

INDEX OF PLANS

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THE STANDARD PLANS LIST APPLICABLE TO THIS CONTRACT IS INCLUDED IN THE NOTICE TO BIDDERS AND SPECIAL PROVISIONS BOOK.

STATE OF CALIFORNIA  
**DEPARTMENT OF TRANSPORTATION**  
**PROJECT PLANS FOR CONSTRUCTION ON**  
**STATE HIGHWAY**  
**IN SANTA CRUZ COUNTY**  
**IN AND NEAR CAPITOLA AT VARIOUS LOCATIONS**  
**FROM FREEDOM BOULEVARD**  
**OVERCROSSING TO SOQUEL DRIVE OVERCROSSING**

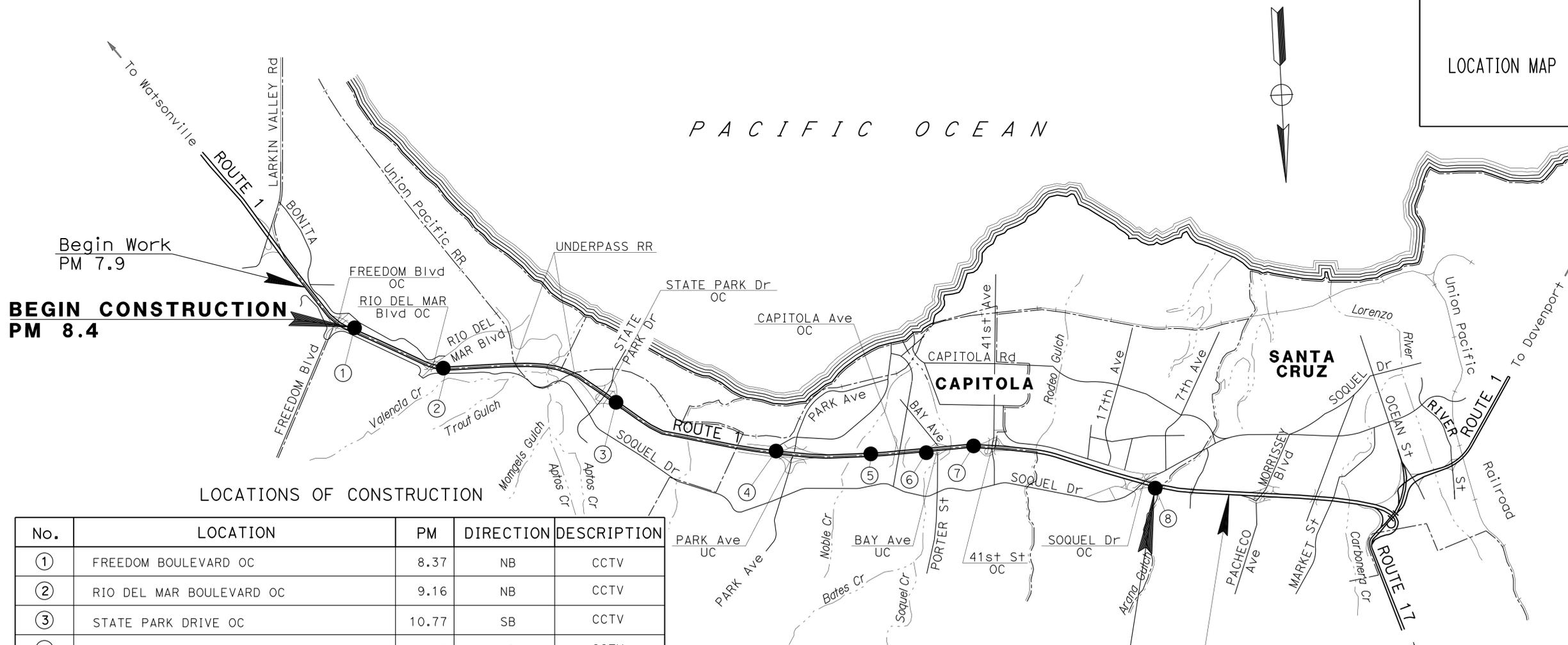
TO BE SUPPLEMENTED BY STANDARD PLANS DATED 2010

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SCR	1	8.4/14.9	1	25





LOCATION MAP



**BEGIN CONSTRUCTION**  
 PM 8.4

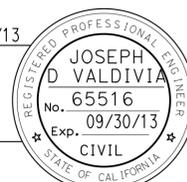
**END CONSTRUCTION**  
 PM 14.9

LOCATIONS OF CONSTRUCTION

No.	LOCATION	PM	DIRECTION	DESCRIPTION
①	FREEDOM BOULEVARD OC	8.37	NB	CCTV
②	RIO DEL MAR BOULEVARD OC	9.16	NB	CCTV
③	STATE PARK DRIVE OC	10.77	SB	CCTV
④	PARK AVENUE UC	11.87	NB	CCTV
⑤	BETWEEN PARK Ave UC & CAPITOLA Ave OC	12.73	SB	CCTV
⑥	BAY AVENUE UC	13.18	NB	CCTV
⑦	41ST AVENUE OC	13.61	SB	CCTV
⑧	SOQUEL DRIVE OC	14.88	NB	CCTV

CCTV - CLOSED CIRCUIT TELEVISION

Joseph Valdivia 02/01/13  
 PROJECT ENGINEER DATE  
 REGISTERED CIVIL ENGINEER



April 8, 2013  
 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.

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

NO SCALE

CONTRACT No.	<b>05-OC9014</b>
PROJECT ID	<b>050000029</b>

DATE PLOTTED => 24-SEP-2013 TIME PLOTTED => 11:13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	Scr	1	8.4/14.9	2	25

01-293-13  
 REGISTERED CIVIL ENGINEER DATE  
 4-8-13  
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
 FAWZI YAGHMOUR  
 No. C-54750  
 Exp. 12/31/13  
 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.

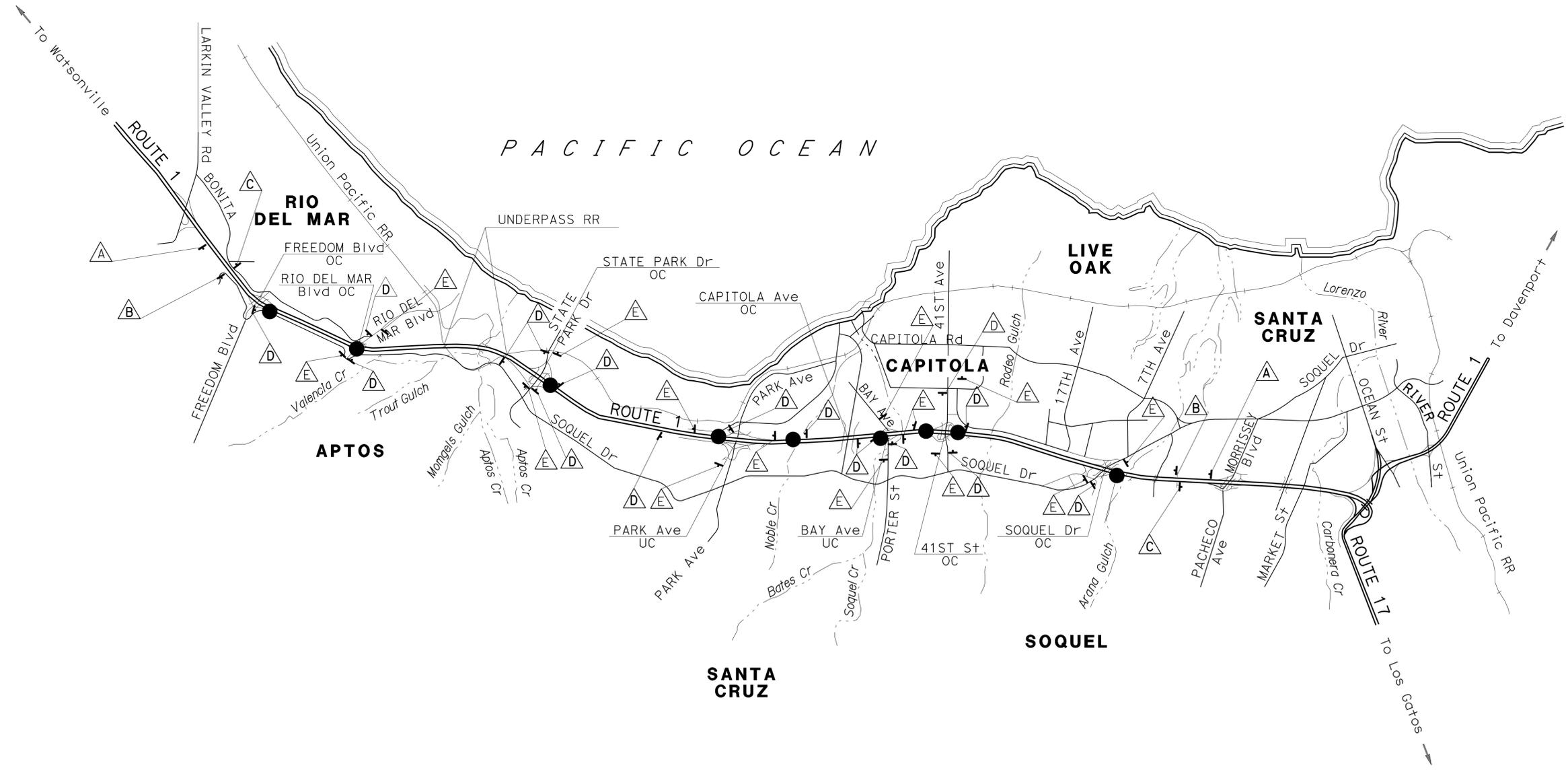
**LEGEND:**

- △ CONSTRUCTION AREA SIGN
- ⊥ ROADSIDE SIGN ONE POST

**CONSTRUCTION AREA SIGNS (STATIONARY MOUNTED)**

SIGN No.	SIGN CODE	PANEL SIZE	SIGN MESSAGE	No. OF POSTS AND SIZE	No. OF SIGNS
	FEDERAL				
△ A	G20-1	48" x 24"	ROAD WORK NEXT 7 MILES	1-4" x 6"	2
△ B	W20-1	48" x 48"	ROAD WORK AHEAD	1-4" x 6"	2
△ C	G20-2	48" x 24"	END ROAD WORK	1-4" x 6"	2
△ D	W20-1	36" x 36"	ROAD WORK AHEAD	1-4" x 4"	17
△ E	G20-2	36" x 24"	END ROAD WORK	1-4" x 4"	15

NOTE: LOCATION OF CONSTRUCTION AREA SIGNS SHOWN ARE APPROXIMATE. EXACT LOCATION WILL BE DETERMINED BY THE ENGINEER.



**CONSTRUCTION AREA SIGNS  
CS-1**

NO SCALE

APPROVED FOR CONSTRUCTION AREA SIGN WORK ONLY

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
 TRAFFIC DESIGN  
 FUNCTIONAL SUPERVISOR: MOHAMMED QATAMI  
 CALCULATED/DESIGNED BY: CHECKED BY:  
 GURMIT GILL FAWZI YAGHMOUR  
 REVISED BY: DATE REVISED:

LAST REVISION DATE PLOTTED => 24-SEP-2013  
 01-29-13 TIME PLOTTED => 10:38

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans** 06-ELECTRICAL DESIGN

FUNCTIONAL SUPERVISOR  
 ERNIE PENUÑA

CALCULATED/DESIGNED BY  
 SUKHJINDER SINGH

CHECKED BY  
 JOSEPH VALDIVIA

REVISOR  
 REVISIONS

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	Scr	1	8.4/14.9	3	25

*Joseph Valdivia* 2/01/13  
 REGISTERED CIVIL ENGINEER DATE  
 4-8-13  
 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.

**TEMPORARY DRAINAGE INLET PROTECTION**

LOCATION OF CONSTRUCTION No.	PM	DIRECTION	LOCATION	TEMPORARY DRAINAGE INLET PROTECTION
				EA
6	13.18	NB	BAY AVENUE UC	3
TOTAL				3

**4' CHAIN LINK GATE (TYPE CL-6)**

LOCATION OF CONSTRUCTION No.	PM	DIRECTION	LOCATION	4' CHAIN LINK GATE (TYPE CL-6)
				EA
4	11.87	NB	SOUTH OF PARK AVENUE UC	1
TOTAL				1

**TEMPORARY FIBER ROLL**

LOCATION OF CONSTRUCTION No.	PM	DIRECTION	LOCATION	TEMPORARY FIBER ROLL
				LF
1	8.37	NB	FREEDOM BOULEVARD OC	10
2	9.16	NB	RIO DEL MAR BOULEVARD OC	10
3	10.77	SB	STATE PARK DRIVE OC	10
4	11.87	NB	PARK AVENUE UC	10
5	12.73	SB	BETWEEN PARK Ave UC & CAPITOLA Ave OC	15
6	13.18	NB	BAY AVENUE UC	15
7	13.61	SB	41ST AVENUE OC	15
8	14.88	NB	SOQUEL DRIVE OC	15
TOTAL				100

**SUMMARY OF QUANTITIES**

**Q-1**

LAST REVISION:     
 DATE PLOTTED => 24-SEP-2013     
 03-23-11     
 TIME PLOTTED => 10:38

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans** 06-ELECTRICAL DESIGN

**LEGEND:**

- 1 TYPE 40 CCTV POLE WITH CAMERA ASSEMBLY, 30' FROM ETW.
- 2 MODEL 334L CONTROLLER CABINET WITH WIRELESS MODEM, FOR DETAILS SEE SHEET E-11.
- 3 Exist 120/240 V, 1Ø, 3-WIRE TYPE III-BF SERVICE EQUIPMENT ENCLOSURE WITH THE FOLLOWING CIRCUIT BREAKERS:

AMPERES	VOLTS	POLES	NAMEPLATE	METER	PHOTOELECTRIC CONTROL TYPE
100	240	2	MAIN BREAKER	YES	—
30	240	2	INTERSECTION LIGHTING	YES	V
30	240	2	SIGN ILLUMINATION	YES	V
30	240	2	RAMP LIGHTING	YES	V
20	120	1	MVDS	YES	—
*30	120	1	CCTV	YES	—
15	120	1	SIGN ILLUMINATION CONTROL	YES	—
15	120	1	RAMP LIGHTING CONTROL	YES	—
20	120	1	SPARE	YES	—

\* ADD CB AND NAMEPLATE.

**NOTES:**

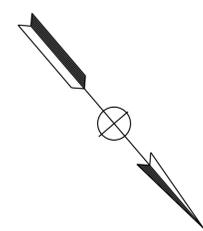
- 1. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
- 2. EXISTING UTILITY FACILITIES ARE NOT SHOWN ON THESE PLANS.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	Scr	1	8.4/14.9	4	25

REGISTERED ELECTRICAL ENGINEER DATE  
**Daniel Thanh Vo**  
 No. 17408  
 Exp. 09/30/14  
 ELECTRICAL

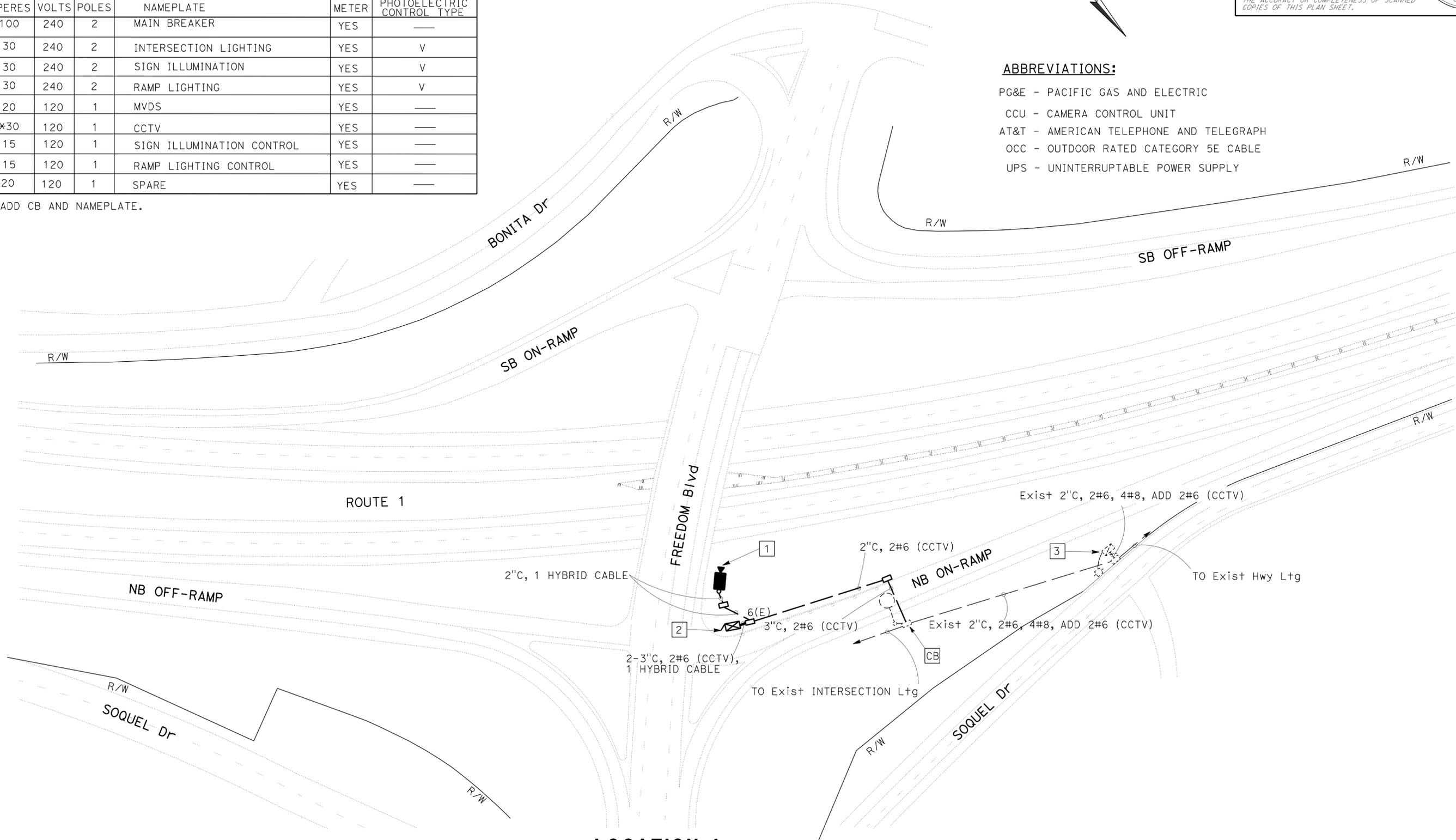
4-8-13  
 PLANS APPROVAL DATE

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**ABBREVIATIONS:**

- PG&E - PACIFIC GAS AND ELECTRIC
- CCU - CAMERA CONTROL UNIT
- AT&T - AMERICAN TELEPHONE AND TELEGRAPH
- OCC - OUTDOOR RATED CATEGORY 5E CABLE
- UPS - UNINTERRUPTABLE POWER SUPPLY



**LOCATION-1**  
**PM 8.37**

**TRAFFIC OPERATION SYSTEM**

APPROVED FOR ELECTRICAL WORK ONLY

SCALE: 1" = 50'

**E-1**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans** 06-ELECTRICAL DESIGN

FUNCTIONAL SUPERVISOR: ALI BAKHDOUD  
 CALCULATED/DESIGNED BY: DANIEL VO  
 CHECKED BY: DANIEL VO  
 REVISED BY: DANIEL VO  
 DATE REVISED:

**LEGEND:**

- 1 TYPE 40 CCTV POLE WITH CAMERA ASSEMBLY, 30' FROM ETW.
- 2 MODEL 334L CONTROLLER CABINET WITH WIRELESS MODEM, FOR DETAILS SEE SHEET E-11.
- 3 Exist 120/240 V, 1Ø, 3-WIRE TYPE III-BF SERVICE EQUIPMENT ENCLOSURE WITH THE FOLLOWING CIRCUIT BREAKERS:

AMPERES	VOLTS	POLES	NAMEPLATE	METER	PHOTOELECTRIC CONTROL TYPE
100	240	2	MAIN BREAKER	YES	—
30	240	2	HIGHWAY LIGHTING	YES	IV
30	240	2	SIGN ILLUMINATION	YES	LC3
15	120	1	IRRIGATION	YES	—
*30	120	1	CCTV	YES	—

\* ADD CB AND NAMEPLATE.

**NOTES:**

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- 2. EXISTING UTILITY FACILITIES ARE NOT SHOWN ON THESE PLANS.

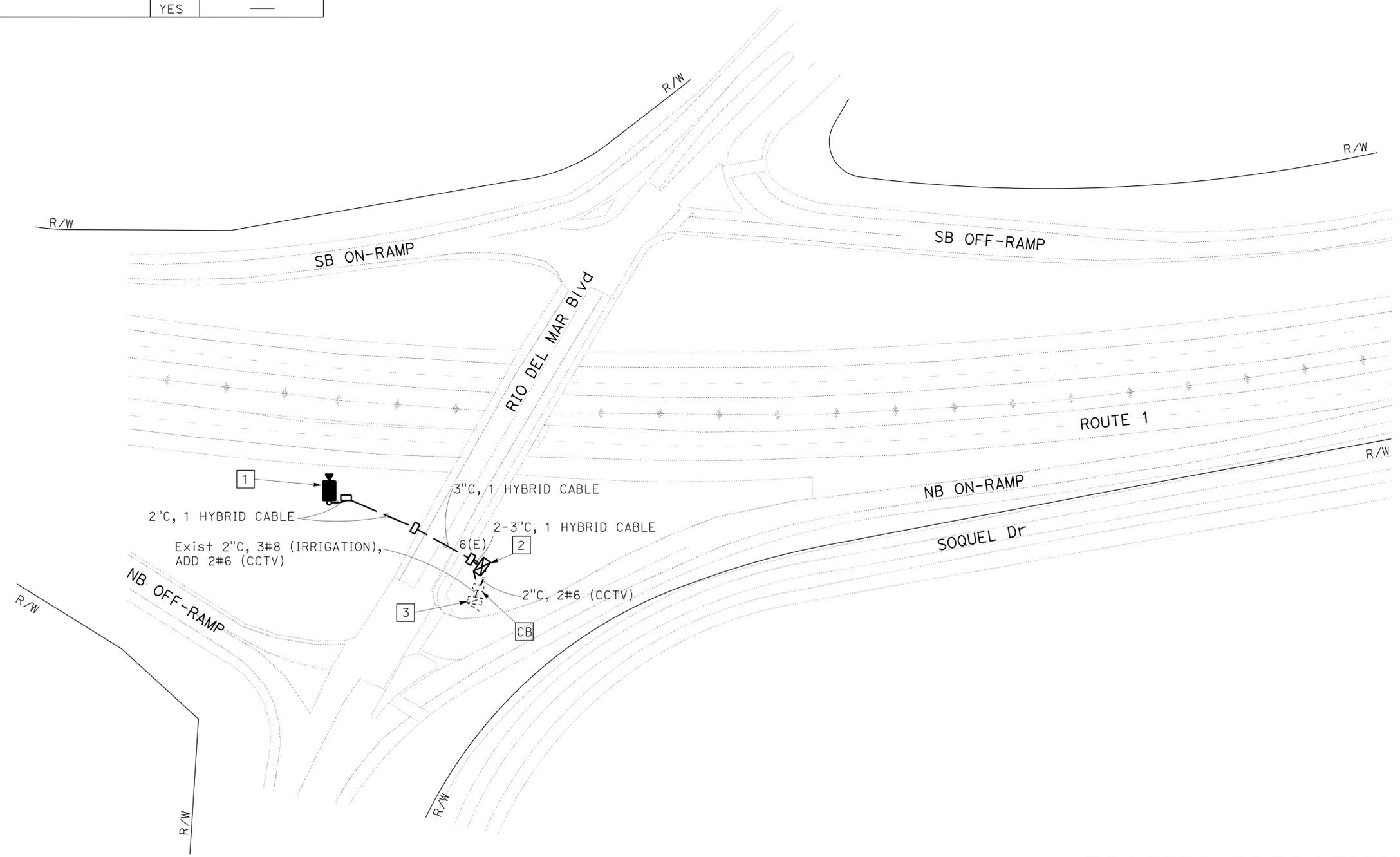


Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	Scr	1	8.4/14.9	5	25

REGISTERED ELECTRICAL ENGINEER: DANIEL THANH VO  
 No. 17408  
 Exp. 09/30/14  
 ELECTRICAL

PLANS APPROVAL DATE: 4-8-13

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.



**LOCATION-2  
 PM 9.16**

APPROVED FOR ELECTRICAL WORK ONLY

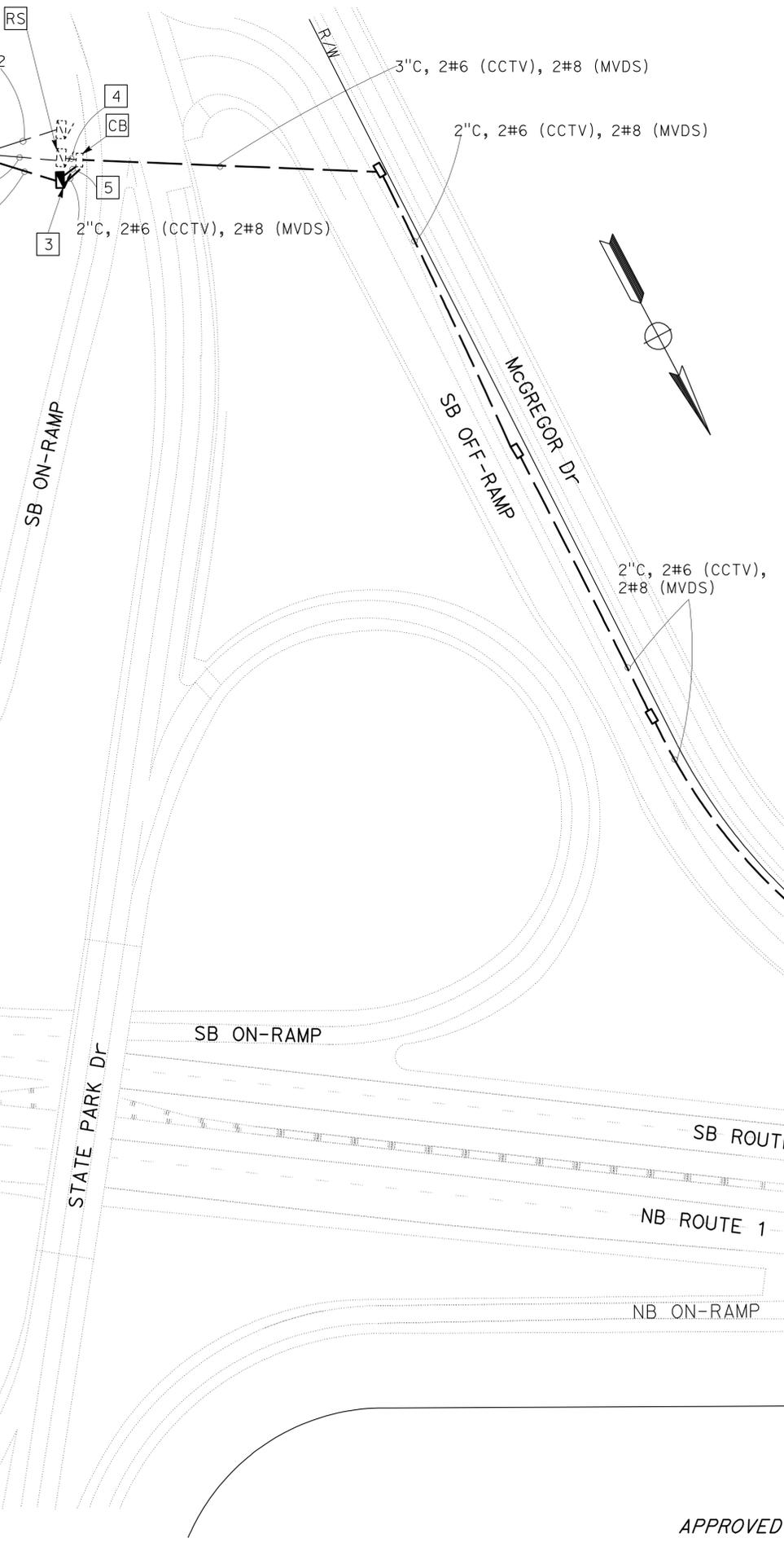
**TRAFFIC OPERATION SYSTEM**

SCALE: 1" = 50'

**E-2**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans** 06-ELECTRICAL DESIGN

FUNCTIONAL SUPERVISOR: ALI BAKHDOUD  
 CALCULATED/DESIGNED BY: DANIEL VO  
 CHECKED BY: DANIEL VO  
 REVISIONS: REVISED BY: DATE REVISION: 1: GURVINDERJIT BAINS, 2: DANIEL VO



**LEGEND:**

- 1 INSTALL CAMERA ASSEMBLY ON TUBULAR OVERHEAD SIGN STRUCTURE, FOR DETAILS SEE SHEET SES-1.
- 2 MODEL 334L CONTROLLER CABINET WITH WIRELESS MODEM, FOR DETAILS SEE SHEET E-11.
- 3 MODIFIED 480/240 V, 1Ø, 3-WIRE TYPE III-DF SERVICE EQUIPMENT ENCLOSURE WITH THE FOLLOWING CIRCUIT BREAKERS:

AMPERES	VOLTS	POLES	NAMEPLATE	METER	PHOTOELECTRIC CONTROL TYPE
100	480	2	MAIN BREAKER	YES	—
40	480	2	HIGHWAY LIGHTING	YES	V
30	480	2	SIGN ILLUMINATION	YES	V
40	480	2	TRANSFORMER PRIMARY	YES	—
80	240	2	TRANSFORMER SECONDARY	YES	—
40	480	2	SPARE	YES	—
15	120	1	HIGHWAY LIGHTING CONTROL	YES	—
15	120	1	SIGN ILLUMINATION CONTROL	YES	—
20	240	2	SPARE	YES	—
30	120	1	CCTV	YES	—
20	120	1	MVDS	YES	—
20	120	1	SPARE	YES	—
—	—	6	SPACE	—	—

- 4 RC CONDUIT, REUSE 4#8 (Ltg, SIGN Ltg).
- 5 2" C, 4#8 (Ltg, SIGN Ltg).
- 6 SEE DETAIL A AND DETAIL B ON SHEET E-9 FOR MODIFY MVDS.

**NOTES:**

- 1. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
- 2. EXISTING UTILITY FACILITIES ARE NOT SHOWN ON THESE PLANS.
- 3. ALL TRAFFIC SIGNAL CONDUITS ARE NOT SHOWN.

**LOCATION-3  
PM 10.77**

APPROVED FOR ELECTRICAL WORK ONLY

**TRAFFIC OPERATION SYSTEM**

SCALE: 1" = 50'

**E-3**

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	Scr	1	8.4/14.9	6	25

REGISTERED ELECTRICAL ENGINEER  
 Daniel Thanh Vo  
 No. 17408  
 Exp. 09/30/14  
 ELECTRICAL

DATE: 4-8-13  
 PLANS APPROVAL DATE

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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	Scr	1	8.4/14.9	7	25

Daniel Bakhdo  
 REGISTERED ELECTRICAL ENGINEER DATE  
 4-8-13  
 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  
 DANIEL THANH VO  
 No. 17408  
 Exp. 09/30/14  
 ELECTRICAL  
 STATE OF CALIFORNIA

**LEGEND**

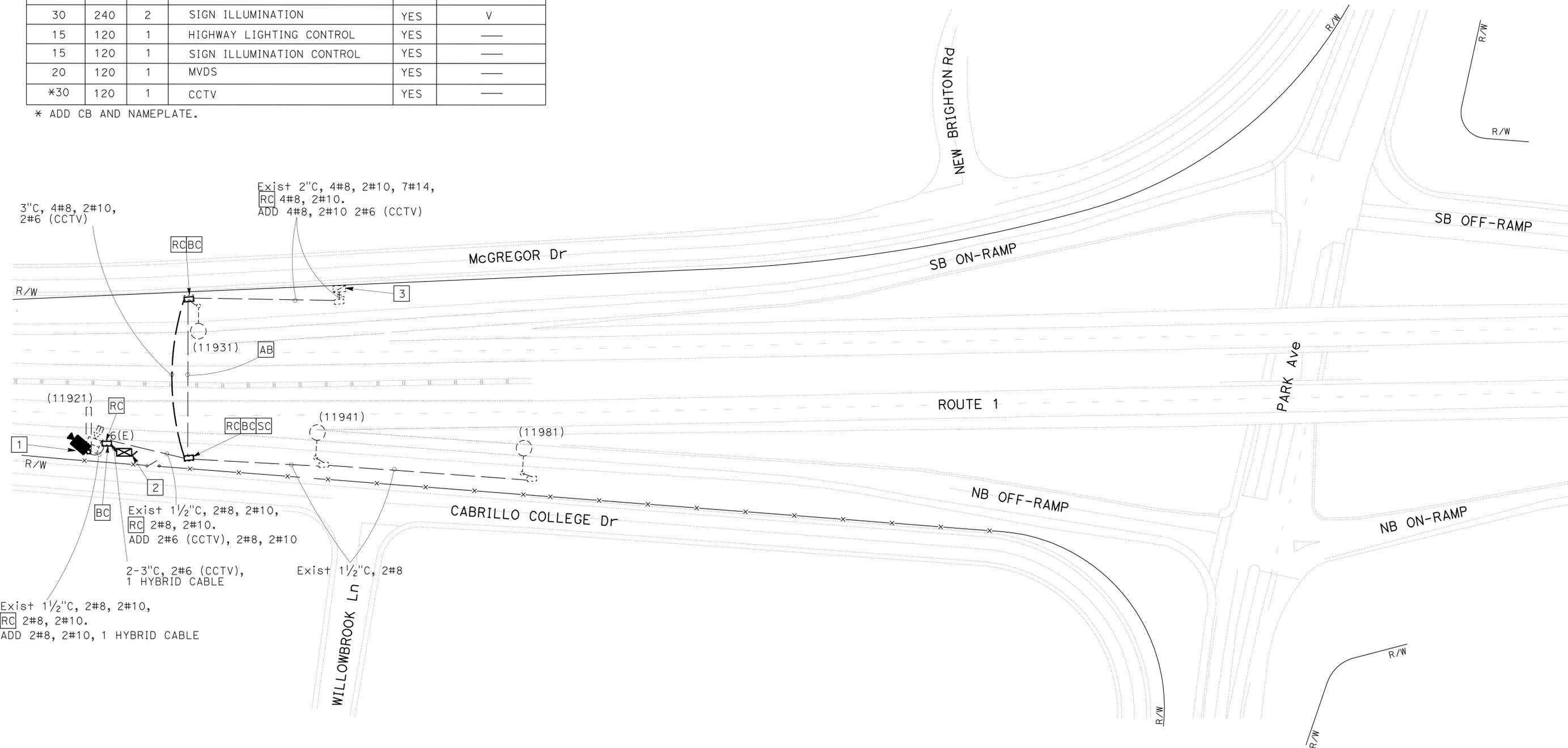
- 1 INSTALL CAMERA ASSEMBLY OVERHEAD TUBULAR OH SIGN STRUCTURE, FOR DETAILS SEE SHEET SES-1.
- 2 MODEL 334L CONTROLLER CABINET WITH WIRELESS MODEM, FOR DETAILS SEE SHEET E-11.
- 3 Exist 120/240 V, 1 $\phi$ , 3-WIRE TYPE III-BF SERVICE EQUIPMENT ENCLOSURE WITH THE FOLLOWING CIRCUIT BREAKERS:

AMPERES	VOLTS	POLES	NAMEPLATE	METER	PHOTOELECTRIC CONTROL TYPE
100	240	2	MAIN BREAKER	YES	—
30	240	2	HIGHWAY LIGHTING	YES	V
30	240	2	SIGN ILLUMINATION	YES	V
15	120	1	HIGHWAY LIGHTING CONTROL	YES	—
15	120	1	SIGN ILLUMINATION CONTROL	YES	—
20	120	1	MVDS	YES	—
*30	120	1	CCTV	YES	—

\* ADD CB AND NAMEPLATE.

**NOTES:**

1. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
2. EXISTING UTILITY FACILITIES ARE NOT SHOWN ON THESE PLANS.



**LOCATION-4  
PM 11.87**

**TRAFFIC OPERATION SYSTEM**

APPROVED FOR ELECTRICAL WORK ONLY

SCALE: 1" = 50'

**E-4**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
 GURVINDERJIT BAINS  
 DANIEL VO  
 CALCULATED/DESIGNED BY  
 CHECKED BY  
 FUNCTIONAL SUPERVISOR  
 ALI BAKHDOUD  
 DEPARTMENT OF TRANSPORTATION  
 06-ELECTRICAL DESIGN

LAST REVISION DATE PLOTTED => 24-SEP-2013  
 02-04-13 TIME PLOTTED => 10:23

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	Scr	1	8.4/14.9	8	25

Daniel Thanh Vo  
 REGISTERED ELECTRICAL ENGINEER DATE 4-8-13  
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
 DANIEL THANH VO  
 No. 17408  
 Exp. 09/30/14  
 ELECTRICAL  
 STATE OF CALIFORNIA

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**LEGEND:**

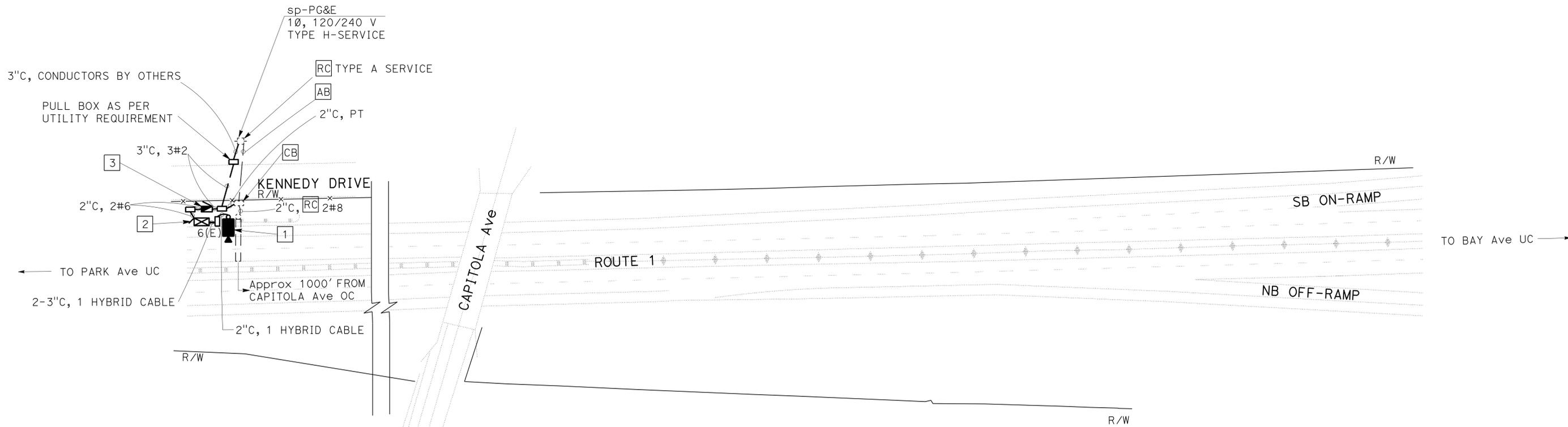
- 1 TYPE 35 CCTV POLE WITH CAMERA ASSEMBLY
- 2 MODEL 334L CONTROLLER CABINET WITH WIRELESS MODEM, FOR DETAILS SEE SHEET E-11
- 3 120/240 V, 1Ø, 3-WIRE TYPE III-BF SERVICE EQUIPMENT ENCLOSURE WITH THE FOLLOWING CIRCUIT BREAKERS:

C+id No. 05360010012727T

AMPERES	VOLTS	POLES	NAMEPLATE	METER	PHOTOELECTRIC CONTROL TYPE
100	240	2	MAIN BREAKER	YES	—
30	120	1	CCTV	YES	—
30	240	2	SPARE	YES	—
20	120	1	SPARE	YES	—
—	—	6	SPACE	—	—

**NOTES:**

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- 2. EXISTING UTILITY FACILITIES ARE NOT SHOWN ON THESE PLANS.



**LOCATION-5  
PM 12.73**

**TRAFFIC OPERATION SYSTEM**

SCALE: 1" = 50'

**E-5**

APPROVED FOR ELECTRICAL WORK ONLY

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
 GURVINDERJIT BAINS  
 DANIEL VO  
 CALCULATED/DESIGNED BY  
 CHECKED BY  
 FUNCTIONAL SUPERVISOR  
 ALI BAKHDOUD  
 REVISOR  
 DATE  
 REVISION

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans** 06-ELECTRICAL DESIGN

FUNCTIONAL SUPERVISOR: ALI BAKHDOUD  
 CALCULATED/DESIGNED BY: DANIEL VO  
 CHECKED BY: DANIEL VO  
 GURVINDERJIT BAINS  
 REVISED BY: DANIEL VO  
 DATE REVISED:

**LEGEND:**

- 1 TYPE 35 CCTV POLE WITH CAMERA ASSEMBLY
- 2 MODEL 334L CONTROLLER CABINET WITH WIRELESS MODEM, FOR DETAILS SEE SHEET E-11
- 3 Exist 120/240 V, 1 $\phi$ , 3-WIRE TYPE III-AF SERVICE EQUIPMENT ENCLOSURE WITH THE FOLLOWING CIRCUIT BREAKERS:

AMPERES	VOLTS	POLES	NAMEPLATE	METER	PHOTOELECTRIC CONTROL TYPE
100	240	3	MAIN BREAKER	YES	—
40	240	2	HIGHWAY LIGHTING	YES	V
30	240	2	SIGN ILLUMINATION	YES	V
15	120	1	IRRIGATION	YES	—
15	120	1	SPARE	YES	—
15	120	1	HIGHWAY LIGHTING CONTROL	YES	—
15	120	1	SIGN ILLUMINATION CONTROL	YES	—
30	120	1	SPARE	YES	—
*30	120	1	CCTV	YES	—

\* ADD CB AND NAMEPLATE

**NOTES:**

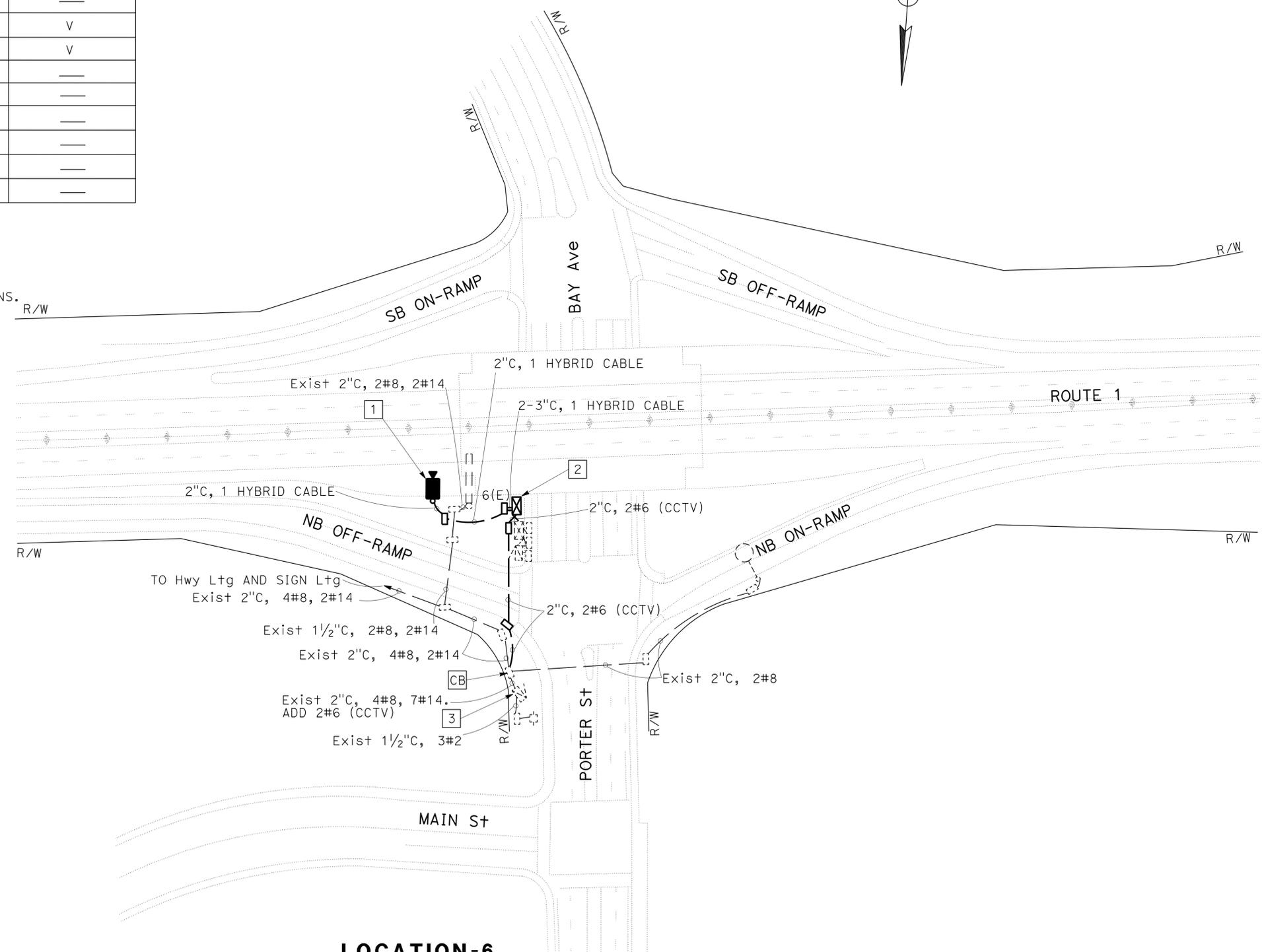
- 1. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
- 2. EXISTING UTILITY FACILITIES ARE NOT SHOWN ON THESE PLANS.
- 3. ALL TRAFFIC SIGNAL CONDUITS ARE NOT SHOWN.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	Scr	1	8.4/14.9	9	25

4-8-13  
 PLANS APPROVAL DATE

REGISTERED ELECTRICAL ENGINEER  
 DANIEL THANH VO  
 No. 17408  
 Exp. 09/30/14  
 ELECTRICAL

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**LOCATION-6  
 PM 13.18**

**TRAFFIC OPERATION SYSTEM**

APPROVED FOR ELECTRICAL WORK ONLY

SCALE: 1" = 50'

**E-6**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans** 06-ELECTRICAL DESIGN  
 FUNCTIONAL SUPERVISOR: ALI BAKHDOUN  
 CALCULATED/DESIGNED BY: DANIEL VO  
 CHECKED BY: DANIEL VO  
 REVISIONS: REVISED BY: DATE REVISED:

**LEGEND:**

- 1 INSTALL CAMERA ASSEMBLY ON EXISTING TYPE 40 CCTV POLE
- 2 SEE DETAIL A AND DETAIL B ON SHEET E-9 FOR MODIFY MVDS
- 3 MODEL 334L CONTROLLER CABINET WITH WIRELESS MODEM, FOR DETAILS SEE SHEET E-10
- 4 Exist 120/240 V, 1Ø, 3-WIRE TYPE III-AF SERVICE EQUIPMENT ENCLOSURE WITH THE FOLLOWING CIRCUIT BREAKERS:

AMPERES	VOLTS	POLES	NAMEPLATE	METER	PHOTOELECTRIC CONTROL TYPE
100	240	3	MAIN BREAKER	YES	---
50	120	1	SIGNAL	YES	---
30	240	2	LIGHTING	NO	V
15	120	1	LIGHTING CONTROL	YES	---
20*	120	1	MVDS	YES	---
15*	120	1	TDC	YES	---
30*	120	1	CCTV	YES	---

\* ADD CB AND NAMEPLATE

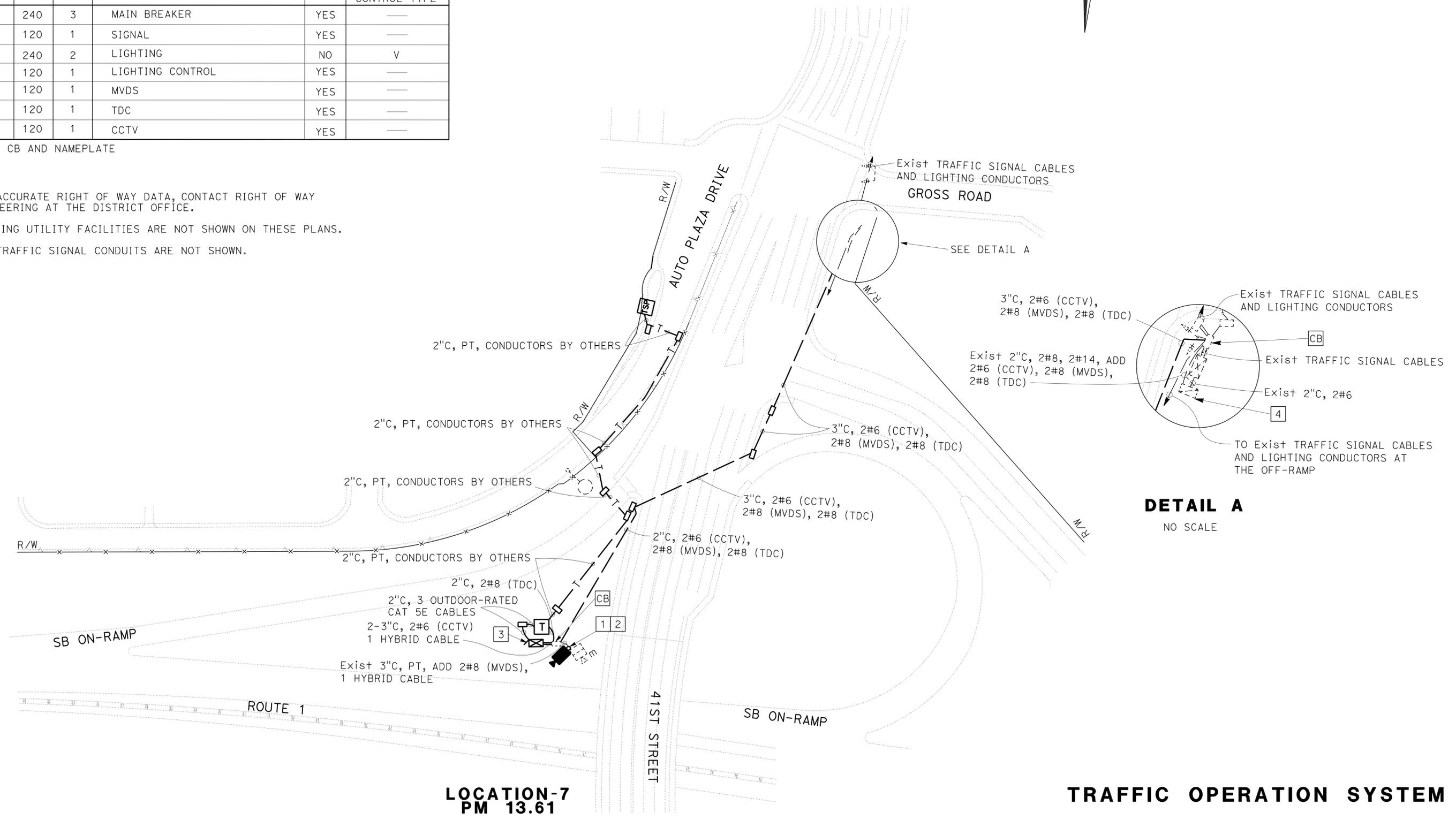
**NOTES:**

1. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
2. EXISTING UTILITY FACILITIES ARE NOT SHOWN ON THESE PLANS.
3. ALL TRAFFIC SIGNAL CONDUITS ARE NOT SHOWN.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	Scr	1	8.4/14.9	10	25

Daniel Vo  
 REGISTERED ELECTRICAL ENGINEER DATE: 4-8-13  
 PLANS APPROVAL DATE: 4-8-13  
 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  
**DANIEL THANH VO**  
 No. 17408  
 Exp. 09/30/14  
 ELECTRICAL  
 STATE OF CALIFORNIA



**DETAIL A**  
NO SCALE

**LOCATION-7  
PM 13.61**

**TRAFFIC OPERATION SYSTEM**

SCALE: 1" = 50'

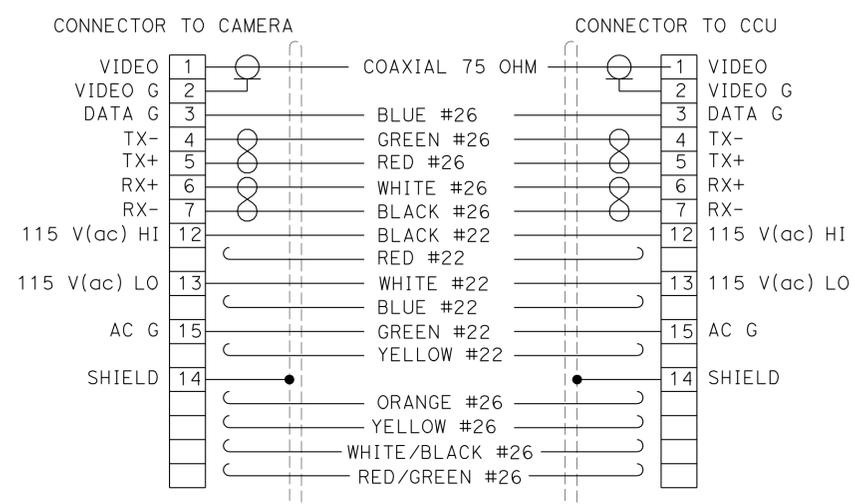
**E-7**

APPROVED FOR ELECTRICAL WORK ONLY



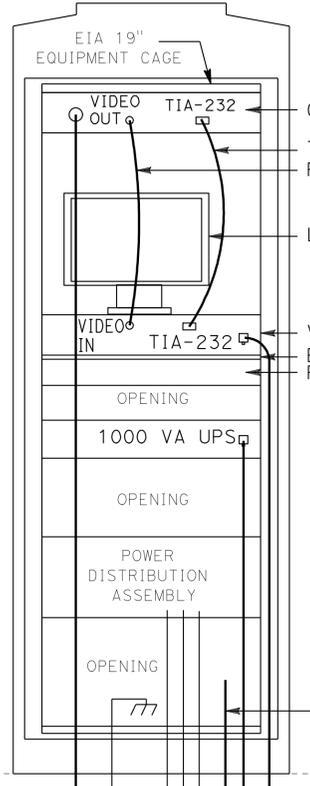


STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans** 06-ELECTRICAL DESIGN  
 FUNCTIONAL SUPERVISOR: ALI BAKHDOUD  
 GURVINDERJIT BAINS  
 DANIEL VO  
 CALCULATED/DESIGNED BY: ALI BAKHDOUD  
 CHECKED BY: DANIEL VO  
 REVISED BY: DANIEL VO  
 DATE REVISED:



**HYBRID CABLE**

**MODEL 334L CONTROLLER CABINET**



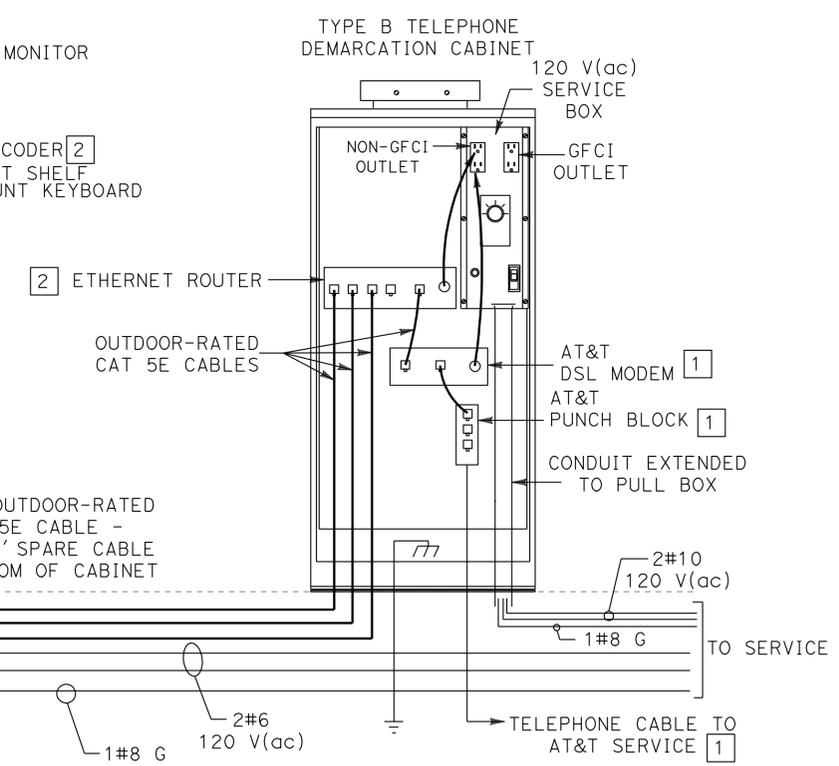
**MODEL 334L CONTROLLER CABINET MODIFICATIONS DETAIL**

**LEGEND:**

- 1 CONDUCTORS OR EQUIPMENT TO BE FURNISHED BY THE SERVING UTILITY.
- 2 EQUIPMENT INSTALLED BY DEPARTMENT FORCES.

**NOTES:**

- 1. ALL OTHER EQUIPMENT SHOWN ON THIS SHEET MUST BE INSTALLED BY THE CONTRACTOR.



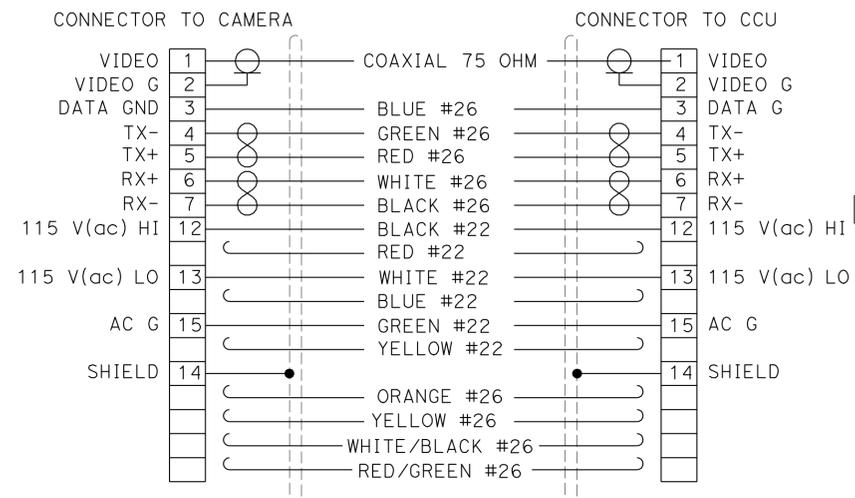
**TYPE B TDC MODIFICATIONS DETAIL**

**ELECTRICAL DETAILS**

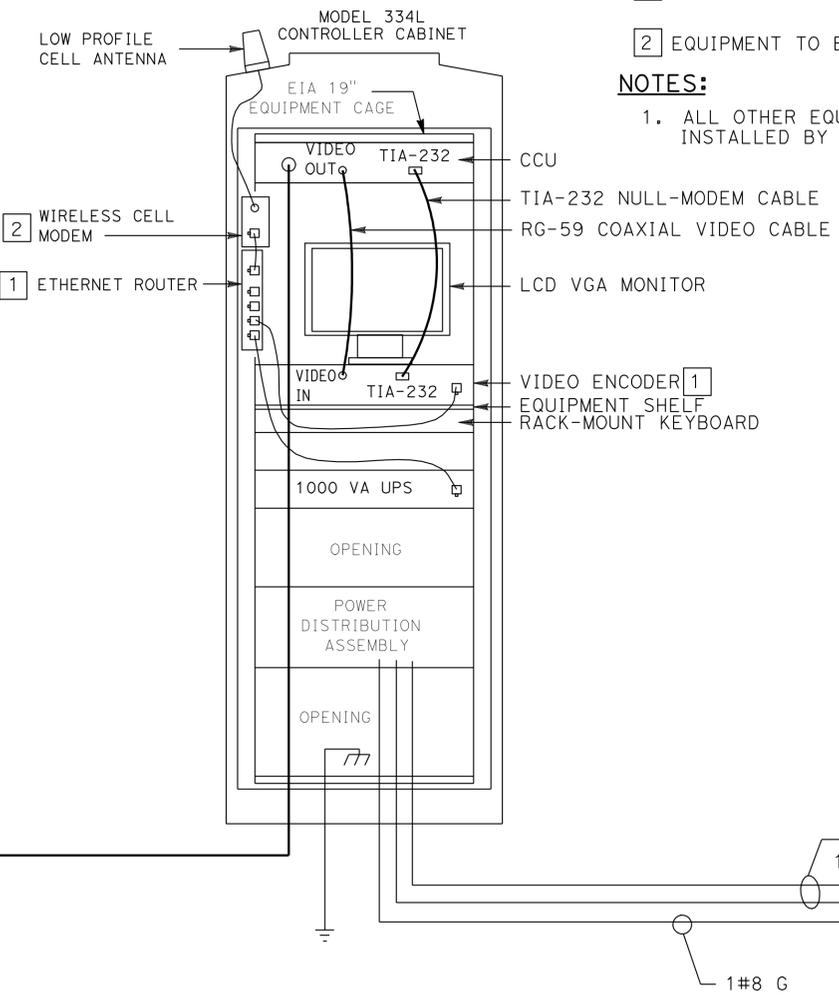
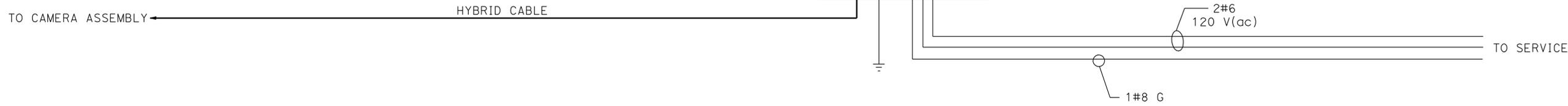
NO SCALE

**E-10**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans** 06-ELECTRICAL DESIGN  
 GURVINDERJIT BAINS  
 DANIEL VO  
 CALCULATED/DESIGNED BY  
 CHECKED BY  
 FUNCTIONAL SUPERVISOR  
 ALI BAKHDOUD



**HYBRID CABLE**



**LEGEND:**

- 1 EQUIPMENT FURNISHED AND INSTALLED BY DEPARTMENT FORCES.
- 2 EQUIPMENT TO BE MOUNTED ON INTERIOR WALL OF EQUIPMENT PANEL.

**NOTES:**

- 1. ALL OTHER EQUIPMENT SHOWN ON THIS SHEET MUST BE INSTALLED BY THE CONTRACTOR.

**MODEL 334L CONTROLLER CABINET  
MODIFICATIONS DETAIL**

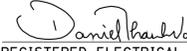
**ELECTRICAL DETAILS**

NO SCALE

**E-11**

LAST REVISION DATE PLOTTED => 24-SEP-2013 10:34  
 02-04-13 TIME PLOTTED => 10:34

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	Scr	1	8.4/14.9	15	25

  
 REGISTERED ELECTRICAL ENGINEER DATE  
 4-8-13  
 PLANS APPROVAL DATE



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**NOTE:**

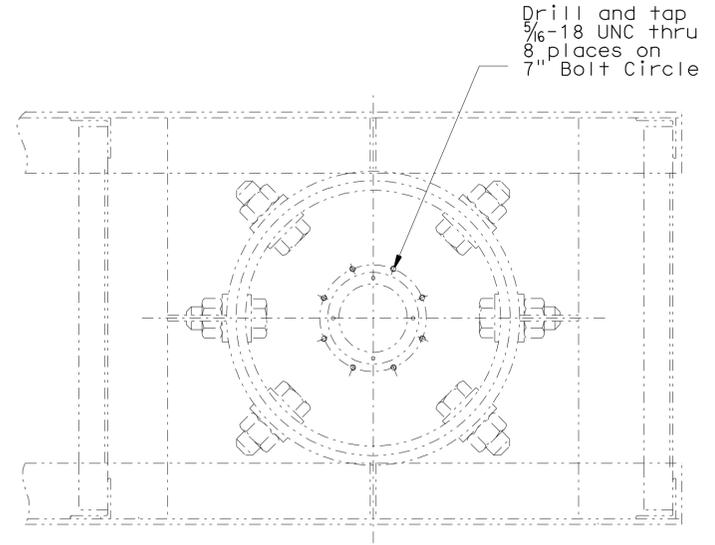
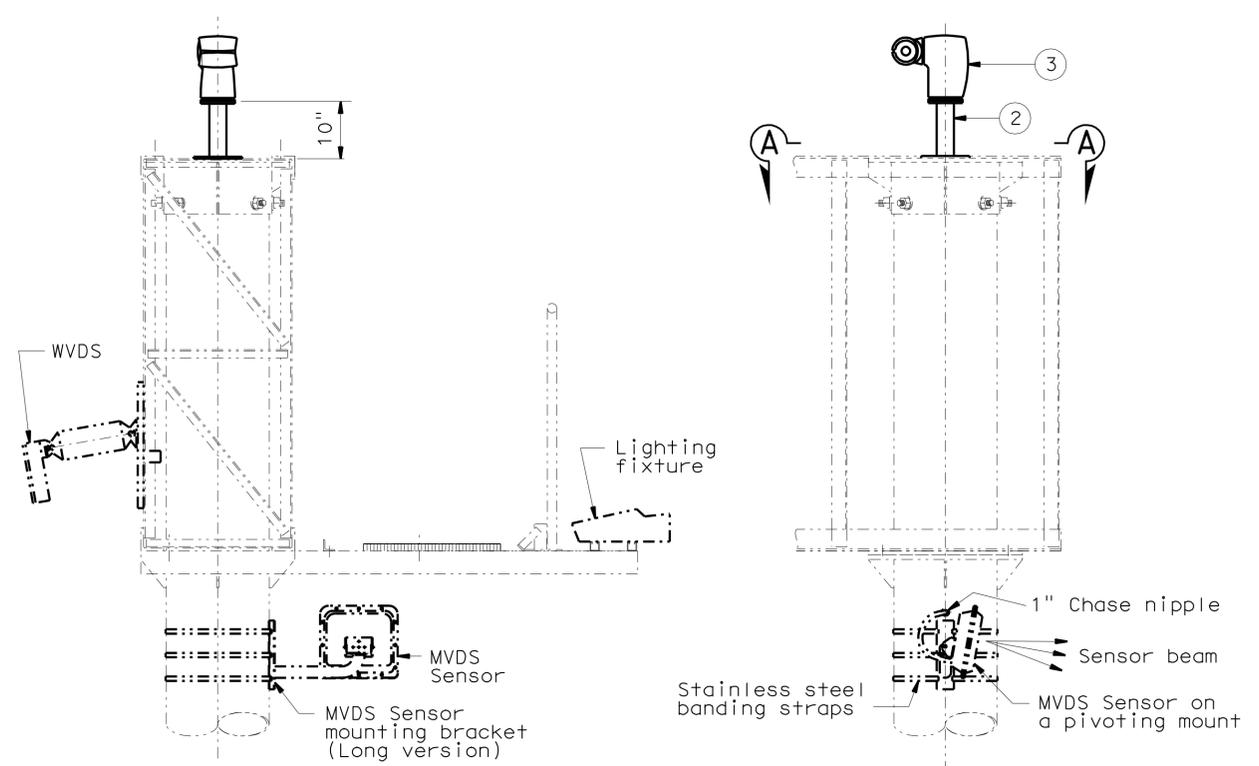
1. THE QUANTITIES ON THIS SHEET ARE NOT SEPARATE PAY ITEMS AND ARE FOR INFORMATION ONLY.

**TRAFFIC OPERATION SYSTEM**

SHEET No.	CONDUCTORS No. 2		CONDUCTORS No. 6		CONDUCTORS No. 8		CONDUCTORS No. 10		CONDUCTORS No. 8(G)		HYBRID CABLE	CAT 5E CABLE	2" C, TYPE 1	2" C, TYPE 3	3" C, TYPE 1	3" C, TYPE 3	No. 5 PB	No. 6(E) PB	MODEL 334L CABINET	MODEL 334L CABINET FOUNDATION	UPS 1000 VA	CCTV 35 POLE	CCTV 35 POLE FOUNDATION	CCTV 40 POLE	CCTV 40 POLE FOUNDATION	10" CAMERA MOUNT	CAMERA ASSEMBLY	CAMERA CONTROL UNIT	SERVICE III-BF CABINET	SERVICE III-BF CABINET FOUNDATION	SERVICE III-DF CABINET	SERVICE III-DF CABINET FOUNDATION	TDC	TDC FOUNDATION	SURGE PROTECTION MODULE	POWER SUPPLY 120V(ac)IN,24V(dc)OUT		
	LF	EA	LF	EA	LF	EA	LF	EA	LF	EA	LF	EA	LF	EA	LF	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	
E-1			700				90	100		25	90	20		2	1	1	1	1																				
E-2			450				200	70		15	200	20		1	1	1	1	1																				
E-3	60	2800	2800			1000	80		20	1000	40		6	1	1	1	1	1								1	1	1							1	1		
E-4		850	1200	1200		160	120				20	160	2	1	1	1	1	1								1	1	1										
E-5	210	60				80	80		30		30	80	3	1	1	1	1	1	1	1	1	1	1				1	1	1	1								
E-6		350				200	120		30	200	20		3	1	1	1	1	1	1	1	1	1					1	1										
E-7		1450	2950			1100	75	100	75	920	20	170	9			1	1	1	1	1	1							1	1					1	1			
E-8		1050				320	70	60	50	315	20		5	1	1	1	1	1	1	1	1			1	1		1	1										

**ELECTRICAL QUANTITIES**

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
05	SCR	1	8.4/14.9	16	25
REGISTERED CIVIL ENGINEER			DATE	12-13-12	
PLANS APPROVAL DATE			4-8-13		
REGISTERED PROFESSIONAL ENGINEER			ANDREW BUI		
No.			C63560		
Exp.			9/30/14		
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.					



**View A-A**  
SCALE 2" = 1'-0"

**LEGEND**

- Existing structure.
- \_\_\_\_\_ New structure.

**ABBREVIATIONS:**

- WVDS = Wireless vehicle detection system.
- MVDS = Microwave vehicle detection system.
- CCTV = Closed circuit television.

**SPECIFICATIONS:**

Design : AASHTO Standard Specifications for Structural Support for Highway Signs, Luminaries and Traffic Signals dated 2001.

**LOADING:**

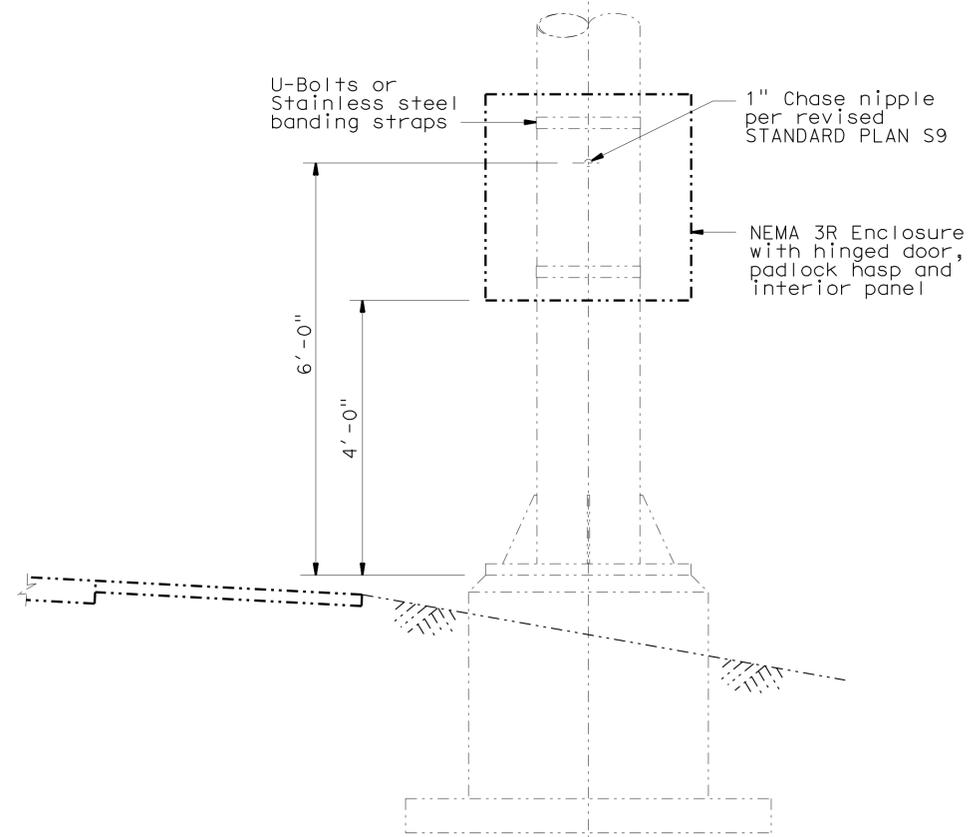
Wind Loadings : 100 mph.

**UNIT STRESSES:**

- Structural Steel :  $f_y = 48,000$  psi tapered steel tube.  
 $f_y = 36,000$  psi unless otherwise noted.
- Anchor bolts : A307.
- Reinforcing Concrete :  $f'_c = 3,600$  psi.  
 $f'_y = 60,000$  psi.

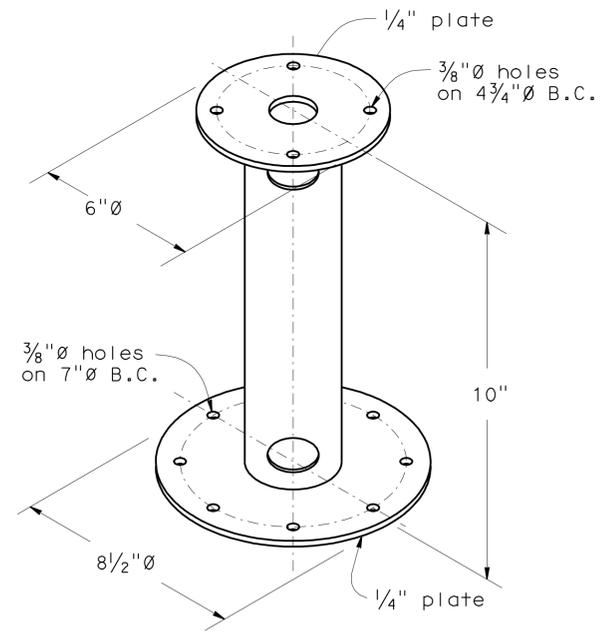
**NOTES:**

- 1 Drill and Tap 8 holes in top mounting plate. Bolt the camera mount to top plate. Bolt Camera to top plate of camera mount.
- 2 See Camera Mount Detail on this sheet.
- 3 Camera assembly.



**LOCATION 3, 4**

SCALE 3/4" = 1'



**CAMERA MOUNT DETAIL**

NOTE:  
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

BRANCH CHIEF <b>JEFF WOODY</b>	DESIGN	BY A GUTIERREZ	CHECKED A BUI	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES DESIGN AND TECHNICAL SERVICES SPECIAL DESIGNS BRANCH <b>A</b>	BRIDGE NO.	<b>CLOSED CIRCUIT TELEVISION SYSTEM</b>	
	DETAILS	BY D W JUSTICE Jr	CHECKED A GUTIERREZ			N/A		<b>ON EXISTING TUBULAR OH SIGN STRUCTURE MOUNTING DETAILS</b>
	QUANTITIES	BY	CHECKED			POST MILE		

	<b>M</b>	
Maint	MAINTENANCE	
Max	MAXIMUM	
MB	METAL BEAM	
MBB	METAL BEAM BARRIER	
MBGR	METAL BEAM GUARD RAILING	
Med	MEDIAN	
MGS	MIDWEST GUARDRAIL SYSTEM	
MH	MANHOLE	
Min	MINIMUM	
Misc	MISCELLANEOUS	
Misc I & S	MISCELLANEOUS IRON AND STEEL	
Mkr	MARKER	
Mod	MODIFIED, MODIFY	
Mon	MONUMENT	
MP	METAL PLATE	
MPGR	METAL PLATE GUARD RAILING	
MR	MOVEMENT RATING	
MSE	MECHANICALLY STABILIZED EMBANKMENT	
Mt	MOUNTAIN, MOUNT	
MtI	MATERIAL	
MVP	MAINTENANCE VEHICLE PULLOUT	
	<b>N</b>	
N	NORTH	
NB	NORTHBOUND	
No.	NUMBER (MUST HAVE PERIOD)	
Nos.	NUMBERS (MUST HAVE PERIOD)	
NPS	NOMINAL PIPE SIZE	
NS	NEAR SIDE	
NSP	NEW STANDARD PLAN	
NTS	NOT TO SCALE	
	<b>O</b>	
Obir	OBLITERATE	
OC	OVERCROSSING	
OD	OUTSIDE DIAMETER	
OF	OUTSIDE FACE	
OG	ORIGINAL GROUND	
OGAC	OPEN GRADED ASPHALT CONCRETE	
OGFC	OPEN GRADED FRICTION COURSE	
OH	OVERHEAD	
OHWM	ORDINARY HIGH WATER MARK	
O-O	OUT TO OUT	
Opp	OPPOSITE	
OSD	OVERSIDE DRAIN	
	<b>P</b>	
p	PAGE	
PAP	PERFORATED ALUMINUM PIPE	
PB	PULL BOX	
PC	POINT OF CURVATURE, PRECAST	
PCC	POINT OF COMPOUND CURVE, PORTLAND CEMENT CONCRETE	
PCMS	PORTABLE CHANGEABLE MESSAGE SIGN	
PCP	PERFORATED CONCRETE PIPE, PRESTRESSED CONCRETE PIPE	
PCVC	POINT OF COMPOUND VERTICAL CURVE	
PEC	PERMIT TO ENTER AND CONSTRUCT	
Ped	PEDESTRIAN	
Ped OC	PEDESTRIAN OVERCROSSING	
Ped UC	PEDESTRIAN UNDERCROSSING	
Perm MtI	PERMEABLE MATERIAL	

	<b>P continued</b>	
PG	PROFILE GRADE	
PI	POINT OF INTERSECTION	
PJP	PARTIAL JOINT PENETRATION	
Pkwy	PARKWAY	
PL, PL	PLATE	
P/L	PROPERTY LINE	
PM	POST MILE, TIME FROM NOON TO MIDNIGHT	
PN	PAVING NOTCH	
POC	POINT OF HORIZONTAL CURVE	
POT	POINT OF TANGENT	
POVC	POINT OF VERTICAL CURVE	
PP	PIPE PILE, PLASTIC PIPE, POWER POLE	
PPL	PREFORMED PERMEABLE LINER	
PPP	PERFORATED PLASTIC PIPE	
PRC	POINT OF REVERSE CURVE	
PRF	PAVEMENT REINFORCING FABRIC	
PRVC	POINT OF REVERSE VERTICAL CURVE	
PS&E	PLANS, SPECIFICATIONS AND ESTIMATES	
PS, P/S	PRESTRESSED	
PSP	PERFORATED STEEL PIPE	
PT	POINT OF TANGENCY	
PVC	POLYVINYL CHLORIDE	
Pvmt	PAVEMENT	
	<b>Q</b>	
Qty	QUANTITY	
	<b>R</b>	
R	RADIUS	
R & D	REMOVE AND DISPOSE	
R & S	REMOVE AND SALVAGE	
R/C	RATE OF CHANGE	
RCA	REINFORCED CONCRETE ARCH	
RCB	REINFORCED CONCRETE BOX	
RCP	REINFORCED CONCRETE PIPE	
RCPA	REINFORCED CONCRETE PIPE ARCH	
Rd	ROAD	
Reinf	REINFORCED, REINFORCEMENT, REINFORCING	
Rel	RELOCATE	
Repl	REPLACEMENT	
Ret	RETAINING	
Rev	REVISED, REVISION	
Rdwy	ROADWAY	
RHMA	RUBBERIZED HOT MIX ASPHALT	
Riv	RIVER	
RM	ROAD-MIXED	
RP	RADIUS POINT, REFERENCE POINT	
RR	RAILROAD	
RSP	ROCK SLOPE PROTECTION, REVISED STANDARD PLAN	
Rt	RIGHT	
Rte	ROUTE	
RW	REDWOOD, RETAINING WALL	
R/W	RIGHT OF WAY	
Rwy	RAILWAY	

	<b>S</b>	
S	SOUTH, SUPPLEMENT	
SAE	STRUCTURE APPROACH EMBANKMENT	
Salv	SALVAGE	
SAPP	STRUCTURAL ALUMINUM PLATE PIPE	
SB	SOUTHBOUND	
SC	SAND CUSHION	
SCSP	SLOTTED CORRUGATED STEEL PIPE	
SD	STORM DRAIN	
Sec	SECOND, SECTION	
Sep	SEPARATION	
SG	SUBGRADE	
Shld	SHOULDER	
Sht	SHEET	
Sim	SIMILAR	
SL	STATION LINE	
SM	SELECTED MATERIAL	
Spec	SPECIAL, SPECIFICATIONS	
SPP	SLOTTED PLASTIC PIPE	
SS	SLOPE STAKE	
SSBM	STRAP AND SADDLE BRACKET METHOD	
SSD	STRUCTURAL SECTION DRAIN	
SSPA	STRUCTURAL STEEL PLATE ARCH	
SSPP	STRUCTURAL STEEL PLATE PIPE	
SSPPA	STRUCTURAL STEEL PLATE PIPE ARCH	
SSRP	STEEL SPIRAL RIB PIPE	
St	STREET	
Sta	STATION	
STBB	SINGLE THRIE BEAM BARRIER	
Std	STANDARD	
Str	STRUCTURE	
Surf	SURFACING	
SW	SIDEWALK, SOUND WALL	
Swr	SEWER	
Sym	SYMMETRICAL	
S4S	SURFACE 4 SIDES	
	<b>T</b>	
T	SEMI-TANGENT	
Tan	TANGENT	
TBB	THRIE BEAM BARRIER	
Tbr	TIMBER	
TC	TOP OF CURB	
TCB	TRAFFIC CONTROL BOX	
TCE	TEMPORARY CONSTRUCTION EASEMENT	
TeI	TELEPHONE	
Temp	TEMPORARY	
TG	TOP OF GRADE	
Tot	TOTAL	
TP	TELEPHONE POLE	
TPB	TREATED PERMEABLE BASE	
TPM	TREATED PERMEABLE MATERIAL	
Trans	TRANSITION	

	<b>T continued</b>	
TS	TRANSVERSE, TRAFFIC SIGNAL, TUBULAR STEEL	
Typ	TYPICAL	
	<b>U</b>	
UC	UNDERCROSSING	
UD	UNDERDRAIN	
UG	UNDERGROUND	
UON	UNLESS OTHERWISE NOTED	
UP	UNDERPASS	
	<b>V</b>	
V	VALVE, DESIGN SPEED	
Var	VARIABLE, VARIES	
VC	VERTICAL CURVE	
VCP	VITRIFIED CLAY PIPE	
Vert	VERTICAL	
Via	VIADUCT	
Vol	VOLUME	
	<b>W</b>	
W	WEST, WIDTH	
WB	WESTBOUND	
WH	WEEP HOLE	
WM	WIRE MESH	
WS	WATER SURFACE	
WSP	WELDED STEEL PIPE	
Wt	WEIGHT	
WV	WATER VALVE	
WW	WINGWALL	
WWL	WINGWALL LAYOUT LINE	
	<b>X</b>	
X Sec	CROSS SECTION	
Xing	CROSSING	
	<b>Y</b>	
Yr	YEAR	
Yrs	YEARS	

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	Scr	1	8.4/14.9	17	25

*Grace M. Tsushima*  
REGISTERED CIVIL ENGINEER

July 19, 2013  
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
 Grace M. Tsushima  
 No. C49814  
 Exp. 9-30-14  
 CIVIL  
 STATE OF CALIFORNIA

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TO ACCOMPANY PLANS DATED 4-8-13

**UNIT OF MEASUREMENT SYMBOLS:**

Some of the symbols used in the project plan quantity tables and in the Bid Item List are:

**TABLE A**

SYMBOL USED	DEFINITIONS
ACRE	ACRE
CF	CUBIC FOOT
CY	CUBIC YARD
EA	EACH
GAL	GALLON
LB	POUND
LF	LINEAR FOOT
SQFT	SQUARE FOOT
SQYD	SQUARE YARD
STA	100 FEET
TAB	TABLET
TON	2,000 POUNDS

Some of the symbols used in the plans other than in the project plan quantity tables are:

**TABLE B**

SYMBOL USED	DEFINITIONS
ksi	KIPS PER SQUARE INCH
ksf	KIPS PER SQUARE FOOT
psi	POUNDS PER SQUARE INCH
psf	POUNDS PER SQUARE FOOT
lb/ft <sup>3</sup> , pcf	POUNDS PER CUBIC FOOT
tsf	TONS PER SQUARE FOOT
mph, MPH *	MILES PER HOUR
ø	NOMINAL DIAMETER
oz	OUNCE
lb	POUND
kip	1,000 POUNDS
cal	CALORIE
ft	FOOT OR FEET
gal	GALLON

\* For use on a sign panel only

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**ABBREVIATIONS  
(SHEET 2 OF 2)**

NO SCALE

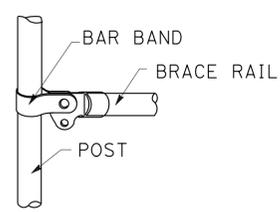
RSP A10B DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN A10B  
DATED MAY 20, 2011 - PAGE 2 OF THE STANDARD PLANS BOOK DATED 2010.

2010 REVISED STANDARD PLAN RSP A10B

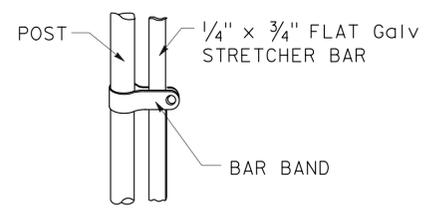
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	Scr	1	8.4/14.9	18	25

Glenn DeCou  
 REGISTERED CIVIL ENGINEER  
 October 19, 2012  
 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.

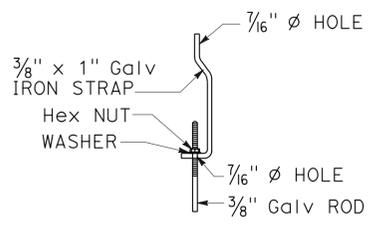
REGISTERED PROFESSIONAL ENGINEER  
 Glenn DeCou  
 No. C34547  
 Exp. 9-30-13  
 CIVIL  
 STATE OF CALIFORNIA



**BRACE RAIL**



**STRETCHER BAR**

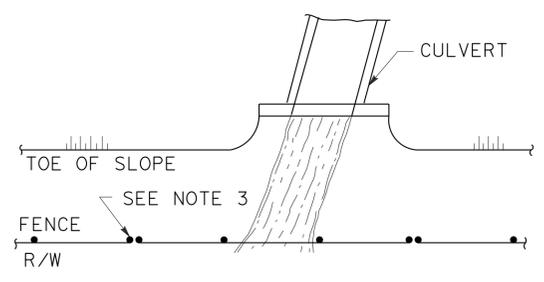


**TRUSS TIGHTENER**

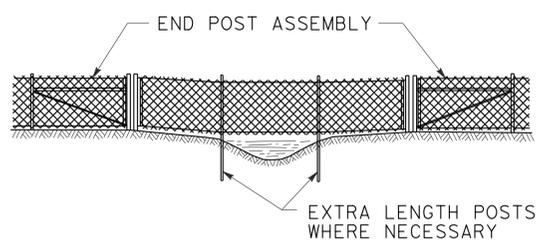
**NOTES:**

1. All material for abutment connection to be galvanized.
2. The chain link fabric shall be replaced by barbed wire strands at 12" maximum centers between the double posts.
3. When the width of the culvert makes it necessary to anchor a post to the top of the culvert, a cast iron shoe or other device approved by the Engineer shall be used.
4. Fencing over stream and around headwall may also use Barbed Wire or Wire Mesh fencing with either wood post or steel post installation.
5. See Standard Plan A85 for Chain Link fence dimensions. See Standard Plan A86 for Barbed Wire and Wire Mesh fence dimensions and for wood post and steel post installation.

TO ACCOMPANY PLANS DATED 4-8-13

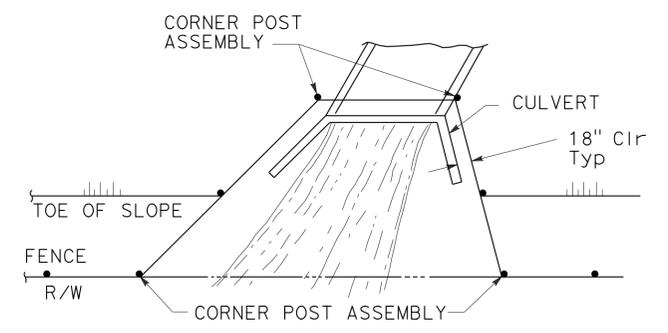


**PLAN**

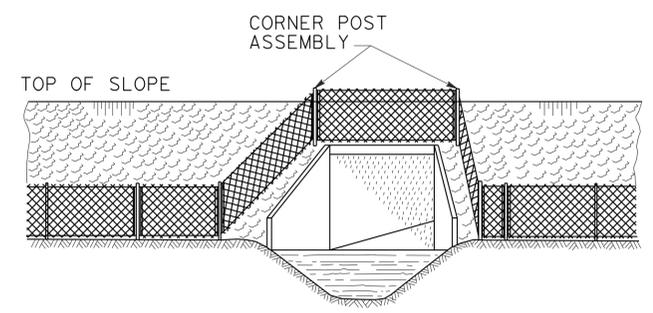


**ELEVATION**

**INSTALLATION OVER STREAM**



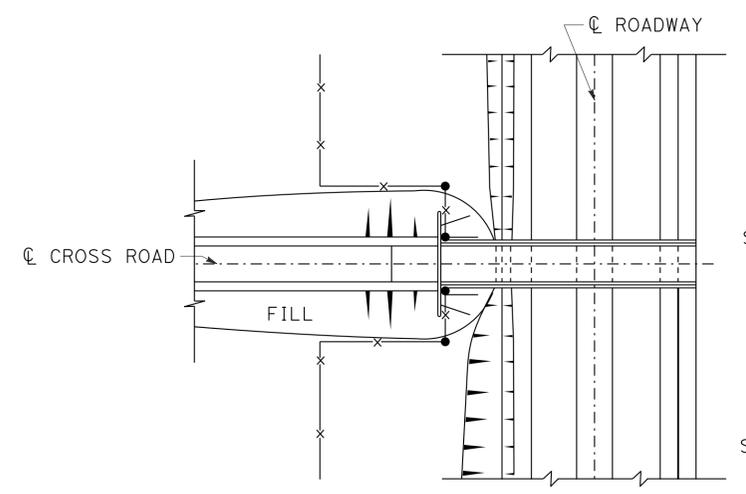
**PLAN**



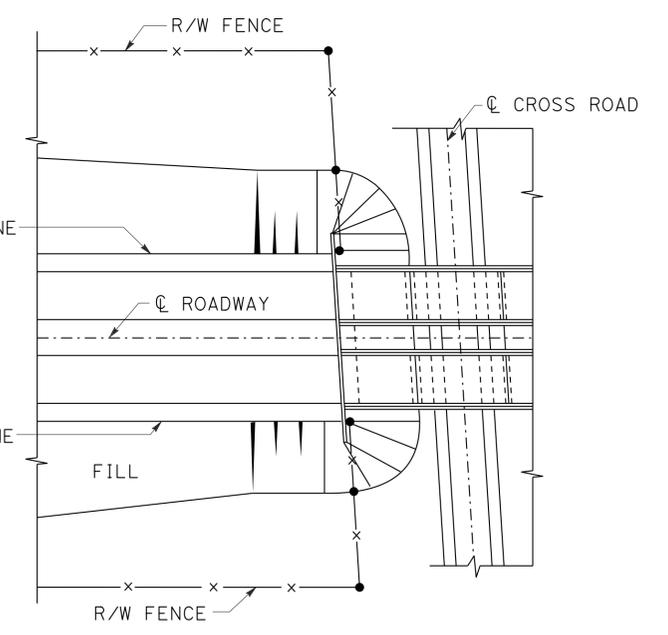
**ELEVATION**

**INSTALLATION AROUND HEADWALL**

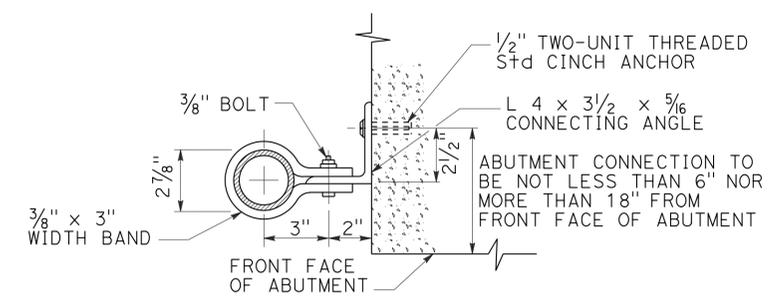
See Note 4



**PLAN OF ROADWAY - OVERCROSSING**



**PLAN OF ROADWAY - UNDERCROSSING**



**ABUTMENT CONNECTION**

**TYPICAL INSTALLATION AT BRIDGES**

ABUTMENT CONNECTION TO BE NOT LESS THAN 6" NOR MORE THAN 18" FROM FRONT FACE OF ABUTMENT

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**CHAIN LINK FENCE DETAILS**

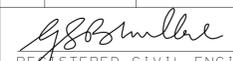
NO SCALE

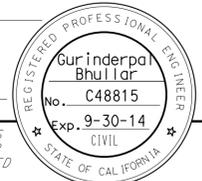
RSP A85B DATED OCTOBER 19, 2012 SUPERSEDES STANDARD PLAN A85B DATED MAY 20, 2011 - PAGE 114 OF THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP A85B**

2010 REVISED STANDARD PLAN RSP A85B

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	Scr	1	8.4/14.9	19	25

  
 REGISTERED CIVIL ENGINEER  
 July 19, 2013  
 PLANS APPROVAL DATE



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TO ACCOMPANY PLANS DATED 4-8-13

TABLE 1

TAPER LENGTH CRITERIA AND CHANNELIZING DEVICE SPACING							
SPEED (S)	MINIMUM TAPER LENGTH * FOR WIDTH OF OFFSET 12 FEET (W)				MAXIMUM CHANNELIZING DEVICE SPACING		
	TANGENT 2L	MERGING L	SHIFTING L/2	SHOULDER L/3	X	Y	Z **
					TAPER	TANGENT	CONFLICT
mph	ft	ft	ft	ft	ft	ft	ft
20	160	80	40	27	20	40	10
25	250	125	63	42	25	50	12
30	360	180	90	60	30	60	15
35	490	245	123	82	35	70	17
40	640	320	160	107	40	80	20
45	1080	540	270	180	45	90	22
50	1200	600	300	200	50	100	25
55	1320	660	330	220	55	110	27
60	1440	720	360	240	60	120	30
65	1560	780	390	260	65	130	32
70	1680	840	420	280	70	140	35

\* - For other offsets, use the following merging taper length formula for L:  
 For speed of 40 mph or less,  $L = WS^2/60$   
 For speed of 45 mph or more,  $L = WS$

Where: L = Taper length in feet  
 W = Width of offset in feet  
 S = Posted speed limit, off-peak 85th-percentile speed prior to work starting, or the anticipated operating speed in mph

\*\* - Use for taper and tangent sections where there are no pavement markings or where there is a conflict between existing pavement markings and channelizers (CA).

TABLE 2

LONGITUDINAL BUFFER SPACE AND FLAGGER STATION SPACING				
SPEED *	Min D **	DOWNGRADE Min D ***		
		-3%	-6%	-9%
		ft	ft	ft
20	115	116	120	126
25	155	158	165	173
30	200	205	215	227
35	250	257	271	287
40	305	315	333	354
45	360	378	400	427
50	425	446	474	507
55	495	520	553	593
60	570	598	638	686
65	645	682	728	785
70	730	771	825	891

\* - Speed is posted speed limit, off-peak 85th-percentile speed prior to work starting, or the anticipated operating speed in mph

\*\* - Longitudinal buffer space or flagger station spacing

\*\*\* - Use on sustained downgrade steeper than -3 percent and longer than 1 mile.

TABLE 3

ADVANCE WARNING SIGN SPACING			
ROAD TYPE	DISTANCE BETWEEN SIGNS *		
	A	B	C
	ft	ft	ft
URBAN - 25 mph OR LESS	100	100	100
URBAN - MORE THAN 25 mph TO 40 mph	250	250	250
URBAN - MORE THAN 40 mph	350	350	350
RURAL	500	500	500
EXPRESSWAY / FREEWAY	1000	1500	2640

\* - The distances are approximate, are intended for guidance purposes only, and should be applied with engineering judgment. These distances should be adjusted by the Engineer for field conditions, if necessary, by increasing or decreasing the recommended distances.

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

**TRAFFIC CONTROL SYSTEM TABLES  
 FOR LANE AND RAMP CLOSURES**

NO SCALE

RSP T9 DATED JULY 19, 2013 SUPERSEDES RSP T9 DATED APRIL 19, 2013  
 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

2010 REVISED STANDARD PLAN RSP T9

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	Scr	1	8.4/14.9	20	25

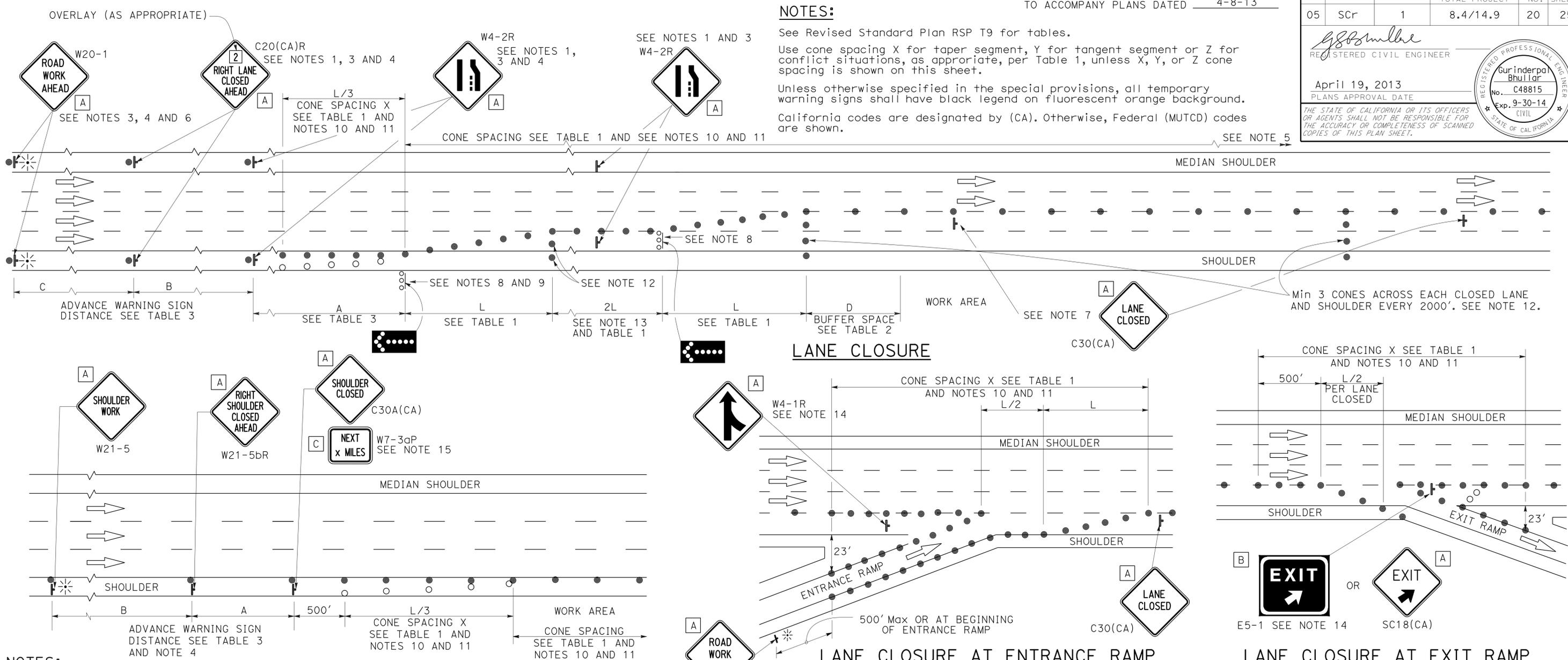
REGISTERED CIVIL ENGINEER  
 April 19, 2013  
 PLANS APPROVAL DATE  
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER  
 Gurinderpal Bhullar  
 No. C48815  
 Exp. 9-30-14  
 CIVIL  
 STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 4-8-13

**NOTES:**

See Revised Standard Plan RSP T9 for tables.  
 Use cone spacing X for taper segment, Y for tangent segment or Z for conflict situations, as appropriate, per Table 1, unless X, Y, or Z cone spacing is shown on this sheet.  
 Unless otherwise specified in the special provisions, all temporary warning signs shall have black legend on fluorescent orange background.  
 California codes are designated by (CA). Otherwise, Federal (MUTCD) codes are shown.



**NOTES:**

1. Median lane closures shall conform to the details as shown except that C20(CA)L and W4-2L signs shall be used.
2. At least one person shall be assigned to provide full time maintenance of traffic control devices for lane closures.
3. Duplicate sign installations are not required:
  - a) On opposite shoulder if at least one-half of the available lanes remain open to traffic.
  - b) In the median if the width of the median shoulder is less than 8' and the outside lanes are to be closed.
4. Each advance warning sign on each side of the roadway shall be equipped with at least two flags for daytime closure. Each flag shall be at least 16" x 16" in size and shall be orange or fluorescent red-orange in color. Flashing beacons shall be placed at the locations indicated for lane closure during hours of darkness.
5. A G20-2 "END ROAD WORK" sign, with minimum size of 48" x 24" as appropriate, shall be placed at the end of the lane closure unless the end of work area is obvious or ends within a larger project's limits.

**SHOULDER CLOSURE**

6. If the W20-1 sign would follow within 2000' of a stationary W20-1 or G20-1 "ROAD WORK NEXT \_\_\_\_\_ MILES", use a C20(CA) "NEXT \_\_\_\_\_ MILES" sign for the first advance warning sign.
7. Place a C30(CA) sign every 2000' throughout length of lane closure.
8. One flashing arrow sign for each lane closed. The flashing arrow signs shall be Type I.
9. A minimum 1500' of sight distance shall be provided where possible for vehicles approaching the first flashing arrow sign. Lane closures shall not begin at top of crest vertical curve or on a horizontal curve.
10. All cones used for lane closures during the hours of darkness shall be fitted with retroreflective bands (or sleeves) as specified in the specifications.
11. Portable delineators, placed at one-half the spacing indicated for traffic cones may be used instead of cones for daytime closures only.

W20-1 SEE NOTE 4

**LEGEND**

- TRAFFIC CONE
- TRAFFIC CONE (OPTIONAL TAPER)
- † TEMPORARY TRAFFIC CONTROL SIGN
- FLASHING ARROW SIGN (FAS)
- FAS SUPPORT OR TRAILER
- ⚡ PORTABLE FLASHING BEACON

**SIGN PANEL SIZE (Min)**

- A 48" x 48"
- B 72" x 60"
- C 36" x 30"

**TRAFFIC CONTROL SYSTEM FOR LANE CLOSURE ON FREEWAYS AND EXPRESSWAYS**

NO SCALE  
 RSP T10 DATED APRIL 19, 2013 SUPERSEDES STANDARD PLAN T10 DATED MAY 20, 2011 - PAGE 237 OF THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP T10**

2010 REVISED STANDARD PLAN RSP T10

# TYPICAL RAMP CLOSURES

## SIGN PANEL SIZE (Min)

- A 48" x 48"
- B 48" x 30"
- C 36" x 36"
- D 48" x 36"

## LEGEND

- TRAFFIC CONE
- † TEMPORARY TRAFFIC CONTROL SIGN
- ‡ BARRICADES
- ⚡ PORTABLE FLASHING BEACON

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	Scr	1	8.4/14.9	21	25

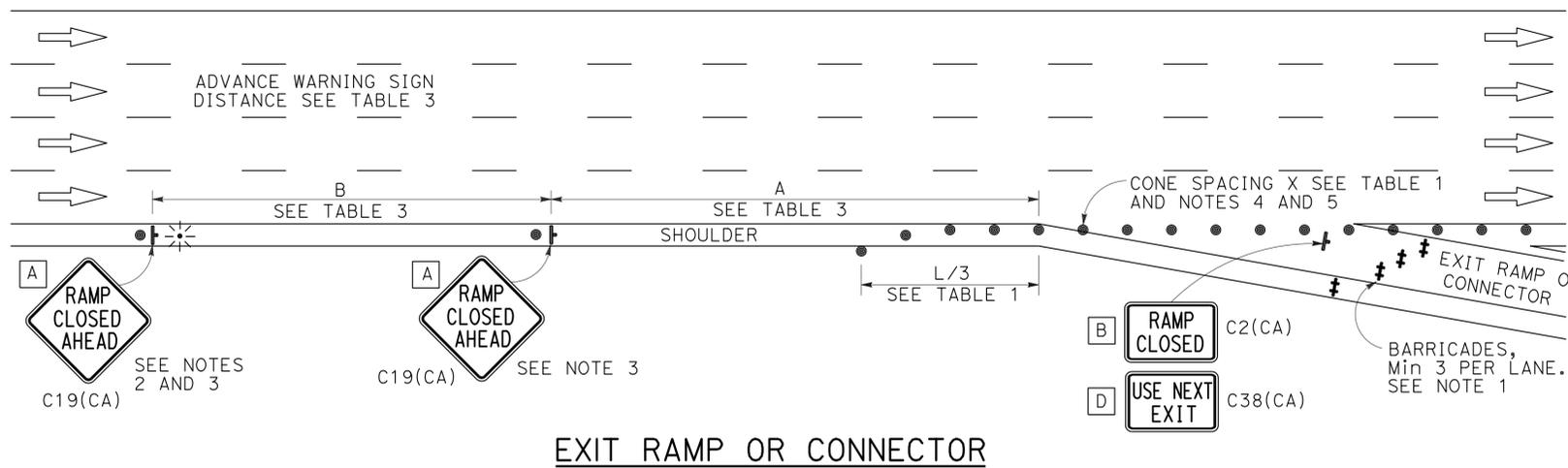
*Gurinderpal Bhullar*  
 REGISTERED CIVIL ENGINEER  
 April 19, 2013  
 PLANS APPROVAL DATE  
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER  
 Gurinderpal Bhullar  
 No. C48815  
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 CIVIL  
 STATE OF CALIFORNIA

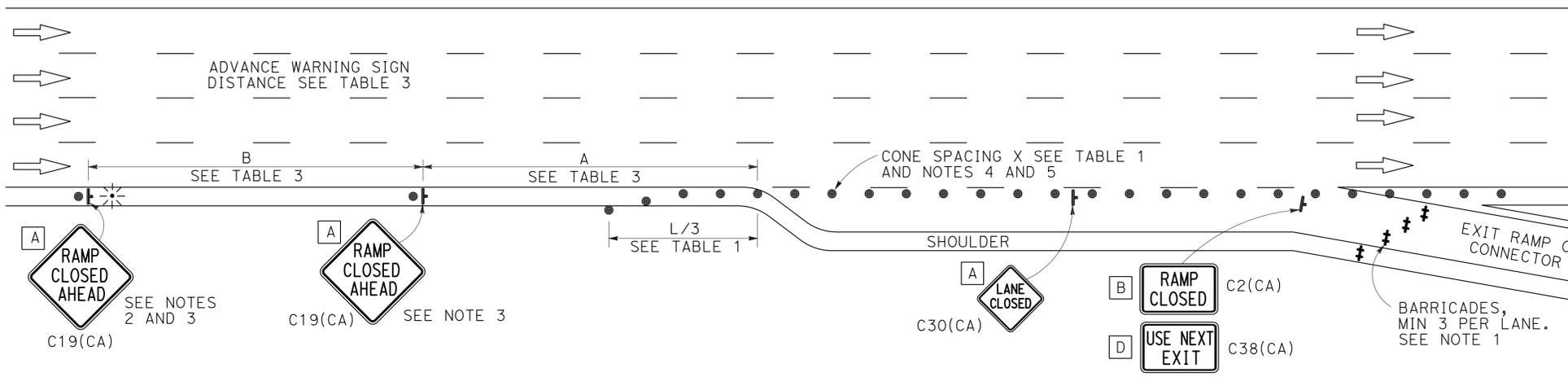
TO ACCOMPANY PLANS DATED 4-8-13

## NOTES:

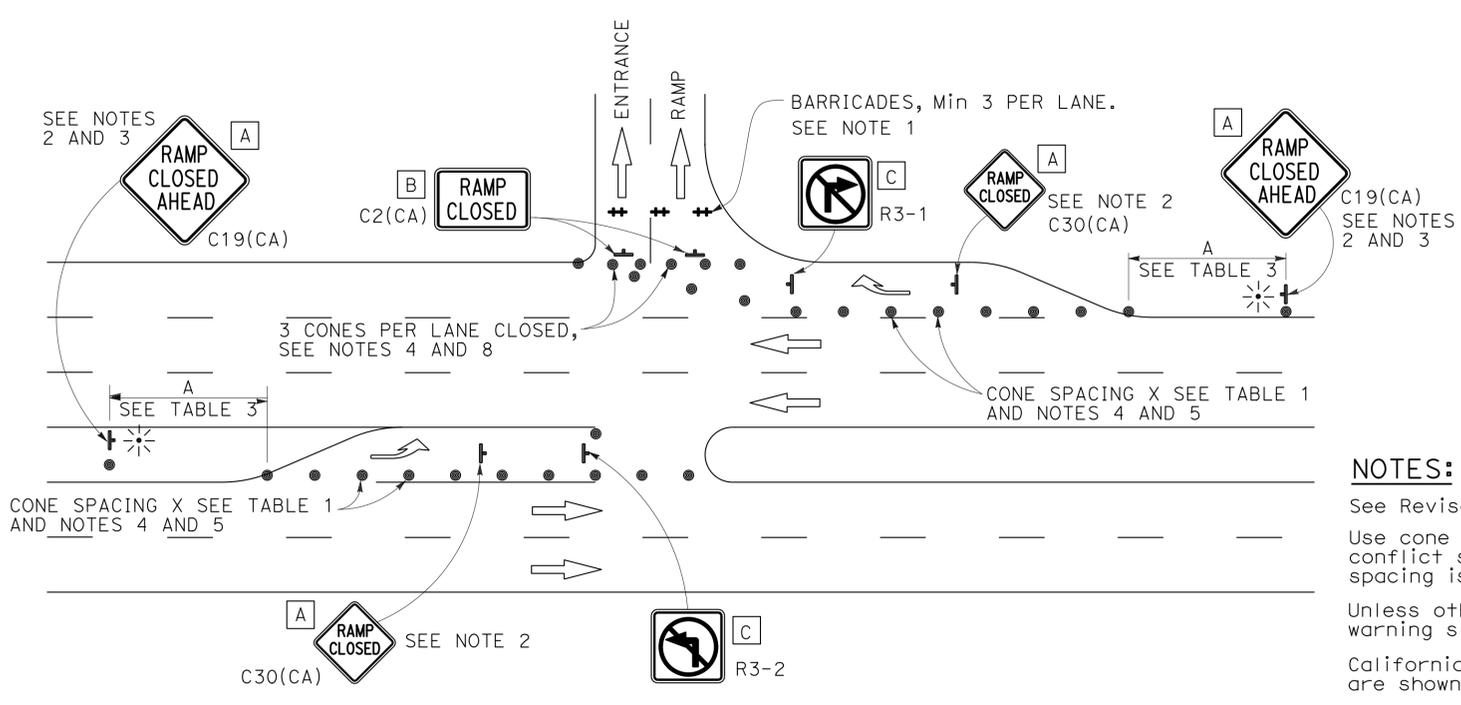
- Barricades shall be Type I, II, or III for closures lasting one week or less and Type III for closures lasting longer than one week.
- In addition to placing the C19(CA) "RAMP CLOSED AHEAD" and C30(CA) "RAMP CLOSED" signs, black on orange overlay plates with the word "CLOSED" may be mounted, as directed by the Engineer, on all guide signs that refer to the closed ramp. The letter size on the overlay shall be the same as the guide sign.
- Each advance C19(CA) "RAMP CLOSED AHEAD" sign shall be equipped with at least two flags for daytime closure. Each flag shall be at least 16" x 16" in size and shall be orange or fluorescent red-orange in color. A flashing beacon shall be placed on top of the first C19(CA) sign during hours of darkness.
- All cones used for ramp closures during the hours of darkness shall be fitted with retroreflective bands (or sleeves) as specified in the specifications.
- Portable delineators, placed at one-half the spacing indicated for traffic cones, may be used instead of cones for daytime ramp closures only.
- At least one person shall be assigned to provide full time maintenance of traffic control devices, unless otherwise directed by the Engineer.
- The existing "EXIT" signs shall be covered during ramp closures.
- A minimum of 3 cones shall be placed transversely across each closed lane and shoulder.



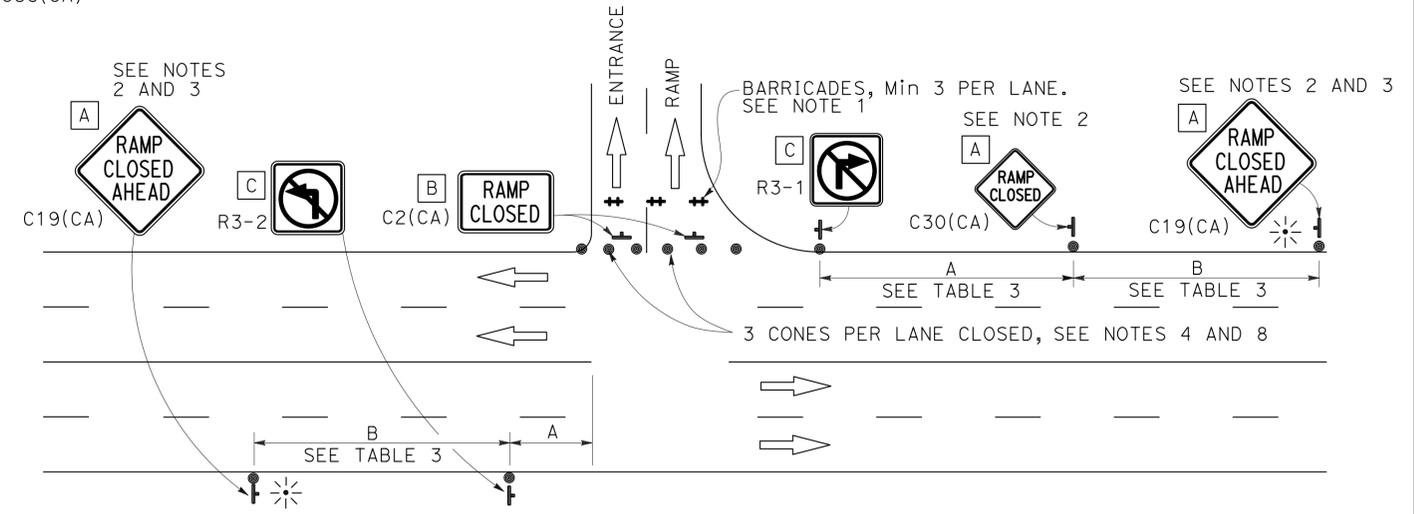
EXIT RAMP OR CONNECTOR



EXIT RAMP OR CONNECTOR WITH ADDITIONAL LANE



ENTRANCE RAMP WITH TURNING POCKETS



ENTRANCE RAMP WITHOUT TURNING POCKETS

## NOTES:

- See Revised Standard Plan RSP T9 for tables.
- Use cone spacing X for taper segment, Y for tangent segment or Z for conflict situations, as appropriate, per Table 1, unless X, Y, or Z cone spacing is shown on this sheet.
- Unless otherwise specified in the special provisions, all temporary warning signs shall have black legend on fluorescent orange background.
- California codes are designated by (CA). Otherwise, Federal (MUTCD) codes are shown.

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
**TRAFFIC CONTROL SYSTEM  
 FOR RAMP CLOSURE**  
 NO SCALE

RSP T14 DATED APRIL 19, 2013 SUPERSEDES STANDARD PLAN T14  
 DATED MAY 20, 2011 - PAGE 242 OF THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP T14**

2010 REVISED STANDARD PLAN RSP T14

**LEGEND:**

<b>AB</b>	ABANDON. IF APPLIED TO CONDUIT, REMOVE CONDUCTORS
<b>BC</b>	INSTALL PULL BOX IN EXISTING CONDUIT RUN
<b>BP</b>	PEDESTRIAN BARRICADE, TYPE AS INDICATED ON PLAN
<b>CB</b>	INSTALL CONDUIT INTO EXISTING PULL BOX
<b>CC</b>	CONNECT NEW AND EXISTING CONDUIT. REMOVE EXISTING CONDUCTORS AND INSTALL CONDUCTORS AS INDICATED
<b>CF</b>	CONDUIT TO REMAIN FOR FUTURE USE. REMOVE CONDUCTORS. INSTALL PULL TAPE
<b>DH</b>	DETECTOR HANDHOLE
<b>FA</b>	FOUNDATION TO BE ABANDONED
<b>IS</b>	INSTALL SIGN ON SIGNAL MAST ARM
<b>NS</b>	NO SLIP BASE ON STANDARD
<b>PEC</b>	PHOTOELECTRIC CONTROL
<b>PEU</b>	PHOTOELECTRIC UNIT
<b>RC</b>	EQUIPMENT OR MATERIAL TO BE REMOVED AND BECOME THE PROPERTY OF THE CONTRACTOR
<b>RE</b>	REMOVE ELECTROLIER, FUSES AND BALLAST. TAPE ENDS OF CONDUCTORS
<b>RL</b>	RELOCATE EQUIPMENT
<b>RR</b>	REMOVE AND REUSE EQUIPMENT
<b>RS</b>	REMOVE AND SALVAGE EQUIPMENT
<b>SC</b>	SPLICE NEW TO EXISTING CONDUCTORS
<b>SD</b>	SERVICE DISCONNECT
<b>TSP</b>	TELEPHONE SERVICE POINT

**ABBREVIATIONS**

APS	ACCESSIBLE PEDESTRIAN SIGNAL	M/M	MULTIPLE TO MULTIPLE TRANSFORMER
BBS	BATTERY BACKUP SYSTEM	Mtg	MOUNTING
BC	BOLT CIRCLE	MV	MERCURY VAPOR LIGHTING FIXTURE
BPB	BICYCLE PUSH BUTTON	MVDS	MICROWAVE VEHICLE DETECTION SYSTEM
C	CONDUIT	N	NEUTRAL (GROUNDED CONDUCTOR)
CB	CIRCUIT BREAKER	NB	NEUTRAL BUS
CCTV	CLOSED CIRCUIT TELEVISION	NC	NORMALLY CLOSE
Ckt	CIRCUIT	NO	NORMALLY OPEN
CMS	CHANGEABLE MESSAGE SIGN	P	CIRCUIT BREAKER'S POLE
Ctid	CALTRANS IDENTIFICATION	PB	PULL BOX
Comm	COMMUNICATION	PBA	PUSH BUTTON ASSEMBLY
DLC	LOOP DETECTOR LEAD-IN CABLE	PEC	PHOTOELECTRIC CONTROL
EMS	EXTINGUISHABLE MESSAGE SIGN	Ped	PEDESTRIAN
EVUC	EMERGENCY VEHICLE UNIT CABLE	PEU	PHOTOELECTRIC UNIT
EVUD	EMERGENCY VEHICLE UNIT DETECTOR	PT	CONDUIT WITH PULL TAPE
FB	FLASHING BEACON	RE	RELOCATED EQUIPMENT
FBCA	FLASHING BEACON CONTROL ASSEMBLY	RM	RAMP METERING
FBS	FLASHING BEACON WITH SLIP BASE	RWIS	ROADSIDE WEATHER INFORMATION SYSTEM
FO	FIBER OPTIC	SB	SLIP BASE
G	EQUIPMENT GROUNDING CONDUCTOR	SIC	SIGNAL INTERCONNECT CABLE
GB	GROUND BUS	Sig	SIGNAL
GFCI	GROUND FAULT CIRCUIT INTERRUPTER	SMA	SIGNAL MAST ARM
HAR	HIGHWAY ADVISORY RADIO	SNS	STREET NAME SIGN
Hex	HEXAGONAL	SP	SERVICE POINT
HPS	HIGH PRESSURE SODIUM	TDC	TELEPHONE DEMARCATION CABINET
IISNS	INTERNALLY ILLUMINATED STREET NAME SIGN	TMS	TRAFFIC MONITORING STATION
ISL	INDUCTION SIGN LIGHTING	TOS	TRAFFIC OPERATIONS SYSTEM
LED	LIGHT EMITTING DIODE	Veh	VEHICLE
LMA	LUMINAIRE MAST ARM	VIVDS	VIDEO IMAGE VEHICLE DETECTION SYSTEM
LPS	LOW PRESSURE SODIUM	WIM	WEIGH-IN-MOTION
Ltg	LIGHTING	Xfmr	TRANSFORMER
Lum	LUMINAIRE		
M	METERED		
MAT	MAST ARM MOUNTING TOP ATTACHMENT		
MAS	MAST ARM MOUNTING SIDE ATTACHMENT		

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	Scr	1	8.4/14.9	22	25

*Theresa Gabriel*  
REGISTERED ELECTRICAL ENGINEER

July 19, 2013  
PLANS APPROVAL DATE

Theresa Aziz Gabriel  
No. E15129  
Exp. 6-30-14  
ELECTRICAL  
STATE OF CALIFORNIA

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TO ACCOMPANY PLANS DATED 4-8-13

**SOFFIT AND WALL MOUNTED LUMINAIRES**

- PENDANT, 70 W HPS UNLESS OTHERWISE SPECIFIED
- FLUSH, 70 W HPS UNLESS OTHERWISE SPECIFIED
- WALL SURFACE, 70 W HPS UNLESS OTHERWISE SPECIFIED
- EXISTING SOFFIT OR WALL LUMINAIRE TO REMAIN UNMODIFIED
- EXISTING SOFFIT OR WALL LUMINAIRE TO BE MODIFIED AS SPECIFIED

**NOTE:**  
Arrow indicates "street side" of luminaire.

COMMONLY USED SYMBOLS FOR UNITED STATES CUSTOMARY UNITS OF MEASUREMENT:

SYMBOL USED	DEFINITIONS
$\Omega$	OHMS
min	MINUTE
s	SECOND
bps	BITS PER SECOND
Bps	BYTES PER SECOND
A	AMPERE
V	VOLT
V(dc)	VOLT (DIRECT CURRENT)
V(ac)	VOLT (ALTERNATING CURRENT)
FC	FOOT - CANDLE
W	WATTS
VA	VOLT-AMPERE
M	MEGA
k	KILO
m	MILLI
$\mu$	MICRO
P	PICO
Hz	HERTZ

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**ELECTRICAL SYSTEMS (LEGEND AND ABBREVIATIONS)**

NO SCALE

RSP ES-1A DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-1A DATED MAY 20, 2011 - PAGE 425 OF THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP ES-1A**

**MISCELLANEOUS ELECTROLIERS**

NEW	EXISTING	
		LUMINAIRE ON WOOD POLE
		NON-STANDARD ELECTROLIER (SEE PROJECT NOTES OR PROJECT PLANS)
		CITY ELECTROLIER
		ELECTROLIER FOUNDATION (FUTURE INSTALLATION)

**NOTES:**

- HPS luminaires shall be 310 W HPS when installed on Type 21, 21D, 30, 31 and 32 Standards, unless otherwise specified. HPS luminaires shall be 200 W when installed on other type standards or poles, unless otherwise specified.
- LED luminaires shall be 235 W when installed on Type 21, 21D, 30, 31 and 32 Standards, unless otherwise specified. LED luminaires shall be 165 W when installed on other type standards or poles, unless otherwise specified.
- Luminaires shall be the cutoff type, ANSI Type III medium cutoff lighting distribution, unless otherwise specified.

**STANDARD ELECTROLIER**

NEW	EXISTING	STANDARD TYPE
		15
		15D
		15 STRUCTURE
		15D STRUCTURE
		21
		21D
		21 STRUCTURE
		21D STRUCTURE
		30
		31
		32

2010 REVISED STANDARD PLAN RSP ES-1A

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	Scr	1	8.4/14.9	23	25

*Theresa Gabriel*  
REGISTERED ELECTRICAL ENGINEER

July 19, 2013  
PLANS APPROVAL DATE

Theresa Aziz Gabriel  
No. E15129  
Exp. 6-30-14  
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TO ACCOMPANY PLANS DATED 4-8-13

**CONDUIT**

**SIGNAL EQUIPMENT**

NEW	EXISTING	
---	---	LIGHTING CONDUIT, UNLESS OTHERWISE INDICATED OR NOTED
---	---	TRAFFIC SIGNAL CONDUIT
---C---	---c---	COMMUNICATION CONDUIT
---T---	---t---	TELEPHONE CONDUIT
---F---	---f---	FIRE ALARM CONDUIT
---FO---	---fo---	FIBER OPTIC CONDUIT
---	---	CONDUIT TERMINATION
		CONDUIT RISER ATTACHED TO THE STRUCTURE OR SERVICE POLE

NEW	EXISTING	
		PEDESTRIAN SIGNAL HEAD "C" INDICATES COUNTDOWN PEDESTRIAN HEAD
		PUSH BUTTON ASSEMBLY POST
		PEDESTRIAN BARRICADE
		VEHICLE SIGNAL HEAD (WITH BACKPLATE AND 3-SECTIONS: RED, YELLOW AND GREEN)
		VEHICLE SIGNAL HEAD WITH ANGLE VISOR
		MODIFICATIONS OF BASIC SYMBOL: "L" INDICATES ALL NON-ARROW SECTIONS LOUVERED "LG" INDICATES LOUVERED GREEN SECTION ONLY "PV" INDICATES ALL 12" SECTIONS PROGRAMMED VISIBILITY "8" INDICATES ALL 8" SECTIONS (ONLY WHEN SPECIFIED)

**SIGNAL EQUIPMENT Cont**

NEW	EXISTING	
		GUARD POST
		TYPE 1 STANDARD WITH RAMP METERING SIGN
		OPTICAL DETECTOR FOR THE EMERGENCY VEHICLE DETECTION SYSTEM

**SERVICE EQUIPMENT**

NEW	EXISTING	
---OH---	---oh---	OVERHEAD LINES
		WOOD POLE, "U" INDICATES UTILITY OWNED
		POLE GUY WITH ANCHOR
		UTILITY TRANSFORMER - GROUND MOUNTED
		SERVICE EQUIPMENT ENCLOSURE TYPE. DOOR INDICATES FRONT OF ENCLOSURE
		TELEPHONE DEMARCATION CABINET

**POLE-MOUNTED SERVICE DESIGNATION**

	TYPE H SERVICE, 28'-10"	TYPE OF INSTALLATION AND POLE HEIGHT ABOVE GRADE
--	-------------------------	--

**FLASHING BEACON**

NEW	EXISTING	
		FLASHING BEACON (ONE VEHICLE SIGNAL HEAD WITH BACKPLATE AND VISOR) "R" INDICATES RED INDICATION, "Y" INDICATES YELLOW INDICATION
		FLASHING BEACON WITH TYPE 15-FBS STANDARD AND A SIGN.
		FLASHING BEACON WITH TYPES 9, 9A OR 9B SIGN UNLESS OTHERWISE SPECIFIED OR INDICATED

		VEHICLE SIGNAL HEAD CONSISTING OF RED, YELLOW AND GREEN LEFT ARROW SECTIONS
		VEHICLE SIGNAL HEAD CONSISTING OF RED AND YELLOW SECTIONS WITH AN UP GREEN ARROW SECTION
		VEHICLE SIGNAL HEAD (5 SECTION) CONSISTING OF RED, YELLOW AND GREEN SECTIONS WITH YELLOW AND GREEN RIGHT ARROW SECTIONS
		TYPE 15TS STANDARD WITH VEHICLE SIGNAL HEAD AND LUMINAIRE
		TYPE 21TS STANDARD WITH VEHICLE SIGNAL HEAD AND LUMINAIRE
		STANDARD WITH LUMINAIRE AND SIGNAL MAST ARMS AND ATTACHED VEHICLE SIGNAL HEADS
		TYPE 1 STANDARD WITH ATTACHED VEHICLE SIGNAL HEADS
		STANDARD WITH A SIGNAL MAST ARM, ATTACHED VEHICLE SIGNAL HEADS AND INTERNALLY ILLUMINATED STREET NAME SIGN
		CONTROLLER ASSEMBLY. DOOR INDICATES FRONT OF CABINET

**NOTES:**

- All signal sections shall be 12" unless shown otherwise.
- Signal heads shall be provided with backplates unless shown otherwise.

**ILLUMINATED OVERHEAD SIGN**

NEW	EXISTING	
		SINGLE POST, SINGLE ILLUMINATED SIGN, BALANCED BUTTERFLY
		SINGLE POST, DOUBLE ILLUMINATED SIGN, BALANCED BUTTERFLY
		SINGLE POST, SINGLE ILLUMINATED SIGN, FULL CANTILEVER
		DOUBLE POST, SINGLE ILLUMINATED SIGN
		SINGLE ILLUMINATED SIGN MOUNTED ON STRUCTURE
		DOUBLE POST, SINGLE ILLUMINATED SIGN WITH ELECTROLIER

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**ELECTRICAL SYSTEMS  
(LEGEND AND ABBREVIATIONS)**

NO SCALE

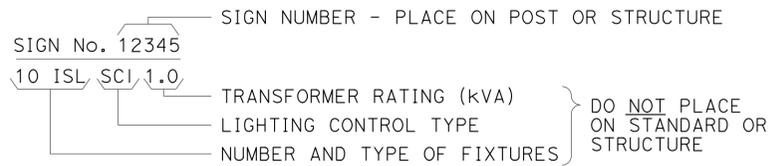
RSP ES-1B DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-1B DATED MAY 20, 2011 - PAGE 426 OF THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP ES-1B**

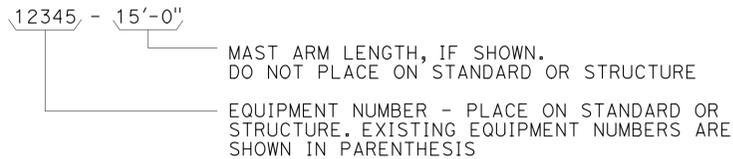
2010 REVISED STANDARD PLAN RSP ES-1B

### EQUIPMENT IDENTIFICATION

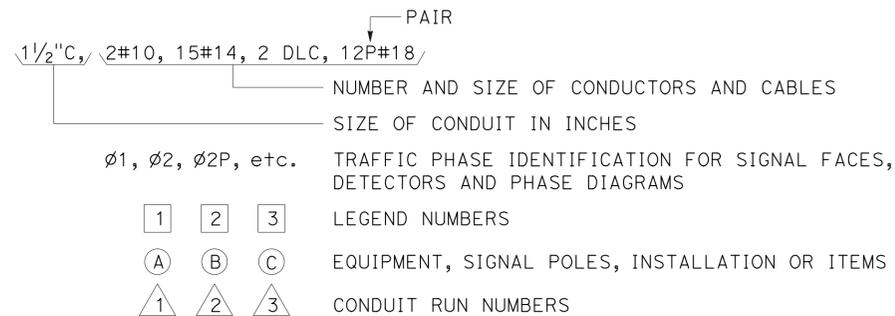
#### ILLUMINATED SIGN IDENTIFICATION NUMBER:



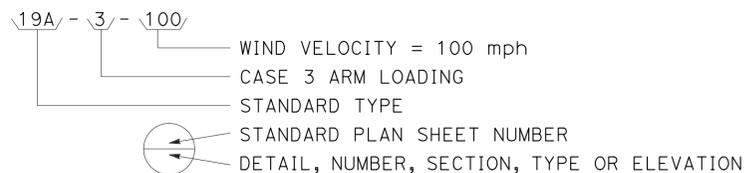
#### ELECTROLIER OR EQUIPMENT IDENTIFICATION NUMBER:



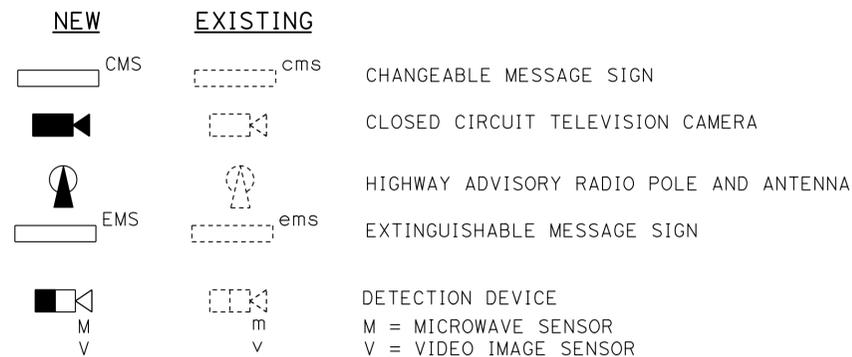
#### CONDUIT AND CONDUCTOR IDENTIFICATION:



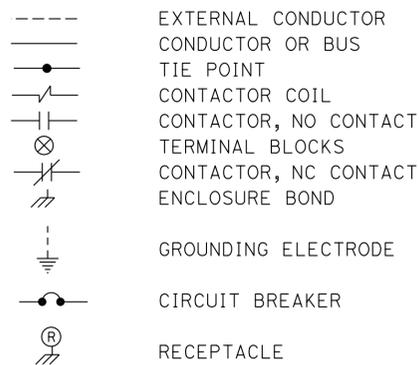
#### SIGNAL AND LIGHTING STANDARD (TYPICAL DESIGNATION):



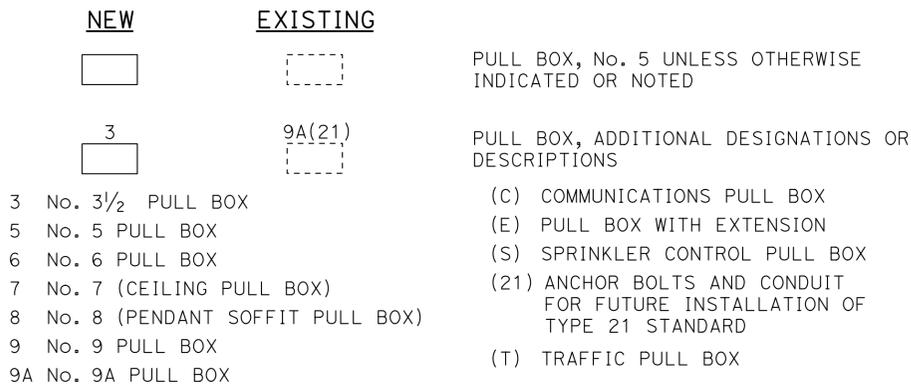
### MISCELLANEOUS EQUIPMENT



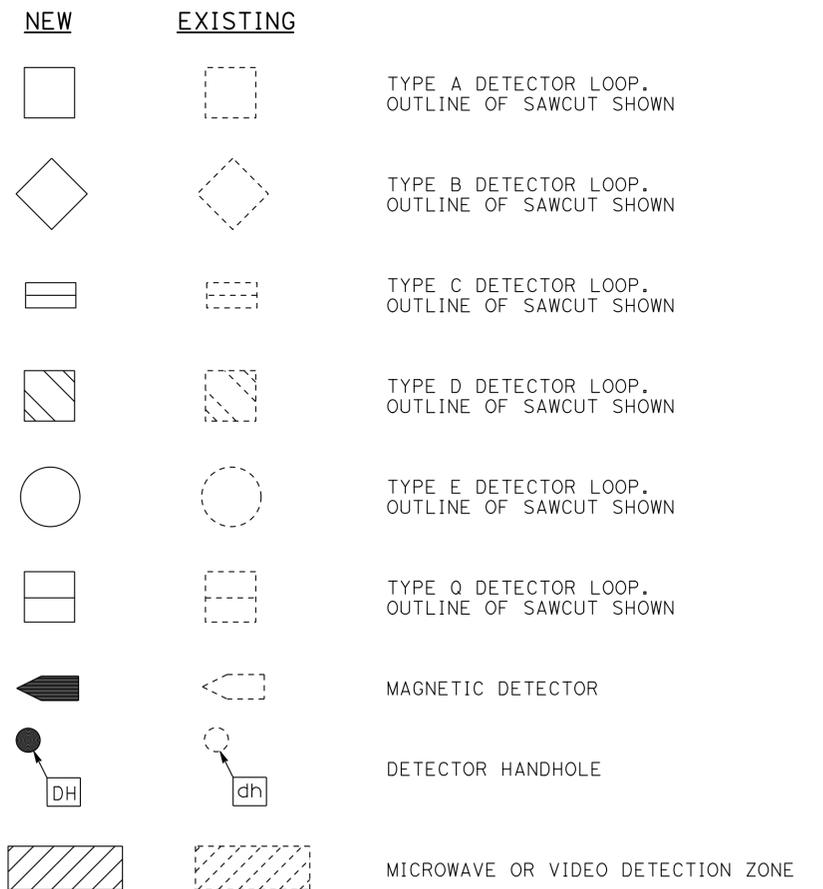
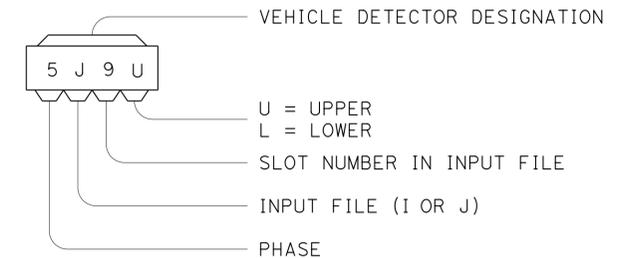
### WIRING DIAGRAM LEGEND



### PULL BOXES



### VEHICLE DETECTORS



STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

## ELECTRICAL SYSTEMS (LEGEND AND ABBREVIATIONS)

NO SCALE

RSP ES-1C DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-1C DATED MAY 20, 2011 - PAGE 427 OF THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP ES-1C**

2010 REVISED STANDARD PLAN RSP ES-1C

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
05	Scr	1	8.4/14.9	25	25

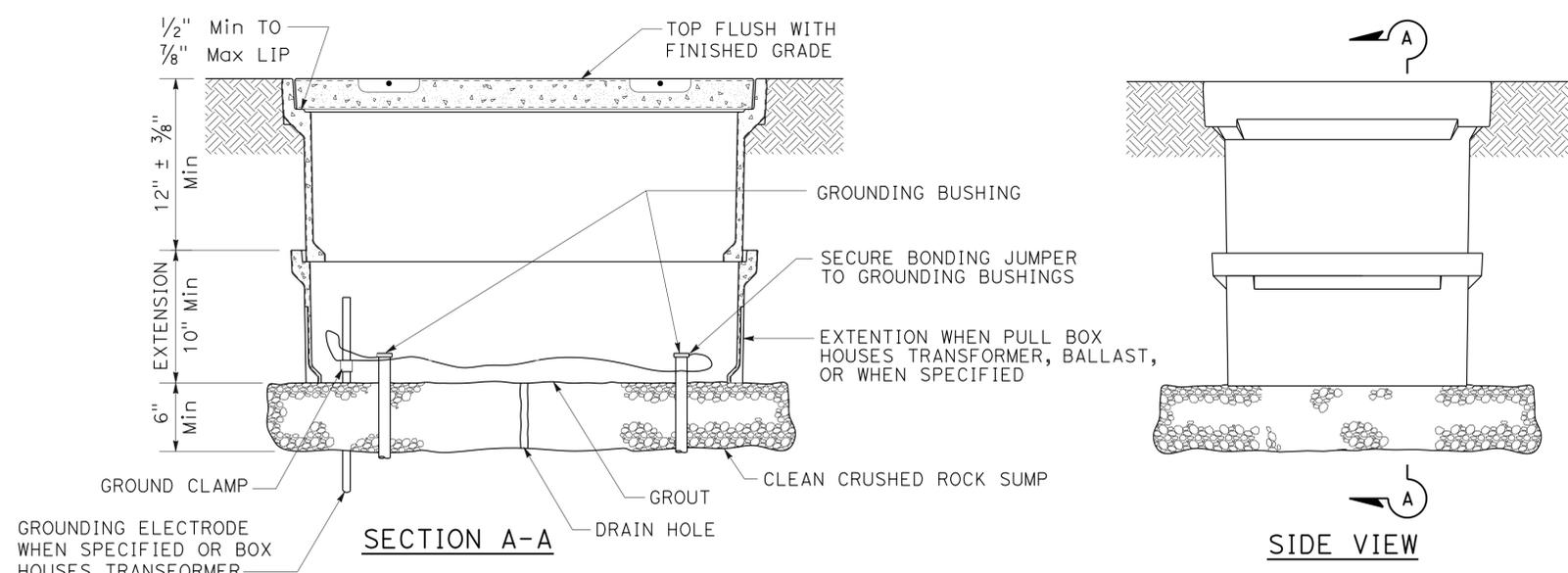
Theresa Gabriel  
REGISTERED ELECTRICAL ENGINEER

July 19, 2013  
PLANS APPROVAL DATE

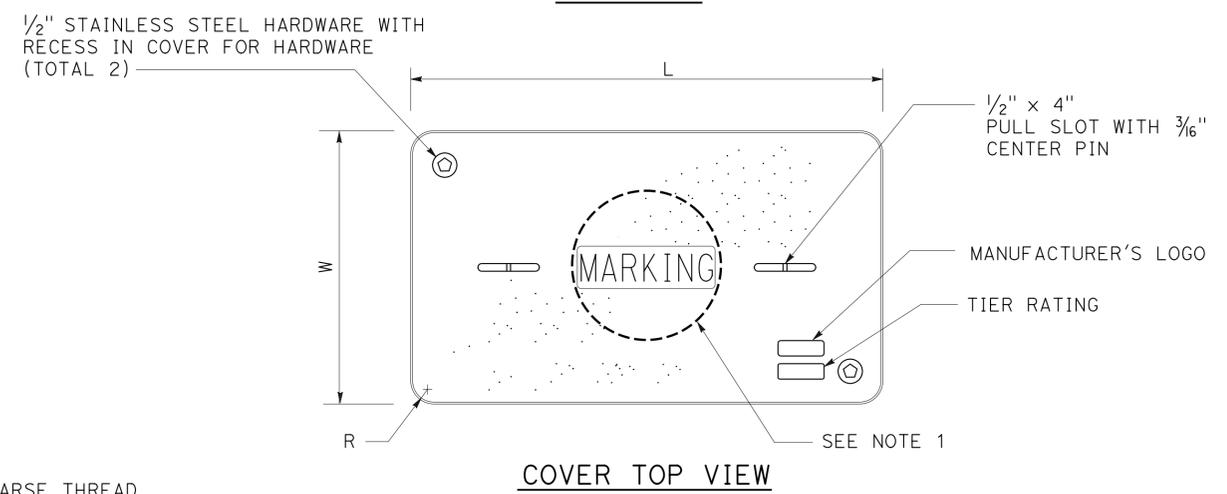
Theresa Aziz Gabriel  
No. E15129  
Exp. 6-30-14  
ELECTRICAL  
STATE OF CALIFORNIA

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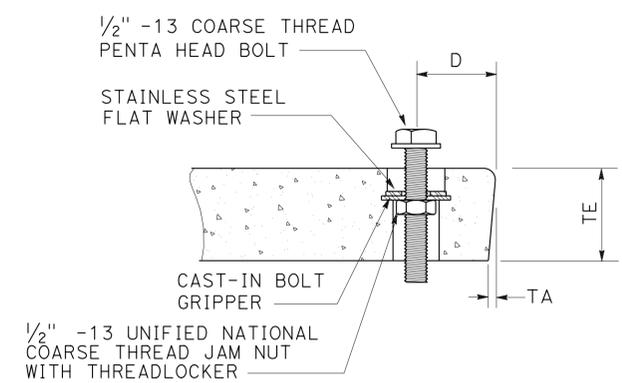
TO ACCOMPANY PLANS DATED 4-8-13



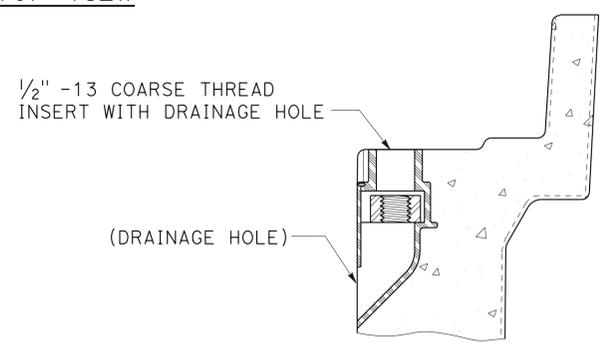
**INSTALLATION DETAILS**  
**DETAIL A**



**COVER TOP VIEW**



**TYPICAL COVER CAPTIVE BOLT**  
**OR SIMILAR**



**TYPICAL THREADED INSERT**  
**OR SIMILAR**

**NOTES:**

- Pull box covers shall be marked as follows: "SERVICE" Service circuits between service point and service disconnect; "SPRINKLER-CONTROL" sprinkler control circuits, 50 V or less; "CALTRANS" on all pull boxes, except pull boxes marked "SPRINKLER-CONTROL"; and "TELEPHONE" Telephone service;
  - No. 3 1/2 pull box.
    - "SIGNAL" - Traffic signal circuits with or without lighting or sign lighting circuits.
    - "LIGHTING" - Lighting or sign lighting circuits where voltage is under 600 V.
  - No. 5, 6, 9 or 9A pull box.
    - "TRAFFIC SIGNAL" - Traffic signal circuits with or without lighting or sign lighting circuits.
    - "LIGHTING" - Lighting or sign lighting circuits where voltage is under 600 V.
    - "LIGHTING-HIGH VOLTAGE" - Lighting or sign lighting circuits where voltage is above 600 V.
    - "IRRIGATION" - Circuits to irrigation controller 120 V or more.
    - "RAMP METER" - Ramp meter circuits.
    - "COUNT STATION" - Count or speed monitor circuits.
    - "COMMUNICATIONS" - Communication circuits.
    - "TOS COMMUNICATIONS" - TOS communication line.
    - "TOS POWER" - TOS power.
    - "TDC POWER" - Telephone demarcation cabinet power.
    - "CCTV" - Closed circuit television circuits.
    - "TMS" - Traffic monitoring station circuits.
    - "CMS" - Changeable message sign circuits.
    - "HAR" - Highway advisory radio circuits.
    - "BOOSTER PUMP" - Booster pump circuit.
- The nominal dimensions of the opening in which the cover sets shall be the same as the cover dimensions except the length and width dimensions shall be 1/8 inch greater.
- Covers and boxes shall be interchangeable with California standard male and female gages. When interchanged with a standard male or female gage, the top surfaces shall be flush within 1/8 inch. Top outside radius of covers and pull boxes shall have a 1/8 inch radius.
- Pull box extension may be another pull box as long as the bottom edge of the pull box can fit into the cover opening.
- All dimensions for the cover for non-traffic pull box are nominal values.

DIMENSION TABLE										
PULL BOX	PULL BOX			COVER						
	MINIMUM DEPTH BOX	MINIMUM DEPTH EXTENSION	MAXIMUM WEIGHT	L	W	R	TE	TA	D	MAXIMUM WEIGHT
No. 3 1/2	12"	N/A	40 lb	1' - 3 3/8"	10 1/8"	1 3/8"	2"	1/8"	1 3/4"	30 lb
No. 5	12"	10"	55 lb	1' - 11 1/4"	1' - 1 3/4"	1 3/8"	2"	1/8"	1 3/4"	60 lb
No. 6	12"	10"	70 lb	2' - 6 1/2"	1' - 5 1/2"	1 3/8"	2"	1/8"	2"	85 lb

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
**ELECTRICAL SYSTEMS**  
**(NON-TRAFFIC PULL BOX)**  
NO SCALE

RSP ES-8A DATED JULY 19, 2013 SUPERSEDES RSP ES-8A DATED JANUARY 20, 2012 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP ES-8A**

2010 REVISED STANDARD PLAN RSP ES-8A