY:	None
ABSENT:	None
ABSTAIN:	None

Jeanine Townsend
Clerk to the Board

CALIFORNIA STATE WATER RESOURCES CONTROL BOARD
1001 I STREET
SACRAMENTO, CA 95814

FACT SHEET
FOR

NPDES GENERAL PERMIT and WASTE DISCHARGE REQUIREMENTS
FOR

STORM WATER DISCHARGES FROM SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS (ORDER)

ORDER No. 2013-0001-DWQ

This Fact Sheet describes the factual, legal, and methodological basis for the General Permit, provides supporting documentation, and explains the rationale and assumptions used in deriving the limits and requirements.

I. BACKGROUND

History

A 1972 amendment to the federal Water Pollution Control Act (also referred to as the Clean Water Act) provides that the discharge of pollutants to waters of the United States from any point source is unlawful unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. The 1987 amendments to the Clean Water Act added section 402(p), which established a framework for regulating storm water discharges under the NPDES Program. Subsequently, in 1990, the U.S. Environmental Protection Agency (U.S. EPA) promulgated regulations for permitting storm water discharges from industrial sites (including construction sites that disturb five acres or more) and from municipal separate storm sewer systems (MS4s) serving a population of 100,000 people or more. These regulations, known as the Phase I regulations, require operators of medium and large MS4s to obtain storm water permits. On December 8, 1999, U.S. EPA promulgated regulations, known as Phase II regulations, requiring permits for storm water discharges from Small MS4s and from construction sites disturbing between one and five acres of land. The Order accompanying this Fact Sheet regulates storm water discharges from Small MS4s.

A municipal separate storm sewer is a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains): (i) "owned or operated by the United States, a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity…." (ii) designed or used for collecting or conveying storm water; (iii) which is not a combined sewer; and (iv) which is not part of a Publicly Owned Treatment Works (POTW). [See Title 40, Code of Federal Regulations (40 C.F.R.) §122.26(b)(8).]

A Small MS4 is an MS4 that is not permitted under the municipal Phase I regulations. (40 C.F.R. §122.26(b)(16)). Small MS4s include systems similar to separate storm sewer systems in municipalities, such as systems at military bases, large hospital or prison complexes, and highways and other thoroughfares, but do not include separate storm sewers in very discrete areas, such as individual buildings. (40 C.F.R. §122.26(b)(16(iii).) This permit refers to MS4s that operate throughout a community as "Traditional MS4s" and MS4s that are similar to traditional MS4s but operate at a separate campus or facility as "Non-traditional MS4s."

Federal regulations allow two permitting options for storm water discharges: individual permits and general permits. The State Water Resources Control Board (State Water Board) elected to adopt a statewide general permit for Small MS4s in order to efficiently regulate numerous storm water discharges under a single permit. In certain situations a storm water discharge may be more appropriately and effectively regulated by an individual permit, a region-specific general permit, or by inclusion in an existing Phase I MS4 permit. In these situations, the Regional Water Quality Control Board (Regional Water Board) Executive Officer will direct the Small MS4 operator to submit the appropriate application, in lieu of a Notice of Intent (NOI), to comply with the terms of

this Order. In these situations, the individual or regional permits will govern, rather than this Order.

The existing General Permit (Water Quality Order 2003-0005-DWQ) was adopted by the State Water Board in April 2003 for a 5-year permit term. The existing General Permit expired in May 2008; however, it continues in force and in effect until rescinded by the State Water Board, or until a new Order is issued.

The Order regulates storm water runoff from small municipalities and other facilities, including federal and State operated facilities that can include universities, prisons, hospitals, military bases (e.g. State Army National Guard barracks, parks and office building complexes.) Regulating many storm water discharges under one permit greatly reduces the administrative burden associated with permitting individual storm water discharges. Permittees obtain coverage under this Order by filing an electronic NOI through the State Water Board's Stormwater Multiple Application and Report Tracking System (SMARTS) and by mailing the appropriate permit fee to the State Water Board.

Order Goals

The goals for the Order included:

1. Ensure statewide consistency for Regulated Small MS4s.
2. Include more specificity in Order language and requirements to streamline implementation of storm water programs.
3. Implement and enhance actions to control 303(d) listed pollutants, pollutants of concern, achieve Waste Load Allocations adopted under Total Maximum Daily Loads, and protect Areas of Special Biological Significance.
4. Implement more specific and comprehensive storm water monitoring, including monitoring for 303(d) listed pollutants.
5. Incorporate emerging technologies, especially those that are being increasingly utilized by municipalities (e.g., low impact development).
6. Include program elements that address Program Management Effectiveness Assessments.
7. Implement a step-wise stakeholder collaborative approach.

Stakeholder Collaborative Process

State Water Board staff conducted a series of stakeholder meetings with Permittees and other interested parties over a five year period, from 2007- 2012. These meetings included the California Stormwater Quality Association (CASQA) Phase II Small MS4 Subcommittee, representatives of non-governmental organizations, Non-traditional Small MS4s and Regional Water Board staff. The following is a summary of the stakeholder process.

State Water Board staff completed an administrative draft Order and submitted it to CASQA, U.S. EPA, Natural Resources Defense Council, Coast/Bay Keepers, and Heal the Bay for informal stakeholder review in February 2011. Each of the nine Regional Water Boards provided comments. Staff revised the draft Order to address the informal comments received and released it for 60-day public review in June 2011.

Approximately 151 comments were received and several workshops were held throughout California to meet Stakeholders, answer questions and discuss the development process.

On May 4, 2012 a second administrative draft was completed and submitted for informal stakeholder review. On May 18, 2012 the second draft Order was released for 60-day public review. Approximately 110 comments were received and a public hearing was held on August 8, 2012 to hear oral comments on the second administrative draft.

On November 16, 2012 a third draft was completed and submitted for 30-day public review period. The comment deadline was set for noon on December 17, 2012. Approximately 55 comments were received and a board workshop was held on January 8, 2013 to hear comments on the revisions made to the second administrative draft.

On January 23, 2013, a final draft was completed and proposed for State Water Board adoption.

II. PERMITTING APPROACH

Existing General Permit Approach

U.S. EPA storm water regulations for Phase II storm water permits envision a process in which entities subject to regulation develop a Storm Water Management Plan (SWMP). The SWMP contains detailed Best Management Practices (BMPs) and specific level-of-implementation information reviewed and approved by the permitting agency before the Permittee obtains coverage under the storm water permit. The existing General Permit followed this approach as suggested by U.S. EPA and simply identified goals and objectives for each of the six Minimum Control Measures.

The existing General Permit approach provides the flexibility to target an MS4's problem areas while working within the existing organizational structure. However, audits of Permittees and information gained from interviews with Regional Water Board staff revealed that many of these storm water programs lacked a baseline program and specific details in the SWMP to implement an adequate program for protection from the impacts of storm water runoff. Regional Water Board staff found it difficult to determine Permittees' compliance with the existing General Permit, due to the lack of specific requirements. The permit language did not contain specific deadlines for compliance, did not incorporate clear performance standards, and did not include measurable goals or quantifiable targets for implementation.[1]

The Regional Water Boards conducted approximately 36 on-site audits of MS4 programs[2] in the state that addressed 122 Permittees, including some Phase II Small MS4s. They found that programs with more specific permit requirements generally resulted in more comprehensive and progressive storm water management programs. For example, the more prescriptive permit requirements in the Los Angeles and San Diego MS4 permits require Permittees to be specific in how they implement their storm water program. The auditors concluded that the specificity of the provisions enabled the

[1] Storm water Phase I MS4 Permitting: Writing more effective, measurable permits, EPA, Kosco.
[2] Assessment Report on Tetra Tech's Support of California's MS4 Storm Water Program, July 2006.

permitting authorities to enforce the MS4 permits and improve the quality of MS4 discharges. In addition, U.S. EPA on-site audits of MS4s throughout the nation have repeatedly shown the need for clear, measurable requirements in MS4 permits to ensure an effective and enforceable program.

Given this information, State Water Board staff aimed to write permit language clear enough to set appropriate standards and establish required outcomes.

Current Order Approach

The current approach simplifies assessment of Permittee compliance and allows the public to more easily access measurable results. The Order provisions establish compliance implementation levels such as escalating enforcement and requirements for tracking projects. Required actions include specific reporting elements to substantiate compliance with implementation levels. Regional Water Board staff will be able to evaluate each individual Permittee's compliance through an online Annual Report review and the program evaluation (audit) process.

Federal regulations and State law require that the implementation specifics of Municipal Storm Water NPDES permits be adopted after adequate public review and comment.[3] This Order's approach satisfies the public involvement requirements of both the federal Clean Water Act and the California Water Code. Permit details are known at the time of adoption of the Order. Substantive information as to how the discharger will reduce pollutants to the Maximum Extent Practicable (MEP) is not left to the details of the SWMP. The public need not guess program details until Regional Water Board review and approval of a SWMP, as was the case in the existing General Permit.

This Order specifies the actions necessary to reduce the discharge of pollutants in storm water to the MEP in a manner designed to achieve compliance with water quality standards and objectives. This set of specific actions is equivalent to the requirements that were included in a separate SWMP for each Permittee in the existing General Permit.

This order effectively prohibits non-storm water discharges into municipal storm drain systems and watercourses within the Permittees' jurisdictions.

The State Board has also identified the most critical water quality problems as priorities in this Order. The priorities include (1) discharges to Areas of Special Biological Significance (2) discharges to water bodies listed as impaired on the 303[d] list (3) Post-Construction Requirements and (4) Water Quality Monitoring Requirements. A majority

[3] On January 14, 2003, the U.S. Ninth Circuit Court issued a decision in *Environmental Defense Center v. EPA* ((9th Cir. 2003) 344 F.3d 832.)This ruling upheld the Phase II regulations on all but three of the 20 issues contested. The court determined that applications for general permit coverage (including the NOI and any Storm Water Management Program [SWMP]) must be made available to the public, the applications must be reviewed and determined to meet the Maximum Extent Practicable (MEP) standard by the permitting authority before coverage commences, and there must be a process to accommodate public hearings. Regarding the issue of public participation, the Ninth Circuit noted that such participation was required because the "substantive information about how the operator of a small MS4 will reduce discharges to the maximum extent practicable" was found in the storm water management plan rather than the permit itself" (344 F3d at 857).

of the Permittees' implementation efforts focus on the four priority areas as identified by the State Water Board.

Permittee Diversity
In California, Permittees face highly variable conditions both in terms of threats to water quality from their storm water discharges and resources available to manage those discharges. Consequently, making one set of prescriptive requirements work for all of them is inherently difficult. This Order contains separate provisions for Traditional and Non-traditional MS4s. The requirements for the Non-traditional MS4s are tailored specifically to the Non-traditional management structure. Additionally, this permit introduces the concept of compliance tiers in particular sections, designed to relieve the Regional Water Board burden of reviewing and approving individual SWMPs while preserving the ability of the Permittees to tailor requirements that address their unique circumstances.

Non-traditional MS4 Categories and Provisions
This Order identifies specific provisions Non-traditional MS4 Permittees must comply with in Section F and considers the following categories to be Non-traditional MS4s, but not limited to:

- Community Services Districts
- Fairgrounds
- Higher Education Institutions (Community Colleges and Universities)
- Military Bases
- Ports
- State Parks/Beaches/Historical Areas
- School Districts K-12
- State and Federal Prisons/Health Institutions
- State Vehicle Recreation Areas
- Water Agencies
- Transit Agencies

The regulations direct that the term Small MS4s includes "large hospitals" and "prison complexes." (40 C.F.R. §122.26(b)(16)(iii).) For purposes of State Water Board designation of state and federal hospitals and prisons, the Board interprets the terms "large hospital" and "prison complex" to mean health institutions and prison facilities with a resident and staff population of 5,000 or more. However, Regional Water Boards may designate smaller facilities on a case by case basis.

Guidance Document
The case for eliminating a SWMP for this second permit term has been clearly addressed, however, the latent advantages of having some form of a storm water management document has not.

First, a storm water management document assists Permittees in managing their storm water program. Such a document serves as guidance to (1) identify different staff involved in storm water compliance over multiple departments within the Permittee agency and, (2) provide those staff with a simple narrative connecting all the detailed, specific BMPs in relation to multiple Permittee departments. Simply put, the document provides the Permittee with a map to the compliance process.

Second, the storm water management document is an essential tool for Regional Water Board audits. During MS4 audits, the Regional Water Board typically requests and reviews a SWMP to understand the Permittee's storm water program and management structure. Although the Order contains specific details on each program requirement, it lacks the simple narrative nexus that a storm water management document can provide on how the storm water program is implemented by a specific Permittee. The guidance document may be in spreadsheet form, as a flowchart, or as a written narrative. In other words, the structure is left up to the Permittee as to the way in which they want to demonstrate or illustrate the relationship between their storm water program and their management structure. To that end, the guidance document will provide the Permittee with a clear map to the compliance process. Therefore, although the draft Order eliminates the submittal for review and approval of a SWMP, the requirement to develop a planning/guidance document has been retained for new Permittees.

New Permittees are allowed six months to develop and upload the guidance document to SMARTS along with the NOI and appropriate fee. The document is open for public viewing, but will not be reviewed and approved by the relevant Regional Water Board.

Renewal Permittees will also submit a guidance document and are allowed six months to develop and upload the guidance document to SMARTS along with the NOI and appropriate fee.

Note: The finding corresponding to this discussion in the Fact Sheet is slightly modified in the Final Order. See Finding 32.

The State Water Board recognizes that in some instances Renewal Permittees' existing SWMPs have incorporated BMPs designed to address locality-specific storm water issues and that in some cases these BMPs may, because of locality-specific factors, be more protective of water quality than the minimum requirements established by this Order. Renewal Permittees will additionally include in the guidance document the following: identification and brief description of each BMP and associated measurable goal included in the Permittee's most current SWMP that constitutes a more specific local or tailored level of implementation that may be more protective of water quality than the minimum requirements of this Order; and identification of whether the Permittee proposes to maintain, reduce, or cease implementation for each more protective, locally-tailored BMP. In no instance may a BMP be reduced or ceased if it is required by the minimum standards set by this Order.Further, for each more protective, locally-tailored BMP and associated measurable goal for which the Renewal Permittee proposes to reduce or cease implementation, the Renewal Permittee may do so only if the Permittee can demonstrate, to the Regional Water Board Executive Officer, that the reduction or cessation is in compliance with this Order and the maximum extent practicable standard, and will not result in increased pollutant discharges. This process is designed to direct Renewal Permittees, where appropriate, to continue to implement more protective, locally-tailored BMPs and measurable goals developed in the previous permit term that were specifically designed to address local storm water priorities.

Summary of Significant Changes in this Order

This Order significantly differs from the previous order (Order 2003-0005-DWQ) by including the following:

- Specific BMP and Management Measure Requirements
- Elimination of submission of a SWMP for review and approval by the Regional Water Boards

- Electronic filing of NOIs and Annual Reports
- Waiver Certification
- New State Water Board and Regional Water Board designation criteria
- Separate requirements for Traditional and Non-traditional MS4s
- New program management requirements
- Post-construction storm water management requirements
- TMDL implementation requirements
- Requirements for ASBS discharges
- Water quality monitoring and BMP assessment
- Program effectiveness assessment

III. ECONOMIC CONSIDERATIONS

In 2000, the State Water Board issued a precedential order (Order WQ 2000-11 (Cities of Bellflower, et al.)) stating that cost of compliance with the programs and requirements of a municipal storm water permit is a relevant factor in determining MEP. The Order also explicitly stated that a cost benefit analysis is not required. The State Water Board discussed costs as follows:

> *While the standard of MEP is not defined in the storm water regulations or the Clean Water Act, the term has been defined in other federal rules. . . . .*
>
> *These definitions focus mostly on technical feasibility, but cost is also a relevant factor. There must be a serious attempt to comply, and practical solutions may not be lightly rejected. If, from the list of BMPs, a permittee chooses only a few of the least expensive methods, it is likely that MEP has not been met. On the other hand, if a permittee employs all applicable BMPs except those where it can show that they are not technically feasible in the locality, or whose cost would exceed any benefit to be derived, it would have met the standard. MEP requires permittees to choose effective BMPs, and to reject applicable BMPs only where other effective BMPs will serve the same purpose, the BMPs would not be technically feasible, or the cost would be prohibitive. Thus while cost is a factor, the Regional Water Board is not required to perform a cost-benefit analysis.*

(State Water Board Order WQ 2000-11, *supra,* p.20.) The State Water Board received extensive comments addressing the costs associated with compliance with the first publicly released Phase II small MS4 draft Order in June 2011. The depressed economic conditions in California challenge Permittees' ability to fully implement the requirements of the first draft permit. The State Water Board recognizes that many Permittees currently have limited staff and resources to implement storm water provisions. State Water Board staff carefully considered comments received regarding economic feasibility while revising the June 2011 draft Order. The Order continues to address critical water quality priorities, namely discharges to ASBS, TMDLs, and waterbodies listed as impaired on the 303(d) list, but aims to do so in a focused and cost-effective manner.

Brief History
State Water Board staff completed an administrative draft Order and submitted it to CASQA, U.S. EPA, Natural Resources Defense Council, Water Keepers, and Heal the Bay for informal stakeholder review in February 2011. Each of the nine Regional Water

Boards also provided comments. Staff revised the draft Order to address the informal comments received and released it for 60-day public review in June 2011. Approximately 151 comments were received and several workshops were held throughout California to meet Stakeholders, answer questions and discuss the development process.

On October 6, 2011, the California Senate Select Committee on California Job Creation and Retention held a hearing on the economic impacts of the State Water Board's three general or statewide storm water permits that were under renewal: the Phase II Small MS4 permit, the Industrial General Permit, and the Caltrans statewide MS4 permit. The Executive Director of the State Water Board testified at the hearing that the comments regarding cost of compliance with the permits were being considered carefully and that the three permits required substantial revision to address the comments. Following the hearing, State Water Board staff launched Stakeholder meetings beginning in November 2011 to April 2012. The meetings were held with CASQA, National Resources Defense Council, Water Keepers, Heal the Bay and each category of Non-traditional Small MS4 proposed for designation in the draft permit. The meetings were designed to discuss implementation challenges and solutions for each section of this Order, given the issues raised at the Senate hearing and the written comments from the June 2011 draft Order. Substantial revisions were then made and were reflected in the May 2012 draft Order. State Water Board staff attempted to reduce costs while maintaining the level of water quality protection mandated by CWA, CWC and other applicable requirements**.**

Approach to Cost of Compliance
This section is a general discussion of the more significant changes between the June 2011 and the May 2012 draft Order, including cost of compliance. It is not possible to accurately predict the cost impact of requirements that involve an unknown level of implementation or that depend on environmental variables that are as yet undefined. Only general conclusions can be drawn from this information.

It is extremely important to note that many storm water program components and their associated costs existed before any MS4 permits were issued. For example, storm drain maintenance, street sweeping and trash/litter collection costs cannot be solely or even principally attributed to MS4 permit compliance since these long-standing practices preceded the adoption of the earliest storm water permit in 1990. Even many structural BMPs (erosion protection, energy dissipation devices, detention basins etc.) are standard engineering practice for many projects and are not implemented solely to comply with permit provisions. Therefore, the true cost resulting from MS4 permit requirements is some fraction of the total storm water program costs.

The California State University, Sacramento study found that only 38% of program costs are new costs fully attributable to MS4 permits. The remainder of program costs was either pre-existing or resulted from enhancement of pre-existing programs.[4] The County of Orange found that even lesser amounts of program costs are solely attributable to MS4 permit compliance, reporting that the amount attributable to implement its Drainage Area Management Plan is less than 20% of the total budget. The remaining 80% is

[4] Ibid. p. 58.

attributable to pre-existing programs.[5] Any increase in cost to the Permittees by the requirements of this Order will be incremental in nature.

Testimony from the California Senate Select Committee on California Job Creation and Retention hearing and comment letters on the June 2011 draft Order asserted numerous estimates of compliance costs. Generally, the estimates are based on worst-case scenarios or the most restrictive interpretation of the June 2011 draft Order. A worst-case scenario would come about, for example, if a new Traditional MS4 Permittee fails to leverage existing resources and maximize efficiencies, and does not segregate pre-existing program expenditures and new costs to implement the storm water program when considering cost of compliance. Furthermore, the assertions do not take into consideration the phased-in nature of many of the June 2011 draft Order requirements. Finally, the cost estimate assertions did not address the diversity among Permittees, specifically the different levels of compliance from a new vs. renewal Traditional MS4 Permittee expenditure and new vs. renewal Non-traditional MS4 expenditure and funding sources.

State Water Board staff estimated the cost of compliance in two ways. First, staff utilized cost data from the California State University (CSUS) NPDES Stormwater Cost Survey[6]. The rationale for using this document is that it's very difficult to precisely determine the true cost of implementation of the Permittees' storm water management program as affected by this Order. Reported costs of compliance for the same program element vary widely from city to city and by a very great margin that cannot be explained. However, economies of scale play a great role for the great margin of compliance costs. Some Permittees storm water programs are general funded while others utilize a service/user/utility fees to support the program. Unfortunately, those Permittees with general funded programs must compete for dollars in a dwindling economic climate. Furthermore, a study by the Los Angeles Regional Water Board reported wide variability in the cost of compliance among municipal permit holders, which was not easily explained.[7] Due to the wide diversity among the Permittees, Traditional and Non-traditional and new and renewal Permittees, the uncertainty of the extent of needed improvements, and the difficulty in isolating program costs attributable to permit compliance, the true cost of implementation can only be discussed in a general way.

Second, staff considered comparisons between the June 2011 draft Order and first term Phase I MS4 permits. The municipalities chosen in the CSUS survey were smaller Phase I cities, were early in the first permit term, and had reported cost in their annual reports. In addition, the cost categories correspond to the federal Phase II Small MS4 six minimum control measures. Given these factors, State Water Board staff estimated the worst-case scenario example to be a $32 median annual cost per household to implement the June 2011 draft Order. The CSUS survey estimated the annual cost per household for the six storm water programs ranged from $18 to $46.

[5] County of Orange, 2000. A NPDES Annual Progress Report. P. 60. More current data from the County of Orange is not used in this discussion because the County of Orange no longer reports such information.
[6] California State University, NPDES Stormwater Cost Survey, 2005
[7] LARWQCB, 2003. Review and Analysis of Budget Data Submitted by the Permittees for Fiscal Years 2000-2003. p.2

Of the 100 new Traditional Small MS4s proposed to be designated, 20,000 is the average population with an average of 2.8 individuals per household, therefore the average annual cost to implement the June 2011 draft Order is approximately $229,000.

The average population of a renewal Traditional MS4 Permittee identified in the June 2011 draft Order is 27,353 with an average of 2.8 individuals per household. Therefore, the average annual cost to implement the June 2011 draft Order is approximately $313,000.

As discussed previously, the May 2012 draft Order has undergone substantial edits and no requirements have been added to the draft Order that would materially increase the cost of compliance. State Water Board staff carefully evaluated comments from Stakeholder meetings, written public comments, and testimony from the Senate Select Committee hearing. And, although the May 2012 draft Order contains these substantial revisions, the draft Order continues to protect storm water quality without overburdening Permittees and Businesses. Below is a list of some of the more significant changes to reduce costs.

1. Deleted annual cost analysis
2. Deleted Industrial/Commercial Inspection Program
3. Deleted mandatory construction inspection frequency
4. Deleted Trash Reduction Program
5. Modified post-construction standard requirements
6. Modified Community-Based Social Marketing provision
7. Modified Non-traditional MS4 provisions
8. Extended compliance deadlines
9. Eliminated redundancy with construction inventory and tracking requirements
10. Deleted mandatory development of a citizen advisory group
11. Deleted costly IDDE monitoring, complaint response based
12. Made spatial data in a Geographic Information System (GIS) optional
13. Deleted requirement to identify 20% of storm drain system as high priority
14. Included Water Quality Monitoring Tiers

Though no firm conclusions or precise estimates can be drawn from this analysis, it is expected that the revisions to the May 2012 draft Order will significantly reduce the cost of compliance of the average annual cost per household from the estimated $32 to substantially lower.

TMDLs

The cost of complying with TMDL waste load allocations is not considered since TMDLs are not subject to the MEP standard. Federal law requires that NPDES permits contain effluent limitations consistent with the assumptions of any applicable wasteload allocation in a TMDL. (40 C.F.R. §122.44(d)(1)(vii)(B).)

Benefits of Permit Costs

The State Water Board further found in adopting Order WQ-2000-11 that in considering the cost of compliance, it is also important to consider the costs of impairment; that is, the negative impact of pollution on the economy and the positive impact of improved water quality. For example, economic benefits may result through program

implementation, and alternative costs (as well as environmental impacts) may be incurred by not fully implementing the program.

Storm water management programs cannot be considered solely in terms of their costs. The programs must also be viewed in terms of their value to the public. For example, household willingness to pay for improvements in fresh water quality for fishing and boating has been estimated by U.S. EPA to be $158-210.[8] This estimate can be considered conservative, since it does not include important considerations such as marine waters benefits, wildlife benefits, or flood control benefits. The California State University, Sacramento study corroborates U.S. EPA's estimates, reporting annual household willingness to pay for statewide clean water to be $180.[9] Though these costs may be assessed differently at the state level than at the municipal level, the results indicate that there is public support for storm water management programs and that costs incurred by the Permittees to implement its storm water management program remain reasonable.

It is also important to consider the cost of not implementing a storm water management program. Urban runoff in southern California has been found to cause illness in people bathing near storm drains.[10] A study of south Huntington Beach and north Newport Beach found that an illness rate of about 0.8% among bathers at those beaches resulted in about $3 million annually in health-related expenses.[11] Extrapolation of such illness rates and associated health expenses to the beaches and other water contact recreation areas in the state would increase these costs significantly.

Storm water runoff and its impact on receiving waters also negatively affects the tourism industry. The California Travel and Tourism Commission estimated that out-of-state visitors spent $168 per person per day (including transportation) in California in 2007. The Commission estimated total direct travel spending in California was $97.6 billion, directly supporting 924,000 jobs, with earnings of $30.6 billion. Effects on tourism from storm water runoff (e.g. beach closures) can have a significant impact on the economy. The experience of Huntington Beach provides an example of the potential economic impact of poor water quality. Approximately eight miles of Huntington Beach were closed for two months in the middle of summer of 1999, impacting beach visitation and the local economy.

Finally, the benefits of storm water management programs must be considered in conjunction with their costs. A study conducted by University of Southern California and the University of California, Los Angeles assessed the costs and benefits of implementing various approaches for achieving compliance with the MS4 permits in the Los Angeles Region. The study found that non-structural systems would cost $2.8 billion but provide $5.6 billion in benefit. If structural systems were necessary, the study found that total costs would range from $5.7 to $7.4 billion, while benefits could reach $18 billion.[12] Costs are anticipated to be borne over many years, approximately a ten year minimum. That the benefits of the programs would considerably exceed their costs

[8] Federal Register / Vol. 64, No. 235 / Wednesday, December 8, 1999 / Rules and Regulations. P. 68793.
[9] State Water Board, 2005. NPDES Storm water Cost Survey. P. iv.
[10] Haile, R.W., et al, 1996. An Epidemiological Study of Possible Adverse Health Effects of Swimming in Santa Monica Bay. Santa Monica Bay Restoration Project.
[11] Los Angeles Times, May 2, 2005. Here's What Ocean Germs Cost You: A UC Irvine Study Tallies the Cost of Treatment and Lost Wages for Beachgoers Who Get Sick.
[12] LARWQCB, 2004. Alternative Approaches to Storm water Control.

is a view corroborated by U.S. EPA, which also found that the benefits of implementation of its Phase II storm water rule would outweigh the costs.[13]

IV. UNFUNDED MANDATES

Article XIII B, Section 6(a) of the California Constitution provides that whenever "any state agency mandates a new program or higher level of service on any local government, the state shall provide a subvention of funds to reimburse that local government for the costs of the program or increased level of service." The requirements of this Order do not constitute state mandates that are subject to a subvention of funds.

First, the requirements of this Order do not constitute a new program or a higher level of service as compared to the requirements of the Existing Order. The overarching requirement to impose controls to reduce the pollutants in municipal storm water is dictated by the Clean Water Act and is not new to this permit cycle. (33 U.S.C. §1342(p)(3)(B).) The inclusion of new and advanced measures as the storm water programs evolve and mature over time is anticipated under the Clean Water Act (55 Fed. Reg. 48052), and these new and advanced measures do not constitute a new program or higher level of service. Further, this Order sets out a more detailed set of requirements compared to the 2003 Order in large part because, unlike the 2003 Order, this Order does not require submission of SWMPs. Specifics concerning how the minimum measures will be implemented, which would have been proposed in the SWMP under the 2003 Order, are now incorporated into the Order itself.

Second, and more broadly, mandates imposed by federal law, rather than by a state agency, are exempt from the requirement that the local agency's expenditures be reimbursed. (Cal. Const., art. XIII B, §9, subd. (b).) The Draft Order implements federally mandated requirements under the Clean Water Act and its requirements are therefore not subject to subvention of funds. This includes federal requirements to effectively prohibit non-storm water discharges, to reduce the discharge of pollutants to the maximum extent practicable, and to include such other provisions as the Administrator or the State determines appropriate for the control of such pollutants. (30 U.S.C. §1342(p)(3)(B).) The authority exercised under this Order is not reserved state authority under the Clean Water Act's savings clause (*cf. Burbank v. State Water Resources Control Bd.* (2005) 35 Cal.4th 613, 627-628), but instead is part of a federal mandate to develop pollutant reduction requirements for municipal separate storm sewer systems. To this extent, it is entirely federal authority that forms the legal basis to establish the permit provisions. (See, *City of Rancho Cucamonga v. Regional Water Quality Control Bd.-Santa Ana Region* (2006) 135 Cal.App.4th 1377, 1389; *Building Industry Ass'n of San Diego County v. State Water Resources Control Bd.* (2004) 124 Cal.App.4th 866, 882-883.)

Further, the maximum extent practicable standard is a flexible standard that balances a number of considerations, including technical feasibility, cost, public acceptance, regulatory compliance, and effectiveness. (*Building Ind. Asso., supra,* 124 Cal. App.4th at pp. 873, 874, 889.) Such considerations change over time with advances in technology and with experience gained in storm water management. (55 Fed.Reg.

[13] Federal Register / Vol. 64, No. 235 / Wednesday, December 8, 1999 / Rules and Regulations. P. 68791.

48052.) Accordingly, the determination of whether the Draft Order conditions exceed the requirements of federal law cannot be based on a point by point comparison of the permit conditions and the six minimum measures that are required "at a minimum" to reduce pollutants to the maximum extent practicable and to protect water quality (40 C.F.R. §122.34). Likewise, individual permit provisions cannot be considered in isolation. When implementing the federal requirement to reduce pollutants to the maximum extent practicable, the entire permit must be evaluated as a whole. This is so because the permitting agency may decide that it is more practicable to expend limited municipal resources on one aspect of the permit rather than another. In other words, requirements in one area may be relaxed to account for greater expenditures in another that will reduce pollutants to the maximum extent practicable

In recent months, the County of Los Angeles and County of Sacramento Superior Courts have granted writs setting aside decisions of the Commission on State Mandates that held that certain requirements in Phase I permits constituted unfunded mandates. In both cases, the courts found that the correct analysis in determining whether a municipal storm water permit constituted a state mandate was to evaluate whether the permit conditions were expressly specified in federal statute or regulation but whether the permit conditions exceeded the maximum extent practicable standard. (*State of Cal. v. Comm. On State Mandates* (Super. Ct. Sacramento County, 2012, No. 34-2010-80000604), *State of Cal. v. County of Los Angeles* (Super. Ct. Los Angeles County, 2011, No. BS130730.) It should be noted that USEPA has issued an MS4 Permit Improvement Guide (April 2010, available at: http://www.epa.gov/npdes/pubs/ms4permit_improvement_guide.pdf) that recommends many provisions for Phase II MS4 permits not explicitly specified in the six minimum measures established at Code of Federal Regulations, title 40, section 122.34.

As laid out in this Fact Sheet and as supported by the record of this permitting action, the requirements of the Draft Order, taken as a whole rather than individually, are necessary to reduce the discharge of pollutants to the maximum extent practicable, to effectively prohibit non-storm water discharges, and to protect water quality. The findings as to implementing these federal requirements are the expert conclusions of the principal state agency charged with implementing the NPDES program in California. (Wat. Code, §§13001.) The requirements of the Draft Order do not constitute an unfunded mandate.

It should be noted that the Draft Order provisions to effectively prohibit non-storm water discharges are also mandated by the Clean Water Act. (33 U.S.C. §1342(p)(3)(B)(ii).) Likewise, the provisions of this Draft Order to implement total maximum daily loads (TMDLs) are federal mandates. Federal law requires that permits must contain effluent limitations consistent with the assumptions of any applicable wasteload allocation in a TMDL. (40 C.F.R. §122.44(d)(1)(vii)(B).)

Finally, even if any of the permit provisions could be considered unfunded mandates, under Government Code section 17556, subdivision (d), a state mandate is not subject to reimbursement if the local agency has the authority to charge a fee. The local agency permittees have the authority to levy service charges, fees, or assessments sufficient to pay for compliance with this Order. (See, e.g., *Apartment Ass'n of Los Angeles County, Inc. v. City of Los Angeles* (2001) 24 Cal.4th 830, 842.) The authority of a local agency to defray the cost of a program without raising taxes indicates that a

program does not entail a cost subject to subvention. (*Clovis Unified School Dist. v. Chiang* (2010) 188 Cal. App.4th 794, 812, quoting *Connell v. Superior court* (1997) 59 Cal.App.4th 382, 401; *County of Fresno v. State of California* (1991) 53 Cal.3d 482, 487-488.)

V. ROLE OF THE REGIONAL WATER BOARDS

Under the Water Code, either the State Water Board or the regional boards have authority to issue NPDES permits (Wat. Code, §13377.) The State Water Board is issuing this Order; however Regional Water Board staff will continue to have the authority to evaluate each individual Permittee's compliance through online Annual Report review and by requesting a detailed annual report from Permittees anytime during the permit term. In addition, Regional Board staff can conduct program evaluations (audits). These evaluations can either be targeted or comprehensive evaluations. Responsibilities of Regional Water Board staff also include oversight of implementation and compliance with this Order. As appropriate, they can require modification to programs and other submissions, impose region-specific monitoring requirements, conduct inspections, take enforcement actions, and make additional designations of Regulated Small MS4s. The Regional Water Boards also have a role in approving water quality monitoring efforts and may also direct that dischargers carry out a particular type of education and outreach program (*see* discussion under Section XII).

Regional Water Boards may also issue individual permits to Regulated Small MS4s, and alternative general permits to categories of Regulated Small MS4s. In addition, Regional Water Boards may allow Phase II Permittees the ability to become Phase I Permittees within the same urbanized area. Upon issuance of such permits by a Regional Water Board, this Order shall no longer regulate the affected MS4s.

The Permittees and Regional Water Boards are encouraged to work together to accomplish the goals of the storm water program, specifically, by coordinating the oversight of construction and industrial sites. For example, certain Permittees are required to implement a construction program that must include procedures for construction site inspection and enforcement. Construction sites disturbing an acre of land or more are also subject to inspections by the Regional Water Board under the State Water Board's Construction General Permit for Storm Water Discharges associated with Construction and Land Disturbance Activities (CGP). U.S. EPA intended to provide a structure that requires permitting through the federal Clean Water Act while at the same time achieving local oversight of construction projects. A structured plan review process and field enforcement at the local level, which is also required by this Order, were cited in the preamble to the Phase II regulations as the most effective components of a construction program.

The Permittees and Regional Water Boards are encouraged to coordinate efforts and use each of their enforcement tools in the most effective manner. However, in order to further ensure coordination, this Order requires Permittees to include procedures for referring non-filers as identified in the Program Management section and violations of the storm water general permits to the Regional Water Board when observed.

Dispute Resolution

As discussed, several areas of the permit will be mandated at the discretion of the Regional Board Executive Officer after permit adoption. In this function, the Regional Water Board Executive Officers are in essence acting as agents of the State Water Board. Therefore, determinations of the Regional Water Board Executive Officers in interpreting and implementing this permit are considered actions of the State Water Board (and accordingly not actions of the Regional Water Board subject to the petition process under Water Code section 13320) except where the Regional Water Board itself acts or the Executive Officer acts under Water Code Sections 13300, 13304, or 13383. However, recognizing the need for some level of statewide consistency in interpretation and implementation of Order provisions, the Order includes a dispute resolution process where there is disagreement between a Permittee and a Regional Water Board Executive Officer. The Permittee should first attempt to resolve the issue with the Executive Officer of the Regional Water Board. If a satisfactory resolution is not obtained at the Regional Water Board level, the Permittee may submit the issue in writing to the Executive Director of the State Water Board or his designee for resolution, with a copy to the Executive Officer of the Regional Water Board. The issue must be submitted to the Executive Director within thirty days of any final determination by the Executive Officer of the Regional Water Board; after thirty days the Permittee will be deemed to have accepted the Regional Water Board Executive Officer's determination. The Executive Officer of the Regional Water Board will be provided an opportunity to respond.

VI. ENTITIES SUBJECT TO THIS ORDER

This Order regulates discharges of storm water from Regulated Small MS4s. A Regulated Small MS4 is a Small MS4 that has been designated as regulated in accordance with criteria described in 40 C.F.R. 122.32.

a. Renewal Permittee - Traditional and Non-traditional MS4s

All Traditional and Non-traditional MS4s currently covered under the existing General Permit are covered under this Order and must implement the requirements of this Order.

b. New Traditional MS4 Permittee or New Urbanized Areas

In some cases, the urbanized boundaries and/or infrastructure of previously permitted Traditional MS4 Permittees may expand to include new areas designated as urbanized under the 2010 U.S. Decennial Census (e.g., when new areas are annexed within the urbanized area). Permittees must identify and include these new urbanized areas as part of their existing storm water program. Any new urbanized areas must be indicated on Permittees permit boundary map. For cities, the permit area boundary is the city boundary. For counties, permit boundaries must include urbanized areas and places identified in Attachment A located within their jurisdictions. The boundaries must be proposed in the permit boundary map and may be developed in conjunction with the applicable Regional Water Board

New Traditional MS4 Permittees that are outside of Urbanized Areas have been designated as Regulated Small MS4s based on one or more of the following criteria developed by the State Water Board:

1) High population and population density – High population means a population of 10,000 or more. High population density means a density greater than 1,000 residents per square mile. Also considered in this definition is high density created by a non-residential population, such as tourists or commuters.
2) Discharge to Areas of Special Biological Significance (ASBS) as defined in the California Ocean Plan.

The above factors were considered when evaluating whether an MS4 outside an Urbanized Area should be regulated pursuant to this Order. An MS4 and the population that it serves need not meet all of the factors to be designated. The criteria selected to designate MS4s to be regulated are based on the potential impact to water quality due to conditions influencing discharges into their system or due to their discharge location(s).

On a case by case basis, the Regional Water Boards may designate Small MS4s outside of Urbanized Areas as Regulated Small MS4s. Case by case determinations of designation shall be based on the potential of a Small MS4's discharges to result in exceedances of water quality standards, including impairment of designated uses, or other significant water quality impacts, including habitat and biological impacts. Where such case by case designations have been recommended by the Regional Water Boards prior to adoption of this Order, the designated Small MS4s are listed on the relevant Attachments to the Order and the reasons for designation are laid out in the Fact Sheet. The Regional Water Boards may continue to make case by case determinations of designation during the permit term by notification to the discharger, which shall include a statement of reasons for the designation.

Finally, any Small MS4 that contributes substantially to the pollutant loadings of a physically interconnected municipal separate storm sewer that is regulated by the NPDES storm water program must be designated as Regulated Small MS4s. An MS4 is interconnected with a separately permitted MS4 if storm water that has entered the MS4 is discharged to another permitted MS4. In general, if the MS4 discharges more than 10 percent of its storm water to the permitted MS4, or its discharge makes up more than 10 percent of the other permitted MS4's total storm water volume, it is a significant contributor of pollutants to the permitted MS4. In specific cases, the MS4s involved or third parties may show that the 10 percent threshold is inappropriate for the MS4 in question.

The definition for significant contributor of pollutants to an interconnected permitted MS4 uses a volume of 10 percent, with the assumption that storm water contains pollutants. This is meant to capture flows that may affect water quality or the permit compliance status of another MS4, but exclude incidental flows between communities.

c. **New Non-traditional MS4 Permittees**

Non-traditional MS4s include, but are not limited to, universities, prisons, large hospitals, military bases (e.g., State Army National Guard barracks), and State parks.

The existing General Permit, Water Quality Order 2003-0005-DWQ, Attachment 3 listed Non-traditional MS4s anticipated to be designated by the end of the permit term, either by the State or Regional Water Boards. However, some Non-traditional MS4s were not designated. All Non-traditional MS4s, except K-12 School Districts, Offices of Education and Community Colleges, not yet designated are now subject to this Order. These entities are listed in Attachment B.

Additional Non-traditional MS4 Permittees have been designated as Regulated Small MS4s in accordance with the same criteria described in b above.

VII. APPLICATION REQUIREMENTS

All Regulated Small MS4s listed in Attachments A and B are automatically designated upon adoption of this Order and must file for coverage. To file for coverage, Permittees must electronically file an NOI on the State Water Board's SMARTS website and mail the appropriate permit fee to the State Water Board:

https://smarts.waterboards.ca.gov/smarts/faces/SwSmartsLogin.jsp

The NOI will include a statement that the discharger intends to comply with the BMP requirements of the Order in lieu of proposing BMP practices. Permittees must file the NOI by July 1, 2013.

Joint Phase II Co-Permittees or Permittees relying on Separate Implementing Entities must also electronically file an NOI via SMARTS and mail the appropriate fee to the State Water Board, by July 1, 2013.

Census Designated Places (CDPs) are included in Attachment A to clearly show that they are designated Phase II entities. However, CDPs that are located within an urbanized area and within an existing NPDES permit area do not have a government entity and as such, are not required to file separately and pay fees. The Permittee (ie. a designated county) will name the CDPs within their jurisdiction when they file their NOI via SMARTS.

For fee purposes, in determining the total population served by the MS4, both resident and commuter populations are to be included. For example, publicly operated school complexes including universities and colleges, the total population served would include the sum of the average annual student enrollment plus staff.

For community services districts, the total population served would include the resident population and any non-residents regularly employed in the areas served by the district.

Regulated Small MS4s that fail to obtain coverage under this Order or other NPDES permit for storm water discharges will be in violation of the Clean Water Act and the California Water Code.

The Order includes State and Regional Water Board contact information for questions and submittals.

Waiver Certification
This Order allows Regulated Small MS4s to request a waiver of requirements. Regulated Small MS4 must certify (1) their discharges do not cause or contribute to, or have the potential to cause or contribute to a water quality impairment, and (2) they meet one of the following three waiver options:

a. Option 1

(1) The jurisdiction served by the system is less than 1,000 people;
(2) The system is not contributing substantially to the pollutant loadings of a physically interconnected regulated MS4; and
(3) If the small MS4 discharges any pollutants identified as a cause of impairment of any water body to which it discharges, storm water controls are not needed based on waste load allocations that are part of an EPA approved or established TMDL that addresses the pollutant(s) of concern.

b. Option 2

(1) The jurisdiction served by the system is less than 10,000 people;
(2) The Regional Water Board has evaluated all waters of the U.S. that receive a discharge from the system;
(3) The Regional Water Board has determined that storm water BMPs are not needed based on wasteload allocations that are part of an EPA approved or established TMDL that addresses the pollutant(s) of concern or an equivalent analysis; and
(4) The Regional Water Board has determined that future discharges from the Regulated Small MS4 do not have the potential to result in exceedances of water quality standards.

c. Option 3 (applicable to Small MS4s outside an Urbanized Area only)

(1) Small Disadvantaged Community – a community with a population of 20,000 or less with an annual median household income (MHI) that is less than 80 percent of the statewide annual MHI (CWC § 79505.5 (a)).

VIII. POST-CONSTRUCTION STORMWATER MANAGEMENT CRITERIA FOR NEW DEVELOPMENT AND REDEVELOPMENT

This Order incorporates Site Design and Low Impact Development (LID) Runoff requirements for new development and redevelopment. The Order will incorporate runoff retention and hydromodification control criteria in the next permit term that will be keyed to specific watershed processes as identified by the State Water Board within specific Watershed Management Zones (WMZs). The WMZs will be used to identify applicable areas and appropriate criteria for runoff retention and hydromodification control.

IX. DISCHARGE PROHIBITIONS

Storm Water Discharges

This Order authorizes storm water and conditionally exempt non-storm water discharges[14] from the Permittees' MS4s subject to effluent and receiving water limitations. This Order prohibits the discharge of material other than storm water, unless specifically authorized in this Order.

Non-Storm Water Discharges

Section 402(p)(3)(B)(ii) of the Clean Water Act requires that MS4 permits include a requirement to effectively prohibit non-storm water discharges into the storm sewers. Prohibition B.3 of the Order implements this requirement. Although the Clean Water Act phrases the non-storm water discharge prohibition as a prohibition of discharges "into the storm sewers," this Order states that "discharges *through the MS4* of material other than storm water to waters of the U.S. shall be effectively prohibited." There is no meaningful distinction between the two language iterations as both prohibit discharges from reaching receiving waters and are consistent with the intent of the Clean Water Act. When discussing the effective prohibition of non-storm water discharger, U.S. EPA's preamble to its Phase I regulations uses the term "through" interchangeably with the term "into." (55 Fed. Reg. 47995.) Staff believes that the use of the phrasing "through the MS4 . . . to waters of the U.S." allows the Permittees greater flexibility with regard to utilizing dry weather diversions.

The Phase I regulations at 40 C.F.R. §122.34(b)(3)(iii).specify certain categories of non-storm water discharges that are conditionally exempt from the prohibition and the Order follows this approach. Unless authorized by a separate NPDES permit, non-storm water discharges that are not specifically exempted by this Order are prohibited. Certain enumerated conditionally exempt non-storm water discharges are allowed provided they are not found to be significant source of pollution If a discharger or a Regional Water Board Executive Officer determines that any individual or class of conditionally exempt non-storm water discharge may be a significant source of pollutants, the Regional Water Board may require the discharger to monitor and submit a report and impose BMPs to control the discharge.

Areas of Special Biological Significance

The State Water Board adopted the California Ocean Plan (Ocean Plan) on July 6, 1972 and revised the Ocean Plan in 1978, 1983, 1988, 1990, 1997, 2000, 2005 and 2009. The Ocean Plan prohibits the discharge of waste to Areas of Special Biological Significance (ASBS). The State Water Board designates ASBS as ocean areas requiring protection of species or biological communities to the extent that alteration of natural water quality is undesirable.

The Ocean Plan states that the State Water Board may grant an exception to Ocean Plan provisions where the State Water Board determines that the exception will not compromise protection of ocean waters for beneficial uses and the public interest will be served.

[14] Conditionally exempt non-storm water also refers to authorized non-storm water.

On October 18, 2004, the State Water Board directed several dischargers to cease the discharge of storm water and nonpoint source waste into ASBS, or request an exception to the Ocean Plan. Several of these dischargers are designated as Regulated Small MS4s.

On March 20, 2012, the State Water Board adopted Resolution 2012-0012 granting an exception from the Ocean Plan prohibition to 13 parties (Attachment D) designated as Regulated Small MS4s under this Order. In order to legally discharge into an ASBS, the parties must comply with the terms of the exception and have an appropriate authorization to discharge. Authorization for point source discharges to ASBS consists of coverage under this NPDES Order.

The parties authorized to discharge under the general exception are listed in Attachment D. The general exception contains "Special Protections" to protect beneficial uses and maintain natural water quality in ASBS. Limited by the special conditions in the resolution, parties listed in Attachment D can legally discharge waste into ASBS as long as the discharges are also regulated under this Order.

This Order incorporates the terms of the exception and includes the monitoring requirements the 13 parties identified as Regulated Small MS4s must comply with.

X. EFFLUENT LIMITATIONS

Consistent with Clean Water Act section 402(p)(3)(B)(iii), this Order requires that Permittees implement controls to reduce the discharge of pollutants from their MS4s to waters of the U. S. to the Maximum Extent Practicable (MEP). The MEP standard requires Permittees to apply Best Management Practices (BMPs) that are effective in reducing or eliminating the discharge of pollutants to the waters of the U.S. MEP emphasizes pollutant reduction and source control BMPs to prevent pollutants from entering storm water runoff. MEP may require treatment of the storm water runoff if it contains pollutants. The MEP standard is an ever-evolving, flexible, and advancing concept, which considers technical and economic feasibility. As knowledge about controlling urban runoff continues to evolve, so does that which constitutes MEP. BMP development is a dynamic process and may require changes over time as the Permittees gain experience and/or the state of the science and art progresses. Permittees must conduct and document evaluation and assessment of each relevant element of the program, and of the program as a whole, and revise activities, control measures/BMPs, and measurable goals, as necessary to meet MEP. MEP requires Permittees to choose effective BMPs, and to reject applicable BMPs only where other effective BMPs will serve the same purpose, the BMPs are not technically feasible, or the cost is prohibitive. Further, because local conditions vary, some BMPs may be more effective in one community than in another. MEP is the cumulative result of implementing, evaluating, and creating corresponding changes to a variety of technically appropriate and economically feasible BMPs, ensuring that the most appropriate BMPs are implemented in the most effective manner.

Under 40 Code of Federal Regulations section 122.44(k)(2)&(3), the State Water Board may impose BMPs for control of storm water discharges in lieu of numeric effluent limitations.[15]

In 2004, the State Water Board assembled a blue ribbon panel to address the feasibility of including numeric effluent limits as part of NPDES municipal, industrial, and construction storm water permits. The panel issued a report dated June 19, 2006, which included recommendations as to the feasibility of including numeric limits in storm water permits, how such limits should be established, and what data should be required.

The report concluded that "It is not feasible at this time to set enforceable numeric effluent criteria for municipal BMPs and in particular urban discharges. However, it is possible to select and design them much more rigorously with respect to the physical, chemical and/or biological processes that take place within them, providing more confidence that the estimated mean concentrations of constituents in the effluents will be close to the design target."

Consistent with the federal regulations, the findings of the Blue Ribbon Panel, and precedential State Water Board orders (State Water Board Orders Nos. WQ 91-03 and WQ 91-04), this Order allows the Permittees to implement BMPs to comply with the requirements of the Order.

XI. RECEIVING WATER LIMITATIONS

Under federal law, an MS4 permit must include "controls to reduce the discharge of pollutants to the maximum extent practicable . . . and such other provisions as . . . the State determines appropriate for the control of such pollutants." (Clean Water Act §402(p)(3)(B)(iii).) Consistent with this provision, requirements to meet water quality standards are at the discretion of the permitting agency. (*Defenders of Wildlife v. Browner* (9th Cir. 1999) 191 F3d 1159.)

The State Water Board has previously determined that limitations necessary to meet water quality standards are appropriate for the control of pollutants discharged by MS4s and must be included in MS4 permits. (State Water Board Orders WQ 91-03, 98-01, 99-05, 2001-15).). This Order accordingly prohibits discharges that cause or contribute to violations of water quality standards. Consistent with federal law, the State Water Board has also found it appropriate to require implementation of BMPs in lieu of numeric water quality-based effluent limitations and further, in lieu of "strict compliance" with water quality standards, has prescribed an iterative process of BMP improvement to achieve

[15] On November 12, 2010, U.S. EPA issued a revision to a November 22, 2002, memorandum in which it had "affirm[ed] the appropriateness of an iterative, adaptive management best management practices (BMP) approach" for improving storm water management over time. In the revisions, U.S. EPA recommended that, in the case the permitting authority determines that MS4 discharges have the reasonable potential to cause or contribute to a water quality excursion, the permitting authority, where feasible, include numeric effluent limitations as necessary to meet water quality standards. However, the revisions recognized that the permitting authority's decision as to how to express water quality based effluent limitations (WQBELs), i.e. as numeric effluent limitations or BMPs, would be based on an analysis of the specific facts and circumstances surrounding the permit. U.S. EPA has since invited comment on the 2010 memorandum and will be making a determination as to whether to "either retain the memorandum without change, to reissue it with revisions, or to withdraw it." http://www.epa.gov/npdes/pubs/sw_tmdlwla_comments_pdf

water quality standards. (State Water Board Orders WQ 91-03, 98-01, 2001-15; 40 C.F.R. §122.44(k).) As a result, this Order further sets out that, upon determination that a Permittee is causing or contributing to an exceedance of applicable water quality standards, the Permittee must engage in an iterative process of proposing and implementing additional control measures to prevent or reduce the pollutants causing or contributing to the exceedance. This iterative process is modeled on receiving water limitations set out in State Water Board precedential Order WQ 99-05 and required by that Order to be included in all municipal storm water permits.

The Water Boards have generally directed dischargers to achieve compliance with water quality standards by improving control measures through the iterative process and, as a matter of practice, have generally declined to initiate enforcement actions against MS4 permittees who have been actively engaged in the iterative process. At the same time, however, the Water Boards have maintained that the iterative process does not provide a "safe harbor" to MS4 permittees:[16] that is, when a discharger is shown to be causing or contributing to an exceedance of water quality standards, that discharger is in violation of the relevant discharge prohibitions and receiving water limitations of the permit and potentially subject to enforcement by the Water Boards or through a citizen suit, even if the dicharger is actively engaged in the iterative process.

The question of the "safe harbor" became a priority concern for storm water dischargers following the Ninth Circuit's holding in *Natural Resources Defense Council, Inc. v. County of Los Angeles* (2011) 673 F.3d 880 that engagement in the iterative process does not provide a safe harbor from liability for violations of permit terms prohibiting exceedances of water quality standards. Although the U.S. Supreme Court has reversed the judgment of the Ninth Circuit and remanded (on grounds unrelated to the "safe harbor" holding), *LA County Flood Control District v. NRDC* (2013) 568 U.S.____, the receiving water limitations provisions is expected to remain a significant issue for dischargers based on the position, to date, of the Water Boards that the iterative process does not provide a "safe harbor" from violations. The State Water Board has received multiple comments, from dischargers and from other interested parties, expressing confusion and concern about the Order provisions regarding receiving water limitations and the iterative process. Many commenters have stated that the provisions as currently written do not provide the dischargers with a viable path to compliance with the proposed Order. Other commenters, including environmental parties, support the current language.

As stated above, the provisions in this Order regarding receiving water limitations and the iterative process are based on precedential Board orders. Accordingly, substantially identical provisions are found in the adopted Caltrans MS4 NPDES permit, as well as the Phase I NPDES permits issued by the Regional Water Boards. Because of the broad applicability of any policy decisions regarding the receiving water limitations and iterative process provisions, the State Water Board held a public workshop on November 20, 2012, to consider this issue and seek public input.

Rather than delay consideration of adoption of the tentative Order in anticipation of any future changes to the receiving water limitations and iterative process provisions that

[16] *Building Industry Assn. of San Diego County v. State Water Resources Control Bd.* (2004) 124 Cal.App.4th 866; *City of Rancho Cucamonga v. Regional Water Quality Control Bd.* (2006) 135 Cal.App.4th 1377.

may result from the public workshop and deliberation, the Board has added a specific reopener clause at Section H to facilitate any future revisions as necessary.

XII. STORM WATER MANAGEMENT PROGRAM FOR TRADITIONAL MS4s

PROGRAM ELEMENTS

Program Management

This component is essential to ensure timely implementation of all elements of the storm water program and consistency with the Order requirements. Lessons learned in California from Phase I Permittees and various municipal audits are that a Program Management element can:

a. Identify departments that assist with the implementation of the program as well as their roles and responsibilities; and

b. Maintain and enforce adequate legal authority to control pollutant discharges.

Adequate Legal Authority and Certification

Legal Authority: Clean Water Act § 402(p)(3)(b); 40 C.F.R. §§ 122.22(b), 122.34(b)(3)(ii)(B), (b)(4)(ii)(A), and (b)(5)(ii)(B); 122.41(k). MS4 Permit Improvement Guide, U.S. EPA, April 2010, EPA 833-R-10-001; MS4 Program Evaluation Guidance, U.S. EPA , EPA-833-R-07-003

Adequate legal authority is required for Permittees to implement and enforce their storm water programs. Without adequate legal authority, Permittees would be unable to perform many vital program elements such as performing inspections and requiring installation of control measures. In addition, Permittees would not be able to conduct enforcement activities, assess penalties and/or recover costs of remediation.

Enforcement Response Plan

Legal Authority: Clean Water Act §402(p)(3)(b); MS4 Permit Improvement Guide, U.S. EPA, April 2010, EPA 833-R-10-001; MS4 Program Evaluation Guidance, U.S. EPA , EPA-833-R-07-003

In ordinances or other regulatory mechanisms, Permittees are required to include penalty provisions to (1) ensure compliance with construction and industrial requirements, (2) to require the removal of illicit discharges, and (3) to address noncompliance with post-construction requirements. To meet these requirements, this Order requires enforcement responses that vary with the type of permit violation, and escalate if violations are repeated or not corrected. The Permittee must develop and implement an Enforcement Response Plan (ERP), which clearly describes the action to be taken for common violations associated with the construction program, illicit discharge detection and elimination, or other program elements. A well-written ERP provides guidance to inspectors on the different enforcement responses available, actions to address general permit non-filers, when and how to refer violators to the State, and how to track enforcement actions.

Education and Outreach on Storm Water Impacts

Legal Authority: Clean Water Act § 402(p)(3)(b); 40 C.F.R. § 122.34(b)(1); MS4 Permit Improvement Guide, U.S. EPA, April 2010, EPA 833-R-10-001; MS4 Program

Evaluation Guidance, U.S. EPA , EPA-833-R-07-003; U.S. EPA Stormwater Phase II Final Rule Fact Sheet Series, U.S. EPA Stormwater Phase II Final Rule (64 FR 68722), U.S. EPA National Menu of Best Management Practices for Stormwater Phase II[17]; Measurable Goals Guidance for Phase II Small MS4s; U.S. EPA Getting In Step

Without a focused and comprehensive program, outreach and education efforts will be poorly coordinated and ineffective. This Order requires Permittees to develop an education and outreach program that is tailored and targeted to specific water quality issues of concern in the community. These community-wide and targeted issues should then guide the development of the comprehensive outreach program, including the creation of appropriate messages and educational materials. Outreach and education not only includes the public as the target audience, but includes Permittee staff and construction site operators as well.

This Order includes a different compliance path that, upon determination by a Regional Board Executive Officer, requires the possible implementation of Community-Based Social Marketing (CBSM). CBSM is a systematic way to change the behavior of communities to reduce their impact on the environment. Simply providing information is usually not sufficient to initiate behavior change. CBSM uses tools and findings from social psychology to discover the perceived barriers to behavior change and ways of overcoming these barriers.[18]

CBSM is also cited in EPA's Getting in Step[19] outreach guide which includes successful CBSM case studies. The CBSM path is included in Attachment E.

To ensure effective implementation of CBSM principles, Regional Water Boards who have invoked Attachment E, CBSM Requirements, are encouraged to consult with Permittees to ensure CBSM principles are implemented adequately. Regional Board staff should use the first year annual report and effectiveness assessment information during the consultation. The information gained from the consultation should assist the Regional Water Board's evaluation of program effectiveness and whether a Permittee should continue implementation of Attachment E.

In addition to external public outreach, outreach and education efforts should also be directed internally at Permittee staff who, as part of their normal job responsibilities, participate in storm water program operations such as illicit discharge detection and elimination, construction, and pollution prevention and good housekeeping. The training program will ensure proper illicit discharge and illicit connection identification, reporting and response. The construction training program will ensure that Permittee staff who is responsible for construction storm water program implementation receive adequate training. Additionally, the Permittee must develop educational materials and training for construction site operators to ensure program compliance. Construction operators must be educated about site requirements for control measures, local storm water requirements, enforcement activities, and penalties for non-compliance. Permittee staff

[17] http://cfpub.epa.gov/npdes/stormwater/menuofbmps/

[18] A variation of social marketing, referred to as CBSM by Canadian environmental psychologist Doug McKenzie-Mohr.

[19] Getting in Step, 3rd Edition, A Guide to Watershed Outreach Campaigns, November 2010
EPA 841-B-10-002

training in pollution prevention/good housekeeping will ensure the incorporation of pollution prevention/good housekeeping techniques into Permittee operations.

A comprehensive and cohesive outreach and education program will likely be effective and well-coordinated if it involves the public, storm water program staff, and construction site operators.

This Order includes a list of potential residential and commercial pollution sources, but the Permittee may also identify other sources that contribute significant pollutant loads to the MS4. The Order identifies specific pollutant generating activities that must be addressed, including organized car washes, mobile cleaning and power washing operations, and landscape over-irrigation.

The Permittee is encouraged to use existing public educational materials in its program. The Permittee is also encouraged to leverage resources with other agencies and municipalities with similar public education goals.

In addition, this Order requires storm water education for school-age children. The United States suffers from a "nature deficit disorder" as discussed in popular literature (e.g., "Last Child in the Woods" by Richard Louv) and elsewhere (American Fisheries Society "Fisheries" magazine, available at www.fisheries.org). As discussed in the "America's Great Outdoors: A Promise to Future Generations" report, in order to make environmental stewardship and conservation relevant to young Americans, environmental and place-based, experiential learning must be integrated into school curricula and school facility management across the country.[20] If a program such as Splash (www.sacsplash.org/),Effie Yeaw Nature Center (www.sacnature.net) or Yolo Basin (www. Yolobasin.org) does not exist, Permittees are encouraged to use California's Education and Environment Initiative Curriculum (EEI)[21] or equivalent. California's landmark EEI Curriculum is a national model designed to help prepare today's students to become future scientists, economists, and green technology leaders.

The K-12th grade curriculum is comprised of 85 units teaching select Science and History-Social Science academic standards. Each EEI Curriculum unit teaches these standards to mastery using a unique set of California Environmental Principles and Concepts. The EEI curriculum was created to bring education about the environment into the primary and secondary classrooms of more than 1,000 school districts serving over 6 million students throughout California.

Classroom education plays an integral role in any storm water pollution outreach program. Providing storm water education through schools conveys the message not only to students but to their parents. Permittees should partner with educators and experts to develop storm water-related programs for the classroom. These lessons need not be elaborate or expensive to be effective.

The Permittees' role is to support a school district's storm water education efforts, not to dictate what programs and materials the school should use. Permittees should work with school officials to identify their needs. For example, if the schools request storm water outreach materials, Permittees can provide a range of educational aids, from

[20] http://americasgreatoutdoors.gov/files/2011/02/AGO-Report-With-All-Appendices-3-1-11.pdf
[21] http://www.californiaeei.org/

simple photocopied handouts, overheads, posters and slide shows, to more costly and elaborate working models and displays.

The principal goal of any public education and outreach effort is to change awareness and knowledge. The advanced level public education and outreach effort goes a step further in pursuit of changing behavior. The Permittee should develop a process to assess its public education and outreach programs and to determine necessary improvements to raise public awareness and knowledge. The Permittee is encouraged to use a variety of assessment methods to evaluate the effectiveness of different public education activities. The first evaluation assessment must be conducted before the final year of the Permittee's coverage under this permit, before the next permit is issued. Permittees should coordinate their evaluation assessment with other Permittees on a regional level to determine how best to get the regional message out and how to facilitate awareness, knowledge and ultimately, behavior changes.

Public Involvement/Participation
Legal Authority: Clean Water Act § 402(p)(3)(b); 40 C.F.R. § 122.34(b)(2).
MS4 Permit Improvement Guide, U.S. EPA, April 2010, EPA 833-R-10-001

Storm water management programs can be greatly improved by involving the community throughout the entire process of developing and implementing the program. Involving the public benefits both the Permittee as well as the community. By listening to public concerns and coming up with solutions together, the Permittee stands to gain public support and the community should become invested in the program. The Permittees will likewise gain more insight into the most effective ways to communicate their messages.

This Order requires the development of a public involvement strategy, which may include a citizen advisory group or process to solicit feedback on the storm water program, and opportunities for citizens to participate in implementation of the storm water program. If a citizen advisory group is developed, the group should meet with the local land use planners and provide input on land use code or ordinance updates so that land use requirements incorporate provisions for better management of storm water runoff and watershed protection. Public participation in implementation of the storm water program can include many different activities such as stream clean-ups, storm drain markings, volunteer monitoring, and participation in integrated regional water management and watershed planning efforts.

Permittees are encouraged to work together with other entities that have an impact on storm water (for example, schools, homeowner associations, Department of Transportation agencies, other MS4s). Permittees are also encouraged to work through existing advisory groups, community groups or processes in order to implement these public involvement requirements.

Illicit Discharge Detection and Elimination
Legal Authority: Clean Water Act § 402(p)(3)(b); 40 C.F.R. § 122.34(b)(3).
MS4 Permit Improvement Guide, U.S. EPA, April 2010, EPA 833-R-10-001

Studies have shown that dry weather flows from the storm drain system may contribute a larger amount of some pollutants than wet weather storm water flows.[22] Detecting and eliminating these illicit discharges involves complex detective work, which makes it hard to establish a rigid prescription to identify and correct all illicit connections. There is no single approach to take, but rather a variety of ways to get from detection to elimination. Local knowledge and available resources can play significant roles in determining which path to take. At the very least, communities need to systematically understand and characterize their stream, conveyance, and storm sewer infrastructure systems. Illicit discharges need to be identified and eliminated. The process is ongoing and the effectiveness of a program should improve with time. A well-coordinated IDDE programs can benefit from and contribute to other community-wide water resources-based programs such as public education, storm water management, stream restoration, and pollution prevention.[23]

This Order requires the Permittees to address illicit discharges into the MS4. An illicit discharge is defined as any discharge to a municipal separate storm sewer system that is not composed entirely of storm water, except allowable discharges pursuant to an NPDES permit (40 C.F.R. 122.34(b)(3)).[24] This Order includes requirements that the Permittee have the legal authority to effectively prohibit non-storm water discharges from entering storm sewers as well as provisions requiring the development of a comprehensive, proactive IDDE program.

Specifically, this Order requires the development of a map that includes outfalls operated by the Permittee within the urbanized area. The map will also include identification of receiving water bodies, priority areas (ie. areas with a history of past illicit discharges), and the permit boundary.

It is essential for Permittees to understand their stream and storm sewer systems and how illicit discharge sources are connected to outfalls that discharge to their system. To that end, this Order requires the development of an inventory that identifies potential illicit discharge sources and facilities. To proactively identify illicit discharges originating from priority inventoried sources, it is essential that an assessment is conducted at least once over the permit term. The assessment may include field observations, field screening, inspections and any other appropriate and effective survey methods that proactively identify potential illicit discharges. As an alternative, the Permittee may require a self-certification program that all appropriate BMPs are in place to prevent illicit discharges from the inventoried source or facility.

Further, a once per permit term survey of outfalls will identify outfalls needing sampling and possible follow-up actions[25]. The outfall inventory will also assist Permittees in the identification of "problem" outfalls, or those outfalls that may have a history of past illicit discharges. The inventory can be utilized to conduct source investigations and

[22] Evaluation of Non-Storm water Discharges to California Storm Drains and Potential Policies for Effective Prohibition. California Regional Water Quality Control Board. Los Angeles, CA., Duke, L.R. 1997., Results of the Nationwide Urban Runoff Program. Water Planning Division, PB 84-185552, Washington, D.C. U.S. EPA. 1983.
[23] Illicit Discharge Detection and Elimination A Guidance Manual for Program Development and Technical Assessments, CWP and Pitt, 2006
[24] Non-point source return flows from irrigated agriculture are not considered illicit discharges.
[25] The Permittee may utilize existing forms such as the CWP Outfall Reconnaissance Inventory/Sample Collection Field Sheet while conducting the mapping inventory and Field Sampling as specified below, in Section E.9.c.(http://cfpub.epa.gov/npdes/stormwater/idde.cfm)

corrective actions for potential illicit discharges into their system. Additionally, dry weather sampling must be conducted in each subsequent year of the permit term for outfalls identified as priority areas. While the Order specifies indicator parameters used to detect illicit discharges, the Permittee may select alternative parameters to sample that are based on local pollutants of concern. Similarly, the action level concentrations for the indicator parameters may also be tailored to match the parameters selected based on local knowledge. Finally, the outfall inventory will assist Permittees in clearly understanding the stream system and the storm sewer system within their jurisdiction.

The Permittee shall provide a mechanism for public reporting of illicit discharges and spills.

Construction Site Storm Water Runoff Control
Legal Authority: Clean Water Act § 402(p)(3)(b); 40 C.F.R. § 122.34(b)(4).
MS4 Permit Improvement Guide, U.S. EPA, April 2010, EPA 833-R-10-001

Permittees must implement a construction site storm water runoff management program that includes an enforceable ordinance or other regulatory mechanism with commonly understood and legally binding definitions. These terms should be defined consistently across other related guidance and regulatory documents. The construction site storm water runoff management program is designed to prevent pollutants associated with construction activity from entering receiving water bodies (ie. sediment, fertilizers, pesticides, paints, solvents and/or fuels).

The Permittee must ensure that construction site operators select and implement appropriate construction site storm water runoff management measures to reduce or eliminate impacts to receiving waters. The Permittee is required to utilize California Stormwater Quality Association's (CASQA) Construction BMP handbook or equivalent to help guide their Construction Program). In the case that a project proponent is not implementing appropriate measures to reduce or eliminate impacts to receiving waters (ie. ineffective BMPs installed), the Permittee must take appropriate enforcement action to address the problem. Enforcement may include verbal warnings, written notices and escalated enforcement measures as described in the Enforcement Response Plan (Section E.6.c. of the Order).

The Permittee must establish review procedures for construction site plans to determine potential water quality impacts and ensure the proposed controls are adequate. These procedures should include a review of individual pre-construction site plans to ensure consistency with local sediment and erosion control requirements. In addition, the Permittee must conduct inspection and enforcement of erosion and sediment control measures once construction begins. The Permittees' Municipal Inspectors must be trained and qualified pursuant to the State Water Board sponsored Qualified Storm Water Pollution Prevention Plan (SWPPP) Practitioner (QSP) certification program. Inspections must be prioritized based on project threat to water quality. It is important that the following factors are considered in determining a project's threat to water quality: soil erosion potential, site slope, project size and type, sensitivity of receiving waterbodies, proximity to receiving waterbodies, non-stormwater discharges, and a past record of non-compliance by the operators of the construction site.

While the construction site storm water runoff management program focuses the Permittee's detailed inspections on projects less than one acre, Permittees must use their discretion to provide oversight to projects that are subject to the CGP that pose a threat to water quality. For example, in the case that a Permittee identifies a project subject to the CGP that has BMPs that have not been maintained, the Permittee should notify the local Regional Water Board. Priority project sites include: sites with 5 acres or more of soil disturbance, sites with one acre or more soil disturbance that discharge to a tributary listed as impaired water for sediment or turbidity under the CWA Section 303(d), and other sites with one acre or more of soil disturbance determined by the Permittee or State or Regional Water Quality Control Board to be a significant threat to water quality.

Pollution Prevention/Good Housekeeping for Permittee Operations
Legal Authority: Clean Water Act § 402(p)(3)(b); 40 C.F.R. § 122.34(b)(6)

Permittees are required to develop a program to:

a. Prevent or reduce the amount of storm water pollution generated by permittee operations.

b. Train employees on how to incorporate pollution prevention/good housekeeping techniques into permittee operations.

c. Identify appropriate control measures and measurable goals for preventing or reducing the amount of storm water pollution generated by permittee operations.

Permittees must first assess the areas and municipal facilities that it controls, determine which activities may currently have a negative impact on water quality, and find solutions for any problems. The simplest solution is to limit the number of activities that are conducted outside and exposed to storm water.

Storm Drain System Maintenance
Storm drain systems need maintenance to ensure that structures within the storm drain system that are meant to reduce pollutants do not become sources of pollution. Maintenance of catch basins and storm sewers will prevent the accumulation of pollutants that are later released during rain events as well as blockages, backups, and flooding. Most Permittees have an existing program to maintain the storm sewer infrastructure. Some of these programs have tended to focus on flood control and complaint response rather than reducing water quality impacts from storm water discharges.

This Order requires that the system be maintained to prevent the discharge of pollutants into receiving waters. To achieve this, the storm sewer system must be mapped and a program of regular maintenance established. The Permittee must establish a tiered maintenance schedule for the entire storm sewer system area, with the highest priority areas being maintained at the greatest frequency. Priorities are driven by water quality concerns and can be based on the land use within the watershed, the condition of the receiving water, the amount and type of material that typically accumulates in an area,

or other location-specific factors. The Permittee also must use spill and illicit discharge data to track areas that may require immediate sewer infrastructure maintenance. Any waste that is collected must be disposed of in a responsible manner.

All storm sewer system maintenance procedures should be documented in the Permittee's standard operating procedures (SOPs) or similar type of documents. All staff should be trained on these SOPs. Maintenance activities should be documented and, where possible, quantified (e.g., number and location of inspections and clean-outs, type and quantity of materials removed). Characterization of the quantity, location, and composition of pollutants removed from catch basins can be used to assess the program's overall effectiveness, identify illicit discharges, and help the Permittee better prioritize implementation activities in the future.

Pollutant Generating Activities
This Order contains specific requirements and recommendations related to pollutant-generating activities such as discouraging conventional landscaping practices (including the application of pesticides, herbicides, and fertilizer) and operating and maintaining public streets.

Resource-sensitive landscaping practices such as integrated pest management (IPM), climate appropriate plant selection and irrigation, and mechanical (non-chemical) removal of unwanted plants are required under this Order. The use of other landscaping practices, such as mulch and compost, minimizing chemical inputs (pesticides, herbicides, and fertilizer), emphasis on maintaining and enhancing soil quality, and erosion control is required. The Order recognizes the storm water quality benefits that will likely result from implementation of the Water Efficient Landscape Ordinance required under AB 1881.

Flood Management Projects
The Order requires that water quality be considered when designing new and upgraded flood management projects. The focus of storm water management in the past has been to control flooding and mitigate property damage, with less emphasis on water quality protection. These structures may handle a significant amount of storm water and therefore offer an opportunity to modify their design to include water quality features for less than the cost of building new controls. This requirement applies to new and upgraded flood control projects.

Municipally-owned or operated facilities
Municipally-owned or operated facilities often serve as the focal point of activity for municipal staff from different departments. Some municipalities have one facility at which all activities take place (e.g., the municipal maintenance yard), while others may have several specialized facilities. A comprehensive inventory and map of facilities will help Permittee staff build a better awareness of facility locations within the MS4 and their potential to contribute storm water pollutants. The facility inventory will also serve as a basis for scheduling periodic facility assessments and developing, where necessary, facility storm water pollution prevention plans.

The best way to avoid pollutant discharges is to keep precipitation and runoff from coming into contact with potential pollutants. For example, the Permittee should cover or build berms around stockpiles, create dedicated structures for stored materials, and

maintain a minimum distance between stockpiles and storm water infrastructure and receiving waters.

Inspections
This Order requires comprehensive quarterly site inspections which is an appropriate frequency to ensure that material stockpiles that might be moved or utilized on a seasonal basis are protected from precipitation and runoff. Also, quarterly inspections will allow inspectors to observe different types of operations that occur at different times of the year (e.g., landscape maintenance crews are less active in the winter). Quarterly visual observations are required so that inspectors can see in real time the qualitative nature of the storm water discharge so that corrective action can be taken where necessary to improve on-site storm water controls.

This Order also specifies documentation requirements of inspection procedures and results, including inspection logs for each facility to ensure that the site inspections are consistent and that maintenance of storm water controls remains part of the municipality's standard operating procedures. The requirement for an inspection log will allow the Regional Water Boards to verify that periodic site inspections have been performed.

Storm Sewer System Maintenance
Fine particles and pollutants from run-off, run-on, atmospheric deposition, vehicle emissions, breakup of street surface materials, littering, and sanding (for improving traction in snow and ice) can accumulate in the gutters between rainfall events. Storm drain maintenance is often the last opportunity to remove pollutants before they enter the environment. Because storm drain systems effectively trap solids, they need to be cleaned periodically to prevent those materials from being picked up during high flow storm events.

Some catch basins will accumulate pollutants faster than others due to the nature of the drainage area and whether controls are present upstream of the catch basin. A priority ranking system is required for catch basins so that municipal resources are directed to the areas and structures that generate the most pollutants. Catch basins with the highest accumulations will need to be cleaned more frequently than those with low accumulations. The Order also includes a requirement that triggers catch basin cleaning when a catch basin is one-third full.

Note:This requirement was eliminated from the Final Order as adopted on February 5, 2013.

Proper storm drain system cleanout includes vacuuming or manually removing debris from catch basins; vacuuming or flushing pipes to increase capacity and remove clogs; removing sediment, debris, and overgrown vegetation from open channels; and repairing structures to ensure the integrity of the drainage system. It is important to conduct regular inspections of all storm sewer infrastructure and perform maintenance as necessary. Though these activities are intended to ensure that the storm drain system is properly maintained and that any accumulated pollutants are removed prior to discharge, if not properly executed, cleanout activities can result in pollutant discharges. The Permittee should carefully evaluate maintenance practices to minimize unintended pollutant discharges, such as flushing storm drains without capturing the discharge.

Materials removed from catch basins must not be allowed to reenter the MS4. If necessary, the material can be dewatered in a contained area and the water treated with

an appropriate and approved control measure or discharged to the sanitary sewer. The solid material must be disposed of properly to avoid discharge during a storm event. Some materials removed from storm drains and open channels may require special handling and disposal, and may not be suitable for disposal in a landfill.

Note: This requirement was eliminated from the Final Order as adopted on February 5, 2013.

Green waste on the streets

For some Traditional MS4 Permittees, residents are allowed to deposit non-containerized green waste (lawn and garden clippings) onto the street for weekly collection by the municipal staff. Permittees instruct residents to put the green waste out right before collection and to avoid putting it in gutters or near storm drains. However, green waste on the street is a potential illicit discharge and maintenance concern.[26] This Order prohibits green waste on the streets. Permittees must find additional ways to educate residents on the potential problems this practice can cause or to find alternatives to the current practice.

Street Sweeping and Cleaning Streets

Street sweeping and cleaning streets and parking lots is a practice that most municipalities initially conducted for aesthetic purposes or air quality benefit. However, the water quality benefits are now widely recognized. As a result, many California MS4 permits require some sort of street sweeping provision that require the MS4 to prioritize streets as high, medium, and low pollutant-generators and base the cleaning schedule appropriately.

This Order does not include street sweeping and cleaning streets as a permit requirement because MS4s already conduct these activities for aesthetics and air quality benefit. Permittees should count street sweeping not as a storm water compliance cost, but an aesthetic and air quality cost.

Third-party contractors

Third-party contractors conducting municipal maintenance activities must be held to the same standards as the Permittee. These expectations are required to be defined in contracts between the Permittee and its contractors; however, the Permittee is responsible for ensuring, through contractually-required documentation or periodic site visits, that contractors are using storm water controls and following standard operating procedures.

Post Construction Storm Water Management for New Development and Re-development

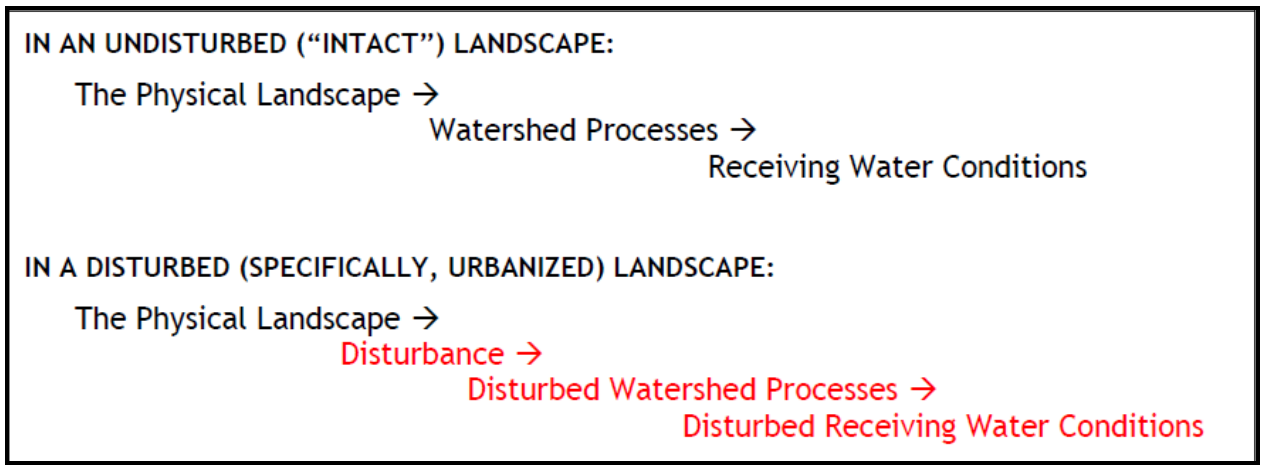
Legal Authority: Clean Water Act § 402(p)(3)(b); 40 C.F.R. § 122.34(b)(5).
MS4 Permit Improvement Guide, U.S. EPA, April 2010, EPA 833-R-10-001; U.S. EPA Incorporating Environmentally Sensitive Development into Municipal Stormwater Programs, EPA 833-F-07-011

In California, urban storm water is listed as the primary source of impairment for ten percent of all rivers, ten percent of all lakes and reservoirs, and 17 percent of all estuaries (2010 Integrated Report). Although these numbers may seem low, urban areas cover just six percent of the land mass of California[27], and so their influence is

[26] Program Evaluation Report, Sacramento Area Stormwater Program, NPDES Permit No. CA0082597, May 21, 2002, USEPA and Tetra Tech Inc.
[27] U.S. Department of Agriculture, 2009

disproportionately large. Urbanization causes a number of changes in the landscape, including increased loads of chemical pollutants; increased toxicity; changes to flow magnitude, frequency, and seasonality of various discharges; physical changes to stream, lake, or wetland habitats; changes in the energy dynamics of food webs, sunlight, and temperature; and biotic interactions between native and exotic species.[28] These impacts are also referred to as "urban stream syndrome [29]. In addition to surface water impacts, urbanization can alter the amount and quality of storm water that infiltrates and recharges groundwater aquifers. In essence, once watershed processes are disturbed, receiving water conditions also become disturbed, (Figure 1)
In California and the rest of the United States, the challenge to storm water managers and regulators has been to establish goals and performance standards that account for the highly variable nature of urban flow and pollutant inputs while ensuring that the ultimate biological response is within "acceptable" limits. The Surface Water Ambient Monitoring Program (SWAMP) is attempting to define biological responses through their Biological Objectives Development Process. Although final results and policy recommendations from this effort are not yet available, linking urbanization drivers to biological response represents the next phase in storm water management and cannot be delayed.[30]

Figure 1 – Relationship between Physical Landscape, Watershed Processes, and Receiving Water Condition



The Water Boards have historically derived site design, runoff reduction and hydromodification control criteria without identifying the dominant watershed processes and the sensitivity of receiving waterbodies to degradation of those processes. In most MS4 permits, projects are subject to the same set of criteria regardless of the dominant watershed processes and the sensitivity of receiving waters to degradation of those processes. In reality, every location on the landscape does not require the same set of control criteria because of intrinsic differences in the dominant watershed processes at each location and sensitivity of receiving waters to degradation of those processes. In recognizing this, the State Water Board is developing criteria that are more protective of receiving water quality.

[28] Urban Storm Water Management in the United States, National Research Council, 2008.
[29] Walsh, C.J., A.H.Roy, J.W. Feminella, P.D. Cottingham, P.M. Groffman, and R.P. Morgan. 2005. The urban stream syndrome: current knowledge and the search for a cure. J. N. Am. Benthol. Soc. 24(3):706–723.
[30] Urban Storm Water Management in the United States, National Research Council, 2008.

The existing General Permit requires post-construction controls for areas of high growth or areas with a population greater than 50,000. These requirements are contained in Attachment 4 of Order 2003-0005-DWQ and include matching pre-development peak discharge rates, conserving natural areas, minimizing storm water pollutants of concern, protecting slopes and channels, and designing volumetric and flow through treatment measures to handle a specific volume or flow rate. These requirements represented an initial attempt at establishing performance standards that account for hydrological and geomorphological processes (Figure 1). Recent research has yielded new information on complex watershed process interactions. For example, storm water management techniques that are intended to mimic natural hydrologic functions (e.g., low impact development) can protect key hydrologic processes such as surface and base flow, and groundwater recharge. Additionally, there is increasing awareness that, while site-based requirements are important to reduce impacts from urbanization, a site-based approach alone is unable to achieve a broader set of watershed goals, especially given the State Water Board's interest in regional issues such as water reuse, groundwater management, and maintaining instream flows. Consequently, a better understanding of watershed conditions and processes has become increasingly important in the development of MS4 permits.

This Order has specific site design and LID requirements for all projects. The LID requirements emphasize landscape-based site design features that are already required elsewhere (e.g., the Water Efficient Landscape Ordinance required under AB 1881).

Hydromodification Requirements

This Order also incorporates a baseline peak flow matching requirement for hydromodification control. During this permit term, the State Board will work towards developing runoff retention and hydromodification control criteria that are keyed to watershed processes (See discussion in Section VIII.) Watershed management zones[31] will be delineated by the State Board during this permit term. The watershed management zones will be used to identify applicable areas and to determine appropriate criteria for runoff retention and hydromodification control. Watershed process based runoff retention and hydromodification criteria will be incorporated into the next permit. Through the development of hydromodification measures based on watershed management zones, key watershed processes will be protected, and where degraded, restored. As a result of restored and maintained watersheds, key relationships between hydrology, channel geomorphology and biological health will be created and maintained and water quality/beneficial uses protected.

The State Water Board's efforts in developing runoff retention and hydromodification control criteria keyed to watershed processes can be significantly informed by similar efforts carried out regionally under the Regional Water Boards. This Order provides at Provision E.12.k (also referenced in F.5.g.) that Small MS4s shall comply with any post-construction storm water management requirements based on a watershed process approach developed by Regional Water Boards in lieu of the post-construction requirements of E.12 (also referenced in F.5.g.). The regional watershed process-based approach must be approved by the Regional Water Board following a public process and must include the following:

[31] A Watershed Management Zone (WMZ) is a combination of a Physical Landscape Zone (PLZ, based on surficial geology and slope) and direct receiving water type. Key watershed processes potentially impacted by urbanization (e.g., infiltration and groundwater recharge) are derived from each PLZ-receiving water combination.

- Completion of a comprehensive assessment of dominant watershed processes affected by urban storm water
- LID site design and runoff reduction measures, numeric runoff treatment and retention controls, and hydromodification controls that will maintain watershed processes and protect water quality and beneficial uses.
- A process by which Regional Board staff will actively engage Permittees to adaptively manage requirements as determined by the assessment of watershed processes.
- An annual reporting program that involves Regional Board staff and State Board staff to inform statewide watershed process based criteria.

A watershed process-based approach is already being used for Phase II MS4s that participated in the Central Coast Joint Effort for developing hydromodification control criteria. By Resolution No. R3-2012-0025 dated September 6, 2012, the Central Coast Water Board approved modifications to the SWMPs of MS4s participating in the Joint Effort. These modifications would incorporate the Central Coast-Specific Post-Construction Requirements into the SWMPs. Several petitions are currently pending before the State Water Board challenging the Resolution. In the November 16, 2012, draft of this Order, the requirements developed in the Joint Effort were proposed to be adopted into the Order as Attachment J. After receiving extensive public comment on Attachment J, the State Water Board determined that, while the Board continues to support a watershed process-based approach to hydromodification requirements, the Joint Effort process should be allowed to evolve and proceed, without incorporation into this Order, to address several unresolved issues acknowledged by the parties to that process, including the Regional Water Board. Under Provisions E.12.k (also referenced in F.5.g), the Central Coast Region Small MS4s will be required to implement watershed process-based requirements developed through the Joint Effort only after those requirements have been reconsidered and approved by the Central Coast Water Board. Because the requirements cannot be imposed through existing Resolution No. R3-2012-0025 (which operated as an update to SWMPs that are no longer required under this Order), the State Water Board expects the pending petitions on that Resolution to be moot as of adoption of this Order. As part of the petition process, the State Water Board will evaluate whether the entirety of the petitions are moot following adoption of the Order. However, any future action by a Regional Water Board, including the Central Coast Water Board, to adopt a regional watershed process-based approach would be subject to petitions for review by the State Water Board.

Multiple-benefits Projects

This Order encourages and allows for multiple-benefits projects at various scales. At the development site scale, multiple-benefit site design measures are required for all projects that create and/or replace more than 2,500 square feet of impervious surface. Designers are able to quantify runoff reduction using a site design runoff calculator in SMARTS for site design measures (e.g., trees, stream setbacks and buffers, and soil quality improvement). The site design measures in this Order all have multiple benefits (e.g., shading from trees, wildlife habitat from stream setbacks and buffers, less need for pesticides and irrigation from soil quality improvement) in addition to storm water runoff and pollutant load reduction. At the site and local scale, smart growth projects that utilize density, design and land use strategically to achieve multiple benefits including environmental, economic and social benefits are encouraged. For example, high density development contributes to less impervious surface than low density

development, generally resulting in less vehicle-related emissions and pollutants (e.g., heavy metals, oil and grease, fine sediment), improved water and air quality results, thus, achieving environmental benefits. The clustering of populations through high density development essentially substitutes evaluation of individual site design criteria for evaluation of per capita loading (Jacob and Lopez 2009[32]). As such, Permittees may implement an alternative approach to requirements for bioretention measures if they can effectively demonstrate a reduction in runoff volume per capita. In other words, alternative compliance may be achieved through the implementation of high density development, or smart growth projects.

Section E.12.l gives "credit" and creates incentive for Permittees to identify and implement watershed scale projects that achieve multiple-benefits. When evaluating watershed-scale, multiple-benefits projects, environmental, social, technical, economic, and political considerations can become intertwined to the point of intractability. These criteria need to be systematically examined through an organizing framework for rational analysis and alternative comparison. A Multi-Criterion Decision Analysis (MCDA) approach provides a flexible, rational, and transparent means to establish decision-making criteria and prioritize alternatives, assuring that projects achieve the desired multiple-benefit outcomes. Watershed scale multiple-benefit projects include projects that address water quality, water supply, flood control, habitat enhancement, open space preservation, recreation, and climate change. Once these projects are identified under Watershed Improvement Plans (Water Code §16100 et seq.), through an IRWMP process, or as part of an overall green infrastructure effort, the Permittee may impose requirements and create incentives on the site, local, and watershed scale to ensure project success.

Post-Construction BMP Condition Assessment

Permittees must understand how their actions reduce the discharge of pollutants to receiving waters. This is accomplished through an assessment of the performance of the Permittees BMPs, especially structural practices designed for specific pollutant/flow reductions. Only Renewal Permittees were required to install structural post-construction BMPs in the existing permit term. However, during MS4 audits by State and Regional Water Board staff, many of those BMP locations were unknown and not maintained causing water quality threats. In this Order, only Renewal Permittees are asked to implement a plan that contains simple and repeatable field observation and data management tools that can assist them in determining the relative condition of BMPs. The primary purpose is to inform Permittees of: 1) where the BMPs are located, 2) the relative urgency of water quality maintenance and, 3) provide a practical, consistent and reliable tool to track the condition of BMPs relative to observed condition at time of installation or immediately following complete maintenance. Permittees may implement this plan themselves or may be determined through a Self-Certification Annual Report submitted annually by an authorized party demonstrating proper maintenance and operations. Allowing an authorized party to conduct the BMP condition assessment offsets program costs and shifts responsibility to the party that should be maintaining the BMP they initially installed.

[32] Jacob, John S. and Lopez, Ricardo. Is Denser Greener? An Evaluation of Higher Density Development as an Urban Stormwater-Quality Best Management Practice. Jourcal of the American Water Resources Association.June 2009: 45:3: 687 – 701.

Applicability
Renewal Permittees currently listed in Attachment 4 to WQO 2003-0005-DWQ (Attachment 4) must continue to implement Attachment 4 Post-Construction Requirements up until the date when Section E.12 requirements of this Order are effective (the second year of the effective date of the Permit). All Permittees that are not subject to Attachment 4 must implement the CGP Post-Construction Requirements up until the second year of the effective date of the Permit. In the second year of the effective date of the permit, all Permittees, New and Renewal, must implement Section E.12. Post-Construction Requirements contained within this Order.

Lastly, extensive monitoring studies conducted by the California Department of Public Health (CDPH) have documented that mosquitoes opportunistically breed in structural storm water Best Management Practices (BMPs), particularly those that hold standing water for over 96 hours. Certain Low Impact Development (LID) site design measures that hold standing water such as rainwater capture systems may similarly produce mosquitoes. These structures create a potential public health concern and increase the burden on local vector control agencies that are mandated to inspect for and abate mosquitoes and other vectors within their jurisdictional boundaries. These unintended consequences can be lessened when structures incorporate design, construction, and maintenance principles developed specifically to minimize standing water available to mosquitoes1 while having negligible effects on the capacity of the structures to provide water quality improvements as intended. The California Health and Safety Code prohibits landowners from knowingly providing habitat for or allowing the production of mosquitoes and other vectors, and gives local vector control agencies broad inspection and abatement powers. This Order requires regulated MS4s to comply with applicable provisions of the Health and Safety Code and to cooperate and coordinate with CDPH and local mosquito and vector control agencies on vector-related issues.

Water Quality Monitoring Requirements
Legal Authority: Clean Water Act §§308(a), 402(p)(3)(b); 40 C.F.R. §§122.44(i), 122.48(b); MS4Permit Improvement Guide, U.S. EPA, April 2010, EPA 833-R-10-001; 2010 Integrated Report (Clean Water Act Section 303(d) List / 305(b) Report[33]; Ecological Condition Assessments of California's Perennial Wadeable Streams: Highlights from the Surface Water Ambient Monitoring Program's Perennial Streams Assessment (PSA) (2000-2007)[34]; National Research Council Report on Urban Storm Water in the United States, 2008[35]

The existing General Permit included requirements meant to eliminate or reduce the discharge of pollutants to receiving waters. Improved knowledge of the water quality impacts and management practices, obtained either as part of the permit requirements or from outside sources (e.g., scientific literature, studies, and expert panels), is

[33] 2010 Integrated Report can be found at:
http://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2010.shtml
[34] Ode, P.R.1, T.M. Kincaid2, T. Fleming3 and A.C. Rehn 9. 2011. Ecological Condition Assessments of California's Perennial Wadeable Streams: Highlights from the Surface Water Ambient Monitoring Program's Perennial Streams Assessment (PSA) (2000-2007). A collaboration between the State Water Resources Control Board's Non-Point Source Pollution Control Program (NPS Program), Surface Water Ambient Monitoring Program (SWAMP), California Department of Fish and Game Aquatic Bioassessment
Laboratory, and the U.S. Environmental Protection Agency.
[35] Urban Storm Water in the United States, National Research Council, 2008 can be found at:
http://www.epa.gov/npdes/pubs/nrc_stormwaterreport.pdf

intended to be used in an adaptive management fashion to inform requirements in subsequent permits. As such, monitoring and assessment represents a critical component in understanding the link between permit requirements, the benefits achieved due to those requirements, and the condition of receiving waters. Aside from general knowledge that storm water discharges from urbanized watersheds contribute pollutants to receiving waters, little is known about the specific conditions in such receiving waters outside of major metropolitan areas. The effectiveness of almost a decade of storm water management in Phase I MS4s has not been systematically evaluated through receiving water monitoring.

Nationwide, there are few of analyses of available data and guidance on how Permittees should be using the data to inform their storm water management decisions.

This Order prioritizes monitoring for ASBS, TMDLs, and 303d listed waterbodies. Permittees that have a population of 50,000 or greater and are part of an urbanized area are required to choose from a number of monitoring options. These larger Permittees are assumed to have the resources to undertake monitoring. For the majority of Phase II Permittees, this permit term will be the first time a monitoring program has been implemented. As such, prioritization of monitoring allows for a firm foundation from which Phase II Permittees may initiate and develop monitoring programs that will result in improvement of local knowledge of water quality impacts and implementation of storm water management practices. Any of the monitoring requirements may be conducted through participation in a regional monitoring group. Regional monitoring not only allows Permittees to share costs but also facilitates monitoring data and information sharing across local regions. In effect, regional programs provide a broad-scale picture of water quality condition within a watershed.

Program Effectiveness Assessment
Legal Authority: Clean Water Act § 402(p)(3)(b); 40 C.F.R.C.F.R. § 122.34(g) 40 CFR 122.34(g)(3), CASQA Effectiveness Assessment Guide [36]; Evaluating the Effectiveness of Municipal Stormwater Programs, U.S. EPA, EPA 833-F-07-010, MS4Permit Improvement Guide, U.S. EPA, April 2010, EPA 833-R-10-001

A key requirement in the storm water Phase II rule is a report that includes “the status of compliance with permit conditions, an assessment of the appropriateness of identified [control measures] and progress towards achieving identified measurable goals for each of the minimum control measures.” This assessment is critical to the storm water program framework which uses the iterative approach of implementing controls, conducting assessments, and designating refocused controls leading toward attainment of water quality standards. As a result, this Order requires a quantative evaluation of the Permittees MS4 programs. Measurable program evaluations are critical to the development, implementation, and adaptation of effective local storm water management programs.

To date, only a small number of Phase I MS4s have provided measurable outcomes with regard to aggregate pollutant reduction achieved by their municipal storm water programs. Most Permittees, both Phase I and II, are struggling simply to organize or document their program activities and few have provided a quantitative link between

[36] https://www.casqa.org/casqastore/products/tabid/154/p-7-effectiveness-assessment-guide.aspx

program activities and water quality improvements. The few that have determined whether or not water quality is improving as a result of storm water program implementation took many years. Despite these past obstacles, the process of evaluating and understanding the relationship between the storm water program implementation and water quality needs to begin now.

Building on the monitoring and assessment program, the Permittee must conduct an annual effectiveness assessment to assess the effectiveness of prioritized BMPs, program elements and the storm water program as a whole. Prioritized BMPs include BMPs implemented based on pollutants of concern. Where pollutants of concern are unidentified, prioritized BMPs are based on common urban pollutants (i.e., sediment, bacteria, trash, nutrients). The California Stormwater Quality Association's (CASQA) Municipal Stormwater Program Effectiveness Guidance describes strategies and methods for assessing effectiveness, including examples of effectiveness assessment for each program component. The CASQA Effectiveness Guidance is available at www.casqa.org for purchase. A two-hour EPA webcast focusing on the CASQA Guide is also available (available at www.epa.gov/npdes/training under "Assessing the Effectiveness of Your Municipal Stormwater Program"). A resources document from the webcast includes a 10 page summary of the Guide and example pages from the municipal chapter: (www.epa.gov/npdes/outreach_files/webcast/jun0408/110961/municipal_resources.pdf)

The Municipal Stormwater Program Effectiveness Assessment Guidance synthesizes information on designing and conducting program effectiveness assessments. The document also explains how to select certain methods based on programmatic outcomes and goals. The reader is led through a series of questions and case studies to demonstrate how proper assessments are selected. Techniques are related to different level of outcomes: level one – documenting activities, level two – raising awareness, level 3 – changing behavior, level 4 – reducing loads from sources, level 5 – improving runoff quality, and level 6 – protecting receiving water quality. The Guide includes fact sheets for all six NPDES program elements, outlining methods and techniques for assessing effectiveness of each program.

Annual Reporting

In general, an annual report must document and summarize implementation of the storm water program during the previous year, evaluate program results and describe planned changes towards continuous improvement. The annual report also can serve as a "state of the storm water program" report for the general public or other stakeholders in the community serving as an excellent summary document to provide about the status of storm water program.

However, lessons learned from Phase I MS4 annual reports demonstrate that many Permittees tend to submit too much information, and, as a result, Regional Water Boards receive large binders full of materials that do not provide useful information to assess compliance. As a result, this Order requires Permittees to annually submit a summary of the past year activities. For example, the Permittees should not only address "bean counting" of required task, but address such questions as:

- For illicit discharge data, what are the most prevalent sources and pollutants in the illicit discharge data, and where are these illicit discharges occurring?
- How many illicit discharges have been identified, and how many of those have been resolved?
- How many outfalls or screening points were visually screened, how many had dry weather discharges or flows, at how many were field analyses completed and for what parameters, and at how many were samples collected and analyzed?
- Does the MS4 need to conduct more inspections in these areas, or develop more specific outreach targeting these sources and pollutants?

In addition, Permittees use SMARTS to certify Annual Reports which verifies compliance with all requirements of this Order.

Nexus Between Annual Reporting and Program Effectiveness Assessment
In addition to submitting program element summaries, Permittee must analyze their yearly activities and link it to their Program Effectiveness Assessment and Improvement Plan which tracks and documents their annual and long-term effectiveness of the storm water program. For example:

- Planned Activities and Changes. The annual report should describe activities planned for the next year highlighting any changes made to improve control measures or program effectiveness.

Detailed Annual Report
Most major areas of this Order require Permittees to submit, via SMARTS, a summary annual report for the past year's activities. For certain program elements such as Water Quality Monitoring, Program Effectiveness Assessment, and TMDLs, more detailed annual report information is required to be tracked and submitted via SMARTS.

Additionally, at any time during the permit term, the Executive Officer of the applicable Regional Water Board can request a more detailed annual report. This information may be required to determine compliance or prior to targeted or comprehensive storm water program audit. The table below shows detailed annual reporting information an Executive Officer of the applicable Regional Water Board may require:

Permit Provision	**Detailed Annual Reporting Information**
E.6.c.	By the third year Annual Report and annually thereafter, report on the Enforcement Response Plan summarizing all enforcement activities including inspections of chronic violators and the incentives, disincentives, or escalated enforcement responses at each site. Summarizations of enforcement activities shall include, at a minimum, the following information for each type of site or facility: (a) Number of violations, including a listing of sites or facilities with identified violations (b) Number of enforcement actions, including types

	(c) Other follow-up actions taken (d) Demonstration that compliance has been achieved for all violations, or a description of actions that are being taken to achieve compliance
E.7.a.	By the third year Annual Report, and annually thereafter, submit a report on the implementation and progress of the public education strategy and general program development and progress. Report on the development of education materials, methods for educational material distribution, public input, landscaping outreach, reporting of illicit discharges, proper application of pesticides, herbicides, and fertilizers, elementary school education, reduction of discharges from organized car washes, mobile cleaning and pressure washing operations, and landscape irrigation efforts. By the fifth year Annual Report, submit a report summarizing changes in public awareness and knowledge resulting from the implementation of the program and any modifications to the public outreach and education program.
E.7.b.1.	By the third year Annual Report, document and maintain records of the training provided and the staff trained annually. The annual report shall include the number and percentage of Permittee's applicable staff that were trained and summarize the knowledge assessment as specified in E.7.b.1.(ii)(d).
E.7.b.2. **Permittee Staff**	By the second year of the permit and annually thereafter, submit the following information: a. Training topics covered b. Dates of training c. Number and percentage of Permittees' staff, as identified in Sections E.7.b.2. possessing the specified credentials.
E.7.b.2. Construction Site Operator Education	By the third year Annual Report and annually thereafter, submit a report including the following information: (a) Training topics covered; (b) Dates of training; (c) Number and percentage of Permittee's operators and number of contractors attending each training; (d) Results of any surveys conducted to demonstrate the awareness and potential behavioral changes in the attendees.
E.7.b.3.	By the second year Annual Report and annually thereafter, submit a summary that includes oversight procedures and identifies and tracks all personnel requiring training and assessment and records. The annual report shall include the number and percentage of Permittee's applicable staff that were trained during the year

	and summarize the knowledge assessment as specified in E.7.b.3(ii)(b).
E.8.	By the second year Annual Report and annually thereafter, submit a description of the public involvement program and summary of the MS4s efforts related to facilitating public involvement, including efforts to engage citizen advisory groups, increase citizen participation, and involvement with the IRWMP or other watershed-level planning effort.
E.9.a.	Submit a map by the second year Annual Report, and annually thereafter submit either (a) a current updated outfall map, or (b) verification that no changes or additions were made to the Permittee's MS4.
E.9.b.	By the second year online Annual Report, submit inventory and annually thereafter an updated inventory. By the second year online Annual Report, identify the illicit discharge procedures implemented and the locations of the implementation. Also identify in each online Annual Report the remaining inventoried facilities and priority areas still requiring illicit discharge assessment over the permit term.
E.9.c.	By the second year Annual Report, submit a report summarizing the field investigation results and areas of follow up actions.including the following information: (a) The number of outfalls found to be flowing or ponding more than 72 hours after the last rain event; (b) The number of such outfalls sampled in accordance with permit conditions; (c) Sampling result in tabular form; and (d) The number of outfalls found to be in exceedance of action levels
E.9.d.	By the second year Annual Report, submit all source investigations and corrective actions. At a minimum the report shall include: (a) Brief description of each non-stormwater discharge reported or observed; (b) Date(s) the non-storm water discharge was reported or observed; (c) Brief description of any actual or potential water quality impact resulting from the discharge; (d) Description and results of steps taken to investigate the source of the discharge; (e) Description and results of all follow-up or enforcement actions taken as a result of the investigation; (f) Date the investigation was closed, and whether the discharge was eliminated.

E.9.e.	Within the first year of the effective date of the permit, submit a spill response plan that contains the items specified in Section E.9.e. In subsequent Annual Reports summarize any spill response activities, and any follow-up actions, as specified in the spill response plan.
E.10.a.	Submit an up to date construction site inventory enumerating items listed in this Section with each Annual Report.
E.10.b.	By the first year Annual Report, submit a summary of review procedures. The summary should clearly indicate how the procedures will achieve compliance with all requirements of this Section, and clearly delineate responsibilities for implementing, and ensuring implementation of each aspect of the procedures.
E.10.c.	By the second year Annual Report and annually thereafter, submit the following information: (a) Total number of active sites disturbing less than one acre of soil requiring inspection; (b) Number and percentage of each type of enforcement action taken as listed in each Permittee's Enforcement Response Plan; (c) Number of sites with discharges of sediment or other construction related materials, both actual and those inferred through evidence.; (d) Number and percentage of violations fully corrected prior to the next rain event but no longer than 10 business days after the violations are discovered or otherwise considered corrected in a Permittee-defined timely period. (e) Number and percentage of violations not fully corrected 30 days after the violations are discovered. (f) Number of follow-up inspections that demonstrated the operator continued to implement BMPs according to plan and the number of follow-up inspections that required further enforcement.
E.11.a.	By the second year Annual Report submit the inventory and submit annual updates thereafter.
E.11.b.	By the second year Annual Report, submit the completed map and update annually thereafter if any of the information indicated on the map has changed.
E.11.c.	By the third year Annual Report, submit the results of the Permittee's annual assessment, including the list of identified hotspots and any identified deficiencies and corrective actions taken. The Permittee shall identify designated hotspots on the facility inventory updated and submitted in each subsequent year annual report.

E.11.d.	By the fourth year Annual Report, submit a summary of SWPPPs developed for pollutant hotspots. In subsequent Annual Reports, submit a summary of SWPPPs updated.
E.11.e.	By the fifth year Annual Report and annually thereafter, submit the following information: (a) Total number of facilities required to be inspected. (b) Verification that all inspections were conducted at all facilities in accordance with the requirements of this Section (c) Summary of spills and corrective actions (d) Summary of the results of inspections, including a summary of deficiencies noted and corrective actions taken (e) Results of the quarterly visual observations of storm water discharges (f) Total number of facilities inspected (visual and comprehensive inspections) and frequency of inspections (g) All inspection records, reports, and logs (h) Records of corrective actions taken and the results of corrective actions
E.11.f.	By the second year Annual Report, submit the assessment procedures and maintenance prioritization list, including a description of the method used to identify high priority storm drain system features and catch basins and number of catch basins identified as high priority. If flood conveyance maintenance is undertaken by another entity, submit a summary report of coordination by the first year Annual Report.
E.11.g.	By the third year Annual Report, submit a summary of the following information: (a) Storm sewer maintenance schedule (b) List of storm sewer systems and the maintenance priority assigned (c) Documentation of all required storm sewer systems maintenance logs (d) Documentation of waste material disposal procedure By the third Annual Report and annually thereafter, the Permittee shall submit verification that all storm drain facilities were maintained according to the priorities, procedures, and schedules developed according to this Section. The report shall include a summary of the results of inspections, deficiencies found, corrective actions taken, and the results of corrective actions.
E.11.h.	By the third year Annual Report, submit the following:

	(a) List of BMPs and associated pollutants with each O&M activity (b) BMPs applied during Permittee O&M activities (c) Log of quarterly BMP evaluations. By the third Annual Report and annually thereafter, the Permittee shall submit verification that identified BMPs were effectively implemented for all O&M activities.
E.11.i.	By the third year Annual Report, submit a summary of the development and implementation process to incorporate water quality and habitat enhancement design into new or upgraded flood management projects. By the fourth year Annual Report and annually thereafter, submit a list of new or upgraded flood management projects, including a summary of water quality and habitat enhancement features incorporated into their design.
E.11.j.	By the second year Annual Report, submit an evaluation of materials used and activities performed for pollution prevention and source control opportunities and a list of practices implemented to minimize the use of herbicide, pesticide, and fertilizers. By the second year Annual Report and annually thereafter, submit verification that identified BMPs were effectively implemented for all landscaping design and maintenance activities. By the second year Annual Report, submit a summary identifying the measures that the Permittee will use to demonstrate reductions in the application of pesticides, herbicides, and fertilizers. In subsequent annual reports, verify implementation of this measure, and describe reductions in pesticide, herbicide, and fertilizer application.
E.12.b	By the second year Annual Report and annually thereafter, the Permittee shall submit the following information: (a) A list of all project creating or replacing 2,500 square feet or more of impervious surface, as described above; and (b) A brief description of site design measures applied to each project.
E.12.c.	For each Regulated Project approved, the following information shall be submitted by the third year Annual Report: (a) Project Name, Number, Location (cross streets), and Street Address; (b) Name of Developer, Phase No. (if project is being constructed in phases, each phase shall have a separate entry), Project Type (e.g., commercial, industrial, multiunit residential, mixed-use, public), and description;

	(c) Project watershed(s); (d) Total project site area and total area of land disturbed; (e) Total new impervious surface area and/or total replaced impervious surface area; (f) For a redevelopment or road widening project: total pre-project impervious surface area and total post-project impervious surface area; (g) Status of project (e.g., application date, application deemed complete date, project approval date); (h) Source control measures; (i) Site design measures; (j) All post-construction storm water treatment systems installed onsite, at a joint storm water treatment facility, and/or at an offsite location; (k) O&M responsibility mechanism for the life of the project. (l) Water quality treatment calculations used; (m) Off-site compliance measures for Regulated Project (if applicable); Additional (watershed-specific) hydromodification standards used.
E.12.h.	By the second year Annual Report and annually thereafter, for each Regulated Project inspected during the reporting period the following information shall be submitted in tabular form: (1) Name of facility/site inspected. (2) Location (street address) of facility/site inspected. (3) Name of responsible operator for installed storm water treatment systems and hydromodification management controls. (4) Inspection details including: date of inspection, type of inspection (e.g., initial, annual, follow-up, spot), type(s) of storm water treatment systems inspected (e.g., swale, bioretention unit, tree well, etc.) and an indication of whether the treatment system is an onsite, joint, or offsite system. (5) Type of hydromodification management controls inspected. (6) Inspection findings or results (e.g., proper installation, proper O&M, system not operating properly because of plugging, bypass of storm water because

	of improper installation, maintenance required immediately, etc.). (7) Enforcement action(s) taken, if any (e.g., verbal warning, notice of violation, administrative citation, administrative order). (8) A discussion of the inspection findings for the year and any common problems encountered with various types of treatment systems and/or hydromodification management controls. This discussion shall include a general comparison to the inspection findings from the previous year. (9) A discussion of the effectiveness of the Permittee's O&M Program and any proposed changes to improve the O&M Program (e.g., changes in prioritization plan or frequency of O&M inspections, other changes to improve effectiveness of O & M program). On an annual basis, before the wet season, provide a list of newly installed (installed within the reporting period) storm water treatment systems and hydromodification management controls to the local mosquito and vector control agency and the appropriate Regional Water Board. This list shall include the facility locations and a description of the storm water treatment measures and hydromodification management controls installed.
E.12.i.	By the third year Annual Report and subsequently thereafter, submit the post-construction best management practice condition assessment plan as required in E.12.i.(ii)a-d.
F.5.b.2.	By the third year Annual Report and annually thereafter, submit the public education strategy and general program development and progress. By the fifth year Annual Report, summarize changes in public awareness and knowledge resulting from the implementation of the program and any modifications to the public education and outreach program. If applicable, submit a report on development of education materials, methods for educational material distribution, public input, Water Efficient Landscape Ordinance, elementary school education, reduction of discharges from mobile cleaning and pressure washing operations, and landscape irrigation efforts.
F.5.b.3.	By the third year Annual Report, submit records of the training provided and the staff trained annually.
F.5.b.4.	By the second year Annual Report and annually thereafter, submit a summary of oversight procedures and identify and track all personnel requiring training and assessment and records.
F.5.c.	By the third year Annual Report and annually thereafter, submit a description of the public involvement program and summary of the MS4s efforts related to facilitating public involvement.

F.5.d.	By second year Annual Report submit the outfall inventory map, and annually thereafter submit either (a) a current updated outfall map, or (b) verification that no changes or additions were made to the Permittee's MS4.
F.5.d.1.	By the second year Annual Report, submit a report summarizing the field investigation results and areas of follow up investigations. The report shall summarize all applicable observations. By the second year of the permit term and annually thereafter, submit all source investigations and corrective actions. At a minimum the report shall include: (a) Date(s) the non-storm water discharge was observed; (b) Results of the investigation; (c) Date the investigation was closed. (d) A summary of all non-storm water discharges that were found.
F.5.e.	By the second year Annual Report, the Permittee submit an updated contract language that includes CGP compliance requirements for all projects subject to the CGP.
F.5.f.1.	By the second year Annual Report submit and annually thereafter an updated inventory.
F.5.f.2.	By the second year Annual Report and annually thereafter, submit the map.
F.5.f.3.	By the third year Annual Report, submit the results of the Permittee's annual assessment, any identified deficiencies and corrective actions taken, list of the pollutant hotspots.
F.5.f.4.	By the fourth year Annual Report and annually thereafter, submit a summary of SWPPPs developed and updated for pollutant hotspots.
F.5.f.5.	By the fifth year Annual Report and annually thereafter, the following information shall be submitted: (a) Total number of facilities required to be inspected. (b) Total number of facilities inspected (visual and comprehensive inspections) and frequency of inspections (c) Summary of spills and corrective actions (d) Results of the quarterly visual observations of storm water discharges
F.5.f.6	By the second year Annual Report, submit the assessment procedures and

	maintenance prioritization list.
F.5.f.7	By the third year Annual Report, submit a summary of the following information: (a) Storm sewer maintenance schedule (b) List of storm sewer systems and the priority assigned (c) Documentation of all required storm sewer systems maintenance logs (d) Documentation of waste material disposal procedure
F.5.f.8.	By the third year Annual Report, submit the following: (a) List of BMPs and associated pollutants with each O&M activity (b) BMPs applied during Permittee O&M activities (c) Log of annual BMP evaluations.
F.5.f.9	By the second year Annual Report, submit an evaluation of materials used and activities performed for pollution prevention and source control opportunities and a list of practices implemented to minimize the use of herbicide, pesticide, and fertilizers. By the second year Annual Report, submit a document identifying the measures that the Permittee will use to demonstrate reductions in the application of pesticides, herbicides, and fertilizers. In subsequent annual reports, use this measure to demonstrate reductions in pesticide, herbicide, and fertilizer application.
F.5.g.	By the second year Annual Report and annually thereafter, the Permittee shall submit the following information: (a) A list of all project creating or replacing 2,500 square feet or more of impervious surface, as described above; and A brief description of site design measures applied to each project. For each project approved, the following information shall be submitted by the second year Annual Report: (a) Project Name, Number, Location (cross streets), and Street Address; (b) Name of Developer, Phase No. (if project is being constructed in phases, each phase shall have a separate entry), Project Type (e.g., commercial, industrial, multiunit residential, mixed-use, public), and description; (c) Project watershed(s);

	(d) Total project site area and total area of land disturbed; (e) Total new impervious surface area and/or total replaced impervious surface area; (f) If a redevelopment or road widening project, total pre-project impervious surface area and total post-project impervious surface area; (g) Status of project (e.g., application date, application deemed complete date, project approval date); (h) Source control measures; (i) Site design measures; (j) All post-construction storm water treatment systems installed onsite, at a joint storm water treatment facility, and/or at an offsite location; (k) O&M responsibility mechanism for the life of the project. (l) Water quality treatment calculations used; (m) Off-site compliance measures (if applicable) (n) Additional (watershed-specific) hydromodification standards used (a) For each project inspected during the reporting period the following information shall be submitted in tabular form as part of each year's Annual Report: (1) Name of facility/site inspected. (2) Location (street address) of facility/site inspected. (3) Name of responsible operator for installed storm water treatment systems and hydromodification management controls. (4) Inspection details including: Date of inspection, type of inspection (e.g., initial, annual, follow-up, spot), type(s) of storm water treatment systems inspected (e.g., swale, bioretention unit, tree well, etc.) and an indication of whether the treatment system is an onsite, joint, or offsite system. (5) Type of hydromodification management controls inspected. (6) Inspection findings or results (e.g., proper installation, proper O&M, system not operating properly because of plugging, bypass of storm water because of improper installation, maintenance required immediately, etc.).

	(7) Enforcement action(s) taken, if any (e.g., verbal warning, notice of violation, administrative citation, administrative order). (8) A discussion of the inspection findings for the year and any common problems encountered with various types of treatment systems and/or hydromodification management controls. This discussion shall include a general comparison to the inspection findings from the previous year. (9) A discussion of the effectiveness of the Permittee's O&M Program and any proposed changes to improve the O&M Program (e.g., changes in prioritization plan or frequency of O&M inspections, other changes to improve effectiveness of program). (b) On an annual basis, before the wet season, provide a list of newly installed (installed within the reporting period) storm water treatment systems and hydromodification management controls to the local mosquito and vector control agency and the appropriate Regional Water Board. This list shall include the facility locations and a description of the storm water treatment measures and hydromodification management controls installed.

Program Management
Without the requirement of a SWMP, this section serves as the framework/backbone for the storm water program. This section is a consolidation of all of the Permittee's relevant ordinances or other regulatory requirements, the description of all programs and procedures (including standard forms to be used for reports and inspections) that will be implemented and enforced to comply with the permit and to document the selection, design, and installation of all storm water control measures.

Legal Authority
Without adequate legal authority the MS4 would be unable to perform many vital program functions such as performing inspections and requiring installation of control measures. In addition, the Permittee would not be able to penalize and/or attain remediation costs from violators.

Certification
Submittal and signature certifies Permittee will comply with this Order.

Enforcement Response Plan (ERP)
This Order requires Permittees to have an established, escalating enforcement policy identified in the ERP that clearly describes the action to be taken for common violations. The plan must describe the procedures to ensure compliance with local ordinances and standards, including the sanctions and enforcement mechanisms that will be used to ensure compliance. (See 40 CFR 122.26(d)(2)(i)). It is critical that the Permittee have the authority to initiate a range of enforcement actions to address the variability and severity of noncompliance.

IDDE and Good Housekeeping
Both these programs pose potential immediate threat to water quality without quick access to information submitted in SMARTS. For example, in order to respond to discharges, an effective IDDE program responds to complaints about illicit discharges or spills such as illegal connections to the storm sewer system, improper disposal of wastes, or dumping of used motor oil or other chemicals. In order to trace the origin of a suspected illicit discharge or connection, the Permittee must have an updated map of the storm drain system and a formal plan of how to locate illicit discharges and how to respond to them once they are located or reported.

Construction Inventory
To effectively conduct inspections, the Permittee must know where construction activity is occurring. A construction site inventory tracks information such as project size, disturbed area, distance to any waterbody or flow channel, when the erosion and sediment control/stormwater plan was approved by the Permittee, and whether the project is covered by the CGP. This inventory will allow the Permittee to track and target its inspections.

Effectiveness Assessment
Without assessing the effectiveness of the stormwater management program the Permittee will not know which parts of the program need to be modified to protect and/or improve water quality and instead will essentially be operating blindly.

XIII. TOTAL MAXIMUM DAILY LOAD (TMDL)

Section 303(d) of the Clean Water Act requires States to identify waters that do not meet water quality standards after applying certain required technology-based effluent limitations (“impaired” waterbodies). States are required to compile this information in a list and submit the list to the U.S. EPA for review and approval. This list is known as the Section 303(d) list of impaired waters, which is incorporated into the Integrated Report.

This listing process requires States to prioritize waters/watersheds for future development of TMDLs. A TMDL is defined as the sum of the individual waste load allocations for point sources of pollution, plus the load allocations for nonpoint sources of pollution, plus the contribution from background sources of pollution. The Water Boards have ongoing efforts to monitor and assess water quality, to prepare the Section 303(d) list, and to subsequently develop TMDLs. The 2010 California 303(d) List identifies impaired receiving water bodies and their watersheds within the state.

TMDLs are developed by either the Regional Water Boards or U.S. EPA in response to Section 303(d) listings. Regional Water Board-developed TMDLs are subject to approval by the State Water Board, approval by the Office of Administrative Law, and ultimately approval by U.S. EPA. TMDLs developed by Regional Water Boards are incorporated as Basin Plan amendments and include implementation provisions. TMDLs developed by U.S. EPA typically contain the total load and waste load allocations required by Section 303(d), but do not contain comprehensive implementation provisions.

TMDLs are not self-implementing but rely on other regulatory mechanisms for implementation and enforcement. Urbanized areas typically utilize municipal storm

water permits as the implementation tool. Incorporation of TMDL implementation requirements into general permits (as opposed to individual MS4 permits) is difficult. First, there are numerous Traditional MS4s (municipalities) and Non-traditional MS4s such as military bases, public campuses, prison and hospital complexes covered under this Order. Second, the waste load allocations for many TMDLs are shared among several dischargers; that is, a single waste load allocation may be assigned to multiple dischargers, making it difficult to assign responsibility. Further, individual dischargers may not be explicitly identified. For example, "urban runoff" may be listed as a source of impairment, but the individual municipalities responsible for the impairment may not be identified. Third, the implementation plans adopted by the Regional Water Boards often provide for phased compliance with multiple milestones and deliverables, with optional and alternative means of compliance depending on the results of monitoring and special studies.

This Order requires Permittees to comply with all applicable TMDLs approved pursuant to 40 CFR §130.7 that assign a WLA to the Permittee and that have been identified in Attachment G. However, the high variance in the level of detail and specificity of TMDLs necessitates the development of more specific permit requirements in many cases to provide clarity to the Permittees regarding responsibilities for compliance. The Regional Water Boards have submitted TMDL-specific permit requirements to the State Water Board for applicable TMDLs and all TMDL-specific permit requirements for Traditional MS4s have been incorporated into Attachment G. The Regional Water Boards have also been directed to submit statements explaining how the requirements are designed to achieve the goals of the TMDLs and these have been incorporated into the Fact Sheet where provided (see the following discussions specific to each Regional Water Board).

This Order includes Attachment G, which identifies those approved TMDLs in which storm water or urban runoff is listed as a source. Attachment G then identifies municipalities subject to a given TMDL or assigned a waste load allocation under that TMDL. Finally, Attachment G includes TMDL-specific permit requirements developed by the Regional Water Boards for compliance with the TMDL, making the requirements directly enforceable through the permit.

Because the Permittees have not had an opportunity to meet with Regional Water Board staff to review and discuss the TMDL-specific permit requirements incorporated into this permit, the Regional Water Boards are additionally being directed through this Order to review the TMDL-specific permit requirements of Attachment G in consultation with the Permittees and propose any revisions to the State Water Board within one year of the effective date of this Order. Any such revisions will be incorporated into the permit through a reopener. To the extent they have not already done so, the Regional Water Boards will be expected during that process to prepare a statement for inclusion in the Fact Sheet explaining how the requirements are consistent with the assumptions and requirements of the TMDL WLAs and how they are designed to achieve the goals of the TMDLs.

Further, TMDL-specific permit requirements for TMDLs established in the Los Angeles Regional Water Quality Control Board's region, which apply to Non-Traditional MS4s in the region, have not been included in Attachment G. These TMDL-specific permit requirements will be developed during the one-year review period described above. The State Water Board or the Regional Water Board may designate additional Traditional or Non-traditional MS4s based on applicability of the TMDL requirements.

Permittees will report compliance with the specific TMDL permit requirements in the online Annual Report via SMARTS.

San Francisco Bay Water Board TMDLs

Sonoma Creek Sediment TMDL
The Sonoma Creek Sediment TMDL includes a wasteload allocation of 600 metric tons/year that applies to stormwater runoff discharges from stream crossings and with the operation of public and private roads, paved and unpaved within the watershed not otherwise covered by NPDES permits issued to County and City of Sonoma (Attachment G, Region Specific Requirements). It also includes a load allocation of 2,100 metric tons/year that applies to a roads and streams crossings source category that the City and County of Sonoma share with Caltrans. Caltrans is responsible for runoff from State highways and associated construction activities. Discharges from State highways are regulated via a Statewide Stormwater Permit issued to Caltrans.

The requirements in this Order are based on the TMDL Implementation Plan. To implement the roads and stream crossings allocation, the TMDL Implementation Plan establishes a performance standard for roads to design, construct, and maintain rural roads to minimize road-related sediment delivery to streams and calls on entities responsible for paved road, such as the City and County of Sonoma, to adopt and implement best management practices for maintenance of unimproved (dirt/gravel) roads, conduct a survey of stream-crossings associated with paved public roadways and develop a prioritized implementation plan for repair and/or replacement of high priority crossings/culverts to reduce road related erosion and protect stream-riparian habitat conditions.

Napa River Sediment TMDL
The Napa River Sediment TMDL includes a wasteload allocation of 800 metric tons/year that applies to stormwater runoff discharges from stream crossings and stormwater runoff discharges associated with operation of public and private roads, paved and unpaved within the watershed not otherwise covered by NPDES permits issued to Napa County and municipalities including the City of Napa, Town of Yountville, City of St. Helena, City of Calistoga, and City of American Canyon (Attachment G, Region Specific Requirements). It also includes a load allocation of 27,000 metric tons/year that applies to a roads and streams crossings source category that Napa County and the City of Napa, Town of Yountville, City of St. Helena, City of Calistoga, and City of American Canyon share with Caltrans. Caltrans is responsible for runoff from State highways and associated construction activities. Discharges from State highways are regulated via a Statewide Stormwater Permit issued to Caltrans.

The requirements in this Order are based on the TMDL Implementation Plan. To implement the roads and stream crossings allocation, the TMDL Implementation Plan establishes a performance standard for roads as follows: road-related sediment delivery to channels should be ≤ 500 cubic yards per mile per 20 year period. The TMDL Implementation Plan also calls on entities responsible for paved roads to conduct a survey of stream-crossings associated with paved public roadways and develop a prioritized implementation plan for repair and/or replacement of high priority crossings/culverts to reduce road related erosion and protect stream-riparian habitat conditions.

Sonoma Creek Pathogens TMDL
The Sonoma Creek Pathogens TMDL assigns a waste load allocation to municipal runoff as specified in Attachment G, Region Specific Requirements.

The requirements in this Order are based on the TMDL Implementation Plan. The Implementation Plan for the pathogen TMDL calls on parties responsible for municipal runoff (i.e., City and County of Sonoma) to comply with existing stormwater management plans and to update or amend them as needed, to include requirements for a) public participation and outreach, b) pet waste management, c) illicit sewage discharge detection and elimination to reduce and eliminate fecal coliform discharges to Sonoma Creek, and d) develop and implement pollution prevention strategies. The Implementation Plan also anticipates the City and County of Sonoma will participate in evaluation of *E. coli* concentration trends in Sonoma Creek and its tributaries and to report annually on water quality monitoring results and progress made on implementation of human and animal runoff reduction measures. These implementation actions would be extensions of existing programs.

Napa River Pathogens TMDL
The Napa River Pathogens TMDL assigns a waste load allocation to municipal runoff as specified in Attachment G, Region Specific Requirements.

The requirements in this Order are based on the TMDL Implementation Plan. The Implementation Plan for the pathogen TMDL calls on parties responsible for municipal runoff (i.e., Napa County and municipalities including the City of Napa, Town of Yountville, City of St. Helena, City of Calistoga, and City of American Canyon) to comply with existing stormwater management plans and to update or amend them as needed, to include requirements for a) public participation and outreach, b) pet waste management, c) illicit sewage discharge detection and elimination to reduce and eliminate fecal coliform discharges to Sonoma Creek, and d) develop and implement pollution prevention strategies. The Implementation Plan also anticipates these parties to participate in evaluation of *E. coli* concentration trends in the Napa River and its tributaries and to report annually on water quality monitoring results and progress made on implementation of human and animal runoff reduction measures. These implementation actions would be extensions of existing programs.

Tomales Bay Pathogens TMDL
The Tomales Bay Pathogens TMDL assigns a waste load allocation to municipal runoff as specified in Attachment G, Region Specific Requirements.

The requirements in this order are based on the TMDL Implementation Plan. The Implementation Plan for the pathogen TMDL calls on parties responsible for municipal runoff (i.e., Marin County) to comply with existing stormwater management plans and to update or amend them as needed, to include requirements for a) public participation and outreach, b) pet waste management, c) illicit sewage discharge detection and elimination to reduce and eliminate fecal coliform discharges to Tomales Bay and its tributaries including Olema, Lagunitas, Walker, and San Geronimo Creeks, and d) develop and implement pollution prevention strategies. The Implementation Plan also anticipates these parties to participate in evaluation of *E. coli* concentration trends in Tomales Bay and its tributaries and to report annually on water quality monitoring results and progress made on implementation of human and animal runoff reduction measures.

The Implementation Plan anticipates that dischargers (including Marin County) and stakeholders, in collaboration with the Water Board will conduct water quality monitoring to evaluate fecal coliform concentration trends in Tomales Bay and its tributaries.

These implementation actions would be extensions of existing Stormwater Management Programs and would build upon previous and ongoing successful efforts to reduce pathogen loads to Tomales Bay and its tributaries.

Richardson Bay Pathogens TMDL
The Richardson Bay Pathogens TMDL assigns a waste load allocation to municipal runoff as specified in Attachment G, Region Specific Requirements.

The requirements in this order are based on the TMDL Implementation Plan. The Implementation Plan for the pathogen TMDL calls on parties responsible for municipal runoff (i.e., Marin County, City of Mill Valley, City of Tiburon, City of Belvedere, and city of Sausalito) to comply with existing stormwater management plans and to update or amend them as needed, to include requirements for a) public participation and outreach, b) pet waste management, c) illicit sewage discharge detection and elimination to reduce and eliminate fecal coliform discharges to Sonoma Creek, and d) develop and implement pollution prevention strategies. The Implementation Plan also parties responsible for municipal runoff to report annually on progress made on implementation of human and animal runoff reduction measures. These implementation actions would be extensions of existing programs.

Urban Creeks and Diazinon & Pesticide Toxicity TMDL
The Urban Creeks and Diazinon & Pesticide TMDL assigns a waste load allocation to municipal runoff as specified in Attachment G, Region Specific Requirements.

The requirements in this order are based on the TMDL Implementation Plan. The Implementation Plan for the Urban Creeks and Diazinon & Pesticide Toxicity TMDL calls on parties responsible for municipal runoff (i.e., Marin County, City of Mill Valley, City of Belvedere, Town of Corte Madera, Town of Fairfax, City of Larkspur, City of Mill Valley, City of Novato, Town of Ross, Town of San Anselmo, City of San Rafael, City of Sausilito, Town of Tiburon, County of Sonoma, City of Sonoma, and City of Petaluma) to adopt an Integrated Pest Management Policy (IPM) or ordinance, as the basis of a Pesticide-Related Toxicity Program. Implementation actions of the program must include: a) training of all municipal employees who use or apply pesticides in the IPM practices and policy/ordinance, b) require contractors to implement IPM, c) keep County Agricultural Commissioners informed of water quality issues related to pesticides, d) conduct outreach to residents and pest control applicators on less toxic methods for pest control, e) keep records on pesticide use, and f) monitor water and sediment for pesticides and associated toxicity in urban creeks via an individual or regional monitoring program.

Central Valley Water Board TMDLs

Delta Methylmercury TMDL
On April 22, 2010, the Central Valley Regional Water Quality Control Board (Central Valley Water Board) adopted Resolution No. R5-2010-0043 to amend the Water Quality Control Plan for the Sacramento River and San Joaquin River Basins (Basin Plan) to

include a methylmercury TMDL and an implementation plan for the control of methylmercury and total mercury in the Sacramento-San Joaquin Delta Estuary (Delta Mercury Control Program). The Basin Plan amendment includes the addition of: (1) site-specific numeric fish tissue objectives for methylmercury; (2) the commercial and sport fishing (COMM) beneficial use designation for the Delta and Yolo Bypass; (3) methylmercury load allocations for non-point sources and waste load allocations for for point sources; and (4) an implementation plan that includes adaptive management to address mercury and methylmercury in the Delta and Yolo Bypass.

The Delta TMDL covers the Counties of Alameda, Contra Costa, Sacramento, San Joaquin, Solano and Yolo both within legal Delta boundary defined by California Water Code Section 12220 and the Yolo Bypass, a 73,300-acre floodplain on the west side of the lower Sacramento River.

The Delta is on the Clean Water Act Section 303(d) List of Impaired Water Bodies because of elevated levels of mercury in fish. Beneficial uses of the Delta that are impaired due to the elevated methylmercury levels in fish are wildlife habitat (WILD) and human consumption of aquatic organisms. The Delta provides habitat for warm and cold-water species of fish and their associated aquatic communities. Additionally, the Delta and its riparian areas provide valuable wildlife habitat. There is significant use of the Delta for fishing and collection of aquatic organisms for human consumption. Further, water is diverted from the Delta for statewide municipal (MUN) and agricultural (AGR) use.

Mercury in the Central Valley comes primarily from historic mercury and gold mines and from resuspension of contaminated material in stream beds and banks downstream of the mines, as well as from modern sources such as atmospheric deposition from local and global sources, waste water treatment plants, and urban runoff. Methylmercury, the most toxic form of mercury, forms primarily by sulfate reducing bacteria methylating inorganic mercury. Sources of methylmercury include methylmercury flux from sediment in open water and wetland habitats, urban runoff, irrigated agriculture, and waste water treatment plants. Water management activities, including water storage, conveyance, and flood control, can affect the transport of mercury and the production and transport of methylmercury.

The Delta Mercury Control Program assigns massed-based methylmercury TMDL allocations to all sources of methylmercury in the Delta and Yolo Bypass, including urban runoff from Phase 1 and Phase 2 MS4s. In the Delta and Yolo Bypass, the TMDL assigns individual methylmercury waste load allocations to the following small urban runoff agencies:

City of Lathrop
City of Lodi
City of Rio Vista
County of San Joaquin
County of Solano
City of West Sacramento
County of Yolo
City of Tracy

Mercury is often attached to sediment, and the formation of methylmercury is linked in part to the concentration of mercury concentrations in sediment. Reductions in mercury concentrations will result in methylmercury reductions and subsequently methylmercury levels in fish. To comply with the TMDL, the agencies are required to implement best management practices to control erosion and sediment discharges with the goal of reducing mercury discharges.

Central Coast Water Board TMDLs

Morro Bay Sediment TMDL
The numeric targets approved in the TMDL are expressed in terms of receiving water indicators, e.g. pool residual volume, median diameter of spawning graves, etc. The TMDL also expressed the sediment assimilative capacity and allocations required to achieve the numeric targets. The allocations require a 50% reduction of current loading (estimated in 2003) to achieve the numeric targets. The wasteload allocations assigned to the responsible parties in this permit represent a 50% reduction from 2003 loading estimates.

San Lorenzo River Sediment TMDL
The numeric targets approved in the TMDL are expressed in terms of receiving water indicators, e.g. pool residual volume, median diameter of spawning graves, etc. The TMDL also expressed the sediment assimilative capacity and allocations required to achieve the numeric targets. The allocations require reductions of 24-27 percent of current sediment loading (estimated in 2002) to achieve the numeric targets. The wasteload allocations assigned to the responsible parties in this permit represent a 24-27 percent reduction from the 2003 loading estimates.

Pajaro River Sediment TMDL
The numeric targets approved in the TMDL are expressed in terms of receiving water indicators, e.g. pool residual volume, median diameter of spawning graves, etc. The TMDL also expressed the sediment assimilative capacity and allocations required to achieve the numeric targets. The allocations require reductions of 90% from current sediment loading (estimated in 2005) to achieve the numeric targets. The wasteload allocations assigned to the responsible parties in this permit represent a 90% reduction of the 2005 loading estimate.

For All TMDLs Requiring Wasteload Allocation Attainment Programs
In situations where MS4s must reduce their wasteload discharges in accordance with TMDLs, the Central Coast Water Board has required the MS4s to develop Wasteload Allocation Attainment Programs. Since these MS4s have been documented as sources of impairment, they must be held to a high standard to ensure they ultimately achieve their wasteload allocations and no longer contribute to the water body impairments addressed by the TMDLs. Indeed, the TMDLs set forth the expectation that the MS4s achieve their wasteload allocations within specified timeframes. This approach stands in contrast to the typical regulatory approach applied to municipal stormwater, which calls for implementation of BMPs according to an iterative process of continual improvement, with no associated timelines for achieving water quality standards. The MS4s' contribution to the impairment of water bodies, combined with the expectation that they achieve their wasteload allocations within specified timeframes, necessitates a

systematic approach to program implementation as it relates to the discharge of pollutants associated with impairments.

The federal regulations indicate that such an approach is appropriate. The Preamble to the Phase II federal storm water regulations states: "Small MS4 permittees should modify their programs if and when available information indicates that water quality considerations warrant greater attention or prescriptiveness in specific components of the municipal program."[37]

Central Coast Water Board staff developed the Wasteload Allocation Attainment Programs as a means to systematically guide municipalities towards attainment of their wasteload allocations. Without a systematic approach of this type, Water Board staff believes that attainment of wasteload allocations is unlikely. This belief is supported by many MS4s' storm water management programs. For example, programs typically include basic or minimum BMPs to be implemented to attain wasteload allocations. While some of these BMPs are likely to be beneficial, the connection between others and wasteload reductions is unclear. In addition, it appears that most of these BMPs are currently implemented, yet impairments continue, indicating that greater efforts are warranted. Moreover, BMPs implemented by MS4s often do not address all of the issues identified in TMDLs. This insufficient approach to BMP implementation in light of documented impairments and approved TMDLs indicates that a more systematic approach, as represented by the Wasteload Allocation Attainment Programs, is warranted.

On a broader scale, storm water programs often do not exhibit the rationale used for BMP selection, or draw connections between those BMPs selected and eventual wasteload allocation attainment. Without this level of planning, the significant challenge of achieving wasteload allocations within specified timeframes is not likely to be met. The Wasteload Allocation Attainment Program requirements are expressly designed to ensure adequate planning is conducted so that MS4s' TMDL implementation efforts are effective. The main steps to be followed for Wasteload Allocation Attainment Program development and implementation are activities that are basic to successfully correcting water quality problems. The Wasteload Allocation Attainment Program requirements specify that MS4s address the following items as they apply to TMDLs: (1) An implementation and assessment strategy; (2) source identification and prioritization; (3) BMP identification, prioritization, implementation (including schedule), analysis, and assessment; (4) monitoring program development and implementation (including schedule); (5) reporting and evaluation of progress towards achieving wasteload allocations; and (6) coordination with stakeholders. The United States Environmental Protection Agency (U.S. EPA) forwards similar approaches for TMDL implementation in its *Draft TMDLs to Stormwater Permits Handbook*, which discusses BMP review and selection, establishing linkages between BMP implementation and load reductions, effectiveness assessment, and BMP/outfall/receiving water monitoring.[38]

Ultimately, the Wasteload Allocation Attainment Programs place the responsibility for program development, assessment, improvement, and success on the municipalities. Placement of responsibility on the municipalities is appropriate, since the municipalities are the parties contributing to the water quality impairment. This approach is also

[37] 64 FR 68753
[38] USEPA. 2008. Draft TMDLs to Stormwater Permits Handbook. Chapters 5 and 6.

consistent with the Water Board's approach of requiring plans for control of pollutants from other sources identified by TMDLs, such as sanitary sewer collection and treatment systems and domestic animal discharges. The Water Board will collectively assess the progress of the various sources towards achieving receiving water quality standards as part of its triennial review, but each source must be responsible for assessing its own progress towards achieving its wasteload allocation. Without progress by each responsible party, the Water Board will not be able to demonstrate progress towards correcting the impairment. The process of planning, assessment, and refinement outlined by the Wasteload Allocation Attainment Programs helps ensure continual improvement and ultimate attainment of water quality standards at impaired receiving waters. This will be especially important as the complexity of achieving wasteload allocations increases when more and more TMDLs are adopted.

The Central Coast Water Board staff believes this standardized process of development, implementation, assessment, and review of the Wasteload Allocation Attainment Programs provides the greatest likelihood for the TMDLs' wasteload allocations to be attained.

XIV. STORM WATER MANAGEMENT PROGRAM FOR NON-TRADITIONAL MS4s

Differences between Traditional and Non-traditional MS4s

Because of the differences between Traditional and Non-traditional MS4s this Order includes Section F to address their specific management structure.

Non-Traditional Small MS4s required to comply with this Order are identified in Attachment B.

Non-traditional MS4s differ from cities and counties, because most potential sources of illicit discharges and storm water pollution are associated with activities under their direct operational control.

Some Non-traditional MS4s may also lack the legal authority or employ a different type of enforcement mechanism than a city/county government to implement their storm water program.

Certain Non-traditional Small MS4s such as Department of Defense and Department of Corrections and Rehabilitation Permittees required exemption from certain provisions due to security risks and/or compromised facility security.

Program Management – Applicable to all Non-traditional MS4 Categories
Legal Authority: Clean Water Act § 40 CFR 122.26(d)(2)(i) and 40 CFR 122.34(b)(3)(ii)(B), (b)(4)(ii)(A), and (b)(5)(ii)(B).
MS4 Permit Improvement Guide, U.S. EPA, April 2010, EPA 833-R-10-001; MS4 Program Evaluation Guidance, U.S. EPA , EPA-833-R-07-003

Program Management

Program Management is essential to ensure that all elements of the storm water program are implemented on schedule and consistent with the Order requirements.

See Online Annual Reporting for further discussion later in this section.

Legal Authority
Legal authority to control discharges into a Permittee's storm sewer system is critical for compliance. Most Non-traditional MS4s lack the legal authority or employ a different type of enforcement mechanism than a city or county government to implement its storm water program. To the extent allowable under State and federal law, this Order requires each Non-traditional MS4 to operate with sufficient legal authority to control discharges into and from its MS4. The legal authority may be demonstrated by a combination of statutes, permits, contracts, orders, and interagency agreements. Non-traditional MS4 Permittees also do not generally have the authority to impose a monetary penalty. Although these differences exist, just like Traditional MS4s, Non-traditional MS4s must have the legal authority to develop, implement, and enforce the program.

Coordination
This Order allows Non-traditional MS4s to coordinate their storm water programs with other entities within or adjacent to their MS4 and allows the concept of a Separate Implementing Entity. A Separate Implementing Entity allows Permittees to leverage resources and skills. Additional information regarding SIEs is discussed later in this section.

Education and Outreach Program
Legal Authority: Clean Water Act § 40 CFR 122.34(b)(1).
MS4 Permit Improvement Guide, U.S. EPA, April 2010, EPA 833-R-10-001

Because the population served by most Non-traditional MS4s will generally be served by the public education and outreach efforts of the local jurisdiction, the most useful supplement to those education and outreach efforts would be to label the Non-traditional MS4 catch basins. However, some Non-traditional MS4s such as universities have tenants and residents that may not be as effectively served by the local jurisdiction's public education and outreach program, therefore a separate education and outreach program may be needed. Where the local jurisdiction's public education and outreach efforts do effectively target and reach these tenant and resident populations, the Non-traditional MS4s are not expected to duplicate those efforts.

Some Non-traditional MS4s are well suited for regional education and outreach. For example, school districts often have several schools located with a watershed or regional boundary. This Order allows Non-traditional MS4s to comply with the Education and Outreach provisions through a regional collaborative effort.

Regional outreach and collaboration requires the Permittees to define a uniform and consistent message, deciding how best to communicate the message, and how to facilitate behavioral changes.

Public Involvement and Participation
Legal Authority: Clean Water Act § 40 CFR 122.34(b)(2)).
MS4 Permit Improvement Guide, U.S. EPA, April 2010, EPA 833-R-10-001

Non-traditional MS4s have the same responsibilities as Traditional MS4s to ensure the storm water program is publicized and must involve the population they serve in the development of the program. However, the most effective BMP for Non-traditional

MS4s is to provide up-to-date information about the storm water program online if the Non-traditional MS4 maintains a website, or the Non-traditional MS4 Permittee may choose to post information about their program on the local jurisdiction's website.

Illicit Discharge Detection and Elimination Program
Legal Authority: Clean Water Act § 40 CFR 122.26(d)(2)(iv)(B)
MS4 Permit Improvement Guide, U.S. EPA, April 2010, EPA 833-R-10-001

The federal Phase II regulations require all MS4s to develop a process to trace the source of illicit discharges and eliminate them. The regulations also state that appropriate enforcement procedures and actions must be included in this process.

Unlike Traditional MS4s, Non-traditional MS4s have direct control of their own staff and contractors. Therefore, the enforcement provisions identified in the Illicit Discharge Detection and Elimination program are often not applicable to Non-traditional MS4 Permittees. Non-traditional MS4 Permittees should address illicit non-storm water discharges through the implementation of a Spill Response Plan However, Non-traditional MS4 Permittees often comply with existing state/federal regulations that required a Spill Response Plan or Hazardous Materials plan that identifies notification procedures for other operators or local agencies and includes details that are similar if not the same as a Spill Response Plan. Therefore, to leverage resources and maximize efficiencies the requirements in this Order recommend utilizing existing documents if that document contains the same information.

Construction Site Storm Water Runoff Control and Outreach Program
The purpose of this program component is to prevent sediment and other pollutants from entering the Non-traditional MS4 during the construction phase of development projects. In general, Non-traditional MS4 Permittees will obtain coverage under, and comply with, the CGP for their own construction projects. To the extent that they have the legal authority, Non-traditional MS4s must also require other entities discharging to their MS4 to obtain coverage under and comply with the CGP during the construction phase of their projects.

This Order relieves Non-traditional MS4 Permittees from development and implementation of a complete construction storm water runoff control program. This Order does require education and outreach to staff, construction site operators and contractors on how to control construction storm water runoff.

The CGP is inherently a robust permit with stringent reporting requirement for any construction project disturbing one acre or more in California. Often, Non-traditional MS4s have a few construction projects occurring at once such as those in a City or County. There are, however, very few Non-tradtional MS4s that have dozens of active construction sites. Further, Non-traditional MS4 Permittees are often both the owner and contractor of a construction project. Finally, municipal governments must review and approve erosion and sediment control plans prior to the issuance of grading permits. Most all Non-traditional MS4s do not require approval from local municipalities prior to construction activity. Conditioning of a construction project is usually conducted in-house by Non-traditional MS4 Permittee staff. If contractors are brought in to conduct construction activity, this Order requires Non-traditional MS4 Permittees to include

"bullet proof" contract language ensuring construction operators or contractors comply with the CGP and implement appropriate BMPs.

Pollution Prevention and Good Housekeeping Program
Legal Authority: Clean Water Act § 40 CFR 122.34(b)(6)

MS4 Permit Improvement Guide, U.S. EPA, April 2010, EPA 833-R-10-001

Non-traditional MS4s have the same responsibilities as Traditional MS4s to prevent or reduce storm water pollution generated by their own operations, to train employees about pollution prevention/good housekeeping practices, and to identify appropriate measures to prevent or reduce the amount of storm water generated by their operations.

Post-Construction Storm Water Management Program
Legal Authority: Clean Water Act § 402(p)(3)(b); 40 C.F.R. § 122.34(b)(5).
MS4 Permit Improvement Guide, U.S. EPA, April 2010, EPA 833-R-10-001; U.S. EPA Incorporating Environmentally Sensitive Development into Municipal Stormwater Programs, EPA 833-F-07-011

This Order has specific site design and LID requirements for all projects. The LID requirements emphasize landscape-based site design features that are already required elsewhere (e.g., the California Water Efficient Landscape Ordinance). The goal during this permit term is to develop runoff retention and hydromodification control criteria that are keyed to watershed processes. Watershed management zones will be delineated by the State Board during this permit term. The Watershed management zones will be used to identify applicable areas and appropriate criteria for runoff retention and hydromodification control. Regional Boards that have approved watershed process-based criteria for post-construction will be permitted to continue requiring Permittees to implement these criteria.

Total Maximum Daily Load (TMDL)
The Order includes Attachment G, which identifies only those approved TMDLs in which storm water or urban run-off is listed as a source. In addition, Attachment G identifies Permittees subject to TMDLs or assigned waste load allocation. If Non-traditional MS4 Permittees have been identified in Attachment G, they must implement the specific TMDL permit requirements.

Program Effectiveness Assessment
Non-traditional MS4s have the same responsibilities as Traditional MS4s to conduct quantitative evaluation of their storm water program.

Online Annual Reporting
Non-traditional MS4s have the same responsibilities as Traditional MS4s to submit online Annual Reports via SMARTS.

Separate Implementing Entity
Legal Authority: Clean Water Act § 40 CFR 122.35

This Order allows a Regulated MS4s to rely on a Separate Implementing Entity to meet permit requirements, as allowed by U.S. EPA in the Phase II regulations. Reliance on Separate Implementing Entity may be particularly beneficial for Non-Traditional MS4s. An example is a community service district that is charged with creating and implementing a municipal storm water program.

Co-application and cooperative implementation of the storm water program by any Permittee with another Permittee can maximize efficiency and reduce overall costs. Non-traditional MS4s are encouraged to co-apply with local jurisdictions and utilize shared resources to implement the storm water program. Additionally, co-application and cooperative storm water program implementation can achieve watershed-wide consistency.

A Permittee may rely on a Separate Implementing Entity to implement one or more program elements, if the Separate Implementing Entity can appropriately and adequately address the storm water issues of the Permittee. To do this, both entities must agree to the arrangement, and the Permittee must comply with the applicable parts of the Separate Implementing Entity's program.

In accordance with 40 Code of Federal Regulations, section 122.35(a)(3), the Permittee remains responsible for compliance with its permit obligations if the Separate Implementing Entity fails to implement the control measure(s) or any component thereof. Therefore, the entities are encouraged to enter into a legally binding agreement to minimize any uncertainty about compliance with the permit.

If the Non-traditional MS4 Permittee relies on a Separate Implementing Entity to implement all program elements and the Separate Implementing Entity also has a storm water permit, the Permittee relying on Separate Implementing Entity must still file an NOI via SMARTS, submit the appropriate fee and file online Annual Reports. Both parties must also submit to the appropriate Regional Water Board a certification of the arrangement. The arrangement is subject to the approval of the Regional Water Board Executive Officer prior to filing an electronic NOI via SMARTS.

School districts present an example of where a Separate Implementing Entity arrangement may be appropriate, either by forming an agreement with a city or with an umbrella agency, such as the County Office of Education. Because schools provide a large audience for storm water education the two entities may coordinate an education program. An individual school or a school district may agree to provide a one-hour slot for all second and fifth grade classes during which the city would make its own storm water presentation. Alternatively, the school could agree to teach a lesson in conjunction with an outdoor education science project, which may also incorporate a public involvement component. Additionally, the school and the city or Office of Education may arrange to have the school's maintenance staff attend the other entity's training sessions.

XV. RELATIONSHIP BETWEEN THE ORDER AND THE STATEWIDE GENERAL PERMIT FOR DISCHARGES OF STORM WATER ASSOCIATED WITH INDUSTRIAL ACTIVITY

In some cases, certain Non-traditional MS4s will be subject to both this Order and the IGP.

The intent of both of these permits is to reduce pollutants in storm water, but neither permit's requirements totally encompass the other. This Order requires that Non-traditional MS4 operators address storm water program elements, while the IGP requires the development and implementation of a SWPPP for certain "industrial" activities as well as requiring specific visual and chemical monitoring.

In the Preamble to the Phase II regulations, U.S. EPA notes that for a combination permit to be acceptable, it must contain all of the requirements for each permit. Further, "when viewed in its entirety, a combination permit, which by necessity would need to contain all elements of otherwise separate industrial and MS4 permit requirements, and require NOI information for each separate industrial activity, may have few advantages when compared to obtaining separate MS4 and industrial general permit coverage." (64 Fed. Reg. 68781.) Where the permits do overlap, one program may reference the other. More specifically, the Good Housekeeping for Permittee Operations program element requires evaluation of Permittee operations, some of which may be covered under the IGP. The development and implementation of the SWPPP under the IGP will likely satisfy the Good Housekeeping requirements for those industrial activities. The Non-traditional MS4 storm water program may incorporate by reference the appropriate SWPPP.

There may be instances where a Non-traditional MS4 has, under the IGP, obtained coverage for the entire facility (rather than only those areas where industrial activities occur) and has developed a SWPPP that addresses all the program elements required by this Order. In these instances, the Non-traditional MS4 is not required to obtain coverage under this Order. The entity should, in such cases, provide to the appropriate Regional Water Board documentation that its SWPPP addresses all program elements.

XVI. USE OF PARTNERSHIPS IN MS4 PERMITS

Since the Phase II Rule applies to all small MS4s within an urbanized area regardless of political boundaries it is very likely that multiple governments and agencies within a single geographic area are subject to NPDES permitting requirements. For example, a city government that operates a small MS4 within an urbanized area may obtain permit coverage under this Order while other MS4s in the same vicinity (such as a County, other cities, public university, or military facility) may also be covered under this Order. All MS4s are responsible for permit compliance within their jurisdiction.

Given the potential for overlapping activities in close proximity, the State Water Board encourages MS4s in a geographic area to establish cooperative agreements in implementing their storm water programs, especially with receiving water monitoring. Partnerships and agreements between Permittees and/or other agencies can minimize unnecessary duplication of effort and result in efficient use of available resources. Sharing resources can allow MS4s to focus their efforts on high priority program components. By forming partnerships, water quality can be examined and improved on a consolidated, efficient, watershed-wide scale rather than on a piece-meal, site-by-site basis.

XVII. REGIONAL BOARD DESIGNATIONS

Designation of additional Small MS4s outside of Urbanized Areas as Regulated Small MS4s may be made by the Regional Water Boards on a case by case basis. Case by case determinations of designation are based on the potential of a Small MS4's discharges to result in exceedances of water quality standards, including impairment of designated uses, or other significant water quality impacts, including habitat and biological impacts. The tables below includes designations recommend by the Regional Water Boards prior to adoption of this Order. The Regional Water Boards may continue to make case by case determinations of designation during the permit term by notification to the discharger (which shall include a statement of reasons for the designation) and following an opportunity for public review and comment.

Traditional Small MS4s

Place name	County	Regional Board	Justification
Crescent City	Del Norte	1	7500 population and in urbanized area
Bayview CDP	Humboldt	1	Adjacent to, but outside of Eureka city limits located in southern Humboldt Bay, in unincorporated Humboldt County. Designation of these areas is needed to address pollutant sources of urbanized and urbanizing areas within 303(d) listed watersheds
Cutten CDP	Humboldt	1	Adjacent to, but outside of Eureka city limits located in southern Humboldt Bay, in unincorporated Humboldt County. Designation of this area is needed to address pollutant sources of urbanized and urbanizing areas within 303(d) listed watersheds
Humboldt Hill CDP	Humboldt	1	Adjacent to, but outside of Eureka city limits located in southern Humboldt Bay, in unincorporated Humboldt County. Designation of this area is needed to address pollutant sources of urbanized and urbanizing areas within 303(d) listed watersheds
Myrtletown CDP	Humboldt	1	Adjacent to, but outside of Eureka city limits located in southern Humboldt Bay, in unincorporated Humboldt County. Designation of this area is needed to address pollutant sources of urbanized and urbanizing areas within 303(d) listed watersheds

Pine Hills CDP	Humboldt	1	Adjacent to, but outside of Eureka city limits located in southern Humboldt Bay, in unincorporated Humboldt County. Designation of this area is needed to address pollutant sources of urbanized and urbanizing areas within 303(d) listed watersheds
Ridgewood Heights USSA	Humboldt	1	Adjacent to, but outside of Eureka city limits located in southern Humboldt Bay, in unincorporated Humboldt County. Designation of these areas is needed to address pollutant sources of urbanized and urbanizing areas within 303(d) listed watersheds
Rosewood USSA	Humboldt	1	Adjacent to, but outside of Eureka city limits located in southern Humboldt Bay, in unincorporated Humboldt County. Designation of this area is needed to address pollutant sources of urbanized and urbanizing areas within 303(d) listed watersheds
Cloverdale CDP	Sonoma	1	There are urbanized areas within the County of Sonoma not covered under the Phase I Permit. These areas are located within the Russian River watershed, a 303(d) listed watershed. Currently, there is only limited storm water management in these areas, allowing the discharge of pollutants to the impacted water body. Storm water management is needed in these areas to reduce the pollutant loads and for early TMDL implementation
Forestville CDP	Sonoma	1	There are urbanized areas within the County of Sonoma not covered under the Phase I Permit. These areas are located within the Russian River watershed, a 303(d) listed watershed. Currently, there is only limited storm water management in these areas, allowing the discharge of pollutants to the impacted water body. Storm water management is needed in these areas to reduce the pollutant loads and for early TMDL implementation
Guerneville CDP	Sonoma	1	There are urbanized areas within the County of Sonoma not covered under the Phase I Permit. These areas are located within the Russian River watershed, a 303(d) listed watershed. Currently, there is only limited storm water management in these areas, allowing the discharge of pollutants to the impacted water body. Storm water management is needed in these areas to reduce the pollutant loads and for early TMDL implementation

Monte Rio	Sonoma	1	There are urbanized areas within the County of Sonoma not covered under the Phase I Permit. These areas are located within the Russian River watershed, a 303(d) listed watershed. Currently, there is only limited storm water management in these areas, allowing the discharge of pollutants to the impacted water body. Storm water management is needed in these areas to reduce the pollutant loads and for early TMDL implementation
Occidental CDP	Sonoma	1	There are urbanized areas within the County of Sonoma not covered under the Phase I Permit. These areas are located within the Russian River watershed, a 303(d) listed watershed. Currently, there is only limited storm water management in these areas, allowing the discharge of pollutants to the impacted water body. Storm water management is needed in these areas to reduce the pollutant loads and for early TMDL implementation
Yreka City	Siskiyou	1	Discharges to a TMDL listed waterbody and identified on Attachment G
Gonzalez City	Monterey	3	Greater than 5,000 population
Moss Landing CDP	Monterey	3	Proximity to ocean areas (Monterey Bay National Marine Sanctuary, including Elkhorn slough)
Blacklake CDP	San Luis Obispo	3	Proximity to urbanized area (Oceano, Arroyo Grande, Grover Beach and Nipomo)
Cayucos CDP	San Luis Obispo	3	Greater than 2,000 population and proximity to Pacific Ocean

Lake Nacimiento CDP	San Luis Obispo	3	Greater than 2,000 population and proximity to Lake Nacimiento (drinking water source)
San Miguel	San Luis Obispo	3	Greater than 2,000 population High Growth Rate (16.8%)
Shandon CDP	San Luis Obispo	3	High Growth Rate (31.3%)
Guadalupe City	Santa Barbara	3	Incorporated area exceeding 5,000 population
Hope Ranch CDP	Santa Barbara	3	Proximity to urbanized area
Mission Canyon CDP	Santa Barbara	3	Proximity to urbanized area
Mission Hills CDP	Santa Barbara	3	Proximity to urbanized area
Toro Canyon CDP	Santa Barbara	3	Proximity to urbanized area
Live Oak CDP	Santa Cruz	3	Greater than 5,000 population Discharges to a TMDL listed waterbody and identified on Attachment G

City of Avalon	Los Angeles	4	Proximity to sensitive water body
Colusa County	Colusa	5S	Discharges to a TMDL listed waterbody and identified on Attachment G
Amador County	Amador	5S	Currently, there is only limited storm water management in this area, allowing discharge of pollutants to waters of the State already impacted with multiple constituents and parameters. Storm water management is needed in these areas to reduce the pollutant loads prior to adoption of any TMDLs, which are typically not estimated to be completed until 2020 or thereafter in many cases. Additionally, several waterbodies or waterbody segments within or bounding Amador County are 303(d) listed for invasive species (Cosumnes River, above Michigan Bar), mercury (Pardee Reservoir, Camanche Reservoir), pH - High (Amador Lake, Bear River from Allen to Upper Bear River Reservoir), copper (Camanche Reservoir), and zinc (Camanche Reservoir) according to the 2010 CWA 303(d) list. Camanche Reservoir drains to Lower Mokelumne River. The Lower Mokelumne River (in Delta Waterways, eastern portion) is 303(d) listed for chlorpyrifos, copper, mercury, dissolved oxygen, unknown toxicity, and zinc. Both the Cosumnes and Mokelumne Rivers drain to the San Joaquin River, which is 303(d) listed for these same constituents and parameters. Many of these constituents are known to bind to various size sediment particles migrating into surface waters.

Non-Traditional Small MS4s

Place name	Category	Regional Board	Justification
Petaluma Coast Guard Training Center	Defense, Department of	1	Activities that could impact water quality, fueling, maintenance. Personnel that should be educated on how their activities effect water quality.
Alameda-Contra Costa Transit District (AC Transit)	Special District	2	The Alameda-Contra Costa Transit District (AC Transit) is a large special transit district like the Valley Transit Authority (VTA) and BART which are both already designated. In order to fully regulate both large bus storage and maintenance facilities and new development related to bus stops and plazas they need to be fully regulated under the Phase II stormwater permit, as they do not fall under the local city regulatory jurisdiction for all aspects of their operations.
AMTRAK	Special District	2	Within urbanized area
Bay Area Rapid Transit	Special District	2	Within urbanized area
CalTrain	Special District	2	Within urbanized area
Golden Gate Bridge, Highway and Transportation District	Special District	2	Within urbanized area
Valley Transit Authority	Special District	2	Within urbanized area
Port of Oakland	Port	2	Within urbanized area
Port of Redwood City	Port	2	Within urbanized area
San Jose Airport	Airport	2	Within urbanized area
Oceano Community Services District	Community Services District	3	Within urbanized area
Fort Ord Reuse Authority	Local Agency	3	Adjacent to urbanized area, Planned annexation into urbanized area
Fort Hunter Ligget, Army Garrison	Defense, Department of	3	Within urbanized area

March Air Reserve Base	Defense, Department of	8	The former March Air Reserve Base was downsized and became known as March ARB. March ARB is an active military base that covers 2,300 acres. Activities in the base proper includes military activities such as air refueling, air cargo, air reconnaissance, military interceptors, military housing, recreational and dining facilities, commercial air cargo, training facilities, schools, operations centers for troop transport and industrial, including airport operations. Land use activities are under Base commander authority. The base is currently covered under an individual industrial storm water permit for their industrial operations and is a stakeholder under the Lake Elsinore/Canyon Lake TMDL. In addition to industrial permit monitoring, the Base monitors their compliance with the TMDL. We believe Phase II permit coverage is an appropriate permit to address the pollutants and flows generated from Base operations. Development and redevelopment post construction controls are of particular importance to be incorporated into the base's storm water program through Phase II permit coverage.
→ March Joint Powers Authority	March Joint Powers Commission	8	The March JPA is a federally recognized reuse authority for the former March Air Force base. It encompasses most of the 6, 500 acres of the former active duty March Air Force Base area and approximately 450 acres adjacent to the base in the industrial area of the City of Moreno Valley. March JPA also assumed the following authorities: 1 - Land Use Authority - Land use authority was transferred to March JPA from the County of Riverside, City of Riverside, and City of

Note: This discharger was not designated in the final version of Attachment B of the Order adopted by the Board on February 5, 2013.

			Moreno Valley. The March JPA has adopted development and building codes and standards. The March JPA General Plan has been developed by the March JPA in accordance with state statutes, as well as the associated Master Environmental Impact Report. The March JPA General Plan is designed to implement the March Final Reuse Plan and related activities. 2 - Airport Authority - March Inland Port Airport Authority (MIPAA), is a governing body under the governance umbrella of the March JPA. MIPAA is responsible for the development and operation of the March Inland Port (MIP), a joint use aviation facility targeted for air cargo operations. The developments approved by the March JPA todate included residential, commercial and industrial sources of pollutants. About 1/8th of the area has been developed. March JPA has the authority to develop its own MS4s within their jurisdiction and connect to MS4s owned/operated by Phase 1 permittees. Many of the functions resemble that of a local agency. Therefore, March JPA should be subject to the Phase II (or they can join our Phase 1).
Miramar Marine Corps Air Station	Defense, Department of	9	Within urbanized area
→ General Services Administration Facilities (GSA)	Federal Facility	9	The site is the General Services Administration Facilities (GSA), located at 801 E. San Ysidro Blvd., San Ysidro, CA 92173 and is a federal facility. They are the owner and operator of a series of lateral drains which tie into a main open-trunk running and discharging along the border fence. They are responsible for the storm drains, including the new trunk slated for construction, and the entire system

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			acts as a MS4. Additionally, GSA is the landlord of the world's busiest Land Port of Entry (LPOE). Located between San Diego and Tijuana, the San Ysidro LPOE supports 24 northbound vehicle lanes into the United States and six southbound lanes into Mexico. Every day, this land port serves over 50,000 northbound vehicles and 25,000 northbound pedestrians. GSA maintains border crossing services, as well as increasing efficiency, security, and safety for federal agencies and the traveling public. Looking to the future, the San Ysidro LPOE is undergoing a major expansion that will include a new northbound inspection facility, primary vehicle inspection booths, secondary inspection area, administration space, and a pedestrian processing facility. A new southbound inspection facility will also be developed, and Interstate 5 will be shifted to the west to align with Mexico's planned use of a reconstructed entry facility at the vacant Virginia Avenue/El Chaparral commercial facility.
Metropolitan Transit System (MTS)	Transportation Agency	9	The Metropolitan Transit Development Board (MTDB) was created in 1975 by the passage of California Senate Bill 101 and came into existence on January 1, 1976. In 2005, MTDB changed its name to the Metropolitan Transit System (MTS). MTS licenses and regulates taxicabs, jitneys, and other private for-hire passenger transportation services by contract with the cities of San Diego, El Cajon, Imperial Beach, La Mesa, Lemon Grove, Poway, and Santee. MTS provides bus and rail services directly or by contract with public or private operators. MTS determines the routing, stops, frequency of service, and hours of

			operation for its existing services. MTS does a significant amount of their vehicles maintenance.
North County Transit District (NCTD)	Transportation Agency	9	North county Transit district (NCTD) owns and operates the Sprinter Rail located along 22 miles of the rail corridor (see attached file) and adjacent staging areas within the Cities of Oceanside, Vista, San Marcos and Escondido and within the County of San Diego. The project's total disturbed acreage is approximately 280 acres. Storm water runoff from the project discharges directly into Waters of the State, the Municipal Separate Storm Sewer System (MS4) and, ultimately discharging to Loma Alta Creek, Buena Vista Creek, Buena Creek, San Marcos Creek, Escondido Creek and unmanned tributaries. Beginning October 2007, during construction, the San Diego Water Board had identified significant violations of the Stormwater Permit (99-08-DWQ). NCTD threatens to continue to discharge waste (e.g. sediment and sediment-laden water) in violation of the Basin Plan Prohibitions.

Draft Attachment A - Traditional Small MS4 Designation and Monitoring Matrix

Place Name	County	RB	Permittee Type	Population 2010	Monitoring Type	Urbanized Area/ Urban Cluster Name	Designation Criteria
Monitoring Types: Ω = Water Quality Monitoring Options, λ = TMDL Attachment G Requirements, Δ = ASBS Special Protections							
***additional monitoring may be required if permittee discharges to a 303(d) listed waterbody**							
****The list of Regulated MS4s may be amended by the Executive Director consistent with the designation criteria list in the Order**							
*****CDPs located within an existing NPDES permit area within an urbanized area are not required to file for separate coverage and pay separate fees**							
Amador County							
Amador County	Amador	5S	New				Regional Board Designation
Butte County							
Butte County	Butte	5R	Renewal		λ		Renewal
Chico City	Butte	5R	Renewal	86,187	λ	Chico, CA Urbanized Area	Renewal
Oroville City	Butte	5R	New	15,546		Oroville, CA Urban Cluster	High Population/Density
Paradise Town	Butte		New	26,218		Paradise, CA Urban Cluster	High Population/Density
Calaveras County							
Calaveras County	Calaveras	5S	Renewal				Renewal
Colusa County							
Colusa County	Colusa	5S	New		λ		TMDL
Del Norte County							
Crescent City	Del Norte	1	New	7,643		Crescent City, CA Urban Cluster	Regional Board Designation
El Dorado County							
Cameron Park CDP	El Dorado	5S	New	18,228		Sacramento, CA Urbanized Area	Within Urbanized Area
Diamond Springs CDP	El Dorado	5S	New	11,037		Sacramento, CA Urbanized Area	Within Urbanized Area
El Dorado County	El Dorado	5S	Renewal				Renewal
El Dorado Hills CDP	El Dorado	5S	Renewal	42,108		Sacramento, CA Urbanized Area	Renewal
Placerville City	El Dorado	5S	Renewal	10,389		Placerville--Diamond Springs, CA	Renewal
Fresno County							
Kingsburg City	Fresno	5F	Renewal	11,382		Selma, CA Urban Cluster	Renewal
Reedley City	Fresno	5F	Renewal	24,194		Reedley--Dinuba, CA Urban Clus	Renewal
Selma City	Fresno	5F	Renewal	23,219		Selma, CA Urban Cluster	Renewal
Coalinga City	Fresno	5F	New	13,380		Coalinga, CA Urban Cluster	High Population/Density
Mendota City	Fresno	5F	New	11,014		Mendota, CA Urban Cluster	High Population/Density
Parlier City	Fresno	5F	New	14,494		Parlier, CA Urban Cluster	High Population/Density
Sanger City	Fresno	5F	New	24,270		Sanger, CA Urban Cluster	High Population/Density
Humboldt County							
Arcata City	Humboldt	1	Renewal	17,231		Arcata-McKinleyville, CA Urban C	Renewal

Bayview CDP	Humboldt	1	New	2,510		Eureka, CA Urban Cluster	Regional Board Designation
Cutten CDP	Humboldt	1	New	3,108		Eureka, CA Urban Cluster	Regional Board Designation
Eureka City	Humboldt	1	Renewal	27,191		Eureka, CA Urban Cluster	Renewal
Fortuna City	Humboldt	1	Renewal	11,926		Fortuna, CA Urban Cluster	Renewal
Humboldt Hill CDP	Humboldt	1	New	3,414		Eureka, CA Urban Cluster	Regional Board Designation
Humboldt County	Humboldt	1	New		Δ		ASBS
McKinleyville CDP	Humboldt	1	Renewal	15,177		Arcata-McKinleyville, CA Urban C	Renewal
Myrtletown CDP	Humboldt	1	New	4,675		Eureka, CA Urban Cluster	Regional Board Designation
Pine Hills CDP	Humboldt	1	New	3,108		Eureka, CA Urban Cluster	Regional Board Designation
Ridgewood Heights USSA	Humboldt	1	New				Regional Board Designation
Rosewood USSA	Humboldt	1	New				Regional Board Designation
Trinidad City	Humboldt	1	New	367	Δ		ASBS
Imperial County							
Brawley City	Imperial	7	Renewal	24,953		Brawley, CA Urban Cluster	Renewal
Calexico City	Imperial	7	Renewal	38,572		El Centro--Calexico, CA Urbanize	Renewal
El Centro City	Imperial	7	Renewal	42,598		El Centro--Calexico, CA Urbanize	Renewal
Imperial City	Imperial	7	Renewal	14,758		El Centro--Calexico, CA Urbanize	Renewal
Imperial County	Imperial	7	Renewal				Renewal
Kern County							
Delano City	Kern	5F	New	38,824		Delano, CA Urbanized Area	Within Urbanized Area
Ridgecrest City	Kern	6V	New	27,616		Ridgecrest, CA Urban Cluster	High Population/Density
Tehachapi City	Kern	5F	New	14,414		Tehachapi--Golden Hills, CA Urb	High Population/Density
Wasco City	Kern	5F	New	25,545		Wasco, CA Urban Cluster	High Population/Density
Kings County							
Hanford City	Kings	5F	Renewal	53,967	Ω	Hanford, CA Urbanized Area	Renewal
Kings County	Kings	5F	Renewal				Renewal
Lemoore City	Kings	5F	Renewal	24,531		Hanford, CA Urbanized Area	Renewal
Lake County							
Clearlake City	Lake	5S	Renewal	15,250	λ	Clearlake, CA Urban Cluster	Renewal
Lakeport City	Lake	5S	Renewal	4,753		Clearlake, CA Urban Cluster	Renewal
Lake County	Lake	5S	Renewal		λ		Renewal
Lassen County							
Susanville City	Lassen	6SLT	New	17,947		Susanville, CA Urban Cluster	High Population/Density
Los Angeles County							
Avalon City	Los Angeles	4	New	3,728		Avalon, CA Urban Cluster	Regional Board Designation
Madera County							
Bonadelle Ranchos-Madera R	Madera	5F	New	8,569	λ	Bonadelle Ranchos-Madera Ran	Within Urbanized Area
Madera Acres CDP	Madera	5F	New	9,163		Madera, CA Urbanized Area	Within Urbanized Area

Madera City	Madera	5F	Renewal	61,416	λ	Madera, CA Urbanized Area	Renewal
Madera County	Madera	5F	Renewal		λ		Renewal
Chowchilla City	Madera	5F	New	18,720		Chowchilla, CA Urban Cluster	High Population/Density
Marin County							
Belvedere City	Marin	2	Renewal	2,068	λ	San Francisco--Oakland, CA Urb	Renewal
Black Point-Green Point CDP	Marin	2	Renewal	1,306		San Francisco--Oakland, CA Urb	Renewal
Corte Madera Town	Marin	2	Renewal	9,253		San Francisco--Oakland, CA Urb	Renewal
Fairfax Town	Marin	2	Renewal	7,441		San Francisco--Oakland, CA Urb	Renewal
Kentfield CDP	Marin	2	New	6,485		San Francisco--Oakland, CA Urb	Within Urbanized Area
Larkspur City	Marin	2	Renewal	11,926		San Francisco--Oakland, CA Urb	Renewal
Lucas Valley-Marinwood CDP	Marin	2	Renewal	6,094		San Francisco--Oakland, CA Urb	Renewal
Marin County	Marin	2	Renewal		Δ λ		Renewal
Mill Valley City	Marin	2	Renewal	13,903	λ	San Francisco--Oakland, CA Urb	Renewal
Novato City	Marin	2	Renewal	51,904	λ	San Francisco--Oakland, CA Urb	Renewal
Ross Town	Marin	2	Renewal	2,415		San Francisco--Oakland, CA Urb	Renewal
San Anselmo Town	Marin	2	Renewal	12,336		San Francisco--Oakland, CA Urb	Renewal
San Rafael City	Marin	2	Renewal	57,713	λ	San Francisco--Oakland, CA Urb	Renewal
Sausalito City	Marin	2	Renewal	7,061	λ	San Francisco--Oakland, CA Urb	Renewal
Strawberry CDP	Marin	2	New	5,393		San Francisco--Oakland, CA Urb	Within Urbanized Area
Tamalpais-Homestead Valley	Marin	2	Renewal	10,735		San Francisco--Oakland, CA Urb	Renewal
Tiburon Town	Marin	2	Renewal	8,962	λ	San Francisco--Oakland, CA Urb	Renewal
Woodacre CDP	Marin	2	Renewal	1,348		San Francisco--Oakland, CA Urb	Renewal
Mendocino County							
Fort Bragg City	Mendocino	1	Renewal	7,273		Fort Bragg, CA Urban Cluster	Renewal
Mendocino County	Mendocino	1	Renewal				Renewal
Ukiah City	Mendocino	1	Renewal	16,075		Ukiah, CA Urban Cluster	Renewal
Merced County							
Atwater City	Merced	5F	Renewal	28,168	λ	Merced, CA Urbanized Area	Renewal
Delhi CDP	Merced	5F	Renewal	10,755	λ	Turlock, CA Urbanized Area	Renewal
Franklin CDP	Merced	5F	New	6,149		Merced, CA Urbanized Area	Within Urbanized Area
Livingston City	Merced	5F	Renewal	13,058	λ	Turlock, CA Urbanized Area	Renewal
Los Banos City	Merced	5F	Renewal	35,972	λ	Los Banos, CA Urban Cluster	Renewal
Merced City	Merced	5F	Renewal	78,958	λ	Merced, CA Urbanized Area	Renewal
Merced County	Merced	5F	Renewal		λ		Renewal
Winton CDP	Merced	5F	Renewal	10,613	λ	Merced, CA Urbanized Area	Renewal
Monterey County							
Carmel Valley Village CDP	Monterey	3	Renewal	4,407		Carmel Valley Village, CA Urban	Renewal
Carmel-by-the-Sea City	Monterey	3	Renewal	3,722	Δ	Seaside--Monterey, CA Urbanize	Renewal
Castroville CDP	Monterey	3	Renewal	6,481		Salinas, CA Urbanized Area	Renewal

Del Rey Oaks City	Monterey	3	Renewal	1,624		Seaside--Monterey, CA Urbanize	Renewal
Elkhorn CDP	Monterey	3	New	12,723		Salinas, CA Urbanized Area	Within Urbanized Area
Gonzalez City	Monterey	3	New	8,187			Regional Board Designation
King City City	Monterey	3	Renewal	12,874		King City, CA Urban Cluster	Renewal
Las Lomas CDP	Monterey	3	Renewal	3,024		Watsonville, CA Urbanized Area	Renewal
Marina City	Monterey	3	Renewal	19,718		Seaside--Monterey, CA Urbanize	Renewal
Monterey City	Monterey	3	Renewal	27,810	Δ	Seaside--Monterey, CA Urbanize	Renewal
Monterey County	Monterey	3	Renewal		Δλ		Renewal
Moss Landing CDP	Monterey	3	Renewal	204			Regional Board Designation
Pacific Grove City	Monterey	3	Renewal	15,041	Δ	Seaside--Monterey, CA Urbanize	Renewal
Pajaro CDP	Monterey	3	Renewal	3,070		Watsonville, CA Urbanized Area	Renewal
Prunedale CDP	Monterey	3	Renewal	17,560		Salinas, CA Urbanized Area	Renewal
Sand City City	Monterey	3	Renewal	334		Seaside--Monterey, CA Urbanize	Renewal
Seaside City	Monterey	3	Renewal	33,025		Seaside--Monterey, CA Urbanize	Renewal
Soledad City	Monterey	3	Renewal	25,738		Soledad, CA Urban Cluster	Renewal
Greenfield City	Monterey	3	New	16,330		Greenfield, CA Urban Cluster	High Population/Density
Napa County							
American Canyon City	Napa	2	Renewal	19,454	λ	Vallejo, CA Urbanized Area	Renewal
Calistoga City	Napa	2	Renewal	5,155	λ	Calistoga, CA Urban Cluster	Renewal
Napa City	Napa	2	Renewal	76,915	λ	Napa, CA Urbanized Area	Renewal
Napa County	Napa	2	Renewal		λ		Renewal
St. Helena City	Napa	2	Renewal	5,814	λ	St. Helena, CA Urban Cluster	Renewal
Yountville City	Napa	2	Renewal	2,933	λ	Yountville, CA Urban Cluster	Renewal
Nevada County							
Grass Valley City	Nevada	5S	Renewal	12,860		Grass Valley, CA Urban Cluster	Renewal
Truckee Town	Nevada	5S	Renewal	16,180	λ	Truckee, CA Urban Cluster	Renewal
Placer County							
Placer County (Region 6)	Placer	6	Renewal		λ		Renewal
Auburn City	Placer	5S	Renewal	13,330		Auburn--North Auburn, CA Urbar	Renewal
Granite Bay CDP	Placer	5S	Renewal	20,402		Sacramento, CA Urbanized Area	Renewal
Lincoln City	Placer	5S	Renewal	42,819	λ	Sacramento, CA Urbanized Area	Renewal
Loomis Town	Placer	5S	Renewal	6,430	λ	Sacramento, CA Urbanized Area	Renewal
North Auburn CDP	Placer	5S	Renewal	13,022		Auburn--North Auburn, CA Urbar	Renewal
Placer County (Region 5S)	Placer	5S	Renewal				Renewal
Rocklin City	Placer	5S	Renewal	56,974	λ	Sacramento, CA Urbanized Area	Renewal
Roseville City	Placer	5S	Renewal	118,788	λ	Sacramento, CA Urbanized Area	Renewal
San Benito County							
Hollister City	San Benito	3	Renewal	34,928	λ	Hollister, CA Urban Cluster	Renewal
San Bernardino County							

Apple Valley Town	San Bernardino	6V	Renewal	69,135	Ω	Victorville--Hesperia, CA Urbaniz	Renewal
Barstow City	San Bernardino	6V	New	22, 639		Riverside--San Bernardino, CA U	Within Urbanized Area
Hesperia City	San Bernardino	6V	Renewal	90,173		Victorville--Hesperia, CA Urbaniz	Renewal
Oak Hills CDP	San Bernardino	6V	New	8,879		Victorville--Hesperia, CA Urbaniz	Within Urbanized Area
Phelan CDP	San Bernardino	6V	New	14,304		Victorville--Hesperia, CA Urbaniz	Within Urbanized Area
Spring Valley Lake CDP	San Bernardino	6V	New	8,220		Victorville--Hesperia, CA Urbaniz	Within Urbanized Area
Victorville City	San Bernardino	6V	Renewal	115,903	Ω	Victorville--Hesperia, CA Urbaniz	Renewal
San Bernardino County	San Bernardino	6V	Renewal				Renewal
San Francisco County							
San Francisco City (San Fran	San Francisco	2	Renewal			San Francisco--Oakland, CA Urb	Renewal
San Francisco City (Port of Sa	San Francisco	2	Renewal			San Francisco--Oakland, CA Urb	Renewal
San Joaquin County							
Escalon City	San Joaquin	5S	New	7, 132		Stockton, CA Urbanized Area	New
Lathrop City	San Joaquin	5S	Renewal	18,023	λ	Manteca, CA Urbanized Area	Renewal
Lathrop City	San Joaquin	5S	Renewal	18,023	λ	Stockton, CA Urbanized Area	Renewal
Lodi City	San Joaquin	5S	Renewal	62,134	λ	Lodi, CA Urbanized Area	Renewal
Manteca City	San Joaquin	5S	Renewal	347	λ	Stockton, CA Urbanized Area	Renewal
Manteca City	San Joaquin	5S	Renewal	67,096	Ω	Manteca, CA Urbanized Area	Renewal
Ripon City	San Joaquin	5S	Renewal	14,297	λ	Manteca, CA Urbanized Area	Renewal
San Joaquin County	San Joaquin	5S	Renewal		λ		Renewal
Tracy City	San Joaquin	5S	Renewal	82,922	λ	Tracy, CA Urbanized Area	Renewal
Woodbridge CDP	San Joaquin	5S	Renewal	3,984		Lodi, CA Urbanized Area	Renewal
San Luis Obispo County							
Arroyo Grande City	San Luis Obispo	3	Renewal	17,252		Arroyo Grande--Grover Beach, C	Renewal
Atascadero City	San Luis Obispo	3	Renewal	28,310		El Paso de Robles (Paso Robles)	Renewal
Blacklake CDP	San Luis Obispo	3	New	930		Nipomo, CA Urban Cluster	Regional Board Designation
Cambria	San Luis Obispo	3	Renewal	6,032		Cambria, CA Urban Cluster	Renewal
Cayucos CDP	San Luis Obispo	3	New	2,592		Morro Bay--Los Osos, CA Urban	Regional Board Designation
El Paso de Robles (Paso Rob	San Luis Obispo	3	Renewal	29,793		El Paso de Robles (Paso Robles)	Renewal
Grover Beach City	San Luis Obispo	3	Renewal	13,156		Arroyo Grande--Grover Beach, C	Renewal
Lake Nacimiento CDP	San Luis Obispo	3	New	2,411			Regional Board Designation
Morro Bay City	San Luis Obispo	3	Renewal	10,234	λ	Morro Bay--Los Osos, CA Urban	Renewal
Nipomo CDP	San Luis Obispo	3	Renewal	16,714		Nipomo, CA Urban Cluster	Renewal
Pismo Beach City	San Luis Obispo	3	Renewal	7,655		Arroyo Grande--Grover Beach, C	Renewal
San Luis Obispo City	San Luis Obispo	3	Renewal	45,119	λ	San Luis Obispo, CA Urbanized A	Renewal
San Luis Obispo County	San Luis Obispo	3	Renewal		λ		Renewal
San Miguel	San Luis Obispo	3	New	2,336			Regional Board Designation
Shandon CDP	San Luis Obispo	3	New	1,295			Regional Board Designation
Santa Barbara County							

Buellton City	Santa Barbara	3	Renewal	4,828		Solvang--Buellton--Santa Ynez, C	Renewal
Carpinteria City	Santa Barbara	3	New	13,040		Santa Barbara, CA Urbanized Ar	Within Urbanized Area
Goleta City	Santa Barbara	3	Renewal	29,888		Santa Barbara, CA Urbanized Ar	Renewal
Guadalupe City	Santa Barbara	3	New	7,080		Guadalupe, CA Urban Cluster	Regional Board Designation
Hope Ranch CDP	Santa Barbara	3	New				Regional Board Designation
Isla Vista CDP	Santa Barbara	3	Renewal	23,096		Santa Barbara, CA Urbanized Ar	Renewal
Lompoc City	Santa Barbara	3	Renewal	42,434		Lompoc, CA Urbanized Area	Renewal
Los Olivos CDP	Santa Barbara	3	Renewal	1,132		Solvang--Buellton--Santa Ynez, C	Renewal
Mission Canyon CDP	Santa Barbara	3	New	2,381			Regional Board Designation
Mission Hills CDP	Santa Barbara	3	New	3,576			Regional Board Designation
Montecito CDP	Santa Barbara	3	New	8,965		Santa Barbara, CA Urbanized Ar	Within Urbanized Area
Orcutt CDP	Santa Barbara	3	Renewal	28,905		Santa Maria, CA Urbanized Area	Renewal
Santa Barbara City	Santa Barbara	3	Renewal	88,410	Ω	Santa Barbara, CA Urbanized Ar	Renewal
Santa Barbara County	Santa Barbara	3	Renewal				Renewal
Santa Maria City	Santa Barbara	3	Renewal	99,553	Ω	Santa Maria, CA Urbanized Area	Renewal
Santa Ynez CDP	Santa Barbara	3	Renewal	4,418		Solvang--Buellton--Santa Ynez, C	Renewal
Solvang City	Santa Barbara	3	Renewal	5,245		Solvang--Buellton--Santa Ynez, C	Renewal
Summerland CDP	Santa Barbara	3	Renewal	1,448		Santa Barbara, CA Urbanized Ar	Renewal
Toro Canyon CDP	Santa Barbara	3	New	1,508			Regional Board Designation
Vandenberg Village CDP	Santa Barbara	3	Renewal	6,497		Lompoc, CA Urbanized Area	Renewal
Santa Clara County							
Gilroy City	Santa Clara	3	Renewal	48,821	λ	Gilroy--Morgan Hill, CA Urbanize	Renewal
Morgan Hill City	Santa Clara	3	Renewal	37,882	λ	Gilroy--Morgan Hill, CA Urbanize	Renewal
San Martin CDP	Santa Clara	3	Renewal	7,027		Gilroy--Morgan Hill, CA Urbanize	Renewal
Santa Clara County	Santa Clara	3	Renewal		λ		Renewal
Santa Cruz County							
Aptos CDP	Santa Cruz	3	Renewal	6,220		Santa Cruz, CA Urbanized Area	Renewal
Ben Lomond CDP	Santa Cruz	3	New	6,234		Santa Cruz, CA Urbanized Area	Within Urbanized Area
Capitola City	Santa Cruz	3	Renewal	9,918		Santa Cruz, CA Urbanized Area	Renewal
Interlaken CDP	Santa Cruz	3	New	7,321		Watsonville, CA Urbanized Area	Within Urbanized Area
Live Oak CDP	Santa Cruz	3	New	17,158		Santa Cruz, CA Urbanized Area	Regional Board Designation
Pleasure Point CDP	Santa Cruz	3	New	5846		Santa Cruz, CA Urbanized Area	Within Urbanized Area
Rio del Mar CDP	Santa Cruz	3	New	9,216		Santa Cruz, CA Urbanized Area	Within Urbanized Area
Santa Cruz City	Santa Cruz	3	Renewal	59,946	λ	Santa Cruz, CA Urbanized Area	Renewal
Santa Cruz County	Santa Cruz	3	Renewal		λ		Renewal
Scotts Valley City	Santa Cruz	3	Renewal	11,580	λ	Santa Cruz, CA Urbanized Area	Renewal
Soquel CDP	Santa Cruz	3	New	9,644		Santa Cruz, CA Urbanized Area	Within Urbanized Area
Watsonville City	Santa Cruz	3	Renewal	51,199	λ	Watsonville, CA Urbanized Area	Renewal
Shasta County							

Anderson City	Shasta	5R	New	9,932	λ	Redding, CA Urbanized Area	Renewal
Redding City	Shasta	5R	New	89,861	λ	Redding, CA Urbanized Area	Renewal
Shasta County	Shasta	5R	New		λ		Renewal
Shasta Lake City	Shasta	5R	New	10,164		Redding, CA Urbanized Area	Renewal
Siskiyou County							
Yreka City	Siskiyou	1	New	7,765	λ	Yreka, CA Urban Cluster	TMDL
Solano County							
Benicia City	Solano	2	Renewal	26,997		Vallejo, CA Urbanized Area	Renewal
Solano County (Region 2)	Solano	2	Renewal		λ		Renewal
Dixon City	Solano	5S	Renewal	18,351	λ	Dixon, CA Urban Cluster	Renewal
Rio Vista City	Solano	5S	Renewal	7,360	λ	Rio Vista, CA Urban Cluster	Renewal
Solano County (Region 5S)	Solano	5S	Renewal		λ		Renewal
Vacaville City	Solano	5S	Renewal	92,428	λ	Fairfield, CA Urbanized Area	Renewal
Vacaville City	Solano	5S	Renewal	92,428	Ω	Vacaville, CA Urbanized Area	Renewal
Sonoma County							
Cloverdale City	Sonoma	1	New	8,618		Cloverdale, CA Urban Cluster	Regional Board Designation
Cotati City	Sonoma	1	Renewal	7,265	λ	Santa Rosa, CA Urbanized Area	Renewal
Forestville CDP	Sonoma	1	New	3,293		Forestville, CA Urban Cluster	Regional Board Designation
Guerneville CDP	Sonoma	1	New	4,534		Guerneville, CA Urban Cluster	Regional Board Designation
Healdsburg City	Sonoma	1	Renewal	11,254		Santa Rosa, CA Urbanized Area	Renewal
Monte Rio	Sonoma	1	New	1,152		Guerneville, CA Urban Cluster	Regional Board Designation
Occidental CDP	Sonoma	1	New	1,115			Regional Board Designation
Rohnert Park City	Sonoma	1	Renewal	40,971	λ	Santa Rosa, CA Urbanized Area	Renewal
Sebastopol City	Sonoma	1	Renewal	7,379	λ	Santa Rosa, CA Urbanized Area	Renewal
Windsor Town	Sonoma	1	Renewal	26,801	λ	Santa Rosa, CA Urbanized Area	Renewal
Petaluma City	Sonoma	2	Renewal	57,941	λ	Petaluma, CA Urbanized Area	Renewal
Sonoma City	Sonoma	2	Renewal	10,648	λ	Sonoma, CA Urban Cluster	Renewal
Sonoma County and Sonoma	Sonoma	1&2	Renewal		λ		Renewal
Stanislaus County							
Bret Harte CDP	Stanislaus	5S	New	5,152		Modesto, CA Urbanized Area	Within Urbanized Area
Ceres City	Stanislaus	5S	Renewal	45,417	λ	Modesto, CA Urbanized Area	Renewal
Empire CDP	Stanislaus	5S	Renewal	4,189	λ	Modesto, CA Urbanized Area	Renewal
Hughson City	Stanislaus	5S	Renewal	6,640	λ	Modesto, CA Urbanized Area	Renewal
Keyes CDP	Stanislaus	5S	Renewal	5,601	λ	Modesto, CA Urbanized Area	Renewal
Oakdale City	Stanislaus	5S	Renewal	20,675	λ	Modesto, CA Urbanized Area	Renewal
Patterson City	Stanislaus	5S	Renewal	20,413	λ	Patterson, CA Urban Cluster	Renewal
Riverbank City	Stanislaus	5S	Renewal	22,678	λ	Modesto, CA Urbanized Area	Renewal
Salida CDP	Stanislaus	5S	Renewal	13,722	λ	Modesto, CA Urbanized Area	Renewal
Stanislaus County	Stanislaus	5S	Renewal		λ		Renewal

Turlock City	Stanislaus	5S	Renewal	68,549	λ	Turlock, CA Urbanized Area	Renewal
West Modesto CDP	Stanislaus	5S	New	5,682		Modesto, CA Urbanized Area	Within Urbanized Area
Newman City	Stanislaus	5S	New	10,224		Newman, CA Urban Cluster	High Population/Density
Sutter County							
Live Oak	Sutter	5S	New	8,392	λ	Live Oak (Sutter County), CA Urb	TMDL
Sutter County	Sutter	5S	Renewal		λ		Renewal
Yuba City City	Sutter	5S	Renewal	64,925	λ	Yuba City, CA Urbanized Area	Renewal
Tehama County							
Red Bluff City	Tehama	5R	New	14,076	λ	Red Bluff, CA Urban Cluster	High Population/Density
Tulare County							
East Porterville CDP	Tulare	5F	New	6,767		Porterville, CA Urbanized Area	Within Urbanized Area
Exeter City	Tulare	5F	Renewal	10,334		Visalia, CA Urbanized Area	Renewal
Farmersville City	Tulare	5F	Renewal	10,588		Visalia, CA Urbanized Area	Renewal
Goshen CDP	Tulare	5F	Renewal	3,006		Visalia, CA Urbanized Area	Renewal
Porterville City	Tulare	5F	Renewal	54,165	Ω	Porterville, CA Urbanized Area	Renewal
Strathmore CDP	Tulare	5F	Renewal	2,819		Porterville, CA Urbanized Area	Renewal
Tulare City	Tulare	5F	Renewal	59,278	Ω	Visalia, CA Urbanized Area	Renewal
Tulare County	Tulare	5F	Renewal		λ		Renewal
Visalia City	Tulare	5F	Renewal	124,442	Ω	Visalia, CA Urbanized Area	Renewal
Dinuba City	Tulare	5F	New	21,453		Reedley--Dinuba, CA Urban Clus	High Population/Density
Yolo County							
Davis City	Yolo	5S	Renewal	65,622	λ	Davis, CA Urbanized Area	Renewal
UC Davis CDP	Yolo	5S	New	5,786		Davis, CA Urbanized Area	Within Urbanized Area
West Sacramento City	Yolo	5S	Renewal	48,744	λ	Sacramento, CA Urbanized Area	Renewal
Woodland City	Yolo	5S	Renewal	55,468	λ	Woodland, CA Urbanized Area	Renewal
Yolo County	Yolo	5S	Renewal		λ		Renewal
Yuba County							
Linda CDP	Yuba	5S	Renewal	17,773	λ	Yuba City, CA Urbanized Area	Renewal
Marysville City	Yuba	5S	Renewal	12,072	λ	Yuba City, CA Urbanized Area	Renewal
Olivehurst CDP	Yuba	5S	Renewal	13,656	λ	Yuba City, CA Urbanized Area	Renewal
Yuba County	Yuba	5S	Renewal		λ		Renewal

Draft Attachment B - Non-Traditional Small MS4 Permittees

Region	Permittee Name	Agency	Designation Criteria	Permittee Type	Monitoring Type
Monitoring Type: Δ = Areas of Special Biological Significance Special Protections					
*The list of Regulated MS4s in this Attachment may be amended by the Executive Director consistent with the designation criteria listed in the Order. Revised 2/19/13 to change Agency to Department of Homeland Security for Petaluma Coast Guard Training Center and Alameda Coast Guard Integrated Support Command, removed VA Northern CA Healthcare Systems and Martinez Center for Rehab and Extended.					
North Coast Regional Water Board					
1	Sonoma State University	California State University	Within Urbanized Area	New	
1	Caspar Headlands SB	Parks and Recreation, Dept. of	ASBS	New	Δ
1	Caspar Headlands SR	Parks and Recreation, Dept. of	ASBS	New	Δ
1	Del Norte Coast Redwoods SP	Parks and Recreation, Dept. of	ASBS	New	Δ
1	Humboldt Lagoons SP	Parks and Recreation, Dept. of	ASBS	New	Δ
1	Jug Handle SR	Parks and Recreation, Dept. of	ASBS	New	Δ
1	Mendocino Headlands SP	Parks and Recreation, Dept. of	ASBS	New	Δ
1	Mill Creek Property	Parks and Recreation, Dept. of	ASBS	New	Δ
1	Patrick's Point SP	Parks and Recreation, Dept. of	ASBS	New	Δ
1	Pelican SB	Parks and Recreation, Dept. of	ASBS	New	Δ
1	Point Cabrillo Light Station Property	Parks and Recreation, Dept. of	ASBS	New	Δ
1	Prairie Creek Redwoods SP	Parks and Recreation, Dept. of	ASBS	New	Δ
1	Sinkyone Wilderness SP	Parks and Recreation, Dept. of	ASBS	New	Δ
1	Tolowa Dunes SP	Parks and Recreation, Dept. of	ASBS	New	Δ
1	Trinidad SB	Parks and Recreation, Dept. of	ASBS	New	Δ

1	Petaluma Coast Guard Training Center	Homeland Security, Department of	Regional Board Designation	New	
San Francisco Regional Water Board					
2	San Jose Airport	Airport	Regional Board Designation	New	
2	FCI Dublin	Bureau of Prisons	Within Urbanized Area	New	
2	California State University Maritime	California State University	Within Urbanized Area	New	
2	California State University East Bay - Hayward Campus	California State University	Within Urbanized Area	New	
2	California State University East Bay - Concord Campus	California State University	Within Urbanized Area	New	
2	San Jose State University	California State University	Within Urbanized Area	New	
2	San Quentin State Prison	Corrections and Rehabilitation, Dept of	Within Urbanized Area	New	
2	Travis Air Force Base	Defense, Department of	Within Urbanized Area	New	
2	Agnews Developmental Center East & West	Developmental Services, Dept of	Within Urbanized Area	New	
2	Sonoma Development Center	Developmental Services, Dept of.	Renewal	Renewal	
2	Sonoma-Marin Fair	District Agricultural Association	Within Urbanized Area	New	
2	Napa County Fairgrounds	District Agricultural Association	Within Urbanized Area	New	
2	Montara SB	Parks and Recreation, Dept. of	ASBS	New	
2	Port of Oakland	Port	Regional Board Designation	New	
2	Port of Redwood City	Port	Regional Board Designation	New	
2	AMTRAK	Special District	Regional Board Designation	New	
2	Bay Area Rapid Transit	Special District	Regional Board Designation	New	
2	CalTrain	Special District	Regional Board Designation	New	
2	Golden Gate Bridge, Highway and Transportation District	Special District	Regional Board Designation	New	

2	Valley Transit Authority (VTA)	Special District	Regional Board Designation	New	
2	Alameda Coast Guard Integrated Support Command	Homeland Security, Department of	Regional Board Designation	New	
2	University of California Berkeley	University of California	Within Urbanized Area	New	
2	The University of California, San Francisco	University of California	Within Urbanized Area	New	
Central Coast Regional Water Board					
3	USP Lompoc	Bureau of Prisons	Within Urbanized Area	New	
3	FCI Lompoc	Bureau of Prisons	Within Urbanized Area	New	
3	California Polytechnic State University	California State University	Within Urbanized Area	New	
3	California State University Monterey Bay	California State University	Within Urbanized Area	New	
3	Los Osos Community Services District	Community Services District	Renewal	Renewal	
3	Oceano Community Services District	Community Services District	Renewal	Renewal	
3	Templeton Community Services District	Community Services District	Renewal	Renewal	
3	California Men's Colony	Corrections and Rehabilitation, Dept of	Within Urbanized Area	New	
3	Fort Hunter Ligget, Army Garrison	Defense, Department of	Regional Board Designation	New	
3	US Army Presidio of Monterey; includes Defense Language Institute	Defense, Department of	Within Urbanized Area	New	
3	Vandenberg AFB	Defense, Department of	Renewal	Renewal	
3	Monterey County Fairgrounds	District Agricultural Association	Within Urbanized Area	New	
3	Santa Maria Fairpark	District Agricultural Association	Within Urbanized Area	New	
3	Santa Cruz County Fairgrounds	District Agricultural Association	Within Urbanized Area	New	
3	Earl Warren Showgrounds (National Horse Show)	District Agricultural Association	Within Urbanized Area	New	
3	San Luis Obispo County Fairgrounds	District Agricultural Association	Within Urbanized Area	New	

3	Fort Ord Reuse Authority	Local Agency	Regional Board Designation	New	
3	Ano Nuevo SP	Parks and Recreation, Dept. of	ASBS	New	Δ
3	Ano Nuevo SR	Parks and Recreation, Dept. of	ASBS	New	Δ
3	Carmel River SB	Parks and Recreation, Dept. of	ASBS	New	Δ
3	Julia Pfeiffer Burns SP	Parks and Recreation, Dept. of	ASBS	New	Δ
3	Oceano Dunes SVRA	Parks and Recreation, Dept. of	Within Urbanized Area	New	
3	Pismo SB	Parks and Recreation, Dept. of	Within Urbanized Area	New	
3	Point Lobos SR	Parks and Recreation, Dept. of	ASBS	New	Δ
3	Carpinteria Unified School District	School District, Carpinteria Unified	Renewal	Renewal	
3	University of California, Santa Barbara	University of California	Renewal	Renewal	
3	University of California, Santa Cruz	University of California	Renewal	Renewal	
Los Angeles Regional Water Board					
4	FCI Terminal Island	Bureau of Prisons	Within Urbanized Area	New	
4	CCM Long Beach	Bureau of Prisons	Within Urbanized Area	New	
4	California State University Los Angeles	California State University	Within Urbanized Area	New	
4	California State University Northridge	California State University	Within Urbanized Area	New	
4	California State University Channel Islands	California State University	Within Urbanized Area	New	
4	California State University Long Beach	California State University	Within Urbanized Area	New	
4	California State Polytechnic University, Pomona	California State University	Within Urbanized Area	New	
4	California State University Dominguez Hills	California State University	Within Urbanized Area	New	
4	Naval Base Ventura County; includes Port Hueneme and Point Mugu	Defense, Department of	Within Urbanized Area	New	

4	Lanterman Developmental Center	Developmental Services, Dept of	Within Urbanized Area	New	
4	Ventura County Fairgrounds (Seaside Park and Ventura County Fairgrounds)	District Agricultural Association	Within Urbanized Area	New	
4	Point Dume SB	Parks and Recreation, Dept. of	ASBS	New	Δ
4	Point Mugu SP	Parks and Recreation, Dept. of	ASBS	New	Δ
4	Robert H. Meyer Memorial SB	Parks and Recreation, Dept. of	ASBS	New	Δ
4	UCLA	University of California	Within Urbanized Area	New	
4	Long Beach VA Medical Center	Veteran Affairs	Within Urbanized Area	New	
4	VA Greater Los Angeles Healthcare System (GLA)	Veteran Affairs	Within Urbanized Area	New	
Central Valley Regional Water Board					
5F	USP Atwater	Bureau of Prisons	Within Urbanized Area	New	
5F	California State University Bakersfield	California State University	Within Urbanized Area	New	
5F	Porterville Developmental Center	Developmental Services, Dept of	Within Urbanized Area	New	
5F	Madera County Fairgrounds	District Agricultural Association	Within Urbanized Area	New	
5F	Kern County Fairgrounds	District Agricultural Association	Within Urbanized Area	New	
5F	Tulare County Fairgrounds	District Agricultural Association	Within Urbanized Area	New	
5F	Kings County Fairgrounds	District Agricultural Association	Within Urbanized Area	New	
5F	The Big Fresno Fair	District Agricultural Association	Within Urbanized Area	New	
5F	Merced County Fairgrounds	District Agricultural Association	Within Urbanized Area	New	
5F	University of California, Merced	University of California	Within Urbanized Area	New	
5F	Lemoore NAS	Defense, Department of	Within Urbanized Area	New	
5R	California State University Chico	California State University	Within Urbanized Area	New	

5R	Silver Dollar Fairgrounds	District Agricultural Association	Within Urbanized Area	New	
5R	Shasta County Fairgrounds	District Agricultural Association	Within Urbanized Area	New	
5R	Carnegie State Vehicular Recreation Area	Parks and Recreation, Dept. of	Within Urbanized Area	New	
5S	California State University Sacramento	California State University	Renewal	Renewal	
5S	California State University Stanislaus	California State University	Within Urbanized Area	New	
5S	Rancho Murieta Community Services District	Community Services District	Renewal	Renewal	
5S	Mountain House Community Services District	Community Services District	Renewal	Renewal	
5S	Cosumnes Community Services District	Community Services District	Renewal	Renewal	
5S	CSP, Solano County	Corrections and Rehabilitation, Dept of	Within Urbanized Area	New	
5S	Deuel Vocational Institution	Corrections and Rehabilitation, Dept of	Within Urbanized Area	New	
5S	Folsom State Prison	Corrections and Rehabilitation, Dept of	Within Urbanized Area	New	
5S	CSP, Sacramento	Corrections and Rehabilitation, Dept of	Within Urbanized Area	New	
5S	California Medical Facility	Corrections and Rehabilitation, Dept of	Within Urbanized Area	New	
5S	Contra Costa County Fairgrounds	District Agricultural Association	Within Urbanized Area	New	
5S	Sutter County Fairgrounds	District Agricultural Association	Within Urbanized Area	New	
5S	Yolo County Fairgrounds	District Agricultural Association	Within Urbanized Area	New	
5S	Stanislaus County Fairgrounds	District Agricultural Association	Within Urbanized Area	New	
5S	San Joaquin County Fairgrounds	District Agricultural Association	Within Urbanized Area	New	
5S	California Exposition & State Fair	Exposition & State Fair, California	Renewal	Renewal	
5S	Elk Grove Unified School District	School District, Elk Grove Unified	Renewal	Renewal	

5S	Tracy Joint Unified School District	School District, Tracy Joint Unified	Renewal	Renewal	
5S	The University of California, Davis	University of California	Renewal	Renewal	
5S	Sacramento Medical Center at Mather	Veteran Affairs	Within Urbanized Area	New	
Lahontan Regional Water Board					
6V	FCI Victorville	Bureau of Prisons	Within Urbanized Area	New	
6V	San Bernardino County Fairgrounds	District Agricultural Association	Within Urbanized Area	New	
Santa Ana Regional Water Board					
8	Los Alamitos AFRC	California Army National Guard	Within Urbanized Area	New	
8	California State University Fullerton	California State University	Within Urbanized Area	New	
8	California State University San Bernardino	California State University	Within Urbanized Area	New	
8	California Institution for Men	Corrections and Rehabilitation, Dept of	Within Urbanized Area	New	
8	California Institution for Women	Corrections and Rehabilitation, Dept of	Within Urbanized Area	New	
8	California Rehabilitation Center	Corrections and Rehabilitation, Dept of	Within Urbanized Area	New	
8	Fairview Developmental Center	Developmental Services, Dept of.	Within Urbanized Area	New	
8	March Air Force Base	Department of Defense	Regional Board Designation	New	
8	Orange County Fairgrounds	District Agricultural Association	Within Urbanized Area	New	
8	Crystal Cove SP	Parks and Recreation, Dept. of	ASBS	New	Δ
8	University of California, Irvine	University of California	Within Urbanized Area	New	
8	University of California, Riverside	University of California	Within Urbanized Area	New	
8	Jerry L. Pettis Memorial VA Medical Center	Veteran Affairs	Within Urbanized Area	New	

San Diego Regional Water Board					
9	MCC San Diego	Bureau of Prisons	Within Urbanized Area	New	
9	San Diego State University	California State University	Within Urbanized Area	New	
9	California State University San Marcos	California State University	Within Urbanized Area	New	
9	R J Donovan Correctional Facility at Rock Mountain	Corrections and Rehabilitation, Dept of	Within Urbanized Area	New	
9	Miramar Marine Corps Air Station	Defense, Department of	Regional Board Designation	New	
9	Camp Pendleton	Defense, Department of	Within Urbanized Area	New	
9	Del Mar Fairgrounds	District Agricultural Association	Renewal	Renewal	
9	San Diego County Fairgrounds	District Agricultural Association	Within Urbanized Area	New	
9	North County Transit District (NCTD)	Transportation Agency	Regional Board Designation	New	
9	University of California, San Diego	University of California	Within Urbanized Area	New	
9	VA San Diego Healthcare System	Veteran Affairs	Within Urbanized Area	New	

Special Conditions (Specific Provisions) for Traditional and Non-Traditional Small MS4 ASBS Discharges

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All Traditional and Non-traditional Small MS4 Permittees that discharge to ASBS as listed in Attachment D have been granted an exception to the Ocean Plan and shall comply with the following Special Protections requirements. Special Protections for Areas of Special Biological Significance, Governing Point Source Discharges of Storm Water and Nonpoint Source Waste Discharges (Attachment B to State Water Board Resolution 2012-0001) (Special Protections).

The Special Protections for Areas of Special Biological Significance require submittal of Compliance Plans to be included in a SWMP. However, SWMPs are no longer required for submittal by this Order. As such, Permittees shall submit a stand-alone Compliance Plan document for ASBS discharges and submit per the Special Conditions compliance schedule, through their online Annual Report.

I. PROVISIONS FOR POINT SOURCE DISCHARGES OF STORM WATER

The following terms, prohibitions, and special conditions (hereafter collectively referred to as special conditions) are established as limitations on point source storm water. These special conditions provide Special Protections for marine aquatic life and natural water quality in Areas of Special Biological Significance (ASBS), as required for State Water Quality Protection Areas pursuant to California Public Resources Code Sections 36700(f) and 36710(f). These Special Protections are adopted by the State Water Board as part of the California Ocean Plan (Ocean Plan) General Exception.

A. PERMITTED POINT SOURCE DISCHARGES OF STORM WATER

1. General Provisions for Permitted Point Source Discharges of Storm Water

    a. Existing storm water discharges into an ASBS are allowed only under the following conditions:

        (1) The discharges are authorized by this Order;

        (2) The discharges comply with all of the applicable terms, prohibitions, and special conditions contained in the Special Protections as laid out in this Attachment; and

        (3) The discharges:

            (i) Are essential for flood control or slope stability, including roof, landscape, road, and parking lot drainage;

            (ii) Are designed to prevent soil erosion;

            (iii) Occur only during wet weather;

            (iv) Are composed of only storm water runoff.

    b. Discharges composed of storm water runoff shall not alter natural ocean water quality in an ASBS.

c. The discharge of trash is prohibited.

d. Only discharges from existing storm water outfalls are allowed. Any proposed or new storm water runoff discharge shall be routed to existing storm water discharge outfalls and shall not result in any new contribution of waste to an ASBS (i.e., no additional pollutant loading). "Existing storm water outfalls" are those that were constructed or under construction prior to January 1, 2005. "New contribution of waste" is defined as any addition of waste beyond what would have occurred as of January 1, 2005. A change to an existing storm water outfall, in terms of re-location or alteration, in order to comply with these special conditions, is allowed and does not constitute a new discharge.

e. Non-storm water discharges are prohibited except as provided below:

(1) The term "non-storm water discharges" means any waste discharges from a municipal separate storm sewer system (MS4) or other NPDES permitted storm drain system to an ASBS that are not composed entirely of storm water.

(2) The following non-storm water discharges are allowed, provided that the discharges are essential for emergency response purposes, structural stability, slope stability or occur naturally:

(i) Discharges associated with emergency firefighting operations.

(ii) Foundation and footing drains.

(iii) Water from crawl space or basement pumps.

(iv) Hillside dewatering.

(v) Naturally occurring groundwater seepage via a storm drain.

(vi) Non-anthropogenic flows from a naturally occurring stream via a culvert or storm drain, as long as there are no contributions of anthropogenic runoff.

(3) Discharges from utility vaults and underground structures to a segment of the MS4 with a direct discharge to an ASBS are permitted if such discharges are authorized by the General NPDES Permit for Discharges from Utility Vaults and Underground Structures to Surface Water, NPDES No. CAG 990002. Other short-duration, intermittent non-storm water discharges related to utilities (e.g. groundwater dewatering, potable water system flushing, hydrotest discharges) to a segment of the MS4 with a direct discharge to an ASBS are permitted if such discharges are authorized by an NPDES permit issued by the relevant Regional Water Board. A Regional Water Board may nonetheless prohibit a specific discharge from a utility vault or underground structure or other specific utility-related discharge if it determines that the discharge is causing the MS4 discharge to the ASBS to alter natural ocean water quality in the

ASBS. Additional non-storm water discharges to a segment of the MS4 with a direct discharge to an ASBS are allowed only to the extent the relevant Regional Water Board finds that the discharge does not alter natural ocean water quality in the ASBS.

This provision does not supersede the authority of the MS4 to effectively prohibit a non-storm water discharge that has been found to alter natural ocean water quality in the ASBS.

(4) Authorized non-storm water discharges shall not cause or contribute to a violation of the water quality objectives in Chapter II of the Ocean Plan nor alter natural ocean water quality in an ASBS.

2. Compliance Plans for Inclusion in Storm Water Management Plans (SWMP) and Storm Water Pollution Prevention Plans (SWPPP)

The Permittee shall specifically address the prohibition of non-storm water runoff and the requirement to maintain natural water quality for storm water discharges to an ASBS in an ASBS Compliance Plan to be submitted to the appropriate Regional Water Board. The ASBS Compliance Plan is subject to approval by the Executive Director of the State Water Board.

a. The Compliance Plan shall include a map of surface drainage of storm water runoff, showing areas of sheet runoff, prioritize discharges, and describe any structural Best Management Practices (BMPs) already employed and/or BMPs to be employed in the future. Priority discharges are those that pose the greatest water quality threat and which are identified to require installation of structural BMPs. The map shall also show the storm water conveyances in relation to other features such as service areas, sewage conveyances and treatment facilities, landslides, areas prone to erosion and waste and hazardous material storage areas, if applicable. The SWMP or SWPPP shall also include a procedure for updating the map and plan when changes are made to the storm water conveyance facilities.

b. The ASBS Compliance Plan shall describe the measures by which all non-authorized non-storm water runoff (e.g., dry weather flows) has been eliminated, how these measures will be maintained over time, and how these measures are monitored and documented.

c. The ASBS Compliance Plan shall require minimum inspection frequencies as follows:

(1) The minimum inspection frequency for construction sites shall be weekly during rainy season;

(2) The minimum inspection frequency for industrial facilities shall be monthly during the rainy season;

(3) The minimum inspection frequency for commercial facilities (e.g., restaurants) shall be twice during the rainy season;

(4) Storm water outfall drains equal to or greater than 18 inches (457 mm) in diameter or width shall be inspected once prior to the beginning of the rainy season and once during the rainy season and maintained to remove trash and other anthropogenic debris.

d. The ASBS Compliance Plan shall address storm water discharges (wet weather flows) and, in particular, describe how pollutant reductions in storm water runoff, that are necessary to comply with these special conditions, will be achieved through BMPs. Structural BMPs need not be installed if the Permittee can document to the satisfaction of the State Water Board Executive Director that such installation would pose a threat to health or safety. BMPs to control storm water runoff discharges (at the end-of-pipe) during a design storm shall be designed to achieve on average the following target levels:

(1) Table B Instantaneous Maximum Water Quality Objectives in Chapter II of the Ocean Plan; or

(2) A 90% reduction in pollutant loading during storm events, for the Permittee's total discharges. The baseline for the reduction is the effective date of the Exception. The baseline for these determinations is the effective date of the Exception, and the reductions must be achieved and documented within six (6) years of the effective date.

e. The ASBS Compliance Plan shall address erosion control and the prevention of anthropogenic sedimentation in ASBS. The natural habitat conditions in the ASBS shall not be altered as a result of anthropogenic sedimentation.

f. The ASBS Compliance Plan shall describe the non-structural BMPs currently employed and planned in the future (including those for construction activities), and include an implementation schedule. The ASBS Compliance Plan shall include non-structural BMPs that address public education and outreach. Education and outreach efforts must adequately inform the public that direct discharges of pollutants from private property not entering an MS4 are prohibited. The ASBS Compliance Plan shall also describe the structural BMPs, including any low impact development (LID) measures, currently employed and planned for higher threat discharges and include an implementation schedule. To control storm water runoff discharges (at the end-of-pipe) during a design storm, permittees must first consider using LID practices to infiltrate, use, or evapotranspire storm water runoff on-site.

g. The BMPs and implementation schedule shall be designed to ensure that natural water quality conditions in the receiving water are achieved and maintained by either reducing flows from impervious surfaces or reducing pollutant loading, or some combination thereof.

h. If the results of the receiving water monitoring described in Section IV. B. below indicate that the storm water runoff is causing or contributing to an alteration of natural ocean water quality in the ASBS, the Permittee shall submit a report to the State Water Board and Regional Water Board within 30 days of receiving the results.

(1) The report shall identify the constituents in storm water runoff that alter natural ocean water quality and the sources of these constituents.

(2) The report shall describe BMPs that are currently being implemented, BMPs that are identified in the ASBS Compliance Plan for future implementation, and any additional BMPs that may be added to the ASBS Compliance Plan to address the alteration of natural water quality. The report shall include a new or modified implementation schedule for the BMPs.

(3) Within 30 days of the approval of the report by the State Water Board Executive Director, the Permittee shall revise its ASBS Compliance Plan to incorporate any new or modified BMPs that have been or will be implemented, the implementation schedule, and any additional monitoring required.

(4) As long as the Permittee has complied with the procedures described above and is implementing the revised ASBS Compliance Plan, the Permittee does not have to repeat the same procedure for continuing or recurring exceedances of natural ocean water quality conditions due to the same constituent.

(5) Compliance with this section does not excuse violations of any term, prohibition, or condition contained in the Special Protections.

3. Compliance Schedule

a. On the effective date of the Exception, all non-authorized non-storm water discharges (e.g., dry weather flow) are effectively prohibited.

b. Within 18 months from the effective date of the Exception, the Permittee shall submit a written ASBS Compliance Plan to the State Water Board Executive Director that describes its strategy to comply with these special conditions, including the requirement to maintain natural water quality in the affected ASBS. The ASBS Compliance Plan shall include a time schedule to implement appropriate non-structural and structural controls (implementation schedule) to comply with these special conditions.

c. Within 18 months of the effective date of the Exception, any non-structural controls that are necessary to comply with these special conditions shall be implemented.

d. Within six (6) years of the effective date of the Exception, any structural controls identified in the ASBS Compliance Plan that are necessary to comply with these special conditions shall be operational.

e. Within six (6) years of the effective date of the Exception, all Permittees must comply with the requirement that their discharges into the affected ASBS maintain natural ocean water quality. If the initial results of post-storm receiving water quality testing indicate levels higher than the 85th percentile threshold of reference water quality data and the pre-storm receiving water levels, then the Permittee must re-sample the receiving water, pre- and post-storm. If after re-sampling the post-storm levels are still higher than the 85th percentile threshold of reference water quality data, and the pre-storm receiving water levels, for any constituent, then natural ocean water quality is exceeded. See attached Flowchart Section C.

f. The Executive Director of the State Water Board may only authorize additional time to comply with the special conditions d. and e., above if good cause exists to do so. Good cause means a physical impossibility or lack of funding.

If a Permittee claims physical impossibility, it shall notify the Board in writing within thirty (30) days of the date that the Permittee first knew of the event or circumstance that caused or would cause it to fail to meet the deadline in d. or e. The notice shall describe the reason for the noncompliance or anticipated noncompliance and specifically refer to this Section of this Exception. It shall describe the anticipated length of time the delay in compliance may persist, the cause or causes of the delay as well as measures to minimize the impact of the delay on water quality, the measures taken or to be taken by the Permittee to prevent or minimize the delay, the schedule by which the measures will be implemented, and the anticipated date of compliance. The Permittee shall adopt all reasonable measures to avoid and minimize such delays and their impact on water quality.

The Permittee may request an extension of time for compliance based on lack of funding. The request for an extension shall require:

1. for Traditional Small MS4s, a demonstration of significant hardship to Permittee ratepayers, by showing the relationship of storm water fees to annual household income for residents within the Permittee's jurisdictional area, and the Permittee has made timely and complete applications for all available bond and grant funding, and either no bond or grant funding is available, or bond and/or grant funding is inadequate; or

2. for Non-Traditional Small MS4s, a demonstration and documentation of a good faith effort to acquire funding through that agency's budgetary process.

II. ADDITIONAL REQUIREMENTS FOR PARKS AND RECREATION FACILITIES

In addition to the provisions in Section I (A) a Permittee with parks and recreation facilities shall comply with the following:

A. The Permittee shall include a section in an ASBS Compliance Plan to address storm water runoff from parks and recreation facilities.

1. The Section shall identify all pollutant sources, including sediment sources, which may result in waste entering storm water runoff. Pollutant sources include, but are not limited to, roadside rest areas and vistas, picnic areas, campgrounds, trash receptacles, maintenance facilities, park personnel housing, portable toilets, leach fields, fuel tanks, roads, piers, and boat launch facilities.

2. The Section shall describe BMPs or Management Measures/Practices that will be implemented to control soil erosion (both temporary and permanent erosion controls) and reduce or eliminate pollutants in storm water runoff in order to achieve and maintain natural water quality conditions in the affected ASBS. The plan shall include BMPs or Management Measures/Practices to ensure that trails and culverts are maintained to prevent erosion and minimize waste discharges to ASBS.

3. The Section shall include BMPs or Management Measures/Practices to prevent the discharge of pesticides or other chemicals, including agricultural chemicals, in storm water runoff to the affected ASBS.

4. The Section shall include BMPs or Management Measures/Practices that address public education and outreach. The goal of these BMPs or Management Measures/Practices is to ensure that the public is adequately informed that waste discharges to the affected ASBS are prohibited or limited by special conditions in in the Special Protections as laid out in this Attachment . The BMPs or Management Measures/Practices shall include signage at camping, picnicking, beach and roadside parking areas, and visitor centers, or other appropriate measures, which notify the public of any applicable requirements of the Special Protections as laid out in this Attachment and identify the ASBS boundaries.

5. The Section shall include BMPs or Management Measures/Practices that address the prohibition against the discharge of trash to ASBS. The BMPs or Management Measures/Practices shall include measures to ensure that adequate trash receptacles are available for public use at visitor facilities, including parking areas, and that the receptacles are adequately maintained to prevent trash discharges into the ASBS. Appropriate measures include covering trash receptacles to prevent trash from being windblown and periodically emptying the receptacles to prevent overflows.

6. The Section shall include BMPs or Management Measures/Practices to address runoff from parking areas and other developed features to ensure that the runoff does not alter natural water quality in the affected ASBS. BMPs or Management Measures/Practices shall include measures to reduce pollutant loading in runoff to the ASBS through installation of natural area buffers (LID), treatment, or other appropriate measures.

B. Maintenance and repair of park and recreation facilities must not result in waste discharges to the ASBS. The practice of road oiling must be minimized or eliminated, and must not result in waste discharges to the ASBS.

III. ADDITIONAL REQUIREMENTS – WATERFRONT AND MARINE OPERATIONS

In addition to the provisions in Section I (A), a Permittee with waterfront and marine operations shall comply with the following:

A. For discharges related to waterfront and marine operations, the Permittee shall develop a Waterfront and Marine Operations Management Section (Waterfront Section) for its ASBS Compliance Plan. The Waterfront Section shall contain appropriate Best Management Practices (BMPs) to address pollutant discharges to the affected ASBS.

1. The Waterfront Section shall contain appropriate BMPs for any waste discharges associated with the operation and maintenance of vessels, moorings, piers, launch ramps, and cleaning stations in order to ensure that beneficial uses are protected and natural water quality is maintained in the affected ASBS.

2. For discharges from marinas and recreational boating activities, the Waterfront Section shall include appropriate Management Measures, described in The Plan for California's Nonpoint Source Pollution Control Program, for marinas and recreational boating, or equivalent practices, to ensure that nonpoint source pollutant discharges do not alter natural water quality in the affected ASBS.

3. The Waterfront Section shall include BMPs to address public education and outreach to ensure that the public is adequately informed that waste discharges to the affected ASBS are prohibited or limited by special conditions in the Special Protections as laid out in this Attachment. The BMPs shall include appropriate signage, or similar measures, to inform the public of the ASBS restrictions and to identify the ASBS boundaries.

4. The Waterfront Section shall include BMPs to address the prohibition against trash discharges to ASBS. The BMPs shall include the provision of adequate trash receptacles for marine recreation areas, including parking areas, launch ramps, and docks. The plan shall also include appropriate BMPs to ensure that the receptacles are adequately maintained and secured in order to prevent trash discharges into the ASBS. Appropriate BMPs include covering the trash receptacles to prevent trash from being windblown, staking or securing the trash receptacles so they don't tip over, and periodically emptying the receptacles to prevent overflow.

5. The Permittee shall submit the Waterfront Plan to the Executive Director of the State Water Board within six months of the effective date of these special conditions. The Waterfront Plan is subject to approval by the State Water Board Executive Director. The plan must be fully implemented within 18 months of the effective date of the Exception.

B. The discharge of chlorine, soaps, petroleum, other chemical contaminants, trash, fish offal, or human sewage to ASBS is prohibited. Sinks and fish cleaning stations are point source discharges of wastes and are prohibited from discharging into ASBS. Anthropogenic accumulations of discarded fouling organisms on the sea floor must be minimized.

C. Limited-term activities, such as the repair, renovation, or maintenance of waterfront facilities, including, but not limited to, piers, docks, moorings, and breakwaters, are authorized only in accordance with Chapter III.E.2 of the Ocean Plan.

D. If the Permittee anticipates that it will fail to fully implement the approved Waterfront Plan within the 18 month deadline, the Permittee shall submit a technical report as soon as practicable to the State Water Board Executive Director. The technical report shall contain reasons for failing to meet the deadline and propose a revised schedule to fully implement the plan.

E. The State Water Board Executive Director may, for good cause, authorize additional time to comply with the Waterfront Plan. Good cause means a physical impossibility or lack of funding.

If a Permittee claims physical impossibility, it shall notify the Board in writing within thirty (30) days of the date that the Permittee first knew of the event or circumstance that caused or would cause it to fail to meet the deadline in Section III.A.5. The notice shall describe the reason for

the noncompliance or anticipated noncompliance and specifically refer to this Section of the Special Protections as laid out in this Attachment. It shall describe the anticipated length of time the delay in compliance may persist, the cause or causes of the delay as well as measures to minimize the impact of the delay on water quality, the measures taken or to be taken by the Permittee to prevent or minimize the delay, the schedule by which the measures will be implemented, and the anticipated date of compliance. The Permittee shall adopt all reasonable measures to avoid and minimize such delays and their impact on water quality. The Permittee may request an extension of time for compliance based on lack of funding. The request for an extension shall require:

1. a demonstration of significant hardship by showing that the Permittee has made timely and complete applications for all available bond and grant funding, and either no bond or grant funding is available, or bond and/or grant funding is inadequate.

2. for governmental agencies, a demonstration and documentation of a good faith effort to acquire funding through that agency's budgetary process, and a demonstration that funding was unavailable or inadequate.

IV. MONITORING REQUIREMENTS

Monitoring is mandatory for all Permittees to assure compliance with the Ocean Plan. Monitoring requirements include both: (A) core discharge monitoring, and (B) ocean receiving water monitoring. The State and Regional Water Boards must approve sampling site locations and any adjustments to the monitoring programs. All ocean receiving water and reference area monitoring must be comparable with the Water Boards' Surface Water Ambient Monitoring Program (SWAMP).

Safety concerns: Sample locations and sampling periods must be determined considering safety issues. Sampling may be postponed upon notification to the State and Regional Water Boards if hazardous conditions prevail.

Analytical Chemistry Methods: All constituents must be analyzed using the lowest minimum detection limits comparable to the Ocean Plan water quality objectives. For metal analysis, all samples, including storm water effluent, reference samples, and ocean receiving water samples, must be analyzed by the approved analytical method with the lowest minimum detection limits (currently Inductively Coupled Plasma/Mass Spectrometry) described in the Ocean Plan.

A. CORE DISCHARGE MONITORING PROGRAM

1. General sampling requirements for timing and storm size:

   Runoff must be collected during a storm event that is greater than 0.1 inch and generates runoff, and at least 72 hours from the previously measurable storm event. Runoff samples shall be collected when post-storm receiving water is sampled, and analyzed for the same constituents as receiving water and reference site samples (see section IV B) as described below.

2. Runoff flow measurements

   a. For municipal/industrial storm water outfalls in existence as of December 31, 2007, 18 inches (457mm) or greater in diameter/width (including multiple outfall pipes in combination having a width of 18 inches, runoff flows must be measured or calculated, using a method acceptable to and approved by the State and Regional Water Boards.

   b. This will be reported annually for each precipitation season to the State and Regional Water Boards.

3. Runoff samples – storm events

   a. For outfalls equal to or greater than 18 inches (0.46m) in diameter or width:

      (1) samples of storm water runoff shall be analyzed during the same storm as receiving water samples for oil and grease, total suspended solids, and, within the range of the southern sea otter indicator bacteria or some other measure of fecal contamination, and

      (2) samples of storm water runoff shall be analyzed for critical life stage chronic toxicity (one invertebrate or algal species) at least once during each storm season when receiving water is sampled in the ASBS

      (3) If a Permittee has no outfall greater than 36 inches, then storm water runoff from the Permittee's largest outfall shall be further analyzed during the same storm as receiving water samples for Ocean Plan Table B metals for protection of marine life, Ocean Plan polynuclear aromatic hydrocarbons (PAHs), current use pesticides (pyrethroids and OP pesticides), and nutrients (ammonia, nitrate and phosphates).

   b. For outfalls equal to or greater than 36 inches (0.91m) in diameter or width:

      (1) samples of storm water runoff shall be analyzed during the same storm as receiving water samples for oil and grease, total suspended solids, and, within the range of the southern sea otter indicator bacteria or some other measure of fecal contamination; and

      (2) samples of storm water runoff shall be further analyzed during the same storm as receiving water samples for Ocean Plan Table B metals for protection of marine life, Ocean Plan polynuclear aromatic hydrocarbons (PAHs), current use pesticides (pyrethroids and OP pesticides), and nutrients (ammonia, nitrate and phosphates) and

      (3) samples of storm water runoff shall be analyzed for critical stage chronic toxicity (one invertebrate or algal species) at least once during each storm season when receiving water is sampled in the ASBS.

   c. For a Permittee not participating in a regional monitoring program [see below in Section IV (B)] in addition to (a.) and (b.) above, a minimum of the two largest outfalls or 20 percent of the larger outfalls, whichever is greater, shall be sampled (flow weighted composite samples) at least three times annually during wet weather (storm event) and

analyzed for all Ocean Plan Table A constituents, Table B constituents for marine aquatic life protection (except for toxicity, only chronic toxicity for three species shall be required), DDT, PCBs, Ocean Plan PAHs, OP pesticides, pyrethroids, nitrates, phosphates, and Ocean Plan indicator bacteria. For parties discharging to ASBS in more than one Regional Water Board region, at a minimum, one (the largest) such discharge shall be sampled annually in each Region.

4. The Executive Director of the State Water Board may reduce or suspend core monitoring once the storm runoff is fully characterized. This determination may be made at any point after the discharge is fully characterized, but is best made after the monitoring results from the first permit cycle are assessed.

B. OCEAN RECEIVING WATER AND REFERENCE AREA MONITORING PROGRAM

In addition to performing the Core Discharge Monitoring Program in Section IV..A above, all applicants having authorized discharges must perform ocean receiving water monitoring. In order to fulfill the requirements for monitoring the physical, chemical, and biological characteristics of the ocean receiving waters within their ASBS, Permittees may choose either (1) an individual monitoring program, or (2) participation in a regional integrated monitoring program.

1. Individual Monitoring Program: The requirements listed below are for those Permittees who elect to perform an individual monitoring program to fulfill the requirements for monitoring the physical, chemical, and biological characteristics of the ocean receiving waters within the affected ASBS. In addition to Core Discharge Monitoring, the following additional monitoring requirements shall be met:

    a. Three times annually, during wet weather (storm events), the receiving water at the point of discharge from the outfalls described in section (IV)(A)(3)(c) above shall be sampled and analyzed for Ocean Plan Table A constituents, Table B constituents for marine aquatic life, DDT, PCBs, Ocean Plan PAHs, OP pesticides, pyrethroids, nitrates, phosphates, salinity, chronic toxicity (three species), and Ocean Plan indicator bacteria.

        The sample location for the ocean receiving water shall be in the surf zone at the point of discharges; this must be at the same location where storm water runoff is sampled. Receiving water shall be sampled at approximately the same time prior to (pre-storm) and during (or immediately after) the same storm (post storm). Reference water quality shall also be sampled and analyzed for the same constituents pre-storm and post-storm, during the same storms when receiving water is sampled. Reference stations will be determined by the State Water Board's Division of Water Quality and the applicable Regional Water Board(s).

    b. Sediment sampling shall occur at least three times during every five (5) year period. The subtidal sediment (sand or finer, if present) at the discharge shall be sampled and analyzed for Ocean Plan Table B constituents for marine aquatic life, DDT, PCBs, PAHs, pyrethroids, and OP pesticides. For sediment toxicity testing, only an acute toxicity test using the amphipod *Eohaustorius estuarius* must be performed.

c. A quantitative survey of intertidal benthic marine life shall be performed at the discharge and at a reference site. The survey shall be performed at least once every five (5) year period. The survey design is subject to approval by the Regional Water Board and the State Water Board's Division of Water Quality. The results of the survey shall be completed and submitted to the State Water Board and Regional Water Board at least six months prior to the end of the permit cycle.

d. Once during each five (5) year period, a bioaccumulation study shall be conducted to determine the concentrations of metals and synthetic organic pollutants at representative discharge sites and at representative reference sites. The study design is subject to approval by the Regional Water Board and the State Water Board's Division of Water Quality. The bioaccumulation study may include California mussels (*Mytilus californianus*) and/or sand crabs (*Emerita analoga* or *Blepharipoda occidentalis*). Based on the study results, the Regional Water Board and the State Water Board's Division of Water Quality, may adjust the study design in subsequent permits, or add or modify additional test organisms (such as shore crabs or fish), or modify the study design appropriate for the area and best available sensitive measures of contaminant exposure.

e. Marine Debris: Representative quantitative observations for trash by type and source shall be performed along the coast of the ASBS within the influence of the Permittee's outfalls. The design, including locations and frequency, of the marine debris observations is subject to approval by the Regional Water Board and State Water Board's Division of Water Quality.

f. The monitoring requirements of the Individual Monitoring Program in this section are minimum requirements. After a minimum of one (1) year of continuous water quality monitoring of the discharges and ocean receiving waters, the Executive Director of the State Water Board (may require additional monitoring, or adjust, reduce or suspend receiving water and reference station monitoring. This determination may be made at any point after the discharge and receiving water is fully characterized, but is best made after the monitoring results from the first permit cycle are assessed.

2. Regional Integrated Monitoring Program: Permittees may elect to participate in a regional integrated monitoring program, in lieu of an individual monitoring program, to fulfill the requirements for monitoring the physical, chemical, and biological characteristics of the ocean receiving waters within their ASBS. This regional approach shall characterize natural water quality, pre- and post-storm, in ocean reference areas near the mouths of identified open space watersheds and the effects of the discharges on natural water quality (physical, chemical, and toxicity) in the ASBS receiving waters, and should include benthic marine aquatic life and bioaccumulation components. The design of the ASBS stratum of a regional integrated monitoring program may deviate from the otherwise prescribed individual monitoring approach (in Section IV.B.1) if approved by the State Water Board's Division of Water Quality and the Regional Water Boards.

   a. Ocean reference areas shall be located at the drainages of flowing watersheds with minimal development (in no instance more than 10% development), and shall not be located in CWA Section 303(d) listed waterbodies or have tributaries that are 303(d) listed. Reference areas shall be free of wastewater discharges and anthropogenic non-storm water runoff. A minimum of low threat storm runoff discharges (e.g. stream highway overpasses and campgrounds) may be allowed on a case-by-case basis.

Reference areas shall be located in the same region as the ASBS receiving water monitoring occurs. The reference areas for each Region are subject to approval by the participants in the regional monitoring program and the State Water Board's Division of Water Quality and the applicable Regional Water Board(s). A minimum of three ocean reference water samples must be collected from each station, each from a separate storm. A minimum of one reference location shall be sampled for each ASBS receiving water site sampled per responsible party. For parties discharging to ASBS in more than one Regional Water Board region, at a minimum, one reference station and one receiving water station shall be sampled in each region.

b. ASBS ocean receiving water must be sampled in the surf zone at the location where the runoff makes contact with ocean water (i.e. at "point zero"). Ocean receiving water stations must be representative of worst-case discharge conditions (i.e. co-located at a large drain greater than 36 inches, or if drains greater than 36 inches are not present in the ASBS then the largest drain greater than18 inches.) Ocean receiving water stations are subject to approval by the participants in the regional monitoring program and the State Water Board's Division of Water Quality and the applicable Regional Water Board(s). A minimum of three ocean receiving water samples must be collected during each storm season from each station, each from a separate storm. A minimum of one receiving water location shall be sampled in each ASBS per responsible party in that ASBS. For parties discharging to ASBS in more than one Regional Water Board region, at a minimum, one reference station and one receiving water station shall be sampled in each region.

c. Reference and receiving water sampling shall commence during the first full storm season following the adoption of these special conditions, and post-storm samples shall be collected when annual storm water runoff is sampled. Sampling shall occur in a minimum of two storm seasons. For those ASBS Permittees that have already participated in the Southern California Bight 2008 ASBS regional monitoring effort, sampling may be limited to only one storm season.

d. Receiving water and reference samples shall be analyzed for the same constituents as storm water runoff samples. At a minimum, constituents to be sampled and analyzed in reference and discharge receiving waters must include oil and grease, total suspended solids, Ocean Plan Table B metals for protection of marine life, Ocean Plan PAHs, pyrethroids, OP pesticides, ammonia, nitrate, phosphates, and critical life stage chronic toxicity for three species. In addition, within the range of the southern sea otter, indicator bacteria or some other measure of fecal contamination shall be analyzed.

3. Waterfront and Marine Operations: In addition to the above requirements for ocean receiving water monitoring, additional monitoring must be performed for marinas and boat launch and pier facilities:

a. For all marina or mooring field operators, in mooring fields with 10 or more occupied moorings, the ocean receiving water must be sampled for Ocean Plan indicator bacteria, residual chlorine, copper, zinc, grease and oil, methylene blue active substances (MBAS), and ammonia nitrogen.

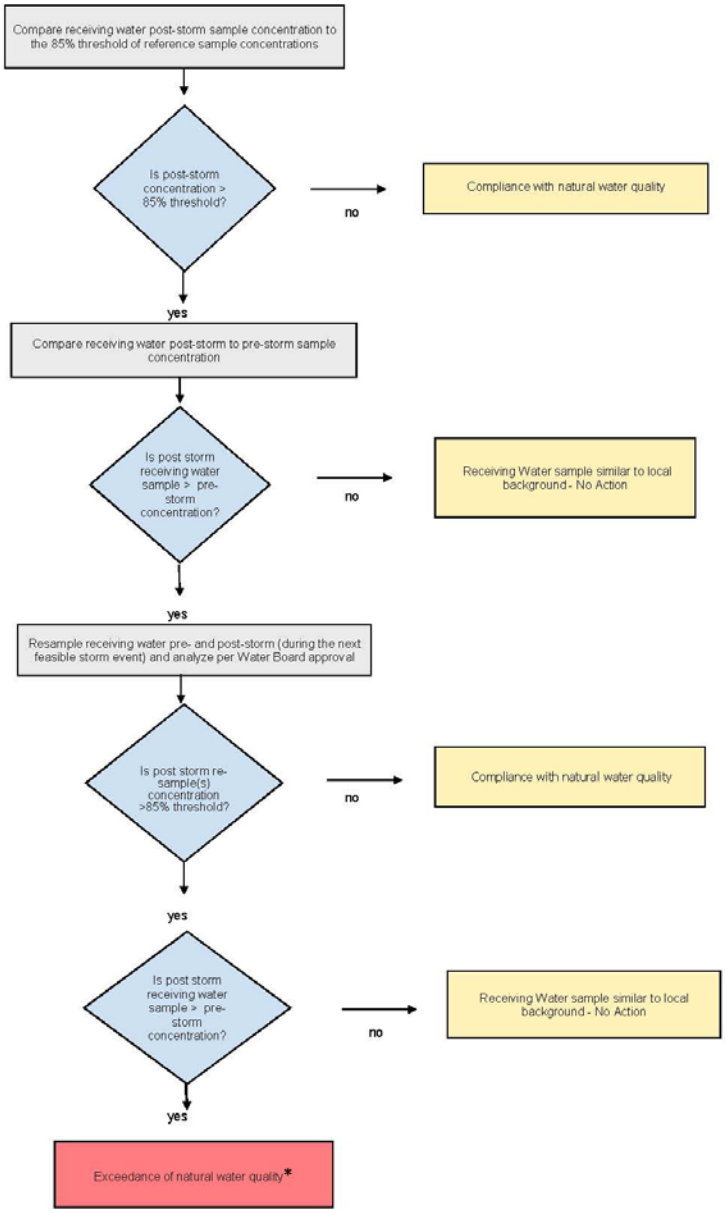
(1) For mooring field operators opting for an individual monitoring program (Section IV.B.1 above), this sampling must occur weekly (on the weekend) from May through October.

(2) For mooring field operators opting to participate in a regional integrated monitoring program (Section IV.B.2 above), this sampling must occur from May through October on a high weekend in each month. The Water Boards may allow a reduction in the frequency of sampling, through the regional monitoring program, after the first year of monitoring.

b. For all mooring field operators, the subtidal sediment (sand or finer, if present) within the mooring fields and below piers shall be sampled and analyzed for Ocean Plan Table B metals (for marine aquatic life beneficial use), acute toxicity, PAHs, and tributyltin. For sediment toxicity testing, only an acute toxicity test using the amphipod *Eohaustorius estuarius* must be performed. This sampling shall occur at least three times during a five (5) year period. For mooring field operators opting to participate in a regional integrated monitoring program, the Water Boards may allow a reduction in the frequency of sampling after the first sampling effort's results are assessed.

C. ASBS Flow Chart

Figure 2
ASBS Special Protections
Flowchart to Determine Compliance with Natural Water Quality



*** When an exceedance of natural water quality occurs, the Department must comply with section I.A.2.h of the Special Protections as well as the requirements of this Order. Note, when sampling data is available, end-of-pipe effluent concentrations will be considered by the Water Boards in making this determination.**

D. ASBS Monitoring Constituents

TABLE A
Monitoring Constituent List
(excerpted from California Ocean Plan dated 2009)

Constituent	Units
Grease and Oil	mg/L
Suspended Solids	Mg/L
Settleable Solids	mL/L
Turbidity	NTU
PH	

TABLE B
Monitoring Constituent List
(excerpted from California Ocean Plan dated 2009)

Constituent	Units
Arsenic	ìg/L
Cadmium	ìg/L
Chromium	ìg/L
Copper	ìg/L
Lead	ìg/L
Mercury	ìg/L
Nickel	ìg/L
Selenium	ìg/L
Silver	ìg/L
Zinc	ìg/L
Cyanide	ìg/L
Total Chlorine Residual	ìg/L
Ammonia (as N)	ìg/L
Acute Toxicity	TUa
Chronic Toxicity	TUc
Phenolic Compounds (non-chlorinated)	ìg/L
Chlorinated Phenolics	ìg/L
Endosulfan	ìg/L
Endrin	ìg/L
HCH	µg/L

Phase II Small MS4 Entities Authorized to Discharge to Areas of Special Biological Significance (ASBS)

Regional Board	Applicant	ASBS
North Coast Water Board	City of Trinidad	Trinidad Head
	County of Humboldt	King Range
	Humboldt Bay Harbor District	King Range
	Department of Parks and Recreation	Gerstle Cove
	Department of Parks and Recreation	Jughandle Cove
	Department of Parks and Recreation	King Range
	Department of Parks and Recreation	Trinidad Head
	Department of Parks and Recreation	Redwoods State and National Park
San Francisco Water Board	County of Marin	Duxbury Reef
	Defense, Department of (Vandenberg Air Force Base)	James V. Fitzgerald
	National Park Service	Point Reyes National Seashore
Central Coast Water Board	City of Monterey	Pacific Grove
	City of Pacific Grove	Pacific Grove
	City of Carmel by The Sea	Carmel Bay
	County of Monterey	Carmel Bay
	Department of Parks and Recreation	Año Nuevo
	Department of Parks and Recreation	Carmel Bay
	Department of Parks and Recreation	Julia Pfeiffer Burns
	Department of Parks and Recreation	Point Lobos
Los Angeles Water Board	Department of Parks and Recreation	Laguna Point to Latigo Point
Santa Ana Water Board	Department of Parks and Recreation	Irvine Coast

Community-Based Social Marketing (CBSM)
Education and Outreach Requirements

A. Public Education and Outreach Program

A.1 Compliance Participation Options

Within the first year of the effective date of the permit, all Permittees shall comply with the requirements in this Section by participating in one or more of the following:

(i) Contributing to a countywide storm water program, as determined appropriate by the Permittee members, so that the countywide storm water program conducts education and outreach on behalf of its members; or
(ii) Contributing to a regional education and outreach collaborative effort (a regional outreach and education collaborative effort occurs when all or a majority of the Permittees collaborate to conduct regional outreach and education. Regional education and outreach collaboration includes Permittees defining a uniform and consistent message, deciding how best to communicate the message, and how to facilitate behavioral changes. Then collaboratively apply what is learned through local jurisdiction groups, pooling resources and skills.); or
(iii) Fulfilling education and outreach requirements within their jurisdictional boundaries on their own; or
(iv) A combination of the previous options, so that all requirements are fulfilled.

Reporting – By the first year online Annual Report, the Permittee shall identify which compliance participation option it will use to comply with the public education and outreach requirements in this Section. For each public education and outreach requirement in this Section that the Permittee will comply with through contribution to a countywide storm water program or regional education and outreach collaborative effort, the Permittee shall include in the first year online Annual Report documentation, such as a written agreement, letter or similar document, which confirms the collaboration with other MS4s.

A.2. Public Education and Outreach

A.2.a. Public Education and Outreach

(i) **Task Description –** Within the second year of the effective date of the permit, the Permittee shall develop and implement a comprehensive storm water public education and outreach program. The public education and outreach program shall be designed to reduce pollutant discharges in storm water runoff and non-storm water discharges to the MS4 through behavior changes in target communities. The Public Education and Outreach Program shall (1) measurably increase the knowledge of targeted communities regarding the municipal storm drain system, impacts of urban runoff and non-storm water discharges on receiving waters, and potential BMP solutions for the target audiences and (2) measurably change the behavior of target audiences, thereby reducing pollutant releases to the MS4 and the environment.

(ii) **Implementation Level** –The Permittee shall, at a minimum:

(a) Develop and implement a public education strategy that establishes education tasks based on water quality problems, target audiences, and anticipated task effectiveness. The strategy must include identification of who is responsible for implementing specific tasks, a schedule for task implementation, and a budget for implementing the tasks. The strategy must demonstrate how specific high priority storm water quality issues in the community or local pollutants of concern are addressed. The Permittee shall use CBSM [1]strategies or equivalent.

(b) Implement surveys at least twice during the five year permit term to gauge the level of awareness and behavior change in target audiences and effectiveness of education tasks.

(c) Use of CBSM strategies or equivalent. The Public Education strategy shall at a minimum include the following Permittee actions:

(1) Research on barriers to desired behaviors and benefits of desired behaviors (ex. Literature review, observation, focus groups).
(2) Elicit commitment to implement desired behavior from target audience.
(3) Provide prompts reminding target audience of desired behavior.
(4) Use the concept of social norms/modeling of desired behavior.
(5) Use education messages that are specific, easy to remember, from a credible source, and appropriate for the target audience.
(6) Create incentives for the desired behavior.
(7) Remove barriers to the desired behavior.

(d) Development and conveyance of a specific storm water message that focuses on the following:
(1) Local pollutants of concern
(2) Target audience
(3) Behavior of concern
(4) Regional water quality issues

(e) Development and disseminate appropriate educational materials to target audiences and translate into applicable languages when appropriate (e.g. the materials can utilize various media such as printed materials, billboard and mass transit advertisements, signage at select locations, stenciling at storm drain inlets, radio advertisements, television advertisements, and websites);
(f) Utilization of public input (e.g., the opportunity for public comment, or public meetings) in the development of the program;

[1] CBSM: A systematic way to change the behavior of communities to reduce their impact on the environment. Realizing that simply providing information is usually not sufficient to initiate behavior change, CBSM uses tools and findings from social psychology to discover the perceived barriers to behavior change and ways of overcoming these barriers.

(g) Distribution of the educational materials, using whichever methods and procedures determined appropriate during development of the public education strategy, in such a way that is designed to convey the program's message to 20% of the target audience each year;
(h) Coordination with outreach programs for the Water Efficient Landscape Ordinance to explain the benefits of storm water-friendly landscaping;
(i) Technical and financial assistance and implementation guidance related to storm water-friendly landscaping;
(j) Development and conveyance of messages specific to reducing illicit discharges with information about how the public can report incidents to the appropriate authorities;
(k) Development and conveyance of messages specific to proper application of pesticides, herbicides, and fertilizers;
(l) Storm water education for school-age children. The Permittee may use California's Education and Environment Initiative Curriculum or equivalent.
(m) Reducing discharges from charity car washes, mobile cleaning and pressure washing operations, and landscape irrigation.

(iii) **Reporting** – By the second year online Annual Report and annually thereafter, report on the public education strategy and general program development and progress. By the fifth year online Annual Report, summarize changes in public awareness and behavior resulting from the implementation of the program and any modifications to the public outreach and education program. Report on the public education and CBSM strategies such as pilot programs, survey results, research on barriers to desired behaviors and benefits of desired behaviors, commitments from target audience to implement desired behavior, prompts, implementation of the social norms/modeling, education messages, incentives for desired behaviors, methods for removing barriers to behavior change, development of education materials, methods for educational material distribution, public input, Water Efficient Landscape Ordinance, technical and financial assistance for storm water friendly landscaping, reporting of illicit discharges, proper application of pesticides, herbicides, and fertilizers, elementary school education, reduction of discharges from charity car washes, mobile cleaning and pressure washing operations, and landscape irrigation efforts. Annually report number of trainings, describe the technical and financial program and implementation, and the study and results to date. For each whole five years of the permit life, submit the online Annual Report summarizing the changes in public awareness and behavior.

A.2.b. Construction Education and Outreach Program

(i) **Task Description –** Within the second year of the effective date of the permit, the Permittee shall develop and implement a construction outreach and education program for construction sites smaller than one acre. The construction outreach and education program shall be designed to reduce pollutant discharges in storm water runoff and non-storm water discharges to the MS4 through behavior changes in target communities. The multi-media program shall (1) measurably increases the knowledge of the construction

community regarding the municipal storm drain system, impacts of urban runoff and non-storm water discharges on receiving waters, and potential BMP solutions for the target audiences and (2) measurably changes the behavior of the construction community, thereby reducing pollutant releases to the MS4 and the environment.

(ii) **Implementation Level –**The program shall include, at a minimum:

(a) Development of a watershed-based inventory of the high priority residential and commercial construction sites within the Permittee's jurisdiction.

(b) Development and implementation of a construction outreach and education strategy that establishes measurable goals and prioritizes education tasks based on water quality problems, target audiences, and anticipated task effectiveness. The strategy must include identification of who is responsible for implementing specific tasks and attaining measurable goals, a schedule for task implementation, and a budget for implementing the tasks and meeting the measurable goals. The strategy must include measurable goals designed to demonstrate how specific high priority storm water quality issues in the community or local pollutants of concern are addressed. Establish who is responsible for specific tasks and goals and a budget for meeting the tasks and goals.

(c) Implementation of CBSM to address the MS4's highest priority water quality problems. For each high priority water quality problem, implementation of CBSM shall first be conducted on a pilot project level. CBSM techniques found to be effective at the pilot project level shall be implemented jurisdiction-wide by permit year four. Pilot project and jurisdiction level CBSM shall include the following Permittee actions:
(1) Research on barriers to desired behaviors and benefits of desired behaviors (ex. Literature review, observation, focus groups).
(2) Elicit commitment to implement desired behavior from construction community.
(3) Provide prompts reminding construction community of desired behavior.
(4) Use the concept of social norms/modeling of desired behavior.
(5) Use education messages that are specific, easy to remember, from a credible source, and appropriate for the target audience.
(6) Create incentives for the desired behavior.
(7) Remove barriers to the desired behavior.

(iii) **Reporting –** By the second year online Annual Report and annually thereafter, report program progress and mechanisms used for outreach and education including measureable increases in the knowledge of the construction community and measurable changes in the construction community's behavior. This includes a watershed-based inventory of high priority residential and commercial construction sites, outreach and education strategy and implementation, implementation of CBSM, pilot project, research on barriers to desired behaviors and benefits of desired behaviors, commitments from target audience to implement desired behavior, prompts, implementation of the social norms/modeling, education

messages, incentives for desired behaviors, methods for removing barriers to behavior change.

A.3. STAFF AND SITE OPERATOR TRAINING AND EDUCATION

A.3.a. Illicit Discharge Detection and Elimination Training

(i) **Task Description** – Within the third year of the effective date of the permit, the Permittee shall develop and implement a training program for all Permittee staff who, as part of their normal job responsibilities, may be notified of, come into contact with, or otherwise observe an illicit discharge or illegal connection to the storm drain system.

(ii) **Implementation Level** – The training program shall include at a minimum:
(a) Identification of an illicit discharge or illegal connection.
(b) Proper procedures for reporting and responding to the illicit discharge or illegal connection.
(c) Follow-up training shall be provided as needed to address changes in procedures, techniques, or staffing.
(d) The Permittee shall annually perform an assessment of their trained staff's knowledge of illicit discharge response and shall provide refresher training as needed.
(e) New staff that, as part of their normal job responsibilities may be notified of, come into contact with, or otherwise observe an illicit discharge or illegal connection shall be trained no later than six months after the start of employment.
(f) Contact information, including the procedure for reporting an illicit discharge, shall be included in each of the Permittee's fleet vehicles that are used by field staff.
(g) The Permittee shall conduct focused education in identified illicit discharge flow areas based on identified illicit discharge(s).

(iii) **Reporting** - The Permittee shall document and maintain records of the training provided and the staff trained annually in the online Annual Report.

A.3.b. Construction Outreach and Education

1. Permittee Staff Training

(i) **Task Description** – Within the second year of the effective date of the permit, the Permittee shall ensure that all staff implementing the construction storm water program are adequately trained.

(ii) **Implementation Level** – The Permittee may conduct in-house training or contract with consultants. Training shall be provided to the following staff positions of the MS4:

(a) Plan Reviewers and Permitting Staff - Ensure staff and consultants are qualified individuals, knowledgeable in the technical review of local erosion and sediment control plans, and are certified pursuant

to a State Water Board sponsored program as a Qualified SWPPP Developer (QSD), or a designated person on staff possesses the QSD credential.

(b) Erosion Sediment Control/Storm Water Inspectors - The Permittee shall ensure inspectors are qualified individuals, knowledgeable in inspection procedures, and are certified pursuant to a State Water Board sponsored program as either (1) a *Qualified SWPPP Developer (QSD)* (2) a Qualified SWPPP Practitioner (QSP) or (3) a designated person on staff possesses each credential (QSD to supervise plan review, QSP to supervise inspection operations).

(c) Third-Party Plan Reviewers, Permitting Staff, and Inspectors - If the Permittee utilizes outside parties to conduct inspections and/or review plans, the Permittee shall ensure these staff are trained.

(iii) **Reporting** – By the second year of the permit term and annually thereafter, submit the following information:

(a) Training topics covered.
(b) Dates of training.
(c) Number and percentage of Permittee's staff, as identified in Sections a-c above, attending each training.
(d) Results of any surveys conducted to demonstrate the awareness and potential behavioral changes in the attendees.

2. Construction Site Operator Education

(i) **Task Description** – Within the third year of the effective date of the permit, the Permittee shall develop and distribute educational materials to construction site operators.

(ii) **Implementation Level** – The Permittee shall do the following:

(a) Each year, provide information on training opportunities for construction operators on BMP selection, installation, implementation, and maintenance as well as overall program compliance.
(b) Develop or utilize existing outreach tools (i.e. brochures, posters, etc.) aimed at educating construction operators on appropriate selection, installation, implementation, and maintenance of storm water BMPs, as well as overall program compliance.
(c) Distribute appropriate outreach materials to all construction operators who will be disturbing land within the MS4 boundary. The Permittee's contact information and website shall be included in these materials.
(d) Update the existing storm water website to include information on appropriate selection, installation, implementation, and maintenance of BMPs.

(iii) **Reporting –** By the third year online Annual Report and annually thereafter, include the following information:

(a) Training topics covered;
(b) Dates of training;
(c) Number and percentage of Permittee's operators, inspectors, and number of Contractors attending each training;
(d) Results of any surveys conducted to demonstrate the awareness and potential behavioral changes in the attendees.

A.3.c. Pollution Prevention and Good Housekeeping Staff Training

The Permittee shall train employees on how to incorporate pollution prevention/good housekeeping techniques into Permittee operations.

(i) **Task Description** – Within the second year of the effective date of the permit, the Permittee shall develop a bi-annual employee training program for appropriate employees involved in implementing pollution prevention and good housekeeping practices in the Pollution Prevention/Good Housekeeping for Permittee Operations sections of this General Permit. The Permittee shall determine the need for interim training during alternate years when training is not conducted, through an evaluation of employee Pollution Prevention/Good Housekeeping knowledge. All new hires whose jobs include implementation of pollution prevention and good housekeeping practices must receive this training within the first year of their hire date.

(ii) **Implementation Level** – The training program shall include the following:
(a) Bi-annual training for all employees implementing this program element. This bi-annual training shall include a general storm water education component, any new technologies, operations, or responsibilities that arise during the year, and the permit requirements that apply to the staff being trained. Employees shall receive clear guidance on appropriate storm water BMPs to use at municipal facilities and during typical O&M activities.
(b) A bi-annual assessment, occurring on alternate years between training, of trained staff's knowledge of pollution prevention and good housekeeping and shall revise the training as needed.
(c) A requirement that any contractors hired by the Permittee to perform O&M activities shall be contractually required to comply with all of the storm water BMPs, good housekeeping practices, and standard operating procedures described above.
(d) The Permittee shall provide oversight of contractor activities to ensure that contractors are using appropriate BMPs, good housekeeping practices and following standard operating procedures.

(iii) **Reporting –** By the second year online Annual Report and annually thereafter, summarize oversight procedures and identify and track all personnel requiring training and assessment and records.

Standard Provisions

1. General Authority

   Various storm water program components (e.g. IDDE) require enforceable controls on third party activities to ensure successful implementation of the program. Some non-traditional operators, however, may not have the necessary legal or regulatory authority to adopt enforceable controls. As with local governments that lack such authority, NTMS4s shall utilize the authority they do possess and seek cooperative agreements with local municipalities to implement enforceable controls.

2. Duty to Comply

   The Permittee shall comply with all conditions of this Permit. Any Permit noncompliance constitutes a violation of the CWA and the Porter-Cologne Water Quality Control Act, which may be grounds for enforcement action or denial of General Permit coverage. [40 CFR 122.41(a)]

   The Permittee shall comply with effluent standards or prohibitions established under Section 307(a) of the CWA for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if this Permit has not yet been modified to incorporate the requirement.

   In the event that the Permittee is removed from coverage under the General Permit, the Permittee will be required to seek coverage under an individual or alternative general permit.

3. General Permit Actions

   This General Permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a General Permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not nullify any General Permit condition.

   If any toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is promulgated under §307(a) of CWA for a toxic pollutant which is present in the discharge and that standard or prohibition is more stringent than any limitation on the pollutant in this General Permit, this General Permit shall be modified or revoked and reissued to conform to the toxic effluent standard or prohibition and Permittee will be so notified.

4. Enforcement

   a. The enforcement provisions contained in this section shall not act as a limitation on the statutory or regulatory authority of the State and Regional Water Board.

b. Any violation of the permit constitutes violation of the California Water Code and regulations adopted hereunder and the provisions of the Clean Water Act, and is the basis for enforcement, permit termination, permit revocation and reissuance, denial of an application for permit reissuance; or a combination thereof.

c. The State Water Board has authority to regulate discharges from a MS4 on a system-wide or jurisdiction-wide basis. [CWA Section 402(p) & 40 CFR 122.26(a)(v)]

d. The State and Regional Boards may impose administrative civil liability, may refer a discharger to the State Attorney General to seek civil monetary penalties, may seek injunctive relief or take other appropriate enforcement action as provided in the California Water Code or federal law for violation of Board orders.

e. It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this order and permit.

f. Significant penalties may be imposed for violation of this General Permit, pursuant to CWC section 13385 and other State and federal statutes. Court-imposed liability may exceed $25,000 per day, and Regional Water Board's may impose administrative fines exceeding $10,000 per day. [40 CFR 122.41(a)(2)&(3)]

g. The Clean Water Act provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than six months per violation, or by both. [40 CFR 122.41(k)(2)]

h. The Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than $10,000, or by imprisonment for not more than two years, or both. Higher penalties may be imposed for repeat offenders. [40 CFR 122.41(j)(5)]

5. Noncompliance Reporting

Permittees who cannot certify compliance and/or who have had other instances of noncompliance shall notify the appropriate Regional Water Board within 30 days. Instances of noncompliance resulting in emergencies (i.e., that endanger human health or the environment) shall be reported orally to the Regional Water Board within 24 hours from the time the discharger becomes aware of the circumstance and in writing to the Regional Water Board within five days of the occurrence. The notification shall identify the noncompliance event and an initial assessment of any

impact caused by the event, describe the actions necessary to achieve compliance, and include a time schedule indicating when compliance will be achieved. The time schedule and corrective measures are subject to modification by the Regional Water Board Executive Officer.

6. Duty to Mitigate

The Permittee shall take all responsible steps to minimize or prevent any discharge in violation of this General Permit that has a reasonable likelihood of adversely affecting human health or the environment. [40 CFR 122.41(d)]

7. Proper Operation and Maintenance

The Permittee shall at all times properly operate and maintain any facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Permittee to achieve compliance with the conditions of this General Permit and with the requirements of the storm water program. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. Proper operation and maintenance may require the operation of backup or auxiliary facilities or similar systems installed by the Permittee when necessary to achieve compliance with the conditions of this General Permit. [40 CFR 122.41(e)]

8. Property Rights

This General Permit does not convey any property rights of any sort or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor does it authorize any infringement of federal, State, or local laws or regulations.[40 CFR 122.41(g)]

9. Duty to Provide Information

The Permittee shall furnish Regional Water Boards or U.S. EPA, during normal business hours, any requested information to determine compliance with this General Permit. The Permittee shall also furnish, upon request, copies of records required to be kept by this General Permit. [40 CFR 122.41(h)]

10. Inspection and Entry

Upon the presentation of credentials and other documents as may be required by law, the Permittee shall allow the State and Regional Water Boards, U.S. EPA, or municipal storm water management agency to enter upon the Permittee premises where a regulated facility or activity is located or conducted or where records are required to be kept under the conditions of this General Permit to [40 CFR 122.41(i)]:

a. Have access to and copy at reasonable times any records that are required to be kept under the conditions of this Permit;

b. Inspect at reasonable times any facilities or equipment (including monitoring and control equipment) that are related to or may impact any storm water or non-storm water discharge; and

c. Conduct monitoring activities at reasonable times to ensure Permit compliance.

d. Photograph or videotape outdoor areas of the facility to document compliance or non-compliance with this Permit.

11. Signatory Requirements

All NOIs, certifications, reports, or other information prepared in accordance with this General Permit that are submitted to State or Regional Water Boards shall be signed by either a principal executive officer, ranking elected official, or duly authorized representative. The principal executive officer of a Federal agency includes the chief executive officer of the agency or the senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrator of U.S. EPA). For the military: any military officer or Department of Defense civilian, acting in an equivalent capacity to a military officer, who has been designated.

12. Certification

Any person signing documents under this General Permit shall make the following certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, to the best of my knowledge and belief, the information submitted is true, accurate, and complete.

I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

13. Anticipated Noncompliance

The Permittee will give advance notice to the Regional Water Board of any planned changes in the regulated Small MS4 activity that may result in noncompliance with General Permit requirements.

14. Penalties for Falsification of Reports

Section 309(c)(4) of CWA provides that any person who knowingly makes any false material statement, representation, or certification in any record or other document submitted or required to be maintained under this General Permit, including reports of compliance or noncompliance, shall upon conviction, be punished by a fine of not more than $10,000 or by imprisonment for not more than two years or by both.

15. Penalties for Violations of Permit Conditions

    a. Part 309 of CWA provides significant penalties for any person who violates a permit condition implementing Parts 301, 302, 306, 307, 308, 318, or 405 of CWA or any permit condition or limitation implementing any such section in a permit issued under Part 402. Any person who violates any permit condition of this General Permit is subject to a civil penalty not to exceed $27,500 per calendar day of such violation, as well as any other appropriate sanction provided by Part 309 of CWA.

    b. the California Water Code also provides for administrative, civil, and criminal penalties, which in some cases are greater than those under CWA.

16. Oil and Hazardous Substance Liability

    Nothing in this General Permit shall be construed to preclude the institution of any legal action against the Permittee or relieve the Permittee from any responsibilities, liabilities, or penalties to which the Permittee is or may be subject to under Part 311 of CWA.

17. Severability

    The provisions of this General Permit are severable; and, if any provision of this General Permit or the application of any provision of this General Permit to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this General Permit shall not be affected thereby.

18. Reopener Clause

    This General Permit may be modified, revoked and reissued, or terminated for cause due to promulgation of amended regulations, or otherwise in accordance with 40 CFR sections 122.62, 122.63, 122.64, and 124.5.

19. Availability

    A copy of this General Permit and Annual Reports shall be made available for public review, program evaluation (audit) and inspection.

20. Transfers

    This General Permit is not transferable. A Permittee shall submit written notification to the appropriate Regional Water Board to terminate coverage of this General Permit.

21. Continuation of Expired Permit

    This General Permit expires five years from the date of adoption. This General Permit continues in force and in effect until a new General Permit is issued or the State Water Board rescinds this General Permit. Only those Small MS4s authorized to discharge under the expired General Permit are covered by the continued General Permit.

ATTACHMENT G – Region Specific Requirements

Regional Water Board Approved TMDLs where urban runoff is listed as a source

TMDL Effective Date/BPA/Res. No.	**Entity**	**Impaired water body**	**Deliverables/Actions Required/Waste Load Allocations**
Region 1: North Coast Regional Water Board			
Laguna de Santa Rosa *Ammonia & Dissolved Oxygen* Effective Date: May 4, 1995 BPA: none Resolution No.: none	City of Cotati City of Rohnert Park City of Sebastopol Town of Windsor	Laguna de Santa Rosa	**Purpose of Provisions** The purpose of these provisions is to implement the requirements of the Waste Reduction Strategy for the Laguna de Santa Rosa which includes TMDLs for nitrogen and ammonia to address low dissolved oxygen and high ammonia impairments. **Requirements for Implementing the Waste Reduction Strategy for the Laguna de Santa Rosa** Implement a storm water runoff program that is aimed at nutrient load reduction and pollution control through the execution of the provisions of this Phase II Small MS4 General Permit.
Shasta River *Temperature & Dissolved Oxygen* Effective Date: January 26, 2007 BPA: Action Plan for the Shasta River Watershed Temperature and Dissolved Oxygen Total Maximum Daily Loads Resolution No.: R1-2006-0052	City of Yreka	Shasta River	**Purpose of Provisions** The purpose of these provisions is to implement the requirements of the Action Plan for the Shasta River Watershed Temperature and Dissolved Oxygen TMDLs. **Requirements for Implementing the Action Plan for the Shasta River Watershed Temperature and Dissolved Oxygen TMDLs** Within one year of approval of the Phase II Small MS4 General Permit, the City of Yreka shall develop a plan to minimize, control, and preferably prevent discharges of fine sediment, nutrients and other oxygen-consuming materials, and elevated water temperature waste discharge from affecting waters of the Shasta River and its tributaries. The plan shall be submitted to the Regional Water Board's Executive Officer for review, comment, and approval. Within four years of approval of the Phase II Small MS4 General Permit, the City of Yreka shall begin implementing the plan.

ATTACHMENT G – Region Specific Requirements

Regional Water Board Approved TMDLs where urban runoff is listed as a source

TMDL Effective Date/BPA/Res. No.	Municipality	Impaired Water body	Deliverables/Actions Required
Region 2: San Francisco Regional Water Board			
Napa River *Sediment* Effective Date: January 20, 2011 BPA: Chapter 7, Water Quality Attainment Strategies including TMDLs Resolution No. R2-2009-0064	Napa County City of Napa Town of Yountville City of St. Helena City of Calistoga City of American Canyon	Napa River	**Purpose of Provisions** The purpose of these provisions is to implement the requirements of the Napa River sediment TMDL. **TMDL Wasteload and Load Allocations** The Napa River sediment TMDL assigns to municipal storm water a wasteload allocation and load allocation for the roads source category. The sediment wasteload allocation is 600 tons/year and applies to storm water runoff discharges from municipalities' facilities associated with construction and/or maintenance activities. The load allocation 27,000 metric tons/year of sediment is for the road and stream crossings category and applies to stream crossings and storm water runoff discharges associated with operation of public and private roads, paved and upaved, within the watershed not otherwise covered by NPDES permits. Municipalities share this allocation with another entity (i.e., Caltrans). **Requirements for Implementing the Napa River Sediment TMDL Wasteload and Load Allocations** **A. Implementation of Sediment Wasteload Allocations** i. To attain the wasteload allocation, municipalities shall comply with the construction and maintenance requirements of this Order. **B. Implementation of Sediment Load Allocations** i. To attain the shared load allocation of 27,000 metric tons/year, municipalities shall determine opportunities to retrofit and/or reconstruction of road crossings to minimize road-related sediment delivery (≤500 cubic yards/mile per 20-year period) to stream channels. Specifically, to reduce road-related erosion and protect stream-riparian habitat conditions, municipalities shall by October 31, 2014: • Adopt and implement best management practices for maintenance of unimproved (dirt/gravel) roads • Conduct a survey of stream-crossings associated with paved public roadways • Develop a prioritized implementation plan for repair and/or replacement of high priority crossings/culverts. For paved roads, erosion and sediment control actions shall primarily focus on road crossings to meet the sediment load allocation.

ATTACHMENT G – Region Specific Requirements

Regional Water Board Approved TMDLs where urban runoff is listed as a source

TMDL Effective Date/BPA/Res. No.	Municipality	Impaired Water body	Deliverables/Actions Required
Region 2: San Francisco Regional Water Board			
Sonoma Creek *Sediment* Effective Date: September 8, 2010 BPA: Chapter 7, Water Quality Attainment Strategies including TMDLs Resolution No. R2-2008-0103	County of Sonoma City of Sonoma	Sonoma Creek	**Purpose of Provisions** The purpose of these provisions is to implement the requirements of the Sonoma Creek sediment TMDL. **TMDL Wasteload and Load Allocations** The Sonoma Creek sediment TMDL assigns to municipal storm water a wasteload allocation and load allocation for the roads source category. The sediment wasteload allocation is 600 tons/year and applies to storm water runoff discharges from municipalities' facilities associated with construction and/or maintenance activities. The load allocation 2,100 tons/year of sediment is for the road and stream crossings category and applies to stream crossings and storm water runoff discharges associated with operation of public and private roads, paved and upaved, within the watershed not otherwise covered by NPDES permits. Municipalities share this allocation with another entity (i.e., Caltrans). **Requirements for Implementing the Sonoma Creek Sediment TMDL Wasteload and Load Allocations** **A. Implementation of Sediment Wasteload Allocations** i. To attain the wasteload allocation, municipalities shall comply with the construction and maintenance requirements of this Order. **B. Implementation of Sediment Load Allocations** i. To attain the shared load allocation of 2,100 tons/year, municipalities shall determine opportunities to retrofit and/or reconstruction of road crossings to minimize road-related sediment delivery to stream channels. Specifically, to reduce road-related erosion and protect stream-riparian habitat conditions, municipalities shall by October 31, 2014: • Adopt and implement best management practices for maintenance of unimproved (dirt/gravel) roads • Conduct a survey of stream-crossings associated with paved public roadways • Develop a prioritized implementation plan for repair and/or replacement of high priority crossings/culverts. For paved roads, erosion and sediment control actions shall primarily focus on road crossings to meet the sediment load allocation.

ATTACHMENT G – Region Specific Requirements

Regional Water Board Approved TMDLs where urban runoff is listed as a source

<table>
<tr><th>TMDL
Effective Date/BPA/Res. No.</th><th>Municipality</th><th>Impaired Water body</th><th>Deliverables/Actions Required</th></tr>
<tr><td colspan="4">Region 2: San Francisco Regional Water Board</td></tr>
<tr><td rowspan="6">Napa River
Pathogens

Effective Date: February 29, 2008

BPA: Chapter 7, Water Quality Attainment Strategies including TMDLs

Resolution No. R2-2006-0079</td><td>Napa County</td><td rowspan="6">Napa River</td><td rowspan="6">Purpose of Provisions
The purpose of these provisions is to implement the requirements of the Napa River pathogens TMDL.

TMDL Wasteload Allocations
The Napa River pathogens TMDL assigns a wasteload allocation to municipal storm water as follows:

<table>
<tr><td colspan="2">E.coli (CFU/100 mL)</td><td colspan="2">Fecal coliform (CFU/100 mL)</td><td colspan="2">Total coliform (CFU/100 mL)</td></tr>
<tr><td>Geometric Mean</td><td>90th percentile</td><td>Geometric Mean</td><td>90th percentile</td><td>Geometric Mean</td><td>90th percentile</td></tr>
<tr><td><113</td><td><368</td><td><180</td><td><360</td><td><216</td><td><9,000</td></tr>
</table>
These allocations are applicable year-round and apply to any sources (existing or future) subject to regulation by NPDES permit.

Requirements for Implementing the Napa River Pathogens TMDL Wasteload Allocations

Municipalities shall, within 18 months of permit adoption :
i. Public Participation and Outreach. Educate the public regarding sources of fecal coliform and associated health risks of fecal coliform in surface waters. Educate the public regarding actions that individuals can take to reduce pathogen loading.

ii. Pet Waste Management. Develop and implement enforceable means of reducing/eliminating fecal coliform loading from pet waste.

iii. Illicit Discharge Detection and Elimination. Develop and implement strategies to detect and eliminate illicit discharges (whether mistaken or deliberate) of sewage to the Napa River.

iv. Pollution Prevention and Good Housekeeping. Develop and implement strategies to reduce/eliminate fecal coliform loading from streets, parking lots, sidewalks, and other urban areas that potentially collect and discharge fecal coliform to the Napa River.

v. Conduct baseline water quality monitoring to evaluate E.coli concentration trends in the Napa River and its tributaries. Table 7-g in Chapter 7, Water Quality Attainment Strategies, presents locations and frequency for the required baseline water quality monitoring.
vi. Report annually on water quality monitoring results and progress made on implementation of human and animal runoff reduction measures.</td></tr>
<tr><td>City of Napa</td></tr>
<tr><td>Town of Yountville</td></tr>
<tr><td>City of St. Helena</td></tr>
<tr><td>City of Calistoga</td></tr>
<tr><td>City of American Canyon</td></tr>
</table>

ATTACHMENT G – Region Specific Requirements

Regional Water Board Approved TMDLs where urban runoff is listed as a source

<table>
<tr><th>TMDL
Effective Date/BPA/Res. No.</th><th>Municipality</th><th>Impaired Water body</th><th>Deliverables/Actions Required</th></tr>
<tr><td colspan="4">Region 2: San Francisco Regional Water Board</td></tr>
<tr><td rowspan="2">Sonoma Creek
Pathogens

Effective Date: February 29, 2008

BPA: Chapter 7, Water Quality Attainment Strategies including TMDLs

Resolution No. R2-2006-0042</td><td>County of Sonoma</td><td rowspan="2">Sonoma Creek</td><td rowspan="2">Purpose of Provisions
The purpose of these provisions is to implement the requirements of the Sonoma Creek pathogens TMDL.

TMDL Wasteload Allocations
The Sonoma Creek pathogens TMDL assigns a wasteload allocation to municipal storm water as follows:

<table>
<tr><td colspan="2">E.coli (CFU/100 mL)</td><td colspan="2">Fecal coliform (CFU/100 mL)</td><td colspan="2">Total coliform (CFU/100 mL)</td></tr>
<tr><td>Geometric Mean</td><td>90th percentile</td><td>Geometric Mean</td><td>90th percentile</td><td>Geometric Mean</td><td>90th percentile</td></tr>
<tr><td><113</td><td><368</td><td><180</td><td><360</td><td><216</td><td><9,000</td></tr>
</table>
These allocations are applicable year-round and apply to any sources (existing or future) subject to regulation by NPDES permit.

Requirements for Implementing the Sonoma Creek Pathogens TMDL Wasteload Allocations

Municipalities shall, within 18 months of permit adoption:

i. Public Participation and Outreach. Educate the public regarding sources of fecal coliform and associated health risks of fecal coliform in surface waters. Educate the public regarding actions that individuals can take to reduce pathogen loading.
ii. Pet Waste Management. Develop and implement enforceable means of reducing/eliminating fecal coliform loading from pet waste.
iii. Illicit Discharge Detection and Elimination. Develop and implement strategies to detect and eliminate illicit discharges (whether mistaken or deliberate) of sewage to Sonoma Creek.
iv. Pollution Prevention and Good Housekeeping. Develop and implement strategies to reduce/eliminate fecal coliform loading from streets, parking lots, sidewalks, and other urban areas that potentially collect and discharge fecal coliform to Sonoma Creek.
v. Conduct baseline water quality monitoring to evaluate E.coli concentration trends in Sonoma Creek and its tributaries. Table 7-n in Chapter 7, Water Quality Attainment Strategies, presents locations and frequency for the required baseline water quality monitoring.
vi. Report annually on water quality monitoring results and progress made on implementation of human and animal runoff reduction measures.</td></tr>
<tr><td>City of Sonoma</td></tr>
</table>

ATTACHMENT G – Region Specific Requirements

Regional Water Board Approved TMDLs where urban runoff is listed as a source

<table>
<tr><th>TMDL
Effective Date/BPA/Res. No.</th><th>Municipality</th><th>Impaired Water body</th><th>Deliverables/Actions Required</th></tr>
<tr><td colspan="4">Region 2: San Francisco Regional Water Board</td></tr>
<tr><td>Tomales Bay
Pathogens

Effective Date: February 8, 2007

BPA: Chapter 4, Surface Water Protection and Management, Nonpoint Source Control

Resolution No. R2-2005-0046</td><td>Marin County</td><td>Tomales Bay,

Lagunitas Creek,

Walker Creek, and

Olema Creek</td><td>
Purpose of Provisions
The purpose of these provisions is to implement the requirements of the Tomales Bay pathogens TMDL.

TMDL Wasteload Allocations
The Tomales Bay pathogens TMDL assigns a wasteload allocation to municipal storm water as follows:

<table>
<tr><td colspan="3">Fecal Coliform[a]
(MPN/100 mL)</td></tr>
<tr><td colspan="2">For Direct Discharges to Tomales Bay</td><td>For Discharges to Major Tomales Bay Tributaries</td></tr>
<tr><td>Median[b]</td><td>90th percentile[c]</td><td>Log Mean[b]</td></tr>
<tr><td><14</td><td><43</td><td><200</td></tr>
</table>
[a] These allocations are applicable year-round and apply to any sources (existing or future) subject to regulation by NPDES permit.
[b] Based on a minimum of five consecutive samples equally spaced over a 30-day period.
[c] No more than 10% of total samples during any 30-day period may exceed this number

Requirements for Implementing the Tomales Bay Pathogens TMDL Wasteload Allocations

Municipalities shall, by within 18 months of permit adoption,:

i. Public Participation and Outreach. Educate the public regarding sources of fecal coliform and associated health risks of fecal coliform in surface waters. Educate the public regarding actions that individuals can take to reduce pathogen loading.

ii. Pet Waste Management. Develop and implement enforceable means of reducing/eliminating fecal coliform loading from pet waste.

iii. Illicit Discharge Detection and Elimination. Develop and implement strategies to detect and eliminate illicit discharges (whether mistaken or deliberate) of sewage to Tomales Bay.

iv. Pollution Prevention and Good Housekeeping. Develop and implement strategies to reduce/eliminate fecal coliform loading from streets, parking lots, sidewalks, and other urban areas that potentially collect and discharge fecal coliform to Tomales Bay.

v. Report annually on water quality monitoring results and progress made on implementation of human and animal runoff reduction measures.
</td></tr>
</table>

ATTACHMENT G – Region Specific Requirements

Regional Water Board Approved TMDLs where urban runoff is listed as a source

<table>
<tr><th>TMDL
Effective Date/BPA/Res. No.</th><th>Municipality</th><th>Impaired Water body</th><th>Deliverables/Actions Required</th></tr>
<tr><td colspan="4">Region 2: San Francisco Regional Water Board</td></tr>
<tr><td rowspan="5">Richardson Bay
Pathogens

Effective Date: December 18, 2009

BPA: Chapter 7, Water Quality Attainment Strategies including TMDLs

Resolution No. R2-2008-0061</td><td>Marin County</td><td rowspan="5">Richardson Bay</td><td rowspan="5">Purpose of Provisions
The purpose of these provisions is to implement the requirements of the Richardson Bay pathogens TMDL.

TMDL Wasteload Allocations
The Richardson Bay pathogens TMDL assigns a wasteload allocation to municipal storm water as follows:

<table>
<tr><th colspan="2">Fecal Coliform[a]
(MPN/100 mL)</th></tr>
<tr><th>Median[b]</th><th>90th Percentile[c]</th></tr>
<tr><td><14</td><td><43</td></tr>
</table>
[a] These allocations are applicable year-round.
[b] based on a minimum of five consecutive samples equally spaced over a 30-day period
[C] No more than 10% of total samples during any 30-day period may exceed this number

Requirements for Implementing the Richardson Bay Pathogens TMDL Wasteload Allocations

Municipalities shall, by within 18 months of permit adoption:

i. Public Participation and Outreach. Educate the public regarding sources of fecal coliform and associated health risks of fecal coliform in surface waters. Educate the public regarding actions that individuals can take to reduce pathogen loading.

ii. Pet Waste Management. Develop and implement enforceable means of reducing/eliminating fecal coliform loading from pet waste.

iii. Illicit Discharge Detection and Elimination. Develop and implement strategies to detect and eliminate illicit discharges (whether mistaken or deliberate) of sewage to Richardson Bay.

iv. Pollution Prevention and Good Housekeeping. Develop and implement strategies to reduce/eliminate fecal coliform loading from streets, parking lots, sidewalks, and other urban areas that potentially collect and discharge fecal coliform to Richardson Bay.

v. Report annually on progress made on implementation of pathogen reduction measures.</td></tr>
<tr><td>City of Mill Valley</td></tr>
<tr><td>City of Tiburon</td></tr>
<tr><td>City of Belvedere</td></tr>
<tr><td>City of Sausalito</td></tr>
</table>

ATTACHMENT G – Region Specific Requirements

Regional Water Board Approved TMDLs where urban runoff is listed as a source

TMDL Effective Date/BPA/Res. No.	Municipality	Impaired Water body	Deliverables/Actions Required
Region 2: San Francisco Regional Water Board			
Urban Creek *Diazinon & Pesticide Toxicity* Effective Date: May 16, 2007 BPA: BPA – Chapter 3, Toxicity Resolution No. R2-2005-0063	Marin County City of Mill Valley City of Belvedere Town of Corte Madera Town of Fairfax City of Larkspur City of Mill Valley City of Novato Town of Ross Town of San Anselmo City of San Rafael City of Sausalito Town of Tiburon	Arroyo Corte Madera del Presidio, Corte Madera Creek, Coyote Creek (Marin Co.), Gallinas Creek, Miller Creek, Novato Creek, San Antonio Creek, and San Rafael Creek	**Purpose of Provision** The purpose of the following provisions is to prevent the impairment of urban streams by pesticide-related toxicity. This provision implements requirements of the TMDL for Diazinon and Pesticide Related Toxicity for Urban Creeks in the San Francisco Bay Region. Pesticides of concern include: organophosphorous pesticides (chlorpyrifos, diazinon, and malathion); pyrethroids (bifenthrin, cyfluthrin, beta-cyfluthrin, cypermethrin, deltamethrin, esfenvalerate, lambda-cyhalothrin, permethrin, and tralomethrin); carbamates (e.g., carbaryl); and fipronil. **Wasteload Allocations** Diazinon: 100 ng/l Toxicity: 1.0 TUa (acute toxicity units) and 1.0 TUc (chronic toxicity units) **Requirements for Implementing the Wasteload Allocations** Urban runoff management agencies' responsibilities for addressing the allocations set above will be satisfied by complying with the requirements set forth below. Permittees may coordinate with the Bay Area Storm water Management Agencies Association, the Urban Pesticide Pollution Prevention Project, the Urban Pesticide Committee, and other agencies and organizations in carrying out these activities. **A. Adopt a Pesticide-Related Toxicity Control Program** To prevent the impairment of urban streams by pesticide-related toxicity, adopt an Integrated Pest Management Policy (IPM) or Ordinance, applicable to all the permittees' operations and property, as described in the Basin Plan amendment (Implementation Section) for this TMDL. The IPM Policy or Ordinance shall be adopted by the permittee's governing body within 18 months of permit adoption. **B. Implement the Pesticide-Related Toxicity Control Program** Implementation actions shall include: • Ensure all municipal employees who apply or use pesticides within the scope of their duties are trained in the IPM practices and policy/ordinance. • Require all contractors to implement the IPM policy/ordinance. • Keep the County Agricultural Commissioners informed of water quality issues related to pesticides and of violations of pesticides regulations (e.g., illegal handling) associated with storm water management. • Conduct outreach to residents and pest control applicators on less toxic methods of pest control. • Keep records of the permittees' own use of pesticides of concern and the pesticide use by the permittees' hired contractors. Report on pesticide use when requested by the Regional Water Board. • Monitor water and sediment for pesticides and associated toxicity in urban creeks via an individual or regional program designed to answer the following questions: o Are the TMDL toxicity targets being met? Is toxicity observed in urban creeks caused by a pesticide?

ATTACHMENT G – Region Specific Requirements

Regional Water Board Approved TMDLs where urban runoff is listed as a source

	County of Sonoma City of Petaluma City of Sonoma	Petaluma River, and Calabazas Creek	○ Is urban runoff the source of any observed toxicity in urban creeks? ○ How does observed pesticide-related toxicity in urban creeks (or pesticide concentrations contributing to such toxicity) vary in time and magnitude across urban creek watersheds, and what types of pest control practices contribute to such toxicity? ○ Are actions already being taken to reduce pesticide discharges sufficient to meet the targets, and if not, what should be done differently?

ATTACHMENT G – Region Specific Requirements

Regional Water Board Approved TMDLs where urban runoff is listed as a source

TMDL Effective Date/BPA/Res. No.	**Municipality**	**Impaired Water body**	**Deliverables/Actions Required/Wasteload Allocations**
Region 3: Central Coast Regional Water Board			
TMDL and Implementation Plan for Pathogens for Morro Bay and Chorro and Los Osos Creeks Effective Date: 11/19/2003 BPA: Chapter 4 Resolution No. R3-2003-0060	City of Morro Bay County of San Luis Obispo	Morro Bay Chorro Creek Los Osos Creek Pennington Creek San Bernardo Creek San Luisito Creek Walters Creek Warden Creek	**Purpose of Provisions** The purpose of these provisions is to implement the requirements of the Morro Bay (Chorro and Los Osos Creeks) Pathogen TMDL. **TMDL Wasteload Allocations** The City of Morro Bay and County of San Luis Obispo are assigned the following wasteload allocations: 1) for discharges to Los Osos Creek, Chorro Creek, and their tributaries, the fecal coliform geometric mean concentration shall not exceed 200 MPN/100 mL over a 30-day period nor shall 10% of the samples exceed 400 MPN/100 mL over any 30-day period. 2) For discharges to Morro Bay, the fecal coliform geometric mean concentration of 14 MPN/100 mL must be achieved and no more than 10% of the samples may be over 43 MPN/100 mL. **Provisions for Implementing TMDL** Within one year of adoption of this Order, the City of Morro Bay and County of San Luis Obispo shall each develop, submit, and begin implementation of a Wasteload Allocation Attainment Program that identifies the actions they will take to attain their wasteload allocations. The Wasteload Allocation Attainment Programs shall include: 1. A detailed description of the strategy the MS4 will use to guide BMP selection, assessment, and implementation, to ensure that BMPs implemented will be effective at abating pollutant sources, reducing pollutant discharges, and achieving wasteload allocations according to the TMDL schedule 2. Identification of sources of the impairment within the MS4's jurisdiction, including specific information on various source locations and their magnitude within the jurisdiction. 3. Prioritization of sources within the MS4's jurisdiction, based on suspected contribution to the impairment, ability to control the source, and other pertinent factors. 4. Identification of BMPs that will address the sources of impairing pollutants and reduce the discharge of impairing pollutants. 5. Prioritization of BMPs, based on suspected effectiveness at abating sources and reducing impairing pollutant discharges, as well as other pertinent factors. 6. Identification of BMPs the MS4 will implement, including a detailed implementation schedule. For each BMP, identify milestones the MS4 will use for tracking implementation, measurable goals the MS4 will use to assess implementation efforts, and measures and targets the MS4 will use to assess effectiveness. MS4s shall include expected BMP implementation for future implementation years, with the understanding that future BMP implementation plans may change as new information is obtained. 7. A quantifiable numeric analysis demonstrating the BMPs selected for implementation will likely achieve, based on modeling, published BMP pollutant removal performance estimates, best professional judgment, and/or other available tools, the MS4's wasteload allocation according to the schedule identified in the TMDL. This analysis will most likely incorporate modeling efforts. The MS4 shall conduct repeat numeric analyses as the BMP implementation plans evolve and information on BMP effectiveness is generated. Once the MS4 has water quality data from its monitoring program, the MS4 shall incorporate water quality data into the numeric analyses to validate BMP implementation plans. 8. A detailed description, including a schedule, of a monitoring program the MS4 will implement to assess discharge and receiving water quality, BMP effectiveness, and progress towards any interim targets and ultimate attainment of the MS4's wasteload allocation. The monitoring program shall be designed to validate BMP implementation efforts and quantitatively demonstrate attainment interim targets and wasteload

ATTACHMENT G – Region Specific Requirements

Regional Water Board Approved TMDLs where urban runoff is listed as a source

TMDL Effective Date/BPA/Res. No.	**Municipality**	**Impaired Water body**	**Deliverables/Actions Required/Wasteload Allocations**
Region 3: Central Coast Regional Water Board			
			allocations. If the approved TMDL does not explicitly include interim targets, the MS4 shall establish interim targets (and dates when stormwater discharge conditions will be evaluated) that are equally spaced in time over the TMDL compliance schedule and represent measurable, continually decreasing MS4 discharge concentrations or other appropriate interim measures of pollution reduction and progress towards the wasteload allocation. At least one interim target and date must occur during the five-year term of this Order. The MS4 shall achieve its interim targets by the date it specifies in the Wasteload Allocation Attainment Program. If the MS4 does not achieve its interim target by the date specified, the MS4 shall develop and implement more effective BMPs that it can quantitatively demonstrate will achieve the next interim target. 9. A detailed description of how the MS4 will assess BMP and program effectiveness. The description shall incorporate the assessment methods described in the CASQA Municipal Storm water Program Effectiveness Assessment Guide. 10. A detailed description of how the MS4 will modify the program to improve upon BMPs determined to be ineffective during the effectiveness assessment. 11. A detailed description of information the MS4 will include in annual reports to demonstrate adequate progress towards attainment of wasteload allocations according to the TMDL schedule. 12. A detailed description of how the MS4 will collaborate with other agencies, stakeholders, and the public to develop and implement the Wasteload Allocation Attainment Program. 13. Any other items identified by Integrated Report fact sheets, TMDL Project Reports, TMDL Resolutions, or that are currently being implemented by the MS4 to control its contribution to the impairment. All allocations shall be achieved by November 19, 2013.

ATTACHMENT G – Region Specific Requirements

Regional Water Board Approved TMDLs where urban runoff is listed as a source

TMDL Effective Date/BPA/Res. No.	**Municipality**	**Impaired Water body**	**Deliverables/Actions Required/Wasteload Allocations**
Region 3: Central Coast Regional Water Board			
Watsonville Slough Total Maximum Daily Load and Implementation Plan for Pathogens Effective Date: 11/20/2006 BPA: Chapter 4 Resolution No. R3-2006-0025	City of Watsonville	Watsonville Slough Struve Slough Harkins Slough Gallighan Slough Hanson Slough	**Purpose of Provisions** The purpose of these provisions is to implement the requirements of the Watsonville Slough Pathogen TMDL. **TMDL Wasteload Allocations** The City of Watsonville and the County of Santa Cruz are assigned the following concentration based wasteload allocation: Fecal coliform concentration, based on a minimum of five samples for any 30-day period, shall not exceed a log mean of 200 MPN per 100mL, nor shall more than ten percent of total samples collected during any 30-day period exceed 400 MPN per 100mL. These wasteload allocations are receiving water allocations; storm water discharge cannot cause or contribute to exceedance of the allocations as measured in receiving water. The City of Watsonville is assigned allocations in the following water bodies: Watsonville, Struve, Harkins, Gallighan and Hanson Sloughs. The County of Santa Cruz is assigned allocation in the following water bodies: Watsonville, Struve and Harkins Sloughs. **Provisions for Implementing the TMDL** The City and County public participation and outreach efforts must include the following tasks: a) Educating the public about sources of fecal coliform and its associated health risks in surface waters; and b) Identifying and promoting specific actions that responsible parties can implement to reduce pathogen loading from sources such as homeless encampments, agricultural field workers, and homeowners who contribute waste from domestic pets. The County of Santa Cruz and City of Watsonville shall implement practices that will assure their allocation is achieved. By June 30, 2013, the County of Santa Cruz and City of Watsonville shall each develop, submit, and begin implementation of a Wasteload Allocation Attainment Program that identifies the actions they will take to attain their wasteload allocations. The Wasteload Allocation Attainment Programs shall include: 1. A detailed description of the strategy the MS4 will use to guide BMP selection, assessment, and implementation, to ensure that BMPs implemented will be effective at abating pollutant sources, reducing pollutant discharges, and achieving wasteload allocations according to the TMDL schedule. 2. Identification of sources of the impairment within the MS4's jurisdiction, including specific information on various source locations and their magnitude within the jurisdiction. 3. Prioritization of sources within the MS4's jurisdiction, based on suspected contribution to the impairment, ability to control the source, and other pertinent factors. 4. Identification of BMPs that will address the sources of impairing pollutants and reduce the discharge of impairing pollutants.

ATTACHMENT G – Region Specific Requirements

Regional Water Board Approved TMDLs where urban runoff is listed as a source

TMDL Effective Date/BPA/Res. No.	**Municipality**	**Impaired Water body**	**Deliverables/Actions Required/Wasteload Allocations**
Region 3: Central Coast Regional Water Board			
	County of Santa Cruz		5. Prioritization of BMPs, based on suspected effectiveness at abating sources and reducing impairing pollutant discharges, as well as other pertinent factors. 6. Identification of BMPs the MS4 will implement, including a detailed implementation schedule. For each BMP, identify milestones the MS4 will use for tracking implementation, measurable goals the MS4 will use to assess implementation efforts, and measures and targets the MS4 will use to assess effectiveness. MS4s shall include expected BMP implementation for future implementation years, with the understanding that future BMP implementation plans may change as new information is obtained. 7. A quantifiable numeric analysis demonstrating the BMPs selected for implementation will likely achieve, based on modeling, published BMP pollutant removal performance estimates, best professional judgment, and/or other available tools, the MS4's wasteload allocation according to the schedule identified in the TMDL. This analysis will most likely incorporate modeling efforts. The MS4 shall conduct repeat numeric analyses as the BMP implementation plans evolve and information on BMP effectiveness is generated. Once the MS4 has water quality data from its monitoring program, the MS4 shall incorporate water quality data into the numeric analyses to validate BMP implementation plans. 8. A detailed description, including a schedule, of a monitoring program the MS4 will implement to assess discharge and receiving water quality, BMP effectiveness, and progress towards any interim targets and ultimate attainment of the MS4s' wasteload allocation. The monitoring program shall be designed to validate BMP implementation efforts and quantitatively demonstrate attainment of interim targets and wasteload allocations. If the approved TMDL does not explicitly include interim targets, the MS4 shall establish interim targets (and dates when stormwater discharge conditions will be evaluated) that are equally spaced in time over the TMDL compliance schedule and represent measurable, continually decreasing MS4 discharge concentrations or other appropriate interim measures of pollution reduction and progress towards the wasteload allocation. At least one interim target and date must occur during the five-year term of this Order. The MS4 shall achieve its interim targets by the date it specifies in the Wasteload Allocation Attainment Program. If the MS4 does not achieve its interim target by the date specified, the MS4 shall develop and implement more effective BMPs that it can quantitatively demonstrate will achieve the next interim target. 9. A detailed description of how the MS4 will assess BMP and program effectiveness. The description shall incorporate the assessment methods described in the CASQA Municipal Storm water Program Effectiveness Assessment Guide. 10. A detailed description of how the MS4 will modify the program to improve upon BMPs determined to be ineffective during the effectiveness assessment. 11. A detailed description of information the MS4 will include in annual reports to demonstrate adequate progress towards attainment of wasteload allocations according to the TMDL schedule. 12. A detailed description of how the MS4 will collaborate with other agencies, stakeholders, and the public to develop and implement the Wasteload Allocation Attainment Program. 13. Any other items identified by Integrated Report fact sheets, TMDL Project Reports, TMDL Resolutions, or that are currently being implemented by the MS4 to control its contribution to the impairment, including public education and participation items identified above. All allocations shall be achieved by November 20, 2016.

ATTACHMENT G – Region Specific Requirements

Regional Water Board Approved TMDLs where urban runoff is listed as a source

TMDL Effective Date/BPA/Res. No.	**Municipality**	**Impaired Water body**	**Deliverables/Actions Required/Wasteload Allocations**
Region 3: Central Coast Regional Water Board			
TMDL for Fecal Coliform in Pajaro River, San Benito River, Llagas Creek, Tequesquita Slough, San Juan Creek, Carnadero/Uvas Creek, Bird Creek, Pescadero Creek, Tres Pinos Creek, Furlong (Jones) Creek, Santa Ana Creek, Pachecho Creek Effective Date: 07/12/2010 BPA: Chapter 4 Resolution No. RB3-2009-0008	County of Santa Cruz City of Hollister City of Morgan Hill City of Gilroy	Pajaro River San Benito River Llagas Creek Tequesquita Slough San Juan Creek Carnadero/Uvas Creek Bird Creek Pescadero Creek Tres Pinos Creek Furlong (Jones) Creek Santa Ana Creek Pachecho Creek	**Purpose of Provisions** The purpose of these provisions is to implement the requirements of the Pajaro River, San Benito River, Llagas Creek, Tequesquita Slough, San Juan Creek, Carnadero/Uvas Creek, Bird Creek, Pescadero Creek, Tres Pinos Creek, Furlong (Jones) Creek, Santa Ana Creek, and Pachecho Creek Fecal Coliform TMDL. **TMDL Wasteload Allocations** The Cities of Hollister, Morgan Hill, Gilroy and Watsonville and the Counties of Monterey, Santa Clara and Santa Cruz are assigned the following concentration based wasteload allocation: Fecal coliform concentration, based on a minimum of five samples for any 30-day period, shall not exceed a log mean of 200 MPN per 100mL, nor shall more than ten percent of total samples collected during any 30-day period exceed 400 MPN per 100mL. These wasteload allocations are receiving water allocations; storm water discharge cannot cause or contribute to exceedance of the allocations as measured in receiving water. The Counties of Santa Cruz, Santa Clara and Monterey and the Cities of Hollister, Morgan Hill, Gilroy and Watsonville are assigned allocations in the following water bodies: Pajaro River, San Benito River, Llagas Creek and Tequisquita Slough. **Provisions for Implementing the TMDL** Within one year of adoption of this Order, the Cities of Hollister, Morgan Hill, Gilroy and Watsonville and the Counties of Monterey, Santa Clara and Santa Cruz shall each develop, submit, and begin implementation of a Wasteload Allocation Attainment Program that identifies the actions they will take to attain their wasteload allocations. The Wasteload Allocation Attainment Programs shall include: 1. A detailed description of the strategy the MS4 will use to guide BMP selection, assessment, and implementation, to ensure that BMPs implemented will be effective at abating pollutant sources, reducing pollutant discharges, and achieving wasteload allocations according to the TMDL schedule. 2. Identification of sources of the impairment within the MS4's jurisdiction, including specific information on various source locations and their magnitude within the jurisdiction. 3. Prioritization of sources within the MS4's jurisdiction, based on suspected contribution to the impairment, ability to control the source, and other pertinent factors. 4. Identification of BMPs that will address the sources of impairing pollutants and reduce the discharge of impairing pollutants. 5. Prioritization of BMPs, based on suspected effectiveness at abating sources and reducing impairing pollutant discharges, as well as other pertinent factors. 6. Identification of BMPs the MS4 will implement, including a detailed implementation schedule. For each BMP, identify milestones the MS4 will use for tracking implementation, measurable goals the MS4 will use to assess implementation efforts, anderic analysis demonstrating the BMPs selected for implementation will likely achieve, based on modeling, published BMP pollutant removal performance estimates, best professional judgment, and/or other available tools, the MS4's wasteload allocation according to the schedule

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Regional Water Board Approved TMDLs where urban runoff is listed as a source

TMDL Effective Date/BPA/Res. No.	**Municipality**	**Impaired Water body**	**Deliverables/Actions Required/Wasteload Allocations**
Region 3: Central Coast Regional Water Board			
	City of Watsonville County of Monterey County of Santa Clara		identified in the TMDL. This analysis will most likely incorporate modeling efforts. The MS4 shall conduct repeat numeric analyses as the BMP implementation plans evolve and information on BMP effectiveness is generated. Once the MS4 has water quality data from its monitoring program, the MS4 shall incorporate water quality data into the numeric analyses to validate BMP implementation plans. 7. A detailed description, including a schedule, of a monitoring program the MS4 will implement to assess discharge and receiving water quality, BMP effectiveness, and progress towards any interim targets and ultimate attainment of the MS4s' wasteload allocation. The monitoring program shall be designed to validate BMP implementation efforts and quantitatively demonstrate attainment of interim targets and wasteload allocations. If the approved TMDL does not explicitly include interim targets, the MS4 shall establish interim targets (and dates when stormwater discharge conditions will be evaluated) that are equally spaced in time over the TMDL compliance schedule and represent measurable, continually decreasing MS4 discharge concentrations or other appropriate interim measures of pollution reduction and progress towards the wasteload allocation. At least one interim target and date must occur during the five-year term of this Order. The MS4 shall achieve its interim targets by the date it specifies in the Wasteload Allocation Attainment Program. If the MS4 does not achieve its interim target by the date specified, the MS4 shall develop and implement more effective BMPs that it can quantitatively demonstrate will achieve the next interim target. 8. A detailed description of how the MS4 will assess BMP and program effectiveness. The description shall incorporate the assessment methods described in the CASQA Municipal Storm water Program Effectiveness Assessment Guide. 9. A detailed description of how the MS4 will modify the program to improve upon BMPs determined to be ineffective during the effectiveness assessment. 10. A detailed description of information the MS4 will include in annual reports to demonstrate adequate progress towards attainment of wasteload allocations according to the TMDL schedule. 11. A detailed description of how the MS4 will collaborate with other agencies, stakeholders, and the public to develop and implement the Wasteload Allocation Attainment Program. 12. Any other items identified by Integrated Report fact sheets, TMDL Project Reports, TMDL Resolutions, or that are currently being implemented by the MS4 to control its contribution to the impairment. All allocations shall be achieved by July 12, 2023.

ATTACHMENT G – Region Specific Requirements

Regional Water Board Approved TMDLs where urban runoff is listed as a source

TMDL Effective Date/BPA/Res. No.	Municipality	Impaired Water body	Deliverables/Actions Required/Wasteload Allocations
Region 3: Central Coast Regional Water Board			
Morro Bay TMDL for Sediment (including Chorro Creek, Los Osos Creek, and the Morro Bay Estuary) Effective Date: 12/3/2003 BPA: Chapter 4 Resolution No. R3-2002-0051	County of San Luis Obispo	Morro Bay Los Osos Creek Chorro Creek Dairy Creek Pennington Creek San Luisito Creek San Bernardo Creek Warden Creek	**Purpose of Provisions** The purpose of these provisions is to implement the requirements of the Morro Bay TMDL for sediment. **TMDL Wasteload and Load Allocations** The County of San Luis Obispo is assigned a wasteload allocation of 5,137 tones/year of sediment. This allocation represents a 50% reduction in sediment loading relative to 2003 levels. The aggregated sediment discharge from all storm water outfalls into Morro Bay, or any tributary that has the potential to discharge sediment to Morro Bay, shall not exceed the allocation. **Provisions for Implementing the TMDL** The County of San Luis Obispo shall implement practices that will assure their allocation is achieved, including identifying and implementing specific road sediment control measures. Within one year of adoption of this Order, the County of San Luis Obispo shall develop, submit, and begin implementation of a Wasteload Allocation Attainment Program that identifies the actions it will take to attain its wasteload allocation. The Wasteload Allocation Attainment Program shall include: 1. A detailed description of the strategy the MS4 will use to guide BMP selection, assessment, and implementation, to ensure that BMPs implemented will be effective at abating pollutant sources, reducing pollutant discharges, and achieving wasteload allocations according to the TMDL schedule. 2. Identification of sources of the impairment within the MS4's jurisdiction, including specific information on various source locations and their magnitude within the jurisdiction. 3. Prioritization of sources within the MS4's jurisdiction, based on suspected contribution to the impairment, ability to control the source, and other pertinent factors. 4. Identification of BMPs that will address the sources of impairing pollutants and reduce the discharge of impairing pollutants. 5. Prioritization of BMPs, based on suspected effectiveness at abating sources and reducing impairing pollutant discharges, as well as other pertinent factors. 6. Identification of BMPs the MS4 will implement, including a detailed implementation schedule. For each BMP, identify milestones the MS4 will use for tracking implementation, measurable goals the MS4 will use to assess implementation efforts, and measures and targets the MS4 will use to assess effectiveness. MS4s shall include expected BMP implementation for future implementation years, with the understanding that future BMP implementation plans may change as new information is obtained. 7. A quantifiable numeric analysis demonstrating the BMPs selected for implementation will likely achieve, based on modeling, published BMP pollutant removal performance estimates, best professional judgment, and/or other available tools, the MS4's wasteload allocation according to the schedule identified in the TMDL. This analysis will most likely incorporate modeling efforts. The MS4 shall conduct repeat numeric analyses as the BMP implementation plans evolve and information on BMP effectiveness is generated. Once the MS4 has water quality data from its monitoring program, the MS4 shall incorporate water quality data into the numeric analyses to validate BMP implementation plans. 8. A detailed description, including a schedule, of a monitoring program the MS4 will implement to assess discharge and receiving water quality, BMP effectiveness, and progress towards any interim targets and ultimate attainment of the MS4s' wasteload allocation. The monitoring program shall be designed to validate BMP implementation efforts and quantitatively demonstrate attainment of interim targets and wasteload

ATTACHMENT G – Region Specific Requirements

Regional Water Board Approved TMDLs where urban runoff is listed as a source

TMDL Effective Date/BPA/Res. No.	Municipality	Impaired Water body	Deliverables/Actions Required/Wasteload Allocations
Region 3: Central Coast Regional Water Board			
			allocations. If the approved TMDL does not explicitly include interim targets, the MS4 shall establish interim targets (and dates when stormwater discharge conditions will be evaluated) that are equally spaced in time over the TMDL compliance schedule and represent measurable, continually decreasing MS4 discharge concentrations or other appropriate interim measures of pollution reduction and progress towards the wasteload allocation. At least one interim target and date must occur during the five-year term of this Order. The MS4 shall achieve its interim targets by the date it specifies in the Wasteload Allocation Attainment Program. If the MS4 does not achieve its interim target by the date specified, the MS4 shall develop and implement more effective BMPs that it can quantitatively demonstrate will achieve the next interim target. 9. A detailed description of how the MS4 will assess BMP and program effectiveness. The description shall incorporate the assessment methods described in the CASQA Municipal Storm water Program Effectiveness Assessment Guide. 10. A detailed description of how the MS4 will modify the program to improve upon BMPs determined to be ineffective during the effectiveness assessment. 11. A detailed description of information the MS4 will include in annual reports to demonstrate adequate progress towards attainment of wasteload allocations according to the TMDL schedule. 12. A detailed description of how the MS4 will collaborate with other agencies, stakeholders, and the public to develop and implement the Wasteload Allocation Attainment Program. 13. Any other items identified by Integrated Report fact sheets, TMDL Project Reports, TMDL Resolutions, or that are currently being implemented by the MS4 to control its contribution to the impairment. The allocations shall be achieved by December 3, 2053.
San Lorenzo River TMDL for Sediment (Including Carbonera Creek, Lompico Creek, and Shingle Mill Creek) Effective Date: 12/18/2003 BPA: Chapter 4 Resolution No. R3-2002-0063	County of Santa Cruz	San Lorenzo River and Carbonera, Lompico, and Shingle Mill Creeks	**Purpose of Provisions** The purpose of these provisions is to implement the requirements of the San Lorenzo River TMDL for sediment. **TMDL Wasteload and Load Allocations** The County of Santa Cruz, City of Santa Cruz, and City of Scotts Valley are assigned the following wasteload allocations: sediment discharges from public roads to the San Lorenzo River shall be reduced by 27%, sediment discharges from public roads to Lompico Creek shall be reduced by 24%, sediment discharges from public roads to Carbonera Creek shall be reduced by 27%, sediment discharges from public roads to Shingle Mill Creek shall be reduced by 27%. **Provisions for Implementing the TMDL** The County of Santa Cruz, City of Santa Cruz, and City of Scotts Valley shall implement practices that will assure their allocation is achieved, including identifying and implementing specific road sediment control measures. By June 30, 2013, the County of Santa Cruz, City of Santa Cruz, and City of Scotts Valley shall each develop, submit, and begin implementation of a Wasteload Allocation Attainment Program that identifies the actions they will take to attain their wasteload allocations. The Wasteload Allocation Attainment Programs shall include: 1. A detailed description of the strategy the MS4 will use to guide BMP selection, assessment, and implementation, to ensure that BMPs implemented will be effective at abating pollutant sources, reducing pollutant discharges, and achieving wasteload allocations according to the TMDL schedule. 2. Identification of sources of the impairment within the MS4's jurisdiction, including specific information on various source locations and their magnitude within the jurisdiction.

ATTACHMENT G – Region Specific Requirements

Regional Water Board Approved TMDLs where urban runoff is listed as a source

TMDL Effective Date/BPA/Res. No.	**Municipality**	**Impaired Water body**	**Deliverables/Actions Required/Wasteload Allocations**
Region 3: Central Coast Regional Water Board			
	City of Santa Cruz City of Scotts Valley		3. Prioritization of sources within the MS4's jurisdiction, based on suspected contribution to the impairment, ability to control the source, and other pertinent factors. 4. Identification of BMPs that will address the sources of impairing pollutants and reduce the discharge of impairing pollutants. 5. Prioritization of BMPs, based on suspected effectiveness at abating sources and reducing impairing pollutant discharges, as well as other pertinent factors. 6. Identification of BMPs the MS4 will implement, including a detailed implementation schedule. For each BMP, identify milestones the MS4 will use for tracking implementation, measurable goals the MS4 will use to assess implementation efforts, and measures and targets the MS4 will use to assess effectiveness. MS4s shall include expected BMP implementation for future implementation years, with the understanding that future BMP implementation plans may change as new information is obtained. 7. A quantifiable numeric analysis demonstrating the BMPs selected for implementation will likely achieve, based on modeling, published BMP pollutant removal performance estimates, best professional judgment, and/or other available tools, the MS4's wasteload allocation according to the schedule identified in the TMDL. This analysis will most likely incorporate modeling efforts. The MS4 shall conduct repeat numeric analyses as the BMP implementation plans evolve and information on BMP effectiveness is generated. Once the MS4 has water quality data from its monitoring program, the MS4 shall incorporate water quality data into the numeric analyses to validate BMP implementation plans. 8. A detailed description, including a schedule, of a monitoring program the MS4 will implement to assess discharge and receiving water quality, BMP effectiveness, and progress towards any interim targets and ultimate attainment of the MS4s' wasteload allocation. The monitoring program shall be designed to validate BMP implementation efforts and quantitatively demonstrate attainment of interim targets and wasteload allocations. If the approved TMDL does not explicitly include interim targets, the MS4 shall establish interim targets (and dates when stormwater discharge conditions will be evaluated) that are equally spaced in time over the TMDL compliance schedule and represent measurable, continually decreasing MS4 discharge concentrations or other appropriate interim measures of pollution reduction and progress towards the wasteload allocation. At least one interim target and date must occur during the five-year term of this Order. The MS4 shall achieve its interim targets by the date it specifies in the Wasteload Allocation Attainment Program. If the MS4 does not achieve its interim target by the date specified, the MS4 shall develop and implement more effective BMPs that it can quantitatively demonstrate will achieve the next interim target. 9. A detailed description of how the MS4 will assess BMP and program effectiveness. The description shall incorporate the assessment methods described in the CASQA Municipal Storm water Program Effectiveness Assessment Guide. 10. A detailed description of how the MS4 will modify the program to improve upon BMPs determined to be ineffective during the effectiveness assessment. 11. A detailed description of information the MS4 will include in annual reports to demonstrate adequate progress towards attainment of wasteload allocations according to the TMDL schedule. 12. A detailed description of how the MS4 will collaborate with other agencies, stakeholders, and the public to develop and implement the Wasteload Allocation Attainment Program. 13. Any other items identified by Integrated Report fact sheets, TMDL Project Reports, TMDL Resolutions, or that are currently being implemented by the MS4 to control its contribution to the impairment. The allocations shall be achieved by December 18, 2028.

ATTACHMENT G – Region Specific Requirements

Regional Water Board Approved TMDLs where urban runoff is listed as a source

<table>
<tr><th>TMDL
Effective
Date/BPA/Res. No.</th><th>Municipality</th><th>Impaired Water body</th><th>Deliverables/Actions Required/Wasteload Allocations</th></tr>
<tr><td colspan="4">Region 3: Central Coast Regional Water Board</td></tr>
<tr><td rowspan="3">Pajaro River TMDL and Implementation Plan for Sediment including Llagas Creek, Rider Creek, and San Benito River

Effective Date: 11/27/2006

BPA: Chapter 4

Resolution No. R3-2005-0132</td><td>City of Morgan Hill</td><td rowspan="3">Tres Pinos

San Benito River

Llagas Creek

Uvas Creek

Upper Pajaro River

Corralitos Creek (including Rider Creek),

Mouth of Pajaro River</td><td rowspan="3">Purpose of Provisions
The purpose of these provisions is to implement the requirements of the San Lorenzo River TMDL for sediment.

TMDL Wasteload and Load Allocations
The City of Morgan Hill, City of Gilroy, City of Hollister, and the City of Watsonville shall not discharge sediment to the following water bodies in excess of the values shown:
<table><tr><th>Major Subwatershed</th><th>Metric tons per year</th></tr><tr><td>Tres Pinos</td><td>1</td></tr><tr><td>San Benito</td><td>100</td></tr><tr><td>Llagas</td><td>787</td></tr><tr><td>Uvas</td><td>139</td></tr><tr><td>Upper Pajaro</td><td>161</td></tr><tr><td>Corralitos (including Rider Creek)</td><td>284</td></tr><tr><td>Mouth of Pajaro River</td><td>191</td></tr></table>The allocations represent a 90% reduction in sediment loading to each water body from urban roads.

Provisions for Implementing the TMDL
1. The Cities of Morgan Hill, Gilroy, Hollister, and Watsonville shall implement practices that will assure their allocation is achieved.

The allocations shall be achieved by November 27, 2051.</td></tr>
<tr><td>City of Gilroy

City of Hollister</td></tr>
<tr><td>City of Watsonville</td></tr>
</table>

ATTACHMENT G – Region Specific Requirements

Regional Water Board Approved TMDLs where urban runoff is listed as a source

TMDL Effective Date/BPA/Res. No.	Municipality	Impaired Water body	Deliverables/Actions Required/Wasteload Allocations
Region 3: Central Coast Regional Water Board			
San Luis Obispo Creek Total Maximum Daily Load and Implementation Plan for Pathogens Effective Date: 7/25/2005 BPA: Chapter 4 Resolution No. R3-2004-0142	City of San Luis Obispo County of San Luis Obispo Cal Poly State University	San Luis Obispo Creek Stenner Creek Brizziolari Creek	**Purpose of Provisions** The purpose of these provisions is to implement the requirements of the San Luis Obispo Creek TMDL for Pathogens. **TMDL Wasteload Allocations** The City of San Luis Obispo, the County of San Luis Obispo, and Cal Poly State University-San Luis Obispo, are assigned a concentration based wasteload allocation for fecal coliform equal to 200 MPN/100mL, measured as a log mean of five samples taken in a 30-day period from impaired water body receiving waters, nor shall more than 10% of the total samples during any 30-day period exceed 400 MPN per 100mL in receiving waters; storm water discharge cannot cause or contribute to exceedance of the allocations. The City of San Luis Obispo is assigned these allocations in the following water bodies: San Luis Obispo Creek, Stenner Creek. The County of San Luis Obispo is assigned these allocations in the following water bodies: San Luis Obispo Creek. Cal Poly State University-San Luis Obispo is assigned these allocations in the following water bodies: Stenner Creek, Brizziola **Provisions for Implementing the TMDL** The City of San Luis Obispo, County of San Luis Obispo, and Cal Poly State University are required to implement best management practices specifically targeting fecal coliform loading. Required actions include development and implementation of: public education regarding fecal coliform sources and associated health risk, enforceable means of addressing pet waste and wild animals that are attracted to storm water infrastructure, elimination of illicit discharges. Within one year of adoption of this Order, the City of San Luis Obispo, County of San Luis Obispo, and Cal Poly State University shall each develop, submit, and begin implementation of a Wasteload Allocation Attainment Program that identifies the actions they will take to attain their wasteload allocations. The Wasteload Allocation Attainment Programs shall include: 1. A detailed description of the strategy the MS4 will use to guide BMP selection, assessment, and implementation, to ensure that BMPs implemented will be effective at abating pollutant sources, reducing pollutant discharges, and achieving wasteload allocations according to the TMDL schedule. 2. Identification of sources of the impairment within the MS4's jurisdiction, including specific information on various source locations and their magnitude within the jurisdiction. 3. Prioritization of sources within the MS4's jurisdiction, based on suspected contribution to the impairment, ability to control the source, and other pertinent factors. 4. Identification of BMPs that will address the sources of impairing pollutants and reduce the discharge of impairing pollutants. 5. Prioritization of BMPs, based on suspected effectiveness at abating sources and reducing impairing pollutant discharges, as well as other pertinent factors. 6. Identification of BMPs the MS4 will implement, including a detailed implementation schedule. For each

ATTACHMENT G – Region Specific Requirements

Regional Water Board Approved TMDLs where urban runoff is listed as a source

TMDL Effective Date/BPA/Res. No.	Municipality	Impaired Water body	Deliverables/Actions Required/Wasteload Allocations
Region 3: Central Coast Regional Water Board			
			BMP, identify milestones the MS4 will use for tracking implementation, measurable goals the MS4 will use to assess implementation efforts, and measures and targets the MS4 will use to assess effectiveness. MS4s shall include expected BMP implementation for future implementation years, with the understanding that future BMP implementation plans may change as new information is obtained. 7. A quantifiable numeric analysis demonstrating the BMPs selected for implementation will likely achieve, based on modeling, published BMP pollutant removal performance estimates, best professional judgment, and/or other available tools, the MS4's wasteload allocation according to the schedule identified in the TMDL. This analysis will most likely incorporate modeling efforts. The MS4 shall conduct repeat numeric analyses as the BMP implementation plans evolve and information on BMP effectiveness is generated. Once the MS4 has water quality data from its monitoring program, the MS4 shall incorporate water quality data into the numeric analyses to validate BMP implementation plans. 8. A detailed description, including a schedule, of a monitoring program the MS4 will implement to assess discharge and receiving water quality, BMP effectiveness, and progress towards any interim targets and ultimate attainment of the MS4s' wasteload allocation. The monitoring program shall be designed to validate BMP implementation efforts and quantitatively demonstrate attainment of interim targets and wasteload allocations. If the approved TMDL does not explicitly include interim targets, the MS4 shall establish interim targets (and dates when stormwater discharge conditions will be evaluated) that are equally spaced in time over the TMDL compliance schedule and represent measurable, continually decreasing MS4 discharge concentrations or other appropriate interim measures of pollution reduction and progress towards the wasteload allocation. At least one interim target and date must occur during the five-year term of this Order. The MS4 shall achieve its interim targets by the date it specifies in the Wasteload Allocation Attainment Program. If the MS4 does not achieve its interim target by the date specified, the MS4 shall develop and implement more effective BMPs that it can quantitatively demonstrate will achieve the next interim target. 9. A detailed description of how the MS4 will assess BMP and program effectiveness. The description shall incorporate the assessment methods described in the CASQA Municipal Storm water Program Effectiveness Assessment Guide. 10. A detailed description of how the MS4 will modify the program to improve upon BMPs determined to be ineffective during the effectiveness assessment. 11. A detailed description of information the MS4 will include in annual reports to demonstrate adequate progress towards attainment of wasteload allocations according to the TMDL Schedule. 12. A detailed description of how the MS4 will collaborate with other agencies, stakeholders, and the public to develop and implement the Wasteload Allocation Attainment Program. 13. Any other items identified by Integrated Report fact sheets, TMDL Project Reports, TMDL Resolutions, or that are currently being implemented by the MS4 to control its contribution to the impairment. All allocations shall be achieved no later than July 25, 2015.
San Luis Obispo Creek TMDL and Implementation Plan for Nitrate-Nitrogen Effective Date: 8/04/2006	City of San Luis Obispo	San Luis Obispo Creek	**Purpose of Provisions** The purpose of these provisions is to implement the requirements of the San Luis Obispo Creek TMDL for Nitrate. **TMDL Wasteload Allocations** Urban storm water from the City of San Luis Obispo, County of San Luis Obispo, and Cal Poly State

ATTACHMENT G – Region Specific Requirements

Regional Water Board Approved TMDLs where urban runoff is listed as a source

TMDL Effective Date/BPA/Res. No.	**Municipality**	**Impaired Water body**	**Deliverables/Actions Required/Wasteload Allocations**
Region 3: Central Coast Regional Water Board			
BPA: Chapter 4 Resolution No. R3-2005-0106	County of San Luis Obispo		University shall not cause an increase in receiving water nitrate concentration greater than the increase in nitrate concentration resulting from their discharge in 2006 (when the TMDL became effective). In 2006, the nitrate concentration of storm water discharge was 0.3 mg/L-N. The City of San Luis Obispo, County of San Luis Obispo, and Cal Poly State University were achieving their allocations at the time the TMDL became effective; these municipalities shall implement measures to assure continued compliance with their allocations. **Provisions for Implementing the TMDL** The City of San Luis Obispo, County of San Luis Obispo, and Cal Poly State University shall implement best management practices that specifically address the reduction or elimination of nutrient loading. The City of San Luis Obispo, County of San Luis Obispo, and Cal Poly State University shall submit reports required by their storm water permits and in those reports outline best management practices implemented to assure ongoing compliance with their allocations.
	Cal Poly State University		

ATTACHMENT G – Region Specific Requirements

Regional Water Board Approved TMDLs where urban runoff is listed as a source

TMDL Effective Date/BPA/Res. No.	**Municipality**	**Impaired Water body**	**Deliverables/Actions Required/Wasteload Allocations**
Region 3: Central Coast Regional Water Board			
TMDL for Fecal Coliform in Corralitos and Salsipuedes Creeks Effective Date: OAL approval anticipated early 2011 BPA: Chapter 4 Resolution No. R3-2009-0009	County of Santa Cruz	Corralitos Creek Salsipuedes Creek	**Purpose of Provisions** The purpose of these provisions is to implement the requirements of the TMDL for Fecal Coliform in Corralitos/Salsipuedes Creeks **TMDL Wasteload Allocations** The County of Santa Cruz and the City of Watsonville are assigned the following concentration based wasteload allocation: Fecal coliform concentration, based on a minimum of not less than five samples for any 30-day period, shall not exceed a log mean of 200 MPN per 100 mL, nor shall more than 10 percent of samples collected during any 30-day period exceed 400 MPN per 100 mL. These wasteload allocations are receiving water allocations; storm water discharge cannot cause or contribute to exceedance of the allocations as measured in receiving water. The County of Santa Cruz and the City of Watsonville are assigned allocations in the following water bodies: Corralitos Creek and Salsipuedes Creek. **Provisions for Implementing the TMDL** Within one year of adoption of this order, the County of Santa Cruz and the City of Watsonville shall each develop, submit, and begin implementation of a Wasteload Allocation Attainment Program that identifies the actions they will take to attain their wasteload allocations. The Wasteload Allocation Attainment Programs shall include: 1. A detailed description of the strategy the MS4 will use to guide BMP selection, assessment, and implementation, to ensure that BMPs implemented will be effective at abating pollutant sources, reducing pollutant discharges, and achieving wasteload allocations according to the TMDL schedule. 2. Identification of sources of the impairment within the MS4's jurisdiction, including specific information on various source locations and their magnitude within the jurisdiction. 3. Prioritization of sources within the MS4's jurisdiction, based on suspected contribution to the impairment, ability to control the source, and other pertinent factors. 4. Identification of BMPs that will address the sources of impairing pollutants and reduce the discharge of impairing pollutants. 5. Prioritization of BMPs, based on suspected effectiveness at abating sources and reducing impairing pollutant discharges, as well as other pertinent factors.

ATTACHMENT G – Region Specific Requirements

Regional Water Board Approved TMDLs where urban runoff is listed as a source

TMDL Effective Date/BPA/Res. No.	**Municipality**	**Impaired Water body**	**Deliverables/Actions Required/Wasteload Allocations**
Region 3: Central Coast Regional Water Board			
	City of Watsonville		6. Identification of BMPs the MS4 will implement, including a detailed implementation schedule. For each BMP, identify milestones the MS4 will use for tracking implementation, measurable goals the MS4 will use to assess implementation efforts, and measures and targets the MS4 will use to assess effectiveness. MS4s shall include expected BMP implementation for future implementation years, with the understanding that future BMP implementation plans may change as new information is obtained. 7. A quantifiable numeric analysis demonstrating the BMPs selected for implementation will likely achieve, based on modeling, published BMP pollutant removal performance estimates, best professional judgment, and/or other available tools, the MS4's wasteload allocation according to the schedule identified in the TMDL. This analysis will most likely incorporate modeling efforts. The MS4 shall conduct repeat numeric analyses as the BMP implementation plans evolve and information on BMP effectiveness is generated. Once the MS4 has water quality data from its monitoring program, the MS4 shall incorporate water quality data into the numeric analyses to validate BMP implementation plans. 8. A detailed description, including a schedule, of a monitoring program the MS4 will implement to assess discharge and receiving water quality, BMP effectiveness, and progress towards any interim targets and ultimate attainment of the MS4s' wasteload allocation. The monitoring program shall be designed to validate BMP implementation efforts and quantitatively demonstrate attainment of interim targets and wasteload allocations. If the approved TMDL does not explicitly include interim targets, the MS4 shall establish interim targets (and dates when stormwater discharge conditions will be evaluated) that are equally spaced in time over the TMDL compliance schedule and represent measurable, continually decreasing MS4 discharge concentrations or other appropriate interim measures of pollution reduction and progress towards the wasteload allocation. At least one interim target and date must occur during the five-year term of this Order. The MS4 shall achieve its interim targets by the date it specifies in the Wasteload Allocation Attainment Program. If the MS4 does not achieve its interim target by the date specified, the MS4 shall develop and implement more effective BMPs that it can quantitatively demonstrate will achieve the next interim target. 9. A detailed description of how the MS4 will assess BMP and program effectiveness. The description shall incorporate the assessment methods described in the CASQA Municipal Storm water Program Effectiveness Assessment Guide. 10. A detailed description of how the MS4 will modify the program to improve upon BMPs determined to be ineffective during the effectiveness assessment. 11. A detailed description of information the MS4 will include in annual reports to demonstrate adequate progress towards attainment of wasteload allocations according to the TMDL schedule. 12. A detailed description of how the MS4 will collaborate with other agencies, stakeholders, and the public to develop and implement the Wasteload Allocation Attainment Program. 13. Any other items identified by Integrated Report fact sheets, TMDL Project Reports, TMDL Resolutions, or that are currently being implemented by the MS4 to control its contribution to the impairment. All allocations shall be achieved no later than September 8, 2024.

ATTACHMENT G – Region Specific Requirements

Regional Water Board Approved TMDLs where urban runoff is listed as a source

TMDL Effective Date/BPA/Res. No.	**Municipality**	**Impaired Water body**	**Deliverables/Actions Required/Wasteload Allocations**
Region 3: Central Coast Regional Water Board			
TMDL for Fecal Coliform in the Lower Salinas River Watershed Effective Date: OAL approval anticipated in 2011 BPA: Chapter 4 Resolution No. R3-2010-0017	County of Monterey	Lower Salinas River Old Salinas River Estuary Tembladero Slough Salinas Reclamation Canal Alisal Creek Gabilan Creek Salinas River Lagoon (North) Santa Rita Creek Quail Creek Towne Creek	**Purpose of Provisions** The purpose of these provisions is to implement the requirements of the TMDL for fecal coliform in the Lower Salinas River Watershed. **TMDL Wasteload Allocations** The County of Monterey is assigned the following concentration based wasteload allocation for fecal coliform: Fecal coliform concentration, based on a minimum of five samples for any 30-day period, shall not exceed a log mean of 200 MPN per 100mL, nor shall more than ten percent of total samples collected during any 30-day period exceed 400 MPN per 100mL. These wasteload allocations are receiving water allocations; storm water discharge cannot cause or contribute to exceedance of the allocation as measured in receiving water. **Provisions for Implementing the TMDL** Within one year of adoption of this Order, the County of Monterey shall develop, submit, and begin implementation of a Wasteload Allocation Attainment Program that identifies the actions it will take to attain its wasteload allocation. The Wasteload Allocation Attainment Program shall include: 1. A detailed description of the strategy the MS4 will use to guide BMP selection, assessment, and implementation, to ensure that BMPs implemented will be effective at abating pollutant sources, reducing pollutant discharges, and achieving wasteload allocations according to the TMDL schedule. 2. Identification of sources of the impairment within the MS4's jurisdiction, including specific information on various source locations and their magnitude within the jurisdiction. 3. Prioritization of sources within the MS4's jurisdiction, based on suspected contribution to the impairment, ability to control the source, and other pertinent factors. Identification of BMPs that will address the sources of impairing pollutants and reduce the discharge of impairing pollutants. 5. Prioritization of BMPs, based on suspected effectiveness at abating sources and reducing impairing pollutant discharges, as well as other pertinent factors. 6. Identification of BMPs the MS4 will implement, including a detailed implementation schedule. For each BMP, identify milestones the MS4 will use for tracking implementation, measurable goals the MS4 will use to assess implementation efforts, and measures and targets the MS4 will use to assess effectiveness. MS4s shall include expected BMP implementation for future implementation years, with the understanding that future BMP implementation plans may change as new information is obtained. 7. A quantifiable numeric analysis demonstrating the BMPs selected for implementation will likely achieve, based on modeling, published BMP pollutant removal performance estimates, best professional judgment, and/or other available tools, the MS4's wasteload allocation according to the schedule identified in the TMDL. This analysis will most likely incorporate modeling efforts. The MS4 shall conduct repeat numeric analyses as the BMP implementation plans evolve and information on BMP effectiveness is generated. Once the MS4 has water quality data from its monitoring program, the MS4 shall incorporate water quality data into the numeric analyses to validate BMP implementation plans. 8. A detailed description, including a schedule, of a monitoring program the MS4 will implement to assess

ATTACHMENT G – Region Specific Requirements

Regional Water Board Approved TMDLs where urban runoff is listed as a source

TMDL Effective Date/BPA/Res. No.	Municipality	Impaired Water body	Deliverables/Actions Required/Wasteload Allocations
Region 3: Central Coast Regional Water Board			
			discharge and receiving water quality, BMP effectiveness, and progress towards any interim targets and ultimate attainment of the MS4s' wasteload allocation. The monitoring program shall be designed to validate BMP implementation efforts and quantitatively demonstrate attainment of interim targets and wasteload allocations. If the approved TMDL does not explicitly include interim targets, the MS4 shall establish interim targets (and dates when stormwater discharge conditions will be evaluated) that are equally spaced in time over the TMDL compliance schedule and represent measurable, continually decreasing MS4 discharge concentrations or other appropriate interim measures of pollution reduction and progress towards the wasteload allocation. At least one interim target and date must occur during the five-year term of this Order. The MS4 shall achieve its interim targets by the date it specifies in the Wasteload Allocation Attainment Program. If the MS4 does not achieve its interim target by the date specified, the MS4 shall develop and implement more effective BMPs that it can quantitatively demonstrate will achieve the next interim target. 9. A detailed description of how the MS4 will assess BMP and program effectiveness. The description shall incorporate the assessment methods described in the CASQA Municipal Storm water Program Effectiveness Assessment Guide. 10. A detailed description of how the MS4 will modify the program to improve upon BMPs determined to be ineffective during the effectiveness assessment. 11. A detailed description of information the MS4 will include in annual reports to demonstrate adequate progress towards attainment of wasteload allocations according to the TMDL schedule. 12. A detailed description of how the MS4 will collaborate with other agencies, stakeholders, and the public to develop and implement the Wasteload Allocation Attainment Program. 13. Any other items identified by Integrated Report fact sheets, TMDL Project Reports, TMDL Resolutions, or that are currently being implemented by the MS4 to control its contribution to the impairment. All allocations shall be achieved no later than December 20, 2024.
TMDL for Pathogens in San in San Lorenzo River Estuary, San Lorenzo River, Branciforte Creek, Camp Evers Creek, Carbonera Creek, and Lompico Creek	City of Santa Cruz County of Santa Cruz City of Scotts Valley	San Lorenzo River Estuary San Lorenzo River Branciforte Creek	**Purpose of Provisions** The purpose of these provisions is to implement the requirements of the TMDL for Pathogens in San Lorenzo River Estuary, San Lorenzo River, Branciforte Creek, Camp Evers Creek, Carbonera Creek, and Lompico Creek. **TMDL Wasteload Allocations** The City of Santa Cruz, County of Santa Cruz and the City of Scotts Valley are assigned the following concentration based wasteload allocation for fecal coliform: based on a minimum of not less than five samples for any 30-day period, fecal coliform shall not exceed a log mean of 200 MPN per 100 mL, nor shall more than 10 percent of samples collected during any 30-day period exceed 400 MPN per 100 mL.

ATTACHMENT G – Region Specific Requirements

Regional Water Board Approved TMDLs where urban runoff is listed as a source

TMDL Effective Date/BPA/Res. No.	**Municipality**	**Impaired Water body**	**Deliverables/Actions Required/Wasteload Allocations**
Region 3: Central Coast Regional Water Board			
Effective Date: OAL approval pending; anticipated March 2011 BPA: Chapter 4 Resolution No. R3-2009-0023		Camp Evers Creek Carbonera Cree Lompico Creek	These wasteload allocations are receiving water allocations; storm water discharge cannot cause or contribute to exceedance of the allocations as measured in receiving water. The City of Santa Cruz is assigned allocations in San Lorenzo River Estuary, San Lorenzo River, Branciforte Creek, and Carbonera Creek. The County of Santa Cruz is assigned allocations in San Lorenzo River, Branciforte Creek, Lompico Creek, and Carbonera Creek, The City of Scotts Valley is assigned allocations in Camp Evers Creek and Carbonera Creek. **Provisions for Implementing the TMDL** By June 30, 2013, the County of Santa Cruz and the Cities of Santa Cruz and Scotts Valley shall each develop, submit, and begin implementation of a Wasteload Allocation Attainment Program that identifies the actions they will take to attain their wasteload allocations. The Wasteload Allocation Attainment Programs shall include: 1. A detailed description of the strategy the MS4 will use to guide BMP selection, assessment, and implementation, to ensure that BMPs implemented will be effective at abating pollutant sources, reducing pollutant discharges, and achieving wasteload allocations according to the TMDL schedule. 2. Identification of sources of the impairment within the MS4's jurisdiction, including specific information on various source locations and their magnitude within the jurisdiction. 3. Prioritization of sources within the MS4's jurisdiction, based on suspected contribution to the impairment, ability to control the source, and other pertinent factors. 4. Identification of BMPs that will address the sources of impairing pollutants and reduce the discharge of impairing pollutants. 5. Prioritization of BMPs, based on suspected effectiveness at abating sources and reducing impairing pollutant discharges, as well as other pertinent factors. 6. Identification of BMPs the MS4 will implement, including a detailed implementation schedule. For each BMP, identify milestones the MS4 will use for tracking implementation, measurable goals the MS4 will use to assess implementation efforts, and measures and targets the MS4 will use to assess effectiveness. MS4s shall include expected BMP implementation for future implementation years, with the understanding that future BMP implementation plans may change as new information is obtained. 7. A quantifiable numeric analysis demonstrating the BMPs selected for implementation will likely achieve, based on modeling, published BMP pollutant removal performance estimates, best professional judgment, and/or other available tools, the MS4's wasteload allocation according to the schedule identified in the TMDL. This analysis will most likely incorporate modeling efforts. The MS4 shall conduct repeat numeric analyses as the BMP implementation plans evolve and information on BMP effectiveness is generated. Once the MS4 has water quality data from its monitoring program, the MS4 shall incorporate water quality data into the numeric analyses to validate BMP implementation plans. 8. A detailed description, including a schedule, of a monitoring program the MS4 will implement to assess discharge and receiving water quality, BMP effectiveness, and progress towards any interim targets and ultimate attainment of the MS4s' wasteload allocation. The monitoring program shall be designed to validate

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Regional Water Board Approved TMDLs where urban runoff is listed as a source

TMDL Effective Date/BPA/Res. No.	**Municipality**	**Impaired Water body**	**Deliverables/Actions Required/Wasteload Allocations**
Region 3: Central Coast Regional Water Board			
			BMP implementation efforts and quantitatively demonstrate attainment of interim targets and wasteload allocations. If the approved TMDL does not explicitly include interim targets, the MS4 shall establish interim targets (and dates when stormwater discharge conditions will be evaluated) that are equally spaced in time over the TMDL compliance schedule and represent measurable, continually decreasing MS4 discharge concentrations or other appropriate interim measures of pollution reduction and progress towards the wasteload allocation. At least one interim target and date must occur during the five-year term of this Order. The MS4 shall achieve its interim targets by the date it specifies in the Wasteload Allocation Attainment Program. If the MS4 does not achieve its interim target by the date specified, the MS4 shall develop and implement more effective BMPs that it can quantitatively demonstrate will achieve the next interim target. 9. A detailed description of how the MS4 will assess BMP and program effectiveness. The description shall incorporate the assessment methods described in the CASQA Municipal Storm water Program Effectiveness Assessment Guide. 10. A detailed description of how the MS4 will modify the program to improve upon BMPs determined to be ineffective during the effectiveness assessment. 11. A detailed description of information the MS4 will include in annual reports to demonstrate adequate progress towards attainment of wasteload allocations according to the TMDL schedule. 12. A detailed description of how the MS4 will collaborate with other agencies, stakeholders, and the public to develop and implement the Wasteload Allocation Attainment Program. 13. Any other items identified by Integrated Report fact sheets, TMDL Project Reports, TMDL Resolutions, or that are currently being implemented by the MS4 to control its contribution to the impairment. All allocations shall be achieved no later than June 8, 2024.
TMDL for Pathogens in Soquel Lagoon, Soquel Creek, and Noble Gulch Effective Date: 9/15/2010 BPA: Chapter 4 Resolution No. R3-2009-0024	City of Capitola County of Santa Cruz	Soquel Lagoon Soquel Creek Noble Gulch	**Purpose of Provisions** The purpose of these provisions is to implement the requirements of the TMDL for Pathogens in Soquel Lagoon, Soquel Creek, and Noble Gulch. **TMDL Wasteload Allocations** The City of Capitola and the County of Santa Cruz are assigned the following concentration based wasteload allocation for fecal coliform: based on a minimum of not less than five samples for any 30-day period, fecal coliform shall not exceed a log mean of 200 MPN per 100 mL, nor shall more than 10 percent of samples collected during any 30-day period exceed 400 MPN per 100 mL. These wasteload allocations are receiving water allocations; storm water discharge cannot cause or contribute to exceedance of the allocations as measured in receiving water.

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Regional Water Board Approved TMDLs where urban runoff is listed as a source

TMDL Effective Date/BPA/Res. No.	Municipality	Impaired Water body	Deliverables/Actions Required/Wasteload Allocations
Region 3: Central Coast Regional Water Board			
			The City of Capitola is assigned allocations in Soquel Lagoon. The County of Santa Cruz is assigned allocations in Soquel Creek and Noble Gulch. **Provisions for Implementing the TMDL** By June 30, 2013, the City of Capitola and the County of Santa Cruz shall each develop, submit, and begin implementation of a Wasteload Allocation Attainment Program that identifies the actions they will take to attain their wasteload allocations. The Wasteload Allocation Attainment Programs shall include: 1. A detailed description of the strategy the MS4 will use to guide BMP selection, assessment, and implementation, to ensure that BMPs implemented will be effective at abating pollutant sources, reducing pollutant discharges, and achieving wasteload allocations according to the TMDL Schedule. 2. Identification of sources of the impairment within the MS4's jurisdiction, including specific information on various source locations and their magnitude within the jurisdiction. 3. Prioritization of sources within the MS4's jurisdiction, based on suspected contribution to the impairment, ability to control the source, and other pertinent factors. 4. Identification of BMPs that will address the sources of impairing pollutants and reduce the discharge of impairing pollutants. 5. Prioritization of BMPs, based on suspected effectiveness at abating sources and reducing impairing pollutant discharges, as well as other pertinent factors. 6. Identification of BMPs the MS4 will implement, including a detailed implementation schedule. For each BMP, identify milestones the MS4 will use for tracking implementation, measurable goals the MS4 will use to assess implementation efforts, and measures and targets the MS4 will use to assess effectiveness. MS4s shall include expected BMP implementation for future implementation years, with the understanding that future BMP implementation plans may change as new information is obtained. 7. A quantifiable numeric analysis demonstrating the BMPs selected for implementation will likely achieve, based on modeling, published BMP pollutant removal performance estimates, best professional judgment, and/or other available tools, the MS4's wasteload allocation according to the schedule identified in the TMDL. This analysis will most likely incorporate modeling efforts. The MS4 shall conduct repeat numeric analyses as the BMP implementation plans evolve and information on BMP effectiveness is generated. Once the MS4 has water quality data from its monitoring program, the MS4 shall incorporate water quality data into the numeric analyses to validate BMP implementation plans. 8. A detailed description, including a schedule, of a monitoring program the MS4 will implement to assess discharge and receiving water quality, BMP effectiveness, and progress towards any interim targets and ultimate attainment of the MS4s' wasteload allocation. The monitoring program shall be designed to validate BMP implementation efforts and quantitatively demonstrate attainment of interim targets and wasteload allocations. If the approved TMDL does not explicitly include interim targets, the MS4 shall establish interim targets (and dates when stormwater discharge conditions will be evaluated) that are equally spaced in time over the TMDL compliance schedule and represent measurable, continually decreasing MS4 discharge concentrations or other appropriate interim measures of pollution reduction and progress towards the wasteload allocation. At least one interim target and date must occur during the five-year term of this Order. The MS4 shall achieve its interim targets by the date it specifies in the Wasteload Allocation Attainment Program. If the MS4 does not achieve its interim target by the date specified, the MS4 shall develop and

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Regional Water Board Approved TMDLs where urban runoff is listed as a source

TMDL Effective Date/BPA/Res. No.	Municipality	Impaired Water body	Deliverables/Actions Required/Wasteload Allocations
Region 3: Central Coast Regional Water Board			
			implement more effective BMPs that it can quantitatively demonstrate will achieve the next interim target. 9. A detailed description of how the MS4 will assess BMP and program effectiveness. The description shall incorporate the assessment methods described in the CASQA Municipal Storm water Program Effectiveness Assessment Guide. 10. A detailed description of how the MS4 will modify the program to improve upon BMPs determined to be ineffective during the effectiveness assessment. 11. A detailed description of information the MS4 will include in annual reports to demonstrate adequate progress towards attainment of wasteload allocations according to the TMDL schedule. 12. A detailed description of how the MS4 will collaborate with other agencies, stakeholders, and the public to develop and implement the Wasteload Allocation Attainment Program. 13. Any other items identified by Integrated Report fact sheets, TMDL Project Reports, TMDL Resolutions, or that are currently being implemented by the MS4 to control its contribution to the impairment. All allocations shall be achieved by September 15, 2023.
TMDL for Pathogens in Aptos Creek, Valencia Creek, and Trout Gulch Effective Date: 10/29/2010 BPA: Chapter 4 Resolution No. R3-2009-0025	County of Santa Cruz	Aptos Creek Valencia Creek Trout Gulch	**Purpose of Provisions** The purpose of these provisions is to implement the requirements of the TMDL for Pathogens in Aptos Creek, Valencia Creek, and Trout Gulch. **TMDL Wasteload Allocations** The County of Santa Cruz is assigned the following concentration based wasteload allocation for fecal coliform: based on a minimum of not less than five samples for any 30-day period, fecal coliform shall not exceed a log mean of 200 MPN per 100 mL, nor shall more than 10 percent of samples collected during any 30-day period exceed 400 MPN per 100 mL. These wasteload allocations are receiving water allocations; storm water discharge cannot cause or contribute to exceedance of the allocations as measured in receiving water. The County of Santa Cruz is assigned allocations in Aptos Creek, Valencia Creek, and Trout Gulch. **Provisions for Implementing the TMDL** By June 30, 2013, the County of Santa Cruz shall develop, submit, and begin implementation of a Wasteload Allocation Attainment Program that identifies the actions it will take to attain its wasteload allocation. The Wasteload Allocation Attainment Program shall include: 1. A detailed description of the strategy the MS4 will use to guide BMP selection, assessment, and implementation, to ensure that BMPs implemented will be effective at abating pollutant sources, reducing pollutant discharges, and achieving wasteload allocations according to the TMDL schedule. 2. Identification of sources of the impairment within the MS4's jurisdiction, including specific information on various source locations and their magnitude within the jurisdiction. 3. Prioritization of sources within the MS4's jurisdiction, based on suspected contribution to the impairment, ability to control the source, and other pertinent factors.

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Regional Water Board Approved TMDLs where urban runoff is listed as a source

TMDL Effective Date/BPA/Res. No.	**Municipality**	**Impaired Water body**	**Deliverables/Actions Required/Wasteload Allocations**
Region 3: Central Coast Regional Water Board			
			4. Identification of BMPs that will address the sources of impairing pollutants and reduce the discharge of impairing pollutants. 5. Prioritization of BMPs, based on suspected effectiveness at abating sources and reducing impairing pollutant discharges, as well as other pertinent factors. 6. Identification of BMPs the MS4 will implement, including a detailed implementation schedule. For each BMP, identify milestones the MS4 will use for tracking implementation, measurable goals the MS4 will use to assess implementation efforts, and measures and targets the MS4 will use to assess effectiveness. MS4s shall include expected BMP implementation for future implementation years, with the understanding that future BMP implementation plans may change as new information is obtained. 7. A quantifiable numeric analysis demonstrating the BMPs selected for implementation will likely achieve, based on modeling, published BMP pollutant removal performance estimates, best professional judgment, and/or other available tools, the MS4's wasteload allocation according to the schedule identified in the TMDL. This analysis will most likely incorporate modeling efforts. The MS4 shall conduct repeat numeric analyses as the BMP implementation plans evolve and information on BMP effectiveness is generated. Once the MS4 has water quality data from its monitoring program, the MS4 shall incorporate water quality data into the numeric analyses to validate BMP implementation plans. 8. A detailed description, including a schedule, of a monitoring program the MS4 will implement to assess discharge and receiving water quality, BMP effectiveness, and progress towards any interim targets and ultimate attainment of the MS4s' wasteload allocation. The monitoring program shall be designed to validate BMP implementation efforts and quantitatively demonstrate attainment of interim targets and wasteload allocations. If the approved TMDL does not explicitly include interim targets, the MS4 shall establish interim targets (and dates when stormwater discharge conditions will be evaluated) that are equally spaced in time over the TMDL compliance schedule and represent measurable, continually decreasing MS4 discharge concentrations or other appropriate interim measures of pollution reduction and progress towards the wasteload allocation. At least one interim target and date must occur during the five-year term of this Order. The MS4 shall achieve its interim targets by the date it specifies in the Wasteload Allocation Attainment Program. If the MS4 does not achieve its interim target by the date specified, the MS4 shall develop and implement more effective BMPs that it can quantitatively demonstrate will achieve the next interim target. 9. A detailed description of how the MS4 will assess BMP and program effectiveness. The description shall incorporate the assessment methods described in the CASQA Municipal Storm water Program Effectiveness Assessment Guide. 10. A detailed description of how the MS4 will modify the program to improve upon BMPs determined to be ineffective during the effectiveness assessment. 11. A detailed description of information the MS4 will include in annual reports to demonstrate adequate progress towards attainment of wasteload allocations according to the TMDL schedule. 12. A detailed description of how the MS4 will collaborate with other agencies, stakeholders, and the public to develop and implement the Wasteload Allocation Attainment Program. 13. Any other items identified by Integrated Report fact sheets, TMDL Project Reports, TMDL Resolutions, or that are currently being implemented by the MS4 to control its contribution to the impairment. All allocations shall be achieved October 29, 2023.

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Regional Water Board Approved TMDLs where urban runoff is listed as a source

TMDL Effective Date/BPA/Res. No.	Municipality	Impaired Water body	Deliverables/Actions Required/Waste Load Allocations
Region 5: Central Valley Regional Water Board			
Lower San Joaquin River *Diazinon & Chlorpyrifos* Effective Date: December 20,2006 BPA: Chapter 3 Resolution No.: R5-2005-0138	City of Madera (including the area known as Bonadelle Ranchos-Ma and Madera Acres) City of Merced City of Turlock County of San Joaquin County of Madera County of Merced County of Stanislaus County of Tulare City of Atwater City of Ceres City of Delhi City of Hughson City of Keyes City of Livingston City of Los Banos City of Patterson City of Winton	San Joaquin River from Mendota Dam to Vernalis	**Purpose of Provisions:** The purpose of these provisions is to implement the Lower San Joaquin River Diazinon and Chlorpyrifos Control Program **Wasteload Allocations:** The wasteload allocations for NPDES permitted municipal storm water dischargers shall not exceed the sum (S) of one (1) as defined below: $$S = \frac{C_D}{WQO_D} + \frac{C_C}{WQO_C} \leq 1.0$$ where CD = diazinon concentration CC = chlorpyrifos concentration WQOD = acute or chronic diazinon water quality objective (0.160 and 0.100 ug/L, respectively) WQOC = acute or chronic chlorpyrifos water quality objective. (0.025 and 0.015 ug/L, respectively) For the purpose of calculating the sum (S) above, non-detectable concentrations are considered to be zero. **Provisions for implementing the Control Program:** Dischargers not meeting wasteload allocations will be required by the Executive Officer to submit a management plan describing actions that will be taken to reduce diazinon and chlorpyrifos discharges to meet the applicable allocations. The Executive Officer may require revisions to the management plans if compliance with wasteload allocations are not attained or the management plan is not likely to attain compliance. Management plans may be submitted by individual dischargers or discharger groups. In determining compliance with the waste load allocations, the Regional Water Board will consider data or information submitted by the discharger regarding diazinon and chlorpyrifos inputs from sources outside of the jurisdiction of the permitted discharge. Dischargers must consider weather a proposed alternative to diazinon or chlorpyrifos has the potential to degrade ground or surface water. If the alternative has the potential to degrade groundwater, alternative pest control methods must be considered. If the alternative has the potential to degrade surface water, control measures must be implemented to ensure the applicable water quality objectives and State and Regional Water Boards' policies are not violated, including State Water Resources Control Board Resolution 68-16.

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Regional Water Board Approved TMDLs where urban runoff is listed as a source

TMDL Effective Date/BPA/Res. No.	Municipality	Impaired Water body	Deliverables/Actions Required/Waste Load Allocations
Region 5: Central Valley Regional Water Board			
Lower San Joaquin River *Diazinon & Chlorpyrifos* **continued**	City of Oakdale City of Ripon City of Riverbank City of Salida		**Compliance with wasteload allocations:** 01 December 2010
Sacramento and San Joaquin Delta Diazinon & Chlorpyrifos Effective Date: October 10, 2006 BPA: Chapter 31 Resolution No.: R5-2006-0061 **Sacramento and San Joaquin Delta** *Diazinon & Chlorpyrifos* **continued**	City of Lathrop City of Rio Vista City of Tracy County of San Joaquin City of Davis City of Dixon City of French Camp City of Lodi City of Manteca City of Morada City of Vacaville City of West Sacramento City of Woodland	Sacramento-San Joaquin Delta Waterways	**Purpose of Provisions:** The purpose of these provisions is to implement the Control Program for Diazinon and Chlorpyrifos Runoff into the Sacramento-San Joaquin Delta Waterways **Wasteload Allocations:** The wasteload allocations for NPDES permitted municipal storm water dischargers shall not exceed the sum (S) of one (1) as defined below: $$S = \frac{C_D}{WQO_D} + \frac{C_C}{WQO_C} \leq 1.0$$ where CD = diazinon concentration CC = chlorpyrifos concentration WQOD = acute or chronic diazinon water quality objective (0.160 and 0.100 ug/L, respectively) WQOC = acute or chronic chlorpyrifos water quality objective. (0.025 and 0.015 ug/L, respectively) For the purpose of calculating the sum (S) above, non-detectable concentrations are considered to be zero. **Provisions for implementing the Control Program:** Dischargers not meeting wasteload allocations will be required by the Executive Officer to submit a management plan describing actions that will be taken to reduce diazinon and chlorpyrifos discharges to meet the applicable allocations. The Executive Officer may require revisions to the management plans if compliance with wasteload allocations are not attained or the management plan is not likely to attain compliance. Management plans may be submitted by individual dischargers or discharger groups. In determining compliance dates for wasteload allocations, the Regional Water Board will consider data or information submitted by the discharger regarding diazinon and chlorpyrifos inputs from sources outside of the jurisdiction of the permitted discharge.

ATTACHMENT G – Region Specific Requirements

Regional Water Board Approved TMDLs where urban runoff is listed as a source

TMDL Effective Date/BPA/Res. No.	Municipality	Impaired Water body	Deliverables/Actions Required/Waste Load Allocations
Region 5: Central Valley Regional Water Board			
Sacramento and San Joaquin Delta *Diazinon & Chlorpyrifos* **continued**			To address pesticide impairment of receiving waters, Permittees shall create and implement a Regional Board-approved Pesticide Plan that addresses their own use of pesticides including diazinon and chlorpyrifos, and to the extent authorized by law, the use of such pesticides by other sources within their jurisdictions. The goal of the Pesticides Plan is to reduce the discharge of pesticides from municipal storm water systems to receiving waters. The Permittees shall identify and promote within the context of integrated pest management (IPM) programs, the use of pest management practices that minimize the risk of pesticide impacts on surface water quality resulting from urban runoff discharges. IPM shall be integrated into the Permittee municipal operations and promoted to residents, businesses, and public agencies through the public outreach program. Permittees shall complete an assessment to determine the diazinon and chlorpyrifos levels in receiving waters. Monitoring may be done in conjunctions with other municipalities and/or discharges in the Central Valley. Permittees are responsible for providing the necessary information. The information may come from the dischargers' monitoring efforts; monitoring programs conducted by State or federal agencies or collaborative watershed efforts; or from special studies that evaluate the effectiveness of management practices. The purposes of the study are to evaluate compliance with established water quality objectives applicable to diazinon and chlorpyrifos for the receiving water and to determine compliance with wasteload allocations. In cases where the Permittees are not in compliance with the wasteload allocations, the Regional Water Board may request additional assessments and documentation of control program effectiveness. Assessment shall also consider whether alternatives to diazinon and chlorpyrifos are causing surface water quality impacts and if toxicity impairment is being caused or contributed to due to synergistic effects of multiple pollutants. Modifications to these requirements may be made through approval from the Executive Officer in order to facilitate discharger participation in the Delta Regional Monitoring Program. **Compliance with wasteload allocations:** 01 December 2011

ATTACHMENT G – Region Specific Requirements

Regional Water Board Approved TMDLs where urban runoff is listed as a source

TMDL Effective Date/BPA/Res. No.	Municipality	Impaired Water body	Deliverables/Actions Required/Waste Load Allocations
Region 5: Central Valley Regional Water Board			
Sacramento and Feather Rivers *Diazinon & Chlorpyrifos* Effective Date: May 3, 2007 BPA: Attachment 1 Resolution No.: R5-2007-0034 **Sacramento and Feather Rivers** *Diazinon & Chlorpyrifos* **continued**	City of Anderson City of Chico City of Marysville Olivehurst CDP City of Red Bluff South Yuba City County of Butte County of Colusa County of Shasta County of Sutter City of Live Oak City of Lincoln City of Linda City of Loomis City of Redding City of Roseville City of Rocklin County of Yuba	Sacramento River from Shasta Dam to I Street Bridge Feather River from Fish Barrier Dam to Sacramento River	**Purpose of Provisions:** The purpose of these provisions is to implement the Control Program for Diazinon and Chlorpyrifos Runoff into the Sacramento and Feather Rivers **Wasteload Allocations:** The wasteload allocations for NPDES permitted municipal storm water dischargers shall not exceed the sum (S) of one (1) as defined below: $$S = \frac{C_D}{WQO_D} + \frac{C_C}{WQO_C} \leq 1.0$$ where CD = diazinon concentration CC = chlorpyrifos concentration WQOD = acute or chronic diazinon water quality objective (0.160 and 0.100 ug/L, respectively) WQOC = acute or chronic chlorpyrifos water quality objective. (0.025 and 0.015 ug/L, respectively) For the purpose of calculating the sum (S) above, non-detectable concentrations are considered to be zero. **Provisions for implementing the Control Program:** Dischargers not meeting wasteload allocations will be required by the Executive Officer to submit a management plan describing actions that will be taken to reduce diazinon and chlorpyrifos discharges to meet the applicable allocations. The Executive Officer may require revisions to the management plans if compliance with wasteload allocations are not attained or the management plan is not likely to attain compliance. Management plans may be submitted by individual dischargers or discharger groups. In determining compliance with the waste load allocations, the Regional Water Board will consider data or information submitted by the discharger regarding diazinon and chlorpyrifos inputs from sources outside of the jurisdiction of the permitted discharge. Dischargers must consider weather a proposed alternative to diazinon or chlorpyrifos has the potential to degrade ground or surface water. If the alternative has the potential to degrade groundwater, alternative pest control methods must be considered. If the alternative has the potential to degrade surface water, control measures must be implemented to ensure the applicable water quality objectives and State and Regional Water Boards' policies are not violated, including State Water Resources Control Board Resolution 68-16. **Compliance with wasteload allocations**: 11 August 2008

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Regional Water Board Approved TMDLs where urban runoff is listed as a source

TMDL Effective Date/BPA/Res. No.	Municipality	Impaired Water body	Deliverables/Actions Required/Waste Load Allocations
Region 5: Central Valley Regional Water Board			
Lower San Joaquin River San Joaquin River, Stockton DWSC TMDL *Organic Enrichment and Low Dissolved Oxygen* Effective Date: February 27, 2007 BPA: Chapter IV-37.01 Resolution No.: R5-2005-005	County of San Joaquin City of French Camp City of Ceres City of Oakdale City of Patterson City of Riverbank City of Ripon City of Lathrop City of Turlock City of Manteca City of Livingston City of Los Banos County of Stanislaus City of Empire City of Keyes City of Salida City of Hughson County of Merced City of Atwater City of Merced City of Delhi City of Winton	Lower San Joaquin River (Stockton DWSC)	**Purpose of Provisions:** The purpose of these provisions is to implement the requirements of the San Joaquin River Dissolved Oxygen TMDL. **Wasteload Allocations:** Waste load allocations for all NPDES-permitted discharges of oxygen demanding substances were set at the corresponding effluent limitations applicable on 28 January 2005. **Provisions for Implementing the Control Program:** Waste load allocations and permit conditions for new or expanded point source discharges in the SJR Basin upstream of the DWSC, including NPDES and storm water, will be based on the discharger demonstrating that the discharge will have no reasonable potential to cause or contribute to a negative impact on the dissolved oxygen impairment in the DWSC. **Compliance with waste load allocations:** December 31, 2011 **Compliance with implementation provisions:** Ongoing

ATTACHMENT G – Region Specific Requirements

Regional Water Board Approved TMDLs where urban runoff is listed as a source

TMDL Effective Date/BPA/Res. No.	Municipality	Impaired Water body	Deliverables/Actions Required/Waste Load Allocations
Region 5: Central Valley Regional Water Board			
Delta TMDL *Methylmercury* Effective Date: Pending Resolution No.: R5-2010-0043 **Delta TMDL** *Methylmercury* **continued**	City of Lathrop City of Rio Vista City of Tracy City of Lodi County of San Joaquin County of Solano City of West Sacramento County of Yolo	Sacramento-San Joaquin Delta Waterways	**Purpose of Provisions:** The purpose of these provisions is to implement the requirements of the Delta methylmercury TMDL. **Wasteload Allocations (methylmercury g/yr):** Lodi (City of) 0.053 San Joaquin (County of) 1.486 Rio Vista (City of) 0.0078 Solano (County of) 0.062 West Sacramento (City of) 0.64 Yolo (County of) 0.124 Lathrop (City of) 0.097 Tracy (City of) 0.65 **Provisions for Implementing the Control Program:** Implement BMPs to control erosion and sediment discharges with the goal of reducing mercury discharges. **Compliance with implementation provisions:** Ongoing
Clear Lake TMDL *Nutrients* Effective Date: 6/23/2006 BPA: Chapter IV-37.04 Resolution No.: R5-2006-0060	County of Lake City of Clearlake City of Lakeport	Clear Lake	**Purpose of Provisions:** The purpose of these provisions is to implement the requirements of the Clear Lake TMDL. **Wasteload Allocations:** County of Lake, City of Clearlake and City of Lakeport combined 2,000 kg phosphorus/yr **Provisions for Implementing the Control Program:** Storm water permittees will work with staff to develop and implement a plan to collect the information needed to determine what factors are important in controlling nuisance blooms and to recommend what control strategy should be implemented. Plan was submitted in 2008. **Compliance with waste load allocations:** **June 2017**

ATTACHMENT G – Region Specific Requirements

Regional Water Board Approved TMDLs where urban runoff is listed as a source

TMDL Effective Date/BPA/Res.No.	**Municipality**	**Impaired Water Body**	**Deliverables/Actions Required/Waste Load Allocations**
Region 6: Lahontan Regional Water Board			
Middle Truckee River Watershed, Placer, Nevada and Sierra Counties *Sediment* Effective Date: May 14, 2008 BPA: Section 4.13 Resolution No.: R6T-2008-0019	City of Truckee	Truckee River	**Purpose of Provisions:** The purpose of these provisions is to implement the requirements of the Middle Truckee River Watershed TMDL. **Urban Areas Wasteload Allocations:** 4,936 tons per year of total suspended sediment load. **Non-urban Wasteload Allocations:** 35,392 tons per year of total suspended sediment load. **Provisions for Implementing the Control Program:** 1. Road sand application best management practices (BMPs) and recovery tracking - Road sand is applied using BMPs and recovered to the maximum extent practicable. 2. Dirt roads maintained or decommissioned - Identified dirt roads with inadequate erosion control structures are rehabilitated and maintained, or decommissioned. Focus on dirt roads with high potential for sediment delivery to surface waters (e.g., within 200 feet of watercourse). 3. Legacy sites restoration and best management practices implementation - Identified legacy sites are restored or storm water BMPs are implemented to prevent erosion and sedimentation to surface waters. **Compliance with waste load allocations:** target of 25 milligrams per liter, or less, of suspended sediment is estimated for 2028 (i.e., 20 years after the adoption of the TMDL in 2008).
	County of Placer		

ATTACHMENT G – Region Specific Requirements

Regional Water Board Approved TMDLs where urban runoff is listed as a source

<table>
<tr><th>TMDL
Effective Date/BPA/Res.No.</th><th>Municipality</th><th>Impaired Water Body</th><th>Deliverables/Actions Required/Waste Load Allocations</th></tr>
<tr><td colspan="4">Region 9: San Diego Regional Water Board</td></tr>
<tr><td rowspan="4">Chollas Creek
Dissolved Copper, Lead, and Zinc

Effective Date: October 22, 2008

Resolution No.
R9-2007-0043</td><td>City of San Diego</td><td rowspan="4">Chollas Creek</td><td rowspan="4">WLA
WLA for point sources is concentration-based, equals to 90% of Numeric Target value (generated from the CTR equations) after applying 10% of Margin of Safety.

TMDLs = WLAs = CTR WQOs * 0.9

Wasteload Allocations for dissolved copper, lead, and zinc
<table><tr><th>Metal</th><th>WLA for Acute Conditions – One-Hour Average = Loading Capacity* MOS</th><th>WLA for Chronic Conditions – Four-Day Average =Loading Capacity*MOS</th></tr><tr><td>Copper</td><td>(0.96) * {e^ [0.9422 * ln (hardness) - 1.700]}*0.9</td><td>(0.96) * {e^[0.8545 * ln (hardness) - 1.702]}*0.9</td></tr><tr><td>Lead</td><td>[1.46203 – 0.145712 * ln (hardness)] * {e^ [1.273 * ln (hardness) - 1.460]} * 0.9</td><td>[1.46203 – 0.145712 * ln (hardness)] * {e^[{1.273 * ln (hardness)} - 4.705]} * 0.9</td></tr><tr><td>Zinc</td><td>(0.978) * {e^ [0.8473 * ln (hardness) + 0.884]} * 0.9</td><td>(0.986) * {e^[0.8473 * ln (hardness) + 0.884]} * 0.9</td></tr></table>WLAs are regulated through San Diego Municipal Storm Water Permit (MS4 Permit) under Order No. R9-2007-0001. The municipal Copermittees regulated by this permit that have jurisdiction in the Chollas Creek watershed are the City of San Diego, the City of Lemon Grove, the City of La Mesa, County of San Diego, and the San Diego Unified Port District. These municipal Copermittees have responsibility for virtually all discharges to and from the municipal storm water conveyance system in the watershed through mechanisms such as enforcing existing or adopting new local ordinances, implementing waste load reduction plans and conducting public outreach/education programs.

Over a 20-year compliance period:
<table><tr><th>Years</th><th>Allowable Exceedance (% above)</th></tr><tr><td>1</td><td>100</td></tr><tr><td>10</td><td>20</td></tr><tr><td>20</td><td>0</td></tr></table></td></tr>
<tr><td>City of Lemon Grove</td></tr>
<tr><td>City of La Mesa</td></tr>
<tr><td>County of San Diego</td></tr>
</table>

ATTACHMENT G – Region Specific Requirements

Regional Water Board Approved TMDLs where urban runoff is listed as a source

TMDL Effective Date/BPA/Res.No.	Municipality	Impaired Water Body	Deliverables/Actions Required/Waste Load Allocations
Region 9: San Diego Regional Water Board			
Bacteria Project I – Twenty Beaches and Creeks in the San Diego Region (Including Tecolote Creek) *Indicator Bacteria* Effective Date: April 4, 2011 Resolution No. R9-2010-0001			*Waste Load Allocations for Municipal MS4*

Watershed	Fecal Coliform WLA (Billion MPN/year)		Enterococcus WLA (Billion MPN/year)		Total Coliform WLA (Billion MPN/year)	
	Wet Weather	Dry Weather	Wet Weather	Dry Weather	Wet Weather	Dry Weather
San Joaquin Hills / Laguna Hills HSAs (901.11 and 901.12)	37,167	227	66,417	40	880,652	1,134
Aliso HAS (901.13)	477,069	242	735,490	40	8,923,264	1,208
Dana Point HAS ((01.14)	152,446	92	219,528	16	3,404,008	462
Lower San Juan HAS (901.27)	1,156,419	1,665	1,385,094	275	16,093,160	8,342
San Clemente HA (901.30)	192,653	192	295,668	33	3,477,739	958
San Luis Rey HU (901.00)	914,026	1,058	1,300,235	185	14,373,954	5,289
San Marcos HA (904.50)	6,558	26	23,771	5	298,430	129
San Dieguito HU (905.50)	798,175	1,293	1,763,603	226	16,660,538	6,468
Miramar Reservoir HA (906.10)	6,703	7	8,109	1	171,436	36
Scripps HA (906.30)	101,253	119	232,035	21	3,447,764	594
Tecolote HA (906.5)	126,806	234	471,211	39	5,136,598	1,171
Mission San Diego/Santee HSAs (907.11	221,117	1,506	890,617	248	10,790,520	7,529

ATTACHMENT G – Region Specific Requirements

Regional Water Board Approved TMDLs where urban runoff is listed as a source

TMDL Effective Date/BPA/Res.No.	**Municipality**	**Impaired Water Body**	**Deliverables/Actions Required/Waste Load Allocations**
			and 907.12) **Chollas HAS (908.22)** **252,479** **398** **802,918** **66** **9,880,784** **1,991** Over a 10+ year compliance period Years / Exceedance Frequency Reduction (%)* P1 P2 P3 5 50 6 50 7 50 10+ 100 100 100 P1 = Priority 1 P2 = Priority 2 P3 = Priority 3 *For both dry & wet weathers

ATTACHMENT G – Region Specific Requirements

Regional Water Board Approved TMDLs where urban runoff is listed as a source

TMDL Effective Date/BPA/Res. No.	Municipality	Impaired Water body	Deliverables/Actions Required/Waste Load Allocations
Region 4[1]: Los Angeles Regional Board			
Santa Monica Bay Beaches Bacteria Effective Date: July 15, 2003 BPA: Chapter 7-4 Resolution Nos.: 2002-04 (dry weather) 2002-022 (wet weather) R12-007 revision		Santa Monica Bay	
Upper Santa Clara River Chloride TMDL Effective Date: May 4, 2005 BPA Chapter 7-6 Resolution Nos.: R04-004, R06-016 revision, and R08-012 revision		Santa Clara River	
Los Angeles River Nitrogen and Related Effects TMDL Effective Date: March 23, 2004 BPA Chapter 7-8 Resolution Nos.: R03-009 and R03-016 revision		Los Angeles River	

[1] 'Municipality' and 'Deliverables/Actions Required/Waste Load Allocations' headers deliberately left blank. Los Angeles Regional Board TMDL region specific requirements are currently under development and will be completed one year from the effective date of the permit. Please see Fact Sheet discussion for details.

ATTACHMENT G – Region Specific Requirements

Regional Water Board Approved TMDLs where urban runoff is listed as a source

TMDL Effective Date/BPA/Res. No.	Municipality	Impaired Water body	Deliverables/Actions Required/Waste Load Allocations
Region 4[1]: Los Angeles Regional Board			
Santa Clara River Nitrogen Compounds TMDL Effective Date: March 23, 2004 BPA Chapter 7-9 Resolution No.: R03-11		Santa Clara River	
Malibu Creek Bacteria TMDL Effective Date: January 24, 2006 BPA Chapter 7-10 Resolution Nos.: 2004-019R R12-009 revision		Marina del Rey	
Los Angeles Harbor Bacteria TMDL (Inner Cabrillo Beach and Main Shop Channel) Effective Date: March 10, 2005 BPA Chapter 7-11 Resolution No.: 2004-011		Dominguez Channel Watershed Management Area	
Calleguas Creek Watershed Toxicity TMDL Effective Date: March 24, 2006 BPA Chapter 7-17 Resolution No.: 2005-010		Calleguas Creek Watershed	

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Regional Water Board Approved TMDLs where urban runoff is listed as a source

TMDL Effective Date/BPA/Res. No.	Municipality	Impaired Water body	Deliverables/Actions Required/Waste Load Allocations
Region 4[1]: Los Angeles Regional Board			
Calleguas Creek Organochlorine Pesticides, Polychlorinated Biphenyls, and Siltation Effective Date: March 24, 2006 BPA Chapter 7-16 Resolution No.: 2005-009		Calleguas Creek Watershed	
Calleguas Creek Metals and Selenium TMDL Effective Date: 3/26/2007 BPA Chapter 7-19 Resolution No.: 2006-012		Calleguas Creek	
Ballona Creek Bacteria TMDL Effective Date: April 27, 2007 BPA Chapter 7-21 Resolution Nos.: 2006-11 R12-008 revision		Ballona Creek	
Santa Monica Bay Marine Debris TMDL Effective Date: March 20, 2012 BPA Chapter 7-34 Resolution No.: 2010-010		Santa Monica Bay	

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Regional Water Board Approved TMDLs where urban runoff is listed as a source

TMDL Effective Date/BPA/Res. No.	Municipality	Impaired Water body	Deliverables/Actions Required/Waste Load Allocations
Region 4[1]: Los Angeles Regional Board			
Los Angeles and Long Beach Harbors and Toxics and Metals TMDL Effective Date: March 23, 2012 BPA Chapter 7-40 Resolution No.:2011-008		Los Angeles and Long Beach Harbors	
Los Angeles River Bacteria TMDL Effective Date: March 23, 2012 BPA Chapter 7-39 Resolution No.: R10-007		Los Angeles River	
Santa Clara River Esturay and Reaches 3, 5, 6 and 7 Bacteria Effective Date:3/21/2012 BPA Chapter 7-36 Resolution No. R10-006		Santa Clara River	
Santa Clara Reach 3 Chloride TMDL Effective Date : June 18, 2003 Established by USEPA		Santa Clara River	

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Regional Water Board Approved TMDLs where urban runoff is listed as a source

TMDL Effective Date/BPA/Res. No.	Municipality	Impaired Water body	Deliverables/Actions Required/Waste Load Allocations
Region 4[1]: Los Angeles Regional Board			
Malibu Creek Nutrients TMDL Effective Date : March 21, 2003 Established by USEPA		Malibu Creek	
Ballona Creek Wetlands TMDL for Sediment and Invasive Exotic Vegetation TMDL Effective Date : March 26, 2012 Established by USEPA		Ballona Creek	
Santa Monica Bay TMDL for DDTs and PCBs Effective Date : March 26, 2012 Established by USEPA			
Avalon Beach Bacteria TMDL Effective Date: April 5, 2012 Cease and Desist Order No. R4-2012-0077		Avalon Beach	
Los Angeles River and Tributaries Metals TMDL Effective Date: November 3, 2011 BPA: Chapter 7-13 Resolution No.: R10-003		Los Angeles River	

ATTACHMENT G – Region Specific Requirements

Regional Water Board Approved TMDLs where urban runoff is listed as a source

TMDL Effective Date/BPA/Res. No.	Municipality	Impaired Water body	Deliverables/Actions Required/Waste Load Allocations
Region 4[1]: Los Angeles Regional Board			
Ballona Creek Metals TMDL Effective Date: October 29, 2008 BPA: Chapter 7-12 Resolution No.: 2007-015		Ballona Creek	
San Gabriel River and Impaired Tributaries Metals and Selenium TMDL Effective Date: March 26, 2007 USEPA Established		San Gabriel River	
Los Cerritos Channel Metals TMDL Effective Date: March 17, 2010 USEPA Established		Los Cerritos Channel	
Ballona Creek Estuary Toxic Pollutants TMDL Effective Date: January 11, 2006 BPA: Chapter 7-14 Resolution No.: 2005-008		Ballona Creek and Ballona Creek Estuary	
Ballona Creek Trash Effective Date: 8/28/2002 BPA: Chapter 7.3 Resolution No.:2001-014 2004-023 (revision)		Ballona Creek	

ATTACHMENT G – Region Specific Requirements

Regional Water Board Approved TMDLs where urban runoff is listed as a source

TMDL Effective Date/BPA/Res. No.	Municipality	Impaired Water body	Deliverables/Actions Required/Waste Load Allocations
Region 4[1]: Los Angeles Regional Board			
Los Angeles River trash Effective Date: 9/23/2008 BPA Chapter 7-2 Resolution No.:07-012		Los Angeles River	
Ventura River Estuary Trash Effective Date:3/6/2008 BPA Chapter 7-25 Resolution No.:07-008		Ventura River Estuary	
Malibu Creek Trash Effective Date:7/7/2009 BPA Chapter 7-30 Resolution No.:R4-2008-007		Malibu Creek	

Acronyms & Abbreviations

ASBS	Area of Special Biological Significance
BMP	Best Management Practices
CASQA	California Stormwater Quality Association
CEDEN	California Environmental Data Exchange Network
CFR	Code of Federal Regulations
CGP	Construction General Permit
CWA	Clean Water Act
DEM	Digital Elevation Model
DMA	Drainage Management Area
GIS	Geographic Information System
GPS	Global Positioning System
IGP	Industrial General Permit
LID	Low Impact Development
LUP	Linear Utility Project
MEP	Maximum Extent Practicable
MS4	Municipal Separate Storm Sewer System
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
O&M	Operation and Maintenance
PAH	Polycyclic Aromatic Hydrocarbon
SMARTS	Storm Water Multi-Application, Reporting, and Tracking System
SWMP	Storm Water Management Plan
SWPPP	Storm Water Pollution Prevention Plan
TMDL	Total Maximum Daily Load
QAPP	Quality Assurance Project Plan
QSD	Qualified SWPPP Developer
QSP	Qualified SWPPP Preparer
USEPA	United States Environmental Protection Agency

Glossary

Activism – is the practice of action or involvement as a means of achieving goals.

At the Point of Discharge(s) – Means in the surf zone immediately where runoff from an outfall meets the ocean water (a.k.a., at point zero).

Beneficial Uses - The Uses of water of the state protected against degradation, such as domestic, municipal, agricultural and industrial supply; power generation; recreation; aesthetic enjoyment; navigation and preservation of fish and wildlife, and other aquatic resources or preserves.

Catch Basin - A catch basin (a.k.a., storm drain inlet) is an inlet to the storm drain system that typically includes a grate or curb inlet where storm water enters the catch basin and a sump to capture sediment, debris and associated pollutants. Catch basins act as pretreatment for other treatment practices by capturing large sediments. The performance of catch basins at removing sediment and other pollutants depends on the design of the catch basin (e.g., the size of the sump), and routine maintenance to retain the storage available in the sump to capture sediment.

Common Plan or Development or Sale – U.S. EPA regulations include the term "common plan of development or sale" to ensure that acreage within a common project does not artificially escape the permit requirements because construction activities are phased, split among smaller parcels, or completed by different owners/developers. In the absence of an exact definition of "common plan of development or sale," the State Water Board is required to exercise its regulatory discretion in providing a common sense interpretation of the term as it applies to construction projects and permit coverage. The common plan of development is generally a contiguous area where multiple, distinct construction activities may be taking place at different times under one plan. A plan is generally defined as any piece of documentation or physical demarcation that indicates that construction activities may occur on a common plot. Such documentation could consist of a tract map, parcel map, demolition plans, grading plans, or contract documents. Any of these documents could delineate the boundaries of a common plan area. However, broad planning documents, such as land use master plans, conceptual master plans, or broad-based CEQA or NEPA documents that identify potential projects for an agency or facility are not considered common plans of development. An overbroad interpretation of the term would render meaningless the clear "one acre" federal permitting threshold and would potentially trigger permitting of almost any construction activity that occurs within an area that had previously received area-wide utility or road improvements.

Community Based Social Marketing (CBSM) - A systematic way to change the behavior of communities to reduce their impact on the environment. Realizing that simply providing information is usually not sufficient to initiate behavior change, CBSM uses tools and findings from social psychology to discover the perceived barriers to behavior change and ways of overcoming these barriers.

Construction Site - Any project, including projects requiring coverage under the General Construction Permit, that involves soil disturbing activities including, but not limited to, clearing, grading, paving, disturbances to ground such as stockpiling, and excavation.

Design Storm – For purposes of these Special Protections, a design storm is defined as the volume of runoff produced from one inch of precipitation per day or, if this definition is inconsistent with the discharger's applicable storm water permit, then the design storm shall be the definition included in the discharger's applicable storm water permit.

Direct Discharge - A discharge that is routed directly to waters of the United States by means of a pipe, channel, or ditch (including a municipal storm sewer system), or through surface runoff.

Discharge of a Pollutant - The addition of any pollutant or combination of pollutants to waters of the United States from any point source, or any addition of any pollutant or combination of pollutants to the waters of the contiguous zone or the ocean from any point source other than a vessel or other floating craft which is being used as a means of transportation. The term includes additions of pollutants to waters of the United States from: surface runoff which is collected or channeled by man; discharges through pipes, sewers, or other conveyances owned by a State, municipality, or other person which do not lead to a treatment works; and discharges through pipes, sewers, or other conveyances, leading into privately owned treatment works.

Discharger - Any responsible party or site owner or operator within the Permittees' jurisdiction whose site discharges storm water runoff, or a non-storm water discharge.

Detached Single-family Home Project - The building of one single new house or the addition and/or replacement of impervious surface associated with one single existing house, which is not part of a larger plan of development.

Dry Weather – Refers to season where prolonged dry periods occur; in California's Mediterranean climate, it usually corresponds to the period between May and September.

Erosion - The physical detachment of soil due to wind or water. Often the detached fine soil fraction becomes a pollutant transported storm water runoff. Erosion occurs naturally, but can be accelerated by land disturbance and grading activities such as farming, development, road building, and timber harvesting.

Erosion Control Measures – Measures used to minimize soil detachment. These may include:

- Vegetation, either undisturbed or planted (e.g., grasses, wildflowers), and
- other materials, such as
    - straw (applied over bare soil, crimped into soil);
    - protective erosion control blankets;
    - fiber (applied as mulch or hydromulch); and
    - mulch (avoid plastics if possible).

Sediment Control Measures – Measures used to trap and/or retain detached soil before discharging to receiving waters. These may include:

- fiber rolls (e.g., keyed-in straw wattles, compost rolls);
- silt fence;
- retention basins; and
- active treatment systems.

Flood Management Facilities – Facilities or structures designed for the explicit purpose of controlling flood waters safely in or around populated areas. (e.g., dams, levees, bypass areas). Facilities or structures designed for the explicit purpose of controlling flood waters safely in or around populated areas (e.g., dams, levees, bypass areas). Flood management facilities do not include traditional stormwater conveyance structures (e.g. stormwater sewerage, pump stations, catch basins, etc.)

Grading - The cutting and/or filling of the land surface to a desired slope or elevation.

Healthy Watershed - Healthy watersheds are watersheds that function well ecologically and are sustainable. They support healthy, diverse aquatic habitat, have healthy riparian areas and corridors with sufficient vegetative buffer area to minimize land pollutant runoff into surfaces waters, sufficient cover and canopy to maintain healthy habitat, and have near natural levels of sediment transport. Surface waters meet water quality objectives, and sediments are sufficiently low in pollutants to provide for healthy habitat. Groundwaters are near natural levels in quantity and quality, for water supply purposes and for base flow for sustaining creek habitat and migratory fish routes. A Healthy Watershed sustains these characteristics through measures that ensure the dynamics that provide these healthy factors and functions are protected. For example, watersheds must be protected, through low impact development or other forms of protection, from hydromodification that adversely affects recharge areas' function or creeks' bed or bank stability. Creek buffer/riparian areas must be protected from land disturbance activities. Healthy sustainable watersheds use less energy for imported water, have fewer greenhouse gas emissions, and a lesser carbon footprint than unhealthy watersheds.

Hotspot - Hotspots are specific operations and areas in a sub watershed that may generate high storm water pollution. Hotspots are high priority sites.

Hydromodification - Modification of hydrologic pathways (precipitation, surface runoff, infiltration, groundwater flow, return flow, surface-water storage, groundwater storage, evaporation and transpiration) that results in negative impacts to watershed health and functions.

HUC 12 Watershed - The hydrologic unit code (HUC) is the “address” of the watershed. The HUC is the numerical code of the USGS watershed classification system used to identify the watersheds, or drainage basins, at various scales. The HUC organizes watersheds by a nested size hierarchy, so large scale watershed boundaries for an entire region may be assigned a two-digit HUC, while small scale, local watershed boundaries (within the larger regional watershed) may be assigned a 12-digit HUC. A HUC-12 watershed averages 22 square miles in size.

Illicit Discharge - Any discharge to a municipal separate storm sewer (storm drain) system (MS4) that is prohibited under local, state, or federal statutes, ordinances, codes, or regulations. The term illicit discharge includes all non-storm water discharges not composed entirely of storm water and discharges that are identified under the Discharge Prohibitions section of this General Permit. The term illicit discharge does not include discharges that are regulated by an NPDES permit (other than the NPDES permit for discharges from the MS4).

Impaired Waterbody - A waterbody (i.e., stream reaches, lakes, waterbody segments) with chronic or recurring monitored violations of the applicable numeric and/or narrative water quality criteria. An impaired water is a water that has been listed on the California 303(d) list or has not yet been listed but otherwise meets the criteria for listing. A water is a portion of a surface water of the state, including ocean, estuary, lake, river, creek, or wetland. The water currently may not be meeting state water quality standards or may be determined to be threatened and have the potential to not meet standards in the future. The State of California's 303(d) list can be found at http://www.swrcb.ca.gov/quality.html.

Impervious Surface - A surface covering or pavement of a developed parcel of land that prevents the land's natural ability to absorb and infiltrate rainfall/storm water. Impervious surfaces include, but are not limited to; roof tops, walkways, patios, driveways, parking lots, storage areas, impervious concrete and asphalt, and any other continuous watertight pavement or covering. Landscaped soil and pervious pavement, including pavers with pervious openings and seams, underlain with pervious soil or pervious storage material, such as a gravel layer sufficient to hold the specified volume of rainfall runoff are not impervious surfaces.

Industrial Development - Development or redevelopment of property to be used for industrial purposes, such as factories, manufacturing buildings, and research and development parks.

Infill Site - A site in an urbanized area where the immediately adjacent parcels are developed with one or more qualified urban uses or at least 75% of the perimeter of the site adjoins parcels that are developed with qualified urban uses and the remaining 25% of the site adjoins parcels that have previously been developed for qualified urban uses and no parcel within the site has been created within the past 10 years.

Joint Storm Water Treatment Facility - A storm water treatment facility built to treat the combined runoff from two or more Regulated Projects.

Linear Underground/Overhead Projects (LUPs) - Include, but are not limited to, any conveyance, pipe, or pipeline for the transportation of any gaseous, liquid (including water and wastewater for domestic municipal services), liquiescent, or slurry substance; any cable line or wire for the transmission of electrical energy; any cable line or wire for communications (e.g., telephone, telegraph, radio, or television messages); and associated ancillary facilities. Construction activities associated with LUPs include, but are not limited to, (a) those activities necessary for the installation of underground and overhead linear facilities (e.g., conduits, substructures, pipelines, towers, poles, cables, wires, connectors, switching, regulating and transforming equipment, and associated ancillary facilities); and include, but are not limited to, (b) underground utility mark-out, potholing, concrete and asphalt cutting and removal, trenching, excavation, boring and drilling, access road and pole/tower pad and cable/wire pull station, substation construction, substructure installation, construction of tower footings and/or foundations, pole and tower installations, pipeline installations, welding, concrete and/ or pavement repair or replacement, and stockpile/borrow locations.

Low Impact Development – A sustainable practice that benefits water supply and contributes to water quality protection. Unlike traditional storm water management, which collects and conveys storm water runoff through storm drains, pipes, or other conveyances to a centralized storm water facility, Low Impact Development (LID) takes a different approach by using site design and storm water management to maintain the site's pre-development runoff rates and volumes. The goal of LID is to mimic a site's predevelopment hydrology by using design techniques that infiltrate, filter, store, evaporate, and detain runoff close to the source of rainfall. LID has been a proven approach in other parts of the country and is seen in California as an alternative to conventional storm water management.

Marine Operations – Marinas or mooring fields that contain slips or mooring locations for 10 or more vessels.

Maximum Extent Practicable (MEP) - The minimum required performance standard for implementation of municipal storm water management programs to reduce pollutants in storm water. Clean Water Act § 402(p)(3)(B)(iii) requires that municipal permits "shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants." MEP is the cumulative effect of implementing, evaluating, and making corresponding changes to a variety of technically appropriate and economically feasible BMPs, ensuring that the most appropriate controls are implemented in the most effective manner. This process of implementing, evaluating, revising, or adding new BMPs is commonly referred to as the iterative process.

Mixed-use Development or Redevelopment - Development or redevelopment of property to be used for two or more different uses, all intended to be harmonious and complementary. An example is a high-rise building with retail shops on the first 2 floors, office space on floors 3 through 10, apartments on the next 10 floors, and a restaurant on the top floor.

Municipal Separate Storm Sewer System (MS4) - The regulatory definition of an MS4 (40 CFR 122.26(b)(8)) is "a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains): (i) Owned or operated by a state, city, town, borough, county, parish, district, association, or other public body (created to or pursuant to state law) including special districts under state law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the Clean Water Act that discharges into waters of the United States. (ii) Designed or used for collecting or conveying storm water; (iii) Which is not a combined sewer; and (iv) Which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2."

In practical terms, operators of MS4s can include municipalities and local sewer districts, state and federal departments of transportation, public universities, public hospitals, military bases, and correctional facilities. The Storm water Phase II Rule added federal systems, such as military bases and correctional facilities by including them in the definition of small MS4s.

National Pollutant Discharge Elimination System (NPDES) - A national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under sections 307, 402, 318, and 405 of the CWA.

Natural Ocean Water Quality - The water quality (based on selected physical, chemical and biological characteristics) that is required to sustain marine ecosystems, and which is without apparent human influence, *i.e.*, an absence of significant amounts of: (a) man-made constituents (*e.g.,* DDT); (b) other chemical (*e.g.,* trace metals), physical (temperature/thermal pollution, sediment burial), and biological (*e.g.*, bacteria) constituents at concentrations that have been elevated due to man's activities above those resulting from the naturally occurring processes that affect the area in question; and (c) non-indigenous biota (*e.g.,* invasive algal bloom species) that have been introduced either deliberately or accidentally by man. Discharges "*shall not alter natural ocean water quality*" as determined by a comparison to the range of constituent concentrations in reference areas agreed upon via the regional monitoring program(s). If monitoring information indicates that *natural ocean water quality* is not maintained, but there is sufficient evidence that a discharge is not contributing to the alteration of natural water quality, then the Regional Water Board may make that determination. In this case, sufficient information must include runoff sample data that has equal or lower concentrations for the range of constituents at the applicable reference area(s).

New Development - New Development means land disturbing activities; structural development, including construction or installation of a building or structure, creation of impervious surfaces; and land subdivision on an area that has not been previously developed.

Non-Traditional Small MS4 - Federal and State operated facilities that can include universities, prisons, hospitals, military bases (e.g. State Army National Guard barracks, parks and office building complexes.)

Notice of Intent (NOI) - The application form by which dischargers seek coverage under General Permits, unless the General Permit requires otherwise.

Nuisance - Anything that meets all of the following requirements: (1) is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property; (2) affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal; (3) occurs during, or as a result of, the treatment or disposal of wastes.

Open Channel - Flow within a distinct natural or modified channel, calculated as flow velocity times channel cross-sectional area.

Outfall - A point source as defined by 40 CFR 122.2 at the point where a municipal separate storm sewer discharges to waters of the United States and does not include open conveyances connecting two municipal separate storm sewers, or pipes, tunnels or other conveyances which connect segments of the same stream or other waters of the United States and are used to convey waters of the United States. Specific to Ocean Plan monitoring, outfalls include those measuring 18 inches or more in diameter.

Parking Lot - Land area or facility for the parking or storage of motor vehicles used for business, commerce, industry, or personal use.

Permittee/Permittees - Municipal agency/agencies and Non-traditional Small MS4s that are named in and subject to the requirements of this General Permit.

Permit Effective Date – July 1, 2013. The date at least 100 days after General Permit adoption, provided the Regional Administrator of U.S. EPA Region 9 has no objection.

Pervious Pavement - Pavement that stores and infiltrates rainfall at a rate that exceeds conventional pavement.

Point Source - Any discernible, confined, and discrete conveyance including, but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operations, landfill leachate collection systems, vessel, or other floating craft, from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural storm water runoff.

Pollutant - Dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials (except those regulated under the Atomic Energy Act of 1954, as amended (42 U.S.C. 2011 *et seq.*)), heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water.

Pollutants of Concern - Pollutants of concern found in urban runoff include sediments, non-sediment solids, nutrients, pathogens, oxygen-demanding substances, petroleum hydrocarbons, heavy metals, floatables, polycyclic aromatic hydrocarbons (PAHs), trash, and pesticides and herbicides.

Pollution - An alteration of the quality of the waters of the state by waste to a degree which unreasonably affects the beneficial uses of the water or facilities which serve those beneficial uses.

Potable Water - Water that is safe for domestic use, drinking, and cooking.

Prioritized BMPs – BMPs installed and/or implemented to address pollutants of concern. Where pollutant(s) of concern are undocumented or unidentified, prioritized BMPs are defined as BMPs installed and/or implemented to address common pollutants of concern (see pollutants of concern definition).

Priority Storm Drain Inlets - Storm drain inlets that drain to sensitive receiving water bodies or water bodies with history of illegal dumping. Storm drain inlets that are located in areas where the maximum number of citizens are exposed (this may include areas of high foot traffic).

QAPrP - Quality Assurance Project Plan

Receiving Water – Surface water that receives regulated and unregulated discharges from activities on land.

Redevelopment - Land-disturbing activity that results in the creation, addition, or replacement of exterior impervious surface area on a site on which some past development has occurred. Redevelopment does not include trenching, excavation and resurfacing associated with LUPs; pavement grinding and resurfacing of existing roadways; construction of new sidewalks, pedestrian ramps, or bike lanes on existing roadways; or routine replacement of damaged pavement such as pothole repair or replacement of short, non-contiguous sections of roadway.

Regulated Project – Refers to projects subject to the new and redevelopment standards in Section E.11 in this Order.

Regulated Small MS4 - A Small MS4 that discharges to a water of the United States (U.S.) or to another MS4 regulated by an NPDES permit and has been designated as regulated by the State Water Board or Regional Water Board under criteria provided in this Order.

Residential Housing Subdivision - Any property development of multiple single-family homes or of dwelling units intended for multiple families/households (e.g., apartments, condominiums, and town homes).

Retrofitting - Improving pollution and/or flow control at existing developments and facilities to protect or restore beneficial uses and watershed functions.

Riparian Areas – Plant communities contiguous to and affected by surface and subsurface hydrologic features of perennial or intermittent waterbodies. Riparian areas have one or both of the following characteristics: 1) distinctively different vegetative species than adjacent areas, and 2) species similar to adjacent areas but exhibiting more vigorous or robust growth forms. Riparian areas are usually transitional between wetland and upland.

Rural Area - Encompasses all population, housing, and territory not included within an urban area.

Sediments - Solid particulate matter, both mineral and organic, that is in suspension, is being transported, or has been moved from its site of origin by air, water, gravity, or ice and has come to rest on the earth's surface either above or below sea level.

Sensitive Waterbody - Receiving waters which are a priority to protect. They include: 1) Areas of Special Biological Significance (ASBS), 2) areas providing or known to provide habitat for chinook and coho salmon and steelhead, and 3) beaches that serve more than 50,000 people between April 1 and October 31 and are adjacent to flowing storm drains or creeks.

Separate Implementing Entity (SIE) – An entitiy that a permittee may utilize to satisfy one or more of the permit obligations. SIE may include a flood control agency, a Phase I permittee, a storm water consulting firm, etc.

Small MS4 – An MS4 that is not permitted under the municipal Phase I regulations, and which is “owned or operated by the United States, a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity….” (40 CFR §122.26(b)(16)).

Smart Growth Projects – Projects that produce multiple-benefits such as economic, social and environmental benefits. Smart growth projects commonly include high density development projects that result in a reduction of runoff volume per capita as a result of reduced impervious surface.

Solid Waste - All putrecible and nonputrecible solid, semisolid, and liquid wastes as defined by California Government Code Section 68055.1(h).

Source Control - Land use or site planning practices, or structural or nonstructural measures, that aim to prevent runoff pollution by reducing the potential for contact with rainfall runoff at the source of pollution. Source control BMPs minimize the contact between pollutants and urban runoff.

Surface Drainage - Any above-ground runoff (sheet, shallow concentrated, and open channel) that flows into the storm drain system.

Standard Industrial Classification (SIC) - A federal system for classifying establishments by the type of activity, in which they are engaged, using a four-digit code.

Storm Drain System - The basic infrastructure in a municipal separate storm sewer system that collects and conveys storm water runoff to a treatment facility or receiving water body.

Storm Water – Storm water is generated when precipitation from rain and snowmelt events flows over land or impervious surfaces and does not percolate into the ground. As storm water flows over the land or impervious surfaces, it accumulates debris, chemicals, sediment or other pollutants that could adversely affect water quality if the storm water is discharged untreated.

Storm Water Treatment System - Any engineered system designed to remove pollutants from storm water runoff by settling, filtration, biological degradation, plant uptake, media absorption/adsorption or other physical, biological, or chemical process. This includes landscape-based systems such as grassy swales and bioretention units as well as proprietary systems.

Structural Controls - Any structural facility designed and constructed to mitigate the adverse impacts of storm water and urban runoff pollution.

Subwatershed – An area approximately 10,000 to 40,000 acres in area identified by Hydrologic Unit Code 12 in the federal Watershed Boundary Dataset.

Surface Water Ambient Monitoring Program (SWAMP) - The State Water Board's program to monitor surface water quality; coordinate consistent scientific methods; and design strategies for improving water quality monitoring, assessment, and reporting.

Time of Concentration – The time it takes the most hydraulically-remote drop of water to travel through the watershed to a specific point of interest.

Total Maximum Daily Loads (TMDLs) - The maximum amount of a pollutant that can be discharged into a waterbody from all sources (point and nonpoint) and still maintain water quality standards. Under CWA section 303(d), TMDLs must be developed for all waterbodies that do not meet water quality standards even after application of technology-based controls, more stringent effluent limitations required by a state or local authority, and other pollution control requirements such as BMPs.

Targeted Audience: Group(s) of people the Permittee has targeted to receive educational message.

Trash and Debris - Trash consists of litter and particles of litter. California Government Code Section 68055.1 (g) defines litter as all improperly discarded waste material, including, but not limited to, convenience food, beverage, and other product packages or containers constructed of steel, aluminum, glass, paper, plastic and other natural and synthetic materials, thrown or deposited on the lands and waters of the state, but not including the properly discarded waste of the primary processing of agriculture, mining, logging, sawmilling, or manufacturing.

Treatment - Any method, technique, or process designed to remove pollutants and/or solids from polluted storm water runoff, wastewater, or effluent.

Urban Rural Interface - The urban/rural interface is identified as the geographical location at which urban land use and rural land use interact.

Urbanized Area - A densely settled core of census tracts and/or census blocks that have population of at least 50,000, along with adjacent territory containing non-residential urban land uses as well as territory with low population density included to link outlying densely settled territory with the densely settled core. It is a calculation used by the Bureau of the Census to determine the geographic boundaries of the most heavily developed and dense urban areas. From the Phase II final rule (Revised June 2012) http://www.epa.gov/npdes/pubs/fact2-2.pdf Data utilized in this Order was derived from 2010 U.S. Census Data.

Waste - Includes sewage and any and all other waste substances, liquid, solid, gaseous, or radioactive, associated with human habitation, or of human or animal origin, or from any producing, manufacturing, or processing operation, including waste placed within containers of whatever nature prior to, and for purposes of, disposal.

Waste Load Allocation -The portion of a receiving water's total maximum daily load that is allocated to one of its existing or future point sources of pollution. Waste load allocations constitute a type of water quality-based effluent limitation.

Water Efficient Landscape Ordinance - The Model Water Efficient Landscape Ordinance (Title 23, Division 2, Chapter 2.7 of the California Code of Regulations) took effect January 1 2010 and is designed to: (1) promote the values and benefits of landscapes while recognizing the need to invest water and other resources as efficiently as possible; (2) establish a structure for planning, designing, installing, maintaining and managing water efficient landscapes in new construction and rehabilitated projects; (3) establish provisions for water management practices and water waste prevention for existing landscapes; (4) use water efficiently without waste by setting a Maximum Applied Water Allowance as an upper limit for water use and reduce water use to the lowest practical amount; (5) promote the benefits of consistent landscape ordinances with neighboring local and regional agencies; (6) encourage local agencies and water purveyors to use economic incentives that promote the efficient use of water, such as implementing a tiered-rate structure; and (7) encourage local agencies to designate the necessary authority that implements and enforces the provisions of the Model Water Efficient Landscape Ordinance or its local landscape ordinance.

Water Quality Control Plan (Basin Plan) –The Regional Water Board's master water quality control planning document. It designates beneficial uses and water quality objectives for waters of the State within each Region, including surface waters and groundwater. It also includes programs of implementation to achieve water quality objectives and discharge prohibitions. Basin Plans are adopted and approved by the State Water Board, U.S. EPA, and the Office of Administrative Law where required.

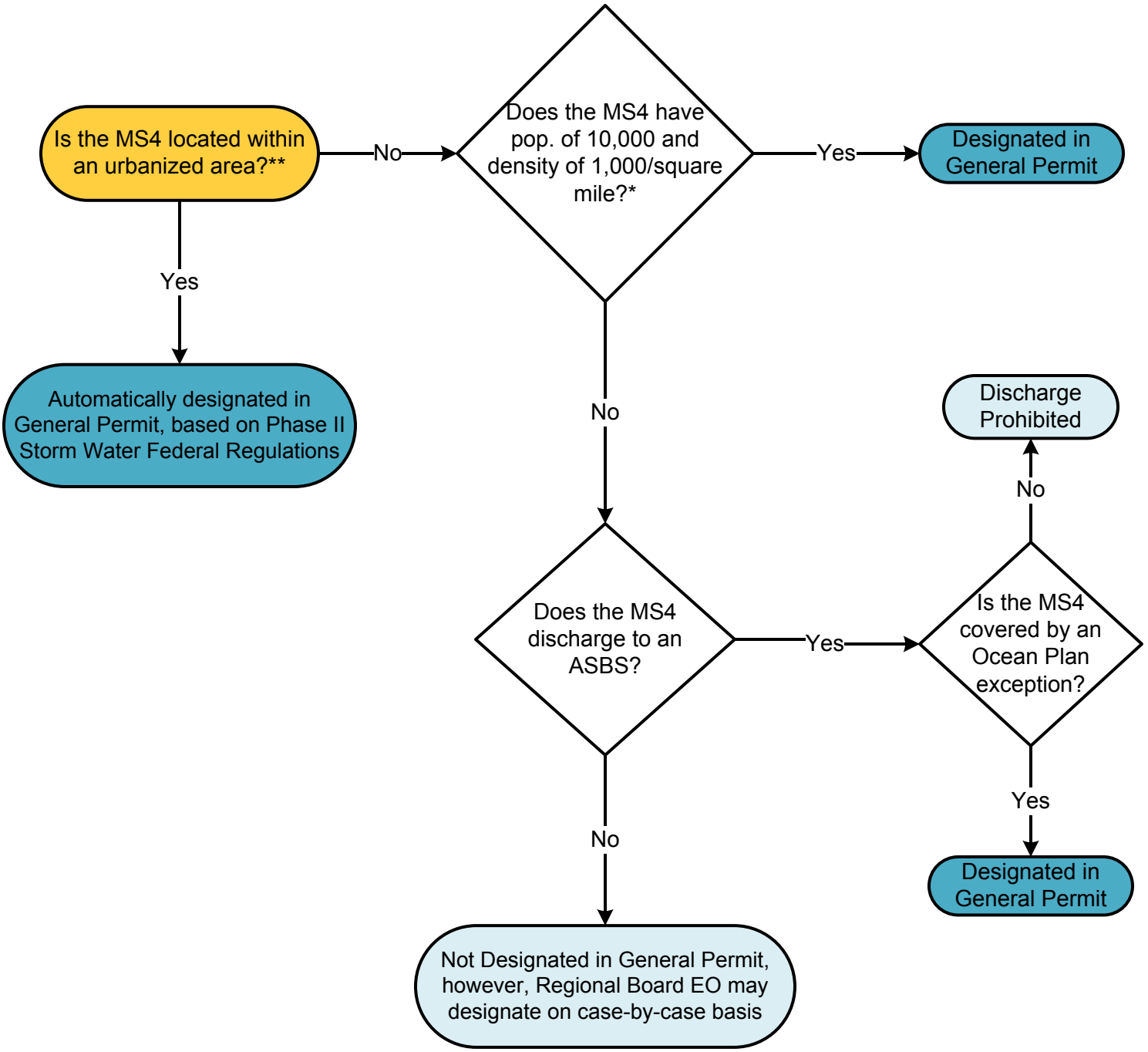
Water Quality Objectives - The limits or levels of water quality elements or biological characteristics established to reasonably protect the beneficial uses of water or to prevent pollution problems within a specific area. Water quality objectives may be numeric or narrative.

Water Quality Standards - State-adopted and U.S. EPA-approved water quality standards for waterbodies. The standards prescribe the use of the waterbody and establish the water quality criteria that must be met to protect designated uses. Water quality standards also include the federal and state anti-degradation policy.

Watershed Management Zone – Post-construction management zones based on common key watershed processes and receiving water type (creek, marine nearshore waters, lake, etc).

Watershed Processes – Functions that are provided by watersheds, including but not limited to, groundwater recharge, sediment supply and delivery, streamflow, and aquatic habitat.

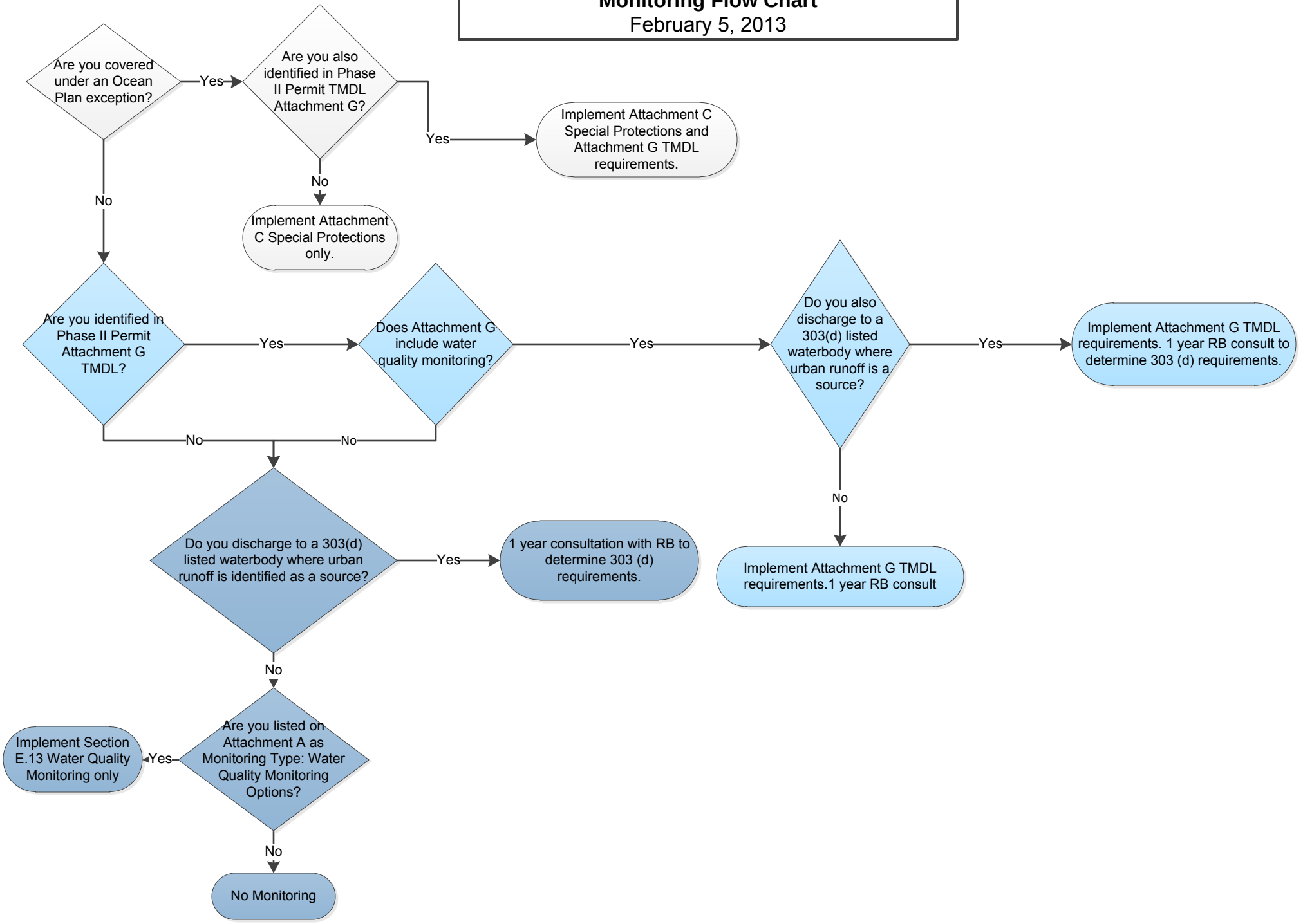
Draft Phase II Small MS4 General Permit
Designation Flow Chart
February 5, 2013



*Current designation based on U.S. Decennial Census Date 2010.
** Assumes MS4 population greater than 5000.

Phase II Permit Traditional Small MS4 Monitoring Flow Chart

February 5, 2013



Search & Select Map | Recorded Maps & Docs | Select & Query Layers | Measure & Lat/Long | Draw & Print | Links & Help

APN | Address | Street | Intersection

005-152-30, 005-152-31, 005-152-32, 005-152-33

Select Overlay

Select Base Map

Property Report

Zoning Report

- FEMA VE Elevations
- FEMA DFIRM Base Flow
- FEMA LOMAs and Certificates
- FEMA DFIRM LOMR
- FEMA Floodway
- FEMA Insurance Zones
- Geologic Reports
- Soil Reports
- Strike and Dip of Beds
- Geologic Structures - Faults
- Geologic Structures
- Cooper Clark Landslide Direction
- Cooper Clark Landslide - Small
- Cooper Clark Landslide
- State Fault Traces
- Fault Zones
  - CFZ
  - SFZ
- Liquefaction
- Soils (NRCS)
- Expansive Soils NRCS
- Soil Types (ENV)
- GeoPaleo
- Geologic Unit
- Mineral Resources



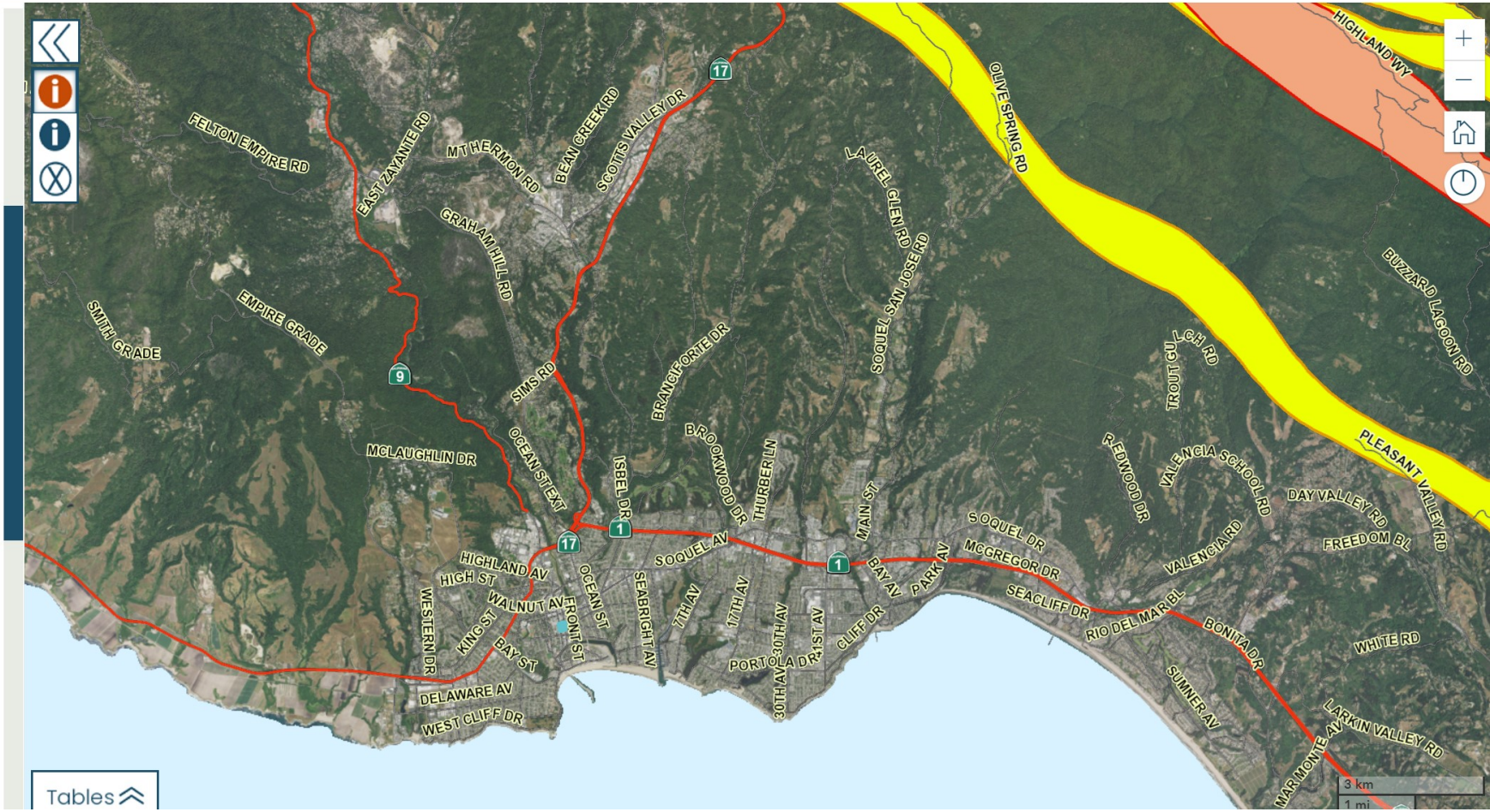
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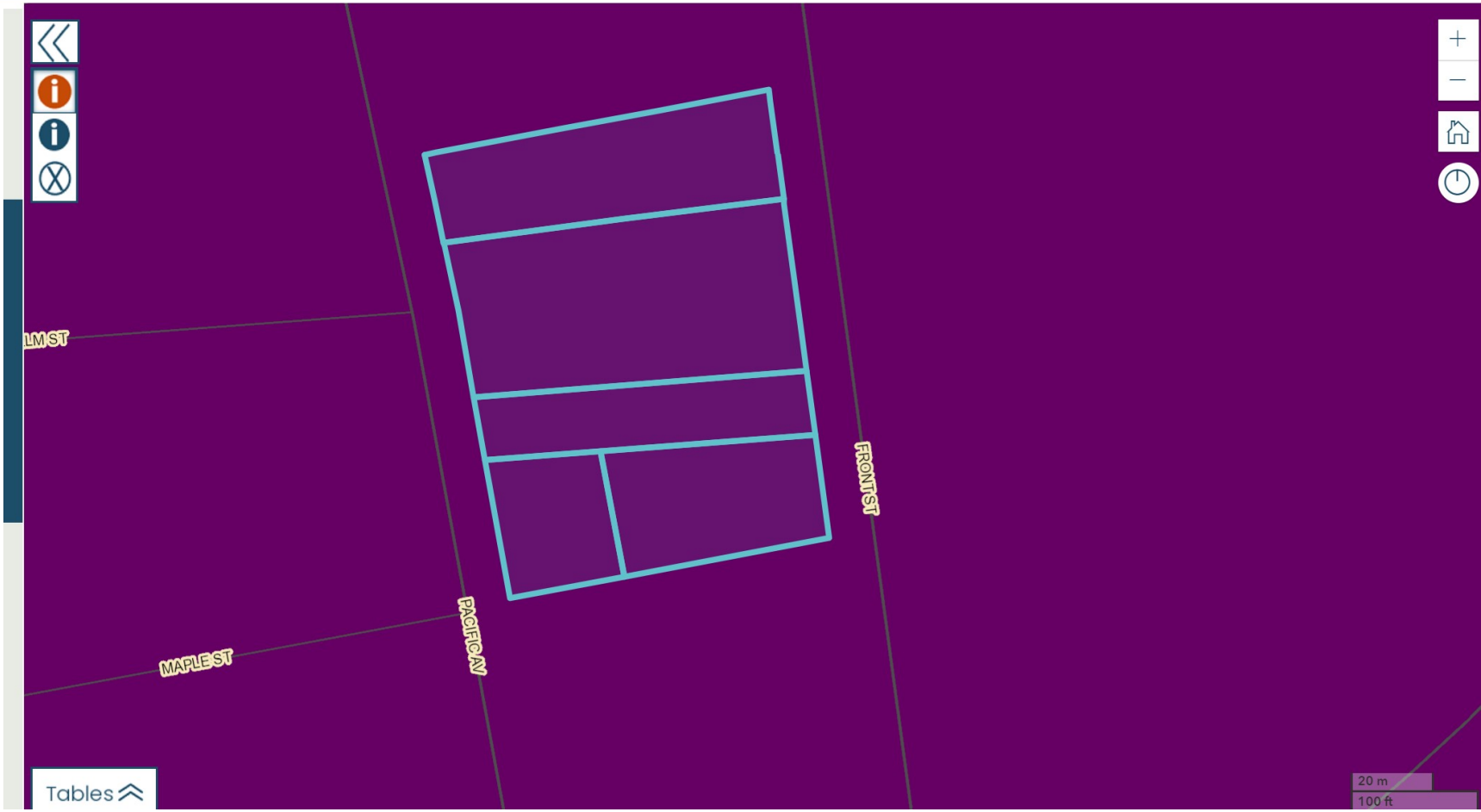
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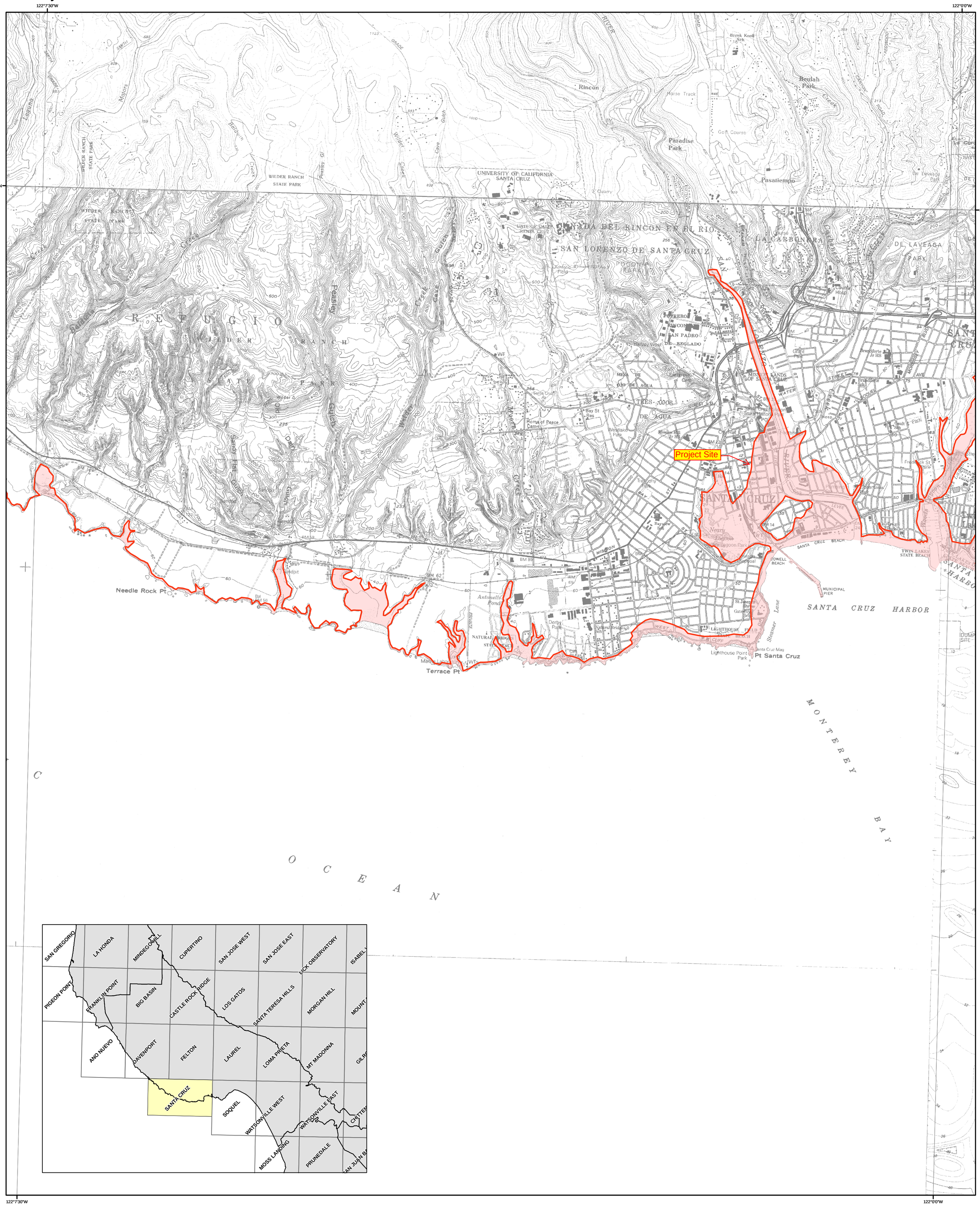
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- Expansive Soils NRCS
- Soil Types (ENV)
- GeoPaleo



California Emergency Management Agency
California Geological Survey
University of Southern California

Tsunami Inundation Map for Emergency Planning
Santa Cruz Quadrangle

State of California
County of Santa Cruz



122°7'30"W 122°0'0"W

METHOD OF PREPARATION

Initial tsunami modeling was performed by the University of Southern California (USC) Tsunami Research Center funded through the California Emergency Management Agency (CalEMA) by the National Tsunami Hazard Mitigation Program. The tsunami modeling process utilized the MOST (Method of Splitting Tsunamis) computational program (Version 0), which allows for wave evolution over a variable bathymetry and topography used for the inundation mapping (Titov and Gonzalez, 1997; Titov and Synolakis, 1998).

The bathymetric/topographic data that were used in the tsunami models consist of a series of nested grids. Near-shore grids with a 3 arc-second (75- to 90-meters) resolution or higher, were adjusted to "Mean High Water" sea-level conditions, representing a conservative sea level for the intended use of the tsunami modeling and mapping.

A suite of tsunami source events was selected for modeling, representing realistic local and distant earthquakes and hypothetical extreme undersea, near-shore landslides (Table 1). Local tsunami sources that were considered include offshore reverse-thrust faults, restraining bends on strike-slip fault zones and large submarine landslides capable of significant seafloor displacement and tsunami generation. Distant tsunami sources that were considered include great subduction zone events that are known to have occurred historically (1960 Chile and 1964 Alaska earthquakes) and others which can occur around the Pacific Ocean "Ring of Fire."

In order to enhance the result from the 75- to 90-meter inundation grid data, a method was developed utilizing higher-resolution digital topographic data (3- to 10-meters resolution) that better defines the location of the maximum inundation line (U.S. Geological Survey, 1993; Intermap, 2003; NOAA, 2004). The location of the enhanced inundation line was determined by using digital imagery and terrain data on a GIS platform with consideration given to historic inundation information (Lander, et al., 1993). This information was verified, where possible, by field work coordinated with local county personnel.

The accuracy of the inundation line shown on these maps is subject to limitations in the accuracy and completeness of available terrain and tsunami source information, and the current understanding of tsunami generation and propagation phenomena as expressed in the models. Thus, although an attempt has been made to identify a credible upper bound to inundation at any location along the coastline, it remains possible that actual inundation could be greater in a major tsunami event.

This map does not represent inundation from a single scenario event. It was created by combining inundation results for an ensemble of source events affecting a given region (Table 1). For this reason, all of the inundation region in a particular area will not likely be inundated during a single tsunami event.

References:

Intermap Technologies, Inc., 2003, Intermap product handbook and quick start guide: Intermap NEXTmap document on 5-meter resolution data, 112 p.

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National Atmospheric and Oceanic Administration (NOAA), 2004, Interferometric Synthetic Aperture Radar (IfSAR) Digital Elevation Models from GeoSAR platform (EarthData): 3-meter resolution data.

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Titov, V.V., and Synolakis, C.E., 1998, Numerical modeling of tidal wave runup: Journal of Waterways, Port, Coastal and Ocean Engineering, ASCE, 124 (4), pp 157-171.

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TSUNAMI INUNDATION MAP FOR EMERGENCY PLANNING

State of California ~ County of Santa Cruz
SANTA CRUZ QUADRANGLE

July 1, 2009

SCALE 1:24,000

0.5 0.25 0 0.5 1 Miles

1,000 500 0 1,000 2,000 3,000 4,000 5,000 Feet

0.5 0.25 0 0.5 1 Kilometers

Table 1: Tsunami sources modeled for the Santa Cruz County coastline.

Sources (M = moment magnitude used in modeled event)		Areas of Inundation Map Coverage and Sources Used		
		Pescadero	Santa Cruz	Monterey Bay Big
Local Source	Monterey Canyon Landslide			X
Distant Sources	Cascadia Subduction Zone-full rupture (M9.0)		X	
	Central Aleutians Subduction Zone #1 (M8.9)	X	X	X
	Central Aleutians Subduction Zone #2 (M8.9)		X	
	Central Aleutians Subduction Zone #3 (M9.2)	X		X
	Chile North Subduction Zone (M9.4)		X	
	1960 Chile Earthquake (M9.3)		X	
	1964 Alaska Earthquake (M9.2)	X	X	X
	Japan Subduction Zone #2 (M8.8)		X	
	Kuril Islands Subduction Zone #2 (M8.8)		X	
	Kuril Islands Subduction Zone #3 (M8.8)		X	
	Kuril Islands Subduction Zone #4 (M8.8)		X	
	Marianas Subduction Zone (M8.6)	X		X

MAP EXPLANATION

Tsunami Inundation Line

Tsunami Inundation Area

PURPOSE OF THIS MAP

This tsunami inundation map was prepared to assist cities and counties in identifying their tsunami hazard. It is intended for local jurisdictional, coastal evacuation planning uses only. This map, and the information presented herein, is not a legal document and does not meet disclosure requirements for real estate transactions nor for any other regulatory purpose.

The inundation map has been compiled with best currently available scientific information. The inundation line represents the maximum considered tsunami runup from a number of extreme, yet realistic, tsunami sources. Tsunamis are rare events; due to a lack of known occurrences in the historical record, this map includes no information about the probability of any tsunami affecting any area within a specific period of time.

Please refer to the following websites for additional information on the construction and/or intended use of the tsunami inundation map:

State of California Emergency Management Agency, Earthquake and Tsunami Program:
http://www.oes.ca.gov/WebPage/oeswebsite.nsf/Content/B1EC51BA215931768825741F005E8D80?OpenDocument

University of Southern California – Tsunami Research Center:
http://www.usc.edu/dept/tsunamis/2005/index.php

State of California Geological Survey Tsunami Information:
http://www.conservation.ca.gov/cgs/geologic_hazards/Tsunami/index.htm

National Oceanic and Atmospheric Agency Center for Tsunami Research (MOST model):
http://nctr.pmel.noaa.gov/time/background/models.html

MAP BASE

Topographic base maps prepared by U.S. Geological Survey as part of the 7.5-minute Quadrangle Map Series (originally 1:24,000 scale). Tsunami inundation line boundaries may reflect updated digital orthophotographic and topographic data that can differ significantly from contours shown on the base map.

DISCLAIMER

The California Emergency Management Agency (CalEMA), the University of Southern California (USC), and the California Geological Survey (CGS) make no representation or warranties regarding the accuracy of this inundation map nor the data from which the map was derived. Neither the State of California nor USC shall be liable under any circumstances for any direct, indirect, special, incidental or consequential damages with respect to any claim by any user or any third party on account of or arising from the use of this map.

Cal EMA CALIFORNIA EMERGENCY MANAGEMENT AGENCY

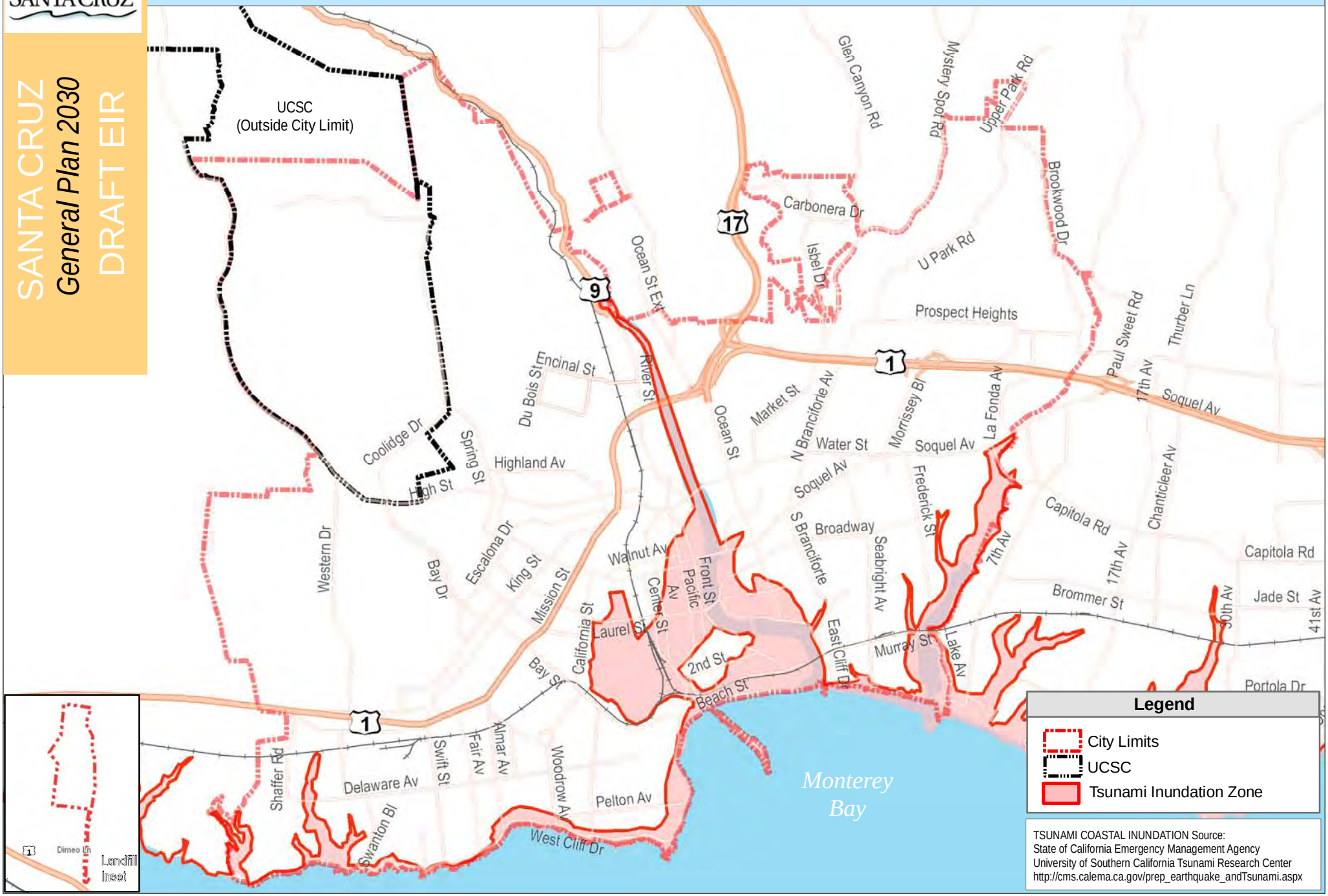
CGS CALIFORNIA GEOLOGICAL SURVEY

USC UNIVERSITY OF SOUTHERN CALIFORNIA

SANTA CRUZ
General Plan 2030
DRAFT EIR

Figure 4.7-2
Tsunami Inundation Zones

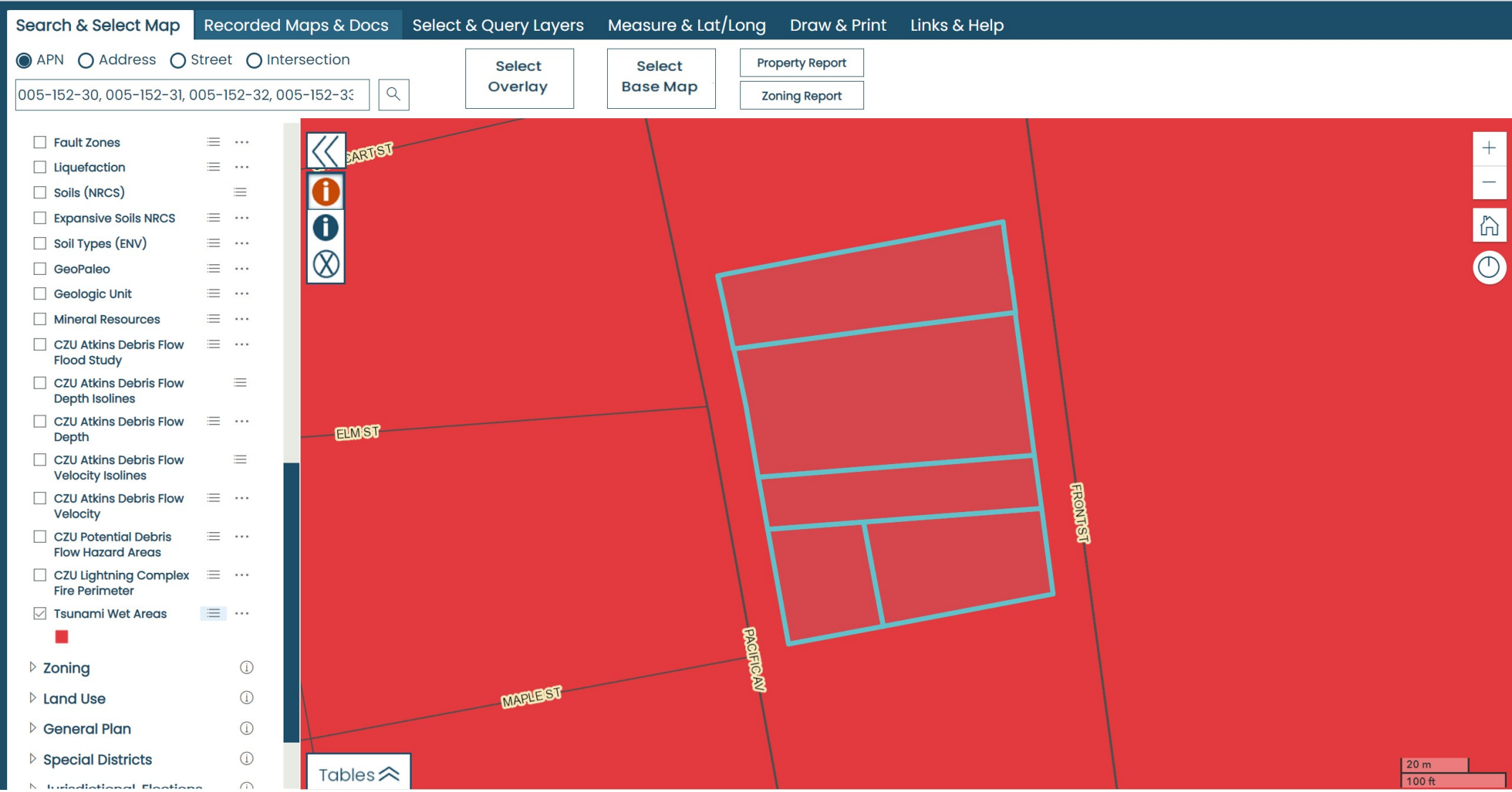
0 0.75 1.5 Miles



Legend

- City Limits
- UCSC
- Tsunami Inundation Zone

TSUNAMI COASTAL INUNDATION Source:
State of California Emergency Management Agency
University of Southern California Tsunami Research Center
http://cms.calema.ca.gov/prep_earthquake_andTsunami.aspx


Search & Select Map
Recorded Maps & Docs
Select & Query Layers
Measure & Lat/Long
Draw & Print
Links & Help
APN
Address
Street
Intersection
005-152-30, 005-152-31, 005-152-32, 005-152-33
Select Overlay
Select Base Map
Property Report
Zoning Report
Fault Zones
Liquefaction
Soils (NRCS)
Expansive Soils NRCS
Soil Types (ENV)
GeoPaleo
Geologic Unit
Mineral Resources
CZU Atkins Debris Flow Flood Study
CZU Atkins Debris Flow Depth Isolines
CZU Atkins Debris Flow Depth
CZU Atkins Debris Flow Velocity Isolines
CZU Atkins Debris Flow Velocity
CZU Potential Debris Flow Hazard Areas
CZU Lightning Complex Fire Perimeter
Tsunami Wet Areas
Zoning
Land Use
General Plan
Special Districts
CART ST
ELM ST
MAPLE ST
PACIFIC AV
FRONT ST
Tables
20 m
100 ft



Map Scale: 1:793 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 10 20 40 60

Feet
0 35 70 140 210

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

Soil Rating Polygons

- 0 - 5
- 5 - 15
- 15 - 45
- 45 - 60
- 60 - 100
- Not rated or not available

Soil Rating Lines

- 0 - 5
- 5 - 15
- 15 - 45
- 45 - 60
- 60 - 100
- Not rated or not available

Soil Rating Points

- 0 - 5
- 5 - 15
- 15 - 45
- 45 - 60
- 60 - 100
- Not rated or not available

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Santa Cruz County, California
Survey Area Data: Version 15, Sep 9, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Apr 13, 2020—Apr 24, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Representative Slope

Map unit symbol	Map unit name	Rating (percent)	Acres in AOI	Percent of AOI
104	Baywood loamy sand, 0 to 2 percent slopes	1.0	2.3	100.0%
Totals for Area of Interest			**2.3**	**100.0%**

Description

Slope gradient is the difference in elevation between two points, expressed as a percentage of the distance between those points.

The slope gradient is actually recorded as three separate values in the database. A low value and a high value indicate the range of this attribute for the soil component. A "representative" value indicates the expected value of this attribute for the component. For this soil property, only the representative value is used.

Rating Options

Units of Measure: percent

Aggregation Method: Dominant Component

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Interpret Nulls as Zero: No

APN Address Street Intersection

005-152-30, 005-152-31, 005-152-32, 005-152-33

Select Overlay

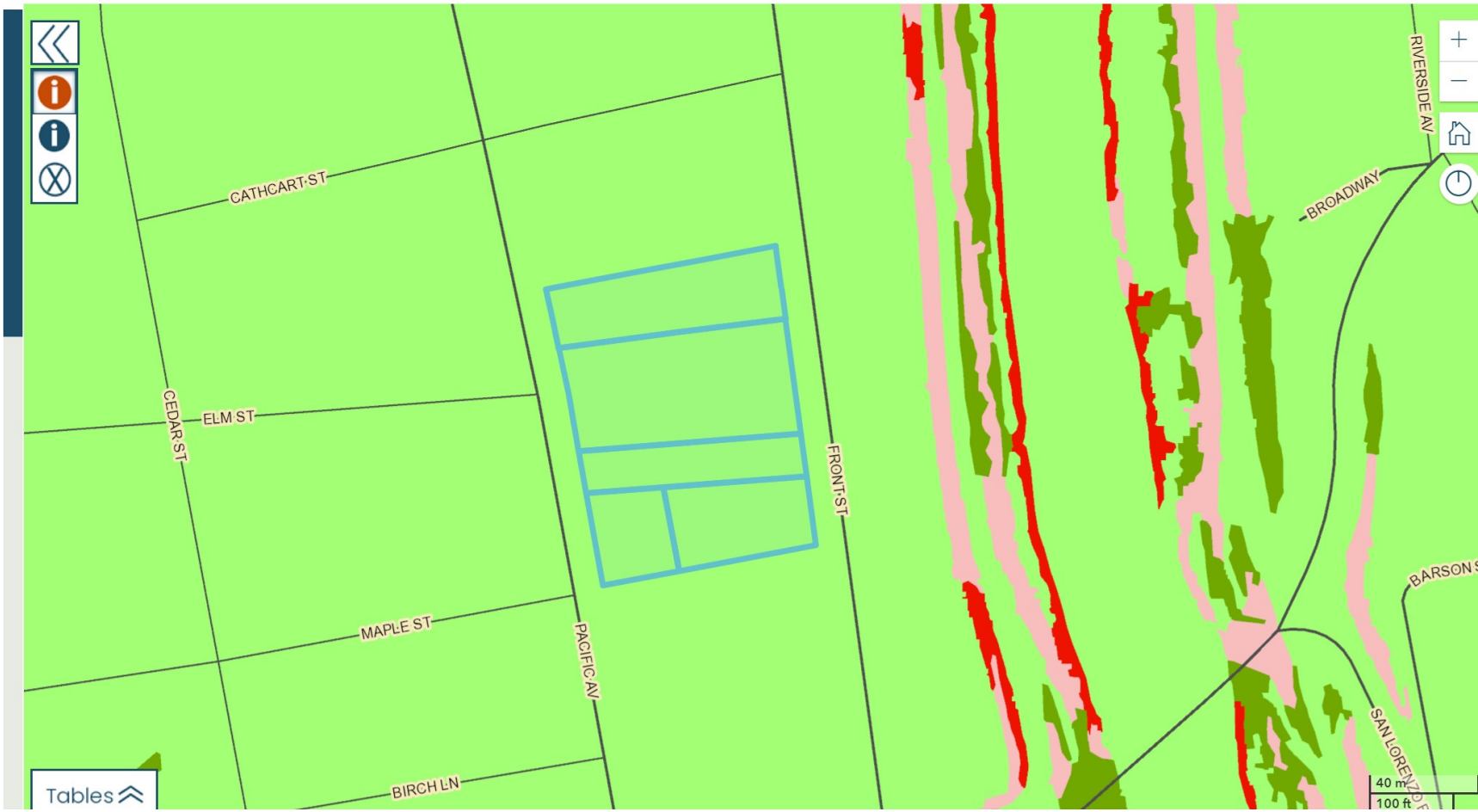
Select Base Map

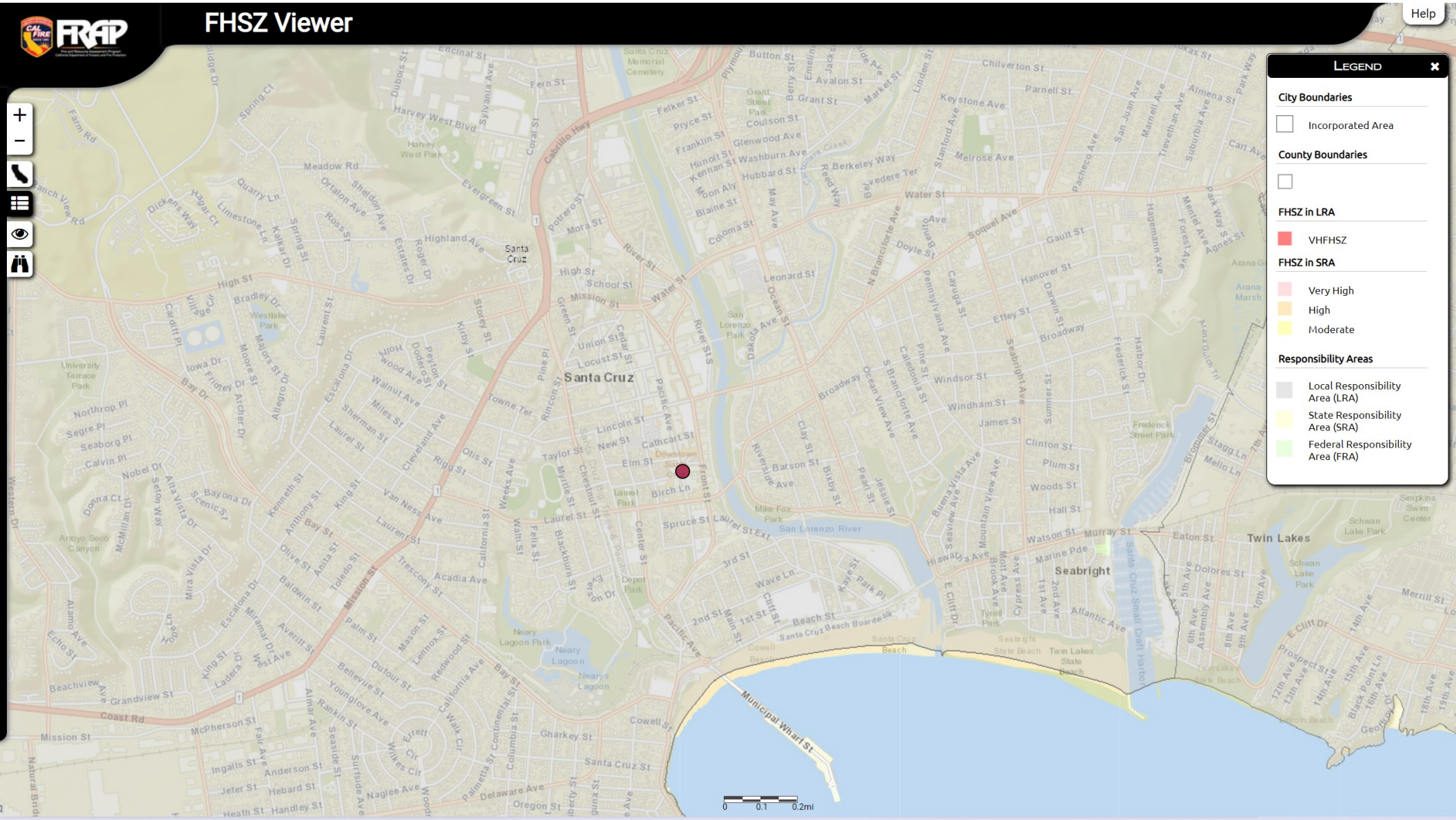
Property Report

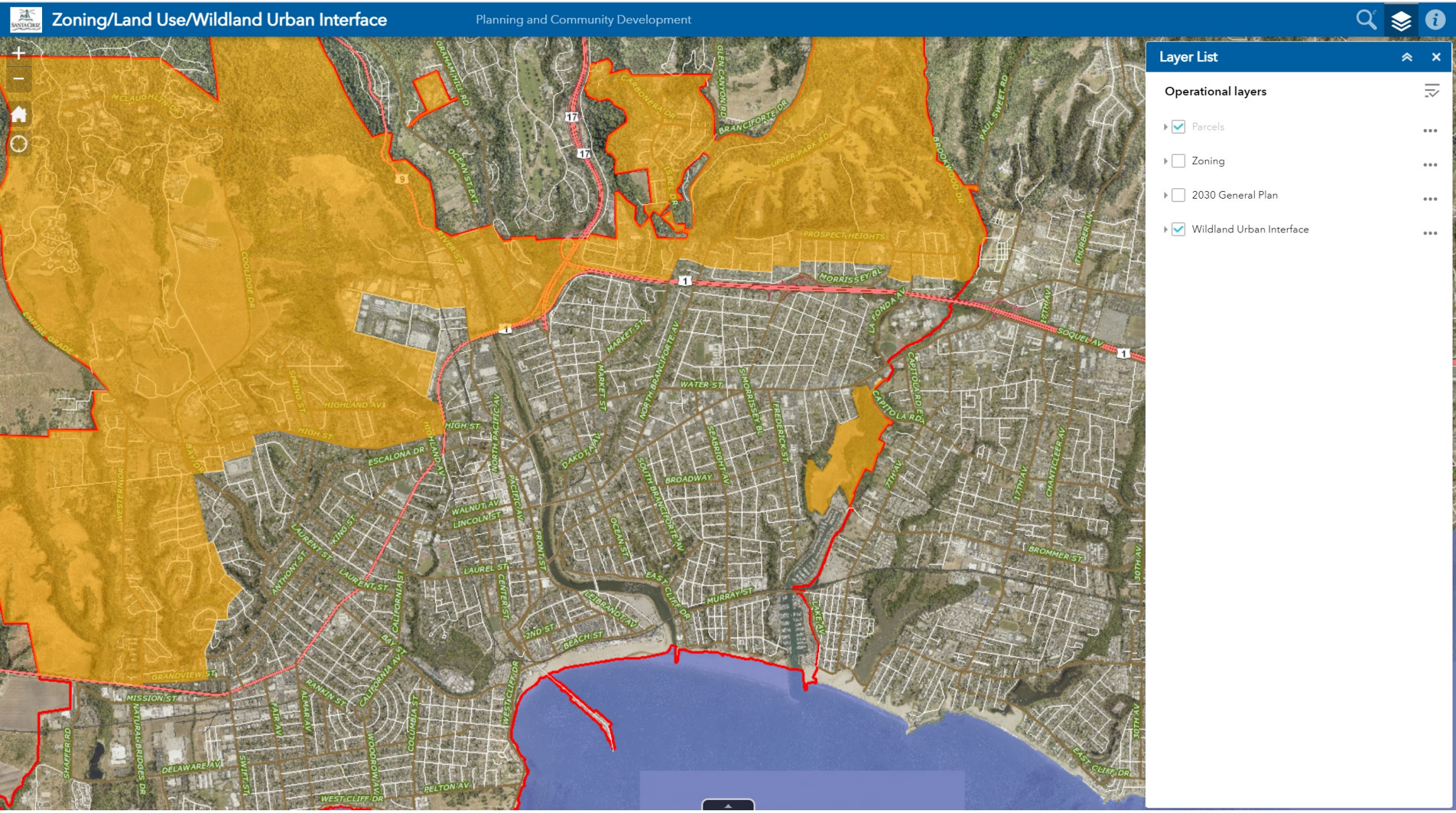
Zoning Report

Legend

- Parcel Related
- Transportation
- Biotic and Water Resources
- Hazards and Geophysical
  - CountyWideContours
  - Slope (PLN)
    - 0 to 15%
    - 15 to 30%
    - 30 to 50%
    - Greater Than 50%
  - Slope (ENV)
  - Fire Hazard Areas
  - State Response Areas
  - FEMA DFIRM Panel
  - FEMA DFIRM Benchmarks
  - FEMA DFIRM Cross-sections
  - FEMA VE Cross Sections
  - FEMA VE Elevations
  - FEMA DFIRM Base Flow
  - FEMA LOMAs and Certificates
  - FEMA DFIRM LOMR
  - FEMA Floodway
  - FEMA Insurance Zones
  - Geologic Reports




FHSZ Viewer
Help
Legend
City Boundaries
Incorporated Area
County Boundaries
FHSZ in LRA
VHFHSZ
FHSZ in SRA
Very High
High
Moderate
Responsibility Areas
Local Responsibility Area (LRA)
State Responsibility Area (SRA)
Federal Responsibility Area (FRA)
Santa Cruz
Seabright
Twin Lakes
Municipal Wharf St
0 0.1 0.2mi


Zoning/Land Use/Wildland Urban Interface
Planning and Community Development
Layer List
Operational layers
Parcels
Zoning
2030 General Plan
Wildland Urban Interface
MORRISSEY BL
SOQUEL AV
WATER ST
BROADWAY
MURRAY ST
EAST CLIFF DR
WEST CLIFF DR
HIGH ST
MISSION ST
GRANDVIEW ST
DELAWARE AV
PROSPECT HEIGHTS
UPPER PARK RD
BRANCIFORTE DR
GLEN CANYON RD
PAUL SWEET RD
BROOKWOOD DR
MARKET ST
NORTH BRANCIFORTE AV
SOUTH BRANCIFORTE AV
SEABRIGHT AV
FREDERICK ST
CAPITOLA RD
CAMITO LA RD
LA FONDA AV
17TH AV
7TH AV
BROMMER ST
CHANTICLEER AV
LAUREL ST
LINCOLN ST
WALNUT AV
ESCALONA DR
HIGHLAND AV
PACIFIC AV
OCEAN ST
FRONT ST
CENTER ST
2ND ST
BEACH ST
LEIBRANDT AV
DAKOTA AV
LAKE AV
30TH AV
CALIFORNIA ST
BAY ST
RANKIN ST
ALMAR AV
FAIR AV
SWIFT ST
COLUMBIA ST
WOODROW AV
SEACLIFF DR
RELTON AV
SHAFFER RD
NATURAL BRIDGES DR
LAURENT ST
KING ST
ANTHONY ST
WESTERNION
COOLIDGE DR
EMPIRE GRADE
SPRING ST
BAY DR
HIGHLAND AV
M CLAUGHLIN DR
GRAHAM HILL RD
OCEAN ST EXT
RIVER ST
CARBONERA DR
ISBEL DR
ITHURBER LN
1
9
17

SUMMARY OF FRONT STREET RIVERFRONT DEVELOPMENT STANDARDS

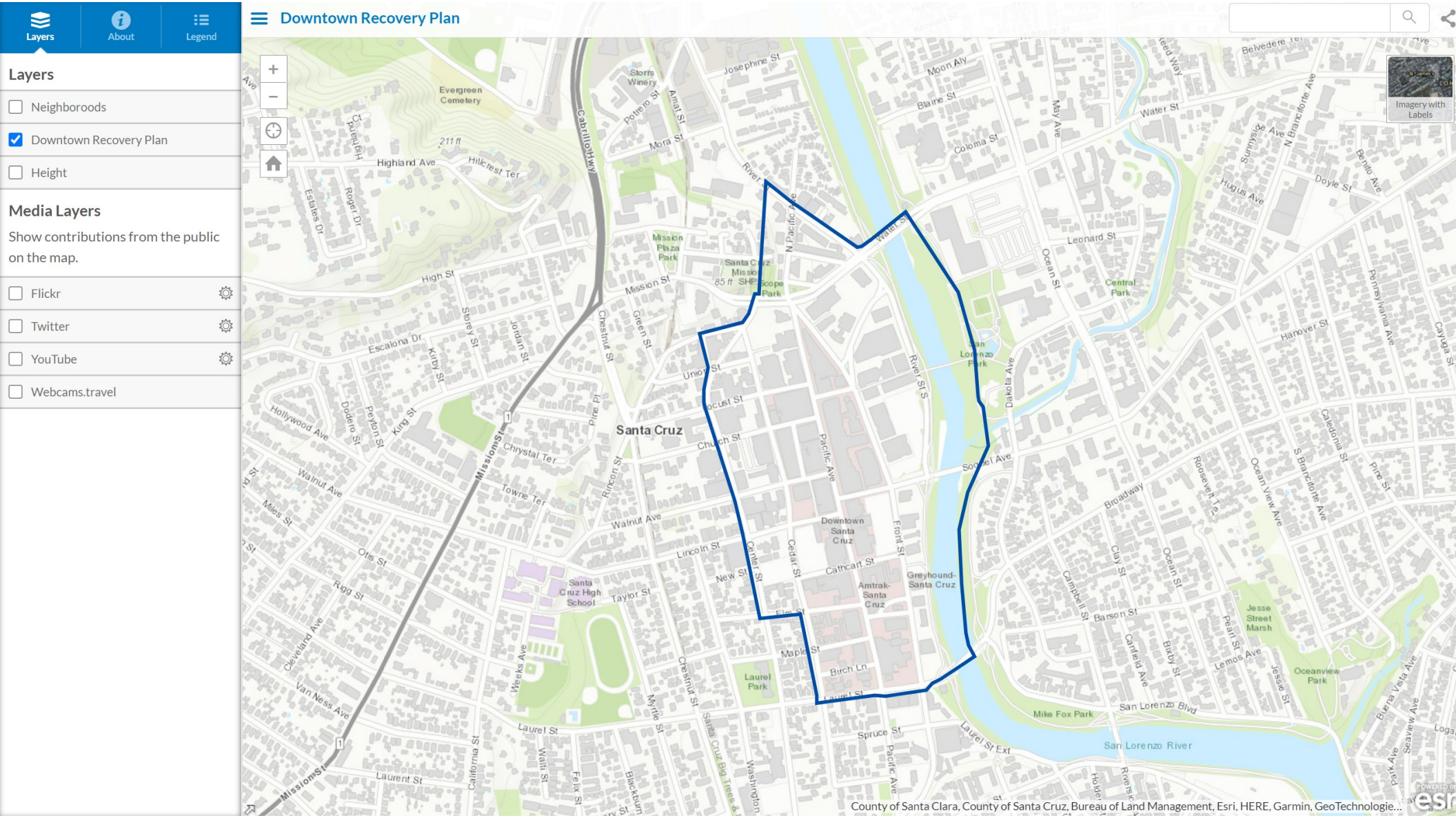
	Existing	Proposed
Base Height	50' (max)	No change to maximum base height.
Building Uses within Base Height:	3 floors of commercial, or 3 floors of residential above 1 level of commercial.	No maximum floors specified, just need to comply with Building Code.
Additional Height	Additional height not permitted south of Metro Center.	Establish Additional Height Zone B, between Soquel Avenue and Laurel Street. Allow buildings up to 70 feet for properties that meet specific Performance Criteria that promote high quality public access to the river, appropriate treatment of the riverfront edge and commitment to manage and maintain riverfront open space.
Ground Level Uses	Commercial uses required along Front Street.	Add live-work as a permitted ground level use along Front Street.
Building Stepbacks	Any development above 35' is required to step back at least 10' from the street.	Require at least 50% of Front and Laurel Street frontages to step back by 10 feet above a height of 50 feet. Require a stepback of 10 feet above 50 feet on frontages facing the Riverwalk.
Building Stepbacks	Any development above 35' is required to step back at least 10' from the street.	Buildings Adjacent to River Street, east-west streets, and publicly accessible passageways shall step back at least 10 feet from the street for any height above 35 feet.
Upper Level Standards	Not specified in current plan.	Require top floor area to not exceed 60% of the site area if the project includes a publicly accessible passageway to the river. If no passageway is included within the project, require the top floor to not exceed 60% of the floor are below.
Public Connections to River	No specific standard. Guidelines ask for pedestrian access between Front Street and the Riverwalk.	Require all new development to physically dedicate and/or to make a fair share financial contribution to the creation of publicly accessible connections along or near the extensions of Cathcart, Maple and Elm Streets, at widths of 60, 50 and 40 feet respectively.
Building Length and Setbacks	No standard.	Limit a building to 250' of lineal street frontage. Between buildings, a minimum 30' break between buildings must be provided.
Riverfront Treatment	No specific standard. Guidelines recommend provision of public seating, outdoor eating areas, and residential garden space overlooking the promenade.	Require all new riverfront development to coordinate with City and Army Corps to fill between the building wall and levee. Negotiate easements for the filled area to create a positive open space relationship with the Riverwalk.
Parking	The top deck of structured and encapsulated parking must be below the Riverwalk promenade elevation. Residential parking is required on-site.	The top deck of structured and encapsulated parking may be up to 5 feet above the Riverwalk promenade elevation, if high quality public access is provided per the Performance Criteria. Allow up to 100% of residential parking to be off-site.
Service Access	New access driveways are strongly discouraged.	Limit on-site driveways to one per property with 200 foot spacing where possible.

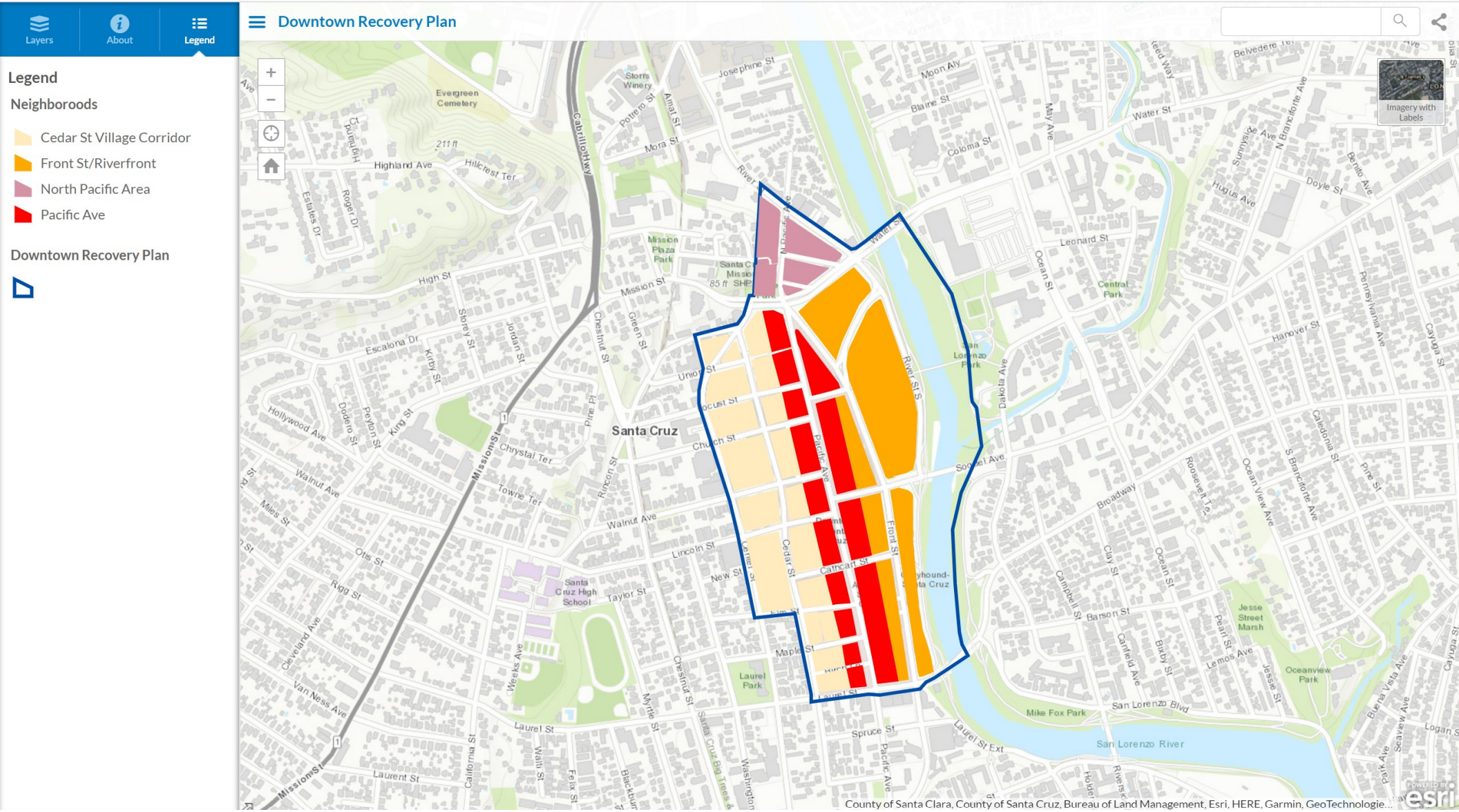
Last Updated: November 6, 2017

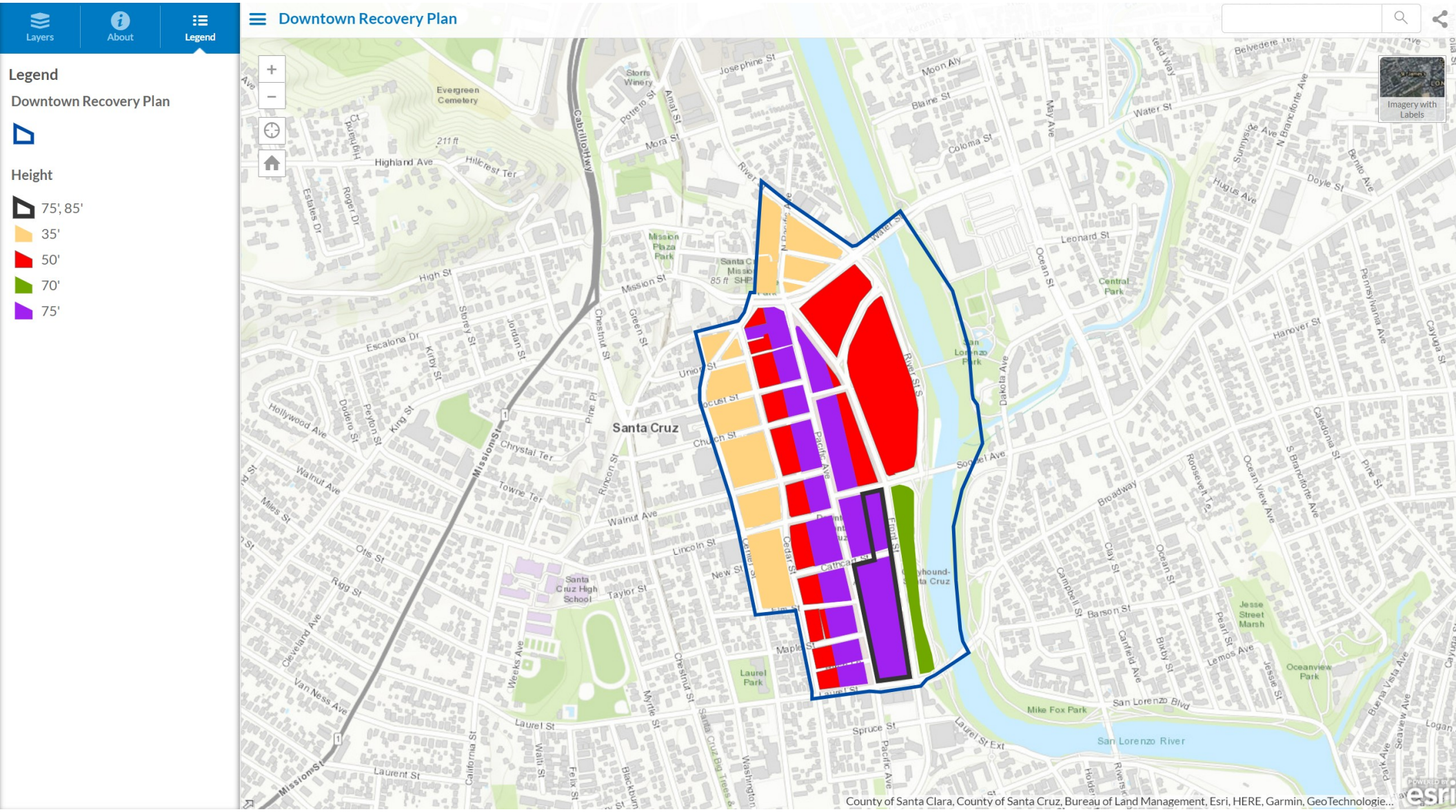
SUMMARY OF PACIFIC AVENUE RETAIL DISTRICT DEVELOPMENT STANDARDS

	Existing	Proposed
Base Height	50' (max)	Increase to 55' (max)
Building Uses within Base Height:	3 floors of commercial, or 3 floors of residential above 1 level of commercial.	No maximum floors specified, just need to comply with Building Code.
Additional Height	Additional height not permitted south of Metro Center. 75' maximum height for properties eligible for additional height north of Metro Center. Project sites eligible for additional height must be at least 20,000 square feet in size.	Extend Additional Height zone south of Soquel Avenue to Laurel Street. Allow up to 60% of site area to be 75 feet in height and up to 20% of site up to 85' for eligible properties, subject to massing standards. Project sites eligible for additional height must be at least 15,000 square feet in size.
Building Uses within Additional Height Zone.	Maximum of 5 levels of commercial and 5 levels of residential above 1 level of required pedestrian-oriented ground level commercial.	Allow 6 levels of residential development above 1 level of required pedestrian-oriented ground level commercial.
Additional Height Stepbacks on Pacific Avenue	On west side, setback above 50' to create 42° solar access plane to opposite sidewalk. On east side setback so that no more than 30% of additional height is visible.	Replace terraced stepbacks with volumetric massing standards that avoid large monolithic buildings. Limit additional height to: a footprint no greater than 60% of the total site area with two-story variation between building masses. Limit additional height to • a maximum of 55% of Pacific Avenue frontage or 200' whichever is less, • 60% of east-west street frontages or 130', • 60% of Front Street frontages or 180', • and 50% of the Maple Avenue Paseo frontage. Provide recessed space with 15' minimum depth and 25' width to distinguish between volumes. Treat this recessed space in a manner that creates a positive pedestrian/streetscape environment.
Additional Height Stepbacks on East-West Streets	Setback above 50' to create 52° solar access plane to opposite sidewalk.	
Additional Height Stepbacks on Front Street	Not applicable. Maximum height along Front Street is 50'.	
Public Connections between Pacific Ave and Front St.	No specific requirements. All buildings are built to the property line of the street with some exceptions. No interior sideyard setbacks stipulated.	Require all new development to physically dedicate and/or to make a fair share financial contribution to the creation of publicly accessible connections along or near the extension of Maple (50 feet) and Elm (40 feet) Streets. Require upper level stepbacks of 10 feet above 50 feet. A recessed break, open to the sky, is required along Maple Street of no less than 25 feet in width with a depth of at least 10 feet.
Ground Level Conditional Uses Along Front Street	Ground level parking not listed as a permitted or conditional use along Front Street.	Allow ground level parking as a conditional (or administrative use), if it meets certain criteria (provision of some public parking, garage doesn't extend to street corners, one curb cut per garage.

Last Updated: November 6, 2017


Layers
About
Legend
Layers
Neighboroods
Downtown Recovery Plan
Height
Media Layers
Show contributions from the public on the map.
Flickr
Twitter
YouTube
Webcams.travel
Downtown Recovery Plan
Imagery with Labels
Santa Cruz
Evergreen Cemetery
Storrs Winery
Highland Ave
Hillcrest Ter
Mission Plaza Park
Santa Cruz Mission SHP
Lighthouse Point Park
Mission St
High St
Escalona Dr
Union St
Locust St
Church St
Pacific Ave
Cedar St
Front St
Water St
Laurel Park
Santa Cruz High School
Downtown Santa Cruz
Amtrak-Santa Cruz
Greyhound-Santa Cruz
Central Park
San Lorenzo Park
Jesse Street Marsh
Oceanview Park
Mike Fox Park
San Lorenzo River
Laurel St
Walnut Ave
Soquel Ave
Broadway
Leonard St
Water St
Highway 1
Chestnut St
Ocean St
River St
Laurel St Ext
San Lorenzo Blvd
County of Santa Clara, County of Santa Cruz, Bureau of Land Management, Esri, HERE, Garmin, GeoTechnologie...


Layers
About
Legend
Legend
Neighboroods
Cedar St Village Corridor
Front St/Riverfront
North Pacific Area
Pacific Ave
Downtown Recovery Plan
Downtown Recovery Plan
Imagery with Labels
Santa Cruz
Mission St
Pacific Ave
Cedar St
Front St
River St S
Water St
Laurel Park
Mike Fox Park
San Lorenzo River
Santa Cruz High School
Evergreen Cemetery
Central Park
Jesse Street Marsh
Oceanview Park
County of Santa Clara, County of Santa Cruz, Bureau of Land Management, Esri, HERE, Garmin, GeoTechnologie...


Layers
About
Legend
Legend
Downtown Recovery Plan
Height
75', 85'
35'
50'
70'
75'
Downtown Recovery Plan
Imagery with Labels
Santa Cruz
Santa Cruz High School
Laurel Park
Mission Plaza Park
San Lorenzo Park
Central Park
Jesse Street Marsh
Oceanview Park
Mike Fox Park
San Lorenzo River
Evergreen Cemetery
Storrs Winery
Highland Ave
Hillcrest Ter
Josephine St
Moon Ally
Blaine St
Water St
Coloma St
May Ave
Leonard St
Ocean St
Doyle St
Hanover St
Pennsylvania Ave
Cayuga St
Benito Ave
Hugus Ave
Sunnyside Ave
N Branciforte Ave
Belvedere Ter
Reed Way
Mora St
Amat St
Potrero St
Gabrillo Hwy
River St
N Pacific Ave
Mission St
High St
Escalona Dr
Storey St
Kirby St
Jordan St
Estates Dr
Roger Dr
Ct
Chestnut St
Green St
Union St
Locust St
Church St
Pine Pl
Rincon St
Pacific Ave
Front St
Cedar St
Cathcart St
Water St
Soquel Ave
Dakota Ave
Broadway
Roosevelt Ter
Ocean View Ave
S Branciforte Ave
Caledonia St
Pine St
Hollywood Ave
Doddero St
Peyton St
King St
Chrystal Ter
Towne Ter
Walnut Ave
Miles St
Otis St
Rigg St
Cleveland Ave
Van Ness Ave
Laurent St
Taylor St
Lincoln St
New St
Maple St
Laurel St
Spruce St
Myrtle St
Weeks Ave
Walti St
Felix St
California St
Blackburn St
Santa Cruz Big Trees &
Washington
Pacific Ave
Laurel St Ext
San Lorenzo Blvd
Clay St
Campbell St
Barson St
Cantfield Ave
Bixby St
Pearl St
Lemos Ave
Jesse St
Buena Vista Ave
Seaview Ave
Park Ave
Logan
Mission St
Missions St
211 ft
85 ft SHP
County of Santa Clara, County of Santa Cruz, Bureau of Land Management, Esri, HERE, Garmin, GeoTechnologie...
esri