

Route 101 Auxiliary Lanes Project

SAN MATEO AND SANTA CLARA COUNTIES, CALIFORNIA
DISTRICT 4 – SM – 101, KP 0.0/5.8 (PM 0.0/3.6)
DISTRICT 4 – SCL – 101, KP 84.2/84.6 (PM 52.3/52.6)
Expenditure Authorization 235610

Initial Study with Proposed Negative Declaration/ Environmental Assessment



Prepared by the
U.S. Department of Transportation
Federal Highway Administration
State of California Department of Transportation



February 2008



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GENERAL INFORMATION ABOUT THIS DOCUMENT

What's in this document:

The California Department of Transportation (Department), and the Federal Highway Administration (FHWA), have prepared this Initial Study/Environmental Assessment (IS/EA), which examines the potential environmental impacts of the alternatives being considered for the proposed project located in San Mateo and Santa Clara Counties, California. The document describes why the project is being proposed, alternatives for the project, the existing environment that could be affected by the project, the potential impacts from each of the alternatives, and the proposed avoidance, minimization and/or compensation measures.

What you should do:

- Please read this Initial Study/Environmental Assessment. Additional copies of this document as well as the technical studies are available for review at the Caltrans District 04 Office, 111 Grand Avenue, Oakland, CA 94612, and the three following locations:

East Palo Alto Library
2415 University Avenue
East Palo Alto, CA 94303

Menlo Park Main Library
800 Alma Street
Menlo Park, CA 94025

Palo Alto Main Library
1213 Newell Road
Palo Alto, CA 94303

- We welcome your comments. If you have any comments regarding the proposed project, please send your written comments to the Department by the deadline.

- Submit comments via postal mail to:

Ed Pang, Environmental Branch Chief
Attention: Thomas Rosevear
Dept. of Transportation, Environmental Planning
P.O. Box 23660
Oakland, CA 94623-0660

- Submit comments via email to thomas_rosevear@dot.ca.gov.
- Submit comments by June 12, 2008.

What happens next:

After comments are received from the public and reviewing agencies, the Department and the Federal Highway Administration may: (1) give environmental approval to the proposed project, (2) undertake additional environmental studies, or (3) abandon the project. If the project is given environmental approval and funding is appropriated, the Department could design and construct all or part of the project.

For individuals with sensory disabilities, this document can be made available in Braille, large print, on audiocassette, or on computer disk. To obtain a copy in one of these alternate formats, please call or write to Department of Transportation, District 4 Office of Public Affairs, PO Box 23440, Oakland, CA 94623-0660; (510) 286-4444 Voice, or use the California Relay Service 1 (800) 735-2929 (TTY), 1 (800) 735-2929 (Voice) or 711.

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It should be noted that at a future date, the Department acting through FHWA or another federal agency may publish a notice in the Federal Register, pursuant to 23 USC §139(I), indicating that a final action has been taken on this project by the Department or another federal agency. If such notice is published, a lawsuit or other legal claim will be barred unless it is filed within 180 days after the date of publication of the notice (or within such shorter time period as is specified in the Federal laws pursuant to which judicial review of the federal agency action is allowed). If no notice is published, then the lawsuit or claim can be filed as long as the periods of time provided by other Federal laws that govern claims are met.

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SCH# TBD
04-SM-101-PM 0.0/3.6
04-SCL-101-PM 52.3/52.6
235610

Addition of auxiliary lanes in each direction on US Route 101, from the Embarcadero Road interchange in the City of Palo Alto, County of Santa Clara, KP 84.2 (PM 52.3) to the Marsh Road interchange in the City of Menlo Park, County of San Mateo, KP 5.8 (PM 3.6).

**INITIAL STUDY with Proposed Negative Declaration/
ENVIRONMENTAL ASSESSMENT**

Submitted Pursuant to: (State) Division 13, California Public Resources Code
(Federal) 42 USC 4332(2)(C)

US DEPARTMENT OF TRANSPORTATION
Federal Highway Administration, and

THE STATE OF CALIFORNIA
Department of Transportation

2/29/08
Date of Approval

Melanie Brent
MELANIE BRENT, Chief
Office of Environmental Analysis
California Department of Transportation

3/27/08
Date of Approval

Nancy E. Bobb
for GENE FONG
Division Administrator
Federal Highway Administration

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PROPOSED NEGATIVE DECLARATION

Pursuant to: Division 13, Public Resources Code

Project Description

The California Department of Transportation (the Department) proposes to provide auxiliary lanes in both directions by widening Route 101 between the Embarcadero Road interchange in the City of Palo Alto, Santa Clara County, to the Marsh Road interchange in the City of Menlo Park, San Mateo County. In general, Route 101 would be widened on the outside to accommodate the addition of auxiliary lanes. The Henderson railroad overcrossing and the Ringwood Avenue pedestrian overcrossing would be reconstructed. The proposed project also includes extending the support foundation over the Hetch Hetchy aqueduct, widening of on-ramps to provide High Occupancy Vehicle (HOV) lanes, installing and modifying existing ramp metering at on-ramps, and relocating the existing storm water lift station adjacent to the Henderson railroad overcrossing. Approximately 2,690 feet of retaining walls would be constructed along the depressed section of Route 101 north and south of the Henderson railroad overcrossing.

Determination

"This proposed Negative Declaration (ND) is included to give notice to interested agencies and the public that it is the Department's intent to adopt an ND for this project. This does not mean that the Department's decision regarding the project is final. This ND is subject to modification based on comments received by interested agencies and the public.

The Department has prepared an Initial Study for this project, and pending public review, expects to determine from this study that the proposed project would not have a significant effect on the environment for the following reasons:"

The proposed project would have no effect on air quality, land use, growth, housing, noise, public services, utilities and service systems, geological, agricultural or recreational resources.

In addition, the proposed project would have no significant effect on biological, cultural, hydrological, or visual resources.

JAMES B. RICHARDS
Deputy District Director
District 4 Division of Planning and Engineering
California Department of Transportation

Date

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CHAPTER 1 – PROPOSED PROJECT

1.1 INTRODUCTION

The Department of Transportation (Department) proposes to widen Route 101 to provide auxiliary lanes in each direction on Route 101, from the Embarcadero Road interchange in the City of Palo Alto, Santa Clara County, to the Marsh Road interchange in the City of Menlo Park, San Mateo County. The total length of the project is approximately four miles. The auxiliary lanes will improve traffic operations on mainline Route 101 within the project limits. Figure 1 shows project location and Figure 2 shows project vicinity.

This project is included in the Transportation 2030 Plan, which is Metropolitan Transportation Commission's (MTC) current Regional Transportation Plan (RTP), Ref. No. 21608, and the 2007 Transportation Improvement Program (TIP), Ref. No. SM-030001. This project is also included in the Corridor Mobility Improvement Account (CMIA) program adopted by the California Transportation Commission (CTC) on May 5, 2007. In addition, improvements to Route 101 are included in the San Mateo County Transportation Expenditure Plan (Measure A) approved by voters on June 7, 1988.

The major funding of the project is from the CMIA program. The San Mateo County Transportation Authority (SMCTA) will provide Measure A funds for construction capital only. The project will also receive funding from the Regional Transportation Improvement Plan (RTIP) and other federal sources.

1.2 PURPOSE

The purpose of this project is to relieve traffic congestion by improving traffic operation and efficiency on Route 101.

1.3 NEED

This segment of Route 101 runs along the San Francisco Peninsula, serving the cities of Menlo Park, Palo Alto and East Palo Alto. It is heavily used throughout the day and is at full capacity during morning and afternoon peak periods. This section of Route 101 has experienced a significant increase in traffic demand as a result of the growth and expansion of high technology industry along the corridor, and the increase of commuters to this area from the East Bay via Route 84.

1.3.1 Existing Freeway Operations

The Department's Office of Highway Operations prepared a Traffic Operational Analysis Report for this project. The limits of this study are from the Route 101/Whipple Avenue interchange in San Mateo County to the Route 101/San Antonio Road interchange in Santa Clara County, which are typically one interchange beyond the limits of this project.

Northbound Route 101 between the San Antonio Road on-ramp and the Embarcadero Road/Oregon Expressway off-ramp is a bottleneck during the A.M. peak period. The queue from this bottleneck extends upstream and beyond the study limits. Recurring congestion during the weekday morning commute period lasts from 7:00 A.M. to 9:30 A.M. Between the

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PROJECT LOCATION MAP

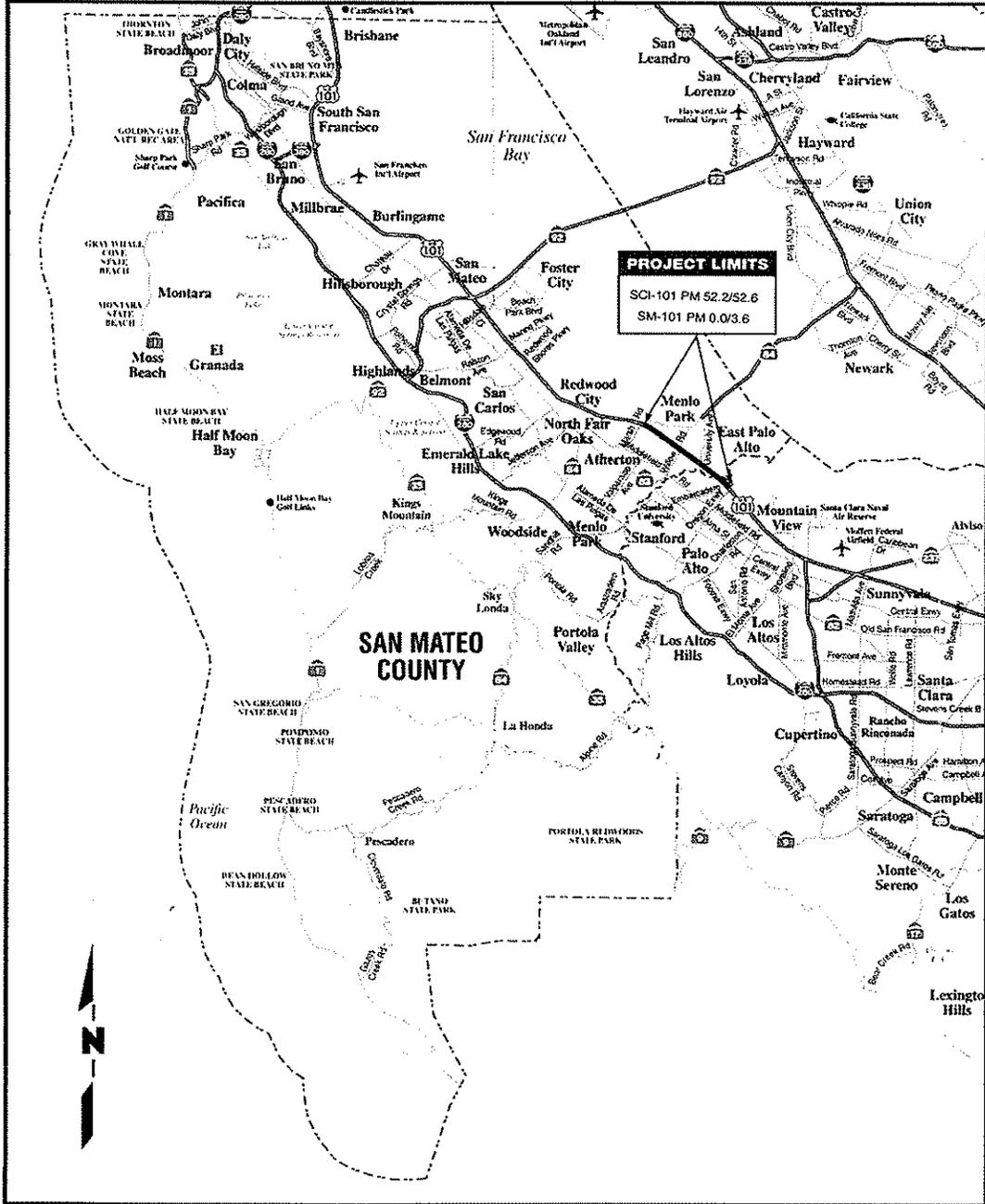
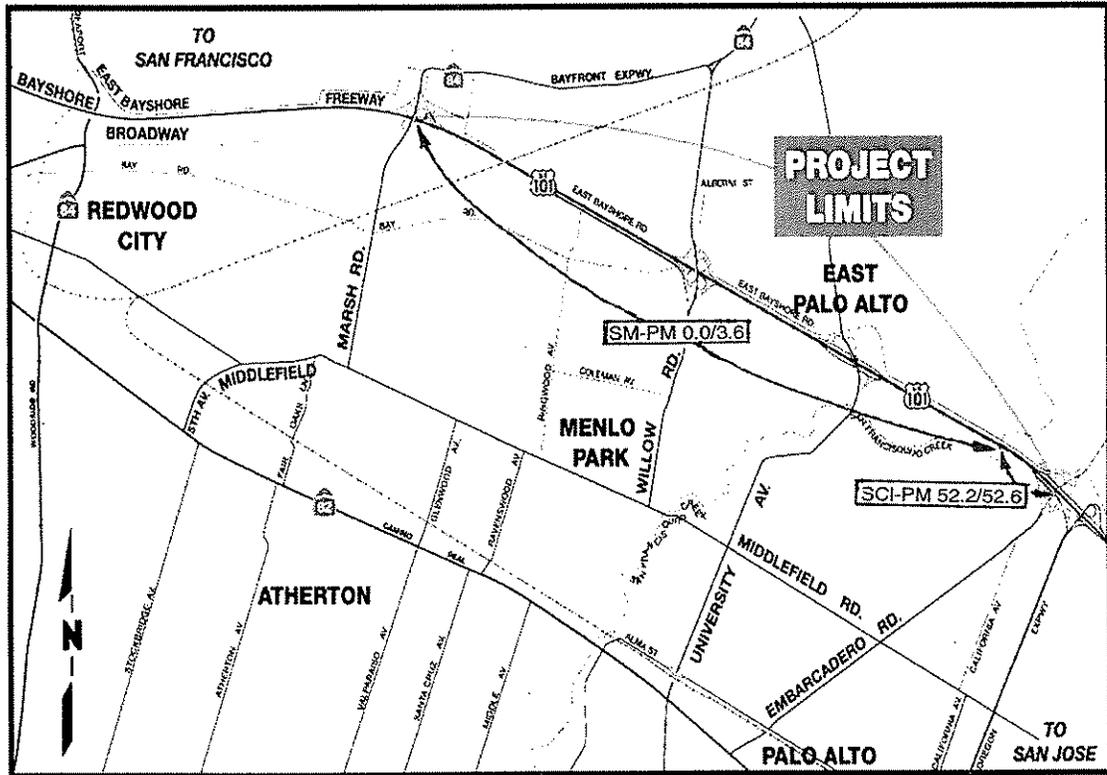


Figure 1

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VICINITY MAP

Figure 2

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Embarcadero Road/Oregon Expressway on-ramp and the Woodside Road off-ramp the freeway operates at or near capacity, however, no significant congestion develops. The travel time from the San Antonio Road on-ramp to the Woodside Road off-ramp is about 10.5 minutes. The maximum individual delay on the freeway, within the study limits, is approximately 3.7 minutes.

Northbound Route 101 between the San Antonio Road on-ramp and the Embarcadero Road/Oregon Expressway off-ramp is a bottleneck during the P.M. peak period. The queue from this bottleneck extends upstream and beyond the study limits. This bottleneck meters the flow of traffic to the downstream bottleneck between the Embarcadero Road/Oregon Expressway on-ramp and the added lane upstream of the University Avenue off-ramp. The queue from this bottleneck extends upstream approximately 0.6 miles to the Embarcadero Road/Oregon Expressway off-ramp. Recurring congestion during the weekday evening commute period lasts from 3:00 P.M. to 7:30 P.M. Between the University Avenue off-ramp and the Woodside Road off-ramp the freeway operates at free flow conditions. The travel time from the San Antonio Road on-ramp to the Woodside Road off-ramp is about 9.0 minutes. The maximum individual delay on the freeway, within the study limits, is approximately 2.2 minutes.

Southbound Route 101 between the University Avenue on-ramp and the Embarcadero Road/Oregon Expressway off-ramp is a bottleneck during the A.M. peak period. The queue from this bottleneck extends upstream approximately 5.2 miles to just beyond the Woodside Road off-ramp. There is also a bottleneck between the Willow Road loop on-ramp and loop off-ramp. However, the Willow Road bottleneck becomes a "hidden" bottleneck, once the queue from the downstream bottleneck extends through this section. Recurring congestion during the weekday morning commute period last between 7:15 and 10:00 A.M. The travel time from the Whipple Avenue on-ramp to the San Antonio Road off-ramp is about 21.9 minutes. The maximum individual delay on the freeway, within the study limits, is approximately 13.8 minutes.

Southbound Route 101 between the Embarcadero Road/Oregon Expressway on-ramp and the San Antonio Road off-ramp is a bottleneck during the P.M. peak period. The queue from this bottleneck extends upstream approximately 5.3 miles to beyond the Marsh Road off-ramp. Recurring congestion during the weekday evening commute period last between 4:00 P.M. and 7:30 P.M. The travel time from the Whipple Avenue on-ramp to the San Antonio Road off-ramp is about 18.8 minutes. The maximum individual delay on the freeway, within the study limits, is approximately 10.7 minutes.

1.3.2 Freeway Accident Summary

A three-year Traffic Accident Surveillance and Analysis System (TASAS) study for the period between November 1, 2003 and October 31, 2006 was made for the project vicinity. The study reveals that there were 728 accidents with 4 fatalities and 192 injury accidents. The accident data was obtained from Department (Office of Traffic) records. Figure 3 shows the TASAS Accident Summary for the freeway section. 624 or 85% of the 728 accidents involved multiple vehicles. These accidents occurred primarily on weekdays where almost 60% of the collisions occurred during the morning and evening peak periods. The accident rate shows the actual accident rate within the project limits is lower than the average accident rates.

Department records indicate that rear-end, sideswipe and hitting objects comprise the majority of accidents. The construction of auxiliary lanes will reduce the number of rear-end and sideswipe accidents due to improvements in merging within the project limits.

Freeway Accident Summary

Location (PM)	Number of Accidents	Actual Accident Rates (per million vehicle miles)			Average Accident Rates (per million vehicle miles)		
		Fatal	Fatal Plus Injury	Total	Fatal	Fatal Plus Injury	Total
SCL-101 PM 52.30 to SM- 101 PM 3.6	728	0.005	0.24	0.90	0.005	0.34	1.07

Figure 3

1.4 PROJECT DESCRIPTION

The proposed project is to widen Route 101 to provide auxiliary lanes in both directions between the Embarcadero Road interchange in the City of Palo Alto, Santa Clara County, to the Marsh Road interchange in the City of Menlo Park, San Mateo County. In general, Route 101 would be widened on the outside to accommodate the addition of auxiliary lanes. The Henderson railroad overcrossing and the Ringwood Avenue pedestrian overcrossing would be replaced. The proposed project would also include extending the support foundation over the Hetch Hetchy aqueduct, widening of on-ramps to provide High Occupancy Vehicle (HOV) lanes, installing and modifying existing ramp metering at on-ramps, and relocating the existing storm water lift station adjacent to the Henderson railroad overcrossing. Approximately 2,690 feet of retaining walls would be constructed along the depressed section of Route 101 north and south of the Henderson railroad overcrossing.

The purpose of this project is to relieve traffic congestion by improving traffic operation and efficiency, and enhancing safety on Route 101.

1.5 ALTERNATIVES

The alternatives for this project are the Build Alternative and the No Build Alternative.

1.5.1 Proposed Build Alternative

The proposed Build Alternative would widen Route 101 in both directions within the existing right of way and the existing sound walls from the Embarcadero Road interchange to the Marsh Road interchange to accommodate the addition of auxiliary lanes.

1.5.1.1 Replacement of Henderson Railroad Overcrossing

The existing Henderson railroad structure (Bridge No. 35-0012), which supports tracks of the Union Pacific Railroad, would be replaced by a longer structure that will accommodate the widening of Route 101 for these auxiliary lanes. The new structure will accommodate two railroad tracks and the railroad overcrossing profile would be raised to meet the minimum vertical clearance required for the new structure over the freeway. With the profile raised over

the railroad structure, additional track work beyond the limits of both sides of the structure is expected.

The Henderson overcrossing is a part of the Dumbarton Rail Corridor project sponsored by the SMCTA and therefore, any work will require on-going coordination between the Department, SMCTA, and the Peninsula Corridor Joint Powers Board.

1.5.1.2 Relocation of Henderson Railroad Storm Water Pump Plant

An existing storm water pump plant containing two 15 horsepower (hp) pumps with a total capacity of 3,090 gallons per minute (gpm), electrical system, and storm water storage box is located just north of the Henderson railroad structure and east of Route 101. The current pump plant design was based on a 25-year storm event and thus, the existing storage box is insufficient to handle the expected storm water flow from the altered drainage area. As part of this project, the two 15 horsepower (hp) pumps (total capacity 3,090 gpm) and electrical system will be removed, the pump plant demolished, and the storage box abandoned. A new storage box will be constructed under the proposed northbound lane and shoulder. The proposed pump plant will be located just north of the existing pump plant and will utilize two 20 hp submersible pumps (total capacity 4,200 gpm). The new pump plant will be designed based on the criteria for a 50-year storm event.

1.5.1.3 Replacement of Ringwood Avenue Pedestrian Overcrossing

This project also includes replacement of the existing Ringwood Avenue pedestrian structure (Bridge No. 35-0143), which spans Route 101 in the City of Menlo Park. The existing structure will not accommodate widening of the freeway, and does not meet requirements of the Americans with Disabilities Act (ADA) nor the minimum vertical clearance requirement of 18 ft-6 inches. The existing structure with helical ramps and end spans overcrossing the frontage road will be eliminated and a new structure will be constructed in close proximity of the existing structure. The existing structure may continue to be used during construction of the new overcrossing. Trees near existing sound walls along the access ramps to the new structure will need to be removed. The existing overhead lines located outside the existing State right of way along the frontage road would be relocated.

The new access ramps will likely be constructed as straight-line structures, with moderate slope along the land between the soundwalls and frontage roads and will not require additional right of way. However, there will be some minimal encroachment on the frontage roads. The new bridge access ramps will meet current ADA design standards and will provide sufficient lighting and visibility.

1.5.1.4 Hetch Hetchy Aqueduct Bridge

The Hetch Hetchy Aqueduct Bridge (No. 35-0150M) needs to be extended to accommodate the additional auxiliary lanes. This structure spans under Route 101 and protects two existing water lines. Since the existing sound walls and median barrier will not be relocated, the widening is constrained by the available width between them, which measures slightly more than 74 feet from the edge of the sound wall safety barrier to the edge of the median barrier. The existing bridge consists of an 8-foot inside shoulder, four 12-foot traffic lanes, and a 10-foot outside shoulder in each direction. To accommodate the added auxiliary lanes within the given space,

this project proposes to provide a 4-foot inside shoulder, five 12-foot traffic lanes, and a 10-foot outside shoulder in each direction.

The existing bridge was overlaid with asphalt concrete, and the median was widened to add the existing High Occupancy Vehicle (HOV) lane in 1991. The bridge widening will consist of the addition of two bents on either side of the existing structure, with the entire bridge being covered with a new road surface.

1.5.1.5 San Francisquito Creek Bridge

It is proposed that the San Francisquito Creek Bridge (No. 35-0013) will be demolished and replaced as a separate project because the formal Section 7 Consultation Process for Threatened and Endangered Species with the United States Fish and Wildlife Service is required for the bridge replacement and, if included in the scope of this project, would preclude meeting the project schedule set forth by the CMIA. The new bridge would accommodate auxiliary lanes in both directions as well as provide for standard 12-foot wide lanes and 10-foot wide outside shoulders.

As part of this project, the San Francisquito Creek Bridge will not be demolished and replaced, nor widened, but will be restriped to accommodate the auxiliary lanes in both directions. The existing bridge has four standard lanes in both directions on Route 101. In the northbound direction, both left and right shoulders are standard. In the southbound direction, the left and right shoulder widths are 7 feet and 8 feet respectively. To accommodate the auxiliary lanes, this project proposes widths of 11 feet for lane #1, 12 feet for the three other lanes plus the auxiliary lane, and 2 feet for the left and right shoulders in the southbound direction.

1.5.1.6 Construction of Retaining Walls

Retaining walls are needed along both sides of Route 101 adjacent to the depressed section of the Henderson railroad overcrossing. On the east side, the length of the retaining wall would be approximately 990 feet with the height ranging from three to twenty feet. On the west side, the length would be approximately 1,700 feet with the height ranging from three to twenty feet.

1.5.1.7 Non-Standard Mandatory and Advisory Design Features

The Department approved a Fact Sheet Exception to Mandatory Design Standards for non-standard left shoulders on October 21, 2003. Segments of Route 101 with existing non-standard left shoulders that do not have existing sound walls would remain in their current configuration. Segments of Route 101 with either standard or non-standard left shoulders that have existing sound walls will have the shoulder width reduced to avoid sound wall relocations. In general, the proposed non-standard left shoulder widths are as follows:

Between the Embarcadero Road interchange and the University Avenue interchange in the northbound direction, the existing 10-foot left shoulder will be reduced to 3 feet on the San Francisquito Creek Bridge, and the existing 7-foot left shoulder from just north of the bridge to the University Avenue interchange will be reduced to 4 feet. Within the University Avenue interchange, the left shoulder would be widened to 8 feet to provide horizontal clearance at the overcrossing columns. In the southbound direction, the left shoulder would also be 8 feet through the University Avenue interchange, and then the existing 7-foot left shoulder would reduce to 4 feet between the interchange and the San Francisquito Creek Bridge. After the

bridge it would be widened to conform to the existing 7-foot left shoulder that continues to the south.

Between the University Avenue interchange and the Willow Road interchange in the northbound direction, the existing 7-foot left shoulder will be reduced to 4 feet, 6 inches. In the southbound direction, the existing 7-foot left shoulder will be reduced to 5 feet. Between the Willow Road interchange and the Marsh Road interchange in the northbound direction, the existing left shoulder, which varies between 5 feet and 17 feet, will be reduced to 4 feet from just north of the Willow Road interchange to just south of the Henderson overcrossing. From the Henderson overcrossing to the Marsh Road interchange, a standard 10-foot left shoulder will be provided. In the southbound direction, a standard 10-foot left shoulder will also be provided between Marsh Road interchange and the Henderson Underpass. From just south of the Henderson overcrossing to just north of the Willow Road interchange, the existing shoulder, which varies between 5 feet and 10 feet, will be reduced to 4 feet.

1.5.1.8 High Occupancy Vehicle (HOV) (Bus and Carpool) Lanes

Existing HOV lanes within the project will remain and no new HOV lanes are proposed.

1.5.1.9 Ramp Metering

This proposal will enhance safety conditions and improve traffic operations on mainline Route 101 by increasing the weaving distance and acceleration/deceleration lengths for vehicles entering and exiting the freeway. The addition of auxiliary lanes, ramp metering and Traffic Operations System (TOS) elements will help relieve some of the existing traffic congestion and reduce merging difficulties within the project limits.

All existing and operational ramp metering and TOS elements in the project will be kept operational during the construction phase. Any affected ramp metering or TOS elements subject to relocation, modification, or replacement shall be kept fully operational until the construction work is completed. Department Ramp Meter Policy requires that HOV bypass lanes and California Highway Patrol (CHP) enforcement areas at all on-ramps be provided unless an exception is documented.

The following on-ramps would be widened to provide an HOV bypass lane or lanes in conjunction with the installation of the ramp metering: Embarcadero Road northbound collector on-ramp, University Avenue northbound on-ramp, and University Avenue southbound diagonal on-ramp.

The placement of ramp metering equipment will be determined during the forthcoming Design phase. Ramp metering equipment on the freeway and ramps at the Willow Road interchange are currently being installed under a Department encroachment permit (#0406-NMC0216 in San Mateo County for Route 101 by SMCTA).

1.5.1.10 Maintenance Vehicle Pullout Areas

Maintenance Vehicle Pullouts will be provided along ramps and Route 101 for maintenance and service of ramp metering equipment, landscaping equipment, and for disabled vehicles.

1.5.2 No Build Alternative

The No Build Alternative compares project conditions if the proposed improvements are not constructed. The No Build Alternative would not change the present roadway geometrics. This Alternative is not feasible because without traffic operations improvements, the increased traffic will result in greater traffic congestion and increased safety risks to motorists. It would not meet the purpose and need of the project as stated in this report. Traffic congestion on Route 101 would continue to deteriorate, and the problems with merging would continue within the limits of the project.

1.5.3 Alternatives Considered but Eliminated from Further Discussion

The Alternative 2 identified in the Project Study Report approved on September 24, 2004 is withdrawn because it not only requires new right of way from the adjacent frontage roads to accommodate the relocated sound walls, but additional widening of the freeway to provide standard shoulder widths and relocation of utility facilities.

1.6 OTHER PROPOSED ACTIONS IN THE PROJECT VICINITY

The SMCTA is sponsoring a project for the reconstruction of the Route 101/Willow Road interchange. The Environmental Document is scheduled for completion in May 2010. It is anticipated that this project will commence construction in 2012 following completion of this auxiliary lanes project.

A project to add auxiliary lanes in each direction on Route 101 is also proposed by the Santa Clara Valley Transportation Authority (VTA) from Route 85 to Embarcadero Road/Oregon Expressway interchange in Santa Clara County. The Environmental Document is scheduled for completion in July 2009 and construction is scheduled to commence in 2011.

1.7 PERMITS AND APPROVALS NEEDED

Studies and analyses discussed in detail throughout the remainder of this document indicate that no resource agency permits and/or approvals specific to this project are needed.

CHAPTER 2 – AFFECTED ENVIRONMENT, ENVIRONMENTAL CONSEQUENCES, AND AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES

The analyses discussed are based on supporting technical studies and other reference materials not attached to this document. A list of these studies is on Page 65 of this document. They are available for examination and copying at the following address: California Department of Transportation, District 4, Office of Environmental Analysis, 111 Grand Avenue, Oakland California, 94623-0660.

As part of the scoping and environmental analysis conducted for the project, the following environmental issues were considered but no adverse impacts were identified. Consequently, there is no further discussion regarding these issues in this document.

- *Agricultural Resources* – There are no agricultural land uses within the project vicinity.
- *Animal Species* – The animal species identified that may potentially occur within the vicinity of the project are not likely present within the project limits because of a lack of appropriate habitat. There are no observed dispersal corridors for animals within the project limits.
- *Community Character and Cohesion* – The proposed project will not alter the character or cohesiveness of existing neighborhoods or communities. The project will be constructed within existing right of way and within existing sound walls.
- *Consistency with State, Regional and Local Plans and Programs* – The proposed project is consistent with state, regional and local plans and programs, as well as transportation plans and programs.
- *Environmental Justice* – There are no impacts concentrated in any area of minority or low-income residents. The project would not cause disproportionately high and adverse effects on any minority or low-income populations.
- *Existing and Future Land Use* – The project does not affect existing or future land uses. No acquisition of residential or commercial structures is anticipated and the project will not alter community interaction patterns.
- *Farmlands and Timberlands* – There are no farmlands or timberlands within the project vicinity.
- *Growth* – The project proposes to add auxiliary lanes between existing interchanges and therefore is not considered a project that increases mainline highway capacity nor modifies accessibility. The proposed project has little influence on growth because future growth in the region is highly constrained and therefore, project-related growth is not reasonably foreseeable as defined by NEPA.
- *Invasive Species* – The project will not increase the potential for the presence of invasive species. The Department does not use species on the California list of noxious weeds for erosion control or landscaping.
- *Mineral Resources* – There are no mining resources within the project vicinity.

- *Natural Communities* – There are no known natural biotic communities within the project vicinity, nor any identified migration routes, wildlife corridors or fragmentations of habitat. The scope of this project does not include any activities within San Francisquito Creek and therefore, no fish passages will be affected.
- *Noise* – The project causes no significant noise increases and so noise mitigation is not necessary.
- *Paleontology* – The project will not affect paleontological resources.
- *Parks and Recreation* – There are no parks or recreation facilities affected by the project. See Appendix B - Resources Evaluated Relative to the Requirements of Section 4(f).
- *Relocations* – All work is anticipated to be within existing highway right of way. No relocations will be required.
- *Threatened and Endangered Species* – The physical and biological conditions within the project limits are not conducive to supporting protected species or special status habitats.

HUMAN ENVIRONMENT

2.1 UTILITIES / EMERGENCY SERVICES

2.1.1 Affected Environment

Overhead and underground utilities transverse Route 101 within the project limits. These utilities include electric transmission poles, telephone poles, anchor poles, underground gas transmission pipelines and underground fiber-optic cables.

2.1.2 Environmental Consequences

All utilities that conflict with the widening or other construction activities will be relocated.

It is not anticipated that existing gas transmission pipelines adjacent to the existing sound walls will be impacted by improvements included in the project. Underground utilities that are in very close proximity to the proposed widening will be verified during the Design phase of the project and modified as required.

No impacts to emergency services are anticipated.

2.1.3 Avoidance, Minimization and/or Mitigation Measures

No avoidance, minimization and/or mitigation measures are proposed nor appear necessary.

2.2 TRAFFIC AND TRANSPORTATION/PEDESTRIAN AND BICYCLE FACILITIES

2.2.1 Regulatory Setting

The Federal Highway Administration (FHWA) directs that full consideration should be given to the safe accommodation of pedestrians and bicyclists during the development of federal-aid

highway projects (see 23 CFR 652). It further directs that the special needs of the elderly and the disabled must be considered in all federal-aid projects that include pedestrian facilities. When current or anticipated pedestrian and/or bicycle traffic presents a potential conflict with motor vehicle traffic, every effort must be made to minimize the detrimental effects on all highway users who share the facility.

The Department is committed to carrying out the 1990 Americans with Disabilities Act (ADA) by building transportation facilities that provide equal access for all persons. The same degree of convenience, accessibility, and safety available to the general public will be provided to persons with disabilities.

2.2.2 Motor Vehicle Traffic – Affected Environment

The Department's Office of Highway Operations completed its technical study, *Traffic Operational Analysis Report: Route 101 Auxiliary Lane Project from Marsh Road to Embarcadero Road/Oregon Expressway in San Mateo County & Santa Clara County*, in October 2007. The limits of this study are from the Route 101/Whipple Avenue interchange in San Mateo County to the Route 101/San Antonio Road interchange in Santa Clara County, which are typically one interchange beyond the limits of this project.

2.2.2.1 Existing Freeway Operations

Northbound Route 101 between the San Antonio Road on-ramp and the Embarcadero Road/Oregon Expressway off-ramp is a bottleneck during the A.M. peak period. The queue from this bottleneck extends upstream and beyond the study limits. Recurring congestion during the weekday morning commute period lasts from 7:00 A.M. to 9:30 A.M. Between the Embarcadero Road/Oregon Expressway on-ramp and the Woodside Road off-ramp the freeway operates at or near capacity, however, no significant congestion develops. The travel time from the San Antonio Road on-ramp to the Woodside Road off-ramp is about 10.5 minutes. The maximum individual delay on the freeway, within the study limits, is approximately 3.7 minutes.

Northbound Route 101 between the San Antonio Road on-ramp and the Embarcadero Road/Oregon Expressway off-ramp is a bottleneck during the P.M. peak period. The queue from this bottleneck extends upstream and beyond the study limits. This bottleneck meters the flow of traffic to the downstream bottleneck between the Embarcadero Road/Oregon Expressway on-ramp and the added lane upstream of the University Avenue off-ramp. The queue from this bottleneck extends upstream approximately 0.6 miles to the Embarcadero Road/Oregon Expressway off-ramp. Recurring congestion during the weekday evening commute period lasts from 3:00 P.M. to 7:30 P.M. Between the University Avenue off-ramp and the Woodside Road off-ramp, the freeway operates at free flow conditions. The travel time from the San Antonio Road on-ramp to the Woodside Road off-ramp is about 9.0 minutes. The maximum individual delay on the freeway, within the study limits, is approximately 2.2 minutes.

Southbound Route 101 between the University Avenue on-ramp and the Embarcadero Road/Oregon Expressway off-ramp is a bottleneck during the A.M. peak period. The queue from this bottleneck extends upstream approximately 5.2 miles to just beyond the Woodside Road off-ramp. There is also a bottleneck between the Willow Road loop on-ramp and loop off-ramp. However, the Willow Road bottleneck becomes a "hidden" bottleneck, once the queue from the downstream bottleneck extends through this section. Recurring congestion during the weekday morning commute period last between 7:15 and 10:00 A.M. The travel time from the Whipple

Avenue on-ramp to the San Antonio Road off-ramp is about 21.9 minutes. The maximum individual delay on the freeway, within the study limits, is approximately 13.8 minutes.

Southbound Route 101 between the Embarcadero Road/Oregon Expressway on-ramp and the San Antonio Road off-ramp is a bottleneck during the P.M. peak period. The queue from this bottleneck extends upstream approximately 5.3 miles to beyond the Marsh Road off-ramp. Recurring congestion during the weekday evening commute period last between 4:00 P.M. and 7:30 P.M. The travel time from the Whipple Avenue on-ramp to the San Antonio Road off-ramp is about 18.8 minutes. The maximum individual delay on the freeway, within the study limits, is approximately 10.7 minutes.

2.2.2.2 Existing Intersection Operations

The existing operation was analyzed at three signalized intersections. Traffic volumes were counted and intersection lane configurations were surveyed for these intersections in May and August 2007. The results of the signalized intersection analysis are summarized in Figure 4:

Existing Intersection Operations

LOCATION	A.M.		P.M.	
	Level of Service (LOS)	Control Delay (seconds)	Level of Service (LOS)	Control Delay (seconds)
NB US 101/ Donohoe Street (University Ave.)	C	32.8	E	76.4
NB US 101/ Marsh Rd.	B	18.4	E	76.6
SB US 101/ University Ave.	B	19.7	C	26.1

Figure 4

2.2.3 Motor Vehicle Traffic – Environmental Consequences

It is anticipated that the proposed project would not have an adverse impact on overall traffic operations, based on current traffic projections. The anticipated impacts of the proposed modifications in the No Build and Build Alternatives are described in the following paragraphs.

2.2.3.1 Year 2015 Freeway Operations in the No Build Alternative

On northbound Route 101 during the A.M. peak hour, the operational analysis of the forecasted traffic volumes for this alternative indicates that no bottlenecks would develop within the study limits during the A.M. peak period. The freeway would operate at free flow conditions with an average speed of 62 miles per hour through this corridor.

On northbound Route 101 during the P.M. peak hour, the traffic flow that currently is constrained at the bottleneck between the San Antonio Road on-ramp and the Embarcadero Road/Oregon Expressway off-ramp will be released downstream as this bottleneck will be removed with the construction of the auxiliary lane between these interchanges. This auxiliary lane is proposed under the Santa Clara County auxiliary lane project from Route 85 to the Embarcadero Road/Oregon Expressway interchange. This project is assumed to have been constructed under this alternative. This will cause an increase in congestion at the bottleneck on northbound US 101 between the Embarcadero Road/Oregon Expressway on-ramp and the added lane upstream of the University Avenue off-ramp. The queue from this bottleneck will extend upstream for a distance of approximately 2.5 miles and will extend upstream of the San Antonio Road on-ramp, which is beyond the study limits. The average individual delay in the mixed-flow lanes caused by the congestion from this bottleneck will be about 3.3 minutes. In addition, this bottleneck will constrain the traffic entering the freeway at the Embarcadero Road/Oregon Expressway on-ramp and will cause queuing on this ramp. Downstream of this bottleneck, northbound US 101 will operate at free flow conditions, although between the University Avenue on-ramp and the Willow Road off-ramp the freeway will be at or near capacity. There will be approximately 220 vehicle hours of delay on northbound US 101 and 137 vehicle hours of delay on the Embarcadero Road/Oregon Expressway on-ramp. The average speed through this corridor would be 50 miles per hour.

During the A.M. peak hour, southbound Route 101 will continue to be congested due to the bottleneck between the University Avenue on-ramp and the Embarcadero Road/Oregon Expressway off-ramp. The queue from this bottleneck will extend upstream for a distance of approximately 6.4 miles. This queue will extend upstream of the Whipple Avenue on-ramp, which is beyond the study limits. The average individual delay in the mixed-flow lanes caused by the congestion from this bottleneck will be about 10 minutes. In addition, this bottleneck will constrain the traffic entering the freeway at the University on-ramp and cause queuing on this ramp. There will be approximately 706 vehicle hours of delay on southbound US 101 and 51 vehicle hours of delay on the University Avenue on-ramp. The average speed through this corridor would be 34 miles per hour.

A bottleneck will develop on southbound Route 101 between the University Avenue on-ramp and the Embarcadero Road/Oregon Expressway off-ramp during the P.M. peak hour. The queue from this bottleneck will extend upstream for a distance of 6.3 miles. This queue will extend upstream of the Whipple Avenue on-ramp, which is beyond the study limits. The average individual delay in the mixed-flow lanes caused by the congestion from this bottleneck will be about 5.5 minutes. There will be approximately 299 vehicle hours of delay on southbound US 101. The average speed through this corridor would be 43 miles per hour.

2.2.3.2 Year 2035 Freeway Operations in the No Build Alternative

No bottlenecks will develop within the study limits during the A.M. peak hour on northbound Route 101. However, the demand for the Embarcadero Road/Oregon Expressway off-ramp will exceed the capacity of this ramp causing congestion at this ramp. This queue would most likely be contained in the auxiliary lane. There will be 26 vehicle hours of delay caused by this off-ramp constraint. The northbound US 101 mainline would operate at free flow conditions with an average speed of 61 miles per hour through this corridor, although, between the University Avenue on-ramp and the Willow Road off-ramp the freeway would operate at or near capacity.

Northbound Route 101 will continue to be congested during the P.M. peak hour due to the bottleneck between the Embarcadero Road/Oregon Expressway on-ramp and the added lane

upstream of the University Avenue off-ramp. A queue will extend upstream from this bottleneck for a distance of approximately 6.4 miles. The queue will extend upstream of the San Antonio Road on-ramp, which is beyond the study limits. This bottleneck will constrain the traffic entering the freeway at the Embarcadero Road/Oregon Expressway on-ramp and cause queuing on this ramp. In addition, a bottleneck will develop between the University Avenue on-ramp and the Willow Road off-ramp. The queue from this bottleneck will extend upstream for a distance of approximately 0.5 miles, just beyond the University Avenue off-ramp. This bottleneck will constrain the traffic entering the freeway at the University on-ramp and will cause queuing on this ramp. The average individual delay in the mixed-flow lanes caused by the congestion from these bottlenecks will be about 10.5 minutes. There will be approximately 888 vehicle hours of delay on northbound Route 101, 164 vehicle hours of delay at the Embarcadero Road/Oregon Expressway on-ramp and 62 vehicle hours of delay at the University Avenue on-ramp. The average speed through this corridor would be 34 miles per hour.

Southbound Route 101 will continue to be congested during the A.M. peak hour due to the bottleneck between the University Avenue on-ramp and the Embarcadero Road/Oregon Expressway off-ramp. The queue from this bottleneck will extend upstream for a distance of approximately 7.5 miles. This queue will extend upstream of the Whipple Avenue on-ramp, which is beyond the study limits. The average individual delay in the mixed-flow lanes caused by the congestion from this bottleneck will be about 12.1 minutes. This bottleneck will also constrain the traffic entering the freeway at the University on-ramp and will cause queuing on this ramp. In addition, the constrained traffic flow at the following off-ramps will exceed the capacity of these ramps and cause congestion at these ramps, Embarcadero Road/Oregon Expressway off-ramp, Marsh Road off-ramp and Woodside Road off-ramp. There will be approximately 1,272 vehicle hours of delay on southbound Route 101 and 166 vehicle hours of delay on the University Avenue on-ramp. The average speed through this corridor would be 31 miles per hour.

Due to capacity constraints at the upstream end of the study limits, there will be excess demand outside the study limits that will not reach the study area during the P.M. peak hour on southbound Route 101. This excess demand was not included in the freeway analysis. A bottleneck will develop under this alternative between the University Avenue on-ramp and the Embarcadero Road/Oregon Expressway off-ramp. The queue from this bottleneck will extend upstream a distance of 5.75 miles to just before the Whipple Avenue on-ramp. The average individual delay in the mixed-flow lanes caused by the congestion from this bottleneck will be about 5.3 minutes. This bottleneck will also, constrain the traffic entering the freeway at the University on-ramp and will cause queuing on this ramp. In addition, the constrained traffic flow at the Marsh Road off-ramp and the Woodside Road off-ramp will exceed the capacity of these ramps and cause congestion at these ramps. There will be approximately 608 vehicle hours of delay on southbound Route 101 and 24 vehicle hours of delay at the University Avenue on-ramp. The average speed through this corridor would be 43 miles per hour.

2.2.3.3 Year 2015 Freeway Operations in the Build Alternative

The operational analysis of the forecasted traffic volumes for this alternative indicates that no bottlenecks would develop within the study limits on northbound Route 101 during the A.M. peak hour. The freeway would operate at free flow conditions with an average speed of 63 miles per hour through this corridor.

The operational analysis of the forecasted traffic volumes for this alternative indicates that there would be no bottlenecks developing within the study limits on northbound Route 101 during the

P.M. peak hour. The freeway would operate at free flow conditions with an average speed of 59 miles per hour through this corridor.

Southbound Route 101 will continue to be congested during the A.M. peak hour due to the bottleneck between the University Avenue on-ramp and the Embarcadero Road/Oregon Expressway off-ramp. However, the queue from this bottleneck will be considerably shorter than in the No Build Alternative. The queue will extend upstream to just beyond the Marsh Road off-ramp for a distance of approximately 3.1 miles. The average individual delay in the mixed-flow lanes caused by the congestion from this bottleneck will be about 3.7 minutes. There will be approximately 165 vehicle hours of delay on southbound Route 101. The average speed through this corridor would be 48 miles per hour.

A bottleneck will develop on southbound Route 101 during the P.M. peak hour between the Woodside Road off-ramp and on-ramp. The queue from this bottleneck will extend upstream for a distance of 1.1 miles. This queue will extend upstream of the Whipple Avenue on-ramp, which is beyond the study limits. In addition, another bottleneck would develop between the Willow Road loop off-ramp and the Willow Road diagonal on-ramp. The queue from this bottleneck will extend upstream of the Marsh Road off-ramp, a distance of 2.0 miles. Downstream of this bottleneck, southbound Route 101 will operate at free flow conditions. Although between the Willow Road diagonal on-ramp and the University Avenue off-ramp, the freeway will be at or near capacity. The average individual delay in the mixed-flow lanes caused by the congestion from these bottlenecks will be about 3.3 minutes. There will be approximately 95 vehicle hours of delay on southbound Route 101. The average speed through this corridor would be 50 miles per hour.

2.2.3.4 Year 2035 Freeway Operations in the Build Alternative

The operational analysis of the forecasted traffic volumes for this alternative indicates that no bottlenecks would develop within the study limits on northbound Route 101 during the A.M. peak hour. The freeway would operate at free flow conditions with an average speed of 62 miles per hour through this corridor.

A bottleneck will develop between the Marsh Road loop on-ramp and Marsh Road diagonal on-ramp on northbound Route 101 during the P.M. peak hour. A queue will extend upstream from this bottleneck a distance of approximately 8.9 miles. The queue will extend upstream of the San Antonio Road on-ramp, which is beyond the study limits. The average individual delay in the mixed-flow lanes caused by the congestion from this bottleneck will be about 7.6 minutes. In addition, the demand for the HOV lane between the Marsh Road on-ramp and the Woodside Road off-ramp would exceed the capacity of this lane, causing congestion in the HOV lane. There will be approximately 569 vehicle hours of delay on northbound Route 101 in the mixed-flow lanes and 10 vehicle hours of delay in the HOV lane. The average speed through this corridor would be 39 miles per hour.

Southbound Route 101 will continue to be congested during the A.M. peak hour due to the bottleneck between the University Avenue on-ramp and the Embarcadero Road/Oregon Expressway off-ramp. The queue will extend upstream a distance of approximately 6.4 miles and will extend upstream of the Whipple Avenue on-ramp, which is beyond the study limits. The average individual delay in the mixed-flow lanes caused by the congestion from this bottleneck will be about 7.5 minutes. In addition, the constrained traffic flow to the following off-ramps will exceed the capacity of these ramps and cause congestion at these ramps: Marsh Road off-

ramp and Woodside Road off-ramp. There will be approximately 648 vehicle hours of delay on southbound Route 101. The average speed through this corridor would be 38 mph.

Due to capacity constraints at the upstream end of the study limits, there will be excess demand outside the study limits that will not reach the study area during the P.M. peak hour on southbound Route 101. This excess demand was not included in the freeway analysis. A bottleneck will develop between the Woodside Road on-ramp and off-ramp. A queue will extend upstream from this bottleneck a distance of approximately 0.4 miles, to beyond the Woodside Road off-ramp. The average individual delay in the mixed-flow lanes caused by the congestion from this bottleneck will be about 2.0 minutes. In addition, the constrained traffic flow to the Marsh Road off-ramp and the Woodside Road off-ramp will exceed the capacity of these ramps and cause congestion at these ramps. Downstream of the Marsh Road off-ramp, southbound Route 101 mainline will operate at free flow conditions. There will be approximately 296 vehicle hours of delay on southbound Route 101. The average speed through the corridor would be 55 miles per hour.

2.2.3.5 Expected Intersection Operations – 2015 & 2035

Future intersection operations were analyzed for the years 2015 and 2035. The LOS and delay for the intersections analyzed are summarized in Figure 5. Constrained flow volumes from the freeway analysis were used at the off-ramp approaches to these intersections. The locations of the intersections are northbound Route 101 off-ramp to Donohoe Street (University Avenue), northbound Route 101 off-ramp to Marsh Road and southbound Route 101 off-ramp to University Avenue. These intersections were selected as the proposed auxiliary lanes have the potential to deliver more traffic to these intersections.

Expected Intersection Operations

Intersection	Alternative	AM		PM	
		Level of Service (LOS)	Delay (seconds)	Level of Service (LOS)	Delay (seconds)
Northbound Route 101 Donohue St. (University Ave.) off-ramp	2015 No Build	D	40.0	F	81.3
	2015 Build	D	48.9	F	84.6
	2035 No Build	E	57.0	F	92.9
	2035 Build	E	73.3	F	100.8
Northbound Route 101 Marsh Road off-ramp	2015 No Build	C	20.5	F	107.9
	2015 Build	C	25.1	F	152.3
	2035 No Build	D	39.6	F	187.4
	2035 Build	D	54.4	F	268.8
Southbound Route 101 University Ave. off-ramp	2015 No Build	C	22.0	D	43.3
	2015 Build	C	23.6	D	54.1
	2035 No Build	C	25.3	E	74.0
	2035 Build	C	27.7	F	100.2

Figure 5

2.2.4 Motor Vehicle Traffic – Avoidance, Minimization and/or Mitigation Measures

No avoidance, minimization and/or mitigation measures are proposed.

2.2.5 Bicycle Traffic – Affected Environment

This project includes the demolition and replacement of the existing Ringwood Avenue pedestrian/bicycle overcrossing structure, which spans Route 101 in the City of Menlo Park. The existing structure will not accommodate widening of the freeway, and does not meet

requirements of the Americans with Disabilities Act (ADA) nor the minimum vertical clearance requirement of 18 ft-6 inches.

2.2.6 Bicycle Traffic – Environmental Consequences

Trees near existing sound walls along the access ramps to the new structure will need to be removed. The existing overhead lines located outside the existing State right of way along the frontage road would be relocated.

2.2.7 Bicycle Traffic – Avoidance, Minimization and/or Mitigation Measures

It is anticipated that the new overcrossing structure will be constructed in close proximity of the existing structure. Therefore, the existing structure may continue to be used during construction of the new structure. See Chapter 3, Comments and Coordination, for more information regarding the ongoing coordination of the Ringwood Avenue pedestrian/bicycle overcrossing structure between the Department and the City of Menlo Park.

2.3 VISUAL / AESTHETICS

2.3.1 Regulatory Setting

The National Environmental Policy Act of 1969 as amended (NEPA) establishes that the federal government use all practicable means to ensure all Americans safe, healthful, productive, and *aesthetically* (emphasis added) and culturally pleasing surroundings [42 U.S.C. 4331(b)(2)]. To further emphasize this point, the Federal Highway administration in its implementation of NEPA [23 U.S.C. 109(h)] directs that final decisions regarding projects are to be made in the best overall public interest taking into account adverse environmental impacts, including among others, the destruction or disruption of aesthetic values.

Likewise, the California Environmental Quality Act (CEQA) establishes that it is the policy of the state to take all action necessary to provide the people of the state “with...enjoyment of *aesthetic*, natural, scenic and historic environmental qualities.” [CA Public Resources Code Section 21001(b)]

2.3.2 Affected Environment

Visual impacts of the proposed project were evaluated in accordance with the FHWA Visual Impact Assessment (VIA) methodology (ASLA/FHWA, 1988). A Visual Impact Analysis was completed in November 2007.

The landscape within the project limits is very urban. Vine-covered sound walls run the majority of this straight and level segment of Route 101. There are occasional shrubs groups along the freeway. Neighboring businesses and other commercial properties are visible from the freeway through chain link fences. Trees lining adjoining streets and landscaping of adjacent properties create a visual rhythm from the freeway viewed over the sound walls and through the fences. Views from nearby residences are of vine covered sound walls behind city landscaping. The four landscaped interchanges within the project limits add variety and openness to the otherwise enclosing views of sound walls.

The landscaped slopes adjacent to the freeway on either side of the existing Henderson railroad overcrossing structure also provide more open views in contrast to those of sound walls and fences. Eucalyptus trees north and south of the freeway extend east and west of the overcrossing. The structure itself is a steel plate girder with textured concrete abutments. Its visual impact is low and of brief duration.

The existing Ringwood Avenue pedestrian overcrossing, a concrete structure with chain link fencing, has a negative visual impact of brief duration from the freeway. The spiral ramps, primarily viewed from beyond the sound walls, are of low visual quality. Their compact design mitigates their visual impact by limiting the number of viewers and duration of their views.

The current view from the San Francisquito Creek Bridge is of the adjacent frontage road (East Bayshore Road) over a concrete barrier in the northbound direction. The view from the southbound direction is of a concrete lined channel through a concrete balustrade rail.

2.3.3 Environmental Consequences

The proposed widening of Route 101 will replace the existing 10-foot right shoulders with 12-foot auxiliary lanes and 10-foot shoulders paved to the base of the existing sound walls in each direction. The pavement at the base of the walls will eliminate the existing vine plantings. Widening at the Henderson overcrossing will require 2,690 feet of retaining walls, varying in height from approximately three to twenty feet in each direction. This will result in the elimination of trees and shrubs close to the freeway while most of the trees and vines will not be affected on the existing slopes.

The proposed project will also require replacement of the Henderson overcrossing structure to meet current design standards. The new structure will be of greater length and will require raising the current profile. Detail design of the structure will determine how much the grade will be raised, at what gradient, and what distance from the structure the pavement will conform. It is possible that the required fill may affect the existing trees bordering the railroad.

The Ringwood Avenue pedestrian overcrossing will be replaced with a longer structure and approach ramps that meet ADA standards. It is anticipated that the long, straight ramps of the new overcrossing will be constructed parallel to the freeway behind the existing sound walls and may require removal of some existing mature trees.

The replacement of the San Francisquito Creek Bridge is proposed as a future, separate project. Therefore, the project will have no visual impact at this location.

2.3.4 Avoidance, Minimization, and/or Mitigation Measures

Approximately ten acres of landscaping will be removed as a result of this project. A follow-up planting project will replace these plants as provided by Department policy. It appears that there is sufficient area to accomplish this at the Marsh Road and University Avenue interchanges and at some areas along the mainline. Approximately 7,600 yards of vines will be removed as a result of paving to the base of the sound walls. These vines will be replaced with others planted on the non-freeway sides of the sound walls. They will either be trained through holes in the walls or allowed to grow up and over the walls as is now the case. Once the vines mature and cover a significant portion of the walls, the views from both the freeway and neighborhoods will be virtually unchanged from those prior to construction.

The overall visual appearance of the slopes at the Henderson overcrossing will be somewhat degraded by the addition of retaining walls and removal of trees and shrubs. It will therefore be important to design an attractive aesthetic treatment to the walls that also reduces their apparent height. However, the remaining shrubs and trees on the slope will still provide an attractive and intact wooded area. Viewer response is expected to be slight and of short duration. The Department's Bridge Aesthetics group, with concurrence by the Office of Landscape Architecture, will have oversight of the aesthetic design of the new structure. Raising the grade of the railroad approaching the new structure has the potential to impact trees bordering the railroad right of way and adjacent properties. Care should be taken to avoid removal or damage to these trees as any such effects would have a severe, long lasting visual impact to sensitive viewers on adjacent properties.

The visual impact of the new Ringwood pedestrian overcrossing from Route 101 will be minor. The new approach ramps will be viewed "end on" by passing motorists and will have a minor visual impact of short duration. The approach ramps will be a dominant feature for residents on the local streets parallel to the freeway. The visual impact to these viewers will be high and of long duration. The removal of eight to ten trees due to construction of the new overcrossing structure will moderately degrade the quality of views from both the neighborhood and the freeway. A future planting project will replace these trees. The impact on freeway motorists will be limited due to their brief exposure and the appearance of other trees immediately before and after the overcrossing.

2.4 CULTURAL RESOURCES

2.4.1 Regulatory Setting

"Cultural resources" as used in this document refers to all historical and archaeological resources, regardless of significance. Laws and regulations dealing with cultural resources include:

The National Historic Preservation Act of 1966, as amended, (NHPA) sets forth national policy and procedures regarding historic properties, defined as districts, sites, buildings, structures, and objects included in or eligible for the National Register of Historic Places. Section 106 of NHPA requires federal agencies to take into account the effects of their undertakings on such properties and to allow the Advisory Council on Historic Preservation the opportunity to comment on those undertakings, following regulations issued by the Advisory Council on Historic Preservation (36 CFR 800). On January 1, 2004, a Section 106 Programmatic Agreement (PA) between the Advisory Council, FHWA, State Historic Preservation Officer (SHPO), and the Department went into effect for Department projects, both state and local, with FHWA involvement. The PA implements the Advisory Council's regulations, 36 CFR 800, streamlining the Section 106 process and delegating certain responsibilities to the Department. The FHWA's responsibilities under the PA have been assigned to the Department as part of the Surface Transportation Project Delivery Pilot Program (23 CFR 773) (July 1, 2007).

2.4.2 Affected Environment

The Area of Potential Effects (APE) for archaeology and architectural history is limited to the area of direct impact, which consists of the project footprint located within existing right of way and the railroad right of way at the Henderson overcrossing structure. Detailed professional studies, such as reviews of project plans, records and literature searches, field reviews and

analyses of Department maps and site records were undertaken. These studies determined the proximity of previously documented prehistoric and historic archaeological and architectural resources to the APE and to help establish a context for resource significance. An archaeological and architectural field reconnaissance of the project area was conducted in July and September 2007.

One previously recorded prehistoric site was identified within the APE, but not evaluated, because impacts to the site were avoided through design changes. There are six bridges located within the project APE, Hetch Hetchy Aqueduct, Henderson overcrossing, San Francisquito Creek, south and north University Avenue overcrossings, and the Ringwood Avenue pedestrian overcrossing. All of the preceding bridges were evaluated as part of the Caltrans Historic Bridge Inventory Update of 2006 and determined not to be eligible for inclusion in the National Register of Historic Places (NRHP). Similarly, the bridges are not considered historic resources under CEQA. Although the bridge over the Hetch Hetchy Aqueduct is a category 5 and excluded from further review, the project also has no potential to impact the Aqueduct itself.

2.4.3 Environmental Consequences

It is the Department's determination that this project will have no potential to affect historic properties. The project is exempt from further review pursuant to Stipulation VII, a Screened Undertaking, under the January 2004 *Programmatic Agreement Among the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and the California Department of Transportation Regarding Compliance with Section 106 of the National Historic Preservation Act, as it Pertains to the Administration of the Federal-Aid Highway Program in California (PA)*.

The undertaking has been screened and determined to be exempt under Class 2 (Minor widening of less than one-half-lane width, adding lanes in the median, or adding paved shoulders), Class 3 (Channelization of intersections or addition of auxiliary lanes), Class 5 (Minor modification of interchanges and realignment of on-/off-ramps) and Class 19 (any work on Category 5 bridges that are less than 50 years of age, including rehabilitation or reconstruction) of Attachment 2, "Screened Undertakings," in the PA.

The project has also been determined to have no potential impact on any historic resources as defined under Public Resources Code (PRC) 5024, Executive Order W-26-29, and Section 15064.5 of the CEQA-Guidelines and the PRC 21084.1

The project would not impact a Section 4(f) historic resource. Refer to Appendix B - Resources Evaluated Relative to the Requirements of Section 4(f).

If cultural materials are discovered during construction, all earth-moving activity within and around the immediate discovery area will be diverted until a qualified archaeologist can assess the nature and significance of the find.

If human remains are discovered, State Health and Safety Code Section 7050.5 states that further disturbances and activities shall cease in any area or nearby area suspected to overlie remains, and the County Coroner contacted. Pursuant to Public Resources Code Section 5097.98, if the remains are thought to be Native American, the coroner will notify the Native American Heritage Commission (NAHC) who will then notify the Most Likely Descendent (MLD). At this time, the person who discovered the remains will contact the Department's Office of Cultural Resources so that they may work with the MLD on the respectful treatment and disposition of the remains. Further provisions of PRC 5097.98 are to be followed as applicable.

2.4.4 Avoidance, Minimization, and/or Mitigation Measures

One previously recorded prehistoric site was identified within the APE, but not evaluated, because impacts to the site were avoided through design changes. No further avoidance, minimization and/or mitigation measures are proposed.

PHYSICAL ENVIRONMENT

2.5 HYDROLOGY AND FLOODPLAIN

2.5.1 Regulatory Setting

Executive Order 11988 (Floodplain Management) directs all federal agencies to refrain from conducting, supporting, or allowing actions in floodplains unless it is the only practicable alternative. The Federal Highway Administration requirements for compliance are outlined in 23 CFR 650 Subpart A.

In order to comply, the following must be analyzed:

- The practicability of alternatives to any longitudinal encroachments
- Risks of the action
- Impacts on natural and beneficial floodplain values
- Support of incompatible floodplain development
- Measures to minimize floodplain impacts and to preserve/restore any beneficial floodplain values impacted by the project.

The base floodplain is defined as “the area subject to flooding by the flood or tide having a one percent chance of being exceeded in any given year.” An encroachment is defined as “an action within the limits of the base floodplain.”

2.5.2 Affected Environment

The Department completed a *Location Hydraulic Study* for this project in December 2007.

The San Francisquito Creek Watershed encompasses an area of forty-five square miles and covers an area extending from Skyline Boulevard on the ridge of the Santa Cruz Mountains to the San Francisco Bay. Route 101 has been closed in the past due to flooding of San Francisquito Creek as well as levee failures. Approximately half of the proposed project area lies within the 100-year floodplain designated on the latest FEMA flood insurance rate maps. See Appendix D for the Project Base Floodplain Encroachment Map.

2.5.3 Environmental Consequences

There are three significant encroachments on the 100-year flood plain within the project limits, the San Francisquito Creek Bridge, the staggered sound wall opening at Laurel Avenue adjacent to the Willow Road interchange and the Henderson railroad overcrossing structure where the existing pump plant with underground storage box will be replaced as part of this project. The pump plant, even after replacement, will not be capable of handling potential floodwaters from San Francisquito Creek during extreme flood events.

2.5.4 Avoidance, Minimization and/or Mitigation Measures

The proposed project to construct auxiliary lanes will not result in significantly or adversely impacting the existing Federal Emergency Management Agency (FEMA) 100-year floodplain.

Replacement of the San Francisquito Creek Bridge is not included in the scope of this project. The openings in the sound walls at Laurel Avenue and at the San Francisquito Creek Bridge that are designed to pass flood flows will not be altered as part of this project.

Portions of Route 101 will still be inundated during a major 100-year flood event since the Department cannot protect this section from extreme flood events.

2.6 WATER QUALITY AND STORM WATER RUNOFF

2.6.1 Regulatory Setting

Section 401 of the Clean Water Act (CWA) requires water quality certification from the State Water Resources Control Board (SWRCB) or from a Regional Water Quality Control Board (RWQCB) when the project requires a CWA Section 404 permit. Section 404 of the CWA requires a permit from the U.S. Army Corps of Engineers (Corps) to discharge dredged or fill material into waters of the United States.

Along with CWA Section 401, CWA Section 402 establishes the National Pollutant Discharge Elimination System (NPDES) permit for the discharge of any pollutant into waters of the United States. The federal Environmental Protection Agency has delegated administration of the NPDES program to the SWRCB and nine RWQCBs. The SWRCB and RWQCB also regulate other waste discharges to land within California through the issuance of waste discharge requirements under authority of the Porter-Cologne Water Quality Act.

The SWRCB has developed and issued a statewide NPDES permit to regulate storm water discharges from all Department activities on its highways and facilities. Department construction projects are regulated under the Statewide permit, and projects performed by other entities on Department right-of-way (encroachments) are regulated by the SWRCB's Statewide General Construction Permit. All construction projects over 1 acre require a Storm Water Pollution Prevention Plan (SWPPP) to be prepared and implemented during construction. Department activities less than 1 acre require a Water Pollution Control Program.

2.6.2 Affected Environment

Since the project has a soil disturbance area of one or more acres, this project will adhere to the conditions of the National Pollutant Discharge Elimination System (NPDES) permit for Construction Activities (Order No. 99-08-DWQ, NPDES No. CAS000002), which is incorporated by reference to the California NPDES Permit, Storm Water Discharges from the State of California, Department of Transportation (Caltrans) Properties, Facilities and Activities (Order No. 99-06-DWQ, NPDES No. CA S000003).

No construction activities will be within San Francisquito Creek as part of this project. Therefore, Section 401 and 404 permits will not be required for this project.

2.6.3 Environmental Consequences

A possible, but temporary impact is the presence of pollutants in storm water discharges throughout construction.

2.6.4 Avoidance, Minimization, and/or Mitigation Measures

Appropriate measures will be implemented to comply with the conditions of NPDES permit and the Construction General Permit. Best Management Practices (BMPs) will be incorporated into this project to reduce the discharge of pollutants during construction as well as permanently after the completion of project. These BMPs fall into four categories, i.e., (I) Permanent Design Pollution Prevention BMPs, (II) Temporary Construction Site BMPs, (III) Permanent Treatment BMPs and (IV) if needed maintenance BMPs. Design Pollution Prevention BMPs are permanent measures to improve storm water quality by reducing erosion, stabilize disturbed soil areas, and maximize vegetated surfaces. Erosion control measures will be provided on all disturbed areas. Permanent impacts to San Francisquito Creek will be mitigated both on site and in locations still to be determined. Temporary Construction Site BMPs are applied during construction activities to control sedimentation, erosion and the discharge of other pollutants throughout construction.

Based on the proposed project scope and the resulting potential water quality impacts, the project is not exempt from incorporating Treatment BMPs. Treatment BMPs are permanent devices and facilities treating storm water runoff. Caltrans approved Treatment BMPs are Biofiltration Strips/Swales, Infiltration Basins, Detention Basins, Traction Sand Traps, Dry Weather Flow Diversions, Media Filters, Gross Solids Removal Devices (GSRDs), Multi-Chamber Treatment Trains (MCTT), and Wet Basins. Those most feasible in the Bay Area are Biofiltration Strips/Swales, Infiltration Basins, Detention Basins, Media Filters and MCTT. The preliminary assessment of the area suggests the selected Treatments BMPs for this project will be biofiltration stripes/swales to treat runoff from the project site to the maximum extend practicable.

2.7 GEOLOGY / SOILS / SEISMIC / TOPOGRAPHY

2.7.1 Regulatory Setting

For geologic and topographic features, the key federal law is the Historic Sites Act of 1935, which establishes a national registry of natural landmarks and protects “outstanding examples of major geological features.” Topographic and geologic features are also protected under the California Environmental Quality Act.

This section also discusses geology, soils, and seismic concerns as they relate to public safety and project design. Earthquakes are prime considerations in the design and retrofit of structures. The Department’s Office of Earthquake Engineering is responsible for assessing the seismic hazard for Department projects. The current policy is to use the anticipated Maximum Credible Earthquake (MCE), from young faults in and near California. The MCE is defined as the largest earthquake that can be expected to occur on a fault over a particular period of time.

2.7.2 Affected Environment

The Department prepared the *Preliminary Geotechnical Report: Auxiliary Lanes from Embarcadero Road to Marsh Road, 04-SM-101 PM 0.0/3.6, SCL-101 PM 52.3/52.6, 04-235610* in July 2007.

The project lies on the alluvial plain on the west side of San Francisco Bay. Alluvial fans and late Quaternary deposits coalesce in the plain. Route 101 lies on areas with moderate to high liquefaction susceptibility. The project area is mostly flat and erosion is not considered an issue. Settlement is not known to have occurred at this location previously.

Test borings indicate that groundwater is approximately at two feet elevation throughout the project. Route 101 lies at approximately ten to twenty feet elevation.

The San Francisco Bay Area is highly seismically active, with numerous large regional faults. The San Andreas and Hayward faults pass within a few miles of the project. No known active or potentially active faults cross Route 101 within the project limits.

2.7.3 Environmental Consequences

A search of Department records indicates that there have been no major slipouts, landslides, or other geotechnical problems in the project area.

Geotechnical exploration is necessary to determine groundwater levels, soil types and strengths, corrosion, susceptibility to liquefaction and settlement and any areas that require dewatering. Several investigative methods should be used, including but not limited to geologic mapping, soil borings, cone penetrometry studies and geophysical studies. Vertical borings will be advanced where the retaining walls are proposed and/or where soil stability should be investigated.

The United States Geological Survey (USGS) assigns a 62 percent probability that a major earthquake will occur on a fault in the San Francisco Bay Area within the next thirty years (See *Preliminary Geotechnical Report: Auxiliary Lanes from Embarcadero Road to Marsh Road, 04-SM-101 PM 0.0/3.6, SCL-101 PM 52.3/52.6, 04-235610*). A major earthquake could result in severe ground shaking and trigger secondary damage such as liquefaction or settlement within the project vicinity.

2.7.4 Avoidance, Minimization and/or Mitigation Measures

There are no significant geotechnical conditions. No avoidance, minimization and/or mitigation measures are proposed.

Conclusions of the geotechnical exploration will be compiled in a Geotechnical Design Report, which will be completed during the Design phase of this project.

The project area is likely to experience earthquakes in the future.

2.8 HAZARDOUS WASTE/MATERIALS

2.8.1 Regulatory Setting

Hazardous materials and hazardous wastes are regulated by many state and federal laws. These include not only specific statutes governing hazardous waste, but also a variety of laws regulating air and water quality, human health and land use.

The primary federal laws regulating hazardous wastes/materials are the Resource Conservation and Recovery Act of 1976 (RCRA) and the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA). The purpose of CERCLA, often referred to as Superfund, is to clean up contaminated sites so that public health and welfare are not compromised. RCRA provides for "cradle to grave" regulation of hazardous wastes. Other federal laws include:

- Community Environmental Response Facilitation Act (CERFA) of 1992
- Clean Water Act
- Clean Air Act
- Safe Drinking Water Act
- Occupational Safety and Health Act (OSHA)
- Atomic Energy Act
- Toxic Substances Control Act (TSCA)
- Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)

In addition to the acts listed above, Executive Order 12088, Federal Compliance with Pollution Control, mandates that necessary actions be taken to prevent and control environmental pollution when federal activities or federal facilities are involved.

Hazardous waste in California is regulated primarily under the authority of the federal *Resource Conservation and Recovery Act of 1976*, and the *California Health and Safety Code*. Other California laws that affect hazardous waste are specific to handling, storage, transportation, disposal, treatment, reduction, cleanup and emergency planning.

Worker health and safety and public safety are key issues when dealing with hazardous materials that may affect human health and the environment. Proper disposal of hazardous material is vital if it is disturbed during project construction.

2.8.2 Affected Environment

Geocon Consultants performed an *Initial Site Assessment (ISA)* in October 2002. Environmental Data Resources, Inc. prepared a *Corridor Study Report* in September 2002.

A hazardous materials database search was conducted in October 2000 for the purpose of providing an indication of the likelihood of encountering contamination from hazardous materials during construction. The database search yielded over 290 sites within a half-mile radius of Route 101 from the Embarcadero Road interchange to the Marsh Road interchange, where hazardous materials are generated, used, or stored and/or where some type of spill, leakage and/or contamination has occurred.

2.8.3 Environmental Consequences

Of the 290 sites from the hazardous materials database search noted above, many of these sites are listed on various databases simply because they use or store hazardous materials, not because there is any contamination.

The *Corridor Study Report* noted above indicates the following:

- No properties located within the project vicinity are referenced on the United States Environmental Protection Agency's (EPA) National Priority List, Resource Conservation Recovery Act (RCRA) Corrective Actions and Violations, Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS), Treatment Storage and Disposal Facility and Toxic Release Inventory listings.
- One site is referenced on the California Department of Toxic Substances Control (DTSC) State Equivalent CERCLIS (SCL) listing within the project vicinity. This site is located at 119 Independence Drive, Menlo Park, and is occupied by Siebert Machine Corporation.
- There are thirty-one facilities located within the project vicinity that are referenced on the California Leaking Underground Storage Tank (LUST), CORTESE (California Environmental Protection Agency/Office of Emergency Information Hazardous Waste and Substances Sites List), and Underground Storage Tank (UST) listings. No above ground storage tanks (AST) are listed.
- No properties were referenced on the California Solid Waste Landfill (SWLF) listing.

Groundwater impacted with chlorinated solvents exists within the project vicinity extending from the Henderson railroad overcrossing structure to the Marsh Road interchange (refer to Lots 33, 36, 42, 44 and 55 in the *ISA*). This regional chlorinated solvent plume may be encountered during construction of the Henderson overcrossing replacement structure, retaining walls and storm water pump plant replacement.

There is the potential to encounter contamination during construction near the Cavallino Collision Center, 1880 West Bayshore Road, East Palo Alto. This is an auto body repair shop and the facility was identified in the *Corridor Study Report* as a site that generates small quantities of hazardous waste and is listed by the County of San Mateo to have a Hazardous Material Business Plan on file.

Aerially deposited lead (ADL) contaminated material is likely to be present within the project limits. Any ADL material encountered will most likely fall within the allowable Department Variance (Type 'Y' material) and may be used as fill material at the project location.

2.8.4 Avoidance, Minimization, and/or Mitigation Measures

It is recommended that some follow-up investigation be undertaken during the Design phase of the project to determine the extent and nature of any incidents reported at these identified sites as well as any impacts to the project. Most of these sites are unlikely to affect the project because the nature of most spills is typically minor wherein contamination is localized in the immediate area and is remedied.

Any ADL material encountered would have to be placed within an interchange if a suitable location can be determined, or buried under a structural section and the clean over-excavated material off hauled.

2.9 AIR QUALITY

2.9.1 Regulatory Setting

The Clean Air Act as amended in 1990 is the federal law that governs air quality. Its counterpart in California is the California Clean Air Act of 1988. These laws set standards for the quantity of pollutants that can be in the air. At the federal level, these standards are called National Ambient Air Quality Standards (NAAQS). Standards have been established for six criteria pollutants that have been linked to potential health concerns; the criteria pollutants are: carbon monoxide (CO), nitrogen dioxide (NO₂), ozone (O₃), particulate matter (PM), lead (Pb), and sulfur dioxide (SO₂).

Under the 1990 Clean Air Act Amendments, the U.S. Department of Transportation cannot fund, authorize, or approve Federal actions to support programs or projects that are not first found to conform to State Implementation Plan for achieving the goals of the Clean Air Act requirements. Conformity with the Clean Air Act takes place on two levels—first, at the regional level and second, at the project level. The proposed project must conform at both levels to be approved.

Regional level conformity in California is concerned with how well the region is meeting the standards set for carbon monoxide (CO), nitrogen dioxide (NO₂), ozone (O₃), and particulate matter (PM). California is in attainment for the other criteria pollutants. At the regional level, Regional Transportation Plans (RTP) are developed that include all of the transportation projects planned for a region over a period of years, usually at least 20. Based on the projects included in the RTP, an air quality model is run to determine whether or not the implementation of those projects would conform to emission budgets or other tests showing that attainment requirements of the Clean Air Act are met. If the conformity analysis is successful, the regional planning organization, such as the Metropolitan Planning Commission for the greater San Francisco Bay Area, and the appropriate federal agencies, such as the Federal Highway Administration, make the determination that the RTP is in conformity with the State Implementation Plan for achieving the goals of the Clean Air Act. Otherwise, the projects in the RTP must be modified until conformity is attained. If the design and scope of the proposed transportation project are the same as described in the RTP, then the proposed project is deemed to meet regional conformity requirements for purposes of project-level analysis.

Conformity at the project-level also requires “hot spot” analysis if an area is “nonattainment” or “maintenance” for carbon monoxide (CO) and/or particulate matter. A region is a “nonattainment” area if one or more monitoring stations in the region fail to attain the relevant standard. Areas that were previously designated as nonattainment areas but have recently met the standard are called “maintenance” areas. “Hot spot” analysis is essentially the same, for technical purposes, as CO or particulate matter analysis performed for NEPA and CEQA purposes. Conformity does include some specific standards for projects that require a hot spot analysis. In general, projects must not cause the CO standard to be violated, and in “nonattainment” areas the project must not cause any increase in the number and severity of violations. If a known CO or particulate matter violation is located in the project vicinity, the project must include measures to reduce or eliminate the existing violation(s) as well.

2.9.2 Affected Environment

The Department's Office of Environmental Engineering completed the technical study, *Air Quality Impact Report for the Auxiliary Lanes Project on Route 101 in San Mateo and Santa Clara Counties from Embarcadero Road I/C to Marsh Road I/C*, in December 2007.

The climate of the San Francisco Bay Area has mild, wet winters and relatively warm, dry summers. The major climatic controls are the Pacific high-pressure over the eastern Pacific Ocean, the Pacific Ocean and the local topography. The formation of a high-pressure area over the Great Basin Region to the east also affects the meteorology of the Bay Area, primarily during the winter months. Daytime temperatures in the summer average near 80 degrees Fahrenheit (°F), with temperatures dropping into the 50's by morning. Sunshine is plentiful in the summer, with clear skies most of the time. In winter, temperatures vary little, with high temperatures in the mid 50's. Winter lows drop to the low 30's.

2.9.3 Environmental Consequences

The proposed project is exempt from regional and project level conformity requirements under 40 CFR 93.126.

The most recent regional transportation plan (RTP) in the San Francisco Bay Area is the Metropolitan Transportation Commission's (MTC) Transportation 2030 Plan adopted in February 2005. The current Transportation Improvement Program (TIP) is the 2007 TIP adopted in July 2006 by the MTC. FHWA made its conformity determination for the Transportation 2030 Plan and the 2007 TIP in October 2006. This project is listed in a conforming RTP and Regional Transportation Improvement Program (RTIP), and the design concept and scope have not changed from the design concept and scope in the RTP and RTIP listings. The project therefore meets the regional tests for conformity with the State Implementation Plan (SIP).

No Transportation Control Measures (TCM) are included in this project and the project does not interfere with the implementation of any TCM.

2.9.4 Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, and/or mitigation measures are proposed.

BIOLOGICAL ENVIRONMENT

2.10 WETLANDS AND OTHER WATERS

2.10.1 Regulatory Setting

Wetlands and other waters are protected under a number of laws and regulations. At the federal level, the Clean Water Act (33 U.S.C. 1344) is the primary law regulating wetlands and waters. The Clean Water Act regulates the discharge of dredged or fill material into waters of the United States, including wetlands. Waters of the United States include navigable waters, interstate waters, territorial seas and other waters that may be used in interstate or foreign commerce. To classify wetlands for the purposes of the Clean Water Act, a three-parameter approach is used that includes the presence of hydrophytic (water-loving) vegetation, wetland hydrology, and hydric soils (soils subject to saturation/inundation). All three parameters must be

present, under normal circumstances, for an area to be designated as a jurisdictional wetland under the Clean Water Act.

Section 404 of the Clean Water Act establishes a regulatory program that provides that no discharge of dredged or fill material can be permitted if a practicable alternative exists that is less damaging to the aquatic environment or if the nation's waters would be significantly degraded. The Section 404 permit program is run by the U.S. Army Corps of Engineers (ACOE) with oversight by the Environmental Protection Agency (EPA).

The Executive Order for the Protection of Wetlands (E.O. 11990) also regulates the activities of federal agencies with regard to wetlands. Essentially, this executive order states that a federal agency, such as the Federal Highway Administration, cannot undertake or provide assistance for new construction located in wetlands unless the head of the agency finds: 1) that there is no practicable alternative to the construction and 2) the proposed project includes all practicable measures to minimize harm.

At the state level, wetlands and waters are regulated primarily by the Department of Fish and Game (CDFG) and the Regional Water Quality Control Boards (RWQCB). In certain circumstances, the Coastal Commission (or Bay Conservation and Development Commission) may also be involved. Sections 1600-1607 of the Fish and Game Code require any agency that proposes a project that will substantially divert or obstruct the natural flow of or substantially change the bed or bank of a river, stream, or lake to notify CDFG before beginning construction. If DFG determines that the project may substantially and adversely affect fish or wildlife resources, a Lake or Streambed Alteration Agreement will be required. CDFG jurisdictional limits are usually defined by the tops of the stream or lake banks, or the outer edge of riparian vegetation, whichever is wider. Wetlands under jurisdiction of the ACOE may or may not be included in the area covered by a Streambed Alteration Agreement obtained from the CDFG.

The Regional Water Quality Control Boards were established under the Porter-Cologne Water Quality Control Act to oversee water quality. The RWQCB also issues water quality certifications in compliance with Section 401 of the Clean Water Act. Please see the Water Quality section for additional details.

2.10.2 Affected Environment

The Department's Office of Biological Sciences and Permits completed a *Natural Environment Study (Minimal Impacts): US 101 Auxiliary Lane, Embarcadero – Marsh* in February 2008. No Wetland Delineation/Assessment was necessary for this project.

The study area for wetlands and waters encompasses the limits of the project on Route 101 from the Embarcadero Road interchange to the Marsh Road interchange. Field surveys have found no evidence of United States Army Corps of Engineers jurisdictional wetlands or waters of the United States within the project limits. No construction activities will take place within San Francisquito Creek, which crosses Route 101 beneath the roadway.

2.10.3 Environmental Consequences

No environmental consequences have been identified.

2.10.4 Avoidance, Minimization and/or Mitigation Measures

There are no avoidance, minimization and/or mitigation measures proposed.

2.11 PLANT SPECIES

2.11.1 Regulatory Setting

The U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Game (CDFG) share regulatory responsibility for the protection of special-status plant species. "Special-status" species are selected for protection because they are rare and/or subject to population and habitat declines. Special status is a general term for species that are afforded varying levels of regulatory protection. The highest level of protection is given to threatened and endangered species; these are species that are formally listed or proposed for listing as endangered or threatened under the Federal Endangered Species Act (FESA) and/or the California Endangered Species Act (CESA).

This section of the document discusses all the other special-status plant species, including CDFG fully protected species and species of special concern, USFWS candidate species, and non-listed California Native Plant Society (CNPS) rare and endangered plants.

The regulatory requirements for FESA can be found at United States Code 16 (USC), Section 1531, et. seq. See also 50 CFR Part 402. The regulatory requirements for CESA can be found at California Fish and Game Code, Section 2050, et. seq. Department projects are also subject to the Native Plant Protection Act, found at Fish and Game Code, Section 1900-1913, and the California Environmental Quality Act, Public Resources Code, Sections 2100-21177.

2.11.2 Affected Environment

The Department's Office of Biological Sciences and Permits completed a *Natural Environment Study (Minimal Impacts): US 101 Auxiliary Lane, Embarcadero – Marsh* in February 2008. Department biologists conducted multiple visits of the project vicinity between June 2006 and October 2007. These field observations, combined with reviews of current databases and agency lists, were used for the development of a Biological Study Area (BSA) for this project. The BSA incorporates the proposed project footprint and all of the project's impacts. The study of plant species corresponded to the extent of the BSA.

The vegetation of the BSA is dominated by landscape plantings. These landscape plants are primarily non-native trees and shrubs that have been placed within the highway right of way to improve the visual aesthetics of the highway. The landscape plant species are comprised of eucalyptus, tree of heaven, ornamental pear, pepper tree and ginkgo. Mixed in with the landscaped plants are several California native plants. The native plants growing among the non-native horticultural vegetation include coast live oak trees and shrubs, valley oak, redwood, blue elderberry and coyote brush.

A listing of the trees and shrubs found within the BSA is in Figure 6:

Native and Non-native Vegetation within the BSA

Native Vegetation		Non-native Vegetation	
Number	Vegetation	Number	Vegetation
56	Coast live oak (tree)	98	Eucalyptus (tree)
8	Coast live oak (shrub)	21	Tree of Heaven (tree)
6	Valley oak (tree)	21	Grevillea (tree)
5	Redwood (tree)	7	Grevillea (shrub)
1	Blue elderberry (tree)	11	Ornamental pear (tree)
1	Coyote brush (shrub)	11	Pepper tree (tree)
1	Osmanthus (shrub)	10	Monterey pine (tree)
1	Valley oak (shrub)	9	Acacia (tree)
		8	Ginko (tree)
		6	Escallonia (tree)
		3	Oregon oak (tree)
		2	Acacia (shrub)
		1	Canary Pine (tree)
		1	Cotoneaster (shrub)
		1	Oregon oak (shrub)
		1	Pittosporum (tree)
		1	Smooth-leaf Elm (tree)

Figure 6

A comprehensive list of special status plant species that could potentially occur within the BSA was compiled through internet databases and literature searches. The California Native Plant Society list was queried for the Mountain View and Palo Alto US Geological Survey 7.5-minute quadrangles. The results from this search are compiled on Figure 7 below:

Regional Plant Species of Concern

Scientific Name	Common Name	Status ¹	Habitat	Species Habitat (Present/Absent)
<i>Acanthomintha duttonii</i>	San Mateo thorn-mint	FE, SE	Chaparral and grasslands, occurs on serpentine, flowers Apr-Jun	Absent, habitat not present
<i>Hesperolinon congestum</i>	Marin dwarf flax(=western flax)	FT, ST	Chaparral and grasslands, occurs on serpentine, flowers Apr-Jun	Absent, habitat not present
<i>Suaeda californica</i>	California seablite	FE	Coastal salt marsh, tolerates high salt levels, sand & seasonal flooding	Absent, habitat not present

¹FE=Federal endangered, FT=Federal threatened, SE=State endangered, ST=State threatened

Figure 7

Threatened and endangered species are excluded from the project vicinity because of a lack of suitable habitats. The physical and biological conditions found within the project limits are not conducive to supporting species or special-status habitats. The existing trees are not considered biological habitat for the listed species on the project.

2.11.3 Environmental Consequences

The project will not adversely affect any listed or special status plant species. However, the replacement of the Ringwood Avenue pedestrian overcrossing structure and the Henderson railroad overcrossing structure may result in the removal of landscaped vegetation. The vegetation adjacent to both structures consists of native and non-native trees and shrubs that are growing next to the sound walls outside of the mainline at the Ringwood Avenue overcrossing, and adjoining the Henderson railroad overcrossing.

The new structures will be replaced in the same general locations as the existing structures, but will have different footprints. At the Ringwood Avenue overcrossing, the tree and vegetation removal will occur where the existing access ramps touch down along the sound wall. The dense plantings of trees and shrubs along the Henderson railroad overcrossing will be removed for the construction of the retaining walls, the abutments and the additional railway. The Department recommends that the trees that are removed for construction purposes are to be replaced in accordance with the Department landscape design plans.

2.11.4 Avoidance, Minimization, and/or Mitigation Measures

While there are no recognized protected plant species present within the project limits, there are Department standards and Best Management Practices (BMPs) that can be used to avoid and minimize impacts to the surrounding environment.

The construction area will be clearly delineated to avoid impacts caused by construction personnel, vehicles, and activities from occurring outside of the project limits. If deemed necessary by the project biologist, pre-construction surveys for federally protected migratory nesting birds will be performed prior to tree and vegetation removal. If protected bird species are located within the project's BSA, a Department biologist will establish buffer zones and develop a nest monitoring plan for the protected species.

CLIMATE CHANGE

2.12 Regulatory Setting

While climate change has been a concern since at least 1988, as evidenced by the establishment of the United Nations and World Meteorological Organization's Intergovernmental Panel on Climate Change (IPCC), the efforts devoted to greenhouse gas¹ (GHG) emissions reduction and climate change research and policy have increased dramatically in recent years. In 2002, with the passage of Assembly Bill 1493 (AB 1493), California launched an innovative and pro-active approach to dealing with GHG emissions and climate change at the state level. AB 1493 requires the Air Resources Board (ARB) to develop and implement regulations to reduce automobile and light truck GHG emissions; these regulations will apply to automobiles and light trucks beginning with the 2009 model year.

¹ Greenhouse gases related to human activity include: Carbon dioxide, Methane, Nitrous oxide, Tetrafluoromethane, Hexafluoroethane, Sulfur hexafluoride, HFC-23, HFC-134a*, and HFC-152a*.

On June 1, 2005, Governor Arnold Schwarzenegger signed Executive Order S-3-05. The goal of this Executive Order is to reduce California's GHG emissions to: 1) 2000 levels by 2010, 2) 1990 levels by the 2020 and 3) 80% below the 1990 levels by the year 2050. In 2006, this goal was further reinforced with the passage of Assembly Bill 32 (AB 32), the Global Warming Solutions Act of 2006. AB 32 sets the same overall GHG emissions reduction goals while further mandating that ARB create a plan, which includes market mechanisms, and implement rules to achieve "real, quantifiable, cost-effective reductions of greenhouse gases." Executive Order S-20-06 further directs state agencies to begin implementing AB 32, including the recommendations made by the state's Climate Action Team.

Climate change and GHG reduction is also a concern at the federal level; however, at this time, no legislation or regulations have been enacted specifically addressing GHG emissions reductions and climate change.

According to a recent white paper by the Association of Environmental Professionals², "an individual project does not generate enough greenhouse gas emissions to significantly influence global climate change. Global climate change is a cumulative impact; a project participates in this potential impact through its incremental contribution combined with the cumulative increase of all other sources of greenhouse gases

The Department and its parent agency, the Business, Transportation, and Housing Agency, have taken an active role in addressing GHG emission reduction and climate change. Recognizing that 98 percent of California's GHG emissions are from the burning of fossil fuels and 40 percent of all human made GHG emissions are from transportation, the Department has created and is implementing the *Climate Action Program at Caltrans* (December 2006).

One of the main strategies in the Department's Climate Action Program to reduce GHG emissions is to make California's transportation system more efficient. The highest levels of carbon dioxide from mobile sources, such as automobiles, occur at stop-and-go speeds (0-25 miles per hour) and speeds over 55 mph. Relieving congestion by enhancing operations and improving travel times in high congestion travel corridors will lead to an overall reduction in GHG emissions.

The Department recognizes the concern that carbon dioxide emissions raise for climate change. However, modeling and gauging the impacts associated with an increase in GHG emissions levels, including carbon dioxide, at the project level is not currently possible. No federal, state or regional regulatory agency has provided methodology or criteria for GHG emission and climate change impact analysis. Therefore, the Department is unable to provide a scientific or regulatory based conclusion regarding whether the project's contribution to climate change is cumulatively considerable.

The Department continues to be actively involved on the Governor's Climate Action Team as ARB works to implement AB 1493 and AB 32. As part of the *Climate Action Program at Caltrans* (December 2006), the Department is supporting efforts to reduce vehicle miles traveled by planning and implementing smart land use strategies: job/housing proximity, developing transit-oriented communities, and high density housing along transit corridors. The Department is working closely with local jurisdictions on planning activities; however, the Department does not have local land use planning authority. The Department is also supporting efforts to improve

² Recommendations by the Association of Environmental Professionals (AEP) on How to Analyze Greenhouse Gas Emissions and Global Climate Change in CEQA Documents (March 5, 2007), p. 2.

the energy efficiency of the transportation sector by increasing vehicle fuel economy in new cars, light and heavy-duty trucks. However it is important to note that the control of the fuel economy standards is held by the United States Environmental Protection Agency and ARB. Lastly, the use of alternative fuels is also being considered; the Department is participating in funding for alternative fuel research at the University of California Davis.

CHAPTER 3 – COMMENTS AND COORDINATION

Early and continuing coordination with the general public and appropriate public agencies is an essential part of the environmental process to determine the scope of environmental documentation, the level of analysis, potential impacts and mitigation measures and related environmental requirements. This chapter summarizes the results of the Department's efforts to fully identify, address and resolve project-related issues through early and continuing coordination.

3.1 Henderson Railroad Overcrossing

The Henderson railroad overcrossing structure is a part of the Dumbarton Rail Corridor project sponsored in this area by the SMCTA and therefore, any work will require on-going coordination between the Department, SMCTA, and the Peninsula Corridor Joint Powers Board. This coordination will continue throughout all phases of this project.

3.2 Ringwood Avenue Pedestrian Overcrossing

Two public meetings were held with the City of Menlo Park to address the replacement of the Ringwood Avenue pedestrian overcrossing. Public notices to affected property owners and agencies were sent out for these meetings.

The City of Menlo Park Bicycle Commission conducted the first meeting on November 5, 2007, at the Menlo Park Senior Center. Department staff presented the proposed project. There were eleven comments from the public. The Commission proposed and unanimously approved a motion to include:

- There is a need to replace the structure in the general location of the existing structure.
- Disruption to the existing structure should be limited as much as possible.
- There is a need to address the broader security issues in neighborhood.
- It is preferable to have stairs in addition to ramps.

The Menlo Park City Council addressed the replacement of the Ringwood Avenue overcrossing structure as an agenda item on the Council's regular meeting on December 18, 2007 at the Menlo Park City Council Chambers. Department staff presented the proposed project and the Bicycle Commission presented its motion to the Council. There were twenty-one comments from the public. A motion was made to accept the recommendation to replace the existing overcrossing structure within close proximity to its current location with the caveat that certain questions be addressed. Characteristics of the motion include:

- City staff should solicit residents adjacent to the project to work with City and Department staff during the Design phase of the project.
- There needs to be an option to access the ramps on the neighborhood sides versus the freeway sides of the frontage roads because of safety concerns of pedestrians crossing the frontage roads.
- Single points of access on both sides are preferred.
- The City Council requests that this item return to the City Council prior to final design.
- It is suggested that the City assume the responsibility for community outreach and public input.

CHAPTER 4 – LIST OF PREPARERS

Office of Environmental Analysis

Thomas Rosevear
Ed Pang

Office of Natural Sciences and Permits

Kevin Melanephy
Margaret Gabil

Office of Cultural Resources

Boris Deunert
Frances Schierenbeck
Elizabeth Krase

Office of Landscape Architecture

Robert Ryerson
Lorena Wong

Office of Design North – Hydraulics Branch

Gene Zhu
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Office of Environmental Engineering

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Office of Design Peninsula

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Office of Highway Operations

Lance Hall
Walter Ancheta

Office of Geotechnical Design – West

Anna Sojourner
Grant Wilcox

Office of Water Quality Program

Kamran Nakhjiri

CHAPTER 5 – DISTRIBUTION LIST

San Mateo County Transportation Authority (SMCTA)

City of East Palo Alto City Council & Public Works

City of Menlo Park City Council & Public Works

City of Palo Alto City Council & Public Works

East Palo Alto Public Library

Menlo Park Main Public Library

Palo Alto Main Public Library

APPENDIX A – CEQA CHECKLIST

Supporting documentation of all CEQA checklist determinations is provided in Chapter 2 of this Initial Study/Environmental Assessment. Documentation of “No Impact” determinations is provided at the beginning of Chapter 2. Discussion of all impacts, avoidance, minimization, and/or compensation measures are under the appropriate topic headings in Chapter 2.

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 projects indicate no impacts. A NO IMPACT answer in the last column reflects this determination. The words "significant" and "significance" used throughout the following checklist are related to CEQA, not NEPA, impacts.

Environmental Significance Checklist

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
I. AESTHETICS -- Would the project:				
a) Have a substantial adverse effect on a scenic vista?				X
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?				X
c) Substantially degrade the existing visual character or quality of the site and its surroundings?				X
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?				X
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:				
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?				X
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?				X

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?				X
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:				
a) Conflict with or obstruct implementation of the applicable air quality plan?				X
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?				X
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)?				X
d) Expose sensitive receptors to substantial pollutant concentrations?				X
e) Create objectionable odors affecting a substantial number of people?				X
IV. BIOLOGICAL RESOURCES -- Would the project:				
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?				X
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?				X
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?				X
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?				X

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?				X
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?				X
V. CULTURAL RESOURCES -- Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?				X
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?				X
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?				X
d) Disturb any human remains, including those interred outside of formal cemeteries?				X
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:				X
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.				X
ii) Strong seismic ground shaking?				X
iii) Seismic-related ground failure, including liquefaction?				X
iv) Landslides?				X
b) Result in substantial soil erosion or the loss of topsoil?				X
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?				X
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?				X

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?				X
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?				X
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?				X
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?				X
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?				X
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?				X
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?				X
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?				X
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?				X
VIII. HYDROLOGY AND WATER QUALITY – Would the project:				
a) Violate any water quality standards or waste discharge requirements?				X
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)?				X

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	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?				X
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?				X
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?				X
f) Otherwise substantially degrade water quality?				X
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?				X
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?				X
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?				X
IX. LAND USE AND PLANNING - Would the project:				
a) Physically divide an established community?				X
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?				X
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?				X
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?				X
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?				X

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?				X
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?				X
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?				X
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?				X
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?				X
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?				X
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)?				X
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?				X
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?				X
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:				X

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Fire protection?				X
Police protection?				X
Schools?				X
Parks?				X
Other public facilities?				X
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?				X
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?				X
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)?				X
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?				X
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?				X
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?				X
e) Result in inadequate emergency access?				X
f) Result in inadequate parking capacity?				X
g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?				X

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVI. UTILITIES AND SERVICE SYSTEMS – Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?				X
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?				X
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?				X
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?				X
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?				X
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?				X
g) Comply with federal, state, and local statutes and regulations related to solid waste?				X
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?				X
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)?				X
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?				X

APPENDIX B – RESOURCES EVALUATED RELATIVE TO THE REQUIREMENTS OF SECTION 4(f)

Section 4(f) of the Department of Transportation Act of 1966, codified in Federal law at 49 U.S.C. 303, declares that it is the policy of the United States Government that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites.

Section 4(f) specifies that the Secretary [of Transportation] may approve a transportation program or project requiring the use of publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge of national, State, or local significance, or land of an historic site of national, State, or local significance (as determined by the Federal, State, or local officials having jurisdiction over the park, area, refuge, or site) only if:

- (1) There is no prudent and feasible alternative to using that land; and
- (2) The program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use.

Section 4(f) further requires consultation with the Department of the Interior and, as appropriate, the involved offices of the Department of Agriculture, and Housing and Urban Development in developing transportation projects and programs that use lands protected by section 4(f).

The Section 4(f) evaluation process for this project is complete and no further evaluations are necessary based on the following information.

The Area of Potential Effects (APE) for archaeology and architectural history is limited to the area of direct impact, which consists of the project footprint located within existing state and Union Pacific Railroad rights of way. One previously recorded prehistoric site was identified within the APE, but not evaluated, because impacts to the site were avoided through design changes. All six structures located within the project limits, including the Henderson Railroad and Ringwood Avenue pedestrian overcrossings, were evaluated as part of the Caltrans Historic Bridge Inventory Update of 2006 and determined not to be eligible for inclusion in the National Register of Historic Places (NRHP).

There are several public parks, recreational lands, and wildlife and waterfowl refuges within 0.5 miles of the project area. Bell Street Park, Jack Farell Park and University Square are located within the city of East Palo Alto. Bayfront Park, Kelly Park, Flood County Park and Willow Oaks Park are located within the city of Menlo Park. Eleanor Pardee Park, Greer Park and Rinconada Park are located within the city of Palo Alto. Baylands Nature Preserve is located within the cities of East Palo Alto and Palo Alto. None of the preceding parks, recreational lands, and wildlife and waterfowl refuges are impacted by the project and consequently do not need further evaluation under Section 4(f).

APPENDIX C – TITLE VI POLICY STATEMENT

STATE OF CALIFORNIA—BUSINESS, TRANSPORTATION AND HOUSING AGENCY

ARNOLD SCHWARZENEGGER, Governor

DEPARTMENT OF TRANSPORTATION
OFFICE OF THE DIRECTOR
1120 N STREET
P. O. BOX 942873
SACRAMENTO, CA 94273-0001
PHONE (916) 654-5266
FAX (916) 654-6608
TTY (916) 653-4086



*Flex your power!
Be energy efficient!*

January 14, 2005

TITLE VI POLICY STATEMENT

The California Department of Transportation under Title VI of the Civil Rights Act of 1964 and related statutes, ensures that no person in the State of California shall, on the grounds of race, color, national origin, sex, disability, and age, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity it administers.

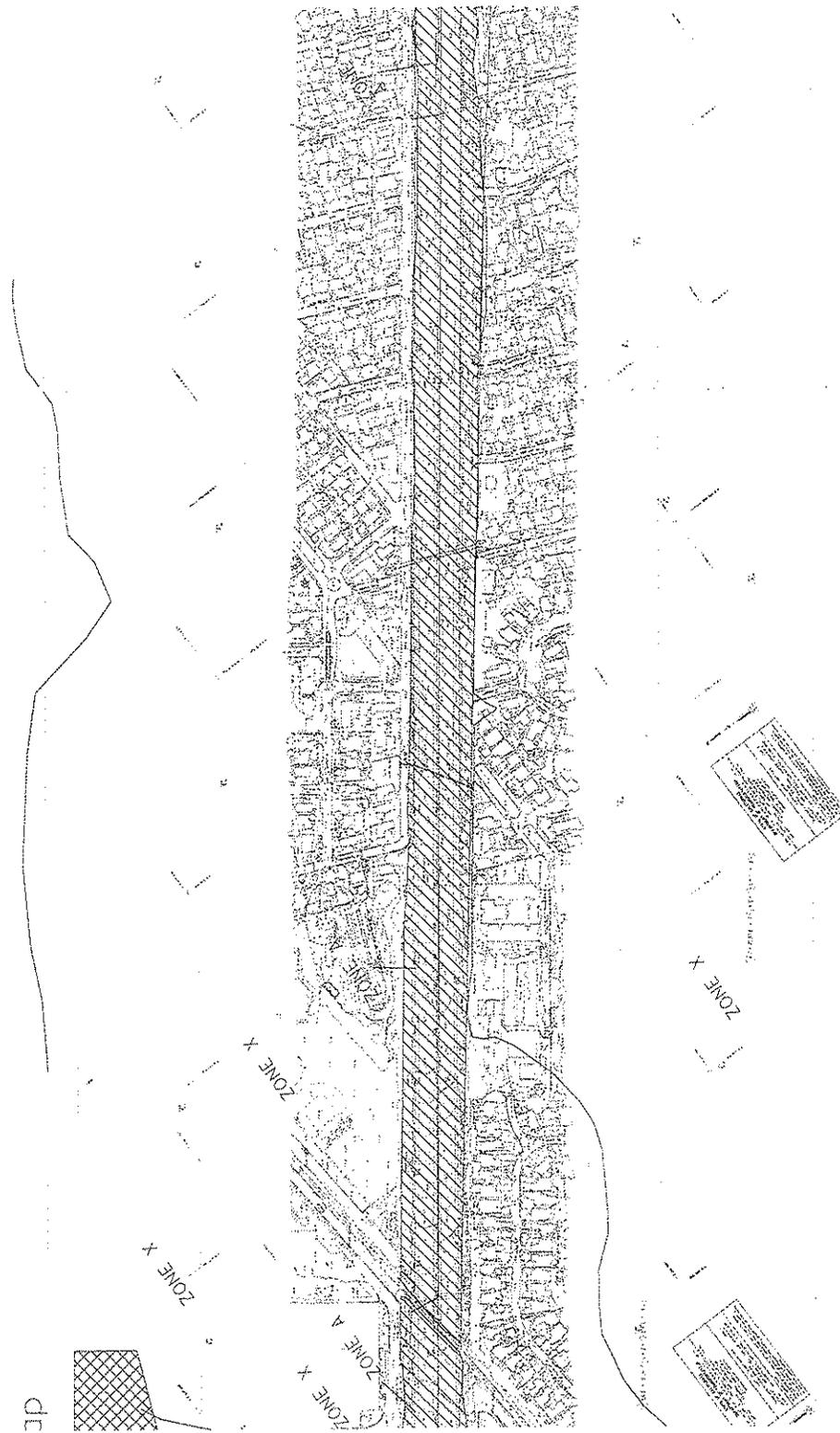

WILL KEMPTON
Director

"Caltrans improves mobility across California"

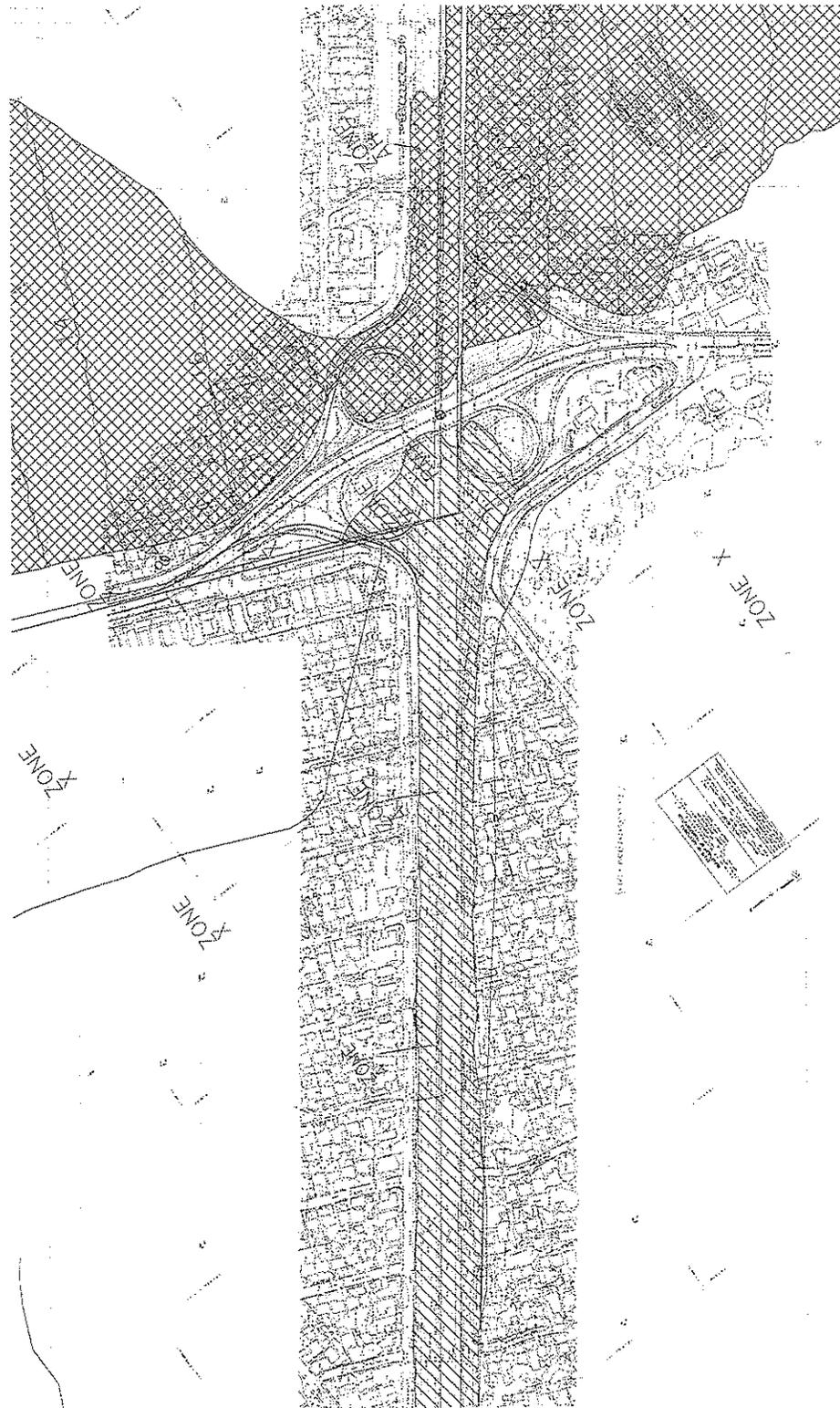
APPENDIX D – PROJECT BASE FLOODPLAIN ENCROACHMENT MAP



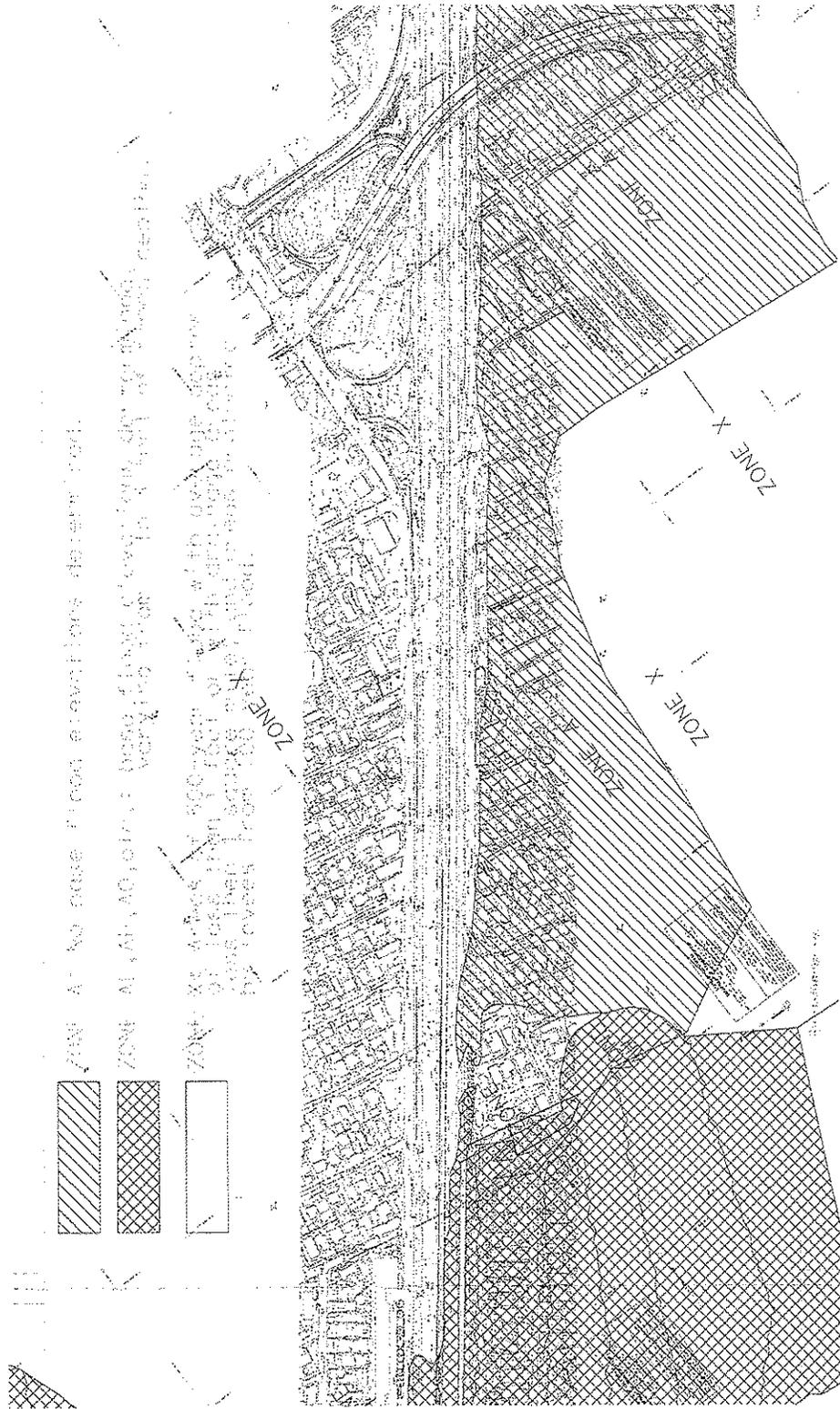
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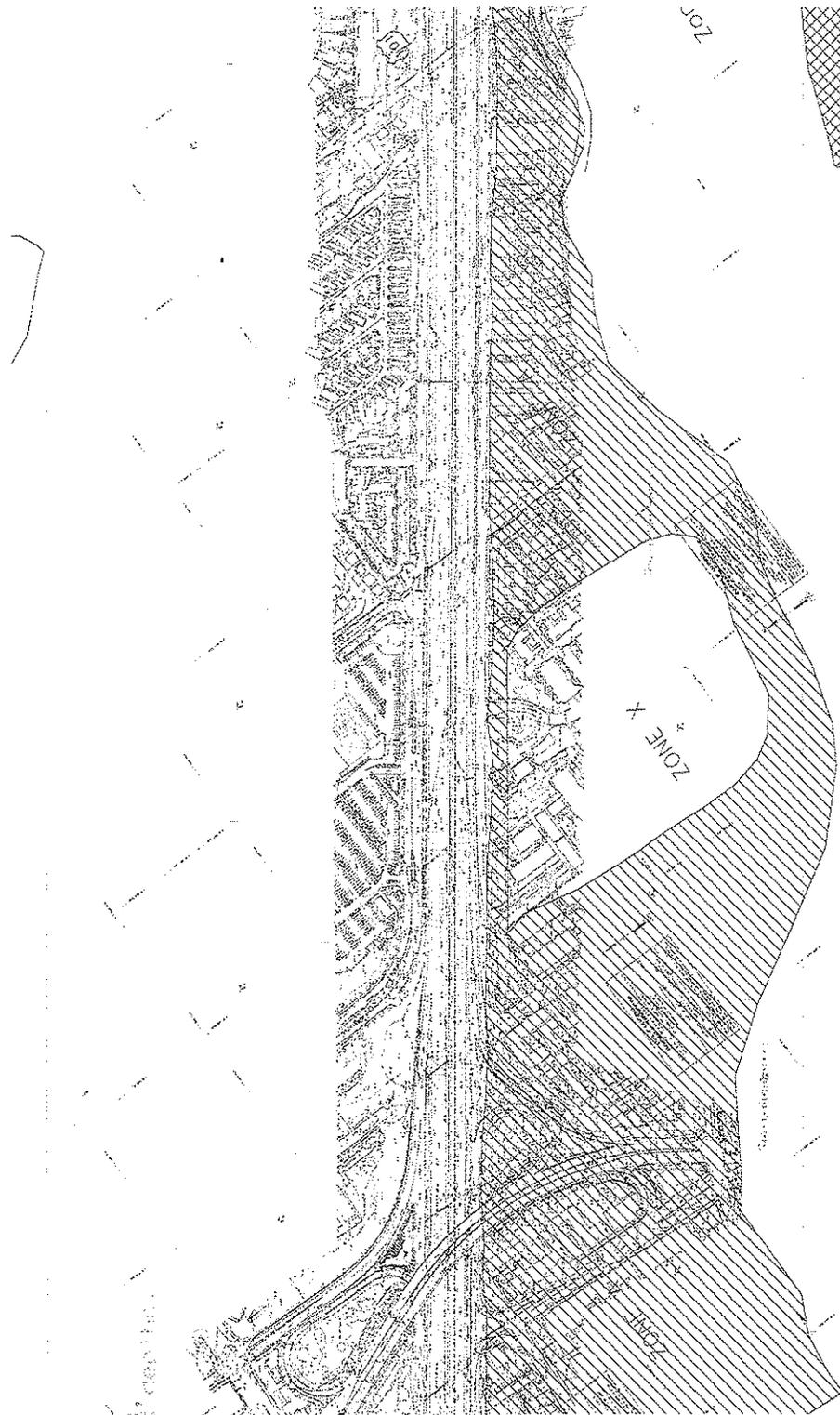
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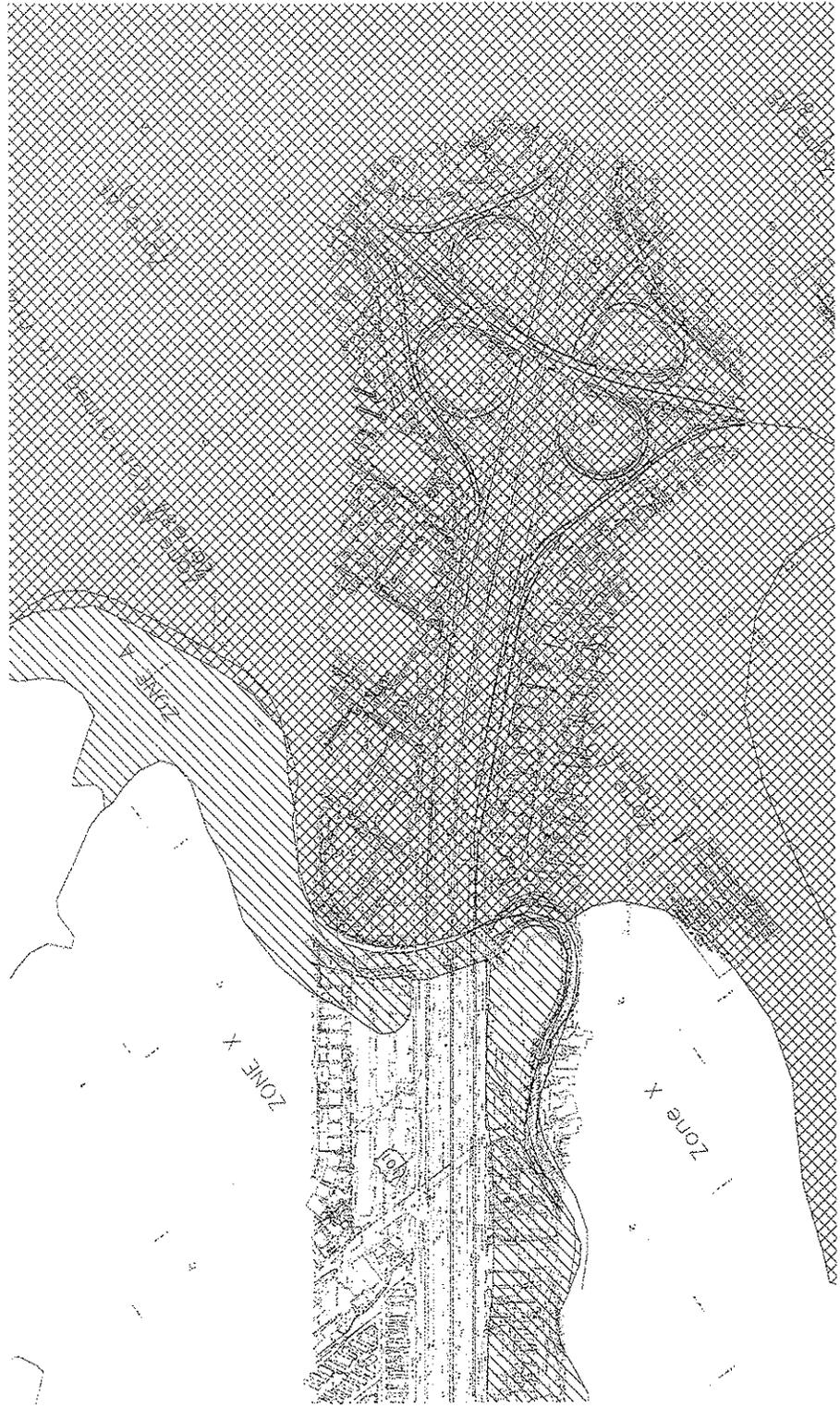
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APPENDIX E – LIST OF TECHNICAL STUDIES

Natural Environment Study (Minimal Impacts): US 101 Auxiliary Lane, Embarcadero – Marsh. California Department of Transportation, District 4, Office of Biological Sciences and Permits. February 2008.

Traffic Noise Study Report: Auxiliary Lane Project On State Route 101 Between The Embarcadero Road Interchange And The Marsh Road Interchange In Santa Clara and San Mateo Counties. California Department of Transportation, District 4, Office of Environmental Engineering. October 2007.

Air Quality Impact Report for the Auxiliary Lanes Project on Route 101 in San Mateo and Santa Clara Counties from Embarcadero Road I/C to Marsh Road I/C. California Department of Transportation, District 4, Office of Environmental Engineering. December 2007.

Preliminary Geotechnical Report: Auxiliary Lanes from Embarcadero Road to Marsh Road, 04-SM-101 PM 0.0/3.6, SCL-101 PM 52.3/52.6, 04-235610. California Department of Transportation, District 4, Office of Geotechnical Design – West. July 2007.

Traffic Operational Analysis Report: Route 101 Auxiliary Lane Project from Marsh Road to Embarcadero Road/Oregon Expressway in San Mateo County & Santa Clara County. California Department of Transportation, District 4, Office of Highway Operations. October 2007.

Location Hydraulic Study. California Department of Transportation, District 4, Office of Design North-Hydraulics Branch. December 2007.

Initial Site Assessment (ISA). Geocon Consultants. October 2002.

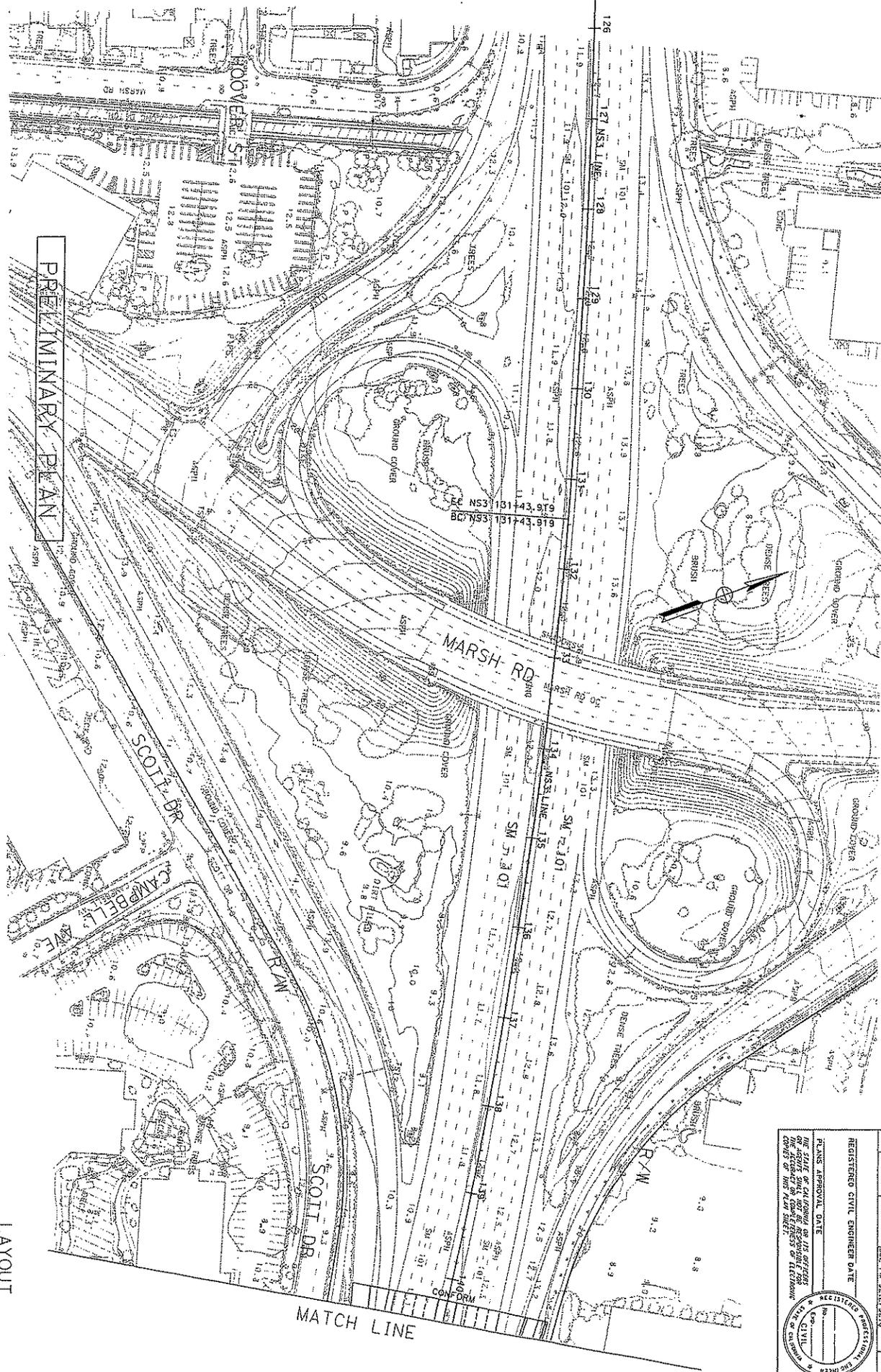
Corridor Study Report. Environmental Data Resources, Inc. September 2002.

Memorandum to Teblez Nemariam, District Branch Chief, Design-South Peninsula, from Lorena Wong, District Branch Chief, Department of Transportation, District 4, Office of Landscape Architecture. Subject: Visual Impact Analysis. November 9, 2007.

Memorandum to Ed Pang, Environmental Branch Chief, from Elizabeth Krase, Chief, South Branch, Office of Cultural Resources. Subject: Cultural Resources Review of the Proposed Widening of Route 101 at PM 52.3 to 52.6 in the city of Palo Alto, Santa Clara County, and PM 0.0 to 3.6 in the cities of East Palo Alto and Menlo Park, California, using State-only Funding (Memorandum). October 23, 2007.

APPENDIX F – PRELIMINARY PROJECT PLANS

NOTES: FOR COMPLETE RIGHT OF WAY AND ACQUIRE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.



PRELIMINARY PLAN

USING: 1"=50'

LAYOUT

L-1

MATCH LINE

Dist	COUNTY	ROUTE	POST MILE	STATION
04	SM/SC	101	SM PM 0.0-3.6	SC PM 52.2-52.6

REGISTERED CIVIL ENGINEER DATE

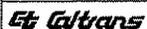
PLANS APPROVAL DATE

THIS PLAN IS THE PROPERTY OF THE ENGINEER AND IS NOT TO BE REPRODUCED OR COPIED IN ANY MANNER WITHOUT HIS WRITTEN CONSENT.

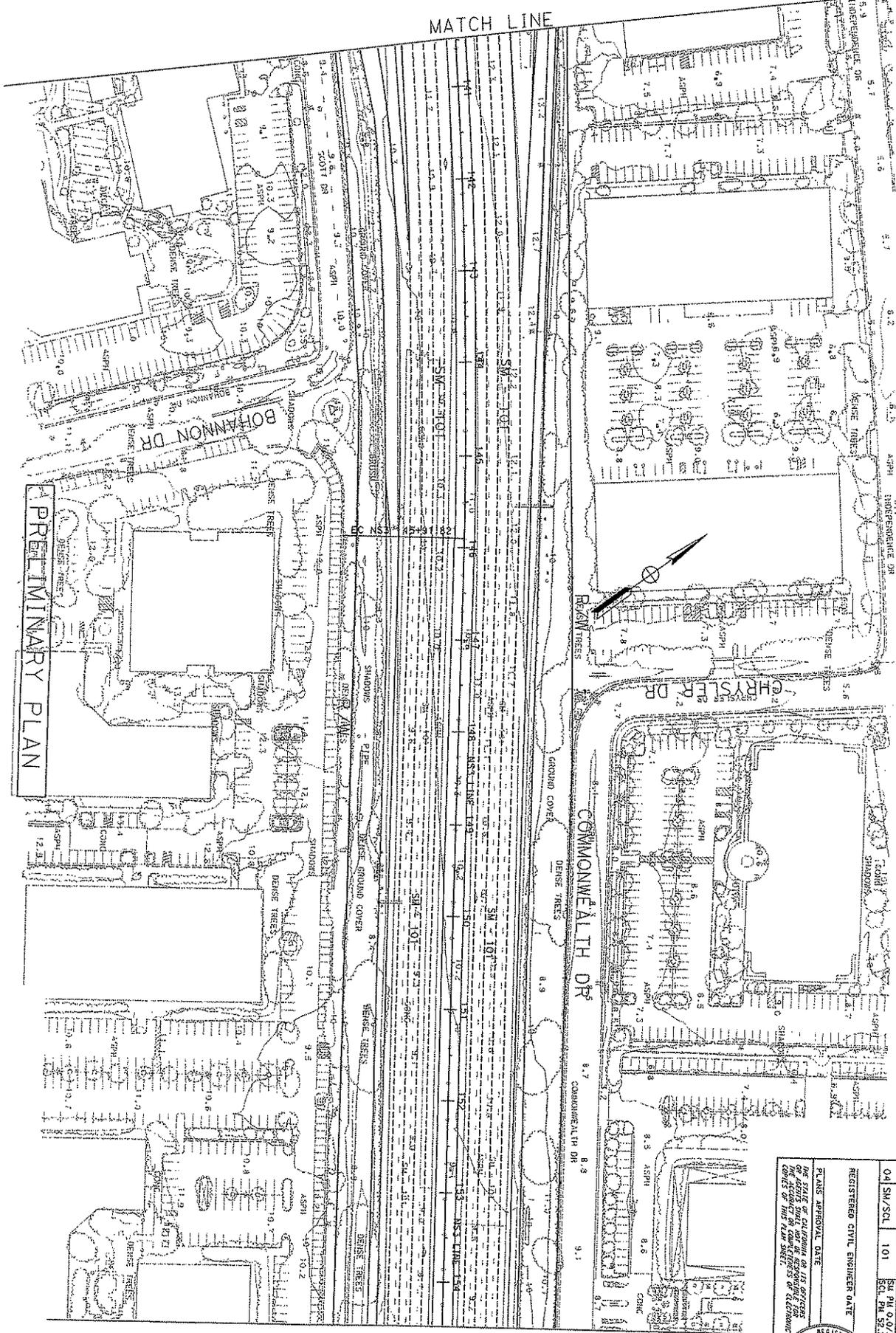
REGISTERED CIVIL ENGINEER

NO. _____

DATE _____



NOTES: FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.



PRELIMINARY PLAN

LAYOUT
Scale 1"=50'

L-2

DATE	COUNTY	ROUTE	POST MILEAGE	SHEET TOTAL
04/21/2011	101	101	52.2352	101

REGISTERED CIVIL ENGINEER DATE

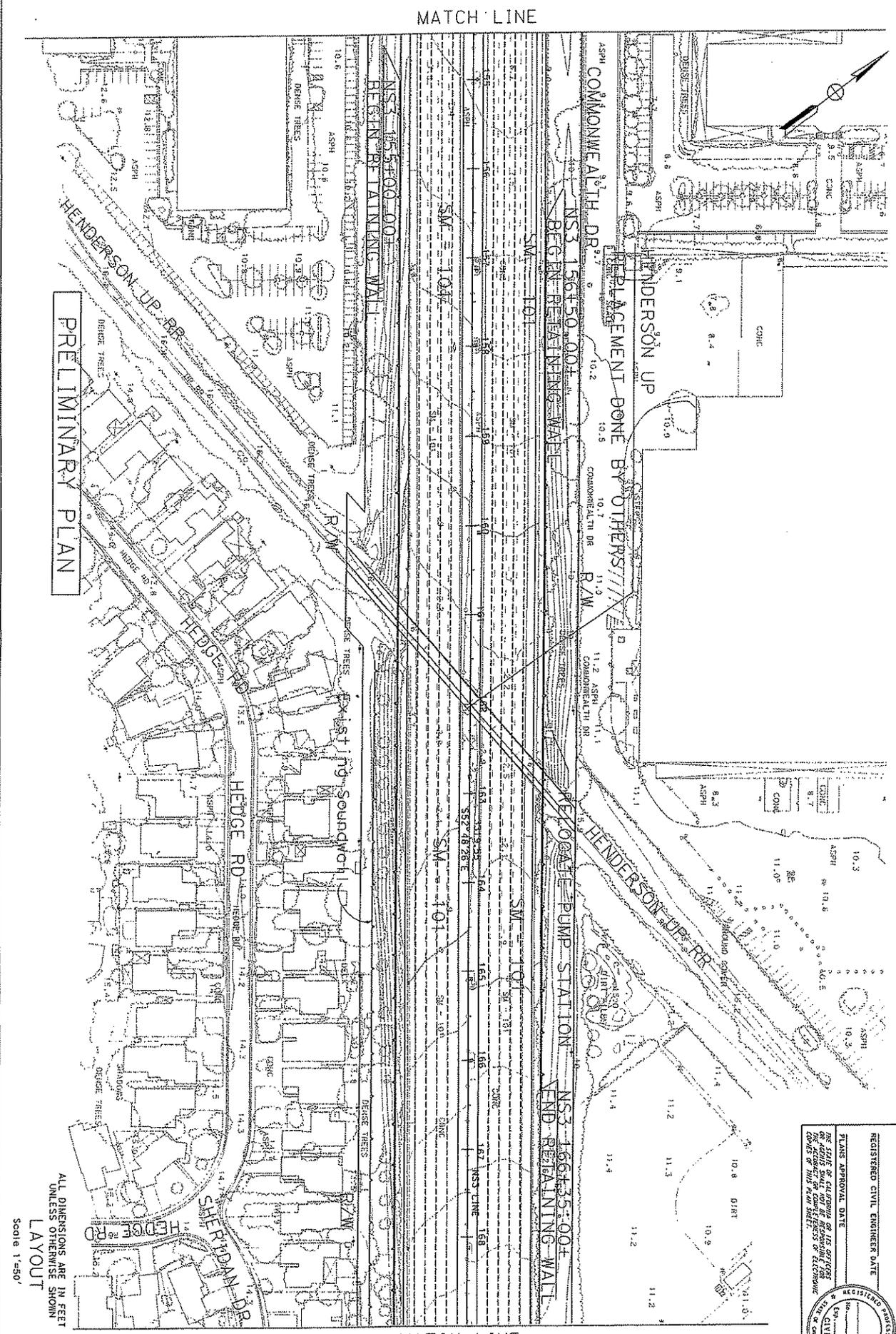
PLANS APPROVAL DATE

OR AGENTS OF THE STATE OF CALIFORNIA OR ITS AGENTS OR AGENTS OF THE COUNTY OF CALIFORNIA OR AGENTS OF THE STATE OF CALIFORNIA

MATCH LINE

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED-DESIGNED BY	REVISED BY
Caltrans		CHECKED BY	DATE REVISED

NOTE: FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.



RELATIVE BORDER SCALE 0 1 2 3 USBRM 021180 CU 00000 EA 000000

ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SHOWN LAYOUT Scale 1"=50'

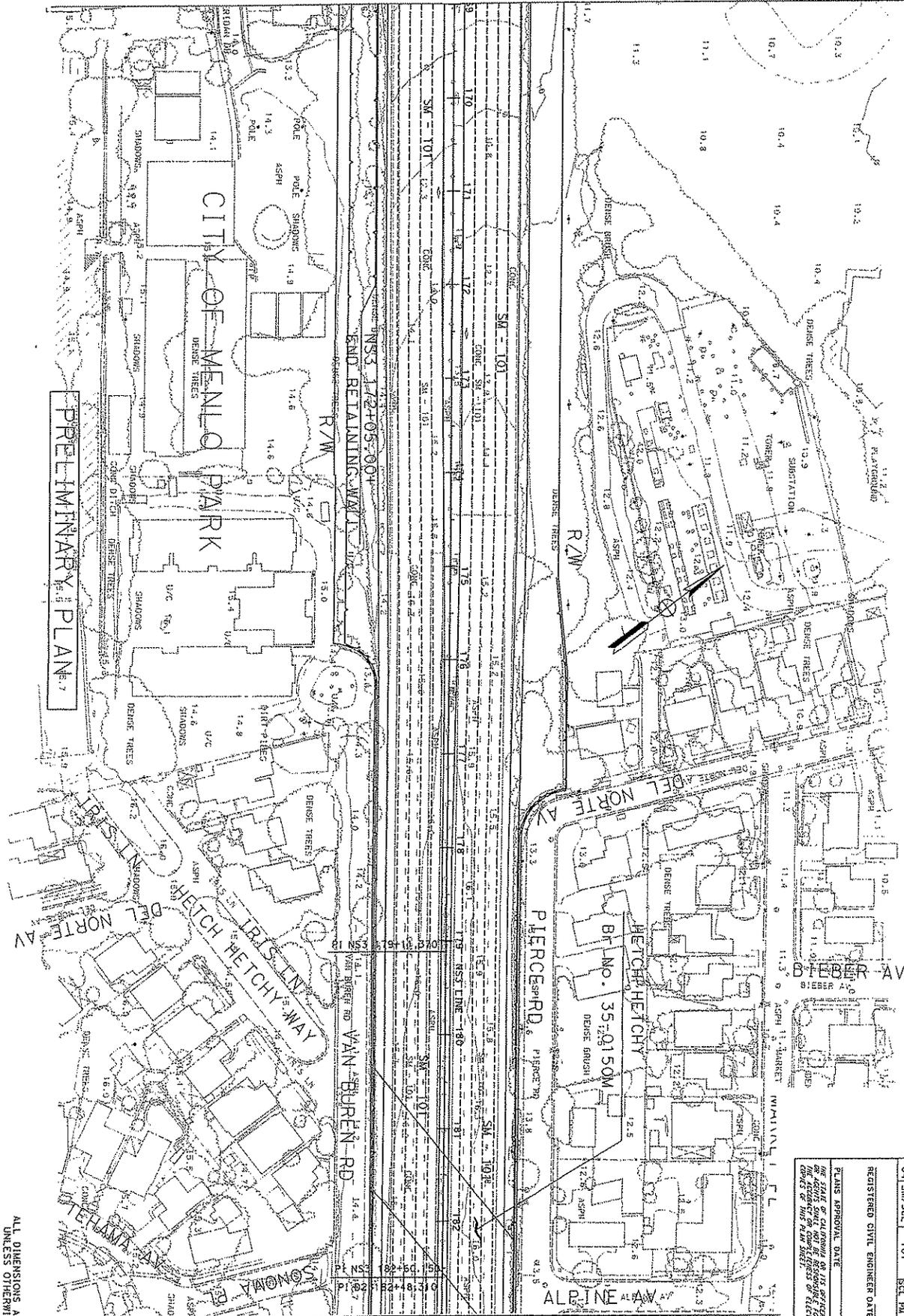
DIST. COUNTY	NO. DATE	TOTAL PROJECT	NO. SHEETS
04	SM/SC/L 101	SM PM 0.0/3.6	SC/L PM 52.2/52.6
REGISTERED CIVIL ENGINEER DATE			
PLANS APPROVAL DATE			
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR CONSEQUENCES OF THIS PLAN SHEET'S OR ELECTRONIC COPY'S.			

REGISTERED PROFESSIONAL CIVIL ENGINEER



NOTES: FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

MATCH LINE



ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SHOWN LAYOUT Scale: 1"=50'

PLAN COUNT	ROUTE	POST MILES	SHEET TOTAL
04 SW/5CL	101	SM RM 0.0/3.5 SCL RM 52.2/52.4	NO. SHEETS

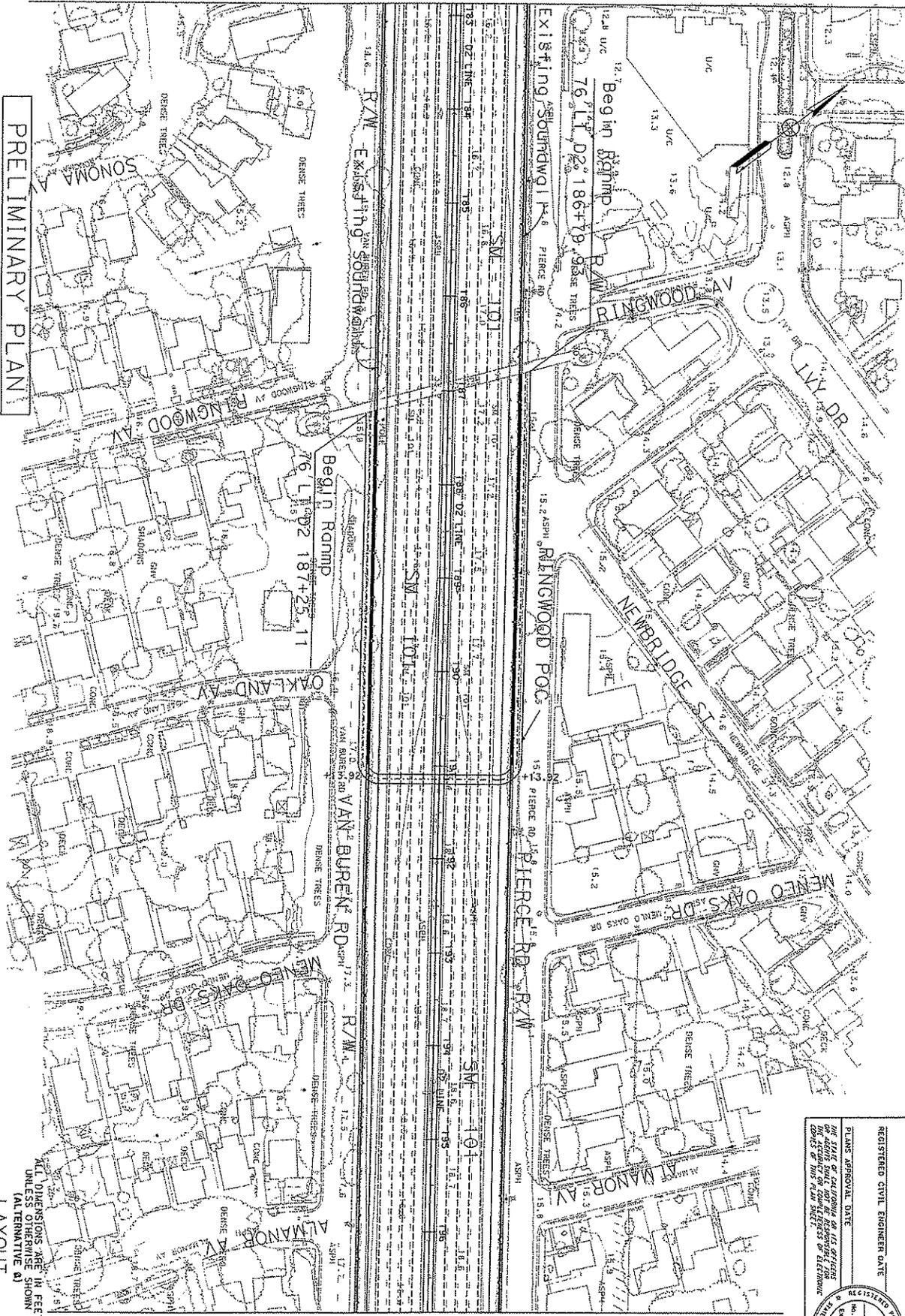
REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

THE STATE OF CALIFORNIA BY HIS OFFICERS
AND RECORDS DIVISION OF THE REGISTERED ENGINEERS
DEPT. OF PUBLIC WORKS

NOTE: FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

MATCH LINE



PRELIMINARY PLAN

0 1 2 3

ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SHOWN (ALTERNATIVE A)
LAYOUT
Scale 1"=50'

MATCH LINE

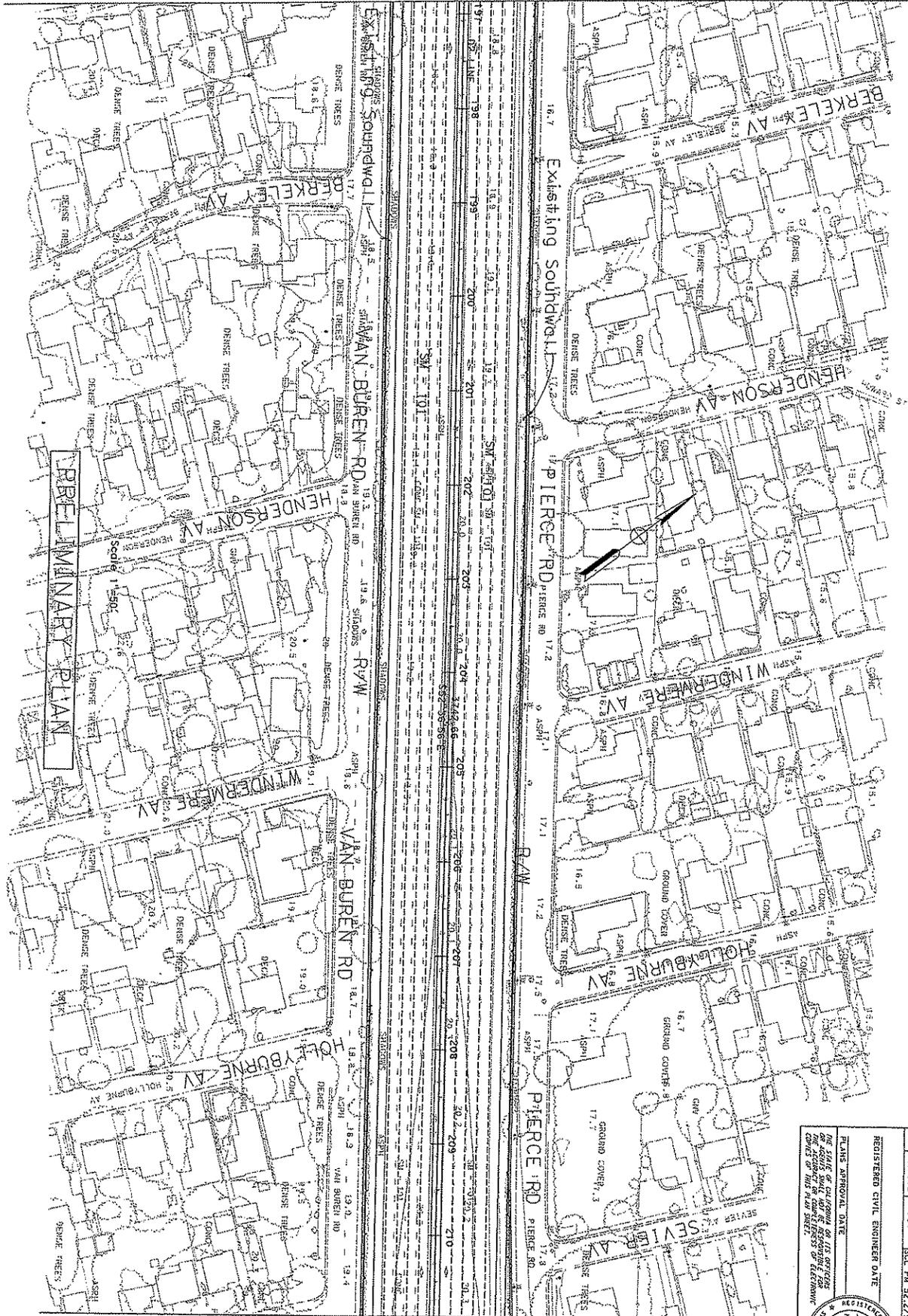
PROJECT NUMBER	041 SM/5CL	ROUTE	101	SIN PA 0.0/3.6
TOTAL PROJECT SHEETS		SCL	PA 52.2/72.8	
REGISTERED CIVIL ENGINEER DATE				
PLANS APPROVAL DATE				

THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION
REGISTERED CIVIL ENGINEER
DATE



NOTES: FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

MATCH LINE



MATCH LINE

DATE	COUNTY	ROUTE	SHEET NUMBER	SHEET TOTALS
04/21/2010	San Joaquin	101	101	101
REGISTERED CIVIL ENGINEER DATE			DATE	DATE
PLANS APPROVAL DATE			DATE	DATE
THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS DIVISION OF PLANNING AND DESIGN DIVISION OF RECORDS AND INFORMATION DIVISION OF TRAFFIC ENGINEERING DIVISION OF TRANSPORTATION ECONOMICS DIVISION OF TRANSPORTATION PLANNING DIVISION OF TRANSPORTATION SAFETY DIVISION OF TRANSPORTATION SYSTEMS DIVISION OF TRANSPORTATION TECHNOLOGY DIVISION OF TRANSPORTATION TRAINING DIVISION OF TRANSPORTATION UTILITIES DIVISION OF TRANSPORTATION VEHICLES DIVISION OF TRANSPORTATION WORKS DIVISION OF TRANSPORTATION ZONING DIVISION OF TRANSPORTATION ADMINISTRATION DIVISION OF TRANSPORTATION CONSTRUCTION DIVISION OF TRANSPORTATION MAINTENANCE DIVISION OF TRANSPORTATION OPERATIONS DIVISION OF TRANSPORTATION POLICY DIVISION OF TRANSPORTATION RESEARCH DIVISION OF TRANSPORTATION SECURITY DIVISION OF TRANSPORTATION SPECIAL SERVICES DIVISION OF TRANSPORTATION STUDIES DIVISION OF TRANSPORTATION SURVEILLANCE DIVISION OF TRANSPORTATION TRAINING DIVISION OF TRANSPORTATION UTILITIES DIVISION OF TRANSPORTATION VEHICLES DIVISION OF TRANSPORTATION WORKS DIVISION OF TRANSPORTATION ZONING DIVISION OF TRANSPORTATION ADMINISTRATION DIVISION OF TRANSPORTATION CONSTRUCTION DIVISION OF TRANSPORTATION MAINTENANCE DIVISION OF TRANSPORTATION OPERATIONS DIVISION OF TRANSPORTATION POLICY DIVISION OF TRANSPORTATION RESEARCH DIVISION OF TRANSPORTATION SECURITY DIVISION OF TRANSPORTATION SPECIAL SERVICES DIVISION OF TRANSPORTATION STUDIES DIVISION OF TRANSPORTATION SURVEILLANCE				

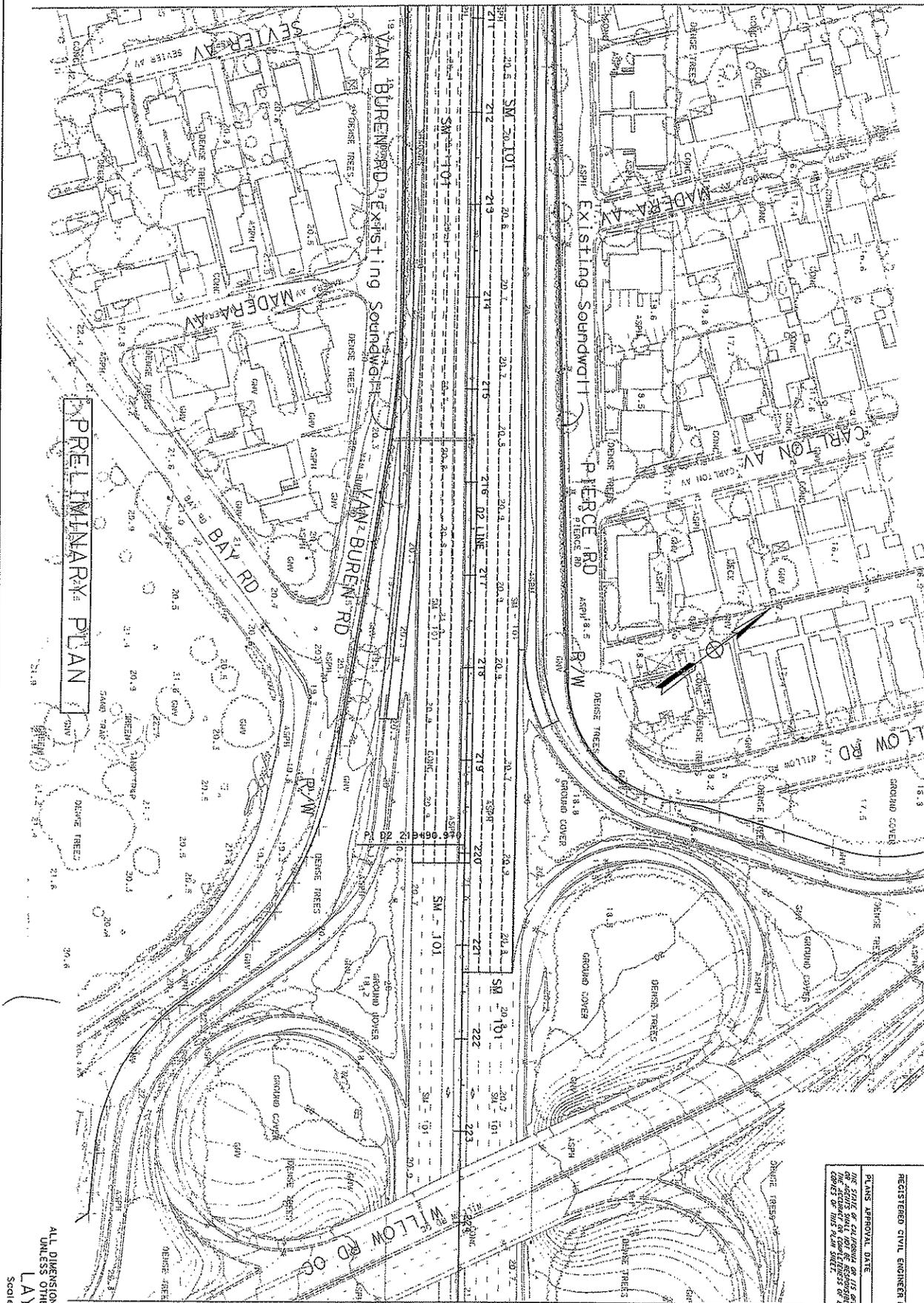
LAYOUT
Scale 1"=50'

L-6



MATCH LINE

NOTES: FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.



PRELIMINARY PLAN

ALL DIMENSIONS ARE IN FEET
UNLESS OTHERWISE SHOWN
LAYOUT
Scale 1"=50'

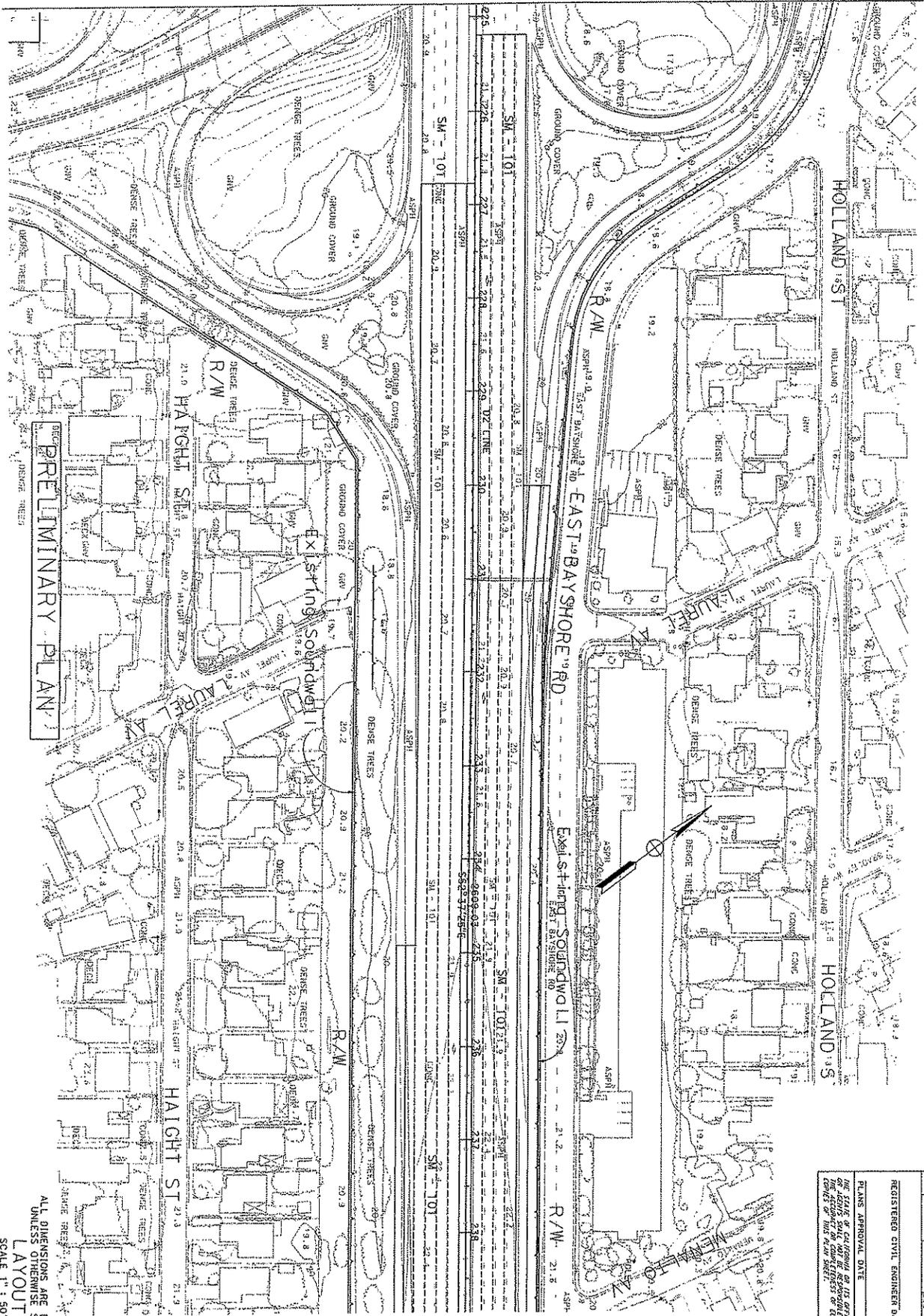
MATCH LINE

DATE	COUNTY	ROUTE	POST MILES	SHEET TOTAL
04	SM/SQL	101	SM PM 0.0+1.6 SQL PM 52.2+52.4	101 SHEETS
REGISTERED CIVIL ENGINEER DATE			REGISTERED PROFESSIONAL ENGINEER DATE	
PLANS APPROVAL DATE			NO. SHEETS	
<small>THE STATE OF CALIFORNIA ON ITS OFFICIAL LETTERS SHALL NOT BE RESPONSIBLE FOR CONSEQUENCES OF THIS PLAN SHEET.</small>				



MATCH LINE

NOTES: FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.



PRELIMINARY PLAN

ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SHOWN LAYOUT SCALE 1" = 50'

MATCH LINE

POST COUNTY ROUTE	POST MILEAGE	SHEET TOTAL
04 SM/SCL 101	SM PM 0.0/1.5	NO. SHEETS
	SCL PM 52.2/52.6	

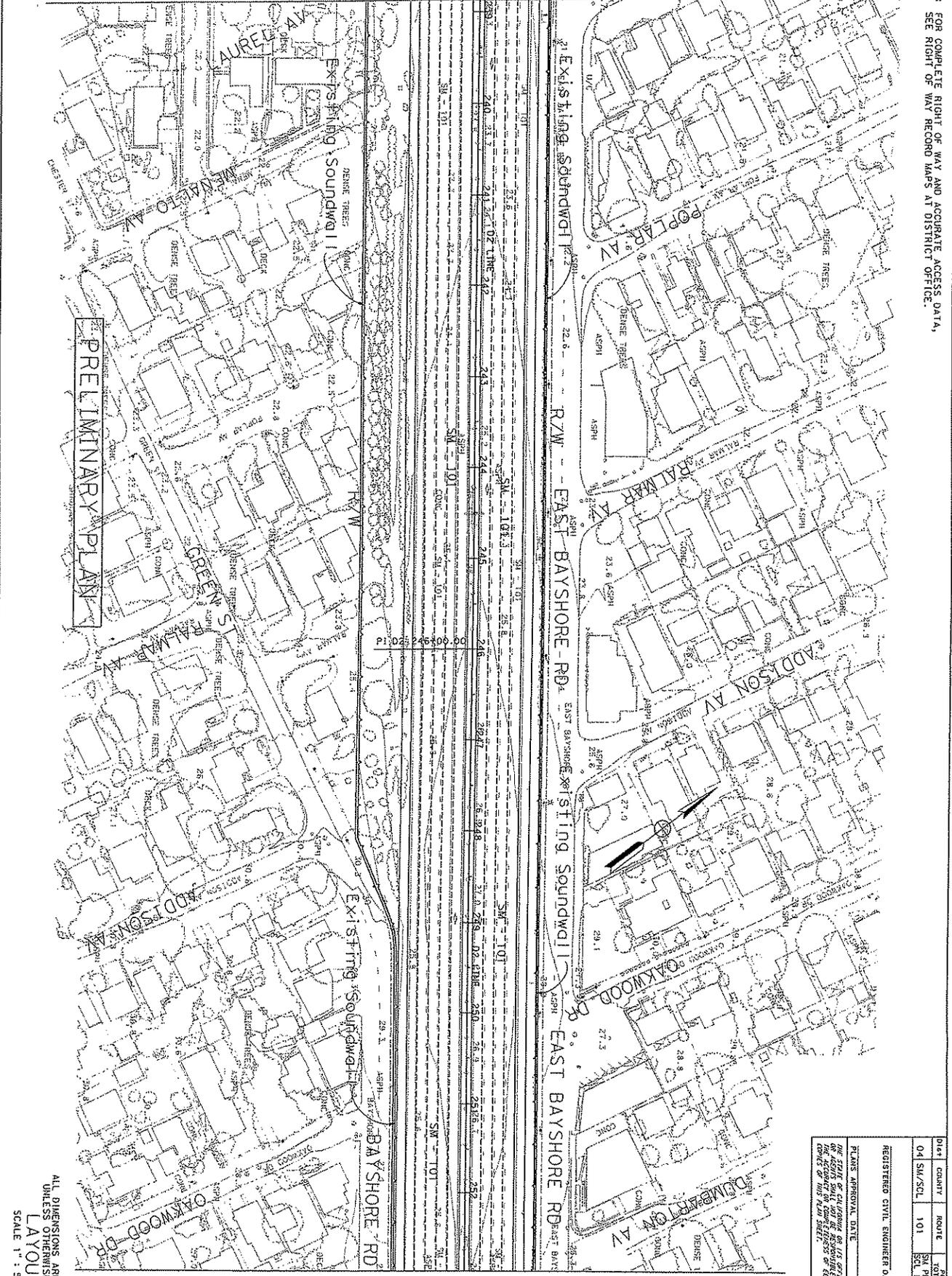
REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 DIVISION OF CONSTRUCTION & MAINTENANCE
 DIVISION OF TRAFFIC ENGINEERING & PLANNING
 DIVISION OF PUBLIC SAFETY

REGISTERED PROFESSIONAL CIVIL ENGINEER
 No. _____
 Exp. _____
 State of California

MATCH LINE



NOTES: FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SHOWN
LAYOUT
SCALE 1" = 50'

L-9

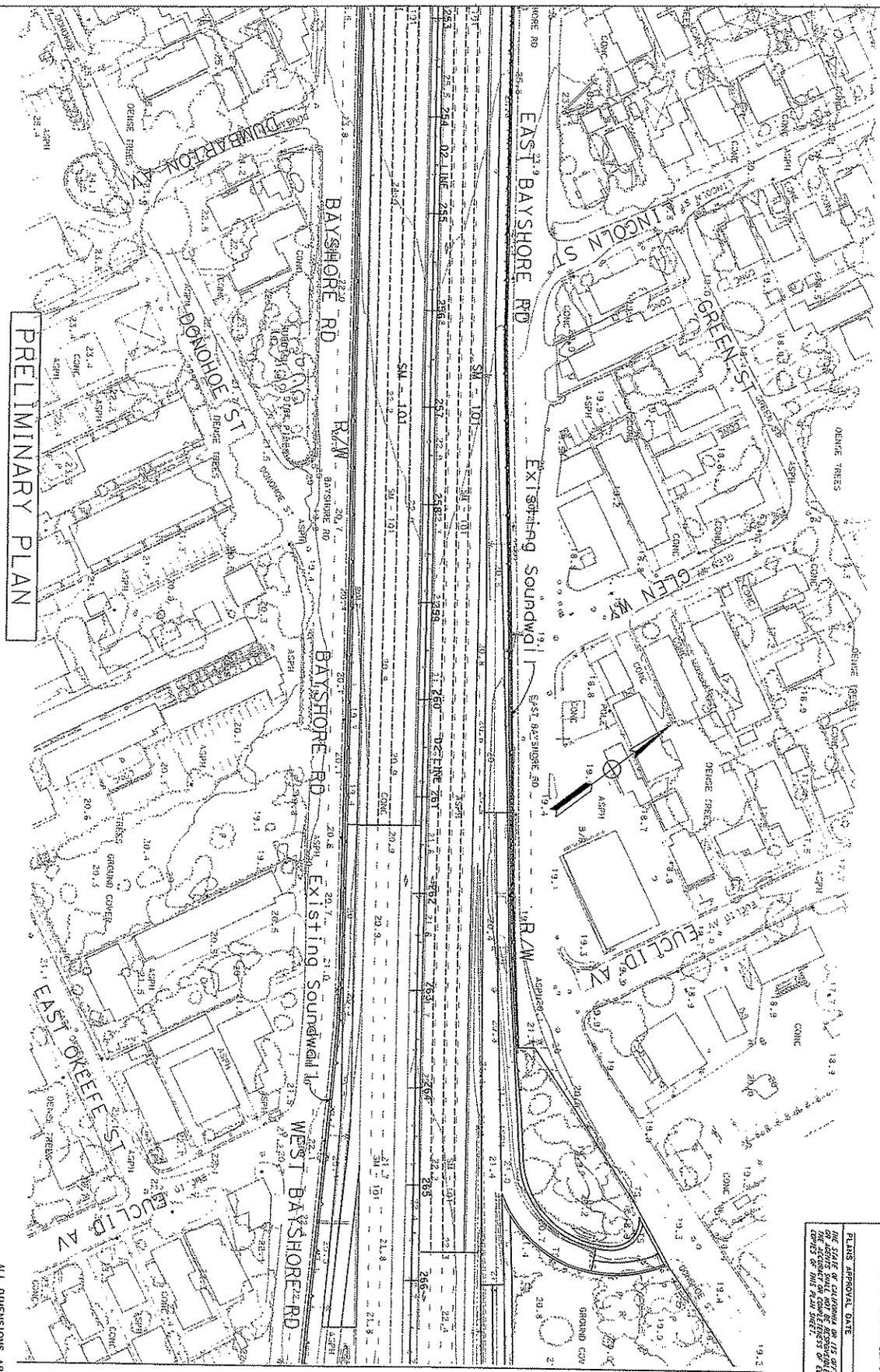
04+ COUNTY	ROUTE	POST MILE	SHEET TOTAL SHEETS
04 SAN/SCV	101	SIN PM 0.0/3.6 SCL PM 52.2/52.4	1 OF 1

REGISTERED CIVIL ENGINEER DATE _____
PLANS APPROVAL DATE _____
FOR THE STATE OF CALIFORNIA
BY _____
REGISTERED CIVIL ENGINEER
NO. _____
EXPIRES _____

MATCH LINE

NOTES: FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

MATCH LINE



PRELIMINARY PLAN

MATCH LINE

ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SHOWN
LAYOUT
SCALE 1" = 50'

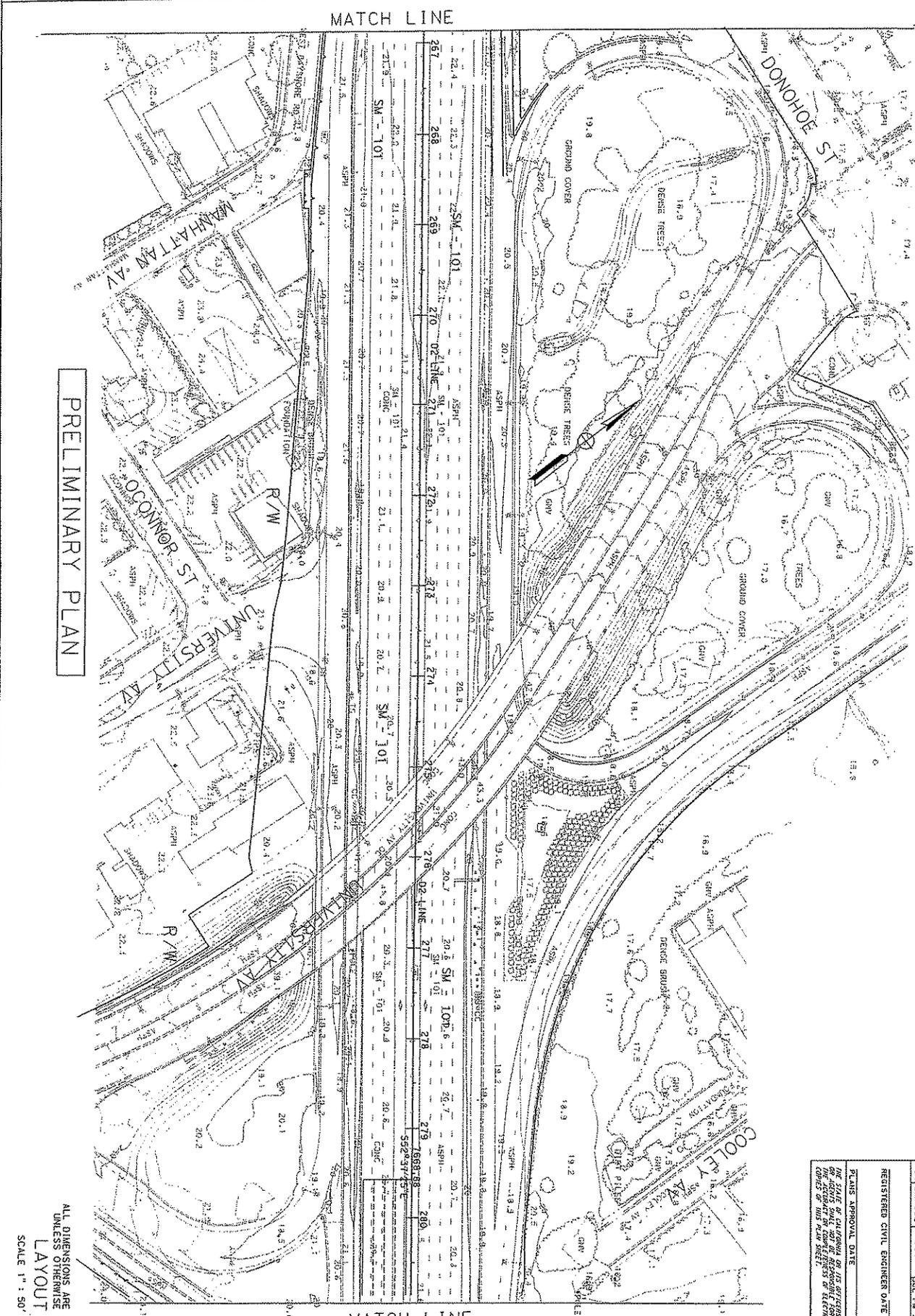
L-10

PLANS APPROVAL DATE	REGISTERED CIVIL ENGINEER DATE
DATE OF CALCULATION OR LAYOUT	REGISTERED CIVIL ENGINEER NAME
DATE OF ACCEPTANCE OF CONTRACT	REGISTERED CIVIL ENGINEER NO.
DATE OF FINAL PLAN SHEET	REGISTERED CIVIL ENGINEER STATE

COUNTY: Alameda SHEET NO.: 7 TOTAL SHEETS: 10
 SCALE: 1" = 50' SHEET TOTAL: 10
 DATE: 04/20/16

REGISTERED PROFESSIONAL ENGINEER
 CIVIL
 No. 51488
 State of California

NOTES: FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.



ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SHOWN

LAYOUT

SCALE 1" = 50'

L-11

Sheet No.	101	Project No.	SM PM 0.0.1.6
County	San Joaquin	Sheet No.	SM PM 0.0.1.6
Route	101	Project No.	SM PM 0.0.1.6
Scale	1" = 50'	Sheet No.	SM PM 0.0.1.6

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

DATE OF PREPARATION OF THESE PLANS

THESE PLANS SHALL NOT BE REPRODUCED OR COPIED IN ANY MANNER WITHOUT THE WRITTEN CONSENT OF THE ENGINEER

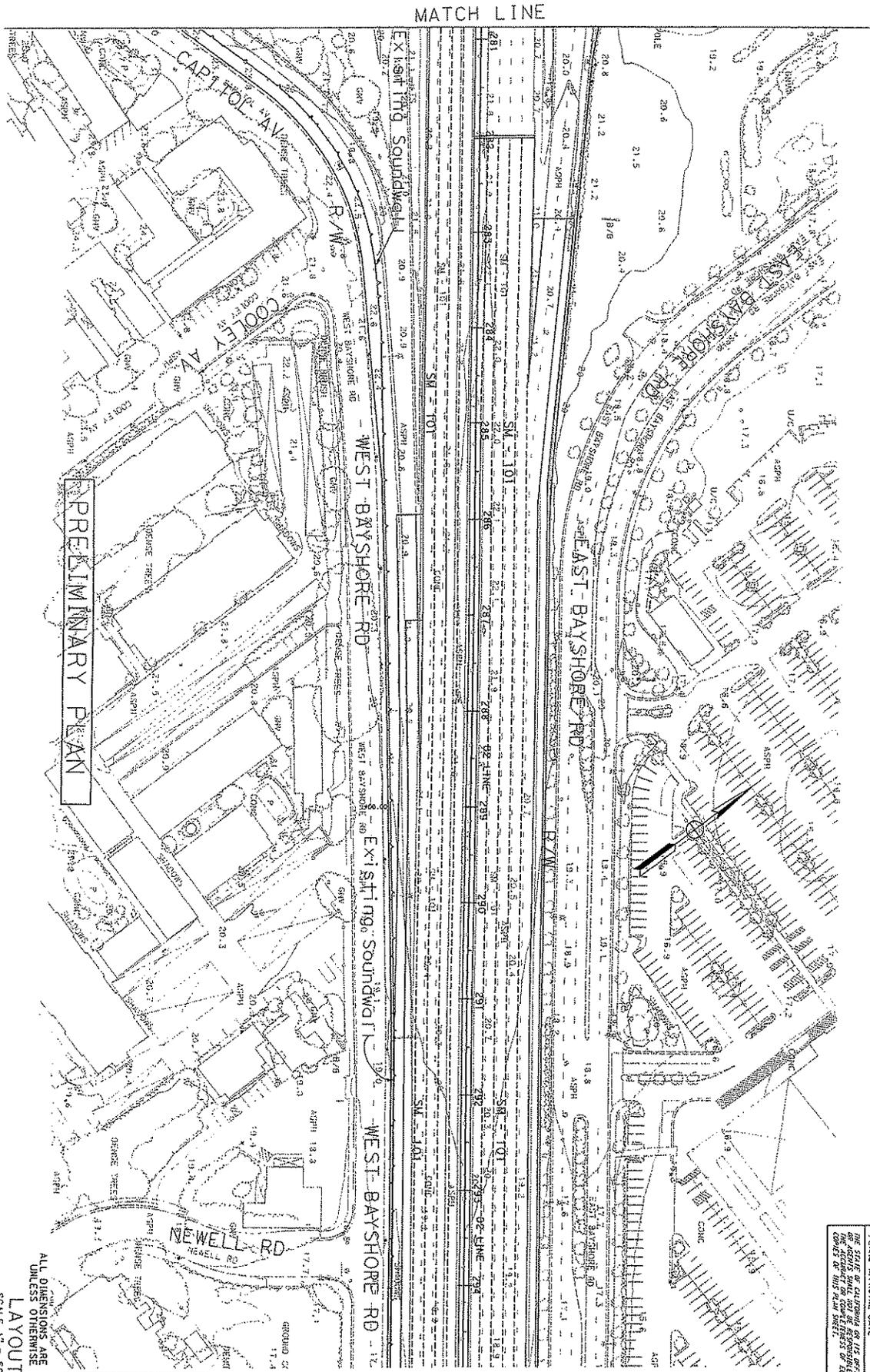
REGISTERED PROFESSIONAL ENGINEER

NO. 101

CIVIL

SCALE 1" = 50'

NOTES: FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.



PRELIMINARY PLAN

ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SHOWN
LAYOUT
SCALE 1" = 50'

L-12

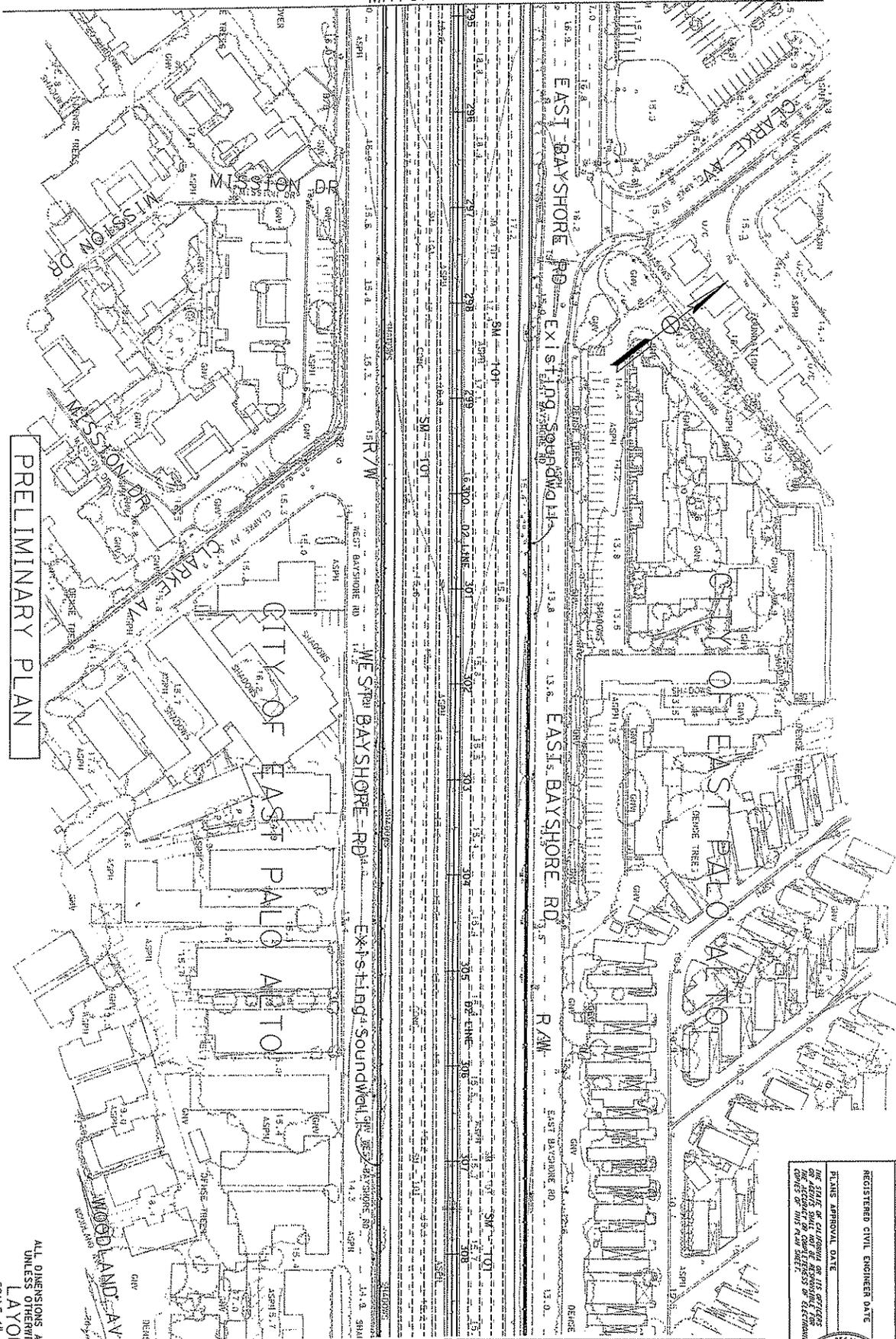
State	County	Route	POST MILEAGE	SHEET TOTAL
04	SM/SQL	101	SM PM 0.0736 SQL PM 52.2752	101
REGISTERED CIVIL ENGINEER DATE				
PLANS PREPARED DATE				

THE ENGINEER HAS REVIEWED THE ABOVE AND APPROVES THE ACCURACY OF THE INFORMATION CONTAINED HEREIN.



NOTES: FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

MATCH LINE



PRELIMINARY PLAN

ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SHOWN SCALE 1" = 50'

L-13

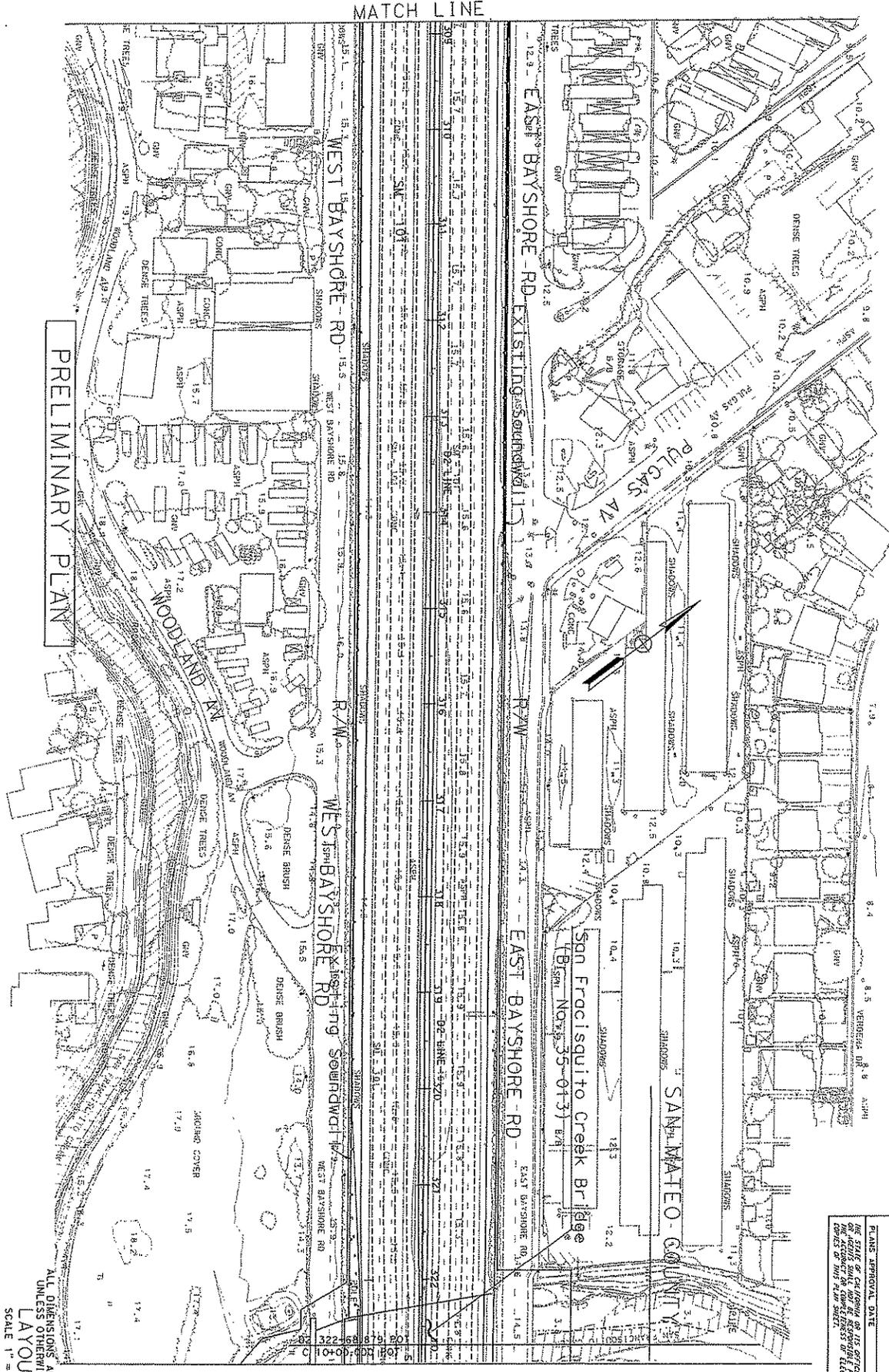
DATE	COURTY	ROUTE	POST MILES	SHEET TOTAL
04/24/2011	SM/SC	101	SM PN 0.0/3.6 SCL PN 52.2/52.8	10 OF 10

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR CONSEQUENCES OF THIS PLAN SHEETS OR ELECTRONIC

NOTES: FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.



PRELIMINARY PLAN

ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SHOWN
SCALE 1" = 50'

DATE: 04/11/18
DRAWN: [Name]
CHECKED: [Name]
APPROVED: [Name]

DATE	COUNTY	ROUTE	POST MILEAGE
04/11/18	SM/SCL	101	SM PM 0.0/2.6 SCL PM 52.2/52.8

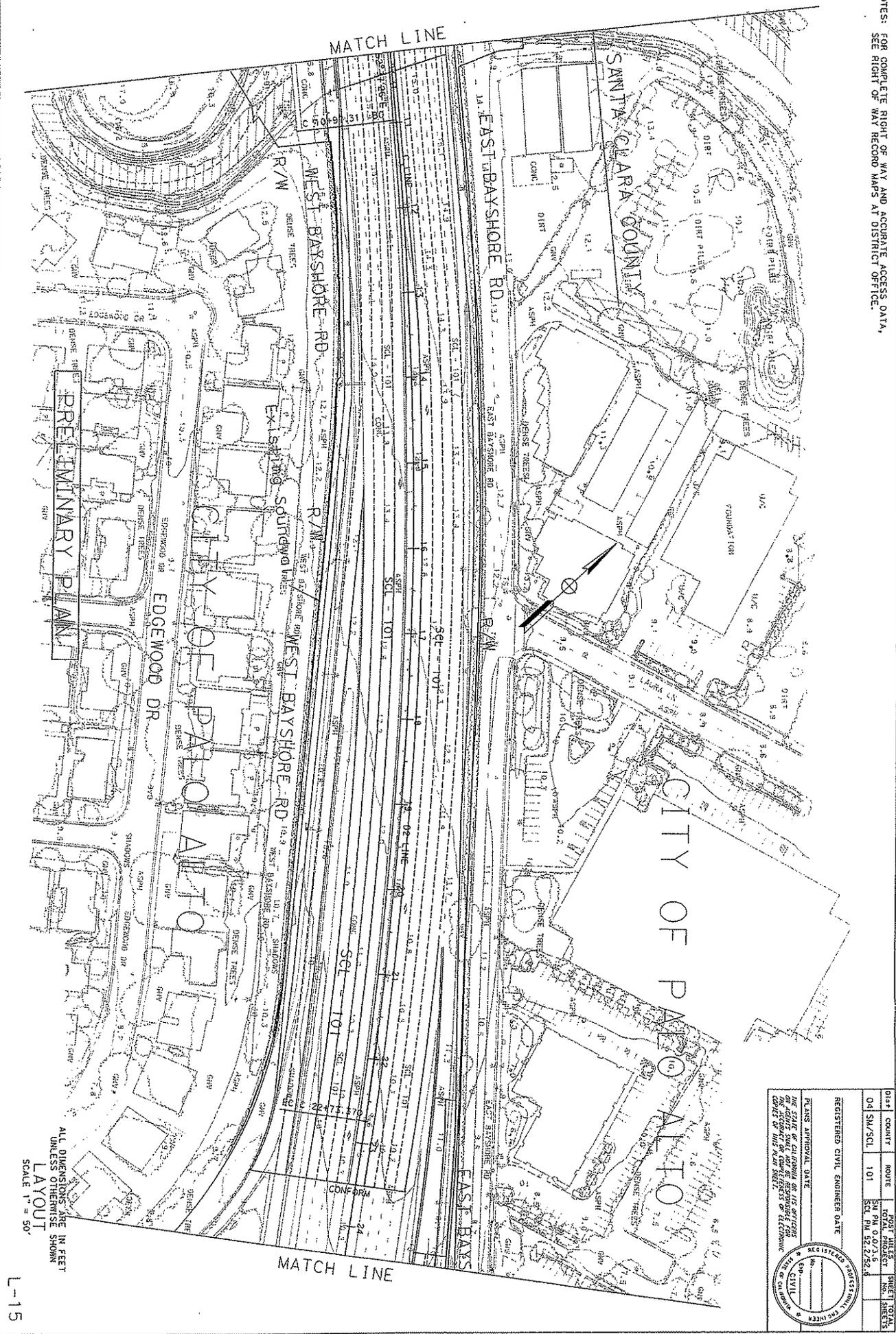
REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

FOR THE STATE OF CALIFORNIA
I, [Name], a duly licensed and registered civil engineer, do hereby certify that the above described project is in compliance with the requirements of the California Public Works Law, Chapter 660, of the Statutes of the State of California.

REGISTERED CIVIL ENGINEER
[Name]
[Signature]

NOTES: FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.



ALL DIMENSIONS ARE IN FEET
UNLESS OTHERWISE SHOWN
LAYOUT
SCALE 1" = 50'

L-15

DATE	COUNTY	ROUTE	SECTION	SHEET TOTALS
04/20/2015	SM/SCL	101	SIN PM 0.0/2.5 SCL PM 52.2/52.6	101 101

REGISTERED CIVIL ENGINEER DATE

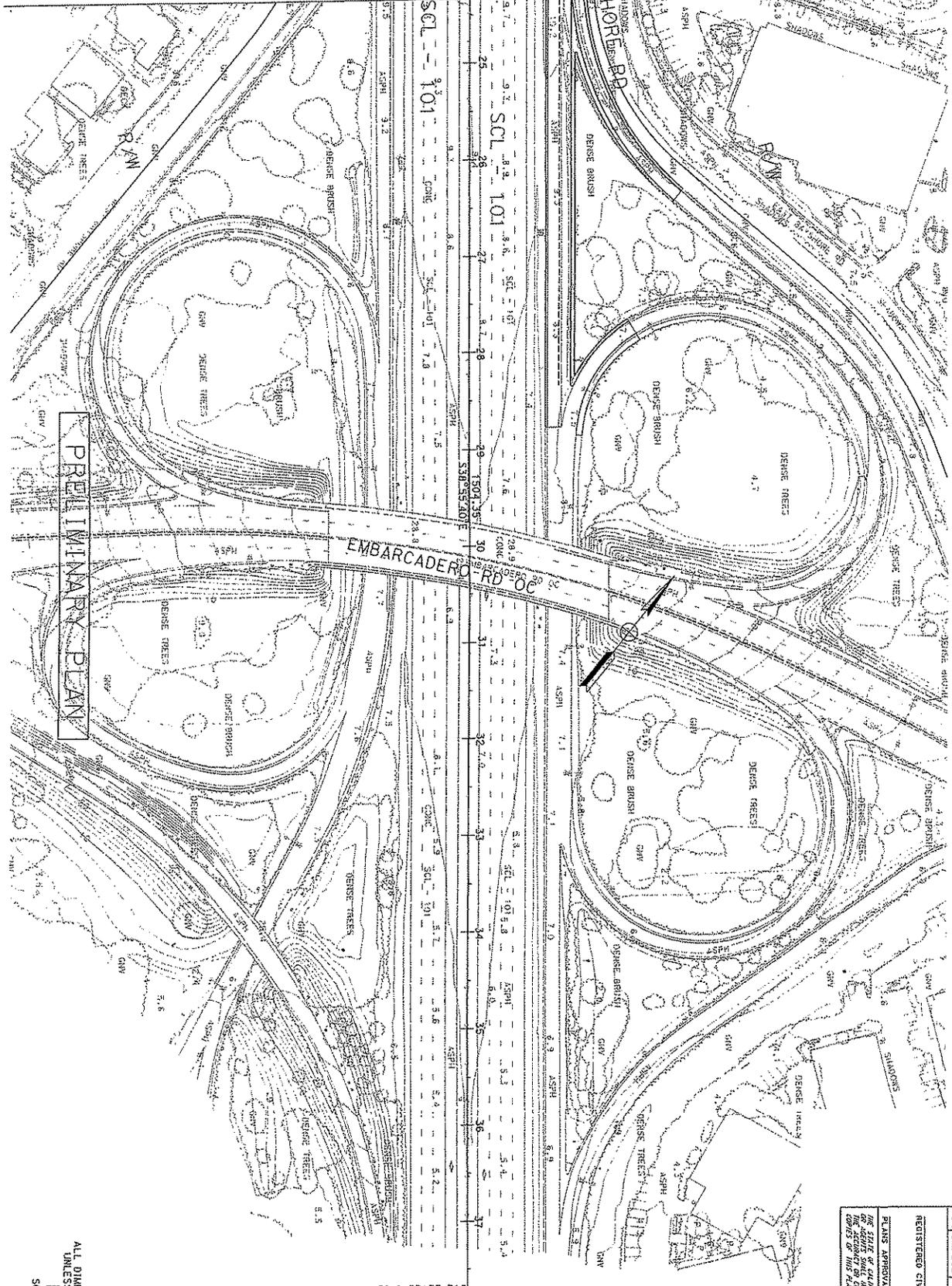
EXISTS APPROVAL DATE

THE ABOVE SCALE APPLYING TO THIS PLAN IS THE SCALE OF THE RECORD MAPS ON WHICH THIS PLAN IS BASED.



NOTES: FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

MATCH LINE



PRELIMINARY PLAN

EMBARCADERO RD

HORSE BR

PI C 37+77.718

ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SHOWN LAYOUT SCALE 1" = 30'

L-16

DIST	COUNTY	ROUTE	POST MILEAGE	SHEET NO.
04	SM/SEL	101	SIL PM 0.0/2.5 SEL PM 52.2/52.4	10/16
REGISTERED CIVIL ENGINEER DATE				
PLANS APPROVAL DATE				
THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS DESIGNED BY: [Name] CHECKED BY: [Name] DATE: [Date]				