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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 **ACHSNHPI-280-1(145)E**
 DEPARTMENT OF TRANSPORTATION

**PROJECT PLANS FOR CONSTRUCTION ON
 STATE HIGHWAY
 IN THE CITY AND COUNTY OF SAN FRANCISCO
 AT ROUTE 280 SOUTHBOUND OFF-RAMP
 TO JOHN DALY BOULEVARD
 AND AT SAN JOSE AVENUE OVERCROSSING**

TO BE SUPPLEMENTED BY STANDARD PLANS DATED 2010

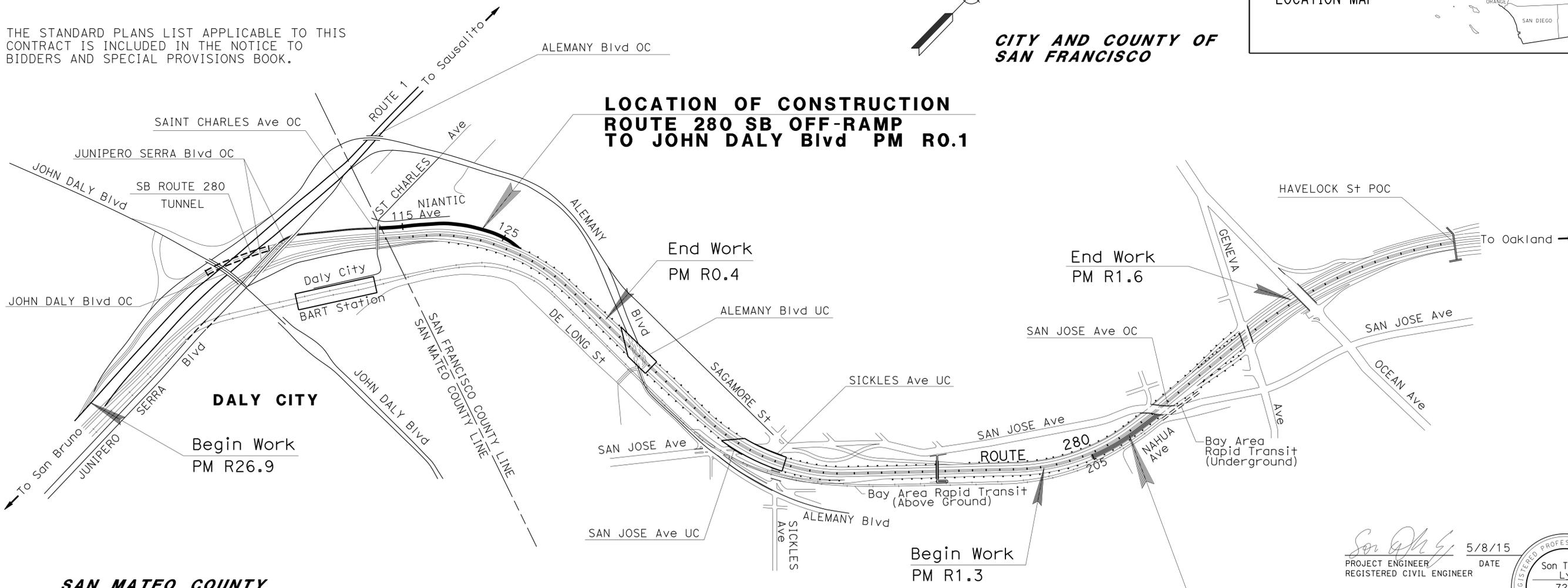
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SF	280	R0.1, R1.5	1	77

Caltrans



PROJECT MANAGER
JOON KANG

DESIGN MANAGER
PATRICK NG



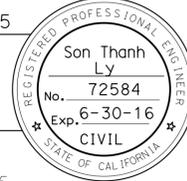
**LOCATION OF CONSTRUCTION
 SAN JOSE Ave OC PM R1.5**

NO SCALE

Son Thanh Ly 5/8/15
 PROJECT ENGINEER DATE
 REGISTERED CIVIL ENGINEER

June 15, 2015
 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."

CONTRACT No.	04-4H9004
PROJECT ID	0413000300

DATE PLOTTED => 22-SEP-2015 12:38
 TIME PLOTTED =>

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN
 FUNCTIONAL SUPERVISOR: PATRICK NG
 SON LY
 WIN MAUNG
 REVISIONS: 6/10/15
 SL

NOTES:

1. DIMENSIONS OF THE PAVEMENT STRUCTURES (STRUCTURAL SECTIONS) ARE SUBJECT TO TOLERANCES SPECIFIED IN THE STANDARD SPECIFICATIONS.
2. SUPERELEVATION AS SHOWN OR AS DIRECTED BY THE ENGINEER.
3. FOR MIDWEST GUARDRAIL AND VEGETATION CONTROL, SEE LAYOUT PLANS.
4. FOR DETAIL OF RETAINING WALL AND FRACTURE RIB TEXTURE, SEE RETAINING WALL PLAN.
5. FOR DETAIL OF SIDEWALK, SEE SHEET C-3.

DESIGN DESIGNATION

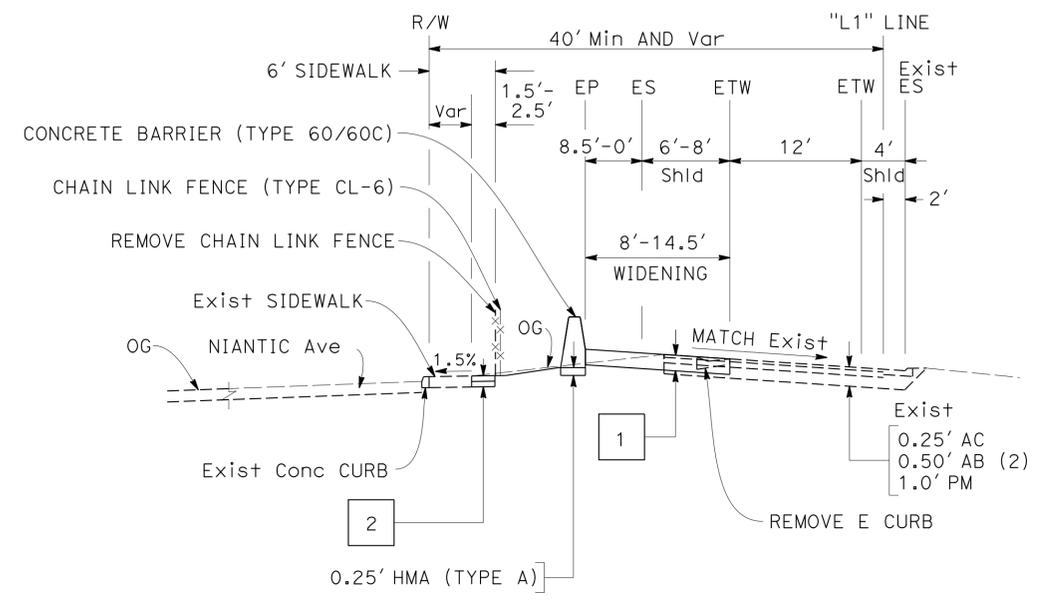
SF 280, SB PM 0.1				SF 280, NB PM 1.5			
ADT (2014)	14,900	D	63%	ADT (2014)	91,800	D	62%
ADT (2037)	21,100	T	9%	ADT (2037)	128,200	T	9%
DHV	890	V	45 mph	DHV	8,290	V	63 mph
ESAL	792,000	TI ₂₀	9	ESAL	6,424,000	TI ₂₀	9.5

PAVEMENT CLIMATE REGION: CENTRAL COAST

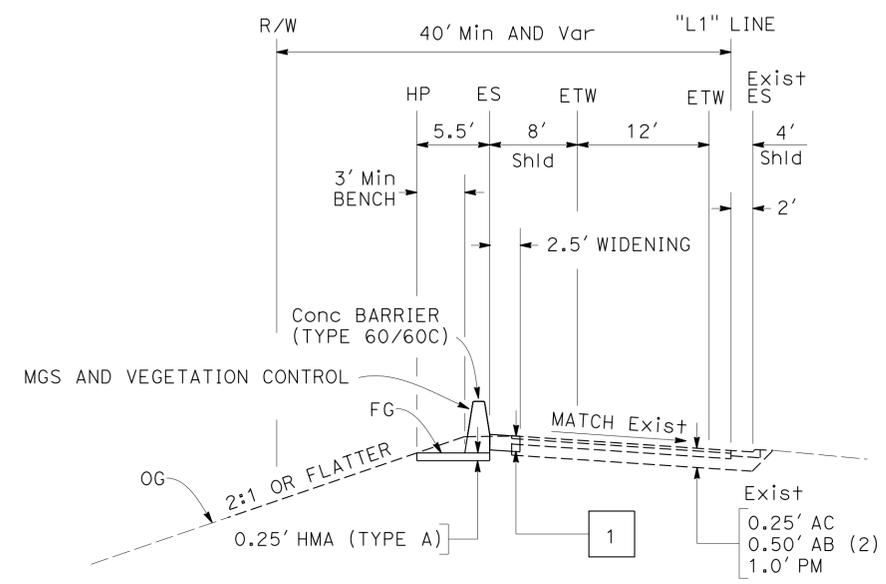
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SF	280	RO.1, R1.5	2	77

REGISTERED CIVIL ENGINEER: Son Thanh Ly
 No. 72584
 Exp. 6-30-16
 DATE: 5/8/15
 PLANS APPROVAL DATE: 6-15-15

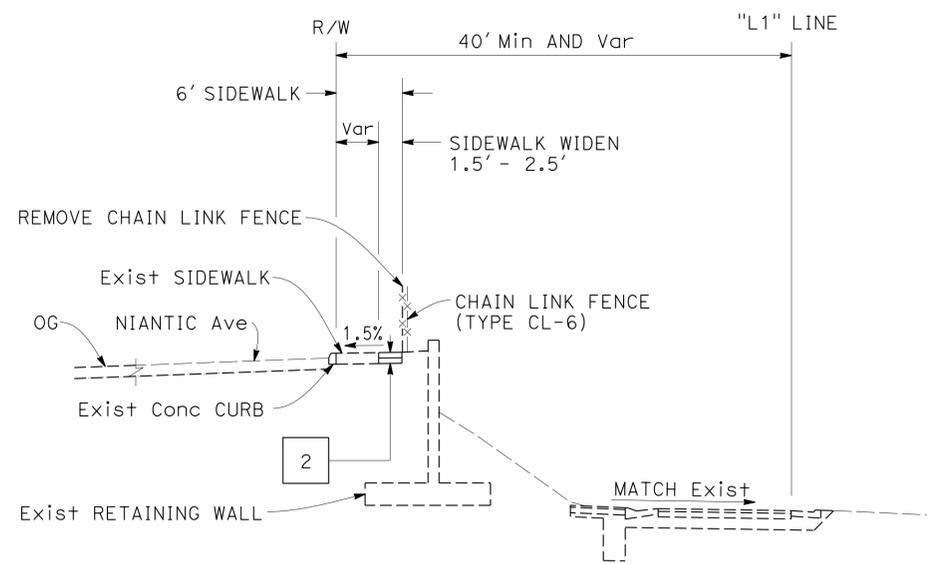
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



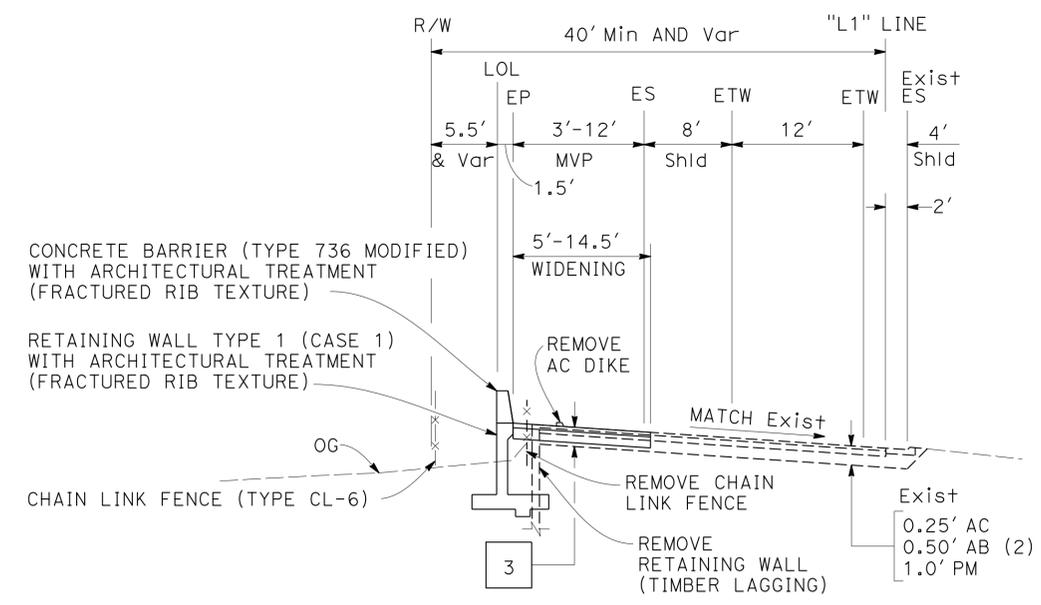
"L1" 117+85 TO 119+01.2



"L1" 119+85.6 TO 126+84



"L1" 115+10 TO 117+85



"L1" 119+01.2 TO 119+85.6

LEGEND:

No.	PAVEMENT STRUCTURAL SECTION
1	0.65' HMA (TYPE A)
2	0.35' PCC 0.50' AB (2)
3	0.3' HMA (TYPE A) 0.50' AB (2)
4	0.85' HMA (TYPE A)

ROUTE 280 SOUTHBOUND OFF-RAMP TO JOHN DALY Blvd

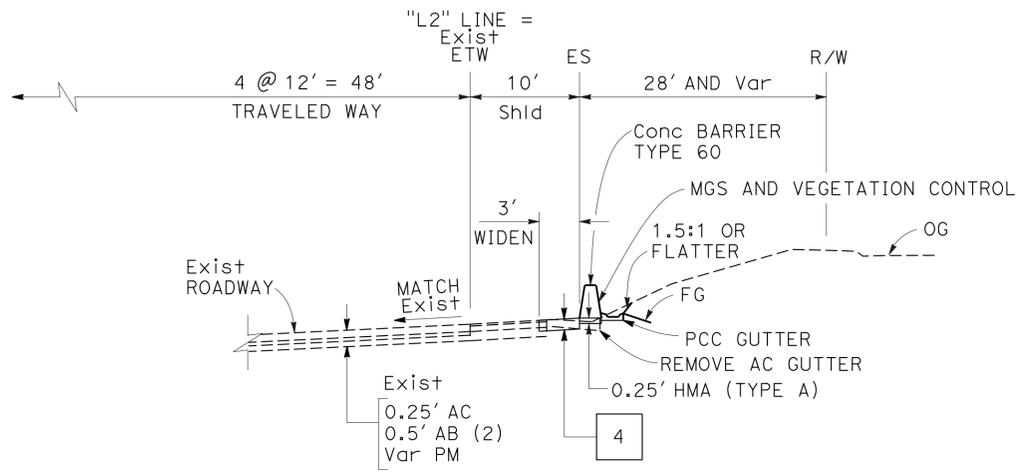
TYPICAL CROSS SECTIONS
 NO SCALE

X-1

LAST REVISION DATE PLOTTED => 10-JUL-2015
 06-10-15 TIME PLOTTED => 13:11

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SF	280	R0.1 / R1.5	3	77
<i>Son Thanh Ly</i> REGISTERED CIVIL ENGINEER DATE 5/8/15			No. 72584 Exp. 6-30-16 CIVIL		
PLANS APPROVAL DATE 6-15-15			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.		

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED/DESIGNED BY	SON LY	REVISOR	SL
Caltrans	PATRICK NG	CHECKED BY	WIN MAUNG	DATE REVISED	6/10/15
DESIGN					



"L2" 205+26 TO 208+72
 ROUTE 280 NORTHBOUND AT SAN JOSE Ave OC

FOR NOTES AND LEGEND, SEE SHEET X-1

TYPICAL CROSS SECTIONS
 NO SCALE

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN

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

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SF	280	RO.1, R1.5	4	77

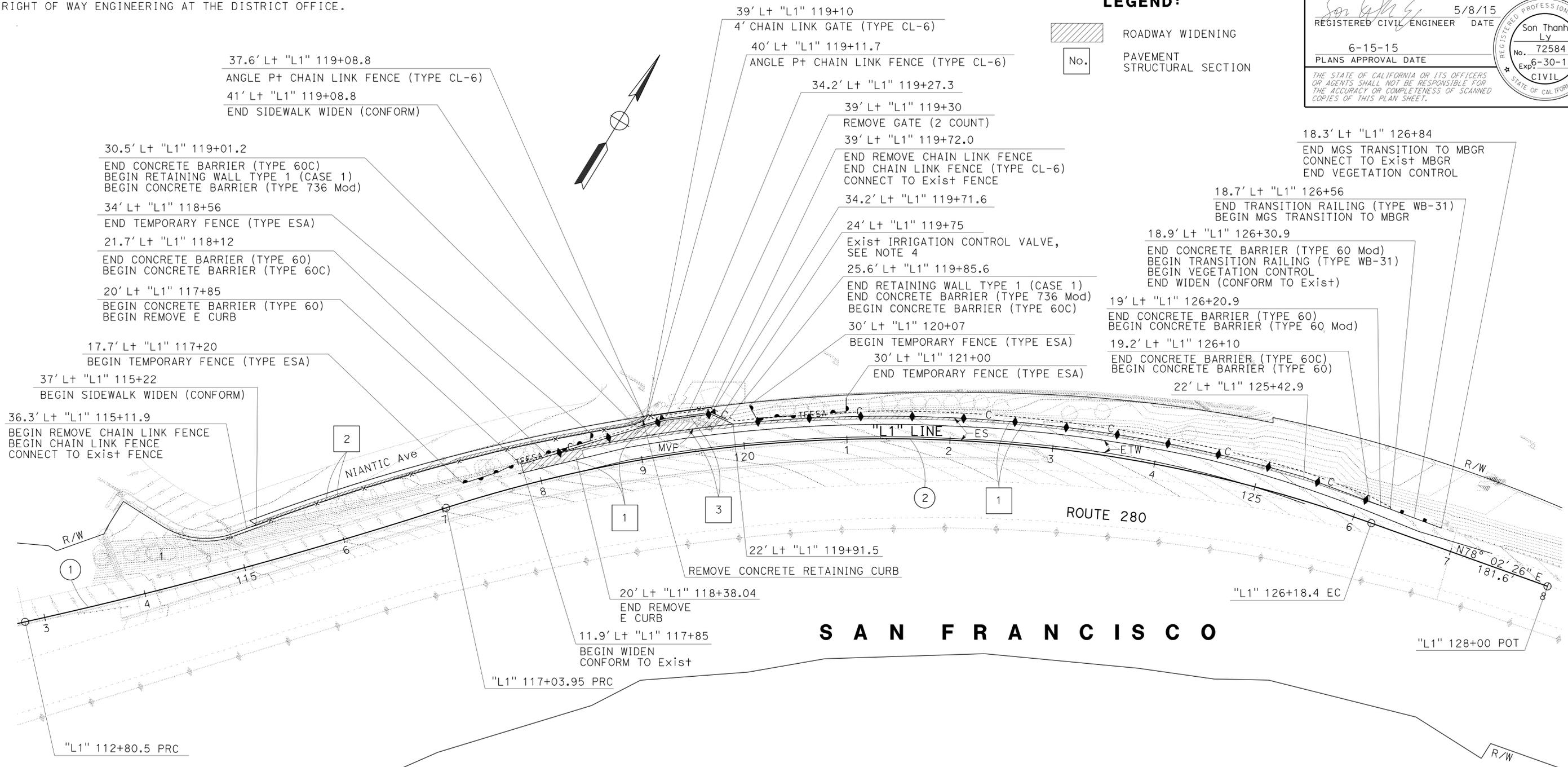
REGISTERED CIVIL ENGINEER: *Son Thanh Ly*
 No. 72584
 Exp. 6-30-16
 CIVIL
 STATE OF CALIFORNIA

5/8/15
 DATE
 6-15-15
 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:

-  ROADWAY WIDENING
-  PAVEMENT STRUCTURAL SECTION



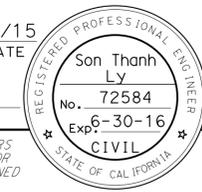
CURVE DATA

No. ⊕	R	Δ	T	L
1	4561.27'	05° 19' 09"	211.88'	423.45'
2	1399.27'	37° 26' 35"	474.22'	914.43'

NOTES:

1. OFFSETS ARE REFERENCED TO THE FACE OF BARRIER.
2. FOR DETAILS OF MAINTENANCE VEHICLE PULLOUT AND RETAINING WALL, SEE RETAINING WALL PLAN.
3. FOR DETAILS OF SIDEWALK, SEE SHEET C-3.
4. REMOVE IRRIGATION SYSTEM WITHIN LIMITS OF WIDENING AREA AND CAP AT MAINLINE.

LAYOUT
 SCALE: 1" = 50'

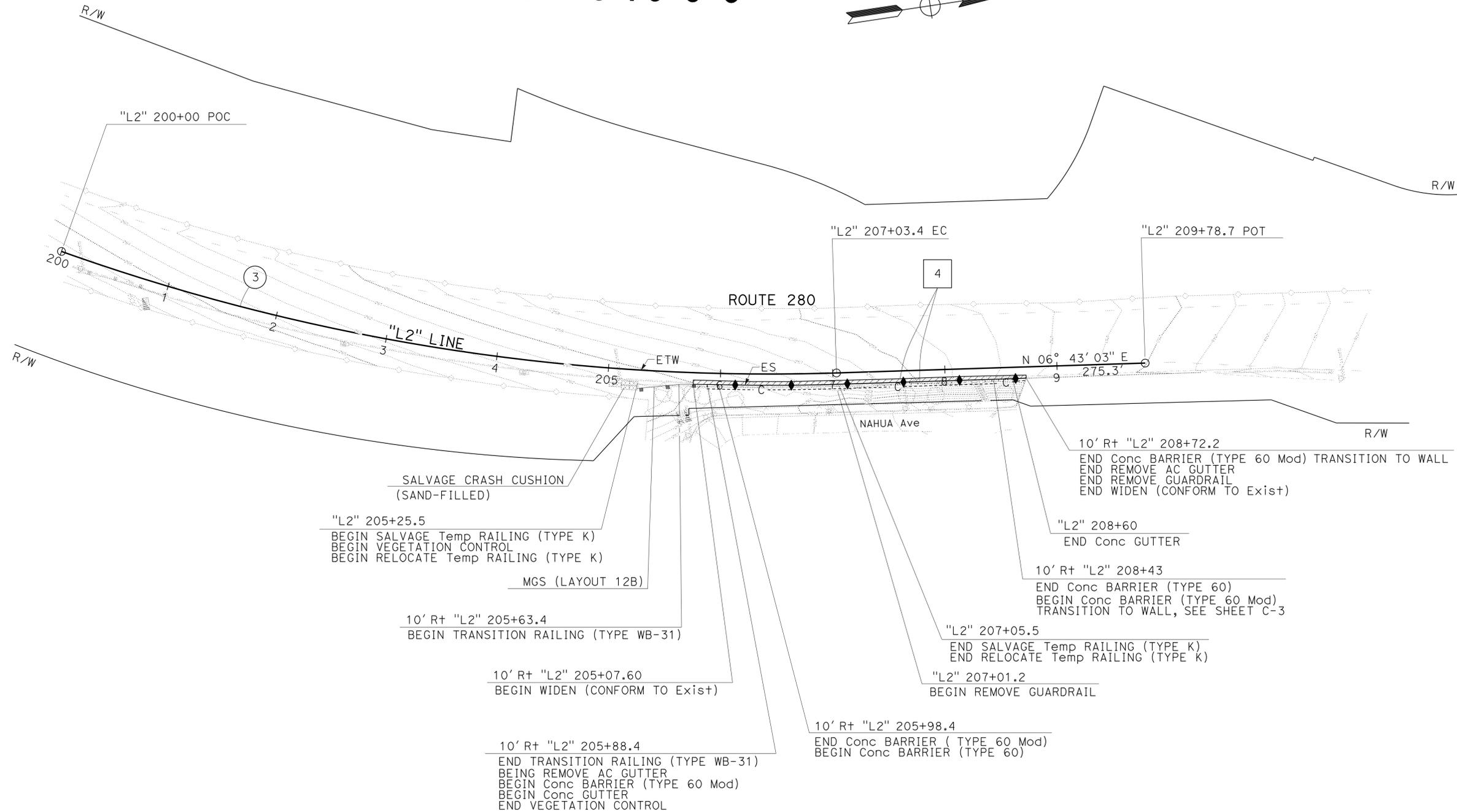
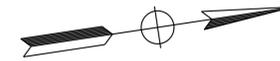
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SF	280	RO.1, R1.5	5	77
 REGISTERED CIVIL ENGINEER			5/8/15	DATE	
PLANS APPROVAL DATE			6-15-15		
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.					
					

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

CURVE DATA

No. ③	R	Δ	T	L
3	1880.10'	21° 26' 08"	355.85'	703.38'

S A N F R A N C I S C O



LAYOUT
 SCALE: 1" = 50'

FOR NOTES, AND LEGEND,
 SEE SHEET L-1

L-2

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN
 FUNCTIONAL SUPERVISOR: PATRICK NG
 SON LY
 WIN MAUNG
 REVISIONS: SL 6/10/15
 REVISIONS: DATE REVISIONS

PAVEMENT ELEVATIONS

No.	OFFSET	ELEVATION
1	20' L+ "L1" 117+85	259.53'
2	22' L+ "L1" 117+85	259.53'
3	20.98' L+ "L1" 118+00	260.32'
4	22.98' L+ "L1" 118+00	260.32'
5	22.26' L+ "L1" 118+20	261.35'
6	24.32' L+ "L1" 118+20	261.01'
7	23.83' L+ "L1" 118+40	262.44'
8	25.93' L+ "L1" 118+40	261.85'
9	25.70' L+ "L1" 118+60	263.24'
10	27.88' L+ "L1" 118+60	262.14'
11	27.86' L+ "L1" 118+80	264.19'
12	30.17' L+ "L1" 118+80	262.13'
13	30.48' L+ "L1" 119+01.20	265.16'
14	31.96' L+ "L1" 119+01.20	262.07'
15	33.09' L+ "L1" 119+20	265.97'
16	34.18' L+ "L1" 119+27.34	266.29'
17	34.03' L+ "L1" 119+40	266.62'
18	34.04' L+ "L1" 119+60	267.15'
19	34.18' L+ "L1" 119+71.59	267.45'
20	22' L+ "L1" 119+91.48	267.52'
21	22' L+ "L1" 120+00	267.75'
22	22' L+ "L1" 120+20	268.36'
23	22' L+ "L1" 120+40	268.95'
24	22' L+ "L1" 120+60	269.52'
25	22' L+ "L1" 120+80	270.07'
26	22' L+ "L1" 121+00	270.62'
27	22' L+ "L1" 121+20	271.10'
28	22' L+ "L1" 121+40	271.59'
29	22' L+ "L1" 121+60	272.06'
30	22' L+ "L1" 121+80	272.51'

PAVEMENT ELEVATIONS

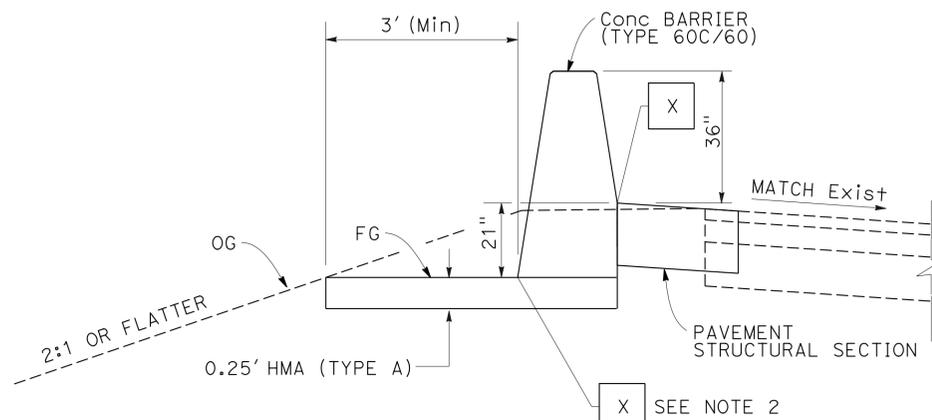
No.	OFFSET	ELEVATION
31	22' L+ "L1" 122+00	272.96'
32	22' L+ "L1" 122+20	273.42'
33	22' L+ "L1" 122+40	273.88'
34	22' L+ "L1" 122+60	274.39'
35	22' L+ "L1" 122+80	274.90'
36	22' L+ "L1" 123+00	275.40'
37	22' L+ "L1" 123+20	275.89'
38	22' L+ "L1" 123+40	276.38'
39	22' L+ "L1" 123+60	276.89'
40	22' L+ "L1" 123+80	277.36'
41	22' L+ "L1" 124+00	277.75'
42	22' L+ "L1" 124+20	278.15'
43	22' L+ "L1" 124+40	278.56'
44	22' L+ "L1" 124+60	278.98'
45	22' L+ "L1" 124+80	279.39'
46	22' L+ "L1" 125+00	279.78'
47	22' L+ "L1" 125+20	280.17'
48	22' L+ "L1" 125+40	280.59'
49	20.97' L+ "L1" 125+60	280.95'
50	20.04' L+ "L1" 125+80	281.32'
51	19.40' L+ "L1" 126+00	281.70'
52	21.51' L+ "L1" 126+00	281.05'
53	19.05' L+ "L1" 126+20	281.82'
54	21.05' L+ "L1" 126+20	281.82'
55	18.97' L+ "L1" 126+31	281.92'
56	20.97' L+ "L1" 126+31	281.92'

NOTES:

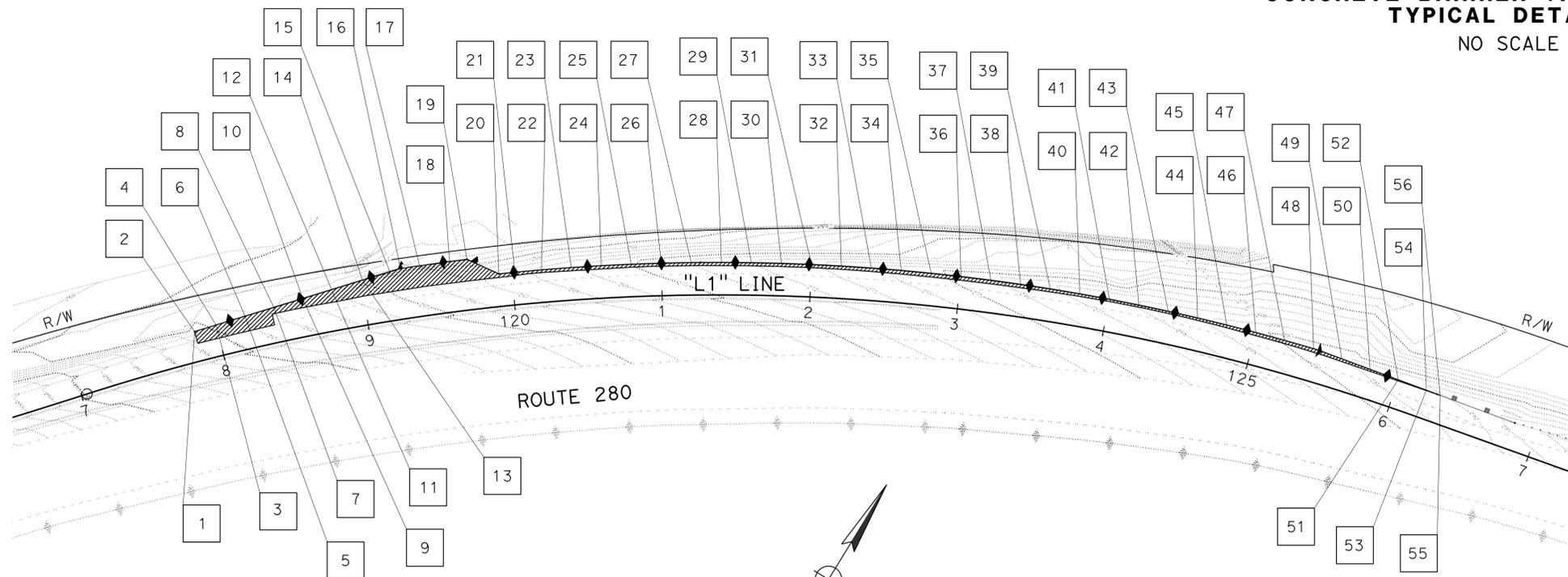
- FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
- FG AS SHOWN, UNLESS OTHERWISE NOTED ON PAVEMENT ELEVATIONS TABLE.
- FOR FG AND DETAILS OF RETAINING WALL, SEE RETAINING WALL SHEET.

LEGEND:

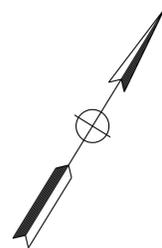
 ROADWAY WIDENING



**CONCRETE BARRIER (TYPE 60/60C)
TYPICAL DETAIL**
NO SCALE



PLAN

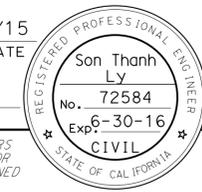


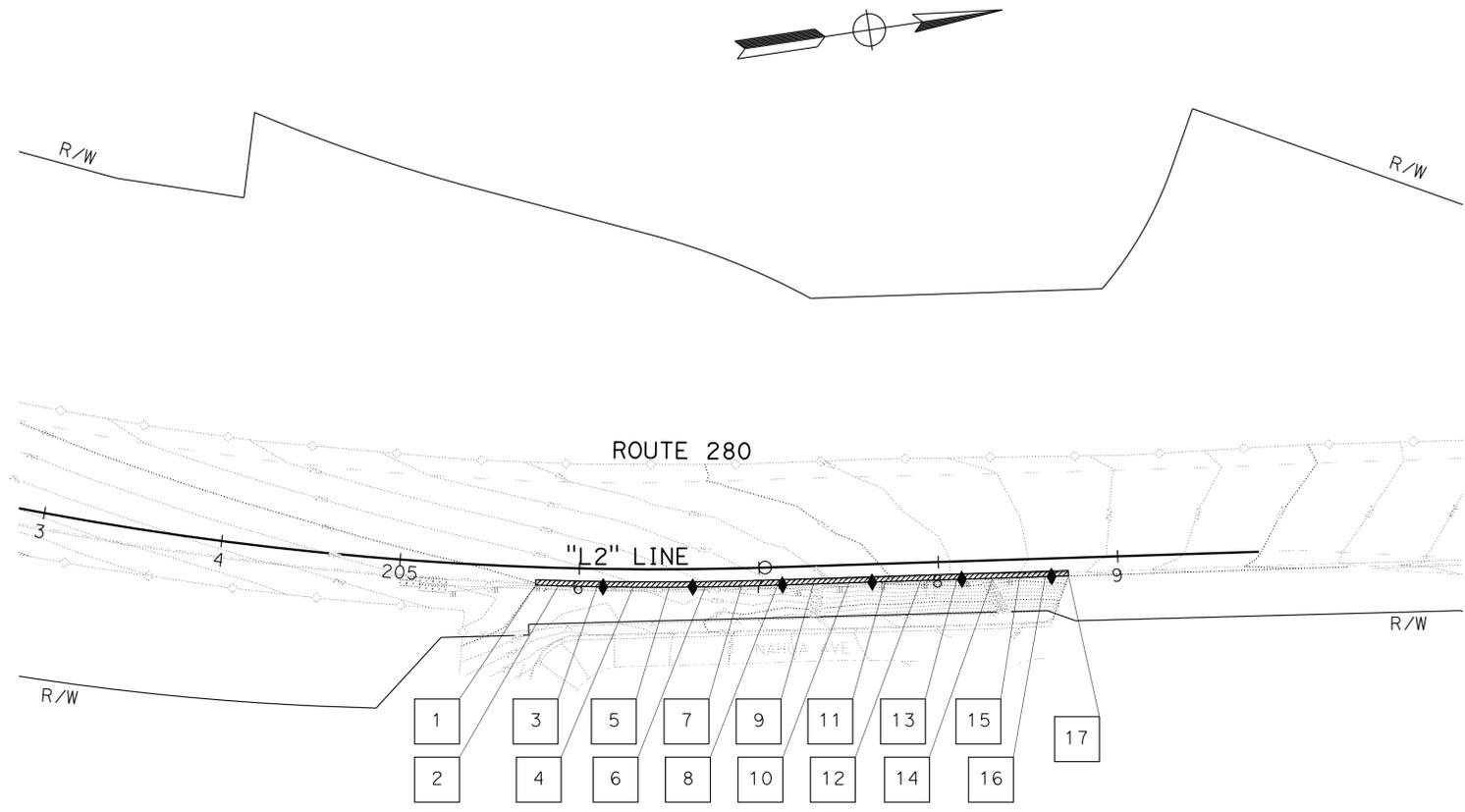
CONSTRUCTION DETAILS PAVEMENT ELEVATION PLAN

SCALE: 1" = 50'

APPROVED FOR PAVEMENT ELEVATION WORK ONLY

C-1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SF	280	RO.1, R1.5	7	77
			5/8/15		
REGISTERED CIVIL ENGINEER			DATE		
6-15-15			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>					



PLAN

PAVEMENT ELEVATIONS

No. X	OFFSET	ELEVATION
1	10' Rt "L2" 205+75.95	260.09'
2	10' Rt "L2" 205+88.42	259.88'
3	10' Rt "L2" 206+10	259.51'
4	10' Rt "L2" 206+30	259.12'
5	10' Rt "L2" 206+50	258.67'
6	10' Rt "L2" 206+70	258.17'
7	10' Rt "L2" 206+90	257.62'
8	10' Rt "L2" 207+10	257.05'
9	10' Rt "L2" 207+30	256.42'
10	10' Rt "L2" 207+50	255.79'
11	10' Rt "L2" 207+70	255.18'
12	10' Rt "L2" 207+90	254.57'
13	10' Rt "L2" 208+10	253.92'
14	10' Rt "L2" 208+30	253.36'
15	10' Rt "L2" 208+45	252.96'
16	10' Rt "L2" 208+59.29	252.57'
17	10' Rt "L2" 208+72.19	252.21'

**CONSTRUCTION DETAILS
PAVEMENT ELEVATION PLAN**

SCALE: 1" = 50'

FOR NOTES AND LEGEND, SEE SHEET C-1

APPROVED FOR PAVEMENT ELEVATION WORK ONLY

C-2

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 DESIGN
 FUNCTIONAL SUPERVISOR: PATRICK NG
 SON LY
 WIN MAUNG
 SL
 6/11/15
 REVISIONS: 6/11/15

USERNAME => s123043
 DGN FILE => 0413000300ga002.dgn

RELATIVE BORDER SCALE 1" = 10' INCHES

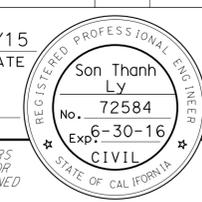

UNIT 0707

PROJECT NUMBER & PHASE

04130003001

BORDER LAST REVISED 7/2/2010

LAST REVISION | DATE PLOTTED => 10-JUL-2015
 06-11-15 | TIME PLOTTED => 13:11

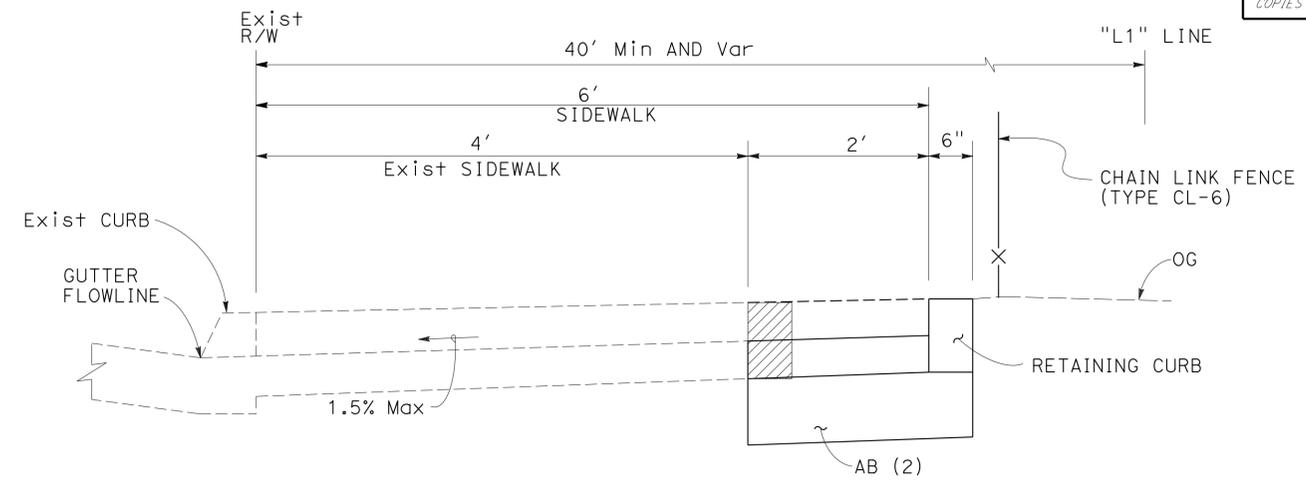
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SF	280	RO.1, R1.5	8	77
 REGISTERED CIVIL ENGINEER DATE 5/8/15					
PLANS APPROVAL DATE 6-15-15					
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					

NOTES:

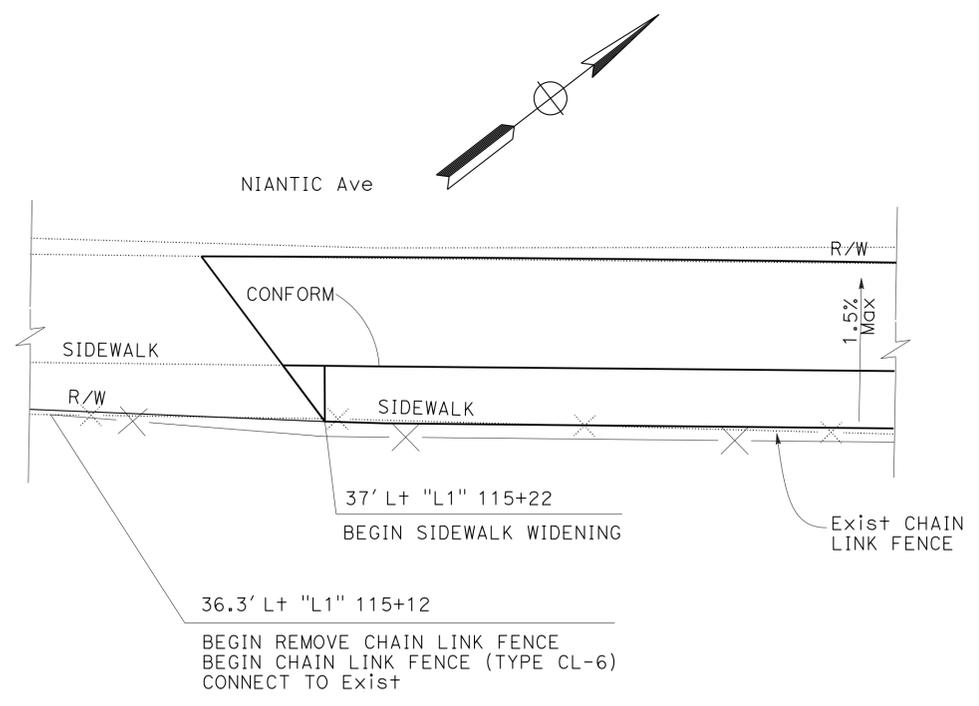
1. FOR ACCURATE RIGHT OF WAY, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
2. FOR ADDITIONAL CURB RAMP DETAILS, SEE REVISED STANDARD PLAN RSP A88A.
3. MATCH EXISTING, NOT TO EXCEED SLOPE SHOWN.
4. MATCH LIMITS OF EXISTING CURB RAMP.
5. FOR EXISTING UTILITIES FACILITIES, SEE SHEET U-1.
6. FOR LIMITS OF SIDEWALK CONSTRUCTION AND CHAIN LINK FENCE REMOVAL AND CONSTRUCTION, SEE SHEET L-1.

LEGEND:

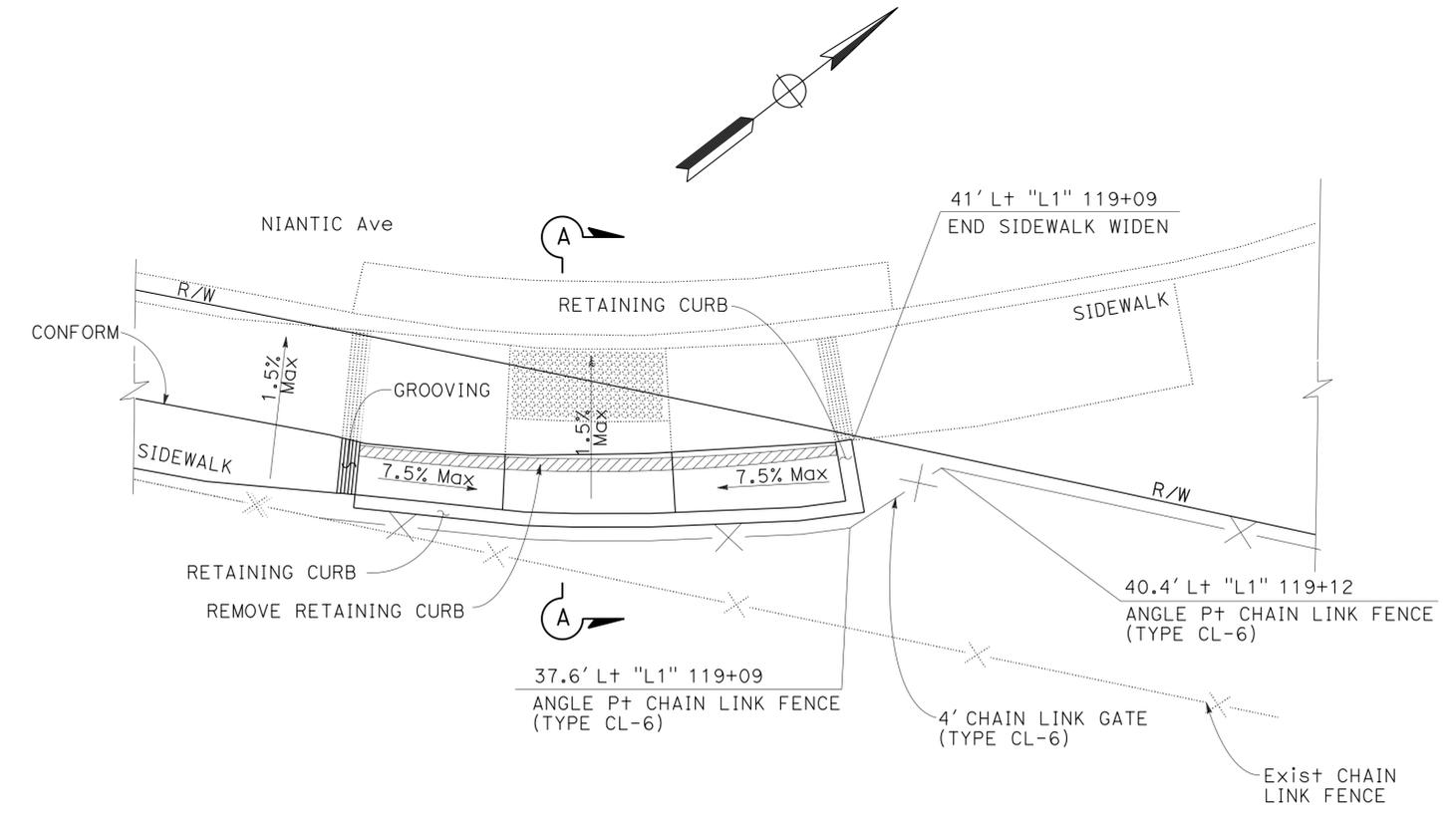
 REMOVE CONCRETE



SECTION A-A



DETAIL 1



DETAIL 2

CONSTRUCTION DETAILS
NO SCALE

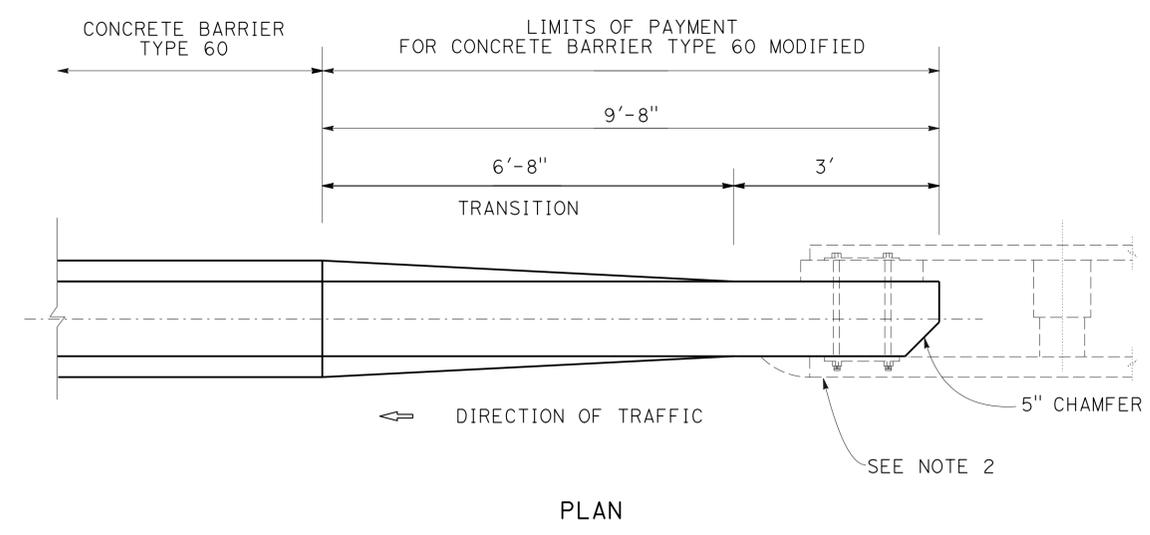
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION DESIGN
 SON LY
 WIN MAUNG
 SL
 6/11/15
 REVISOR BY DATE
 CALCULATED/DESIGNED BY CHECKED BY
 PATRICK NG
 FUNCTIONAL SUPERVISOR
 06-11-15 TIME PLOTTED => 13:11

06-11-15 TIME PLOTTED => 13:11

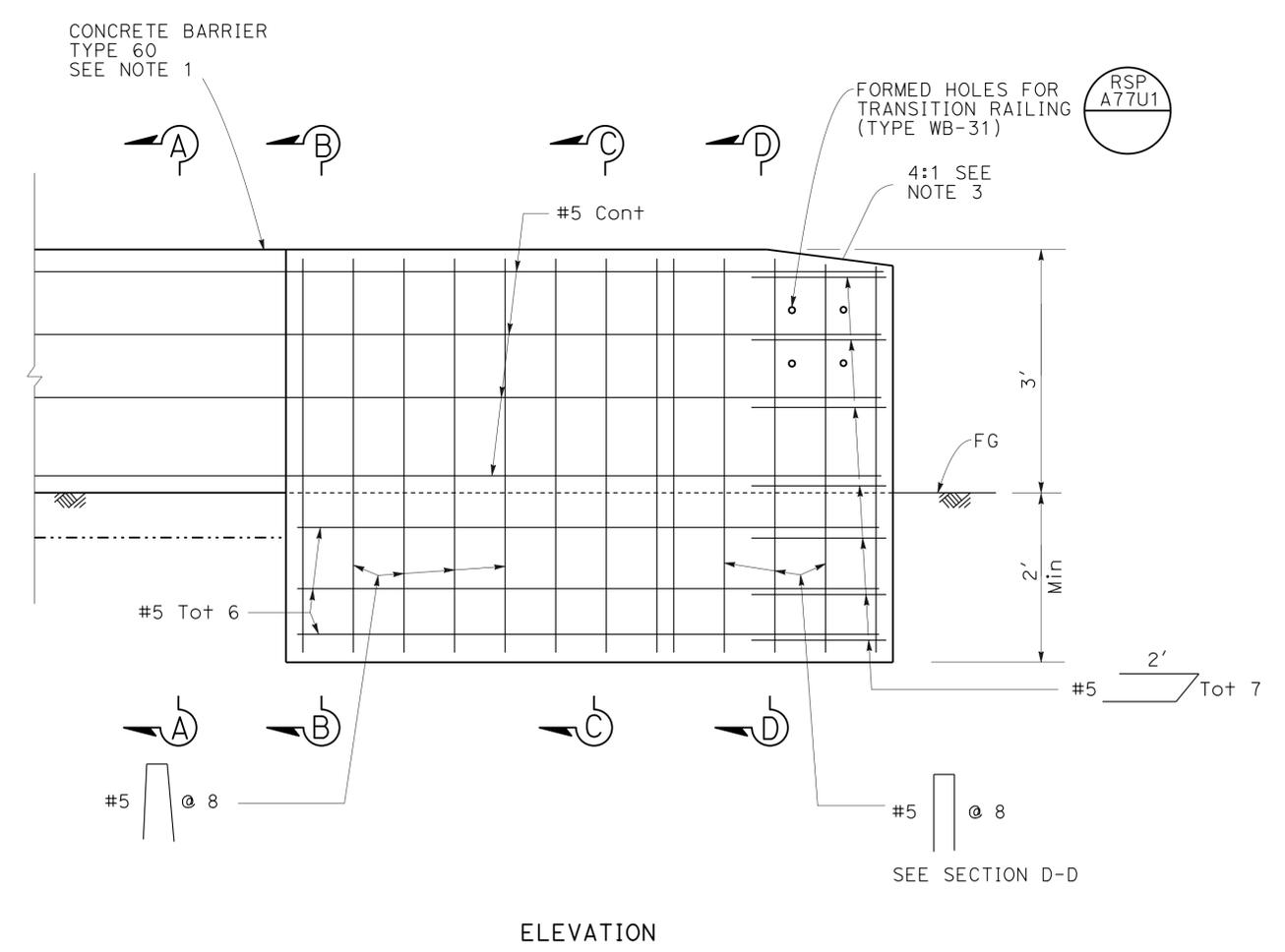
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SF	280	RO.1, R1.5	9	77
Son Thanh Ly REGISTERED CIVIL ENGINEER			5/8/15	DATE	
6-15-15 PLANS APPROVAL DATE					
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.					
REGISTERED PROFESSIONAL ENGINEER Son Thanh Ly No. 72584 Exp. 6-30-16 CIVIL STATE OF CALIFORNIA					

NOTES:

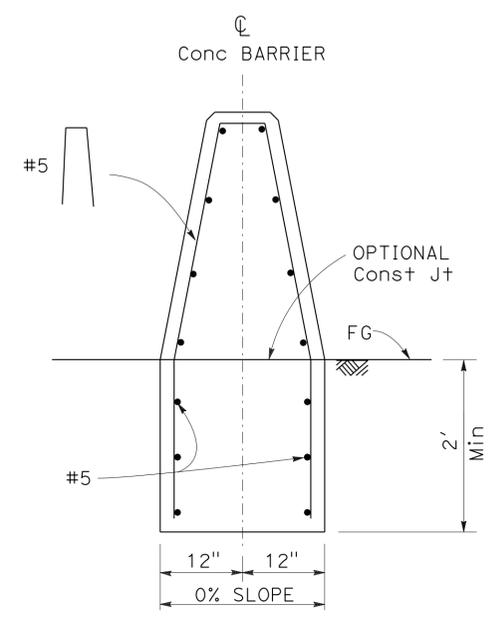
- FOR DETAILS NOT SHOWN, SEE STANDARD PLAN A76A.
- FOR TYPICAL METAL RAILING CONNECTION DETAILS NOT SHOWN, SEE REVISED STANDARD PLAN RSP A77U1.
- TAPER THE TOP OF THE END OF THE RAILING AT 4:1 TO MATCH THE TOP ELEVATION OF THE METAL RAILING ELEMENT.



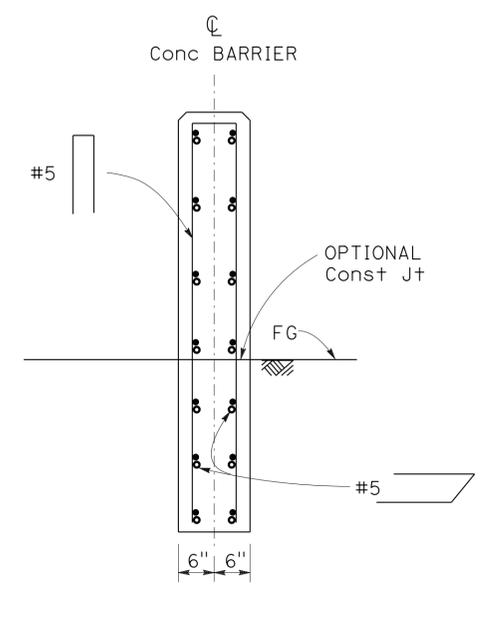
PLAN



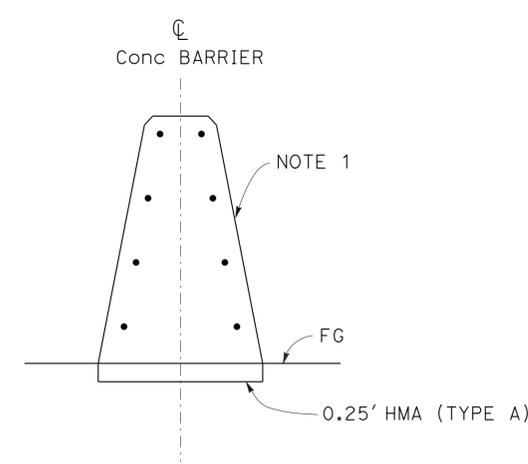
ELEVATION



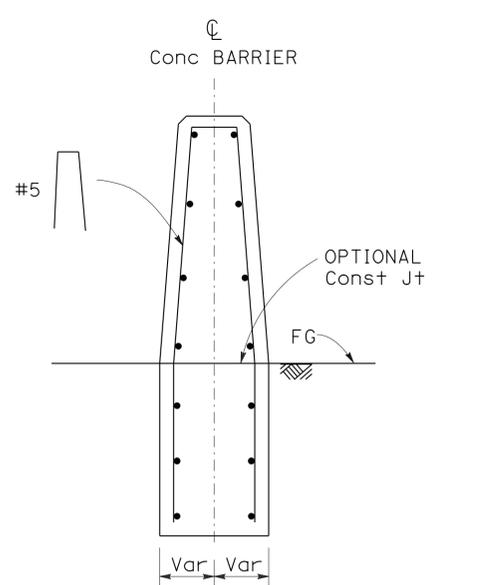
SECTION B-B



SECTION D-D



SECTION A-A



SECTION C-C

**CONSTRUCTION DETAILS
CONCRETE BARRIER TRANSITION
CONNECTION TO TYPE WB-31**

NO SCALE

C-4

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 DESIGN
 FUNCTIONAL SUPERVISOR: PATRICK NG
 CALCULATED/DESIGNED BY: SON LY
 CHECKED BY: WIN MAUNG
 REVISED BY: SL
 DATE REVISED: 6/10/15
 USERNAME => s123043
 DGN FILE => 0413000300ga004.dgn

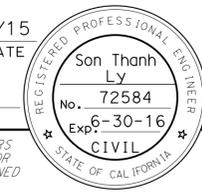


UNIT 0707

PROJECT NUMBER & PHASE

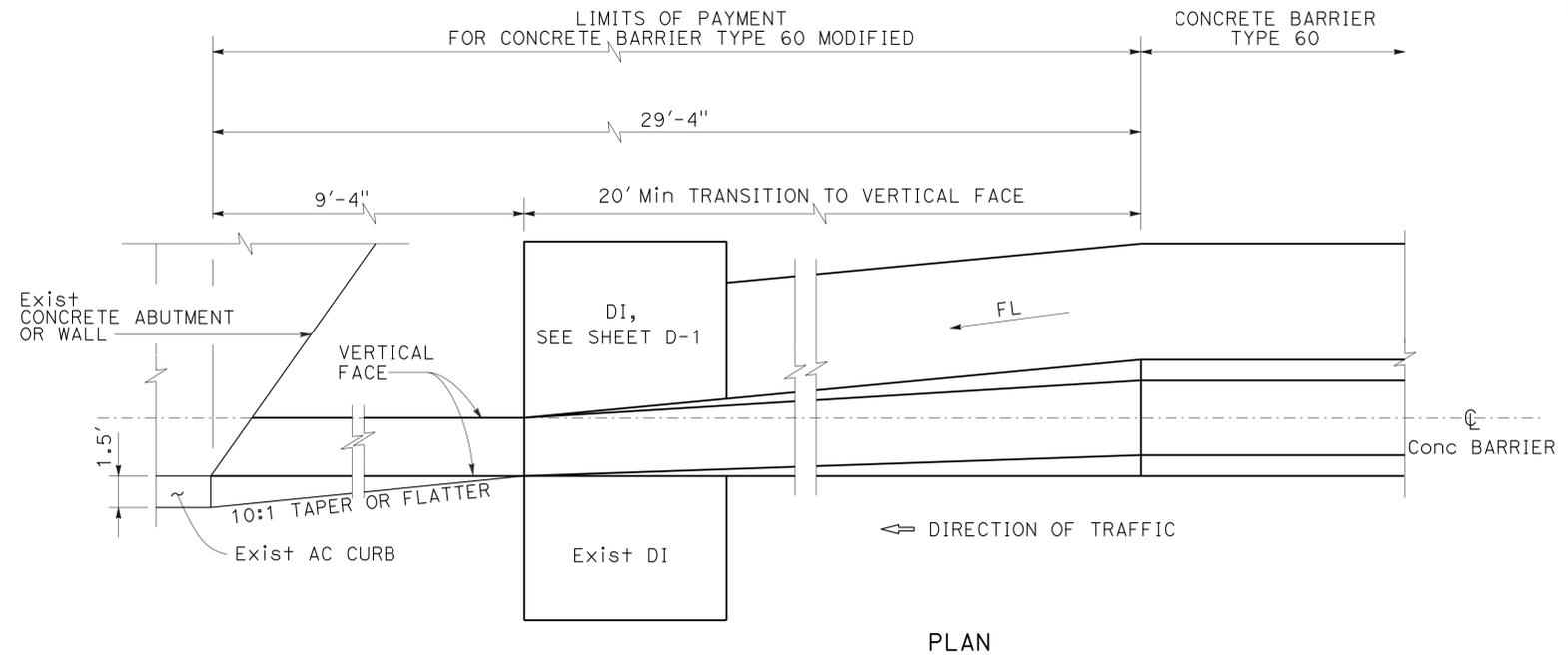
04130003001

LAST REVISION DATE PLOTTED => 10-JUL-2015
 06-10-15 TIME PLOTTED => 13:11

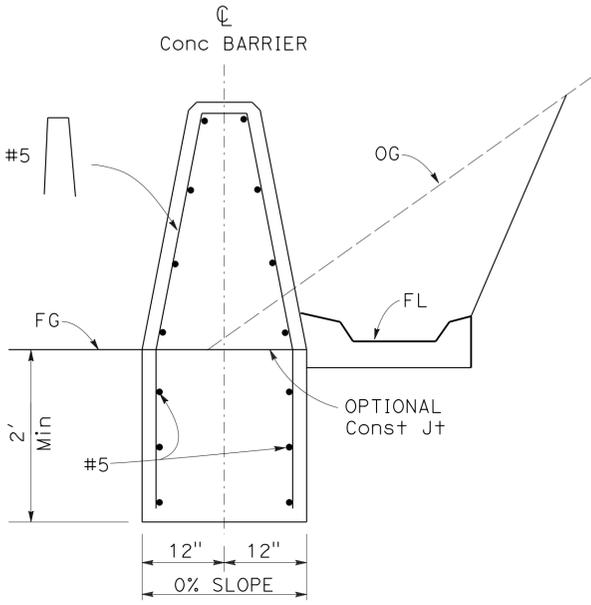
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SF	280	RO.1, R1.5	10	77
 REGISTERED CIVIL ENGINEER DATE 5/8/15					
PLANS APPROVAL DATE 6-15-15					
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					

NOTES:

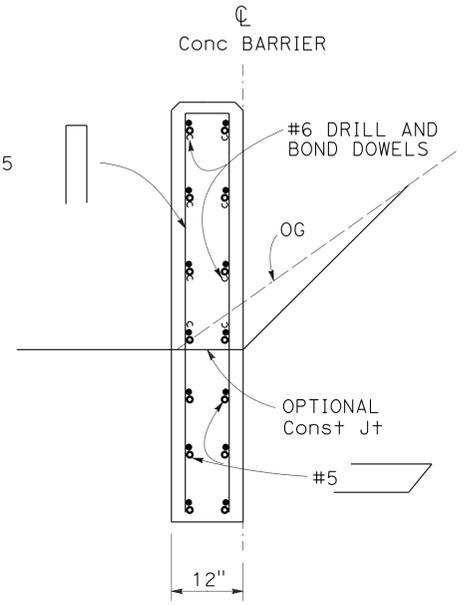
- FOR DETAILS NOT SHOWN, SEE STANDARD PLAN A76A.
- FOR CONCRETE BARRIER ANCHOR BLOCK DETAILS NOT SHOWN, SEE REVISED STANDARD PLAN RSP A77U3.
- DRAINAGE AND INLET NOT SHOWN FOR CLARITY, SEE DRAINAGE SHEET.



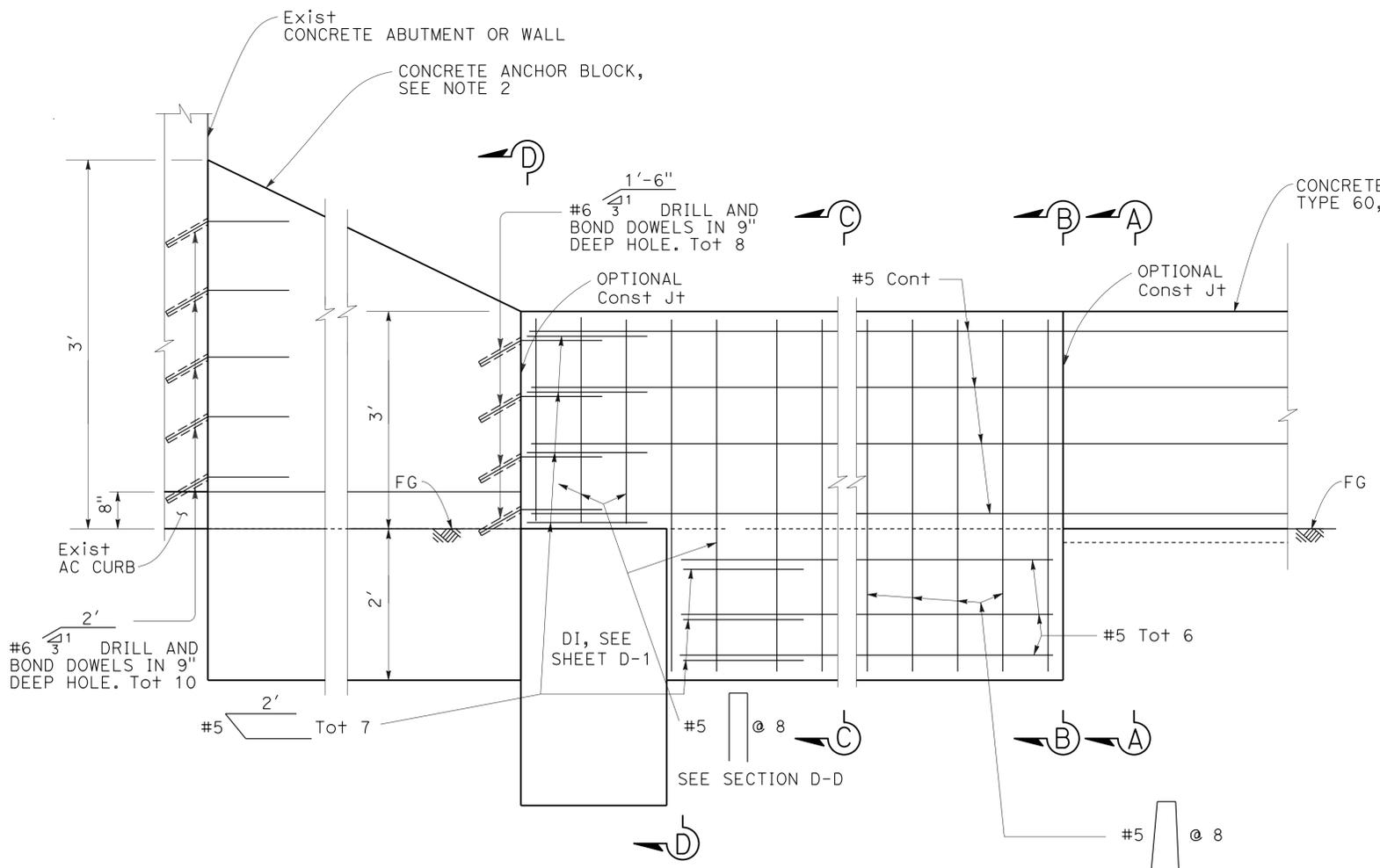
PLAN



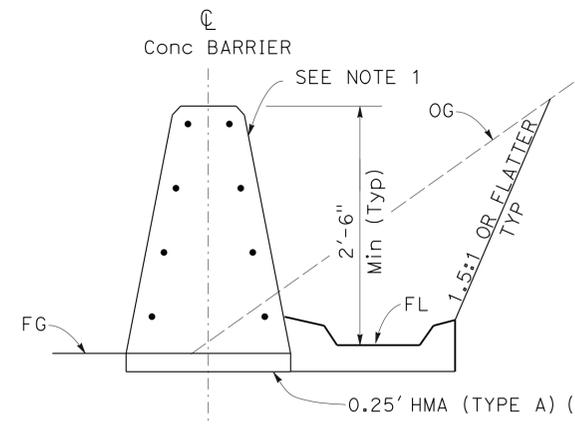
SECTION B-B



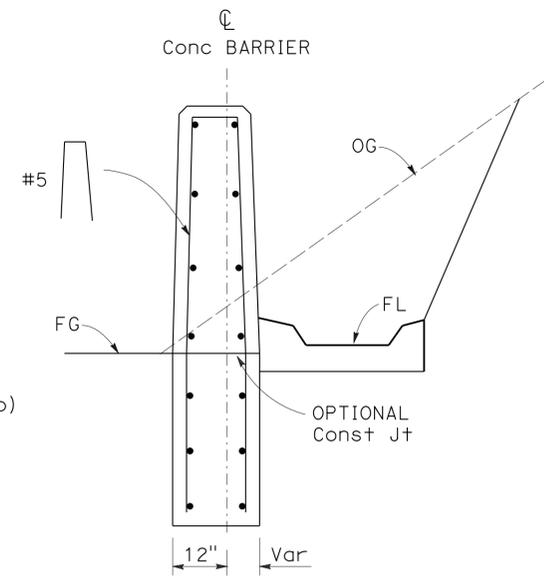
SECTION D-D



ELEVATION



SECTION A-A



SECTION C-C

* NOT ALL REINFORCEMENT SHOWN

**CONSTRUCTION DETAILS
CONCRETE BARRIER TRANSITION**

NO SCALE

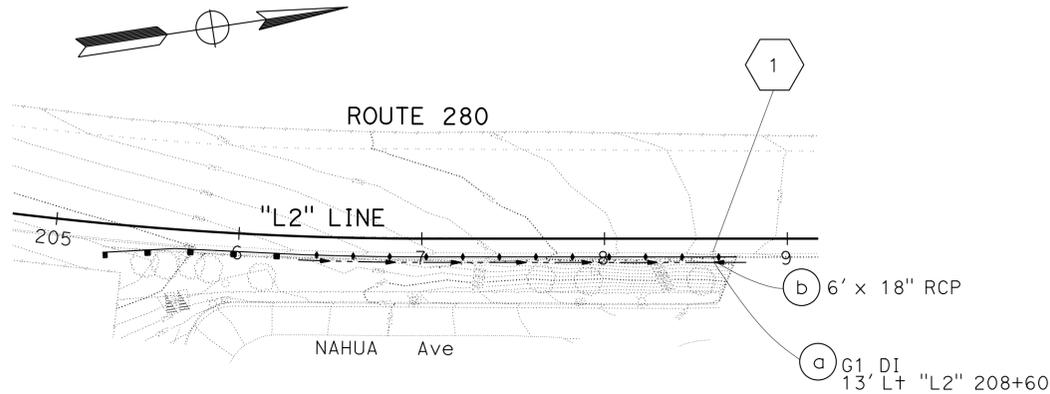
C-5

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 DESIGN
 FUNCTIONAL SUPERVISOR: PATRICK NG
 SON LY
 WIN MAUNG
 REVISOR: SL
 DATE: 6/11/15

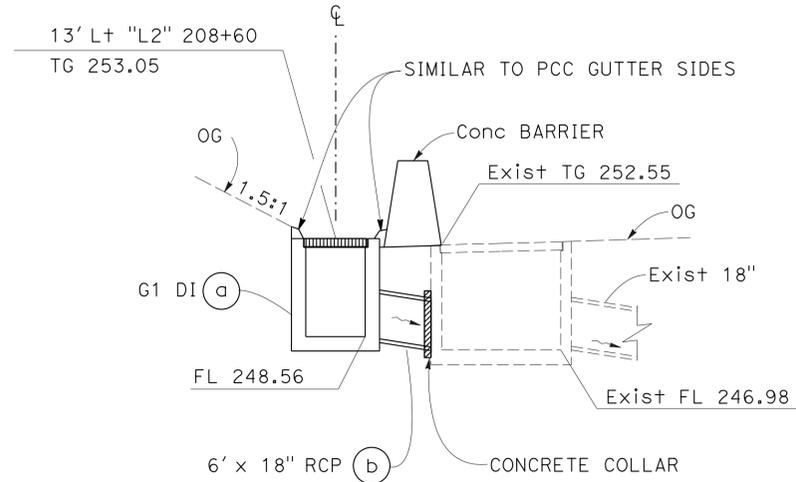
LAST REVISION DATE PLOTTED => 10-JUL-2015
 06-12-15 TIME PLOTTED => 13:11

NOTES:

- EXISTING DRAINAGE LOCATIONS ARE APPROXIMATE. VERIFY LOCATION AND ELEVATION BEFORE MODIFYING EXISTING DRAINAGE FACILITIES.
- CONTRACTOR TO VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE OPENING OR FABRICATING ANY MATERIAL.
- FOR GUTTER LIMITS, SEE SHEET L-2.



PLAN



NOTE:

- SEE G1 INLET STANDARD PLAN D73 FOR DETAILS NOT SHOWN.

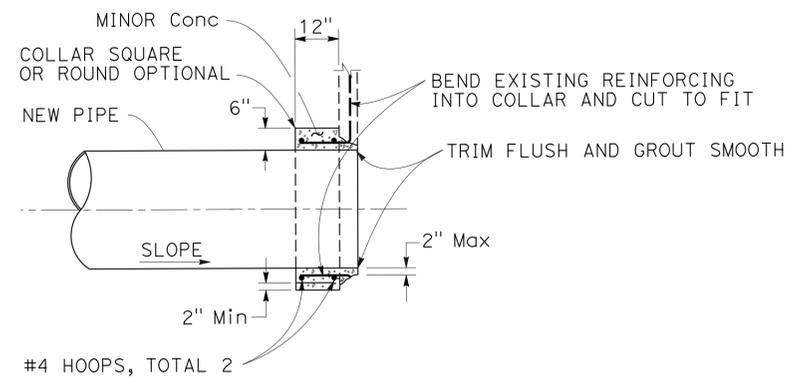
LINED GUTTER TRANSITION TO TYPE G1 INLET



DRAINAGE QUANTITIES

DRAINAGE SHEET No.	DRAINAGE SYSTEM No.	DRAINAGE UNIT	DESCRIPTION							STATION	DRAINAGE SYSTEM No.	DRAINAGE UNIT	
			18" REINFORCED CONCRETE PIPE	Misc IRON AND STEEL	24 x 9 FRAME AND GRATE (N)	MINOR CONCRETE (MINOR STRUCTURE)	CONCRETE COLLAR (N)	PIPE JOINT CLASSIFICATION	MAXIMUM COVER (N)				HEIGHT OF INLET (N)
D-1	1	a	263	1	1.4	1	S	3	5	G1 DI	13' Lt 'L2' 208+60	1	a
		b								18" RCP			b
SHEET TOTAL			6	263	1	1.4	1			SHEET TOTAL			

(N) - NOT A SEPARATE PAY ITEM, FOR INFORMATION ONLY
 S - STANDARD



NOTES:

- CUT REINFORCEMENT ON ALTERNATE SIDES AND BEND INTO COLLAR.
- IF THERE ARE NO EXISTING REINFORCING BARS, THEN USE 6 #4 DOWELS, SPACED EVENLY AROUND NEW PIPE, AND DRILL AND GROUT INTO EXISTING INLET WALLS 6".

PIPE CONNECTION TO EXISTING INLET

DRAINAGE PLAN, DETAILS AND QUANTITIES
 NO SCALE

D-1

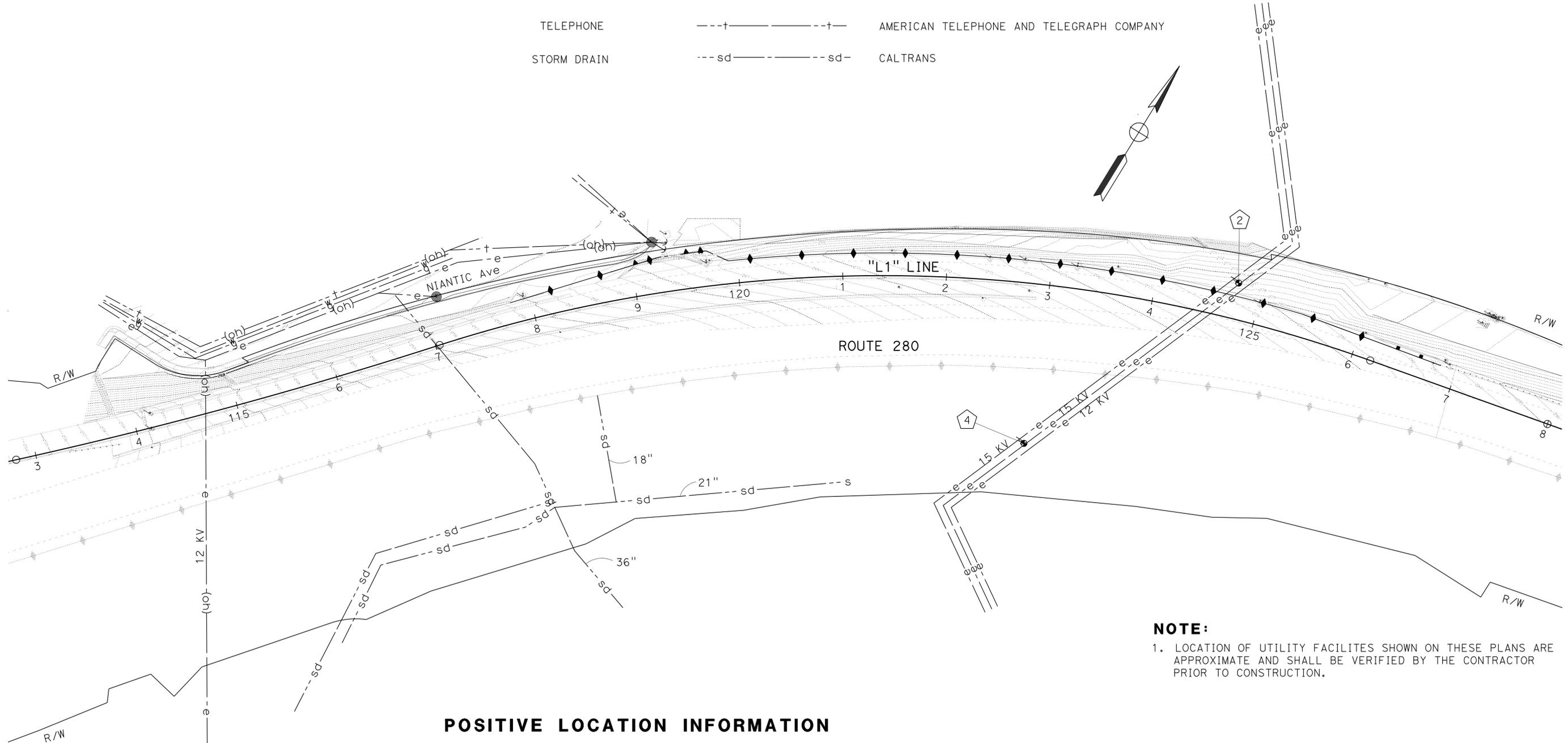
APPROVED FOR DRAINAGE WORK ONLY

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SF	280	RO.1, R1.5	12	77
			5/13/15		
REGISTERED CIVIL ENGINEER			DATE		
6-15-15			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>					

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

LEGEND:

DESCRIPTION	EXISTING UTILITIES	OWNERSHIP
WATER	— w ———— w —	CITY AND COUNTY OF SAN FRANCISCO WATER DEPARTMENT
ELECTRIC	— -e ———— -e —	PACIFIC GAS AND ELECTRIC COMPANY
GAS	— -g ———— -g —	PACIFIC GAS AND ELECTRIC COMPANY
TELEPHONE	— -t ———— -t —	AMERICAN TELEPHONE AND TELEGRAPH COMPANY
STORM DRAIN	--- sd ———— sd ---	CALTRANS



NOTE:
1. LOCATION OF UTILITY FACILITIES SHOWN ON THESE PLANS ARE APPROXIMATE AND SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.

POSITIVE LOCATION INFORMATION

SHEET	UTILITY OWNER	FACILITY	NORTHING	EASTING	OG ELEVATION	DEPTH	METHOD
					ft		
U-1	PG&E	2	2087084	5992956		5.00	POTHOLING
	PG&E	4	2086844	5992861	263.98	12.25	ELECTRONIC DETECTION

APPROVED FOR UTILITY WORK ONLY

UTILITY PLAN
SCALE: 1" = 50'

U-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION DESIGN
 CHW 6/11/15
 C. HONG WONG SON LY
 BOB ZANDI FOUR
 USERNAME => s123043
 DGN FILE => 0413000300ka001.dgn
 BORDER LAST REVISED 7/2/2010
 RELATIVE BORDER SCALE 15 IN INCHES
 UNIT 0707
 PROJECT NUMBER & PHASE 04130003001

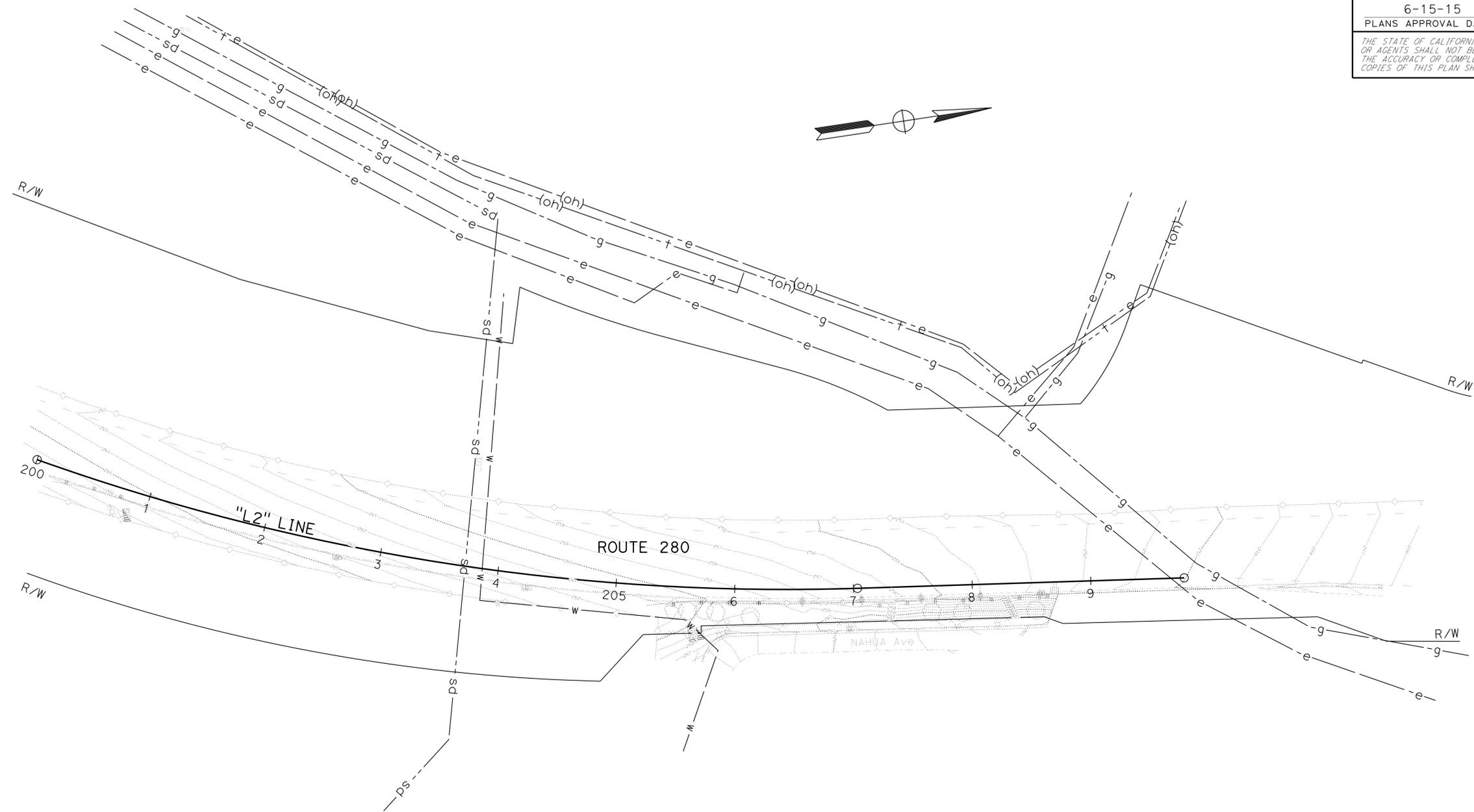
LAST REVISION DATE PLOTTED => 10-JUL-2015
 06-11-15 TIME PLOTTED => 13:11

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SF	280	RO.1, R1.5	13	77

W. J. Wong 5/13/15
 REGISTERED CIVIL ENGINEER DATE
 6-15-15
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 Cheuk Hong Wong
 No. 60145
 Exp. 6-30-16
 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.



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED/DESIGNED BY	REVISOR	DATE
Caltrans	BOB ZANDI/FOUR	CHEKED BY	SON LY	6/11/15
DESIGN				

THIS PLAN TO BE USED FOR UTILITY INFORMATION ONLY

FOR NOTES AND LEGEND, SEE SHEET U-1

UTILITY PLAN
SCALE: 1" = 50'

U-2

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SF	280	RO.1, R1.5	14	77

<i>Jeryl L. Struven</i>	5/12/15
REGISTERED CIVIL ENGINEER	DATE
6-15-15	
PLANS APPROVAL DATE	

REGISTERED PROFESSIONAL ENGINEER
Jeryl L. Struven
No. 49964
Exp. 2-31-16
CIVIL

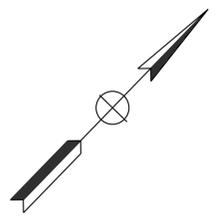
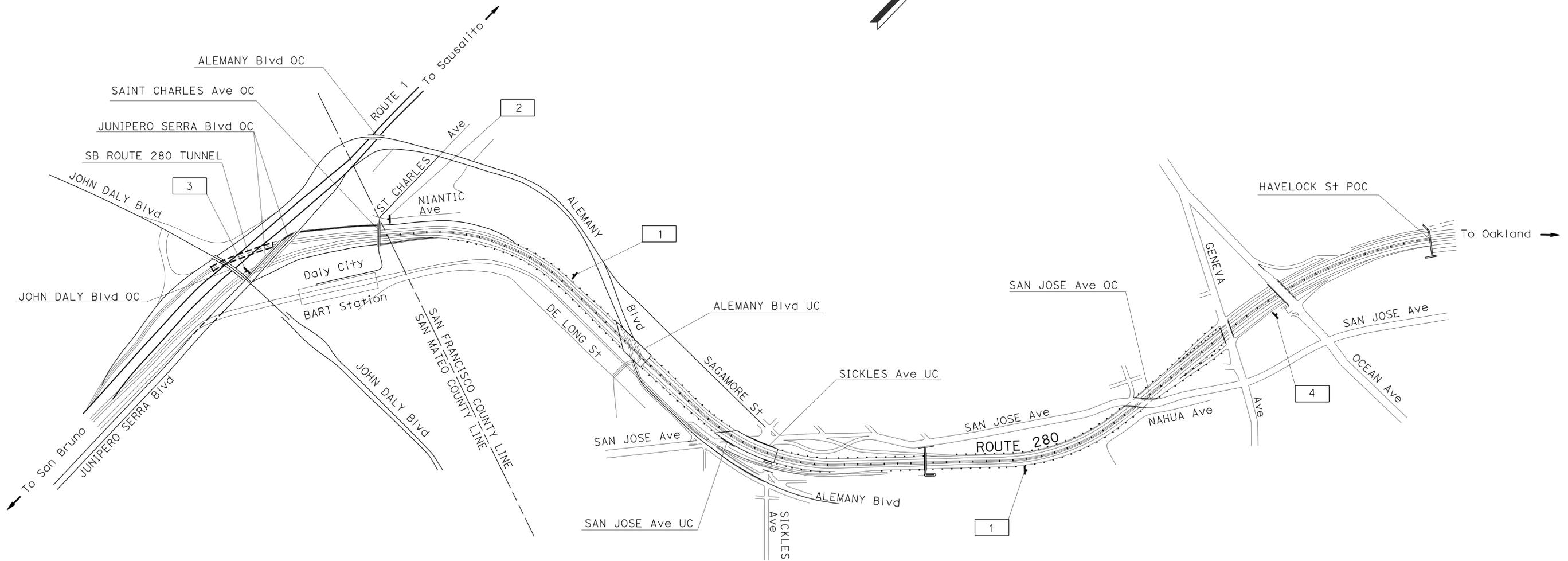
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NOTES:

1. LOCATION OF CONSTRUCTION AREA SIGNS ARE APPROXIMATE. EXACT LOCATION WILL BE DETERMINED BY THE ENGINEER.
2. CONSTRUCTION AREA SIGNS ARE STATIONARY MOUNTED.
3. EXACT SIZE AND LENGTH OF WOOD POSTS TO BE DETERMINED BY THE ENGINEER.

LEGEND:

- No. CONSTRUCTION AREA SIGN NUMBER
- (S) DENOTES STATIONARY MOUNTED SIGNS
- X PROJECT AREA CLOSED TO TRAFFIC



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 FUNCTIONAL SUPERVISOR: ROLAND AU-YEUNG
 CALCULATED/DESIGNED BY: [blank] CHECKED BY: [blank]
 ULICES VEGA SON LY
 REVISOR: UV DATE: 6/11/15
 TRAFFIC

CONSTRUCTION AREA SIGNS
NO SCALE

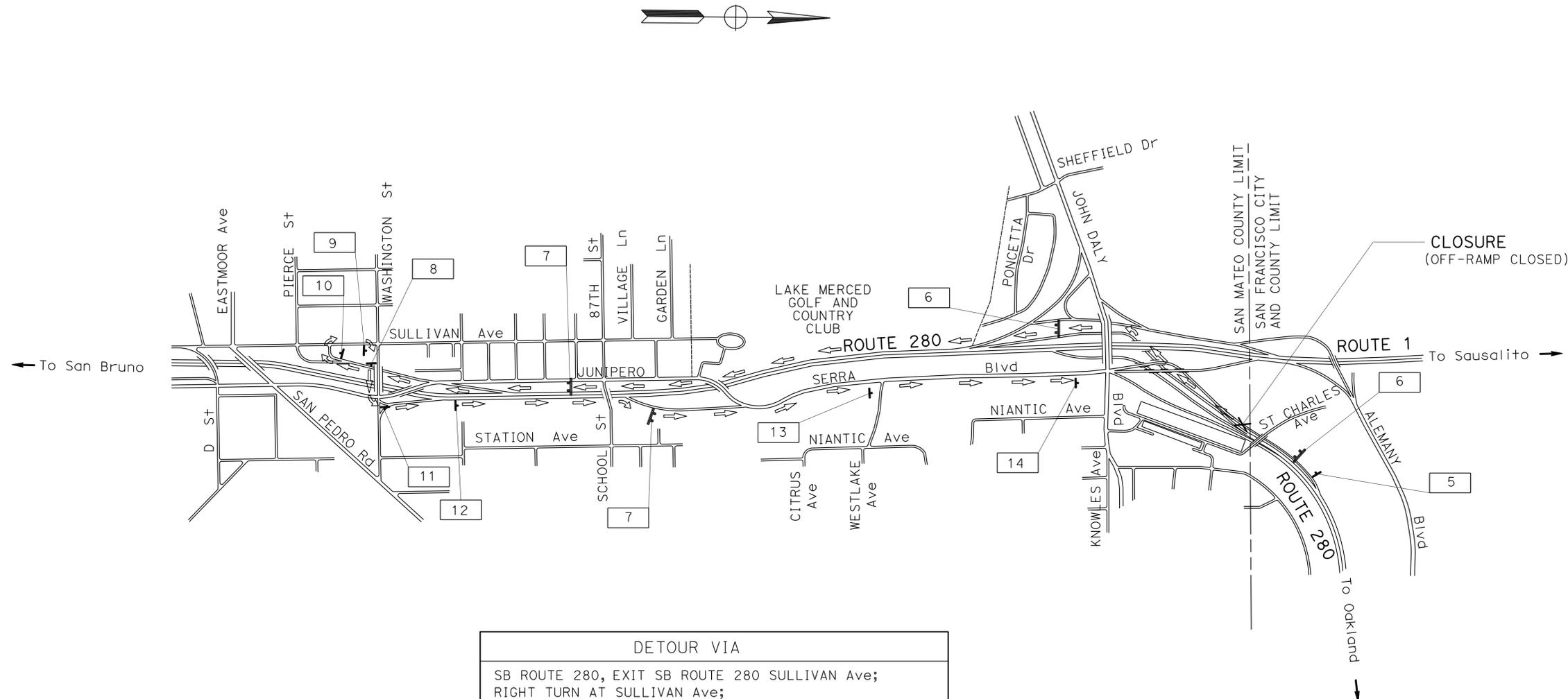
APPROVED FOR CONSTRUCTION AREA SIGN WORK ONLY

CS-1

LAST REVISION | DATE PLOTTED => 10-JUL-2015
 06-11-15 TIME PLOTTED => 13:12

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SF	280	R0.1, R1.5	15	77
<i>Jerilyn L. Struven</i> 5/12/15 REGISTERED CIVIL ENGINEER DATE			No. 49964 Exp. 2-31-16 CIVIL		
6-15-15 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>					

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED/DESIGNED BY	REVISOR	DATE
Caltrans	ROLAND AU-YEUNG	ULICES VEGA	UV	6/11/15
TRAFFIC	CHECKED BY	SON LY	DATE REVISED	



DETOUR VIA

SB ROUTE 280, EXIT SB ROUTE 280 SULLIVAN Ave;
 RIGHT TURN AT SULLIVAN Ave;
 RIGHT TURN AT WASHINGTON St;
 LEFT TURN ONTO NB ROUTE 280 WASHINGTON St ON-RAMP;
 NB ROUTE 280, EXIT NB JUNIPERO SERRA Blvd OFF-RAMP;
 NB JUNIPERO SERRA Blvd, ARRIVE AT JOHN DALY Blvd

DETOUR PLAN No. 1
 SB ROUTE 280 TO JOHN DALY BOULEVARD

CONSTRUCTION AREA SIGNS
 NO SCALE

APPROVED FOR CONSTRUCTION AREA SIGN WORK ONLY

FOR NOTES AND LEGEND,
 SEE SHEET CS-1

CS-2

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SF	280	RO.1, R1.5	16	77

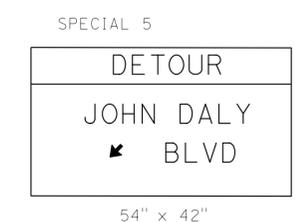
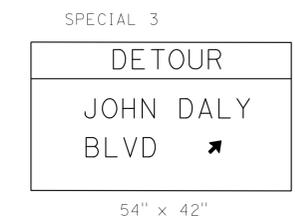
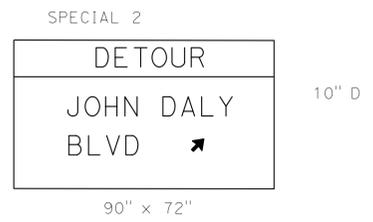
Jerilyn L. Struven 5/12/15
 REGISTERED CIVIL ENGINEER DATE
 6-15-15
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 Jerilyn L. Struven
 No. 49964
 Exp. 2-31-16
 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.

CONSTRUCTION AREA SIGNS

SIGN No.	MUTCD CODE	PANEL SIZE	MESSAGE	No. OF SIGNS	POST SIZE	REMARKS
				EA		
1	W20-1	48" x 48"	ROAD WORK AHEAD	2	1 - 6" x 6"	
2	W20-1	36" x 36"	ROAD WORK AHEAD	1	1 - 4" x 6"	
3	G20-2	36" x 18"	END ROAD WORK	1		SSBM
4	G20-2	36" x 18"	END ROAD WORK	1	1 - 4" x 4"	
5	SC6-4 (CA)	48" x 60"	RAMP CLOSED (DATES) (TIMES)	1	1 - 6" x 6"	
6	SPEC 1	90" x 78"	DETOUR JOHN DALY BLVD NEXT EXIT	2	2 - 6" x 6"	
7	SPEC 2	90" x 72"	DETOUR JOHN DALY BLVD ↗	2	2 - 6" x 6"	
8	SPEC 3	54" x 42"	DETOUR JOHN DALY BLVD ↗	1	1 - 6" x 6"	
9	M4-10R	48" x 18"	DETOUR	1	1 - 4" x 6"	
	SPEC 4	48" x 24"	JOHN DALY BLVD			
10	M4-10L	48" x 18"	DETOUR	1	1 - 4" x 6"	
	SPEC 4	48" x 24"	JOHN DALY BLVD			
11	SPEC 5	54" x 42"	DETOUR JOHN DALY BLVD ↙	1	1 - 6" x 6"	
12	SPEC 6	54" x 48"	DETOUR JOHN DALY BLVD NEXT EXIT	1	1 - 6" x 6"	
13	SC3 (CA)	48" x 18"	DETOUR	1	1 - 4" x 6"	
	SPEC 4	48" x 24"	JOHN DALY BLVD			
14	M4-8a	30" x 15"	END DETOUR	1	1 - 4" x 4"	



CONSTRUCTION AREA SIGNS

NO SCALE

APPROVED FOR CONSTRUCTION AREA SIGN WORK ONLY

CS-3

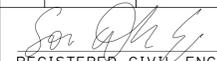
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN

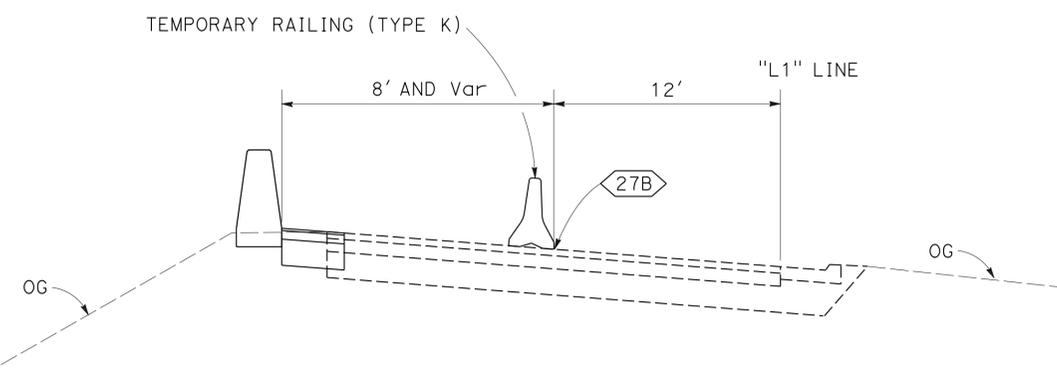
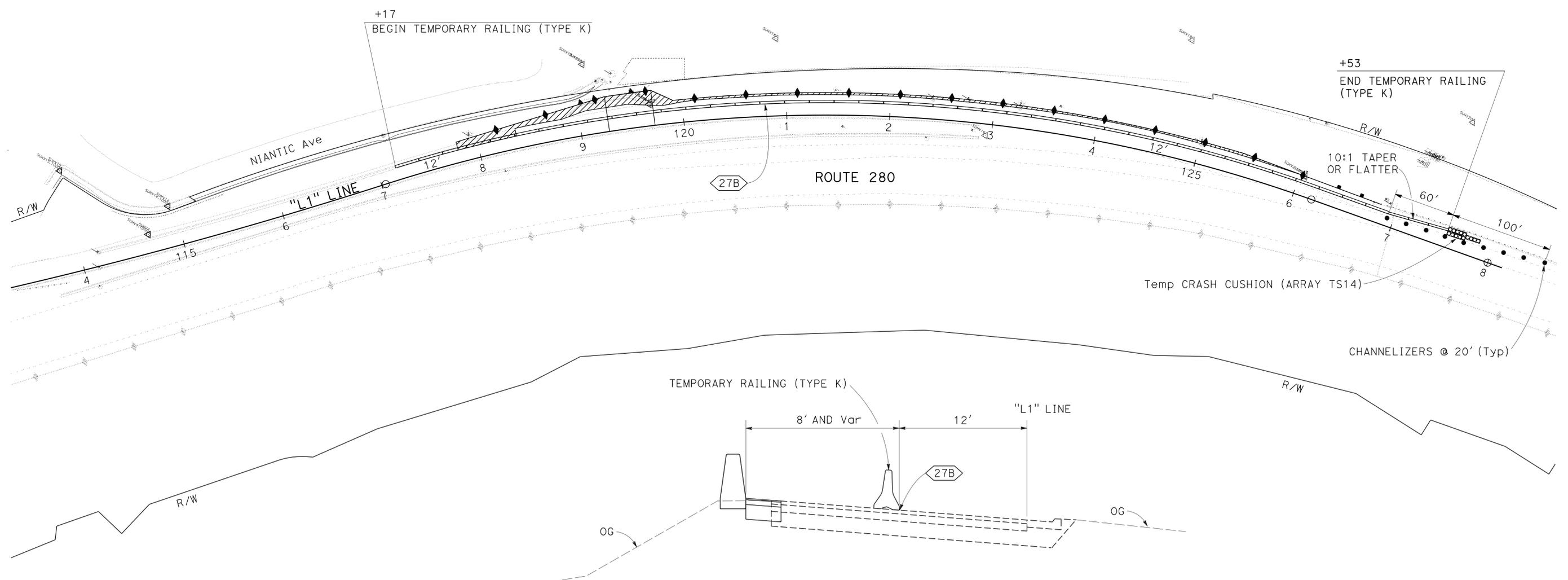
FUNCTIONAL SUPERVISOR: PATRICK NG
 CALCULATED/DESIGNED BY: [Blank]
 CHECKED BY: [Blank]
 SON LY: WIN MAUNG
 REVISED BY: [Blank]
 DATE REVISED: 6/11/15
 SL: [Blank]

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

LEGEND:

-  ROADWAY WIDENING
-  TEMPORARY TRAFFIC STRIPE DETAIL NUMBER
-  CHANNELIZERS (SURFACE MOUNTED)

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SF	280	RO.1, R1.5	17	77
 REGISTERED CIVIL ENGINEER			5/8/15	DATE	
PLANS APPROVAL DATE			6-15-15		
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 SECTION
 NO SCALE

TRAFFIC HANDLING PLAN

SCALE: 1" = 50'

APPROVED FOR TRAFFIC HANDLING WORK ONLY

TH-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN

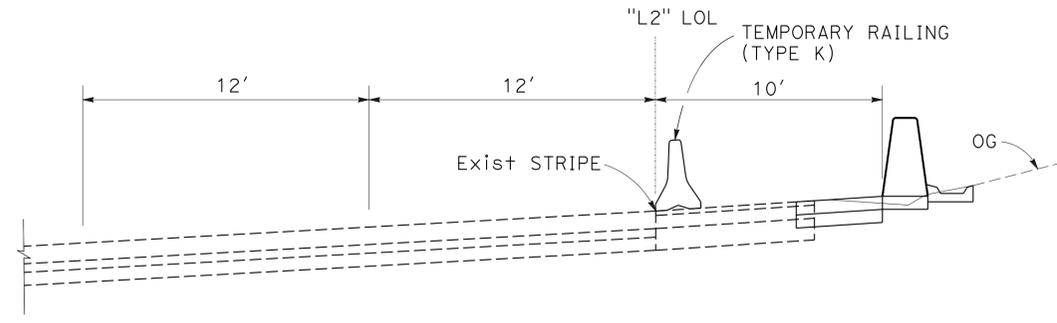
FUNCTIONAL SUPERVISOR	PATRICK NG
CALCULATED/DESIGNED BY	CHECKED BY
SON LY	WIN MAUNG
REVISOR	DATE
SL	6/11/15

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

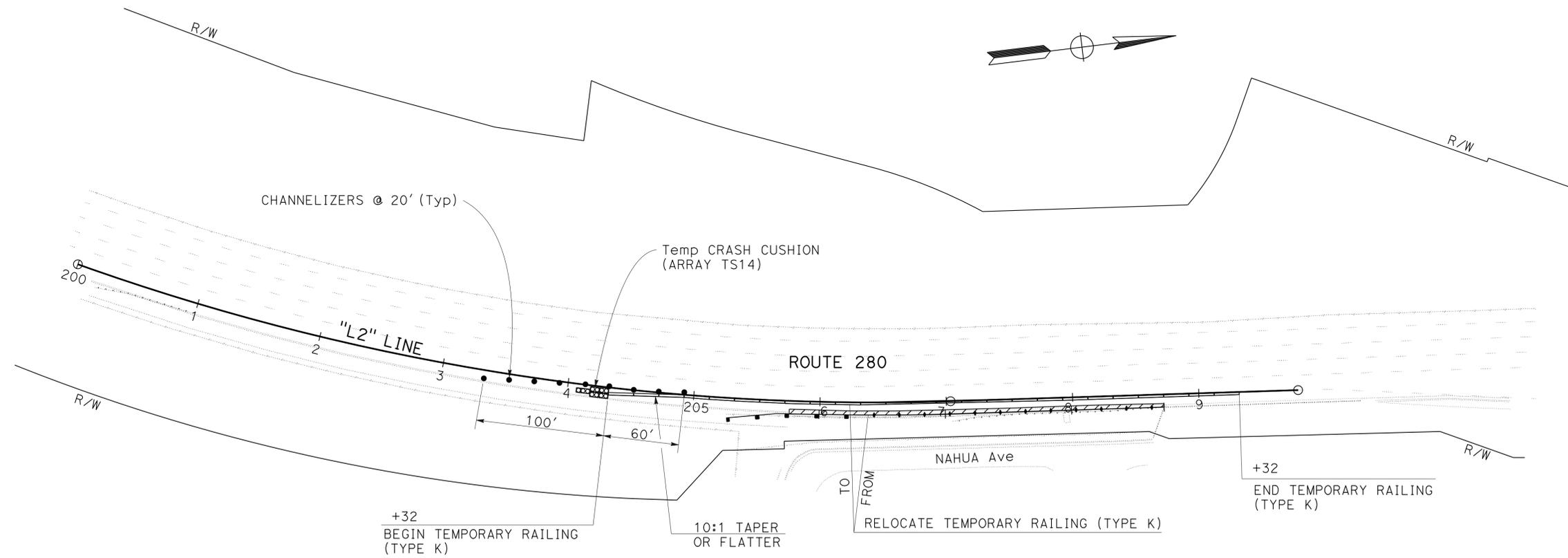
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SF	280	RO.1, R1.5	18	77

REGISTERED CIVIL ENGINEER: *Son Thanh Ly*
 DATE: 5/8/15
 PLANS APPROVAL DATE: 6-15-15
 No. 72584
 Exp. 6-30-16
 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.



TYPICAL SECTION
 NO SCALE



TRAFFIC HANDLING PLAN
 SCALE: 1" = 50'

APPROVED FOR TRAFFIC HANDLING WORK ONLY

FOR NOTES AND LEGEND, SEE SHEET TH-1

TH-2

LAST REVISION | DATE PLOTTED => 10-JUL-2015
 06-11-15 | TIME PLOTTED => 13:12

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SF	280	R1.0, R1.5	19	77

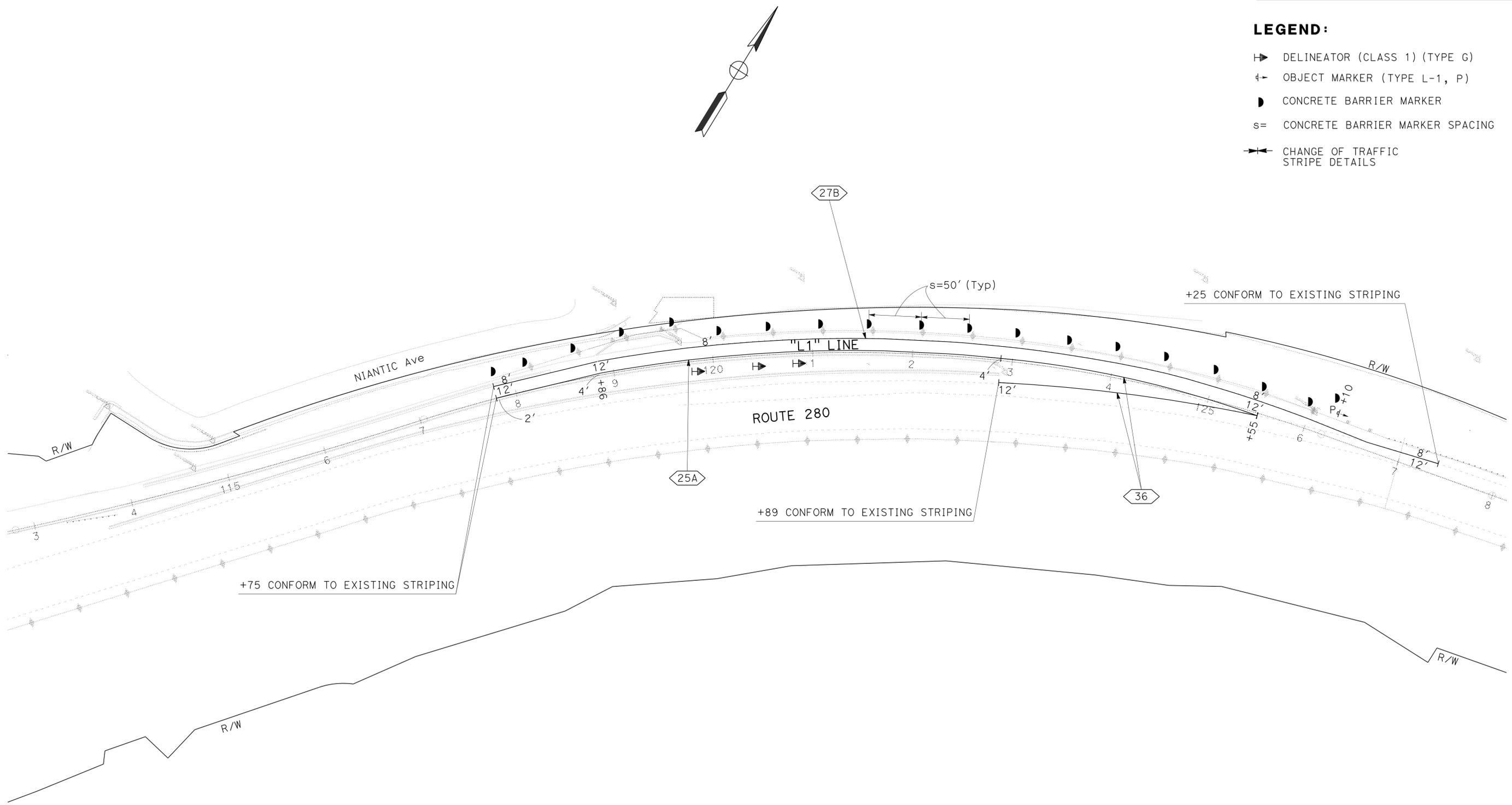
<i>Dai N. Tieu</i>	5/12/15
REGISTERED CIVIL ENGINEER	DATE
6-15-15	
PLANS APPROVAL DATE	

REGISTERED PROFESSIONAL ENGINEER
Dai N. Tieu
No. 61953
Exp. 9-30-15
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:
FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

- LEGEND:**
- ▬ DELINEATOR (CLASS 1) (TYPE G)
 - ⊕ OBJECT MARKER (TYPE L-1, P)
 - ▬ CONCRETE BARRIER MARKER
 - s= CONCRETE BARRIER MARKER SPACING
 - ↔ CHANGE OF TRAFFIC STRIPE DETAILS



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED/DESIGNED BY	SON LY	REVISOR BY	SL
Caltrans	RAMIEL GUTIERREZ	CHECKED BY	DAI TIEU	DATE REVISED	6/11/15
TRAFFIC					

PAVEMENT DELINEATION PLAN
SCALE: 1" = 50'

APPROVED FOR PAVEMENT DELINEATION WORK ONLY

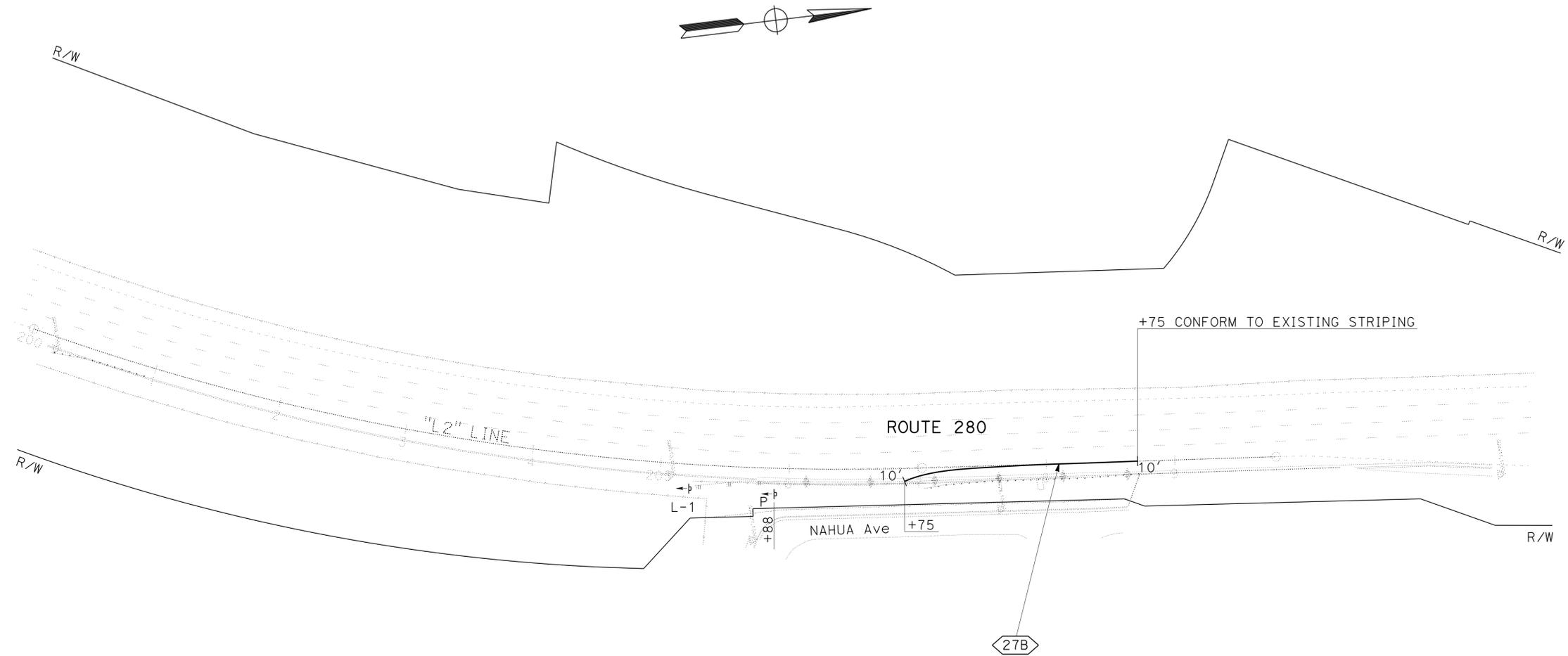
PD-1

LAST REVISION | DATE PLOTTED => 10-JUL-2015
06-11-15 | TIME PLOTTED => 13:12

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED/DESIGNED BY	SON LY	REVISED BY	SL
Caltrans	RAMIEL GUTIERREZ	CHECKED BY	DAI TIEU	DATE REVISED	6/11/15
TRAFFIC					

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

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SF	280	R0.1, R1.5	20	77
Dai N. Tieu			5/12/15		
REGISTERED CIVIL ENGINEER			DATE		
6-15-15					
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.					

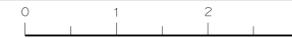


PAVEMENT DELINEATION PLAN
SCALE: 1" = 50'

APPROVED FOR PAVEMENT DELINEATION WORK ONLY

FOR NOTES AND LEGEND,
SEE SHEET PD-1

PD-2



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SF	280	RO.1, R1.5	21	77

Son Thanh Ly
 REGISTERED CIVIL ENGINEER DATE 5/8/15
 6-15-15
 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.

TRAFFIC STRIPES AND PAVEMENT MARKERS

SHEET No.	STATION	DIRECTION	DETAIL No.	THERMOPLASTIC TRAFFIC STRIPE			PAVEMENT MARKER (RETROREFLECTIVE)		REMOVE YELLOW THERMOPLASTIC TRAFFIC STRIPE (HAZARDOUS WASTE)	REMOVE WHITE THERMOPLASTIC TRAFFIC STRIPE	REMOVE PAVEMENT MARKER	DELINEATOR (CLASS 1)	OBJECT MARKER	
				4" WHITE	4" YELLOW	8" WHITE	TYPE G	TYPE H					TYPE G	TYPE P
				LF			EA					LF	EA	EA
PD-1	"L1" 117+75 TO 122+89	SB	25A		514			22	514	22				
PD-1	"L1" 117+75 TO 127+25	SB	27B	950					950					
PD-1	"L1" 122+89 TO 125+55	SB	36			532	22		1064	22				
PD-1	"L1" 119+70 TO 120+70	SB									3			
PD-1	"L1" 126+10	SB										1		
PD-2	"L2" 206+75 TO 208+75	NB	27B	100									1	
PD-2	"L2" 205+25	NB											1	
PD-2	"L2" 205+88	NB										1		
SUBTOTAL				1050	514	532	22	22	514	2114	44	3	2	1
TOTAL				1564		532		44	514	2114	44	3	2	1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN
 FUNCTIONAL SUPERVISOR: PATRICK NG
 CALCULATED/DESIGNED BY: SON LY
 CHECKED BY: WIN MAUNG
 REVISED BY: SL
 DATE REVISED: 6/11/15

PAVEMENT DELINEATION QUANTITIES

PDQ-1

LAST REVISION DATE PLOTTED => 10-JUL-2015
 06-11-15 TIME PLOTTED => 13:12

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SF	280	RO.1, R1.5	22	77
 REGISTERED CIVIL ENGINEER DATE 5/12/15					
PLANS APPROVAL DATE 6-15-15					
<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:

1. LOCATION OF ROADSIDE SIGNS ARE APPROXIMATE. EXACT LOCATION WILL BE DETERMINED BY THE ENGINEER.
2. POST LENGTH GIVEN IS APPROXIMATE. EXACT SIZE AND LENGTH OF WOOD POSTS TO BE DETERMINED BY THE ENGINEER.

LEGEND:

- No. ROADSIDE SIGN NUMBER
- REMOVE ROADSIDE SIGN

SIGN QUANTITIES

SIGN No.	MUTCD SIGN CODE	PANEL SIZE	POST SIZE AND LENGTH 6" x 6"	ROADSIDE SIGN	REMOVE ROADSIDE SIGN	REMARKS
				ONE POST	EA	
1	W13-2				1	
2	W13-2	48" x 60"	17'-0"	1		(45)
3	W34C (CA)				1	
4	W34C (CA)	48" x 72"	18'-0"	1		(↑)
TOTAL				2	2	

MATERIAL SUMMARY

NUMBER	MUTCD SIGN CODE	SIGN SIZE	SIGN AREA	SINGLE FACED	DOUBLE FACED	BACKGROUND		LEGEND		PROTECTIVE OVERLAY		FURNISH SINGLE SHEET ALUMINUM SIGN			REMARKS
						SHEETING COLOR	RETROREFLECTIVE ASTM TYPE	SHEETING COLOR	RETROREFLECTIVE ASTM TYPE	STANDARD	PREMIUM	(0.063" UNFRAMED) FOR RETROREFLECTIVE SHEETING (TYPE XI)	(0.080" UNFRAMED) FOR RETROREFLECTIVE SHEETING (TYPE XI)	(0.134" UNFRAMED) FOR RETROREFLECTIVE SHEETING (TYPE XI)	
2	W13-2	48" x 60"	20	X		YELLOW	XI	BLACK	0		X		20	20	(45)
4	W34C (CA)	48" x 72"	24	X		YELLOW	XI	BLACK	0		X		24	24	(↑)
TOTAL													44	44	

SIGN PLAN AND QUANTITIES
CONTRACTOR FURNISHED SIGNS
 NO SCALE

APPROVED FOR SIGN WORK ONLY

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 FUNCTIONAL SUPERVISOR: ROLAND AU-YEUNG
 CALCULATED/DESIGNED BY: [Blank]
 CHECKED BY: [Blank]
 ULICES VEGA
 SON LY
 REVISED BY: SL
 DATE REVISED: 6/11/15

ROADWAY EARTHWORK AND PAVEMENT STRUCTURES

STATION LIMIT	SHEET No.	ROADWAY EXCAVATION (TYPE Z-2) (AERIALY DEPOSITED LEAD)		CLASS 2 AGGREGATE BASE (CY)	REMOVE AC DIKE AND GUTTER (N)	REMOVE RETAINING WALL (N)	HOT MIX ASPHALT (TYPE A)	PLACE HOT MIX ASPHALT (Misc AREA)
		CY	LF					
"L1" 115+22 TO 119+09	L-1	27.5	16					
"L1" 117+85 TO 126+84	L-1	259.5	34	100	55	222	420	
"L1" 205+88 TO 208+72	L-2	42		240		77	77	
TOTAL		329	50	340	55	299	497	

RETAINING WALL QUANTITIES

STATION LIMIT	SHEET No.	STRUCTURE EXCAVATION (TYPE Z-2) (AERIALY DEPOSITED LEAD)				STRUCTURE BACKFILL (RETAINING WALL)	STRUCTURAL CONCRETE, RETAINING WALL	PERVIOUS BACKFILL MATERIAL (RETAINING WALL)	BAR REINFORCING STEEL (RETAINING WALL)	FRACTURED RIB TEXTURE
		CY	LF	TON	SQYD					
"L1" 119+01.2 TO 119+85.6	R-1	102.7	110.9	59.6	6.7	6676	738			
TOTAL		102.7	110.9	59.6	6.7	6676	738			

TRAFFIC HANDLING QUANTITIES

STATION LIMIT	SHEET No.	TEMPORARY RAILING (TYPE K)	RELOCATE CONCRETE BARRIER (TYPE K)	SALVAGE CONCRETE BARRIER (TYPE K)	TEMPORARY TRAFFIC STRIPE (PAINT)	CHANNELIZER (SURFACE MOUNTED)	SALVAGE CRASH CUSHION MODULES	TEMPORARY CRASH CUSHION MODULE
"L1" 117+17 TO 127+53	TH-1	1040			1040	9		14
"L2" 204+32 TO 209+32	TH-2	500	180	180		9	11	14
TOTAL		1540	180	180	1040	18	11	28

RAILING

STATION LIMIT	SHEET No.	LAYOUT (TYPE) (N)	MIDWEST GUARDRAIL SYSTEM (WOOD POST)	TRANSITION RAILING (TYPE WB-31)	ALTERNATIVE FLARED TERMINAL SYSTEM	VEGETATION CONTROL (MINOR CONCRETE)	TREATED WOOD WASTE	REMOVE GUARDRAIL
"L1" 119+01.2 TO 119+85.6	L-1						2281	
"L1" 119+85.6 TO 126+30.9	L-1						828	
"L1" 126+30.9 TO 126+56	L-1			1		13		
"L1" 126+56 TO 126+84	L-1		28			14.6		
"L2" 205+63.4 TO 205+88.4	L-2	12B		1	1	41.8		
"L2" 207+01.2 TO 208+72.2	L-2						3021	172
TOTAL			28	2	1	69.4	6130	172

CONCRETE BARRIER

STATION LIMIT	SHEET No.	CONCRETE BARRIER (TYPE 60)	CONCRETE BARRIER (TYPE 60 MODIFIED)	CONCRETE BARRIER (TYPE 60C)	CONCRETE BARRIER (TYPE 736 MODIFIED)	CONCRETE BARRIER MARKER
"L1" 117+85 TO 118+12	L-1	28				
"L1" 118+12 TO 119+01.2	L-1			91		
"L1" 119+01.2 TO 119+85.6	L-1				89	
"L1" 119+85.6 TO 126+10	L-1			636		15
"L1" 126+10 TO 126+21	L-1	11				
"L1" 126+21 TO 126+31	L-1		10			
"L2" 205+88 TO 205+98	L-2		10			
"L2" 205+98 TO 208+43	L-2	245				
"L2" 208+43 TO 208+72	L-2		29.5			
TOTAL		284	49.5	727	89	15

MINOR CONCRETE (MISCELLANEOUS CONSTRUCTION)

STATION LIMIT	SHEET No.	MINOR CONCRETE (CURB, SIDEWALK, AND CURB RAMP)	MINOR CONCRETE (GUTTER) (LF)
"L1" 115+22 TO 119+09	L-1	11.5	
"L2" 205+88 TO 208+60	L-2		272
TOTAL		11.5	272

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

FENCE

STATION LIMIT	SHEET No.	REMOVE CHAIN LINK FENCE	CHAIN LINK FENCE (CL-6)	REMOVE GATE	4' CHAIN LINK GATE (TYPE CL-6)
"L1" 115+12 TO 119+72	L-1	460	460		
"L1" 119+08.8 TO 119+11.7	L-1			2	1
TOTAL		460	460	2	1

TEMPORARY FENCE (TYPE ESA)

STATION	SHEET No.	LF
"L1" 117+20 TO 118+56	L-1	174
"L1" 120+07 TO 121+00	L-1	156
TOTAL		330

TEMPORARY WATER POLLUTION CONTROL QUANTITIES

STATION LIMIT	LOCATION	TEMPORARY DRAINAGE INLET PROTECTION	TEMPORARY GRAVEL BAG BERM
		EA	LF
"L1" 114+15.29	L+	2	
"L2" 208+59.97	R+	1	
"L2" 206+64.20 TO 208+59.97	R+		204
TOTAL		3	204

REMOVE CONCRETE

STATION LIMIT	SHEET No.	REMOVE CONCRETE (CY)	
		E-CURB	RETAINING CURB
"L1" 117+85 TO 118+38	L-1	3	
"L1" 119+00 TO 119+09	L-1		0.5
TOTAL		3.5	

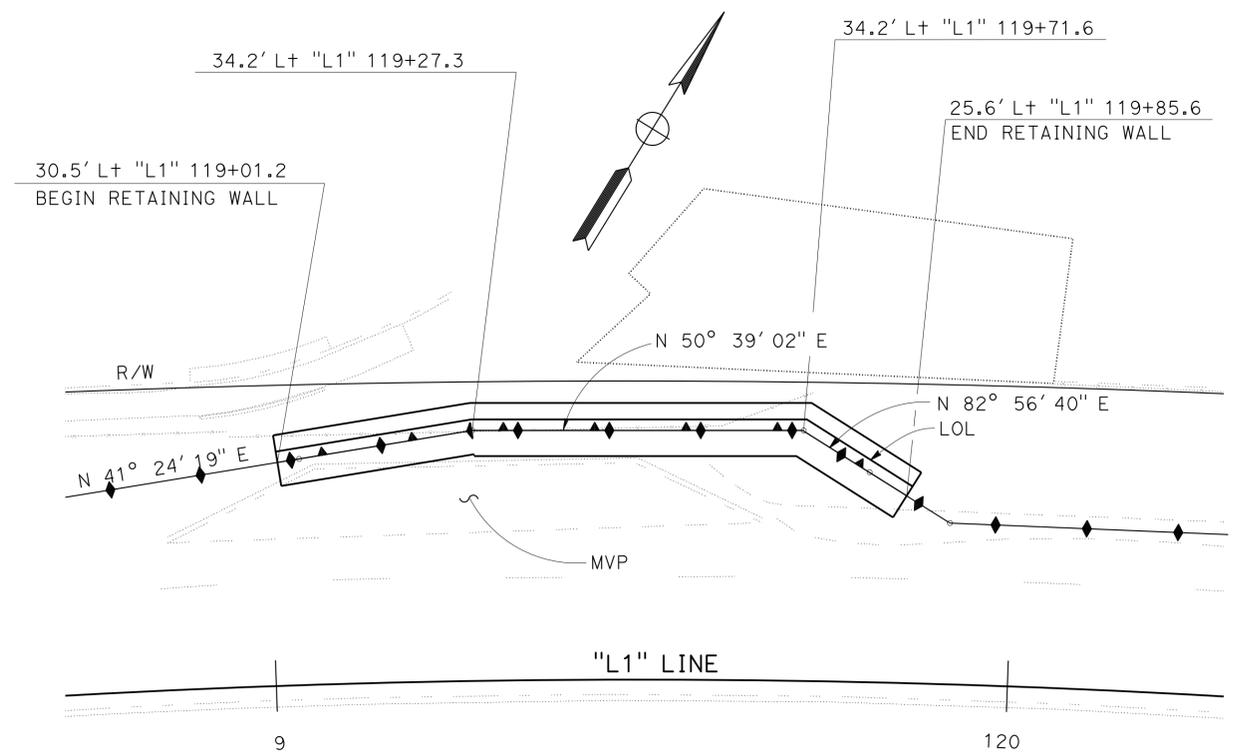
SUMMARY OF QUANTITIES

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SF	280	RO.1, R1.5	24	77
 REGISTERED CIVIL ENGINEER			5/8/15	DATE	
PLANS APPROVAL DATE			6-15-15		
<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>					

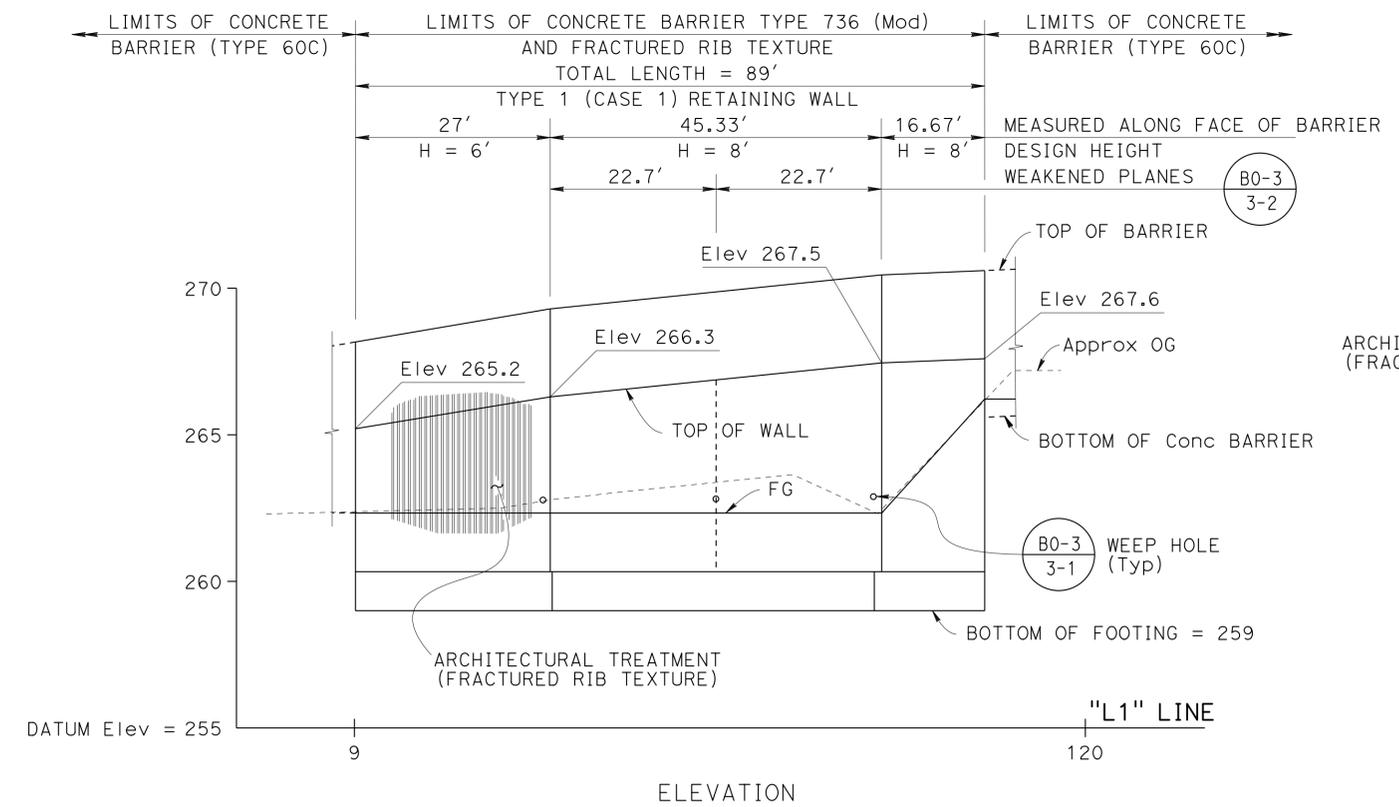


NOTES:

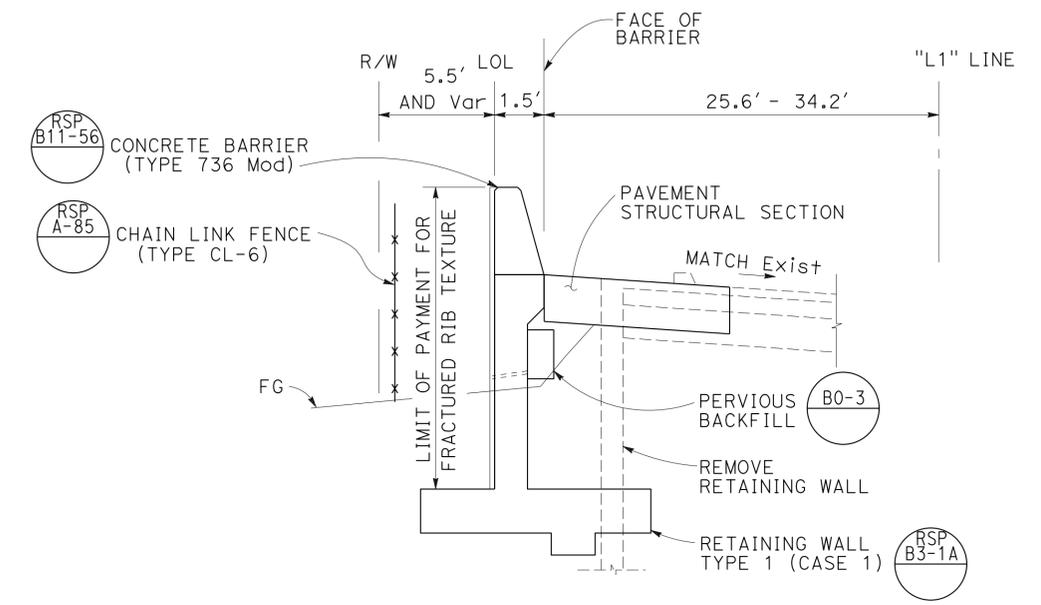
- FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
- OFFSETS ARE REFERENCED TO FACE OF BARRIER.
- FOR EXISTING UTILITIES, REFER TO SHEETS U-1 AND U-2.
- FOR LIMIT OF CONCRETE BARRIER (TYPE 60C), REFER TO SHEETS L-1 AND L-2.



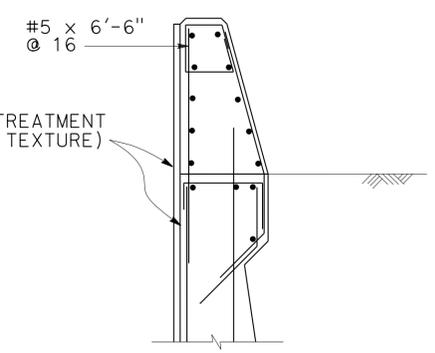
PLAN



ELEVATION

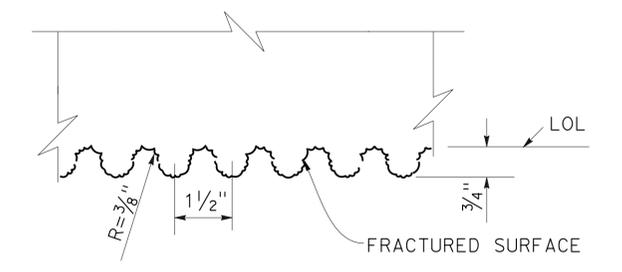


TYPICAL SECTION



TYPE 736 (MODIFIED)

FOR DETAILS NOT SHOWN, SEE REVISED STANDARD PLAN RSP B11-56, TYPE 736A



FRACTURED RIB TEXTURE DETAIL

RETAINING WALL DETAILS

NO SCALE

THIS PLAN ACCURATE FOR RETAINING WALL WORK ONLY

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION - DESIGN

SL 6/11/15

REVISOR BY DATE

SON LY WIN MAUNG

CALCULATED/DESIGNED BY CHECKED BY

FUNCTIONAL SUPERVISOR PATRICK NG

DESIGN

Caltrans

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 CONSULTANT FUNCTIONAL SUPERVISOR
 HIEP NGUYEN
 REVISOR
 JD
 DATE REVISOR
 6/8/15
 CHECKED BY
 DAN YAU

ELECTRICAL INDEX

E-1 ELECTRICAL INDEX, NOTES, ABBREVIATIONS AND LEGEND
 E-2 TO E-3 LIGHTING AND SIGN ILLUMINATION
 E-4 TRAFFIC OPERATIONS SYSTEM
 E-5 ELECTRICAL QUANTITIES
 E-6 ELECTRICAL NOTES, LEGEND AND PROJECT NOTES (STAGE CONSTRUCTION)
 E-7 LIGHTING AND SIGN ILLUMINATION (STAGE CONSTRUCTION)
 E-8 TRAFFIC OPERATIONS SYSTEM (STAGE CONSTRUCTION)
 E-9 TO E-12 ELECTRICAL DETAILS (STAGE CONSTRUCTION)

GENERAL NOTE

1. NO ABOVE GROUND ELECTRICAL WORK MUST BE PERFORMED ON ANY SYSTEM WITHIN THE PROJECT SITE UNTIL ALL CONTRACTOR-FURNISHED ELECTRICAL MATERIALS FOR THAT INDIVIDUAL SYSTEM HAVE BEEN TESTED AND DELIVERED TO CONTRACTOR.

ABBREVIATIONS

ADA AMERICANS WITH DISABILITIES ACT
 PG&E PACIFIC GAS AND ELECTRIC
 TC TELEPHONE CABLE

LEGEND

PGE PG&E PULL BOX PER SERVICE UTILITY REQUIREMENT

PROJECT NOTES (FOR SHEETS E-2 TO E-4)

- 1 EXISTING IRRIGATION CONTROLLER.
- 2 2"C, 2#6 (240 V SIGN ILLUMINATION).
- 3 3"C, 18 DLC.
- 4 2"C, 2#6 (240 V HIGHWAY LIGHTING), 2#6 (240 V SIGN ILLUMINATION).
- 5 EXISTING CONDUIT, 2#6 (240 V HIGHWAY LIGHTING).
- 6 EXISTING 1/2"C, 2#6 (240 V HIGHWAY LIGHTING), 2#6 (240 V SIGN ILLUMINATION).
- 7 2"C, 4#4 (120 V EMS).
- 8 EXISTING 1/2"C, 2#8 (240 V SOFFIT LIGHTING).
- 9 EXISTING 1/2"C, 3#2 (SERVICE).
- 10 EXISTING 1/2"C, 2#6 (240 V HIGHWAY LIGHTING), 2#6 (240 V SIGN ILLUMINATION), 2#8 (120 V IRRIGATION), 5#14 (PEUS).
- 11 EXISTING CONDUIT, 2#6 (240 V HIGHWAY LIGHTING). REMOVE 2#6. ADD 2#6.
- 12 EXISTING 1/2"C, 1 TELEPHONE SERVICE LINE.
- 13 EXISTING CONDUIT. REMOVE EXISTING CONDUCTORS. ADD 2#8 (480 V SIGN ILLUMINATION).
- 14 EXISTING CONDUIT AND CONDUCTORS TO REMAIN.
- 15 EXISTING 2"C, 8 DLC. REMOVE 8 DLC. ADD 8 DLC.
- 16 EXISTING MODEL 170 CONTROLLER ASSEMBLY (334 CABINET).
- 17 EXISTING TDC No. 00251.
- 18 EXISTING CCTV 40 POLE AND CCTV EQUIPMENT.
- 19 EXISTING CONDUIT, 2#8 (120 V IRRIGATION).

- 20 INSTALL LIGHTING POLE BEHIND THE PROPOSED BARRIER.
- 21 EXISTING 2"C, 5 DLC. REMOVE 5 DLC. ADD 5 DLC.
- 22 EXISTING SERVICE CONDUIT AND CONDUCTORS TO REMAIN.
- 23 EXISTING 1/2"C, 1 DLC. REMOVE 1 DLC. ADD 1 DLC.
- 24 EXISTING 1/2"C, 4#4 (120 V EMS).
- 25 EXISTING 2"C, 4 DLC. REMOVE 4 DLC. ADD 4 DLC.
- 26 3"C, 12 DLC.
- 27 2-2"C (TYPE 1), 18 DLC.
- 28 2"C (TYPE 1), 4#4 (120 V EMS).
- 29 EXISTING 2"C, 4#4 (120 V EMS). REMOVE 4#4 (120 V EMS). ADD 4#4 (120 V EMS).
- 30 EXISTING 3"C, 3#14 (120 V TVP), 1 CABLE (12#18-120 V TVCP), 4#4 (120 V EMS), 18 DLC. REMOVE 18 DLC. ADD 18 DLC. EXISTING 3"C, 1 COAXIAL CABLE (VIDEO CABLE TVL), 1 CABLE (15#18 TVC), 1 TC.
- 31 EXISTING 1/2"C, 2#6 (120 V CONTROLLER).
- 32 EXISTING 1/2"C, 1 TC.
- 33 EXISTING 1/2"C, 2#10 (120 V TDC).
- 34 EXISTING 1/2"C, 2#6 (120 V CONTROLLER), 2#10 (120 V TDC).
- 35 EXISTING 2"C, 3#2 (SERVICE).

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SF	280	RO.1, R1.5	26	77

REGISTERED CIVIL ENGINEER DATE 6/8/15
 KIN Y. CHAN No. 55391 Exp. 12/31/16
 PLANS APPROVAL DATE 6-15-15
 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.
 Y&C TRANSPORTATION CONSULTANTS, INC.
 3250 RAMOS CIRCLE, SACRAMENTO CA 95827

**ELECTRICAL INDEX,
 NOTES, ABBREVIATIONS
 AND LEGEND**

E-1

LAST REVISION DATE PLOTTED => 10-JUL-2015 06-08-15 TIME PLOTTED => 13:12

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SF	280	RO.1, R1.5	27	77

<i>K. Chan</i>	6/8/15
REGISTERED CIVIL ENGINEER	DATE
6-15-15	
PLANS APPROVAL DATE	

REGISTERED PROFESSIONAL ENGINEER

KIN Y. CHAN

No. 55391

Exp. 12/31/16

CIVIL

STATE OF CALIFORNIA

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Y&C TRANSPORTATION CONSULTANTS, INC.
3250 RAMOS CIRCLE, SACRAMENTO CA 95827

NOTE:

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

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	CONSULTANT FUNCTIONAL SUPERVISOR	CALCULATED/DESIGNED BY	REVISOR	DATE
Et Caltrans	DAN YAU	DAN YAU	HIEP NGUYEN	6/8/15

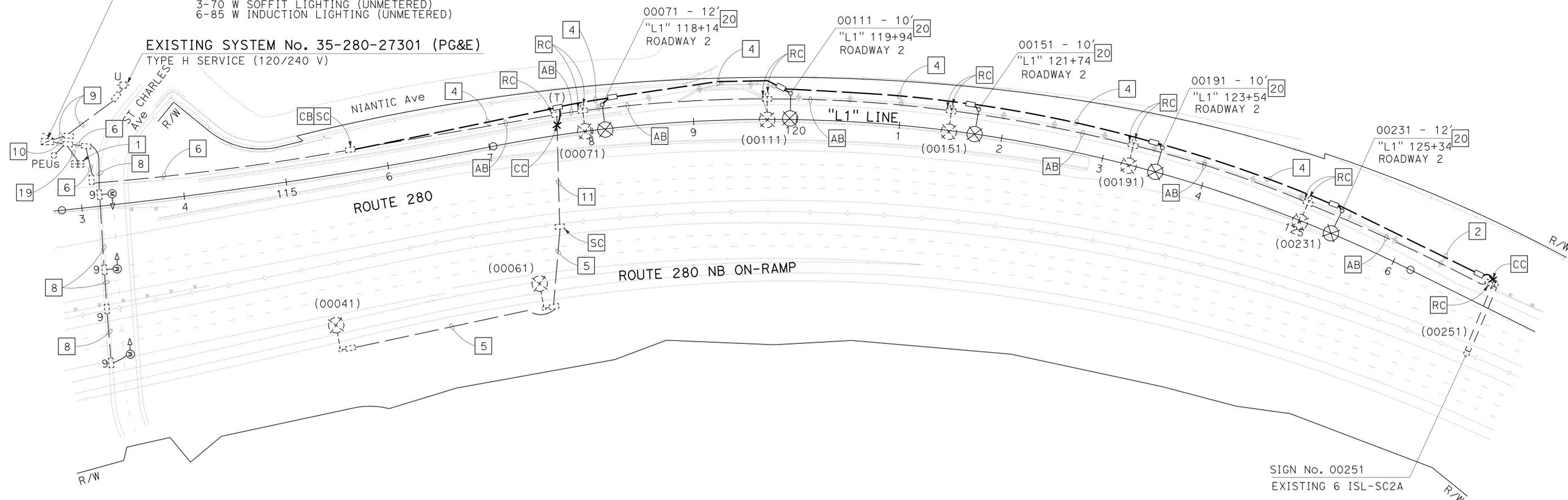
EXISTING TYPE III-AF SERVICE EQUIPMENT ENCLOSURE

EXISTING C+id No: 04352800027301

EXISTING LOAD:
 300 W IRRIGATION CONTROLLER (METERED)
 7-103 W LED LIGHTING (UNMETERED)
 3-70 W SOFFIT LIGHTING (UNMETERED)
 6-85 W INDUCTION LIGHTING (UNMETERED)

MODIFIED LOAD:
 300 W IRRIGATION CONTROLLER (METERED)
 2-103 W LED LIGHTING (UNMETERED)
 5-235 W LED LIGHTING (UNMETERED)
 3-70 W SOFFIT LIGHTING (UNMETERED)
 6-85 W INDUCTION LIGHTING (UNMETERED)

EXISTING SYSTEM No. 35-280-27301 (PG&E)
TYPE H SERVICE (120/240 V)



SIGN No. 00251
EXISTING 6 ISL-SC2A

LIGHTING AND SIGN ILLUMINATION
SCALE: 1" = 50'

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

APPROVED FOR ELECTRICAL WORK ONLY

E-2

LAST REVISION DATE PLOTTED => 10-JUL-2015 06-08-15 TIME PLOTTED => 13:12

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SF	280	RO.1, R1.5	28	77

<i>K. Chan</i>	6/8/15
REGISTERED CIVIL ENGINEER	DATE
6-15-15	
PLANS APPROVAL DATE	

REGISTERED PROFESSIONAL ENGINEER
KIN Y. CHAN
 No. 55391
 Exp. 12/31/16
 CIVIL
 STATE OF CALIFORNIA

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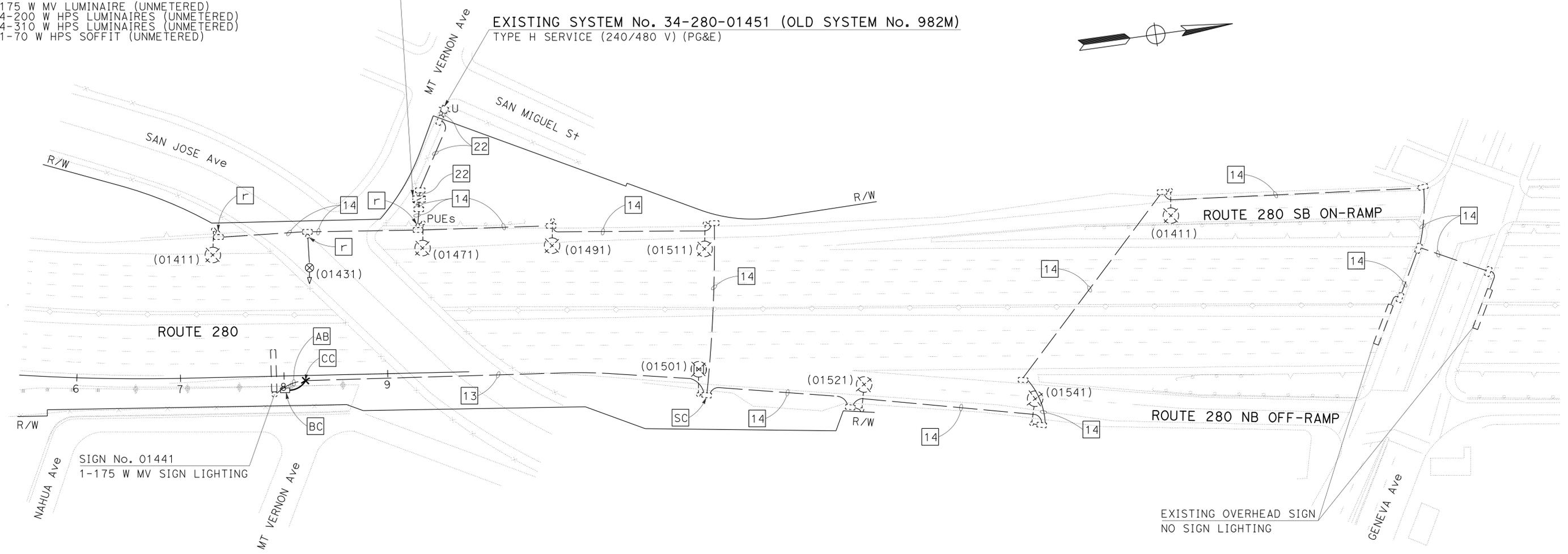
Y&C TRANSPORTATION CONSULTANTS, INC.
3250 RAMOS CIRCLE, SACRAMENTO CA 95827

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

EXISTING TYPE III-AF SERVICE EQUIPMENT ENCLOSURE

EXISTING Ctid No: 0434280001451
 EXISTING LOAD:
 175 W MV LUMINAIRE (UNMETERED)
 4-200 W HPS LUMINAIRES (UNMETERED)
 4-310 W HPS LUMINAIRES (UNMETERED)
 1-70 W HPS SOFFIT (UNMETERED)

EXISTING SYSTEM No. 34-280-01451 (OLD SYSTEM No. 982M)
 TYPE H SERVICE (240/480 V) (PG&E)



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	Caltrans
CONSULTANT FUNCTIONAL SUPERVISOR	DAN YAU
CALCULATED-DESIGNED BY	CHECKED BY
HIIEP NGUYEN	DAN YAU
REVISED BY	DATE REVISED
JD	6/8/15

LIGHTING AND SIGN ILLUMINATION
 SCALE: 1" = 50'

APPROVED FOR ELECTRICAL WORK ONLY

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

E-3

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 CONSULTANT FUNCTIONAL SUPERVISOR: DAN YAU
 CALCULATED/DESIGNED BY: HIEP NGUYEN
 CHECKED BY: DAN YAU
 REVISED BY: JD
 DATE REVISED: 6/8/15

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

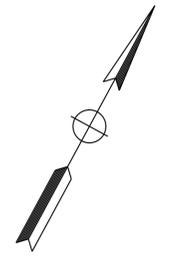
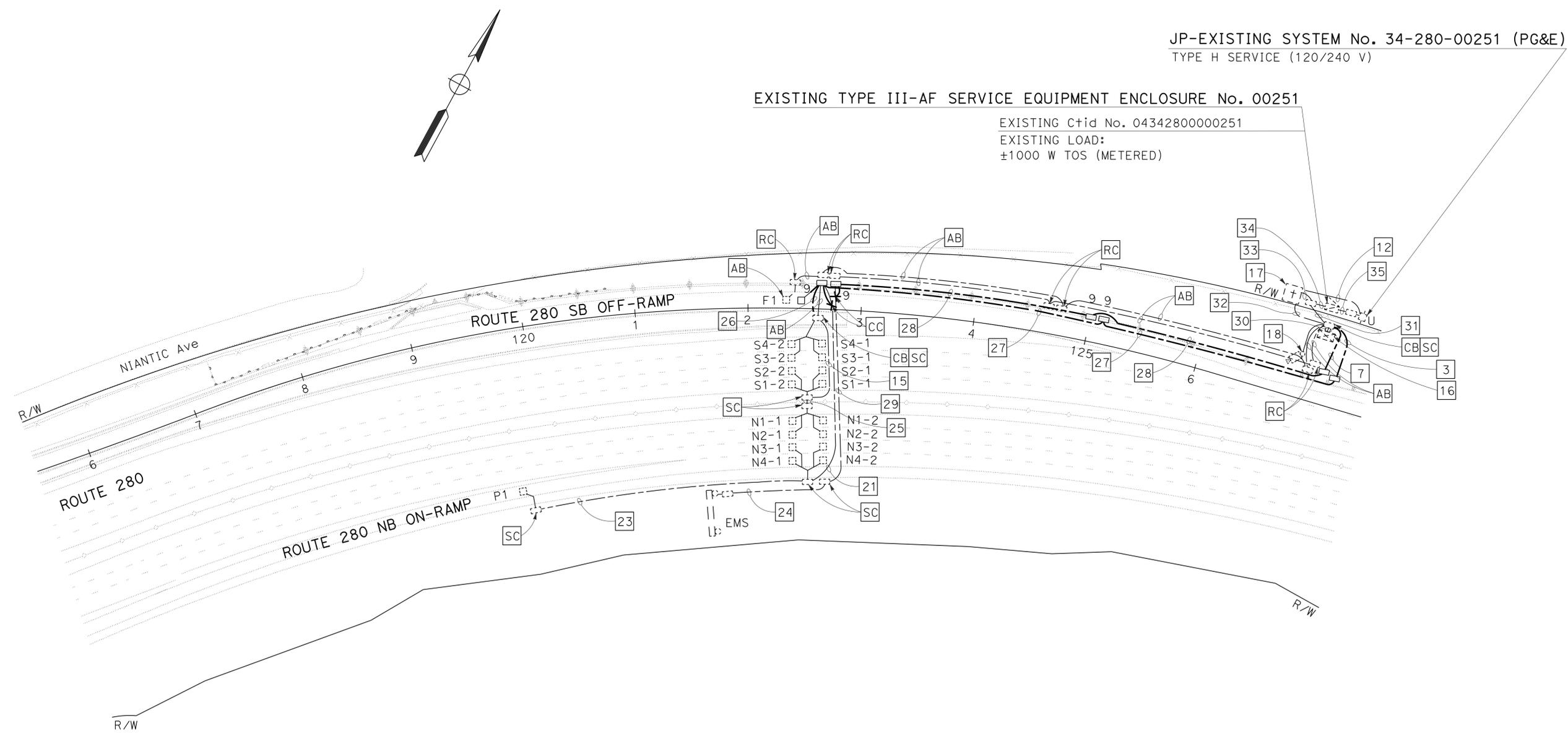
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SF	280	RO.1, R1.5	29	77

REGISTERED CIVIL ENGINEER: *K. Chan* 6/8/15
 DATE: 6-15-15
 PLANS APPROVAL DATE: 6-15-15

KIN Y. CHAN
 No. 55391
 Exp. 12/31/16
 CIVIL

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 3250 RAMOS CIRCLE, SACRAMENTO CA 95827



TRAFFIC OPERATIONS SYSTEM
 SCALE: 1" = 50'
E-4

APPROVED FOR ELECTRICAL WORK ONLY
 FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET E-1

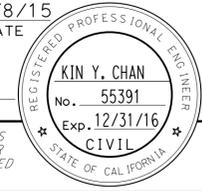
LAST REVISION DATE PLOTTED => 10-JUL-2015
 06-08-15 TIME PLOTTED => 13:12

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 CONSULTANT - FUNCTIONAL SUPERVISOR: DAN YAU
 CALCULATED/DESIGNED BY: HIEP NGUYEN
 CHECKED BY: DAN YAU
 REVISED BY: JD
 DATE REVISED: 6/8/15

NOTE:
 ITEMS SHOWN IN TABLE(S) ARE NOT A SEPARATE
 PAY ITEM, FOR INFORMATION ONLY.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SF	280	RO.1, R1.5	30	77

 6/8/15
 REGISTERED CIVIL ENGINEER DATE
 6-15-15
 PLANS APPROVAL DATE



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 Y&C TRANSPORTATION CONSULTANTS, INC.
 3250 RAMOS CIRCLE, SACRAMENTO CA 95827

LIGHTING AND SIGN ILLUMINATION

SHEET No.	TYPE 30 LUMINAIRE	PB	CONDUIT	CONDUCTORS /CABLES
	EA		LF	
E-2	5	7	1090	4345
E-3		1	20	830

TRAFFIC OPERATIONS SYSTEM

SHEET No.	DETECTOR LOOP	PB	CONDUIT	CONDUCTORS /CABLES
	EA		LF	
E-4	1	6	1430	13570

ELECTRICAL QUANTITIES
E-5

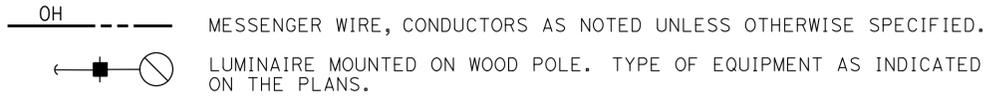
LAST REVISION | DATE PLOTTED => 10-JUL-2015
 06-08-15 | TIME PLOTTED => 13:12

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	CONSULTANT FUNCTIONAL SUPERVISOR	CALCULATED/DESIGNED BY	REVISOR	DATE
			HIEP NGUYEN	6/8/15
Et Caltrans®	DAN YAU	CHECKED BY	REVISOR	DATE
			DAN YAU	6/8/15

ELECTRICAL GENERAL NOTES (FOR STAGE CONSTRUCTION)

1. THE CONTRACTOR MUST MAINTAIN THE OPERATION OF THE EXISTING SIGNALS AT ALL TIMES DURING CONSTRUCTION.
2. TEMPORARY ELECTRICAL EQUIPMENT, WHEN NO LONGER REQUIRED FOR STAGE CONSTRUCTION, MUST BE REMOVED AND BECOME THE PROPERTY OF THE CONTRACTOR UNLESS OTHERWISE DIRECTED BY THE ENGINEER, EXCEPT DETECTORS AND CONDUITS WHICH MUST BE ABANDONED.
3. THE CONTRACTOR MUST VERIFY PERMANENT ELECTRICAL EQUIPMENT LOCATIONS PRIOR TO INSTALLING TEMPORARY ELECTRICAL EQUIPMENT TO AVOID CONFLICT BETWEEN PERMANENT AND TEMPORARY EQUIPMENT.
4. TEMPORARY EQUIPMENT SHOWN ON THESE PLANS MUST BE INSTALLED PRIOR TO BEGINNING OF EACH STAGE OF CONSTRUCTION AND MAINTAINED IN EFFECTIVE OPERATION THROUGHOUT THAT STAGE OF CONSTRUCTION.
5. THE CONTRACTOR MUST PROTECT THE TEMPORARY ELECTRICAL SYSTEM AT ALL TIMES DURING CONSTRUCTION.
6. TEMPORARY ELECTRICAL EQUIPMENT SHOWN ON THESE PLANS ARE ON APPROXIMATE LOCATION. EXACT LOCATION MAY NEED TO BE ADJUSTED TO SUIT THE FIELD CONDITION OR DIRECTED BY THE ENGINEER.

LEGEND (FOR STAGE CONSTRUCTION)



PROJECT NOTES (FOR STAGE CONSTRUCTION)

- 44 EXISTING CONDUIT, 2#8 (120 V IRRIGATION).
- 45 INSTALL OVERHEAD MESSENGER WIRE WITH CONDUCTORS/CABLES AS SHOWN ON THE PLAN. SEE SHEETS E-9 AND E-12 FOR APPLICABLE DETAILS.
- 46 INSTALL TEMPORARY WOOD POLE, CONDUCTORS/CABLES, CONDUIT RISER AND OTHER EQUIPMENT AS REQUIRED. SEE SHEETS E-9 TO E-12 FOR APPLICABLE DETAILS.
- 47 INSTALL TEMPORARY WOOD POLE, CONDUCTORS/CABLES, CONDUIT RISER, LUMINAIRE ARM AND ROADWAY 2 LUMINAIRE AS SHOWN ON THE PLAN AND OTHER EQUIPMENT AS REQUIRED. SEE SHEETS E-9 TO E-12 FOR DETAILS.
- 48 EXISTING IRRIGATION CONTROLLER.
- 49 2"C, 2#6 (240 V HIGHWAY LIGHTING), 2#6 (240 V SIGN ILLUMINATION).
- 50 EXISTING CONDUIT, 2#6 (240 V HIGHWAY LIGHTING).
- 51 EXISTING 1½"C, 2#6 (240 V HIGHWAY LIGHTING), 2#6 (240 V SIGN ILLUMINATION).
- 52 EXISTING 1½"C, 2#8 (240 V SOFFIT LIGHTING).
- 53 EXISTING 2"C, 3#2 (SERVICE).
- 54 EXISTING 1½"C, 2#6 (240 V HIGHWAY LIGHTING), 2#6 (240 V SIGN ILLUMINATION), 2#8 (120 V IRRIGATION), 5#14 (PEUS).
- 55 EXISTING CONDUIT, 2#6 (240 V HIGHWAY LIGHTING). REMOVE 2#6. ADD 2#6.
- 56 EXISTING 2"C, 8 DLC. REMOVE 8 DLC. ADD 8 DLC.
- 57 EXISTING MODEL 170 CONTROLLER ASSEMBLY (334 CABINET).
- 58 EXISTING TDC No. 00251.
- 59 EXISTING CCTV 40 POLE AND CCTV EQUIPMENT.

- 60 EXISTING 2"C, 5 DLC. REMOVE 5 DLC. ADD 5 DLC.
- 61 EXISTING 1½"C, 1 DLC. REMOVE 1 DLC. ADD 1 DLC.
- 62 EXISTING 1½"C, 4#4 (120 V EMS).
- 63 EXISTING 2"C, 4 DLC. REMOVE 4 DLC. ADD 4 DLC.
- 64 3"C, 12 DLC.
- 65 EXISTING 2"C, 4#4 (120 V EMS). REMOVE 4#4 (120 V EMS). ADD 4#4 (120 V EMS).
- 66 EXISTING 3"C, 3#14 (120 V TVP, 1 CABLE (12#18-120 V TVCP), 4#4 (120 V EMS), 18 DLC. REMOVE 18 DLC. ADD 18 DLC. EXISTING 3"C, 1 COAXIAL CABLE (VIDEO CABLE TVL), 1 CABLE (15#18 TVC), 1 TC.
- 67 EXISTING 1½"C, 2#6 (120 V CONTROLLER).
- 68 EXISTING 1½"C, 1 TC.
- 69 EXISTING 1½"C, 2#10 (120 V TDC).
- 70 EXISTING 1½"C, 2#6 (120 V CONTROLLER), 2#10 (120 V TDC).
- 71 EXISTING 2"C, 3#2 (SERVICE).
- 72 3"C, 18 DLC.
- 73 2"C, 4#4 (120 V EMS).
- 74 THIS IS A PART OF PERMANENT WORK AS LIGHTING AND SIGN ILLUMINATION SHOWN ON SHEET E-2.
- 75 THIS IS A PART OF PERMANENT WORK AS TRAFFIC OPERATIONS SYSTEM SHOWN ON SHEET E-4.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SF	280	RO.1, R1.5	31	77

6/8/15
 REGISTERED CIVIL ENGINEER DATE

6-15-15
 PLANS APPROVAL DATE

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Y&C TRANSPORTATION CONSULTANTS, INC.
 3250 RAMOS CIRCLE, SACRAMENTO CA 95827

REGISTERED PROFESSIONAL ENGINEER
 KIN Y. CHAN
 No. 55391
 Exp. 12/31/16
 CIVIL
 STATE OF CALIFORNIA

ELECTRICAL NOTES, LEGEND AND PROJECT NOTES (STAGE CONSTRUCTION)

LAST REVISION DATE PLOTTED => 10-JUL-2015 06-08-15 TIME PLOTTED => 13:12

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SF	280	RO.1, R1.5	32	77

<i>K. Chan</i>	6/8/15
REGISTERED CIVIL ENGINEER	DATE
6-15-15	
PLANS APPROVAL DATE	

REGISTERED PROFESSIONAL ENGINEER

KIN Y. CHAN

No. 55391

Exp. 12/31/16

CIVIL

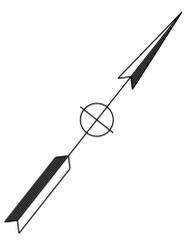
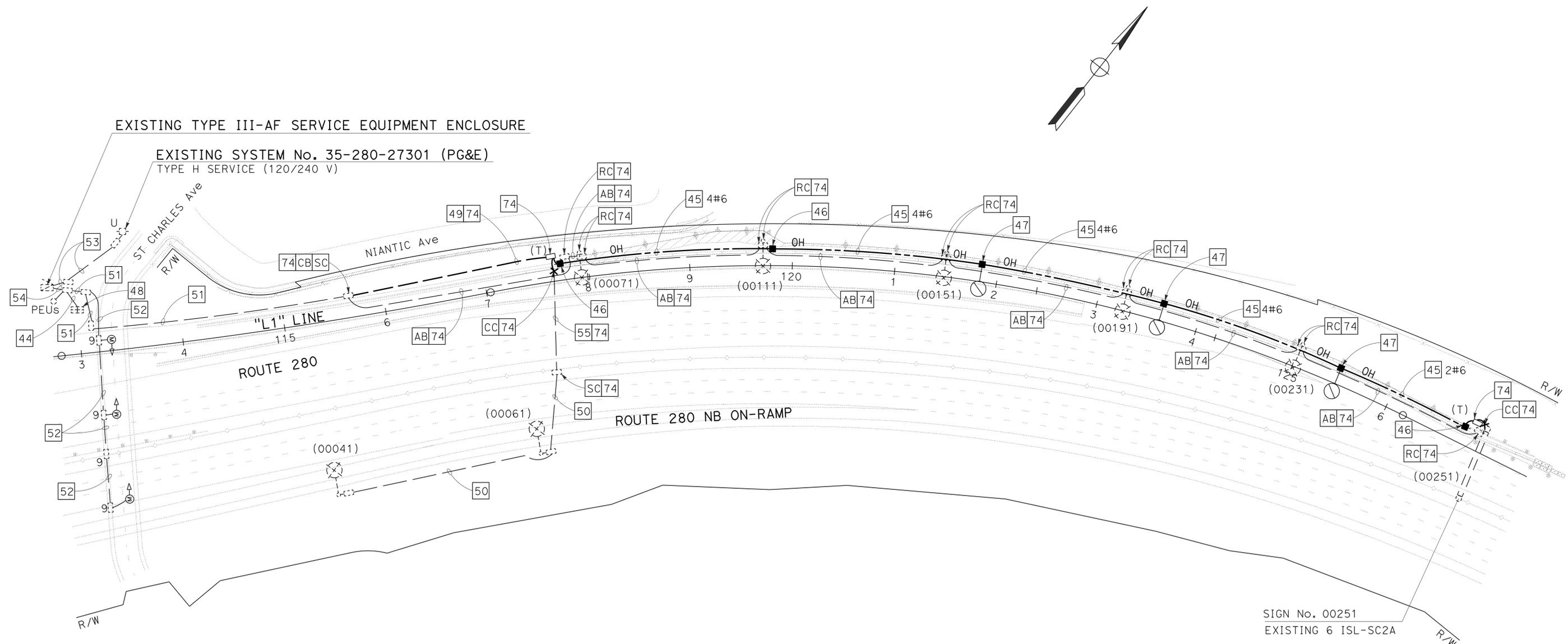
STATE OF CALIFORNIA

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Y&C TRANSPORTATION CONSULTANTS, INC.
3250 RAMOS CIRCLE, SACRAMENTO CA 95827

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

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	CONSULTANT FUNCTIONAL SUPERVISOR	REVISOR	DATE	DATE
Caltrans	DAN YAU	HIEP NGUYEN	DAN YAU	6/8/15
	CALCULATED-DESIGNED BY	REVISOR	DATE	DATE
	DAN YAU	HIEP NGUYEN	DAN YAU	6/8/15



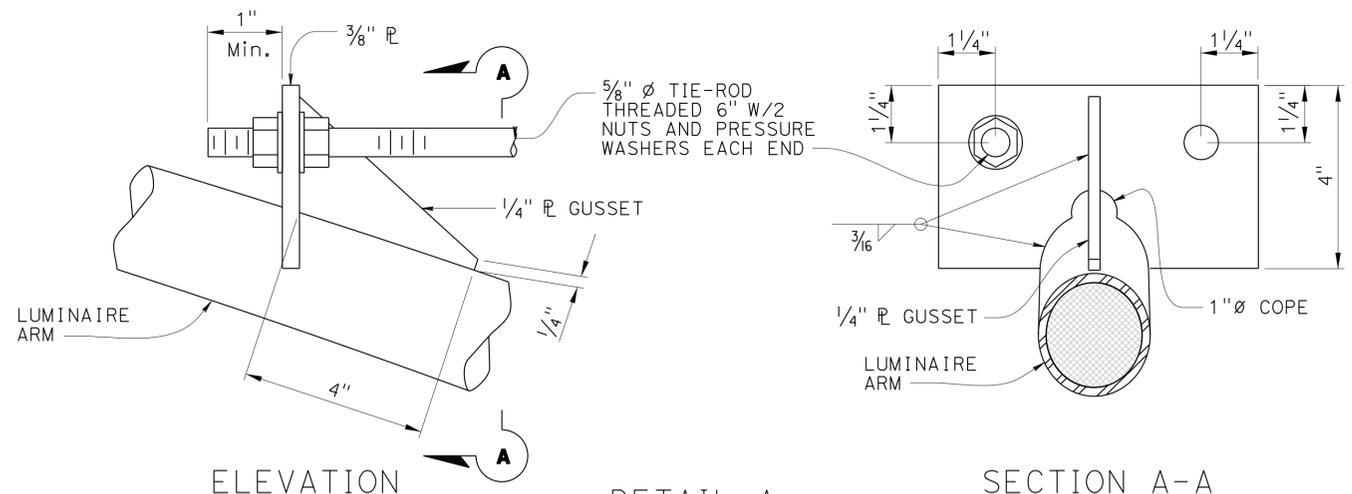
**LIGHTING AND SIGN ILLUMINATION
(STAGE CONSTRUCTION)**
SCALE: 1" = 50'

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

APPROVED FOR ELECTRICAL WORK ONLY

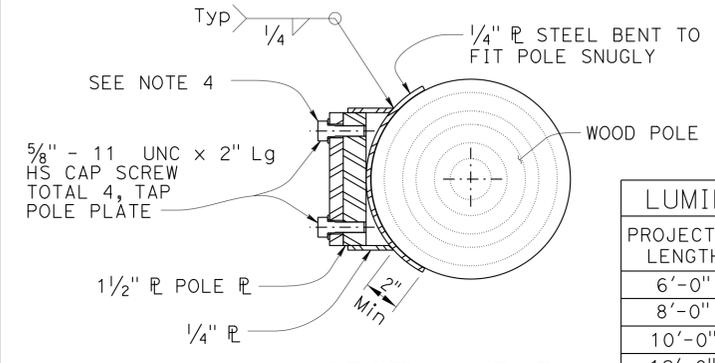
E-7

LAST REVISION DATE PLOTTED => 10-JUL-2015 06-08-15 TIME PLOTTED => 13:12



ELEVATION
SECTION A-A
DETAIL A
TIE-ROD AT LUMINAIRE ARM
 NO SCALE

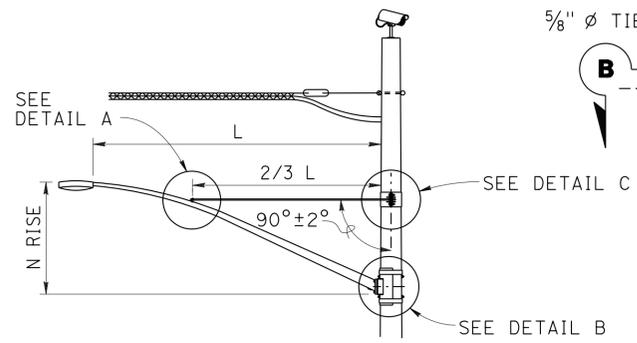
- NOTES:**
1. Luminaire mast arms must be in compliance with Standard Plan ES-6D with noted modifications.
 2. Verify pole dimensions at tie-rod attachment height. Fabricate 8" flat bar with "L" dimension to maintain an open gap between flanges in finished installation.
 3. Not all screw heads and bolt heads are shown for clarity.
 4. Mast arm not shown for clarity.



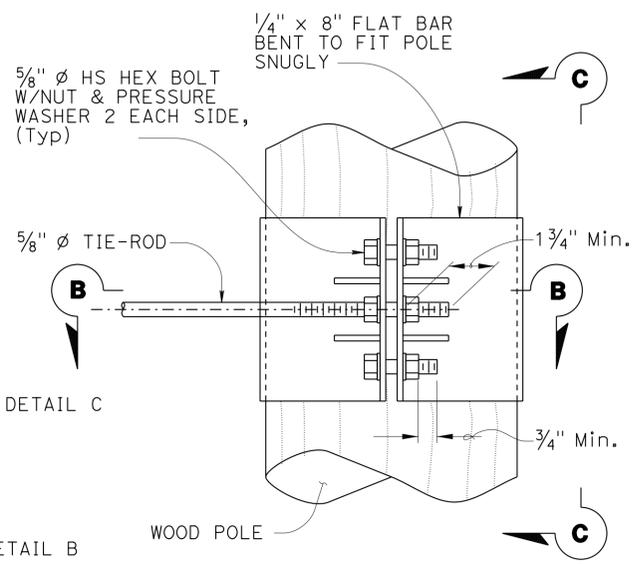
LUMINAIRE MAST ARM DATA

PROJECTED LENGTH	N RISE	Min OD AT POLE	NOMINAL THICKNESS
6'-0"	2'-0"±	3/4"	0.1196"
8'-0"	2'-6"±	3/2"	
10'-0"	3'-3"±	3/8"	
12'-0"	4'-3"±		

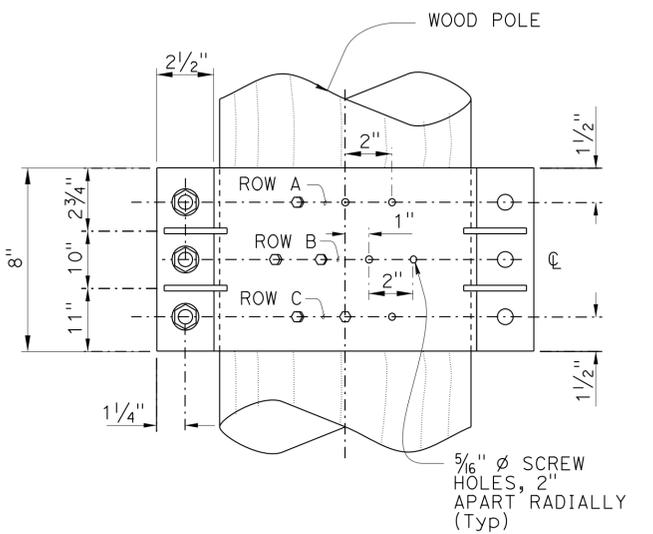
SECTION E-E



LUMINAIRE MAST ARM

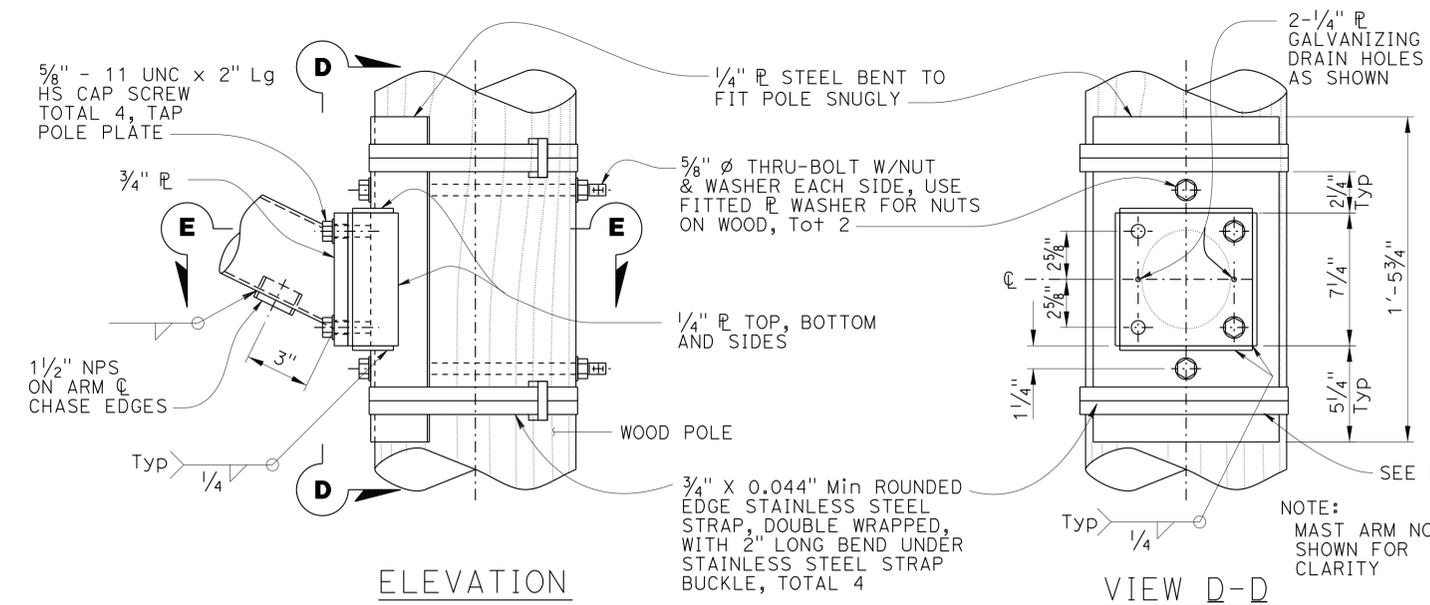


ELEVATION

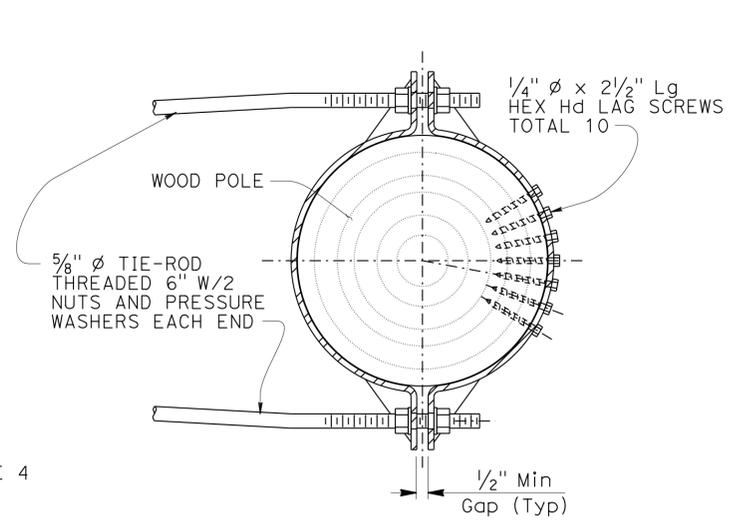


VIEW C-C

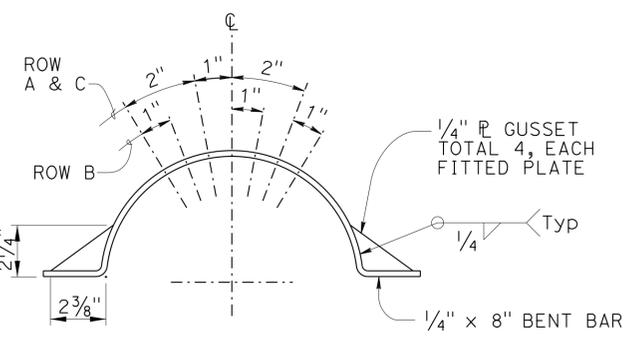
NOTE:
 Not all screw and bolt heads shown for clarity.



ELEVATION
VIEW D-D
DETAIL B
ARM CONNECTION DETAILS
 NO SCALE



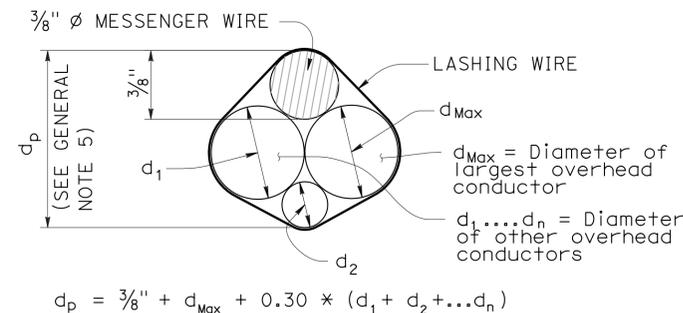
SECTION B-B



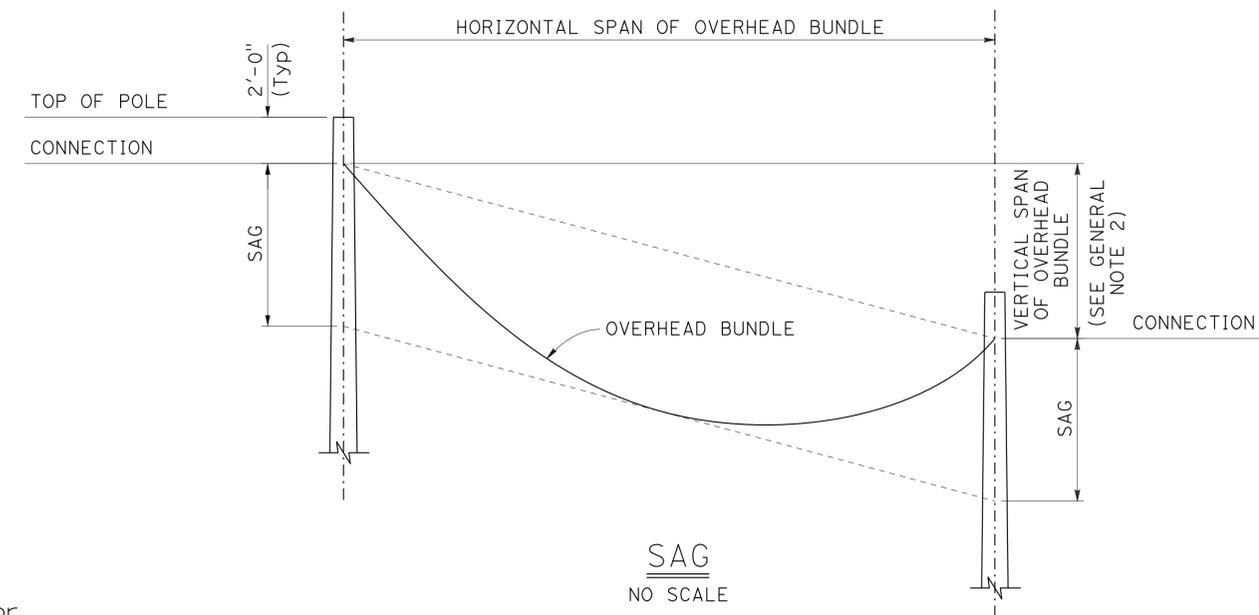
DETAIL C
TIE-ROD AT POLE
 NO SCALE

LAG SCREW AND GUSSET PLATE LAYOUT

E-9
 NO SCALE



PROJECTED DEPTH OF OVERHEAD BUNDLE, (d_p)



Design: AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals, Fifth Edition (LTS-5).

GROUP LOAD COMBINATIONS:

- I Dead Load
- II Dead Load + Wind Load
- III Dead Load + 0.5 (Wind Load) + Ice Load
- IV Fatigue: Not used

LOADING:

Wind Loading: 100 mph (3-second gust)
 Wind Recurrence Interval: 10 years
 Combined height, exposure, and elevated terrain factor = 1.05
 (Exposure C, structure is not located on or over the top half of a ridge, hill, or escarpment)

Ice Loading: 3.0 psf on surfaces, 0.60 in radial thickness of ice at a unit weight of 60 pcf on overhead bundles

BASIC DESIGN VALUES:

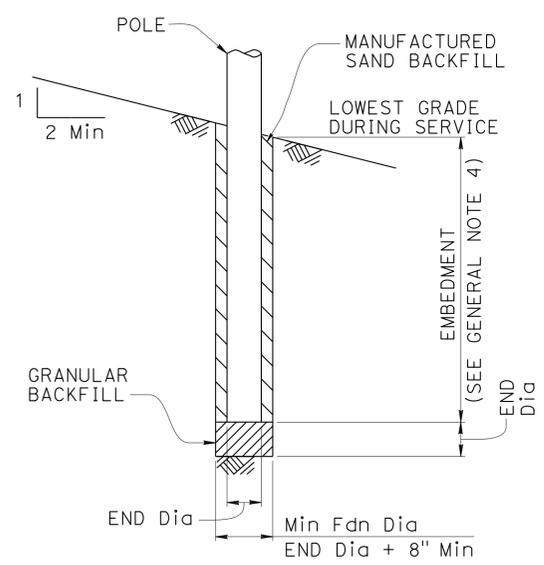
Timber Poles: $F_b = 1850$ psi
 $F_v = 110$ psi
 $F_{cp} = 230$ psi
 $F_c = 950$ psi
 $E = 1500 \times 10^3$ psi

DESIGN WIRE BREAKING STRENGTHS:

ASTM A475, Utilities Grade, 7 strand modified by termination efficiency factor of 0.8

FOUNDATION DESIGN NOTES:

- Pole embedment depth design is based on Broms' approximate procedure as described in Article 13.6 of AASHTO LTS-5.
- Embedment depth is calculated based on following soil parameters.
 Cohesive Soil:
 Shear strength of soil $c = 1500$ psf.
 Cohesionless Soil:
 $\phi = 30$ deg, $\gamma = 120$ pcf.
 Soil assumed to be unsaturated.
- An overload factor of 2.0 and an undercapacity factor of 0.7 were used for safety factor of 2.86.
- Allowable vertical bearing pressure at the end bearing of poles is 3000 psf at 6 feet or more embedment.
- Guy wire anchor minimum allowable tension capacity, "Qa" = 8,900 lbs.



POLE FOUNDATION

GENERAL NOTES:

- The messenger wire and any combination of overhead conductors must not exceed either a self weight of 3.0 lb/ft or the maximum d in the pole selection tables.
- The maximum vertical span is 10% of the horizontal span.
- For poles with adjacent unbalanced horizontal spans, the shortest horizontal span must be at least 50% of the largest horizontal span.
- Add 2'-0" for slopes above 1V:4H.
- For a pole supporting multiple spans, calculate d_p for each span and use the largest value.
- Do not exceed the attachments shown.

DIAMETERS AND SELF WEIGHT OF OVERHEAD CONDUCTORS

CONDUCTOR OR CABLE TYPE	DIAMETER d (in)	WEIGHT w (plf)
3 CONDUCTOR SIGNAL CABLE (3CSC)	0.400	0.0980
5 CONDUCTOR SIGNAL CABLE (5CSC)	0.500	0.1560
9 CONDUCTOR SIGNAL CABLE (9CSC)	0.650	0.2760
12 CONDUCTOR SIGNAL CABLE (12CSC)	0.800	0.3970
28 CONDUCTOR SIGNAL CABLE (28CSC)	0.900	0.6490
1-#14	0.166	0.0235
1-#12	0.185	0.0330
1-#10	0.210	0.0476
1-#8	0.271	0.0774
1-#6	0.310	0.1130
1-#4	0.359	0.1690
1-#3	0.388	0.2080
1-#2	0.420	0.2560
1-#1	0.498	0.3340
6-CONDUCTOR SIGNAL INTERCONNECT CABLE (SIC)	0.350	0.0860
12-CONDUCTOR SIGNAL INTERCONNECT CABLE (SIC)	0.500	0.1440
DETECTOR LEAD-IN CABLE (DLC)	0.310	0.0440
12 to 48-STRAND FIBER OPTIC CABLE (48FOC)	0.424	0.0600
72-STRAND FIBER OPTIC CABLE (72FOC)	0.484	0.0770
96-STRAND FIBER OPTIC CABLE (96FOC)	0.535	0.1050
144-STRAND FIBER OPTIC CABLE (144FOC)	0.670	0.1890
$\frac{3}{8}$ " ϕ MESSENGER WIRE	0.375	0.2730

E-10
NO SCALE

USERNAME => s123043 DATE PLOTTED => 10-JUL-2015 TIME PLOTTED => 13:12

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SF	280	RO.1, R1.5	36	77

6/8/15
 REGISTERED CIVIL ENGINEER DATE
 KIN Y. CHAN
 No. 55391
 Exp. 12/31/16
 CIVIL
 STATE OF CALIFORNIA

6-15-15
 PLANS APPROVAL DATE

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Y&C TRANSPORTATION CONSULTANTS, INC.
 3250 RAMOS CIRCLE, SACRAMENTO CA 95827

POLE SELECTION TABLE

LEGEND

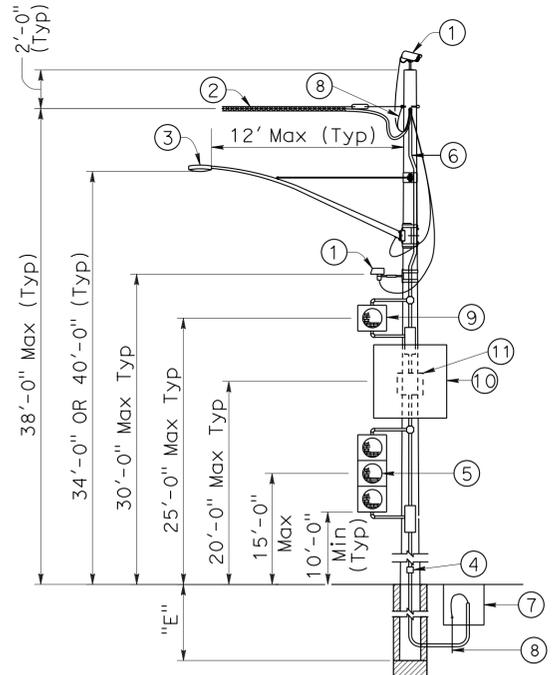
- Wood Pole No Attachments
- ^A Wood Pole with Attachments
- OH- Overhead Bundle

	CASE 1N				CASE 2N				CASE 3N				CASE 4N				CASE 5N
	1"	1.5"	2.0"	2.5"	1"	1.5"	2.0"	2.5"	1.0"	1.5"	2.0"	2.5"	1"	1.5"	2.0"	2.5"	N/A
MINIMUM POLE CLASS	H-1	H-2	H-2	H-2	4	3	2	1	H-2	H-2	H-3	H-3	H-4	H-4	H-4	H-5	CLASS 1 E = 10'
POLE EMBEDMENT (E)	11'				10'				11'				12'				
MINIMUM POLE CLASS	H-2	H-3	H-4	H-5	1	H-1	H-2	H-3	H-4	H-5	H-5	H-6	H-5	H-5	H-6		
POLE EMBEDMENT (E)	12'				11'				12'				12'				
MINIMUM POLE CLASS	H-4	H-5	H-6		H-1	H-2	H-3	H-5	H-6				H-6				
POLE EMBEDMENT (E)	12'				12'				12'				12'				
MINIMUM POLE CLASS	H-5	H-6			H-2	H-3	H-5										
POLE EMBEDMENT (E)	12'				12'												

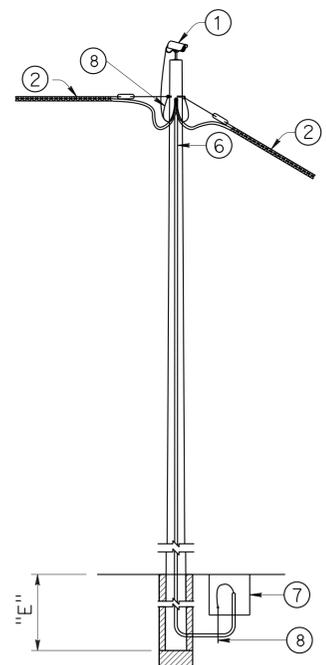
- ① CCTV camera assembly or vehicle detection system
- ② Overhead bundle consisting of a 3/8" ø messenger wire, overhead conductors, and lashing wire
- ③ Luminaire with mast arm
- ④ Pedestrian push button assembly or accessible push button assembly
- ⑤ Signal face with 3 indications or single sheet sign panel (10 SQFT Max)
- ⑥ Riser with weather head as required
- ⑦ Pull box as required
- ⑧ Grounding as required
- ⑨ Single flashing beacon or single sheet sign panel (4 SQFT Max)
- ⑩ Single sheet sign panel (4' x 4' Max) or signal face with 3 indications
- ⑪ Flashing beacon control assembly
- ⑫ NEMA 3R enclosure, 26"(W) x 56"(H) x 12"(D) Max dimensions. Max weight including batteries, 450 lbs
- ⑬ 25' SQFT Max total photovoltaic panels mounted as shown as required
- ⑭ 2-12" flashing beacons

NOTES:

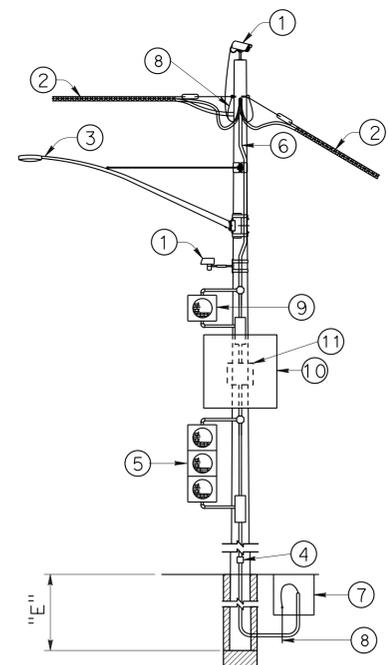
1. In addition to other restrictions on maximum horizontal span, this horizontal span must not exceed 100'.
2. Cases 1N, 3N and 4N may substitute the attachments shown in Case 5N if the photovoltaic panel is not included.
3. For Case 1N without an overhead bundle (item ②) use minimum pole class H-1 with E=11'.



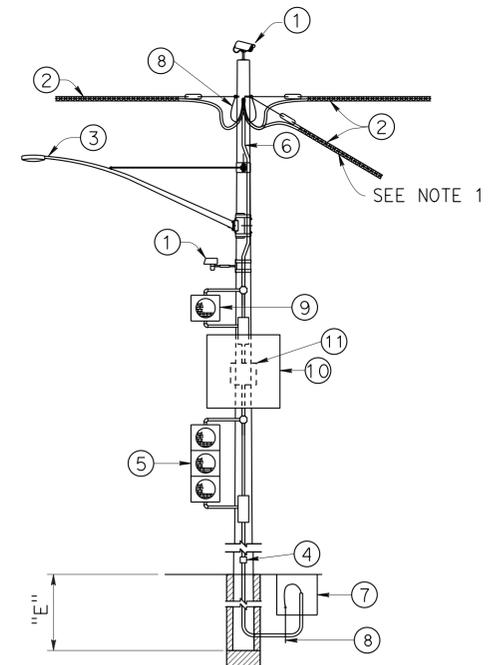
CASE 1N
POLE AT DEAD END
WITH ATTACHMENTS
SEE NOTE 2



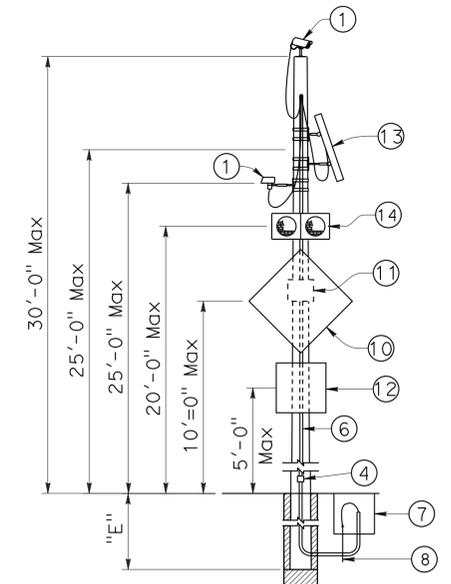
CASE 2N
POLE AT TANGENT
WITHOUT ATTACHMENTS



CASE 3N
POLE AT TANGENT OR CORNER
WITH ATTACHMENTS
SEE NOTE 2



CASE 4N
POLE AT JUNCTION
WITH ATTACHMENTS
SEE NOTE 2



CASE 5N
POLE WITHOUT OVERHEAD BUNDLE
WITH ATTACHMENTS
E-11
NO SCALE

STANDARD DRAWING

FILE NO. **xs18-020**

APPROVAL DATE July 2014

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

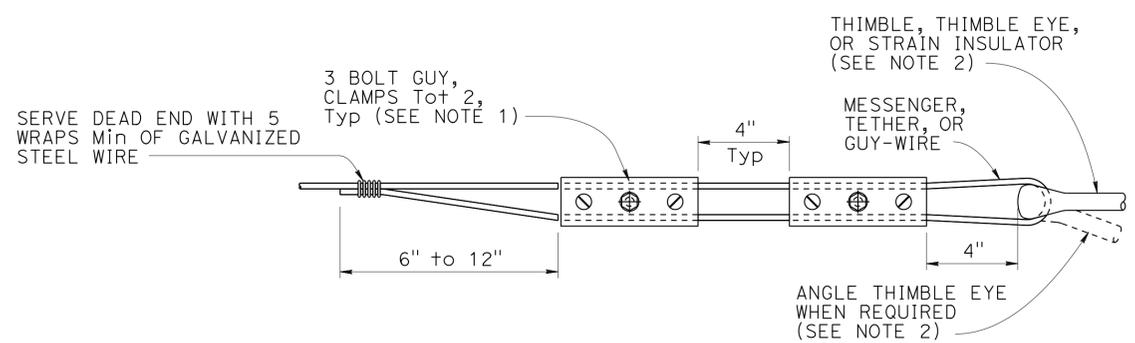
BRIDGE NO. N/A

POST MILE RO.1,R1.5

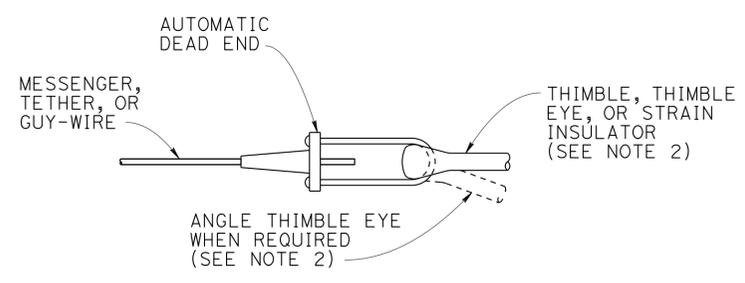
TEMPORARY WOOD POLES
NON-GUYED - NO SIGNALS ON SPANS

USERNAME => s123043 DATE PLOTTED => 10-JUL-2015 TIME PLOTTED => 13:12

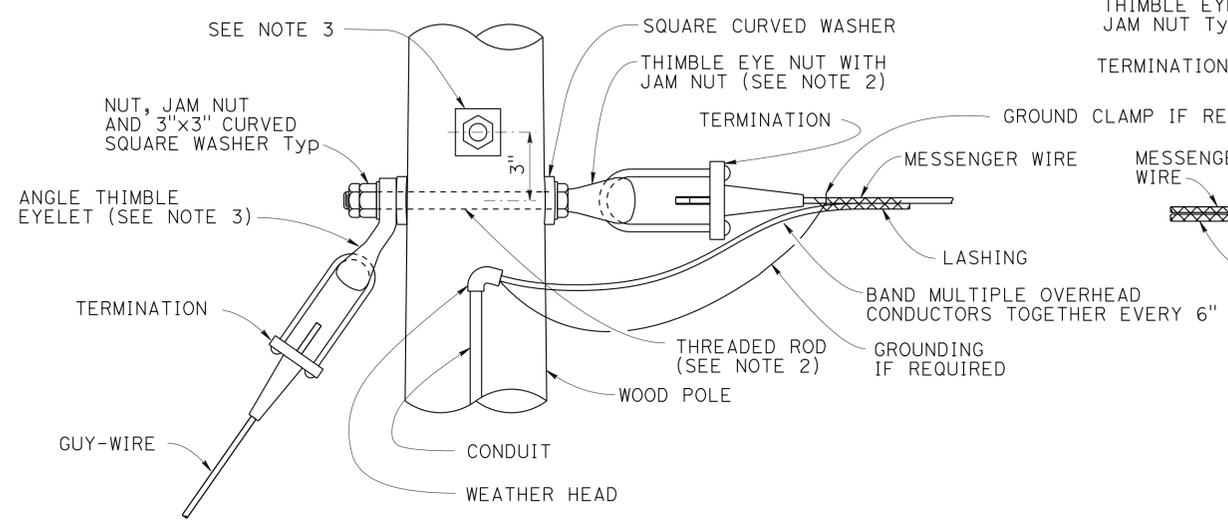
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SF	280	RO.1, R1.5	37	77
		6/8/15		DATE	
REGISTERED CIVIL ENGINEER		KIN Y. CHAN			
6-15-15		No. 55391			
PLANS APPROVAL DATE		Exp. 12/31/16			
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.					
Y&C TRANSPORTATION CONSULTANTS, INC. 3250 RAMOS CIRCLE, SACRAMENTO CA 95827					



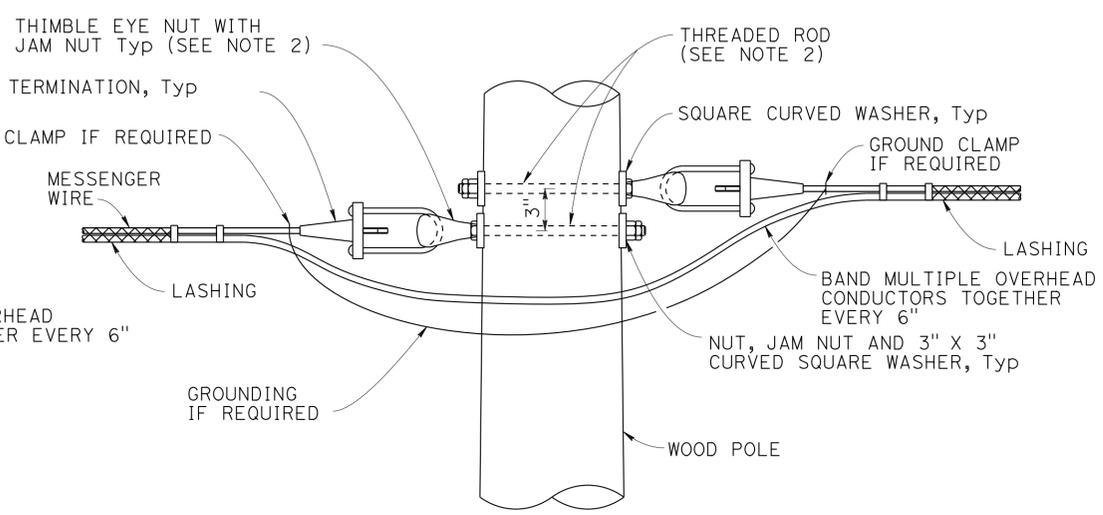
ALTERNATIVE TERMINATION OF MESSENGER WIRES USING GUY CLAMPS



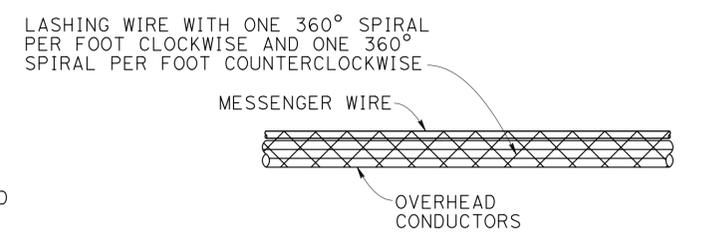
TERMINATION OF WIRES USING AUTOMATIC DEAD END



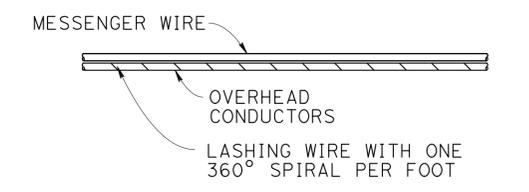
POLE AT DEAD END WITH GUY-WIRE CONNECTION



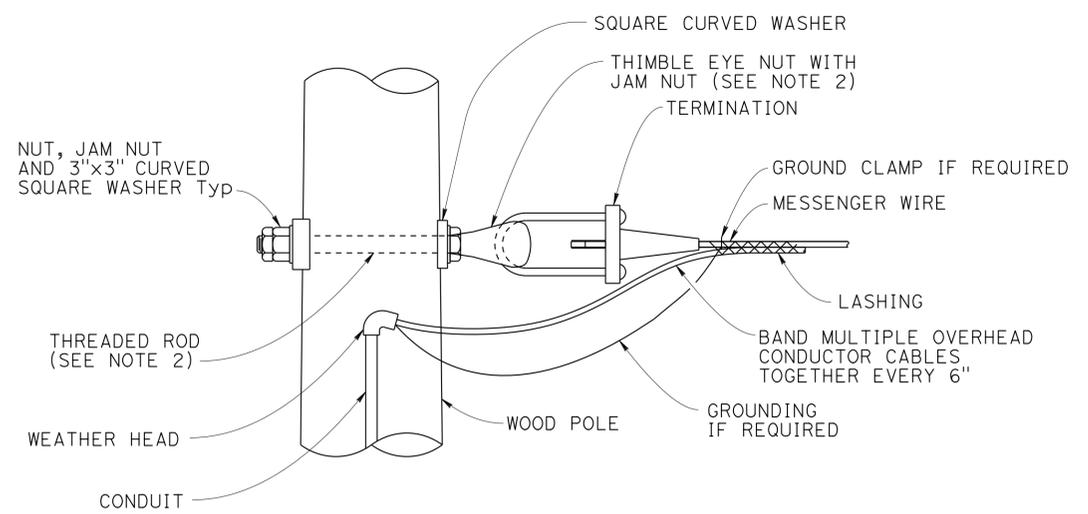
POLE AT TANGENT OR CORNER CONNECTION



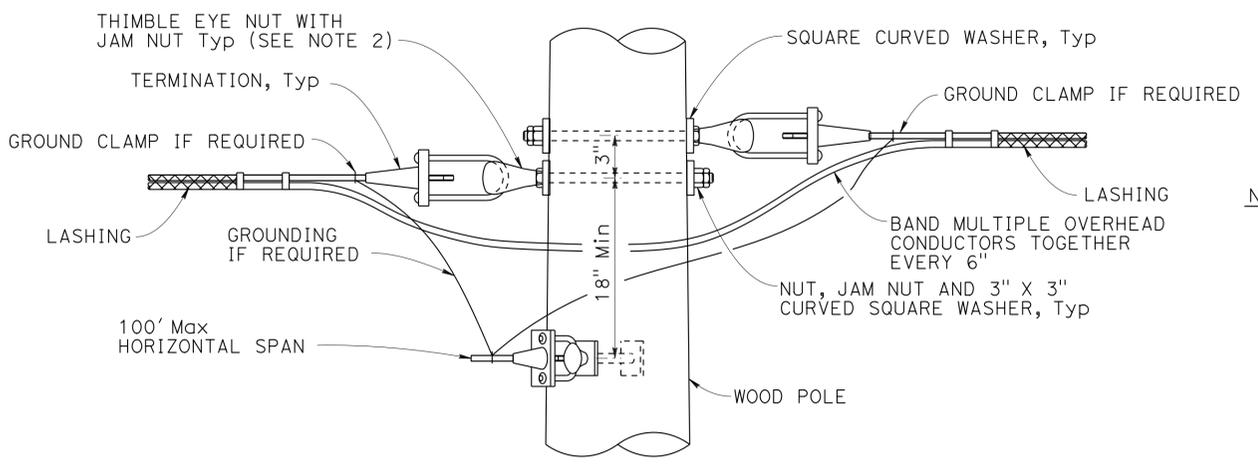
DOUBLE LASHING DETAIL
USE IF d_p IS GREATER THAN 1/2"



TYPICAL LASHING DETAIL
USE IF d_p IS 1/2" OR LESS



POLE AT DEAD END CONNECTION



POLE AT JUNCTION CONNECTION

- NOTES:
1. For guy wires use 3 clamps.
 2. Use 5/8" ϕ except 3/4" ϕ at guyed wires
 3. Install additional angle thimble eyelet at poles with two guy wires.

E-12
NO SCALE

STANDARD DRAWING
FILE NO. xs18-080-1
APPROVAL DATE July 2014

STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
BRIDGE NO. N/A
POST MILE RO.1,R1.5

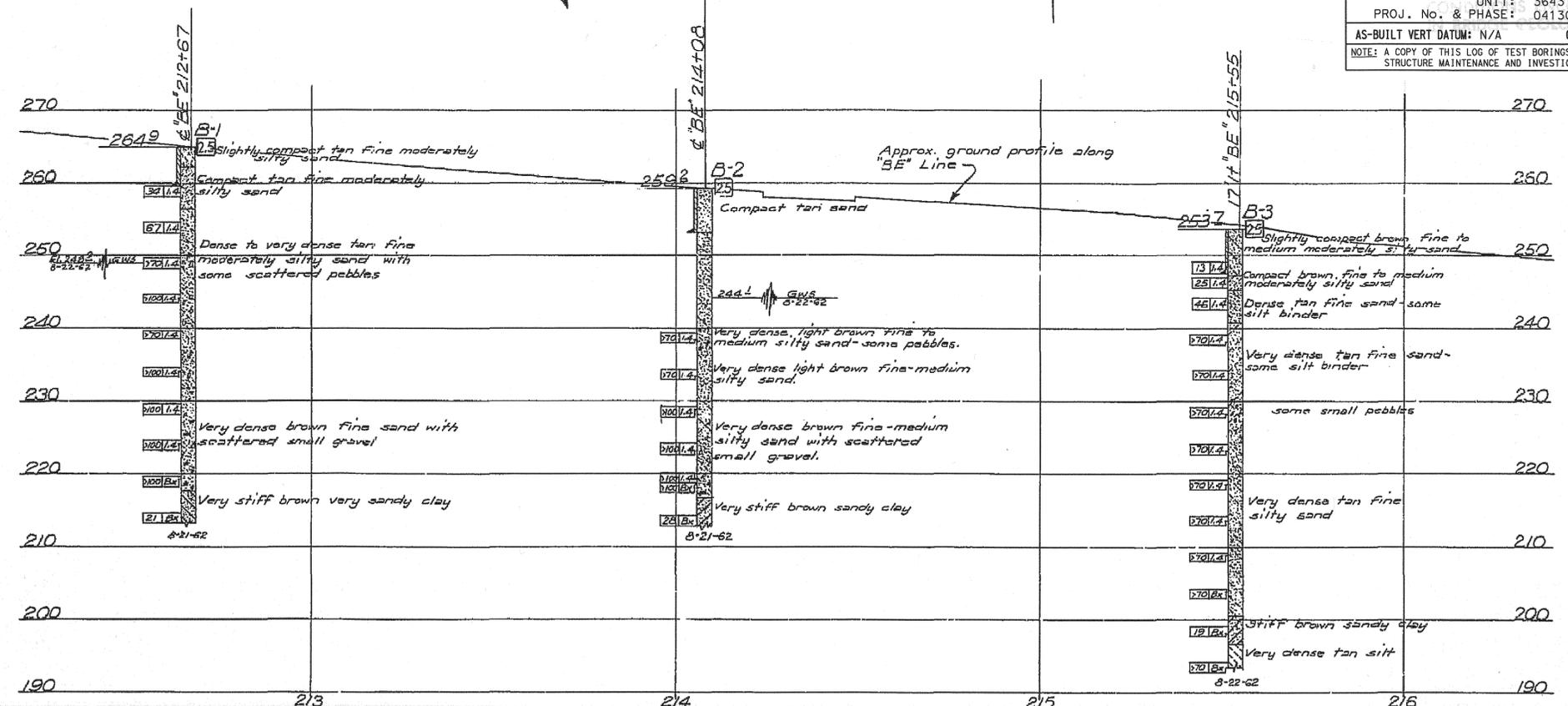
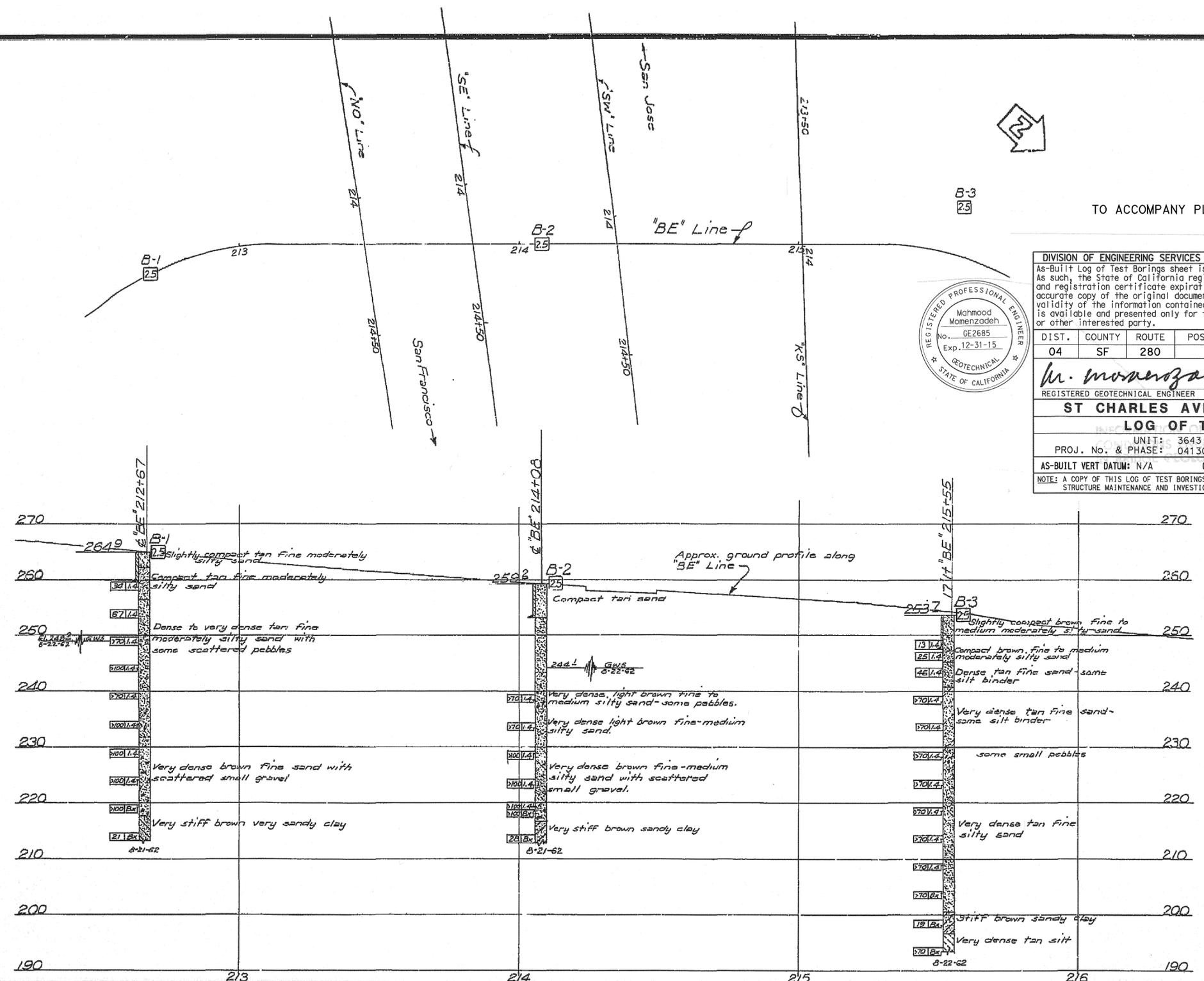
TEMPORARY WOOD POLES DETAILS No. 1
UNIT: 0707 PROJECT NUMBER & PHASE: 04130003001
CONTRACT NO.: 4H9004
REVISION DATES
SHEET OF

TO ACCOMPANY PLANS DATED 6-15-15

BM 523
Nail in NE curb at intersection
Niantic St. & San Mateo St.
Elev. 259.95

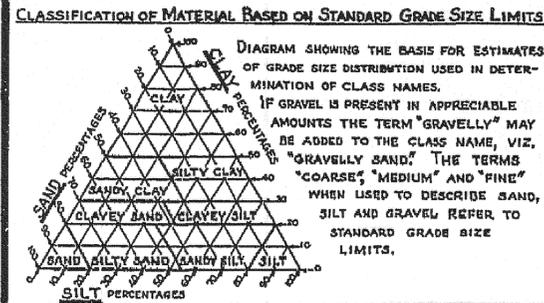


DIVISION OF ENGINEERING SERVICES - MATERIALS AND GEOTECHNICAL SERVICES					
As-Built Log of Test Borings sheet is considered an informational document only. As such, the State of California registration seal with signature, license number and registration certificate expiration date confirm that this is a true and accurate copy of the original document. It does not attest to the accuracy or validity of the information contained in the original document. This drawing is available and presented only for the convenience of any bidder, contractor or other interested party.					
DIST.	COUNTY	ROUTE	POST MILE-TOTAL PROJECT	Sheet No.	Total Sheets
04	SF	280	R0.1, R1.5	38	77
M. Momenzadeh			12/30/14		
REGISTERED GEOTECHNICAL ENGINEER			DATE		
ST CHARLES AVENUE OVERCROSSING					
LOG OF TEST BORINGS					
UNIT: 3643		CONTRACT No.:		BRIDGE No.	
PROJ. No. & PHASE: 04130003001		04-4H9004		35-0176	
AS-BUILT VERT DATUM: N/A			CONVERSION: N/A		
NOTE: A COPY OF THIS LOG OF TEST BORINGS IS AVAILABLE AT OFFICE OF STRUCTURE MAINTENANCE AND INVESTIGATIONS, SACRAMENTO, CALIFORNIA			Sheet of		



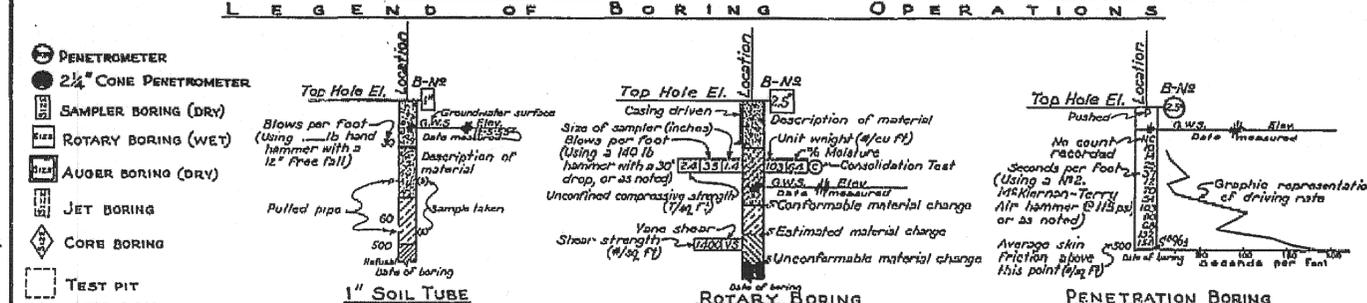
AS BUILT PLANS
Contract No. 04-140314
Date Completed 9-6-66
Document No. 4000095

FIELD STUDY: 8-62
DRAWN: 9-62
CHECKED: 9-62
Approved Recommended by: [Signature]
Engineering Director



LEGEND OF EARTH MATERIALS

GRAVEL	SILTY CLAY OR CLAYEY SILT
SAND	PEAT AND/OR ORGANIC MATTER
SILT	FILL MATERIAL
CLAY	IGNEOUS ROCK
SANDY CLAY OR CLAYEY SAND	SEDIMENTARY ROCK
SANDY SILT OR SILTY SAND	METAMORPHIC ROCK



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

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
DIVISION OF HIGHWAY

ST CHARLES AVENUE OVERCROSSING

LOG OF TEST BORINGS

Horizontal: 1"=20'
Vertical: 1"=10'

BRIDGE 35-176 FILE DRAWING 35176-8

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SF	280	R0.1, R1.5	39	77

Grace M. Tsushima
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

Grace M. Tsushima
No. C49814
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.

TO ACCOMPANY PLANS DATED 6-15-15

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 ³ , pcf	POUNDS PER CUBIC FOOT
tsf	TONS PER SQUARE FOOT
mph, MPH *	MILES PER HOUR
∅	NOMINAL DIAMETER
oz	OUNCE
lb	POUND
kíp	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.

REVISED STANDARD PLAN RSP A10B

2010 REVISED STANDARD PLAN RSP A10B

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
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
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
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

M

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
Qty	QUANTITY
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

P continued

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
£	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
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

S

TS	TRANSVERSE, TRAFFIC SIGNAL, TUBULAR STEEL
Typ	TYPICAL
UC	UNDERCROSSING
UD	UNDERDRAIN
UG	UNDERGROUND
UON	UNLESS OTHERWISE NOTED
UP	UNDERPASS
V	VALVE, DESIGN SPEED
Var	VARIABLE, VARIES
VC	VERTICAL CURVE
VCP	VITRIFIED CLAY PIPE
Vert	VERTICAL
Via	VIADUCT
Vol	VOLUME
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
WWLOL	WINGWALL LAYOUT LINE
X Sec	CROSS SECTION
Xing	CROSSING
Yr	YEAR
Yrs	YEARS

T continued

U

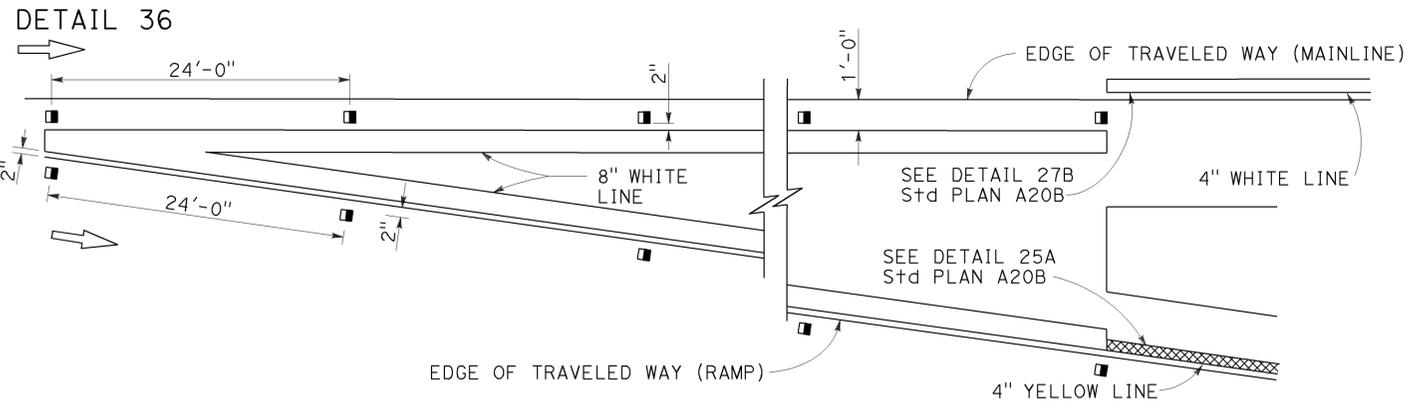
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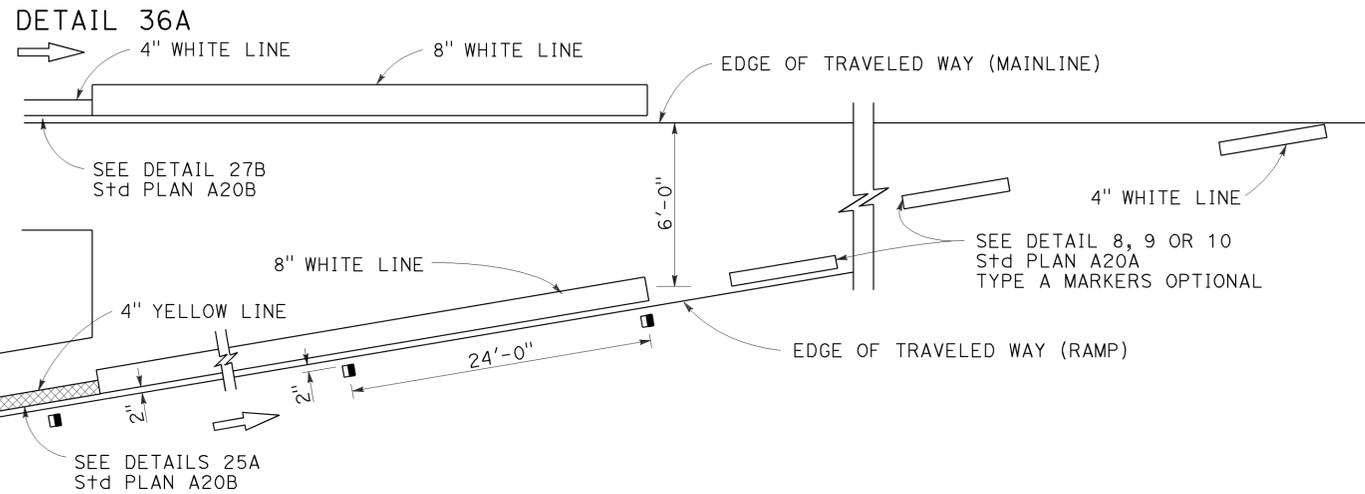
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Y

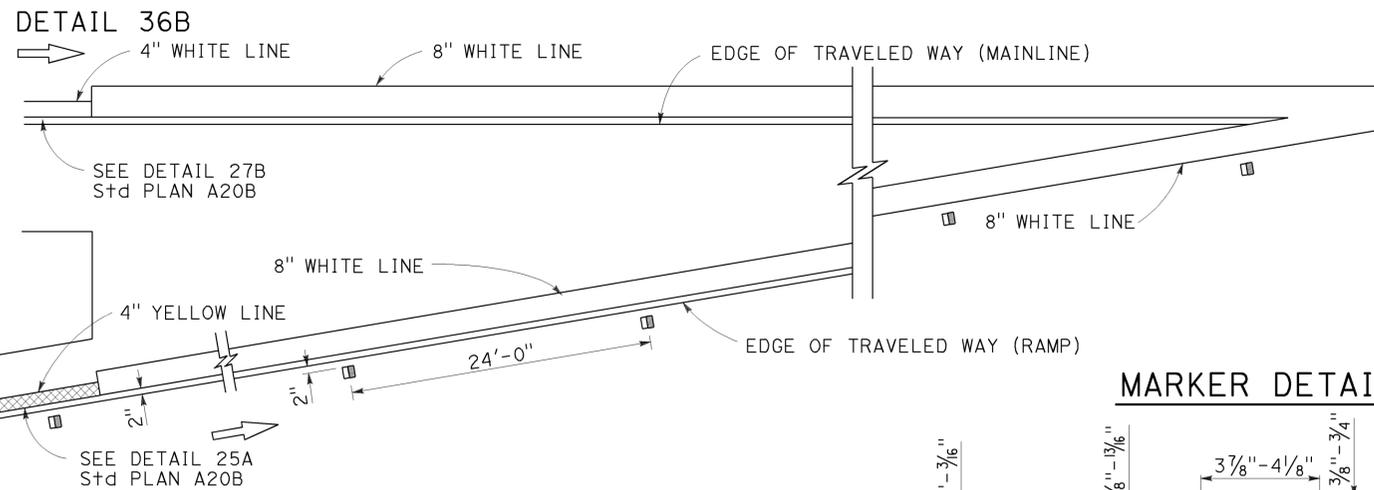
EXIT RAMP NEUTRAL AREA (GORE) TREATMENT



ENTRANCE RAMP NEUTRAL AREA (MERGE) TREATMENT



ENTRANCE RAMP NEUTRAL AREA (ACCELERATION LANE) TREATMENT

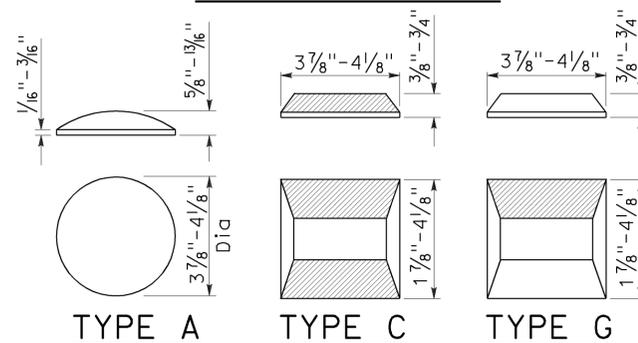


MARKER DETAILS

LEGEND:

MARKERS

- TYPE A WHITE NON-REFLECTIVE
- ◻ TYPE C RED-CLEAR RETROREFLECTIVE
- TYPE G ONE-WAY CLEAR RETROREFLECTIVE



RETROREFLECTIVE FACE

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SF	280	R0.1, R1.5	40	77

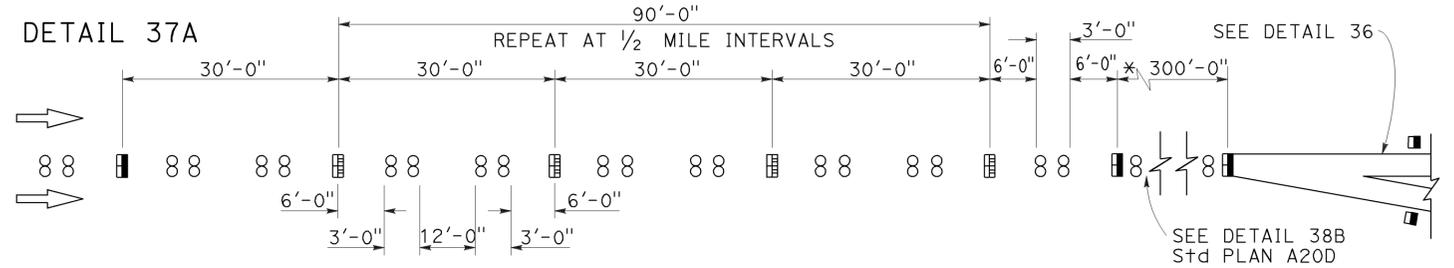
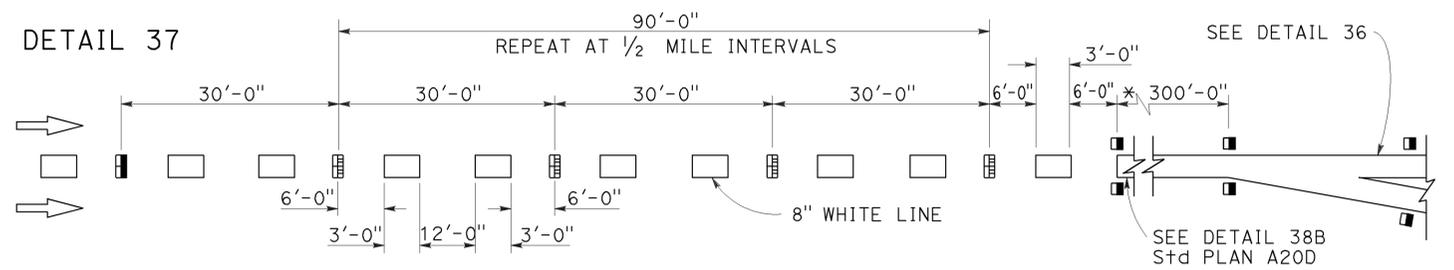
Roberta L. McLaughlin
 REGISTERED CIVIL ENGINEER
 No. C40375
 Exp. 3-31-15
 CIVIL
 STATE OF CALIFORNIA

July 19, 2013
PLANS APPROVAL DATE

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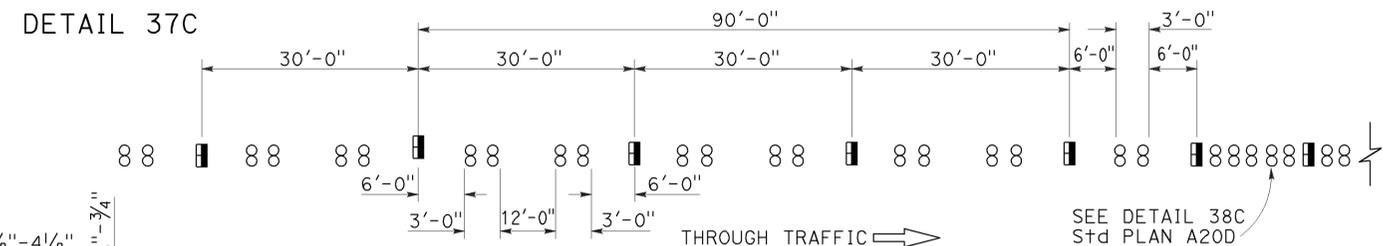
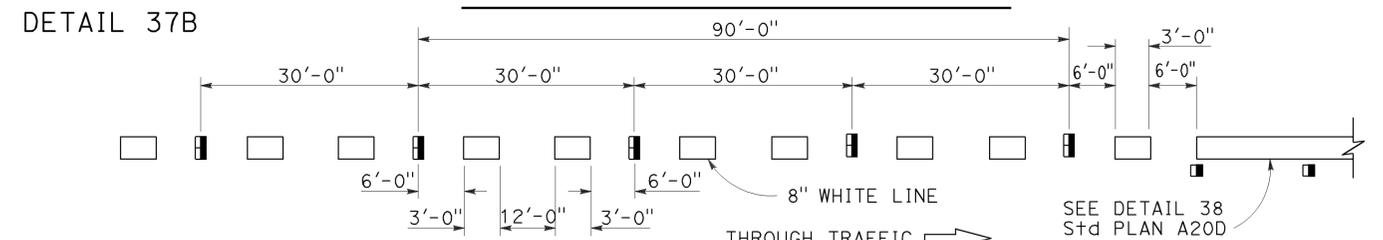
TO ACCOMPANY PLANS DATED 6-15-15

LANE DROP AT EXIT RAMP



* The solid channelizing line shown may be omitted on short auxiliary lanes where weaving length is critical.

LANE DROP AT INTERSECTIONS



STATE OF CALIFORNIA
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PAVEMENT MARKERS AND TRAFFIC LINE TYPICAL DETAILS

NO SCALE

RSP A20C DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN A20C DATED MAY 20, 2011 - PAGE 11 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A20C

2010 REVISED STANDARD PLAN RSP A20C

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SF	280	R0.1, R1.5	41	77

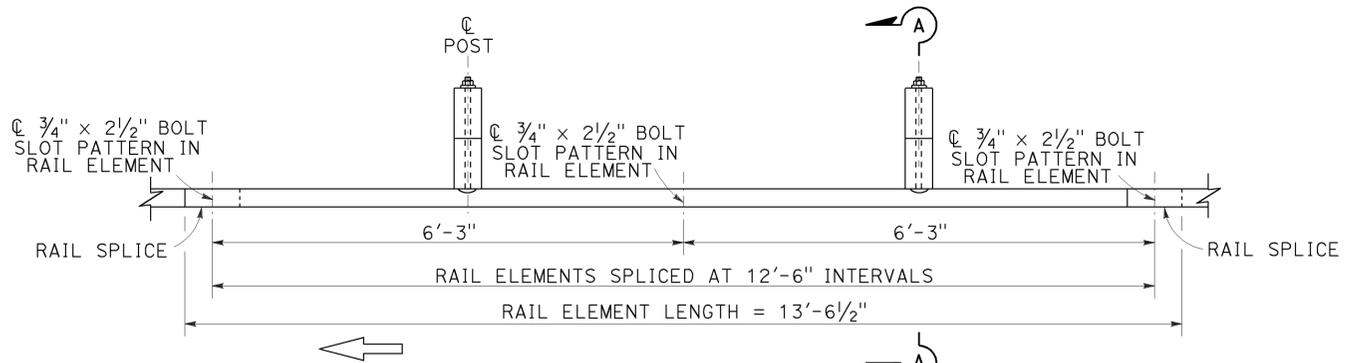
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

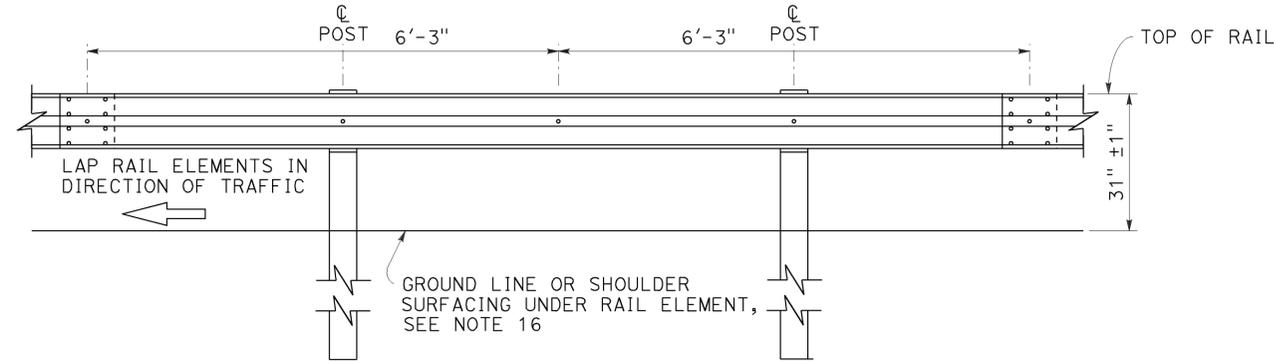
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REGISTERED PROFESSIONAL ENGINEER
No. C50200
Exp. 6-30-15
CIVIL
STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 6-15-15

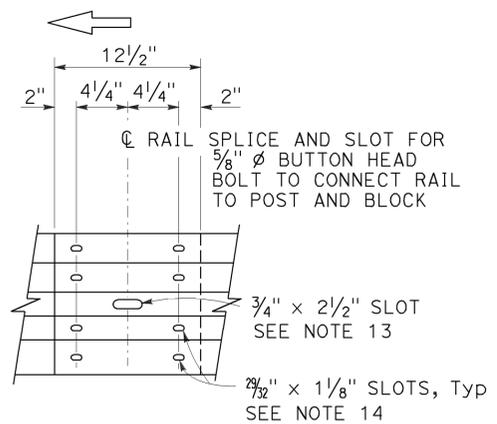


PLAN



ELEVATION

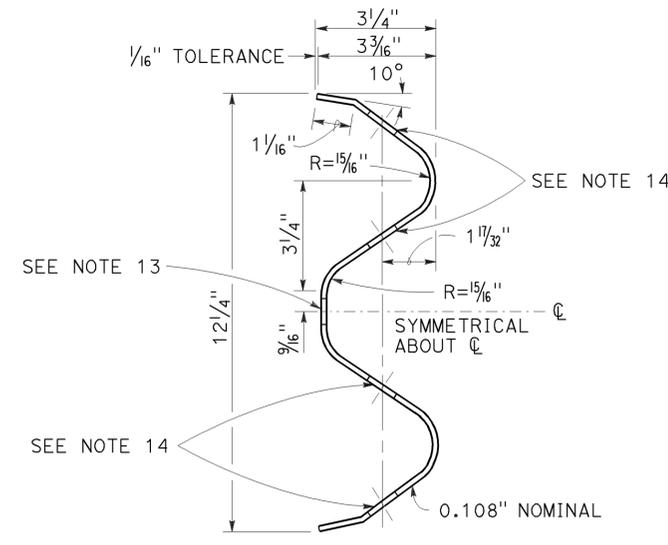
MIDWEST GUARDRAIL SYSTEM WITH WOOD POST AND BLOCKS



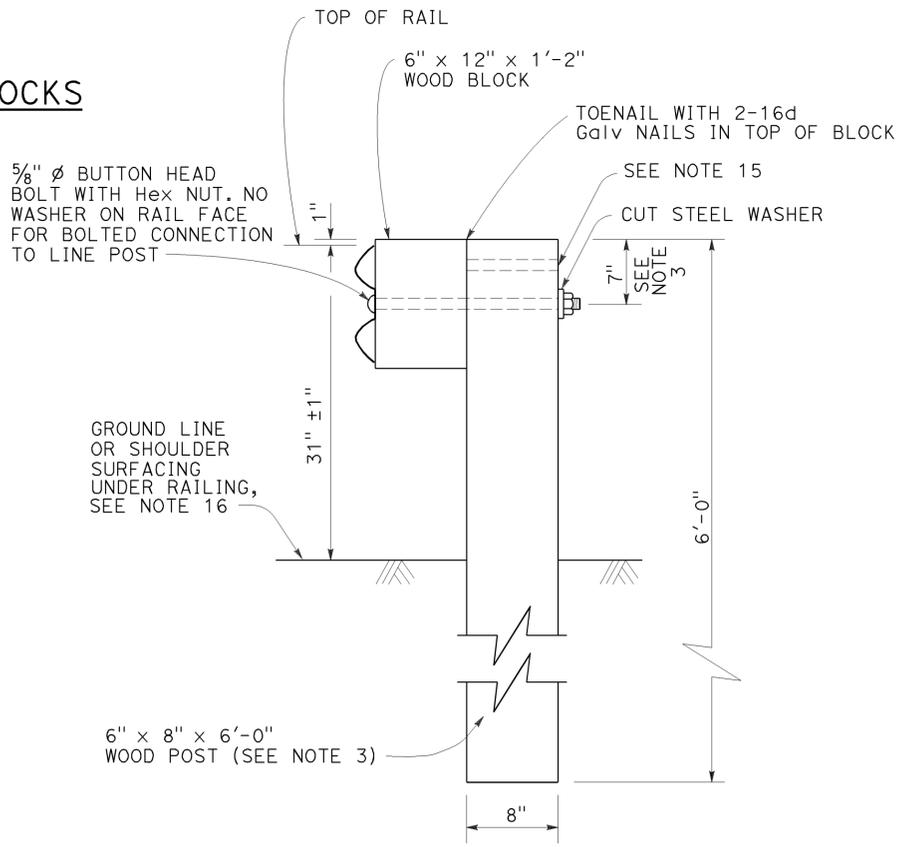
ELEVATION

RAIL ELEMENT SPLICE DETAIL

- Connect the over lapped end of the rail elements with $\frac{5}{8}$ " ϕ \times $1\frac{3}{8}$ " button head oval shoulder splice bolts inserted into the $\frac{29}{32}$ " \times $1\frac{1}{8}$ " slots and bolted together with $\frac{5}{8}$ " ϕ recessed hex nuts. Recess of hex nut points toward rail element. A total of 8 bolts and nuts are to be used at each rail splice connection.
- The ends of the rail elements are to be overlapped in the direction of traffic (see details).
- Where end cap is to be attached to the end of a rail element, a total of 4 of the above described splice bolts and nuts are to be used.



SECTION THRU RAIL ELEMENT



SECTION A-A
TYPICAL WOOD LINE POST INSTALLATION

See Note 4

NOTES:

- For details of steel post installations, see Revised Standard Plan RSP A77L2.
- For details of standard hardware used to construct MGS, see Revised Standard Plan RSP A77M1.
- For details of wood posts and wood blocks used to construct MGS, see Revised Standard Plan RSP A77N1.
- For additional installation details, see Revised Standard Plan RSP A77N3.
- MGS post spacing to be 6'-3" center to center, except as otherwise noted.
- For MGS typical layouts, see the A77P, A77Q and A77R Series of Standard Plans.
- If railing is connected to terminal system end treatment, use 31" height terminal system end treatment.
- For MGS end anchor details, see Revised Standard Plans RSP A77S1 and RSP A77T2.
- For details of MGS transition to bridge railing, see Revised Standard Plan RSP A77U4.
- For additional details of MGS connection to bridge railing, see Revised Standard Plans RSP A77U1, RSP A77U2 and RSP A77V1.
- For MGS connection details to abutments and walls, see Revised Standard Plan RSP A77U3.
- For typical MGS delineation and dike positioning details, see Revised Standard Plan RSP A77N4.
- Slotted hole for bolted connection of rail element to block and post. See "Section Thru Rail Element".
- Slotted holes for splice bolts to overlap ends of rail element. See "Section Thru Rail Element".
- Additional hole in uppermost portion of line post is for potential future adjustments of railing height. See Revised Standard Plan RSP A77N1.
- Install posts in soil.

STATE OF CALIFORNIA
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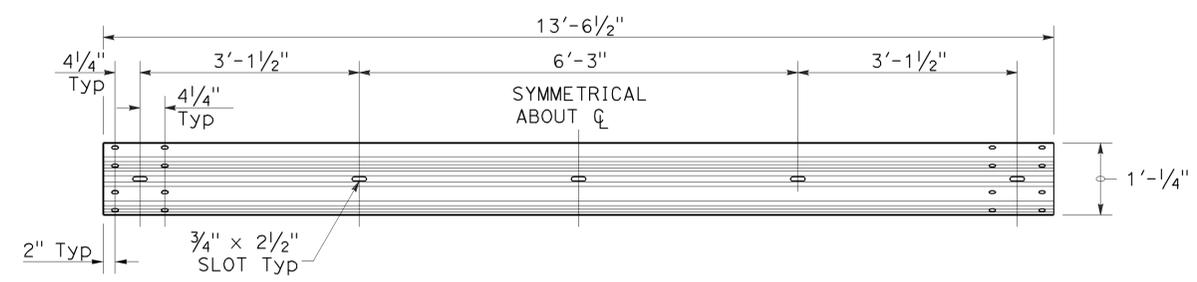
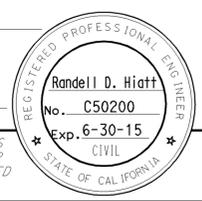
MIDWEST GUARDRAIL SYSTEM
STANDARD RAILING SECTION
(WOOD POST WITH WOOD BLOCK)

NO SCALE

RSP A77L1 DATED JULY 19, 2013 SUPPLEMENTS STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77L1

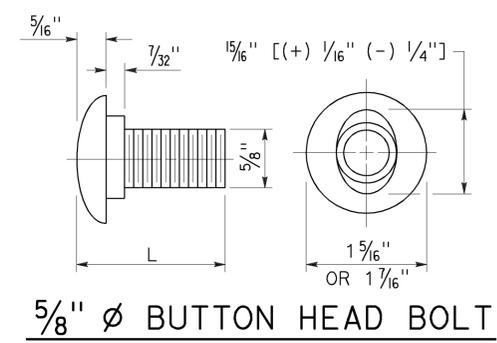
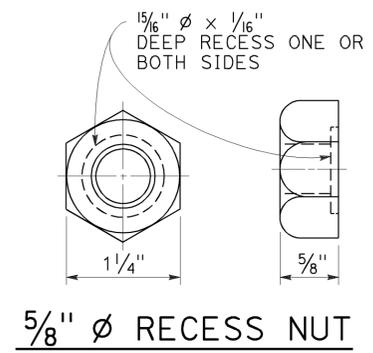
2010 REVISED STANDARD PLAN RSP A77L1



TYPICAL RAIL ELEMENT

NOTE:

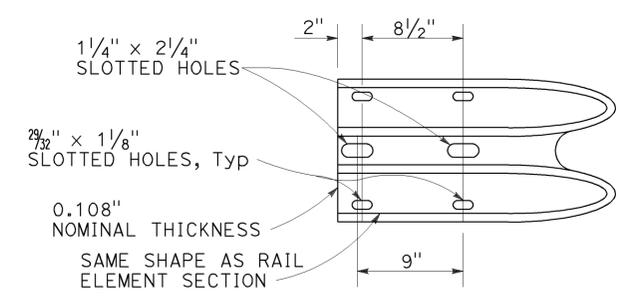
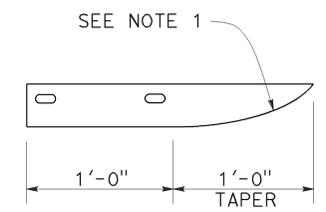
- Slotted holes for splice bolts to overlap ends of rail element.



BUTTON HEAD BOLT

L	THREAD LENGTH
1 3/8"	FULL THREAD LENGTH
2"	FULL THREAD LENGTH
10"	4" Min THREAD LENGTH
18"	4" Min THREAD LENGTH
20"	4" Min THREAD LENGTH
22"	4" Min THREAD LENGTH
26"	4" Min THREAD LENGTH
36"	4" Min THREAD LENGTH
** 2 3/4"	2" Min THREAD LENGTH
** 19"	4" Min THREAD LENGTH

** For nested rail applications.



STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**MIDWEST GUARDRAIL SYSTEM
STANDARD HARDWARE**

NO SCALE

RSP A77M1 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77M1

2010 REVISED STANDARD PLAN RSP A77M1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
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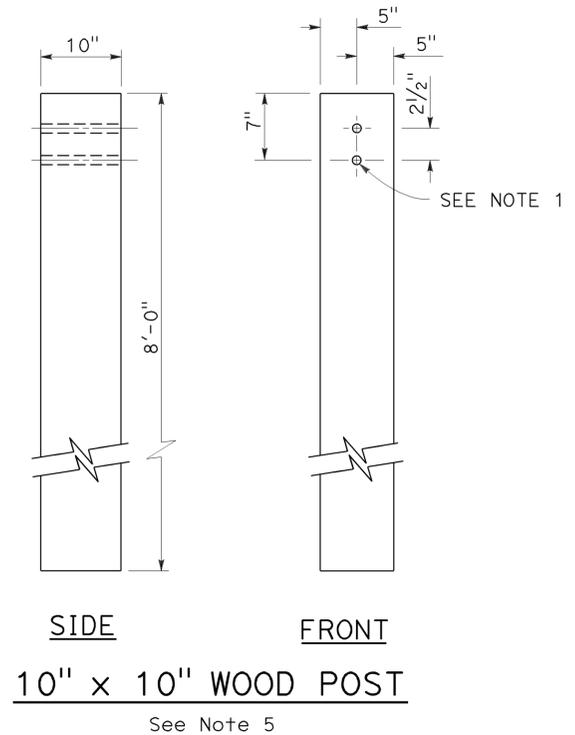
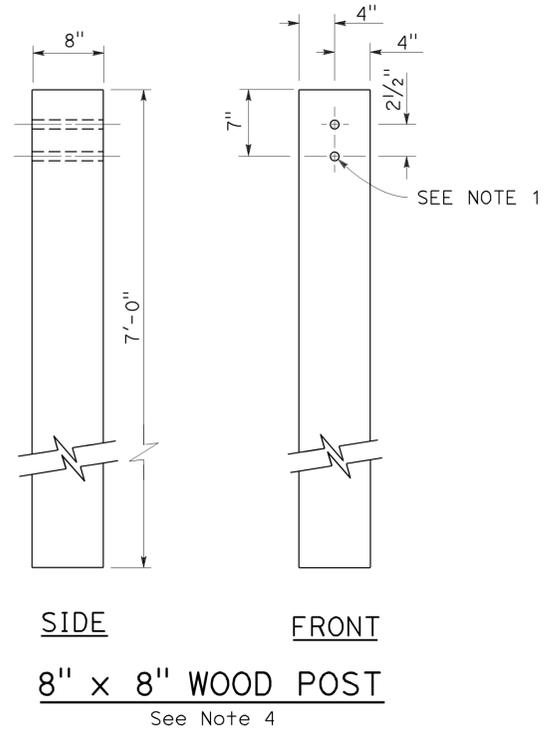
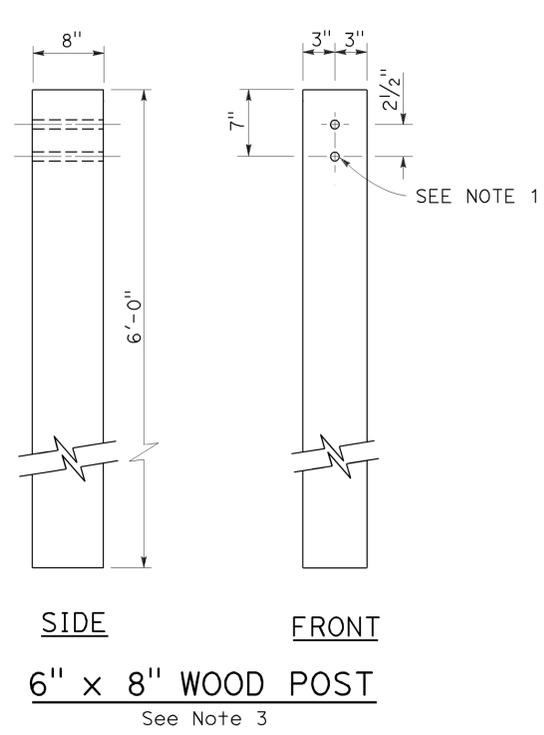
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

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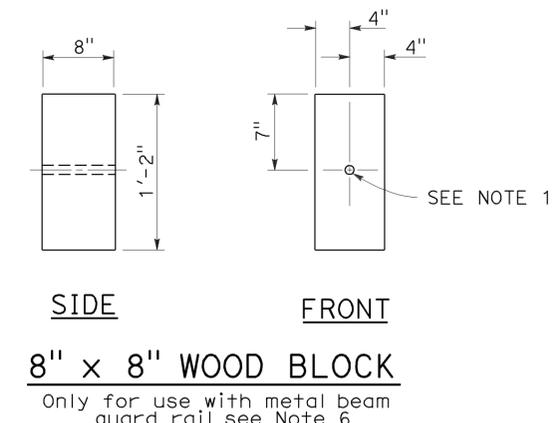
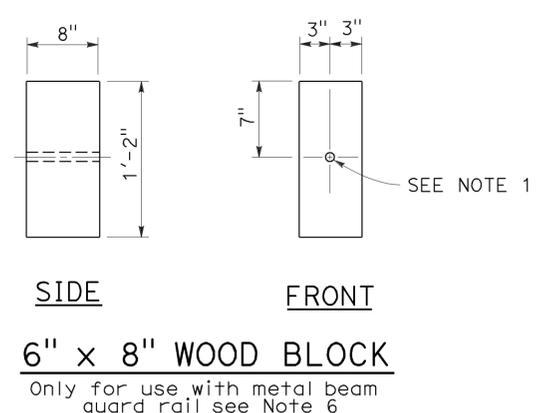
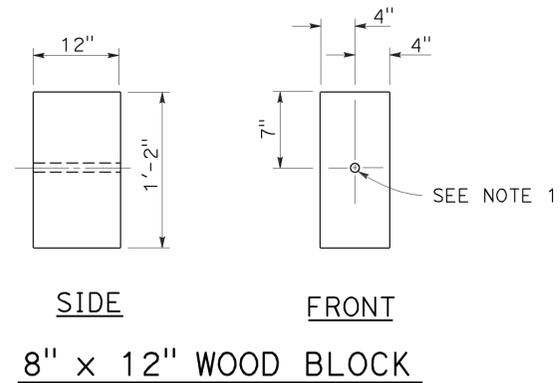
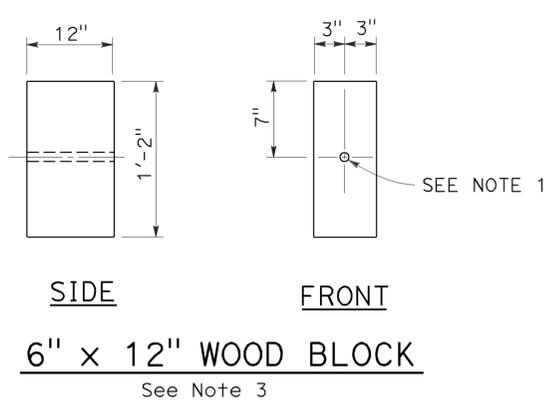
REGISTERED PROFESSIONAL ENGINEER
Randell D. Hiatt
No. C50200
Exp. 6-30-15
CIVIL
STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 6-15-15



NOTES:

1. All holes in wood posts and blocks shall be 3/4" Dia ± 1/16".
2. Dimensions shown for wood post are nominal.
3. This post and block combination used for standard line post sections of MGS.
4. This post and 8" x 12" block combination used for line post sections of MGS on narrow roadways.
5. This post and 8" x 12" block combination is typically used where strengthened line post sections of MGS are warranted to shield fixed objects.
6. See Revised Standard Plan RSP A77L3 for use of 6" x 8" and 8" x 8" wood blocks.



STATE OF CALIFORNIA
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**MIDWEST GUARDRAIL SYSTEM
WOOD POST AND
WOOD BLOCK DETAILS**

NO SCALE

RSP A77N1 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77N1

2010 REVISED STANDARD PLAN RSP A77N1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
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Randell D. Hiatt
REGISTERED CIVIL ENGINEER

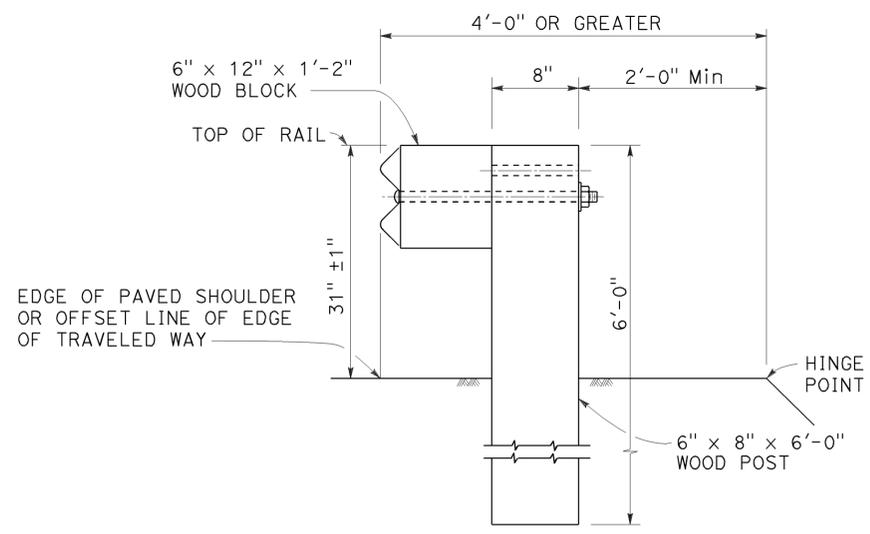
November 15, 2013
PLANS APPROVAL DATE

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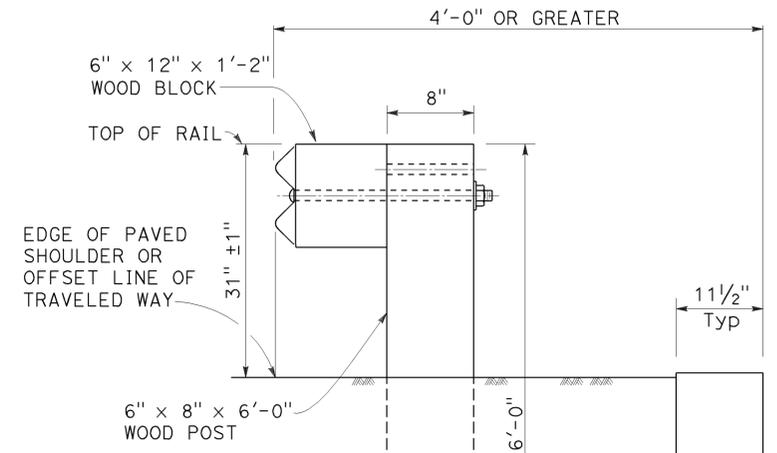
6-15-15



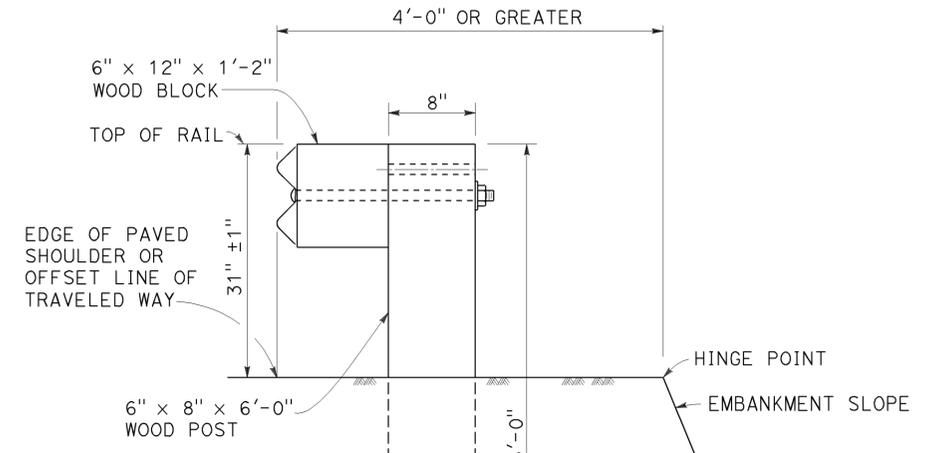
TO ACCOMPANY PLANS DATED 6-15-15



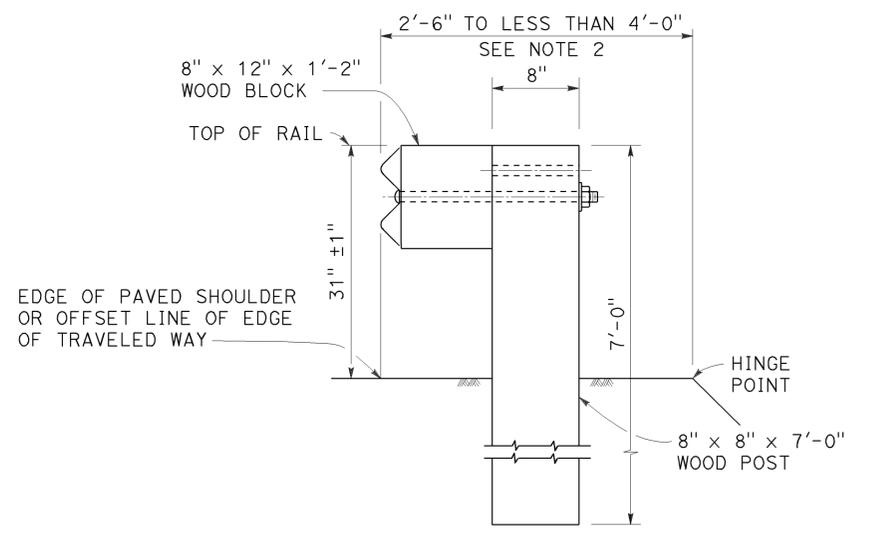
DETAIL A
TYPICAL ROADWAY
INSTALLATION
See Note 1



DETAIL C
INSTALLATION AT EARTH RETAINING WALLS



DETAIL D



DETAIL B
NARROW ROADWAY
INSTALLATION
See Note 1

POST EMBEDMENT

NOTES:

1. These installation details also applicable to steel line post installations. For Detail A, C, and D, where steel line post installations are constructed, W6 x 8.5 or W6 x 9 steel post, 6'-0" in length, with 6" x 12" x 1'-2" notched wood blocks or notched recycled plastic blocks are to be used in place of the size of wood post and wood block shown. For Detail B, where steel line post installations are constructed, W6 x 15 steel post, 8'-0" in length, with 8" x 12" x 1'-2" notched wood blocks or notched recycled plastic blocks are to be used in place of the size of wood post and wood block shown. For additional installation details, see Revised Standard Plan RSP A77L1 and RSP A77L2.
2. Where the distance between the face of the rail and the hinge point is less than 2'-6", see the Project Plans for special details.
3. For dike positioning with MGS installations, see Revised Standard Plan RSP A77N4.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

MIDWEST GUARDRAIL SYSTEM
TYPICAL LINE POST
EMBEDMENT AND
HINGE POINT OFFSET DETAILS

NO SCALE

RSP A77N3 DATED NOVEMBER 15, 2013 SUPERSEDES RSP A77N3
DATED JULY 19, 2013 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77N3

2010 REVISED STANDARD PLAN RSP A77N3

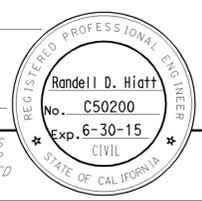
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SF	280	R0.1, R1.5	45	77

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

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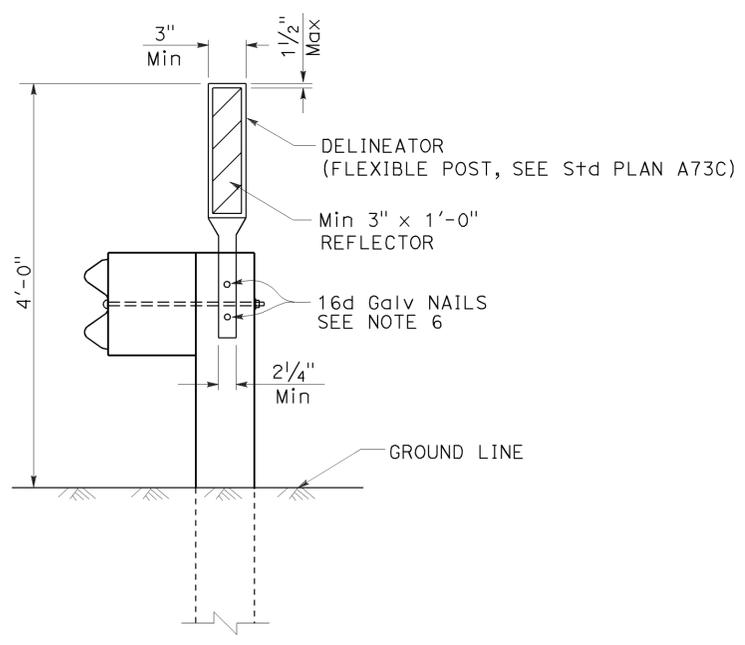
6-15-15



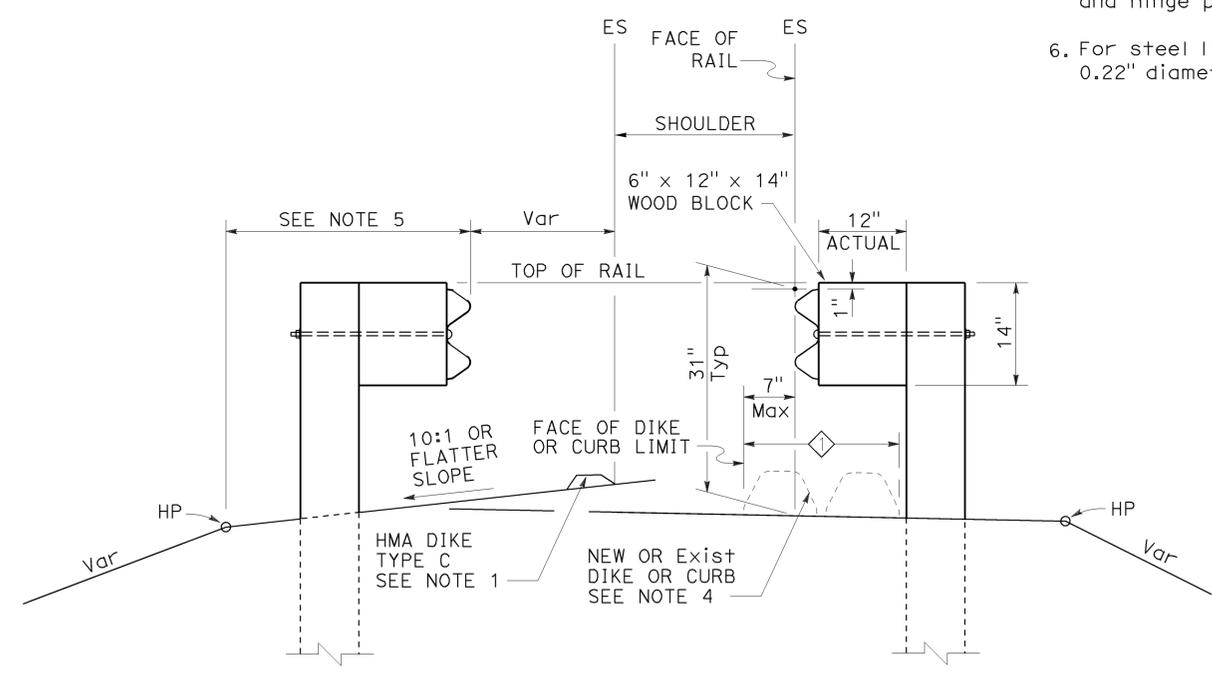
TO ACCOMPANY PLANS DATED 6-15-15

NOTES:

1. When necessary to place dike more than 7" in front of face of MGS, only Type C dike may be used. For dike details, see Revised Standard Plan RSP A87B.
2. For standard railing post embedment, see Revised Standard Plan RSP A77N3.
3. MGS delineation to be used where shown on the Project Plans.
4. When dike or curb is placed under MGS, the maximum height of the dike or curb shall be 6". Mountable dike should not be used. For dike and curb details, see Revised Standard Plans RSP A87A and RSP A87B.
5. For details of typical distance between the face of rail and hinge point, see Revised Standard Plan RSP A77N3.
6. For steel line posts, use 1/4" - 20 self-tapping screws in 0.22" diameter holes or 1/4" bolts in 3/32" diameter holes.



MGS DELINEATION
See Note 3



DIKE POSITIONING
See Note 1

◇ PERMISSIBLE DIKE OR CURB PLACEMENT AREA

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**MIDWEST GUARDRAIL SYSTEM
TYPICAL RAILING DELINEATION
AND DIKE POSITIONING DETAILS**
NO SCALE

RSP A77N4 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77N4

2010 REVISED STANDARD PLAN RSP A77N4

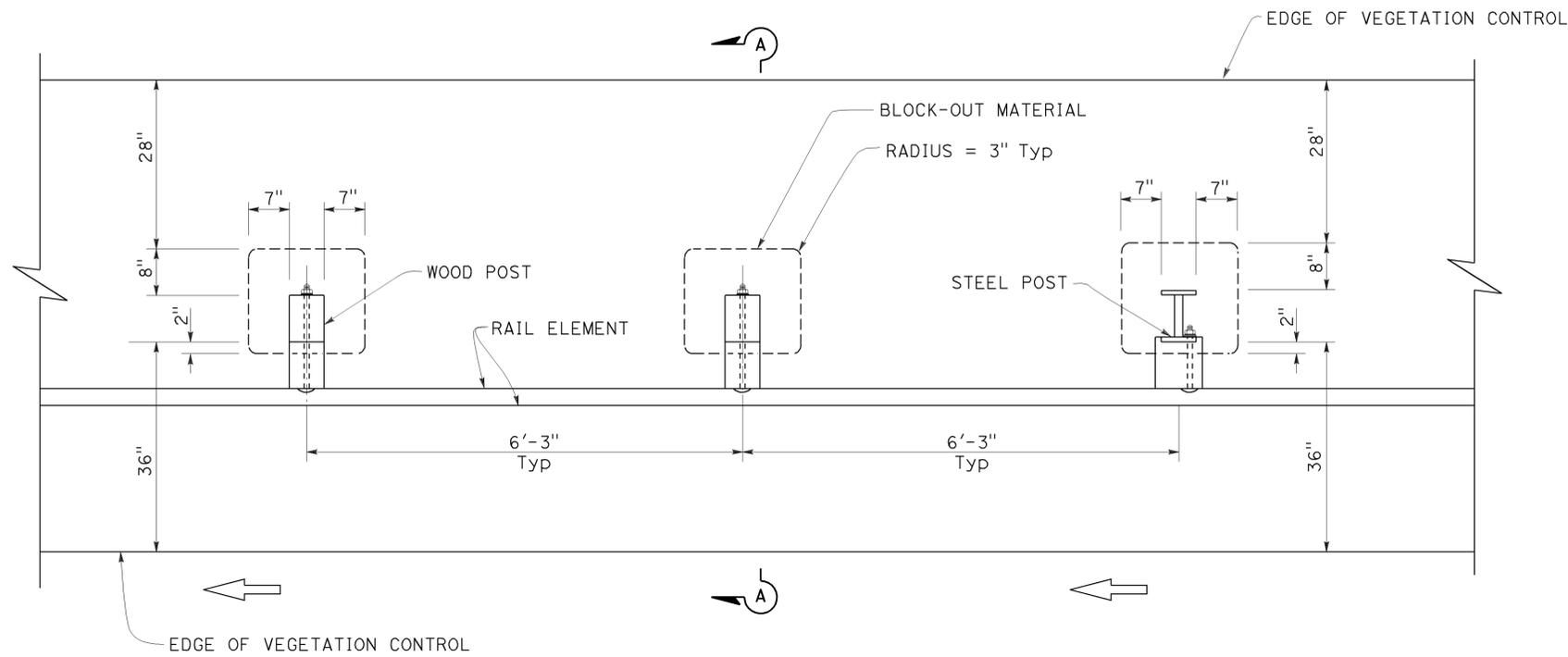
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SF	280	RO.1, R1.5	46	77

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

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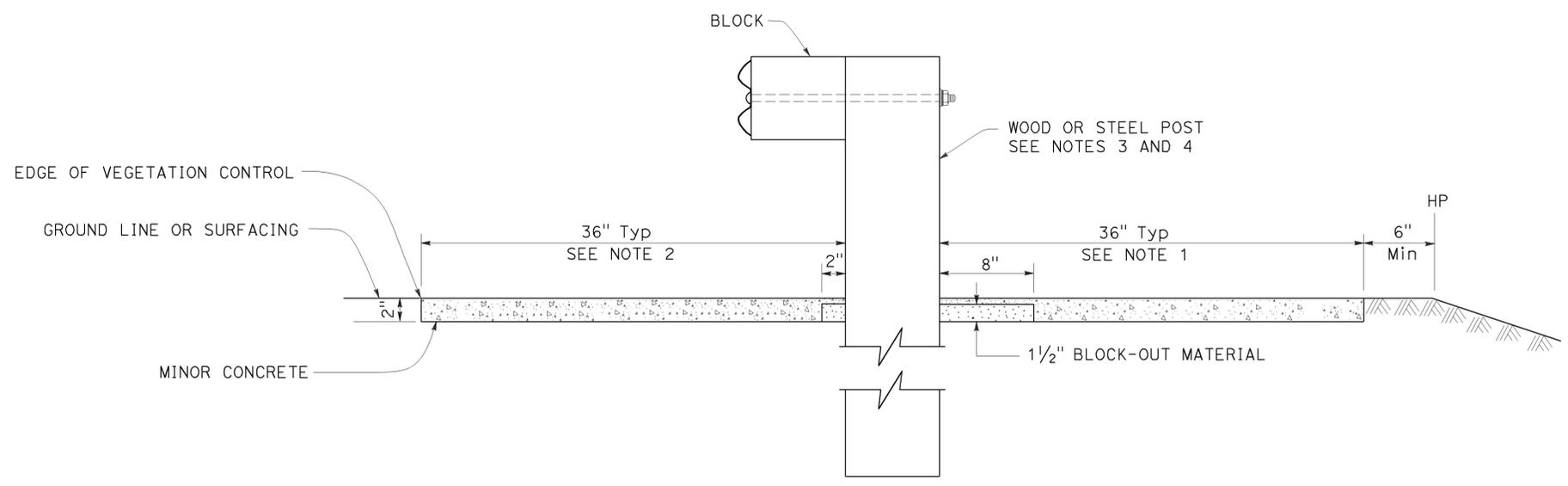
TO ACCOMPANY PLANS DATED 6-15-15



PLAN

NOTES:

1. Where the distance between back of post and hinge point is less than 42", construct vegetation control to 6" from hinge point while maintaining the 8" block-out at back of post. If the 8" block-out at back of post can not be maintained, construct vegetation control flush with the back edge of post.
2. Where dike is constructed under railing, construct vegetation control to back edge of dike. Where paved shoulder is constructed within 36" in front of the post, construct vegetation control to the edge of paved shoulder.
3. For wood post sizes, see Revised Standard Plan RSP A77N1.
4. For steel post sizes, see Revised Standard Plan RSP A77N2.
5. For details not shown, see Revised Standard Plans RSP A77L1 and RSP A77L2.



SECTION A-A

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**MIDWEST GUARDRAIL SYSTEM
TYPICAL VEGETATION CONTROL
STANDARD RAILING SECTION**

NO SCALE

RSP A77N5 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77N5

2010 REVISED STANDARD PLAN RSP A77N5

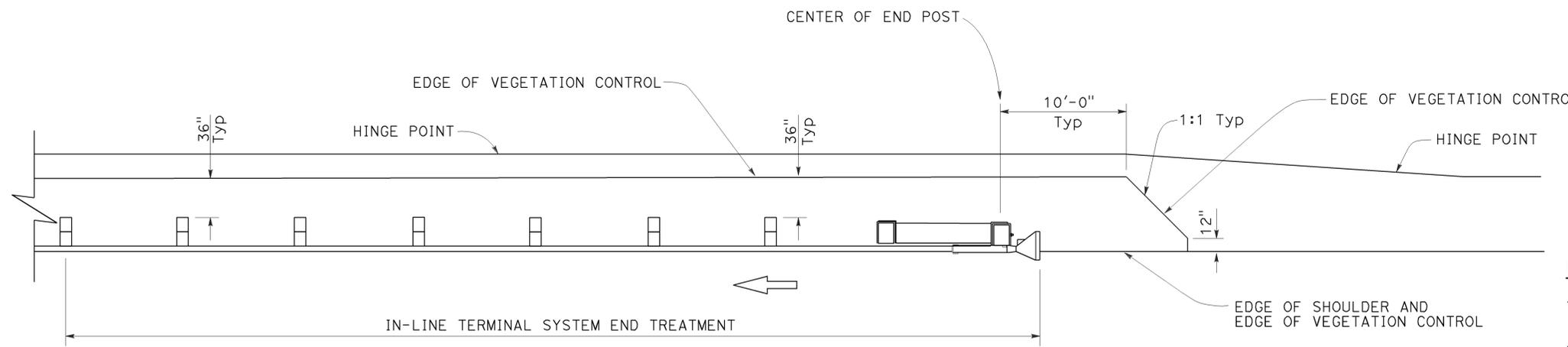
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SF	280	R0.1, R1.5	47	77

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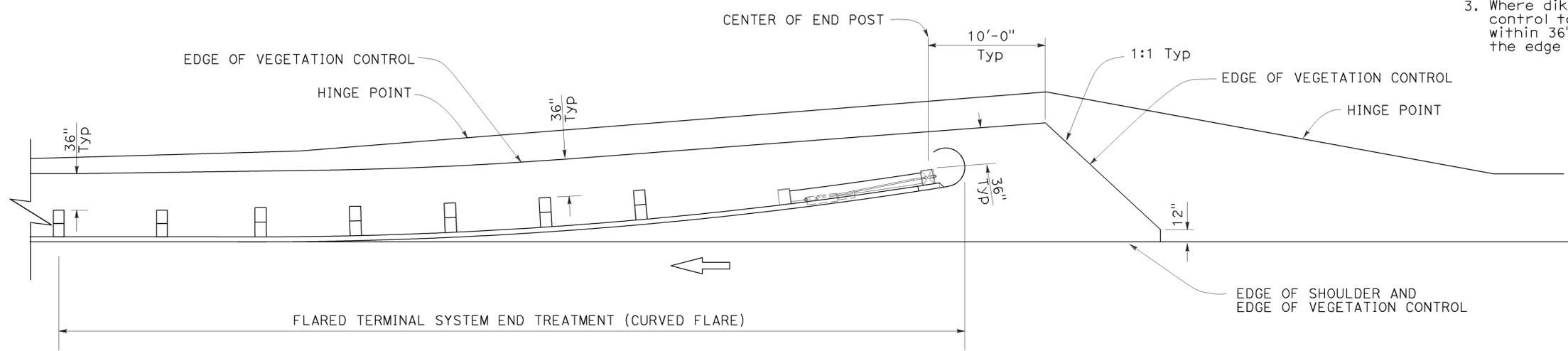
TO ACCOMPANY PLANS DATED 6-15-15



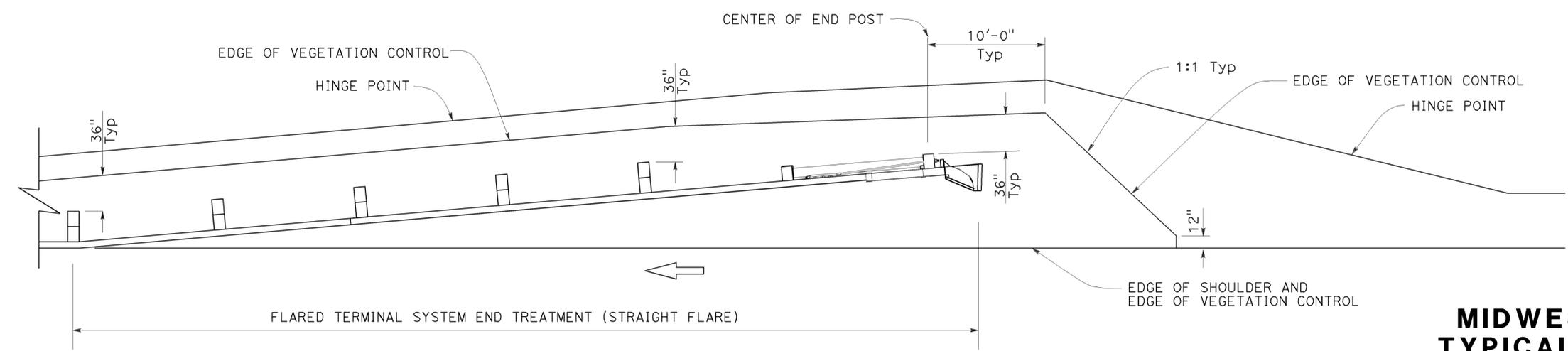
PLAN

NOTES:

1. See Revised Standard Plan RSP A77N5 for additional vegetation control details.
2. Where the distance between back of post and hinge point is less than 42", construct vegetation control to 6" from hinge point while maintaining the 8" block-out at back of post. If the 8" block-out at back of post can not be maintained, construct vegetation control flush with the back edge of post.
3. Where dike is constructed under railing, construct vegetation control to back edge of dike. Where paved shoulder is constructed within 36" in front of the post, construct vegetation control to the edge of paved shoulder.



PLAN



PLAN

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**MIDWEST GUARDRAIL SYSTEM
TYPICAL VEGETATION CONTROL
FOR TERMINAL SYSTEM END TREATMENTS**

NO SCALE

RSP A77N6 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77N6

2010 REVISED STANDARD PLAN RSP A77N6

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SF	280	R0.1, R1.5	48	77

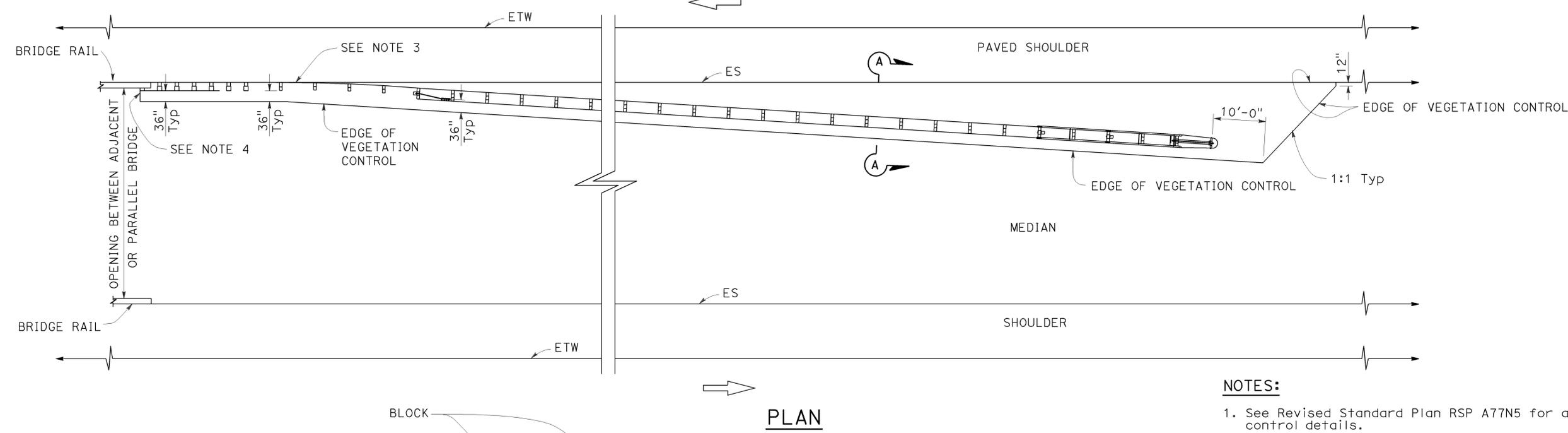
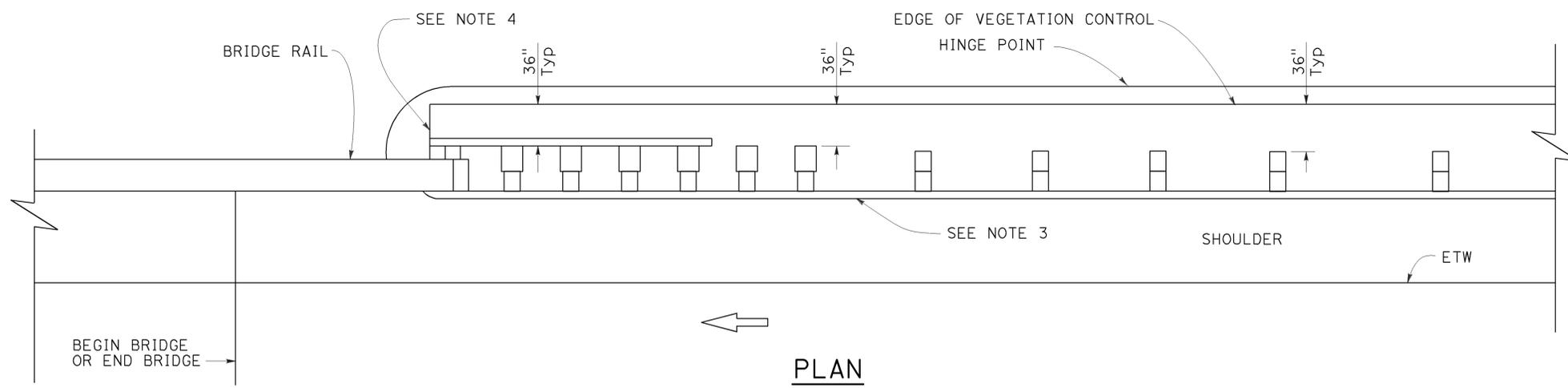
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July 19, 2013
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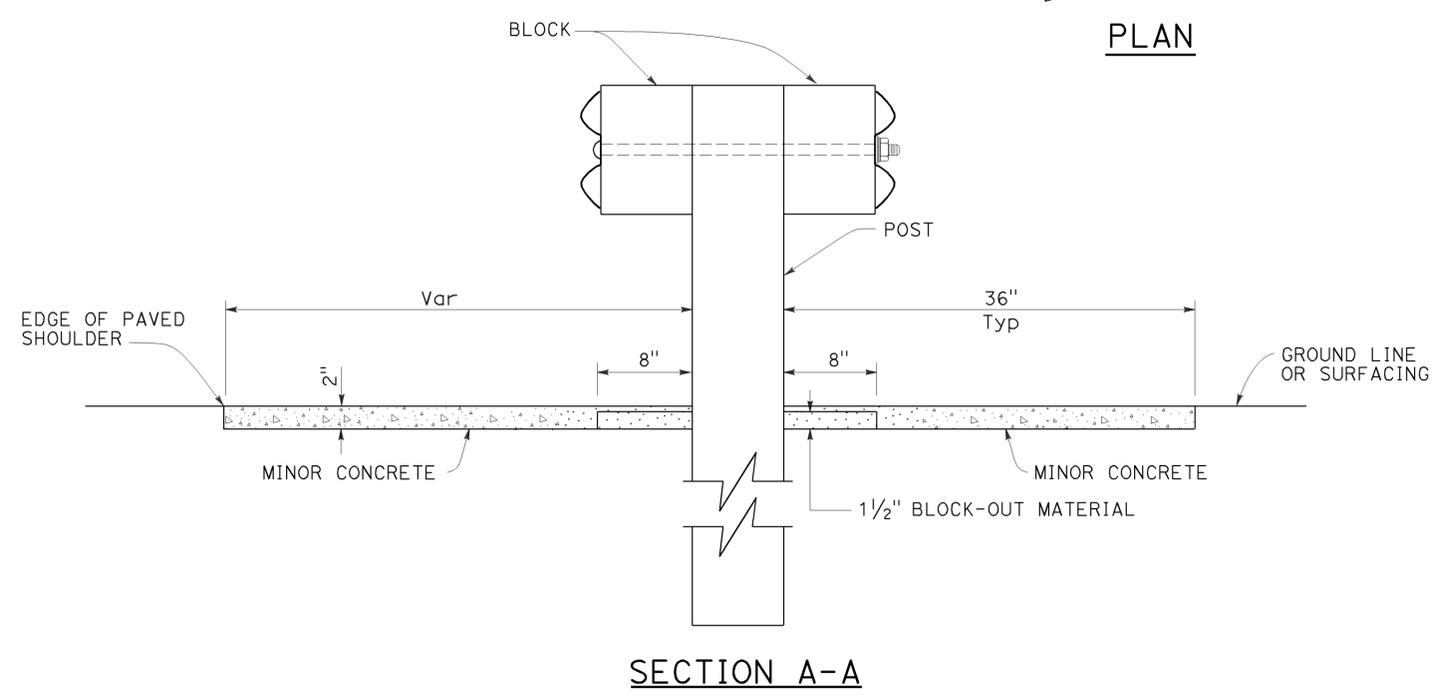
TO ACCOMPANY PLANS DATED 6-15-15

2010 REVISED STANDARD PLAN RSP A77N7



NOTES:

1. See Revised Standard Plan RSP A77N5 for additional vegetation control details.
2. Where the distance between back of post and hinge point is less than 42", construct vegetation control to 6" from hinge point while maintaining the 8" block-out at back of post. If the 8" block-out at back of post can not be maintained, construct vegetation control flush with the back edge of post.
3. Where dike is constructed under railing, construct vegetation control to back edge of dike. Where paved shoulder is constructed within 36" in front of the post, construct vegetation control to the edge of paved shoulder.
4. End vegetation control at end of backside rail element.



STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**MIDWEST GUARDRAIL SYSTEM
TYPICAL VEGETATION CONTROL
AT STRUCTURE APPROACH**

NO SCALE

RSP A77N7 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

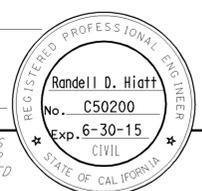
REVISED STANDARD PLAN RSP A77N7

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SF	280	R0.1, R1.5	49	77

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

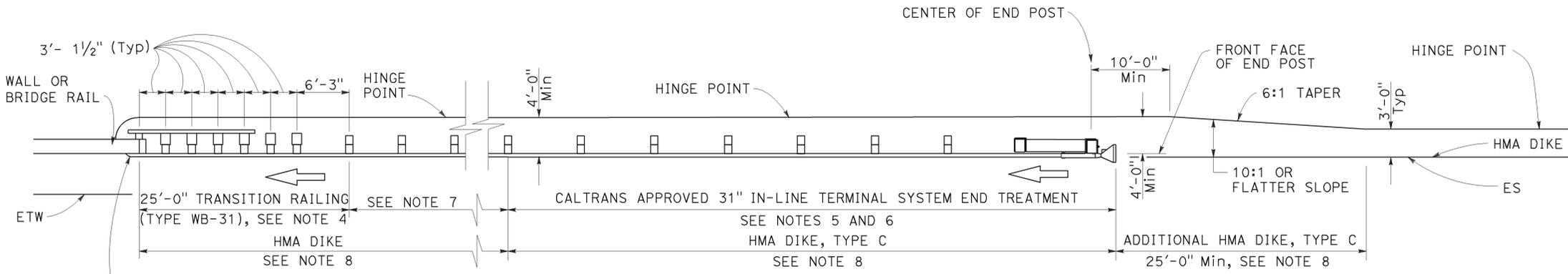
July 19, 2013
PLANS APPROVAL DATE

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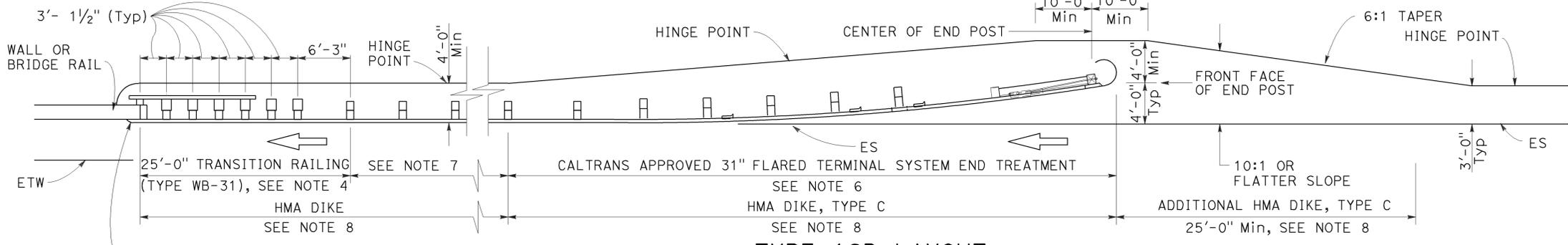
TO ACCOMPANY PLANS DATED 6-15-15

2010 REVISED STANDARD PLAN RSP A77Q1



TYPE 12A LAYOUT

(MGS installation at structure approach with 31" in-line end treatment at traffic approach end of railing)
See Notes 9



TYPE 12B LAYOUT

(MGS installation at structure approach with 31" Flared end treatment at traffic approach end of railing)
See Notes 9

NOTES:

- Line post, blocks and hardware to be used are shown on Revised Standard Plans RSP A77L1, RSP A77L2, RSP A77M1, RSP A77N1 and RSP A77N2.
- MGS post spacing to be 6'-3" center to center, except as otherwise noted.
- Except as noted, line posts are 6" x 8" x 6'-0" wood with 6" x 12" x 1'-2" wood blocks. W6 x 8.5 or W6 x 9 steel posts, 6'-0" in length, with 6" x 12" x 1'-2" notched wood blocks or plastic blocks may be used for 6" x 8" x 6'-0" wood posts with 6" x 12" x 1'-2" wood blocks where applicable and when specified.
- For Transition Railing (Type WB-31) details for Types 12A and 12B Layouts, see Revised Standard Plan RSP A77U4.
- 31" in-line terminal system end treatments are used where site conditions will not accommodate a 31" flared end treatment.
- The type 31" of terminal system end treatment to be used will be shown on the Project Plans.
- Dependent on site conditions (embankment height, side slopes, or other fixed objects), it may be advisable to construct additional guard railing (a length equal to multiples of 12'-6" with 6'-3" post spacing) between the transition railing and end treatment. A 12.5 degree angle of departure can be drawn on the Project Plans from the edge of traveled way through the outer most point of the fixed object to determine the additional length of railing needed.
- Where placement of dike is required with guard railing installations, see Revised Standard Plan RSP A77N4 for dike positioning details.
- Type 12A or Type 12B Layouts are typically used:
 - To the right of approaching traffic, at the end of a structure, on two-lane conventional highway where the roadbed width across the structure is less than 40 feet.
 - To the left of approaching traffic, at the end of a structure, on two-lane conventional highway where the roadbed width across the structure is less than 40 feet.
 - To the right of approaching traffic at the end of each structure on multilane freeways or expressways with separate adjacent or parallel bridges.
 - To the right of approaching traffic at the end of the structure on multilane freeways or expressways with decked median on the bridge.
- See Revised Standard Plan RSP A77Q3 for typical layout used left of approaching traffic at the ends of each structure on multilane freeways or expressways with separate adjacent or parallel bridges.
- For additional details of typical connections to bridge rail, see Connection Detail AA on Revised Standard Plans RSP A77U1 and RSP A77U2 and Connection Detail FF on Revised Standard Plans RSP A77V1 and RSP A77V2.
- For additional details of a typical connection to walls or abutments, see Revised Standard Plan RSP A77U3.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**MIDWEST GUARDRAIL SYSTEM
TYPICAL LAYOUTS FOR
STRUCTURE APPROACH**

NO SCALE

RSP A77Q1 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77Q1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
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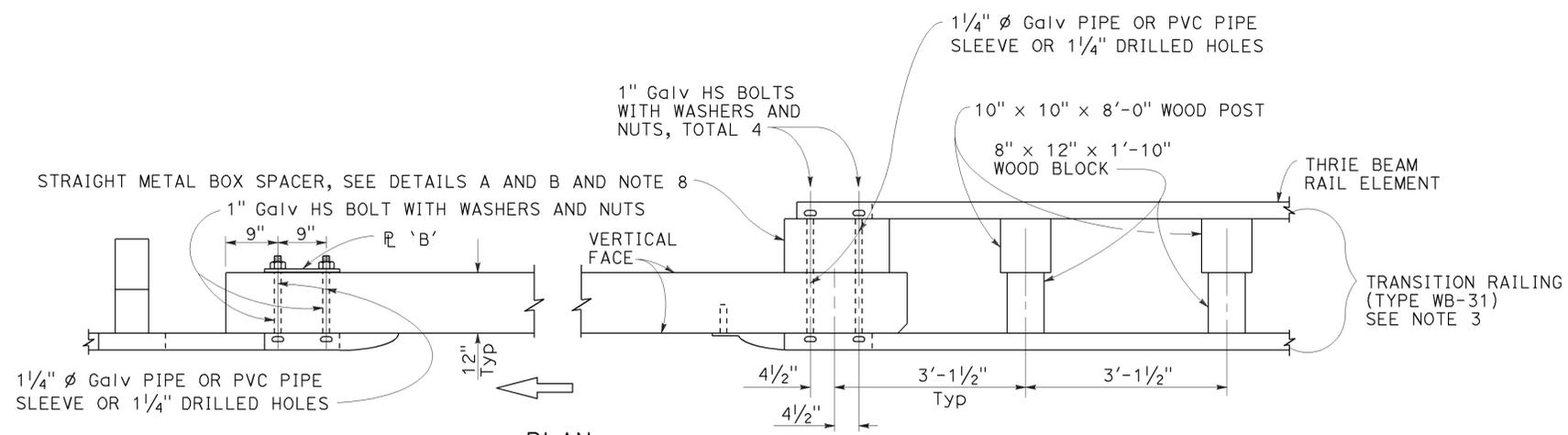
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

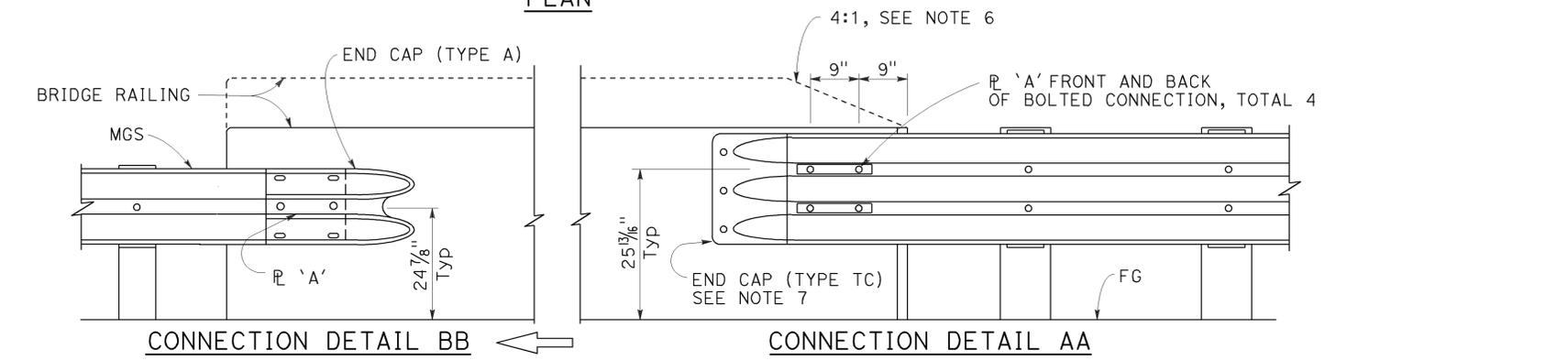
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Randell D. Hiatt
No. C50200
Exp. 6-30-15
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STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 6-15-15



PLAN

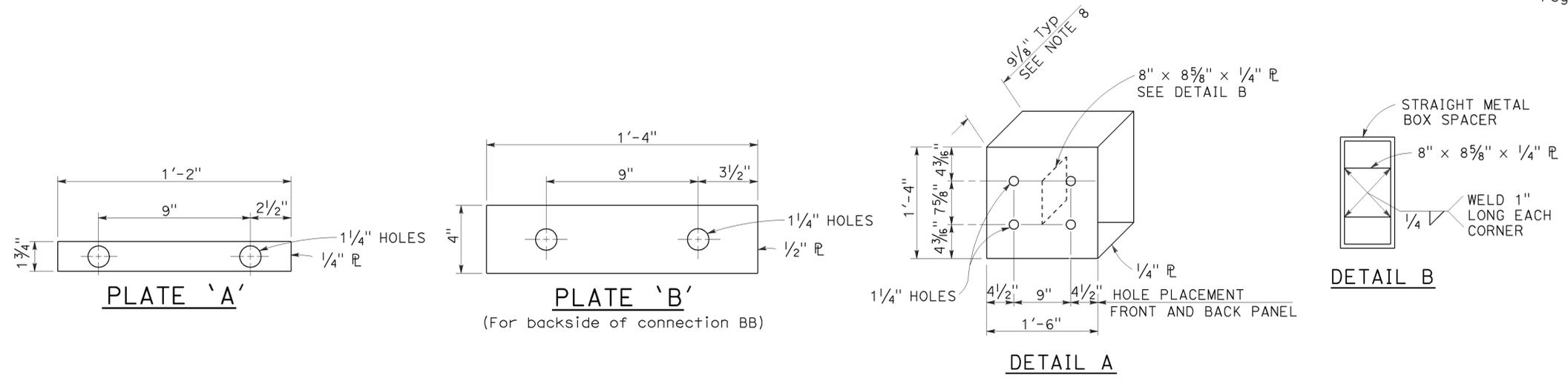


ELEVATION

MIDWEST GUARDRAIL SYSTEM CONNECTION TO BRIDGE RAILING WITHOUT SIDEWALK

NOTES:

1. See Revised Standard Plan RSP A77U2 for additional connection details to bridges without sidewalks.
2. Additional details of posts, blocks and hardware are shown on Revised Standard Plans RSP A77M1, RSP A77N1 and RSP A77N2.
3. For additional details of Transition Railing (Type WB-31), see Revised Standard Plan RSP A77U4. Transition Railing (Type WB-31) transitions the 12 gauge MGS railing section to a heavier gage nested thrie beam railing section which is connected to the concrete bridge railing.
4. For typical use of Connection Detail AA, see Layout Types 12A and 12B on Revised Standard Plan RSP A77Q1, Layout Types 12C and 12D on Revised Standard Plan RSP A77Q2, and Layout Type 12E on Revised Standard Plan RSP A77Q3.
5. For typical use of Connection Detail BB, see Layout Type 12D (structure departure railing connection) on Revised Standard Plan RSP A77Q2 and Layout Type 12DD on Revised Standard Plan RSP A77Q5.
6. Where the height of the bridge railing exceeds the height of the thrie beam railing by more than 1" at Connection Detail AA, taper the top of the end of the bridge railing at 4:1 to match the top elevation of the thrie beam rail.
7. For details of End Cap (Type TC), see Revised Standard Plan RSP A77U4.
8. See Revised Standard Plan RSP A77U4 for additional details regarding depth dimension for straight metal box spacer.



STRAIGHT METAL BOX SPACER

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**MIDWEST GUARDRAIL SYSTEM
CONNECTIONS TO
BRIDGE RAILINGS
WITHOUT SIDEWALKS
DETAILS No. 1**

NO SCALE

RSP A77U1 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77U1

2010 REVISED STANDARD PLAN RSP A77U1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
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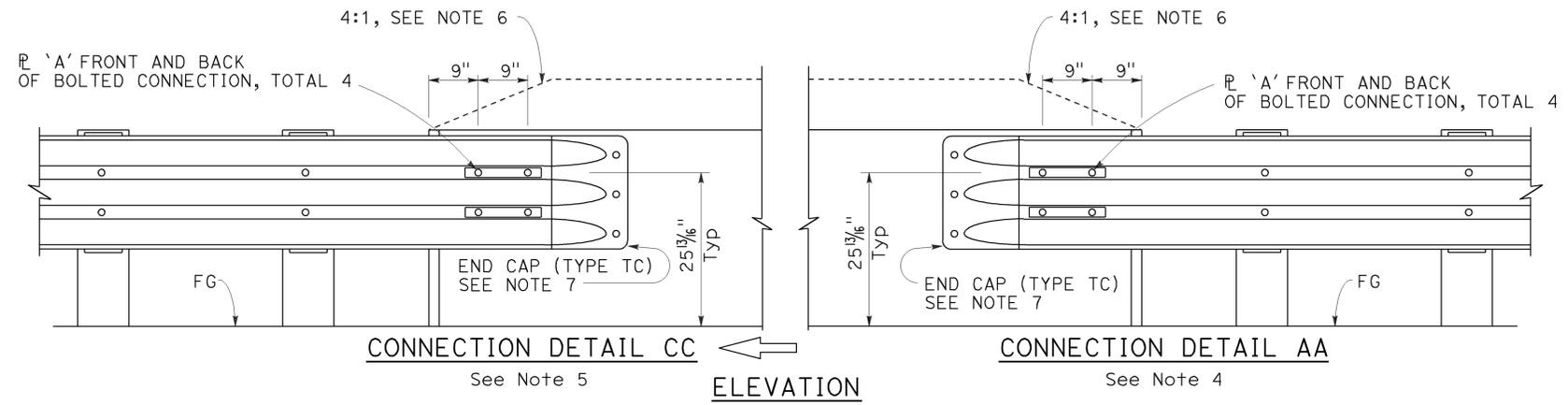
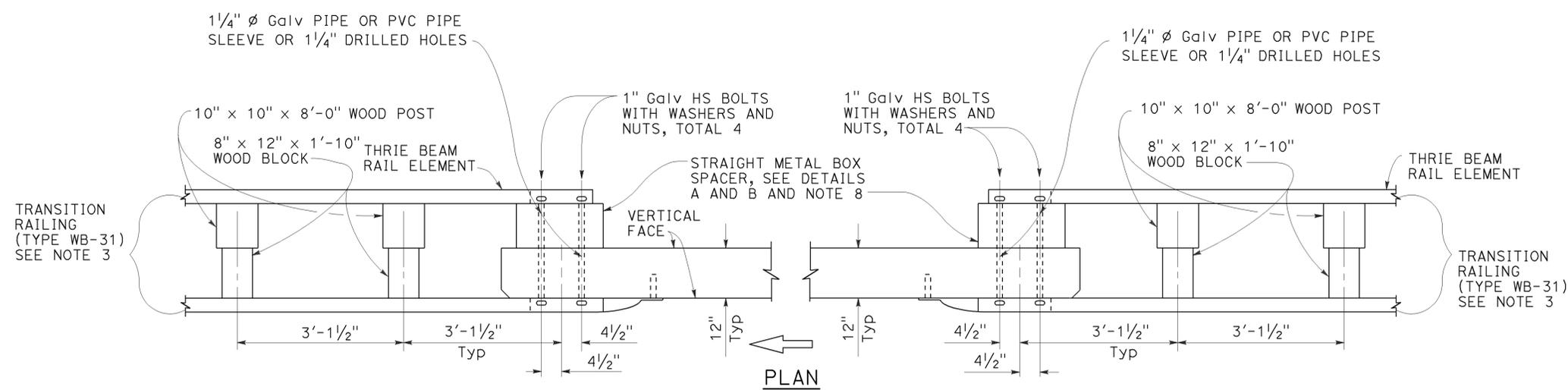
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

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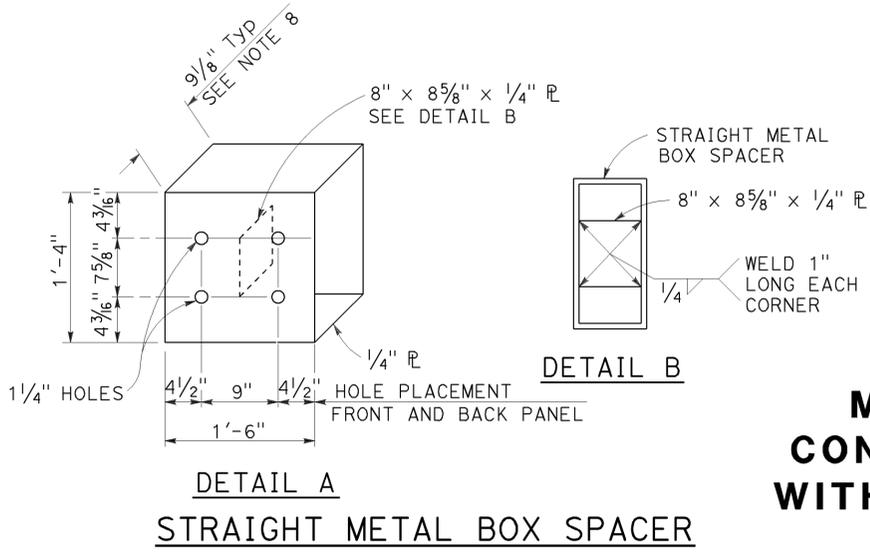
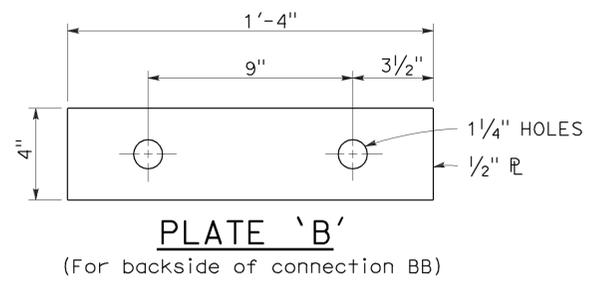
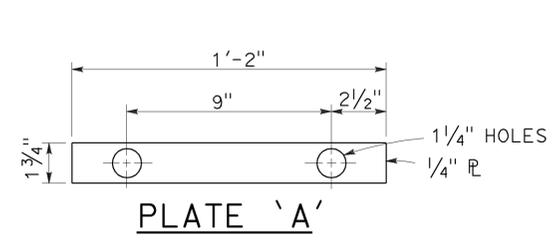
TO ACCOMPANY PLANS DATED 6-15-15



MIDWEST GUARDRAIL SYSTEM CONNECTION TO BRIDGE RAILING WITHOUT SIDEWALK

NOTES:

1. See Revised Standard Plan RSP A77U1 for additional connection details to bridges without sidewalks.
2. Additional details of posts, blocks and hardware are shown on Revised Standard Plans RSP A77M1, RSP A77N1 and RSP A77N2.
3. For additional details of Transition Railing (Type WB-31), see Revised Standard Plan RSP A77U4. Transition Railing (Type WB-31) transitions the 12 gauge MGS railing section to a heavier gage nested thrie beam railing section which is connected to the concrete bridge railing.
4. For typical use of Connection Detail AA, see Layout Types 12A and 12B on Revised Standard Plan RSP A77Q1, Layout Types 12C and 12D on Revised Standard Plan RSP A77Q2, and Layout Type 12E on Revised Standard Plan RSP A77Q3.
5. For typical use of Connection Detail CC, see Layout Types 12AA and 12BB on Revised Standard Plan RSP A77Q4 and Layout Type 12CC on Revised Standard Plan RSP A77Q5.
6. Where the height of the bridge railing exceeds the height of the thrie beam railing by more than 1" at Connection Detail AA and connection Detail CC, taper the top of the end of the bridge railing at 4:1 to match the top elevation of the thrie beam railing.
7. For details of End Cap (Type TC), see Revised Standard Plan RSP A77U4.
8. See Revised Standard Plan RSP A77U4 for additional details regarding depth dimension for straight metal box spacer.



STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**MIDWEST GUARDRAIL SYSTEM
CONNECTIONS TO BRIDGE RAILINGS
WITHOUT SIDEWALKS DETAILS No. 2**

NO SCALE

2010 REVISED STANDARD PLAN RSP A77U2

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
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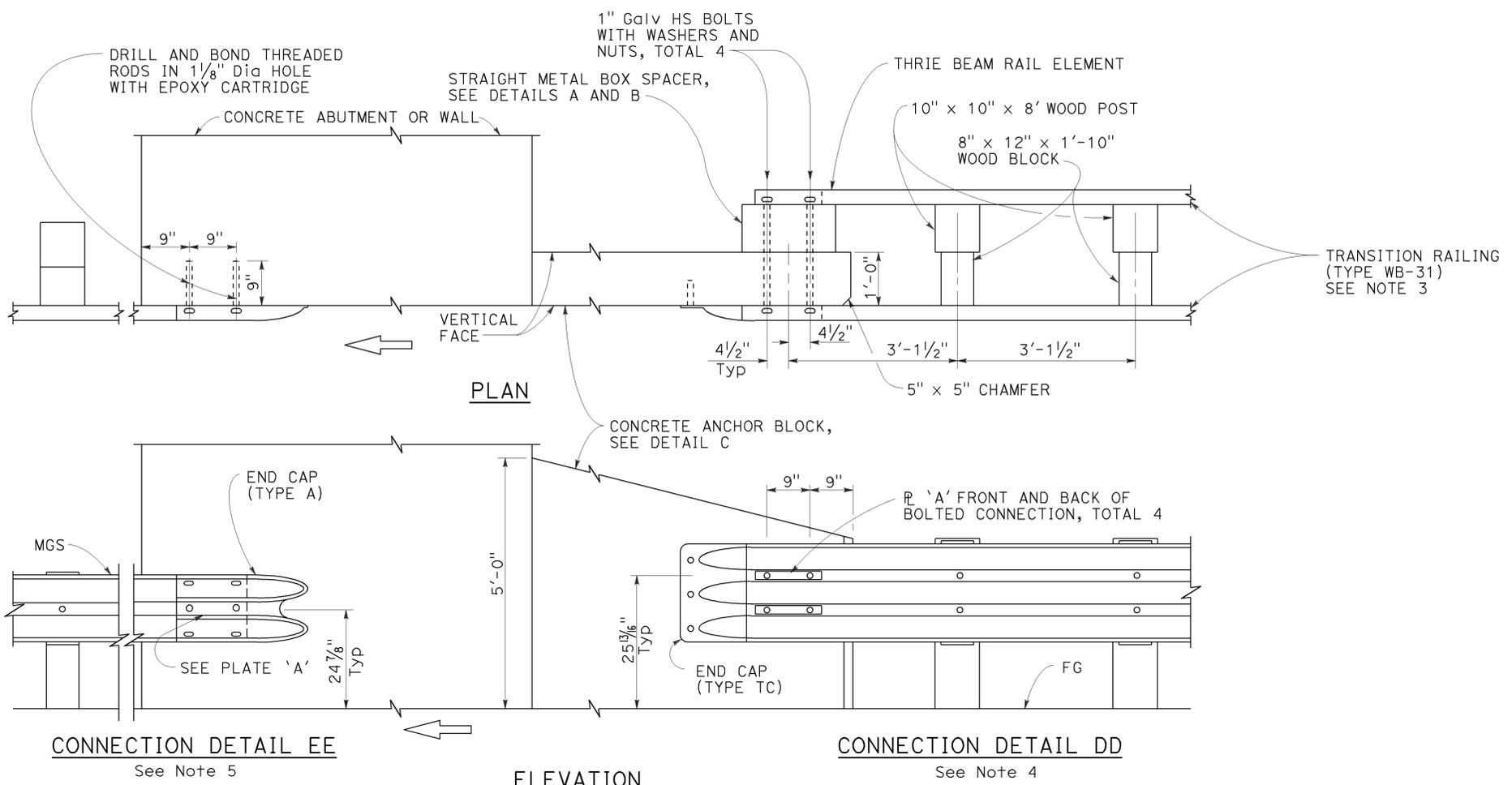
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

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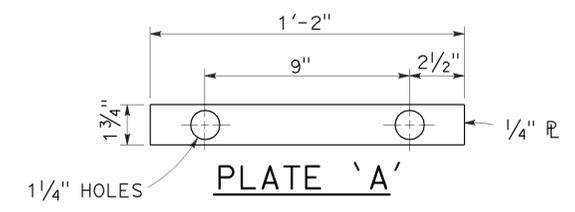
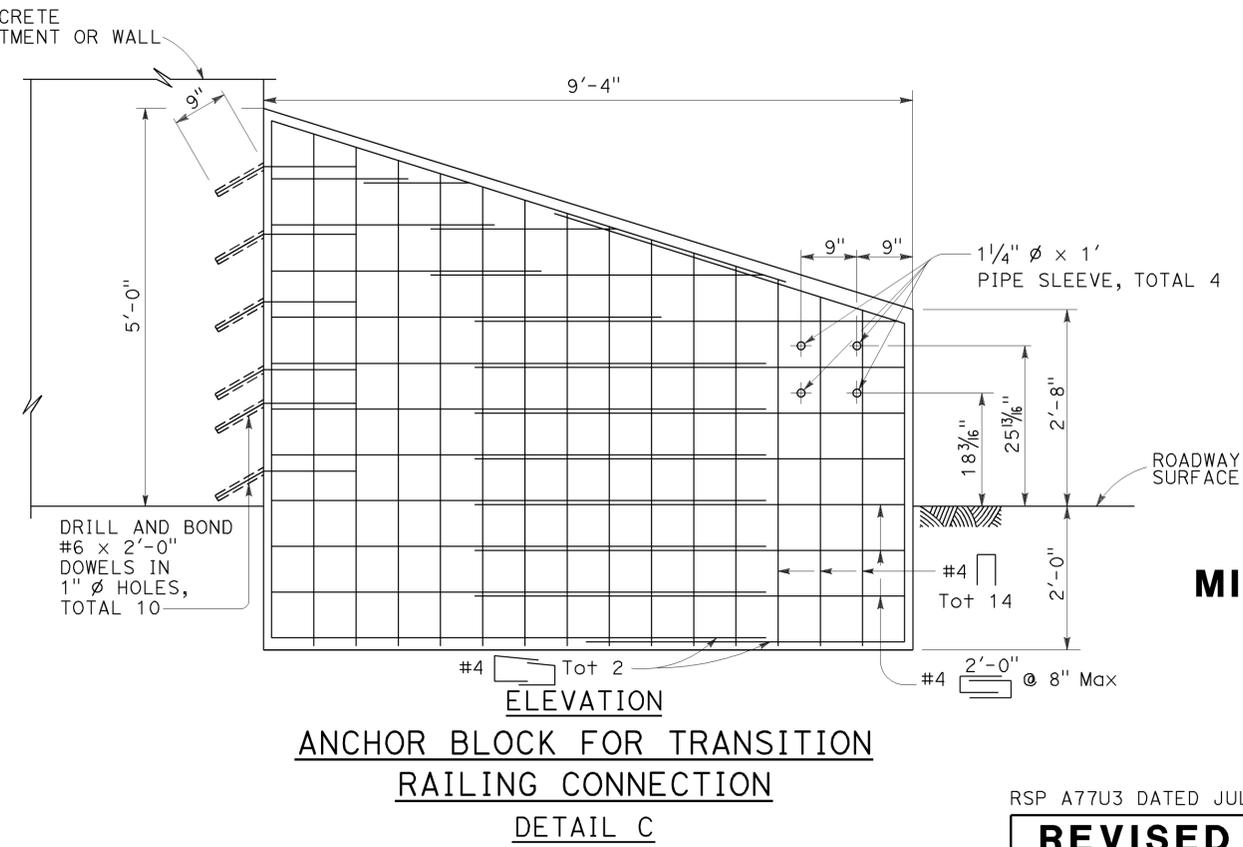
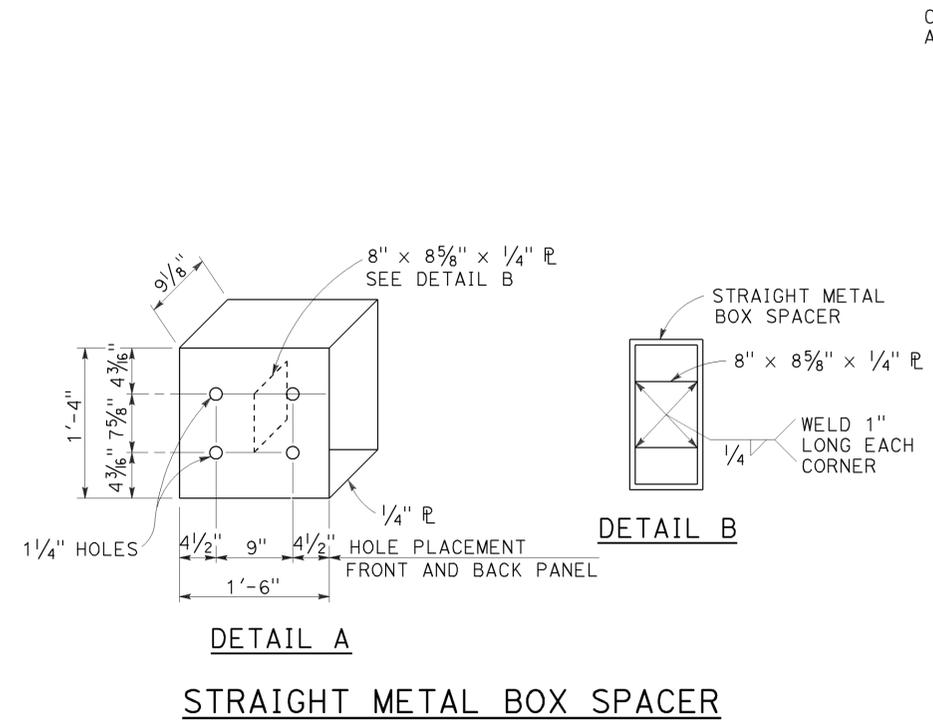
TO ACCOMPANY PLANS DATED 6-15-15



NOTES:

1. These connection details apply to abutments and walls.
2. Additional details of posts, blocks and hardware are shown on Revised Standard Plans RSP A77M1, RSP A77N1 and RSP A77N2.
3. For additional details of Transition Railing (Type WB-31), see Revised Standard Plan RSP A77U4. Transition Railing (Type WB-31) transitions the 12 gauge MGS railing section to a heavier gage nested thrie beam railing section which is connected to the concrete anchor block.
4. For typical use of Connection Details DD, see Layout Types 12A and 12B on Revised Standard Plan RSP A77Q1 and Layout Types 12C and 12D on Revised Standard Plan RSP A77Q2.
5. For typical use of Connection Detail EE, see Layout Type 12D on Revised Standard Plan RSP A77Q2 and Layout Type 12DD on Revised Standard Plan RSP A77Q5.

MIDWEST GUARDRAIL SYSTEM CONNECTION TO ABUTMENT OR WALL



MIDWEST GUARDRAIL SYSTEM CONNECTIONS TO ABUTMENTS AND WALLS

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

NO SCALE

RSP A77U3 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77U3

2010 REVISED STANDARD PLAN RSP A77U3

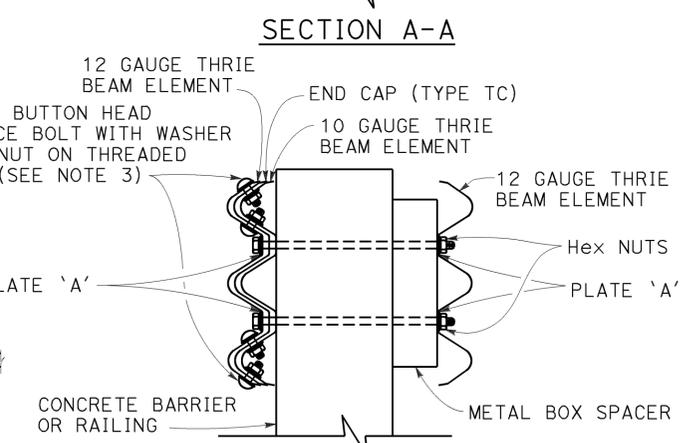
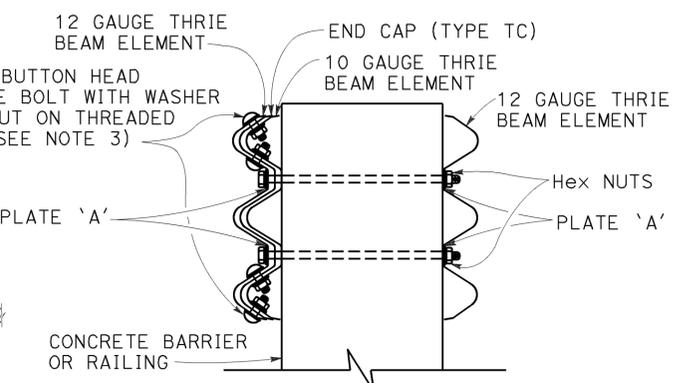
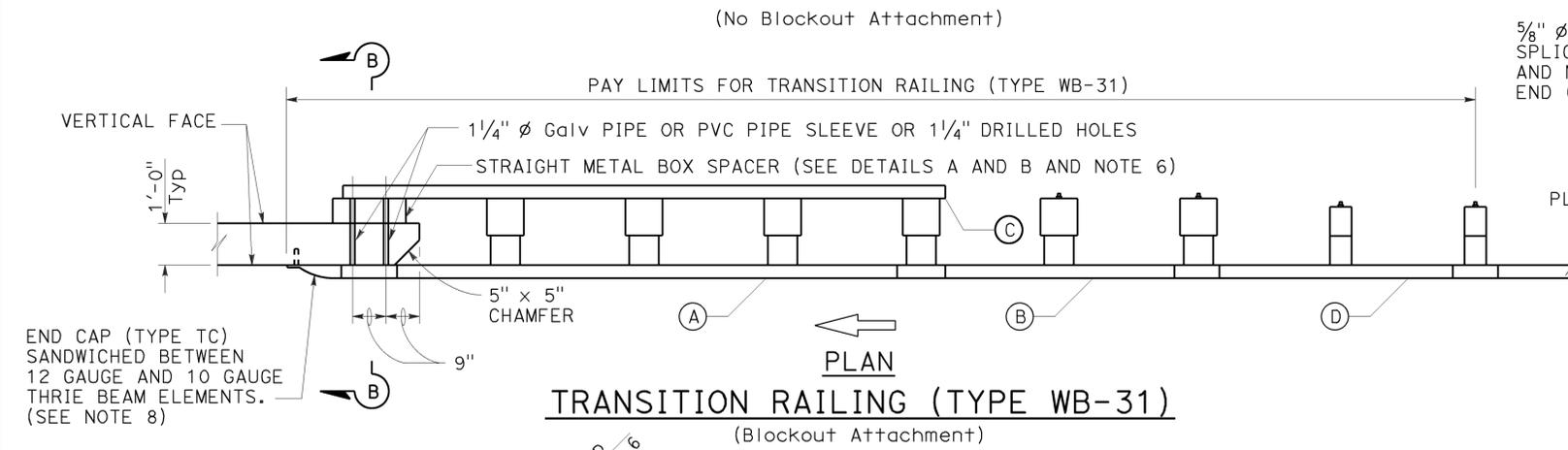
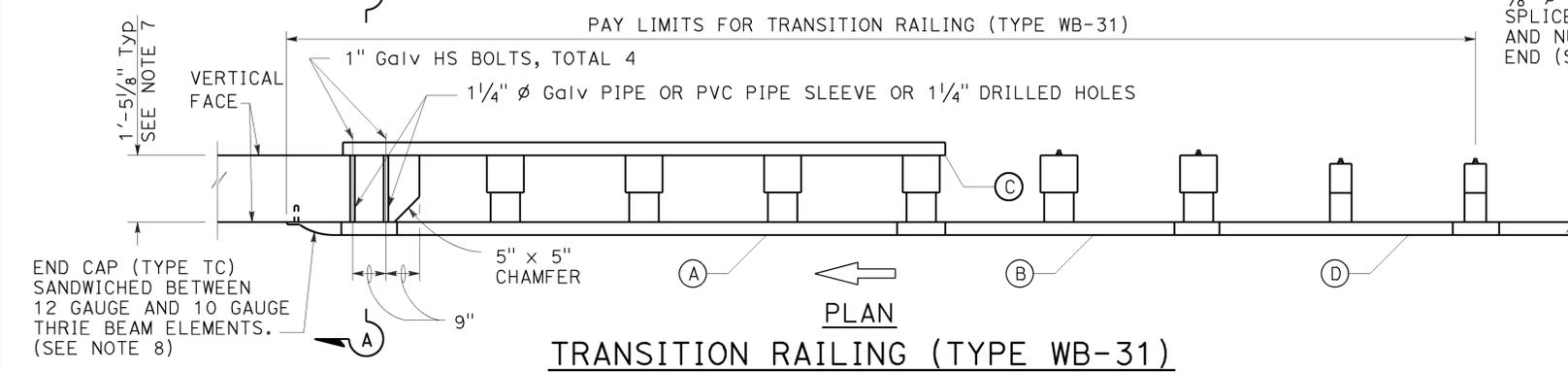
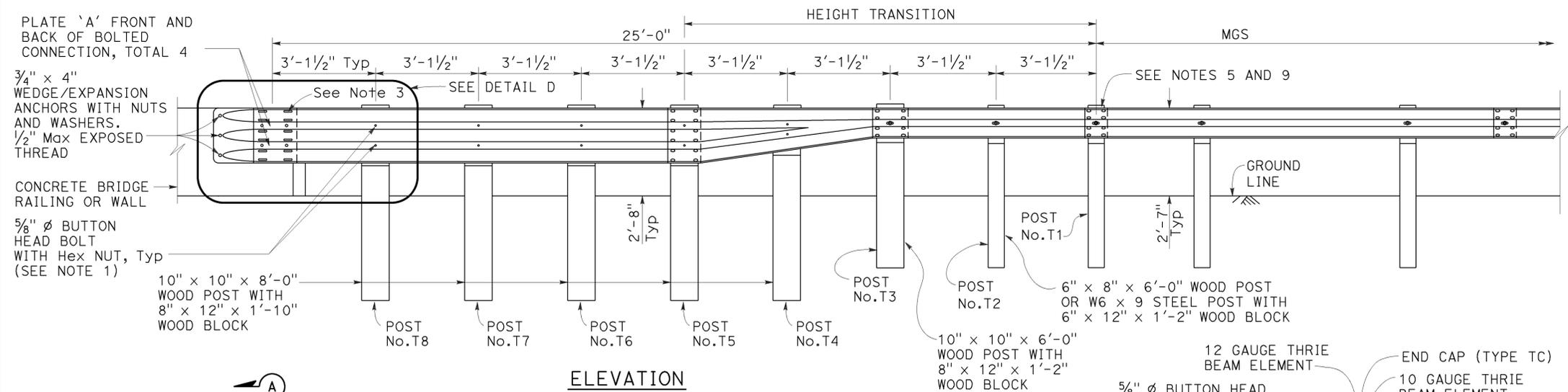
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SF	280	RO.1, R1.5	53	77

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

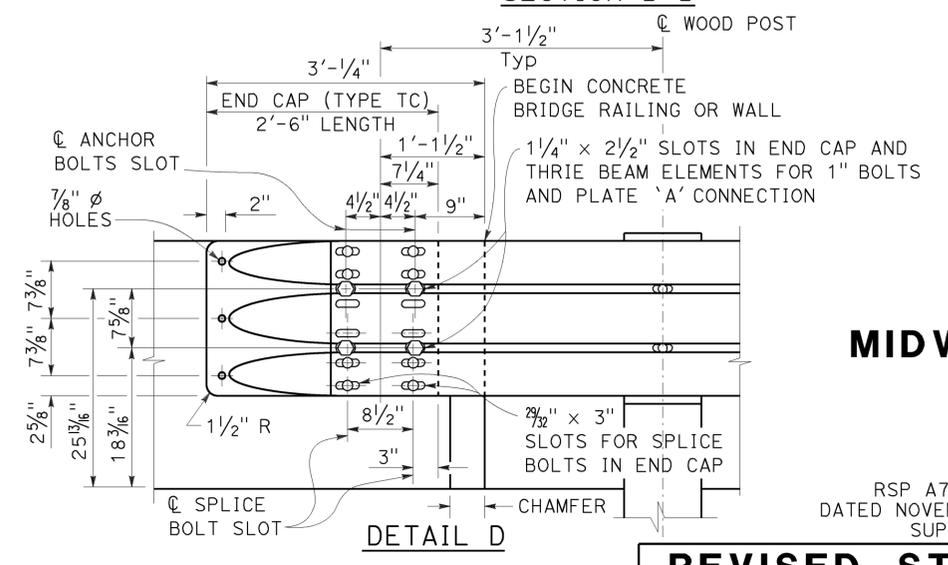
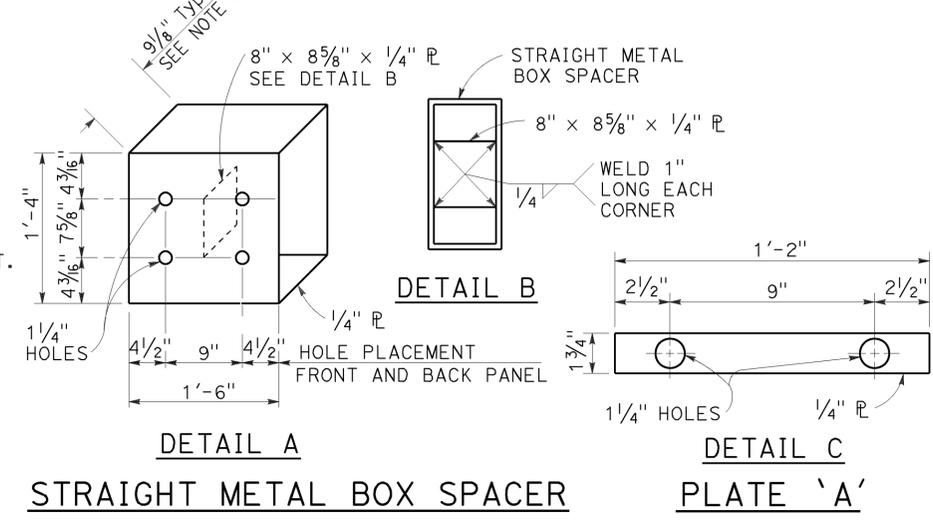
January 23, 2015
PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER
No. C50200
Exp. 6-30-15
CIVIL
STATE OF CALIFORNIA



- LEGEND:**
- (A) NESTED THRIE BEAM ELEMENTS (ONE 12 GAUGE ELEMENT NESTED OVER ONE 10 GAUGE ELEMENT).
 - (B) ONE ASYMMETRICAL 10 GAUGE "W" BEAM TO THRIE BEAM ELEMENT.
 - (C) ONE 12 GAUGE THRIE BEAM ELEMENT.
 - (D) ONE 10 GAUGE "W" BEAM RAIL ELEMENT (7'-3/2" LENGTH)
- 10 GAUGE = 0.138" THICK
12 GAUGE = 0.108" THICK



- NOTES:** TO ACCOMPANY PLANS DATED 6-15-15
1. Use 5/8" ϕ Button head bolts and hex nuts for connections to posts. No washer on rail face for bolted connections to post.
 2. The nested rail elements, end cap, and "W" beam to thrie beam element may be spliced together prior to bolting the elements to the wood post and concrete barrier or railing.
 3. Exterior splice bolt holes for rail element splices at Post No. T5 and the connection to the concrete barrier or railing shall be the standard 29/32" x 1/8" slot size. Interior splice bolt holes at these locations may be increased up to 1/4" ϕ . Only the top 4 and the bottom 4 splice bolts with washers and nuts are required for rail splices at Post No. T5 and the connection to the concrete barrier or railing.
 4. The top elevation of Posts No. T2 through No. T7 shall not project more than 1" above the top elevation of the rail element.
 5. Typically, the railing connected to Transition Railing (Type WB-31) will be either standard railing section of MGS with height transition ratio of 150:1 or a Caltrans approved 31" end treatment attached to Post No. T1.
 6. The depth of the metal box spacer varies from the 9/8" to 1/2" and is dependent on the width of the concrete railing or wall. The combined dimension for the depth of the metal box spacer plus the width of railing or wall is typically 21 1/8". Where the space between the backside of the concrete railing or wall and the rear thrie beam element is less than 1 1/2", metal plates similar to Plate 'A' are to be used as spacers.
 7. Where the width of the concrete railing or wall is greater than 17 1/8", wood blocks are to be used to fill the space created between the backside of Posts No. T5 through No. T8 and the rear thrie beam element. These wood blocks shall be 8" in width and 1'-2" in length. The dimension between the front thrie beam element and the rear thrie beam element is to match the width of the concrete railing or wall.
 8. End cap may be installed over 12 gauge and 10 gauge thrie beam elements where transition railing is installed on the departure end of bridge railing.
 9. Conform standard railing section height to 31" at Post No. T1 using height transition ratio of 150:1.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**MIDWEST GUARDRAIL SYSTEM
TRANSITION RAILING
(TYPE WB-31)**

NO SCALE

RSP A77U4 DATED JANUARY 23, 2015 SUPERSEDES RSP A77U4 DATED NOVEMBER 15, 2013 AND RSP A77U4 DATED JULY 19, 2013 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77U4

2010 REVISED STANDARD PLAN RSP A77U4

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SF	280	R0.1, R1.5	54	77

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

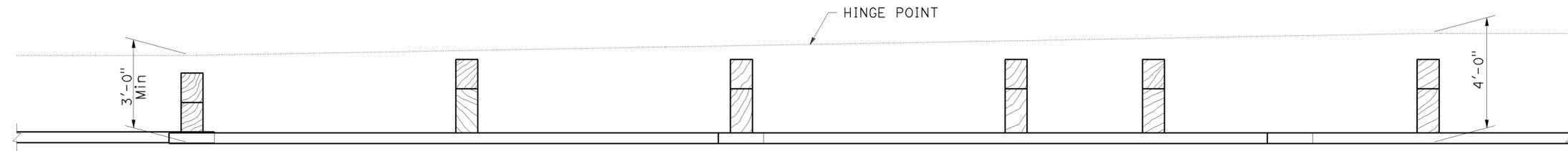
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER
No. C50200
Exp. 6-30-15
CIVIL
STATE OF CALIFORNIA

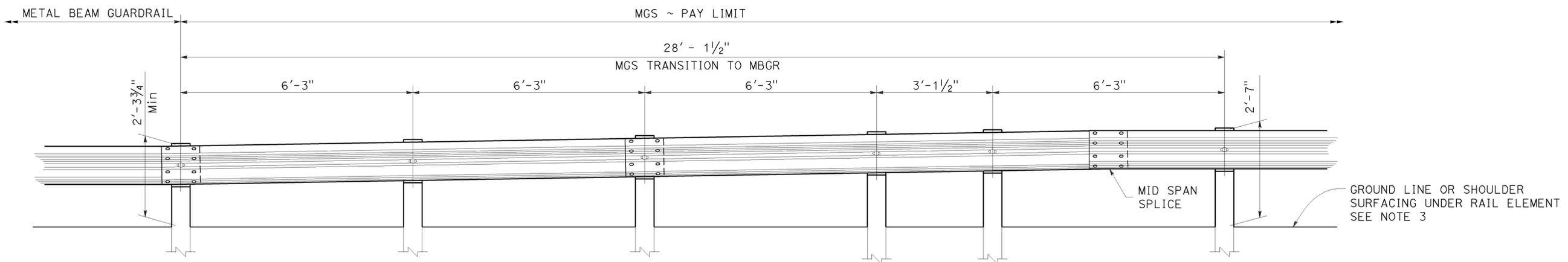
TO ACCOMPANY PLANS DATED 6-15-15

NOTES:

1. Refer to Revised Standard Plans RSP A77L1 and RSP A77L2 for component details for MGS not shown on this plan.
2. All posts for any standard barrier run shall be of the same type: Wood or Steel.
3. Install posts in soil.



PLAN



ELEVATION

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

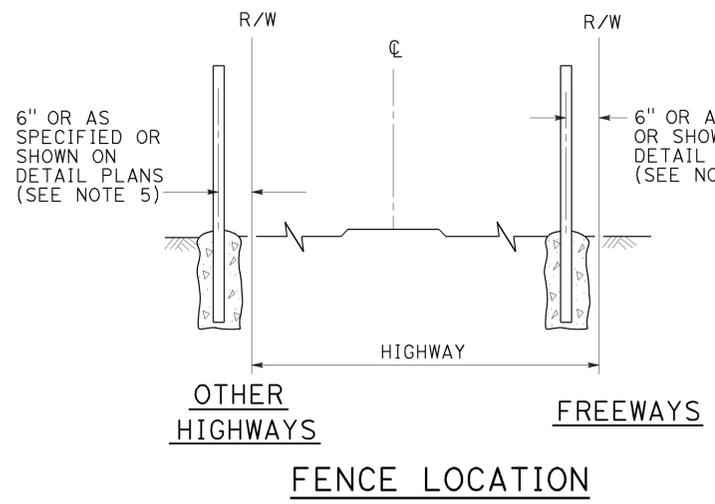
**MIDWEST GUARDRAIL SYSTEM
TRANSITION TO METAL BEAM GUARDRAIL**

NO SCALE

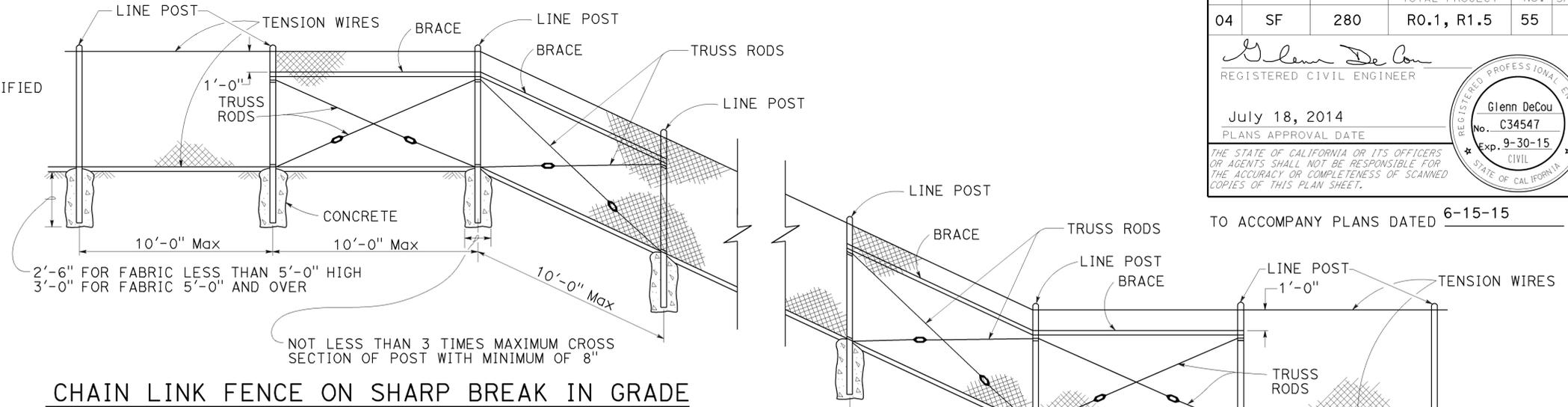
RSP A77U5 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77U5

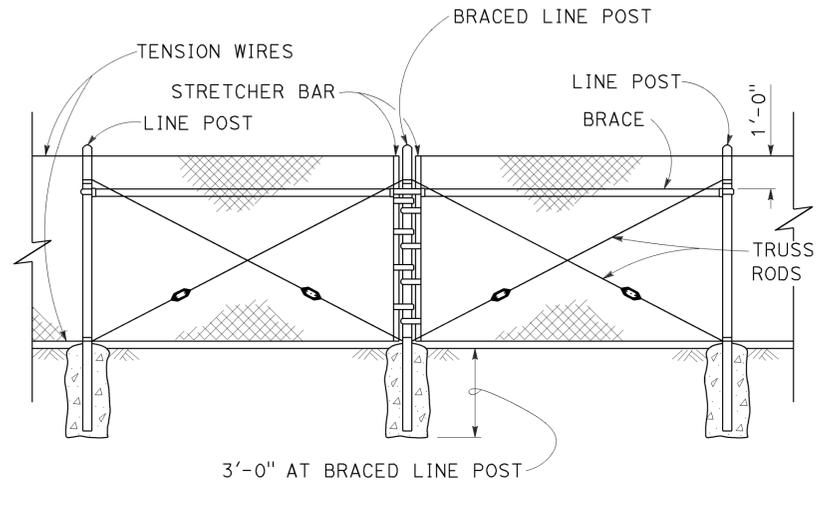
2010 REVISED STANDARD PLAN RSP A77U5



FENCE LOCATION

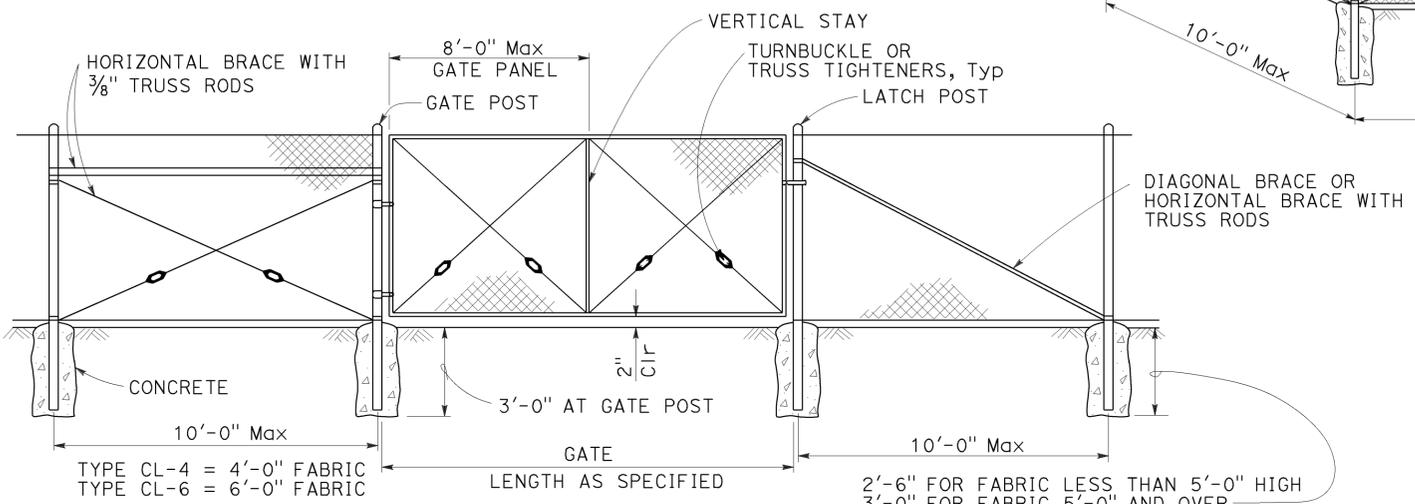


CHAIN LINK FENCE ON SHARP BREAK IN GRADE



BRACED LINE POST INSTALLATION

Braced line post at intervals not exceeding 1000'



CHAIN LINK GATE INSTALLATION

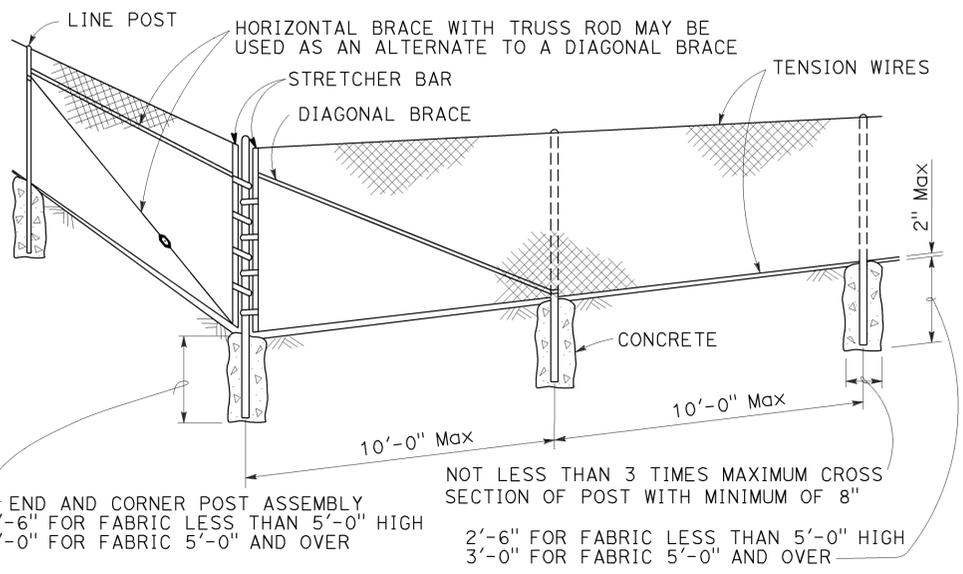
GATE POST			
FENCE HEIGHT	GATE WIDTHS	ROUND OD PIPE	WEIGHT (lb/ft)
6'-0" AND LESS	UP THRU 6'-0"	2.875"	5.80
	OVER 6'-0" THRU 12'-0"	4.500"	10.80
	OVER 12'-0" THRU 18'-0"	5.563"	14.63
OVER 6'-0" TO 8'-0" Max	OVER 18'-0" TO 24'-0" Max	6.625"	18.99
	UP THRU 6'-0"	3.500"	7.58
	OVER 6'-0" THRU 12'-0"	5.563"	14.63
	OVER 12'-0" THRU 18'-0"	6.625"	18.99
	OVER 18'-0" TO 24'-0" Max	8.625"	28.58

Above post dimensions and weights are minimums. Larger sizes may be used upon approval.

NOTES:

- The table below shows minimum sized posts and braces complying with the specifications. Larger or heavier post and brace sizes may be used upon approval.
- Sections shown in the tables must also comply with the strength requirements and other provisions of the Specifications.
- Other sections which comply with the strength requirements and other provisions of the Specifications may be used upon approval.
- Options exercised shall be uniform on any one project.
- Offset to be 2'-0" at monument locations, measured at right angles to R/W lines. Taper to achieve offset to be at least 20'-0" long.
- See Revised Standard Plan RSP A85B for Brace, Stretcher Bar, and Truss Tightener Details.

FENCE HEIGHT	TYPICAL MEMBER DIMENSIONS (See Notes)									
	LINE POSTS					END, LATCH AND CORNER POSTS		BRACES		
	ROUND OD PIPE	WEIGHT (lb/ft)	ROLL FORMED		ROUND OD PIPE	WEIGHT (lb/ft)	ROUND OD PIPE	WEIGHT (lb/ft)	ROLL FORMED	
			SECTION	WEIGHT (lb/ft)					SECTION	WEIGHT (lb/ft)
6'-0" AND LESS	1.900"	2.72	1.875" x 1.625"	1.85	2.375"	3.65	1.66"	2.27	1.625" x 1.25"	1.35
OVER 6'-0" TO 8'-0" Max	2.375"	3.65	2.25" x 1.70"	2.78	2.875"	5.80	1.66"	2.27	1.625" x 1.25"	1.35



CORNER POST

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
CHAIN LINK FENCE
NO SCALE

RSP A85 DATED JULY 18, 2014 SUPERSEDES STANDARD PLAN A85
DATED MAY 20, 2011 - PAGE 112 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A85

2010 REVISED STANDARD PLAN RSP A85

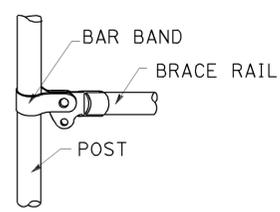
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SF	280	R0.1, R1.5	56	77

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

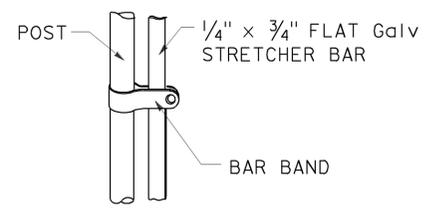
October 19, 2012
 PLANS APPROVAL DATE

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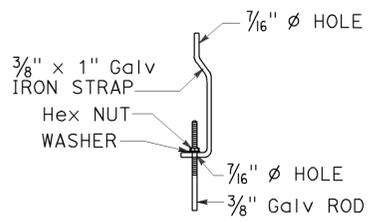
TO ACCOMPANY PLANS DATED 6-15-15



BRACE RAIL



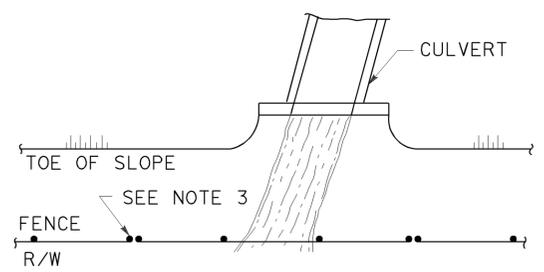
STRETCHER BAR



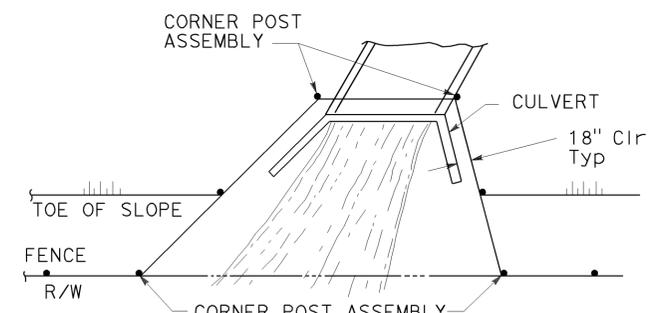
TRUSS TIGHTENER

NOTES:

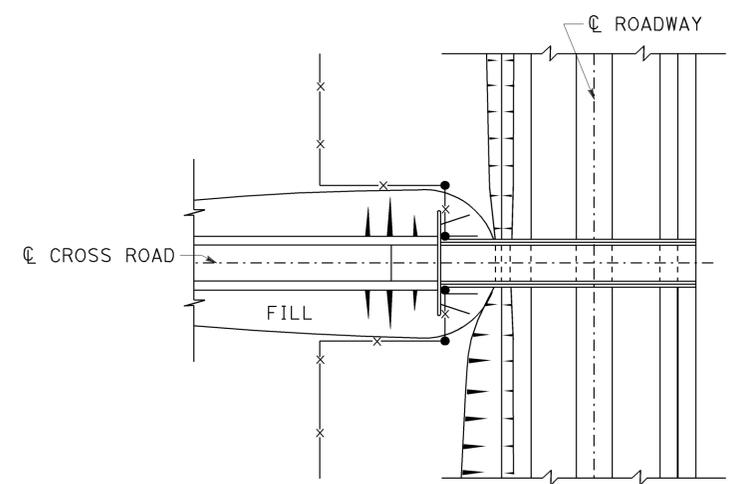
1. All material for abutment connection to be galvanized.
2. The chain link fabric shall be replaced by barbed wire strands at 12" maximum centers between the double posts.
3. When the width of the culvert makes it necessary to anchor a post to the top of the culvert, a cast iron shoe or other device 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.



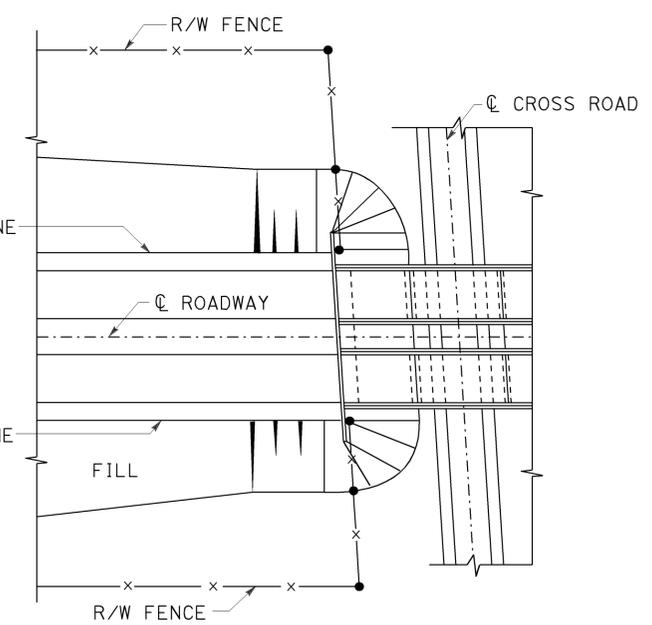
PLAN



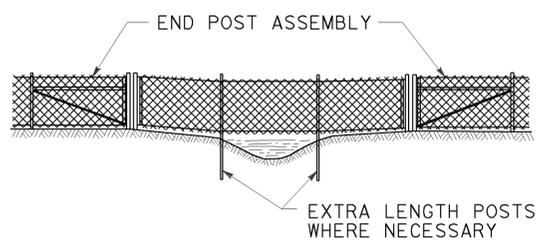
PLAN



PLAN OF ROADWAY - OVERCROSSING

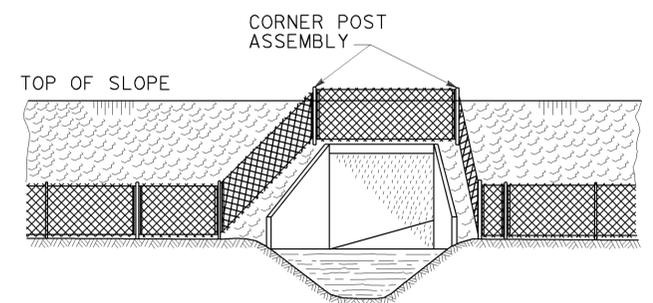


PLAN OF ROADWAY - UNDERCROSSING



ELEVATION

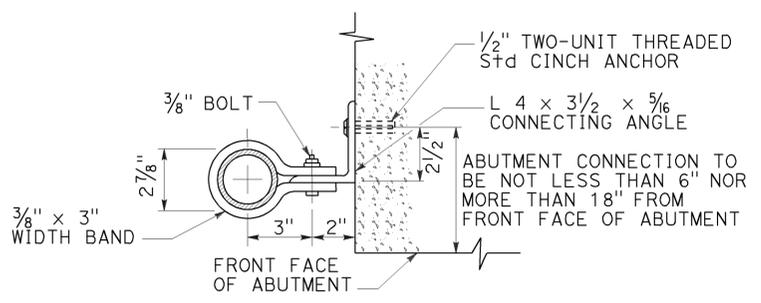
INSTALLATION OVER STREAM



ELEVATION

INSTALLATION AROUND HEADWALL

See Note 4



ABUTMENT CONNECTION

TYPICAL INSTALLATION AT BRIDGES

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

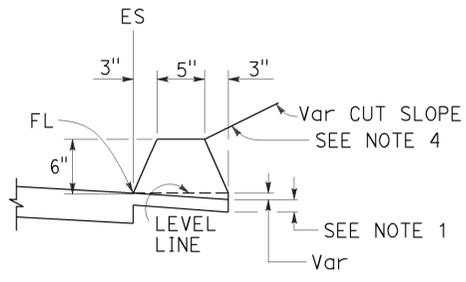
NO SCALE

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

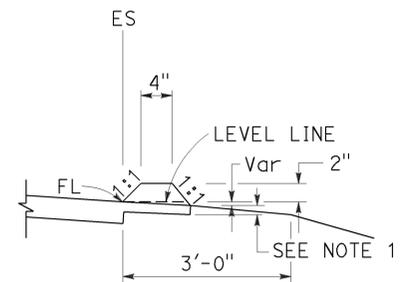
REVISED STANDARD PLAN RSP A85B

2010 REVISED STANDARD PLAN RSP A85B

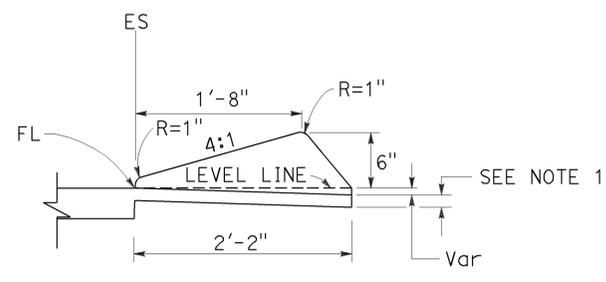
TO ACCOMPANY PLANS DATED 6-15-15



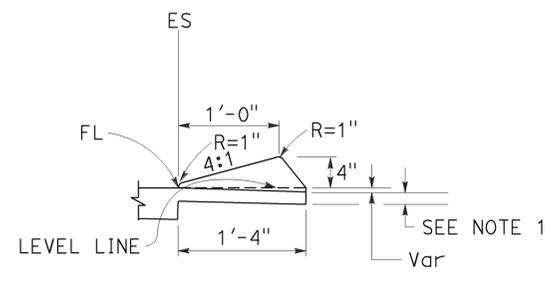
TYPE A
See Note 3



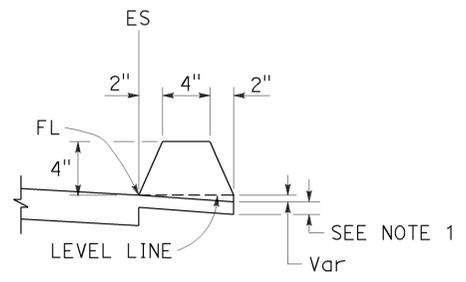
TYPE C



TYPE D

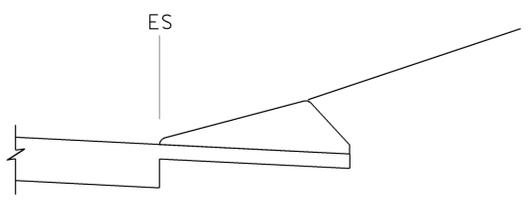


TYPE E

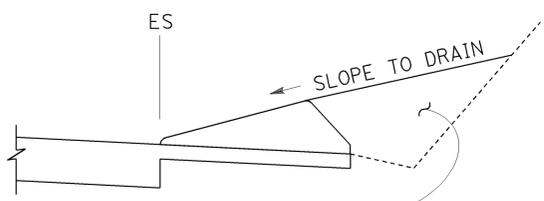


TYPE F
See Note 5

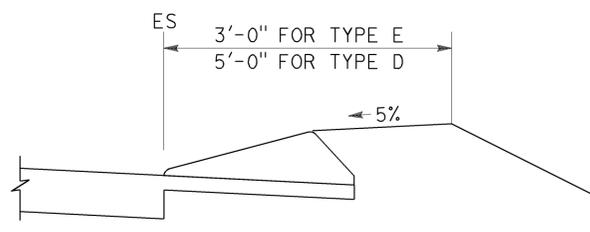
DIKES



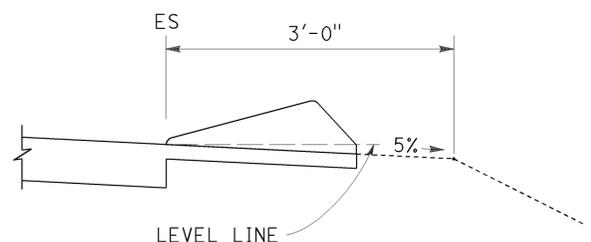
CASE C-1
Cut Slope



CASE C-2
Cut Slope



CASE F



CASE R
See Note 2

TYPE D AND E BACKFILL DETAILS

NOTES:

- For HMA shoulders only, extend top layer of HMA placed on the shoulder under dike with no joint at the ES. For projects with OGFC shoulders, do not extend OGFC under dike. See project plans for modified dike detail.
- Case R applies to retrofit only projects where restrictive conditions do not provide enough width for Case F backfill.
- Type A dike only to be used where restrictive slope conditions do not provide enough width to use Type D or Type E dike.
- Fill and compact with excavated material to top of dike.
- Use Type F dike, where dike is required with guard railing installations. See Revised Standard Plan RSP A77N4 for dike positioning details.

DIKE QUANTITIES

TYPE	CUBIC YARDS PER LINEAR FOOT
A	0.0135
C	0.0038
D	0.0293
E	0.0130
F	0.0066

Quantities based on 5% cross slope.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

HOT MIX ASPHALT DIKES

NO SCALE

RSP A87B DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN A87B
DATED MAY 20, 2011 - PAGE 120 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A87B

2010 REVISED STANDARD PLAN RSP A87B

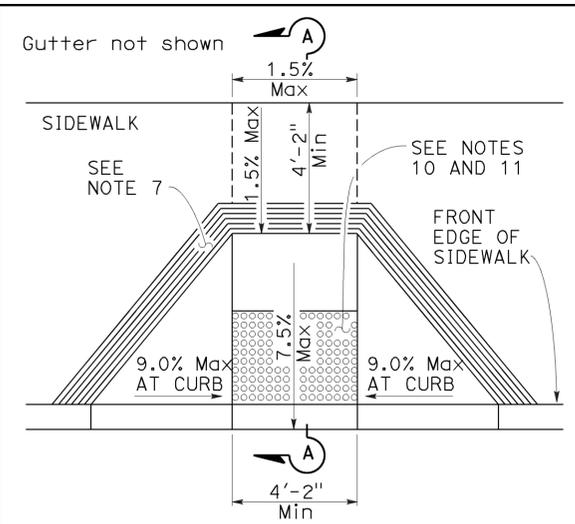
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SF	280	R0.1, R1.5	58	77

H. David Cordova
REGISTERED CIVIL ENGINEER

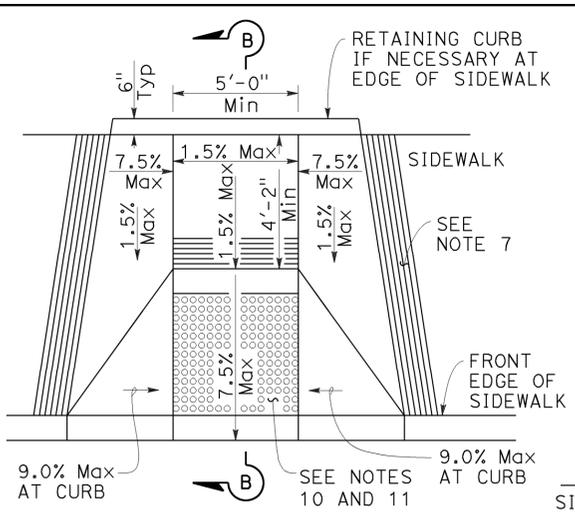
March 21, 2014
PLANS APPROVAL DATE

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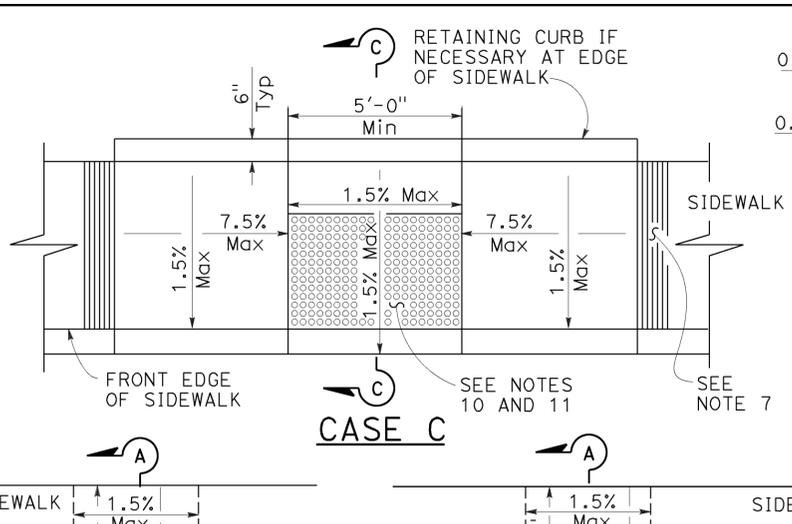
Hector David Cordova
REGISTERED PROFESSIONAL ENGINEER
No. C41957
Exp. 3-31-14
CIVIL
STATE OF CALIFORNIA



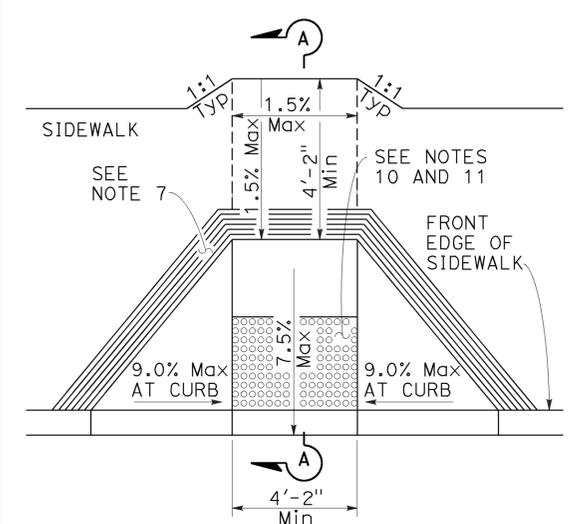
CASE A



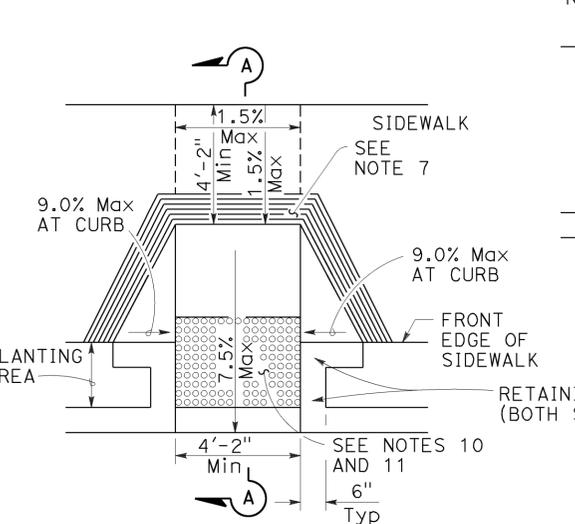
CASE B



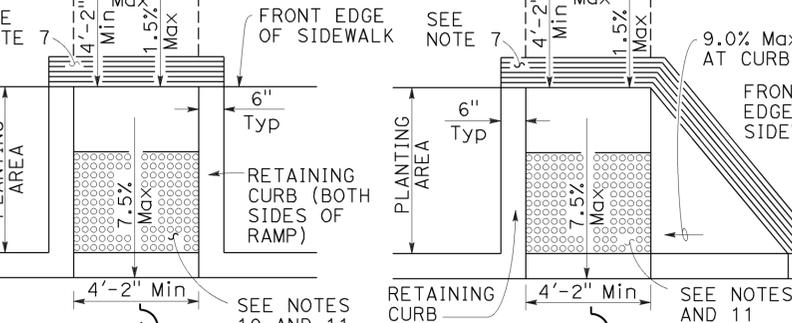
CASE C



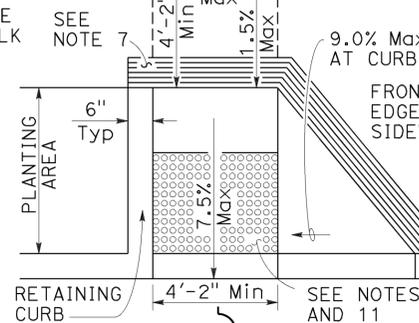
CASE D



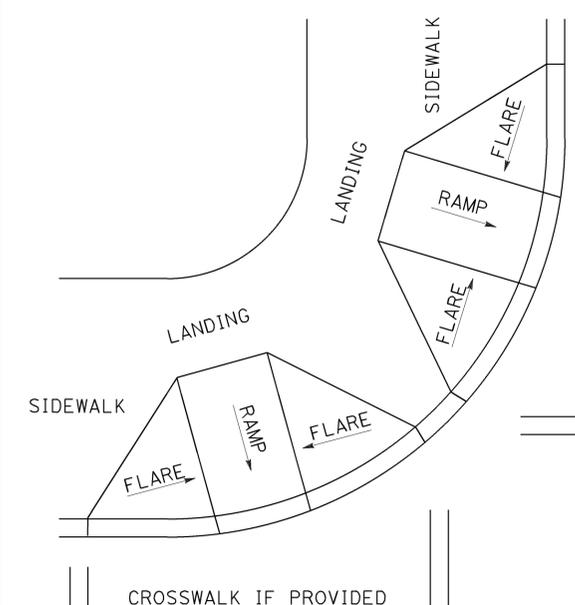
CASE E



CASE F



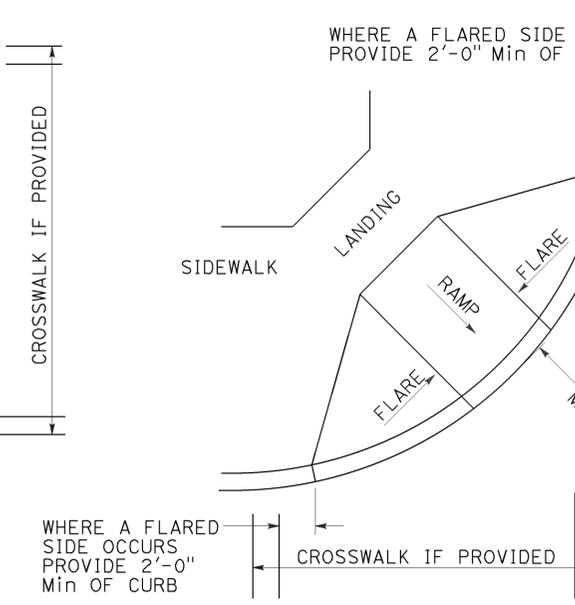
CASE G



DETAIL A

TYPICAL TWO-RAMP CORNER INSTALLATION

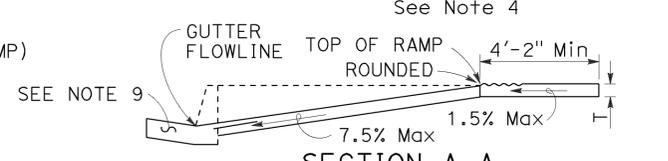
See Note 1



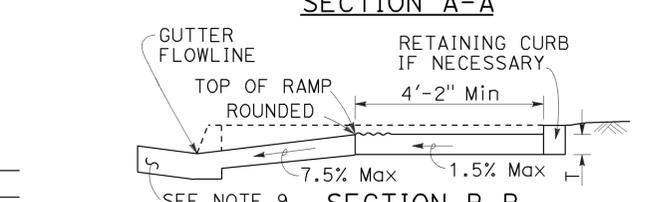
DETAIL B

TYPICAL ONE-RAMP CORNER INSTALLATION

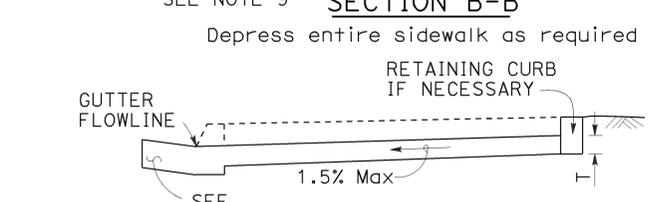
See Notes 1 and 3



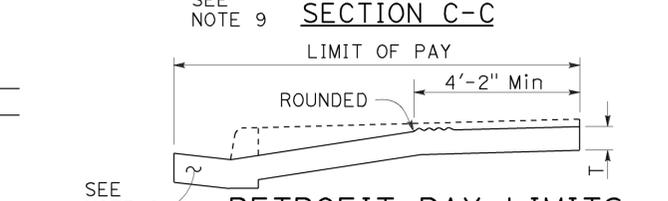
SECTION A-A



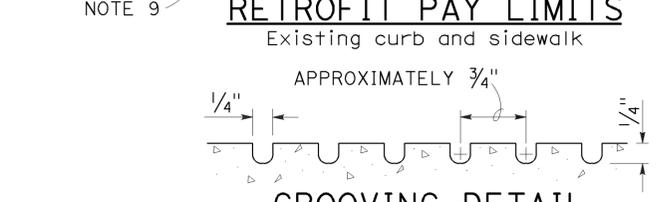
SECTION B-B



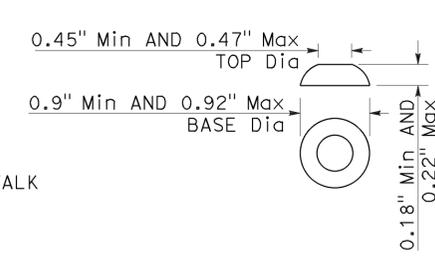
SECTION C-C



RETROFIT PAY LIMITS



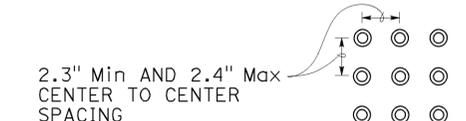
GROOVING DETAIL



RAISED TRUNCATED DOME

NOTES:

- As site conditions dictate, Case A through Case G curb ramps may be used for corner installations similar to those shown in Detail A and Detail B. The case of curb ramps used in Detail A do not have to be the same. Case A through Case G curb ramps also may be used at mid block locations, as site conditions dictate.
- If distance from curb to back of sidewalk is too short to accommodate ramp and 4'-2" platform (landing) as shown in Case A, the sidewalk may be depressed longitudinally as in Case B, or C or may be widened as in Case D.
- When ramp is located in center of curb return, crosswalk configuration must be similar to that shown for Detail B.
- As site conditions dictate, the retaining curb side and the flared side of the Case G ramp shall be constructed in reversed position.
- If located on a curve, the sides of the ramp need not be parallel, but the minimum width of the ramp shall be 4'-2".
- Side slope of ramp flares vary uniformly from a maximum of 9.0% at curb to conform with longitudinal sidewalk slope adjacent to top of the ramp, except in Case C and Case F.
- The curb ramp shall be outlined, as shown, with a 1'-0" wide border with 1/4" grooves approximately 3/4" on center. See grooving detail.
- Transitions from ramps and landing to walks, gutters or streets shall be flush (no lip) and free of abrupt changes.
- Counter slopes of adjoining gutters and road surfaces immediately adjacent to and within 24 inches of the curb ramp shall not be steeper than 1:20 (5.0%). Gutter pan slope shall not exceed 1" of depth for each 2'-0" of width.
- Curb ramps shall have a detectable warning surface that extends the full width and 3'-0" depth of the ramp. A 4'-0" wide detectable warning surface may be used on a 4'-2" wide curb ramp. Detectable Warning Surfaces shall conform to the requirements in the Standard Specifications.
- The edge of the detectable warning surface nearest the street shall be between 6" and 8" from the gutter flowline.
- Sidewalk and ramp thickness, "T", shall be 3 1/2" minimum.
- Utility pull boxes, manholes, vaults and all other utility facilities within the boundaries of the curb ramp will be relocated or adjusted to grade by the owner prior to, or in conjunction with, curb ramp construction.
- Detectable warning surface may have to be cut to allow removal of utility covers while maintaining full detectable warning width and depth.



RAISED TRUNCATED DOME PATTERN (IN-LINE) DETECTABLE WARNING SURFACE

See Note 10

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
CURB RAMP DETAILS
NO SCALE

RSP A88A DATED MARCH 21, 2014 SUPERSEDES RSP A88A DATED JULY 19, 2013 AND STANDARD PLAN A88A DATED MAY 20, 2011 - PAGE 121 OF THE STANDARD PLANS BOOK DATED 2010.

2010 REVISED STANDARD PLAN RSP A88A

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SF	280	RO.1, R1.5	59	77

Glenn DeCou
REGISTERED CIVIL ENGINEER

October 19, 2012
PLANS APPROVAL DATE

Glenn DeCou
No. C34547
Exp. 9-30-13
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.

2010 REVISED STANDARD PLAN RSP D73

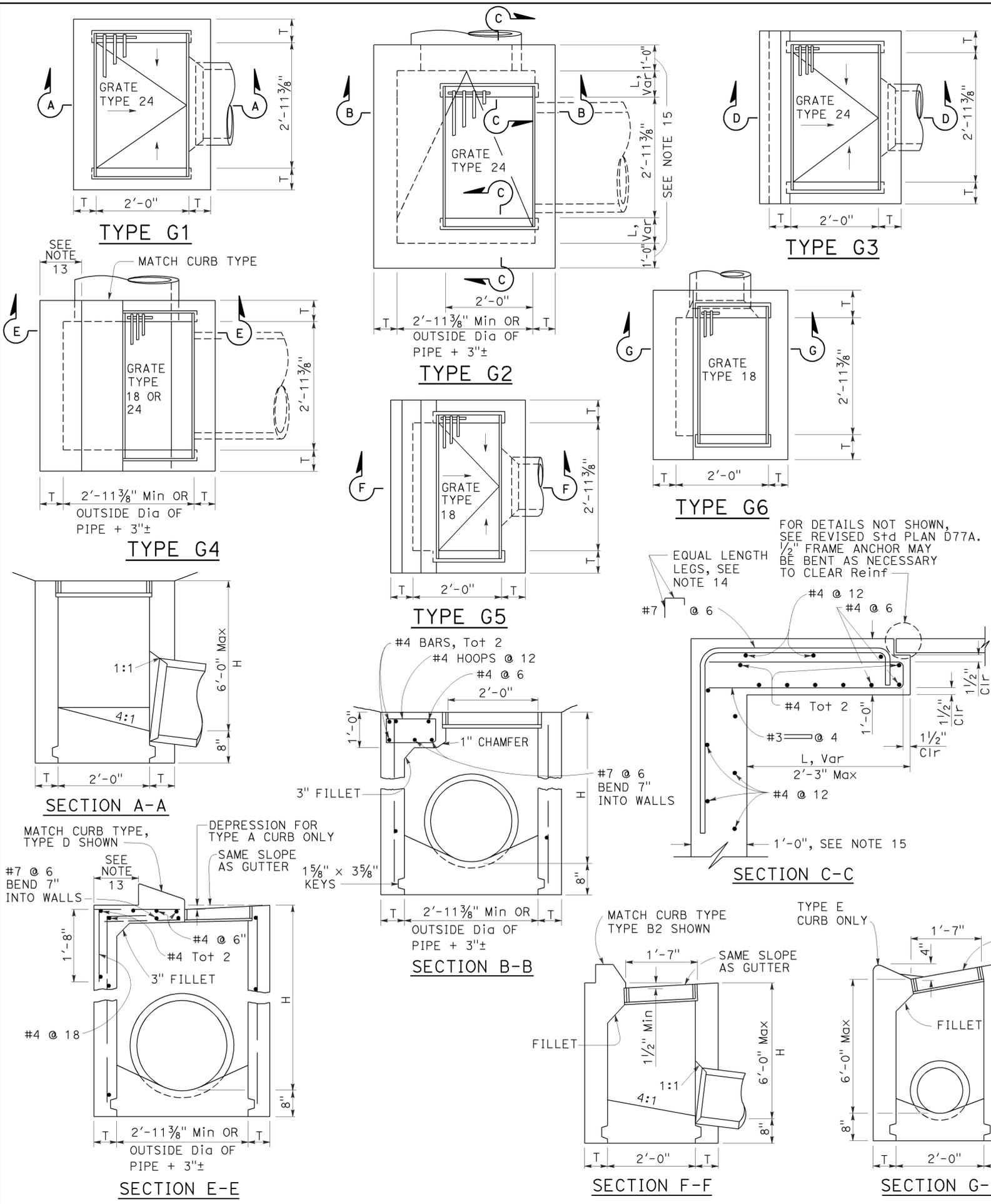


TABLE A

CONCRETE QUANTITIES

TYPE	H=3'-0" TO 8'-0" (T=6")		H=8'-1" TO 20'-0" (T=8")	
	H=3'-0" (CY)	ADDITIONAL PCC PER FOOT (CY)	H=8'-1" (CY)	ADDITIONAL PCC PER FOOT (CY)
G-1	0.95	0.220	See Note A	SEE NOTE A
G-2*	1.31	0.255	3.50	0.357
G-3	1.03	0.220	See Note A	SEE NOTE A
G-4* (TYPE 24)	1.27	0.255	3.48	0.357
G-4* (TYPE 18)	1.30	0.255	3.50	0.357
G-5	1.02	0.220	SEE NOTE A	SEE NOTE A
G-6	1.04	0.220	SEE NOTE A	SEE NOTE A

TABLE BASED ON 8" FLOOR SLAB. NO DEDUCTIONS ARE TO BE MADE TO THESE QUANTITIES BECAUSE OF PIPE OPENINGS, DIFFERENT FLOOR ALTERNATIVES OR DIFFERENT CURB TYPES. * QUANTITIES FOR TYPE G-2 AND G-4 INLETS BASED ON THE MINIMUM INTERIOR DIMENSIONS.

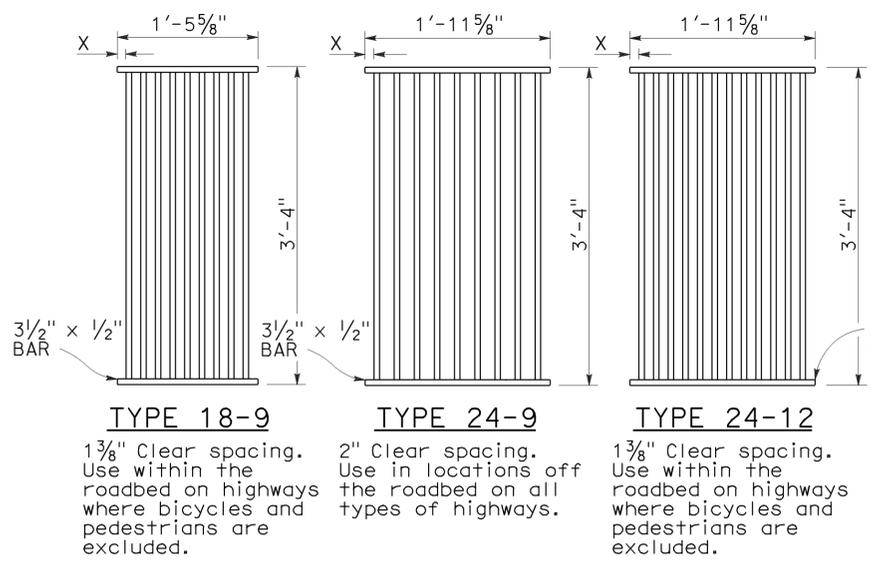
NOTE A:
Maximum allowable height 6'-0".

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

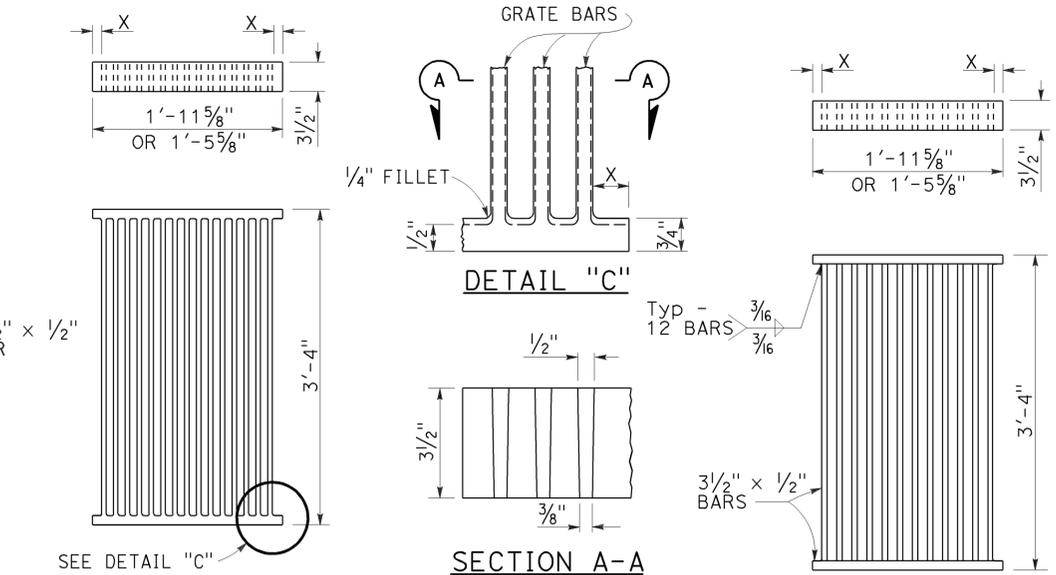
DRAINAGE INLETS
NO SCALE

RSP D73 DATED OCTOBER 19, 2012 SUPERSEDES STANDARD PLAN D73 DATED MAY 20, 2011 - PAGE 156 OF THE STANDARD PLANS BOOK DATED 2010.

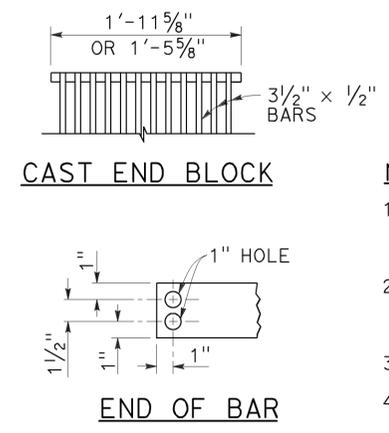
REVISED STANDARD PLAN RSP D73



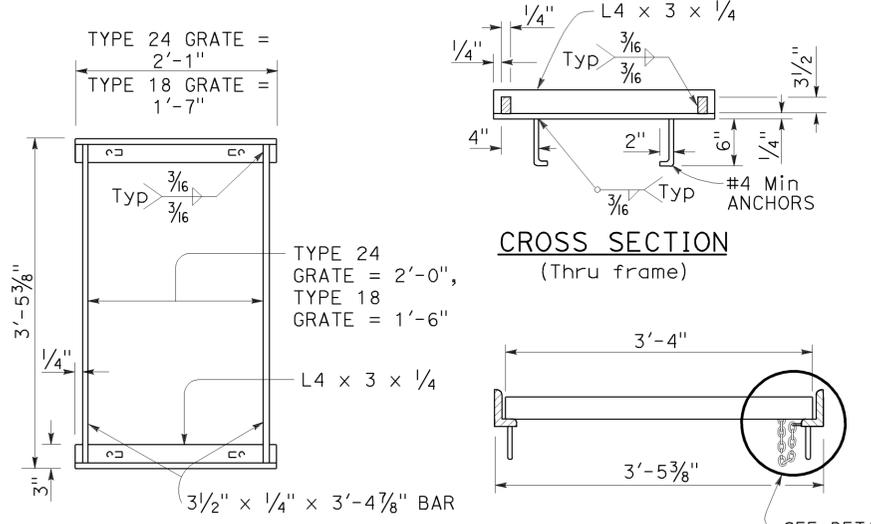
RECTANGULAR GRATE DETAILS
(See table below)



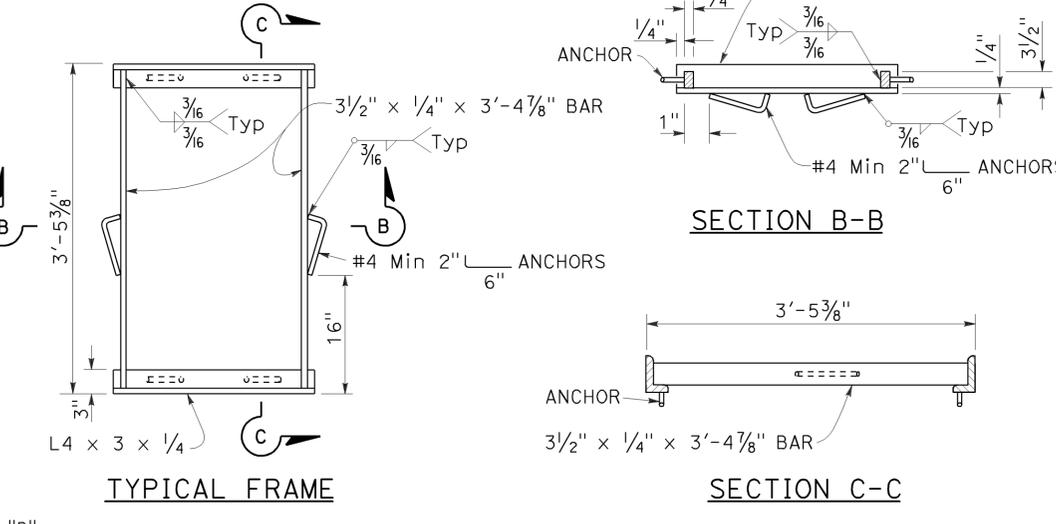
ALTERNATIVE CAST DUCTILE IRON GRATE OR CAST CARBON STEEL GRATE



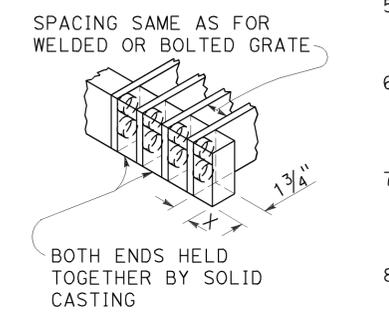
ALTERNATIVE WELDED GRATE



TYPICAL FRAME
LONGITUDINAL SECTION
(Thru frame and grate)



TYPICAL FRAME
ALTERNATIVE ANCHOR FOR RECTANGULAR FRAME
(For details not shown, See Rectangular Frame Details)



ALTERNATIVE CAST DUCTILE IRON OR CAST CARBON STEEL END BLOCK GRATE

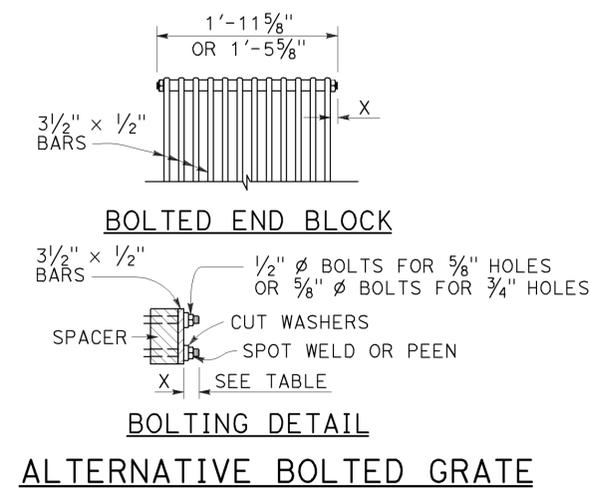
RECTANGULAR FRAME DETAILS
(For all rectangular grates)

GRATE BAR SPACING TABLE

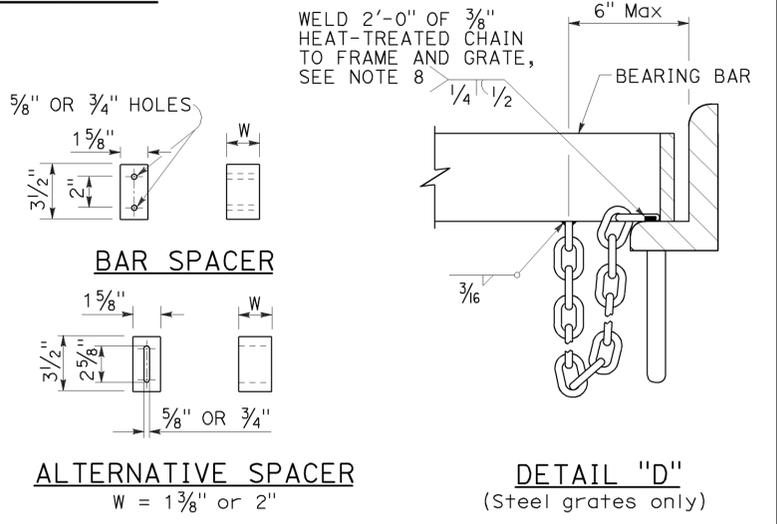
TYPE	NO. OF BARS	CLEAR BAR SPACING	X
18-9	9	1 3/8"	1 1/16"
24-9	9	2"	1 9/16"
24-12	12	1 3/8"	1 1/4"

INLET TYPE	COVER TYPE	WEIGHT LB
OS	PLATE	174
OL-7	PLATE	170
OL-10	PLATE	170
OL-14	PLATE	170
OL-21	PLATE	170
OCPI	PLATE	112
OCPI	PLATE	112
OCPI	REDWOOD	42
OMP	PLATE	177
OMPI	PLATE	177

INLET TYPE	GRATE TYPE	NO. OF GRATES	WEIGHT LB
GDO	24-12	2	634
GOL-7	24-12	1	326
GOL-10	24-12	1	326
G0,G1,G2,G3,G4 (TYPE 24)	24-9	1	263
	24-12	1	326
G4 (TYPE 18),G5,G6	18-9	1	249
GT1	18-9	2	498
GT2	18-9	2	498
GT3	24-12	2	652
GT4	24-12	2	652
TRASH RACK			22
GRATE CHAIN			3



BOLTING DETAIL
ALTERNATIVE BOLTED GRATE



ALTERNATIVE SPACER
DETAIL "D"
(Steel grates only)

- NOTES:**
- Grate type numbers refer to approximate width of grate in inches and number of bars, respectively.
 - Contractor has the option of using cast ductile iron, cast carbon steel, welded, bolted, or cast end block grate.
 - Rounded top of bars optional on all grates.
 - Pipe inlets with a grate shall be placed so that bars parallel direction of principle surface flow.
 - Complete joint penetration butt welds may be substituted for the fillet welds on all anchors.
 - Standard square, hexagon, round or equivalent headed anchors may be substituted for the right angle hooks on the anchors shown on this plan.
 - Grate and frame weights are based on welded grates (weights of face angles, steps, protection bars, etc. are not included).
 - Connect chain to grate and frame only at locations shown on the plans. When chain is required, do not use cast ductile iron grates.

BASIS FOR MISC IRON & STEEL FINAL PAY WEIGHTS FOR DRAINAGE INLETS
(See Note 7)

RSP D77A DATED APRIL 19, 2013 SUPERSEDES RSP D77A DATED JULY 20, 2012 AND STANDARD PLAN D77A DATED MAY 20, 2011 - PAGE 164 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP D77A

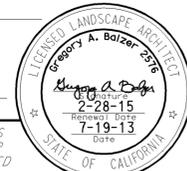
2010 REVISED STANDARD PLAN RSP D77A

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SF	280	R0.1, R1.5	61	77

Gregory A. Balzer
 LICENSED LANDSCAPE ARCHITECT

July 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 6-15-15

2010 REVISED STANDARD PLAN RSP H1

A

AB AGGREGATE BASE
 ABS ACRYLONITRILE-BUTADIENE-STYRENE
 AC ASPHALT CONCRETE
 ACC ARMOR-CLAD CONDUCTORS
 Adj ADJACENT/ADJUSTABLE
 AIC AUXILIARY IRRIGATION CONTROLLER
 Alt ALTERNATIVE
 AMEND AMENDMENT
 ARV AIR RELEASE VALVE
 AUTO AUTOMATIC
 AUX AUXILIARY
 AVB ATMOSPHERIC VACUUM BREAKER

B

B&B BALLED AND BURLAPPED
 B/B BRASS/BRONZE
 B/B/PL BRASS/BRONZE/PLASTIC
 B/PL BRASS/PLASTIC
 BFM BONDED FIBER MATRIX
 Bit Ctd BITUMINOUS COATED
 BP BOOSTER PUMP
 BPA BACKFLOW PREVENTER ASSEMBLY
 BPE BACKFLOW PREVENTER ENCLOSURE
 BV BALL VALVE

C

C CONDUIT
 CAP CORRUGATED ALUMINUM PIPE
 CARV COMBINATION AIR RELEASE VALVE
 CB COUPLING BAND
 CCA CAM COUPLER ASSEMBLY
 CEC CONTROLLER ENCLOSURE CABINET
 CHDPE CORRUGATED HIGH DENSITY POLYETHYLENE
 CL CHAIN LINK
 CNC CONTROL AND NEUTRAL CONDUCTORS
 Conc CONCRETE
 CP COPPER PIPE
 CS COMPOST SOCK
 CSP CORRUGATED STEEL PIPE
 CST CENTER STRIP
 CV CHECK VALVE

D

Dia DIAMETER
 DIP DUCTILE IRON PIPE
 DIT DRIP IRRIGATION TUBING
 DG DECOMPOSED GRANITE
 DN DIAMETER NOMINAL
 DVA DRIP VALVE ASSEMBLY

E

EC EROSION CONTROL
 ECTC EROSION CONTROL TECHNOLOGY COUNCIL
 ElecT ELECTRIC/ELECTRICAL
 Elev ELEVATION
 ELL ELBOW
 ENCL ENCLOSURE
 EP EDGE OF PAVEMENT
 ES EDGE OF SHOULDER
 EST END STRIP
 ESTB ESTABLISHMENT
 ETW EDGE OF TRAVELED WAY

F

F FULL CIRCLE
 F/P FULL/PART CIRCLE
 FCV FLOW CONTROL VALVE
 FERT FERTILIZER
 FG FINISHED GRADE
 FH FLEXIBLE HOSE
 FIPT FEMALE IRON PIPE THREAD
 FIS FERTILIZER INJECTOR SYSTEM
 FL FLOW LINE
 FR FIBER ROLL
 FS FLOW SENSOR
 FSC FLOW SENSOR CABLE
 FV FLUSH VALVE

G

Galv GALVANIZED
 GARV GARDEN VALVE
 GARVA GARDEN VALVE ASSEMBLY
 GM GRAVEL MULCH
 GPH GALLONS PER HOUR
 GPM GALLONS PER MINUTE
 GSP GALVANIZED STEEL PIPE
 GV GATE VALVE

H

H HALF CIRCLE
 HDPE HIGH DENSITY POLYETHYLENE
 HP HORSEPOWER/HINGE POINT
 HPL HIGH PRESSURE LINE
 Hwy HIGHWAY

I

IC IRRIGATION CONTROLLER
 ICC IRRIGATION CONTROLLER(S) IN CONTROLLER ENCLOSURE CABINET
 ID INSIDE DIAMETER
 IFS IRRIGATION FILTRATION SYSTEM
 IPS IRON PIPE SIZE
 IPT IRON PIPE THREAD
 Irr IRRIGATION

L

L LENGTH

M

Max MAXIMUM
 MBGR METAL BEAM GUARD RAILING
 MCV MANUAL CONTROL VALVE
 MIC MASTER IRRIGATION CONTROLLER
 Min MINIMUM
 MIPT MALE IRON PIPE THREAD
 Misc MISCELLANEOUS
 MtI MATERIAL
 MVP MAINTENANCE VEHICLE PULLOUT

N

NCN NO COMMON NAME
 NL NOZZLE LINE
 No. NUMBER
 NPT NATIONAL PIPE THREAD

O

O/C ON CENTER
 OD OUTSIDE DIAMETER
 OL OVERLAP

P

P PART CIRCLE
 PB PULL BOX
 PCC PORTLAND CEMENT CONCRETE
 PE POLYETHYLENE
 Pkt+ PACKET
 PL PLASTIC
 PLS PURE LIVE SEED
 PLT PLANT/PLANTING
 PLT ESTB PLANT ESTABLISHMENT
 PM POST MILE
 PR PRESSURE RATED
 PRLV PRESSURE RELIEF VALVE
 PRV PRESSURE REGULATING VALVE
 PVC POLYVINYL CHLORIDE
 Pvm+ PAVEMENT

Q

Q QUARTER CIRCLE
 QCV QUICK COUPLING VALVE

NOTE:
 For additional abbreviations, see Standard Plans A10A and A10B.

R

R RADIUS
 RCP REINFORCED CONCRETE PIPE
 RCV REMOTE CONTROL VALVE
 RCVM REMOTE CONTROL VALVE (MASTER)
 RCVMF REMOTE CONTROL VALVE (MASTER) W/FLOW SENSOR
 RCVP REMOTE CONTROL VALVE W/PRESSURE REGULATOR
 RCW RECYCLED WATER
 RECP ROLLED EROSION CONTROL PRODUCT
 REQ REQUIRED
 RICS REMOTE IRRIGATION CONTROL SYSTEM
 R/W RIGHT OF WAY

S

S SLIP
 SCH SCHEDULE
 SF STATE-FURNISHED
 Shld SHOULDER
 Sq SQUARE
 SST SIDE STRIP
 Sta STATION
 Std STANDARD
 SW SIDEWALK/SOUND WALL

T

T THIRD CIRCLE/THREAD
 TLS TRUCK LOADING STANDPIPE
 TQ THREE QUARTER CIRCLE
 TRM TURF REINFORCEMENT MAT
 TT TWO-THIRDS CIRCLE
 TWSA TREE WELL SPRINKLER ASSEMBLY
 Typ TYPICAL

U

UG UNDERGROUND

W

W WIDTH
 W/ WITH
 WM WATER METER
 WS WYE STRAINER
 WSA WYE STRAINER ASSEMBLY
 WSP WELDED STEEL PIPE
 WWM WELDED WIRE MESH

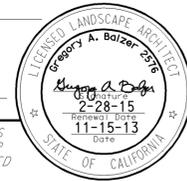
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
LANDSCAPE AND EROSION CONTROL ABBREVIATIONS
 NO SCALE

RSP H1 DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN H1 DATED MAY 20, 2011 - PAGE 218 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP H1

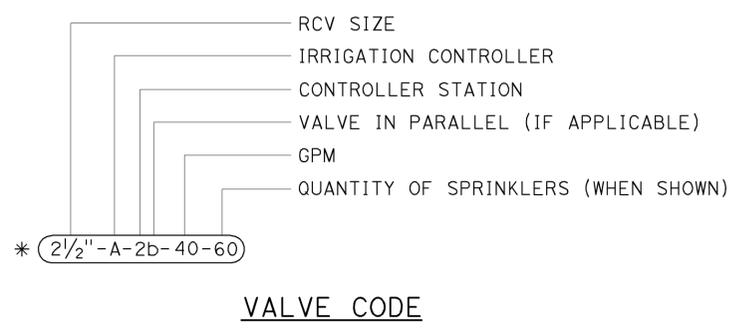
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SF	280	R0.1, R1.5	62	77


 LICENSED LANDSCAPE ARCHITECT
 November 15, 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 6-15-15

EXISTING	NEW	ITEM DESCRIPTION
		WATER METER (WM)
		BACKFLOW PREVENTER ASSEMBLY (BPA)
		BACKFLOW PREVENTER ENCLOSURE (BPE)
		BOOSTER PUMP (BP)
		TRUCK LOADING STANDPIPE (TLS)
		FLOW SENSOR (FS)
		MASTER IRRIGATION CONTROLLER (MIC)
		AUXILIARY IRRIGATION CONTROLLER (AIC)
		IRRIGATION CONTROLLER (IC)
		IRRIGATION CONTROLLER (IC) (BATTERY)
		IRRIGATION CONTROLLER (IC) (SOLAR)
		IRRIGATION CONTROLLER (IC) (TWO WIRE)
		IRRIGATION CONTROLLER(S) IN CONTROLLER ENCLOSURE CABINET (ICC)
		ARMOR-CLAD CONDUCTORS (ACC)
		CONTROL AND NEUTRAL CONDUCTORS (CNC)
		IRRIGATION CONDUIT
		EXTEND IRRIGATION CONDUIT
		DUCTILE IRON PIPE (SUPPLY LINE) (MAIN) (DIP)
		GALVANIZED STEEL PIPE (SUPPLY LINE) (MAIN) (GSP)
		GALVANIZED STEEL PIPE (SUPPLY LINE) (LATERAL) (GSP)
		PLASTIC PIPE (SUPPLY LINE) (MAIN)
		PLASTIC PIPE (SUPPLY LINE) (LATERAL)
		COPPER PIPE (SUPPLY LINE)
		DRIP IRRIGATION TUBING
		REMOTE CONTROL VALVE (RCV) REMOTE CONTROL VALVE (MASTER) (RCVM) REMOTE CONTROL VALVE (MASTER) W/FLOW METER (RCVMF)
		REMOTE CONTROL VALVE W/PRESSURE REGULATOR (RCVP)
		EXISTING MANUAL CONTROL VALVE (MCV)
		DRIP VALVE ASSEMBLY (DVA)
		WYE STRAINER ASSEMBLY (WSA)

EXISTING	NEW	ITEM DESCRIPTION
		GATE VALVE (GV)
		BALL VALVE (BV)
		QUICK COUPLING VALVE (QCV)
		CAM COUPLER ASSEMBLY (CCA)
		GARDEN VALVE ASSEMBLY (GARVA)
		PRESSURE REGULATING VALVE (PRV)
		PRESSURE RELIEF VALVE (PRLV)
		FLOW CONTROL VALVE (FCV)
		COMBINATION AIR RELEASE VALVE (CARV)
		CHECK VALVE (CV)
		FLUSH VALVE (FV)
		EXISTING NOZZLE LINE W/TURNING UNION
		EXISTING IRRIGATION SYSTEM
		EXISTING IRRIGATION SYSTEM TO BE REMOVED
		CHAIN LINK GATE
		QUICK COUPLING VALVE W/SPRINKLER PROTECTOR
		SPRINKLER W/SPRINKLER PROTECTOR
		CONNECT TO EXISTING SYSTEM
		CAP
		CAP EXISTING
		FIBER ROLL
		COMPOST SOCK



* VALVE CODES FOR EXISTING VALVES ARE SHOWN IN A DASHED ENCLOSURE.

RSP H2 DATED NOVEMBER 15, 2013 SUPERSEDES RSP H2 DATED JULY 19, 2013 AND STANDARD PLAN H2 DATED MAY 20, 2011 - PAGE 219 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP H2

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
LANDSCAPE AND EROSION CONTROL SYMBOLS
 NO SCALE

2010 REVISED STANDARD PLAN RSP H2

TO ACCOMPANY PLANS DATED 6-15-15

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
mph	ft	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

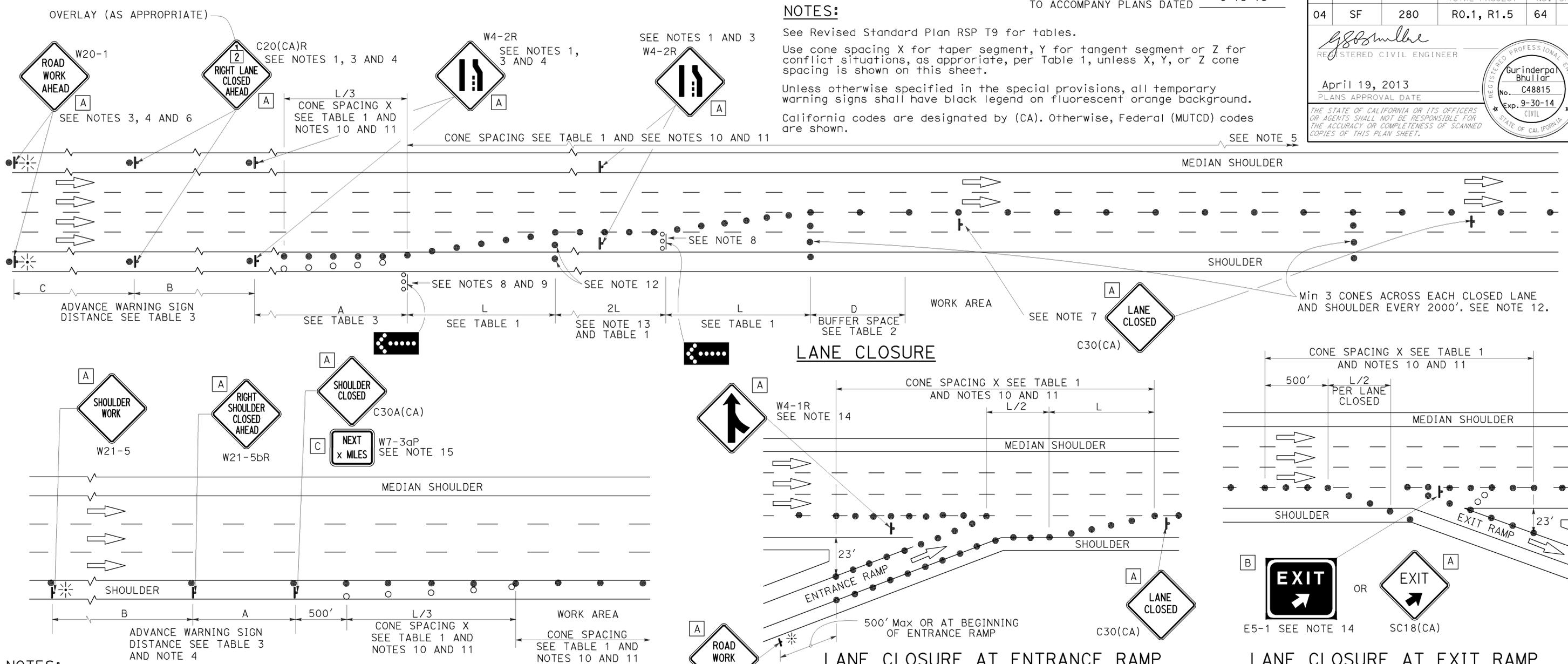
RSP T9 DATED JULY 19, 2013 SUPERSEDES RSP T9 DATED APRIL 19, 2013
 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

2010 REVISED STANDARD PLAN RSP T9

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SF	280	R0.1, R1.5	64	77

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



- NOTES:**
- 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 closures.
 - Duplicate sign installations are not required:
 - On opposite shoulder if at least one-half of the available lanes remain open to traffic.
 - In the median if the width of the median shoulder is less than 8' and the outside lanes are to be closed.
 - 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.
 - 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**
- 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 x MILES" sign for the first advance warning sign.
 - Place a C30(CA) sign every 2000' throughout length of lane closure.
 - One flashing arrow sign for each lane closed. The flashing arrow signs shall be Type I.
 - 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.
 - 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.

- Unless otherwise specified in the special provisions, a minimum of 3 cones shall be placed transversely across each closed lane and shoulder at each location where a taper across a traffic lane ends and every 2000' as shown on the "Lane Closure" detail. Two Type II barricades may be used instead of the 3 cones. The transverse alignment of the cones or barricades on the closed shoulder may be shifted from the transverse alignment to provide access to the work.
- Unless otherwise specified in the special provisions, the 2L tangent shown along lane lines shall be used between the L tapers required for each closed traffic lane.
- Unless otherwise specified in the special provisions, the E5-1 or SC18(CA) signs shall be used as shown.
- A W7-3aP "NEXT _____ MILES" plaque must be used if the shoulder closure extends beyond the distance that can be perceived by road users.

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"

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

**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
04	SF	280	R0.1, R1.5	65	77

Gurinderpal Bhullar
 REGISTERED CIVIL ENGINEER
 April 19, 2013
 PLANS APPROVAL DATE

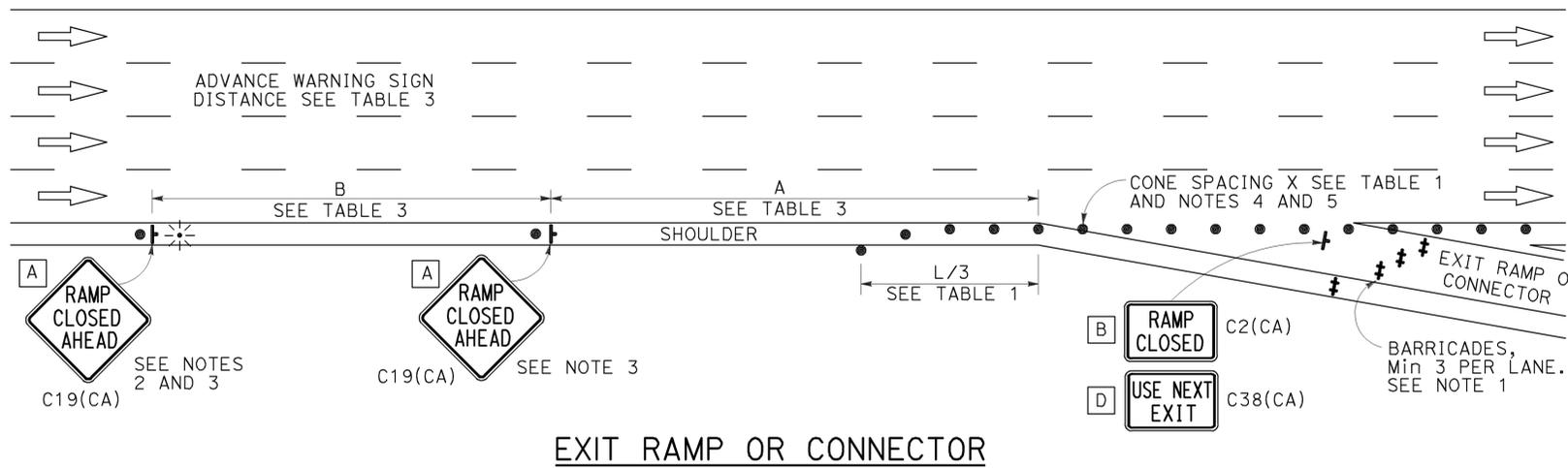
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

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

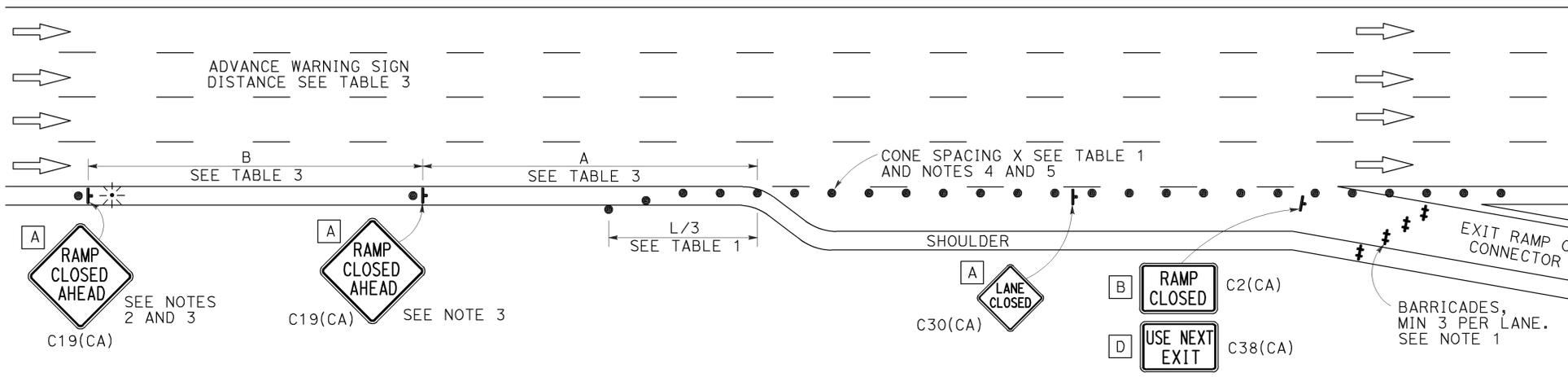
TO ACCOMPANY PLANS DATED 6-15-15

NOTES:

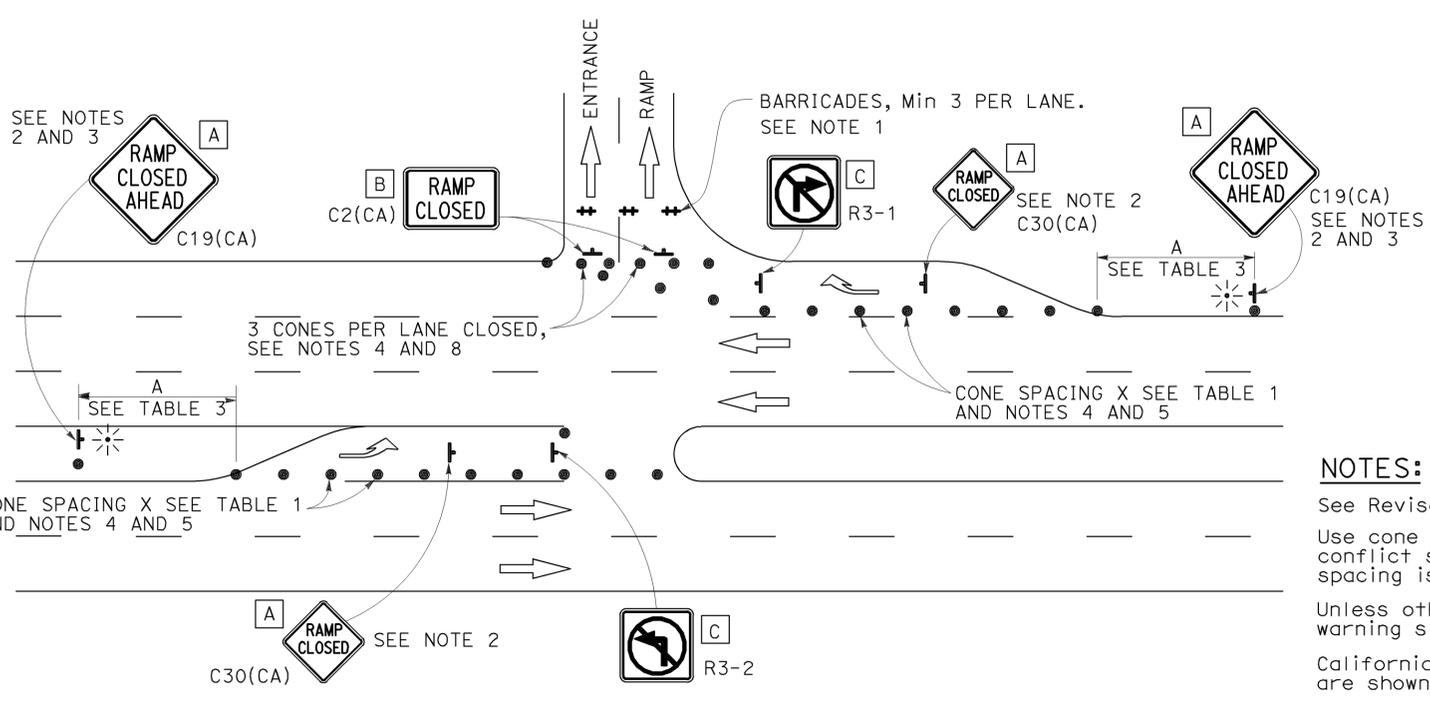
- Barricades shall be Type I, II, or III for closures lasting one week or less and Type III for closures lasting longer than one week.
- In addition to placing the C19(CA) "RAMP CLOSED AHEAD" and C30(CA) "RAMP CLOSED" signs, black on orange overlay plates with the word "CLOSED" may be mounted, as directed 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.



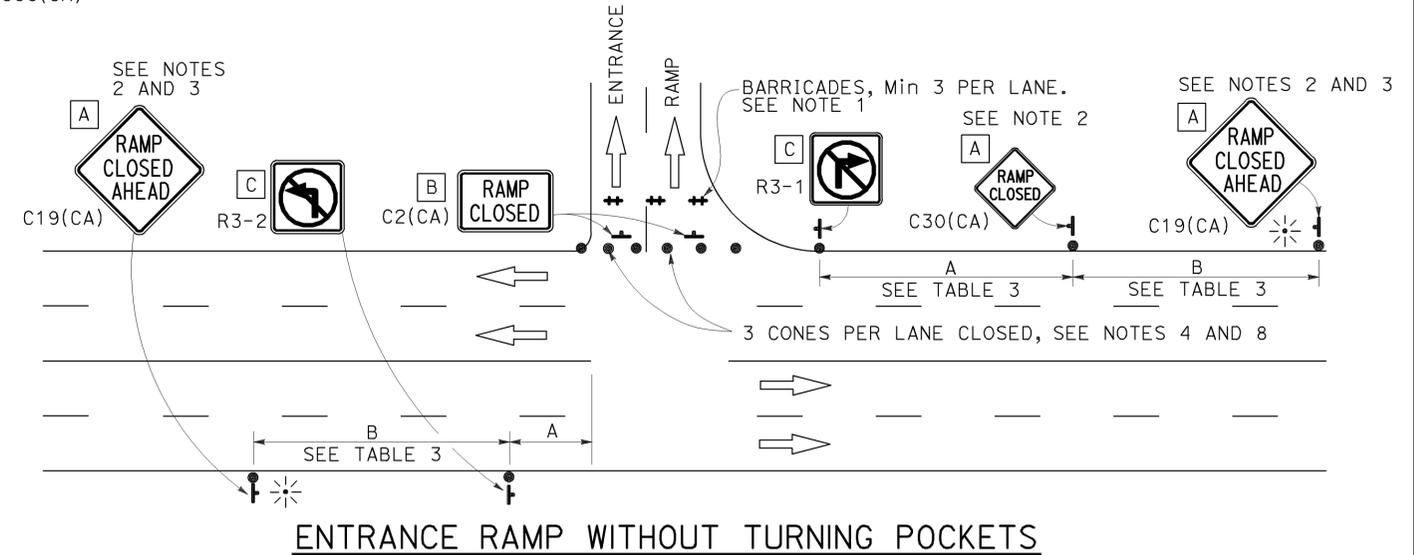
EXIT RAMP OR CONNECTOR



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

2010 REVISED STANDARD PLAN RSP B3-5

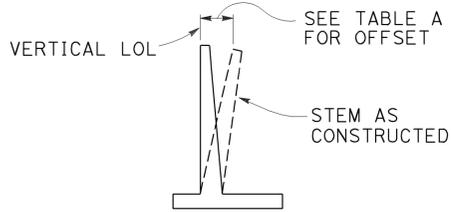
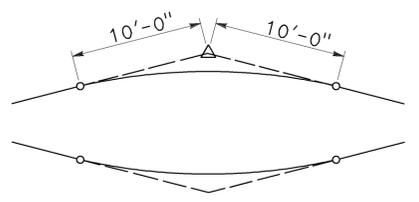


TABLE A

H	OFFSET
4'-12'	H/200
14'-16'	H/160
18'-20'	H/140
22'-24'	H/130
26'-36'	2 1/2"

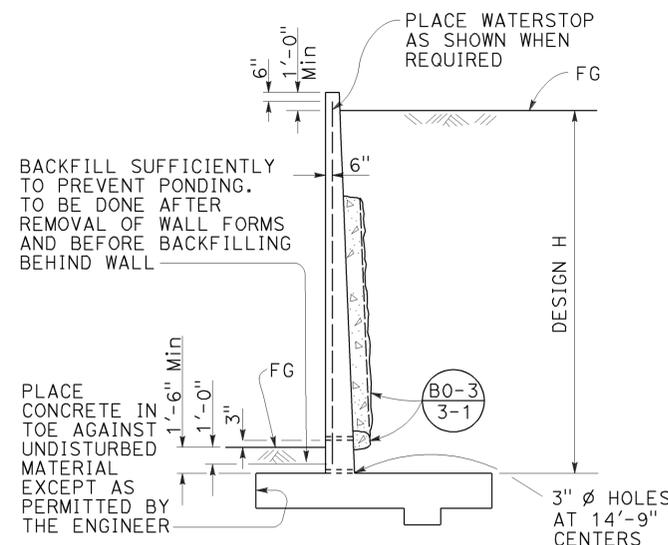
APPROXIMATE WALL OFFSET VALUES

Values for offsetting forms to be determined by the Engineer.



20'-0" VC AT TOP OF WALL SLOPE CHANGE

Where shown on the plans



DESIGN AND DRAINAGE

BACKFILL SUFFICIENTLY TO PREVENT PONDING. TO BE DONE AFTER REMOVAL OF WALL FORMS AND BEFORE BACKFILLING BEHIND WALL.

PLACE CONCRETE IN TOE AGAINST UNDISTURBED MATERIAL EXCEPT AS PERMITTED BY THE ENGINEER.

TO ACCOMPANY PLANS DATED 6-15-15

DESIGN CONDITIONS:

Design "H" may be exceeded by 6" before going to the next size. Special footing design is required where foundation material is incapable of supporting bearing stress listed in table

Return wall not required unless shown elsewhere

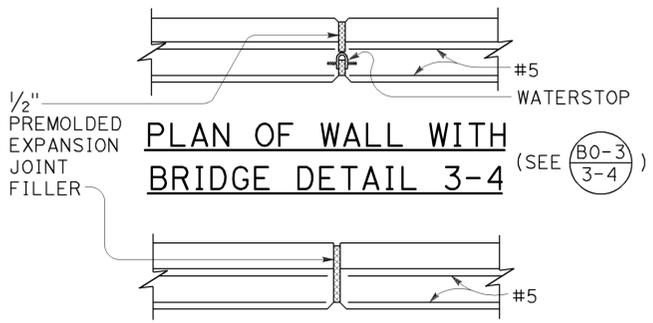
DESIGN NOTES:

DESIGN: AASHTO LRFD Bridge Design Specifications, 4th edition with California Amendments

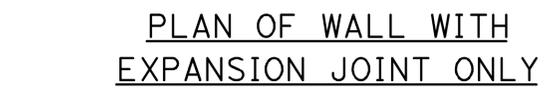
LIVE LOAD: Surcharge on level ground surface

SOIL: $\phi = 34^\circ$
 $\gamma = 120$ pcf

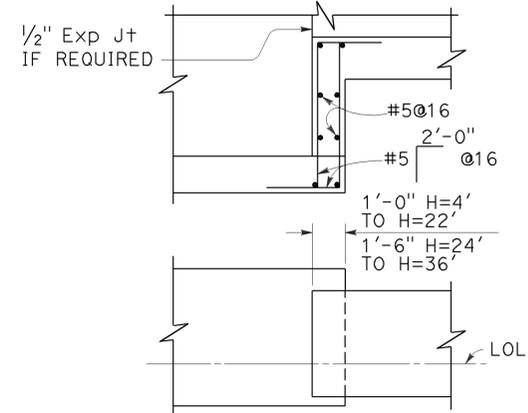
REINFORCED CONCRETE: $f_y = 60,000$ psi
 $f_c' = 3,600$ psi



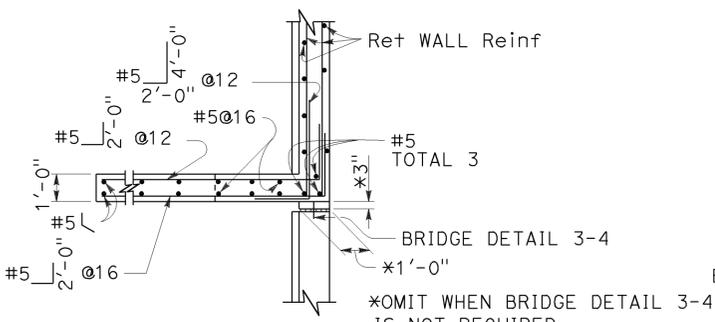
PLAN OF WALL WITH BRIDGE DETAIL 3-4



PLAN OF WALL WITH EXPANSION JOINT ONLY

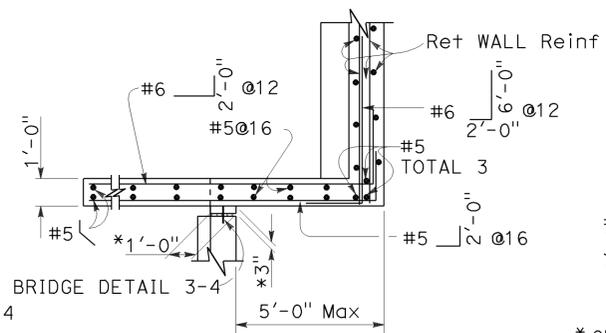


FOOTING STEP



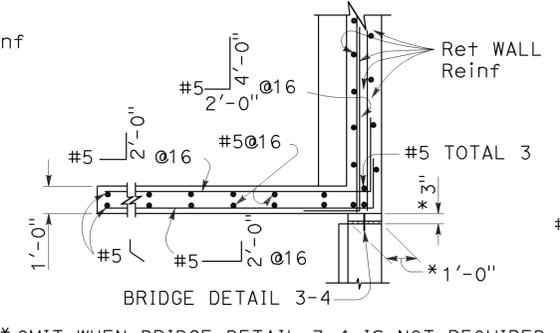
PLAN

(For return wall Type "A")



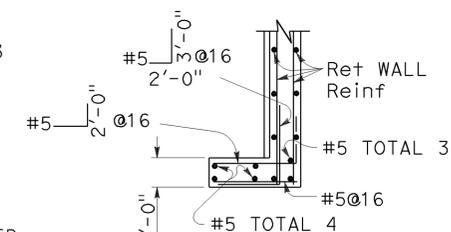
PLAN

(For return wall Type "B")



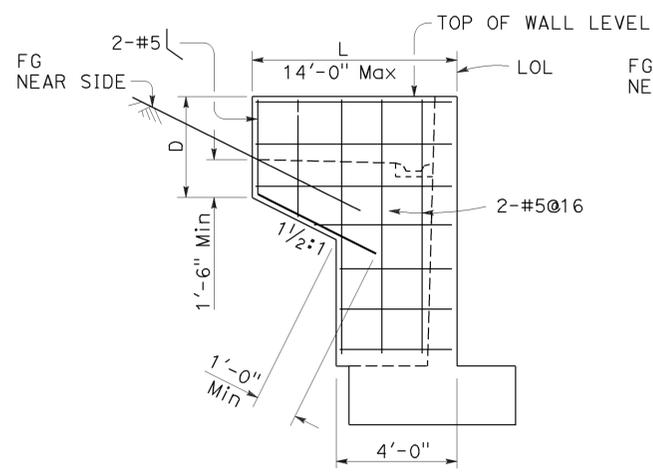
PLAN

(For return wall Type "C")



PLAN

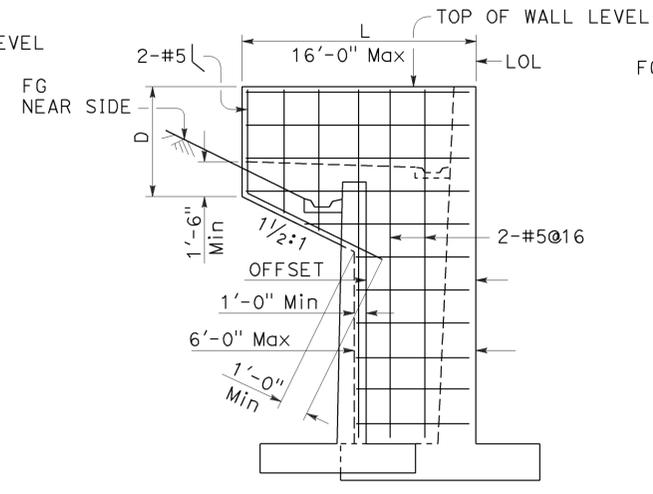
(For return wall Type "D")



ELEVATION

RETURN WALL TYPE "A"

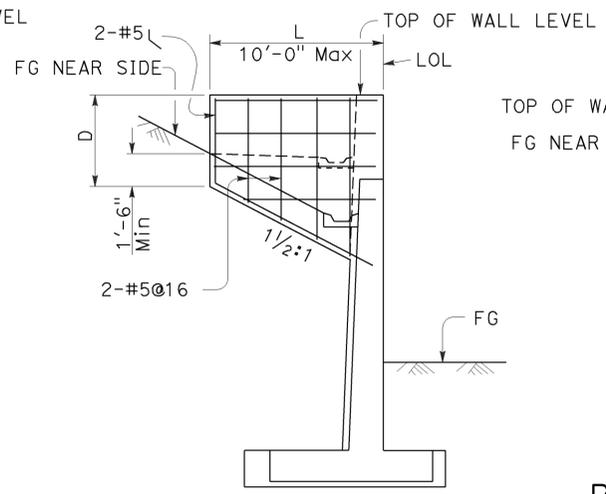
Use where H=8' or less



ELEVATION

RETURN WALL TYPE "B"

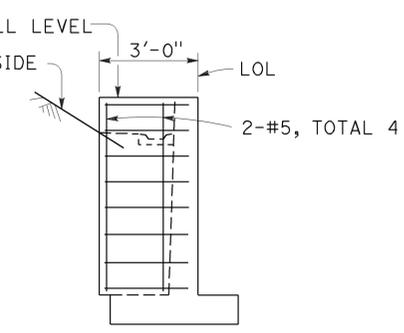
Use where H=10' or more on offset walls



ELEVATION

RETURN WALL TYPE "C"

Use where H=10' or more on straight walls



ELEVATION

RETURN WALL TYPE "D"

Use where H=6' or less

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

RETAINING WALL DETAILS No. 1

NO SCALE

RSP B3-5 DATED APRIL 20, 2012 SUPERSEDES STANDARD PLAN B3-5 DATED MAY 20, 2011 - PAGE 277 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP B3-5

LEGEND:

AB	ABANDON. IF APPLIED TO CONDUIT, REMOVE CONDUCTORS
BC	INSTALL PULL BOX IN EXISTING CONDUIT RUN
BP	PEDESTRIAN BARRICADE, TYPE AS INDICATED ON PLAN
CB	INSTALL CONDUIT INTO EXISTING PULL BOX
CC	CONNECT NEW AND EXISTING CONDUIT. REMOVE EXISTING CONDUCTORS AND INSTALL CONDUCTORS AS INDICATED
CF	CONDUIT TO REMAIN FOR FUTURE USE. REMOVE CONDUCTORS. INSTALL PULL TAPE
DH	DETECTOR HANDHOLE
FA	FOUNDATION TO BE ABANDONED
IS	INSTALL SIGN ON SIGNAL MAST ARM
NS	NO SLIP BASE ON STANDARD
PEC	PHOTOELECTRIC CONTROL
PEU	PHOTOELECTRIC UNIT
RC	EQUIPMENT OR MATERIAL TO BE REMOVED AND BECOME THE PROPERTY OF THE CONTRACTOR
RE	REMOVE ELECTROLIER, FUSES AND BALLAST. TAPE ENDS OF CONDUCTORS
RL	RELOCATE EQUIPMENT
RR	REMOVE AND REUSE EQUIPMENT
RS	REMOVE AND SALVAGE EQUIPMENT
SC	SPLICE NEW TO EXISTING CONDUCTORS
SD	SERVICE DISCONNECT
TSP	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
Ck+	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
04	SF	280	R0.1, R1.5	69	77

Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

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

TO ACCOMPANY PLANS DATED 6-15-15

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
Ω	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
μ	MICRO
P	PICO
HZ	HERTZ

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

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

2010 REVISED STANDARD PLAN RSP ES-1A

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SF	280	R0.1, R1.5	70	77

Theresa Gabriel
 REGISTERED ELECTRICAL ENGINEER
 July 19, 2013
 PLANS APPROVAL DATE
 Theresa Aziz Gabriel
 No. E15129
 Exp. 6-30-14
 ELECTRICAL
 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.

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

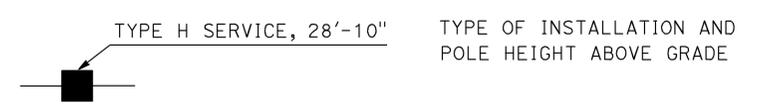
NEW	EXISTING	
---OH---	---oh---	OVERHEAD LINES
		WOOD POLE, "U" INDICATES UTILITY OWNED
		POLE GUY WITH ANCHOR
		UTILITY TRANSFORMER - GROUND MOUNTED
		SERVICE EQUIPMENT ENCLOSURE TYPE. DOOR INDICATES FRONT OF ENCLOSURE
		TELEPHONE DEMARCATION CABINET

		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.

POLE-MOUNTED SERVICE DESIGNATION



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

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)**

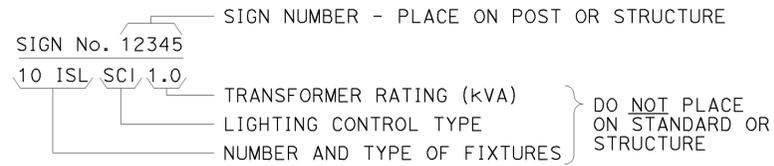
NO SCALE
RSP ES-1B DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-1B DATED MAY 20, 2011 - PAGE 426 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-1B

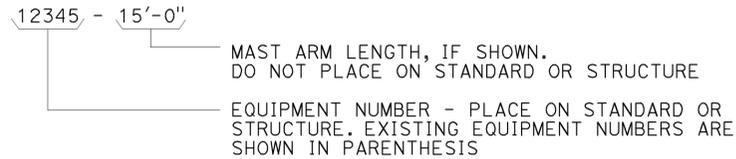
2010 REVISED STANDARD PLAN RSP ES-1B

EQUIPMENT IDENTIFICATION

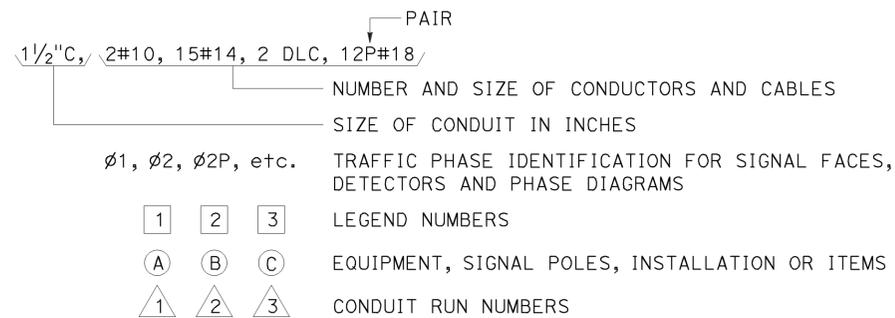
ILLUMINATED SIGN IDENTIFICATION NUMBER:



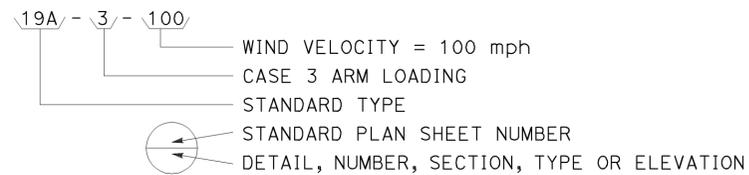
ELECTROLIER OR EQUIPMENT IDENTIFICATION NUMBER:



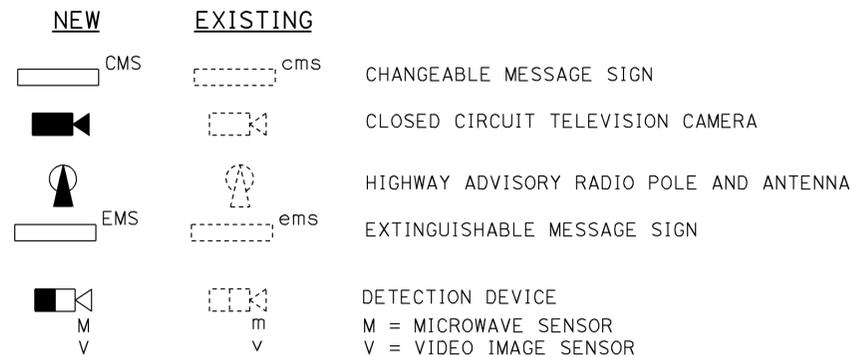
CONDUIT AND CONDUCTOR IDENTIFICATION:



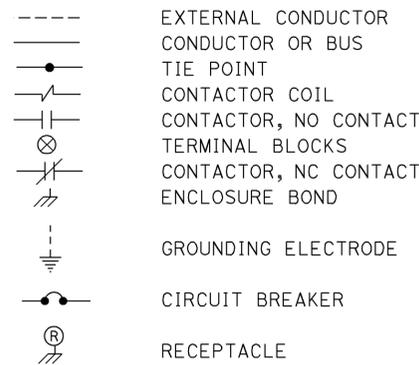
SIGNAL AND LIGHTING STANDARD (TYPICAL DESIGNATION):



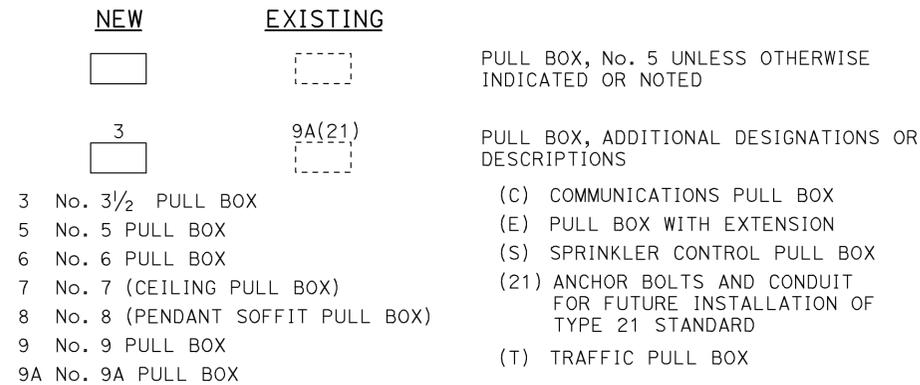
MISCELLANEOUS EQUIPMENT



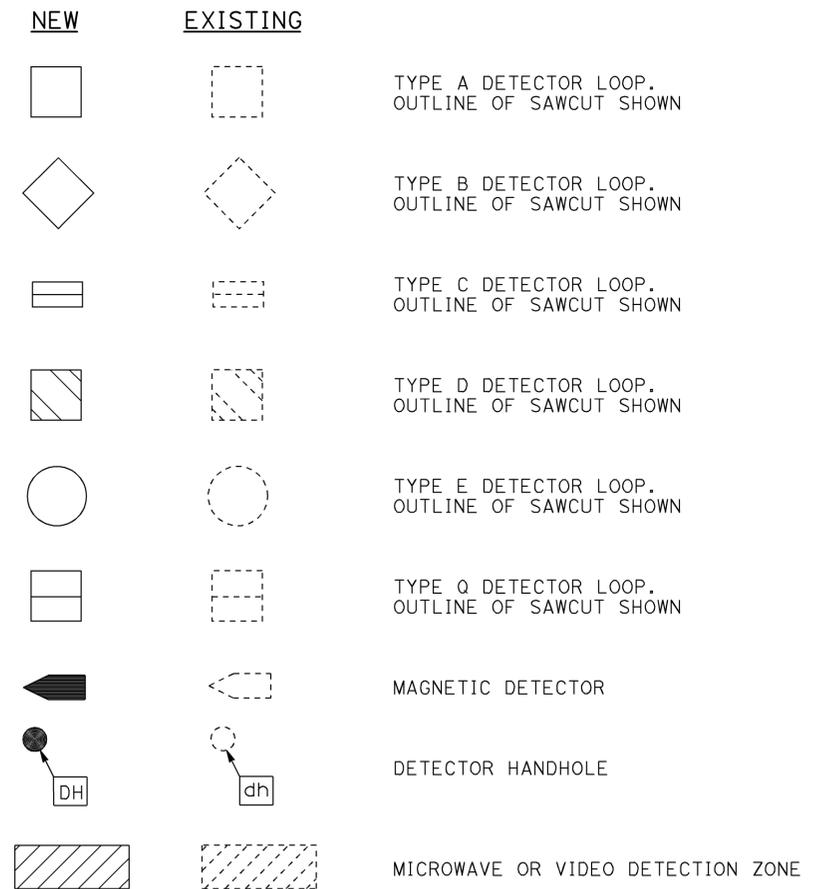
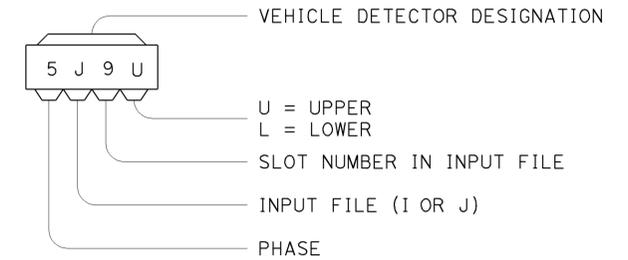
WIRING DIAGRAM LEGEND



PULL BOXES



VEHICLE DETECTORS



STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

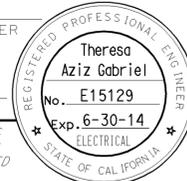
ELECTRICAL SYSTEMS (LEGEND AND ABBREVIATIONS)

NO SCALE

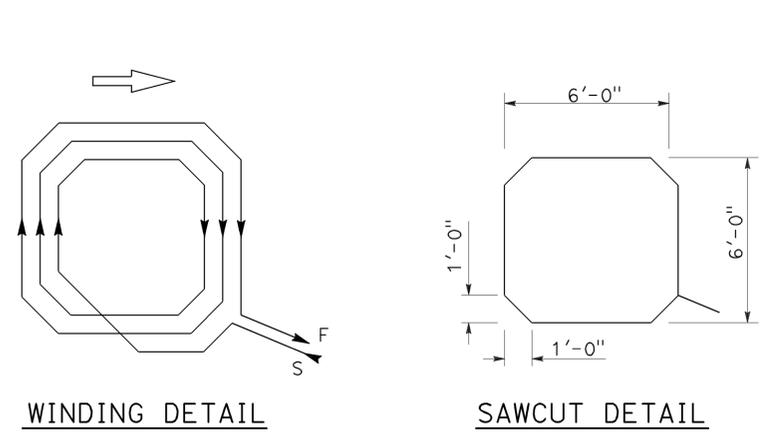
RSP ES-1C DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-1C DATED MAY 20, 2011 - PAGE 427 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-1C

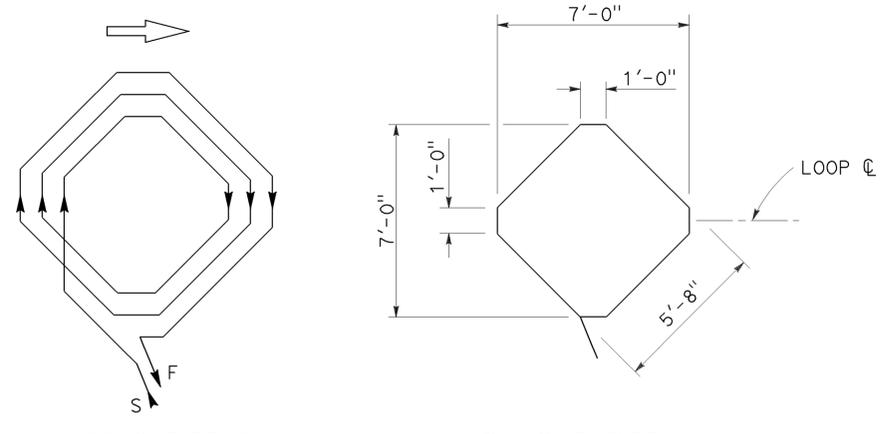
2010 REVISED STANDARD PLAN RSP ES-1C

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SF	280	RO.1, R1.5	72	77
<i>Theresa Gabriel</i> REGISTERED ELECTRICAL ENGINEER July 19, 2013 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>					
					
					6-15-15

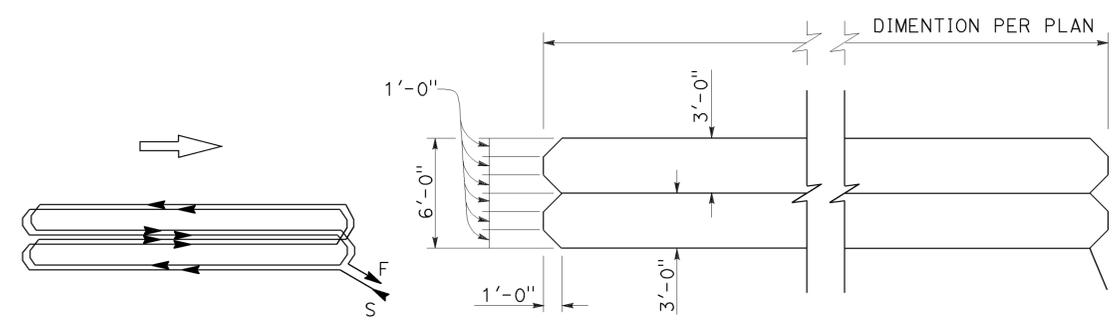
TO ACCOMPANY PLANS DATED 6-15-15



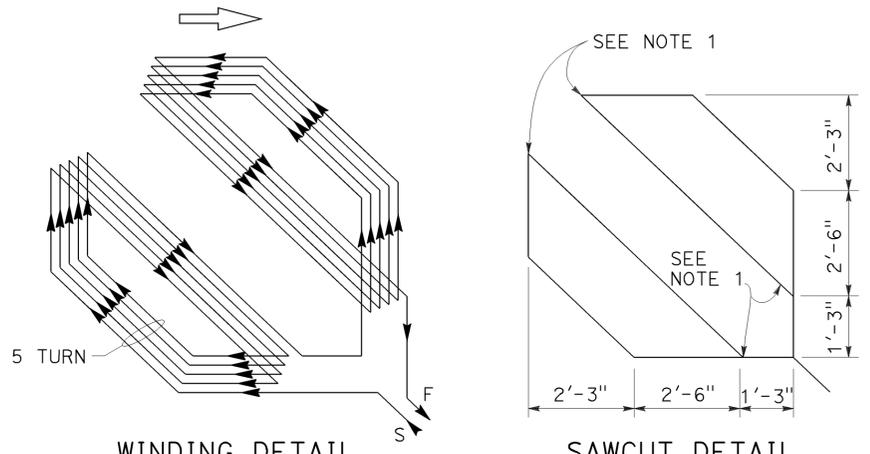
WINDING DETAIL
SAWCUT DETAIL
TYPE A LOOP DETECTOR CONFIGURATION



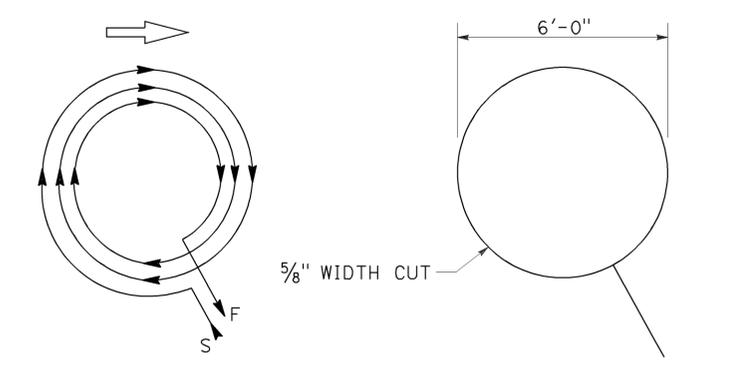
WINDING DETAIL
SAWCUT DETAIL
TYPE B LOOP DETECTOR CONFIGURATION



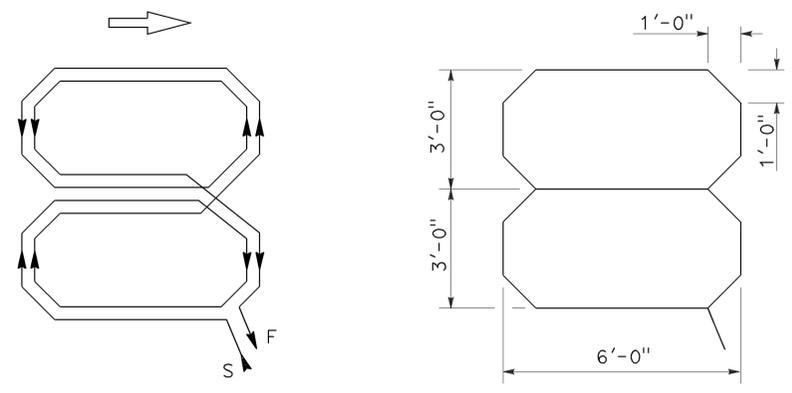
WINDING DETAIL
SAWCUT DETAIL
TYPE C LOOP DETECTOR CONFIGURATION



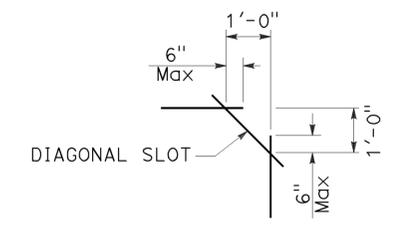
WINDING DETAIL
SAWCUT DETAIL
TYPE D LOOP DETECTOR CONFIGURATION



WINDING DETAIL
SAWCUT DETAIL
TYPE E LOOP DETECTOR CONFIGURATION



WINDING DETAIL
SAWCUT DETAIL
TYPE Q LOOP DETECTOR CONFIGURATION



PLAN VIEW OF DIAGONAL SLOT AT CORNERS

- NOTES:**
1. Round corners of acute angle sawcuts to prevent damage to conductors.
 2. Typical distance separating loops from edge to edge is 10' for Type A, B, D and E installation in single lane.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (DETECTORS)

NO SCALE

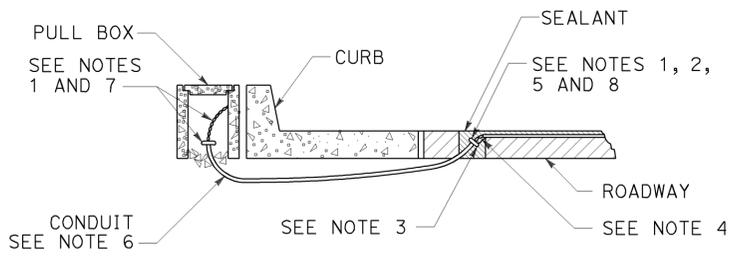
RSP ES-5B DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-5B DATED MAY 20, 2011 - PAGE 449 OF THE STANDARD PLANS BOOK DATED 2010.

2010 REVISED STANDARD PLAN RSP ES-5B

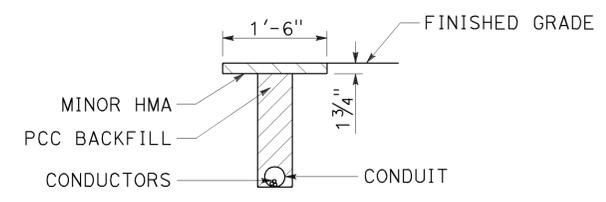
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SF	280	R0.1, R1.5	73	77

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

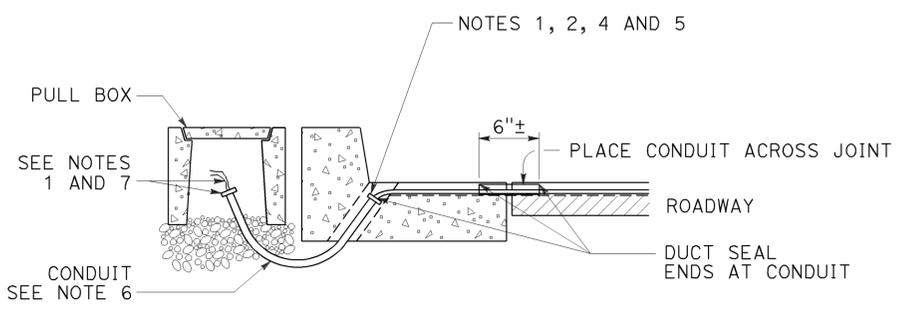
TO ACCOMPANY PLANS DATED 6-15-15



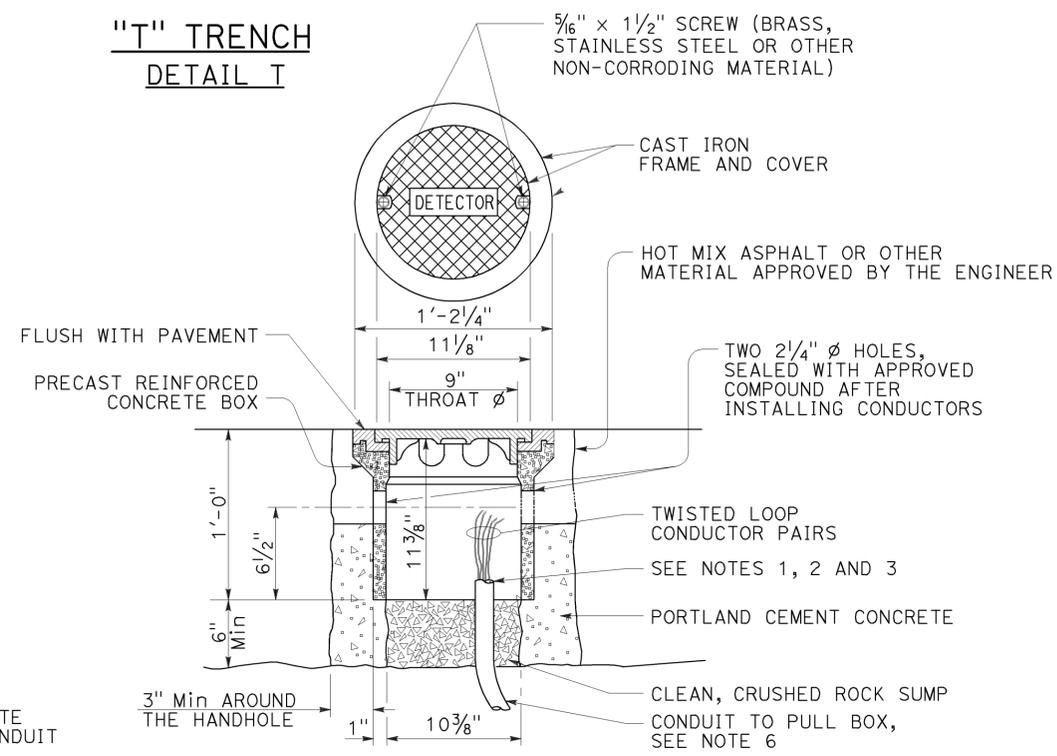
TYPE A
CURB TERMINATION DETAIL



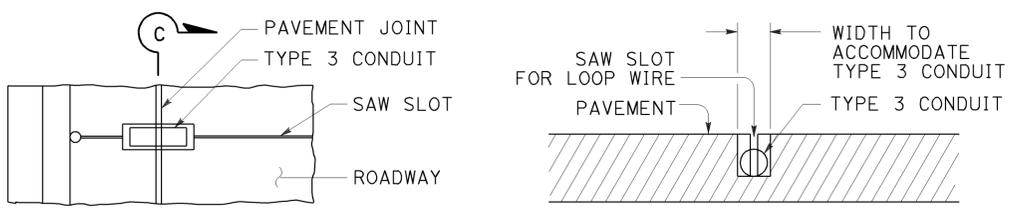
"T" TRENCH
DETAIL T



CROSS SECTION



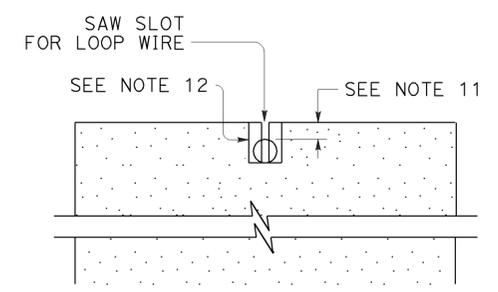
DETECTOR HANDHOLE DETAIL



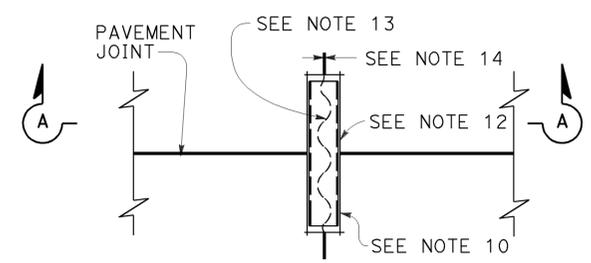
PLAN VIEW

SECTION C-C

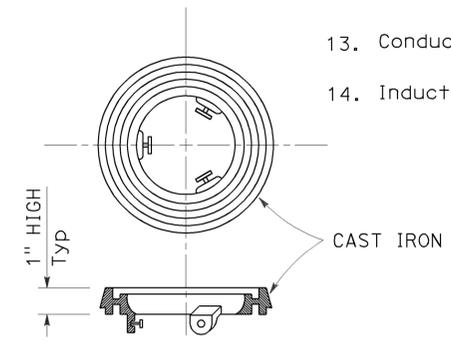
TYPE B
CURB TERMINATION DETAIL



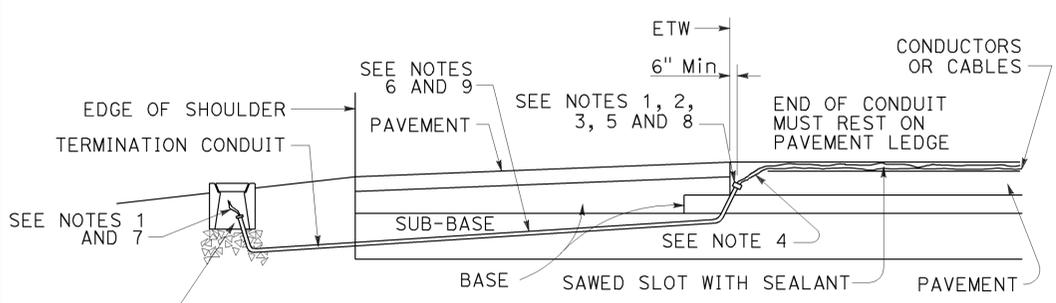
SECTION A-A



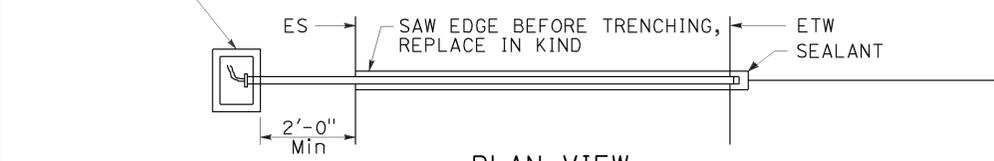
PLAN VIEW
TYPICAL LOOP LEAD-IN DETAIL
AT PAVEMENT JOINT



LOCKING GRADE RING



CROSS SECTION



PLAN VIEW
SHOULDER TERMINATION DETAILS

NOTES:

- Bushing shall be used at end of conduit.
- Tape detector conductors or cables 3" each side of bushings.
- Install duct seal compound to each end of termination conduit before installing sealant.
- Round all sharp edges where detector conductors or cables have to pass.
- End of conduit shall be 3/8" below roadway surface.
- Conduit size Loop conductors
 1"C minimum 1 to 2 pairs
 1 1/2"C minimum 3 to 4 pairs
 2"C minimum 5 or more pairs
- Splice detector conductors or cables to detector lead-in-cable.
- Location of detector handhole when shown on plans.
- When the shoulder and traveled way are paved with the same material and there is no joint between them, the conduit shall extend only 2'-0" into the shoulder pavement.
- 3/4"C, Type 3 conduit 6" long minimum, plug both ends with duct compound to keep out sealant.
- 1/2" Minimum between top of conduit and pavement surface.
- Sawcut shall not exceed 1" in width and 1/8" longer than conduit to be installed.
- Conductors with 1/2" minimum slack inside conduit.
- Inductive loop detector saw slot.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
ELECTRICAL SYSTEMS
(CURB TERMINATION
AND HANDHOLE)
NO SCALE

RSP ES-5D DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-5D
DATED MAY 20, 2011 - PAGE 451 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-5D

2010 REVISED STANDARD PLAN RSP ES-5D

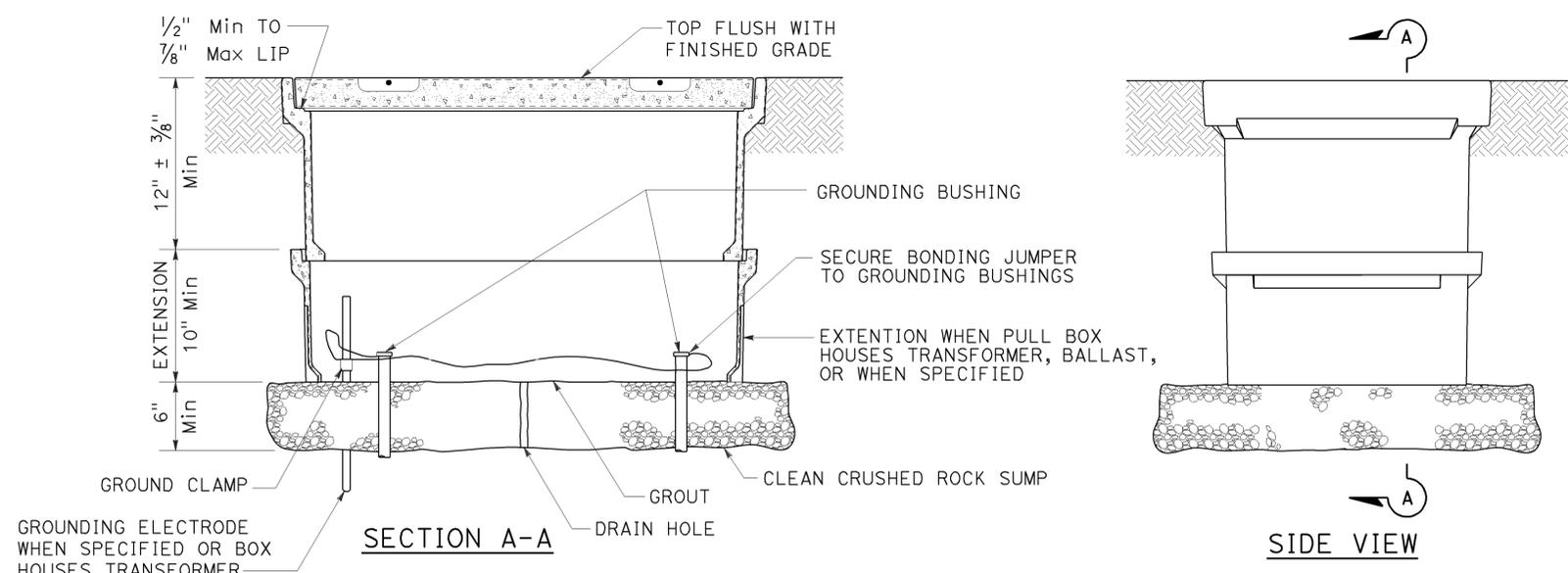
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF	280	RO.1, R1.5	74	77

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

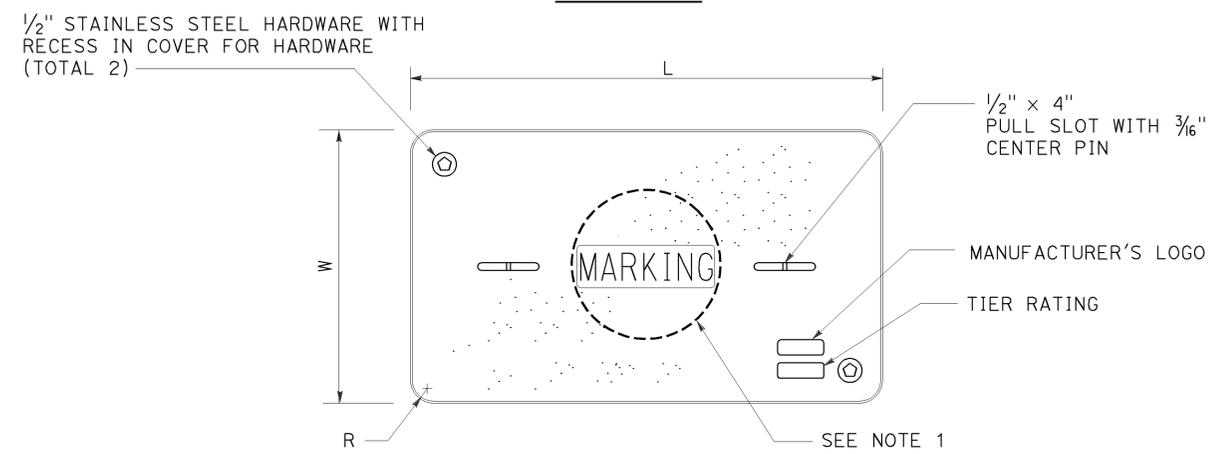
July 19, 2013
 PLANS APPROVAL DATE

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.

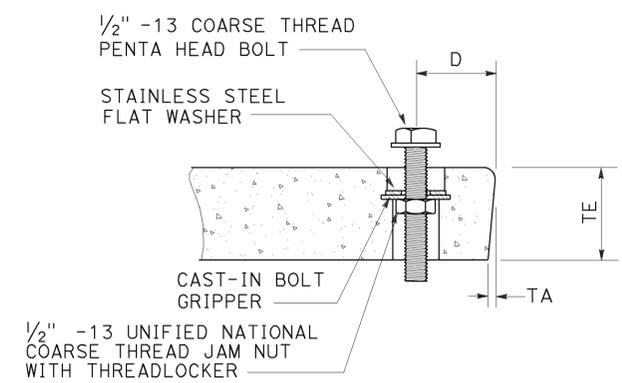
TO ACCOMPANY PLANS DATED 6-15-15



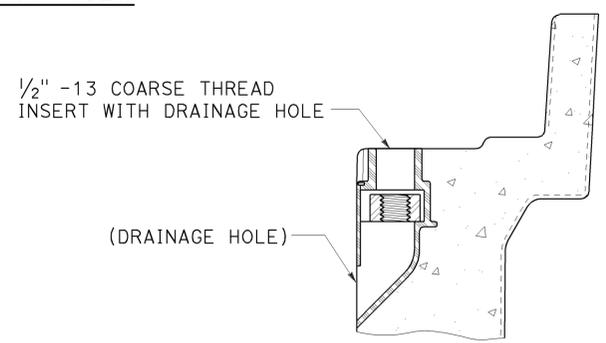
INSTALLATION DETAILS
DETAIL A



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" 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". Top outside radius of covers and pull boxes shall 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.
- 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

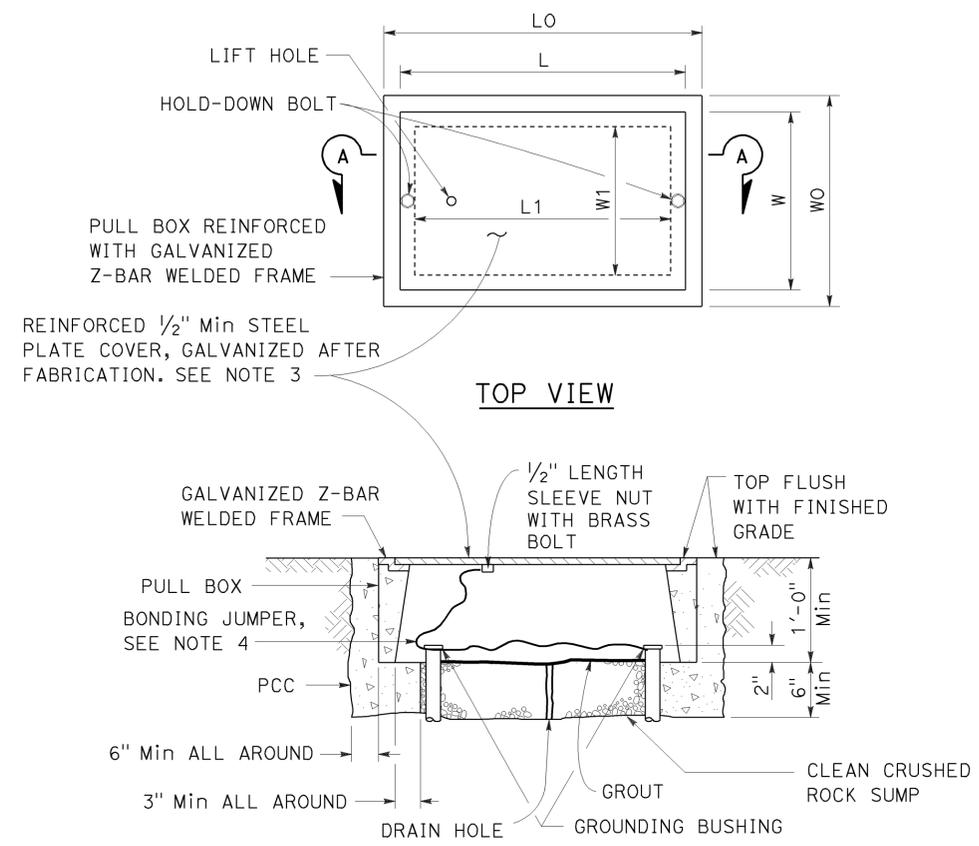
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF	280	R0.1, R1.5	75	77

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 6-15-15



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

NOTES:

- 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 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(T) 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(T) or 6(T) 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.
 - "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.
 - "BOOSTER PUMP" - Booster pump circuit.
- Bonding jumper for metal covers shall be 3' long, minimum.
- 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" 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".

PULL BOX	PULL 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 3/8"±	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 PULL BOX)
 NO SCALE

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

REVISED STANDARD PLAN RSP ES-8B

2010 REVISED STANDARD PLAN RSP ES-8B

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SF	280	R0.1, R1.5	76	77

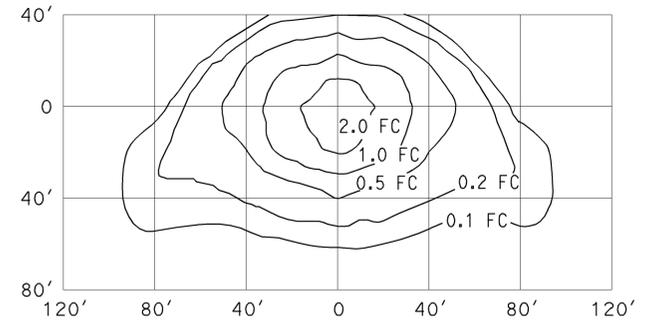
Theresa Gabriel
 REGISTERED ELECTRICAL ENGINEER
 No. E15129
 Exp. 6-30-14
 ELECTRICAL
 STATE OF CALIFORNIA

July 19, 2013
 PLANS APPROVAL DATE

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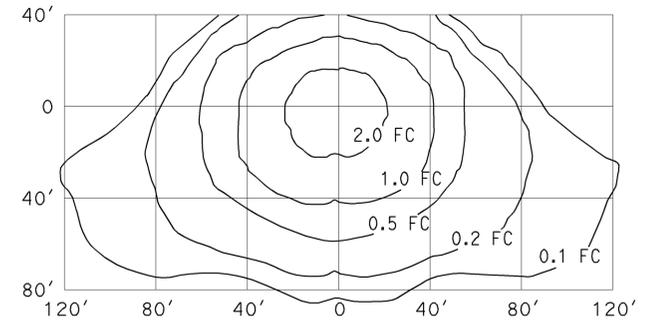
TO ACCOMPANY PLANS DATED 6-15-15

ISOFOOTCANDLE CURVE - MINIMUM



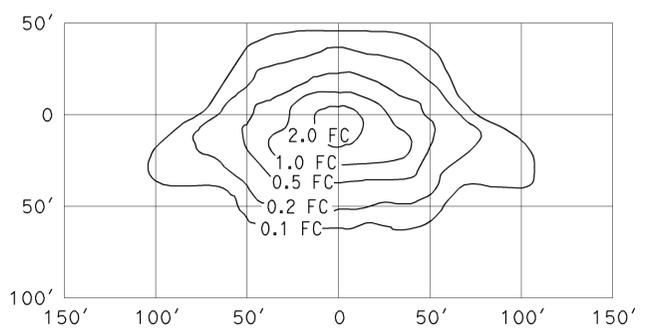
TYPE III MEDIUM CUTOFF
 Cutoff Luminaire
 34' Mounting Height
 Lamp operated at 22,000 lm
 200-W high pressure sodium lamp
 ANSI Designation S66

ISOFOOTCANDLE CURVE - MINIMUM



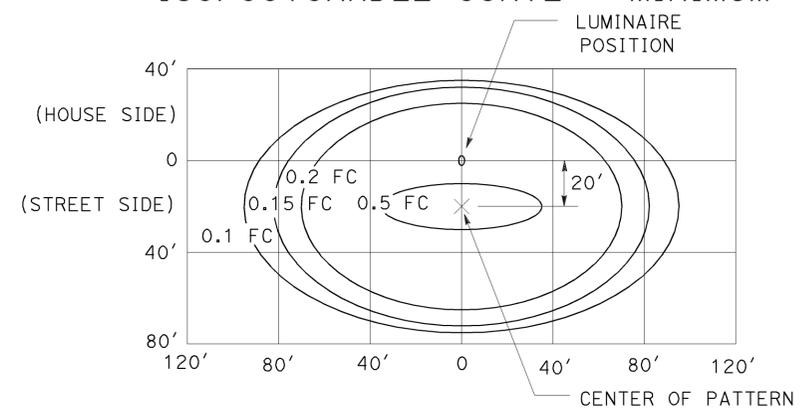
TYPE III MEDIUM CUTOFF
 Cutoff Luminaire
 40' Mounting Height
 Lamp operated at 37,000 lm
 310-W high pressure sodium lamp
 ANSI Designation S67

ISOFOOTCANDLE CURVE - MINIMUM



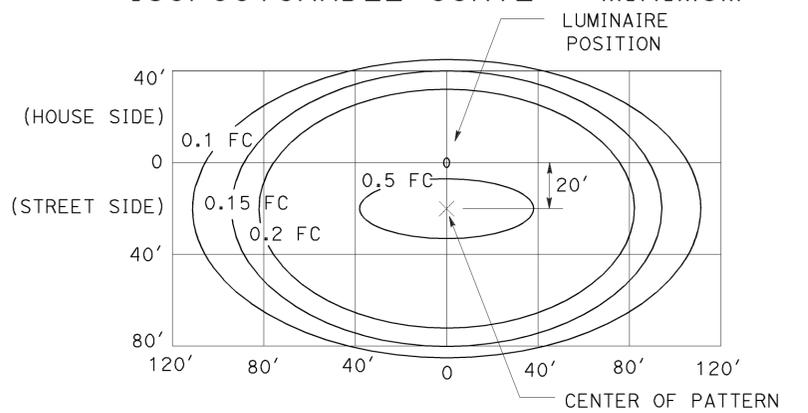
TYPE III MEDIUM CUTOFF
 Cutoff Luminaire
 30' Mounting Height
 Lamp operated at 16,000 lm
 150-W high pressure sodium lamp
 ANSI Designation S55

ISOFOOTCANDLE CURVE - MINIMUM



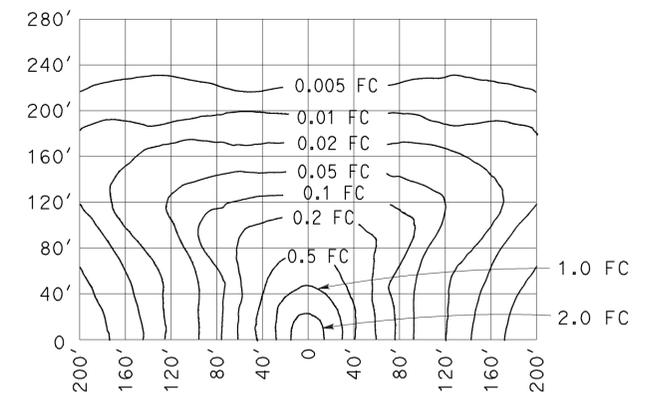
LED LUMINAIRE ROADWAY 1
 165-W at 34' Mounting Height

ISOFOOTCANDLE CURVE - MINIMUM



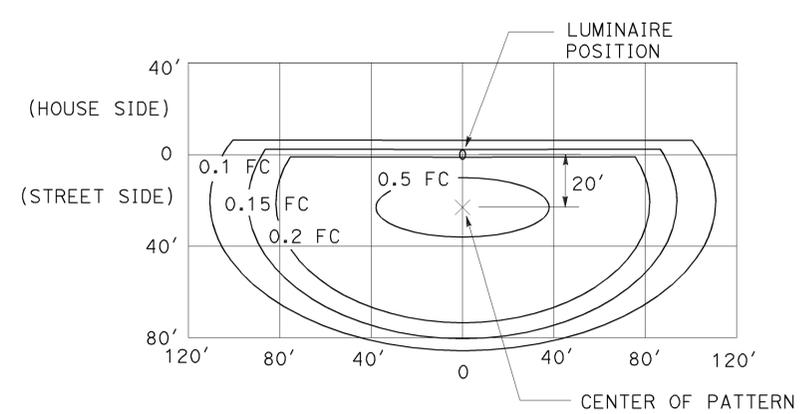
LED LUMINAIRE ROADWAY 2
 235-W at 40' Mounting Height

ISOFOOTCANDLE CURVE - MINIMUM



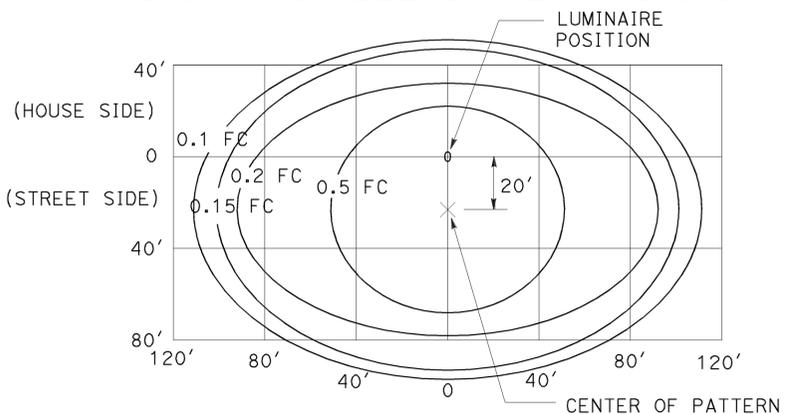
LOW PRESSURE SODIUM LUMINAIRE
 40' Mounting Height
 Lamp operated at 33,000 lm
 180-W low pressure sodium lamp

ISOFOOTCANDLE CURVE - MINIMUM



LED LUMINAIRE ROADWAY 3
 235-W at 40' Mounting Height
 with back side control

ISOFOOTCANDLE CURVE - MINIMUM



LED LUMINAIRE ROADWAY 4
 300-W at 40' Mounting Height

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**ELECTRICAL SYSTEMS
 (ISOFOOTCANDLE DIAGRAMS)**

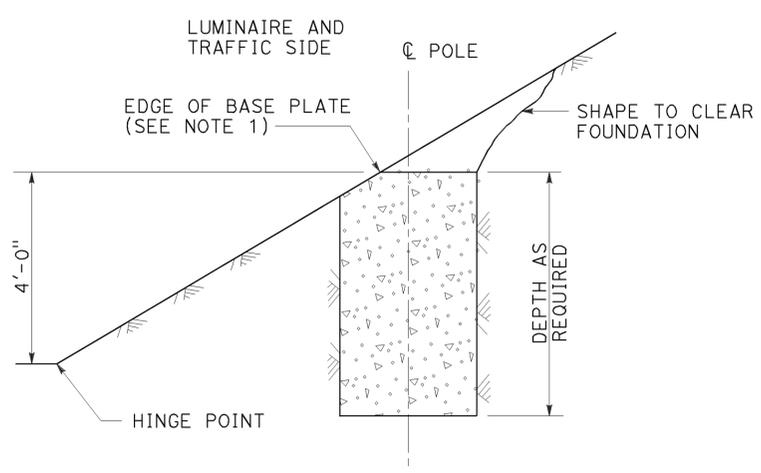
NO SCALE
 RSP ES-10A DATED JULY 19, 2013 SUPERSEDES RSP ES-10A DATED JULY 20, 2012
 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-10A

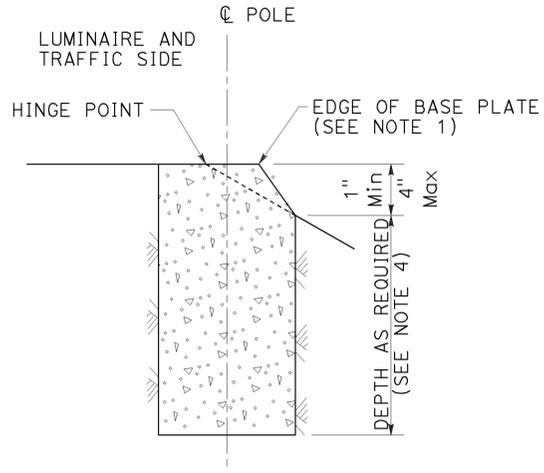
2010 REVISED STANDARD PLAN RSP ES-10A

TO ACCOMPANY PLANS DATED 6-15-15

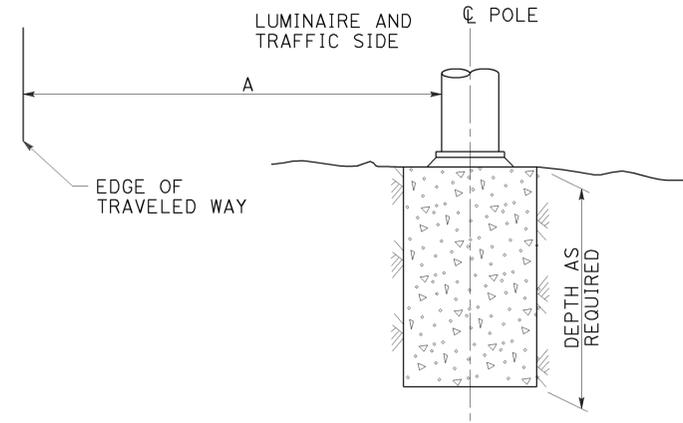
STANDARD TYPE	SETBACK (DIMENSION A)
32	30'-0" (Min)
31	20'-0" (Min)
15, 15D, 15-SB, 21, 21D, 30	ARM LENGTH (Min)



CUT SLOPES
STEEPER THAN 4:1,
LESS THAN 2:1
DETAIL A-1
 See Note 2 and 3



FILL SLOPES
STEEPER THAN 4:1,
LESS THAN 2:1
DETAIL A-2
 See Note 2 and 3

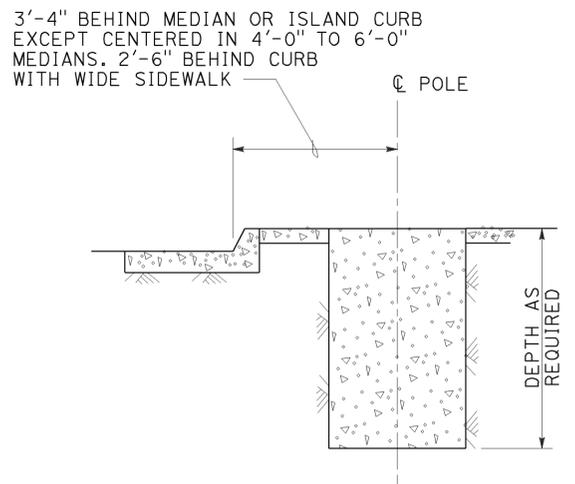


FLAT SECTIONS, CUT OR FILL SLOPES
4:1 OR FLATTER
DETAIL A-3
 See Note 2

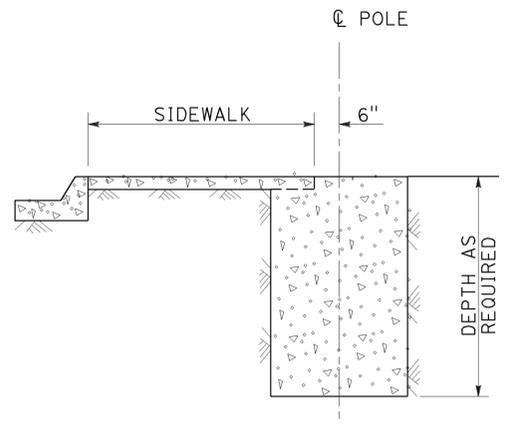
FOUNDATIONS ADJACENT TO ALL ROADWAYS EXCEPT
IN SIDEWALK, MEDIAN AND ISLAND AREAS
DETAIL A

NOTES:

1. Where a portion of the foundation is above grade, the top edges shall have a 1" chamfer.
2. Slopes shall be horizontal to vertical ratio (Horizontal : Vertical).
3. Horizontal setbacks on cut and fill slopes steeper than 4:1 shall not exceed the distance shown for flat sections.
4. CIDH embedment depth shall be increased beyond standard depths by the diameter of the CIDH.



MEDIAN, ISLAND
OR WIDE SIDEWALK
DETAIL B-1
 7' Wide and wider



NARROW SIDEWALK
DETAIL B-2
 Less than 7' wide

FOUNDATIONS IN SIDEWALK, MEDIAN AND ISLAND AREAS
DETAIL B

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
ELECTRICAL SYSTEMS
(FOUNDATION INSTALLATIONS)
 NO SCALE

RSP ES-11 DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-11
 DATED MAY 20, 2011 - PAGE 488 OF THE STANDARD PLANS BOOK DATED 2010.