

# Environmental Assessment (NEPA) Initial Study (CEQA)



## ROUTE 101 AUXILIARY LANES PROJECT Third Avenue to Millbrae Avenue San Mateo County, California

State of California, Department of Transportation

and

U.S. Department of Transportation, Federal Highway Administration

June 2003

# **General Information About This Document**

## **What's in this document?**

This document is a combined Environmental Assessment/Initial Study (EA/IS), which has been prepared to fulfill the requirements of the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA), respectively.

The EA/IS examines the potential environmental impacts of the proposed Route 101 Auxiliary Lanes Project [Third Avenue to Millbrae Avenue] located in San Mateo County, California. This document describes why the project is being proposed, the existing environment that could be affected by the project, potential impacts from the project, and measures to avoid, minimize, or mitigate impacts to the natural and human environment.

## **What should you do?**

- Please read this EA/IS.
- We welcome your comments. If you have any concerns regarding the proposed project, please submit your comments via regular mail to:

James McKim, Senior Engineer  
San Mateo County Transportation Authority  
1250 San Carlos Avenue  
San Carlos, CA 94070-1306

## **What happens after this?**

After comments are received from the public and reviewing agencies, FHWA/Caltrans may (1) give environmental approval to the proposed project, (2) undertake additional environmental studies, or (3) abandon the project. If the project were to be given environmental approval and funding was provided as planned, the project could be designed and constructed.

**(PROPOSED)**  
**NEGATIVE DECLARATION (CEQA)**

Pursuant to: Division 13, Public Resources Code

Description

The California Department of Transportation (Caltrans), in cooperation with the San Mateo County Transportation Authority (SMCTA), is proposing to construct an auxiliary lane in each direction on U.S. Route 101 from Third Avenue in the City of San Mateo to just south of Millbrae Avenue in the City of Burlingame. The project also includes the reconstruction of the Route 101/Peninsula Avenue interchange and Monte Diablo Pedestrian/Bicycle Overcrossing, as well as construction of a new pedestrian/bicycle overcrossing south of the Broadway Avenue Overcrossing. Soundwalls are also included in the project for noise abatement.

Determination

An Initial Study has been prepared for this proposed project, and on the basis of this study, it is determined that there will be no significant effect upon the environment for the following reasons:

1. The project will have no significant effect on topography, seismic exposures, or erosion.
2. The project will not significantly affect air quality, noise, energy, solid waste, or use of natural resources.
3. With mitigation proposed as part of the project, there will be no significant effect on floodplains.
4. With mitigation proposed as part of the project, there will be no significant effect on endangered or threatened species.
5. The project will not have a significant effect on wetlands or riparian habitat.
6. With mitigation proposed as part of the project, there will be no significant effects during construction.
7. With mitigation proposed as part of the project, there will be no significant visual or aesthetic effects.
8. With mitigation proposed as part of the project, there will be no significant hazardous materials effects.
9. The project will have no effect on cultural resources.
10. The project will have no effect on agriculture or timber.
11. The project will not significantly affect land use or area growth.
12. The project will not affect business, industry, economy, or employment.

\_\_\_\_\_  
SUSAN CHANG, Deputy District Director  
Environmental Division  
California Department of Transportation

\_\_\_\_\_  
Date

# ENVIRONMENTAL ASSESSMENT (NEPA) INITIAL STUDY (CEQA)

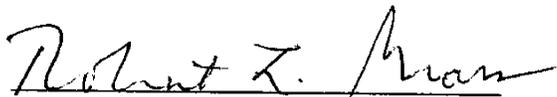
**Route 101 Auxiliary Lanes Project  
[Third Avenue to Millbrae Avenue]  
San Mateo County, California**

**State of California, Department of Transportation**

**and**

**U.S. Department of Transportation, Federal Highway Administration**

**Pursuant to: 42 U.S.C. 4332(2)(c)  
Public Resources Code 21000**



ROBERT L. GROSS, Chief  
Office of Environmental Analysis  
California Department of Transportation

6/11/03  
Date

*for* 

GARY N. HAMBY  
Division Administrator  
Federal Highway Administration

7-03-03  
Date

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# **CHAPTER 1. PROPOSED PROJECT**

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## **1.1 PROJECT DESCRIPTION**

The proposed project is located on U.S. Route 101, the Bayshore Freeway, in San Mateo County, California. As shown on Figures 1 and 2, the project limits extend from Third Avenue in the City of San Mateo to just south of Millbrae Avenue in the City of Burlingame, a distance of approximately 7.1 kilometers (4.4 miles).

The proposed project would be implemented by the California Department of Transportation (Caltrans) in cooperation with the San Mateo County Transportation Authority. The proposed project would consist of the following:

- Construction of auxiliary lanes in both directions of Route 101 between Third Avenue and just south of Millbrae Avenue;
- Reconstruction of the Route 101/Peninsula Avenue interchange and overcrossing to provide sufficient clearance between the columns for the proposed auxiliary lanes and to improve the operation of the interchange. The new Peninsula Avenue overcrossing would be a 4-lane structure, with pedestrian/bike access across the freeway;
- Reconstruction of the Monte Diablo Pedestrian/Bicycle Overcrossing to provide sufficient clearance between the columns for the auxiliary lanes;
- Construction of a new Pedestrian/Bicycle Overcrossing south of the existing Broadway Avenue overcrossing;
- Installation of ramp-metering equipment; and
- Construction of noise abatement soundwalls.

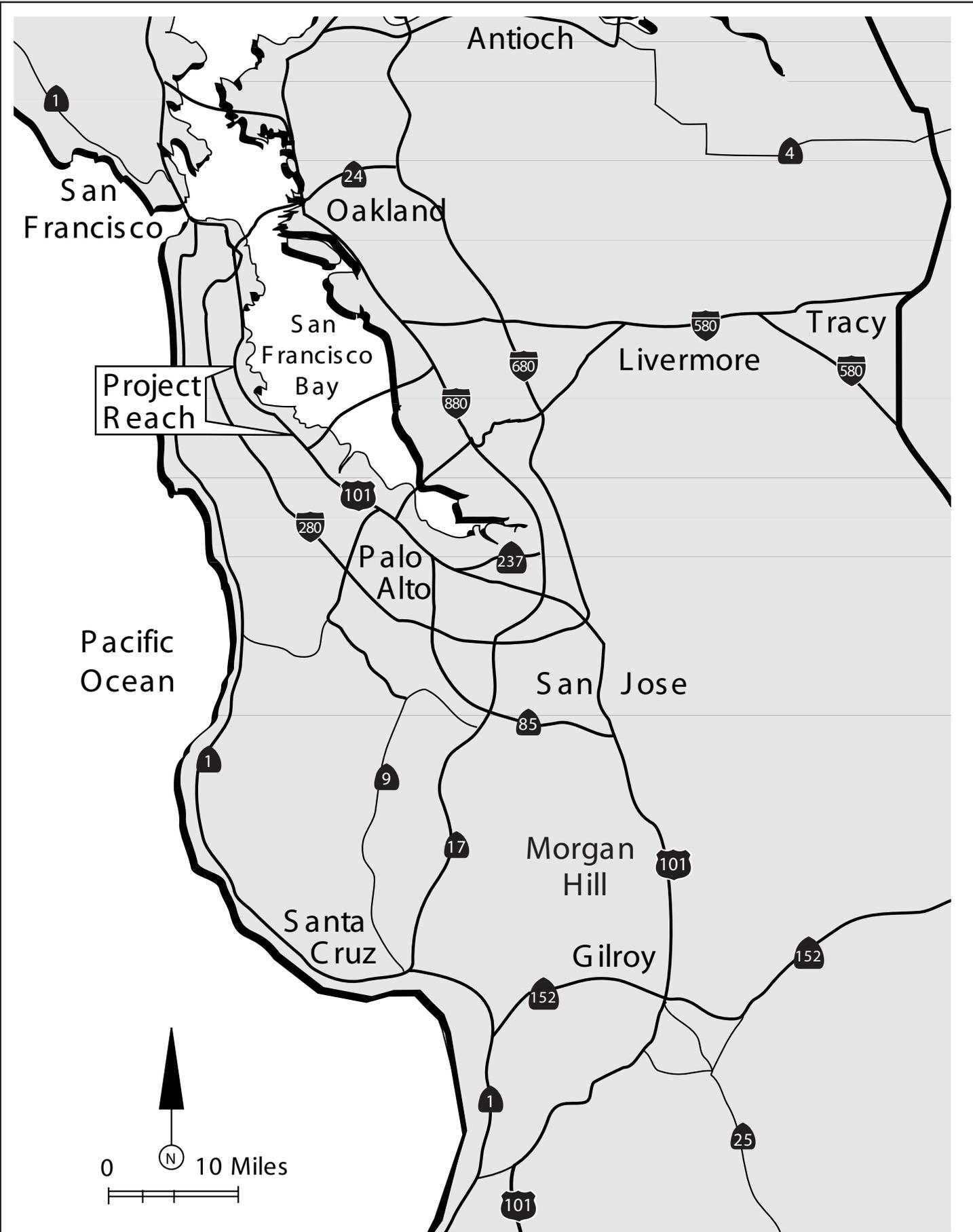
Details regarding each of these project components are provided below.

### **Construction of Northbound and Southbound Auxiliary Lanes<sup>1</sup>**

This component of the Project would provide auxiliary lanes in both directions of Route 101 from Third Avenue to Millbrae Avenue, as shown on Figures 3A-3C. The auxiliary lanes would be constructed at the following locations:

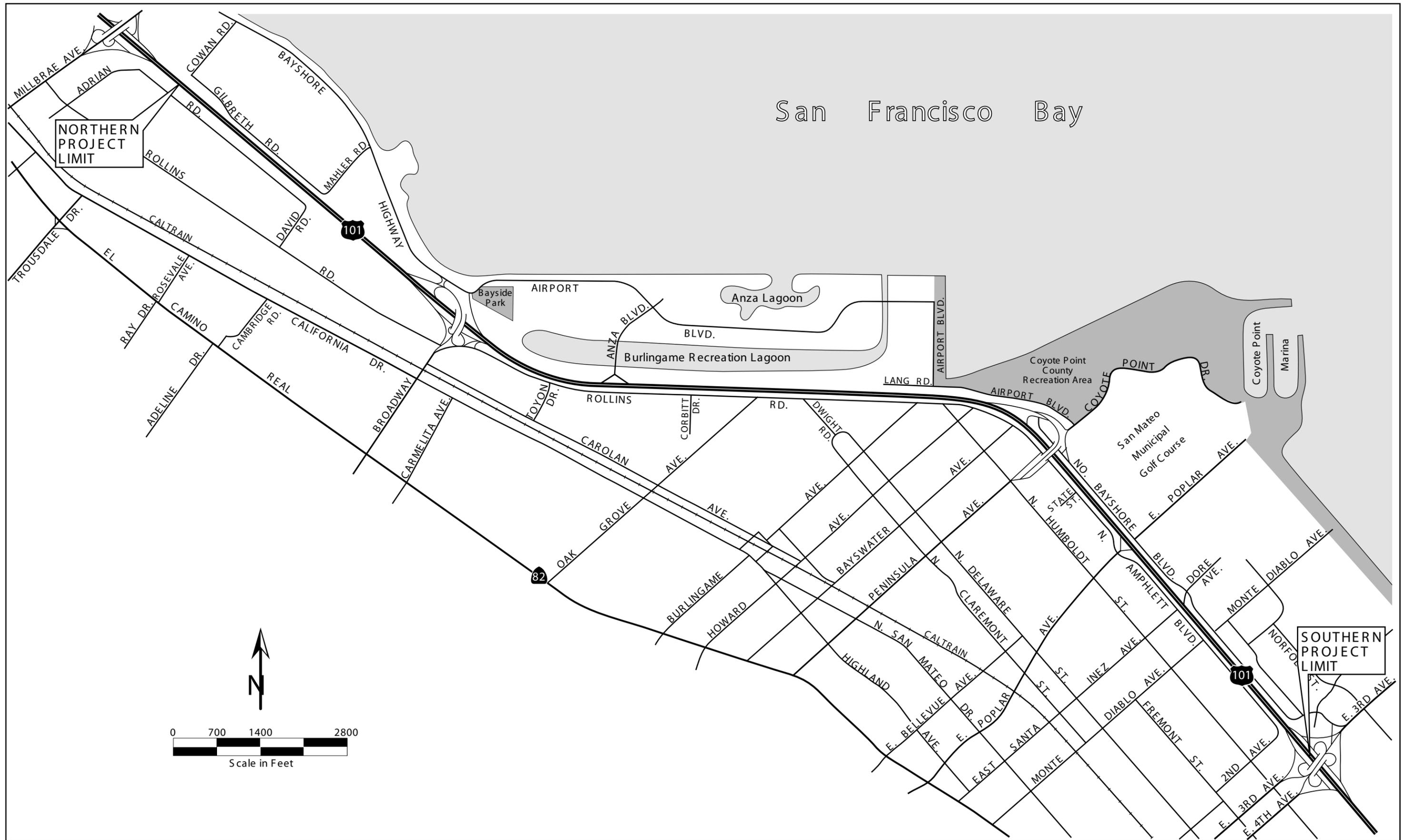
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<sup>1</sup>An auxiliary lane typically extends between two adjacent interchanges. It improves weaving and overall freeway operations. It is not a "thru" lane; traffic in an auxiliary lane must either merge into the adjacent thru lane or exit the freeway at the next off-ramp.



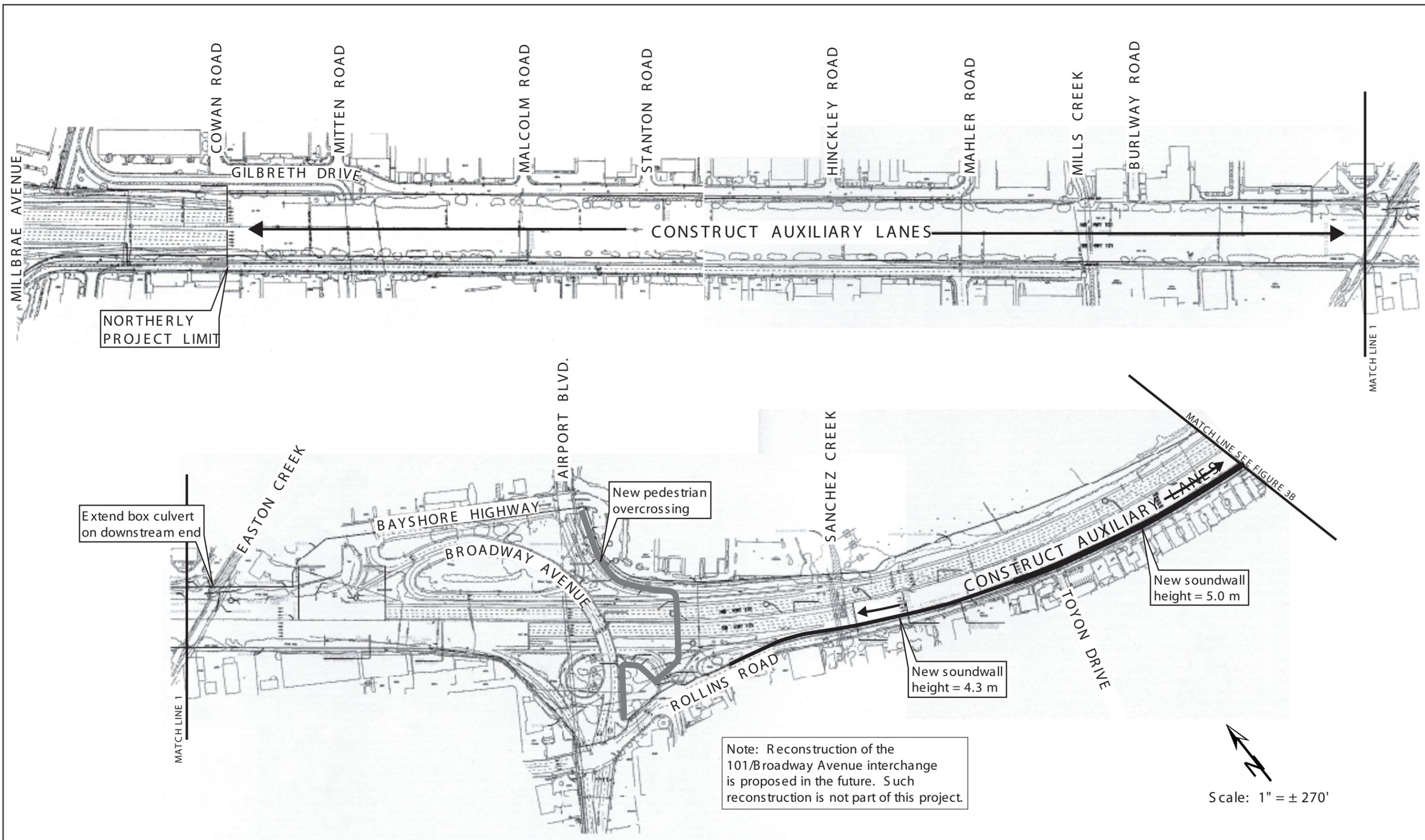
REGIONAL MAP

FIGURE 1



VICINITY MAP

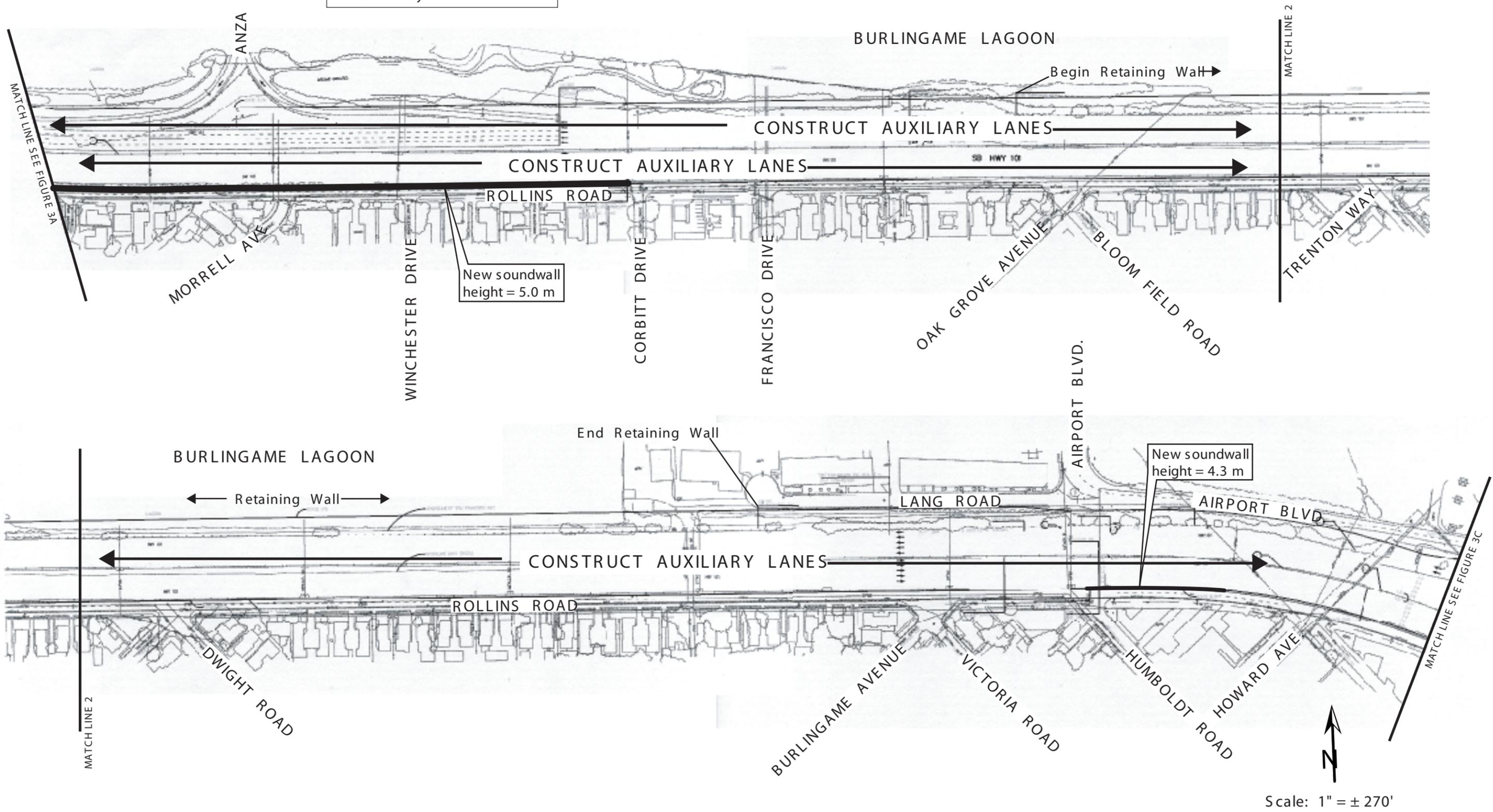
FIGURE 2



PROJECT PLANS: NORTH SEGMENT

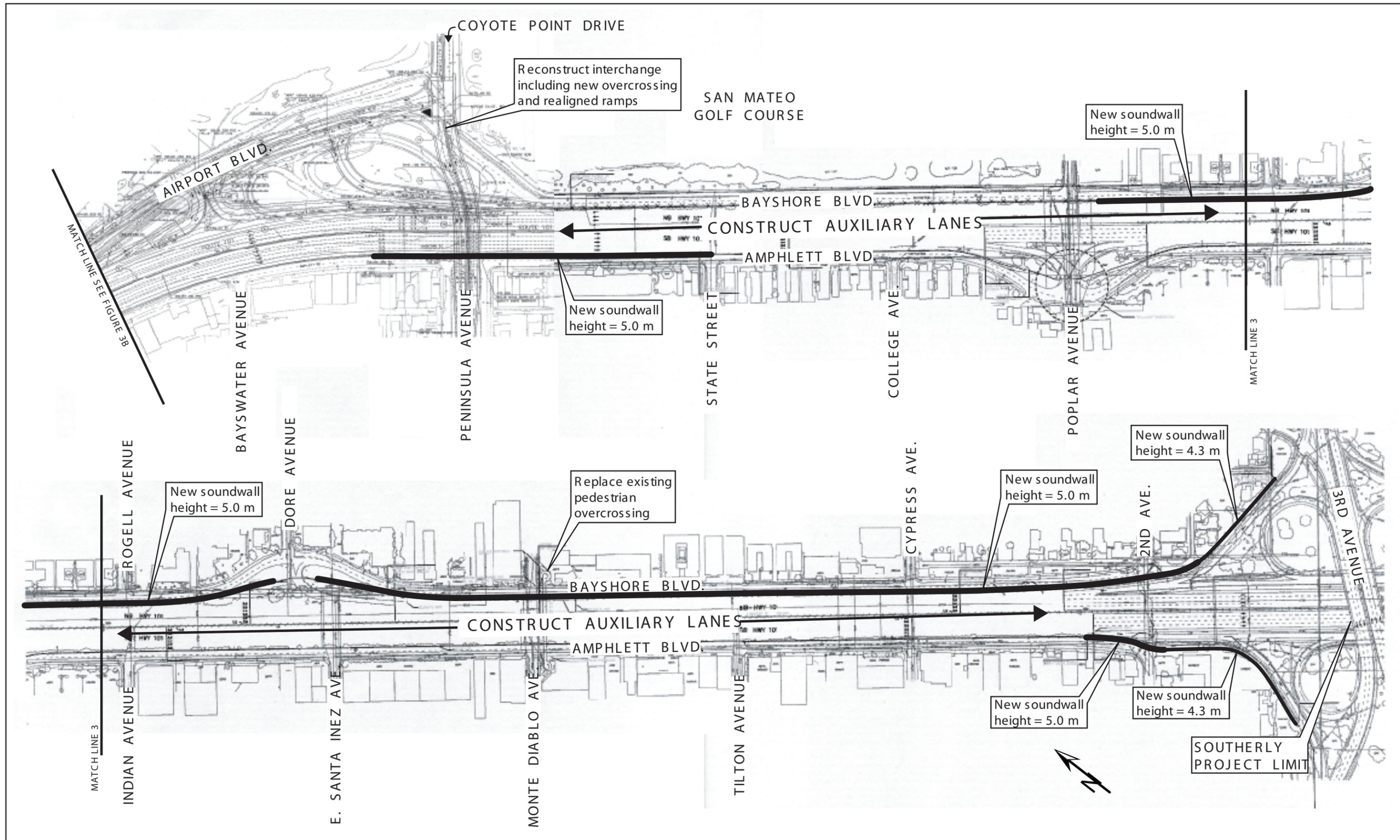
FIGURE 3A

Note: In the northbound direction, an auxiliary lane already exists on U.S. 101 between Anza Boulevard and Broadway Avenue.



PROJECT PLANS: CENTRAL SEGMENT

FIGURE 3B



PROJECT PLANS: SOUTH SEGMENT

FIGURE 3C

**Northbound**

From Third Avenue on-ramp to Peninsula Avenue off-ramp;  
From Peninsula Avenue on-ramp to Broadway Avenue off-ramp; and  
From Broadway Avenue on-ramp to Millbrae Avenue off-ramp

**Southbound**

From Millbrae on-ramp to Broadway Avenue off-ramp;  
From Broadway Avenue on-ramp to Poplar Avenue off-ramp; and  
From Poplar Avenue on-ramp to Third Avenue off-ramp

Construction of the auxiliary lanes will occur within the existing Caltrans right-of-way.

In order to accommodate these improvements, the existing culvert that conveys Easton Creek (Figure 3A) under Route 101 will be extended eastward by approximately 11 meters (36.1 ft).

The auxiliary lanes will require the construction of a retaining wall immediately adjacent to the Burlingame Recreational Lagoon. The retaining wall will extend from north of Peninsula Avenue to south of Anza Boulevard for a total length of approximately 700 meters (2,300 feet). It will have visual openings (see Figure 14 in Section 2.1.6) to allow oncoming traffic to have views of the lagoon. Although the retaining wall would be immediately adjacent to the lagoon, it would not be within the U.S. Army Corps of Engineers (USACE) jurisdiction.

**Reconstruction of the Route 101/Peninsula Avenue Interchange**

This existing interchange would be reconstructed to accommodate the widening of Route 101, to improve traffic operations, and to improve pedestrian/bicycle circulation. The existing ramps to and from northbound Route 101 will be reconstructed and the existing bridge will be replaced with a new 4-lane structure.

The westside of the Peninsula Avenue overcrossing will intersect with Humboldt Street at a four-way signalized intersection. The overcrossing will then continue to the eastside with a slight curved alignment to avoid encroachment into the San Mateo Golf Course. Airport Boulevard will be realigned and widened to four-lanes to provide storage capacity for traffic moving to and from the northbound on- and off-ramps.

Three intersections will be signalized: Airport Boulevard at Northbound 101 Ramps, Airport Boulevard at Peninsula Avenue/Coyote Point Drive, and Peninsula Avenue at Bayshore Boulevard.

The new Peninsula Avenue overcrossing will include bike lanes and sidewalks. These facilities will provide safe and direct access to trails at the adjacent Coyote Point Recreation Area from the residential neighborhoods located on the west side of the Route 101 freeway.

### **Reconstruction of the Monte Diablo Pedestrian Overcrossing**

The reconstruction of this pedestrian overcrossing is necessary in order to accommodate the proposed auxiliary lanes. In addition, although the existing structure has undergone seismic retrofitting, it does not conform to the current American with Disabilities Act (ADA) requirements. The existing pedestrian overcrossing would be demolished and a new structure would be constructed.

The cross-section of the new pedestrian overcrossing would be 3.6 meters (11.8 ft) wide with railings on both sides and would be a Class 1 Bikeway.<sup>2</sup>

The new Monte Diablo pedestrian overcrossing will require additional right-of-way from a parcel located on the eastside of Route 101. For further details, please see the discussion in Section 2.1.1, *Land Use*.

### **Construction of New Broadway Avenue Pedestrian Overcrossing**

This new pedestrian/bicycle overcrossing would be constructed just south of the existing Broadway Avenue overcrossing of Route 101. The alignment starts at the intersection of Rollins Road and Broadway Avenue on the westside, crosses over the freeway, and terminates at the intersection of the Broadway Avenue off-ramp with Bayshore Boulevard. The cross-section of the new pedestrian overcrossing would be 3.6 meters (11.8 ft) wide with railings on both sides. The new pedestrian/bicycle overcrossing would be a Class 1 Bikeway.

### **Installation of Ramp-metering Equipment**

The project proposes to install ramp meters at the following locations:

#### Northbound Route 101

- 1) Third Avenue on-ramp
- 2) Peninsula Avenue on-ramp
- 3) Anza Boulevard on-ramp
- 4) Broadway Avenue on-ramp

#### Southbound Route 101

- 1) Broadway Avenue on-ramp
- 2) Poplar Avenue on-ramp

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<sup>2</sup>Class 1 Bikeway - Variously called a bike path or multi-use trail. Provides for bicycle travel on a paved right-of-way completely separated from any street or highway. By definition, multi-use trails are also used by pedestrians, rollerbladers, and other user groups (San Mateo County Comprehensive Bicycle Route Plan, December 1999).

### **Construction of Noise Abatement Soundwalls**

The project includes the construction of approximately 3,000 meters (9,843 ft) of new soundwalls, ranging in height from 4.3 meters to 5 meters (14.1 ft to 16.4 ft) at various locations along Route 101. For further details, please see the discussion in Section 2.2.6, *Noise*.

## **1.2 PURPOSE AND NEED**

### **1.2.1 Purpose of the Proposed Project**

The purpose of the proposed project is to reduce the traffic congestion resulting from merging and weaving conflicts and to improve the overall freeway system performance within the Cities of San Mateo and Burlingame. This includes eliminating mainline traffic bottlenecks, reducing congestion duration, introducing ramp meters and improving safety by adding auxiliary lanes.

### **1.2.2 Need for the Proposed Project**

As described in the following paragraphs, the project segment of Route 101 currently experiences substantial congestion during the AM and PM peak commute periods. This congestion is projected to worsen as traffic volumes increase over time.

#### **Existing Conditions**

Congestion occurs within the project limits on Route 101 during both the AM and PM peak commute periods, such periods being 6 AM to 9 AM and 4 PM to 7 PM, respectively. Resulting from high traffic volumes, lane drops, and substantial merging/weaving, the operating Level of Service (LOS) on the freeway is  $\square E \square$  or  $\square F \square$  at many locations. [Note: LOS is defined on page 15.]

One method for quantifying the level of peak commute congestion involves calculating the length of time it takes for a vehicle to travel from one point to another. Such peak commute travel times can then be compared to travel times during off-peak/non-commute periods for the purpose of gauging the degree of congestion. Table 1 presents this comparison for a 10.9-kilometer (6.8-mile) segment of Route 101 that includes the proposed project. The data in Table 1 show that existing congestion on Route 101 has a direct and adverse impact on travel times.

**TABLE 1**  
**PEAK-HOUR COMMUTE TRAVEL TIMES ON ROUTE 101**  
**[Expressed in Minutes]**

	Existing Conditions	Year 2025 No Project	Year 2025 With Project
AM peak - northbound	11.6	13.8	7.4
AM peak - southbound	11.9	18.3	8.7
PM peak - northbound	11.0	13.6	7.4
PM peak - southbound	6.8	15.2	8.2
Off-peak @ 65 mph	6.3	6.3	6.3

**Note:** These travel times are for the project's study area, which extends from Millbrae Avenue on the north to State Route 92 on the south, a distance of approximately 10.9 km. (6.8 mi.).

**Source:** Rajappan & Meyer, 2001.

### Future (Year 2025) Conditions

According to the Traffic Operations Analysis Report, by year 2025 peak-hour traffic volumes on Route 101 are projected to increase by up to 10% over existing volumes. This increase will exacerbate congestion over and above that which presently occurs and, as shown in Table 1, will further increase travel times during the AM and PM peak periods.

For comparison purposes, Table 1 includes projected peak-hour travel times in 2025 with the proposed project in place. The data show the benefit of the project, whereby travel times are reduced when compared to "no project" conditions.

### Accident Data

Accident data, shown in Table 2, indicates that this segment of Route 101 has significant weaving/merging conflicts resulting in traffic backups on the mainline during peak periods. In particular, the short mainline segments between Poplar Avenue and Third Avenue ramps in the southbound direction, and the Third Avenue, Dore Avenue, and Peninsula Avenue in the northbound direction contribute to the weaving and merging difficulties for motorists. The accident data for this

segment of Route 101 show that the overall accident rates are less than the statewide average accident rates; however, there are large numbers of sideswipe and rear end accidents.

Within the project limits, the construction of auxiliary lanes will reduce the merging and weaving conflicts experienced by motorists traveling between the on- and off-ramps, thereby decreasing the number of sideswipe and rear end accidents. The auxiliary lanes will also improve operations and create a smoother flow which will also reduce the potential for accidents.

**TABLE 2**

**ROUTE 101 ACCIDENT DATA: 3RD AVENUE TO MILLBRAE AVENUE  
[7/1/98 - 6/30/99]**

<b>Collision Type</b>	<b>Total Accidents</b>	<b>% of Total Accidents</b>
Read end	365	53
Hit object <sup>1</sup>	169	24
Sideswipe	105	15
Broadside	18	3
Overturn	11	2
Head-on	2	< 1
Other	23	3
<b>Total</b>	<b>693</b>	<b>100</b>
Accidents involving Fatality	1	
Accidents involving Injury	227	

<sup>1</sup>Animals and objects that fall off of cars and trucks.

**Source:** Rajappan & Meyer, 2001.

## **1.3 ALTERNATIVES**

### **1.3.1 No Build Alternative**

The No Build Alternative would consist of not constructing the project, which would avoid all of the environmental impacts of the project, as described in this document. However, the No Build Alternative would not meet the identified Purpose and Need, which is to reduce the traffic congestion resulting from merging and weaving conflicts and to improve the overall freeway system performance. Under the No Build Alternative, projected increases in traffic would cause existing congestion to worsen. In turn, travel times along this segment of Route 101 would continue to increase, as shown in Table 1.

### **1.3.2 Alternatives Considered and Withdrawn**

An alternative design was initially considered with regard to reconstructing the Route 101/Peninsula Avenue interchange. Unlike the proposed design, in which Bayshore Boulevard will intersect with Peninsula Avenue, the alternative design would route Bayshore Boulevard under Peninsula Avenue. This alternative design would involve Bayshore Boulevard terminating at a new intersection with Airport Boulevard. This design was withdrawn because it was determined that, from a traffic operations perspective, it would be less desirable than the proposed design. Specifically, under the alternative design, there would be three intersections on Airport Boulevard in close proximity: northbound on- and off-ramps, Bayshore Boulevard, and Peninsula Avenue/Coyote Point Parkway.

## **1.4 PERMITS AND APPROVALS NEEDED**

Construction of the proposed project will require permits/approvals from the following agencies:

- Section 404 Nationwide Permit #14 or #25 from the U.S. Army Corps of Engineers;
- Section 401 Water Quality Certification from the Regional Water Quality Control Board;
- 1601 Streambed Alteration Agreement from the California Department of Fish and Game; and
- Permit from San Francisco Bay Conservation and Development Commission (BCDC) (for work with the 100-foot shoreline band in the vicinity of the Burlingame Lagoon)

## **CHAPTER 2. AFFECTED ENVIRONMENT, ENVIRONMENTAL CONSEQUENCES, AND MITIGATION MEASURES**

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### **2.1 HUMAN ENVIRONMENT**

#### **2.1.1 Land Use**

##### **Affected Environment**

The project segment of the Route 101 corridor passes through a highly developed area within portions of the Cities of San Mateo and Burlingame. Residential, commercial, and industrial development and parks/recreational areas are adjacent to the freeway right-of-way. Many of the adjacent industrial uses are light industrial warehouses and office/research & development (R&D) centers for high-tech firms, located primarily north of the Broadway Avenue interchange. Residential land uses are primarily located south of the Broadway Avenue interchange. Single-family dwelling units are mainly in the vicinity of Third Avenue. Multi-family and some single-family dwelling units are in most of the remaining area south of Broadway Avenue, with the exception of a few pockets of commercial uses, the San Mateo Municipal Golf Course, and the Burlingame Recreational Lagoon.

##### **Environmental Consequences**

Except as noted below, the proposed project will not directly affect any existing land uses along the Route 101 Corridor. Indirect effects such as noise and visual/aesthetics are discussed under their own headings in this document.

The reconstruction of the Monte Diablo pedestrian overcrossing would require additional right-of-way from one privately-owned parcel located along Route 101. The parcel from which private right-of-way will be needed is the Super 8 Motel (Assessor's Parcel Number 033-171-010). The impacts associated with this right-of-way acquisition would be limited to the loss of three parking spaces, a storage shed, potted landscaping and fencing. There are 49 existing parking spaces at the motel, so the loss of three spaces would not be a substantial impact. The project will replace the three parking spaces on the motel site if there is room to do so. Alternatively, the business owner will be compensated for the loss of the parking.

Right-of-way would be required from City street right-of-way for the reconstruction of the Peninsula Avenue interchange and various slivers along frontage roads to accommodate new soundwalls.

No acquisition/relocation of businesses or residences would be necessary to construct the project. No changes to the existing/proposed land uses would occur if the project were constructed.

### **2.1.2 Growth**

The proposed project will not facilitate any unplanned growth. The project is located within an urbanized area of San Mateo County, and its construction will not open additional areas to development.

### **2.1.3 Farmlands/Agricultural Lands**

There are no farmlands or agricultural lands located along the project segment of Route 101. Therefore, the project will not directly or indirectly impact such resources.

### **2.1.4 Utilities/Emergency Services**

Various utility lines (e.g., gas, electric, telephone, sanitary sewer, stormwater, etc.) are located along the Route 101 freeway and along/within the local streets that cross the freeway. Where necessary to construct the proposed project, some of these utility lines will be relocated, as is commonplace for projects of this nature. Such utility work will not result in the disruption of utility services in the project area.

Emergency services would indirectly benefit from the proposed project in that, by reducing peak commute period congestion, emergency vehicle response times will be reduced. The project will not sever or alter any emergency evacuation routes.

### **2.1.5 Traffic & Transportation/Pedestrian and Bicycle Facilities**

#### **Affected Environment**

##### ***Existing Roadway Network***

In the immediate project area, U.S. Route 101 (the Bayshore Freeway) is the primary highway. The 8-lane freeway runs in a north-south direction along the San Francisco Peninsula, between San Francisco on the north and San Jose on the south. Route 101 provides direct access to most of the cities within San Mateo County, as well as to San Francisco International Airport (SFO), which is located just north of the project limits. Within the project limits, full or partial interchanges on Route 101 are located at Millbrae Avenue, Broadway Avenue, Anza Boulevard, Peninsula Avenue, Poplar Avenue, Dore Avenue, and 3rd Avenue.

The above-listed local streets provide access to Route 101 from the Cities of Millbrae, Burlingame, and San Mateo. El Camino Real (State Route 82) is located to the west of - and parallel to - Route 101; it is a major north-south arterial on the Peninsula. South of the project area, State Route 92 provides east-west access from Half Moon Bay on the west to I-880 in the East Bay. North of the project area, I-380 provides an east-west connection between Route 101 and I-280.

### ***Existing Traffic Conditions***

As described previously in Section 1.2, the project segment of Route 101 presently experiences substantial congestion during the AM and PM peak commute periods. The data in Table 1 indicate that this congestion has a direct and adverse effect on commute period travel times along the freeway.

The following discussion of traffic operations utilizes a concept known as "Level of Service" (LOS). LOS uses the letters A through F to describe operations, with "A" representing free-flow conditions, "B" representing minimal delays, "C" representing acceptable delays, "D" representing tolerable delays, "E" representing significant delays, and "F" representing jammed conditions with excessive delay. LOS is computed based upon a number of factors including the traffic demand, the number of traffic lanes, and traffic signal timing.

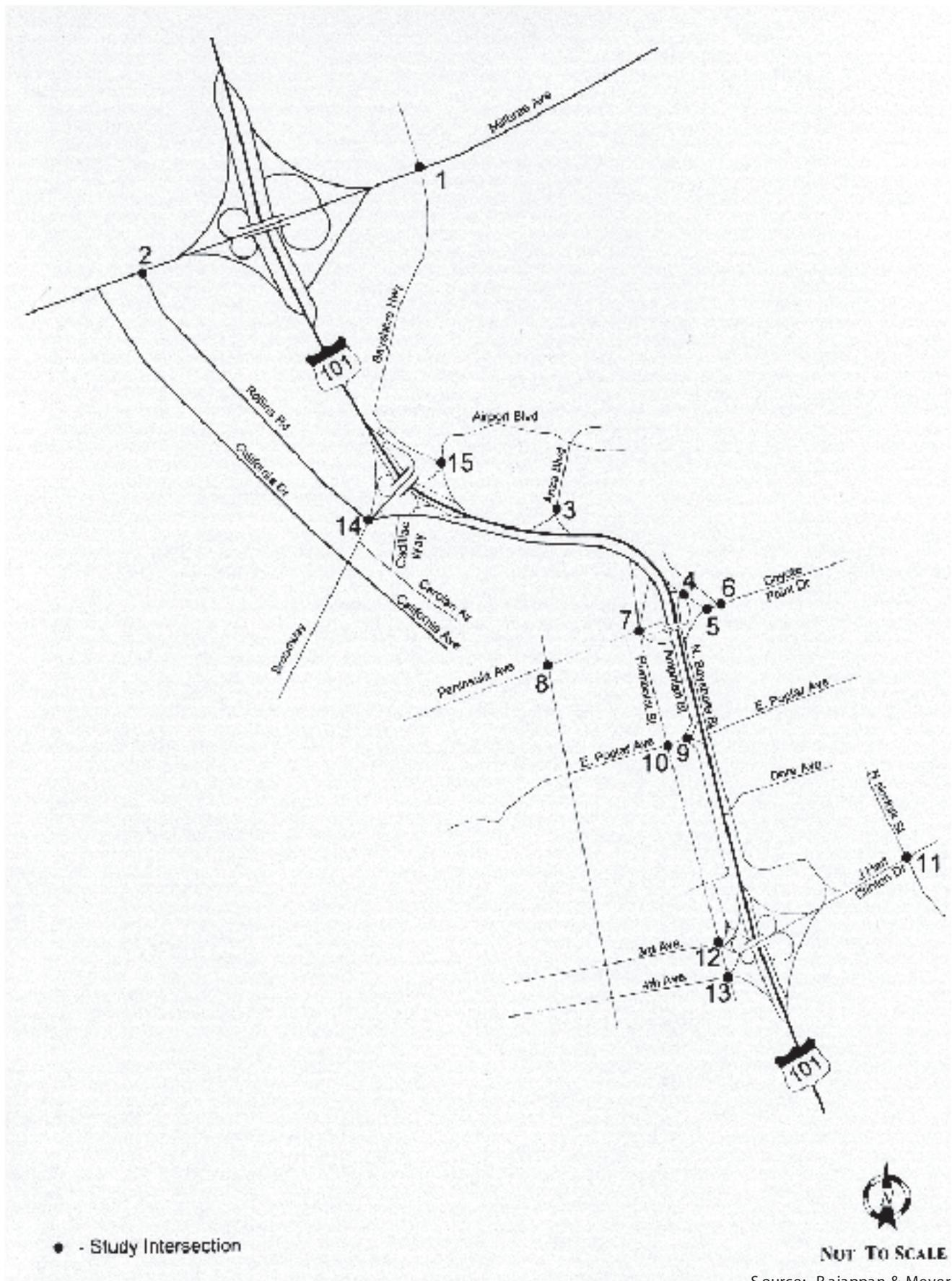
Operational conditions at 15 intersections in the project area (refer to Figure 4) are shown in Table 3. The data indicate that 13 of the 15 intersections are presently operating at LOS "D" or better. The intersection of Poplar Avenue/Amphlett Boulevard operates at LOS "E" and "F" during the AM and PM peak hours, respectively. The intersection of Poplar Avenue/Humboldt Street operates at LOS "E" during the PM peak hour.

### ***Existing Public Transit***

Bus service is provided throughout the greater project area by the San Mateo County Transit District (SamTrans). At least five SamTrans express bus routes utilize the project segment of Route 101.

The Peninsula Corridor Joint Powers Board operates Caltrain rail service between San Francisco on the north and Gilroy on the south. The Caltrain corridor is located just west of, and generally parallel to, Route 101. The Caltrain stations in the immediate project area are Millbrae, Broadway, Burlingame, and San Mateo.

An extension of the Bay Area Rapid Transit (BART) system from the City of Colma to SFO and Millbrae is currently under construction. A new Millbrae Station will connect BART to Caltrain via a shared platform. The linking of the two rail systems will create a continuous 180-mile rail route. The new Millbrae Station will feature a transit center for SamTrans buses with a covered connection to the station mezzanine and, drop-off points on both the BART and Caltrain sides of the station. Automobile access to the station will be via Millbrae Avenue, Rollins Road and California Drive.



STUDY INTERSECTIONS

FIGURE 4

**TABLE 3**

**EXISTING INTERSECTION LEVELS OF SERVICE**

Intersection	Control Type	Peak Period	Existing		
			V/C Ratio	Avg. Delay	LOS
1. Millbrae Avenue/ Bayshore Highway	Signal	AM	0.419	8.9	B
		PM	0.785	12.7	B
2. Millbrae Avenue/ Rollins Road	Signal	AM	0.687	13.9	B
		PM	0.736	17.2	C
3. NB 101 Ramps/ Anza Boulevard	2-Way Stop	AM	--	2.8	A
		PM	--	3.7	A
4. NB 101 Ramps/ Peninsula Avenue	2-Way Stop	AM	--	1.4	B
		PM	--	2.1	B
5. NB 101 Ramps/ Coyote Point Dr.	2-Way Stop	AM	--	0.5	A
		PM	--	0.6	A
6. Airport Boulevard/ Coyote Point Dr.	2-Way Stop	AM	--	2.5	B
		PM	--	3.6	B
7. Peninsula Avenue/ Humboldt Street	Signal	AM	0.757	14.5	B
		PM	0.869	16.2	C
8. Delaware Street/ Peninsula Avenue	4-Way Stop	AM	0.740	13.1	B
		PM	0.830	17.4	C
9. Poplar Avenue/ Amphlett Boulevard	3-Way Stop	AM	1.188	44.3	E
		PM	1.873	--	F
10. Poplar Avenue/ Humboldt Street	Signal	AM	0.845	39.1	D
		PM	0.896	44.1	E
11. Norfolk Street/ 3rd Avenue	Signal	AM	0.914	32.3	D
		PM	0.900	29.2	D
12. 3rd Avenue/ Humboldt Street	Signal	AM	0.789	19.9	C
		PM	0.864	19.6	C

13. Humboldt Street/ 4th Avenue	Signal	AM	0.592	15.9	C
		PM	0.590	15.9	C
14. Rollins Road/ Broadway Avenue	Signal	AM	0.889	29.9	D
		PM	0.903	31.7	D
15. Bayshore Highway/ Airport Boulevard	Signal	AM	0.656	20.0	C
		PM	0.777	20.3	C
<b>Source:</b> Rajappan & Meyer, 2001.					

### ***Existing Bicycle and Pedestrian Facilities***

Along the project segment, pedestrian and bicycle access across Route 101 is limited. There is no official pedestrian or bicycle access across Route 101 at the Broadway Avenue overcrossing, and the Peninsula Avenue overcrossing and the Monte Diablo pedestrian overcrossing do not conform to the American with Disabilities Act (ADA) requirements.

The existing public access facilities in the vicinity of the project area include a segment of the San Francisco Bay Trail, and various bike paths and bicycle routes within the Cities of San Mateo and Burlingame. Segments of the Bay Trail have been constructed between the Coyote Point Recreational Area and SFO. Public parks include Coyote Point Recreation Area, Bayside Park, the Burlingame Recreational Lagoon, and Bayside Shoreline Park, all east of Route 101.

Existing and future bike paths and bicycle routes in the Cities of San Mateo and Burlingame are under local jurisdiction and are shown on Figure 5.

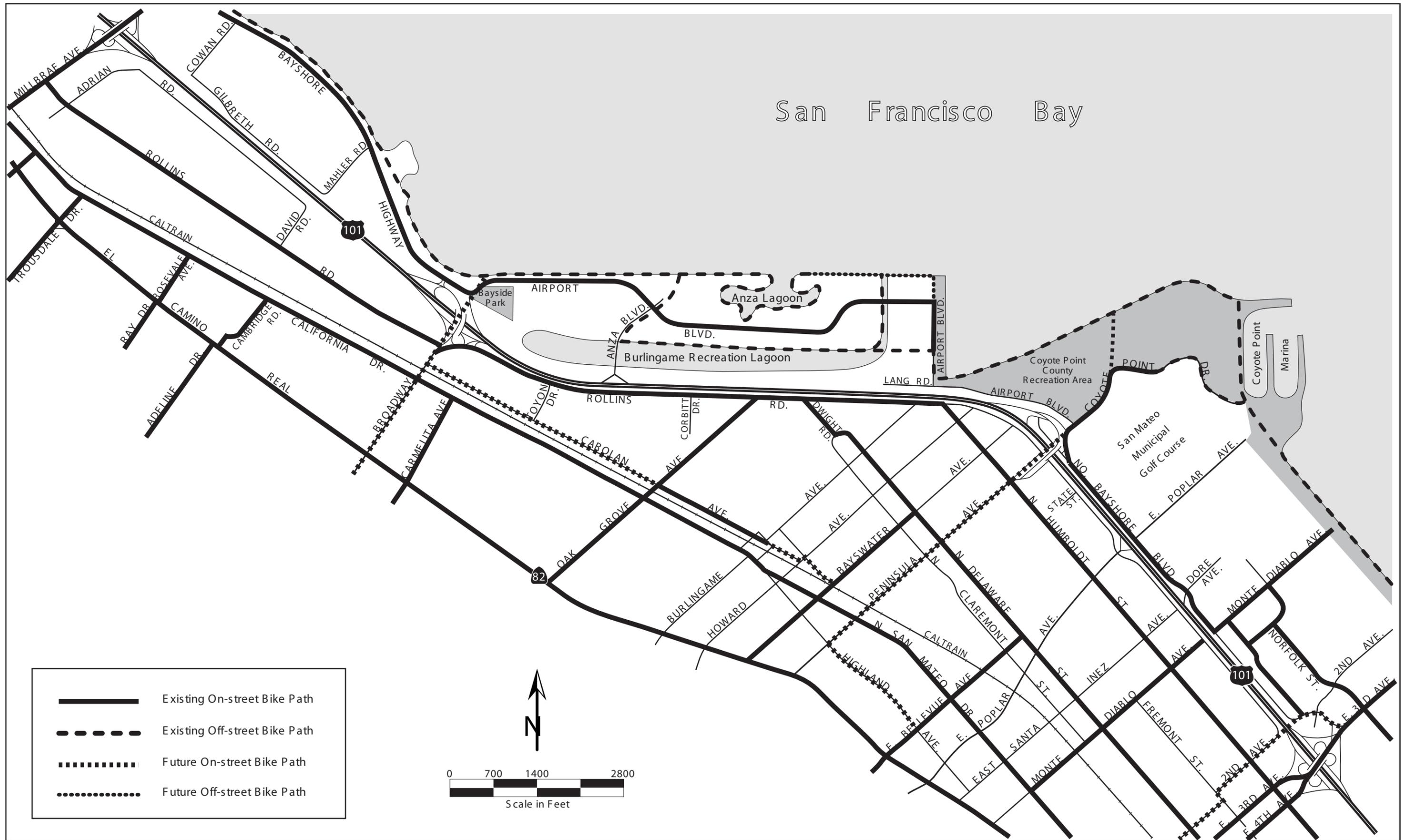
## **Environmental Consequences**

### ***Impact on Freeway Operations***

The construction of the proposed auxiliary lanes will have a direct and beneficial impact on freeway operations within the project segment of Route 101. The auxiliary lanes will substantially improve merging and weaving conditions which, in turn, will reduce congestion and travel times. The improvement in peak-hour travel times, as shown in Table 1, will be substantial. The freeway LOS is expected to improve to “D” or better, as compared to “E” and “F” under “no project” conditions.

### ***Impact on Operations at Intersections***

Projected peak-hour operations at 15 intersections were quantified for the year 2025 under both “project” and “no project” conditions. The purpose of this quantification was to determine whether or not the proposed freeway improvements would result in secondary adverse impacts at any of these nearby intersections. The results of this assessment are shown in Table 4.



SAN MATEO COUNTY BIKEWAY SYSTEM WITHIN THE PROJECT AREA

FIGURE 5

**TABLE 4**

**YEAR 2025 INTERSECTION LEVELS OF SERVICE**

Intersection	Control Type	Peak	No Project			With Project		
			V/C Ratio	Avg Delay	LOS	V/C Ratio	Avg Delay	LOS
1. Millbrae Ave/ Bayshore Hwy	Signal	AM	0.419	9.1	B	0.419	9.1	B
		PM	0.767	12.8	B	0.611	11.1	B
2. Millbrae Ave/ Rollins Road	Signal	AM	0.902	19.6	C	0.807	15.6	C
		PM	0.835	17.7	C	0.843	18.7	C
3. NB 101 Ramps/ Anza Boulevard	2-Way Stop	AM	--	2.8	A	--	2.8	A
		PM	--	5.0	B	--	5.0	B
4. NB 101 Ramps/ Peninsula Ave	2-Way Stop	AM	--	1.4	B	--	1.8	--
		PM	--	1.8	B	--	1.3	B
5. NB 101 Ramps/ Coyote Point Dr.	2-Way Stop	AM	--	0.5	A	--	4.7	B
		PM	--	6.0	B	--	6.2	C
6. Airport Blvd/ Coyote Point Dr.	2-Way Stop	AM	--	4.2	B	--	2.5	B
		PM	--	3.6	B	--	3.5	B
7. Peninsula Ave/ Humboldt Street	Signal	AM	0.750	14.0	B	0.757	14.5	B
		PM	0.924	20.2	C	0.869	16.2	C
8. Delaware St/ Peninsula Ave	4-Way Stop	AM	0.740	13.1	B	0.740	13.9	B
		PM	0.830	17.4	C	0.971	27.1	D
9. Poplar Ave/ Amphlett Blvd	3-Way Stop	AM	1.256	54.8	F	1.870	--	F
		PM	1.978	--	F	2.290	--	F
10. Poplar Ave/ Humboldt St	Signal	AM	0.874	41.6	E	0.879	42.6	E
		PM	0.869	48.0	E	0.868	51.4	E
11. Norfolk St/ 3rd Avenue	Signal	AM	0.914	32.3	D	0.930	33.5	D
		PM	0.965	35.8	D	0.976	37.2	D
12. 3rd Avenue/ Humboldt Street	Signal	AM	0.813	21.3	C	0.605	21.1	C
		PM	0.749	22.0	C	0.864	19.6	C

13. Humboldt St/ 4th Avenue	Signal	AM	0.607	15.8	C	0.620	15.8	C
		PM	0.622	16.2	C	0.590	15.9	C
14. Rollins Rd/ Broadway Ave	Signal	AM	0.704	23.3	C	.0664	23.1	C
		PM	0.838	25.1	D	0.702	17.4	C
15. Bayshore Hwy/ Airport Blvd	Signal	AM	0.904	36.1	D	0.870	33.3	D
		PM	0.866	29.9	D	0.919	33.2	D
<b>Source:</b> Rajappan & Meyer, 2001.								

The data in Table 4 show that the project will have no substantial adverse effect on the peak-hour operations at any of the 15 intersections. This conclusion is based on the San Mateo County Transportation Policy that requires a minimum standard of LOS “D” at intersections. Under that policy, a substantial adverse effect occurs if either of the following criterion are met:

- A project causes an intersection operating at LOS “D” or better under “no project” conditions to drop to LOS “E” or “F”.
- A project causes an intersection operating at LOS “E” or “F” under “no project” conditions to increase its critical delay by 4.0 seconds or more and increase its critical volume-to-capacity ratio by 0.01 or more.

The project will not cause impacts that exceed any of these criteria.

### ***Impact on Pedestrian and Bicycle Facilities***

As described in Section 1.1, *Project Description*, the project includes new and upgraded pedestrian and bicycle facilities. These improvements include: 1) a new Broadway Avenue pedestrian/bicycle overcrossing; 2) a reconstructed Peninsula Avenue overcrossing with bike lanes and sidewalks; and 3) a reconstructed Monte Diablo pedestrian/bicycle overcrossing. These proposed improvements will substantially improve access to San Francisco Bay from the residential neighborhoods located to the west of the Route 101 freeway.

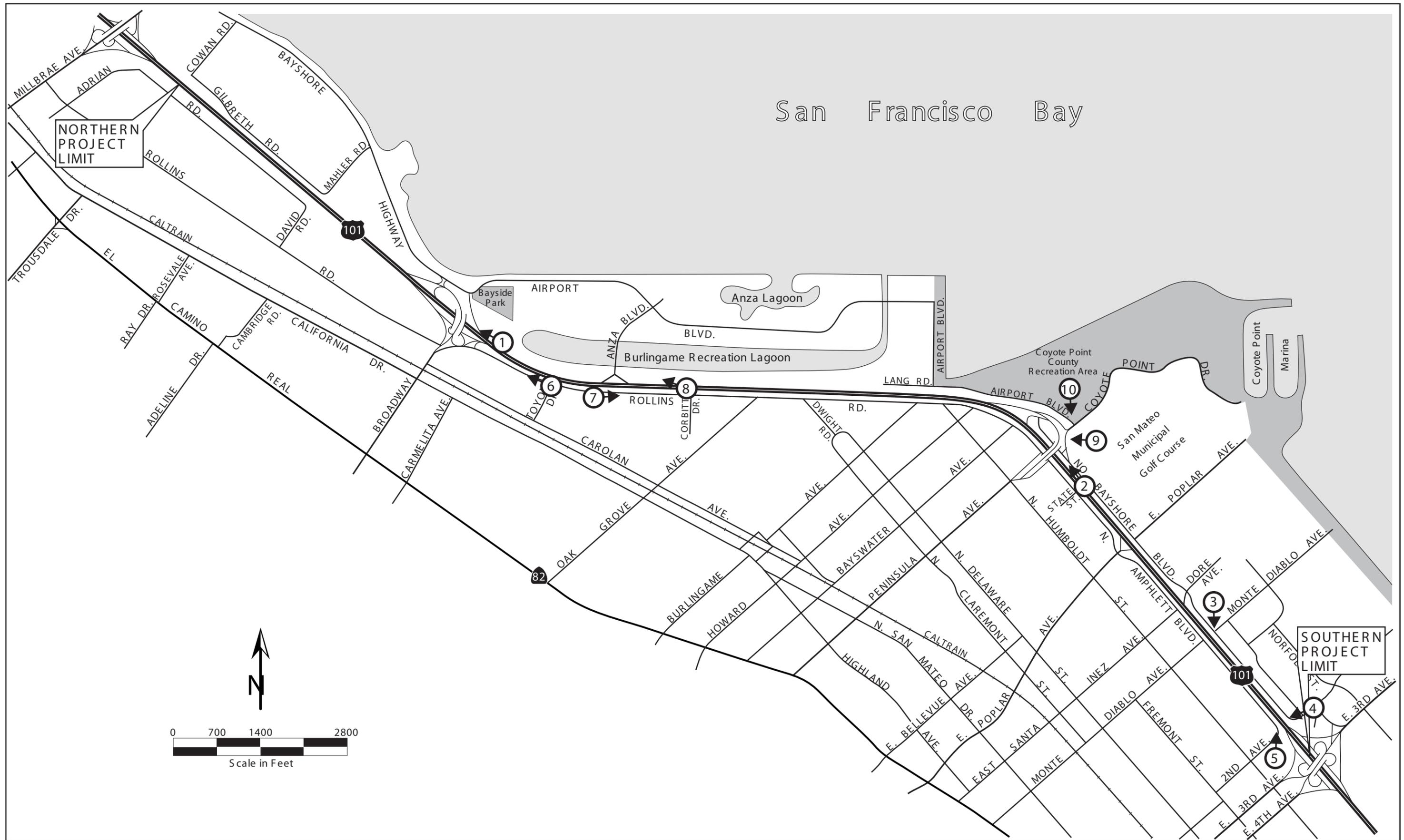
### **2.1.6 Visual/Aesthetics**

The visual and aesthetic environment consists of an existing 8-lane freeway that is located in an urbanized setting. The project segment of Route 101 is not designated as a scenic highway. The most prominent natural feature is the Burlingame Recreational Lagoon, which is located along the eastside of the freeway, south of the Broadway Avenue interchange.

Construction of the proposed project will not substantially change the existing visual and aesthetic

characteristics of the Route 101 corridor. However, the project will include several new and modified structures, namely overcrossings, retaining walls, and soundwalls. The effect of these structures on the visual/aesthetic environment is described below. Photosimulations that show the "before" and "after" conditions are found on Figures 6 through 16.

The project proposes the reconstruction of the Monte Diablo pedestrian overcrossing, the reconstruction of the Peninsula Avenue overcrossing, and construction of a new pedestrian overcrossing at Broadway Avenue. Figures 7 and 8 show existing and proposed views of the improvements at Broadway Avenue and Peninsula Avenue, respectively, as seen from the freeway. The existing Monte Diablo pedestrian overcrossing and the proposed replacement structure are shown on Figure 10, as viewed from the front of multi-family residences on the north side of Monte Diablo Avenue. While these structures would be visible and prominent from these viewpoints, the proposed structures would not substantially alter existing views and would not block any scenic vistas.



KEY TO VIEWS SHOWN IN PHOTO SIMULATIONS

FIGURE 6



Existing Setting



Photosimulation of Proposed Broadway Avenue POC



Existing Setting



Photosimulation of Reconstructed Peninsula Avenue Overcrossing



Existing Setting



Photosimulation of Reconstructed Monte Diablo Avenue POC



Existing Setting



Photosimulation of Proposed Soundwall



Existing Setting



Photosimulation of Proposed Soundwall



Existing Setting



Photosimulation of Proposed Soundwall



Existing Setting



Photosimulation of Proposed Soundwall



Existing Setting



Photosimulation of Proposed Retaining Wall



Existing Setting



Photosimulation Showing Proposed Retaining Wall



Existing Setting



Photosimulation Showing Proposed Retaining Wall

The project also includes the installation of new soundwalls at locations along the project alignment where noise levels approach or exceed Caltrans noise abatement criteria. New soundwalls, approximately 4.3m-5m (14 ft - 16.4 ft) in height are proposed mainly along frontage roads near residences. [Refer to Section 2.2.6, *Noise*, for proposed soundwall locations and heights.] Figures 10-13 show views of the proposed soundwalls from several locations. The proposed soundwalls would introduce a barrier between the existing frontage roads/freeway and neighborhoods. In some cases, established vegetation would also be removed to accommodate installation of the soundwalls.

A retaining wall and vehicle barrier is proposed along a 700-meter (2,300-foot) segment of Route 101 adjacent to the Burlingame Recreational Lagoon (refer to Figure 14). A type-80 "see through" barrier will be installed along the retaining wall to allow motorists on the freeway to retain views of the lagoon. Thus, while the proposed barrier would modify the view along this segment of Route 101, it would not substantially degrade the existing visual character of the lagoon, as seen from the freeway.

The reconstruction of the Peninsula Avenue interchange will require the construction of retaining walls adjacent to the San Mateo Municipal Golf Course and Coyote Point Recreation Area. These retaining walls are shown on Figures 15 and 16. The retaining walls will not block any scenic views or adversely affect recreational activities at these facilities.

### **Mitigation Measures**

Although the project will not result in a substantial adverse change to the visual/aesthetic environment, any effect that will occur will be further minimized by the following:

- Replacement planting will be done where feasible within the right-of-way to replace plant materials that are removed as a result of construction. Replacement planting will be done within two years of completing road construction. Landscaping will be replaced as typical Caltrans highway planting. Plant materials selected will be appropriate for the regional setting and microclimate conditions; and
- Soundwalls and retaining walls will be designed to be subdued, low in contrast, and non-reflective.

### **2.1.7 Cultural Resources**

#### **Affected Environment**

A Historic Properties Survey Report (HPSR) was prepared for this project for the purpose of identifying cultural resources eligible for inclusion on the *National Register of Historic Places* within the project's Area of Potential Effects (APE). The HPSR was prepared in fulfillment of the requirements of the *National Historic Preservation Act of 1966* (as amended) and the Act's implementing regulations (36

CFR Part 800).<sup>3</sup>

The HPSR, which includes both an Archaeological Survey Report (ASR) and a Historic Architectural Survey Report (HASR), provides the results of a prehistoric and historic site record and literature search by the California Historic Resources Information System, Northwest Information Center at Sonoma State University, Rohnert Park; background research; field reviews by archaeologists and architectural historians; subsurface testing; and *National Register* evaluations.

No historic properties or landmarks, including those listed on (or eligible for listing on) the *National Register*, have been previously identified within or adjacent to the APE. No recorded archaeological sites are present in or adjacent to the APE. A survey of the area did not identify any previously unrecorded sites.

A total of 27 pre-1957 buildings (or building complexes) were identified within the Architectural APE for this project. None of the buildings have been determined to be eligible for inclusion on the *National Register*.

The APE includes three bridge structures: Broadway Avenue, Peninsula Avenue, and Monte Diablo. None of the three bridges are eligible for the *National Register*.

### **Environmental Consequences**

Based upon the research described above, including a subsurface testing program, there is no indication of prehistoric or historic archaeological or historic architectural resources within the project impact area. Therefore, construction of the proposed project is not expected to result in effects on cultural resources.

In letters dated 9/26/02 and 12/13/02, the State Historic Preservation Officer (SHPO) concurred in the above findings. Copies of these letters are contained in Appendix B.

### **Mitigation Measures**

In the unlikely event that any artifacts or cultural resources are encountered during construction, work within 8 meters (25 feet) of the find will be halted, and an archaeologist will be consulted to evaluate the significance of any such discovery and to make recommendations.

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<sup>3</sup>The HPSR contains the locations of archaeological sites and, therefore, is not available to the general public. The HPSR is available for review by qualified personnel. Requests can be made to the San Mateo County Transportation Authority, San Carlos, California, (650) 508-6200.

## 2.2 PHYSICAL ENVIRONMENT

### 2.2.1 Hydrology and Floodplain

#### Affected Environment

Based on the Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Maps (FIRM), most of the project segment of Route 101 lies outside of 100-year floodplains. The exception is an approximately 1.2 kilometers (0.7 mile) segment within the City of San Mateo, roughly between Peninsula Avenue on the north and Dore Avenue on the south.

#### Environmental Consequences

As described above, a 1.2 kilometers (0.7 mile) segment of Route 101 between Peninsula Avenue and Dore Avenue is within a 100-year Floodplain. Because solid median barriers and soundwalls are proposed for construction in this segment, those improvements have the potential to block flood flows. Blockage of flood flows could increase flooding at other locations which would be an adverse effect of the project.

In order to avoid this potential flooding, the project will install a large 2.7-meter x 1.2-meter (8.9 ft. x 3.9 ft.) box culvert at Howard Avenue and Poplar Avenue, respectively. The box culverts will convey flood flows from the westside to the eastside of Route 101. The box culvert at Howard Avenue will discharge to an existing unlined ditch that leads to the Coyote Point pump station. The City of San Mateo has plans to upgrade this ditch in the future. The box culvert at Poplar Avenue will discharge to a lined channel that leads to the Poplar pump station. Outlet structures will be provided at both locations to dissipate the energy of the floodwaters and to minimize any potential for erosion.

Below is a summary of floodplain impacts in fulfillment of the requirements of Executive Order 11988, *Floodplain Management*:

a. *Risk Associated with Implementation of the Action*

There is a minimal potential for increased flood risk due to the project. The project would not affect the existing flood potential. Therefore, the risk associated with implementation of the project would be small.

b. *Impacts on Natural and Beneficial Floodplain Values*

The project would have minimal impacts on natural and beneficial floodplain values.

c. *Support of Probable Incompatible Floodplain Development*

The project consists of improvements to an existing roadway and would not increase access to existing flood-prone areas. Therefore, the project would not support incompatible floodplain development.

d. *Measures to Minimize Floodplain Impacts Associated with the Action*

No measures are required because the project would have no floodplain impacts.

e. *Measures to Restore and Preserve the Natural and Beneficial Floodplain Values Impacted by the Action*

No measures are required because the project would have no impact on natural and beneficial floodplain values.

f. *Practicability of Alternatives to any Significant Encroachment*

The project would not result in a significant floodplain encroachment.

g. *Practicability of Alternatives to any Longitudinal Encroachment*

The project does not constitute a longitudinal encroachment in the base floodplain.

## 2.2.2 **Water Quality and Stormwater Runoff**

### **Regulatory Setting**

Urban runoff is known as a non-point source of water pollution since, as the term implies, the source is not limited to a specific, identifiable location. Rather, urban runoff enters creeks via storm drains at numerous locations along their courses. In recent years, the control of non-point sources of pollution has come under increasing scrutiny, as efforts continue to minimize or avoid the effects of water pollution. An important component of urban runoff is that which comes from streets and freeways. The State Water Resources Control Board (SWRCB) and the Regional Water Quality Control Board (RWQCB) have been working with Caltrans and local highway agencies to design projects that minimize or avoid the direct discharge of highway runoff into waterways. For example, runoff is sometimes directed into a retention or siltation basin that filters out most of the pollutants before they

reach the creek.

Projects such as the proposed Route 101 Auxiliary Lanes Project, which are located on the State highway system, are covered by a National Pollutant Discharge Elimination System (NPDES) statewide permit issued to Caltrans by the SWRCB (Order No. 99-06-DWQ, CAS000003). This permit covers all Caltrans properties, facilities, and activities for both the construction and operational phases of projects.<sup>4</sup> This NPDES permit requires that both structural and non-structural Best Management Practices (BMPs) be incorporated into projects to minimize the potential for both short- and long-term degradation of water quality.

### **Affected Environment**

The water quality in the creeks which flow out to the San Francisco Bay, including Mills Creek, Easton Creek, and Sanchez Creek within the project area, depends upon the volume of water at a given time of the year. Water quality is also dependent upon the concentration of contaminants, which flow into the creeks as a component of urban runoff via storm drains. These contaminants include such items as oil and grease, fuel residues, tire particles, plant and animal debris (e.g., leaves, dust, animal feces, etc.) litter, and heavy metals. In sufficient concentrations, these pollutants have been found to adversely affect the aquatic habitat of these streams and San Francisco Bay, into which the streams flow.

### **Environmental Consequences**

The proposed project may affect water quality during the short-term (i.e., construction phase) and during the long-term (i.e., operational phase). The short-term effects are described in Section 2.4. The long-term effects are described below.

Compared to existing/no project conditions, the project will have a negligible effect on long-term water quality. This conclusion is based on the fact that the projected increase in stormwater runoff will be minimal because most of the project site is already covered by existing impervious surfaces. Therefore, the increase in pollutant-containing runoff will not be substantial.

Although long-term water quality effects will be negligible, the design of the project will include BMPs to reduce the pollutant component of stormwater runoff, as required by the Caltrans NPDES permit (see above discussion). In addition to the requirements of the NPDES permit, compliance with the requirements of the Caltrans Stormwater Management Plan (SWMP) will also occur. The SWMP describes the programs to reduce the discharge of pollutants associated with the stormwater drainage systems, and describes how Caltrans will comply with the provisions of the NPDES permit.

To minimize post-construction water quality effects, post-construction BMPs will be considered for incorporation into the project. The Caltrans SWMP provides guidelines for considering these post-

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<sup>4</sup>The permit does not apply to small projects, defined as smaller than 2 hectares (5 acres) in size.

construction BMPs. Design pollution prevention BMPs to be considered include the following: 1) consideration of downstream effects related to potentially increased flow, and 2) slope/surface protection systems. Treatment BMPs to be taken into consideration include the following: 1) biofiltration swales and strips, 2) infiltration basins, 3) detention devices, 4) traction sand traps, 5) dry weather flow diversion, and 6) gross solids removal devices.

### **2.2.3 Geology/Soils/Seismic/Paleontology/Topography**

#### **Affected Environment**

The project segment of Route 101 lies on the east side of the San Francisco Peninsula. The regional structure of the area is similar to other portions of the North California Coast Ranges, consisting of a complex series of northwest-trending synclines and anticlines with a number of northwest-trending faults. No active faults cross under the project segment of Route 101.

The project area is relatively flat and ground elevation in the area of the proposed project ranges between 1.2 and 3.7 meters (4-12 ft) above sea level. Artificial fill (Holocene) covers most of the vicinity of the project area, part of which used to be covered by the San Francisco Bay. Today, the San Francisco Bay lies approximately 100 to 800 meters (330 to 2,630 feet) east of the project area.

Artificial fill consists of loose to very well-consolidated gravel, sand, silt, clay rock fragments, organic matter and manmade debris in various combinations. Thickness is variable and may exceed 30 meters (98 feet) in places.

The project is located in a seismically active part of northern California. Many faults capable of producing earthquakes exist in the San Francisco Bay Area, which may cause strong ground shaking in the vicinity of the project area. These regional faults include San Andreas/North, Hayward, and Monte Vista/West faults, as well as many smaller ones. The San Andreas Fault is located approximately 3.2 kilometers (2 miles) west of the alignment. The Monte Vista and Hayward Faults are located approximately 21 kilometers (13 miles) southeast and 23 kilometers (14 miles) east of the alignment, respectively.

Liquefaction is a phenomenon in which saturated cohesionless soils are subject to a temporary but essentially total loss of shear strength under the reversing, cyclic shear stresses associated with earthquake shaking. Submerged cohesionless sands and silts of low relative density are the type of soils which usually are susceptible to liquefaction. Clays are generally not susceptible to liquefaction. Based on available data, the majority of the cohesionless subsoils are medium dense to dense and the liquefaction potential at the site is low (Parikh Consultants, November 2001).

#### **Environmental Consequences**

The proposed project will involve typical highway excavation and grading practices necessary to

construct the proposed improvements. There are no geologic features on the site that would pose special or unique hazards to users of the proposed improvements. The project will implement standard engineering practices to ensure that geotechnical and soil hazards do not result from its construction.

The site is within the seismically active San Francisco Bay Area and severe ground shaking is probable during the anticipated life of the project. Users of the improvements would be exposed to hazards associated with such severe ground shaking during a major earthquake on one of the region's active faults. This hazard is not unique to the project, because it applies to all locations throughout the greater Bay Area. The proposed project will not increase the existing exposure to hazards associated with earthquakes; the hazards in the area will be the same with or without the project.

The project, including the new structures, will be designed and constructed in accordance with the Uniform Building Code and Caltrans Design guidelines for Seismic Zone 4 to avoid or minimize potential damage from seismic shaking on the site. Potential seismic effects will be minimized by the use of standard engineering techniques mandated by the Uniform Building Code and the Caltrans Design Standards.

#### **2.2.4 Hazardous Waste/Materials**

##### **Introduction and Methodology**

The purpose of preparing an Initial Site Assessment (ISA) is to identify areas within or adjacent to the project where there is existing contamination from hazardous materials and/or where there is a likelihood that such contamination may be present. The reason for this research is to alert the public and governmental agencies to these contaminated areas so that future problems associated with exposure to hazardous materials can be avoided. A secondary, but important, reason for this research is to alert officials who are considering the purchase of property to existing and/or potential contamination, since property owners can be held responsible for the cost of cleanup in many cases.

##### **Affected Environment**

###### ***Contaminated Sites***

There are over 500 sites within a 1-mile radius the project segment of Route 101 where hazardous materials are generated, used, or stored and/or where some type of spill/leakage/contamination has occurred. For most locations where soil or groundwater contamination has been found, the source of the contamination was leaking storage tanks. In virtually all of these cases, the leaking tanks have been removed and remediation has occurred (or is occurring) under the supervision of various governmental entities. Many of the listed sites are either down/cross gradient or too far upgradient to impact the subject area. The presence of these sites along Route 101 does not preclude the construction of the proposed project. Rather, these sites are indications that follow-up investigation may be required to ensure that Caltrans does not acquire contaminated right-of-way and/or people or the environment are

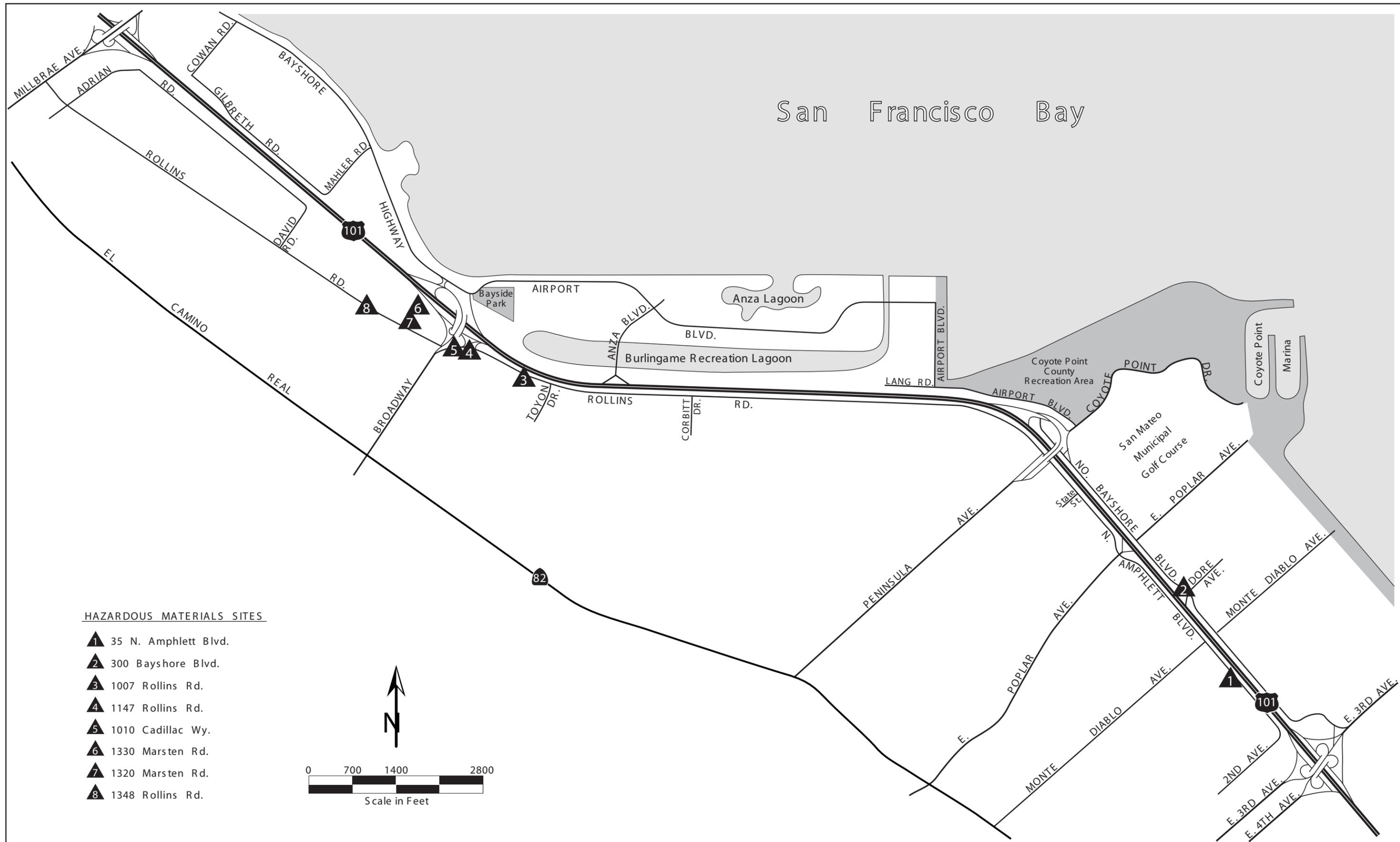
not exposed to unacceptable levels of hazardous materials.

Sites where hazardous materials contamination has been reported, which are adjacent or immediately upgradient to the Caltrans right-of-way within the project area, are shown on Figure 17. An overview of each of the eight sites is presented below.

Site #1, Bayshore International Truck, Inc., 35 North Amphlett Boulevard, San Mateo This site is located on the southwest corner of Tilton Avenue and Amphlett Boulevard and is approximately 10 meters (33 ft) from Caltrans' right-of-way. In 1987, during the removal of two underground storage tanks (USTs), concentrations of total petroleum hydrocarbons as gasoline (TPHg) were detected in the groundwater. The site was remediated and now qualifies for "Case Closure" as a "Low Risk Groundwater Case". A monitoring well appears to have been located on or within the Route 101 right-of-way. Closure of this well is unconfirmed.

Site #2, Key Investment Corporation, 300 Bayshore Boulevard, San Mateo The site is located on the northeast corner of Dore Avenue and Bayshore Boulevard and is approximately 25 meters (82 ft.) from Caltrans' right-of-way. In 1985, during the removal of two USTs, concentrations of TPHg were detected in the groundwater. The site is being monitored with quarterly groundwater sampling. According to a report written by Sierra Environmental, Inc., dated April 2, 2001 and on file at the San Mateo County Division of Health Services (SMCDHS), the groundwater flow direction is toward the southeast.

Site #3, Les Vogal, 1007 Rollins Road, Burlingame This site is located approximately 120 meters (394 ft.) north of Toyon Boulevard and 13 meters (43 ft.) from Caltrans' right-of-way. In August 1998, concentrations of TPH as motor oil were detected in the soil. The UST was removed and disposed of and the case was closed in April 2000.



HAZARDOUS MATERIALS SITES WITHIN THE PROJECT

FIGURE 17

Site #4, Unocal Service Station, 1147 Rollins Road, Burlingame This site is located at the southwest corner of Cadillac Way and Rollins Road and is approximately 18 meters (59 ft.) from Caltrans' right-of-way. In 1991, concentrations of TPH were detected in the soil during replacement of a waste oil UST. Again, in 1994, concentrations of TPH were detected in the soil during replacement of three diesel USTs and one gasoline UST. The site is in the SMCDHS's regulatory oversight program. In June 1999, concentrations of TPH, benzene and methyl tertiary butyl ether (MtBE) were detected in a groundwater sample collected from one monitoring well on-site. Concentrations of TPH, benzene, and MtBE were not detected above laboratory method detection limits in groundwater samples collected from two monitoring wells located within Caltrans' right-of-way. The depth to groundwater at the site is approximately 1.7 to 2.3 meters (5.5 to 7.5 ft) below ground surface (bgs). The groundwater flow direction is north toward San Francisco Bay.

Site #5, Rector Motors, 1010 Cadillac Way, Burlingame The site is located on the corner of Rollins Road and Cadillac Way and is approximately 20 meters (65 ft.) from Caltrans' right-of-way. In 1987, concentrations of TPH as waste oil were detected in the soil during the removal of two USTs. In 1991, groundwater samples collected from the site did not contain concentrations of contaminants above laboratory method detection limits. The site was remediated and, with approval from the SMCDHS, closed in 1992. The depth to groundwater at the site is approximately 1.7 to 2.3 meters bgs (5.5 to 7.5 feet bgs). The direction of groundwater flow is north toward the Bay.

Site #6, ARC Electric Co., 1330 Marsten Road, Burlingame The site is located at the corner of Marsten Road and Merli Lane and is approximately 75 meters (246 ft.) from Caltrans' right-of-way. In September 1991, during a UST removal, concentrations of TPH were detected in groundwater samples. In 1998, it was determined that approximately 8,000 square feet of shallow groundwater beneath the site had been impacted with TPHg. Remedial action is underway. The groundwater flow direction is toward the northeast.

Site #7, Nerli Construction, 1320 Marsten Road, Burlingame The site is located at the corner of Marsten Road and Merli Way and is approximately 85 meters (279 ft.) from Caltrans' right-of-way. In October 1994, during the removal of a UST, concentrations of TPH were detected in groundwater samples collected from the site. The site is in the preliminary site assessment workplan stage. The groundwater flow direction is toward the northeast.

Site #8, Nicolet Property, 1348 Rollins Road, Burlingame The site is located on Rollins Road approximately 270 meters (885 ft.) north of Broadway Avenue and is approximately 160 meters (525 ft.) from Caltrans' right-of-way. In March 1995, concentrations of TPH were detected in groundwater samples collected from the site. The site is in the SMCDHS regulatory oversight program. Based on the low permeability of soils on-site and the concentrations of TPH that have been detected in the groundwater, the subject site is unlikely to present a significant risk to human health or the environment. The groundwater flow direction is toward the northeast.

In light of the above, follow-up groundwater and soil sampling was conducted to determine whether contamination is present within the project impact area (Kleinfelder, 2003). Samples were analyzed for the presence of contaminants in accordance with U.S. Environmental Protection Agency (EPA) and California Department of Toxic Substances Control (DTSC) protocols.

### ***Total Petroleum Hydrocarbons***

Results from soil samples collected at or above the presumed vadose zone indicated total petroleum hydrocarbons as diesel (TPHd) and total petroleum hydrocarbons as motor oil (TPHmo) in maximum concentrations of 310 and 1,400 mg/kg, respectively. To better understand these results, the Regional Water Quality Control Board (RWQCB) maintains risk based screening levels (RBSL) for certain contaminants for commercial/industrial land use where groundwater is a current or potential drinking water source. The RBSLs for TPHd and TPHmo are 100 and 1,000 mg/kg, respectively.

Since soil samples were not collected and analyzed to the total depth of potential impact of any nearby leaking underground storage tanks (LUST) and associated piping, a supplemental site investigation may be needed to determine appropriate handling procedures during construction. Groundwater was found to contain TPHd and TPHmo in maximum concentrations of 2,000 and 9,200 ug/l, respectively.

### ***Aerially-Deposited Lead (ADL)***

Until recently, lead was commonly added to gasoline. As a result, lead was emitted as a component of motor vehicle exhaust. Soil sampling along many roadways has found that concentrations of lead exceed applicable thresholds for classification as a hazardous material. This phenomenon known as "aerially-deposited lead" is widespread. Because Route 101 was built prior to the phaseout of lead as a gasoline additive, elevated concentrations of lead may be present in the soil along the freeway.

Soils within the project impact area were tested for ADL (Geocon, 2002). ADL was found to be present, but concentrations did not exceed 350 milligrams per kilogram (mg/kg). However, because the soil contains elevated concentrations of lead as well as other contaminants, this will need to be addressed under the conditions of the variance granted by DTSC to Caltrans (September 22, 2000) to determine if such soils can remain on-site as further discussed below.

### ***Asbestos***

Both the Peninsula Avenue overcrossing and the Monte Diablo pedestrian overcrossing are likely to contain asbestos and lead-based paint.

### **Environmental Consequences**

Construction of the proposed project may result in hazardous materials effects. As noted above, there are a number of locations within or adjacent to the project site where contamination has been recorded or is suspected. The presence of contamination could expose construction workers to these substances in concentrations that exceed regulatory thresholds.

### **Mitigation Measures**

In order to avoid/minimize the above-described potential effects, the project will implement the following measures:

- The 95% UCL of mean for TPH as motor oil, diesel, and gasoline in soils impacted with ADL will be evaluated and compared with levels approved by the RWQCB, DTSC and the local environmental health agency to determine if the material can be reused under the lead variance. Soil to be removed from the project site (if any) will be characterized (i.e., hazardous waste determination) and properly disposed of;
- Any groundwater to be removed will be contained, characterized, and properly disposed. Dependant upon the amount of contamination, options for groundwater disposal include discharge to sewer, haul to an off-site facility, or discharge to the Bay under a NPDES permit;
- Testing for the presence of asbestos and lead-based paint on the existing bridge structures will occur. If these substances are found to be present, applicable regulations pertaining to their removal and disposal will be followed; and
- A Health and Safety Plan will be in place during construction to safeguard workers who will handle or be exposed to any of the above-described hazardous materials.

#### **2.2.5 Air Quality**

### **Regulatory Setting**

Under the Federal Clean Air Act, the U.S. EPA has established National Ambient Air Quality Standards (NAAQS). The NAAQS are indicated in Table 5. Areas that do not meet the NAAQS are designated as non-attainment areas. These areas must submit air quality plans, known as State Implementation Plans (SIPs) showing how they will attain the standards. Metropolitan planning organizations (MPO's) and the U.S. Department of Transportation, through the FHWA and Federal Transit Administration (FTA), must ensure that transportation plans, programs, and projects in non-attainment areas and in maintenance air basins conform to these SIPs.

**TABLE 5**

**AMBIENT AIR QUALITY AT THE REDWOOD CITY MONITORING STATION**

	1993	1994	1995	1996	1997	1998	1999	2000	2001
<b>Ozone</b>									
Maximum (ppm, 1-hour average)	.10	.08	.14	.10	.09	.07	.08	.08	.11
California Exceedances (days/year)	1	0	5	1	0	0	0	0	1
Federal Exceedances (days/year)	0	0	1	0	0	0	0	0	0
<b>Carbon Monoxide</b>									
Maximum (ppm, 8-hour average)	5.9	5.4	3.9	3.6	3.8	4.1	8.0	9.8	3.9
California Exceedances (days/year)	0	0	0	0	0	0	0	0	0
Federal Exceedances (days/year)	0	0	0	0	0	0	0	0	0
<b>Particulates</b>									
Maximum (ug/m <sup>3</sup> , 24-hour avg.)	22.9	21.9	18.7	19.2	22.3	20.7	22.4	19.1	22.6
California Exceedances (days/year)	5	6	0	0	2	0	3	1	4
Federal Exceedances (days/year)	0	0	0	0	0	0	0	0	0

**Notes:**

1. Data for other pollutants such as nitrogen dioxide and sulfur dioxide are not shown in this table because the County is already well in attainment of all of the standards which apply to them.
2. The California 1-hour standard for ozone is 0.09 parts-per-million (ppm). The Federal 1-hour for ozone is 0.12 ppm. The primary objective of ozone standards is to prevent eye irritation and breathing difficulties.
3. Both the California and Federal 8-hour standards for carbon monoxide are 9.0 ppm. The primary objective of carbon monoxide standards is to prevent levels of carboxyhemoglobin greater than two percent.
4. The California 24-hour standard for particulates (PM-10) is 50 micrograms per cubic meter (ug/m<sup>3</sup>). The Federal 24-hour standard for PM-10 is 150 ug/m<sup>3</sup>. The primary objectives of particulate standards are to prevent health effects and to improve visibility.
5. The number of exceedances shown in this table pertain to the California standards.

**Source:** Bay Area Air Quality Management District, 2002.

States and MPO's are responsible for conducting regional emissions conformity analysis and ensuring that the transportation plan and program within the metropolitan planning boundaries conform to the SIP. Projects involving federal and/or state approval may not be approved, funded, advanced, or implemented unless they are included in a fiscally-constrained and conforming regional transportation plan (RTP) and transportation improvement program (TIP). In order for a project to be in conformity with the SIP, it must be included in the most recent conforming RTP or TIP.

Under the Federal Clean Air Act, transportation plans, programs, and projects cannot a) create new violations of the Federal air quality standards; b) increase the frequency or severity of existing violations of the standards; or c) delay attainment of the standards. The San Francisco Bay Area is in attainment of all Federal standards except ozone. The Bay Area Air Quality Management District (BAAQMD) is working with MTC and the Association of Bay Area Governments (ABAG) to develop a revised Ozone Plan to reduce pollution and to attain these standards.

For local pollutants (e.g., carbon monoxide [CO]), individual projects are analyzed to determine project level conformity. In the Bay Area, the process used is the EPA-approved "Transportation Project-Level Carbon Monoxide Protocol". The analysis must demonstrate that the project will not result in any new localized violations of the NAAQS for CO or increase the frequency or severity of existing violations.

### **Affected Environment**

BAAQMD monitors concentrations of criteria pollutants at monitoring stations located through the San Francisco Bay Region. The closest monitoring station to the project site is located in Redwood City. Table 5 presents data for the Redwood City monitoring station over recent years.

### **Environmental Consequences**

The project is included in MTC's current conforming 2001 Regional Transportation Plan (RTP), which was adopted by MTC on December 19, 2001. The project is also included in the 2003 Transportation Improvement Program (TIP) that was adopted by MTC on January 22, 2003. The FHWA and FTA approved MTC's TIP conformity determination in March 2002. The design concept and scope of the proposed project is the same as assumed for the TIP and RTP. The project does not interfere with the timely implementation of transportation control measures in the applicable SIP.

An assessment was made of the carbon monoxide (CO) impacts using the California CO Protocol. The project would not result in local exceedances of the National Ambient Air Quality Standards (NAAQS) for carbon monoxide. Based on Caltrans' CO Protocol, the project will not result in any new localized violations of the National Ambient Air Quality Standards (NAAQS) for CO or increase the frequency or severity of any existing violations of the NAAQS.

## 2.2.6 Noise

### Introduction

Noise is measured in "decibels" (dB), which is a numerical expression of sound levels on a logarithmic scale. A noise level that is ten dB higher than another noise level has ten times as much sound energy and is perceived as being twice as loud. A sound change of less than 3 dB is just barely perceptible, and then only in the absence of other sounds. Intense sounds of 140 dB are so loud that they are painful and can cause damage with only brief exposure. These extremes are not commonplace in our normal working and living environments. An "A-weighted decibel" (dBA) approximates the frequency response of the average young ear when listening to most ordinary everyday sounds. Thus, traffic noise impact analyses commonly use the dBA.

With regard to traffic-generated noise, noise levels rise as vehicle speeds, overall volumes, and truck volumes increase. In general, a doubling of traffic results in a 3 dBA increase in noise at a nearby receptor, assuming a relatively homogeneous traffic composition (i.e., mainly passenger cars). The peak noise hour is typically not the peak commute hour due to lower operating speeds during the latter. The combination of volumes and speeds that produces the peak noise hour is that which is associated with level of service C/D.

### Regulatory Setting

Since excessive noise levels can adversely affect human activities (such as conversation and sleeping) and human health, Federal, State, and local governmental agencies have set forth criteria or planning goals to minimize or avoid these effects. The noise guidelines are almost always expressed using one of several noise averaging methods such as Leq, Ldn, or CNEL.<sup>5</sup> Using one of these descriptors is a way for a location's overall noise exposure to be measured, realizing of course that there are specific moments when noise levels are higher (e.g., when a jet is taking off from SFO or a leafblower is operating) and specific moments when noise levels are lower (e.g., during lulls in traffic flows on streets or in the middle of the night). For this report, the Leq(h) (representing the noisiest hour) will be used as it is consistent with the guidelines of the FHWA and Caltrans.

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<sup>5</sup>Leq stands for the Noise Equivalent Level and is a measurement of the average energy level intensity of noise over a given period of time such as the noisiest hour. Ldn stands for Day-Night Level and is a 24-hour average of noise levels, with 10-dB penalties applied to noise occurring between 10 PM and 7 AM. CNEL stands for Community Noise Equivalent Level; it is similar to the Ldn except that there are additional 5-dB penalties applied to noise which occurs between 7 PM and 10 PM. As a general rule of thumb where traffic noise predominates, the CNEL and Ldn are typically within 2 dBA of the peak-hour Leq.

This report is prepared to comply with Part 23, Section 772 of the Code of Federal Regulations (23 CFR 772) and Caltrans' Transportation Noise Abatement Protocol (TNAP), and is used to support the analysis and conclusions to meet the requirements of NEPA and CEQA. In accordance with 23 CFR 772, noise mitigation or abatement must be considered for Type I projects when the predicted noise levels approach or exceed a certain threshold. Both 23 CFR 772 and the TNAP stipulate that noise abatement measures that are reasonable and feasible and are likely to be incorporated in the project, shall be identified and included in the project's plans and specifications. It also stipulates that there should be acknowledgement if there will be noise impacts for which no apparent solution is available.

23 CFR 772 states that a noise impact occurs if it is found that certain noise levels (see Table 6) would be approached or exceeded in the project's design year (in this case 2025). Caltrans defines the term "approach" as 1 dBA below the NAC criterion. Under CEQA, if the increase is substantial (defined by Caltrans as 12 dBA or more), there is potential for a significant adverse impact due to noise and therefore mitigation must be identified. Under NEPA, the determination of significance is based on the noise increase with consideration of context and intensity, as well as whether the proposed abatement (i.e., soundwall) would result in impacts to other resources.

### **Affected Environment**

The project area is exposed to substantial noise from vehicular traffic. Vehicles traveling on Route 101 and cross-streets such as Broadway and Peninsula Avenues produce Leq(h) noise levels that exceed FHWA's noise abatement criteria at various land uses that are located adjacent to these roadways.

There are numerous single-family and multi-family residences located along both side of Route 101 within the project limits. With two exceptions (see below), there are no existing soundwalls along the freeway. Residences closest to the freeway are presently exposed to relatively high noise levels, with the Leq(h) as high as approximately 80 decibels. Existing noise levels are well above FHWA's exterior noise abatement criterion for residences, which is a Leq(h) of 67 decibels.

There are two locations along the westside of Route 101 where soundwalls are in place. One soundwall has a length of approximately 300 meters (985 feet) and extends between Poplar Avenue and State Street. The other soundwall has a length of approximately 1,225 meters (4,020 feet) and extends between Humboldt Street and Corbitt Drive. Both soundwalls have a base-to-top height of 4.4 meters (14.5 feet). Existing freeway-related noise levels at residences located "behind" these soundwalls are substantially lower than at those locations where soundwalls are not in place.

<b>TABLE 6</b>		
<b>NOISE ABATEMENT CRITERIA OF THE FEDERAL HIGHWAY ADMINISTRATION</b>		
<b>[Expressed in dBA]</b>		
<b>Activity Category</b>	<b>Peak-Hour Leq(h)</b>	<b>Description of Activity Category</b>
<b>A</b>	57 (Exterior)	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
<b>B</b>	67 (Exterior)	Picnic areas, recreation areas, playgrounds, active sports areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals.
<b>C</b>	72 (Exterior)	Developed lands, properties, or activities not included in Categories A or B above.
<b>D</b>	---	Undeveloped lands.
<b>E</b>	52 (Interior)	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums.
<b>Source:</b> 23 CFR, Part 772.		

### **Environmental Consequences**

Traffic-related noise levels at land uses adjacent to Route 101 within the project limits were quantified in accordance with FHWA and Caltrans procedures. Projected noise levels were then compared to FHWA's noise abatement criteria shown in Table 6 to determine whether the consideration of noise abatement measures was warranted. Projected noise levels were also compared with existing noise levels to determine whether the increase (if any) would be substantial. When compared to existing conditions, it was concluded that future noise levels with the project would generally be approximately one decibel higher. This projected increase in noise levels would not be substantial, nor significant under CEQA or NEPA.

Projected noise levels will, however, exceed FHWA's noise abatement criteria at many locations, as they do under existing conditions. As a result, the feasibility and reasonableness of noise abatement measures were considered. The feasibility of soundwalls was determined by a 5-dBA minimum reduction in noise level as well as overall constructability. The reasonableness of soundwalls was determined using criteria contained in the TNAP.

Based on the studies so far accomplished, Caltrans intends to incorporate noise abatement measures into the project in the form of the six soundwalls described in Table 7. Calculations based on preliminary design data indicate that the barriers will reduce noise levels by 5-15 dBA at approximately 271 residences at a cost of \$4,704,519. If during final design conditions have substantially changed (e.g., the alignment of the project is modified), noise barriers might not be provided. The final decision of the noise barriers will be made upon completion of the project design and the public involvement processes.

**TABLE 7**

**PROPOSED NOISE ABATEMENT SOUNDWALLS**

<b>Soundwall Location</b>	<b>Approximate Soundwall Length</b>	<b>Approximate Soundwall Height</b>	<b>Approximate Number of Residences Benefitting by 5 or More Decibels<sup>a</sup></b>	<b>Reason-able Allowance</b>
Eastside of 101: Third Avenue to Dore Avenue (see Figure 3C)	970 meters (3,182 ft.)	4.3 - 5.0 meters (14.1 - 16.4 ft.)	87	\$3.219 million
Eastside of 101: Dore Avenue to south of Poplar Avenue (see Figure 3C)	330 meters (1,083 ft.)	5.0 meters (16.4 ft.)	39	\$1.443 million
Westside of 101: Third Avenue to north of Second Avenue (see Figure 3C)	235 meters (771 ft.)	4.3 - 5.0 meters (14.1 - 16.4 ft.)	9	\$0.279 million
Westside of 101: State Street to north of Peninsula Avenue (see Figure 3C)	340 meters (1,115 ft.)	5.0 meters (16.4 ft.)	26	\$0.962 million
Westside of 101: North of Howard Street to Humboldt Street (see Figure 3B)	90 meters (295 feet)	4.3 meters (14.1 ft.)	4	\$0.132 million
Westside of 101: Corbitt Drive to south of Broadway Avenue (see Figures 3A and 3B)	1,035 meters (3,396 ft.)	4.3 - 5.0 meters (14.1 - 16.4 ft.)	106	\$3.922 million
			<b>Total:</b>	<b>\$9.957 million</b>

<sup>a</sup>Additional residences would benefit as well, but to a lesser extent.

Soundwall heights and lengths are preliminary and subject to change during final design.

**Source:** MOC Physics Applied, September 2001.

## **2.3 BIOLOGICAL ENVIRONMENT**

### **2.3.1 Wetlands and Other Waters of the United States**

#### **Regulatory Setting**

Due to the critical role they play in the overall health of the environment, as well as their benefit to commerce, wetlands and "Waters of the United States" are regulated by a number of federal and state agencies. Agencies such as the U.S. Army Corps of Engineers (ACOE), the California Department of Fish & Game (CDFG), and the State Water Resources Control Board (SWRCB) directly regulate these resources by requiring permits before work within such areas can begin. Agencies such as the U.S. Environmental Protection Agency (EPA) have policies that pertain to these resources and provide input on projects that affect them.

#### **Affected Environment**

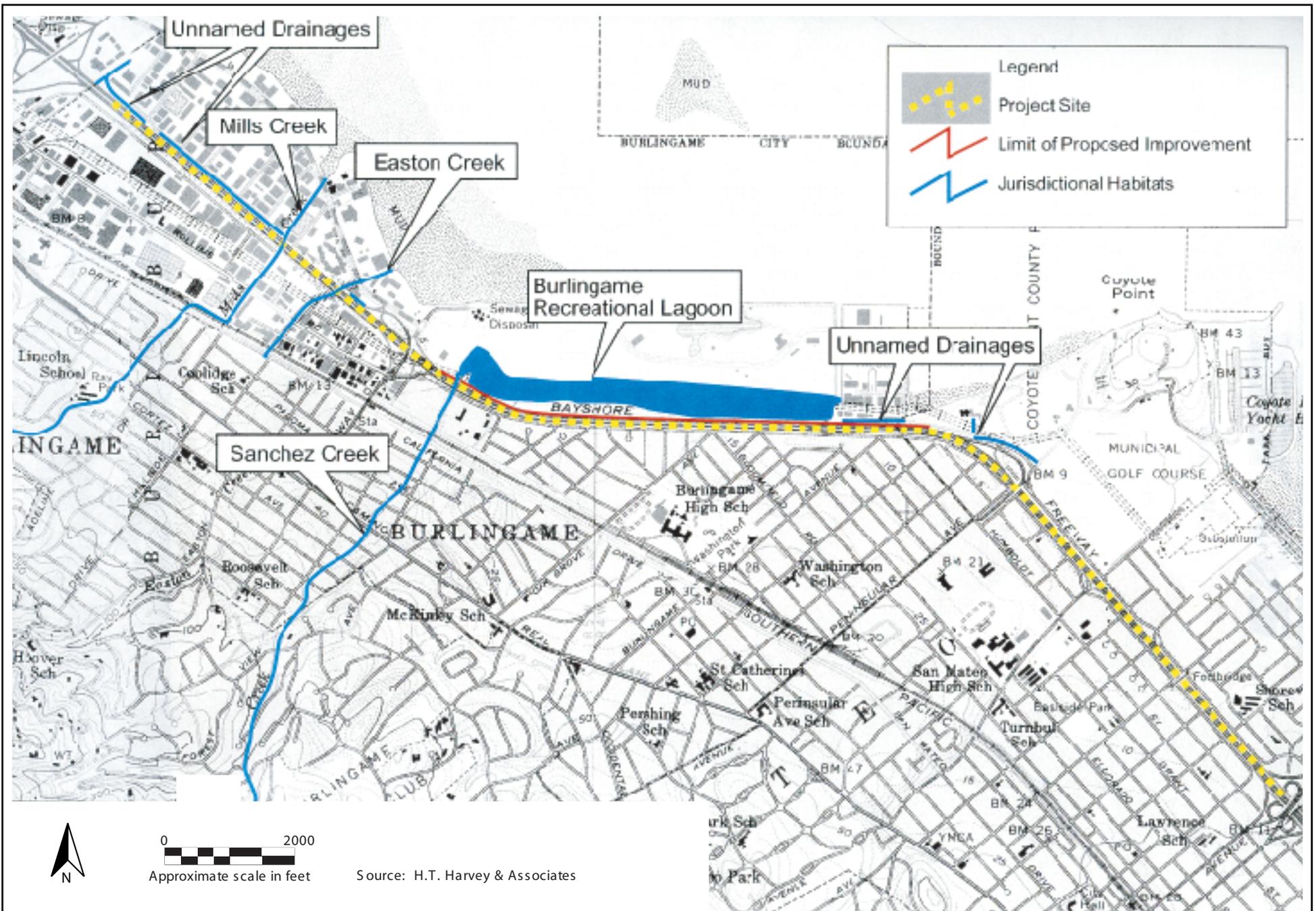
There are no wetlands within the project limits. However, areas meeting the ACOE's definition of "Waters of the United States" are located within, and adjacent to, the project limits. These areas consist of the Burlingame Recreational Lagoon, Mills Creek, Easton Creek, Sanchez Creek, and various unnamed drainages, as shown on Figure 18. Each of these is hydrologically connected to, and directly influenced by, the tidal activity of the San Francisco Bay.

#### **Environmental Consequences**

The project has been designed to avoid impacts to the Burlingame Recreational Lagoon, Mills Creek, Sanchez Creek, and most of the unnamed drainages.

At Easton Creek, the project proposes to lengthen the existing culvert under Route 101 by approximately 11 meters (36 ft.). This reach of Easton Creek is a sacrete-lined channel with little biological value. No loss of riparian habitat will occur from this culvert extension.

The proposed project will result in the loss of approximately 0.18 acres of an earthen-lined, man-made ditch that parallels the westside of Airport Boulevard, immediately north of Peninsula Avenue. Runoff from adjacent roadways and the nearby San Mateo Municipal Golf Course flows into this ditch that supports patches of cattails. However, due to its isolated nature and close proximity to roadways, the loss of this man-made channel is considered to be less-than-substantial from a biological perspective. The ditch will be replaced with new drainage facilities included in the project.



PROXIMITY OF JURISDICTIONAL HABITATS TO PROJECT SITE

FIGURE 18

### 2.3.2 Vegetation and Wildlife

#### **Affected Environment**

With the exception of Burlingame Recreational Lagoon and several creeks/drainages that are associated with tidal waters of San Francisco Bay (see above discussion in Section 2.3.1), the project area is highly urbanized and developed with vegetation limited to urban ornamental landscaping. Including the Burlingame Lagoon and the creeks/drainages, the immediate project area includes four habitats, described as follows:

**Northern Coastal Salt Marsh** occurs within that portion of the Burlingame Recreational Lagoon located directly adjacent to the project site, and to a lesser extent, along portions of the bed and banks of Mills and Sanchez Creeks. This also occurs within the bed and banks of the drainage ditch located at the southwest edge of the Lagoon between Route 101 and Lang Road. The principal species associated with this habitat are pickleweed, cordgrass, fleshy jaumea, saltgrass, and marsh gumplant. Wildlife present in this habitat include the salt marsh harvest mouse, the California Clapper Rail, Barn Swallows, Cliff Swallows, Great Blue Herons, Snowy Egrets, the Ring-billed Gull, California Gull, American Avocet Black-necked Stilt, Western Sandpiper, and dowitchers, which will all forage in salt marsh habitats.

**Aquatic habitat** is present in numerous drainages located within the project boundaries, including Mills Creek, Sanchez Creek and Easton Creek. In addition to Easton Creek, two unnamed concrete-lined flood control channels occur in the northern portion of the project site. The bed and banks of Easton Creek, and the two unnamed drainages serve primarily to convey seasonal stormwater runoff from the rolling hillside topography associated with the Cities of Burlingame and San Mateo to the Bay. Aquatic habitat within the bed and banks of these three channels supports primarily salt-tolerant vegetation including pickleweed, cord grass, and fleshy jaumea. The majority of the cement-lined drainage channels, including Easton Creek, offer little wildlife habitat value due to the lack of vegetation necessary for foraging and cover. Other channels onsite that are vegetated, such as Sanchez Creek, offer suitable wildlife habitat for Mallards, American Coots, Buffleheads, Gadwalls, and Ruddy Ducks, among others.

**Ruderal habitat** occurs primarily within portions of the seasonal drainage channels, and along the shoulders of Route 101 and local arterials. Ruderal habitat also occurs with areas of bare dirt in vacant lots and around the periphery of parking lots. Plant species identified in this habitat include wild oat, ripgut brome, Italian rye grass, common sow thistle, common groundsel, bur clover, scarlet pimpernel, red-leaf filaree, cheeseweed, beet, wild radish, yellow star-thistle, black mustard, coyote bush, and scotch broom. Wildlife that may occur in ruderal habitat include common garter snakes, racers, gopher snakes, western fence lizards, alligator lizards and several species of birds.

**Landscaped/developed habitat** occurs throughout the project area and is primarily associated with the interchanges, median of the freeway, and local arterials. Landscaped habitat also occurs in and around commercial and business office buildings and along the paved exercise patch located directly adjacent to the west side of the Burlingame Recreational Lagoon, south of Anza Boulevard. Several plant species identified within landscaped habitat onsite include myoporum, scotch broom, acacia, and a large stand of approximately 50 blue gum eucalyptus trees located on the west side of the exercise path adjacent to the Burlingame Recreational Lagoon.

The stand of eucalyptus offers the perching habitat in the landscaped area for many birds. Raptors such as White-tailed Kites, Red-shouldered Hawks, and Red-tailed Hawks will use such trees for perch sites.

### **Environmental Consequences**

Although it is located in proximity to the project, no northern coastal salt marsh habitat will be impacted by the project. Except as described above in Section 2.3.1 for Easton Creek and an unnamed drainage ditch, no loss of aquatic habitat will occur.

Ruderal habitat is relatively extensive along the project alignment. A portion of ruderal habitat on the site will be lost due to the construction of the proposed auxiliary lanes and associated features such as soundwalls and retaining walls. This loss of ruderal habitat would not constitute a substantial adverse effect.

The proposed project will result in the loss of landscaped/developed habitat. These types of habitats are relatively common regionally and are not considered to be sensitive. The proposed project is not expected to result in a substantial loss of landscaped habitat since the majority of construction work will be confined to existing hardscape areas. In addition, the flora and fauna associated with these types of habitats are common throughout the region. Therefore, this loss of landscaped/developed habitat would not constitute a substantial adverse effect.

### **2.3.3 Threatened and Endangered Species**

#### **Regulatory Setting**

The Federal and California Endangered Species Acts set forth extensive regulations and procedures to be followed when a plant or animal species is listed as either "Threatened" or "Endangered". These regulations are intended to avoid harm to such species and their habitat and, ultimately, to restore their numbers to where they are no longer threatened or endangered.

For projects that may affect species listed under the California Endangered Species Act, the CDFG has oversight and regulatory authority. For projects that may affect non-fish species listed under the federal Endangered Species Act, the U.S. Fish & Wildlife Service (USFWS) has oversight and regulatory authority. For projects that may affect fish species listed under the federal Endangered Species Act, the National Marine Fisheries Service (NMFS) has oversight and regulatory authority.

### **Affected Environment**

The USFWS and the CDFG were contacted regarding listed and candidate endangered/threatened species that could potentially be affected by the proposed project. Table 8 shows those species that were assessed for their presence in the project area. The discussion below focuses on those species where habitat is present in the vicinity of the project.

#### ***California Red-legged Frog***

Suitable breeding habitat for the California red-legged frog, a federally-listed Threatened species, does not occur within the project limits. Existing records of this species indicate that it is restricted to freshwater and slightly brackish water habitats. In lagoon systems and brackish water environments, field and laboratory observations indicate that California red-legged frogs cannot successfully reproduce and that larvae cannot survive. The drainages flowing easterly through the Route 101 alignment are tidal, usually with little or no aquatic emergent vegetation. Additionally, the concrete-lined drainage channels (e.g., Easton Creek) offer no habitat due to the lack of freshwater pools and vegetation in and around the water necessary for breeding. Finally, the small drainage from the San Mateo Golf Course at the southern end of the project appears too shallow and too degraded (possibly from chemical runoff) to support breeding red-legged frogs.

Immediately north of the project limits, there is a breeding population of California red-legged frogs within the Route 101/Millbrae Avenue interchange. It is possible that individuals frogs from this population could disperse to locations within the project limits. However, the potential for this to occur is limited by barriers such as Route 101 itself.

#### ***San Francisco Garter Snake***

The San Francisco garter snake, which is listed as Endangered under both the Federal and California Endangered Species Acts, is currently found only in San Mateo County. The closest recorded observations of this species are approximately 1.6 kilometers (one mile) from the project in a drainage canal and other areas around SFO. While habitat within the project limits is marginal, and this species is not expected to breed within the project area, individual San Francisco garter snakes may occur. The snakes would, however, be restricted to aquatic and grassland habitats in or adjacent to the unnamed drainage ditches, the Burlingame Recreational Lagoon, and creeks (e.g., Easton, Mills, and Sanchez).

**T A B L E 8**

**THREATENED AND ENDANGERED SPECIES**

<b>Species</b>	<b>Potential for Occurrence in Project Impact Area</b>
San Bruno Elfin Butterfly	No suitable habitat; presumed absent.
Mission Blue Butterfly	No host plants found onsite; presumed absent.
Winter-run Chinook Salmon	No suitable habitat; presumed absent.
Spring-run Chinook Salmon	No suitable habitat; presumed absent.
Fall-run Chinook Salmon	No suitable habitat; presumed absent.
Steelhead Rainbow Trout	No suitable habitat; presumed absent.
Tidewater Goby	No records of species in the project area; presumed absent.
California Least Tern	No suitable habitat; presumed absent.
California Black Rail	No suitable habitat; presumed absent.
California Clapper Rail	No suitable habitat; presumed absent.
Western Snowy Plover	No suitable habitat; presumed absent.
American Peregrine Falcon	No suitable breeding habitat. May use site rarely for foraging during winter and migration.
Bank Swallow	No suitable breeding habitat; presumed absent.
Saltmarsh Harvest Mouse	Degraded habitat onsite. No mice known to occur on or near site; presumed absent.
San Francisco Garter Snake	Potential for occurrence within and adjacent to aquatic habitats of the project site.
California Red-legged Frog	No suitable habitat, but breeding population is nearby. Individual frogs might disperse through project site.
California Tiger Salamander	No suitable habitat; presumed absent.
California Seablite	Suitable habitat present. Surveys not warranted since such habitat will not be impacted by project.
<b>Source:</b> H.T. Harvey & Associates, 2002.	

### *Western Snowy Plover*

The Western Snowy Plover is listed as federally-Endangered. This species is known to breed in the vicinity of Bair Island and Belmont Slough, which lie fewer than 8.05 kilometers (5 mi.) south of the project site. However, no suitable breeding habitat occurs on or immediately adjacent to the site for Snowy Plover. They are, therefore, presumed absent from the project site.

### *California Clapper Rail*

The California Clapper Rail, which is listed as Endangered under both the Federal and California Endangered Species Acts, is a locally common permanent resident of coastal salt and brackish marshes around San Francisco Bay and Monterey Bay. Clapper Rails have been recorded nesting within 8.05 kilometers (5 mi.) of the project site, in Belmont Slough and farther south. However, there is not sufficient vegetation within the project impact area to offer cover for this species, either for nesting or foraging. Therefore, they are presumed absent from the project site.

### *Saltmarsh Harvest Mouse*

The Saltmarsh Harvest Mouse is listed as federally-Endangered and has State listing status of Endangered, Fully Protected. There is no suitable habitat for this species within the project impact area. The salt marsh harvest mouse is found only in saline emergent wetlands of San Francisco Bay and its tributaries. The salt marsh harvest mouse occurs primarily in pickleweed marshes. Pickleweed on the project site is degraded and not extensive enough to support harvest mice. Therefore, they are presumed absent from the project site.

### *California Seablite*

California Seablite is proposed for federal listing as Endangered. This evergreen shrub occurs in coastal salt marshes and swamps. The historical range of California Seablite included Alameda, Santa Clara, and San Luis Obispo Counties, although it is now believed to be extirpated from Alameda and Santa Clara Counties. The project area may provide suitable habitat for this species, but no surveys are warranted because those locations that contain the suitable habitat will not be impacted.

## **Environmental Consequences**

Based on the above discussion, there is a small possibility that individual California red-legged frogs and/or San Francisco garter snakes could be harmed during construction. This statement is based on the fact that, although onsite habitat for these two species is absent/marginal, there are populations known from the general area, and individual frogs or snakes could disperse through creeks/drainage ditches located within the project site. Under the Endangered Species Act, harm to individual frogs or snakes would be considering a "taking".

### **Mitigation Measures**

In order to avoid the possibility that an individual California red-legged frog and/or San Francisco garter snake would be harmed during construction, the following measures have been incorporated into the project and will be undertaken:

- Pre-construction surveys for the California red-legged frog and the San Francisco garter snake will be conducted for five consecutive days prior to the start of construction. The preconstruction surveys will be conducted by a USFWS-approved biologist. Written concurrence that the biologist is qualified to conduct such surveys will be obtained from the USFWS;
- If any California red-legged frogs and/or San Francisco garter snakes are found during the surveys, the USFWS will be notified immediately and work in the area of the find will not commence until the individual(s) are relocated to a suitable site;
- Subsequent to the surveys, and prior to the start of construction, exclusion fencing will be erected around areas that could potentially be used by snakes or frogs;
- Exclusion fencing will be erected around the breeding population of California red-legged frogs at the Route 101/Millbrae Avenue interchange;
- Prior to the start of construction, the USFWS-approved biologist will conduct a training session for construction personnel. The training session will include a description of these two species and their habitat, the importance of these two species to the environment, the measures that are being undertaken to avoid harm;
- If any California red-legged frogs and/or San Francisco garter snakes are found during the course of construction, work in the immediate area will be halted and the USFWS will be notified immediately. Work in the area of the find will not resume until the individual(s) are relocated to a suitable site by the USFWS-approved biologist; and
- All exclusion fencing will be removed at the conclusion of construction.

With the incorporation of these measures into the project, it is concluded that the Route 101 Auxiliary Lanes Project is not likely to adversely effect the California red-legged frog or the San Francisco garter snake. The USFWS was consulted regarding the project, its impact on these species, and the above-described mitigation measures. In a letter to the FHWA dated 3/28/03, the USFWS concurred with the "not likely to adversely effect" determination. This letter is contained in Appendix B.

### **2.3.4 Special Status Species**

#### **Regulatory Setting**

In addition to those plant and animal species that are listed as threatened or endangered under the federal and/or California Endangered Species Acts, there are additional species that are given special consideration or protection. This includes California Species of Special Concern and uncommon plants per the California Native Plant Society. This also includes raptors protected under the federal Migratory Bird Treaty Act and birds of prey protected by California Fish & Game Code.

#### **Affected Environment**

Various special status species are known to occur within and adjacent to the project alignment. These species are listed in Table 9, along with their potential to occur on the project site. Of the species listed in Table 9, those likely to occur are raptors such as the White-tailed Kite, Loggerhead Shrikes, and Alameda Song Sparrows. There is suitable nesting habitat for these and other raptors in the trees within and adjacent to the project alignment.

#### **Environmental Consequences**

The removal of a tree that contains a nesting raptor would be an adverse effect of the project. In addition, certain construction activities in proximity to a nesting raptor could, by causing disturbances that lead to abandonment of the nest, have the same impact as tree removal.

#### **Mitigation Measures**

In order to avoid the possibility that a nesting raptor would be harmed during construction, the following measures have been incorporated into the project and will be undertaken:

- Where feasible, construction that directly or indirectly impacts raptors nests will be avoided during the nesting season (February through August); and
- For construction that occurs during the nesting season, pre-construction surveys for nesting raptors will be conducted by a qualified ornithologist. The preconstruction surveys will be conducted no more than 14 days prior to the initiation of demolition/construction activities during the early part of the breeding season (January through April) and no more than 30 days prior to the initiation of these activities during the late part of the breeding season (May through August). Loggerhead Shrikes and Song Sparrows must be surveyed for within seven days prior to construction. If active nests are found, a construction-free buffer zone will be established around the nest by the ornithologist, in consultation with the CDFG.

**T A B L E 9**

**SPECIAL STATUS SPECIES**

<b>Species</b>	<b>Potential for Occurrence in Project Impact Area</b>
Western Pond Turtle	No records on or adjacent to project; presumed absent.
Double-crested Cormorant	No nesting habitat onsite. May forage in lagoon.
Short-eared Owl	No nesting habitat, but may forage onsite occasionally.
Osprey	No nesting habitat onsite. May forage in lagoon.
Northern Harrier	No nesting habitat, but may forage onsite occasionally.
Sharp-shinned Hawk	Rare migrant/winter visitor; no onsite breeding expected.
Cooper's Hawk	Rare migrant/winter visitor; no onsite breeding expected.
Golden Eagle	No nesting or foraging habitat; presumed absent.
Merlin	Rare migrant/winter foraging; no nesting in California.
Burrowing Owl	Not known in San Mateo County in recent years.
Vaux's Swift	No nesting habitat, but may forage onsite occasionally.
Loggerhead Shrike	Foraging and nesting habitat onsite is marginal.
Alameda Song Sparrow	Potential breeding habitat onsite.
California Yellow Warbler	Rare migrant/winter visitor; no onsite nesting habitat.
Saltmarsh Common Yellowthroat	No records in project vicinity; marginal nesting habitat.
Yellow-breasted Chat	No suitable habitat; presumed absent.
Tricolored Blackbird	No nesting habitat, but may forage onsite occasionally.
Saltmarsh Wandering Shrew	No suitable habitat; presumed absent.
Townsend's Big-eared Bat	No suitable roosting habitat and no records in vicinity.
Pallid Bat	No suitable roosting habitat and no records in vicinity.
White-tailed Kite	Suitable nesting habitat in trees adjacent to project.
Point Reyes Bird's Beak	Suitable habitat present. Surveys not warranted since such habitat will not be impacted by project.
<b>Source:</b> H.T. Harvey & Associates, 2002.	

## **2.4 CONSTRUCTION IMPACTS**

### **2.4.1 Traffic Effects/Street Closures During Construction**

Except for temporary off-peak lane closures, the same number of traffic lanes will be maintained on Route 101 and local streets during the construction period. Narrowed lanes on Route 101 or Peninsula Avenue through the construction zone will be likely. However, except for rare occasions, neither of these facilities will be shut down entirely. On those rare occasions when a construction activity requires the closure of Route 101 or Peninsula Avenue, such closure will receive advance warning and will be limited to a period when traffic volumes are light (e.g., midnight to 5 AM). An example of such an activity would be when temporary beams are being placed or removed over Route 101 to erect Peninsula Avenue overcrossing falsework. Temporary detours (with signage) will be provided for these closures.

Prior to construction, a Traffic Management Plan (TMP) will be prepared. The TMP will address all traffic-related aspects of construction including, but not limited to, the following: detours, traffic handling in each stage of construction, pedestrian safety/access, and bicycle safety/access. A component of the TMP will involve public dissemination of construction-related information through notices to the neighborhoods, press releases, and the use of changeable message signs.

### **2.4.2 Effects on Businesses during Construction**

No roadway or driveway access to businesses is expected to be severed during the construction of the project. Temporary detours on local streets may, however, be utilized, with advance warning provided to affected properties.

### **2.4.3 Effects on Utilities during Construction**

The project will require the relocation of a number of utility lines that are located within the footprint of the project. However, no disruption of any utility service(s) for an extended period of time (i.e., more than 24 hours) is expected to be necessary.

### **2.4.4 Air Quality Effects during Construction**

Construction activities such as earthmoving, excavation and grading operations, construction vehicle traffic and wind blowing over exposed earth will generate exhaust emissions and fugitive particulate matter emissions that would affect local and regional air quality. Construction activities are also a source of organic gas emissions. Asphalt used in paving is a source of organic gases for a short time after its application. Solvents in adhesives, non-waterbase paints, and thinners would also evaporate

into the atmosphere and would participate in the photochemical reaction that creates urban ozone.

Construction dust could affect local air quality at various times during construction of the project. The dry, windy climate of the area during the summer months creates a high potential for dust generation when and if underlying soils are exposed to the atmosphere.

The effects of construction activities would be increased dustfall and locally elevated levels of PM<sub>10</sub> downwind of construction activity. Construction dust has the potential for creating a nuisance at nearby properties, and may constitute a health effect for children or persons with chronic health problems. Given the close proximity of the residences and other receptors, the following measures will be implemented by the project for the purpose of avoiding/minimizing such effects:

- Water all active construction areas at least twice daily;
- Cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least two feet of freeboard;
- Pave, apply water three times daily, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas, and staging areas at construction sites;
- Sweep daily (preferably with water sweepers) all paved access roads, parking areas, and staging areas at construction sites;
- Sweep streets daily (preferably with water sweepers) if visible soil material is carried onto adjacent public streets;
- Hydroseed or apply non-toxic soil stabilizers to inactive construction areas;
- Enclose, cover, water twice daily, or apply non-toxic soil binders to exposed stockpiles (debris, dirt, sand, etc.);
- Limit traffic speeds on unpaved areas to 15 mph; and
- Replant vegetation in disturbed areas as quickly as possible.

#### **2.4.5 Noise and Vibration Effects during Construction**

The construction of the project will involve a wide variety of construction equipment for such tasks as earth hauling, excavating, contouring, grading and compacting of surfaces. Columns will be cast, surfaces will be paved, and steel members will be joined together. Most of the construction activities will involve the use of noise-generating diesel-powered heavy equipment such as dump trucks and bulldozers, concrete pumps, air compressors, cranes and generators. Most diesel-powered heavy construction equipment produces noise levels of 75 to 90 decibels when it is at a distance of 15 meters (50 feet).

Noise levels decrease by 6 decibels for every doubling of the distance of separation from such localized sources. For example, barring obstructions, the noise levels from such a piece of equipment would be expected to be about 18 decibels less at a distance of 122 meters (400 feet) than at a distance of 15 meters (50 feet), that is 57 to 72 decibels instead of 75 to 90 decibels.

Structural work, which typically lasts longer and involves more equipment than non-structural work, will be required for the new Peninsula Avenue overcrossing, for the Broadway and Monte Diablo pedestrian overcrossings, for retaining walls, and for soundwalls.

If the windows of those homes that would be most exposed to construction activities were to be open when the construction activities would be undertaken near them, then noise levels inside those homes would then be approximately 10 decibels less than the levels outdoors; at a distance of separation of 15 meters (50 feet), the interior noise levels from the construction activities would be in the range of 65 to 80 decibels (or slightly higher whenever it would happen that more than one such piece of heavy equipment were to be used at the same time near the same place). With windows closed, the indoor noise levels at the same homes would be about 20 decibels less than the outdoor noise levels, or about 55 to 70 decibels. Such noise levels are highly intrusive in effect and can be expected to cause a considerable amount of annoyance. Speech is commonly conducted at levels of 60 to 65 decibels at the listener's ear. Thus, the estimated construction noise levels would at times cause a substantial amount of speech interference inside and outside of many of the residences that are thus situated. This situation applies to residences located along the Route 101 freeway.

Pile driving will be used during construction of the Peninsula Avenue overcrossing, the Broadway Avenue pedestrian overcrossing, and the Monte Diablo pedestrian overcrossing. Pile drivers produce an impact noise each time the hammer strikes the pile (or the temporary cap on the top of the pile). The peak decibel levels during the sound impulses from pile drivers vary substantially according to the circumstances but often fall in the range of 95 to 105 decibels at a distance of 15 meters (50 feet). Again, the diminution with increasing distance is about 6 decibels for every doubling of the distance of separation.

Thus, noise from construction activities is likely to constitute a temporary annoyance at residences located along Route 101. Construction activities may also generate noticeable ground vibration at nearby residences, with pile driving being the construction source that could produce the greatest ground vibrations. The following measures will be implemented by the project for the purpose of avoiding/minimizing such effects:

- Where feasible, the soundwalls being constructed by the project for noise abatement purposes will be constructed as a first task. These soundwalls are described in Section 2.2.6;
- Pile driving will be limited to the hours of 8 AM to 5 PM, Monday through Friday;
- Where practical, construction operations will be restricted to daytime hours of 7 AM to 7 PM with no construction activities on Sundays or holidays, to avoid the more sensitive evening and early morning hours. "Practical", as used here, means daytime construction can occur without creating major disruption *and* nighttime construction could avoid/minimize such disruption [e.g., the closure of lane(s) of traffic on primary highways with substantial volumes of daytime traffic]. This measure applies only at locations where there are adjacent sensitive receptors (e.g., residences);
- Equipment will use available (i.e., standard) noise suppression devices and properly maintained mufflers. Construction noise can be reduced by using quiet or "new technology" equipment, particularly the quieting of exhaust noises by use of improved mufflers, and the use of such equipment is recommended. All internal combustion engines used at the project site will be equipped with the type of muffler recommended by the vehicle manufacturer. In addition, all equipment will be maintained in good mechanical condition so as to minimize noise created by faulty or poorly maintained engine, drive-train, and other components;
- Staging of construction equipment and unnecessary idling of equipment within 61 meters (200 feet) of noise-sensitive land uses will be avoided whenever feasible. "Feasible", as used here, means that the implementation of this measure would not have a notable effect on construction operations or schedule;
- Temporary walls/barriers/enclosures will be erected around stationary construction equipment when such equipment will be operated for an extensive period of time (i.e., more than 2-3 days) *and* where there are adjacent residences. Noise barrier walls and enclosures will contain absorptive material in order to prevent effects upon other land uses due to noise reflection;
- The project will provide acoustical enclosures for any pumps, such as groundwater removal pumps, that may need to operate at night; and
- Notification shall be given to residents within 91 meters (300 feet) alerting them of planned construction activities, including the overall durations of the various construction stages and the schedule of pile driving activities. The notification shall also describe the noise abatement

measures that have been taken, as well as note the infeasibility of other measures that were considered but rejected.

#### **2.4.6 Water Quality Effects during Construction**

The project will involve excavation and grading activities for the purpose of constructing the auxiliary lanes and other components of the project. These activities have the potential to degrade water quality in the form of sedimentation, erosion, and fuels/lubricants from equipment. At this location, the water quality of various creeks and the Burlingame Recreational Lagoon could be affected by construction activities because of their proximity to the project. Since these resources support numerous wildlife and plant species, a short-term degradation of water quality would be considered an adverse effect. In order to avoid/minimize such effects, the project will implement the following measures:

- All active paved construction areas will be swept and washed daily;
- Silt fencing will be used to retain sediment on the project site;
- Temporary cover of all disturbed surfaces will be provided to help control erosion. Permanent cover/revegetation will be provided to stabilize the disturbed surfaces after construction has been completed;
- No debris, soil, silt, sand, bark, slash, sawdust, cement, concrete, washings, petroleum products, or other organic or earthen material shall be allowed to enter into or be placed where it may be washed by rainfall or runoff into any waterways or the Burlingame Recreational Lagoon; and
- Best Management Practices (BMPs) will be utilized by the contractor(s) during construction. The BMPs will be incorporated into a Stormwater Pollution Prevention Plan for the project, as required by the Caltrans NPDES permit.

## 2.5 CUMULATIVE IMPACTS

Substantial development has occurred - and is occurring along the Route 101 corridor. The entire project area has been transformed from what was largely an agricultural environment to that of an urban environment. As described in Section 2.1.1, *Land Use*, numerous residential, commercial, and industrial uses are present along Route 101.

Cumulative development has resulted in a significant increase in traffic on Route 101 and in the project area as a whole, and future increases are projected to occur. The existing and future traffic conditions in the project area are based on the land uses identified in the general plans of the adjacent cities. The project would not contribute toward this increase in traffic; rather, it would result in additional capacity for these vehicle trips. See Section 2.1.5, *Traffic*.

Cumulative development has resulted in a substantial increase in ambient noise levels in the project area. Ground traffic is the single largest source of noise along Route 101, although aircraft operations at SFO are also a substantial noise source at the north end of the project limits. Noise typically associated with residential and urban environments is present, which also contributes to the cumulative ambient noise levels. The project would incrementally contribute to overall noise levels. Where noise levels along Route 101 will approach or exceed FHWA's noise abatement criteria, soundwalls will be provided by the project. See Section 2.2.6, *Noise*.

Cumulative development has resulted in a substantial degradation in ambient air quality in the greater San Francisco Bay Area. However, due to emissions control technology, overall air quality has been improving in recent years. Although most present and future development will likely increase emissions, improvements in technology are largely expected to offset such increases. The project will not contribute to the region's emissions. Rather, the project is expected to reduce areawide emissions by decreasing congestion and vehicle delay. See Section 2.2.5, *Air Quality*.

Cumulative development has resulted in a substantial loss of riparian habitat along creeks and other waterways in San Mateo County, as well as the loss of wetland habitat along the edge of San Francisco Bay. In recent years, this loss has been largely stemmed owing to the fact that impacts are accompanied by offsetting mitigation. The project will not contribute to a further loss of these habitats because it has been designed to avoid such impacts. See Section 2.3, *Biological Environment*.

## **CHAPTER 3. COMMENTS AND COORDINATION**

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During the planning, environmental review, and preliminary design processes, the San Mateo County Transportation Authority, Caltrans and the FHWA have undertaken consultation with a number of agencies and stakeholders. Consultation and coordination to date has included the following:

- Meetings with the staffs of the City of Burlingame, City of San Mateo, and County of San Mateo regarding project design issues, so as to maximize efficient traffic operations on the local streets in the vicinity of the freeway interchanges.
- A meeting (7/26/01) with the BCDC staff regarding issues related to the project's proximity to San Francisco Bay and permit requirements. BCDC stressed the importance of maintaining and, if possible, improving east-west access across Route 101 to provide public access to the recreational lands along San Francisco Bay. The project design meets both of these criteria.
- Consultation with the USFWS regarding the San Francisco garter snake and the California red-legged frog (see Appendix B).
- Consultation with the SHPO regarding cultural resources issues (see Appendix B).
- Consultation and field review with the ACOE for the purpose of delineating the extent and limits of ACOE jurisdiction in the project area.
- Consultation with the Native American Heritage Commission and the San Mateo County Historical Association during the preparation of the cultural resources reports. No substantive concerns were raised.

## **CHAPTER 4. LIST OF PREPARERS**

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The following individuals were principally responsible for preparing this EA/IS and/or the technical studies upon which the EA/IS is based:

### **David J. Powers & Associates, Inc. [EA/IS Preparation]**

John Hesler, Principal  
Nora Monette, Project Manager  
Julie Mier, Assistant Project Manager  
Stephanie Grotton, Graphic Artist

### **Basin Research Associates, Inc. [Section 106/Cultural Resources]**

Colin Busby, Principal  
Ward Hill, Architectural Historian  
Melody Tannan, GIS Database & Maps

### **H.T. Harvey & Associates, Inc. [Natural Environment Study/Biological Assessment]**

Pat Boursier, Principal  
Scott Terrill, Senior Wildlife Biologist  
Brian Cleary, Project Manager  
Julie Klingmann, Project Manager  
David Johnston, Wildlife Biologist  
Naomi Nichol, Wildlife Biologist

### **M.O'C Physics Applied [Air Quality and Noise Studies]**

Mike O'Connor, Principal

### **LSA Associates, Inc. [Location Hydraulic Study]**

Bill Mayer, Principal

### **Rajappan & Meyer Consulting Engineers [Traffic Report]**

Bala Rajappan, Principal  
Keith Meyer, Principal

# **Appendix**

## **A**

### **CEQA**

### **Checklist**

## Environmental Significance Checklist

This checklist identifies physical, biological, social and economic factors that might be affected by the proposed project. In many cases, background studies performed in connection with the project indicate no impacts. A NO IMPACT answer in the last column reflects this determination. Where there is a need for clarifying discussion, the discussion is included in Chapter 2. The words "significant" and "significance" used throughout the following checklist are related to CEQA, not NEPA, impacts.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
<b>I. AESTHETICS -- Would the project:</b>				
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>II. AGRICULTURE RESOURCES: In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project:</b>				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>III. AIR QUALITY -- Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:</b>				

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>IV. BIOLOGICAL RESOURCES -- Would the project:</b>				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
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V. CULTURAL RESOURCES -- Would the project:

- |   |                          |                          |                          |                                     |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?    | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Disturb any human remains, including those interred outside of formal cemeteries?                          | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

VI. GEOLOGY AND SOILS -- Would the project:

- |  |                          |                          |                                     |                                     |
|--|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:   |                          |                          |                                     |                                     |
| i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| ii) Strong seismic ground shaking?   | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| iii) Seismic-related ground failure, including liquefaction?   | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| iv) Landslides?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| b) Result in substantial soil erosion or the loss of topsoil?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?   | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
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VII. HAZARDS AND HAZARDOUS MATERIALS –

Would the project:

- |  |                          |                                     |                          |                                     |
|--|--------------------------|-------------------------------------|--------------------------|-------------------------------------|
| a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?  | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?  | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?  | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?                                   | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |
| e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area? | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?  | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?  | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?   | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

VIII. HYDROLOGY AND WATER QUALITY -- Would the project:

- |   |                          |                                     |                          |                                     |
|---|--------------------------|-------------------------------------|--------------------------|-------------------------------------|
| a) Violate any water quality standards or waste discharge requirements?   | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |
| b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)? | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
j) Inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
IX. LAND USE AND PLANNING - Would the project:				
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
X. MINERAL RESOURCES -- Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
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XI. NOISE –

Would the project result in:

- |   |                          |                                     |                                     |                                     |
|---|--------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?   | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?   | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?  | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?  | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |
| e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels? | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?  | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

XII. POPULATION AND HOUSING -- Would the project:

- |   |                          |                          |                                     |                                     |
|---|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
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XIII. PUBLIC SERVICES

a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

XIV. RECREATION –

a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
--------------------------	--------------------------	--------------------------	-------------------------------------

b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
--------------------------	--------------------------	--------------------------	-------------------------------------

XV. TRANSPORTATION/TRAFFIC -- Would the project:

a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	-------------------------------------	--------------------------

b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
--------------------------	--------------------------	--------------------------	-------------------------------------

d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
--------------------------	--------------------------	--------------------------	-------------------------------------

e) Result in inadequate emergency access?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
--------------------------	--------------------------	--------------------------	-------------------------------------

f) Result in inadequate parking capacity?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
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g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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XVI. UTILITIES AND SERVICE SYSTEMS –

Would the project:

a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
--------------------------	--------------------------	--------------------------	-------------------------------------

b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
--------------------------	--------------------------	--------------------------	-------------------------------------

c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
--------------------------	--------------------------	--------------------------	-------------------------------------

d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
--------------------------	--------------------------	--------------------------	-------------------------------------

e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
--------------------------	--------------------------	--------------------------	-------------------------------------

f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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g) Comply with federal, state, and local statutes and regulations related to solid waste?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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	Less Than Significant		
Potentially Significant Impact	With Mitigation Incorporation	Less Than Significant Impact	No Impact

XVII. MANDATORY FINDINGS OF SIGNIFICANCE –

a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	-------------------------------------	--------------------------

b) Does the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	-------------------------------------	--------------------------

c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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# **Appendix**

## **B**

**Letters of Concurrence:**

**Cultural Resources**

**&**

**Threatened/Endangered**

**Species**

OFFICE OF HISTORIC PRESERVATION  
DEPARTMENT OF PARKS AND RECREATION  
P.O. BOX 942896  
SACRAMENTO, CA 94296-0001  
(916) 853-6824 Fax: (916) 853-9824  
calshpo@ohp.parks.ca.gov



September 26, 2002

Reply To: FHWA020807A

David A. Nicol, Acting Division Administrator  
U.S. Department of Transportation  
Federal Highway Administration  
California Division  
980 Ninth Street, Suite 400  
Sacramento, CA 95814-2724

Re: Determinations of Eligibility for the Proposed Construction of Auxiliary Lanes on Route 101, San Mateo County, CA (HAD-CA, FILE NO. US 101 AUXILIARY LANE, 04-SM-101 PM13.5/17.9, EA 04-245-26420K, DOCUMENT NO. P41180)

Dear Mr. Nicol:

You have provided me with the results of your efforts to determine whether the area of potential effect (APE) for the undertaking described above contains historic properties. You have done this, and are consulting with me, in order to comply with Section 106 of the National Historic Preservation Act and implementing regulations codified at 36 CFR Part 800.

The Federal Highway Administration (FHWA) has determined that the following properties are not eligible for the National Register of Historic Places (NRHP):

- 949 Rollins Avenue, Burlingame
- 917-929 Rollins Avenue, , Burlingame
- 900-902 Larkspur Drive, , Burlingame
- 855-859 Rollins Avenue, , Burlingame
- 849 Rollins Avenue, Burlingame
- 847 Rollins Avenue, Burlingame
- 841 Rollins Avenue, Burlingame
- 741, 761, 805 Rollins Avenue, 820, 821 Winchester Drive, Burlingame
- 1 Winchester Place, Burlingame
- 2 Winchester Place, Burlingame
- 1135 N Amphlett Boulevard, San Mateo
- 1125 N Amphlett Boulevard, San Mateo
- 925 N Amphlett Boulevard, San Mateo
- 1121 Peninsula Avenue/909 N Amphlett Boulevard, San Mateo
- 1111 Peninsula Avenue, San Mateo
- 1107 Peninsula Avenue, San Mateo
- 1103 Peninsula Avenue, San Mateo
- 1025 Peninsula Avenue, San Mateo
- 1021 Peninsula Avenue, San Mateo
- 859 N Idaho Street, San Mateo
- 860 N Idaho Street, San Mateo
- 237 S Idaho Street, San Mateo
- 1227-1236 Terminal Place, 1215 2<sup>nd</sup> Avenue, San Mateo
- 1210 Cypress Avenue, San Mateo
- 3 North Kingston Street, 10-30 N Bayshore Boulevard, San Mateo

Mr. Nicol  
September 26, 2002  
Page 2

- 220 N Bayshore Boulevard, San Mateo
- Broadway Overpass
- Peninsula Avenue Overpass
- Monte Diablo Pedestrian Overpass

Post-1956 properties were treated in accordance with the "Caltrans Interim Policy for the Treatment of Buildings Constructed in 1957 or Later".

Based on review of the submitted documentation, I concur with the foregoing determinations.

I would appreciate clarification with regard to several aspects of the FHWA's effort to identify archaeological sites in the undertaking's Archaeological APE. I am unclear on the FHWA's rationale for selecting particular portions of the Archaeological APE for pedestrian survey, on the field methodology for the pedestrian survey, and on the rationale for selecting particular portions of the Archaeological APE for the program of subsurface inventory. In order to help assess the adequacy of the FHWA's efforts to identify archaeological sites in the Archaeological APE, it would be useful to know which portions of that APE include construction fill and in which portions of the APE the implementation of the undertaking may breach that fill and disturb native soil. In consideration of that information, it would then be helpful to know how and why the FHWA chose portions of the Archaeological APE that would be subject to such disturbance for pedestrian survey or subsurface inventory, and what exactly the field methodology was for the pedestrian survey since the Office of Historic Preservation recognizes no "standard archaeological practice" in California and how that methodology takes into consideration the apparent poor ground visibility over much of the APE.

Thank you for considering historic properties during project planning. If you have any questions, please call Natalie Lindquist at (916) 654-0631 and e-mail at [nlind@ohp.parks.ca.gov](mailto:nlind@ohp.parks.ca.gov) or Mike McGuirt at (916) 653-8920 and e-mail at [mmcguirt@ohp.parks.ca.gov](mailto:mmcguirt@ohp.parks.ca.gov).

Sincerely,

Dr. Knox Mellon  
State Historic Preservation Officer

**OFFICE OF HISTORIC PRESERVATION  
DEPARTMENT OF PARKS AND RECREATION**

P.O. BOX 942896  
SACRAMENTO, CA 94296-0001  
(916) 653-6624 Fax: (916) 653-9824  
calshpo@ohp.parks.ca.gov  
www.ohp.cal-parks.ca.gov



13 December 2002

In Reply Refer To  
FHWA020807A

Gary N. Hamby  
Division Administrator  
California Division  
Federal Highway Administration  
980 Ninth Street, Suite 400  
Sacramento, California 95814-2724

RE: HAD-CA, FILE NO. US 101 AUXILIARY LANE, 04-SM-101 PM13.5/17.9, EA 04-245-26420K [FURTHER SECTION 106 CONSULTATION ON THE PROPOSED CONSTRUCTION OF AUXILIARY LANES ON STATE ROUTE 101, SAN MATEO COUNTY]

Dear Mr. Hamby,

On behalf of the Federal Highway Administration (FHWA), Elizabeth McKee, Branch Chief, Archaeology, California Department of Transportation District 4, on 8 November 2002 provided me with a response to questions I had asked in my letter of 26 September 2002, regarding the subject undertaking. Thank you for facilitating this response.

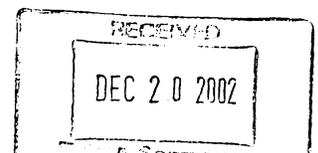
I make the following interpretation of this response:

- (1) The FHWA reaffirms its earlier conclusion that a reasonable and good-faith effort has been made to identify historic properties located within this undertaking's area of potential effects (APE), and
- (2) the FHWA confirms its previous finding that this undertaking will have no effect on historic properties.

Having reviewed the details of the FHWA's response to my prior comments on this undertaking, I am herewith notifying you that I do not object to your finding that this undertaking will not affect historic properties.

However, with reference to the documentation requirements set forth in 36 CFR § 800.11(d), I wish to place the following observations of the State Historic Preservation Officer into the official consultation record for this undertaking:

- (1) A substantive explanation of the rationale behind the research design and methodology for the pedestrian survey and subsurface excavation within the APE would have promoted a more timely conclusion to this consultation.

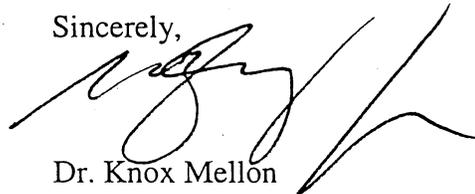


- (2) Inclusion of graphic depictions of land use history, geomorphology, near-surface geology, and present surface visibility within the APE would have promoted a more timely conclusion to this consultation by lending support to the agency official's belief that the chances of encountering archaeological deposits during construction will be low.

On the basis of the foregoing observations, I recommend that FHWA now consider the manner in which it would address the requirements of 36 CFR § 800.13 in the event that a post-review discovery is made.

Please direct any questions or concerns that you may have to Project Review Unit archaeologist Mike McGuirt at 916.653.8920 or at [mmcguirt@ohp.parks.ca.gov](mailto:mmcguirt@ohp.parks.ca.gov).

Sincerely,



Dr. Knox Mellon  
State Historic Preservation Officer

WKM:mdm

# United States Department of the Interior



## FISH AND WILDLIFE SERVICE

Sacramento Fish and Wildlife Office  
2800 Cottage Way, Room W-2605  
Sacramento, California 95825-1846

IN REPLY REFER TO:  
1-1-02-I-3160

# RECEIVED

March 28, 2003

APR 07 2003

DAVID J. POWERS  
& ASSOCIATES, INC.

Mr. Robert Gross  
District Office Chief  
California Department of Transportation  
Office of Environmental Planning  
P.O. Box 23660  
Oakland, California 94623-0660

Subject: Highway 101 3<sup>rd</sup> Avenue to Millbrae Avenue Auxiliary Lane Project, San Mateo County, California

Dear Mr. Gross:

We have reviewed your request, dated August 20, 2002, and received by us on August 23, 2002, for our concurrence with your determination that the Highway 101 Auxiliary Lane Project is not likely to adversely affect the endangered San Francisco garter snake (*Thamnophis sirtalis tetrataenia*) or the threatened California red-legged frog (*Rana aurora draytonii*) (red-legged frog). This project, funded in part by the Federal Highways Administration, will be carried out by California Department of Transportation (Caltrans).

This project entails the construction of auxiliary lanes on Highway 101 between 3<sup>rd</sup> Avenue and a point approximately 0.16 mile south of Millbrae Avenue, a distance of 4.4 miles. In addition to the construction of auxiliary lanes, proposed improvements include the following components: 1) the reconstruction of the existing Highway 101/Peninsula Avenue interchange, 2) the replacement of the existing pedestrian overcrossing of Highway 101 at Monte Diablo Avenue in San Mateo, 3) the construction of a new pedestrian overcrossing of Highway 101 at Broadway Avenue in Burlingame, and 4) the construction of new sound walls at various as yet undetermined locations along Highway 101. Construction of the project would begin in the summer of 2003 and last until approximately the fall of 2005.

Before construction activities begin, a qualified biologist would conduct pre-construction surveys for red-legged frogs and San Francisco garter snakes for five consecutive days prior to the beginning of construction activities. If individuals of either species are observed where the project alignment will cross the drainages, construction activities will not begin and the Service

will be contacted immediately. In addition, a qualified biologist would conduct a training session for construction personnel. At a minimum, the training would include a description of the San Francisco garter snake and the red-legged frog, the importance of the two species and their habitat, the general measures that are being implemented to protect the species, and the boundaries within which the project may be accomplished. In addition, exclusion fencing would be installed between construction activities and any aquatic areas traversed.

According to the California Department of Fish and Game's California Natural Diversity Database, the closest observation of San Francisco garter snake to the project alignment is approximately one mile north of the northern end of the alignment. Drainages crossing the project alignment provide poor to marginal habitat. Surveys for the San Francisco garter snake conducted in March 2003 resulted in no observations of the species.

Most of the drainages flowing easterly across the project alignment are tidal, usually with little or no aquatic emergent vegetation available as habitat to the red-legged frog. Although poor foraging and dispersal habitat does exist, no breeding habitat for red-legged frogs exists along the project alignment. Breeding red-legged frogs exist at the Millbrae Avenue/Highway 101 interchange. However, the presence of Highway 101, heavily urbanized areas to the west and east of the freeway, tidal waters unfit for red-legged frogs in Easton Creek and other drainages flowing to the bay and the lagoon to the east, likely precludes movement of red-legged frogs from the Millbrae Avenue population to the project site. Surveys for red-legged frogs conducted in March 2003 resulted in no observations of the species, except at the Millbrae Avenue interchange.

We concur that the proposed Highway 101 Auxiliary Lane Project is not likely to adversely affect the San Francisco garter snake or the red-legged frog because neither species is anticipated to be present due to high salinity levels, contaminated surface runoff, lack of vegetation, lack of contiguity with known habitat, or a combination of these factors. Therefore, unless new information reveals effects of the project that may affect federally listed species or critical habitat in a manner not identified to date, or if a new species is listed or critical habitat is designated that may be affected by the proposed action, no further action pursuant to the Act is necessary.

If you have any questions regarding this response to the Highway 101 3<sup>rd</sup> Avenue to Millbrae Avenue Auxiliary Lanes Project, please contact Valary Bloom or Dan Buford at (916) 414-6625.

Sincerely,



for Michael Fris  
Division Chief, Endangered Species Program

## **LIST OF TECHNICAL STUDIES**

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The following technical reports were prepared during the preparation of this EA/IS for this project. The reports are available for review during normal business hours at the following locations:

San Mateo County Transportation Authority  
1250 San Carlos Avenue  
San Carlos, CA 94070-1306

Caltrans District 4  
111 Grand Avenue  
Oakland, CA 94612

- Archaeological Survey Report (Basin Research Associates) - May 2002
- Historical Architectural Survey Report (Basin Research Associates) - May 2002
- Historic Property Survey Report (Basin Research Associates) - May 2002
- Initial Site Assessment (David J. Powers & Associates) - January 2002
- Preliminary Site Investigation Report (Kleinfelder, Inc.) - March 2003
- Aerially-Deposited Lead Site Investigation Report (Geocon Consultants, Inc.) - October 2002
- Asbestos Survey Report (Geocon Consultants, Inc.) - October 2002
- Natural Environmental Study (H.T. Harvey & Associates) - August 2002
- Identification of Waters of the U.S. (H.T. Harvey & Associates) - May 2001
- Biological Assessment for the California Red-Legged Frog & San Francisco Garter Snake (H.T. Harvey & Associates) - August 2002
- Location Hydraulic Study (LSA Associates) - June 2001
- Floodplain Impacts and Drainage Report (Schaaf & Wheeler) - November 2002
- Stormwater Drainage Report (Rajappan & Meyer Consulting Engineers) - February 2003
- Aesthetic Report (Sugimura & Associates) - April 2002
- Noise Study (MOC Physics Applied) - September 2001
- Air Quality Study (MOC Physics Applied) - June 2001
- Final Geotechnical Design and Materials Report (Parikh Consultants, Inc.) - February 2003
- Geotechnical Engineering Investigation Report for Broadway POC, Monte Diablo POC, and Peninsula Overcrossing (Parikh Consultants, Inc.) - November 2002
- Final Travel Forecasting Report (Hexagon Transportation Consultants) - December 2001
- Traffic Operations Analysis Report (Rajappan & Meyer Consulting Engineers) - August 2001
- Traffic Management Plan (Rajappan & Meyer Consulting Engineers) - February 2003