

INDEX OF PLANS

SHEET No.	DESCRIPTION
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THE STANDARD PLANS LIST APPLICABLE TO THIS CONTRACT IS INCLUDED IN THE NOTICE TO BIDDERS AND SPECIAL PROVISIONS BOOK.

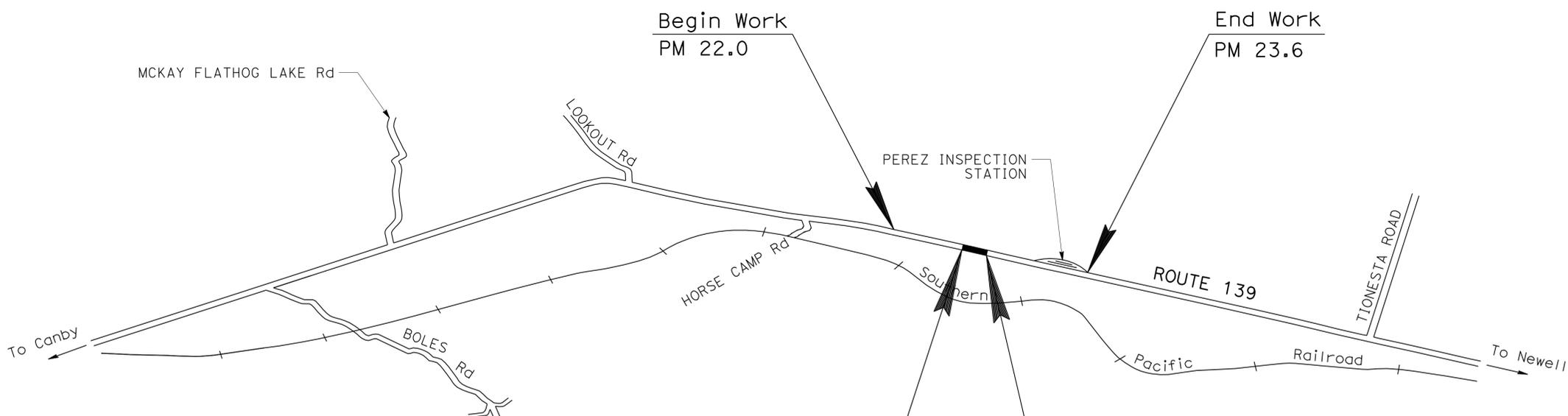
STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

PROJECT PLANS FOR CONSTRUCTION ON  
STATE HIGHWAY  
IN MODOC COUNTY ABOUT 23 MILES NORTH  
OF CANBY FROM 0.6 MILE TO 0.4 MILE  
SOUTH OF PEREZ INSPECTION STATION

TO BE SUPPLEMENTED BY STANDARD PLANS DATED MAY 2010

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Mod	139	22.6/22.8	1	21

Caltrans

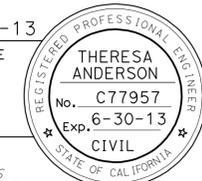


**BEGIN CONSTRUCTION**  
Sta "A1" 81+50 PM 22.6

**END CONSTRUCTION**  
Sta "A1" 92+50 PM 22.8

NO SCALE

*[Signature]* 04-17-13  
PROJECT ENGINEER DATE  
REGISTERED CIVIL ENGINEER



June 24, 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.

CONTRACT No.	<b>02-1E0604</b>
PROJECT ID	<b>0212000030</b>

PROJECT MANAGER  
ERIC AKANA  
DESIGN ENGINEER  
ROB STINGER

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

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Mod	139	22.6/22.8	2	21

<i>[Signature]</i>	04-19-13
REGISTERED CIVIL ENGINEER	DATE
6-24-13	
PLANS APPROVAL DATE	

REGISTERED PROFESSIONAL ENGINEER
THERESA ANDERSON
No. C77957
Exp. 06-30-13
CIVIL

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:**

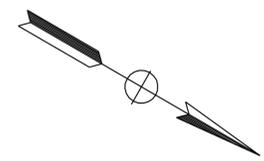
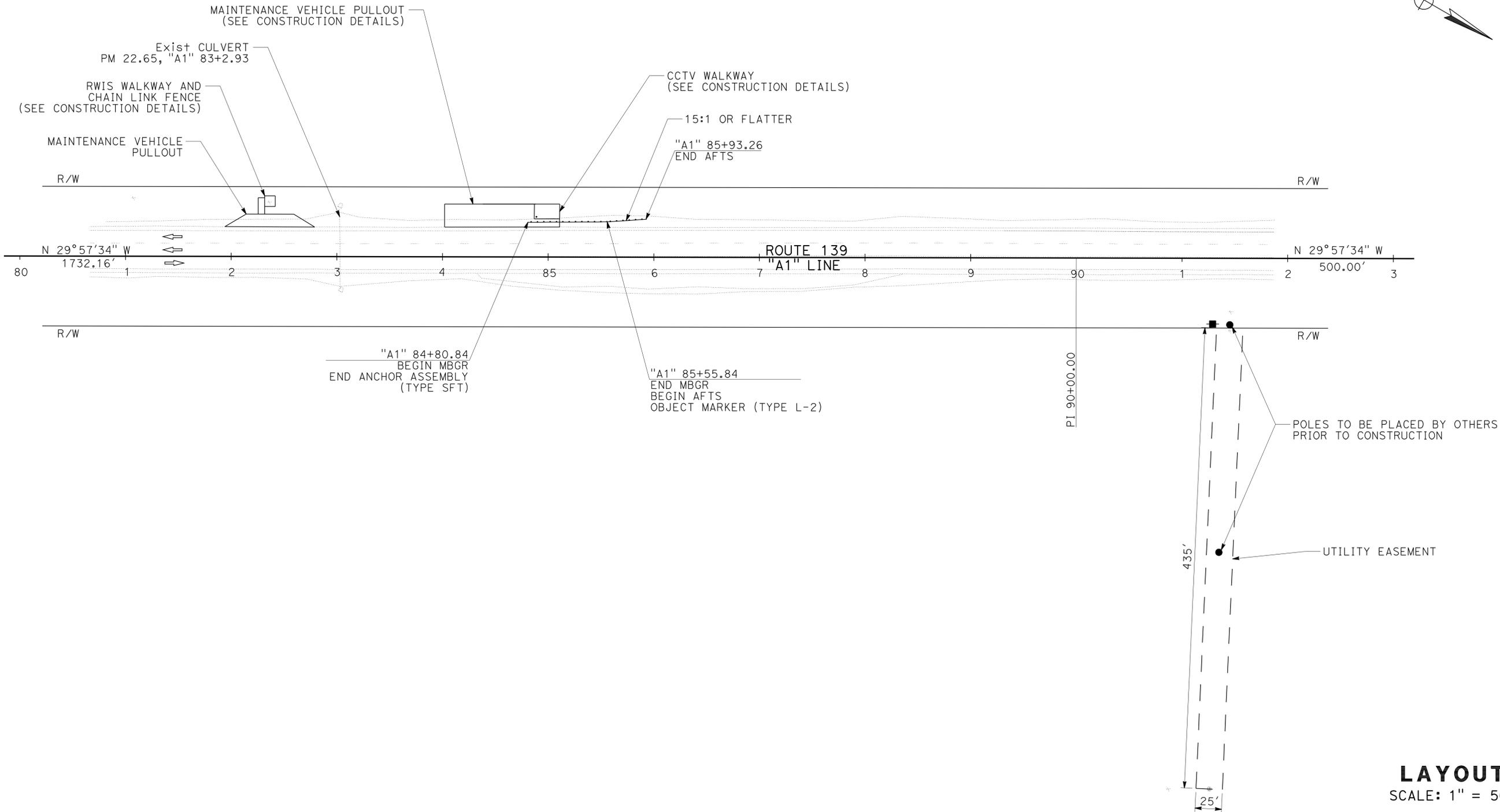
1. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

**LEGEND:**

■ WOOD POLE

**ABBREVIATIONS:**

RWIS ROADSIDE WEATHER INFORMATION SYSTEM  
 CCTV CLOSED CIRCUIT TELEVISION  
 AFTS ALTERNATIVE FLARED TERMINAL SYSTEM



**LAYOUT**  
SCALE: 1" = 50'

L-1

DESIGN	ROB STINGER	FUNCTIONAL SUPERVISOR	ROB STINGER	CHECKED BY	FRANK RIVAS	REVISOR	FRANK RIVAS
DESIGNATION		DESIGNED BY	FRANK RIVAS	DATE		DATE	
DEPARTMENT OF TRANSPORTATION		DESIGNED BY	FRANK RIVAS	DATE		DATE	
STATE OF CALIFORNIA		DESIGNED BY	FRANK RIVAS	DATE		DATE	

LAST REVISION | DATE PLOTTED => 02-02-2013  
04-19-13 | TIME PLOTTED => 06:40

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Mod	139	22.6/22.8	3	21

REGISTERED CIVIL ENGINEER	DATE	04-19-13
PLANS APPROVAL DATE		6-24-13

REGISTERED PROFESSIONAL ENGINEER	No.	C77957
	Exp.	06-30-13
CIVIL		

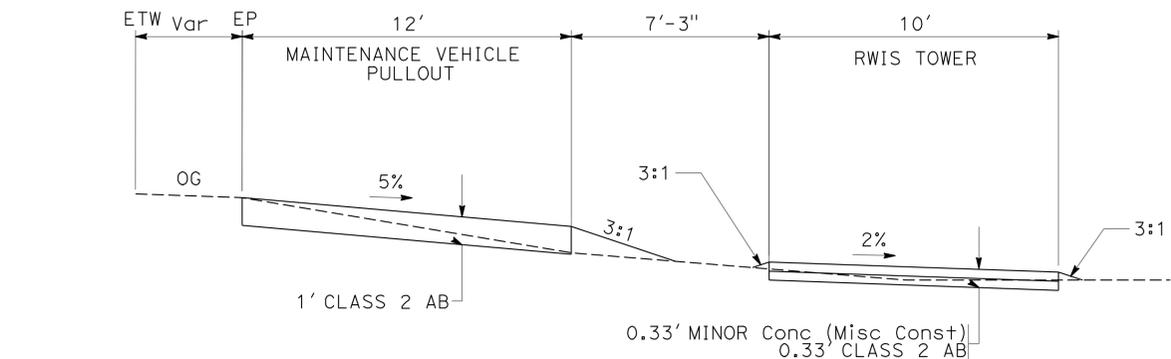
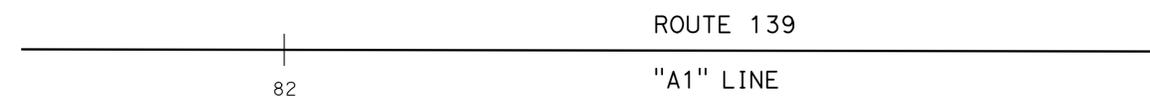
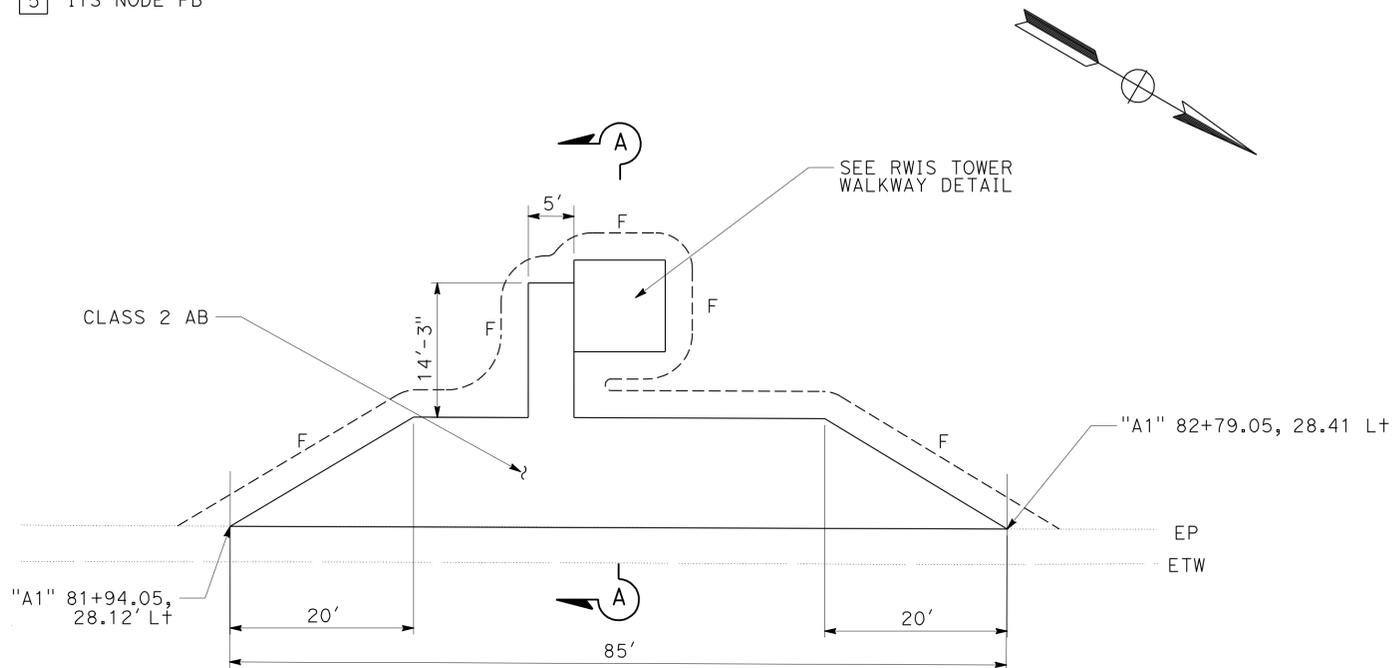
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

**NOTES (THIS SHEET):**

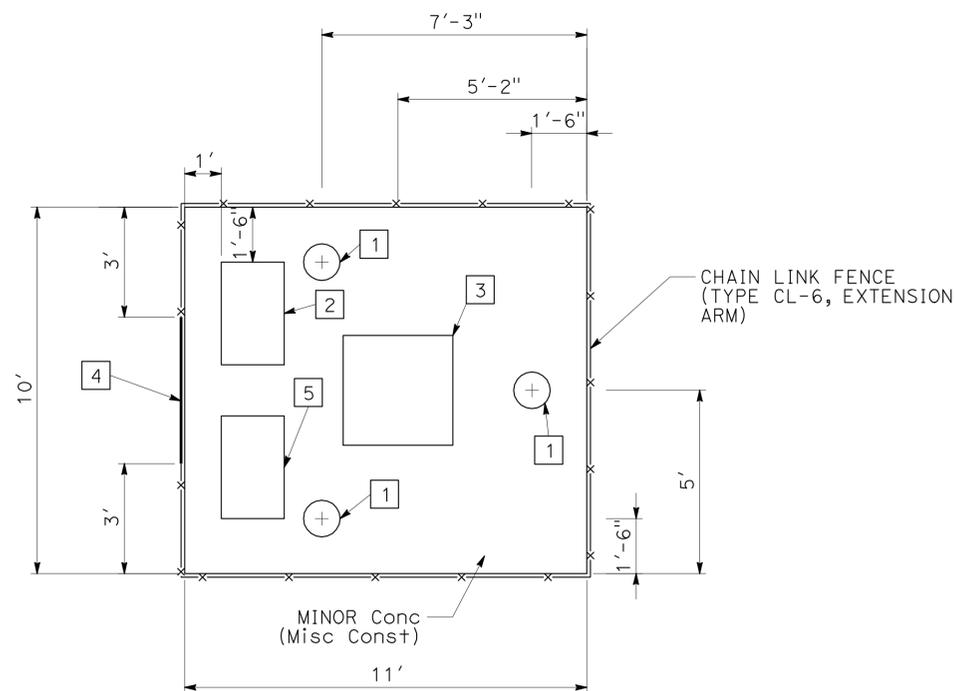
- 1 GROUNDING ELECTRODE PB, INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
- 2 No. 6 PB
- 3 RWIS TOWER Fdn
- 4 LOCKABLE 4' CHAIN LINK GATE (TYPE CL-6, EXTENSION ARM)
- 5 ITS NODE PB

**ABBREVIATION:**

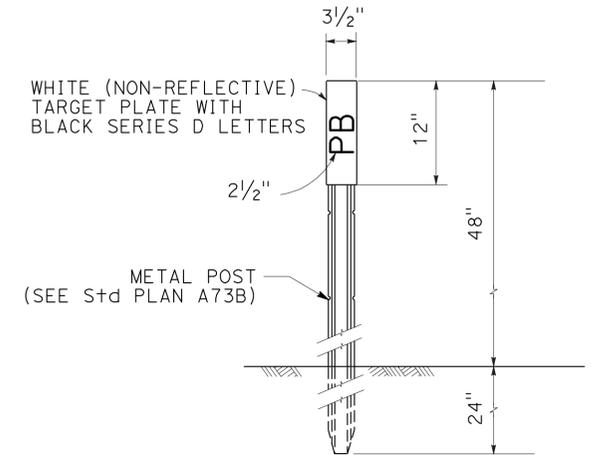
RWIS - ROADSIDE WEATHER INFORMATION SYSTEM



SECTION A-A

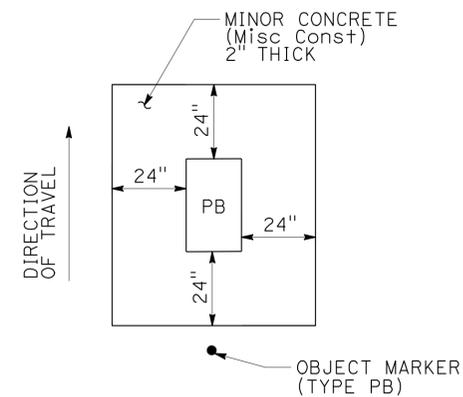


RWIS TOWER WALKWAY



NOTE: PLACE MARKER 2" OUTSIDE PULL BOX PAVING ON SIDE IN FRONT OF THE PULL BOX. SEE PULL BOX PAVING DETAIL.

**OBJECT MARKER (TYPE PB)**



PULL BOX PAVING

**CONSTRUCTION DETAILS**

NO SCALE

**C-1**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
 DESIGN  
 Rob Stinger  
 Functional Supervisor  
 Theresa Anderson  
 Designer  
 Frank Rivas  
 Revised By  
 Date Revised  
 Calculated/Designed By  
 Checked By  
 USERNAME => s114640  
 DGN FILE => 21e060ga001.dgn

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Mod	139	22.6/22.8	4	21

<i>[Signature]</i>	04-19-13
REGISTERED CIVIL ENGINEER	DATE
6-24-13	
PLANS APPROVAL DATE	

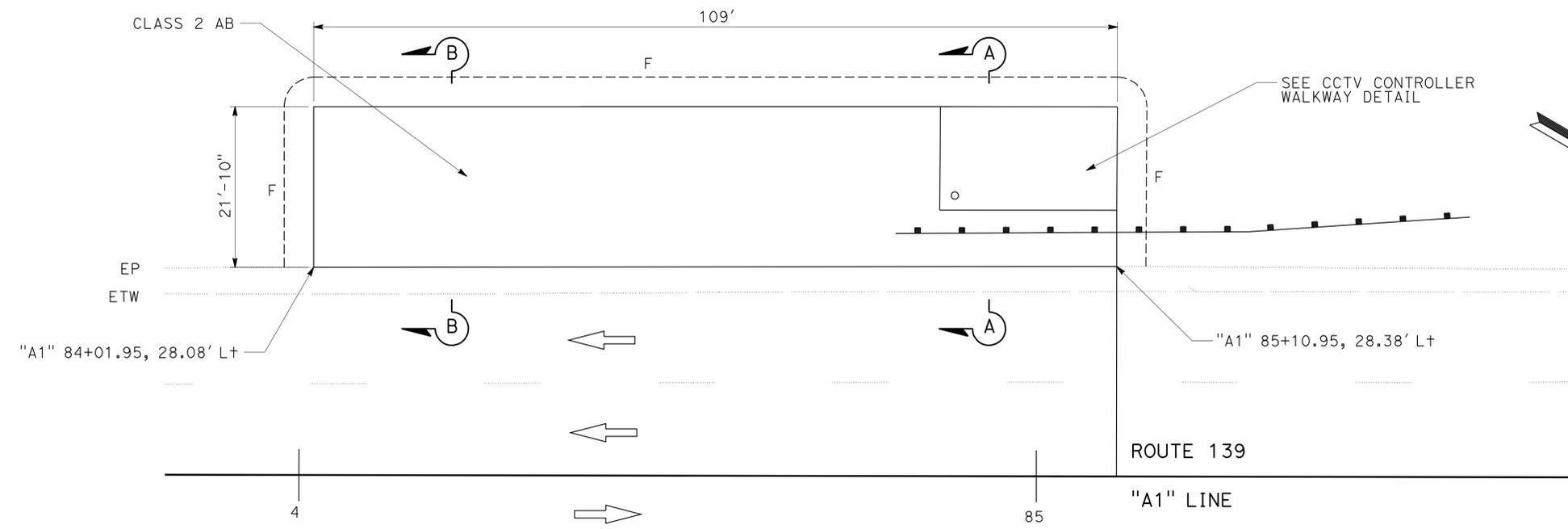
  

REGISTERED PROFESSIONAL ENGINEER
THERESA ANDERSON
No. C77957
Exp. 06-30-13
CIVIL

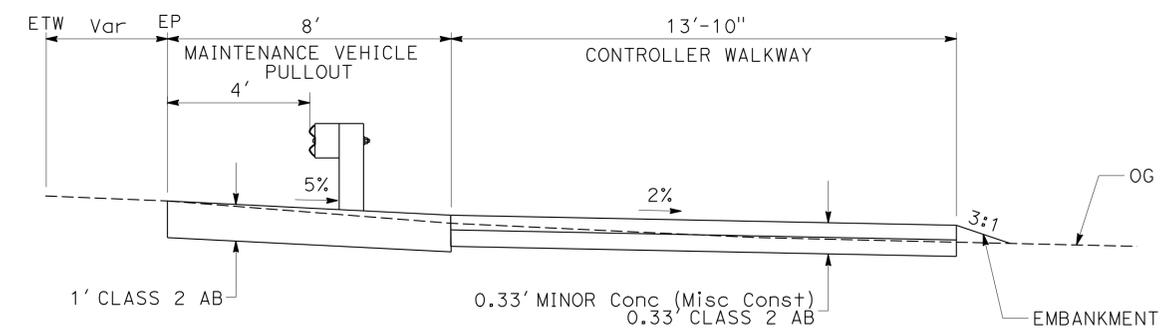
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

**ABBREVIATIONS:**

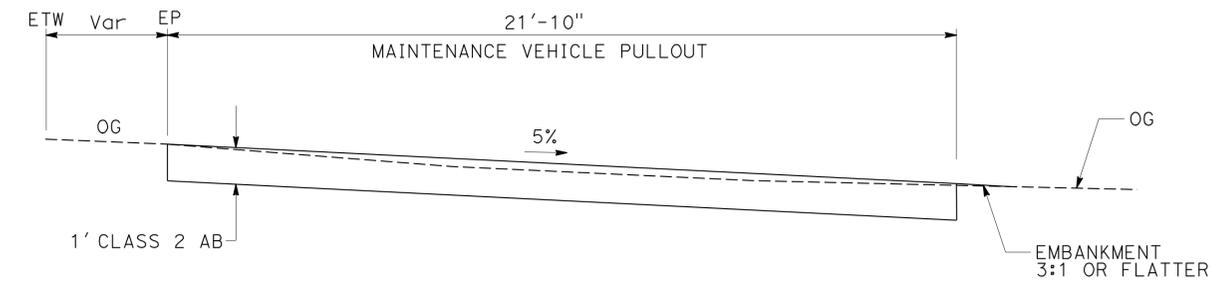
CCTV CLOSED CIRCUIT TELEVISION



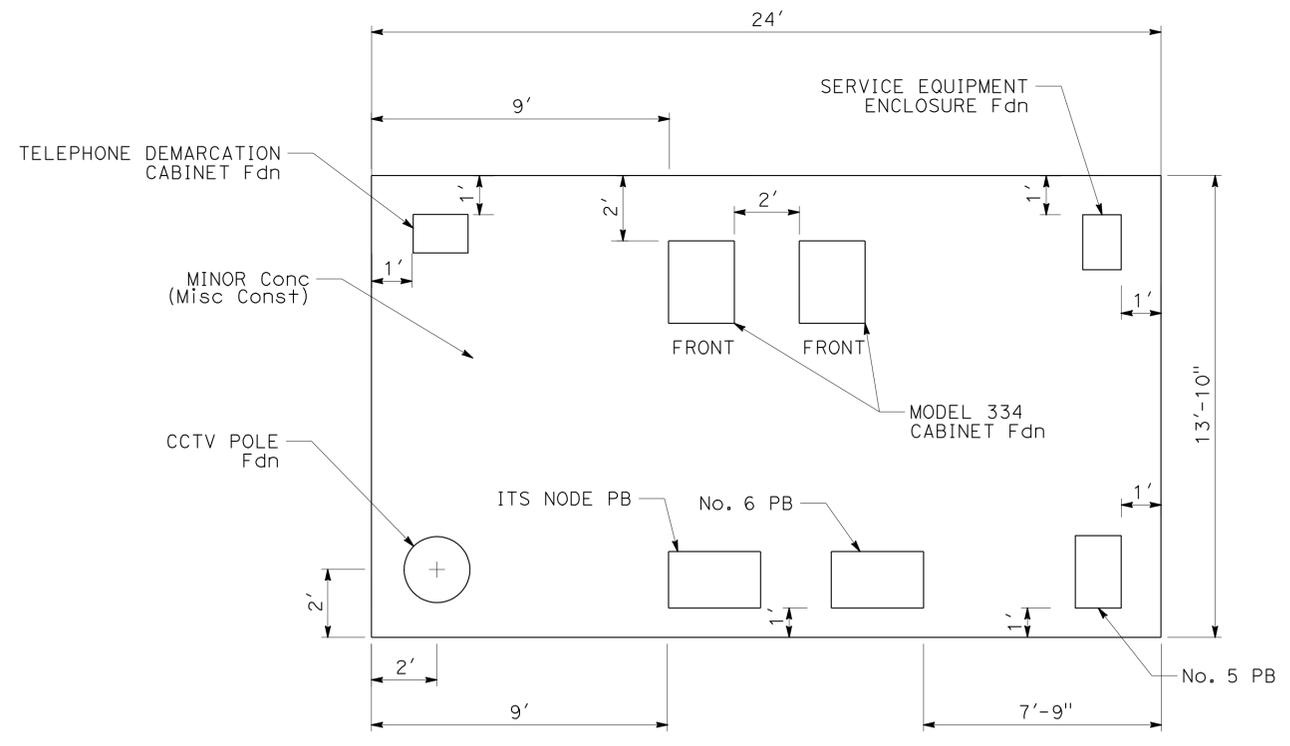
PLAN



SECTION A-A



SECTION B-B



CCTV CONTROLLER WALKWAY DETAIL

**CONSTRUCTION DETAILS**  
NO SCALE  
**C-2**

P:\proj\2\02\1\1E060\plans\pse\21e060ga002.dgn  
 STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
 DESIGN  
 Et Caltrans  
 FUNCTIONAL SUPERVISOR: ROB STINGER  
 CALCULATED/DESIGNED BY: THERESA ANDERSON  
 CHECKED BY: FRANK RIVAS  
 REVISED BY: THERESA ANDERSON  
 DATE REVISED:

LAST REVISION | DATE PLOTTED => 02-OCT-2013  
 04-19-13 | TIME PLOTTED => 06:40

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Mod	139	22.6/22.8	5	21

04-19-13  
 REGISTERED CIVIL ENGINEER DATE  
 6-24-13  
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
 THERESA ANDERSON  
 No. C77957  
 Exp. 06-30-13  
 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.

**NOTES:**

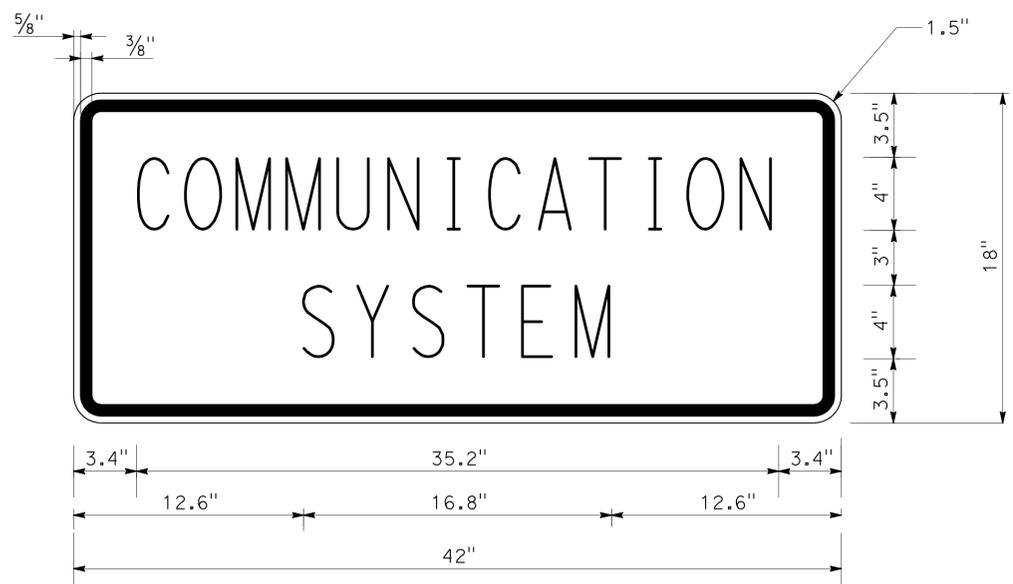
- EXACT SIGN LOCATIONS WILL BE DETERMINED BY THE ENGINEER.
- EXISTING UTILITY FACILITIES HAVE NOT BEEN POSITIVELY LOCATED.
- SIGNS SHOWN WITH (CA) INDICATE CALIFORNIA SIGN CODES, OTHERWISE FEDERAL SIGN CODES ARE SHOWN.

**LEGEND:**

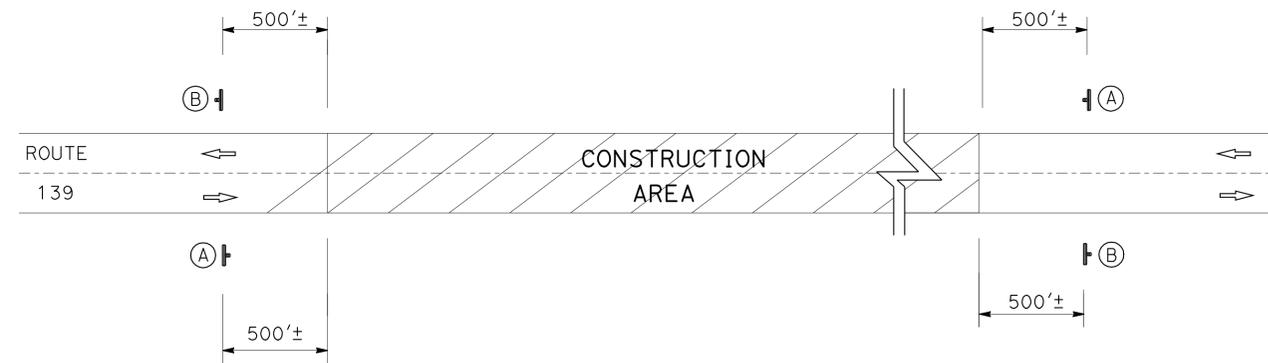
- ┆ SIGN (1 POST)
- ⇐ DIRECTION OF TRAVEL

**CONSTRUCTION AREA SIGNS (STATIONARY MOUNTED)**

TYPE	CODE	PANEL SIZE	MESSAGE	NUMBER AND SIZE OF POSTS	No. OF SIGNS
(A)	W20-1 C23B(CA)	48" x 48" 42" x 18"	ROAD WORK AHEAD COMMUNICATION SYSTEM	1-4" x 6"	2
(B)	G20-2	36" x 18"	END ROAD WORK	1-4" x 4"	2



**C23B(CA) SIGN PANEL DETAIL**



**CONSTRUCTION AREA SIGNS**

**CONSTRUCTION AREA SIGNS**

NO SCALE

**CS-1**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
 DESIGN  
 Caltrans®  
 FUNCTIONAL SUPERVISOR: ROB STINGER  
 CALCULATED/DESIGNED BY: THERESA ANDERSON  
 CHECKED BY: FRANK RIVAS  
 REVISED BY: THERESA ANDERSON  
 DATE REVISED:

P:\proj2\02\11E060\plans\pse\21e060pa001.dgn  
 STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
**DESIGN**  
 FUNCTIONAL SUPERVISOR: ROB STINGER  
 CALCULATED/DESIGNED BY: THERESA ANDERSON  
 CHECKED BY: FRANK RIVAS  
 REVISED BY: THERESA ANDERSON  
 DATE REVISED:

**NOTE:**

1. (N) - NOT A SEPARATE PAY ITEM, FOR INFORMATION ONLY

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Mod	139	22.6/22.8	6	21

04-19-13  
 REGISTERED CIVIL ENGINEER DATE  
 6-24-13  
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
 THERESA ANDERSON  
 No. C77957  
 Exp. 06-30-13  
 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.

**ROADWAY QUANTITIES**

STATION RANGE	LOCATION	(N)								
		MINOR Conc (Misc Const)	CI 2 AB	CHAIN LINK FENCE (TYPE CL-6, EXTENSION ARM)	4' CHAIN LINK GATE (TYPE CL-6, EXTENSION ARM)	ROADWAY EXCAVATION	EMBANKMENT	METAL BEAM GUARD RAIL	END ANCHOR ASSEMBLY (TYPE SFT)	ALTERNATIVE FLARED TERMINAL SYSTEM
		CY	CY	LF	EA	CY	CY	LF	EA	EA
"A1" 81+85 TO 82+91	RWIS	1.4	32	42	1	3	30			
"A1" 83+93 TO 85+67	CCTV	4	80			72	40	75	1	1
"A1" 82+20 TO 91+30	PB PAVING	1.5								
TOTAL		7	112	42	1	75	70	75	1	1

**SUMMARY OF QUANTITIES**  
**Q-1**

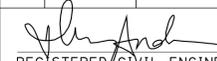
LAST REVISION | DATE PLOTTED => 02-0CT-2013  
 04-19-13 | TIME PLOTTED => 06:40





Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Mod	139	22.6/22.8	9	21

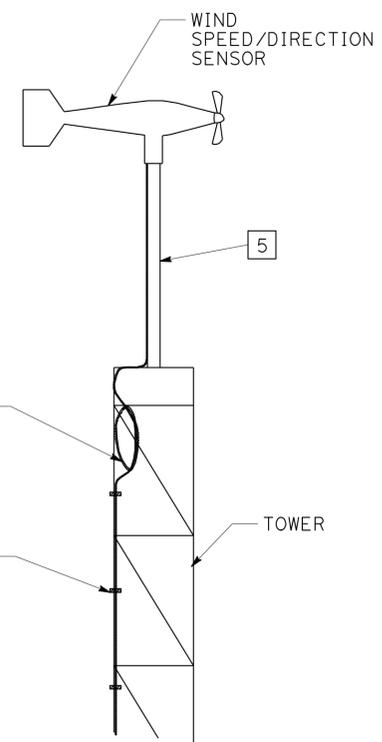
  

 REGISTERED/CIVIL ENGINEER No. C77957 Exp. 6-30-13 CIVIL	04-17-13 DATE 6-24-13 PLANS APPROVAL DATE
---	--

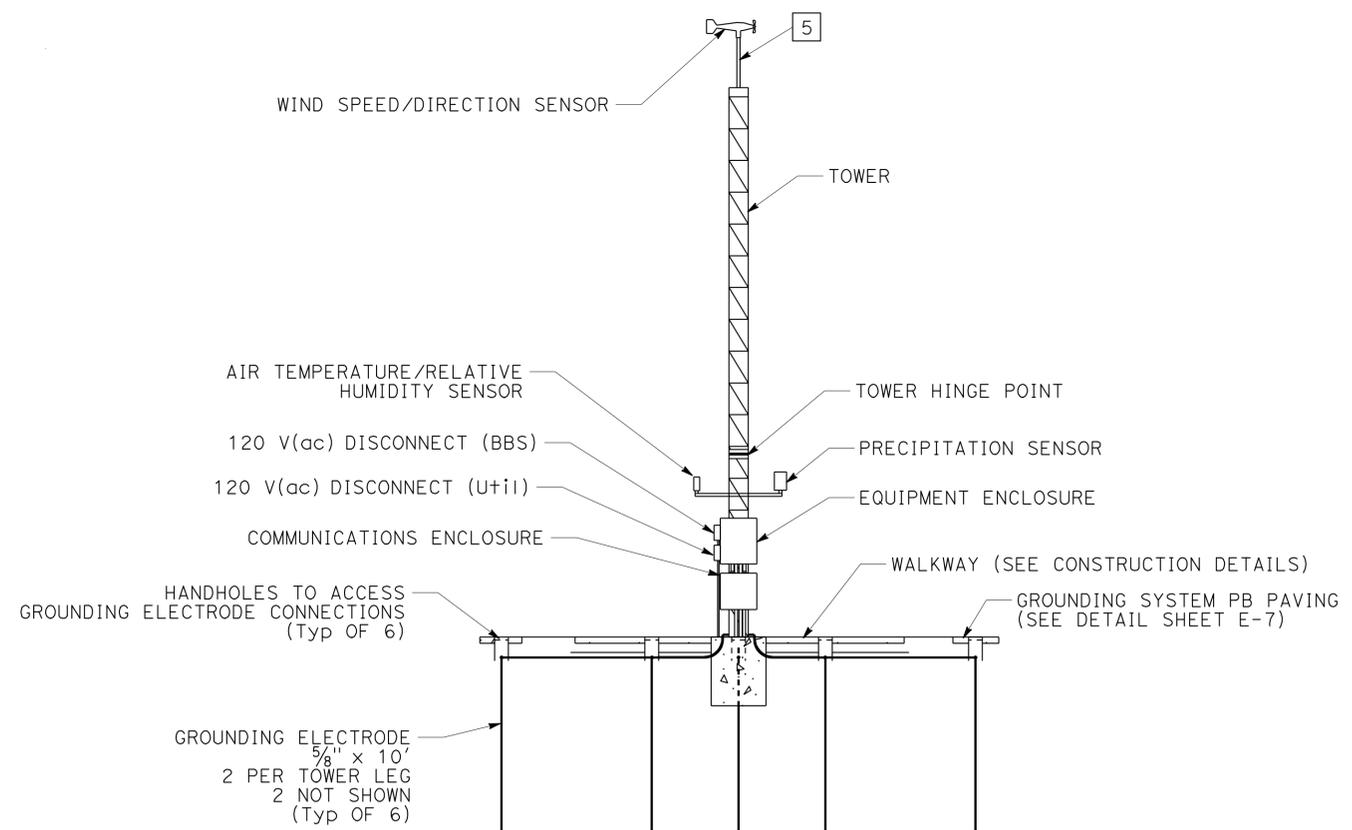
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

**LEGEND (THIS SHEET):**

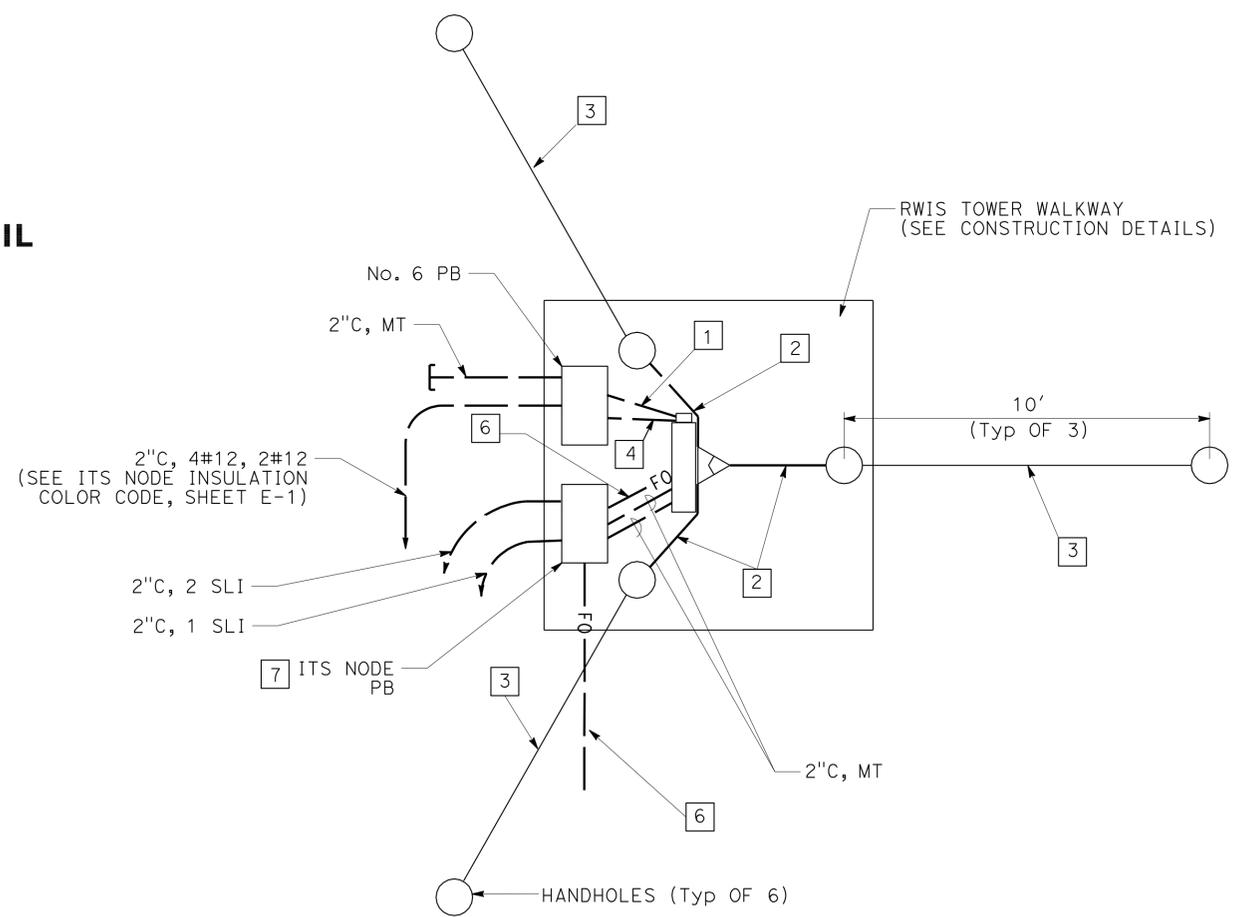
- 1 1"C, 2#12, 1#12G (BBS).
- 2 1"C, 1/0 BCG.
- 3 BURIED, 1/0 BARE GROUND, 36" DEEP.
- 4 2"C, 2#12, 1#12G (UTILITY).
- 5 3' ALUMINUM MAST, 1.25" OUTSIDE DIAMETER 0.125" WALL THICKNESS.
- 6 2"C, 1-6SMFO.
- 7 COIL 20' OF CONDUCTORS IN PULL BOX.



**WIND SENSOR DETAIL**



**RWIS TOWER AND SENSOR CONFIGURATION**



**RWIS TOWER WALKWAY**

**ROADSIDE WEATHER INFORMATION SYSTEM**

**ELECTRICAL DETAILS**

NO SCALE

**E-3**

P:\proj\2\02\1\1060\plans\pse\21e060ua003.dgn

REVISOR	DATE	REVISION
TERI ANDERSON		
ARTURO ROBLES		
CALCULATED/DESIGNED BY	CHECKED BY	
ROB STINGER		
FUNCTIONAL SUPERVISOR		
DEPARTMENT OF TRANSPORTATION		
ELECTRICAL DESIGN		

LAST REVISION DATE PLOTTED => 02-02-2013  
04-17-13 TIME PLOTTED => 06:40

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Mod	139	22.6/22.8	10	21

<i>Theresa Anderson</i>	04-17-13
REGISTERED CIVIL ENGINEER	DATE
6-24-13	
PLANS APPROVAL DATE	

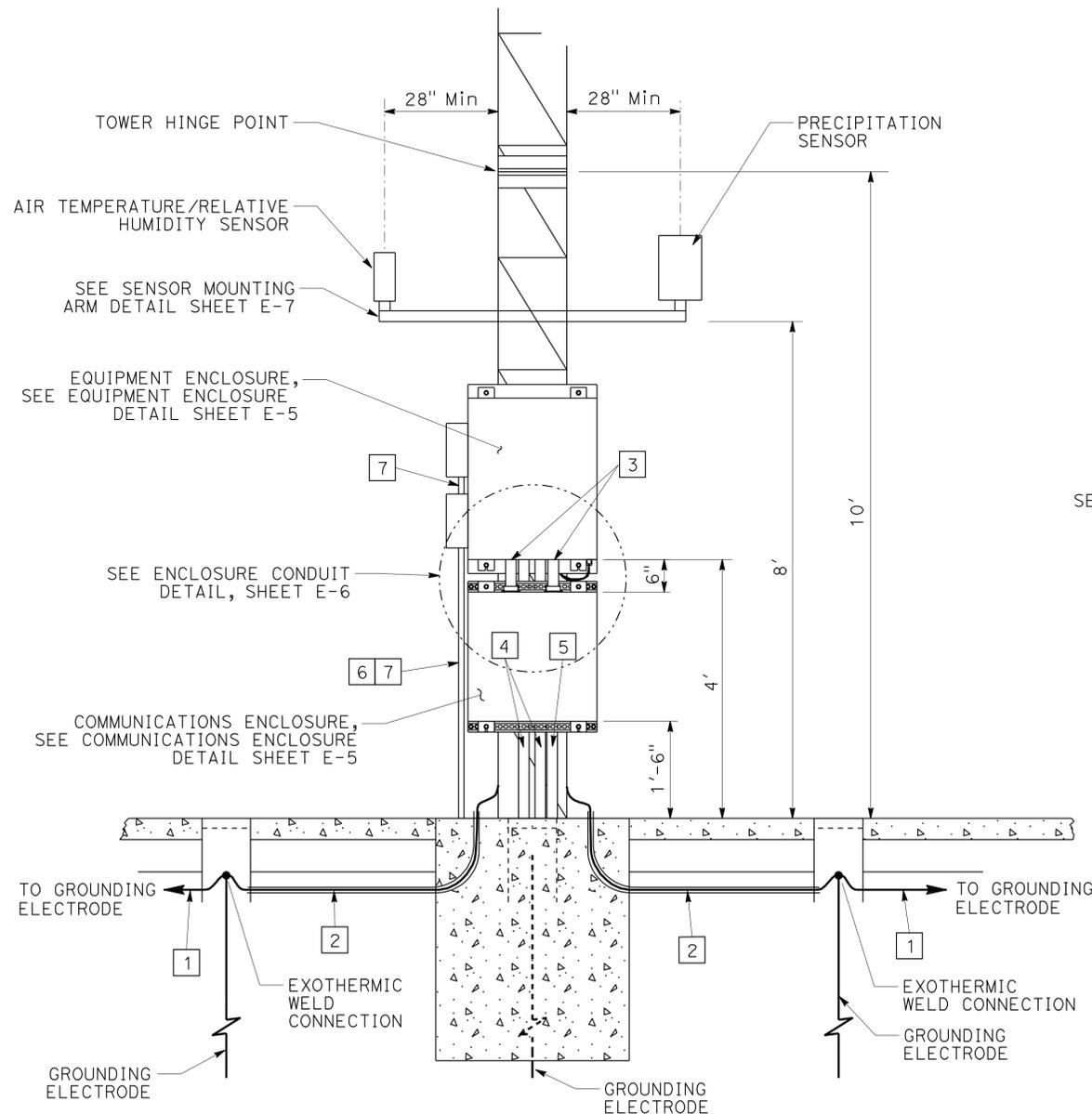
  

REGISTERED PROFESSIONAL ENGINEER
THERESA ANDERSON
No. C77957
Exp. 6-30-13
CIVIL

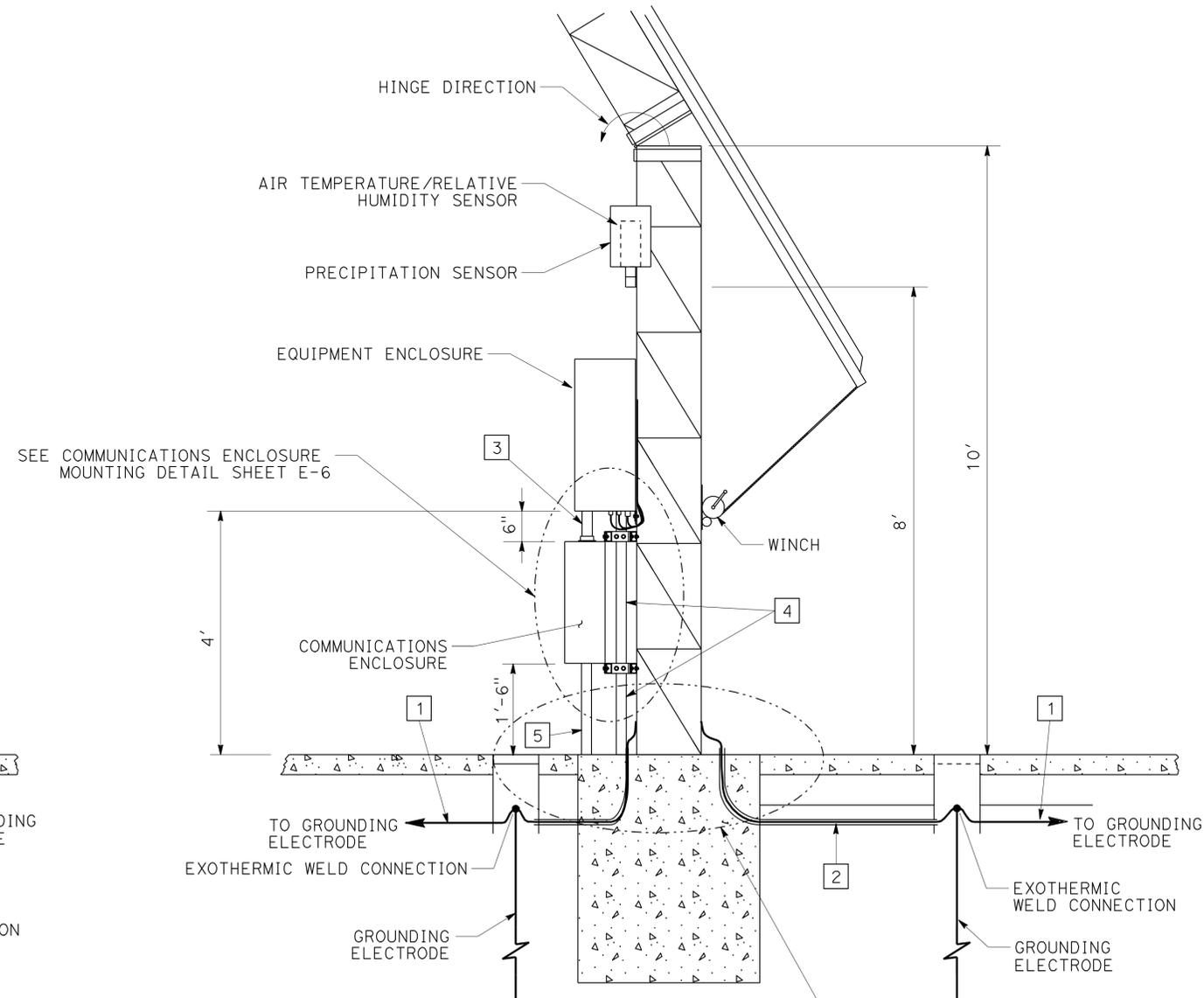
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

**NOTES (THIS SHEET):**

- 1 BURIED, 1/0 BCG 36" DEEP
- 2 1"C, 1/0 BCG
- 3 2"C, MT, EQUIPMENT ENCLOSURE TO COMMUNICATION ENCLOSURE
- 4 2"C, MT
- 5 2"C, 1-6SMFO
- 6 1"C, 2#12, 1#12G (UTILITY)
- 7 1"C, 2#12, 1#12G (BBS)



**FRONT RWIS TOWER**



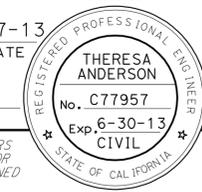
**RIGHT RWIS TOWER**

**ROADSIDE WEATHER INFORMATION SYSTEM**

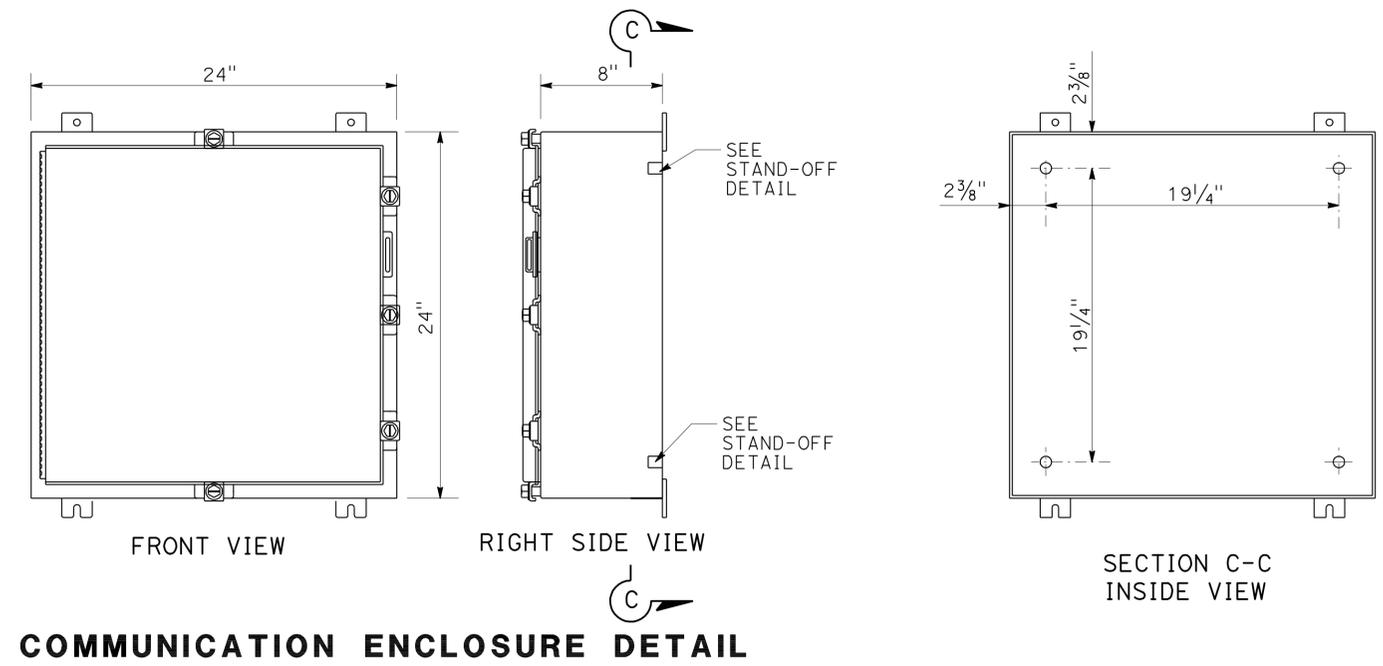
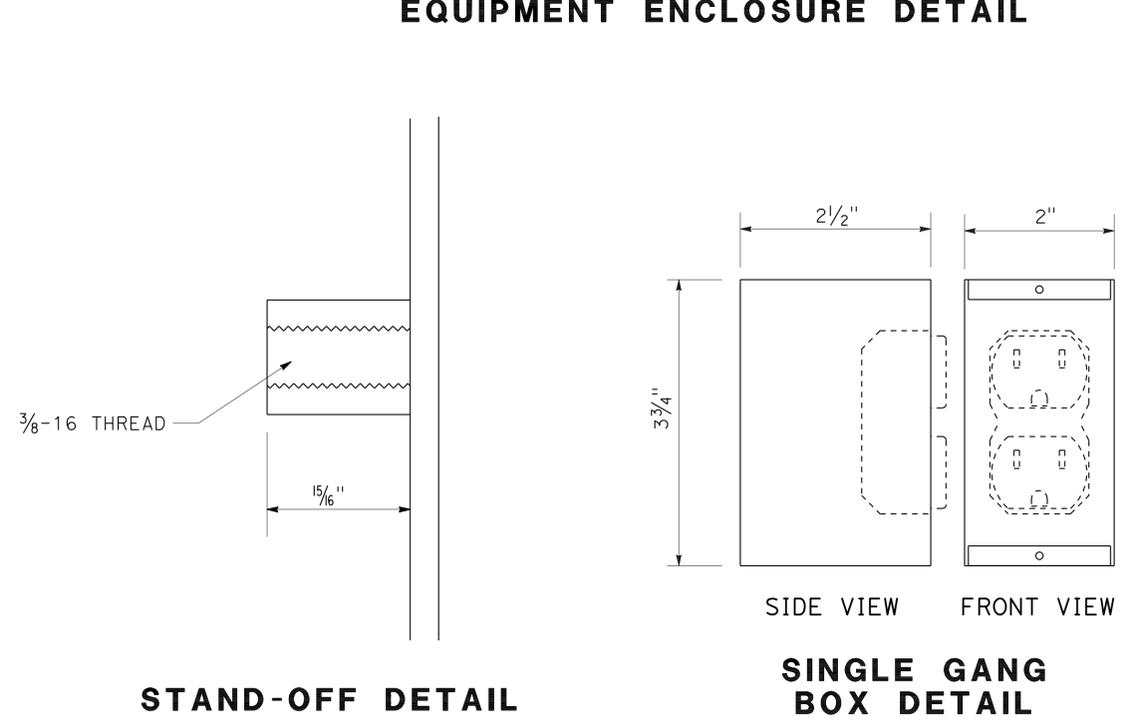
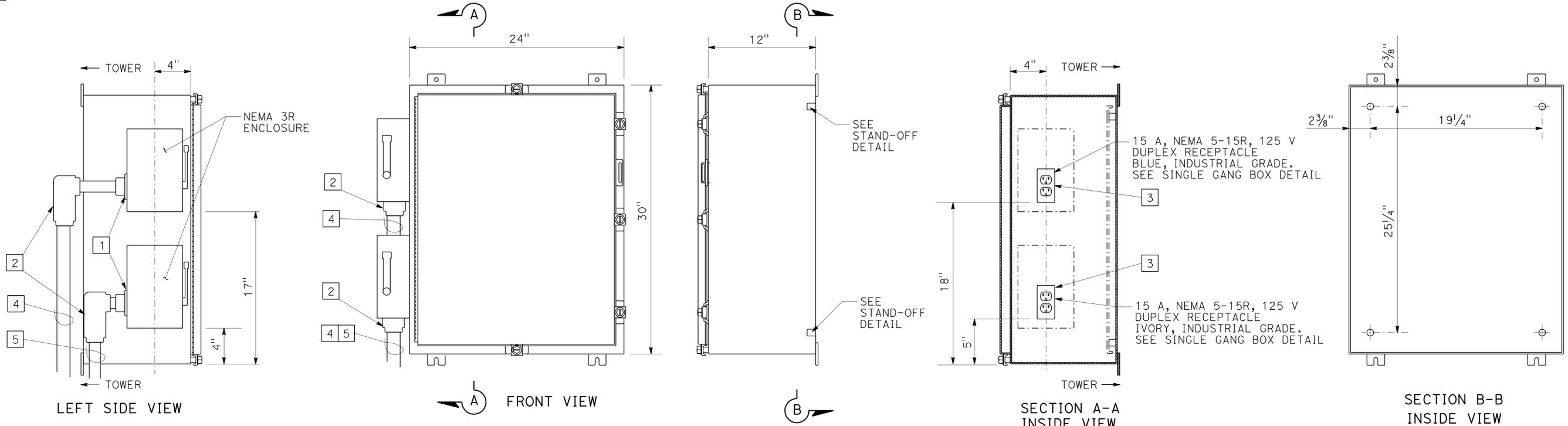
**ELECTRICAL DETAILS E-4**

NO SCALE

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
 ELECTRICAL DESIGN  
 TERI ANDERSON  
 ARTURO ROBLES  
 ROB STINGER  
 USERNAME => s114640  
 DGN FILE => 21e060ua004.dgn

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Mod	139	22.6/22.8	11	21
 REGISTERED CIVIL ENGINEER			04-17-13 DATE		
6-24-13 PLANS APPROVAL DATE					
<small>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.</small>					

- NOTES (THIS SHEET):**
- 1 1" HUB WATER TIGHT FITTING.
  - 2 1" CONDUIT BODY (TYPE LB) WITH COVER.
  - 3 INSTALL METAL DUPLEX COVER.
  - 4 1"C, 2#12, 1#12G (BBS).
  - 5 1"C, 2#12, 1#12G (UTILITY).



**ROADSIDE WEATHER INFORMATION SYSTEM**

**ELECTRICAL DETAILS E-5**  
NO SCALE

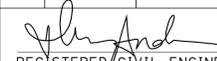
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 STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION - ELECTRICAL DESIGN  
 TERI ANDERSON  
 ARTURO ROBLES  
 ROB STINGER  
 CALTRANS

REVISOR	DATE	REVISION

FUNCTIONAL SUPERVISOR	ROB STINGER
CALCULATED/DESIGNED BY	CHECKED BY

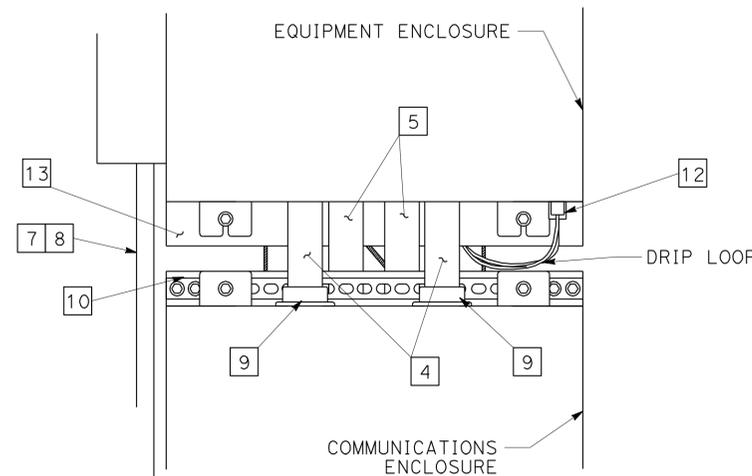
REVISOR	DATE	REVISION

LAST REVISION DATE PLOTTED => 02-OCT-2013  
 04-17-13 TIME PLOTTED => 06:40

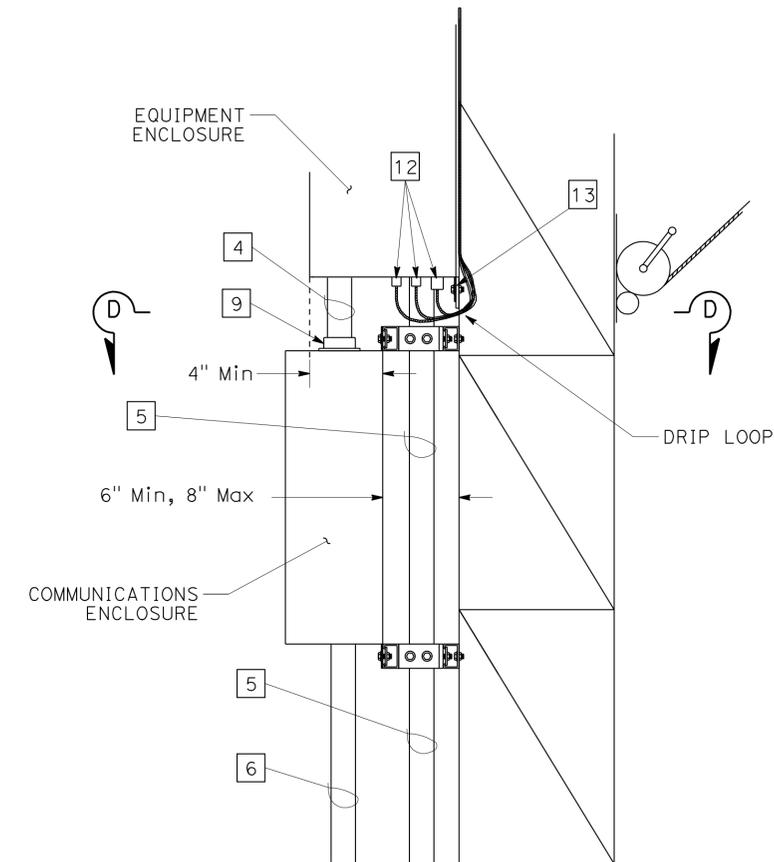
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Mod	139	22.6/22.8	12	21
 REGISTERED/CIVIL ENGINEER			DATE	04-17-13 6-24-13 PLANS APPROVAL DATE	
REGISTERED PROFESSIONAL ENGINEER <b>THERESA ANDERSON</b> No. C77957 Exp. 6-30-13 CIVIL STATE OF CALIFORNIA			THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.		

**NOTES (THIS SHEET):**

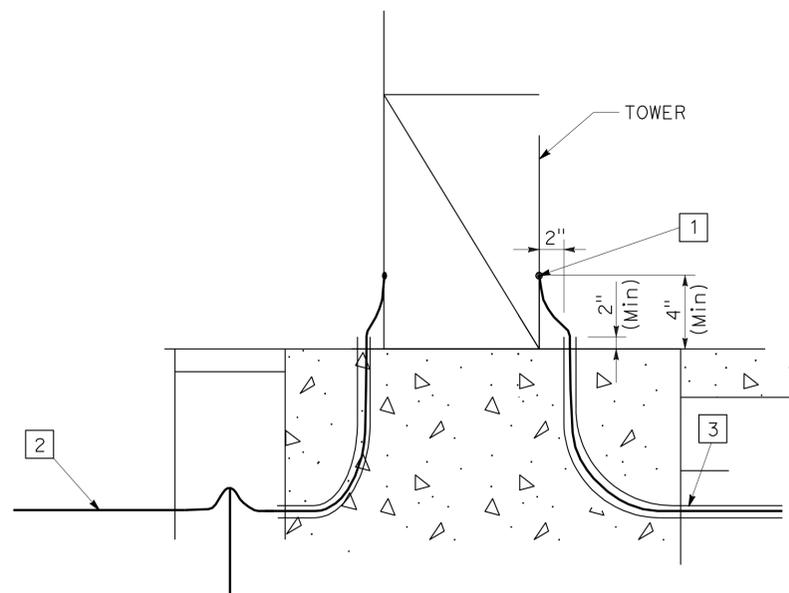
- 1 1/0 BCG ELECTRICALLY AND MECHANICALLY BONDED TO TOWER AT NEAREST TOWER BOLT (Typ OF 3).
- 2 BURIED, 1/0 BCG, 36" DEEP (Typ OF 3).
- 3 1" C, 1/0 BARE GROUND (Typ OF 3).
- 4 2" C, MT, EQUIPMENT ENCLOSURE TO COMMUNICATIONS ENCLOSURE.
- 5 2" C, MT.
- 6 2" C, 1-6SMFO.
- 7 1" C, 2#12, 1#12G (UTILITY).
- 8 1" C, 2#12, 1#12G (BBS).
- 9 2" HUB. WATER TIGHT FITTING.
- 10 1 5/8" STRUT CHANNEL.
- 11 CHANNEL ANGLE PLATE 90° STEEL, ELECTROGALVANIZED.
- 12 LIQUID TIGHT CORD CONNECTOR.
- 13 24" x 4" x 1/4" 6061 ALUMINUM ALLOY PLATE BOLTED TO THE TOWER FOR MOUNTING EQUIPMENT ENCLOSURE (TOP AND BOTTOM) TO TOWER.



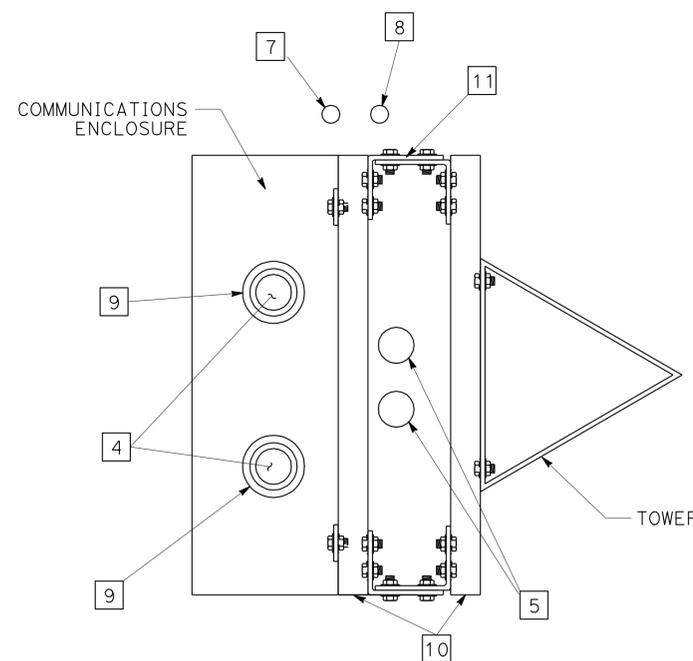
**ENCLOSURE CONDUIT DETAIL**



**COMMUNICATIONS ENCLOSURE MOUNTING DETAIL**



**TOWER GROUNDING DETAIL**



**SECTION D-D**  
ALL HARDWARE IS STAINLESS STEEL UNLESS OTHERWISE NOTED

**ROADSIDE WEATHER INFORMATION SYSTEM**

**ELECTRICAL DETAILS**

NO SCALE

**E-6**

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

FUNCTIONAL SUPERVISOR  
 ROB STINGER

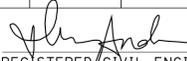
CALCULATED-DESIGNED BY  
 CHECKED BY

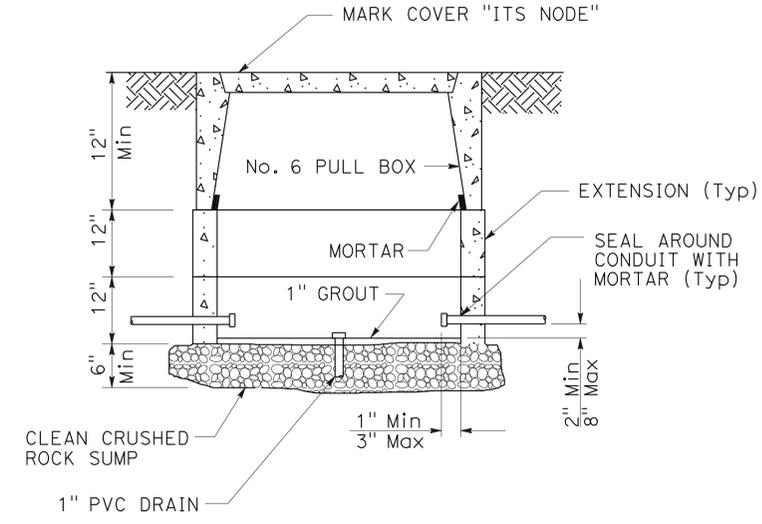
TERI ANDERSON  
 ARTURO ROBLES

REVISED BY  
 DATE REVISED

DATE

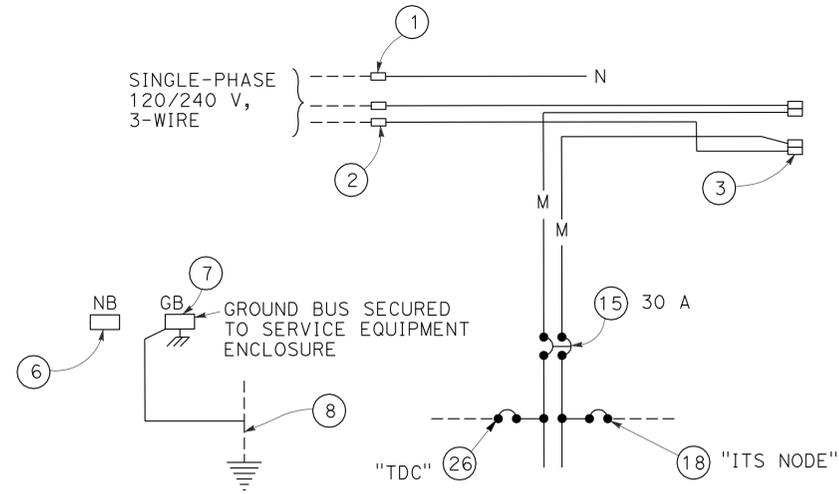


Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Mod	139	22.6/22.8	14	21
 REGISTERED CIVIL ENGINEER			04-17-13	DATE	
6-24-13			PLANS APPROVAL DATE		
THERESA ANDERSON No. C77957 Exp. 6-30-13 CIVIL					
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					

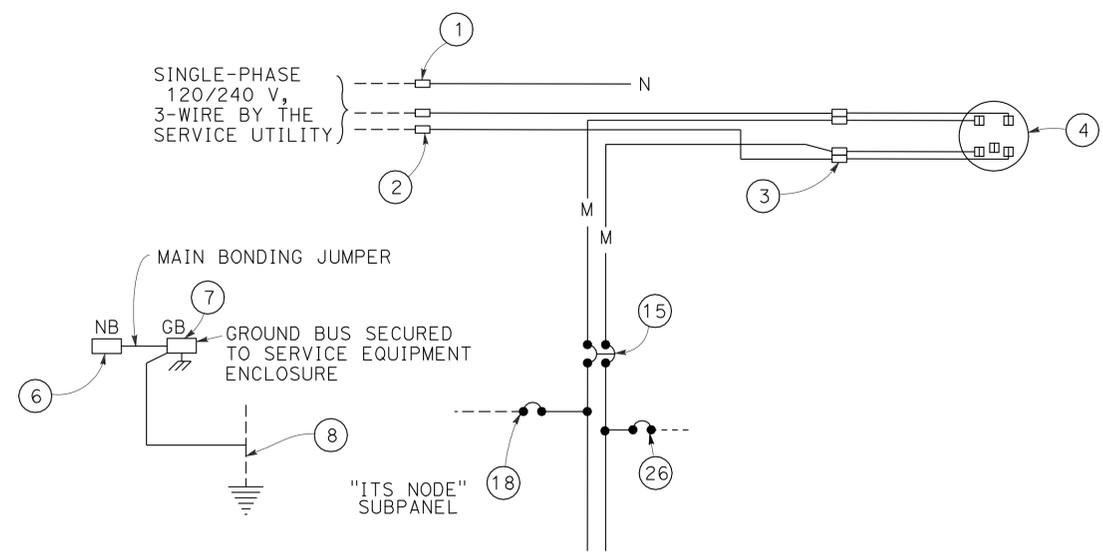


**ITS NODE PB**

NOTE: SEE S+d PLAN SHEET RSP ES-8A FOR DETAILS NOT SHOWN.



**ITS NODE SUBPANEL**



**120/240 V SERVICE WIRING DIAGRAM**

**ELECTRICAL DETAILS**

NO SCALE

**E-8**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
 ELECTRICAL DESIGN  
 FUNCTIONAL SUPERVISOR: ROB STINGER  
 CALCULATED/DESIGNED BY: TERI ANDERSON  
 CHECKED BY: ARTURO ROBLES  
 REVISOR: TERI ANDERSON  
 DATE: 04-17-13  
 REVISION: 04-17-13  
 TIME PLOTTED: 06:41

**NOTE:**

1. (N) - NOT A SEPARATE PAY ITEM, FOR INFORMATION ONLY

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Mod	139	22.6/22.8	15	21

04-17-13  
 REGISTERED CIVIL ENGINEER DATE  
 6-24-13  
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
 THERESA ANDERSON  
 No. C77957  
 Exp. 6-30-13  
 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.

**ROADSIDE WEATHER INFORMATION SYSTEM**

SHEET No.	(N)	(N)	(N)	(N)	(N)	(N)	(N)	(N)	(N)	(N)	(N)	(N)	(N)	(N)	(N)	(N)
E-2	400	50	3	1	1	2	1100	150	200	1	300	3	1			
	LF	LF	EA	EA	EA	EA	LF	LF	LF	EA	EA	EA	EA			
	2" PVC CONDUIT	1" STEEL CONDUIT	No. 5(T) PULL BOX	No. 6 PULL BOX	ITS NODE PULL BOX	OBJECT MARKER (TYPE PB) AND PULL BOX PAVING	No. 12 CONDUCTOR	1-6SMFO	DETECTABLE UNDERGROUND TAPE	RWIS (COMPLETE SYSTEM)	SENSOR LEAD-IN CABLE	PAVEMENT SENSOR	SUB-SURFACE SENSOR			

**CLOSED CIRCUIT TELEVISION SYSTEM**

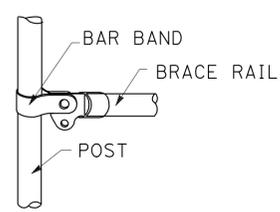
SHEET No.	(N)	(N)	(N)	(N)	(N)	(N)	(N)	(N)	(N)	(N)	(N)	(N)	(N)	(N)	(N)	(N)	(N)	(N)	(N)
E-1	1100	80	100	50	30	3	5	1	1	6	1080	270	2220	160	750	1	1	1	80
	LF	LF	LF	LF	LF	EA	EA	EA	EA	EA	LF	LF	LF	LF	LF	EA	EA	EA	LF
	2" PVC CONDUIT	4" PVC CONDUIT	2" STEEL CONDUIT	3" STEEL CONDUIT	4" STEEL CONDUIT	No. 5 PULL BOX	No. 5(T) PULL BOX	No. 6 PULL BOX	ITS NODE PULL BOX	OBJECT MARKER (TYPE PB) AND PULL BOX PAVING	No. 12 CONDUCTOR	No. 8 CONDUCTOR	No. 2 CONDUCTOR	1-6SMFO	DETECTABLE UNDERGROUND TAPE	TYPE III-AF SERVICE EQUIPMENT ENCLOSURE	SUBPANEL	30' CCTV POLE	TELEPHONE CABLE

**ELECTRICAL QUANTITIES**  
**E-9**

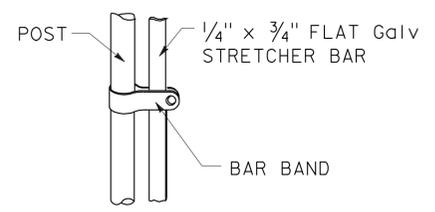
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Mod	139	22.6/22.8	16	21

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.

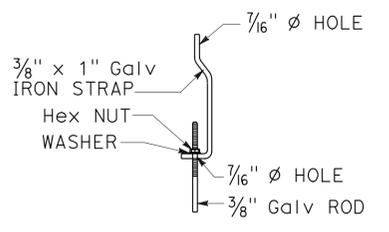
REGISTERED PROFESSIONAL ENGINEER  
 Glenn DeCou  
 No. C34547  
 Exp. 9-30-13  
 CIVIL  
 STATE OF CALIFORNIA



**BRACE RAIL**



**STRETCHER BAR**

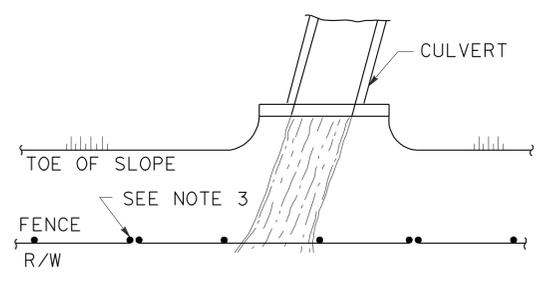


**TRUSS TIGHTENER**

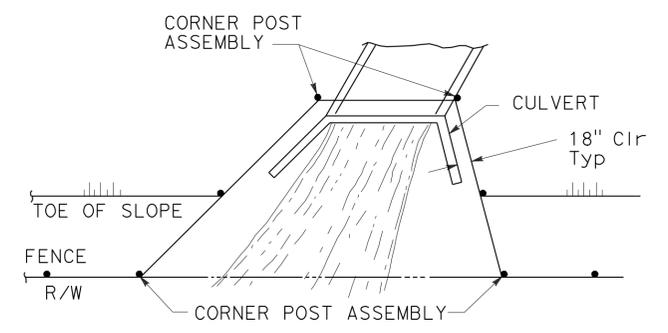
**NOTES:**

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.

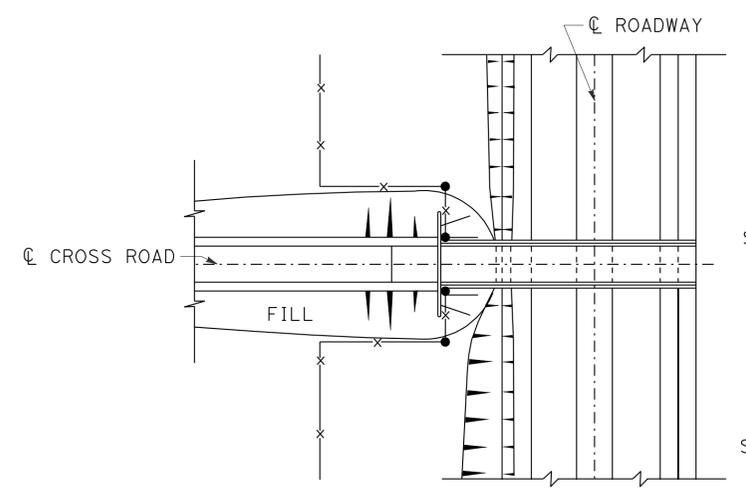
TO ACCOMPANY PLANS DATED 6-24-13



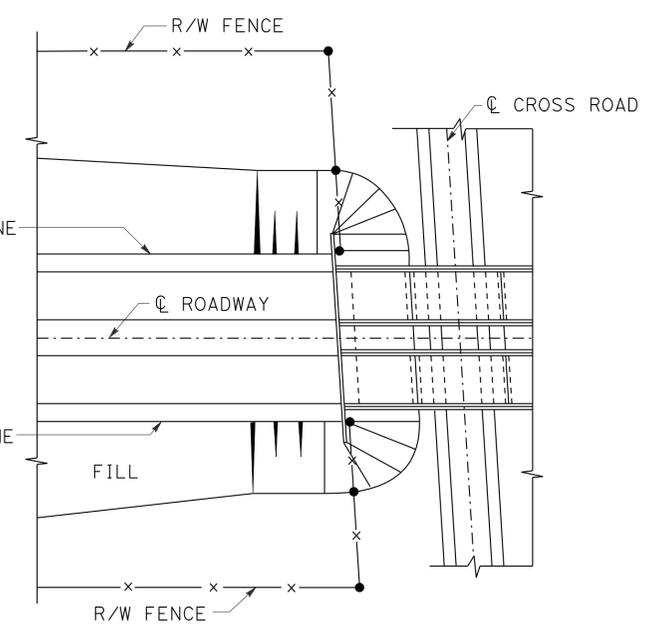
**PLAN**



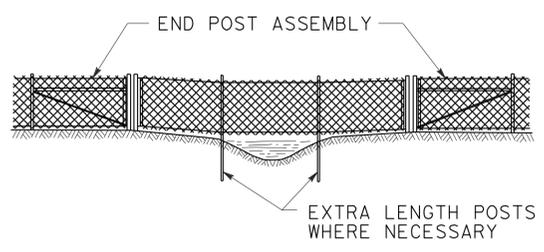
**PLAN**



**PLAN OF ROADWAY - OVERCROSSING**

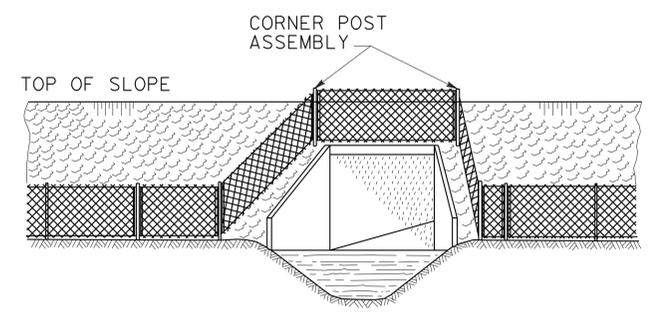


**PLAN OF ROADWAY - UNDERCROSSING**



**ELEVATION**

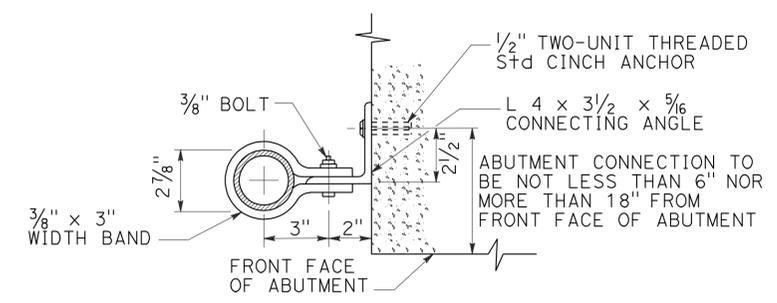
**INSTALLATION OVER STREAM**



**ELEVATION**

**INSTALLATION AROUND HEADWALL**

See Note 4



**ABUTMENT CONNECTION**

**TYPICAL INSTALLATION AT BRIDGES**

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

TO ACCOMPANY PLANS DATED 6-24-13

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.

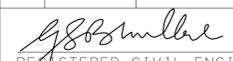
STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

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

NO SCALE

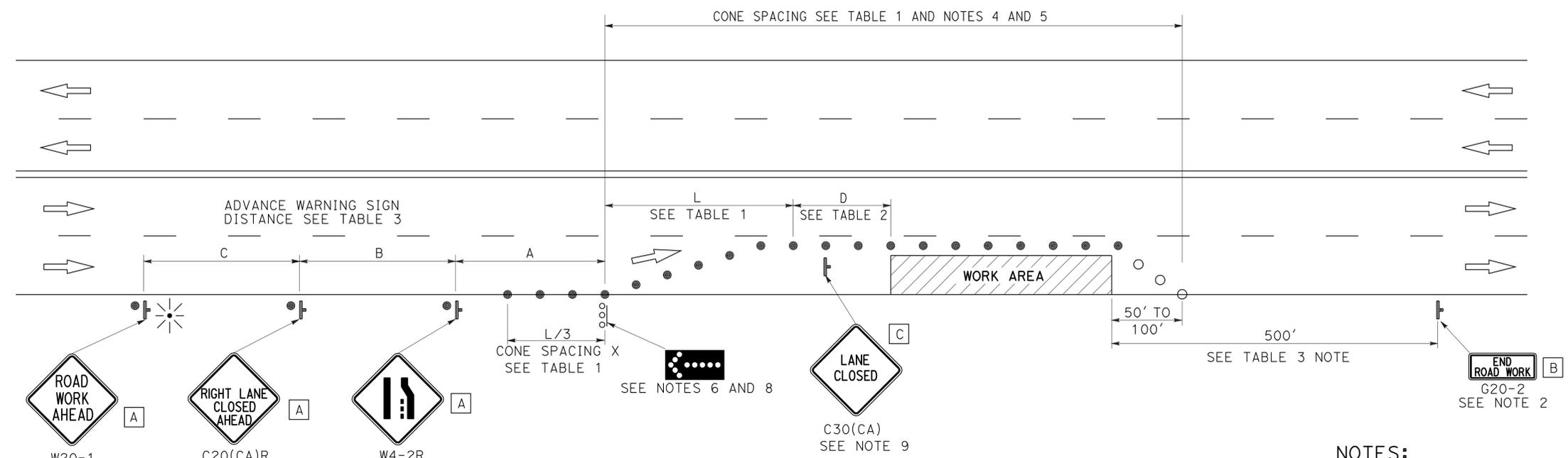
RSP T9 DATED JULY 19, 2013 SUPERSEDES RSP T9 DATED APRIL 19, 2013  
 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Mod	139	22.6/22.8	18	21

  
 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.

TO ACCOMPANY PLANS DATED 6-24-13



**TYPICAL LANE CLOSURE**

**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:**

- Each advance warning 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. Flashing beacons shall be placed at the locations indicated for lane closure during hours of darkness.
- A G20-2 "END ROAD WORK" sign, 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.
- 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) sign for the first advance warning sign.
- All cones used for lane 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 closures only.
- Flashing arrow sign shall be either Type I or Type II.
- For approach speeds over 50 mph, use the "Traffic Control System for Lane Closure On Freeways And Expressways" plan for lane closure details and requirements.
- 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 the top of crest vertical curve or on a horizontal curve.
- Place a C30(CA) sign every 2000' throughout length of lane closure.
- Median lane closures shall conform to the details as shown except that C20(CA)L and W4-2L signs shall be used.
- At least one person shall be assigned to provide full time maintenance of traffic control devices for lane closure unless, otherwise directed by the Engineer.

**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 36" x 18"
- C 30" x 30"

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
**TRAFFIC CONTROL SYSTEM  
 FOR LANE CLOSURE ON  
 MULTILANE CONVENTIONAL  
 HIGHWAYS**

NO SCALE

RSP T11 DATED APRIL 19, 2013 SUPERSEDES STANDARD PLAN T11 DATED MAY 20, 2011 - PAGE 239 OF THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP T11**

2010 REVISED STANDARD PLAN RSP T11

**NOTES:**

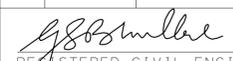
See Revised Standard Plan RSP T9 for tables.

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.

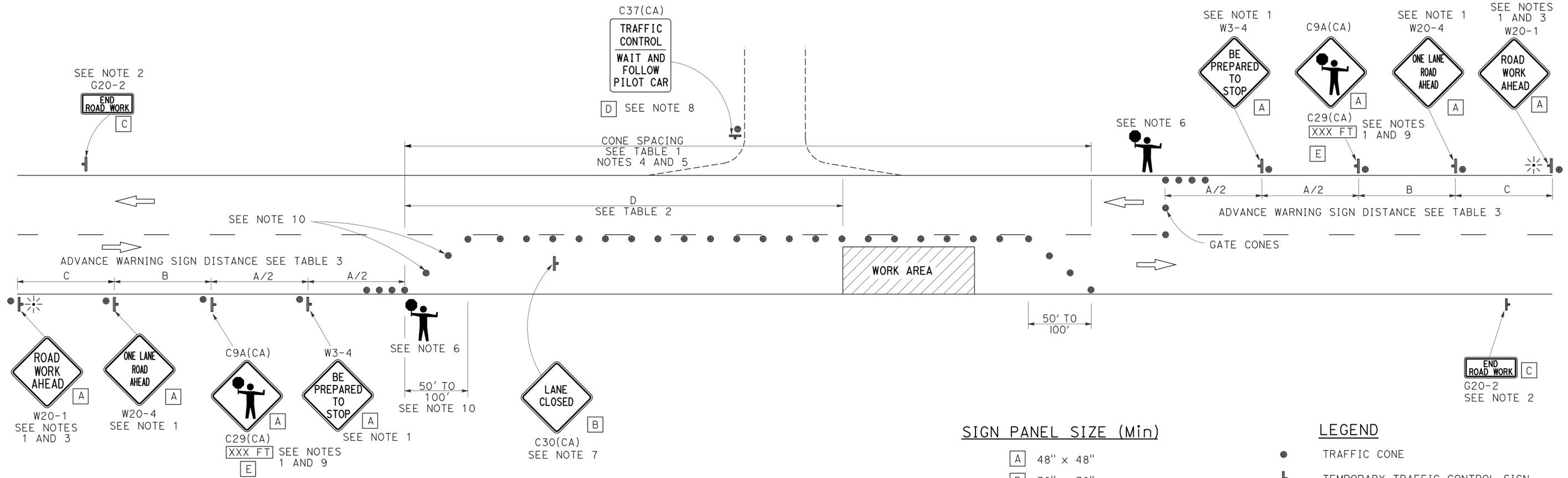
California codes are designated by (CA). Otherwise, Federal (MUTCD) codes are shown.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Mod	139	22.6/22.8	19	21

  
 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.

**TYPICAL LANE CLOSURE WITH REVERSIBLE CONTROL**

TO ACCOMPANY PLANS DATED 6-24-13



**NOTES:**

- Each advance warning sign in each direction of travel 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.
- A G20-2 "END ROAD WORK" sign, as appropriate, shall be placed at the end of the lane control unless the end of work area is obvious, or ends within a larger project's limits.
- If the W20-1 sign would follow within 2000' of a stationary W20-1 or G20-1 "ROAD WORK NEXT \_\_\_\_\_ MILES", use a W20-4 sign for the first advance warning sign.
- All cones used for lane 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 closures only.
- Additional advance flaggers may be required. Flagger should stand in a conspicuous place, be visible to approaching traffic as well as approaching vehicles after the first vehicle has stopped. During the hours of darkness, the flagging-station and flagger shall be illuminated and clearly visible to approaching traffic. The illumination footprint of the lighting on the ground shall be at least 20' in diameter. Place a minimum of four cones at 50' intervals in advance of flagger station as shown.
- Place C30(CA) "LANE CLOSED" sign at 500' to 1000' intervals throughout extended work areas. They are optional if the work area is visible from the flagger station.
- When a pilot car is used, place a C37(CA) "TRAFFIC CONTROL-WAIT AND FOLLOW PILOT CAR" sign with black legend on white background at all intersections, driveways and alleys without a flagger within traffic control area. Signs shall be clean and visible at all times. Where traffic can not be effectively self-regulated, at least one flagger shall be used at each intersection within traffic control area.
- An optional C29(CA) sign may be placed below the C9A(CA) sign.
- Either traffic cones or barricades shall be placed on the taper. Barricades shall be Type I, II, or III.

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
**TRAFFIC CONTROL SYSTEM  
 FOR LANE CLOSURE ON  
 TWO LANE CONVENTIONAL  
 HIGHWAYS**  
 NO SCALE

RSP T13 DATED APRIL 19, 2013 SUPERSEDES STANDARD PLAN T13  
 DATED MAY 20, 2011 - PAGE 241 OF THE STANDARD PLANS BOOK DATED 2010.

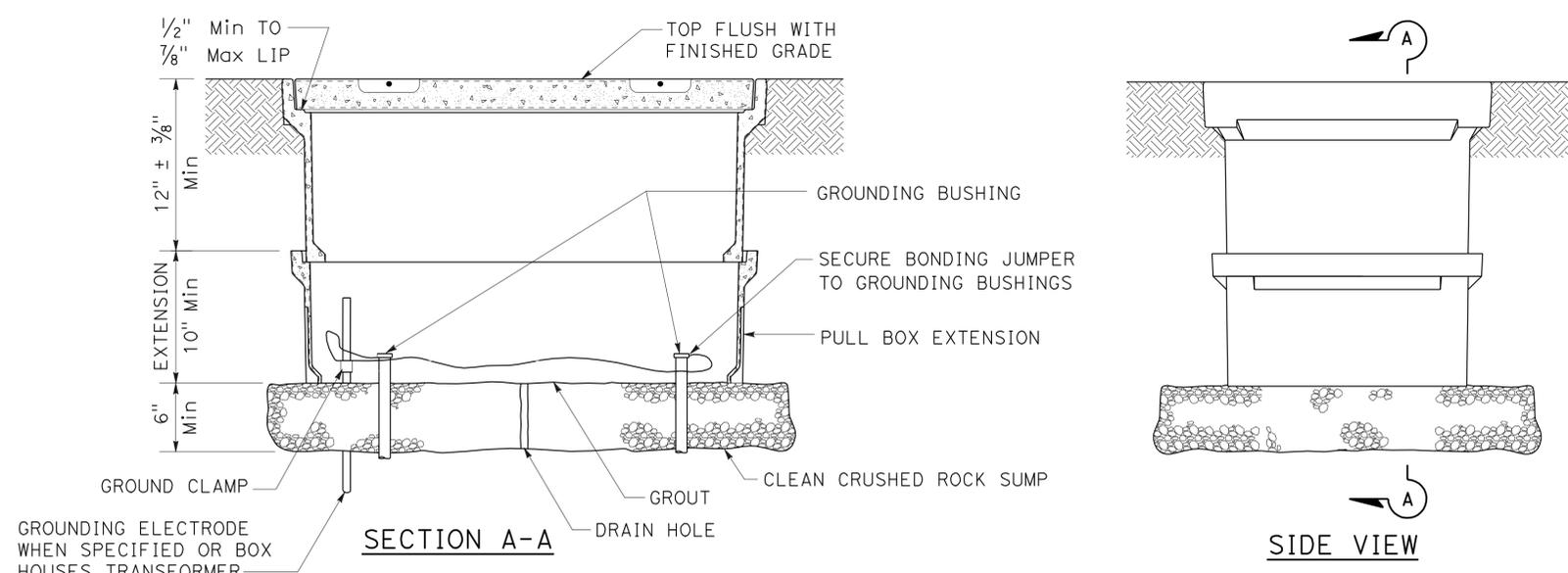
**REVISED STANDARD PLAN RSP T13**

2010 REVISED STANDARD PLAN RSP T13

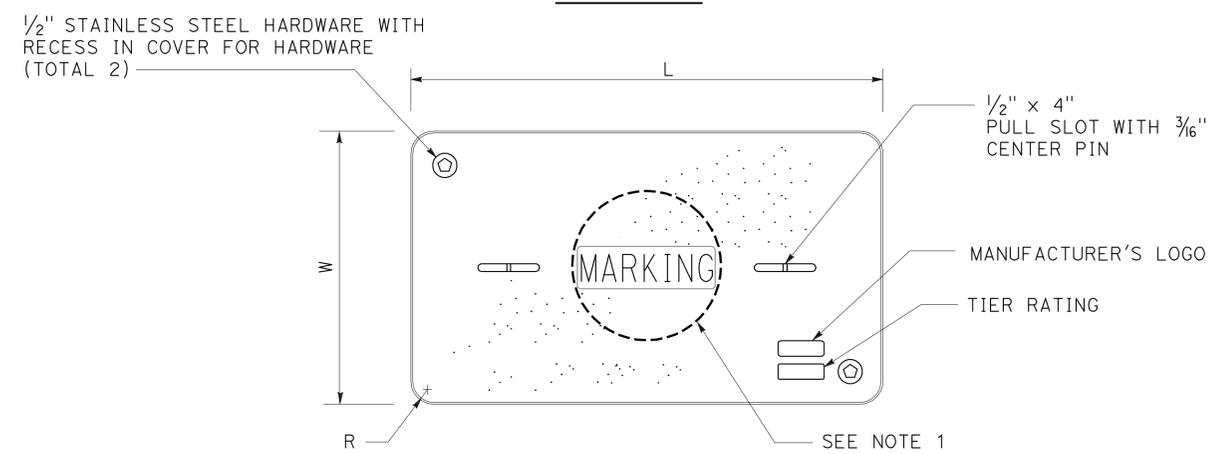
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
02	Mod	139	22.6/22.8	20	21

Jeffrey G. McRae  
 REGISTERED ELECTRICAL ENGINEER  
 January 20, 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.

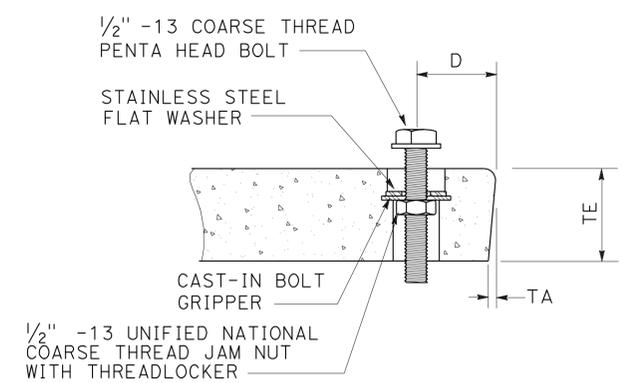
REGISTERED PROFESSIONAL ENGINEER  
 Jeffrey G. McRae  
 No. E14512  
 Exp. 6-30-12  
 ELECTRICAL  
 STATE OF CALIFORNIA



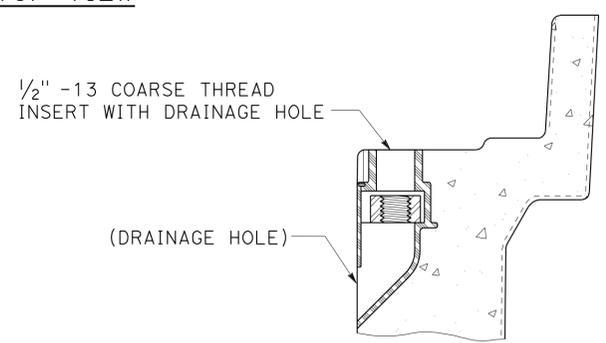
**INSTALLATION DETAILS**  
**DETAIL A**



**COVER TOP VIEW**



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



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

**NOTES ON PULL BOXES:**

- Pull box covers must 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. 3/2 pull box.
    - "SIGNAL" - Traffic signal circuits with or without street or sign lighting circuits.
    - "ST LIGHTING" - Street 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 street or sign lighting circuits.
    - "STREET LIGHTING" - Street or sign lighting circuits where voltage is under 600 V.
    - "STREET LIGHTING-HIGH VOLTAGE" - Street 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.
- The nominal dimensions of the opening in which the cover sets must be the same as the cover dimensions (L and W) plus 1/8" or greater.
- Covers and boxes must be interchangeable with California Standard. When interchanged with a standard, the top surfaces must be flush within 1/8". Top outside radius of covers and pull boxes must have a 1/8" 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.

TO ACCOMPANY PLANS DATED 6-24-13

DIMENSION TABLE										
PULL BOX	PULL BOX			COVER						
	MINIMUM DEPTH BOX	MINIMUM DEPTH EXTENSION	MAXIMUM WEIGHT	L	W	R	TE	TA	D	MAXIMUM WEIGHT
No. 3/2	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**  
**(PULL BOX)**  
NO SCALE

RSP ES-8A DATED JANUARY 20, 2012 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

2010 REVISED STANDARD PLAN RSP ES-8A

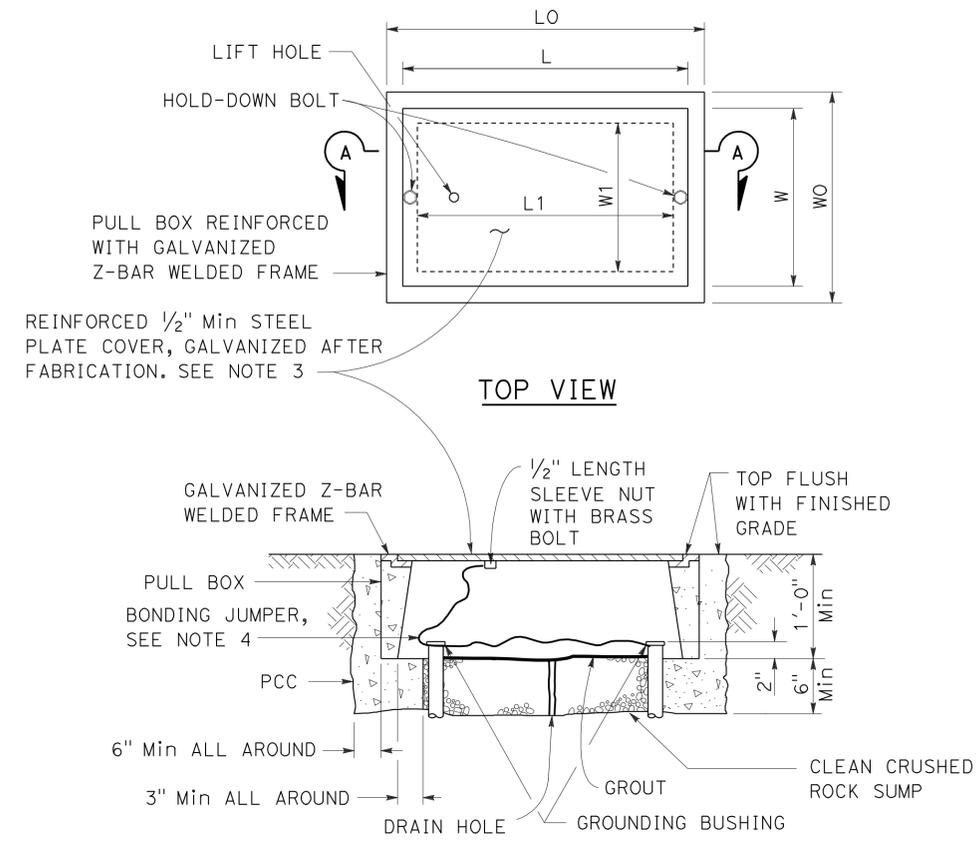
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
02	Mod	139	22.6/22.8	21	21

Jeffrey G. McRae  
 REGISTERED ELECTRICAL ENGINEER  
 January 20, 2012  
 PLANS APPROVAL DATE

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TO ACCOMPANY PLANS DATED 6-24-13



**No. 3 1/2(T), No. 5(T) AND No. 6(T) TRAFFIC PULL BOX**

**NOTES ON PULL BOXES:**

- Traffic pull box shall be provided with steel cover and special concrete footing. Steel cover shall have embossed non-skid pattern.
- Steel reinforcing shall be as regularly used in the standard products of the respective manufacturer.
- Pull box covers must 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(T) pull box.
    - "SIGNAL" - Traffic signal circuits with or without street or sign lighting circuits.
    - "ST LIGHTING" - Street or sign lighting circuits where voltage is under 600 V.
  - No. 5(T) or 6(T) pull box.
    - "TRAFFIC SIGNAL" - Traffic signal circuits with or without street or sign lighting circuits.
    - "STREET LIGHTING" - Street or sign lighting circuits where voltage is under 600 V.
    - "STREET LIGHTING-HIGH VOLTAGE" - Street 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.
    - "COMMUNICATION" - Communication circuits.
    - "TOS COMMUNICATIONS" - TOS communications 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.
- Bonding jumper for metal covers shall be 3' long, minimum.
- The nominal dimensions of the opening in which the cover sets must be the same as the cover dimensions except the length and width dimensions shall be 1/8" greater.
- Covers and boxes must be interchangeable with California standard male and female gages. When interchanged with a standard male or female gage, the top surfaces must be flush within 1/8".

PULL BOX	BOX						COVER				
	MINIMUM * THICKNESS	MINIMUM DEPTH BOX AND EXTENSION	W0	L0	L1	W1	L **	W **	R	EDGE THICKNESS	EDGE TAPER
No. 3 1/2(T)	1 1/2"	1'-0"	1'-5"± 1"	1'-8 7/8"±	1'-2 1/2"±	10 5/8"± 1"	1'-8"±	1'-1 3/4"±	0"	1/2"	NONE
No. 5(T)	1 3/4"	1'-0"	1'-11 1/2"± 1"	2'-5 1/2"±	1'-7"±	1'-1"± 1"	2'-3"±	1'-4"±	0"	1/2"	NONE
No. 6(T)	2"	1'-0"	2'-6"± 1"	2'-11 1/2"±	1'-11 1/2"±	1'-5"± 1"	2'-9"±	1'-8"±	0"	1/2"	NONE

\* EXCLUDING CONDUIT WEB      \*\* TOP DIMENSION

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

RSP ES-8B DATED JANUARY 20, 2012 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

2010 REVISED STANDARD PLAN RSP ES-8B