INFORMATION HANDOUT

For Contract No. 04-153304
At 04-SCl-101-0.0/26.7

Identified by
Project ID 0400020304

MATERIALS INFORMATION

Geotechnical Design Report for CMS and CCTV

Geotechnical Design Report for Ramp Meter Signals

Underground Classification for CMS Foundations

Lead and NOA Concentration Data and Sample Location Maps

Storm Water Information Handout

State of California
DEPARTMENT OF TRANSPORTATION

Business, Transportation and Housing Agency

Memorandum

Flex your power!
Be energy efficient!

To: MS. ARLISSA PANG
District Branch Chief
Design –Special Project

Date: January 12, 2012

Attention: P. Aguilera

File: 04-SCL-101 PM 0.0/26.4
04-153000
Ramp Metering & TOS

S. A

From: S. AWAD/V.KHATAKHOTAN
Transportation Engineers
Office of Geotechnical Design-West
Geotechnical Services
Division of Engineering Services

H. Nikoui

HOOSHMAND NIKOUI
Chief, Branch A
Office of Geotechnical Design-West
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Division of Engineering Services

Subject: Geotechnical Design Report for CMS and CCTV

1. INTRODUCTION

This memo provides geotechnical design recommendations for three Changeable Message Signs (CMS) Model 500, namely, CMS No. 1 (NB 101), CMS No. 2 (SB 101), and CMS No. 3 (SB 101), and 22 CCTV pole Type 40. These CMSs and CCTV are part of the Highway 101 Ramp Metering System and Traffic Operation System (TOS) project elements along Route 101 in Santa Clara County from the San Benito County Line to Route 85/101 Interchange.

Recommendations contain in this report are based on the submitted layout and cross section plans, field mapping of the site, subsurface exploration, laboratory test results and foundation analysis. This geotechnical report addresses our foundation recommendation for the CMS project. Refer to Table 1 for general CMS information.

Table 1- General CMS information

CMS No.	Location No.	Direction	Post Mile	Post Type	Height, ft
No. 1	45	NB	24.90	Model 500 Unbalanced Butterfly	22
No. 2	52	SB	1.51	Model 500 Unbalanced Butterfly	22
No. 3	79	SB	18.95	Model 500 Unbalanced Butterfly	22

2. PROJECT PURPOSE AND NEED

The need for this project is to relieve congestion and reduce accidents. The purpose is to install ramp metering systems to improve highway operations by completing the installation and implementation of a ramp metering system on northbound and southbound Route 101, in Santa Clara County.

3. SCOPE OF WORK

The following tasks were performed for the preparation of this Geotechnical Design Report:

- Review of as-built plans;
- Field geotechnical exploration, including drilling 3 borings at the project site;
- Laboratory test results on selected samples;
- Geotechnical design analysis;
- LPILE plus for windows program, Version 5.0; and
- Preparation of this Geotechnical Design Report.

4. SITE GEOLOGY AND SEISMICITY

4.1 Climate

The project site is located in Santa Clara County and stretches from the Santa Cruz County line through the Santa Clara Valley to the southern edge of San Jose. SR 101 within the project limits is predominantly a north-south traveled way founded on alluvium at the toe of gentle, well-eroded, mature slopes. The alignment is cut by several small drainages, and the valley drains both north and south via named creeks. The main drainage in the north within the project limits is Coyote Creek, which flows north to San Francisco Bay. South of Morgan Hill, multiple creeks including Uvas Creek, Carnadero Creek, and Llagas Creek flow south to the Pajaro River, which flows southwest to Monterey Bay. Elevations along the project alignment vary between 140 ft at the southern end of the project, rise to about 360 ft near Gilroy and descend to a final elevation of 190 ft near SR 101/85 interchange.

The climate of Santa Clara County is characterized by cool, moderately wet winters, and warm to hot, dry summers. Average low temperatures through the winter are typically in the low 40's while average high temperatures in the late summer are 80 degrees (F). Within the project limits where the eastern edge of the Santa Clara Valley abuts the Diablo Range temperatures are generally cooler in the winter and warmer in the summer. Humidity in the region is generally low, with winter having the highest humidity and fall the lowest. Winds are generally out of the northwest during the summer and the south during the winter, and rarely reach greater than 30 miles per hour. The strongest winds are associated with cold winter storms and westerly

summer breezes drawn in by the warmer eastern interior. Rainfall is greatest during the winter with annual totals averaging 13.2 inches in San Jose. December and January (2.6 inches and 2.7 inches, respectively) are the wettest months, while July and August (trace amounts) are the driest (Lindsey, 1974).

4.2 Site Geology and Seismicity

Generalized geologic maps with CMS and CCTV locations are presented in Attachment A, however, more detailed information is described in Table 8 (Attachment A). All geologic information was taken from Preliminary Geologic Description of the San Jose 30 X 60 Minute Quadrangle, California; By C.M. Wentworth, M.C. Blake, Jr., R.J. McLaughlin, and R.W. Graymer. All foundations for CMS signs are to be 22-feet deep cast-in-drilled-hole piles (CIDH).

4.2.1 CMS #1- Northbound PM 24.9

Geology

The subsurface at this sign location consists of alluviual fan deposits derived from the surrounding bedrock to the northeast. It is described as "...brown gravelly sand, sandy and clayey gravel...moderately dense to dense, coarser near the fan heads and upstream, deposited by flooding streams where they emerge from constrained channels of the uplands...". Geologic Map is presented in Figures and also presented in Tables 8 and 9 (attached Exhibit A).

A detailed description of the subsurface conditions can be found in the "Subsurface Investigation" of this report.

Seismicity

The project site is located approximately 3.04 miles east of the Silver Creek Fault zone. The Silver Creek Fault zone is the controlling fault with a MMax (Moment Magnitude) of 7.1 and the PBA (Peak Bedrock Acceleration) is 0.69.

4.2.2 CMS #2- Southbound PM 1.51

Geology

The subsurface at this sign location consists of flood plain deposits derived from episodic flooding events of the Guadalupe River and Coyote Creek. It is described as "...gray, dense, sandy to silty clay, may locally contain lenses of silt and fine gravel...". Geologic Map is presented in Figures and also presented in Tables 8 and 9 (attached Exhibit A).

A detailed description of the subsurface conditions can be found in the "Subsurface Investigation" of this report.

Seismicity

The project site is located approximately 0.06 miles northeast of the Sargent Fault zone (southeast section). The Sargent Fault is the controlling fault with a MMax of 6.8 and the PBA is 0.56.

4.2.3 CMS #3- Southbound PM 18.95

Geology

The subsurface at this sign location consists of levee deposits derived from the episodic flooding of nearby Coyote Creek and other small drainages. It is described as "...sandy and clayey silt ranging to sandy and silty clay, loose and moderately to well sorted, coarser along Coyote Creek than along the smaller streams, generally well drained; deposited adjacent to the stream courses where spreading flood waters first slow and begin to deposit suspended sediment, thereby building natural levees that stand higher than the adjacent streams and flood plains and basins....". Geologic Map is presented in Figures and also presented in Tables 8 and 9 (attached Exhibit A).

A detailed description of the subsurface conditions can be found in the "Subsurface Investigation" of this report.

Seismicity

The project site is located approximately 1.31 miles east of the Silver Creek Fault zone. The Silver Creek Fault zone is the controlling fault with a MMax of 7.1 and the PBA is 0.69.

4.2.4 Close Circuit Television

There are currently 22 locations for the installations of CCTV. The foundations for these are to be Standard Plans CIDH pile 7 feet deep. Since the foundations are shallow and there are 42 locations. The site geology and foundation soils are described in the attached Exhibit A (Table 8 and 9)

4.3 Liquefaction

Liquefaction varies over the length of the project; the susceptibility levels are presented in the attached Exhibit A (Tables 8 and 9) for CMS signs and CCTV locations, respectively. However,

according to the information from all three borings the liquefaction at the CMSs site appear to be insignificant.

4.4 Flooding

Flooding varies over the length of the project; the susceptibility levels are presented in the attached Exhibit A (Table 8 and 9) for CMS signs and CCTV locations, respectively.

4.5 Landslides

Landslides vary over the length of the project; the susceptibility levels are presented in the attached Exhibit A (Table 8 and 9) for CMS signs and CCTV locations, respectively.

5. SUBSURFACE INVESTIGATION

The subsurface exploration was performed by the Office of Geotechnical Design West (OGDW) for CMS #1, CMS #2, and CMS #3. It consists of a total of 3 auger borings with Standard Penetration Tests (SPT) and Pocket Penetrometer (PP) Tests. Soil samples were taken every 5 feet from the Standard Penetration Test (SPT) sampling. Laboratory tests were used to update the soil information. All foundation soil classifications were based on Caltrans "Soil and Rock Logging, Classification, and Presentation Manual". Refer to the LOTBs in the Structure Plans. The LOTB sheets will be submitted when they are ready.

5.1 Changeable Message Sign No. 1 (CMS1)

General information of boring drilled near the CMS1 site is listed in Table 2.

Table 2 - Summary of Field Boring for CMS1

Boring ID	Total Length (ft)	Date of completion	Hammer Efficiency
A-11-001	36.5	10/26	79%

The boring describes the foundation soils as approximately 27 feet of medium dense to dense silty sand with gravel. The remainder of the boring describes the foundation soils as medium dense to very dense clayey sand.

The SPT blow counts for sandy and gravelly soil ranged from 14 to as high as 50 blows per foot.

Groundwater was encountered in boring (A-11-001) at 27.5 feet below the ground surface at the time of drilling. However, groundwater elevations fluctuate seasonally and may be encountered at higher elevations.

5.2 Changeable Message Sign No. 2 (CMS2)

General information of boring drilled near the CMS 2 site is listed in Table 3.

Table 3 - Summary of Field Boring for CMS2

Boring ID	Total Length (ft)	Date of completion	Hammer Efficiency
A-11-002	46.5	8/10/11	79%

The boring describes the foundation soils as approximately 18 feet of medium dense to dense clayey sand over by 6 feet of very stiff lean clay with sand. The remainder of the boring describes the foundation soils as loose to medium dense clayey sand with gravel.

The SPT blow count values for silty and sandy/gravelly soil ranged from 5 to as high as 30 blows per foot. Pocket Penetrometer (PP) tests were conducted on soil samples showing apparent cohesion. The unconfined compressive strength of the clayey soil was estimated 2.00 tsf.

Groundwater was encountered in boring (A-11-002) at 26 feet below the ground surface at the time of drilling. However, groundwater elevations fluctuate seasonally and may be encountered at higher elevations.

5.3 Changeable Message Sign No. 3 (CMS3)

General information of boring drilled near the CMS 3 site is listed in Table 4.

Table 4 - Summary of Field Boring for CMS3

Boring ID	Total Length (ft)	Date of completion	Hammer Efficiency
A-11-003	31.5	10/26	79%

The boring describes the foundation soils as approximately 14 feet of medium dense silty sand over 6 feet of very dense well graded gravel with sand. The remainder of the boring describes the foundation soils/rocks as sandstone, intensely weathered, soft and intensely fractured.

The SPT blow count values for silty and sandy/gravelly soil ranged from 9 to as high as 50 blows per foot.

Groundwater was encountered in boring (A-11-003) at 17 feet below the ground surface at the time of drilling. However, groundwater elevations fluctuate seasonally and may be encountered at higher elevations.

6. GEOTECHNICAL TESTING

6.1 In Situ Testing

For all borings (A-11-001, A-11-002, and A-11-003), Standard Penetration Test (SPT) was performed at 5-feet interval in soil strata. Pocket Penetrometer (PP) tests were conducted on soil samples showing apparent cohesion. Visual soil classifications were made in the field in accordance with the Unified Soil Classification System. Soil samples were collected at various depths for laboratory testing.

7. CORROSION EVALUATION

Corrosion studies were conducted in accordance with the requirements of California Test Method No. 643. The Department considers the site to be corrosive to foundation elements if one or more of the following conditions exist for the representative soil samples taken at the site:

> Chloride concentration is greater than or equal to 500 ppm, sulfate concentration is greater than or equal to 2000 ppm, or the pH is 5.5 or less.

The following tables provide the corrosion test summary:

Table 5-Summary of Corrosion Test for CMS1

Boring	*SIC Number*	*Sample Depth*	*Resistivity (Ohm-Cm)*	*pH*	*Chloride Content (ppm)*	*Sulfate Content (ppm)*
A-11-001	CSAwad-1	2 to 8	1014	6.3	N/A	N/A

Table 6- Summary of Corrosion Test for CMS2

Boring	*SIC Number*	*Sample Depth*	*Resistivity (Ohm-Cm)*	*pH*	*Chloride Content (ppm)*	*Sulfate Content (ppm)*
A-11-002	CSAwad-2	5 to 10	6116	7.3	N/A	N/A

Table 7-Summary of Corrosion Test for CMS3

Boring	*SIC Number*	*Sample Depth*	*Resistivity (Ohm-Cm)*	*pH*	*Chloride Content (ppm)*	*Sulfate Content (ppm)*
A-11-003	CSAwad-3	4 to 10	1732	6.9	N/A	N/A

Based on the test results from the Materials Engineering Testing Services (METS) of Caltrans, the foundation soils at the proposed CMS signs are considered non-corrosive. Refer to the Attached Exhibit B for the laboratory test results.

8. FOUNDATION RECOMMENDATION

8.1 Changeable Message Sign No. 1 (CMS1)

Based on the estimated soil parameters from our geotechnical investigation and analysis using LPILE plus program (Version 5.0(5.0.29)) for CMS1, we recommend that the design length of the CIDH pile be extended to 25 feet (additional 3 feet to Standard Plans for the foundation of Model 500) for the proposed CMS1).

8.2 Changeable Message Sign No. 2 (CMS2)

Based on the estimated soil parameters from our geotechnical investigation and analysis using LPILE plus program (Version 5.0(5.0.29)) for CMS2, we recommend that the design length of the CIDH pile be extended to 25 feet (additional 3 feet to Standard Plans for the foundation of Model 500) for the proposed CMS2).

8.3 Changeable Message Sign No. 3 (CMS3)

Based on the estimated soil parameters from our geotechnical investigation and analysis using LPILE plus program (Version 5.0(5.0.29)) for CMS3, we recommend that the design length of the CIDH pile be extended to 25 feet (additional 3 feet to Standard Plans for the foundation of Model 500) for the proposed CMS3).

8.5 Close Circuit Television

Based on the existing As-built LOTBs and geology of the site, refer to attached Exhibit A (Table 9), we recommend the 2-feet diameter, 7 ft deep CIDH pile as specified in May 2006 Caltrans Standard Plans for all the proposed CCTVs for this project.

9. CONSTRUCTION CONSIDERATIONS

- CIDH piling shall conform to the provisions in Section 49-4, "Cast-in-Place Concrete Piles," of Standard Specifications.
- Difficult pile installation is anticipated due to the sandy nature of the foundation soil and possible caving of hole. Thus, the contractor should be prepared.
- The contractor has the option of using full-length temporary casing. The use of temporary casing will require that it be removed while the concrete is being placed in order to develop the expected pile capacity and to facilitate the casing removal.
- Because of the existing groundwater, the contractor may choose to use a closed system using a concrete pump or a tremie tube to place concrete at the bottom of the holes.

If you have any questions or need additional information, please call Samuel Awad at (510) 622-5443, or Hooshmand Nikoui, Branch Chief at (510) 286-4811.

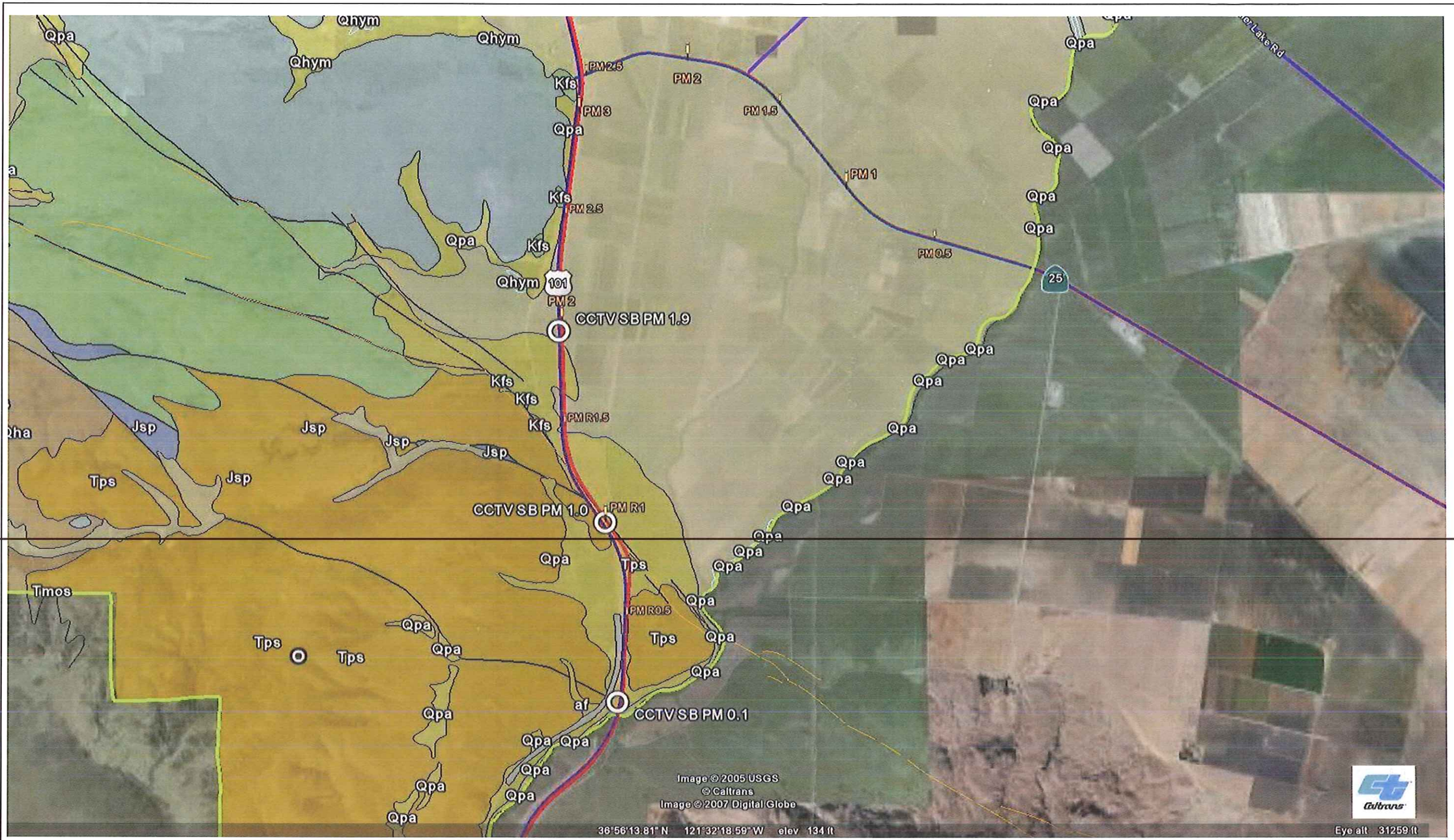
Attachments

c: TPokrywka, HNikoui, SAwad, Daily File, Project File

SAwad /mm/153500

REGISTERED PROFESSIONAL ENGINEER
SAMUEL AWAD
No. 64509
Exp. 06/30/13
CIVIL
STATE OF CALIFORNIA

FIGURES

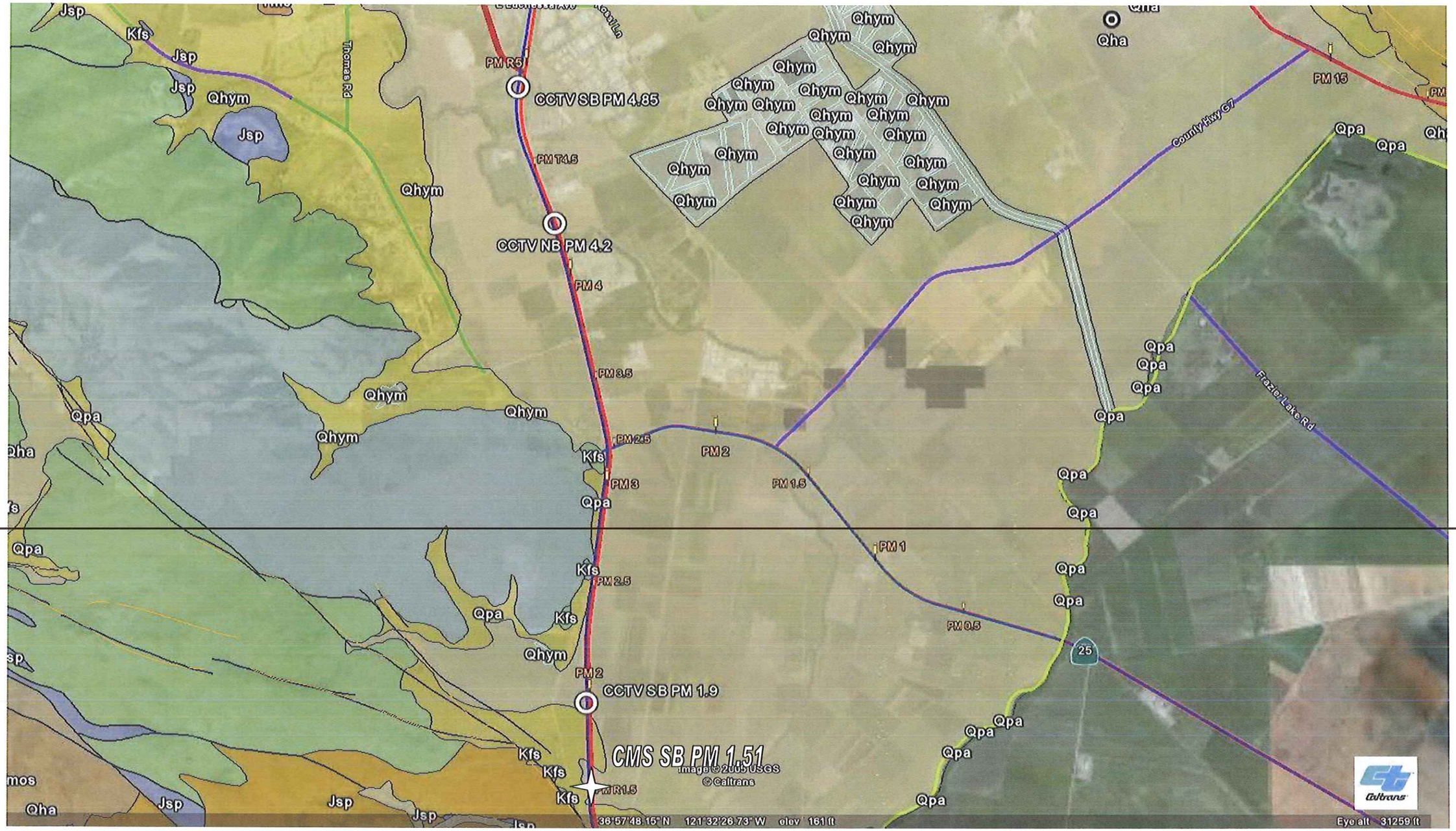


CCTV location

Qha – Holocene Alluvium
Qpa – Pleistocene Alluvium
Tps – Pliocene Sedimentary Rocks

U.S. Geological Survey Scientific Investigations Map 2918
Geologic Map of Santa Clara County, CA
http://geomaps.wr.usgs.gov/sfgeo/geologic/downloads.html

Caltrans	Geologic Map	
	04-SCL-101	PM 0.0-26.7
	EA 04-153300	January 2012



CCTV location

CMS location

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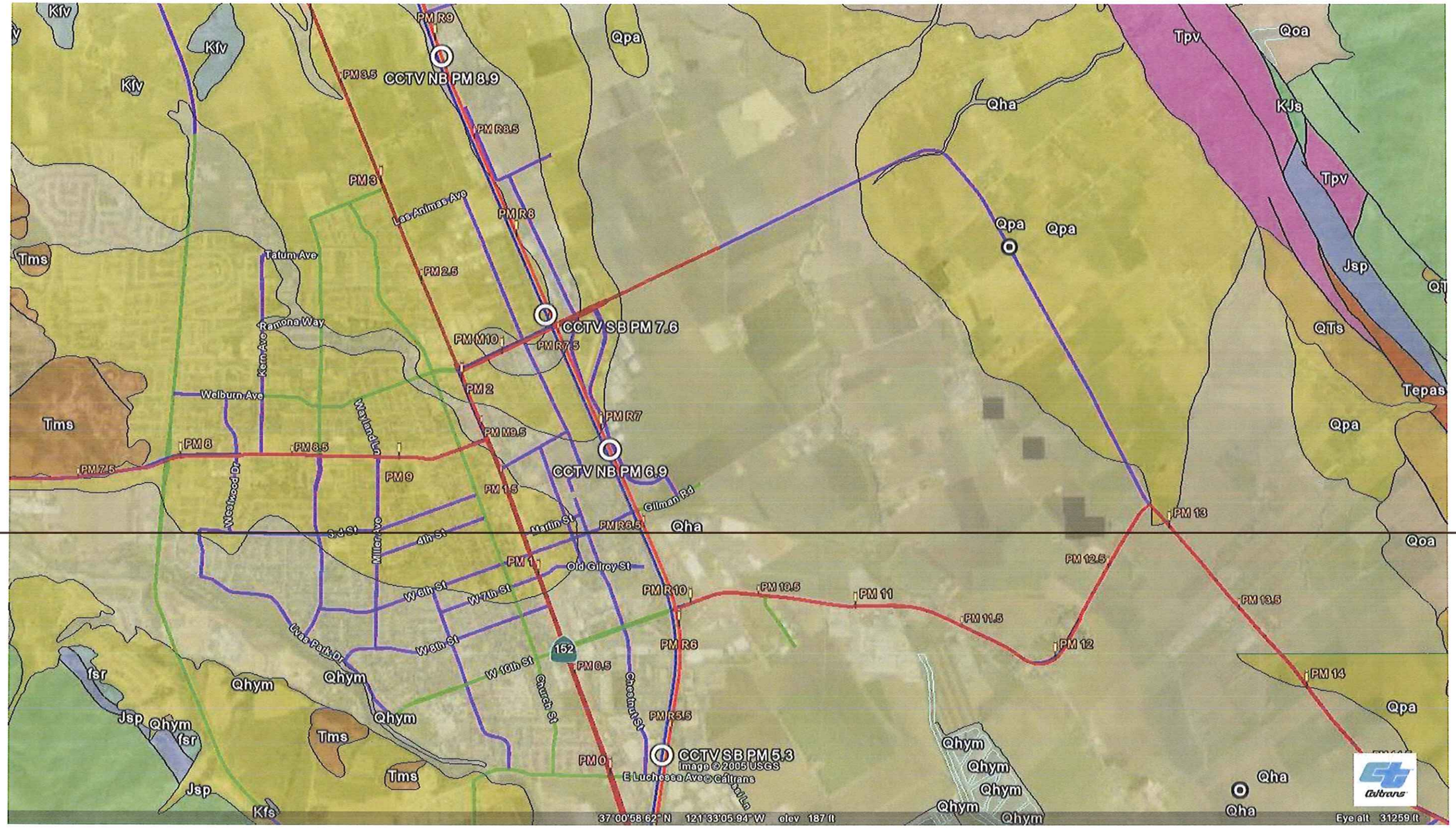

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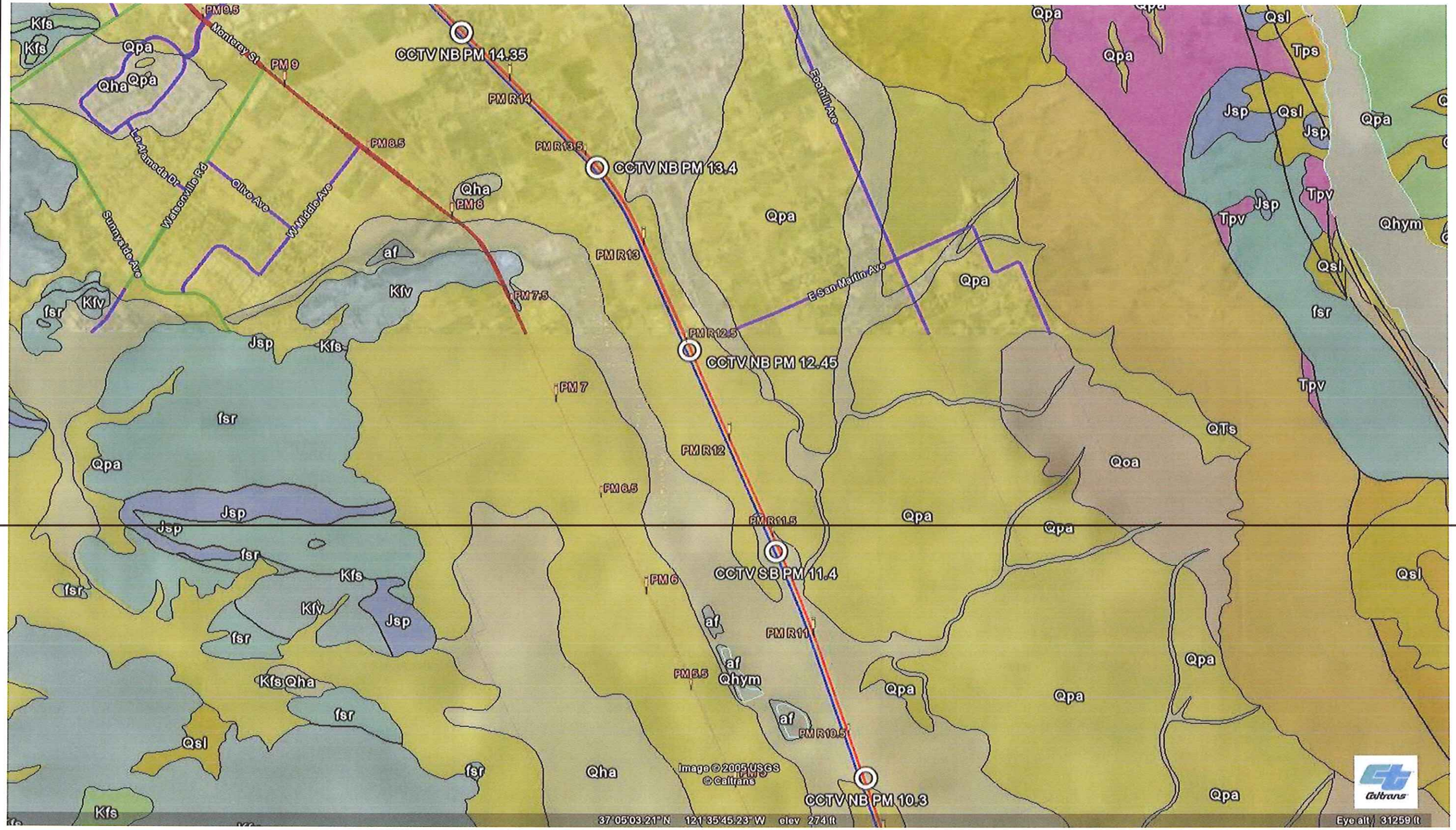
	EA 04-153300	January 2012



CCTV location

Qha – Holocene Alluvium
Qpa – Pleistocene Alluvium
Tps – Pliocene Sedimentary Rocks

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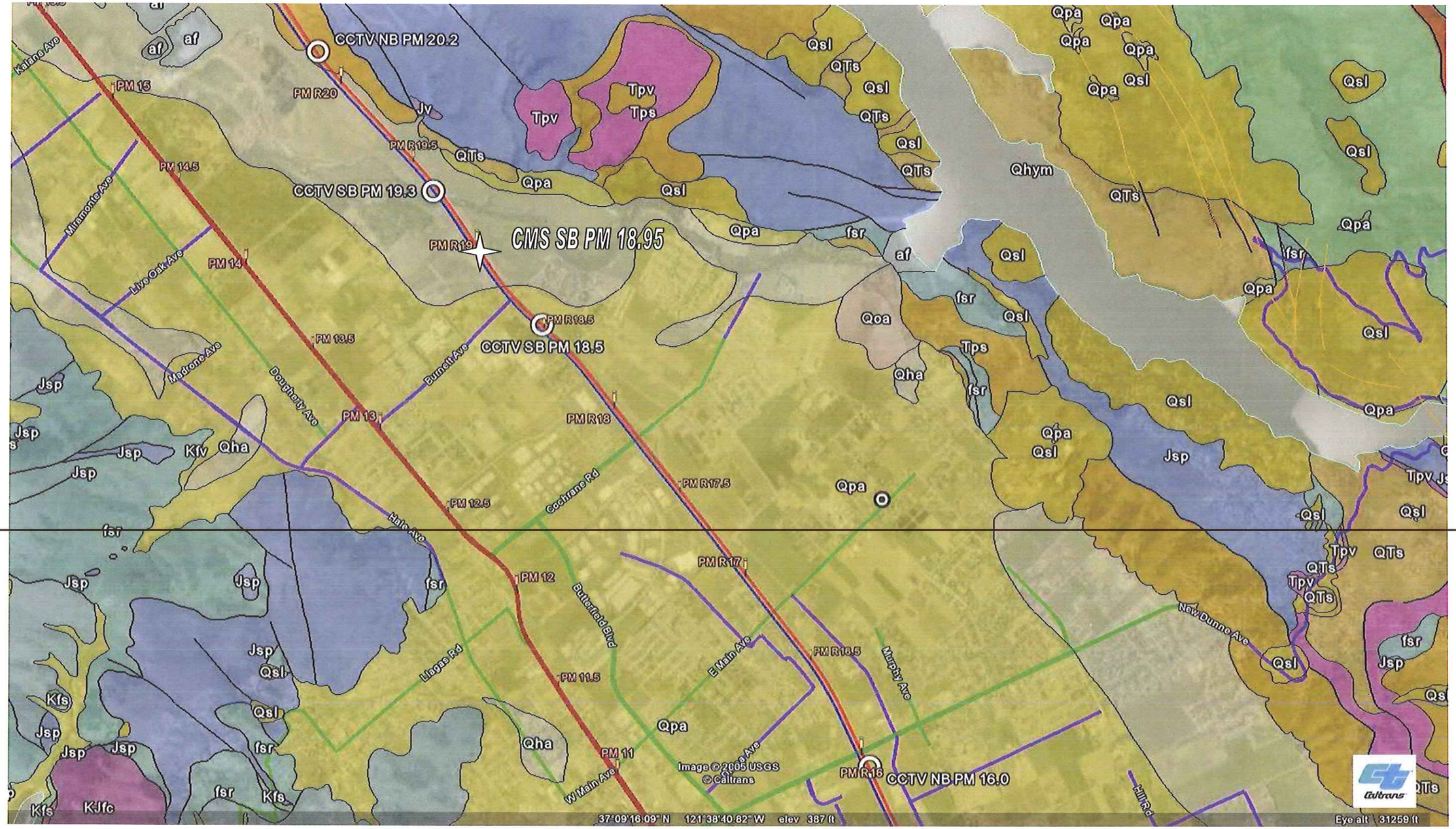
Caltrans	**Geologic Map**
04-SCL-101	**PM 0.0-26.7**
EA 04-153300	**January 2012**



CCTV location

Qha – Holocene Alluvium
Qpa – Pleistocene Alluvium
Tps – Pliocene Sedimentary Rocks

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Geologic Map of Santa Clara County, CA
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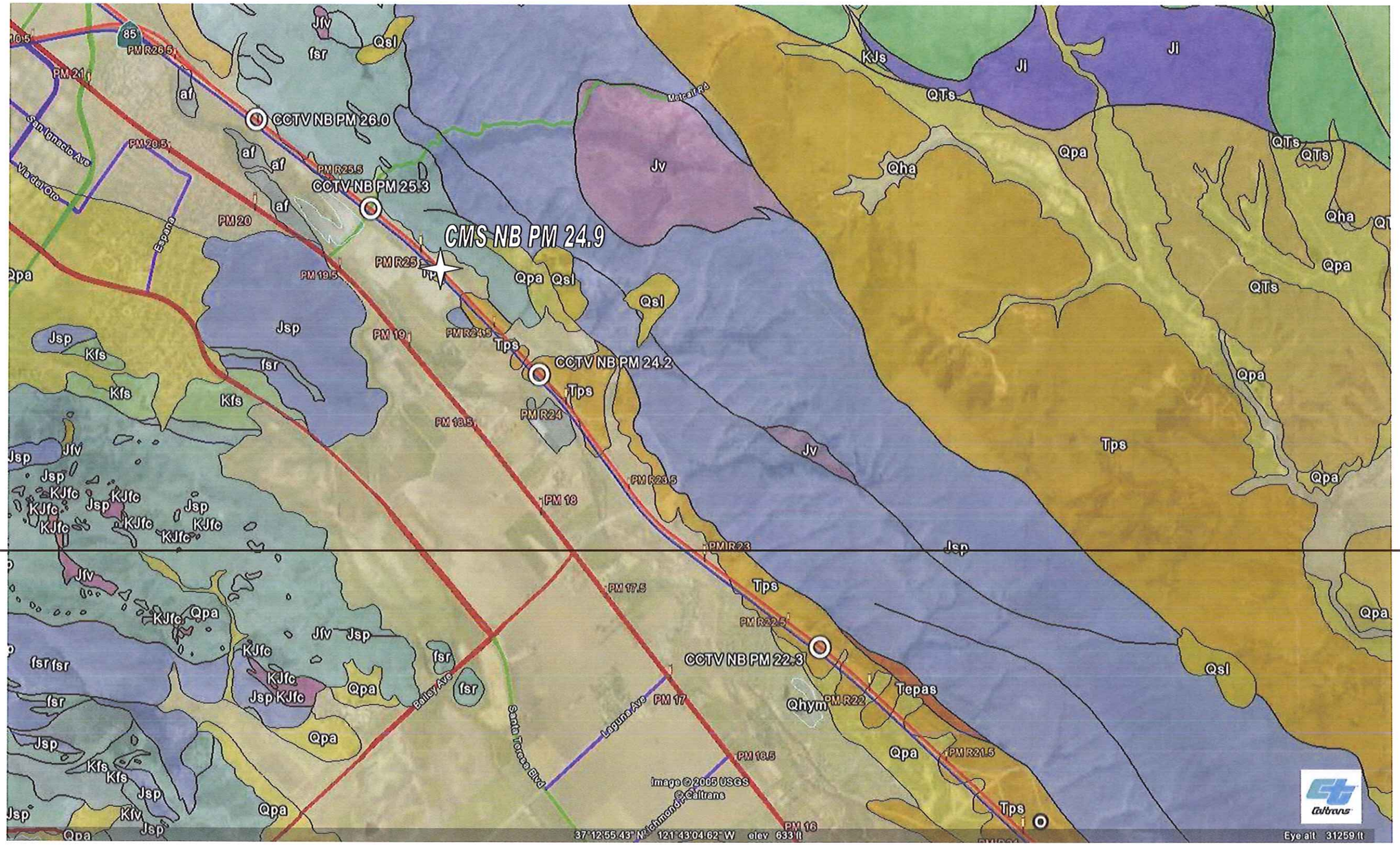
Geologic Map	
04-SCL-101	PM 0.0-26.7
EA 04-153300	January 2012



CCTV location

Qha – Holocene Alluvium
Qpa – Pleistocene Alluvium
Tps – Pliocene Sedimentary Rocks

U.S. Geological Survey Scientific Investigations Map 2918
Geologic Map of Santa Clara County, CA
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Geologic Map	
04-SCL-101	PM 0.0-26.7
EA 04-153300	January 2012

EXHIBIT A

(Tables 8 and 9)

Table 8: Changeable Message Signs Geologic Information

Serial No.	PM	Geologic Unit(s)	Unit Symble	Surface Material	Soil[4]	Ground Water	Closest Borehole(s)	Reference	Fault[5]	Distance (km)miles	Peak Bedrock Acceleration	Liquifacton Susceptibility	Flooding Susceptibility	Landslides
1	NB 24.9	**Alluvial fan deposits (Holocene)**—brown gravelly sand and sandy and clayey gravel, grading upward to sandy and silty clay, moderately dense to dense, coarser near the fan heads and upstream, deposited by flooding streams where they emerge from constrained channels of the uplands; include terrace deposits within some upland valleys; merge downslope into flood plain and basin deposits.	Qhf2	Clay	Climara Clay	27.5' bgs 10/26/11	A-11-001	Current Geotechnical study	Silver Creek fault	(2.25) 3.04	0.69	Moderate	No flood hazard	Flat Land
2	SB 1.51	**Flood plain deposits (Holocene)** -- gray, dense, sandy to silty clay, may locally contain lenses of silt and fine gravel	Qhfp	Clay loam	Rincon Clay loam	26.0' bgs 10/25/11	A-11-002	Current Geotechnical study	Sargent fault (SE)	(0.10) 0.06	0.56	High	100 yr flood zone	Few Landslides
3	SB 18.95	**Levee deposits (Holocene)** -- sandy and clayey silt ranging to sandy and silty clay, loose and moderately to well sorted, coarser along Coyote Creek than along the smaller streams, generally well drained; deposited adjacent to the stream courses where spreading flood waters first slow and begin to deposit suspended sediment, thereby building natural levees that stand higher than the adjacent streams and flood plains and basins.	Qhl	Gravelly loam	Arbuckle gravelly loam	17.0' bgs 10/26/11	A-11-003	Current Geotechnical study	Silver Creek fault	(2.11) 1.31	0.69	Moderate	No flood hazard	Few Landslides

1Map Taken From: U.S. Geological Survey Open-File Report 98-795 Version 1.0 Preliminary Geologic Description of the San Jose 30 X 60 Minute Quadrangle, California; By C.M. Wentworth, M.C. Blake, Jr., R.J. McLaughlin, and R.W. Graymer

2Map Taken From: Flood Zones - FEMA Q3 (2003) and DFIRM (2009) http://quake.abag.ca.gov/ Base Data - TeleAtlas (2008) The product has been designed to support planning activities. A more detailed version of this map is available at http://quake.abag.ca.gov

3Map Taken From: USGS Open File Report 97-745 Summary Distribution of Slides and Earth Flows in the San Francisco Bay Region, California By Carl M. Wentworth, Scott E. Graham, Richard J. Pike, Gregg S. Beukelman, David W. Ramsey, and Andrew D. Barron

4. Soil maps can be provided upon request

5. Faults, magnitudes, and ground accelerations provided from Caltrans Fault Database and Online ARS Tool http://dap3.dot.ca.gov/shake_stable/

Table 9: Closed Circuit Television Geologic Information

Serial No.	PM	Geologic Unit(s)	Unit Symbol	Surface Material	Soil[4]	Fault	Distance (km)miles	Peak Bedrock Acceleration	Liquifacton Susceptibility[1]	Flooding Susceptibility[2]	Landslides[3]
1	NB 4.20	**Levee deposits (Holocene)** -- sandy and clayey silt ranging to sandy and silty clay, loose and moderately to well sorted, coarser along Coyote Creek than along the smaller streams, generally well drained; deposited adjacent to the stream courses where spreading flood waters first slow and begin to deposit suspended sediment, thereby building natural levees that stand higher than the adjacent streams and flood plains and basins.	Qhl	Gravelly sand and clay	Terrace escarpments	Sargent fault (SE)	(4.07) 2.53	0.42	Moderate	100 yr flood zone	Flat Land
2	NB 6.90	**Alluvial fan deposits (Holocene)**—brown gravelly sand and sandy and clayey gravel, grading upward to sandy and silty clay, moderately dense to dense, coarser near the fan heads and upstream, deposited by flooding streams where they emerge from constrained channels of the uplands; include terrace deposits within some upland valleys; merge downslope into flood plain and basin deposits.	Qhf2	Clay loam	Zamora clay loam	Calaveras fault (Central Section)	(5.67) 3.52	0.40	Moderate	500 yr flood zone	Flat Land
3	NB 8.90	**Flood plain deposits (Holocene)** -- gray, dense, sandy to silty clay, may locally contain lenses of silt and fine gravel	Qhfp	Loam	Pleasanton Loam	Calaveras fault (Central Section)	(5.43) 3.37	0.41	Moderate	No flood hazard	Flat Land
4	NB 10.30	**Flood plain deposits (Holocene)** -- gray, dense, sandy to silty clay, may locally contain lenses of silt and fine gravel	Qhfp	Gravelly loam	Arbuckle gravelly loam	Sargent fault (SE)	(8.25) 5.12	0.43	Moderate	No flood hazard	Flat Land
5	NB 12.45	**Alluvial fan deposits (Upper Pleistocene)** -- tan to reddish brown gravel, clast supported, clasts typically cobble sized, clayey and sandy matrix, crudely bedded; spatial relation to depositing streams typically still evident.	Qpf	Clay loam	Rincon Clay loam	Calaveras fault (Central Section)	(4.65) 2.89	0.43	Low	Urban	Flat Land
6	NB 13.40	**Alluvial fan deposits (Upper Pleistocene)** -- tan to reddish brown gravel, clast supported, clasts typically cobble sized, clayey and sandy matrix, crudely bedded; spatial relation to depositing streams typically still evident.	Qpf	Clay	Cropley Clay	Calaveras fault (Central Section)	(4.62) 2.87	0.43	Low	100 yr flood zone	Flat Land
7	NB 14.35	**Alluvial fan deposits (Upper Pleistocene)** -- tan to reddish brown gravel, clast supported, clasts typically cobble sized, clayey and sandy matrix, crudely bedded; spatial relation to depositing streams typically still evident.	Qpf	Loam	Pleasanton Loam	Silver Creek fault	(6.59) 4.09	0.45	Low	No flood hazard	Flat Land
8	NB 16.00	**Alluvial fan deposits (Upper Pleistocene)** -- tan to reddish brown gravel, clast supported, clasts typically cobble sized, clayey and sandy matrix, crudely bedded; spatial relation to depositing streams typically still evident.	Qpf	Gravelly loam	Arbuckle gravelly loam	Silver Creek fault	(3.29) 2.04	0.62	Low	No flood hazard	Flat Land
9	NB 20.20	**Silver Creek Gravels of Graymer and DeVito (1993)(Pliocene)** -- Interbedded conglomerate, sandstone, siltstone, tuffaceous sediment, tuff, and basalt. This uni is distinguished from other gravels in the map area by the presence of interbedded volcanic rocks and interbeds of nonmarine green and red mudstone, by its relatively well consolidated nature, and by its clast composition: about 75% Franciscan rocks and 25% volcanic rocks, Claremont chert, and other Cenozoic rocks.	Tsg	Clay loam	San Benito Clay loam	Silver Creek fault	(1.92) 1.19	0.70	Very Low	No flood hazard	Flat Land
10	NB 22.30	**Silver Creek Gravels of Graymer and DeVito (1993)(Pliocene)** -- Interbedded conglomerate, sandstone, siltstone, tuffaceous sediment, tuff, and basalt. This uni is distinguished from other gravels in the map area by the presence of interbedded volcanic rocks and interbeds of nonmarine green and red mudstone, by its relatively well consolidated nature, and by its clast composition: about 75% Franciscan rocks and 25% volcanic rocks, Claremont chert, and other Cenozoic rocks.	Tsg	Clay loam	San Benito Clay loam	Silver Creek fault	(1.56) 0.97	0.71	Very Low	No flood hazard	Few Landslides
11	NB 24.20	**Silver Creek Gravels of Graymer and DeVito (1993)(Pliocene)** -- Interbedded conglomerate, sandstone, siltstone, tuffaceous sediment, tuff, and basalt. This uni is distinguished from other gravels in the map area by the presence of interbedded volcanic rocks and interbeds of nonmarine green and red mudstone, by its relatively well consolidated nature, and by its clast composition: about 75% Franciscan rocks and 25% volcanic rocks, Claremont chert, and other Cenozoic rocks.	Tsg	Clay loam	San Benito Clay loam	Silver Creek fault	(2.06) 1.28	0.70	Moderate	No flood hazard	Few Landslides
12	NB 25.30	**Alluvial fan deposits (Holocene)**—brown gravelly sand and sandy and clayey gravel, grading upward to sandy and silty clay, moderately dense to dense, coarser near the fan heads and upstream, deposited by flooding streams where they emerge from constrained channels of the uplands; include terrace deposits within some upland valleys; merge downslope into flood plain and basin deposits.	Qhf2	Clay	Cropley Clay	Silver Creek fault	(2.38) 1.48	0.69	Moderate	No flood hazard	Flat Land

Table 9: Closed Circuit Television Geologic Information

Serial No.	PM	Geologic Unit(s)	Unit Symbol	Surface Material	Soil[4]	Fault	Distance (km)miles	Peak Bedrock Acceleration	Liquifacton Susceptibility[1]	Flooding Susceptibility[2]	Landslides[3]
13	NB 26.00	**Alluvial fan deposits (Holocene)**—brown gravelly sand and sandy and clayey gravel, grading upward to sandy and silty clay, moderately dense to dense, coarser near the fan heads and upstream, deposited by flooding streams where they emerge from constrained channels of the uplands; include terrace deposits within some upland valleys; merge downslope into flood plain and basin deposits.	Qhf2	Clay loam	Urban Land Elpaloalto Complex	Silver Creek fault	(2.65) 1.65	0.68	Moderate	No flood hazard	Flat Land
14	SB 0.10	**Alluvial fan deposits (Upper Pleistocene)** -- tan to reddish brown gravel, clast supported, clasts typically cobble sized, clayey and sandy matrix, crudely bedded; spatial relation to depositing streams typically still evident.	Qpf	Clay loam	Zamora clay loam	Sargent fault	(0.71) 0.44	0.54	Low	100 yr flood zone	Few Landslides
15	SB 1.00	**Conglomerate, sandstone, and siltstone of Sargent Hills (Pliocene)** -- Interbedded pebble and cobble conglomerate; massive, brown, coarse- to fine-grained lithic, mica-lithic, and quartz-lithic sandstone, and gray weathering, brown siltstone and silty claystone.	Tscn	Clay loam	Azule Clay loam	Sargent fault	(0.17) 0.11	0.56	Low	100 yr flood zone	Flat Land
16	SB 1.9	**Flood plain deposits (Holocene)** -- gray, dense, sandy to silty clay, may locally contain lenses of silt and fine gravel	Qhfp	Clay loam	Rincon Clay loam	Sargent fault	(0.65) 0.40	0.54	Low	100 yr flood zone	Flat Land
17	SB 4.85	**Flood plain deposits (Holocene)** -- gray, dense, sandy to silty clay, may locally contain lenses of silt and fine gravel	Qhfp	Loam	Yolo Loam	Sargent fault	(4.85) 3.01	0.39	Moderate	100 yr flood zone	Flat Land
18	SB 5.30	**Flood plain deposits (Holocene)** -- gray, dense, sandy to silty clay, may locally contain lenses of silt and fine gravel	Qhfp	clay loam and silty clay loam	Yolo silty clay loam	Calaveras fault (Central Section)	(5.92) 3.68	0.40	Moderate	100 yr flood zone	Flat Land
19	SB 7.60	**Alluvial fan deposits (Upper Pleistocene)** -- tan to reddish brown gravel, clast supported, clasts typically cobble sized, clayey and sandy matrix, crudely bedded; spatial relation to depositing streams typically still evident.	Qpf	Loam	San Ysidro Loam	Calaveras fault (Central Section)	(5.60) 3.48	0.40	Moderate	500 yr flood zone	Flat Land
20	SB 11.40	**Flood plain deposits (Holocene)** -- gray, dense, sandy to silty clay, may locally contain lenses of silt and fine gravel	Qhfp	Loam	San Ysidro Loam	Calaveras fault (Central Section)	(4.80) 2.98	0.43	High	No flood hazard	Flat Land
21	SB 18.50	**Alluvial fan deposits (Upper Pleistocene)** -- tan to reddish brown gravel, clast supported, clasts typically cobble sized, clayey and sandy matrix, crudely bedded; spatial relation to depositing streams typically still evident.	Qpf	Gravelly loam	Arbuckle gravelly loam	Silver Creek fault	(2.40) 1.49	0.69	Moderate	No flood hazard	Flat Land
22	SB 19.30	**Levee deposits (Holocene)** -- sandy and clayey silt ranging to sandy and silty clay, loose and moderately to well sorted, coarser along Coyote Creek than along the smaller streams, generally well drained; deposited adjacent to the stream courses where spreading flood waters first slow and begin to deposit suspended sediment, thereby building natural levees that stand higher than the adjacent streams and flood plains and basins.	Qhl	Gravelly loam	Cortina very gravelly loam	Silver Creek fault	(2.01) 1.25	0.70	Moderate	100 yr flood zone	Flat Land

EXHIBIT B

(Laboratory Test Results)

7950-1P

TEST NO. 7950-1P

BILLED

DATE RECEIVED 11/07/11

CALC. BY _____ APPROVED BY _____

DATE REPORTED 12/14/11

☐ DISTRICT DIRECTOR ☐ TRANS. LAB.
☐ DIS. MAT LS R. ☐ PAV'T. SECTION
☐ RESIDENT ENGINEER ☐ ACCOUNTING
☐ CONSTRUCTION ☐

ATTACH FORM DOR-TL-101 HERE

EXPANSION PRESSURE CHAP

20

GRADING ANALYSIS

SIEVE	AS RECEIVED	RET. CR.	ADJ. OR COMB. GRADE	AS USED	SPECIF. LIMITS ☐ SOUGHT ☐
3					
2½					
2					
1½					
1					
¾					
½					
⅜					
4					
8					
16					
30					
50					
100					
200					
5μ					
1μ					

GRADING AS USED WAS OBTAINED AS FOLLOWS:

% BY WT. % BY VOL. TEST NO. DESCRIPTION

Resistivity = 1014 Ω-cm

REMARKS: PH = 6.3

SURFACE

BASE

SUBBASE

GRAVEL EQUIVALENT FACTOR

TRAFFIC INDEX

R VALUE: EXUDATION PRESSURE

EXPANSION PRESSURE

AT EQUILIBRUM SPEC.

INDICATED MINIMUM THICKNESS OF COVER FOR ABOVE CONDITIONS (FEET)

REPORT OF TESTS ON

Foundation Soil (Corrosion)

IF CONTRACT, USE CONTRACT ITEM

SOURCE	CHARGE	EXPENDITURE AUTHORIZATION

SPECIAL DESIGNATION (USE WHEN APPLICABLE)	ACTIVITY OR OBJECT	AMOUNT

TEST SPECIMEN	A	B	C	D	E
DATE TESTED					
COMPACTOR FOOT PRESSURE P.S.I.					
INITIAL MOISTURE %					
SOAK WATER ML					
WATER ADDED–ML (TOTAL)					
WATER ADDED %					
MOISTURE AT COMPACTION %					
WET WT. OF BRIQUETTE–GMS					
HEIGHT OF BRIQUETTE–INCHES					
DRY DENSITY OF BRIQ. – # CU. FT.					
STABILOMETER P_H AT 2000 LBS.					
DISPLACEMENT					
R–VALUE BY STABILOMETER					
EXUDATION PRES. P.S.I.					
THICK. BY STAB. FEET					
EXPANSION DIAL READING					
THICK. BY EXP. PRESS. FEET					
R–VALUE BY EXPANSION					

TEST RESULTS			SPEC.
LL. P.L P.I.			
CV			
S.E	AS REC'D.		
	CRUSHED		
	COMBINED		
LART	GRADE	100 REV.	
		500 REV.	
DUR	D_f		
	D_c		
% CRUSHED PARTICLES			

SP. GR. ☐ BULK (OVEN DRY) ☐ BULK (SSD) ☐ APPARENT

	FINE	COARSE
AS REC'D.		
CRUSHED		

REL. COMPACTION DATA	IN PLACE	OPTIMUM
DENSITY		
MOISTURE		
% REL. COMP.		
SPEC.		

DISTRICT 4 LABORATORY
325 SAN BRUNO AVENUE
SAN FRANCISCO, CA 94103
12/14/11

STATE OF CALIFORNIA • DEPARTMENT OF TRANSPORTATION

SAMPLE IDENTIFICATION CARD

TL-0101 (REV. 10/97)

CARD NUMBER CSAWad-1

☐ PRELIMINARY TESTS
☐ PROCESS TESTS
☐ ACCEPTANCE TESTS
INDEPENDENT ASSURANCE TESTS
☐ DIST. LAB
☐ TRANS. LAB
☐ SPECIAL TESTS

SAMPLE SENT TO:
☐ HDQTRS. LAB
☐ BRANCH LAB
☐ DIST. LAB

FIELD NO.

DIST. LAB NO.

LOT NO.

SHIPMENT NO.

P.O. OR REQ. NO.

AUTHORIZATION NO.

SAMPLE OF: Soil

FOR USE IN: Foundation

SAMPLE FROM: RC-11-001 (2'-8')

DEPTH

LOCATION OF SOURCE

THIS SAMPLE IS SHIPPED IN (NO. CONTAINERS)

AND IS ONE OF A GROUP OF

SAMPLES REPRESENTING (TONS, GALS, BBLS, STA, ETC.)

OWNER OR MANUFACTURER

TOTAL QUANTITY AVAILABLE

TEST RESULTS DESIRED ☒ NORMAL ☐ PRIORITY

DATE NEEDED

REMARKS

COVER ADDITIONAL INFORMATION WITH LETTER

DATE SAMPLEED

BY 11/4/11

TITLE

DIST. CO. RTE. PM: 04-SCL-101-PM 0.0/26.4

LIMITS

CONT. NO.: 04-153300

FED. NO.

RES. ENGR. OR SUPT.: S. Awad

ADDRESS

CONTRACTOR: (510) 622-5413

MAIL TO SAME DESTINATION AS SAMPLE

EXUDATION PRESSURE (PSI)

-TL-361 (Rev. 10/78)

87 46243

TEST NO. 7950-2P

BILLED

DATE RECEIVED 11/07/11

CALC. BY ____ APPROVED BY ____

DATE REPORTED 12/14/11

☐ DISTRICT DIRECTOR ☐ TRANS. LAB.
☐ DIS. MAT LS R. ☐ PAV'T. SECTION
☐ RESIDENT ENGINEER ☐ ACCOUNTING
☐ CONSTRUCTION ☐

ATTACH FORM DOA-TL-101 HERE

EXPANSION PRESSURE CHA

20

STATE OF CALIFORNIA • DEPARTMENT OF TRANSPORTATION

SAMPLE IDENTIFICATION CARD

TL-0101 (REV. 10/97)

CARD NUMBER CSAwad-2

☐ PRELIMINARY TESTS
☐ PROCESS TESTS
☐ ACCEPTANCE TESTS
INDEPENDENT ASSURANCE TESTS
☐ DIST. LAB
☐ TRANS. LAB
☐ SPECIAL TESTS

SAMPLE SENT TO:
☐ HDQTRS. LAB
☐ BRANCH LAB
☐ DIST. LAB

FIELD NO.
DIST. LAB NO.
LOT NO.
SHIPMENT NO.
P.O. OR REQ. NO.
AUTHORIZATION NO.

SAMPLE OF: Soil

FOR USE IN: Foundation

SAMPLE FROM: RC-11-002 (5'-10')

DEPTH

LOCATION OF SOURCE

THIS SAMPLE IS SHIPPED IN (NO CONTAINERS)

AND IS ONE OF A GROUP OF

SAMPLES REPRESENTING (TONS, GALS, BBLS, STA, ETC.)

OWNER OR MANUFACTURER

TOTAL QUANTITY AVAILABLE

TEST RESULTS DESIRED ☒ NORMAL ☐ PRIORITY

DATE NEEDED

REMARKS

COVER ADDITIONAL INFORMATION WITH LETTER

DATE SAMPLEED: 11/4/11

BY

TITLE: T.E

DIST, CO, RTE, PM: 04-SCL-101-PM 0.0/26.4

LIMITS: 04-153300

CONT. NO.

FED. NO.

RES. ENGR. OR SUPT.

ADDRESS

CONTRACTOR: S. Awad (510) 622-5443

MAIL TO SAME DESTINATION AS SAMPLE

GRADING ANALYSIS

SIEVE	AS RECEIVED	RET. CR.	ADJ. OR COMB. GRADE	AS USED	SPECIF. LIMITS ☐ SOUGHT ☐
3					
2½					
2					
1½					
1					
¾					
½					
⅜					
4					
8					
16					
30					
50					
100					
200					
5μ					
1μ					

GRADING AS USED WAS OBTAINED AS FOLLOWS:

% BY WT.	% BY VOL.	TEST NO.	DESCRIPTION

REMARKS: RESISTIVITY = 6116
PH = 7.3

SURFACE

BASE

SUBBASE

GRAVEL EQUIVALENT FACTOR

TRAFFIC INDEX

R VALUE: EXUDATION PRESSURE

EXPANSION PRESSURE

AT EQUILIBRUM SPEC.

INDICATED MINIMUM THICKNESS OF COVER FOR ABOVE CONDITIONS (FEET)

REPORT OF TESTS ON

Foundation Soil (Compaction)

IF CONTRACT, USE CONTRACT ITEM

SOURCE	CHARGE	EXPENDITURE AUTHORIZATION

SPECIAL DESIGNATION (USE WHEN APPLICABLE)	ACTIVITY OR OBJECT	AMOUNT

TEST SPECIMEN	A	B	C	D	E
DATE TESTED					
COMPACTOR FOOT PRESSURE P.S.I.					
INITIAL MOISTURE %					
SOAK WATER ML					
WATER ADDED-ML (TOTAL)					
WATER ADDED %					
MOISTURE AT COMPACTION %					
WET WT. OF BRIQUETTE-GMS					
HEIGHT OF BRIQUETTE-INCHES					
DRY DENSITY OF BRIQ. - 4 CU. FT.					
STABILOMETER P_H AT 2000 LBS.					
DISPLACEMENT					
R-VALUE BY STABILOMETER					
EXUDATION PRES. P.S.I.					
THICK. BY STAB FEET					
EXPANSION DIAL READING					
THICK. BY EXP. PRESS. FEET					
R-VALUE BY EXPANSION					

TEST RESULTS

			SPEC.
LL.	P.L	P.I.	
CV			
S.E	AS REC'D		
	CRUSHED		
	COMBINED		
LART	GRADE	100 REV.	
		500 REV.	
DUR	D_f		
	D_c		
% CRUSHED PARTICLES			

SP. GR. ☐ BULK (OVEN DR ☐ BULK (SSD) ☐ APPARENT

	FINE	COAR
AS REC'D.		
CRUSHED		

REL. COMPACTION DAT

	IN PLACE	OPTIM
DENSITY		
MOISTURE		
% REL. COMP.		
SPEC.		

EXUDATION PRESSURE (PSI)

DISTRICT 4 LABORATORY
325 SAN BRUNO AVENUE
SAN FRANCISCO, CA 94103

12/14/11

-TL-361 (Rev. 10/78)

TEST NO. 7950 _3P

BILLED

DATE RECEIVED 11/07/11

CALC. BY _____ APPROVED BY _____

DATE REPORTED 12/14/11

☐ DISTRICT DIRECTOR ☐ TRANS. LAB.
☐ DIS. MAT LS R. ☐ PAV'T. SECTION
☐ RESIDENT ENGINEER ☐ ACCOUNTING
☐ CONSTRUCTION ☐

ATTACH FORM DCR-TL-101 HERE

EXPANSION PRESSURE CHART

20

GRADING ANALYSIS

SIEVE	AS RECEIVED	RET. CR.	ADJ. OR COMB. GRADE	AS USED	SPECIF. LIMITS SOUGHT ☐
3					
2½					
2					
1½					
1					
¾					
½					
⅜					
4					
8					
16					
30					
50					
100					
200					
5μ					
1μ					

GRADING AS USED WAS OBTAINED AS FOLLOWS:

% BY WT. % BY VOL. TEST NO. DESCRIPTION

REMARKS: RESISTIVITY = 1737
PH = 6.9

SURFACE

BASE

SUBBASE

GRAVEL EQUIVALENT FACTOR

TRAFFIC INDEX

R VALUE: EXUDATION PRESSURE

EXPANSION PRESSURE

AT EQUILIBRUM SPEC.

INDICATED MINIMUM THICKNESS OF COVER FOR ABOVE CONDITIONS (FEET)

REPORT OF TESTS ON

Foundation Soil (Correction)

IF CONTRACT, USE CONTRACT ITEM

SOURCE	CHARGE	EXPENDITURE AUTHORIZATION

SPECIAL DESIGNATION (USE WHEN APPLICABLE)	ACTIVITY OR OBJECT	AMOUNT

TEST SPECIMEN	A	B	C	D	E
DATE TESTED					
COMPACTOR FOOT PRESSURE P.S.I.					
INITIAL MOISTURE %					
SOAK WATER ML					
WATER ADDED–ML (TOTAL)					
WATER ADDED %					
MOISTURE AT COMPACTION %					
WET WT. OF BRIQUETTE–GMS					
HEIGHT OF BRIQUETTE–INCHES					
DRY DENSITY OF BRIQ. – # CU. FT.					
STABILOMETER P_H AT 2000 LBS.					
DISPLACEMENT					
R-VALUE BY STABILOMETER					
EXUDATION PRES. P.S.I.					
THICK. BY STAB FEET					
EXPANSION DIAL READING					
THICK, BY EXP. PRESS. FEET					
R-VALUE BY EXPANSION					

TEST RESULTS

			SPEC.
LL.	P.L	P.I.	
CV			
S.E	AS REC'D		
	CRUSHED		
	COMBINED		
LART	GRADE 100 REV.		
	500 REV.		
DUR	D_f		
	D_i		
% CRUSHED PARTICLES			

SP. GR. ☐ BULK (OVEN DRY) ☐ BULK (SSD) ☐ APPARENT

	FINE	COARS
AS REC'D.		
CRUSHED		

REL. COMPACTION DATA

	IN PLACE	OPTIMUM
DENSITY		
MOISTURE		
% REL. COMP.		
SPEC.		

DISTRICT 4 LABORATORY
325 SAN BRUNO AVENUE
SAN FRANCISCO, CA 94103

12/14/11

STATE OF CALIFORNIA • DEPARTMENT OF TRANSPORTATION

SAMPLE IDENTIFICATION CARD

TL-0101 (REV. 10/97)

CARD NUMBER CS Awad-3

☐ PRELIMINARY TESTS
☐ PROCESS TESTS
☐ ACCEPTANCE TESTS
INDEPENDENT ASSURANCE TESTS
☐ DIST. LAB
☐ TRANS. LAB
☐ SPECIAL TESTS

SAMPLE SENT TO:
☐ HDQTRS. LAB
☐ BRANCH LAB
☐ DIST. LAB

FIELD NO.

DIST. LAB NO.

LOT NO.

SHIPMENT NO. P.O. OR REQ. NO.

AUTHORIZATION NO.

SAMPLE OF Soil

FOR USE IN

SAMPLE FROM Foundation

DEPTH RC-11-003 (4'-10')

LOCATION OF SOURCE

THIS SAMPLE IS SHIPPED IN (NO CONTAINERS) | AND IS ON E OF A GROUP OF | SAMPLES REPRESENTING (TONS, GALS, BBLS, STA, ETC.)

OWNER OR MANUFACTURER

TOTAL QUANTITY AVAILABLE | TEST RESULTS DESIRED ☑ NORMAL ☐ PRIORITY | DATE NEEDED

REMARKS

COVER ADDITIONAL INFORMATION WITH LETTER

DATE SAMPLEED

BY 11/4/11 TITLE

DIST, CO, RTE, PM 04-SCL-101-PM 0.0/26.4

LIMITS 04-1533 00

CONT. NO. (20304)

FED. NO.

RES. ENGR. OR SUPT.

ADDRESS S. Awad

CONTRACTOR

MAIL TO SAME DESTINATION AS SAMPLE

EXUDATION PRESSURE (PSI)

-TL-361 (Rev. 10/78)

State of California
DEPARTMENT OF TRANSPORTATION

Business, Transportation and Housing Agency

Memorandum

Flex your power!
Be energy efficient!

To: MS. ARLISSA PANG
District Branch Chief
Design- Special Project

Date: December 13, 2012

Attention: P. Aguilera
V. Hew

File: 04-SCL-101 PM 0.0/26.4
04-153301
Efis 0400020304
Ramp Metering & TOS

S. A

From: SAMUEL AWAD
Transportation Engineer
Office of Geotechnical Design-West
Geotechnical Services
Division of Engineering Services

H. Nikoui

HOOSHMAND NIKOUI
Chief, Branch A
Office of Geotechnical Design-West
Geotechnical Services
Division of Engineering Services

Subject: Geotechnical Design Report (GDR) for Ramp Meter Signals

1. INTRODUCTION

This Geotechnical Design Report (GDR) provides foundation recommendations for fourteen Type 28-5-100 and one Type 60-5-100 Ramp Meter Signals (RMSs). These Ramp Meter Signals (RMSs) are part of the Highway 101 Ramp Metering System and Traffic Operation System (TOS) project elements along Route 101 in Santa Clara County from the San Benito County Line to Route 85/101 Interchange.

Recommendations contain in this report are based on the submitted layout and cross section plans, field mapping of the site, subsurface exploration, laboratory test results and foundation analysis. Refer to Table 1 for general RMSs information.

Table 1- General Ramp Meter Signals (RMSs) information

RMS No.	Direction	Location	Post Mile	Post Type	42" CIDH pile depth ft
1	SB	Monterey Rd	4.78	28-5-100	12
2	SB	10th St/Rte 152	5.87	28-5-100	12
3	NB	10th St/Rte 152	6.17	28-5-100	12
4	SB	Leavesley Rd	7.25	28-5-100	12
5	NB	Leavesley Rd	7.79	28-5-100	12
6	SB	Mastern Ave	10.12	28-5-100	12
7	NB	Masten Ave	10.43	60-5-100	13
8	SB	San Martin Ave	12.32	28-5-100	12
9	NS	San Martin Ave	12.59	28-5-100	12
10	SB	Tennant Ave	14.93	28-5-100	12
11	SB	Dunne Ave	15.87	28-5-100	12
12	NB	Dunne Ave	16.18	28-5-100	12

13	SB	Cochrane Rd	17.58	28-5-100	12
14	NB	Cochrane Rd	17.96	28-5-100	12
15	SB	Bernal Rd	26.74	28-5-100	12

2. PROJECT PURPOSE AND NEED

The need for this project is to relieve congestion and reduce accidents. The purpose is to install ramp metering systems to improve highway operations by completing the installation and implementation of a ramp metering system on northbound and southbound Route 101, in Santa Clara County.

3. SCOPE OF WORK

The following tasks were performed for the preparation of this Geotechnical Design Report:

- Review of as-built plans and as-built Log of Test Borings (LOTBs);
- Field geotechnical exploration, including drilling 11 borings at or near the signal sites;
- Laboratory test results on selected samples;
- Geotechnical design analysis; and
- Preparation of this Geotechnical Design Report.

4. SITE GEOLOGY AND SEISMICITY

4.1 Site Geology and Seismicity

Generalized geologic maps with all locations are presented in Figures and Table 5 (Attached Exhibit A). However, more detailed information is described in Table 5 (Attachment Exhibit A). All geologic information was taken from Preliminary Geologic Description of the San Jose 30 X 60 Minute Quadrangle, California; By C.M. Wentworth, M.C. Blake, Jr., R.J. McLaughlin, and R.W. Graymer.

4.2 Liquefaction

Based on our borings, the top 25 feet of subsurface soil is Sandy lean clay over clayey sand, which is not susceptible to liquefaction.

5. SUBSURFACE INVESTIGATION

The subsurface exploration was performed by the Office of Geotechnical Design West (OGDW) for Ramp Meter Signals. It consists of a total of 11 stem auger borings with Standard Penetration Tests (SPT) and Pocket Penetrometer (PP) Tests. Soil samples were taken every 5 feet from the Standard Penetration Test (SPT) sampling. Laboratory tests were used to update the soil

information. All foundation soil classifications were based on Caltrans "Soil and Rock Logging, Classification, and Presentation Manual". The LOTB sheets will be submitted when they are ready.

General information of borings drilled near the Ramp Meter Signals sites are listed in Table 2.

Table 2- Summary of Field Borings for Ramp Meter Signals

Boring ID	RMS No.	Route	PM	Dir	Location	Total Length (ft)	Date of completion	Hammer Efficiency
A-12-001	2	101	5.87	S	10th St/Rte 152	25.5	11/20/12	83%
A-12-002	5	101	7.79	N	Leavesley Rd	25.5	11/20/12	83%
A-12-003	6	101	10.12	S	Masten Ave	25.5	11/20/12	83%
A-12-004	7	101	10.43	N	Masten Ave	25.5	11/20/12	83%
A-12-005	8	101	12.32	S	San Martin Ave	25.5	11/20/12	83%
A-12-006	9	101	12.59	N	San Martin Ave	25.5	11/20/12	83%
A-12-007	10	101	14.93	S	Tennant Ave	25.5	11/20/12	83%
A-12-008	11	101	15.87	S	Dunne Ave	25.5	11/20/12	83%
A-12-009	12	101	16.18	N	Dunne Ave	25.5	11/20/12	83%
A-12-010	13	101	17.58	S	Cochrane Rd	25.5	11/20/12	83%
A-12-011	14	101	17.96	N	Cochrane Rd	25.5	11/20/12	83%

A-12-001

The boring describes the foundation soils as approximately 9 ft, very stiff lean clay over 5 feet medium stiff silt. The remainder of the boring describes the foundation soils as medium dense to dense clayey sand. The SPT blow count varies from 6 to 38.

A-12-002

The boring describes the foundation soils as approximately 19 ft, medium stiff to very stiff lean clay over 5 feet medium dense sand with clay and gravel. The remainder of the boring describes the foundation soils as dense clayey sand. The SPT blow count varies from 10 to 45.

A-12-003

The boring describes the foundation soils as approximately 8 ft, stiff lean clay over 5 feet poorly graded sand. The remainder of the boring describes the foundation soils as dense silty sand. The SPT blow count varies from 12 to 43.

A-12-004

The boring describes the foundation soils as approximately 14 ft, stiff lean clay. The remainder of the boring describes the foundation soils as medium dense to dense clayey sand. The SPT blow count varies from 11 to 50.

A-12-005

The boring describes the foundation soils as approximately 15 ft, very stiff sandy lean clay. The remainder of the boring describes the foundation soils as medium dense to dense silty sand. The SPT blow count varies from 11 to 47.

A-12-006

The boring describes the foundation soils as approximately 10 ft, stiff lean clay over 10 feet dense clayey sand. The remainder of the boring describes the foundation soils as dense sand with clay and gravel. The SPT blow count varies from 21 to 48.

A-12-007

The boring describes the foundation soils as approximately 10 ft, medium stiff sandy silt with gravel. The remainder of the boring describes the foundation soils as dense clayey sand with gravel. The SPT blow count varies from 20 to 29.

A-12-008

The boring describes the foundation soils as approximately 9 ft, medium stiff lean clay with sand. The remainder of the boring describes the foundation soils as dense silty sand. The SPT blow count varies from 15 to 50.

A-12-009

The boring describes the foundation soils as approximately 8 ft, medium stiff sandy lean clay over 5 feet dense poorly graded sand with gravel. The remainder of the boring describes the foundation soils as dense clayey sand. The SPT blow count varies from 17 to 45.

A-12-010

The boring describes the foundation soils as approximately 24 ft, medium dense well graded gravel with clay and sand. The remainder of the boring describes the foundation soils as dense clayey sand. The SPT count varies from 19 to 50.

A-12-011

The boring describes the foundation soils as medium dense to very dense poorly graded sand with silt and gravel to the remainder of the boring. The SPT blow count varies from 17 to 50.

Groundwater was not encountered in all borings. However, groundwater elevations fluctuate seasonally and may be encountered at higher elevations.

Ramp Meter Signals No. 1, 3, 4 and 15

Due to the site accessibility problems we were unable to drill at above signal locations. Information from as-built LOTBs were used to evaluate the foundation conditions for these signals. Please refer to the Attached Exhibit B for the as-built LOTBs which are near the RMS No. 1, 3, 4 and 15 sites

6. GEOTECHNICAL TESTING

6.1 Laboratory Testing

The laboratory testing program included unit weight tests, moisture content tests, gradation analyses, Atterberg limits tests, corrosion tests. Refer to Attached Exhibit C for the laboratory test results.

7. CORROSION EVALUATION

Corrosion studies were conducted in accordance with the requirements of California Test Method No. 643. The Department considers the site to be corrosive to foundation elements if one or more of the following conditions exist for the representative soil samples taken at the site:

> Chloride concentration is greater than or equal to 500 ppm, sulfate concentration is greater than or equal to 2000 ppm, or the pH is 5.5 or less.

The following table provides the corrosion test summary:

Table 3 - Summary of Corrosion Test

Boring	*Sample Depth*	*Resistivity (Ohm-Cm)*	*pH*	*Chloride Content (ppm)*	*Sulfate Content (ppm)*
A-12-001	4' to 9'	2229	7.4	N/A	N/A
A-12-002	4' to 8'	2091	7.2	N/A	N/A

A-12-003	4' to 9'	1704	7.4	N/A	N/A
A-12-005	5' to 10'	2995	7.6	N/A	N/A
A-12-007	5' to 10'	4716	7.4	N/A	N/A
A-12-008	5' to 10'	4736	7.2	N/A	N/A
A-12-010	5' to 10'	5673	7.7	N/A	N/A

Based on the test results above from the Materials Engineering Testing Services (METS) of Caltrans, the foundation soils at the proposed RMSs are considered non-corrosive. Refer to Attached Exhibit C for the laboratory test results.

8. FOUNDATION RECOMMENDATION

Based on the estimated soil parameters from our current and past geotechnical investigations, the foundation soils at some locations meet the soil criteria and at some locations, due to relatively soft foundation soil, do not quite meet the soil criteria specified in the Standard Plans. Therefore, we recommend that the design length of the 42 inch diameter CIDH pile for those signals which do not meet the specified soil criteria in the Standard Plans be increased by 3 feet. Refer to Table 4 for recommended pile lengths.

Table 4 Ramp Meter Signals Foundation Recommendations

RMS No.	Direction	Location	Post Mile	Post Type	CIDH Diameter	Length of CIDH Piles
1	SB	Monterey Rd	4.78	28-5-100	42"	15
2	SB	10th St/Rte 152	5.87	28-5-100	42"	15
3	NB	10th St/Rte 152	6.17	28-5-100	42"	15
4	SB	Leavesley Rd	7.25	28-5-100	42"	15
5	NB	Leavesley Rd	7.79	28-5-100	42"	15
6	SB	Mastern Ave	10.12	28-5-100	42"	12
7	NB	Masten Ave	10.43	60-5-100	42"	12
8	SB	San Martin Ave	12.32	28-5-100	42"	12
9	NS	San Martin Ave	12.59	28-5-100	42"	12
10	SB	Tennant Ave	14.93	28-5-100	42"	12
11	SB	Dunne Ave	15.87	28-5-100	42"	15
12	NB	Dunne Ave	16.18	28-5-100	42"	12
13	SB	Cochrane Rd	17.58	28-5-100	42"	12
14	NB	Cochrane Rd	17.96	28-5-100	42"	15
15	SB	Bernal Rd	26.74	28-5-100	42"	15

9. CONSTRUCTION CONSIDERATIONS

- CIDH piling shall conform to the provisions in Section 49-4, "Cast-in-Place Concrete Piles," of Standard Specifications.
- Difficult pile installation is anticipated due to the presence of caving soils.
- The contractor has the option to use a full-length temporary casing. The use of temporary casing will require that it be removed while the concrete is being placed in order to develop the expected pile capacity and to facilitate the casing removal.

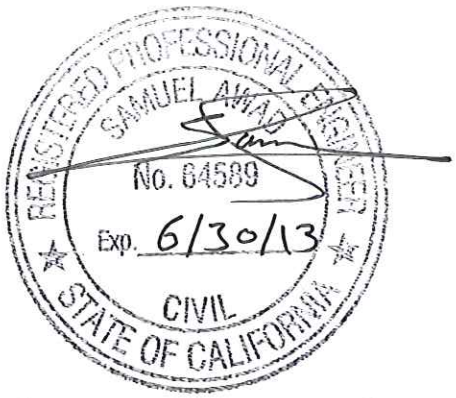
α α α α α

If you have any questions or need additional information, please call Samuel Awad at (510) 622-5443, or Hooshmand Nikoui, Branch Chief at (510) 286-4811.

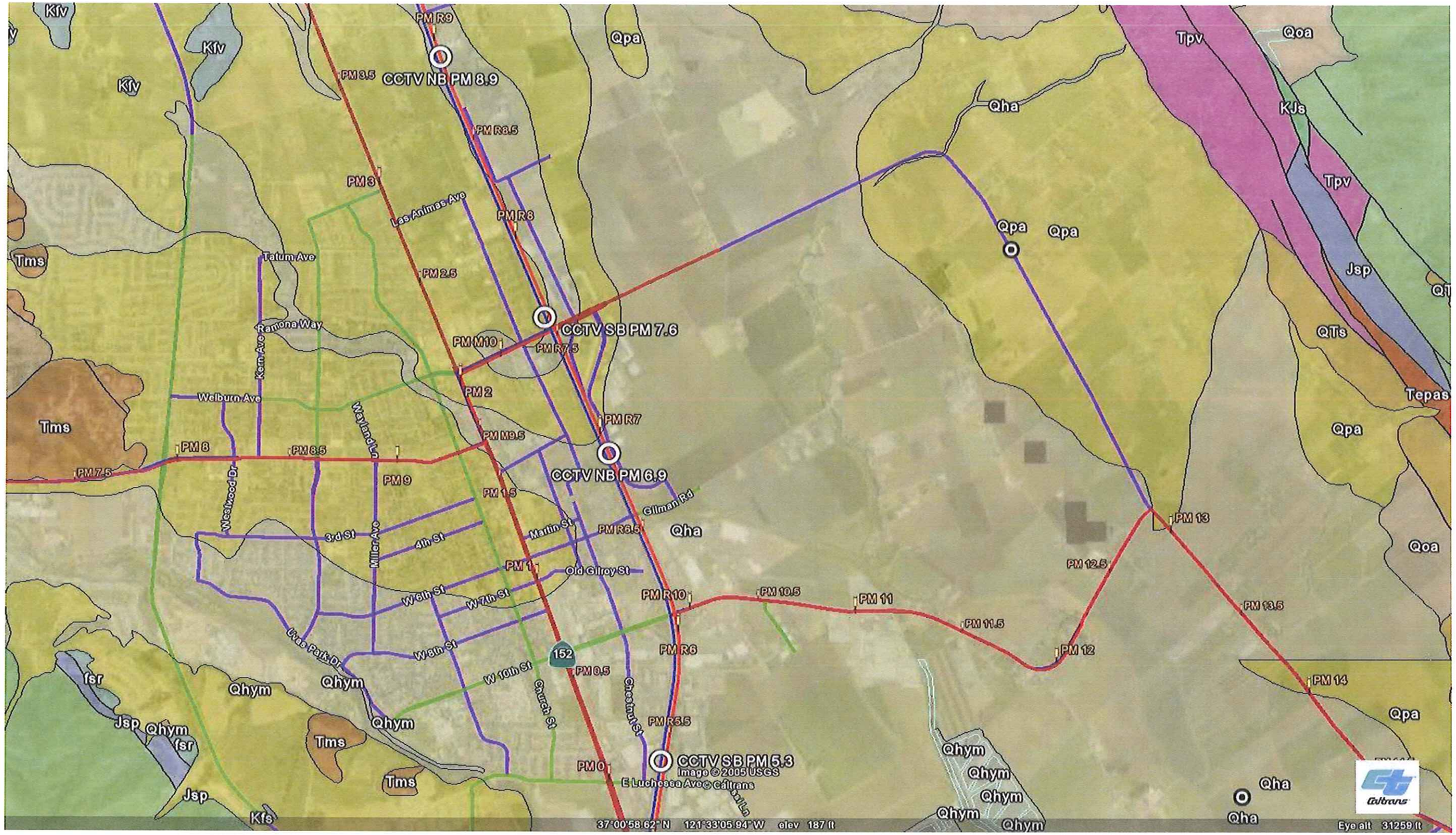
Attachments

c: TPokrywka, HNikoui, SAwad, Daily File, Project File

SAwad /mm/153501



FIGURES

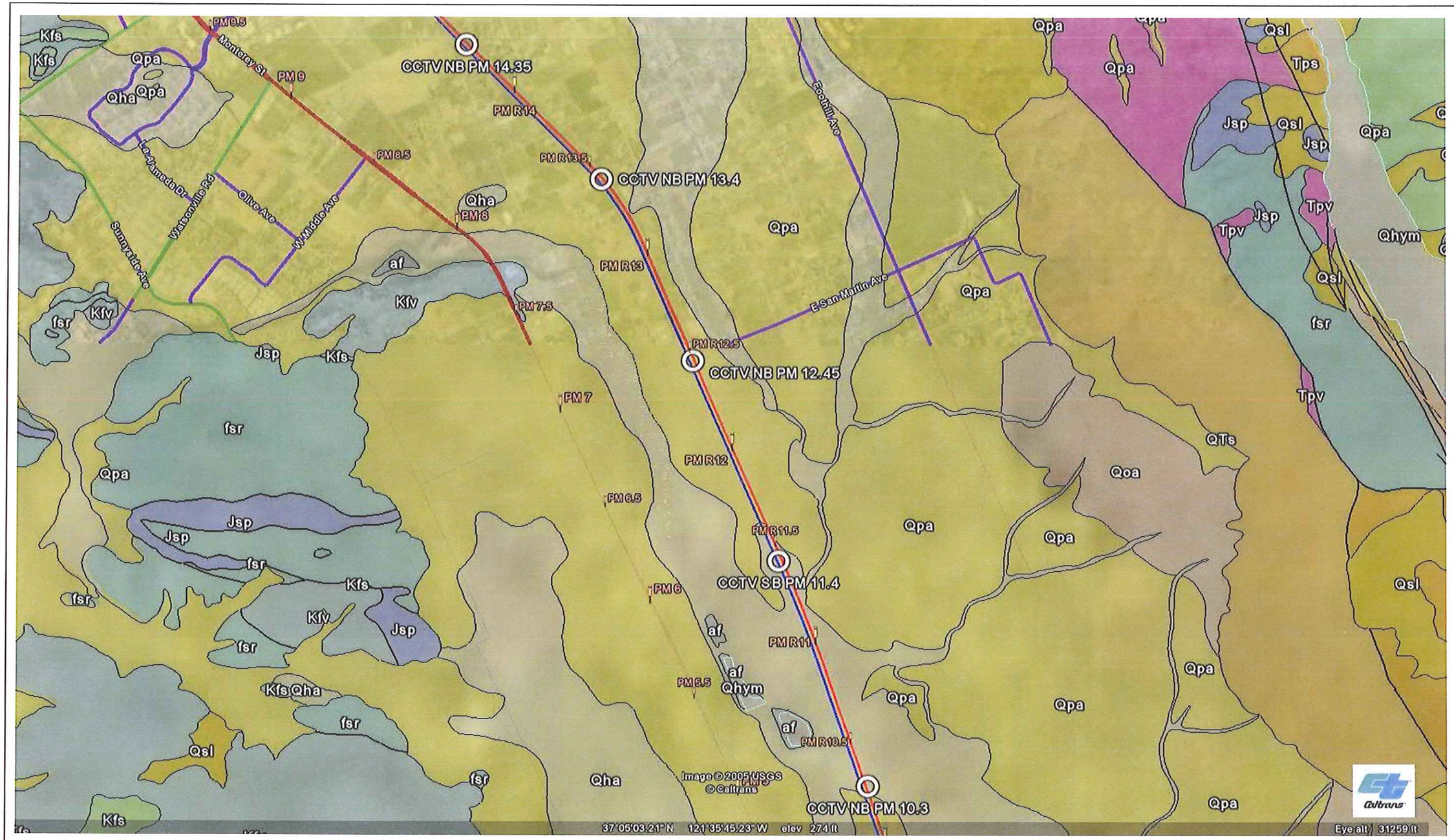


CCTV location

Qha – Holocene Alluvium
Qpa – Pleistocene Alluvium
Tps – Pliocene Sedimentary Rocks

U.S. Geological Survey Scientific Investigations Map 2918
Geologic Map of Santa Clara County, CA
http://geomaps.wr.usgs.gov/sfgeo/geologic/downloads.html

Geologic Map	
04-SCL-101	PM 0.0-26.7
EA 04-153301	December 2012



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U.S. Geological Survey Scientific Investigations Map 2918
Geologic Map of Santa Clara County, CA
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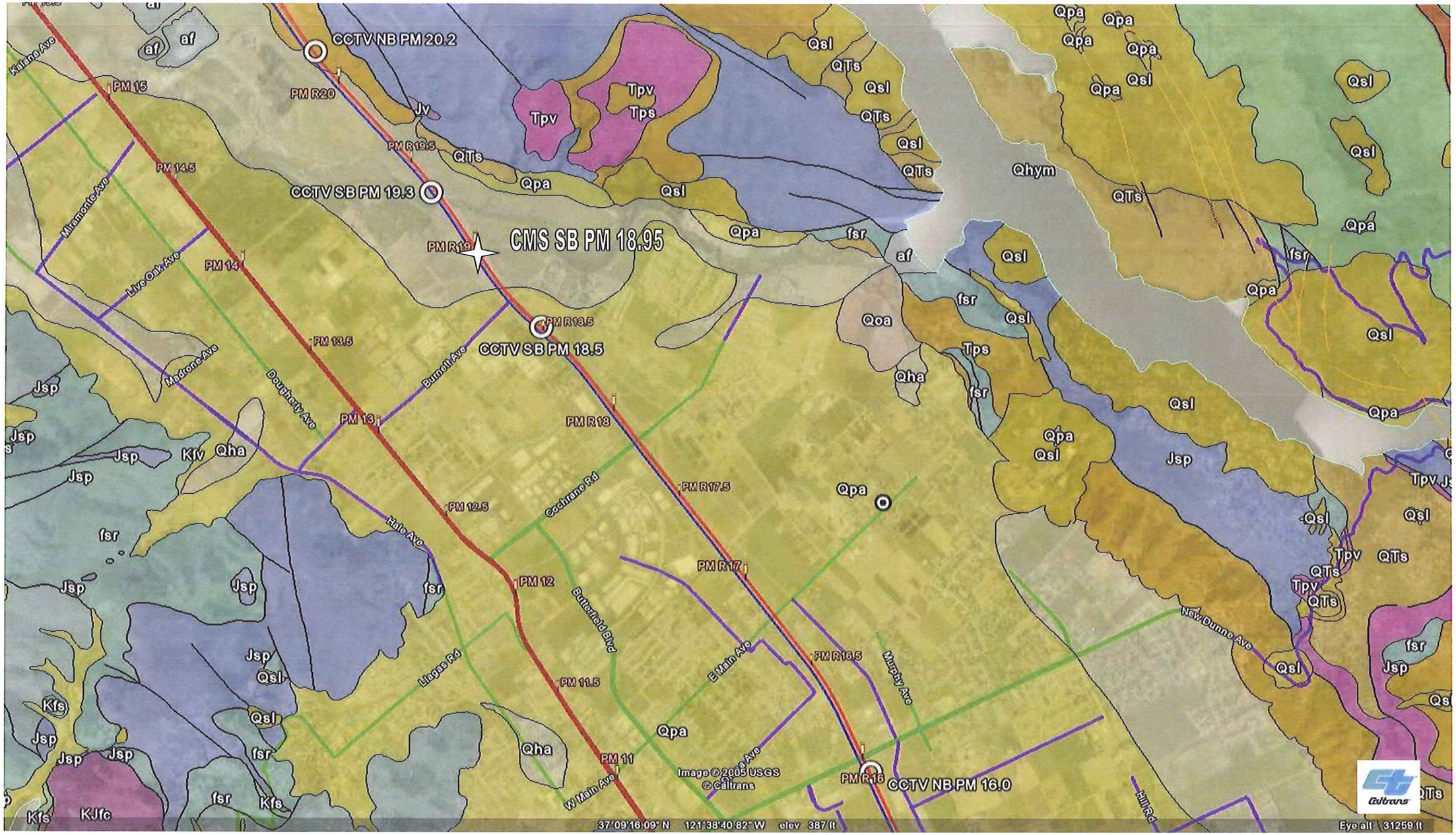
Geologic Map	
04-SCL-101	PM 0.0-26.7
EA 04-153301	December 2012



CCTV location

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U.S. Geological Survey Scientific Investigations Map 2918
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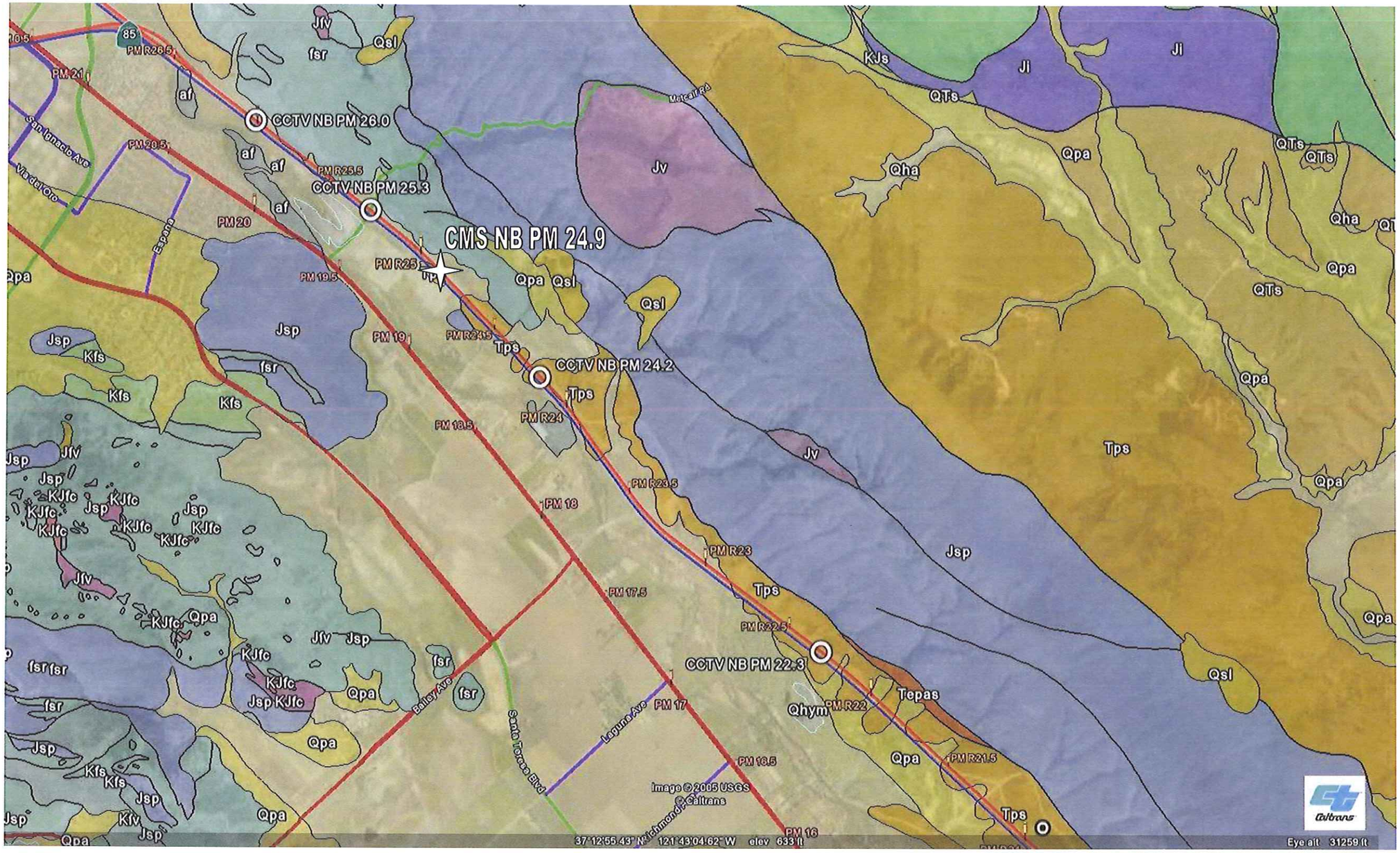
Geologic Map	
04-SCL-101	PM 0.0-26.7
EA 04-153301	December 2012

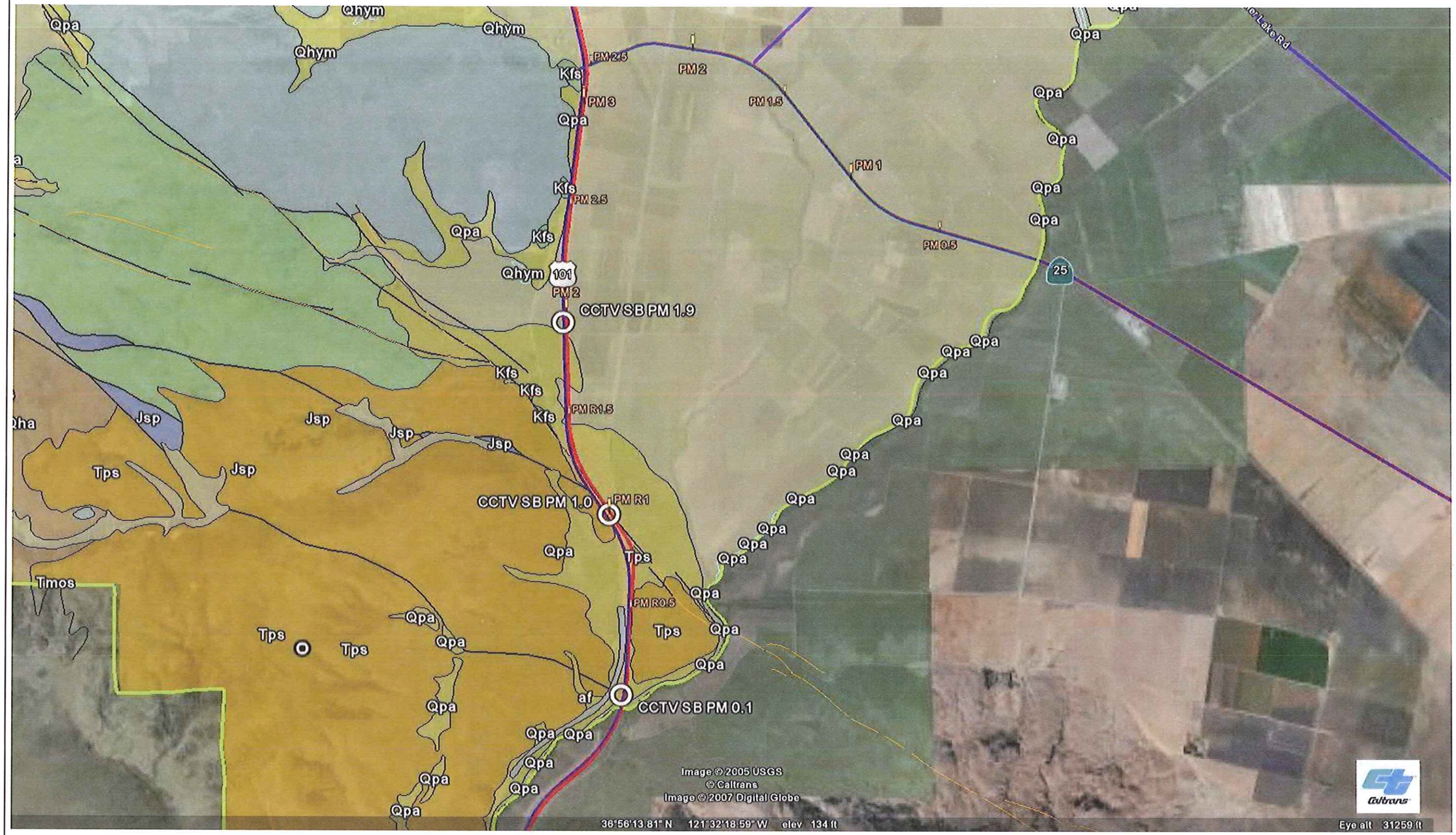


CCTV location

Qha – Holocene Alluvium
Qpa – Pleistocene Alluvium
Tps – Pliocene Sedimentary Rocks

U.S. Geological Survey Scientific Investigations Map 2918
Geologic Map of Santa Clara County, CA
http://geomaps.wr.usgs.gov/sfgeo/geologic/downloads.html

Caltrans	Geologic Map	
	04-SCL-101	PM 0.0-26.7
	EA 04-153301	December 2012



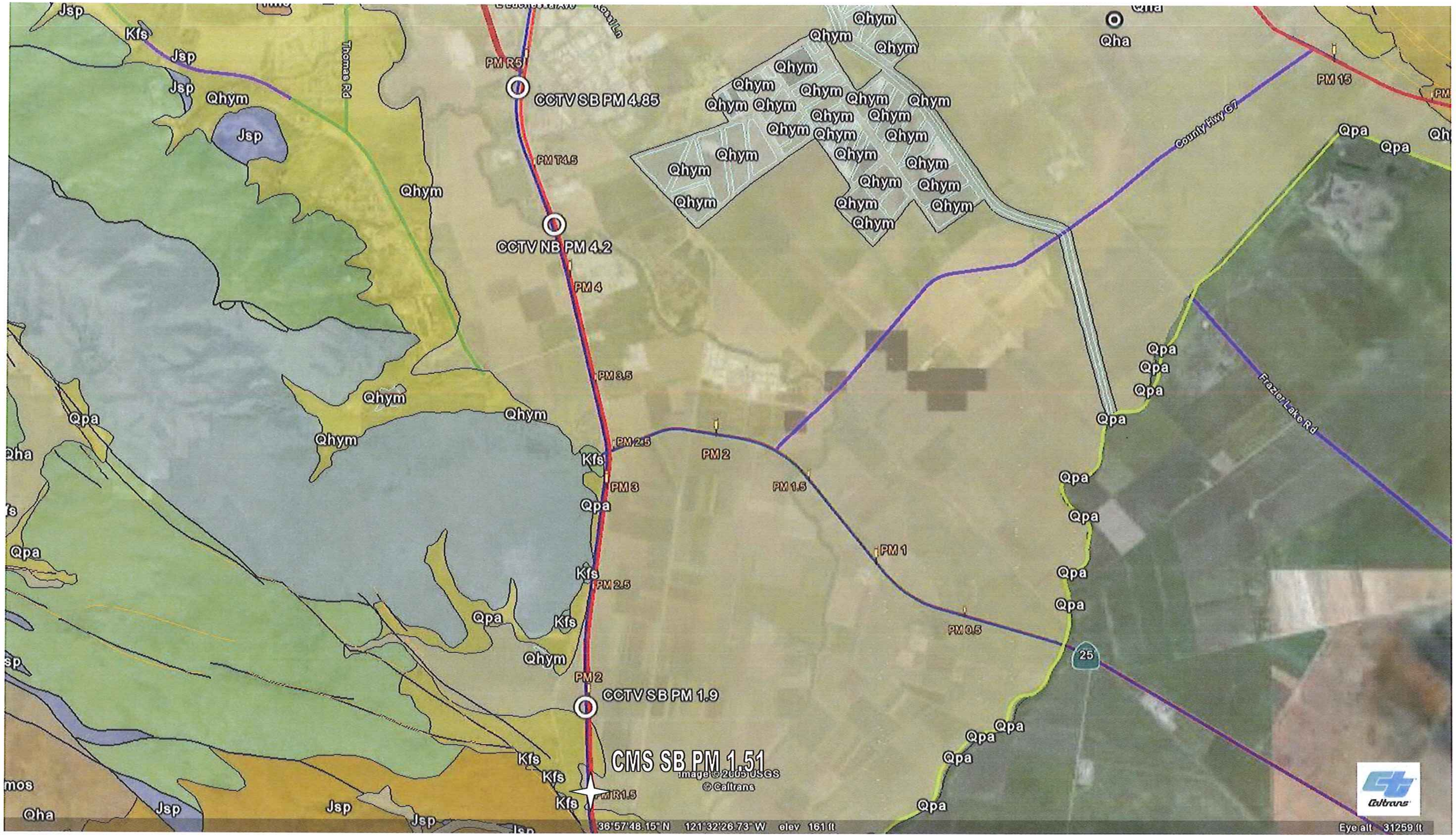
N

CCTV location

Qha – Holocene Alluvium
Qpa – Pleistocene Alluvium
Tps – Pliocene Sedimentary Rocks

U.S. Geological Survey Scientific Investigations Map 2918
Geologic Map of Santa Clara County, CA
http://geomaps.wr.usgs.gov/sfgeo/geologic/downloads.html

Caltrans	Geologic Map	
	04-SCL-101	PM 0.0-26.7
	EA 04-153301	December 2012



CCTV location

CMS location

Qha – Holocene Alluvium

Qpa – Pleistocene Alluvium

Tps – Pliocene Sedimentary Rocks

U.S. Geological Survey Scientific Investigations Map 2918

Geologic Map of Santa Clara County, CA

http://geomaps.wr.usgs.gov/sfgeo/geologic/downloads.html

Caltrans

Geologic Map

04-SCL-101 **PM 0.0-26.7**

EA 04-153301 **December 2012**

EXHIBIT A

(Table 5: Geologic Information)

Table 5: Ramp Meter Signals Geologic Information

RMS No.	State Route	Direction	PM	Geologic Unit(s)[1]	Unit Symble	Soil[2]	Map Soil Symble	Hydrologic Group[3]	Fault	Distance (km)miles	MMax	Peak Bedrock Acceleration	Landslides	USGS Quadrangle Sheet
1	101	S	4.78	**Alluvium (Holocene):** Alluvium deposited in fan, terrace, or basin environments. Typically, undifferentiated alluvial deposits are mapped in relatively flat, smooth valley bottoms along small- to medium-sized streams. Undifferentiated Holocene alluvial deposits probably are intercalated sand, silt, and gravel that are poorly to moderately sorted.	Qha	Yolo Loam	YaA	Group B	Calaveras fault zone (Central Calaveras section)	5.92 3.68	7.4	0.77*	Flat Land	Chittenden
2	101	S	5.87	**Alluvium (Holocene):** Alluvium deposited in fan, terrace, or basin environments. Typically, undifferentiated alluvial deposits are mapped in relatively flat, smooth valley bottoms along small- to medium-sized streams. Undifferentiated Holocene alluvial deposits probably are intercalated sand, silt, and gravel that are poorly to moderately sorted.	Qha	Campbell silty clay loam	Ca	Group C	Calaveras fault zone (Central Calaveras section)	5.84 3.63	7.4	0.78*	Flat Land	Gilroy
3	101	N	6.17	**Alluvium (Holocene):** Alluvium deposited in fan, terrace, or basin environments. Typically, undifferentiated alluvial deposits are mapped in relatively flat, smooth valley bottoms along small- to medium-sized streams. Undifferentiated Holocene alluvial deposits probably are intercalated sand, silt, and gravel that are poorly to moderately sorted.	Qha	Campbell silty clay loam	Ca	Group C	Calaveras fault zone (Central Calaveras section)	5.84 3.63	7.4	0.78*	Flat Land	Gilroy
4	101	S	7.25	**Alluvium (Pleistocene):** Undifferentiated latest Pleistocene alluvial deposits are mapped in small valleys where separate fan, basin, and terrace units could not be delineated at the mapping scale of this project. These undifferentiated latest Pleistocene alluvial deposits probably are intercalated sand, silt, and gravel that are poorly to moderately sorted.	Qpa	Zamora clay loam	ZbA	Group B	Calaveras fault zone (Central Calaveras section)	5.67 3.52	7.4	0.78*	Flat Land	Gilroy
5	101	N	7.79	**Alluvium (Pleistocene):** Undifferentiated latest Pleistocene alluvial deposits are mapped in small valleys where separate fan, basin, and terrace units could not be delineated at the mapping scale of this project. These undifferentiated latest Pleistocene alluvial deposits probably are intercalated sand, silt, and gravel that are poorly to moderately sorted.	Qpa	Pleasanton loam	PoA	Group B	Calaveras fault zone (Central Calaveras section)	5.54 3.44	7.4	0.78*	Flat Land	Gilroy
6	101	S	10.12	**Alluvium (Pleistocene):** Undifferentiated latest Pleistocene alluvial deposits are mapped in small valleys where separate fan, basin, and terrace units could not be delineated at the mapping scale of this project. These undifferentiated latest Pleistocene alluvial deposits probably are intercalated sand, silt, and gravel that are poorly to moderately sorted.	Qpa	Zamora clay loam	ZbA	Group B	Calaveras fault zone (Central Calaveras section)	5.07 3.15	7.4	0.77*	Flat Land	Gilroy
7	101	N	10.43	**Alluvium (Holocene):** Alluvium deposited in fan, terrace, or basin environments. Typically, undifferentiated alluvial deposits are mapped in relatively flat, smooth valley bottoms along small- to medium-sized streams. Undifferentiated Holocene alluvial deposits probably are intercalated sand, silt, and gravel that are poorly to moderately sorted.	Qha	Zamora loam	ZaA	Group B	Calaveras fault zone (Central Calaveras section)	5.07 3.15	7.4	0.77*	Flat Land	Gilroy
8	101	S	12.32	**Alluvium (Pleistocene):** Undifferentiated latest Pleistocene alluvial deposits are mapped in small valleys where separate fan, basin, and terrace units could not be delineated at the mapping scale of this project. These undifferentiated latest Pleistocene alluvial deposits probably are intercalated sand, silt, and gravel that are poorly to moderately sorted.	Qpa	Rincon clay loam	RaA	Group D	Calaveras fault zone (Central Calaveras section)	4.66 2.90	7.4	0.77*	Flat Land	Gilroy
9	101	N	12.59	**Alluvium (Pleistocene):** Undifferentiated latest Pleistocene alluvial deposits are mapped in small valleys where separate fan, basin, and terrace units could not be delineated at the mapping scale of this project. These undifferentiated latest Pleistocene alluvial deposits probably are intercalated sand, silt, and gravel that are poorly to moderately sorted.	Qpa	Rincon clay loam	RaA	Group D	Calaveras fault zone (Central Calaveras section)	4.66 2.90	7.4	0.77*	Flat Land	Gilroy
10	101	S	14.93	**Alluvium (Pleistocene):** Undifferentiated latest Pleistocene alluvial deposits are mapped in small valleys where separate fan, basin, and terrace units could not be delineated at the mapping scale of this project. These undifferentiated latest Pleistocene alluvial deposits probably are intercalated sand, silt, and gravel that are poorly to moderately sorted.	Qpa	Pleasanton loam	PoA	Group B	Calaveras fault zone (Central Calaveras section)	5.21 3.24	7.4	0.75*	Flat Land	Mount Madonna
11	101	S	15.87	**Alluvium (Pleistocene):** Undifferentiated latest Pleistocene alluvial deposits are mapped in small valleys where separate fan, basin, and terrace units could not be delineated at the mapping scale of this project. These undifferentiated latest Pleistocene alluvial deposits probably are intercalated sand, silt, and gravel that are poorly to moderately sorted.	Qpa	Arbuckle gravelly loam	ArA	Group B	Silver Creek fault	4.41 2.74	7.1	0.76*	Flat Land	Morgan Hill
12	101	N	16.18	**Alluvium (Pleistocene):** Undifferentiated latest Pleistocene alluvial deposits are mapped in small valleys where separate fan, basin, and terrace units could not be delineated at the mapping scale of this project. These undifferentiated latest Pleistocene alluvial deposits probably are intercalated sand, silt, and gravel that are poorly to moderately sorted.	Qpa	Arbuckle gravelly loam	ArA	Group B	Silver Creek fault	4.41 2.74	7.1	0.76*	Flat Land	Morgan Hill
13	101	S	17.58	**Alluvium (Pleistocene):** Undifferentiated latest Pleistocene alluvial deposits are mapped in small valleys where separate fan, basin, and terrace units could not be delineated at the mapping scale of this project. These undifferentiated latest Pleistocene alluvial deposits probably are intercalated sand, silt, and gravel that are poorly to moderately sorted.	Qpa	Arbuckle gravelly loam	ArA	Group B	Silver Creek fault	2.74 1.70	7.1	0.74*	Flat Land	Morgan Hill
14	101	N	17.96	**Alluvium (Pleistocene):** Undifferentiated latest Pleistocene alluvial deposits are mapped in small valleys where separate fan, basin, and terrace units could not be delineated at the mapping scale of this project. These undifferentiated latest Pleistocene alluvial deposits probably are intercalated sand, silt, and gravel that are poorly to moderately sorted.	Qpa	Arbuckle gravelly loam	ArA	Group B	Silver Creek fault	2.42 1.50	7.1	0.74*	Flat Land	Morgan Hill
15	101	S	26.74	**Alluvium (Holocene):** Alluvium deposited in fan, terrace, or basin environments. Typically, undifferentiated alluvial deposits are mapped in relatively flat, smooth valley bottoms along small- to medium-sized streams. Undifferentiated Holocene alluvial deposits probably are intercalated sand, silt, and gravel that are poorly to moderately sorted.	Qha	Urban land-Elpaloalto complex	131	Group C	Silver Creek fault	2.99 1.86	7.1	0.66	Flat Land	Santa Teresa Hills

1. http://pubs.usgs.gov/of/2006/1037/of06-1037_3c.pdf
2. Soil maps can be provided upon request
3.Group B—Soils in this group have moderately low runoff potential when thoroughly wet. Water transmission through the soil is unimpeded. Group B soils typically have between 10 percent and 20 percent clay and 50 percent to 90 percent sand and have loamy sand or sandy loam textures.
Group C—Soils in this group have moderately high runoff potential when thoroughly wet. Water transmission through the soil is somewhat restricted. Group C soils typically have between 20 percent and 40 percent clay and less than 50 percent sand and have loam, silt loam, sandy clay loam, clay loam, and silty clay loam textures.
Group D—Soils in this group have high runoff potential when thoroughly wet. Water movement through the soil is restricted or very restricted. Group D soils typically have greater than 40 percent clay, less than 50 percent sand, and have clayey textures. In some areas, they also have high shrink-swell potential.

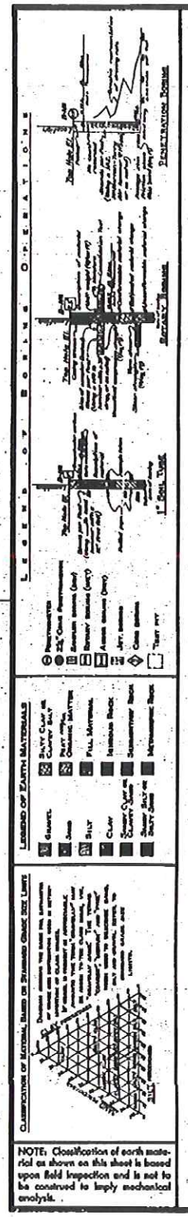
* Probabilistic Model USGS Seismic Hazard Map(2008) 975 Year Return Period

EXHIBIT B

(As-built LOTBs)

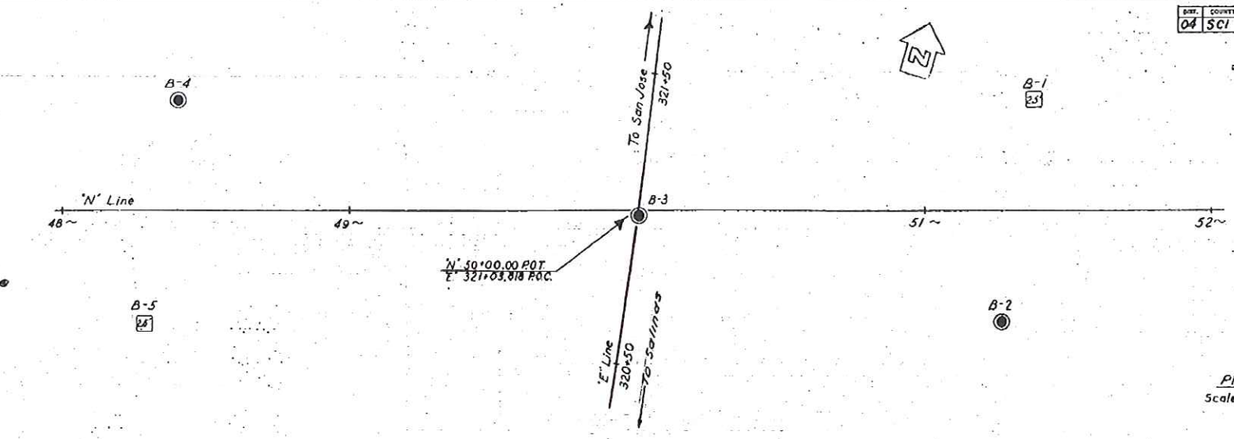
DIST.	COUNTY	ROUTE	POST MILES—TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCl	101	4.0/R8.0	206	234

Gary A. Hall
DESIGN & CONSTRUCTION OFFICE — REGISTERED CIVIL ENGINEER NO. 7[illegible]
DATE APPROVED December 14, 1970



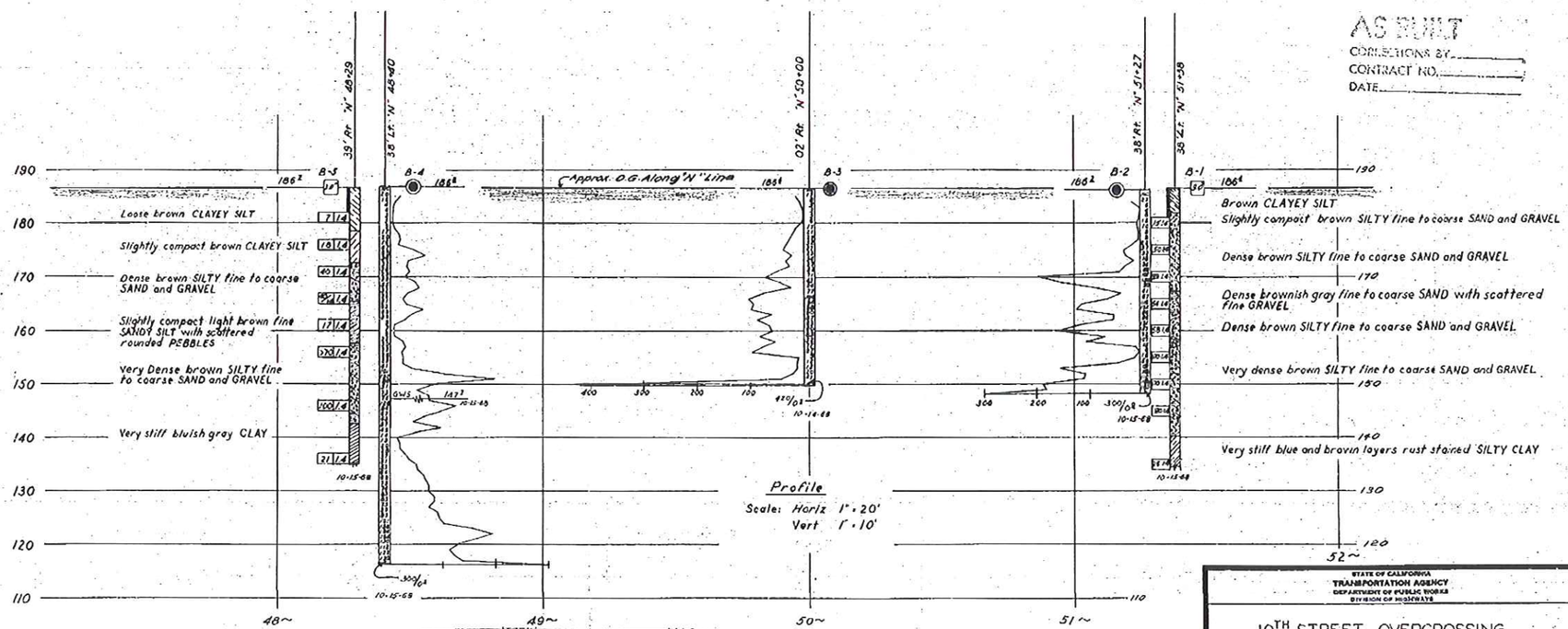
206

BRIDGE DEPARTMENT
ENGINEERING GEOLOGY SECTION



Plan
Scale: 1" = 20'

AS BUILT
CORRECTIONS BY
CONTRACT NO.
DATE



STATE OF CALIFORNIA
TRANSPORTATION AGENCY
DEPARTMENT OF PUBLIC WORKS
DIVISION OF HIGHWAYS

10TH STREET OVERCROSSING

LOG OF TEST BORINGS

BRIDGE No.	POST MILE	DRAWING No.	SHEET	OF
37-325	6.1		9	9

AS BUILT PLANS
Contract No. 04-117334
Date Completed
Document No. 04 000 6586

WO 117331
CU 04220 PR 37 325-2

Disregard prints bearing earlier revision dates

REVISION DATES	PRELIMINARY PLANS ONLY
11/14/72	

I HEREBY CERTIFY THAT THIS IS A TRUE AND ACCURATE COPY OF THE ABOVE DOCUMENT TAKEN UNDER MY DIRECTION AND CONTROL ON THIS DATE IN SACRAMENTO, CALIFORNIA PURSUANT TO AUTHORIZATION BY THE DIRECTOR OF TRANSPORTATION.
DATE 1/29/75 SIGNED Richard Nordstrom — Microfilm Supervisor

MICROFILM - STATE OF CALIFORNIA - DEPARTMENT OF PUBLIC WORKS - MICROFILM

ClibPDF - www.fastio.com

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SCI	152	M9.4–M10.1	73	78

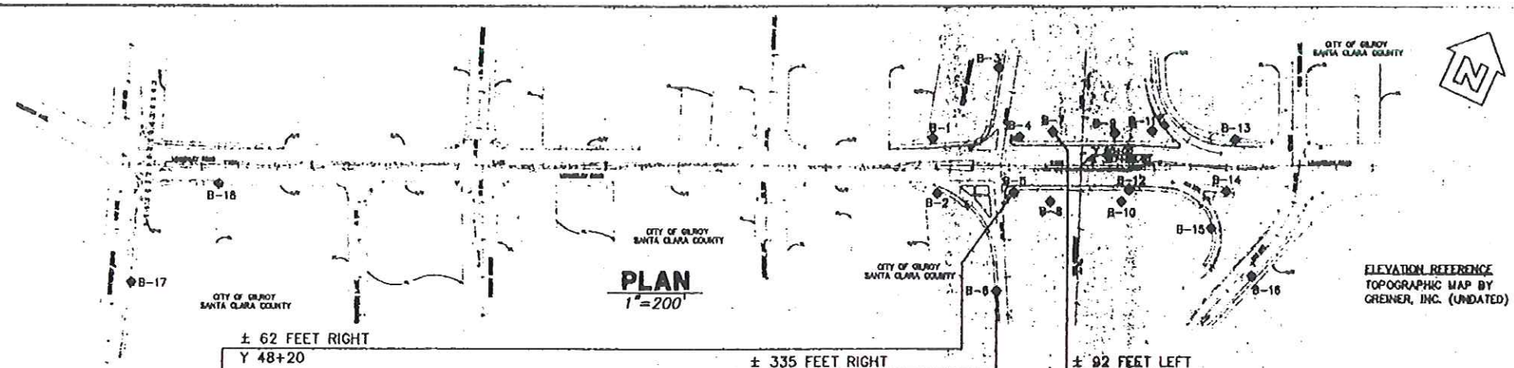
REGISTERED CIVIL ENGINEER

PLANS APPROVAL DATE

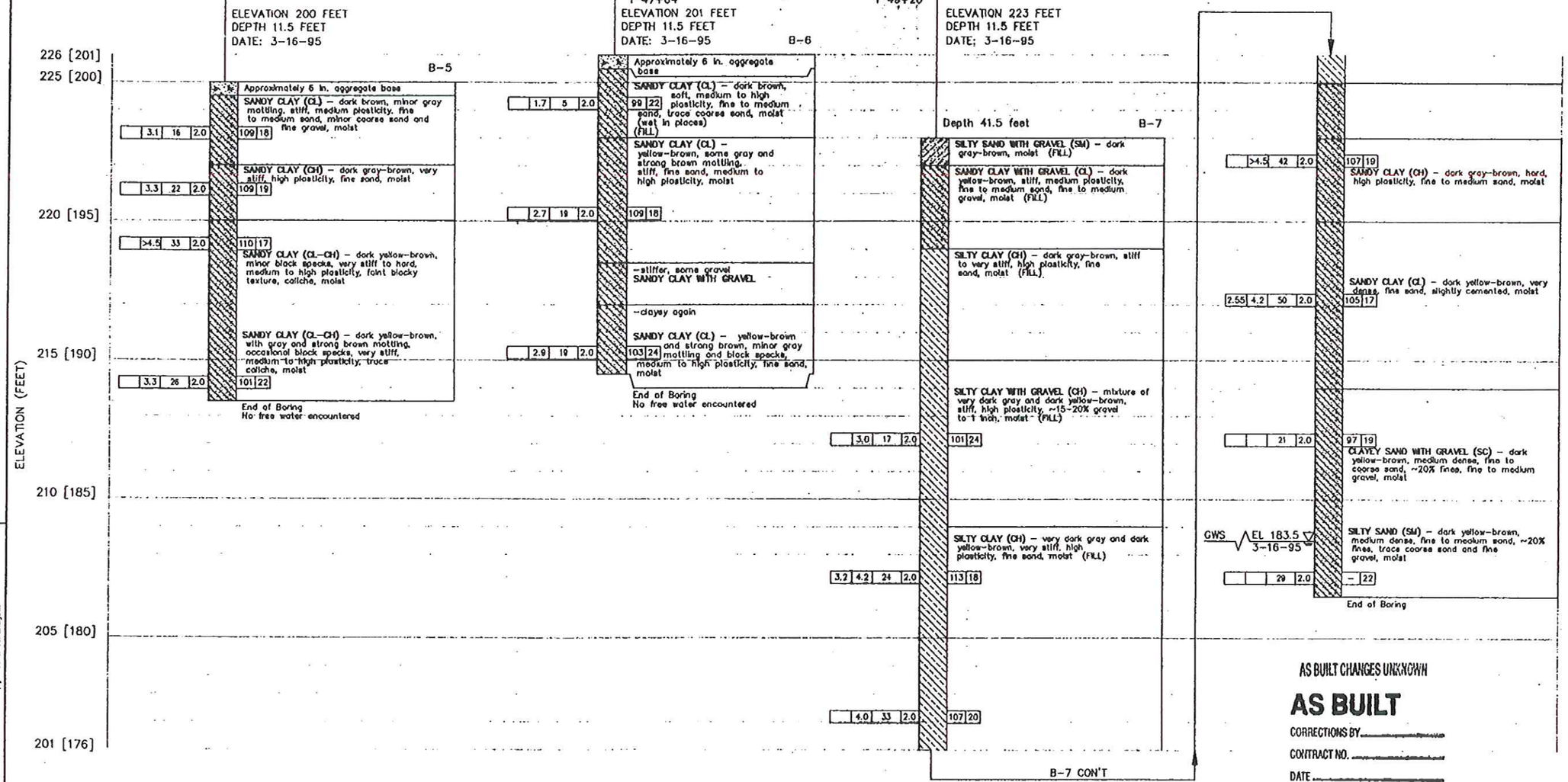
REGISTERED PROFESSIONAL ENGINEER Gregory J. Ruf No. 36389 Exp. 9-30-99 CIVIL STATE OF CALIFORNIA

CITY OF GILROY
7351 ROSANNA STREET
GILROY, CA 95020

KLEINFELDER, INC.
1362 RIDDER PARK DRIVE
SAN JOSE, CA 95131



ELEVATION REFERENCE
TOPOGRAPHIC MAP BY GRENNER, INC. (UNDATED)



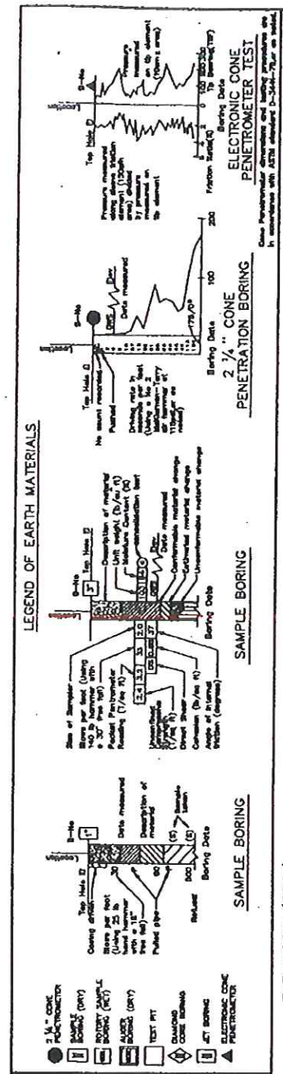
AS BUILT CHANGES UNKNOWN

AS BUILT

CORRECTIONS BY

CONTRACT NO.

DATE



NOTE:
Classification of earth material as shown on this sheet is based upon field inspection and is not to be construed as every mechanical analysis.

GREGORY J. RUF, Sr. PROJECT ENGINEER	DRAWN BY	L. DANG/B. WALKER	DANIEL J. PELUSO
DESIGN OVERSIGHT	CHECKED BY	DANIEL J. PELUSO	FIELD INVESTIGATOR
SIGN OFF DATE			DATE MARCH 1995

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

Ramagel
PROJECT ENGINEER

BRIDGE NO.

POST MILE

LEAVESLEY ROAD RETAINING WALLS
LOG OF TEST BORINGS No. 2

KLEINFELDER
PROJECT NUMBER: 12-300570

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 04
EA 160801

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY) XX

SHEET 6 OF 11

CADD FILE: 00/08-1 DATE 10-16-95

ClibPDF - www.fastio.com

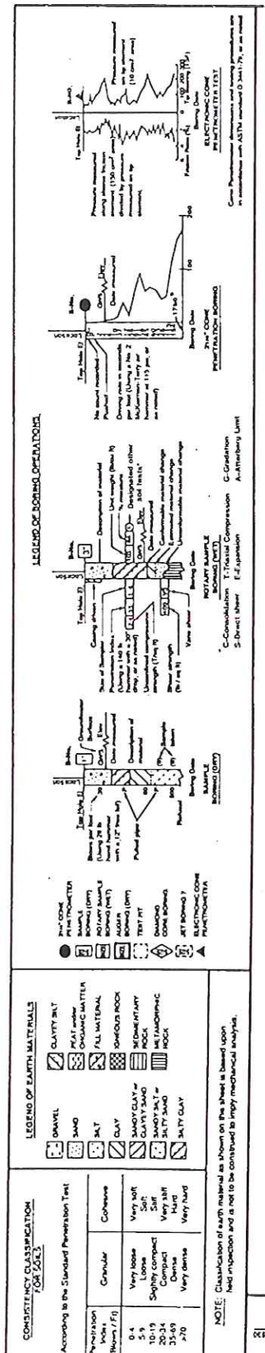
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SCI	85, 101	0.0/6.1, R25.5/R27.2	264	266

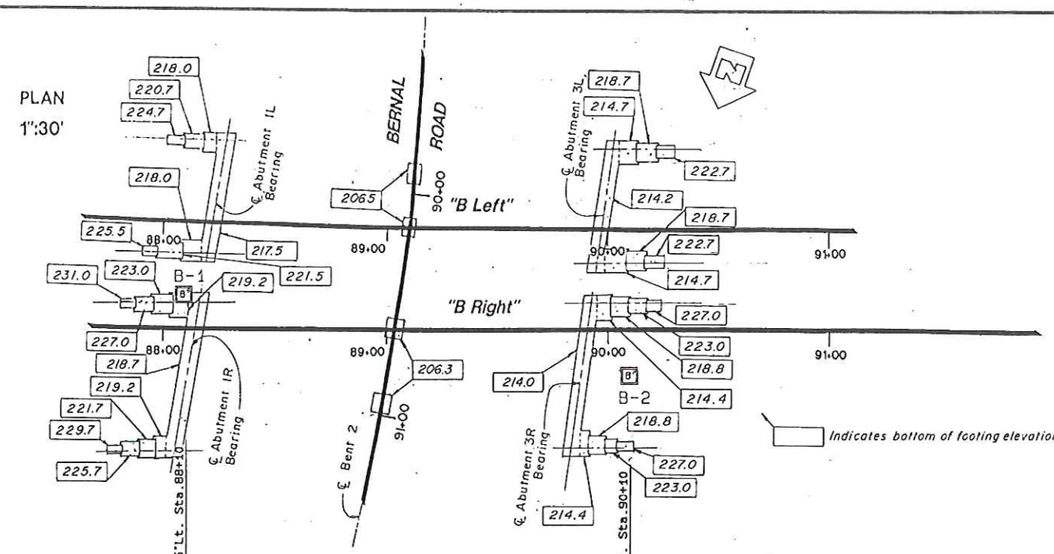
7-13-92
PLANS APPROVAL DATE

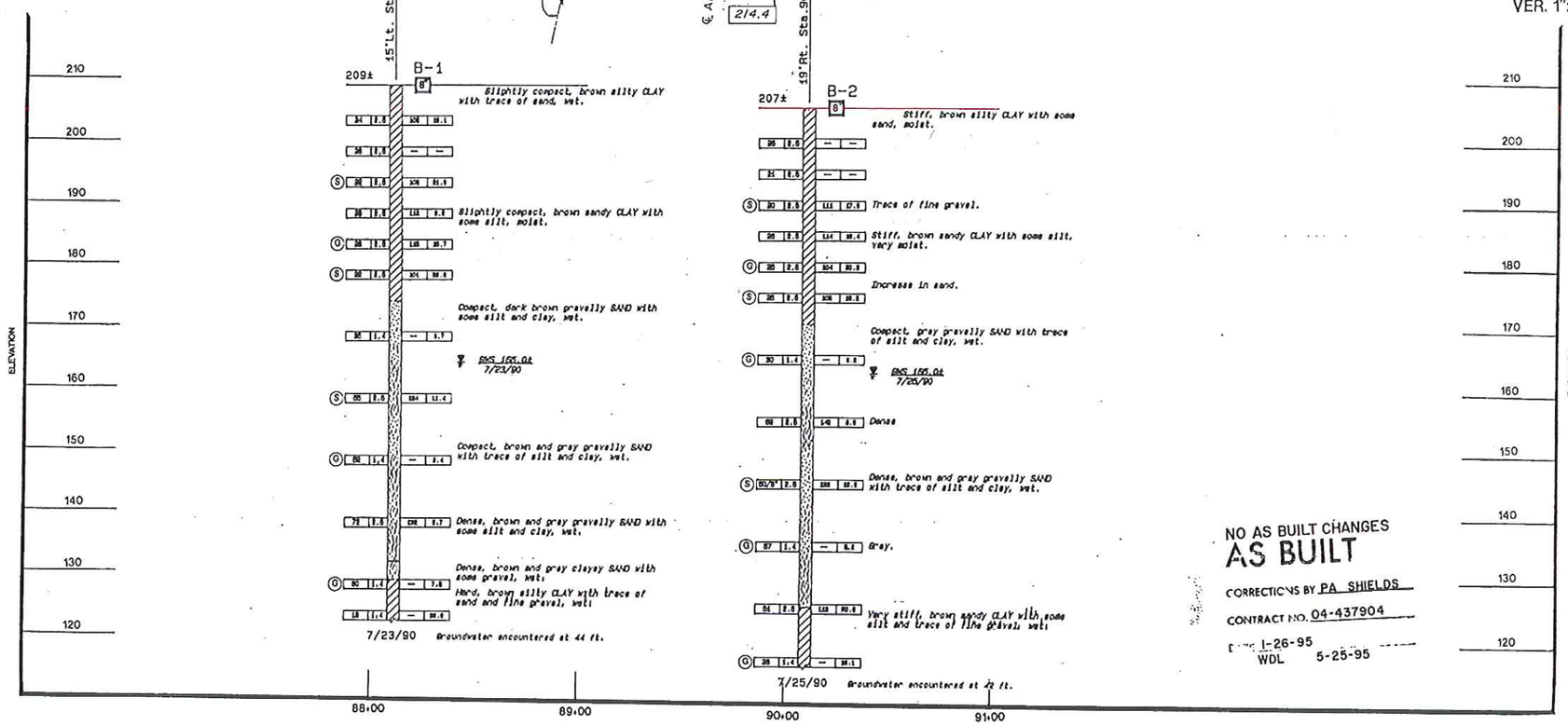
GARY PARIKH
R.E. 666
Exp 12-31-93
GEOTECHNICAL
STATE OF CALIFORNIA

PEC ASSOCIATES INC.
200 BLOSSOM LANE
MOUNTAIN VIEW, CALIFORNIA

BENCH MARK
LSB2 CHC Brass Disk in Conc Mon. in Median Island at Bernal Rd. East of Proposed Rte. 85. Elev. 212.67







NO AS BUILT CHANGES
AS BUILT
CORRECTIONS BY PA SHIELDS
CONTRACT NO. 04-437904
1-26-95
WDL 5-25-95

PSC PROJECT # 90123.10

DESIGN OVERSIGHT	DRAWN BY	FIELD INVESTIGATOR	PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	PROJECT ENGINEER	BRIDGE NO. 37-547R/L
3/30/92	CHECKED BY	DATE 1/15/1991			POST MILE 0.0

BERNAL ROAD UNDERCROSSING

LOG OF TEST BORINGS

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 04283
EA 437901

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY) 3/92 7/92 3/10

SHEET 23 OF 23

ClibPDF - www.fastio.com

EXHIBIT C

(Laboratory Test Result)

STATE OF CALIFORNIA • DEPARTMENT OF TRANSPORTATION

REPORT OF TESTS ON SOILS, BASES & SUBBASES

TL-0361 (REV. 1/96)

FRONT

ATTACH FORM DCR-TL-101 HERE

680

TEST NO.	DATE RECEIVED	APPROVED BY	☐ DIS. MAT'LS. ENGR. ☐ TRANS. LAB
7950-10P	NOV 27 2012		☐ RESIDENT ENGINEER
	CALC. BY	DATE REPORTED 12/11/12	☐

GRADING ANALYSIS

SIEVE	AS RECEIVED	RET. CR.	ADJ. OR COMB. GRADE	AS USED	☐ SPECIF. LIMITS ☐ SOUGHT
75 mm					
63 mm					
50 mm					
37.5mm					
25.0 mm					
19.0 mm					
12.5 mm					
9.5 mm					
4.75 mm					
2.36 mm					
1.18 mm					
600 µm					
300 µm					
150 µm					
75 µm					
5 µm					
1 µm					

REMARKS:

RESISTIVITY = 2229

PH = 7.4

REPORT OF TESTS ON

Foundation Soil (Corrosion)

IF CONTRACT, USE CONTRACT ITEM

SOURCE	CHARGE	EXPENDITURE AUTHORIZATION

SPECIAL DESIGNATION (USE WHEN APPLICABLE)	ACTIVITY OR OBJECT	SUBJOB

TEST SPECIMEN	A	B	C	D	E
BATCH MASS					
DATE TESTED					
COMPACTOR FOOT PRESSURE kPA					
INITIAL MOISTURE %					
SOAK WATER mL					
WATER ADDED-mL (TOTAL)					
WATER ADDED %					
MOISTURE AT COMPACTION %					
WET. WT. OF BRIQUETTE -gms					
HEIGHT OF BRIQUETTE -mm					
DRY DENSITY OF BRIQ.-kg/m³					
STABILOMETER P_H AT 8900 N-kPa					
DISPLACEMENT					
R-VALUE BY STABILOMETER					
EXUDATION PRES. MPa					
THICK. BY STAB. mm					
EXPANSION DIAL READING-mm					
THICK. BY EXP. PRESS. mm					

TEST RESULTS			SPEC.	SP. GR.	☐ BULK (OVEN DRY) ☐ BULK (SSD) ☐ APPARENT
LL.	P.L.	P.I.			
CV					

				FINE	COARSE
SURFACE	S.E.	AS REC'D.		AS REC'D	
BASE		CRUSHED		CRUSHED	
SUBBASE		COMBINED		REL. COMPACTION DATA	
	LART	GRADE 100 REV.			IN PLACE / OPTIMUM
GRAVEL EQUIVALENT FACTOR		500 REV.		DENSITY	
TRAFFIC INDEX	DUR.	D_1		MOISTURE	
R VALUE: EXUDATION PRESSURE		D_0		% REL. COMP.	
EXPANSION PRESSURE		% CRUSHED PARTICLES		SPEC.	
AT EQUILIBRIUM SPEC.		% MOISTURE BY O.D.			

INDICATED MINIMUM THICKNESS OF COVER FOR ABOVE CONDITIONS - m

DISTRICT 4 LABORATORY
325 SAN BRUNO AVENUE
SAN FRANCISCO, CA 94103

12/11/12

STATE OF CALIFORNIA • DEPARTMENT OF TRANSPORTATION

SAMPLE IDENTIFICATION CARD

TL-0101 (REV. 10/97)

CARD NUMBER C 633323

☐ PRELIMINARY TESTS
☐ PROCESS TESTS
☐ ACCEPTANCE TESTS
INDEPENDENT ASSURANCE TESTS
☐ DIST. LAB
☐ TRANS. LAB
☐ SPECIAL TESTS

SAMPLE SENT TO:
☐ HDQTRS. LAB
☐ BRANCH LAB
☐ DIST. LAB

FIELD NO.
DIST. LAB NO.
LOT NO.
SHIPMENT NO.
P.O. OR REQ. NO.
AUTHORIZATION NO.

SAMPLE OF: Soil
FOR USE IN: Foundation
SAMPLE FROM: A-12-001 @ 1x-9'
DEPTH
LOCATION OF SOURCE

680

THIS SAMPLE IS SHIPPED IN (NO. CONTAINERS) | AND IS ON E OF A GROUP OF | SAMPLES REPRESENTING (TONS, GALS, BALS, STA, ETC.)

OWNER OR MANUFACTURER

TOTAL QUANTITY AVAILABLE | TEST RESULTS DESIRED ☑ NORMAL ☐ PRIORITY | DATE NEEDED

REMARKS:

Corrosion test

TL101 Recieved 11/27/12 Venn.

COVER ADDITIONAL INFORMATION WITH LETTER

DATE SAMPLEED

BY: S. Awad TITLE

DIST, CO, RTE, PM: 04-SCL-101-PM 0.0/26.7

LIMITS

CONT. NO.: 04-153301

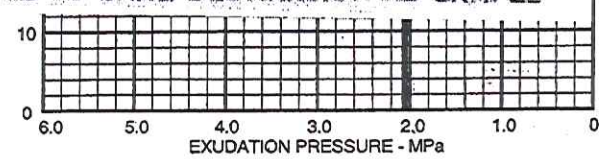
FED. NO.

RES. ENGR. OR SUPT.

ADDRESS

CONTRACTOR

MAIL TO SAME DESTINATION AS SAMPLE



STATE OF CA RNIA • DEPARTMENT OF TRANSPORTATION

REPORT OF TESTS ON SOILS, BASES & SUBBASES

TL-0361 (REV. 1/96)

TEST NO.	DATE RECEIVED	APPROVED BY	
7950-9P	NOV 27 2012		☐ DIS. MAT'LS. ENGR. ☐ TRANS. LAB
	CALC. BY	DATE REPORTED 12/11/12	☐ RESIDENT ENGINEER

GRADING ANALYSIS

SIEVE	AS RECEIVED	RET. CR.	ADJ. OR COMB. GRADE	AS USED	☐ SPECIF. LIMITS ☐ SOUGHT
75 mm					
63 mm					
50 mm					
37.5mm					
25.0 mm					
19.0 mm					
12.5 mm					
9.5 mm					
4.75 mm					
2.36 mm					
1.18 mm					
600 µm					
300 µm					
150 µm					
75 µm					
5 µm					
1 µm					

REMARKS:

RESISTIVITY = 2091

PH = 7.2

REPORT OF TESTS ON

Foundation Soil (Corrosion)

IF CONTRACT, USE CONTRACT ITEM

SOURCE	CHARGE	EXPENDITURE AUTHORIZATION

SPECIAL DESIGNATION (USE WHEN APPLICABLE)	ACTIVITY OR OBJECT	SUBJOB

TEST SPECIMEN	A	B	C	D	E
BATCH MASS					
DATE TESTED					
COMPACTOR FOOT PRESSURE kPA					
INITIAL MOISTURE %					
SOAK WATER mL					
WATER ADDED-mL (TOTAL)					
WATER ADDED %					
MOISTURE AT COMPACTION %					
WET. WT. OF BRIQUETTE -gms					
HEIGHT OF BRIQUETTE -mm					
DRY DENSITY OF BRIQ.-kg/m³					
STABILOMETER P_H AT 8900 N-kPa					
DISPLACEMENT					
R-VALUE BY STABILOMETER					
EXUDATION PRES. MPa					
THICK. BY STAB. mm					
EXPANSION DIAL READING-mm					
THICK. BY EXP. PRESS. mm					

TEST RESULTS	SPEC.	SP. GR. ☐ BULK (OVEN DRY) ☐ BULK (SSD) ☐ APPARENT	FINE	COARSE
LL. P.L. P.I.				
CV				

SURFACE	S.E.	AS REC'D.		AS REC'D	
BASE		CRUSHED		CRUSHED	
SUBBASE		COMBINED		REL. COMPACTION DATA	
	LART	GRADE 100 REV.			IN PLACE / OPTIMUM
GRAVEL EQUIVALENT FACTOR		500 REV.		DENSITY	
TRAFFIC INDEX	DUR.	D_1		MOISTURE	
R VALUE: EXUDATION PRESSURE		D_2		% REL. COMP.	
EXPANSION PRESSURE		% CRUSHED PARTICLES		SPEC.	
AT EQUILIBRIUM SPEC.		% MOISTURE BY O.D.			

INDICATED MINIMUM THICKNESS OF COVER FOR ABOVE CONDITIONS - m

DISTRICT 4 LABORATORY
325 SAN BRUNO AVENUE
SAN FRANCISCO, CA 94103

12/11/12

FRONT

ATTACH FORM DCR-TL-101 RE

680

STATE OF CALIFORNIA • DEPARTMENT OF TRANSPORTATION

SAMPLE IDENTIFICATION CARD

TL-0101 (REV. 10/97)

CARD NUMBER C633322

☐ PRELIMINARY TESTS
☐ PROCESS TESTS
☐ ACCEPTANCE TESTS
☐ INDEPENDENT ASSURANCE TESTS
☐ DIST. LAB
☐ TRANS. LAB
☐ SPECIAL TESTS

SAMPLE SENT TO: ☐ HDQTRS. LAB ☐ BRANCH LAB ☐ DIST. LAB

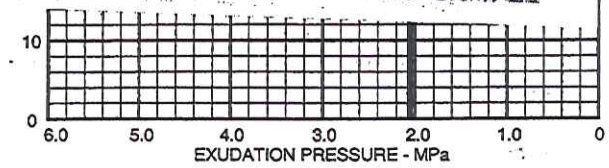
FIELD NO.
DIST. LAB NO.
LOT NO.
SHIPMENT NO.
P.O. OR REQ. NO.
AUTHORIZATION NO.

SAMPLE OF: Soil
FOR USE IN: Foundation
SAMPLE FROM: A-12-002
DEPTH: @ 1x-8'
LOCATION OF SOURCE:

80

THIS SAMPLE IS SHIPPED IN (NO. CONTAINERS): | AND IS ONE OF A GROUP OF | SAMPLES REPRESENTING (TONS, GALS., BELS, STA, ETC.)
OWNER OR MANUFACTURER
TOTAL QUANTITY AVAILABLE | TEST RESULTS DESIRED ☒ NORMAL ☐ PRIORITY | DATE NEEDED
REMARKS: Corrosion test
TL 101 Revised 11/27/12
COVER ADDITIONAL INFORMATION WITH LETTER
DATE SAMPLEED
BY: S. Awad | TITLE
DIST., CO., RTE., PM: 04-SCL-101-PM 0.0/26.7
LIMITS: 04-153301
CONT. NO.
FED. NO.
RES. ENGR. OR SUPT.
ADDRESS
CONTRACTOR

MAIL TO SAME DESTINATION AS SAMPLE



STATE OF CALIFORNIA • DEPARTMENT OF TRANSPORTATION

REPORT OF TESTS ON SOILS, BASES & SUBBASES

TL-0361 (REV. 1/96)

TEST NO.	DATE RECEIVED	APPROVED BY	
7950-8P	NOV 27 2012		☐ DIS. MAT'LS. ENGR. ☐ TRANS. LAB
	CALC. BY	DATE REPORTED 12/11/12	☐ RESIDENT ENGINEER

REPORT OF TESTS ON: Foundation Soil (Corrosion)

IF CONTRACT, USE CONTRACT ITEM

SOURCE	CHARGE	EXPENDITURE AUTHORIZATION

SPECIAL DESIGNATION (USE WHEN APPLICABLE)	ACTIVITY OR OBJECT	SUBJOB

GRADING ANALYSIS

SIEVE	AS RECEIVED	RET. CR.	ADJ. OR COMB. GRADE	AS USED	☐ SPECIF. LIMITS ☐ SOUGHT
75 mm					
63 mm					
50 mm					
37.5mm					
25.0 mm					
19.0 mm					
12.5 mm					
9.5 mm					
4.75 mm					
2.36 mm					
1.18 mm					
600 µm					
300 µm					
150 µm					
75 µm					
5 µm					
1 µm					

TEST SPECIMEN	A	B	C	D	E
BATCH MASS					
DATE TESTED					
COMPACTOR FOOT PRESSURE kPA					
INITIAL MOISTURE %					
SOAK WATER mL					
WATER ADDED-mL (TOTAL)					
WATER ADDED %					
MOISTURE AT COMPACTION %					
WET. WT. OF BRIQUETTE -gms					
HEIGHT OF BRIQUETTE -mm					
DRY DENSITY OF BRIQ.-kg/m³					
STABILOMETER P_H AT 8900 N-kPa					
DISPLACEMENT					
R-VALUE BY STABILOMETER					
EXUDATION PRES. MPa					
THICK. BY STAB. mm					
EXPANSION DIAL READING-mm					
THICK. BY EXP. PRESS. mm					

REMARKS:

RESISTIVITY = 1704

PH = 7.4

TEST RESULTS	SPEC.	SP. GR.	☐ BULK (OVEN DRY) ☐ BULK (SSD) ☐ APPARENT
LL. P.L. P.I.			
CV			FINE / COARSE

	S.E.				
SURFACE		AS REC'D.		AS REC'D	
BASE		CRUSHED		CRUSHED	
SUBBASE		COMBINED		REL. COMPACTION DATA	
	LART	GRADE 100 REV.			IN PLACE / OPTIMUM
GRAVEL EQUIVALENT FACTOR		500 REV.		DENSITY	
TRAFFIC INDEX	DUR.	D_i		MOISTURE	
R VALUE: EXUDATION PRESSURE		D_o			
EXPANSION PRESSURE		% CRUSHED PARTICLES			
AT EQUILIBRIUM SPEC.		% MOISTURE BY O.D.			

INDICATED MINIMUM THICKNESS OF COVER FOR ABOVE CONDITIONS - m

DISTRICT 4 LABORATORY
325 SAN BRUNO AVENUE
SAN FRANCISCO, CA 94103

12/11/12

FRONT

ATTACH FORM DCR-TL-101 HERE

680

STATE OF CALIFORNIA • DEPARTMENT OF TRANSPORTATION

SAMPLE IDENTIFICATION CARD

TL-0101 (REV. 10/97)

CARD NUMBER C 633321

☐ PRELIMINARY TESTS
☐ PROCESS TESTS
☐ ACCEPTANCE TESTS
INDEPENDENT ASSURANCE TESTS
☐ DIST. LAB
☐ TRANS. LAB
☐ SPECIAL TESTS

SAMPLE SENT TO: ☐ HDQTRS. LAB ☐ BRANCH LAB ☐ DIST. LAB

FIELD NO.
DIST. LAB NO.
LOT NO.
SHIPMENT NO.
P.O. OR REQ. NO.
AUTHORIZATION NO.

SAMPLE OF: Soil
FOR USE IN: Foundation
SAMPLE FROM: A-12-003
DEPTH: 0 ft — 9'
LOCATION OF SOURCE:

80

THIS SAMPLE IS SHIPPED IN (NO. CONTAINERS) | AND IS ON E OF A GROUP OF | SAMPLES REPRESENTING (TONS, GALS, OBLS, STA. ETC.)

OWNER OR MANUFACTURER

TOTAL QUANTITY AVAILABLE | TEST RESULTS DESIRED ☑ NORMAL ☐ PRIORITY | DATE NEEDED

REMARKS: Corrosion test

TL101 Received 11/27/12

COVER ADDITIONAL INFORMATION WITH LETTER

DATE SAMPLEED

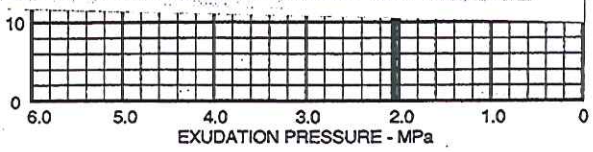
BY: S. Awad TITLE

DIST. CO. RTE. PM: 04-SCL-101 PM 0.0/26.7

LIMITS: 04-153301

CONT. NO.
FED. NO.
RES. ENGR. OR SUPT.
ADDRESS
CONTRACTOR

MAIL TO SAME DESTINATION AS SAMPLE



~~STATE OF~~ CALIFORNIA • DEPARTMENT OF TRANSPORTATION

REPORT OF TESTS ON SOILS, BASES & SUBBASES

TL-0361 (REV. 1/9[illegible])

ATTACH FORM DCR-TL-101 HERE

FRONT

TEST NO.	DATE RECEIVED	APPROVED BY	
7950-4P	NOV 15 2012		☐ DIS. MAT'LS. ENGR. ☐ TRANS
	CALC. BY	DATE REPORTED	☐ RESIDENT ENGINEER

GRADING ANALYSIS

SIEVE	AS RECEIVED	RET. CR.	ADJ. OR COMB. GRADE	AS USED	☐ SPECIF. LIMITS ☐ SOUGHT
75 mm					
63 mm					
50 mm					
37.5mm					
25.0 mm					
19.0 mm					
12.5 mm					
9.5 mm					
4.75 mm					
2.36 mm					
1.18 mm					
600 µm					
300 µm					
150 µm					
75 µm					
5 µm					
1 µm					

REMARKS:
RESISTIVITY = 2995
PH = 7.6

REPORT OF TESTS ON Foundation Soil (corrosion)

IF CONTRACT, USE CONTRACT ITEM

SOURCE	CHARGE	EXPENDITURE AUTHORIZATION

SPECIAL DESIGNATION (USE WHEN APPLICABLE)	ACTIVITY OR OBJECT	SUBJOB

TEST SPECIMEN	A	B	C	D
BATCH MASS				
DATE TESTED				
COMPACTOR FOOT PRESSURE kPA				
INITIAL MOISTURE %				
SOAK WATER mL				
WATER ADDED-mL (TOTAL)				
WATER ADDED %				
MOISTURE AT COMPACTION %				
WET. WT. OF BRIQUETTE -gms				
HEIGHT OF BRIQUETTE -mm				
DRY DENSITY OF BRIQ.-kg/m³				
STABILOMETER P_H AT 8900 N-kPa				
DISPLACEMENT				
R-VALUE BY STABILOMETER				
EXUDATION PRES. MPa				
THICK, BY STAB. mm				
EXPANSION DIAL READING-mm				
THICK, BY EXP. PRESS. mm				

TEST RESULTS	SPEC.	SP. GR.	☐ BULK (OVEN D ☐ BULK (SSD) ☐ APPARENT
LL. P.L. P.I.			
CV			FINE / CO/

SURFACE	S.E.	AS REC'D.		AS REC'D	
BASE		CRUSHED		CRUSHED	
SUBBASE		COMBINED		REL. COMPACTION DATA	
	LART	GRADE 100 REV.			IN PLACE / OPT
GRAVEL EQUIVALENT FACTOR		500 REV.		DENSITY	
TRAFFIC INDEX	DUR.	D_f		MOISTURE	
R VALUE: EXUDATION PRESSURE		D_o		% REL. COMP.	
R VALUE: EXPANSION PRESSURE		% CRUSHED PARTICLES		SPEC.	
R VALUE: AT EQUILIBRIUM SPEC.		% MOISTURE BY O.D.			

INDICATED MINIMUM THICKNESS OF COVER FOR ABOVE CONDITIONS - m

DISTRICT 4 LABORATORY
325 SAN BRUNO AVENUE
SAN FRANCISCO, CA 94103

11/29/12

STATE OF CALIFORNIA • DEPARTMENT OF TRANSPORTATION

SAMPLE IDENTIFICATION CARD

TL-0101 (REV. 10/97) 11/15

CARD NUMBER C633317

☐ PRELIMINARY TESTS
☐ PROCESS TESTS
☐ ACCEPTANCE TESTS

INDEPENDENT ASSURANCE TESTS
☐ DIST. LAB
☐ TRANS. LAB
☐ SPECIAL TESTS

SAMPLE SENT TO:
☐ HDQTRS. LAB
☐ BRANCH LAB
☐ DIST. LAB

FIELD NO.
DIST. LAB NO.
LOT NO.
SHIPMENT NO.
P.O. OR REQ. NO.
AUTHORIZATION NO.

SAMPLE OF: Soil
FOR USE IN: Foundation
SAMPLE FROM: A-12-005
DEPTH: (5—10')
LOCATION OF SOURCE:

THIS SAMPLE IS SHIPPED IN (NO. CONTAINERS) | AND IS ON E OF A GROUP OF | SAMPLES REPRESENTING (TONS, GALS, BBLS, STA, ETC.)

OWNER OR MANUFACTURER

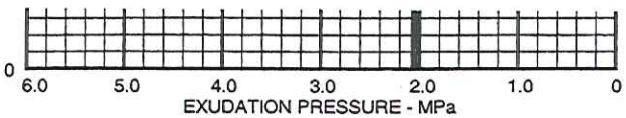
TOTAL QUANTITY AVAILABLE | TEST RESULTS DESIRED ☒ NORMAL ☐ PRIORITY | DATE NEEDED

REMARKS: Corrosion

COVER ADDITIONAL INFORMATION WITH LETTER

DATE SAMPLEED: 11/15/12
BY: S. Awad | TITLE
DIST, CO, RTE, PM: 04-SCL-101-PM 0.0/26.7
LIMITS: 04-153301
CONT. NO.
FED. NO.
RES. ENGR. OR SUPT.
ADDRESS
CONTRACTOR

MAIL TO SAME DESTINATION AS SAMPLE



STATE OF CALIFORNIA • DEPARTMENT OF TRANSPORTATION

REPORT OF TESTS ON SOILS, BASES & SUBBASES

TL-0361 (REV. 1/...)

ATTACH FORM DCR-TL-101 HERE

FRONT

TEST NO.	DATE RECEIVED	APPROVED BY	
7950-5P	NOV 15 2012		☐ DIS. MAT'LS. ENGR. ☐ TRANS
	CALC. BY	DATE REPORTED	☐ RESIDENT ENGINEER

GRADING ANALYSIS

SIEVE	AS RECEIVED	RET. CR.	ADJ. OR COMB. GRADE	AS USED	☐ SPECIF. LIMITS ☐ SOUGHT
75 mm					
63 mm					
50 mm					
37.5mm					
25.0 mm					
19.0 mm					
12.5 mm					
9.5 mm					
4.75 mm					
2.36 mm					
1.18 mm					
600 µm					
300 µm					
150 µm					
75 µm					
5 µm					
1 µm					

REPORT OF TESTS ON: Foundation Soil (corrosion)

IF CONTRACT, USE CONTRACT ITEM

SOURCE	CHARGE	EXPENDITURE AUTHORIZATION

SPECIAL DESIGNATION (USE WHEN APPLICABLE)	ACTIVITY OR OBJECT	SUBJOB

TEST SPECIMEN	A	B	C	D
BATCH MASS				
DATE TESTED				
COMPACTOR FOOT PRESSURE kPA				
INITIAL MOISTURE %				
SOAK WATER mL				
WATER ADDED-mL (TOTAL)				
WATER ADDED %				
MOISTURE AT COMPACTION %				
WET. WT. OF BRIQUETTE -gms				
HEIGHT OF BRIQUETTE -mm				
DRY DENSITY OF BRIQ.-kg/m³				
STABILOMETER P_H AT 8900 N-kPa				
DISPLACEMENT				
R-VALUE BY STABILOMETER				
EXUDATION PRES. MPa				
THICK, BY STAB. mm				
EXPANSION DIAL READING-mm				
THICK, BY EXP. PRESS. mm				

REMARKS:

RESISTIVITY = 4716

PH = 7.4

TEST RESULTS	SPEC.	SP. GR.	☐ BULK (OVEN ☐ BULK (SSD) ☐ APPARENT
LL. P.L. P.I.			
CV			FINE / CC

SURFACE	S.E.	AS REC'D.		AS REC'D	
BASE		CRUSHED		CRUSHED	
SUBBASE		COMBINED		REL. COMPACTION DAT	
	LART	GRADE 100 REV.			IN PLACE / OP
GRAVEL EQUIVALENT FACTOR		500 REV.		DENSITY	
TRAFFIC INDEX	DUR.	D_f		MOISTURE	
R VALUE: EXUDATION PRESSURE		D_o		% REL. COMP.	
R VALUE: EXPANSION PRESSURE		% CRUSHED PARTICLES			
R VALUE: AT EQUILIBRIUM SPEC.		% MOISTURE BY O.D.			

INDICATED MINIMUM THICKNESS OF COVER FOR ABOVE CONDITIONS - m

DISTRICT 4 LABORATORY
325 SAN BRUNO AVENUE
SAN FRANCISCO, CA. 94103

11/29/12

STATE OF CALIFORNIA • DEPARTMENT OF TRANSPORTATION

SAMPLE IDENTIFICATION CARD

TL-0101 (REV. 10/97)

CARD NUMBER C 633318

☐ PRELIMINARY TESTS
☐ PROCESS TESTS
☐ ACCEPTANCE TESTS

INDEPENDENT ASSURANCE TESTS
☐ DIST. LAB
☐ TRANS. LAB
☐ SPECIAL TESTS

SAMPLE SENT TO:
☐ HDQTRS. LAB
☐ BRANCH LAB
☐ DIST. LAB

FIELD NO.
DIST. LAB NO.
LOT NO.
SHIPMENT NO.
P.O. OR REQ. NO.
AUTHORIZATION NO.

SAMPLE OF: Soil
FOR USE IN: Foundation
SAMPLE FROM: A-12-007
DEPTH: (5'-10')
LOCATION OF SOURCE

THIS SAMPLE IS SHIPPED IN (NO. CONTAINERS) | AND IS ON E OF A GROUP OF | SAMPLES REPRESENTING (TONS, GALS, BBLS, STA, ETC.)

OWNER OR MANUFACTURER

TOTAL QUANTITY AVAILABLE | TEST RESULTS DESIRED ☒ NORMAL ☐ PRIORITY | DATE NEEDED

REMARKS: Corrosion test

COVER ADDITIONAL INFORMATION WITH LETTER

DATE SAMPLEED: 11/15/12

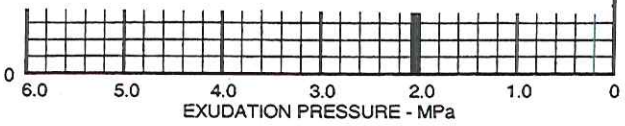
BY: S. A | TITLE

DIST, CO, RTE, PM: 04-SCL-101-PM 0.0/26.7

LIMITS: 04-153301

CONT. NO.
FED. NO.
RES. ENGR. OR SUPT.
ADDRESS
CONTRACTOR

MAIL TO SAME DESTINATION AS SAMPLE



80

STATE OF CALIFORNIA • DEPARTMENT OF TRANSPORTATION

REPORT OF TESTS ON SOILS, BASES & SUBBASES

TL-0361 (REV. 1/96)

ATTACH FORM DCR-TL-101 HERE

FRONT

TEST NO.	DATE RECEIVED	APPROVED BY	☐ DIS. MAT'LS. ENGR. ☐ TRANS
7950-6P	NOV 15 2012		☐ RESIDENT ENGINEER
	CALC. BY	DATE REPORTED	☐

GRADING ANALYSIS					
SIEVE	AS RECEIVED	RET. CR.	ADJ. OR COMB. GRADE	AS USED	☐ SPECIF. LIMITS ☐ SOUGHT
75 mm					
63 mm					
50 mm					
37.5mm					
25.0 mm					
19.0 mm					
12.5 mm					
9.5 mm					
4.75 mm					
2.36 mm					
1.18 mm					
600 µm					
300 µm					
150 µm					
75 µm					
5 µm					
1 µm					

REPORT OF TESTS ON: Foundation Soil (Corrosion)

IF CONTRACT, USE CONTRACT ITEM

SOURCE	CHARGE	EXPENDITURE AUTHORIZATION

SPECIAL DESIGNATION (USE WHEN APPLICABLE)	ACTIVITY OR OBJECT	SUBJOB

TEST SPECIMEN	A	B	C	D
BATCH MASS				
DATE TESTED				
COMPACTOR FOOT PRESSURE kPA				
INITIAL MOISTURE %				
SOAK WATER mL				
WATER ADDED-mL (TOTAL)				
WATER ADDED %				
MOISTURE AT COMPACTION %				
WET. WT. OF BRIQUETTE -gms				
HEIGHT OF BRIQUETTE -mm				
DRY DENSITY OF BRIQ.-kg/m³				
STABILOMETER P_H AT 8900 N-kPa				
DISPLACEMENT				
R-VALUE BY STABILOMETER				
EXUDATION PRES. MPa				
THICK, BY STAB. mm				
EXPANSION DIAL READING-mm				
THICK, BY EXP. PRESS. mm				

REMARKS:

RESISTIVITY = 4736

PH = 7.2

TEST RESULTS		SPEC.	SP. GR.	☐ BULK (OVEN ☐ BULK (SSD) ☐ APPARENT
LL. P.L. P.I.				
CV				FINE / CO
S.E.	AS REC'D.		AS REC'D	
	CRUSHED		CRUSHED	
	COMBINED		REL. COMPACTION DAT.	
LART GRADE	100 REV.			IN PLACE / OP
	500 REV.		DENSITY	
DUR.	D_f		MOISTURE	
	D_c		% REL. COMP.	
% CRUSHED PARTICLES			SPEC.	
% MOISTURE BY O.D.				

SURFACE	
BASE	
SUBBASE	
GRAVEL EQUIVALENT FACTOR	
TRAFFIC INDEX	
R VALUE: EXUDATION PRESSURE	
R VALUE: EXPANSION PRESSURE	
R VALUE: AT EQUILIBRIUM SPEC.	

INDICATED MINIMUM THICKNESS OF COVER FOR ABOVE CONDITIONS - m

DISTRICT 4 LABORATORY
325 SAN BRUNO AVENUE
SAN FRANCISCO, CA 94103

11/29/12

STATE OF CALIFORNIA • DEPARTMENT OF TRANSPORTATION

SAMPLE IDENTIFICATION CARD

TL-0101 (REV. 10/97)

CARD NUMBER C 633319

☐ PRELIMINARY TESTS
☐ PROCESS TESTS
☐ ACCEPTANCE TESTS

INDEPENDENT ASSURANCE TESTS
☐ DIST. LAB
☐ TRANS. LAB

☐ SPECIAL TESTS

SAMPLE SENT TO:
☐ HDQTRS. LAB
☐ BRANCH LAB
☐ DIST. LAB

FIELD NO.
DIST. LAB NO.
LOT NO.
SHIPMENT NO.
P.O. OR REQ. NO.
AUTHORIZATION NO.

SAMPLE OF: Soil
FOR USE IN: Foundation
SAMPLE FROM: A-12-008
DEPTH: (5' — 6')
LOCATION OF SOURCE

THIS SAMPLE IS SHIPPED IN (NO. CONTAINERS) | AND IS ON E OF A GROUP OF | SAMPLES REPRESENTING (TONS, GALS, BBLS, STA, ETC.)

OWNER OR MANUFACTURER

TOTAL QUANTITY AVAILABLE | TEST RESULTS DESIRED ☒ NORMAL ☐ PRIORITY | DATE NEEDED

REMARKS: Corrosion test

COVER ADDITIONAL INFORMATION WITH LETTER

DATE SAMPLEED: 11/15/12

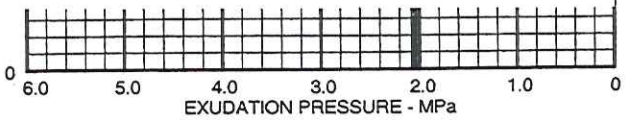
BY: S. A. | TITLE

DIST, CO, RTE, PM: 04 SCL-101-PM 0.0/26.7

LIMITS: 04-153301

CONT. NO.
FED. NO.
RES. ENGR. OR SUPT.
ADDRESS
CONTRACTOR

MAIL TO SAME DESTINATION AS SAMPLE



STATE OF CALIFORNIA • DEPARTMENT OF TRANSPORTATION

REPORT OF TESTS ON SOILS, BASES & SUBBASES

TL-0361 (REV. 1/9[illegible])

ATTACH FORM DCR-TL-101 HERE

FRONT

TEST NO.	DATE RECEIVED	APPROVED BY	☐ DIS. MAT'LS. ENGR. ☐ TRANS
7950-7P	NOV 15 2012		☐ RESIDENT ENGINEER
	CALC. BY	DATE REPORTED	☐

GRADING ANALYSIS					
SIEVE	AS RECEIVED	RET. CR.	ADJ. OR COMB. GRADE	AS USED	☐ SPECIF. LIMITS ☐ SOUGHT
75 mm					
63 mm					
50 mm					
37.5mm					
25.0 mm					
19.0 mm					
12.5 mm					
9.5 mm					
4.75 mm					
2.36 mm					
1.18 mm					
600 µm					
300 µm					
150 µm					
75 µm					
5 µm					
1 µm					

REPORT OF TESTS ON: Foundation Soil (corrosion)

IF CONTRACT, USE CONTRACT ITEM

SOURCE	CHARGE	EXPENDITURE AUTHORIZATION

SPECIAL DESIGNATION (USE WHEN APPLICABLE)	ACTIVITY OR OBJECT	SUBJOB

TEST SPECIMEN	A	B	C	D
BATCH MASS				
DATE TESTED				
COMPACTOR FOOT PRESSURE kPA				
INITIAL MOISTURE %				
SOAK WATER mL				
WATER ADDED-mL (TOTAL)				
WATER ADDED %				
MOISTURE AT COMPACTION %				
WET. WT. OF BRIQUETTE -gms				
HEIGHT OF BRIQUETTE -mm				
DRY DENSITY OF BRIQ.-kg/m³				
STABILOMETER P_H AT 8900 N-kPa				
DISPLACEMENT				
R-VALUE BY STABILOMETER				
EXUDATION PRES. MPa				
THICK. BY STAB. mm				
EXPANSION DIAL READING-mm				
THICK. BY EXP. PRESS. mm				

REMARKS:

RESISTIVITY = 5673

PH = 7.7

TEST RESULTS	SPEC.	SP. GR.	☐ BULK (OVEN ☐ BULK (SSD) ☐ APPARENT
LL. P.L. P.I.			
CV			FINE / CO

SURFACE	S.E.	AS REC'D.		AS REC'D	
BASE		CRUSHED		CRUSHED	
SUBBASE		COMBINED		REL. COMPACTION DAT.	
	LART	GRADE 100 REV.			IN PLACE / OP
GRAVEL EQUIVALENT FACTOR		500 REV.		DENSITY	
TRAFFIC INDEX	DUR.	D_1		MOISTURE	
R VALUE: EXUDATION PRESSURE		D_c		% REL. COMP.	
EXPANSION PRESSURE		% CRUSHED PARTICLES		SPEC.	
AT EQUILIBRIUM SPEC.		% MOISTURE BY O.D.			

INDICATED MINIMUM THICKNESS OF COVER FOR ABOVE CONDITIONS - m

DISTRICT 4 LABORATORY
336 SAN BRUNO AVENUE
SAN FRANCISCO, CA 94103

11/29/12

STATE OF CALIFORNIA • DEPARTMENT OF TRANSPORTATION

SAMPLE IDENTIFICATION CARD

TL-0101 (REV. 10/97)

CARD NUMBER C 633320

☐ PRELIMINARY TESTS
☐ PROCESS TESTS
☐ ACCEPTANCE TESTS

INDEPENDENT ASSURANCE TESTS
☐ DIST. LAB
☐ TRANS. LAB

☐ SPECIAL TESTS

SAMPLE SENT TO:
☐ HDQTRS. LAB
☐ BRANCH LAB
☐ DIST. LAB

FIELD NO.
DIST. LAB NO.
LOT NO.
SHIPMENT NO.
P.O. OR REQ. NO.
AUTHORIZATION NO.

SAMPLE OF: Soil
FOR USE IN: Foundation
SAMPLE FROM: A-12-010
DEPTH: (5 — 10')
LOCATION OF SOURCE

THIS SAMPLE IS SHIPPED IN (NO. CONTAINERS) | AND IS ON E OF A GROUP OF | SAMPLES REPRESENTING (TONS, GALS, BBLS, STA. ETC.)

OWNER OR MANUFACTURER

TOTAL QUANTITY AVAILABLE | TEST RESULTS DESIRED ☒ NORMAL ☐ PRIORITY | DATE NEEDED

REMARKS: Corrosion test

COVER ADDITIONAL INFORMATION WITH LETTER

DATE SAMPLEED: 11/15/12

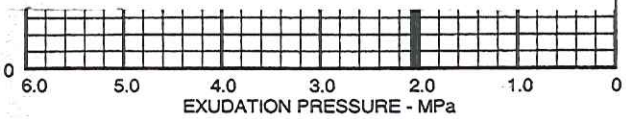
BY: S. A | TITLE

DIST, CO, RTE, PM: 04-SCL-101-PM 0.0/26.7

LIMITS: 04-153301

CONT. NO.
FED. NO.
RES. ENGR. OR SUPT.
ADDRESS
CONTRACTOR

MAIL TO SAME DESTINATION AS SAMPLE



STATE OF CALIFORNIA EDMUND G. BROWN, JR., Governor

DEPARTMENT OF INDUSTRIAL RELATIONS
DIVISION OF OCCUPATIONAL SAFETY AND HEALTH
MINING AND TUNNELING UNIT
2211 Park Towne Circle, Suite 2
Sacramento, California 95825

Telephone (916) 574-2540
FAX (916) 574-2542

February 16, 2011

Department of Transportation
PO Box 23660
Oakland, CA 94623

Attention: Rifaat Nashed (via e-mail: Rifaat_Nashed@dot.ca.gov)

Subject: Underground Classification #'s: C108-085-12T thru C110-085-12T

Traffic Operation System

Mr. Nashed:

The information provided to this office relative to the above project has been reviewed. On the basis of this analysis, Underground Classification of "Potentially Gassy with Special Conditions" has been assigned to the shaft(s) identified on your submittal. Please retain the original Classification for your records and deliver a true and correct copy of the Classification to the shaft contractor(s) for posting at the job site.

When the contractor who will be performing the work is selected, please advise them to notify this office to determine if a mandated Prejob Conference with the Division is required prior to commencing any activity associated with drilling of the shaft(s).

Should you have another bore under construction that is not required to have an Underground Classification (i.e.: less than 30 inches in diameter), please contact the Mining and Tunneling Unit prior to any employee entry of such a space.

If you have any questions on this subject, please contact this office at your earliest convenience.

Sincerely,

Douglas Patterson
Senior Engineer

cc: N. McDougald
File

State of California

Department of Industrial Relations

DIVISION OF OCCUPATIONAL SAFETY AND HEALTH
MINING AND TUNNELING UNIT

Underground Classification

C108-085-12T

DEPARTMENT OF TRANSPORTATION
NAME OF TUNNEL OR MINE AND COMPANY NAME

of PO Box 23660, Oakland, CA 94623
MAILING ADDRESS

at TRAFFIC OPERATION SYSTEM PROJECT
LOCATION

has been classified as ***POTENTIALLY GASSY with Special Conditions***
CLASSIFICATION

as required by the California Labor Code § 7955.

The Division shall be notified if sufficient quantities of flammable gas or vapors have been encountered underground. Classifications are based on the California Labor Code Part 9, Tunnel Safety Orders and Mine Safety Orders.

SPECIAL CONDITIONS

1. A Certified Gas Tester shall perform pre-entry and continuous monitoring of the underground environment to measure Oxygen and detect explosive, flammable, and toxic gasses whenever an employee is working in the underground environment.
2. Mechanical ventilation shall provide for continuous exhaust of fumes and air at any time an employee is working in the underground environment. The primary ventilation fans must be located outside of the underground environment and shall be reversible by a single switch near the fan location.
3. The Division shall be notified immediately if any **Flammable Gas** or **Petroleum Vapor** exceeds 5% of the Lower Explosive Limit.
4. All utilities that may be in conflict with the project shall be identified and physically located (potholed) prior to the start of project operations.

The 60-inch diameter 22 foot deep shaft located along the southbound shoulder of Highway 101, approximately 1.45 miles south of the intersection of Highway 101 and Route 25, Gilroy, Santa Clara County.

This classification shall be conspicuously posted at the place of employment.

Date February 16, 2012

Douglas Patterson, Senior Engineer

State of California

Department of Industrial Relations

DIVISION OF OCCUPATIONAL SAFETY AND HEALTH
MINING AND TUNNELING UNIT

Underground Classification

C109-085-12T

DEPARTMENT OF TRANSPORTATION
NAME OF TUNNEL OR MINE AND COMPANY NAME

of PO Box 23660, Oakland, CA 94623
MAILING ADDRESS

at TRAFFIC OPERATION SYSTEM PROJECT
LOCATION

has been classified as ***POTENTIALLY GASSY with Special Conditions***
CLASSIFICATION

as required by the California Labor Code § 7955.

The Division shall be notified if sufficient quantities of flammable gas or vapors have been encountered underground. Classifications are based on the California Labor Code Part 9, Tunnel Safety Orders and Mine Safety Orders.

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3. The Division shall be notified immediately if any **Flammable Gas** or **Petroleum Vapor** exceeds 5% of the Lower Explosive Limit.
4. All utilities that may be in conflict with the project shall be identified and physically located (potholed) prior to the start of project operations.

The 60-inch diameter 22 foot deep shaft located along the southbound shoulder of Highway 101, approximately 0.3 miles south of the Coyote Creek Bridge, San Jose, Santa Clara County.

This classification shall be conspicuously posted at the place of employment.

Date February 16, 2012

Douglas Patterson, Senior Engineer

State of California

Department of Industrial Relations

DIVISION OF OCCUPATIONAL SAFETY AND HEALTH
MINING AND TUNNELING UNIT

Underground Classification

C110-085-12T

DEPARTMENT OF TRANSPORTATION
NAME OF TUNNEL OR MINE AND COMPANY NAME

of PO Box 23660, Oakland, CA 94623
MAILING ADDRESS

at TRAFFIC OPERATION SYSTEM PROJECT
LOCATION

has been classified as ***POTENTIALLY GASSY with Special Conditions***
CLASSIFICATION

as required by the California Labor Code § 7955.

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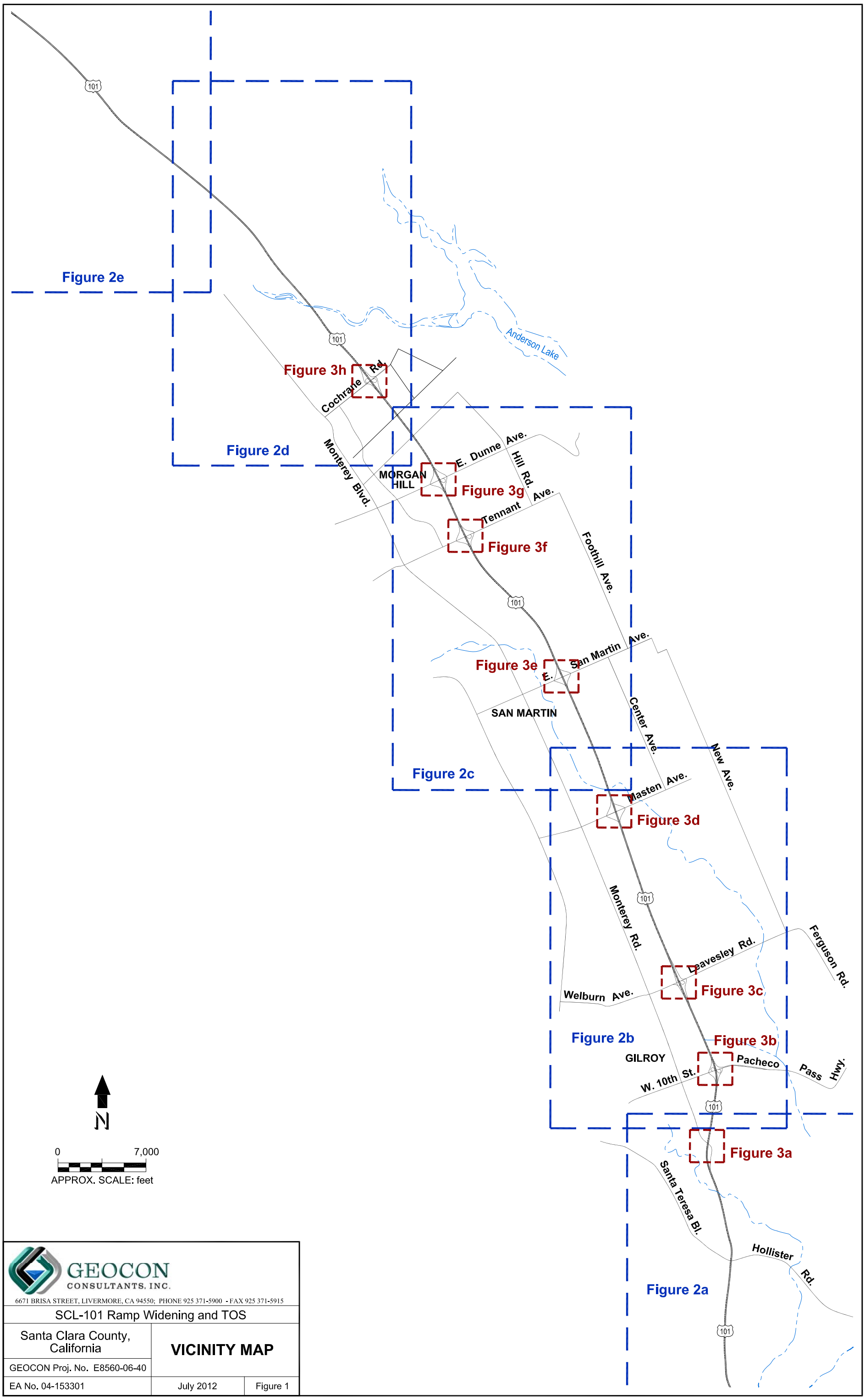
2. Mechanical ventilation shall provide for continuous exhaust of fumes and air at any time an employee is working in the underground environment. The primary ventilation fans must be located outside of the underground environment and shall be reversible by a single switch near the fan location.
3. The Division shall be notified immediately if any **Flammable Gas** or **Petroleum Vapor** exceeds 5% of the Lower Explosive Limit.
4. All utilities that may be in conflict with the project shall be identified and physically located (potholed) prior to the start of project operations.

The 60-inch diameter 22 foot deep shaft located along the southbound shoulder of Highway 101, approximately 0.4 miles south of the Metcalf Road Overcrossing, San Jose, Santa Clara County.

This classification shall be conspicuously posted at the place of employment.

Date February 16, 2012

Douglas Patterson, Senior Engineer



GEOCON CONSULTANTS, INC.

6671 BRISA STREET, LIVERMORE, CA 94550; PHONE 925 371-5900 - FAX 925 371-5915

SCL-101 Ramp Widening and TOS		
Santa Clara County, California	**VICINITY MAP**	
GEOCON Proj. No. E8560-06-40		
EA No. 04-153301	July 2012	Figure 1

SITE0612

GEOCON CONSULTANTS, INC.

6671 BRISA STREET, LIVERMORE, CA 94550; PHONE 925 371-5900 - FAX 925 371-5915

SCL-101 Ramp Widening and TOS		
Santa Clara County, California	SITE PLAN	
GEOCON Proj. No. E8560-06-40		
EA No. 04-153301	July 2012	Figure 2a

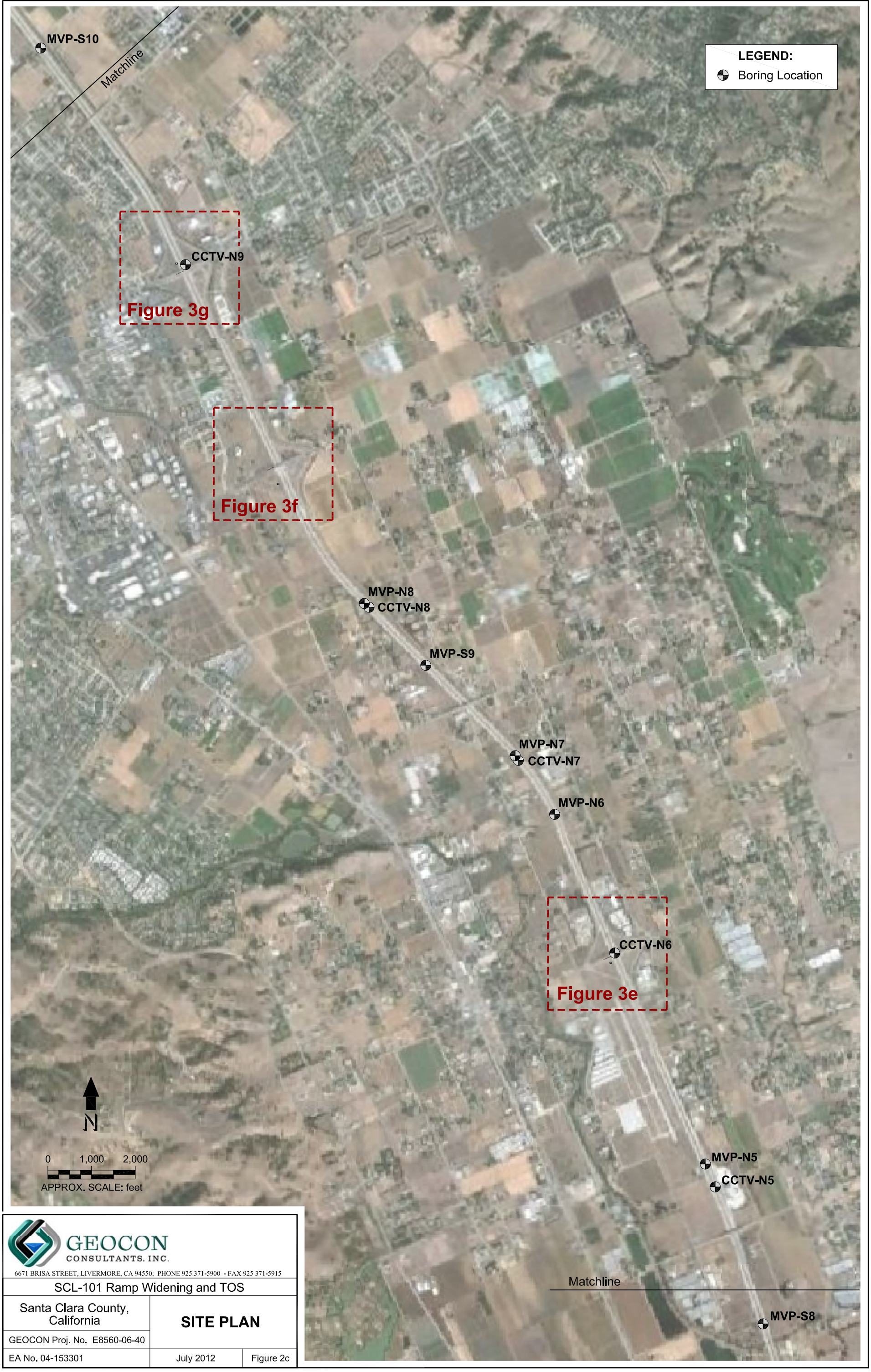
SITE0612

GEOCON CONSULTANTS, INC.

6671 BRISA STREET, LIVERMORE, CA 94550; PHONE 925 371-5900 - FAX 925 371-5915

SCL-101 Ramp Widening and TOS		
Santa Clara County, California	SITE PLAN	
GEOCON Proj. No. E8560-06-40		
EA No. 04-153301	July 2012	Figure 2b

SITE0612

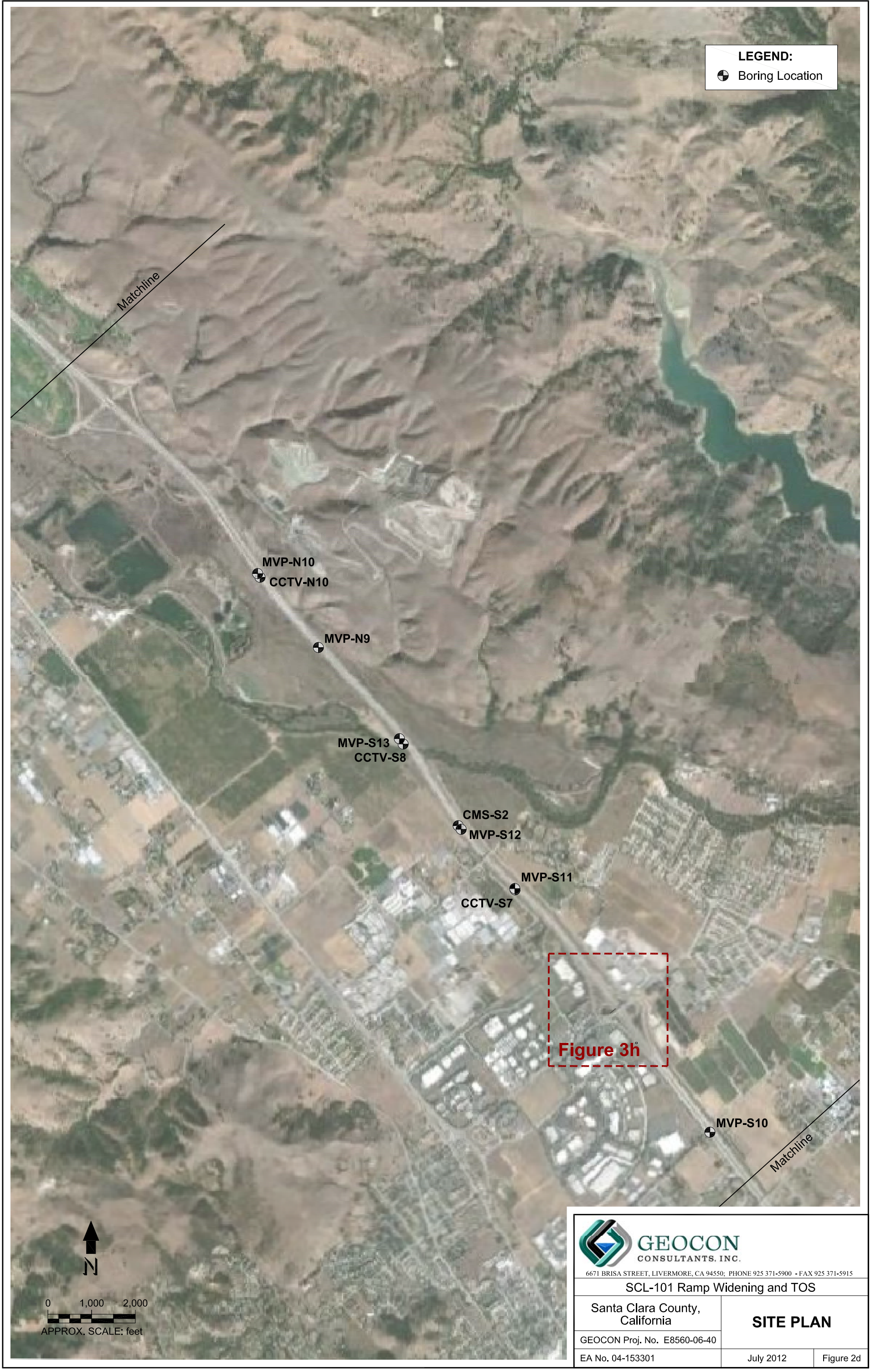


GEOCON CONSULTANTS, INC.

6671 BRISA STREET, LIVERMORE, CA 94550; PHONE 925 371-5900 - FAX 925 371-5915

SCL-101 Ramp Widening and TOS		
Santa Clara County, California	SITE PLAN	
GEOCON Proj. No. E8560-06-40		
EA No. 04-153301	July 2012	Figure 2c

SITE0612



GEOCON CONSULTANTS, INC.

6671 BRISA STREET, LIVERMORE, CA 94550; PHONE 925 371-5900 - FAX 925 371-5915

SCL-101 Ramp Widening and TOS

Santa Clara County, California

SITE PLAN

GEOCON Proj. No. E8560-06-40

EA No. 04-153301 | July 2012 | Figure 2d

SITE0612

GEOCON CONSULTANTS, INC.

6671 BRISA STREET, LIVERMORE, CA 94550; PHONE 925 371-5900 - FAX 925 371-5915

SCL-101 Ramp Widening and TOS

Santa Clara County, California

DETAIL AREA

GEOCON Proj. No. E8560-06-40

EA No. 04-153301 | July 2012 | Figure 3a

SITE0612

N

0 100 200

APPROX. SCALE: feet

GEOCON CONSULTANTS, INC.

6671 BRISA STREET, LIVERMORE, CA 94550; PHONE 925 371-5900 - FAX 925 371-5915

SCL-101 Ramp Widening and TOS

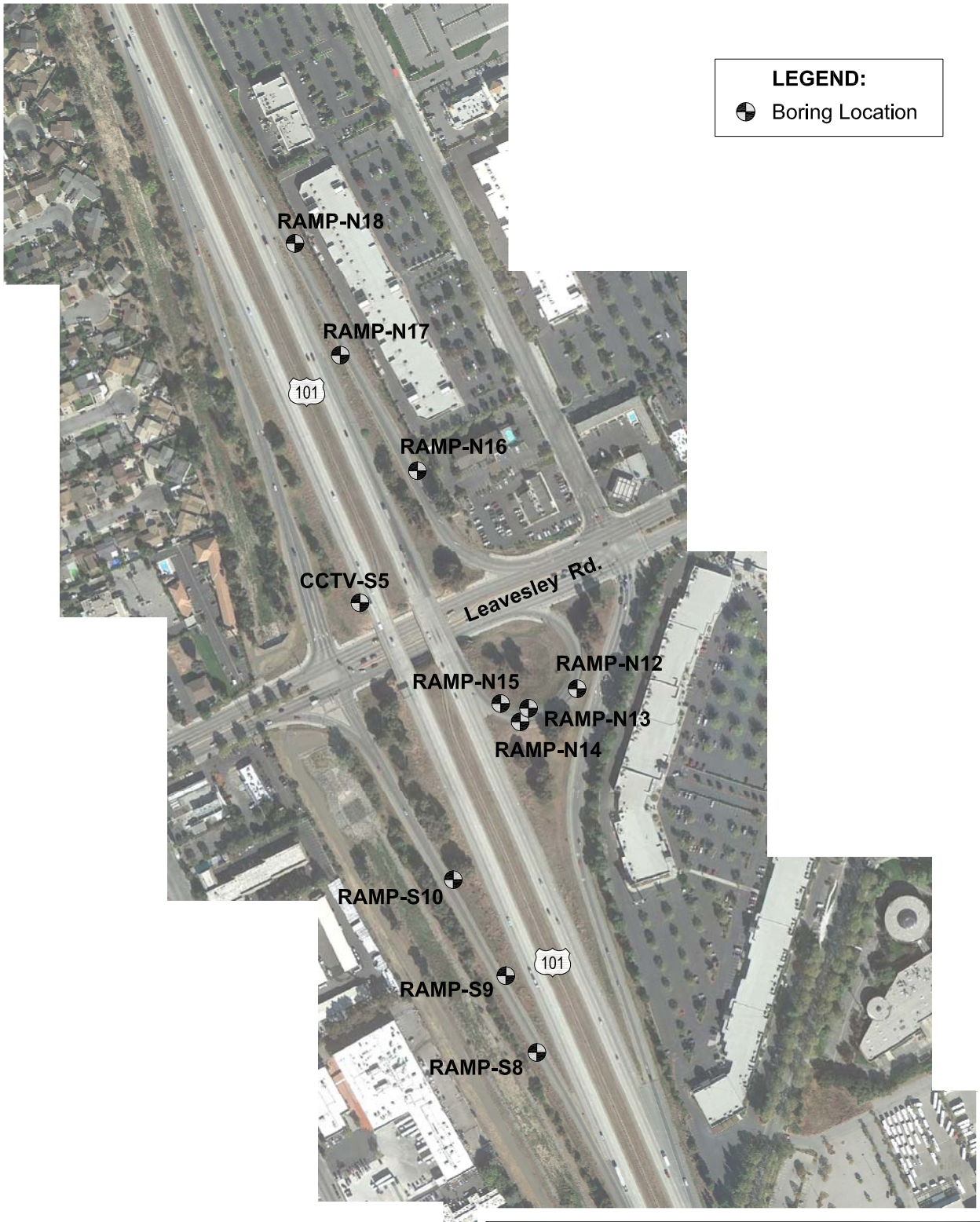
Santa Clara County, California

DETAIL AREA

GEOCON Proj. No. E8560-06-40

EA No. 04-153301 | July 2012 | Figure 3b

SITE0612



N

0 200 400

APPROX. SCALE: feet

GEOCON CONSULTANTS, INC.

6671 BRISA STREET, LIVERMORE, CA 94550; PHONE 925 371-5900 - FAX 925 371-5915

SCL-101 Ramp Widening and TOS

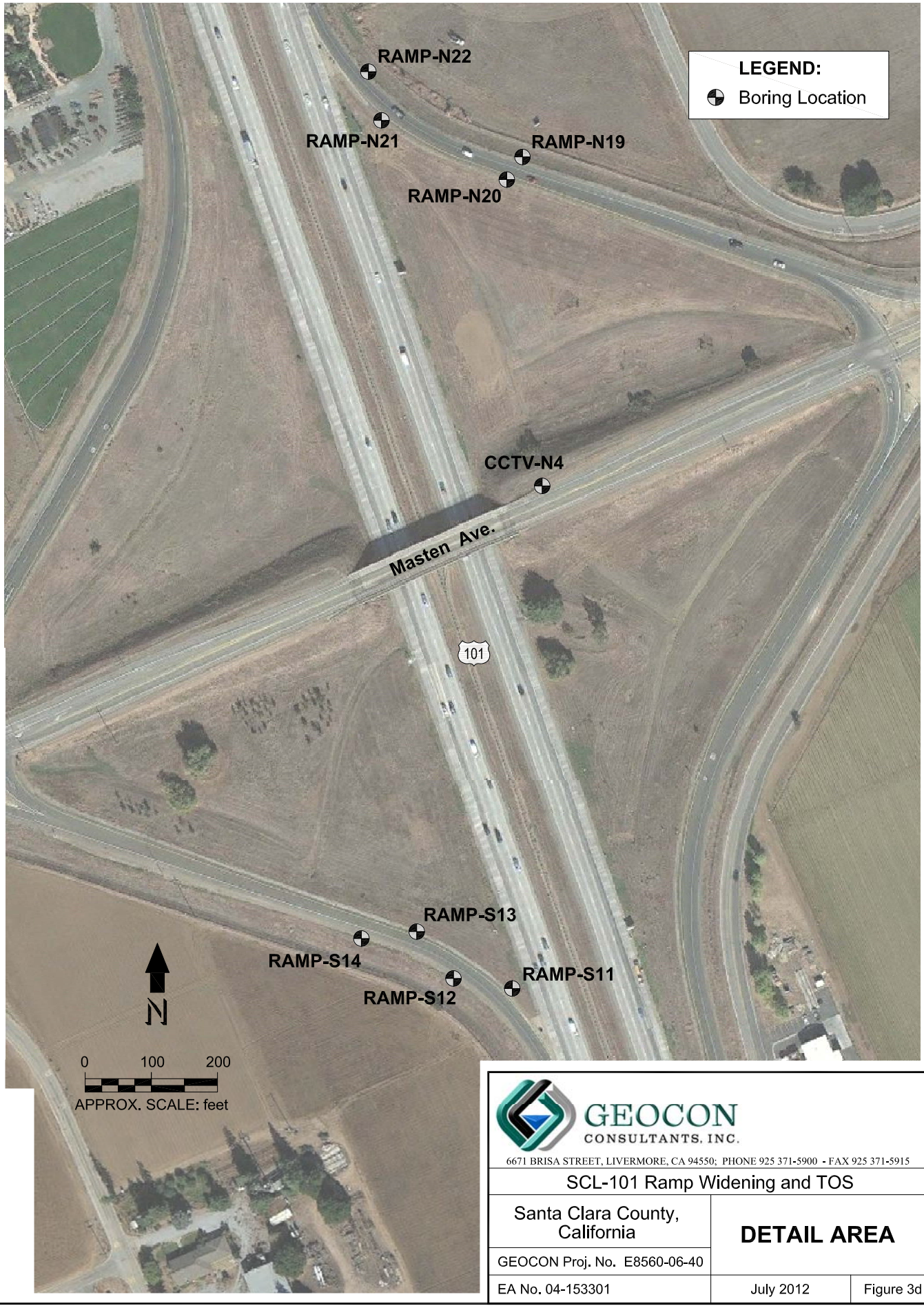
Santa Clara County, California

DETAIL AREA

GEOCON Proj. No. E8560-06-40

EA No. 04-153301 | July 2012 | Figure 3c

SITE0612



GEOCON CONSULTANTS, INC.

6671 BRISA STREET, LIVERMORE, CA 94550; PHONE 925 371-5900 - FAX 925 371-5915

SCL-101 Ramp Widening and TOS		
Santa Clara County, California	**DETAIL AREA**	
GEOCON Proj. No. E8560-06-40		
EA No. 04-153301	July 2012	Figure 3d

SITE0612

N

0 100 200

APPROX. SCALE: feet

GEOCON CONSULTANTS, INC.

6671 BRISA STREET, LIVERMORE, CA 94550; PHONE 925 371-5900 - FAX 925 371-5915

SCL-101 Ramp Widening and TOS		
Santa Clara County, California	**DETAIL AREA**	
GEOCON Proj. No. E8560-06-40		
EA No. 04-153301	July 2012	Figure 3e

SITE0612

GEOCON CONSULTANTS, INC.

6671 BRISA STREET, LIVERMORE, CA 94550; PHONE 925 371-5900 - FAX 925 371-5915

SCL-101 Ramp Widening and TOS

Santa Clara County, California

DETAIL AREA

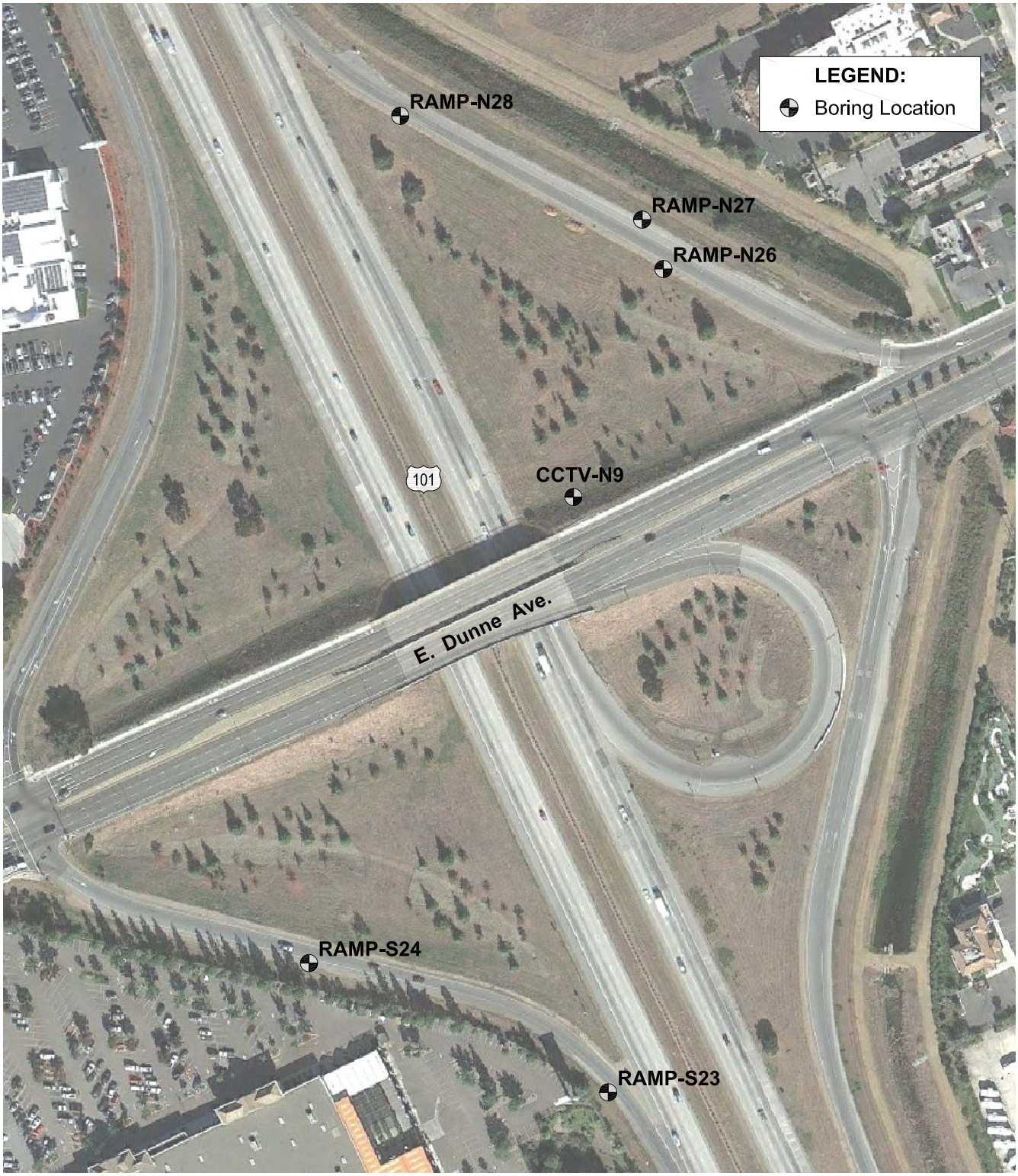
GEOCON Proj. No. E8560-06-40

EA No. 04-153301

July 2012

Figure 3f

SITE0612



N

0 100 200

APPROX. SCALE: feet

GEOCON CONSULTANTS, INC.

6671 BRISA STREET, LIVERMORE, CA 94550; PHONE 925 371-5900 - FAX 925 371-5915

SCL-101 Ramp Widening and TOS

Santa Clara County, California

DETAIL AREA

GEOCON Proj. No. E8560-06-40

EA No. 04-153301 | July 2012 | Figure 3g

SITE0612

N

0 100 200

APPROX. SCALE: feet

GEOCON CONSULTANTS, INC.

6671 BRISA STREET, LIVERMORE, CA 94550; PHONE 925 371-5900 - FAX 925 371-5915

SCL-101 Ramp Widening and TOS

Santa Clara County, California

DETAIL AREA

GEOCON Proj. No. E8560-06-40

EA No. 04-153301

July 2012

Figure 3h

SITE0612

TABLE 1
Boring Coordinates
SCL-101 Ramp Widening and TOS
Santa Clara County, California

Boring	Northing	Easting	Dataset
CCTV-S1	1,794,721.020	6,255,354.910	1
MVP-S1	1,794,733.200	6,255,366.980	2
MVP-S2	1,798,764.540	6,255,044.100	3
CCTV-S2	1,798,986.270	6,254,905.440	4
MVP-N1	1,800,023.450	6,254,453.780	5
CMS-S1	1,801,368.990	6,253,952.050	6
MVP-S3	1,801,640.240	6,253,958.670	7
MVP-N2	1,804,154.180	6,254,051.220	8
CCTV-N1	1,804,244.220	6,254,030.900	9
MVP-S4	1,808,953.130	6,254,375.230	10
MVP-S5	1,814,510.520	6,253,544.490	11
CCTV-N2	1,815,670.340	6,253,355.710	12
MVP-N3	1,815,785.190	6,253,309.710	13
CCTV-S3	1,818,848.200	6,252,349.230	14a
RAMP-S1	1,818,772.475	6,252,336.328	14b
RAMP-S2	1,818,994.728	6,252,275.334	14b
RAMP-S3	1,819,195.177	6,252,301.139	14b
RAMP-N1	1,818,874.459	6,252,681.179	15
RAMP-N2	1,818,894.386	6,252,582.650	15
RAMP-N3	1,818,977.614	6,252,599.071	15
CCTV-S4	1,821,304.520	6,252,753.530	16
RAMP-S4	1,824,645.607	6,253,239.172	17
RAMP-S5	1,824,761.087	6,253,242.427	17
RAMP-S6	1,824,928.614	6,253,042.243	17
RAMP-S7	1,824,996.925	6,253,025.969	17
RAMP-N4	1,825,332.072	6,253,687.188	18
RAMP-N5	1,825,212.404	6,253,478.492	18
RAMP-N6	1,825,245.455	6,253,521.828	18
RAMP-N7	1,825,297.881	6,253,434.016	18
RAMP-N8	1,825,687.656	6,253,487.616	19
RAMP-N9	1,825,802.764	6,253,364.451	19
RAMP-N10	1,825,802.764	6,253,311.993	19
RAMP-N11	1,825,885.962	6,253,297.167	19
CCTV-N3	1,829,378.340	6,251,673.310	20
MVP-N4	1,829,777.720	6,251,476.740	21
RAMP-S8	1,831,349.895	6,250,589.056	22
RAMP-S9	1,831,553.469	6,250,506.772	22
RAMP-S10	1,831,808.187	6,250,367.290	22
RAMP-N12	1,832,314.569	6,250,695.773	23
RAMP-N13	1,832,262.969	6,250,566.979	23
RAMP-N14	1,832,226.867	6,250,544.903	23
RAMP-N15	1,832,275.459	6,250,493.074	23
CCTV-S5	1,832,542.810	6,250,119.670	24
RAMP-N16	1,832,893.018	6,250,272.311	25
RAMP-N17	1,833,199.521	6,250,067.733	25

TABLE 1
Boring Coordinates
SCL-101 Ramp Widening and TOS
Santa Clara County, California

Boring	Northing	Easting	Dataset
RAMP-N18	1,833,496.122	6,249,947.298	25
MVP-S6	1,838,757.450	6,247,511.910	26
CCTV-S6	1,838,833.010	6,247,490.250	27
MVP-S7	1,843,561.000	6,245,891.720	28
RAMP-S11	1,845,275.871	6,245,286.769	29
RAMP-S12	1,845,291.009	6,245,197.939	29
RAMP-S13	1,845,361.815	6,245,142.400	29
RAMP-S14	1,845,351.392	6,245,058.729	29
CCTV-N4	1,846,035.510	6,245,332.050	30
RAMP-N19	1,846,532.748	6,245,302.269	31
RAMP-N20	1,846,498.551	6,245,278.579	31
RAMP-N21	1,846,587.990	6,245,089.057	31
RAMP-N22	1,846,661.647	6,245,069.315	31
MVP-S8	1,848,251.510	6,244,320.720	32
CCTV-N5	1,851,426.550	6,243,351.270	33
MVP-N5	1,851,950.510	6,243,126.170	34
RAMP-S15	1,856,114.182	6,241,118.814	35
RAMP-S16	1,856,246.928	6,240,823.466	35
RAMP-S17	1,856,353.253	6,240,534.599	35
CCTV-N6	1,856,800.120	6,241,140.780	36
RAMP-N23	1,857,053.795	6,241,327.749	37
RAMP-N24	1,857,113.452	6,241,091.561	37
RAMP-N25	1,857,232.768	6,240,869.648	37
MVP-N6	1,859,922.080	6,239,713.880	38
CCTV-N7	1,861,171.490	6,238,905.960	39
MVP-N7	1,861,276.350	6,238,834.800	40
MVP-S9	1,863,216.830	6,236,659.310	41
CCTV-N8	1,864,675.390	6,235,486.770	42
MVP-N8	1,864,762.850	6,235,378.610	43
RAMP-S18	1,867,262.276	6,233,444.446	44
RAMP-S19	1,867,318.735	6,233,280.417	44
RAMP-S20	1,867,384.059	6,233,187.278	44
RAMP-S21	1,867,405.914	6,232,936.398	44
RAMP-S22	1,867,508.823	6,232,720.355	44
RAMP-S23	1,871,712.662	6,231,381.300	45
RAMP-S24	1,871,889.298	6,230,972.340	45
CCTV-N9	1,872,526.240	6,231,333.830	46
RAMP-N26	1,872,837.803	6,231,456.780	47
RAMP-N27	1,872,905.421	6,231,427.834	47
RAMP-N28	1,873,047.226	6,231,097.074	47
MVP-S10	1,877,371.220	6,227,842.970	48
RAMP-S25	1,879,224.533	6,226,389.971	49
RAMP-S26	1,879,551.566	6,226,103.094	49
RAMP-S27	1,879,636.039	6,226,076.332	49
RAMP-S28	1,879,867.417	6,225,877.100	49

TABLE 1
Boring Coordinates
SCL-101 Ramp Widening and TOS
Santa Clara County, California

Boring	Northing	Easting	Dataset
RAMP-N29	1,880,253.163	6,226,254.008	50
RAMP-N30	1,880,129.978	6,226,160.775	50
RAMP-N31	1,880,083.470	6,226,090.233	50
RAMP-N32	1,880,160.040	6,225,993.275	50
CCTV-S7	1,882,904.210	6,223,421.590	51
MVP-S11	1,882,932.950	6,223,415.610	52
MVP-S12	1,884,318.110	6,222,142.220	53
CMS-S2	1,884,399.120	6,222,074.340	54
CCTV-S8	1,886,272.670	6,220,840.210	55
MVP-S13	1,886,395.500	6,220,754.780	56
MVP-N9	1,888,550.250	6,219,075.620	57
CCTV-N10	1,890,155.330	6,217,741.120	58
MVP-N10	1,890,238.910	6,217,687.380	59
CCTV-N11	1,897,760.960	6,210,136.830	60
MVP-N11	1,897,845.930	6,210,009.570	61
MVP-N12	1,899,324.300	6,207,976.570	62
CCTV-N12	1,904,509.500	6,202,887.890	63
MVP-N13	1,904,597.950	6,202,815.500	64
CMS-N1	1,907,229.970	6,200,213.840	65
MVP-N14	1,907,276.170	6,200,170.110	66
CCTV-N13	1,908,662.450	6,198,531.630	67
MVP-N15	1,910,658.440	6,195,759.000	68
CCTV-N14	1,910,734.940	6,195,619.050	69

Coordinates shown in NAD 83, Zone 3

TABLE 2
Summary of Lead and pH Results
SCL-101 Ramp Widening and TOS
Santa Clara County, California

Sample ID	Dataset	Sample Depth (feet)	Total Lead (mg/kg)	WET Lead (mg/l)	DI-WET Lead (mg/l)	TCLP Lead (mg/l)	pH
CCTV-N1-0	9	0	95	6.5	<0.50	<0.50	---
CCTV-N1-1	9	1	<1.0	---	---	---	---
CCTV-N1-2.5	9	2.5	<10	---	---	---	7.9
CCTV-N1-5.5	9	5.5	5.3	---	---	---	---
CCTV-N2-0	12	0	15	---	---	---	---
CCTV-N2-1	12	1	24	---	---	---	---
CCTV-N2-2.5	12	2.5	3.2	---	---	---	7.8
CCTV-N2-5.5	12	5.5	9.3	---	---	---	---
CCTV-N3-0	20	0	26	---	---	---	---
CCTV-N3-1	20	1	10	---	---	---	---
CCTV-N3-2.5	20	2.5	5.0	---	---	---	7.5
CCTV-N3-5.5	20	5.5	3.4	---	---	---	---
CCTV-N4-0	30	0	2.8	---	---	---	---
CCTV-N4-1	30	1	3.0	---	---	---	---
CCTV-N4-2.5	30	2.5	3.0	---	---	---	7.6
CCTV-N4-5.5	30	5.5	2.9	---	---	---	---
CCTV-N5-0	33	0	4.0	---	---	---	---
CCTV-N5-1	33	1	3.7	---	---	---	---
CCTV-N5-2.5	33	2.5	8.7	---	---	---	7.4
CCTV-N5-5.5	33	5.5	3.1	---	---	---	---
CCTV-N6-0	36	0	11	---	---	---	---
CCTV-N6-1	36	1	3.9	---	---	---	---
CCTV-N6-2.5	36	2.5	3.8	---	---	---	7.1
CCTV-N6-5.5	36	5.5	3.9	---	---	---	---
CCTV-N7-0	39	0	8.2	---	---	---	---
CCTV-N7-1	39	1	2.8	---	---	---	---
CCTV-N7-2.5	39	2.5	5.1	---	---	---	7.3
CCTV-N7-5.5	39	5.5	7.6	---	---	---	---
CCTV-N8-0	42	0	8.0	---	---	---	---
CCTV-N8-1	42	1	4.2	---	---	---	---
CCTV-N8-2.5	42	2.5	6.5	---	---	---	7.5
CCTV-N8-5.5	42	5.5	7.3	---	---	---	---
CCTV-N9-0	46	0	37	---	---	---	---
CCTV-N9-1	46	1	6.8	---	---	---	---
CCTV-N9-2.5	46	2.5	7.2	---	---	---	7.8
CCTV-N9-5.5	46	5.5	6.3	---	---	---	---

TABLE 2
Summary of Lead and pH Results
SCL-101 Ramp Widening and TOS
Santa Clara County, California

Sample ID	Dataset	Sample Depth (feet)	Total Lead (mg/kg)	WET Lead (mg/l)	DI-WET Lead (mg/l)	TCLP Lead (mg/l)	pH
CCTV-N10-0	58	0	9.1	---	---	---	---
CCTV-N10-1	58	1	<1.0	---	---	---	---
CCTV-N10-2.5	58	2.5	2.2	---	---	---	8.5
CCTV-N10-5.5	58	5.5	<1.0	---	---	---	---
CCTV-N11-0	60	0	3.1	---	---	---	---
CCTV-N11-1	60	1	2.1	---	---	---	---
CCTV-N11-2.5	60	2.5	3.7	---	---	---	8.3
CCTV-N11-4.5	60	4.5	2.0	---	---	---	---
CCTV-N12-0	63	0	4.7	---	---	---	---
CCTV-N12-1	63	1	2.2	---	---	---	---
CCTV-N12-2.5	63	2.5	6.8	---	---	---	7.9
CCTV-N12-5.5	63	5.5	2.8	---	---	---	---
CCTV-N13-0	67	0	14	---	---	---	---
CCTV-N13-1	67	1	3.1	---	---	---	---
CCTV-N13-2.5	67	2.5	3.5	---	---	---	8.4
CCTV-N13-5.5	67	5.5	2.9	---	---	---	---
CCTV-N14-0	69	0	4.8	---	---	---	---
CCTV-N14-1	69	1	4.5	---	---	---	---
CCTV-N14-2.5	69	2.5	4.6	---	---	---	8.3
CCTV-N14-5.5	69	5.5	5.2	---	---	---	---
CCTV-S1-0	1	0	3.1	---	---	---	---
CCTV-S1-1	1	1	18	---	---	---	---
CCTV-S1-2.5	1	2.5	7.4	---	---	---	7.1
CCTV-S1-5.5	1	5.5	3.0	---	---	---	---
CCTV-S2-0	4	0	82	4.2	---	---	---
CCTV-S2-1	4	1	6.3	---	---	---	---
CCTV-S2-2.5	4	2.5	4.1	---	---	---	7.3
CCTV-S2-5.5	4	5.5	2.2	---	---	---	---
CCTV-S3-0	14	0	6.4	---	---	---	---
CCTV-S3-1	14	1	2.5	---	---	---	---
CCTV-S3-2.5	14	2.5	3.5	---	---	---	7.6
CCTV-S3-5.5	14	5.5	2.7	---	---	---	---
CCTV-S4-0	16	0	12	---	---	---	---
CCTV-S4-1	16	1	3.3	---	---	---	---
CCTV-S4-2.5	16	2.5	3.0	---	---	---	7.5
CCTV-S4-5.5	16	5.5	3.2	---	---	---	---

TABLE 2
Summary of Lead and pH Results
SCL-101 Ramp Widening and TOS
Santa Clara County, California

Sample ID	Dataset	Sample Depth (feet)	Total Lead (mg/kg)	WET Lead (mg/l)	DI-WET Lead (mg/l)	TCLP Lead (mg/l)	pH
CCTV-S5-0	24	0	19	---	---	---	---
CCTV-S5-1	24	1	6.9	---	---	---	---
CCTV-S5-2.5	24	2.5	5.6	---	---	---	7.4
CCTV-S5-5.5	24	5.5	4.5	---	---	---	---
CCTV-S6-0	27	0	19	---	---	---	---
CCTV-S6-1	27	1	6.9	---	---	---	---
CCTV-S6-2.5	27	2.5	7.1	---	---	---	7.9
CCTV-S6-5.5	27	5.5	3.0	---	---	---	---
CCTV-S7-0	51	0	11	---	---	---	---
CCTV-S7-1	51	1	5.2	---	---	---	---
CCTV-S7-2.5	51	2.5	5.7	---	---	---	7.9
CCTV-S8-0	55	0	16	---	---	---	---
CCTV-S8-1	55	1	2.9	---	---	---	---
CCTV-S8-2.5	55	2.5	2.5	---	---	---	8.5
CCTV-S8-5.5	55	5.5	7.3	---	---	---	---
CMS-N1-0	65	0	6.4	---	---	---	---
CMS-N1-1	65	1	4.9	---	---	---	8.4
CMS-N1-2.5	65	2.5	3.4	---	---	---	---
CMS-N1-5.5	65	5.5	5.6	---	---	---	8.9
CMS-N1-11.5	65	11.5	5.6	---	---	---	---
CMS-N1-17.5	65	17.5	3.9	---	---	---	---
CMS-S1-0	6	0	9.8	---	---	---	---
CMS-S1-1	6	1	6.3	---	---	---	6.4
CMS-S1-2.5	6	2.5	3.7	---	---	---	---
CMS-S1-5.5	6	5.5	3.1	---	---	---	8.2
CMS-S1-11.5	6	11.5	4.0	---	---	---	---
CMS-S1-23.5	6	23.5	3.1	---	---	---	---
CMS-S2-0	54	0	8.3	---	---	---	---
CMS-S2-1	54	1	7.4	---	---	---	7.5
CMS-S2-2.5	54	2.5	5.7	---	---	---	---
CMS-S2-5.5	54	5.5	5.8	---	---	---	8.0
CMS-S2-11.5	54	11.5	6.5	---	---	---	---
CMS-S2-25.5	54	25.5	4.7	---	---	---	---
MVP-N1-0	5	0	63	1.7	---	---	---
MVP-N1-1	5	1	12	---	---	---	7.6
MVP-N2-0	8	0	56	2.8	---	---	---
MVP-N2-1	8	1	<10	---	---	---	7.9

TABLE 2
Summary of Lead and pH Results
SCL-101 Ramp Widening and TOS
Santa Clara County, California

Sample ID	Dataset	Sample Depth (feet)	Total Lead (mg/kg)	WET Lead (mg/l)	DI-WET Lead (mg/l)	TCLP Lead (mg/l)	pH
MVP-N3-0	13	0	120	4.3	---	---	---
MVP-N3-1	13	1	2.6	---	---	---	7.8
MVP-N4-0	21	0	10	---	---	---	---
MVP-N4-1	21	1	3.6	---	---	---	7.6
MVP-N5-0	34	0	4.3	---	---	---	---
MVP-N5-1	34	1	5.4	---	---	---	7.8
MVP-N6-0	38	0	8.8	---	---	---	---
MVP-N6-1	38	1	4.0	---	---	---	7.2
MVP-N7-0	40	0	4.2	---	---	---	---
MVP-N7-1	40	1	2.3	---	---	---	7.5
MVP-N8-0	43	0	5.9	---	---	---	---
MVP-N8-1	43	1	6.4	---	---	---	7.6
MVP-N9-0	57	0	33	---	---	---	---
MVP-N9-1	57	1	4.4	---	---	---	8.2
MVP-N10-0	59	0	3.0	---	---	---	---
MVP-N10-1	59	1	1.7	---	---	---	8.2
MVP-N11-0	61	0	6.6	---	---	---	---
MVP-N11-1	61	1	3.0	---	---	---	8.0
MVP-N12-0	62	0	29	---	---	---	---
MVP-N12-1	62	1	3.4	---	---	---	8.3
MVP-N13-0	64	0	2.3	---	---	---	---
MVP-N13-1	64	1	2.6	---	---	---	7.4
MVP-N14-0	66	0	4.3	---	---	---	---
MVP-N14-1	66	1	3.5	---	---	---	8.2
MVP-N15-0	68	0	5.4	---	---	---	---
MVP-N15-1	68	1	5.0	---	---	---	8.6
MVP-S1-0	2	0	11	---	---	---	---
MVP-S1-1	2	1	18	---	---	---	7.0
MVP-S2-0	3	0	210	17	<0.50	0.58	---
MVP-S2-1	3	1	5.0	---	---	---	7.1

TABLE 2
Summary of Lead and pH Results
SCL-101 Ramp Widening and TOS
Santa Clara County, California

Sample ID	Dataset	Sample Depth (feet)	Total Lead (mg/kg)	WET Lead (mg/l)	DI-WET Lead (mg/l)	TCLP Lead (mg/l)	pH
MVP-S3-0	7	0	6.2	---	---	---	---
MVP-S3-1	7	1	5.2	---	---	---	6.5
MVP-S4-0	10	0	4.9	---	---	---	---
MVP-S4-1	10	1	10	---	---	---	7.5
MVP-S5-0	11	0	15	---	---	---	---
MVP-S5-1	11	1	120	8.4	<0.50	<0.50	7.7
MVP-S6-0	26	0	16	---	---	---	---
MVP-S6-1	26	1	8.1	---	---	---	7.3
MVP-S7-0	28	0	33	---	---	---	---
MVP-S7-1	28	1	10	---	---	---	6.7
MVP-S8-0	32	0	24	---	---	---	---
MVP-S8-1	32	1	3.6	---	---	---	7.0
MVP-S9-0	41	0	43	---	---	---	---
MVP-S9-1	41	1	2.8	---	---	---	7.2
MVP-S10-0	48	0	61	3.7	---	---	---
MVP-S10-1	48	1	8.6	---	---	---	6.6
MVP-S11-0	52	0	9.1	---	---	---	---
MVP-S11-1	52	1	5.8	---	---	---	7.5
MVP-S12-0	53	0	16	---	---	---	---
MVP-S12-1	53	1	7.6	---	---	---	7.3
MVP-S13-0	56	0	10	---	---	---	---
MVP-S13-1	56	1	9.6	---	---	---	8.5
Ramp-N1-0	15	0	19	---	---	---	---
Ramp-N1-1	15	1	6.4	---	---	---	7.4
Ramp-N2-0	15	0	75	2.5	---	---	---
Ramp-N2-1	15	1	3.7	---	---	---	7.9
Ramp-N3-0	15	0	25	---	---	---	---
Ramp-N3-1	15	1	4.8	---	---	---	7.8
Ramp-N4-0	18	0	1.8	---	---	---	---
Ramp-N4-1	18	1	19	---	---	---	7.9

TABLE 2
Summary of Lead and pH Results
SCL-101 Ramp Widening and TOS
Santa Clara County, California

Sample ID	Dataset	Sample Depth (feet)	Total Lead (mg/kg)	WET Lead (mg/l)	DI-WET Lead (mg/l)	TCLP Lead (mg/l)	pH
Ramp-N5-0	18	0	2.1	---	---	---	---
Ramp-N5-1	18	1	1.7	---	---	---	7.8
Ramp-N6-0	18	0	8.9	---	---	---	---
Ramp-N6-1	18	1	5.0	---	---	---	8.0
Ramp-N7-0	18	0	11	---	---	---	---
Ramp-N7-1	18	1	5.7	---	---	---	8.3
Ramp-N8-0	19	0	3.2	---	---	---	---
Ramp-N8-1	19	1	25	---	---	---	7.9
Ramp-N9-0	19	0	5.2	---	---	---	---
Ramp-N9-1	19	1	7.1	---	---	---	8.1
Ramp-N10-0	19	0	140	7.6	<0.50	<0.50	---
Ramp-N10-1	19	1	5.2	---	---	---	7.5
Ramp-N11-0	19	0	190	7.4	<0.50	<0.50	---
Ramp-N11-1	19	1	37	---	---	---	7.5
Ramp-N12-0	23	0	7.0	---	---	---	---
Ramp-N12-1	23	1	2.7	---	---	---	7.8
Ramp-N13-0	23	0	3.6	---	---	---	---
Ramp-N13-1	23	1	4.2	---	---	---	7.8
Ramp-N14-0	23	0	6.6	---	---	---	---
Ramp-N14-1	23	1	5.2	---	---	---	8.4
Ramp-N15-0	23	0	25	---	---	---	---
Ramp-N15-1	23	1	4.2	---	---	---	7.9
Ramp-N16-0	25	0	49	---	---	---	---
Ramp-N16-1	25	1	3.8	---	---	---	6.4
Ramp-N17-0	25	0	24	---	---	---	---
Ramp-N17-1	25	1	11	---	---	---	7.0
Ramp-N18-0	25	0	5.4	---	---	---	---
Ramp-N18-1	25	1	5.4	---	---	---	8.0
Ramp-N19-0	31	0	11	---	---	---	---
Ramp-N19-1	31	1	9.3	---	---	---	7.3

TABLE 2
Summary of Lead and pH Results
SCL-101 Ramp Widening and TOS
Santa Clara County, California

Sample ID	Dataset	Sample Depth (feet)	Total Lead (mg/kg)	WET Lead (mg/l)	DI-WET Lead (mg/l)	TCLP Lead (mg/l)	pH
Ramp-N20-0	31	0	11	---	---	---	---
Ramp-N20-1	31	1	5.0	---	---	---	7.3
Ramp-N21-0	31	0	4.0	---	---	---	---
Ramp-N21-1	31	1	3.7	---	---	---	7.5
Ramp-N22-0	31	0	5.0	---	---	---	---
Ramp-N22-1	31	1	11	---	---	---	7.4
Ramp-N23-0	37	0	12	---	---	---	---
Ramp-N23-1	37	1	9.8	---	---	---	7.0
Ramp-N24-0	37	0	4.2	---	---	---	---
Ramp-N24-1	37	1	9.9	---	---	---	7.9
Ramp-N25-0	37	0	7.9	---	---	---	---
Ramp-N25-1	37	1	9.8	---	---	---	7.5
Ramp-N26-0	47	0	190	10	<0.50	<0.50	---
Ramp-N26-1	47	1	6.9	---	---	---	7.1
Ramp-N27-0	47	0	11	---	---	---	---
Ramp-N27-1	47	1	8.4	---	---	---	7.0
Ramp-N28-0	47	0	23	---	---	---	---
Ramp-N28-1	47	1	20	---	---	---	6.7
Ramp-N29-0	50	0	13	---	---	---	---
Ramp-N29-1	50	1	11	---	---	---	6.7
Ramp-N30-0	50	0	9.5	---	---	---	---
Ramp-N30-1	50	1	11	---	---	---	7.9
Ramp-N31-0	50	0	26	---	---	---	---
Ramp-N31-1	50	1	4.7	---	---	---	8.4
Ramp-N32-0	50	0	26	---	---	---	---
Ramp-N32-1	50	1	5.9	---	---	---	7.8
Ramp-S1-0	14	0	94	3.8	---	---	---
Ramp-S1-1	14	1	4.1	---	---	---	7.9
Ramp-S2-0	14	0	92	7.4	<0.50	<0.50	---
Ramp-S2-1	14	1	11	---	---	---	8.5
Ramp-S3-0	14	0	64	5.4	<0.50	<0.50	---
Ramp-S3-1	14	1	4.3	---	---	---	6.8

TABLE 2
Summary of Lead and pH Results
SCL-101 Ramp Widening and TOS
Santa Clara County, California

Sample ID	Dataset	Sample Depth (feet)	Total Lead (mg/kg)	WET Lead (mg/l)	DI-WET Lead (mg/l)	TCLP Lead (mg/l)	pH
Ramp-S4-0	17	0	<1.0	---	---	---	---
Ramp-S4-1	17	1	3.7	---	---	---	7.6
Ramp-S5-0	17	0	8.2	---	---	---	---
Ramp-S5-1	17	1	2.5	---	---	---	7.6
Ramp-S6-0	17	0	19	---	---	---	---
Ramp-S6-1	17	1	3.2	---	---	---	7.7
Ramp-S7-0	17	0	69	2.2	---	---	---
Ramp-S7-1	17	1	4.5	---	---	---	8.3
Ramp-S8-0	22	0	120	3.4	---	---	---
Ramp-S8-1	22	1	2.6	---	---	---	7.9
Ramp-S9-0	22	0	190	11	<0.50	<0.50	---
Ramp-S9-1	22	1	6.8	---	---	---	7.9
Ramp-S10-0	22	0	150	8.9	<0.50	<0.50	---
Ramp-S10-1	22	1	8.1	---	---	---	7.8
Ramp-S11-0	29	0	30	---	---	---	---
Ramp-S11-1	29	1	3.6	---	---	---	6.9
Ramp-S12-0	29	0	3.9	---	---	---	---
Ramp-S12-1	29	1	6.6	---	---	---	6.6
Ramp-S13-0	29	0	6.9	---	---	---	---
Ramp-S13-1	29	1	4.1	---	---	---	7.0
Ramp-S14-0	29	0	10	---	---	---	---
Ramp-S14-1	29	1	6.4	---	---	---	7.3
Ramp-S15-0	35	0	24	---	---	---	---
Ramp-S15-1	35	1	5.8	---	---	---	7.4
Ramp-S16-0	35	0	29	---	---	---	---
Ramp-S16-1	35	1	12	---	---	---	7.2
Ramp-S17-0	35	0	24	---	---	---	---
Ramp-S17-1	35	1	3.6	---	---	---	7.4
Ramp-S18-0	44	0	46	---	---	---	---
Ramp-S18-1	44	1	7.1	---	---	---	7.4
Ramp-S19-0	44	0	12	---	---	---	---
Ramp-S19-1	44	1	4.7	---	---	---	7.7

TABLE 2
Summary of Lead and pH Results
SCL-101 Ramp Widening and TOS
Santa Clara County, California

Sample ID	Dataset	Sample Depth (feet)	Total Lead (mg/kg)	WET Lead (mg/l)	DI-WET Lead (mg/l)	TCLP Lead (mg/l)	pH
Ramp-S20-0	44	0	14	---	---	---	---
Ramp-S20-1	44	1	8.8	---	---	---	7.3
Ramp-S21-0	44	0	170	8.6	<0.50	<0.50	---
Ramp-S21-1	44	1	5.7	---	---	---	7.3
Ramp-S22-0	44	0	17	---	---	---	---
Ramp-S22-1	44	1	7.3	---	---	---	7.2
Ramp-S23-0	45	0	17	---	---	---	---
Ramp-S23-1	45	1	5.9	---	---	---	7.1
Ramp-S24-0	45	0	220	14	<0.50	<0.50	---
Ramp-S24-1	45	1	8.6	---	---	---	7.3
Ramp-S25-0	49	0	21	---	---	---	---
Ramp-S25-1	49	1	3.7	---	---	---	8.2
Ramp-S26-0	49	0	77	4.1	---	---	---
Ramp-S26-1	49	1	6.4	---	---	---	7.7
Ramp-S27-0	49	0	160	15	<0.50	<0.50	---
Ramp-S27-1	49	1	32	---	---	---	9.0
Ramp-S28-0	49	0	53	1.8	---	---	---
Ramp-S28-1	49	1	5.1	---	---	---	9.7
		Hazardous Waste Criteria					
		TTLC (mg/kg)	1,000	---	---	---	---
		STLC (mg/l)	---	5.0	---	---	---
		TCLP (mg/l)	---	---	---	5.0	---

QA/QC Samples	Date Collected	Total Lead (mg/l)
Rinse Blank	6/5/2012	<0.005
RB1	6/6/2012	0.005
RB	6/7/2012	<0.005
Rinse Blank	6/8/2012	<0.005

Notes:

mg/kg = Milligrams per kilogram
mg/l = Milligrams per liter
--- = Not analyzed or no standard
<5.0 = Not detected above the laboratory reporting limit
WET = Waste Extraction Test using citric acid as the extraction fluid
DI-WET = Waste Extraction Test using deionized water as the extraction fluid
TCLP = Toxicity Characteristic Leaching Procedure
TTLC = Total Threshold Limit Concentration
STLC = Soluble Threshold Limit Concentration
RB = Rinse Blank

TABLE 6
Summary of NOA Results
SCL-101 Ramp Widening and TOS
Santa Clara County, California

Sample ID	Dataset	Sample Depth (feet)	Asbestos Content (% dry weight)
CCTV-N1-0	9	0	ND
CCTV-N1-1	9	1	ND
CCTV-N1-5.5	9	5.5	<0.25% Chrysotile
CCTV-N2-0	12	0	ND
CCTV-N2-1	12	1	ND
CCTV-N2-5.5	12	5.5	ND
CCTV-N3-0	20	0	ND
CCTV-N3-1	20	1	ND
CCTV-N3-5.5	20	5.5	ND
CCTV-N4-0	30	0	ND
CCTV-N4-1	30	1	ND
CCTV-N4-5.5	30	5.5	ND
CCTV-N5-0	33	0	ND
CCTV-N5-1	33	1	ND
CCTV-N5-5.5	33	5.5	ND
CCTV-N6-0	36	0	ND
CCTV-N6-1	36	1	ND
CCTV-N6-5.5	36	5.5	ND
CCTV-N7-0	39	0	ND
CCTV-N7-1	39	1	ND
CCTV-N7-5.5	39	5.5	ND
CCTV-N8-0	42	0	ND
CCTV-N8-1	42	1	ND
CCTV-N8-5.5	42	5.5	ND
CCTV-N9-0	46	0	ND
CCTV-N9-1	46	1	ND
CCTV-N9-5.5	46	5.5	ND
CCTV-N10-0	58	0	0.25% Chrysotile
CCTV-N10-1	58	1	<0.25% Chrysotile
CCTV-N10-5.5	58	5.5	<0.25% Chrysotile
CCTV-N11-0	60	0	ND
CCTV-N11-1	60	1	ND
CCTV-N11-4.5	60	4.5	ND

TABLE 6
Summary of NOA Results
SCL-101 Ramp Widening and TOS
Santa Clara County, California

Sample ID	Dataset	Sample Depth (feet)	Asbestos Content (% dry weight)
CCTV-N12-0	63	0	ND
CCTV-N12-1	63	1	ND
CCTV-N12-5.5	63	5.5	<0.25% Chrysotile
CCTV-N13-0 NOA	67	0	0.50% Chrysotile
CCTV-N13-1 NOA	67	1	0.25% Chrysotile
CCTV-N13-5.5 NOA	67	5.5	0.25% Chrysotile
CCTV-N14-0 NOA	69	0	ND
CCTV-N14-1 NOA	69	1	ND
CCTV-N14-5.5 NOA	69	5.5	ND
CCTV-S1-0 NOA	1	0	0.25% Chrysotile
CCTV-S1-1 NOA	1	1	ND
CCTV-S1-5.5 NOA	1	5.5	ND
CCTV-S2-0 NOA	4	0	ND
CCTV-S2-1 NOA	4	1	ND
CCTV-S2-5.5 NOA	4	5.5	ND
CCTV-S3-0 NOA	14	0	ND
CCTV-S3-1 NOA	14	1	ND
CCTV-S3-5.5 NOA	14	5.5	ND
CCTV-S4-0 NOA	16	0	ND
CCTV-S4-1 NOA	16	1	ND
CCTV-S4-5.5 NOA	16	5.5	ND
CCTV-S5-0 NOA	24	0	ND
CCTV-S5-1 NOA	24	1	ND
CCTV-S5-5.5 NOA	24	5.5	ND
CCTV-S6-0	27	0	ND
CCTV-S6-1	27	1	ND
CCTV-S6-5.5	27	5.5	ND
CCTV-S7-0 NOA	51	0	ND
CCTV-S7-1 NOA	51	1	ND
CCTV-S8-0	55	0	0.25% Chrysotile
CCTV-S8-1	55	1	<0.25% Chrysotile
CCTV-S8-5.5	55	5.5	ND
CMS-N1-0	65	0	0.25% Chrysotile
CMS-N1-2.5	65	2.5	ND
CMS-N1-11.5	65	11.5	ND

TABLE 6
Summary of NOA Results
SCL-101 Ramp Widening and TOS
Santa Clara County, California

Sample ID	Dataset	Sample Depth (feet)	Asbestos Content (% dry weight)
CMS-S1-0	6	0	ND
CMS-S1-2.5	6	2.5	ND
CMS-S1-11.5	6	11.5	ND
CMS-S2-0	54	0	ND
CMS-S2-2.5	54	2.5	ND
CMS-S2-11.5	54	11.5	ND
MVP-N1-0	5	0	ND
MVP-N1-1	5	1	ND
MVP-N2-0	8	0	ND
MVP-N2-1	8	1	ND
MVP-N3-0	13	0	ND
MVP-N3-1	13	1	ND
MVP-N4-0	21	0	ND
MVP-N4-1	21	1	ND
MVP-N5-0	34	0	ND
MVP-N5-1	34	1	ND
MVP-N6-0	38	0	ND
MVP-N6-1	38	1	ND
MVP-N7-0	40	0	ND
MVP-N7-1	40	1	ND
MVP-N8-0	43	0	ND
MVP-N8-1	43	1	ND
MVP-N9-0	57	0	ND
MVP-N9-1	57	1	ND
MVP-N10-0	59	0	0.25% Chrysotile
MVP-N10-1	59	1	0.75% Chrysotile
MVP-N11-0	61	0	ND
MVP-N11-1	61	1	ND
MVP-N12-0	62	0	<0.25% Chrysotile
MVP-N12-1	62	1	0.50% Chrysotile
MVP-N13-0	64	0	0.25% Chrysotile
MVP-N13-1	64	1	ND

TABLE 6
Summary of NOA Results
SCL-101 Ramp Widening and TOS
Santa Clara County, California

Sample ID	Dataset	Sample Depth (feet)	Asbestos Content (% dry weight)
MVP-N14-0	66	0	ND
MVP-N14-1	66	1	ND
MVP-N15-0	68	0	ND
MVP-N15-1	68	1	ND
MVP-S1-0	2	0	ND
MVP-S1-1	2	1	ND
MVP-S2-0 NOA	3	0	ND
MVP-S2-1 NOA	3	1	ND
MVP-S3-0 NOA	7	0	ND
MVP-S3-1 NOA	7	1	ND
MVP-S4-0 NOA	10	0	ND
MVP-S4-1 NOA	10	1	ND
MVP-S5-0 NOA	11	0	ND
MVP-S5-1 NOA	11	1	ND
MVP-S6-0 NOA	26	0	ND
MVP-S6-1 NOA	26	1	ND
MVP-S7-0 NOA	28	0	ND
MVP-S7-1 NOA	28	1	ND
MVP-S8-0 NOA	32	0	ND
MVP-S8-1 NOA	32	1	<0.25% Chrysotile
MVP-S9-0 NOA	41	0	ND
MVP-S9-1 NOA	41	1	ND
MVP-S10-0 NOA	48	0	0.50% Chrysotile
MVP-S10-1 NOA	48	1	ND
MVP-S11-0	52	0	ND
MVP-S11-1	52	1	ND
MVP-S12-0 NOA	53	0	ND
MVP-S12-1 NOA	53	1	ND
MVP-S13-0	56	0	ND
MVP-S13-1	56	1	<0.25% Chrysotile
Ramp-N1-0	15	0	ND
Ramp-N1-1	15	1	ND

TABLE 6
Summary of NOA Results
SCL-101 Ramp Widening and TOS
Santa Clara County, California

Sample ID	Dataset	Sample Depth (feet)	Asbestos Content (% dry weight)
Ramp-N2-0	15	0	ND
Ramp-N2-1	15	1	ND
Ramp-N3-0	15	0	ND
Ramp-N3-1	15	1	ND
Ramp-N4-0	18	0	ND
Ramp-N4-1	18	1	ND
Ramp-N5-0	18	0	ND
Ramp-N5-1	18	1	<0.25% Chrysotile
Ramp-N6-0	18	0	ND
Ramp-N6-1	18	1	ND
Ramp-N7-0	18	0	ND
Ramp-N7-1	18	1	ND
Ramp-N8-0	19	0	ND
Ramp-N8-1	19	1	ND
Ramp-N9-0	19	0	ND
Ramp-N9-1	19	1	ND
Ramp-N10-0	19	0	ND
Ramp-N10-1	19	1	ND
Ramp-N11-0	19	0	ND
Ramp-N11-1	19	1	ND
Ramp-N12-0	23	0	ND
Ramp-N12-1	23	1	ND
Ramp-N13-0	23	0	<0.25% Chrysotile
Ramp-N13-1	23	1	ND
Ramp-N14-0	23	0	ND
Ramp-N14-1	23	1	ND
Ramp-N15-0	23	0	ND
Ramp-N15-1	23	1	ND
Ramp-N16-0	25	0	ND
Ramp-N16-1	25	1	ND
Ramp-N17-0	25	0	ND
Ramp-N17-1	25	1	ND

TABLE 6
Summary of NOA Results
SCL-101 Ramp Widening and TOS
Santa Clara County, California

Sample ID	Dataset	Sample Depth (feet)	Asbestos Content (% dry weight)
Ramp-N18-0	25	0	ND
Ramp-N18-1	25	1	ND
Ramp-N19-0	31	0	ND
Ramp-N19-1	31	1	ND
Ramp-N20-0	31	0	ND
Ramp-N20-1	31	1	<0.25% Chrysotile
Ramp-N21-0	31	0	ND
Ramp-N21-1	31	1	ND
Ramp-N22-0	31	0	ND
Ramp-N22-1	31	1	ND
Ramp-N23-0	37	0	<0.25% Chrysotile
Ramp-N23-1	37	1	ND
Ramp-N24-0	37	0	ND
Ramp-N24-1	37	1	ND
Ramp-N25-0	37	0	ND
Ramp-N25-1	37	1	ND
Ramp-N26-0	47	0	ND
Ramp-N26-1	47	1	ND
Ramp-N27-0	47	0	<0.25% Chrysotile
Ramp-N27-1	47	1	ND
Ramp-N28-0	47	0	<0.25% Chrysotile
Ramp-N28-1	47	1	ND
Ramp-N29-0	50	0	ND
Ramp-N29-1	50	1	ND
Ramp-N30-0	50	0	<0.25% Chrysotile
Ramp-N30-1	50	1	ND
Ramp-N31-0	50	0	ND
Ramp-N31-1	50	1	ND
Ramp-N32-0	50	0	ND
Ramp-N32-1	50	1	ND
Ramp-S1-0 NOA	14	0	ND
Ramp-S1-1 NOA	14	1	ND

TABLE 6
Summary of NOA Results
SCL-101 Ramp Widening and TOS
Santa Clara County, California

Sample ID	Dataset	Sample Depth (feet)	Asbestos Content (% dry weight)
Ramp-S2-0 NOA	14	0	ND
Ramp-S2-1 NOA	14	1	ND
Ramp-S3-0 NOA	14	0	ND
Ramp-S3-1 NOA	14	1	0.25% Chrysotile
Ramp-S4-0 NOA	17	0	ND
Ramp-S4-1 NOA	17	1	ND
Ramp-S5-0 NOA	17	0	ND
Ramp-S5-1 NOA	17	1	ND
Ramp-S6-0 NOA	17	0	ND
Ramp-S6-1 NOA	17	1	ND
Ramp-S7-0 NOA	17	0	ND
Ramp-S7-1 NOA	17	1	ND
Ramp-S8-0 NOA	22	0	ND
Ramp-S8-1 NOA	22	1	ND
Ramp-S9-0 NOA	22	0	ND
Ramp-S9-1 NOA	22	1	<0.25% Chrysotile
Ramp-S10-0 NOA	22	0	ND
Ramp-S10-1 NOA	22	1	ND
Ramp-S11-0 NOA	29	0	<0.25% Chrysotile
Ramp-S11-1 NOA	29	1	ND
Ramp-S12-0 NOA	29	0	ND
Ramp-S12-1 NOA	29	1	ND
Ramp-S13-0 NOA	29	0	<0.25% Chrysotile
Ramp-S13-1 NOA	29	1	<0.25% Chrysotile
Ramp-S14-0 NOA	29	0	ND
Ramp-S14-1 NOA	29	1	ND
Ramp-S15-0 NOA	35	0	ND
Ramp-S15-1 NOA	35	1	ND
Ramp-S16-0 NOA	35	0	ND
Ramp-S16-1 NOA	35	1	ND
Ramp-S17-0 NOA	35	0	ND
Ramp-S17-1 NOA	35	1	ND

TABLE 6
Summary of NOA Results
SCL-101 Ramp Widening and TOS
Santa Clara County, California

Sample ID	Dataset	Sample Depth (feet)	Asbestos Content (% dry weight)
Ramp-S18-0 NOA	44	0	ND
Ramp-S18-1 NOA	44	1	ND
Ramp-S19-0 NOA	44	0	ND
Ramp-S19-1 NOA	44	1	ND
Ramp-S20-0 NOA	44	0	ND
Ramp-S20-1 NOA	44	1	ND
Ramp-S21-0 NOA	44	0	<0.25% Chrysotile
Ramp-S21-1 NOA	44	1	ND
Ramp-S22-0 NOA	44	0	ND
Ramp-S22-1 NOA	44	1	ND
Ramp-S23-0 NOA	45	0	<0.25% Chrysotile
Ramp-S23-1 NOA	45	1	ND
Ramp-S24-0 NOA	45	0	<0.25% Chrysotile
Ramp-S24-1 NOA	45	1	ND
Ramp-S25-0 NOA	49	0	ND
Ramp-S25-1 NOA	49	1	ND
Ramp-S26-0 NOA	49	0	ND
Ramp-S26-1 NOA	49	1	ND
Ramp-S27-0 NOA	49	0	ND
Ramp-S27-1 NOA	49	1	ND
Ramp-S28-0 NOA	49	0	ND
Ramp-S28-1 NOA	49	1	ND

ND = None detected at 0.25% target analytical sensitivity.

STORM WATER INFORMATION HANDOUT
CONTRACT NO: 04-153304
04-SCl-101-PM 0.0/26.7
RAMP WIDENING & INSTALLATION OF TRAFFIC OPERATION SYSTEM (TOS)

California Department of Transportation
District 04
Water Quality Program
111 Grand Avenue, Oakland California, 94612

January 2013

Disclaimer

A "Disclaimer" is required specifying that the information provided in the Non Storm Water Information Handout is just a guideline and is to be used for information purposes only and should not be considered a sole source document to adhere to the requirements of the new National Pollutant Discharge Elimination System (NPDES) Construction General Permit (CGP), Number CAS000002, adopted on September 2, 2009. The contractor is required to provide water quality monitoring, sampling and implement best management practices (BMPs) based on standard industry operations, field conditions and conditions encountered based on the contractor's means and methods. The information in this handout is not to be construed in any way as a waiver of the provisions in the CGP. Bidders and contractors are cautioned to make independent investigations and examinations as they deem necessary to satisfy the conditions encountered in performance of work, with respect to the following: sampling and monitoring locations, distribution of watershed areas for sizing of BMPs, and selection of BMPs in order to conform to the requirement of the contract documents and the CGP.

PROJECT TITLE SHEET &
LOCATION OF CONSTRUCTION

INDEX OF PLANS

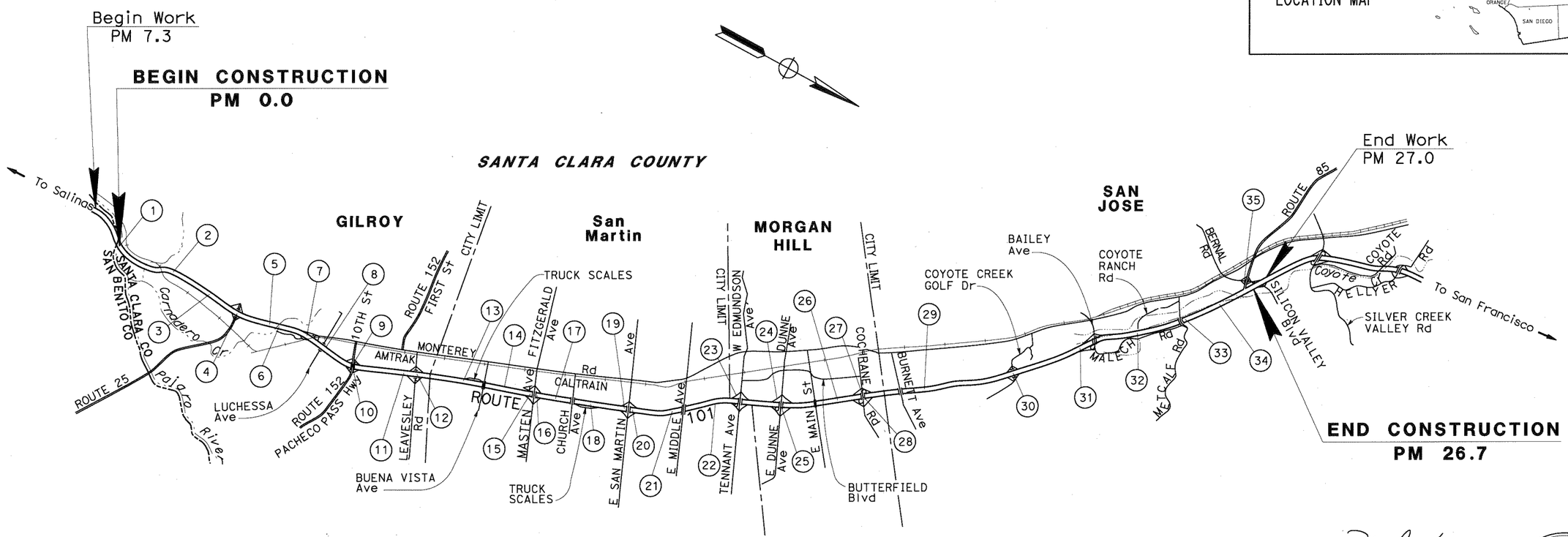
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

PROJECT PLANS FOR CONSTRUCTION ON
STATE HIGHWAY
IN SANTA CLARA COUNTY
AT VARIOUS LOCATIONS
FROM SAN BENITO COUNTY LINE
TO ROUTE 85/101 INTERCHANGE

TO BE SUPPLEMENTED BY STANDARD PLANS DATED 2010

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	101	0.0/26.7		

LOCATION MAP



NOTE:
THE TABLE OF LOCATIONS OF CONSTRUCTION IS SHOWN ON THE LOCATIONS OF CONSTRUCTION SHEET.

NO SCALE

THE CONTRACTOR SHALL POSSESS THE CLASS (OR CLASSES) OF LICENSE AS SPECIFIED IN THE "NOTICE TO BIDDERS."

Peter Aguilera 11-14-12
PROJECT ENGINEER DATE
REGISTERED CIVIL ENGINEER

REGISTERED PROFESSIONAL ENGINEER
Peter Aguilera
No. 55287
Exp. 12-31-14
CIVIL
STATE OF CALIFORNIA

PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

CONTRACT No.	04-153304
PROJECT ID	0400020304

PROJECT MANAGER: DINA EL-TAWANSY
DESIGN ENGINEER: VAN HEW

LAST REVISION 12-01-12
DATE PLOTTED => 03-DEC-2012
TIME PLOTTED => 09:13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	101	0.0/26.7		

Peter Aguilera 11-14-12
REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER Peter Aguilera No. 55287 Exp. 12-31-14 CIVIL STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

ABBREVIATIONS:

ML MAINLINE
rm EXISTING RM EQUIPMENT, MAY NEED MINOR WORK TO MAKE OPERATIONAL
TMS(WMVDS) WIRELESS MAGNETOMETER VEHICLE DETECTION SYSTEM
** ABREVIATIONS FROM STANDARD PLAN SHEET ES-1A

LOCATIONS OF CONSTRUCTION

Loc	Dir	PM	TYPE** OF WORK	LAYOUT PLAN No.	ELECTRICAL PLAN No.	NOTES
1	SB	0.15	CCTV	1	3	JUST NORTH OF COUNTY LINE
	SB	0.14	MVP	1	3	LOCATION 1
	NB	0.20	TMS		3	0.20 MILES OF NORTH OF COUNTY LINE
	SB	0.20	TMS		3	0.18 MILES NORTH OF COUNTY LINE
2	SB	0.95	MVP	2	5	LOCATION 2a
	SB	1.00	CCTV	2	5	0.23 MILES NORTH OF SARGENT Br, LEFT OH
	NB	1.15	TMS		5	0.34 MILES NORTH OF SARGENT Br, RIGHT OH
	SB	1.15	TMS		5	0.38 MILES NORTH OF SARGENT Br, LEFT OH
	NB	1.20	MVP	3	6	LOCATION 2b
	SB	1.50	CMS		7	
3	NB	2.00	MVP	4	8	LOCATION 3
	NB	2.00	TMS		8	
	SB	2.00	TMS		8	
	NB	2.02	CCTV	4	8	
4	SB	2.95	MVP	5	9	LOCATION 4
	NB	3.03	TMS		9	
	SB	3.03	TMS (2)		9	ROUTE 25 & MAINLINE
	NB	3.19	rm		10	ROUTE 25 (OFF-RAMP COUNT LOOP)
	NB	3.23	TMS (2)		10	ROUTE 25 & MAINLINE
	SB	3.23	rm/TMS		10	ROUTE 25 (OFF-RAMP COUNT LOOP)
5	NB	4.00	MVP	6	11	LOCATION 5
	NB	4.00	TMS		11	
	SB	4.00	TMS		11	
6	NB	4.20	CCTV	7	12	
	NB	4.25	MVP	7	12	LOCATION 6
7	NB	4.75	rm		13	MONTEREY Rd (OFF RAMP COUNT LOOP)
	SB	4.82	WIDEN/RM/TMS	8	13-14	MONTEREY Rd DIAGONAL ON-RAMP, Loc 7a
	SB	4.85	CCTV		13	MONTEREY Rd UC
	NB	4.86	WIDEN/RM/TMS	9	13	MONTEREY Rd LOOP ON-RAMP, Loc 7b
	SB	5.15	rm		14	MONTEREY Rd (OFF RAMP COUNT LOOP)
8	SB	5.30	CCTV		15	LUCHESSA AvE UC
9	SB	5.92	WIDEN/RM/TMS	10	16-18	10th St/Rte 152 DIAGONAL ON-RAMP, Loc 9
	SB	6.12	rm/TMS		19	10th St/Rte 152 LOOP ON-RAMP
10	NB	6.04	WIDEN/RM/TMS	11	22	10th St/Rte 152 LOOP ON-RAMP, Loc 10a
	NB	6.15	WIDEN/RM/TMS	11	22-23	10th St/Rte 152 DIAGONAL ON-RAMP, Loc 10b

LOCATIONS OF CONSTRUCTION

Loc	Dir	PM	TYPE** OF WORK	LAYOUT PLAN No.	ELECTRICAL PLAN No.	NOTES
11	NB	6.90	CCTV		24	
	NB	6.96	MVP	12	24	LOCATION 11a
	NB	7.00	TMS		24	
	SB	7.00	TMS		24	
	NB	7.29	rm/TMS		25	LEAVESLEY Rd (OFF-RAMP COUNT LOOP)
	SB	7.29	WIDEN/RM/TMS	13	25-26	LEAVESLEY Rd DIAGONAL ON-RAMP, Loc 11b
	NB	7.48	WIDEN/RM/TMS	14	26	LEAVESLEY Rd LOOP ON-RAMP, Loc 11c
	SB	7.60	CCTV		26	
12	NB	7.74	WIDEN/RM/TMS	15	27-28	LEAVESLEY Rd DIAGONAL ON-RAMP, Loc 12
	SB	7.74	rm/TMS		28	LEAVESLEY Rd (OFF-RAMP COUNT LOOP)
13	NB	8.80	TMS		29	
	SB	8.80	TMS (2)		29	TRUCK SCALES & MAINLINE
	SB	8.85	MVP	16	29	LOCATION 13
	SB	8.86	CCTV	16	29	
14	NB	9.70	TMS		30	
	SB	9.70	TMS		30	
	SB	9.80	MVP	17	30	LOCATION 14
15	NB	10.04	rm/TMS		31	MASTEN Ave (OFF-RAMP COUNT LOOP)
	SB	10.15	WIDEN/RM/TMS	18	31-33	MASTEN Ave DIAGONAL ON-RAMP, Loc 15
16	NB	10.30	CCTV		35	MASTEN Ave OC
	NB	10.41	WIDEN/RM/TMS	19	34-35	MASTEN Ave DIAGONAL ON-RAMP, Loc 16
	SB	10.50	rm/TMS		36	MASTEN Ave (OFF-RAMP COUNT LOOP)
17	NB	10.80	TMS		37	
	SB	10.80	TMS		37	
	SB	10.80	MVP	20	37	LOCATION 17
18	NB	11.37	CCTV	21	39	
	NB	11.48	MVP	21	39	LOCATION 18
	NB	11.53	TMS (2)		39	TRUCK SCALES & MAINLINE
	SB	11.53	TMS		39	
19	NB	12.31	rm/TMS		40	SAN MARTIN Ave (OFF-RAMP COUNT LOOP)
	SB	12.34	WIDEN/RM/TMS	22	40-41	SAN MARTIN Ave DIAGONAL ON-RAMP, Loc 19
20	NB	12.45	CCTV		42	SAN MARTIN Ave OC
	NB	12.57	WIDEN/RM/TMS	23	42-43	SAN MARTIN Ave DIAGONAL ON-RAMP, Loc 20
	SB	12.60	rm/TMS		43	SAN MARTIN Ave (OFF-RAMP COUNT LOOP)

LOCATIONS OF CONSTRUCTION
LC-1

REVISED BY: VH — DATE REVISED: 11/21/12
VAN HEW — PETER AGUILERA
CALCULATED-DESIGNED BY — CHECKED BY
FUNCTIONAL SUPERVISOR: ARLISSA PANG
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® DESIGN

LAST REVISION 12-01-12 — DATE PLOTTED => 03-DEC-2012 — TIME PLOTTED => 09:13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCl	101	0.0/26.7		

Peter Aguilera 11-14-12
REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER Peter Aguilera No. 55287 Exp. 12-31-14 CIVIL STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

LOCATIONS OF CONSTRUCTION

Loc	Dir	PM	TYPE** OF WORK	LAYOUT PLAN No.	ELECTRICAL PLAN No.	NOTES
21	NB	13.10	MVP	24	44	LOCATION 21a
	NB	13.10	TMS		44	
	SB	13.10	TMS		44	
	NB	13.38	MVP	25	45	LOCATION 21b
	NB	13.38	CCTV	25	45	
	SB	13.95	MVP	26	48	LOCATION 21C
	NB	13.98	TMS		48	
	SB	13.98	TMS		48	
22	NB	14.31	CCTV	27	49	
	NB	14.31	MVP	27	49	LOCATION 22
23	SB	14.95	WIDEN/RM/TMS	28	50-51	TENNANT Ave DIAGONAL ON-RAMP
24	SB	15.88	WIDEN/RM/TMS	29	52-53	DUNNE Ave DIAGONAL ON-RAMP
25	NB	15.85	rm		54	DUNNE Ave (OFF-RAMP COUNT LOOP)
	NB	15.94	rm/TMS		54	DUNNE Ave LOOP ON-RAMP
	NB	16.02	CCTV		54	DUNNE Ave OC
	NB	16.18	WIDEN/RM/TMS	30	55-56	DUNNE Ave DIAGONAL ON-RAMP
	SB	16.27	rm/TMS		56	DUNNE Ave (OFF-RAMP COUNT LOOP)
26	SB	17.18	MVP	31	57	LOCATION 26
	NB	17.19	TMS		57	LAUREL Rd
	SB	17.19	TMS		57	LAUREL Rd
27	SB	17.60	WIDEN/RM/TMS	32	58,61	COCHRANE Rd DIAGONAL ON-RAMP
	SB	17.87	RM/TMS		61	COCHRANE Rd LOOP ON-RAMP
	SB	17.87	MVP	33	61	COCHRANE Rd LOOP ON-RAMP, Loc 27
28	SB	18.13	rm		60	COCHRANE Rd (OFF-RAMP COUNT LOOP)
	NB	17.77	WIDEN/RM/TMS	34	59	COCHRANE Rd LOOP ON-RAMP
	NB	17.96	rm/TMS		60	COCHRANE Rd DIAGONAL ON-RAMP
29	NB	18.30	TMS		62	
	SB	18.30	TMS		62	
	SB	18.58	CCTV		63	
	SB	18.88	CMS		65	
	SB	19.30	CCTV	35	66	COYOTE CREEK Br
	SB	19.35	MVP	35	66	LOCATION 29
	NB	19.80	TMS		68	
	SB	19.80	TMS		68	

LOCATIONS OF CONSTRUCTION

Loc	Dir	PM	TYPE** OF WORK	LAYOUT PLAN No.	ELECTRICAL PLAN No.	NOTES
30	NB	20.25	CCTV	36	69	
	NB	20.25	MVP	36	69	LOCATION 30a
	NB	20.75	TMS		71	
	SB	20.75	TMS		71	
	NB	20.80	MVP	37	71	LOCATION 30b
	SB	21.06	rm/TMS		72	COYOTE CREEK GOLF Dr DIAGONAL ON-RAMP
	NB	21.46	rm/TMS		75	COYOTE CREEK GOLF Dr DIAGONAL ON-RAMP
	NB	22.43	CCTV	38	79	
	NB	22.45	MVP	38	79	LOCATION 30c
	NB	22.45	TMS		79	
	SB	22.45	TMS		79	
31	NB	22.80	TMS		80	
	SB	22.80	TMS		80	
	NB	22.80	MVP	39	80	LOCATION 31
	SB	23.28	rm/TMS		82	BAILEY Ave DIAGONAL ON-RAMP
	NB	23.43	rm/TMS		82	BAILEY Ave LOOP ON-RAMP
	SB	23.64	rm/TMS		83	BAILEY Ave (OFF-RAMP COUNT LOOP)
32	NB	24.20	CCTV		84	
	NB	24.47	TMS		85	
	SB	24.47	TMS		85	
	NB	24.87	MVP	40	87	LOCATION 32
	NB	24.90	CMS	40	87	
	NB	24.90	TMS		87	
	SB	24.90	TMS		87	
33	NB	25.32	CCTV		88	METCALF Rd OC
	NB	25.32	TMS(WMVDS)		88	
	SB	25.32	TMS(WMVDS)		88	METCALF Rd OC
34	NB	25.90	TMS		89	
	SB	25.90	TMS		89	
	NB	26.00	MVP	41	89	LOCATION 34
	NB	26.00	CCTV	41	89	
35	SB	26.71	rm/TMS		92	ROUTE 85 CONNECTOR
	SB	26.74	rm		92	BERNAL Rd DIAGONAL ON-RAMP

LOCATIONS OF CONSTRUCTION
LC-2

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® DESIGN

FUNCTIONAL SUPERVISOR: ARLISSA PANG
CALCULATED-DESIGNED BY: VAN HEW
CHECKED BY: PETER AGUILERA
REVISED BY: VH
DATE REVISED: 11/21/12

LAST REVISION 12-01-12
DATE PLOTTED => 03-DEC-2012
TIME PLOTTED => 09:13

RISK ASSESSMENT

	A	B	C
1	**Sediment Risk Factor Worksheet**		**Entry**
2	**A) R Factor**		
3	Analyses of data indicated that when factors other than rainfall are held constant, soil loss is directly proportional to a rainfall factor composed of total storm kinetic energy (E) times the maximum 30-min intensity (I30) (Wischmeier and Smith, 1958). The numerical value of R is the average annual sum of EI30 for storm events during a rainfall record of at least 22 years. "Isoerodent" maps were developed based on R values calculated for more than 1000 locations in the Western U.S. Refer to the link below to determine the R factor for the project site.		
4	http://cfpub.epa.gov/npdes/stormwater/LEW/lewCalculator.cfm		
5	**R Factor Value**		60
6	**B) K Factor (weighted average, by area, for all site soils)**		
7	The soil-erodibility factor K represents: (1) susceptibility of soil or surface material to erosion, (2) transportability of the sediment, and (3) the amount and rate of runoff given a particular rainfall input, as measured under a standard condition. Fine-textured soils that are high in clay have low K values (about 0.05 to 0.15) because the particles are resistant to detachment. Coarse-textured soils, such as sandy soils, also have low K values (about 0.05 to 0.2) because of high infiltration resulting in low runoff even though these particles are easily detached. Medium-textured soils, such as a silt loam, have moderate K values (about 0.25 to 0.45) because they are moderately susceptible to particle detachment and they produce runoff at moderate rates. Soils having a high silt content are especially susceptible to erosion and have high K values, which can exceed 0.45 and can be as large as 0.65. Silt-size particles are easily detached and tend to crust, producing high rates and large volumes of runoff. Use Site-specific data must be submitted.		
8	Site-specific K factor guidance		
9	**K Factor Value**		0.2
10	**C) LS Factor (weighted average, by area, for all slopes)**		
11	The effect of topography on erosion is accounted for by the LS factor, which combines the effects of a hillslope-length factor, L, and a hillslope-gradient factor, S. Generally speaking, as hillslope length and/or hillslope gradient increase, soil loss increases. As hillslope length increases, total soil loss and soil loss per unit area increase due to the progressive accumulation of runoff in the downslope direction. As the hillslope gradient increases, the velocity and erosivity of runoff increases. Use the LS table located in separate tab of this spreadsheet to determine LS factors. Estimate the weighted LS for the site prior to construction.		
12	LS Table		
13	**LS Factor Value**		0.68
14			
15	**Watershed Erosion Estimate (=RxKxLS) in tons/acre**	8.16	
16	**Site Sediment Risk Factor**	**Low**	
17	Low Sediment Risk: < 15 tons/acre		
18	Medium Sediment Risk: >=15 and <75 tons/acre		
19	High Sediment Risk: >= 75 tons/acre		
20			

Receiving Water (RW) Risk Factor Worksheet	Entry	Score
A. Watershed Characteristics	**yes/no**	
A.1. Does the disturbed area discharge (either directly or indirectly) to a **303(d)-listed waterbody impaired by sediment** (For help with impaired waterbodies please visit the link below) or has a **USEPA approved TMDL implementation plan for sediment**?: http://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2010.shtml **OR** A.2. Does the disturbed area discharge to a waterbody with designated beneficial uses of SPAWN & COLD & MIGRATORY? (For help please review the appropriate Regional Board Basin Plan) http://www.waterboards.ca.gov/waterboards_map.shtml	**yes**	**High**
Region 1 Basin Plan Region 2 Basin Plan Region 3 Basin Plan Region 4 Basin Plan Region 5 Basin Plan Region 6 Basin Plan Region 7 Basin Plan Region 8 Basin Plan Region 9 Basin Plan		

Combined Risk Level Matrix

Receiving Water Risk	Sediment Risk: Low	Sediment Risk: Medium	Sediment Risk: High
Low	Level 1	Level 2	
High	Level 2		Level 3

Project Sediment Risk: Low

Project RW Risk: High

Project Combined Risk: Level 2

RAINFALL DATA

Rainfall Intensity can be obtained by the following link:

http://www.wrcc.dri.edu/pcpnfreq/nca5y24.gif

Refer to chapters 800, Highway Drainage Design of Highway Design Manual for information on runoff coefficient and shed map. The weighted runoff coefficient of 0.55 is recommended for the project area.

PROJECT DISCHARGE LOCATION

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	101	0.0/26.7		

Peter Aguilera 11-14-12
REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER Peter Aguilera No. 55287 Exp. 12-31-14 CIVIL STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NOTE:

FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

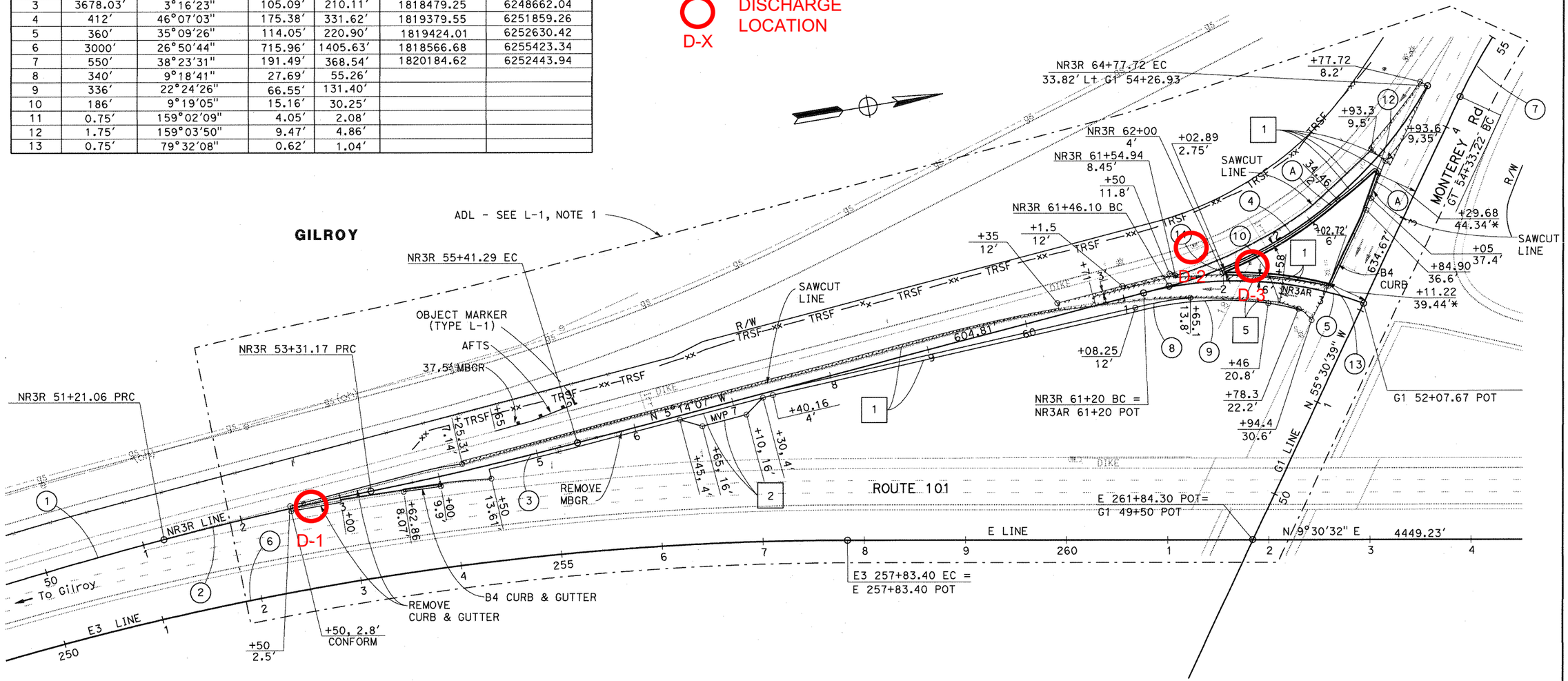
No. ⊛	L	FLARE
A	45′	1:15

CURVE DATA

No. ⊛	R	Δ	T	L	N-COORDINATE	E-COORDINATE
1	4568′	4°14′23"	169.09′	338.02′	1818812.33	6256900.04
2	3678.03′	3°16′23"	105.09′	210.11′	1818731.12	6256013.79
3	3678.03′	3°16′23"	105.09′	210.11′	1818479.25	6248662.04
4	412′	46°07′03"	175.38′	331.62′	1819379.55	6251859.26
5	360′	35°09′26"	114.05′	220.90′	1819424.01	6252630.42
6	3000′	26°50′44"	715.96′	1405.63′	1818566.68	6255423.34
7	550′	38°23′31"	191.49′	368.54′	1820184.62	6252443.94
8	340′	9°18′41"	27.69′	55.26′		
9	336′	22°24′26"	66.55′	131.40′		
10	186′	9°19′05"	15.16′	30.25′		
11	0.75′	159°02′09"	4.05′	2.08′		
12	1.75′	159°03′50"	9.47′	4.86′		
13	0.75′	79°32′08"	0.62′	1.04′		

LEGEND:

D-X DISCHARGE LOCATION



NOTES: (FOR THIS SHEET ONLY)

1. ALL CONSTRUCTION WORK SHOWN IS LOCATED IN "SPECIES PROTECTION AREA 2" (SPA2).
2. EARTHWORK CONTAINS "NATURALLY OCCURING ASBESTOS" (NOA). SEE C-3 AND Q-1.

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET L-1

LAYOUT
LOCATION 7a
SCALE: 1" = 50′

L-8

PA	11/19/12
REVISED BY	DATE REVISED
PETER AGUILERA	VAN HEW
CALCULATED-DESIGNED BY	CHECKED BY
FUNCTIONAL SUPERVISOR	ARLISSA PANG

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans DESIGN

LAST REVISION 11-30-12 DATE PLOTTED => 03-DEC-2012 TIME PLOTTED => 08:55

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	101	0.0/26.7		

Peter Aguilera 11-14-12
REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER Peter Aguilera No. 55287 Exp. 12-31-14 CIVIL STATE OF CALIFORNIA

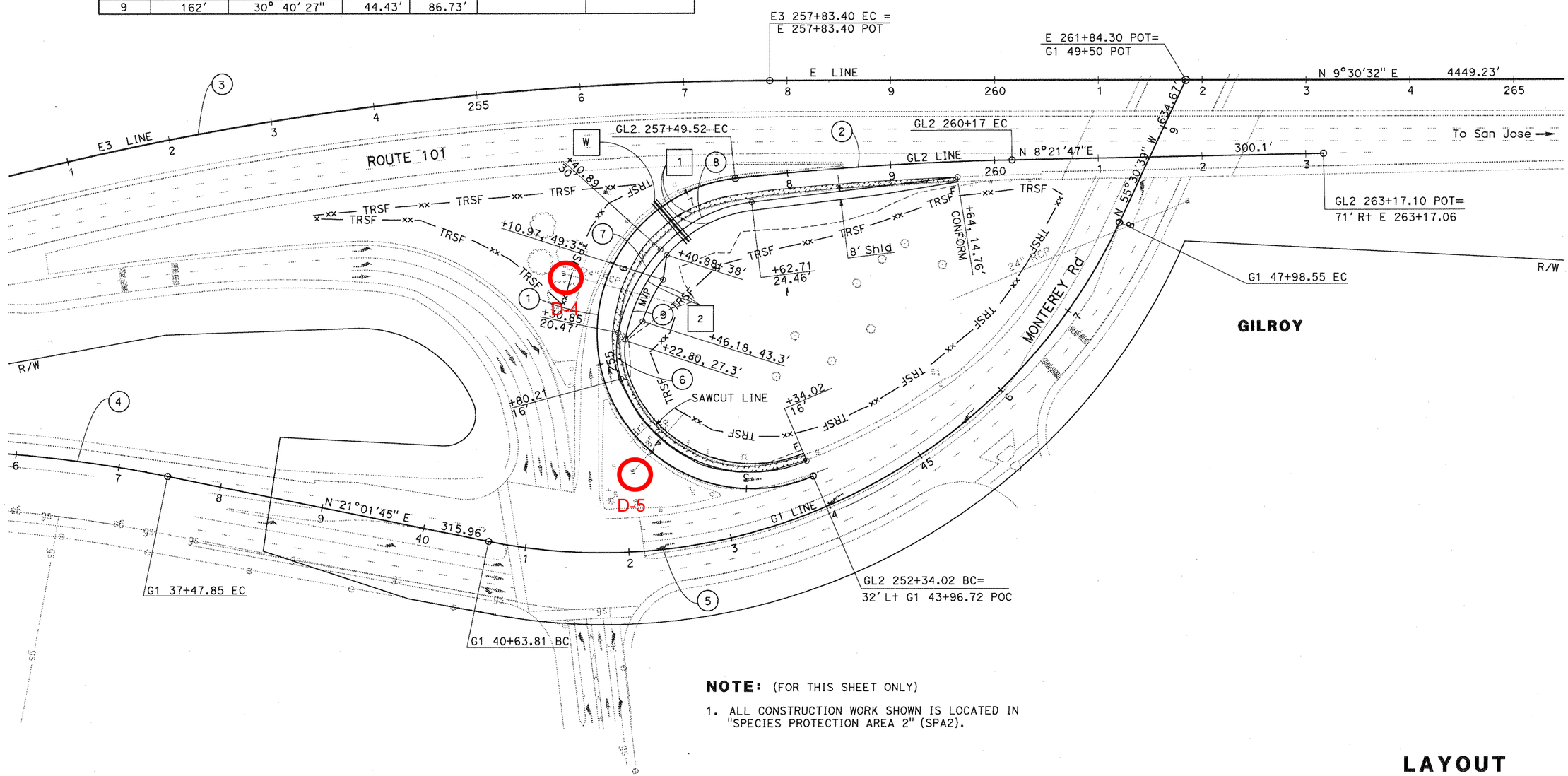
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NOTE:

FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

CURVE DATA

No. ⊛	R	Δ	T	L	N-COORDINATE	E-COORDINATE
1	150′	196° 54′ 19″	1009.38′	515.50′	1819005.44	6252701.79
2	3000′	5° 06′ 31″	133.83′	267.49′	1818843.64	6255547.19
3	3000′	26° 50′ 44″	715.96′	1405.63′	1818566.68	6255423.34
4	1300′	30° 15′ 18″	351.44′	686.46′	1817959.81	6253957.59
5	550′	76° 32′ 24″	433.90′	734.73′	1818918.59	6252344.18
6	84.03′	30° 41′ 53″	23.07′	45.02′		
7	170′	30° 40′ 27″	46.62′	91.01′		
8	142′	40° 53′ 45″	52.94′	101.35′		
9	162′	30° 40′ 27″	44.43′	86.73′		



NOTE: (FOR THIS SHEET ONLY)

1. ALL CONSTRUCTION WORK SHOWN IS LOCATED IN "SPECIES PROTECTION AREA 2" (SPA2).

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET L-1

LAYOUT
LOCATION 7b
SCALE: 1" = 50′

L-9

STATE OF CALIFORNIA – DEPARTMENT OF TRANSPORTATION
Caltrans
DESIGN

FUNCTIONAL SUPERVISOR: ARLISSA PANG
CALCULATED-DESIGNED BY: PETER AGUILERA
CHECKED BY: VAN HEW
REVISED BY: PA
DATE REVISED: 11/19/12

LAST REVISION 11-09-12
DATE PLOTTED => 03-DEC-2012
TIME PLOTTED => 10:55

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	101	0.0/26.7		

Peter Aguilera 11-14-12
REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER Peter Aguilera No. 55287 Exp. 12-31-14 CIVIL STATE OF CALIFORNIA

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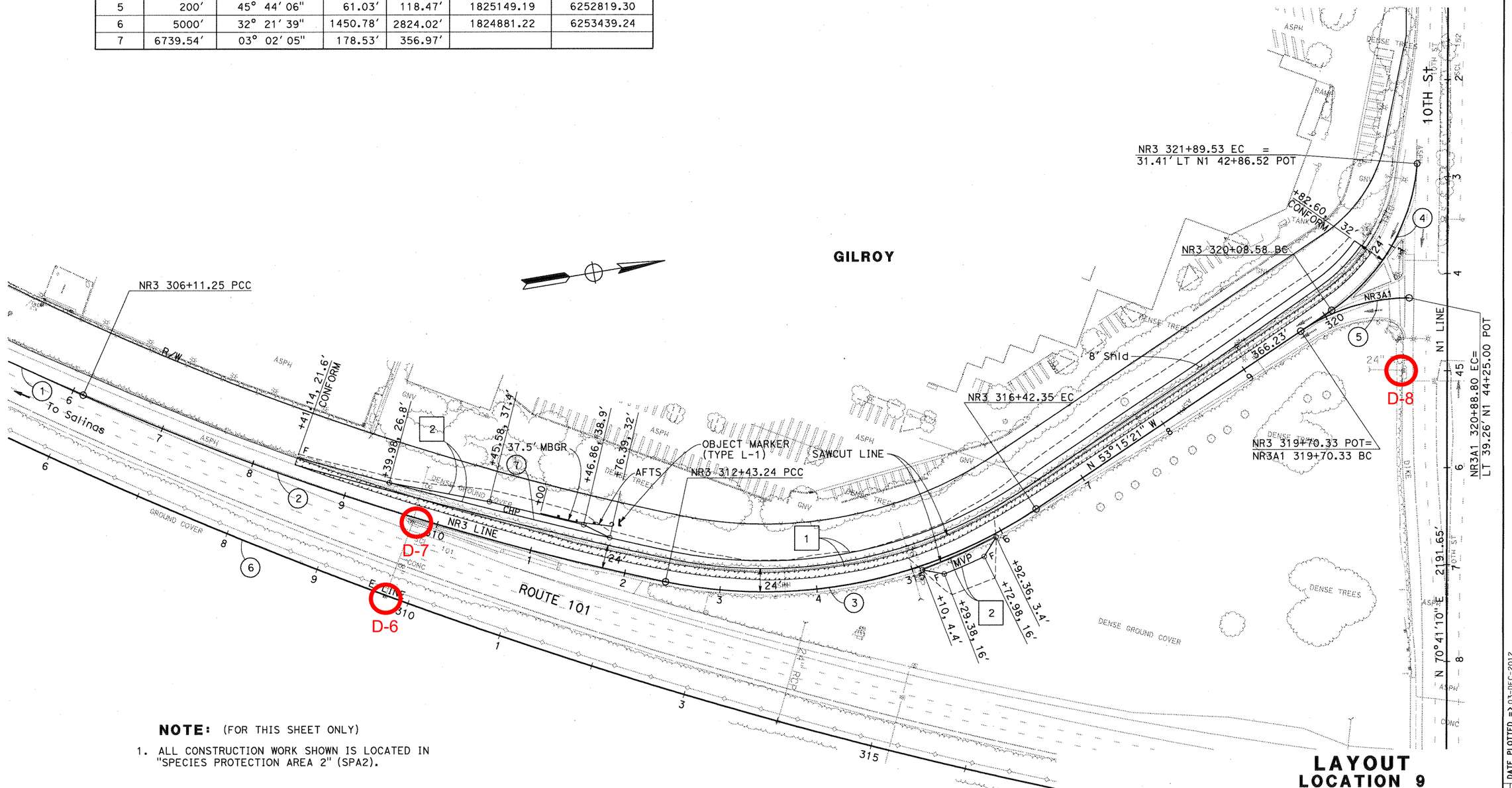
NOTE:

FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

CURVE DATA

No. ⊛	R	Δ	T	L	N-COORDINATE	E-COORDINATE
1	5000′	01° 15′ 02"	54.57′	109.13′	1823772.50	6253171.07
2	3000′	12° 04′ 12"	317.17′	631.98′	1824143.06	6253200.56
3	500′	45° 44′ 06"	210.87′	399.11′	1824666.56	6253131.45
4	200′	51° 50′ 23"	97.20′	180.96′	1825069.96	6252591.12
5	200′	45° 44′ 06"	61.03′	118.47′	1825149.19	6252819.30
6	5000′	32° 21′ 39"	1450.78′	2824.02′	1824881.22	6253439.24
7	6739.54′	03° 02′ 05"	178.53′	356.97′		



NOTE: (FOR THIS SHEET ONLY)

1. ALL CONSTRUCTION WORK SHOWN IS LOCATED IN "SPECIES PROTECTION AREA 2" (SPA2).

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET L-1

LAYOUT LOCATION 9

SCALE: 1" = 50′

L-10

CALCULATED-DESIGNED BY	PETER AGUILERA	REVISED BY	PA
CHECKED BY	VAN HEW	DATE REVISED	11/19/12

FUNCTIONAL SUPERVISOR: ARLISSA PANG

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans DESIGN

LAST REVISION 11-16-12 | DATE PLOTTED => 03-DEC-2012 | TIME PLOTTED => 09:11

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	101	0.0/26.7		

Peter Aguilera 11-14-12
REGISTERED CIVIL ENGINEER DATE

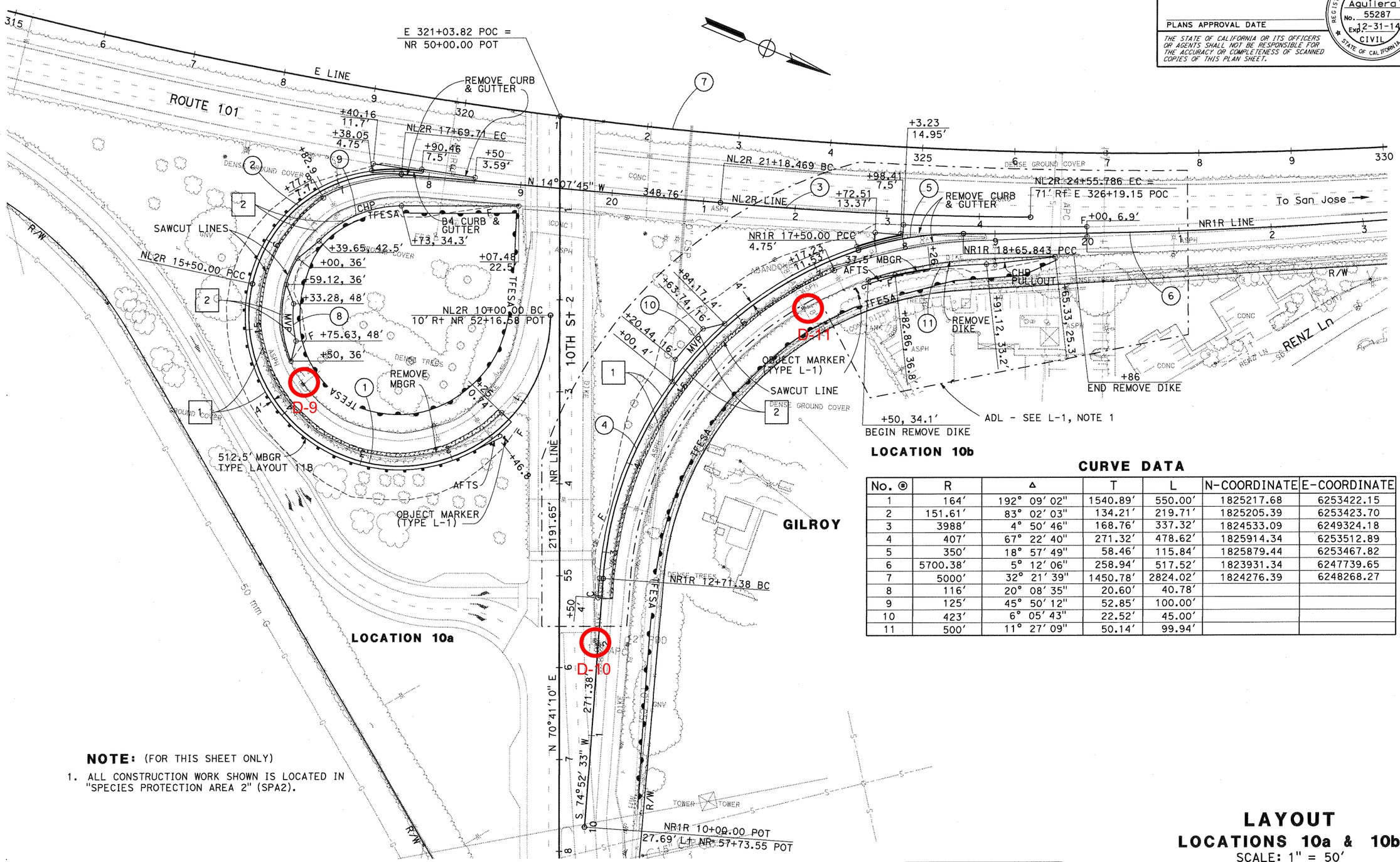
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER Peter Aguilera No. 55287 Exp. 12-31-14 CIVIL STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NOTE:

FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.



NOTE: (FOR THIS SHEET ONLY)

1. ALL CONSTRUCTION WORK SHOWN IS LOCATED IN "SPECIES PROTECTION AREA 2" (SPA2).

CURVE DATA

No. ⊛	R	Δ	T	L	N-COORDINATE	E-COORDINATE
1	164′	192° 09′ 02"	1540.89′	550.00′	1825217.68	6253422.15
2	151.61′	83° 02′ 03"	134.21′	219.71′	1825205.39	6253423.70
3	3988′	4° 50′ 46"	168.76′	337.32′	1824533.09	6249324.18
4	407′	67° 22′ 40"	271.32′	478.62′	1825914.34	6253512.89
5	350′	18° 57′ 49"	58.46′	115.84′	1825879.44	6253467.82
6	5700.38′	5° 12′ 06"	258.94′	517.52′	1823931.34	6247739.65
7	5000′	32° 21′ 39"	1450.78′	2824.02′	1824276.39	6248268.27
8	116′	20° 08′ 35"	20.60′	40.78′		
9	125′	45° 50′ 12"	52.85′	100.00′		
10	423′	6° 05′ 43"	22.52′	45.00′		
11	500′	11° 27′ 09"	50.14′	99.94′		

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET L-1

LAYOUT
LOCATIONS 10a & 10b
SCALE: 1" = 50′

L-11

REVISED BY	DATE REVISED
PA	11/19/12

PETER AGUILERA — CALCULATED-DESIGNED BY
VAN HEW — CHECKED BY
ARLISSA PANG — FUNCTIONAL SUPERVISOR

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans DESIGN

LAST REVISION 12-02-12 | DATE PLOTTED => 03-DEC-2012 | TIME PLOTTED => 09:23

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	101	0.0/26.7		

Peter Aguilera 11-14-12
REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER Peter Aguilera No. 55287 Exp. 12-31-14 CIVIL STATE OF CALIFORNIA

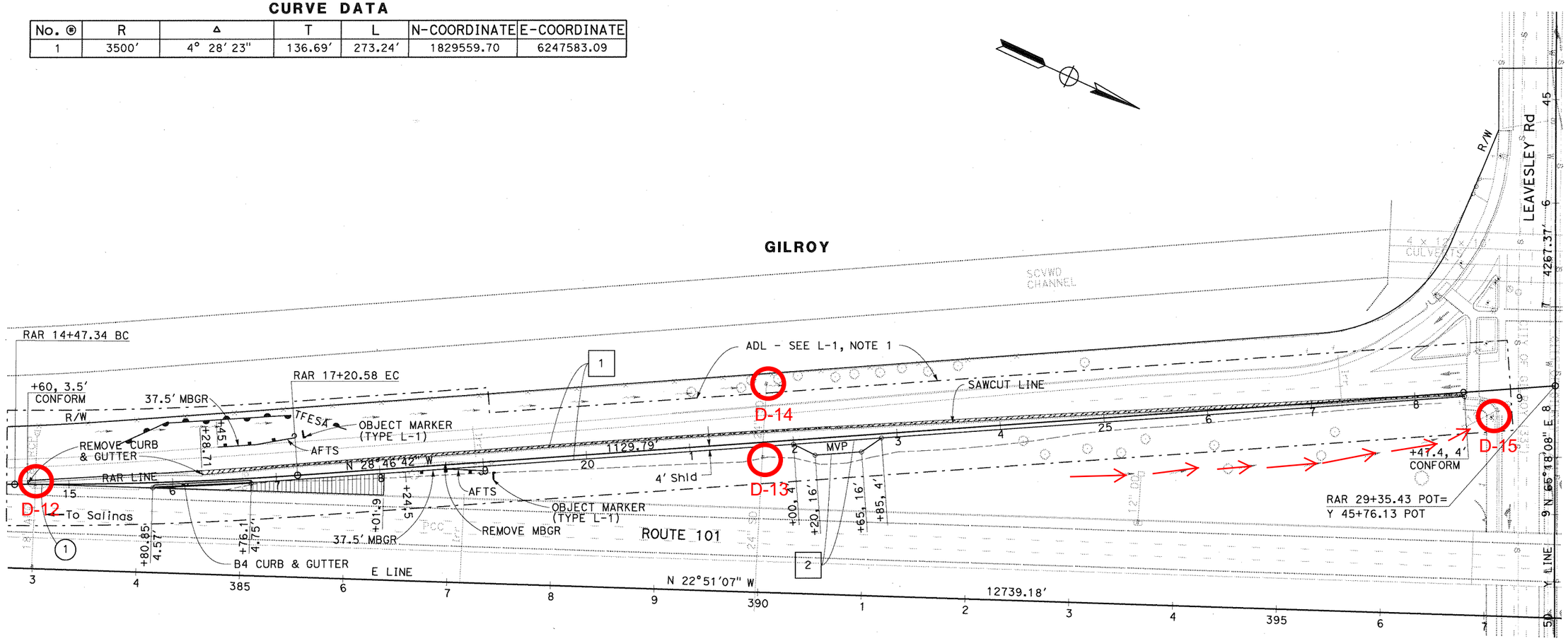
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NOTE:

FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

CURVE DATA

No. ⊛	R	Δ	T	L	N-COORDINATE	E-COORDINATE
1	3500′	4° 28′ 23″	136.69′	273.24′	1829559.70	6247583.09



NOTE: (FOR THIS SHEET ONLY)

1. ALL CONSTRUCTION WORK SHOWN IS LOCATED IN "SPECIES PROTECTION AREA 2" (SPA2).

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET L-1

LAYOUT
(LOCATION 11b)
SCALE: 1" = 50′

L-13

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® DESIGN

FUNCTIONAL SUPERVISOR: ARLISSA PANG

CALCULATED-DESIGNED BY: PETER AGUILERA
CHECKED BY: VAN HEW

REVISED BY: PA
DATE REVISED: 11/19/12

LAST REVISION: 12-01-12
DATE PLOTTED => 03-DEC-2012
TIME PLOTTED => 11:31

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	101	0.0/26.7		

Peter Aguilera 11-14-12
REGISTERED CIVIL ENGINEER DATE

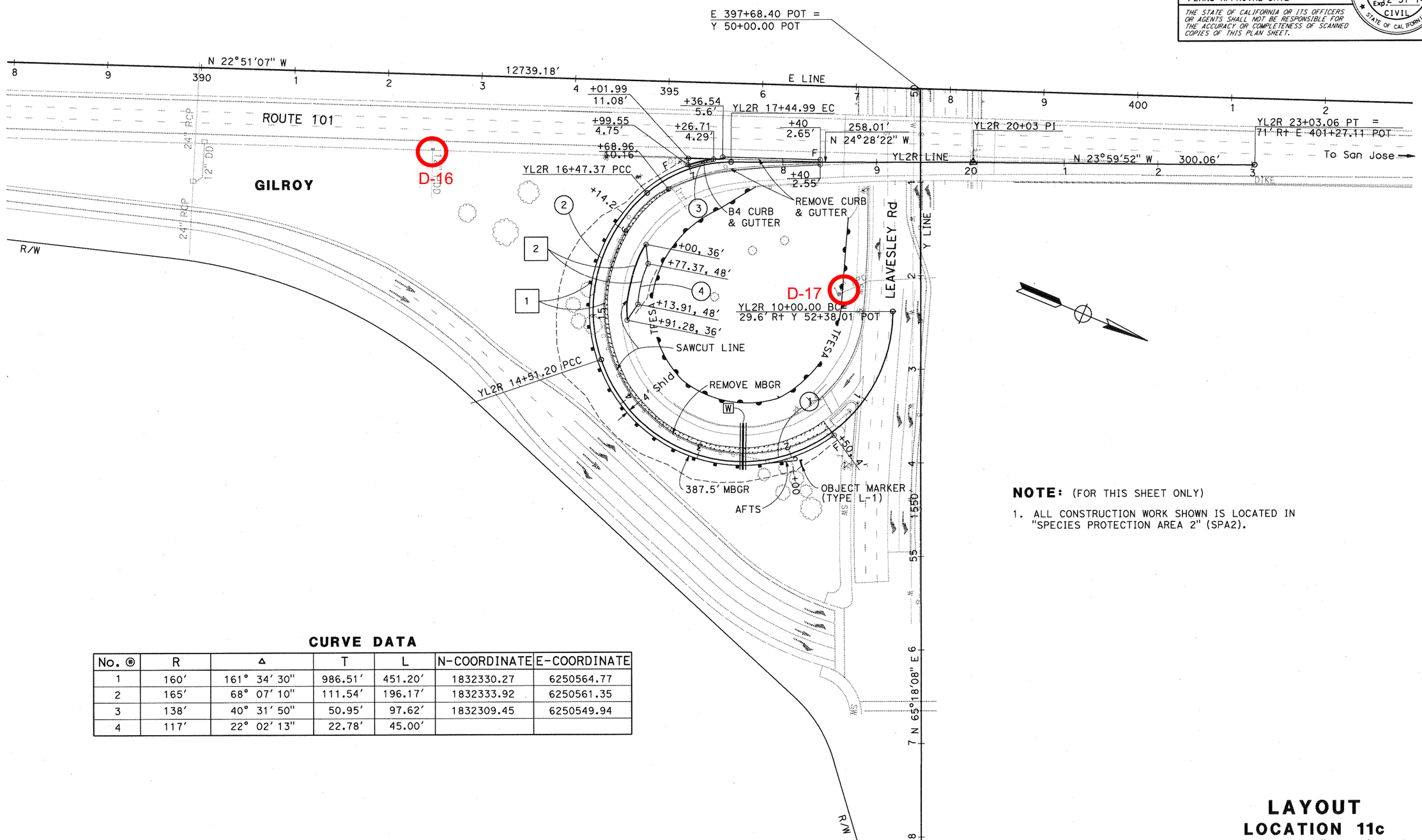
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER Peter Aguilera No. 55287 Exp. 12-31-14 CIVIL STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NOTE:

FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.



NOTE: (FOR THIS SHEET ONLY)

1. ALL CONSTRUCTION WORK SHOWN IS LOCATED IN "SPECIES PROTECTION AREA 2" (SPA2).

CURVE DATA

No. ⊛	R	Δ	T	L	N-COORDINATE	E-COORDINATE
1	160′	161° 34′ 30"	986.51′	451.20′	1832330.27	6250564.77
2	165′	68° 07′ 10"	111.54′	196.17′	1832333.92	6250561.35
3	138′	40° 31′ 50"	50.95′	97.62′	1832309.45	6250549.94
4	117′	22° 02′ 13"	22.78′	45.00′		

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET L-1

LAYOUT
LOCATION 11c
SCALE: 1" = 50′

L-14

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
DESIGN

FUNCTIONAL SUPERVISOR: ARLISSA PANG
CALCULATED-DESIGNED BY: PETER AGUILERA
CHECKED BY: VAN HEW
REVISED BY: PA
DATE REVISED: 11/19/12

LAST REVISION 12-02-12
DATE PLOTTED => 03-DEC-2012
TIME PLOTTED => 10:10

BORDER LAST REVISED 7/2/2010
USERNAME => s131732
DGN FILE => 0400020304ea014.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 0702
PROJECT NUMBER & PHASE 04000203041

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCl	101	0.0/26.7		

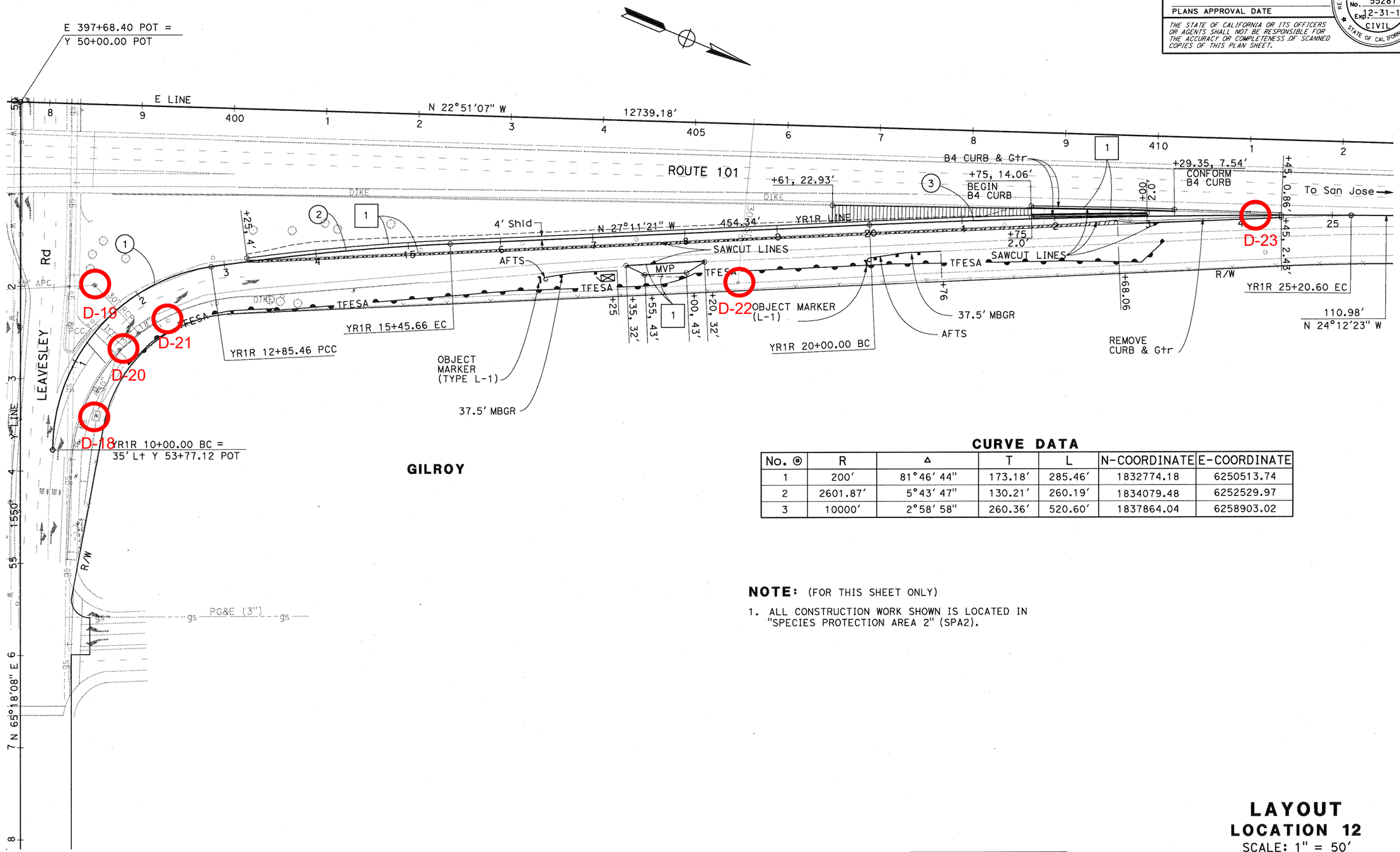
Peter Aguilera 11-14-12
REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER Peter Aguilera No. 55287 Exp. 12-31-14 CIVIL STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NOTE:
FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.



CURVE DATA

No. ⊛	R	Δ	T	L	N-COORDINATE	E-COORDINATE
1	200'	81°46' 44"	173.18'	285.46'	1832774.18	6250513.74
2	2601.87'	5°43' 47"	130.21'	260.19'	1834079.48	6252529.97
3	10000'	2°58' 58"	260.36'	520.60'	1837864.04	6258903.02

NOTE: (FOR THIS SHEET ONLY)

1. ALL CONSTRUCTION WORK SHOWN IS LOCATED IN "SPECIES PROTECTION AREA 2" (SPA2).

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET L-1

LAYOUT
LOCATION 12
SCALE: 1" = 50'

L-15

REVISED BY	DATE REVISED
PA	11/19/12

PETER AGUILERA — VAN HEW — CALCULATED-DESIGNED BY — CHECKED BY
FUNCTIONAL SUPERVISOR — ARLISSA PANG
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION — DESIGN

LAST REVISION 12-02-12 — DATE PLOTTED => 03-DEC-2012 — TIME PLOTTED => 10:22

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	101	0.0/26.7		

Peter Aguilera 11-14-12
REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER Peter Aguilera No. 55287 Exp. 12-31-14 CIVIL STATE OF CALIFORNIA

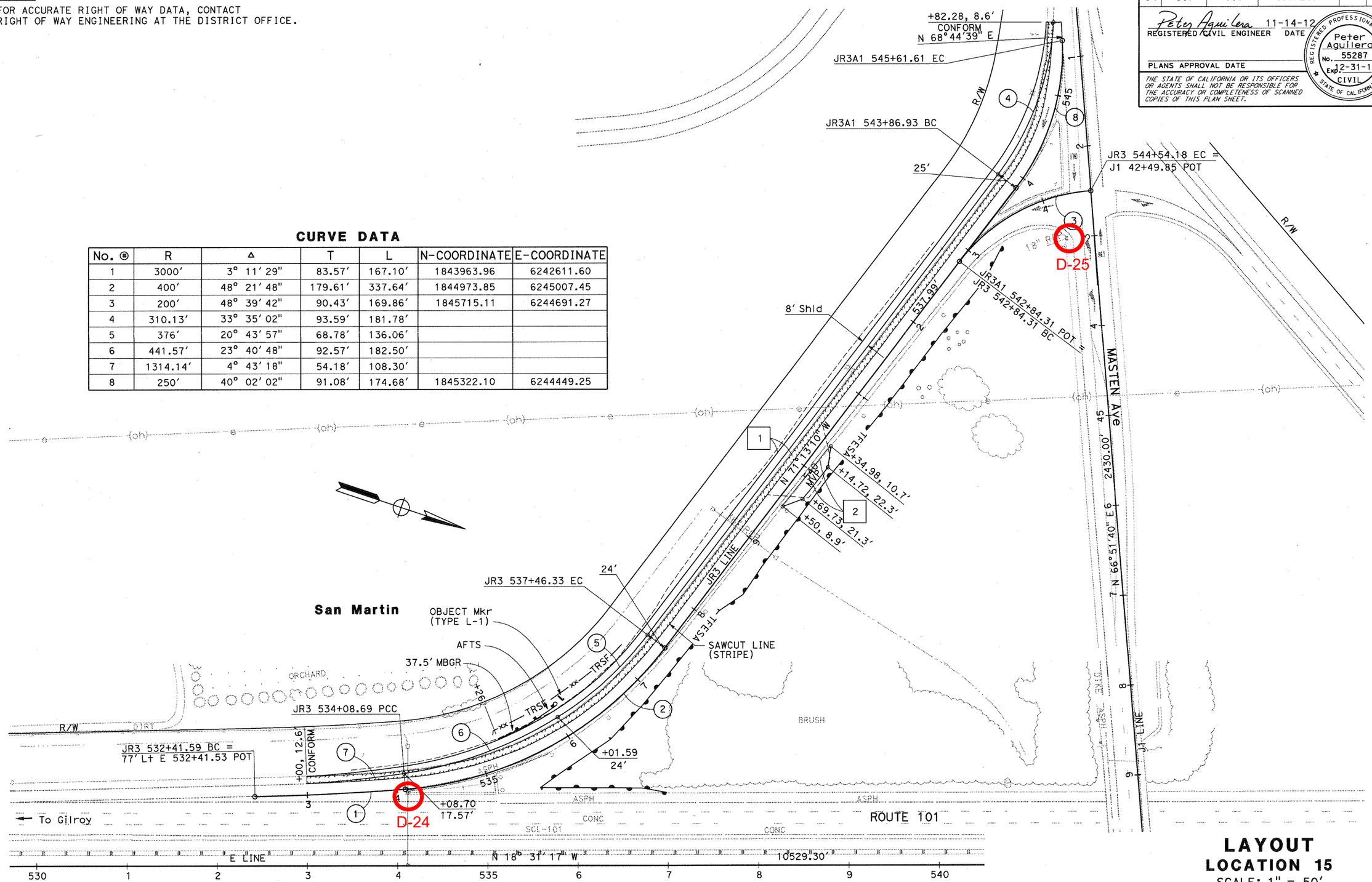
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NOTE:

FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

CURVE DATA

No. ⊛	R	Δ	T	L	N-COORDINATE	E-COORDINATE
1	3000′	3° 11′ 29"	83.57′	167.10′	1843963.96	6242611.60
2	400′	48° 21′ 48"	179.61′	337.64′	1844973.85	6245007.45
3	200′	48° 39′ 42"	90.43′	169.86′	1845715.11	6244691.27
4	310.13′	33° 35′ 02"	93.59′	181.78′		
5	376′	20° 43′ 57"	68.78′	136.06′		
6	441.57′	23° 40′ 48"	92.57′	182.50′		
7	1314.14′	4° 43′ 18"	54.18′	108.30′		
8	250′	40° 02′ 02"	91.08′	174.68′	1845322.10	6244449.25



FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET L-1

LAYOUT
LOCATION 15
SCALE: 1" = 50′

L-18

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans DESIGN

FUNCTIONAL SUPERVISOR: ARLISSA PANG
CALCULATED-DESIGNED BY: PETER AGUILERA
CHECKED BY: VAN HEW
REVISED BY: PA
DATE REVISED: 11/19/12

LAST REVISION DATE PLOTTED => 03-DEC-2012
12-01-12 TIME PLOTTED => 10:32

BORDER LAST REVISED 7/2/2010 | USERNAME => s131732 | DGN FILE => 0400020304ea018.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0702 | PROJECT NUMBER & PHASE 04000203041

NOTE:
FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

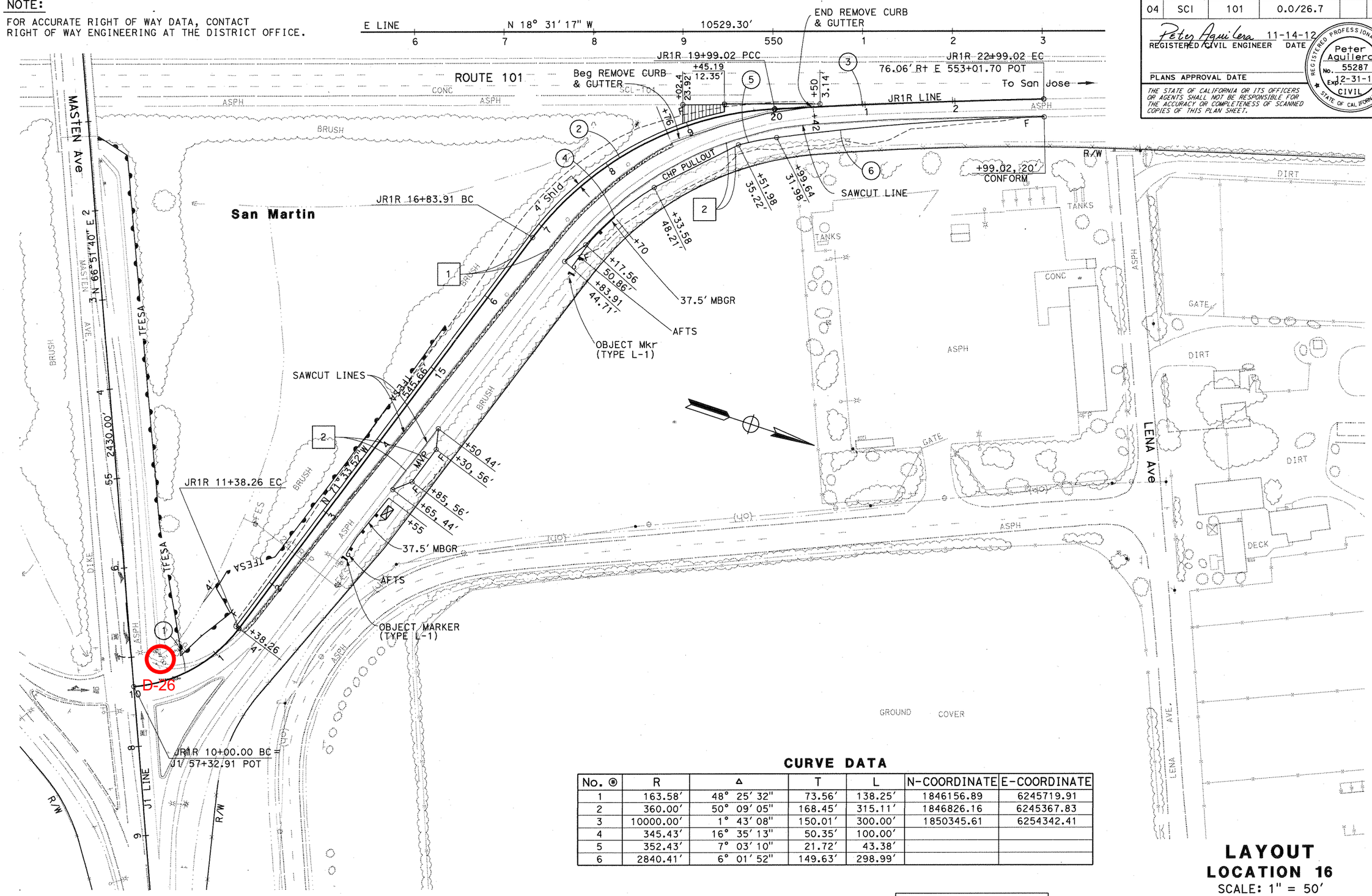
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	101	0.0/26.7		

Peter Aguilera 11-14-12
REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER Peter Aguilera No. 55287 Exp. 12-31-14 CIVIL STATE OF CALIFORNIA



CURVE DATA

No. ⊕	R	Δ	T	L	N-COORDINATE	E-COORDINATE
1	163.58′	48° 25′ 32″	73.56′	138.25′	1846156.89	6245719.91
2	360.00′	50° 09′ 05″	168.45′	315.11′	1846826.16	6245367.83
3	10000.00′	1° 43′ 08″	150.01′	300.00′	1850345.61	6254342.41
4	345.43′	16° 35′ 13″	50.35′	100.00′		
5	352.43′	7° 03′ 10″	21.72′	43.38′		
6	2840.41′	6° 01′ 52″	149.63′	298.99′		

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET L-1

LAYOUT
LOCATION 16
SCALE: 1" = 50′

L-19

PA	11/19/12
REVISED BY	DATE REVISED
PETER AGUILERA	VAN HEW
CALCULATED-DESIGNED BY	CHECKED BY
FUNCTIONAL SUPERVISOR	ARLISSA PANG

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans DESIGN

LAST REVISION 12-01-12 | DATE PLOTTED => 03-DEC-2012 | TIME PLOTTED => 10:36

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	101	0.0/26.7		

Peter Aguilera 11-14-12
REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER Peter Aguilera No. 55287 Exp. 12-31-14 CIVIL STATE OF CALIFORNIA

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NOTE:

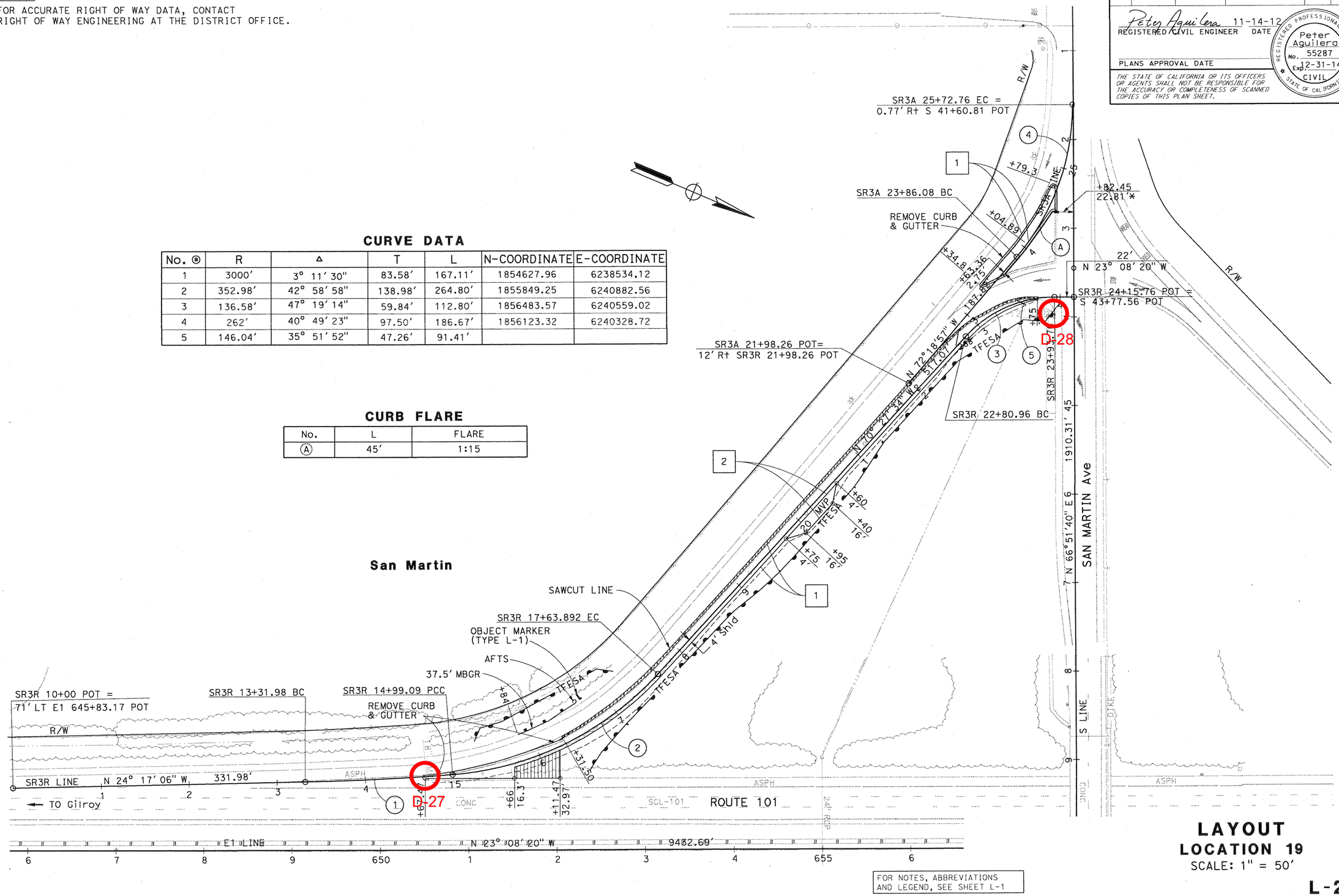
FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

CURVE DATA

No. ⊛	R	Δ	T	L	N-COORDINATE	E-COORDINATE
1	3000′	3° 11′ 30"	83.58′	167.11′	1854627.96	6238534.12
2	352.98′	42° 58′ 58"	138.98′	264.80′	1855849.25	6240882.56
3	136.58′	47° 19′ 14"	59.84′	112.80′	1856483.57	6240559.02
4	262′	40° 49′ 23"	97.50′	186.67′	1856123.32	6240328.72
5	146.04′	35° 51′ 52"	47.26′	91.41′		

CURB FLARE

No.	L	FLARE
Ⓐ	45′	1:15



FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET L-1

LAYOUT
LOCATION 19
SCALE: 1" = 50′

L-22

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
DESIGN

FUNCTIONAL SUPERVISOR: ARLISSA PANG
CALCULATED-DESIGNED BY: PETER AGUILERA
CHECKED BY: VAN HEW
REVISED BY: PA
DATE REVISED: 11/19/12

LAST REVISION 11-15-12
DATE PLOTTED => 03-DEC-2012
TIME PLOTTED => 09:56

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	101	0.0/26.7		

REGISTERED CIVIL ENGINEER Peter Aguilera 11-14-12 DATE

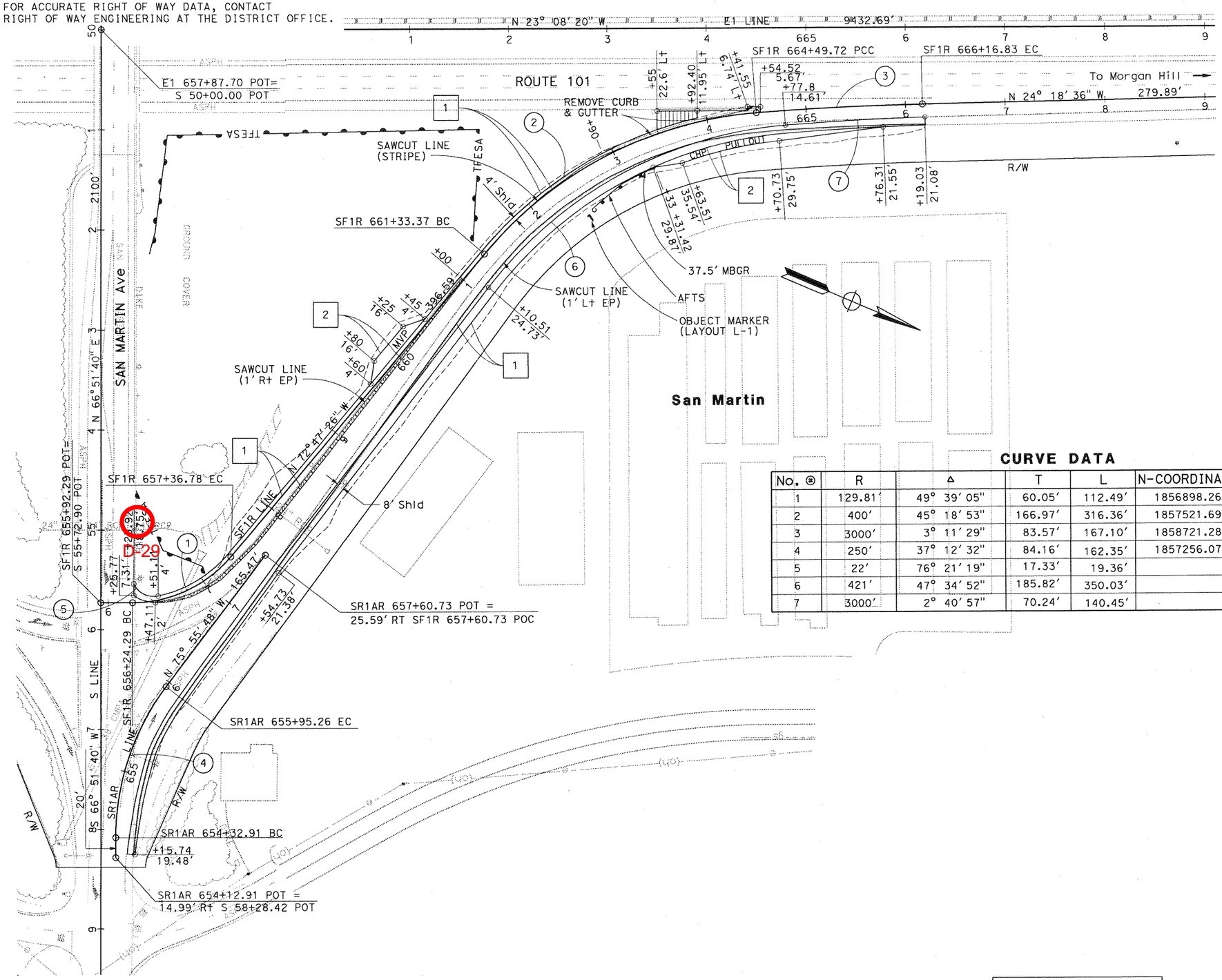
PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER Peter Aguilera No. 55287 Exp. 12-31-14 CIVIL STATE OF CALIFORNIA

NOTE:

FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.



CURVE DATA

No. ⊛	R	Δ	T	L	N-COORDINATE	E-COORDINATE
1	129.81′	49° 39′ 05"	60.05′	112.49′	1856898.26	6241392.01
2	400′	45° 18′ 53"	166.97′	316.36′	1857521.69	6241169.93
3	3000′	3° 11′ 29"	83.57′	167.10′	1858721.28	6243476.66
4	250′	37° 12′ 32"	84.16′	162.35′	1857256.07	6241636.40
5	22′	76° 21′ 19"	17.33′	19.36′		
6	421′	47° 34′ 52"	185.82′	350.03′		
7	3000′	2° 40′ 57"	70.24′	140.45′		

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET L-1

LAYOUT
LOCATION 20
SCALE: 1" = 50′

L-23

PA	11/19/12
REVISED BY	DATE REVISED
PETER AGUILERA	VAN HEW
CALCULATED-DESIGNED BY	CHECKED BY
FUNCTIONAL SUPERVISOR	ARLISSA PANG

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
DESIGN

LAST REVISION 11-20-12 DATE PLOTTED => 03-DEC-2012 TIME PLOTTED => 09:19

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	101	0.0/26.7		

Peter Aguilera 11-14-12
REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER Peter Aguilera No. 55287 Exp. 12-31-14 CIVIL STATE OF CALIFORNIA

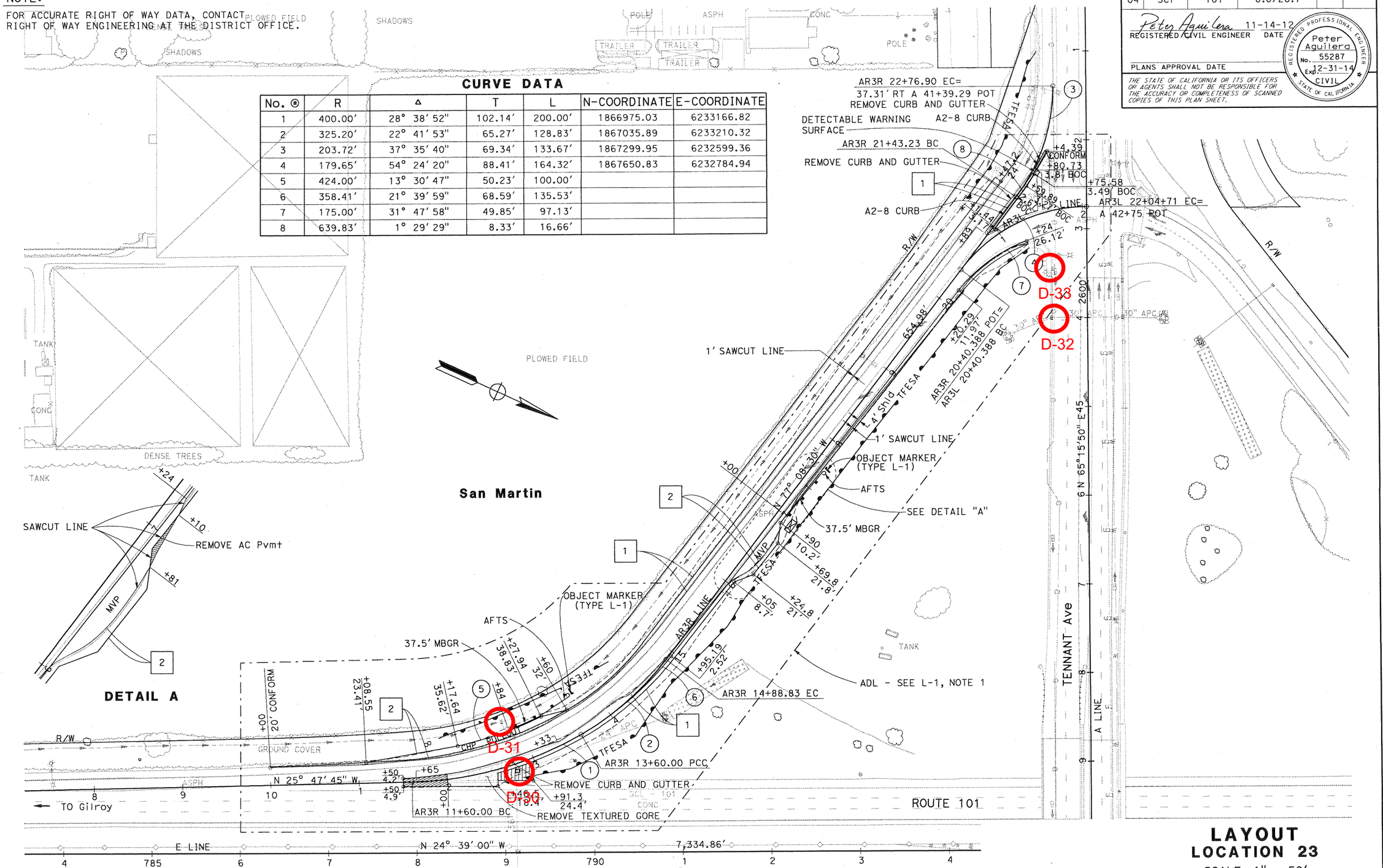
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NOTE:

FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

CURVE DATA

No. ⊛	R	Δ	T	L	N-COORDINATE	E-COORDINATE
1	400.00′	28° 38′ 52″	102.14′	200.00′	1866975.03	6233166.82
2	325.20′	22° 41′ 53″	65.27′	128.83′	1867035.89	6233210.32
3	203.72′	37° 35′ 40″	69.34′	133.67′	1867299.95	6232599.36
4	179.65′	54° 24′ 20″	88.41′	164.32′	1867650.83	6232784.94
5	424.00′	13° 30′ 47″	50.23′	100.00′		
6	358.41′	21° 39′ 59″	68.59′	135.53′		
7	175.00′	31° 47′ 58″	49.85′	97.13′		
8	639.83′	1° 29′ 29″	8.33′	16.66′		



FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET L-1

LAYOUT
LOCATION 23
SCALE: 1" = 50′

L-28

REVISED BY	PA
DATE REVISED	11/19/12
PETER AGUILERA	
VAN HEW	
CALCULATED-DESIGNED BY	
CHECKED BY	
FUNCTIONAL SUPERVISOR	
ARLISSA PANG	

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
DESIGN
Caltrans

LAST REVISION 11-30-12
DATE PLOTTED => 03-DEC-2012
TIME PLOTTED => 10:44

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	101	0.0/26.7		

Peter Aguilera 11-14-12
REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER Peter Aguilera No. 55287 Exp. 12-31-14 CIVIL STATE OF CALIFORNIA

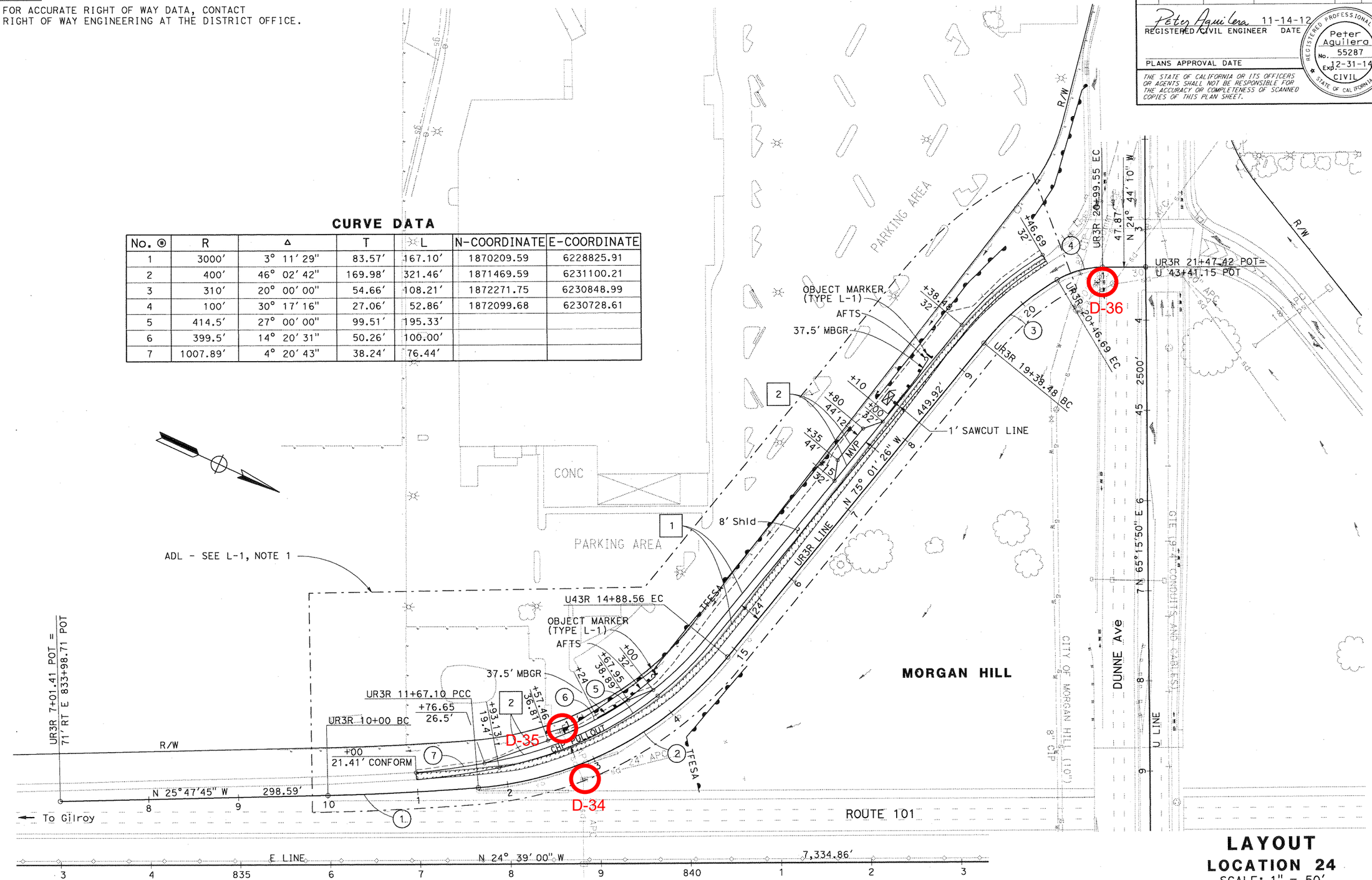
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NOTE:

FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

CURVE DATA

No. ⊛	R	Δ	T	L	N-COORDINATE	E-COORDINATE
1	3000′	3° 11′ 29″	83.57′	167.10′	1870209.59	6228825.91
2	400′	46° 02′ 42″	169.98′	321.46′	1871469.59	6231100.21
3	310′	20° 00′ 00″	54.66′	108.21′	1872271.75	6230848.99
4	100′	30° 17′ 16″	27.06′	52.86′	1872099.68	6230728.61
5	414.5′	27° 00′ 00″	99.51′	195.33′		
6	399.5′	14° 20′ 31″	50.26′	100.00′		
7	1007.89′	4° 20′ 43″	38.24′	76.44′		



FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET L-1

LAYOUT
LOCATION 24
SCALE: 1" = 50′

L-29

CALCULATED-DESIGNED BY	PETER AGUILERA	REVISED BY	PA
CHECKED BY	VAN HEW	DATE REVISED	11/19/12
FUNCTIONAL SUPERVISOR	ARLISSA PANG		

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
DESIGN

LAST REVISION 11-20-12
DATE PLOTTED => 03-DEC-2012
TIME PLOTTED => 10:35

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	101	0.0/26.7		

Peter Aguilera 11-14-12
REGISTERED CIVIL ENGINEER DATE

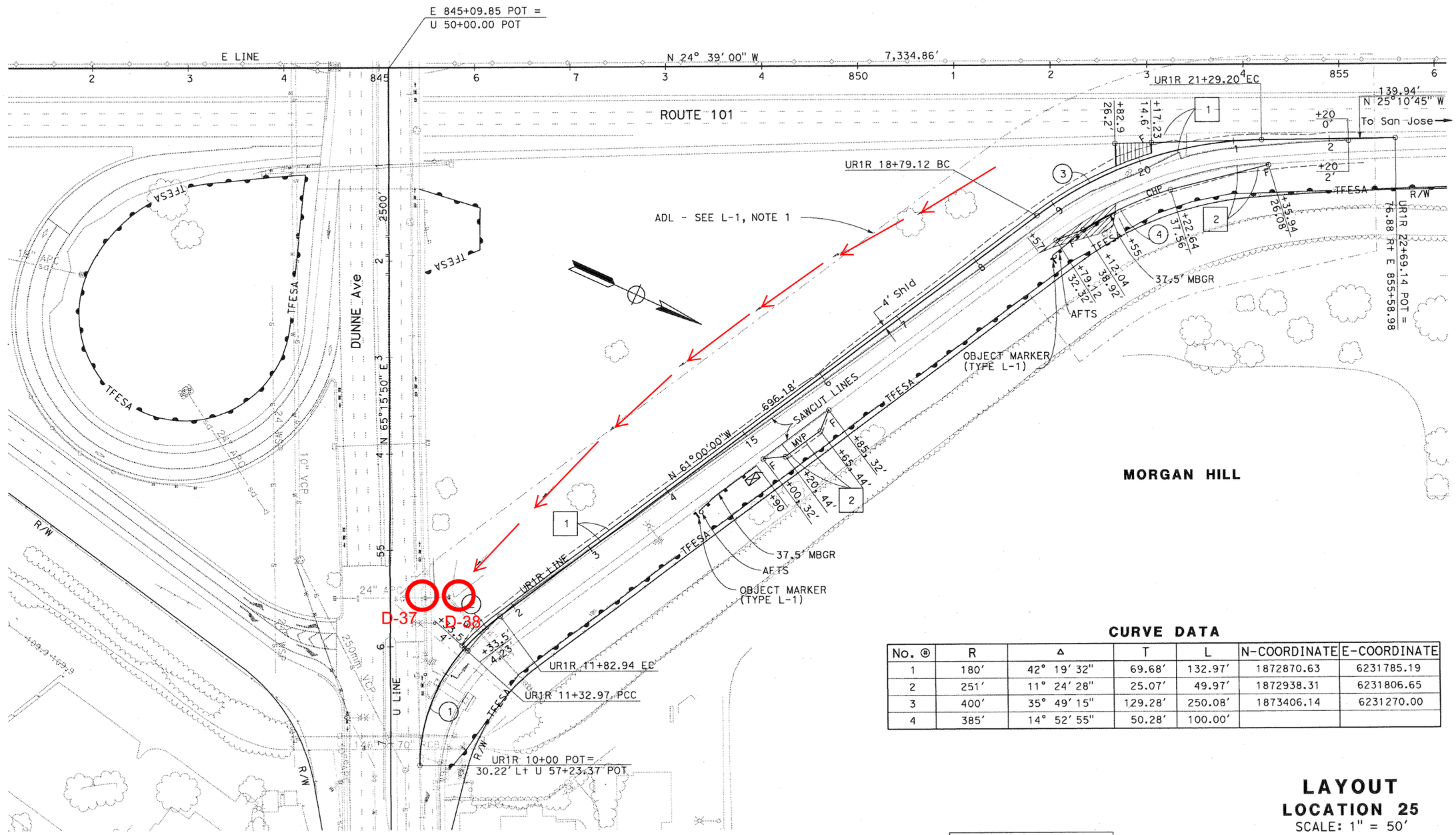
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER Peter Aguilera No. 55287 Exp. 12-31-14 CIVIL STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NOTE:

FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.



CURVE DATA

No. ⊕	R	Δ	T	L	N-COORDINATE	E-COORDINATE
1	180'	42° 19' 32"	69.68'	132.97'	1872870.63	6231785.19
2	251'	11° 24' 28"	25.07'	49.97'	1872938.31	6231806.65
3	400'	35° 49' 15"	129.28'	250.08'	1873406.14	6231270.00
4	385'	14° 52' 55"	50.28'	100.00'		

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET L-1

LAYOUT
LOCATION 25
SCALE: 1" = 50'

L-30

REVISED BY	DATE REVISED
PA	11/19/12

PETER AGUILERA — CALCULATED-DESIGNED BY
VAN HEW — CHECKED BY
FUNCTIONAL SUPERVISOR: ARLISSA PANG

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
DESIGN

LAST REVISION 11-20-12 | DATE PLOTTED => 03-DEC-2012 | TIME PLOTTED => 10:56

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	101	0.0/26.7		

Peter Aguilera 11-14-12
REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER Peter Aguilera No. 55287 Exp. 12-31-14 CIVIL STATE OF CALIFORNIA

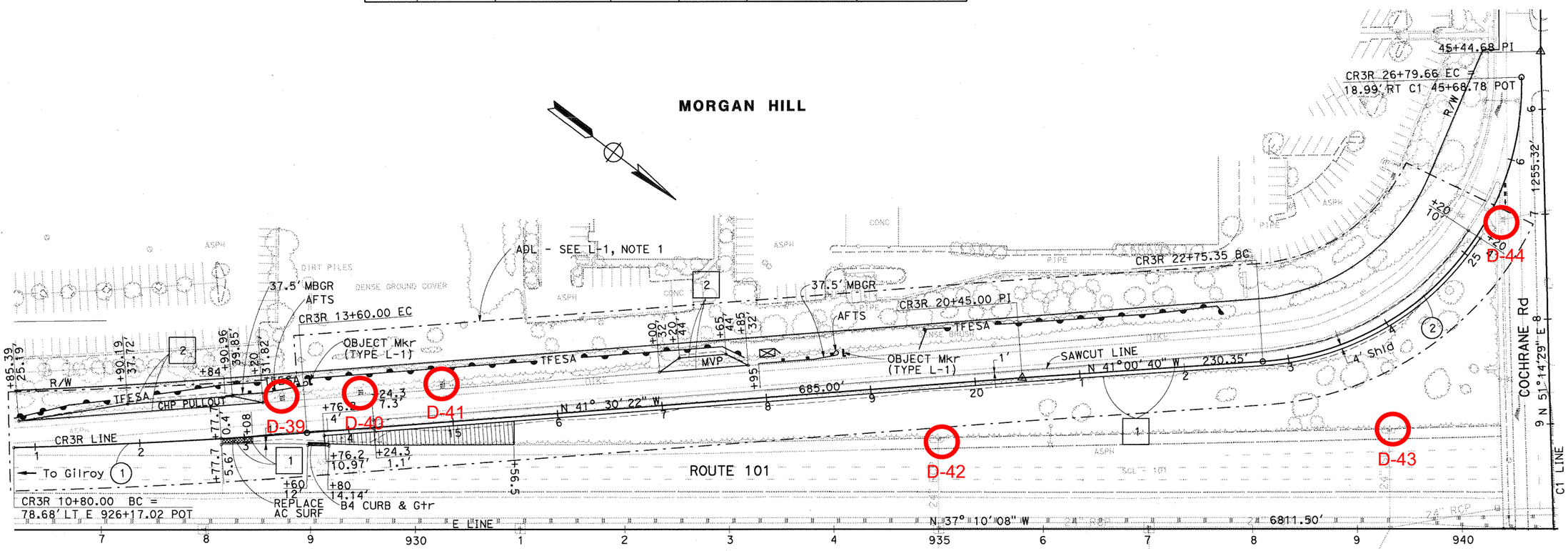
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NOTE:

FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

CURVE DATA

No. ⊛	R	Δ	T	L	N-COORDINATE	E-COORDINATE
1	5359.2′	3°50′56"	180.07′	360.00′	1875676.19	6222422.69
2	264′	87°44′51"	253.82′	404.31′	1879741.30	6225631.80



FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET L-1

LAYOUT
LOCATION 27
SCALE: 1" = 50′

L-32

LAST REVISION	11-30-12
DATE PLOTTED =>	03-DEC-2012
TIME PLOTTED =>	11:00

REVISED BY	PA
DATE REVISED	11/19/12
CALCULATED-DESIGNED BY	PETER AGUILERA
CHECKED BY	VAN HEW
FUNCTIONAL SUPERVISOR	ARLISSA PANG

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
DESIGN

BORDER LAST REVISED 7/2/2010

USERNAME => s128787
DGN FILE => 0400020304ea032.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 0702

PROJECT NUMBER & PHASE 04000203041

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	101	0.0/26.7		

Peter Aguilera 11-14-12
REGISTERED CIVIL ENGINEER DATE

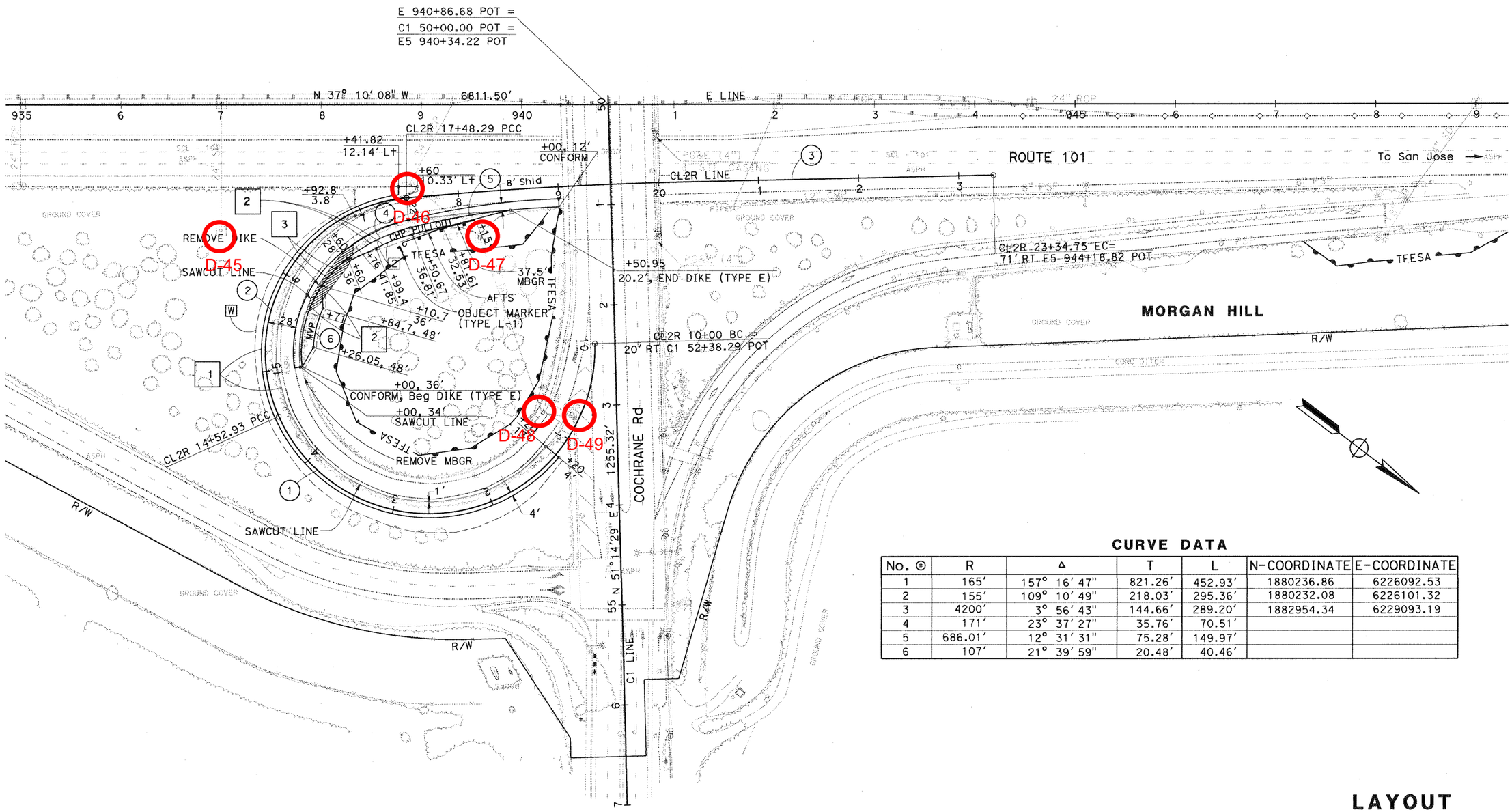
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER Peter Aguilera No. 55287 Exp. 12-31-14 CIVIL STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NOTE:

FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.



CURVE DATA

No. ⓔ	R	Δ	T	L	N-COORDINATE	E-COORDINATE
1	165′	157° 16′ 47"	821.26′	452.93′	1880236.86	6226092.53
2	155′	109° 10′ 49"	218.03′	295.36′	1880232.08	6226101.32
3	4200′	3° 56′ 43"	144.66′	289.20′	1882954.34	6229093.19
4	171′	23° 37′ 27"	35.76′	70.51′		
5	686.01′	12° 31′ 31"	75.28′	149.97′		
6	107′	21° 39′ 59"	20.48′	40.46′		

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET L-1

LAYOUT
LOCATION 28
SCALE: 1" = 50′

L-34

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
DESIGN

FUNCTIONAL SUPERVISOR: ARLISSA PANG
CALCULATED-DESIGNED BY: PETER AGUILERA
CHECKED BY: VAN HEW
REVISED BY: PA
DATE REVISED: 11/19/12

LAST REVISION 10-30-12
DATE PLOTTED => 03-DEC-2012
TIME PLOTTED => 11:00