

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ACNHP-118(064)E

PROJECT PLANS FOR CONSTRUCTION ON
STATE HIGHWAY

IN VENTURA COUNTY
IN MOORPARK AND SIMI VALLEY
FROM ARROYO SIMI OVERHEAD
TO VENTURA COUNTY/LOS ANGELES COUNTY LINE

TO BE SUPPLEMENTED BY STANDARD PLANS DATED 2010

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	118	T18.7/R32.6	1	98

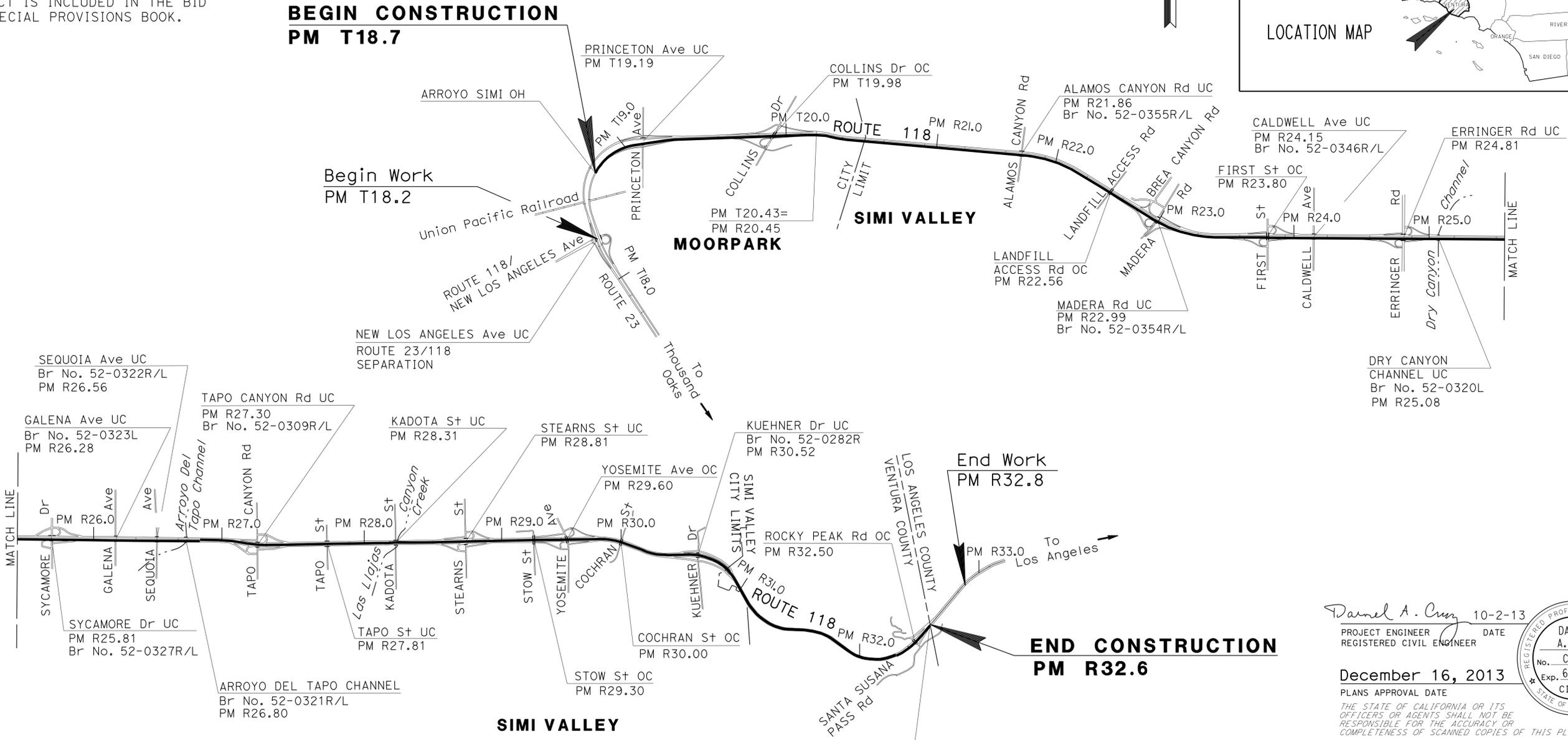
INDEX OF PLANS

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STRUCTURE PLANS

90-98	ROUTE 118 BRIDGE APPROACH AND DEPARTURE SLAB REPLACEMENT
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THE STANDARD PLANS LIST APPLICABLE TO THIS CONTRACT IS INCLUDED IN THE BID BOOK AND SPECIAL PROVISIONS BOOK.



PROJECT MANAGER	REZA FATEH
DESIGN ENGINEER	DARREL CRUZ

Darrel A. Cruz 10-2-13
PROJECT ENGINEER DATE
REGISTERED CIVIL ENGINEER

December 16, 2013
PLANS APPROVAL DATE

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

CONTRACT No.	07-296704
PROJECT ID	0713000086

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

NO SCALE Ven 118 PM R32.60= LA 118 PM 0.00

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	118	T18.7/R32.6	2	98
Darrel A. Cruz REGISTERED CIVIL ENGINEER			10-2-13 DATE		
12-16-13 PLANS APPROVAL DATE					
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					

NOTES:

- DIMENSIONS OF THE PAVEMENT SECTIONS ARE SUBJECT TO TOLERANCES SPECIFIED IN THE STANDARD SPECIFICATIONS.
- SUPERELEVATION AS SHOWN OR AS DIRECTED BY THE ENGINEER.
- EXISTING DRAINAGE INLETS ARE NOT SHOWN.
- EXISTING UTILITY FACILITIES ARE NOT SHOWN.
- FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
- ROADWAY FINAL SLOPES MUST MATCH WITH EXISTING SLOPES.
- EXACT LOCATIONS OF CONCRETE SLAB REPLACEMENTS, SPALL REPAIR AND REPLACE ASPHALT CONCRETE SURFACING WILL BE DETERMINED BY THE ENGINEER.
- EXISTING METAL BEAM GUARDRAIL, RETAINING WALLS, AND SOUNDWALLS ARE NOT SHOWN.
- CONSTRUCT 0.15' COLD PLANE AC ON BRIDGE APPROACH/DEPARTURE SLABS WHERE IT WAS COVERED BY ASPHALT; AND STOP COLD PLANE 2' AWAY FROM BRIDGE JOINTS.

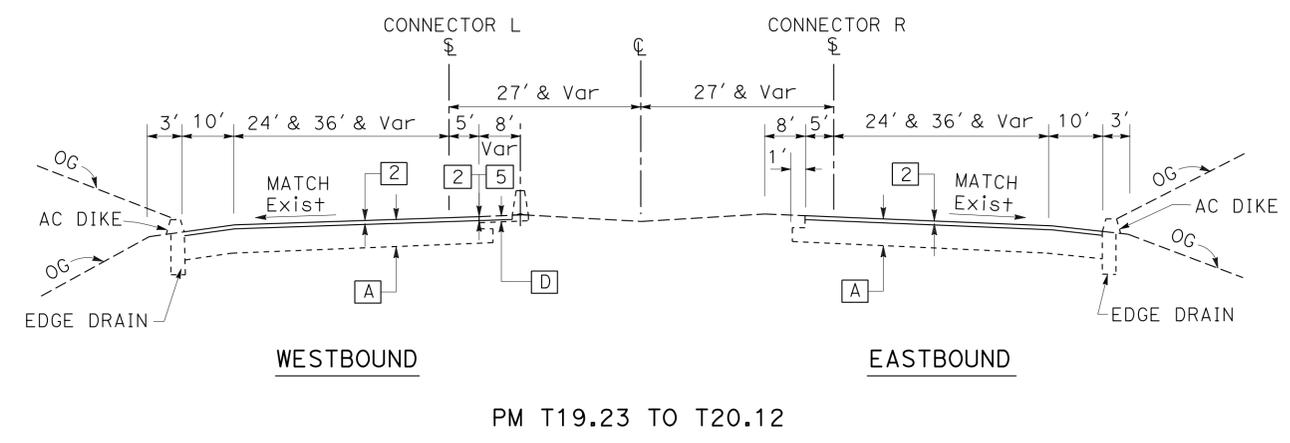
ABBREVIATIONS:

- G GAP GRADED
- SP SUPERPAVE
- RAC RUBBERIZED ASPHALT CONCRETE
- RMCTB ROAD-MIXED CEMENT TREATED BASE

PAVEMENT CLIMATE REGION:
INLAND VALLEY

EXISTING PAVEMENT SECTIONS

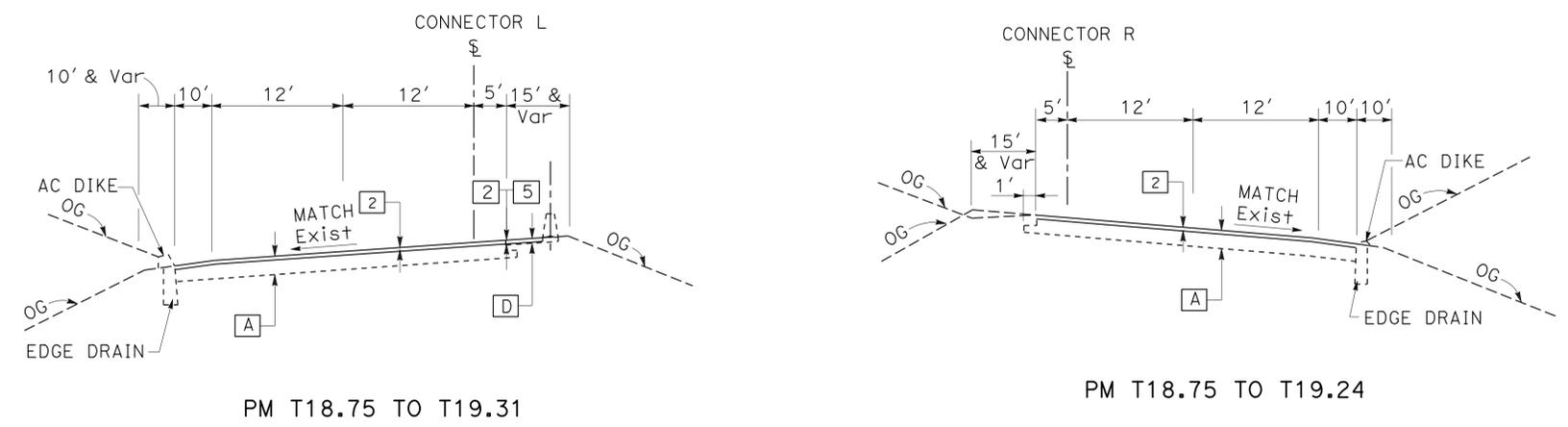
- | | |
|---|---|
| <p>A 0.85' Conc PAVEMENT
0.25' ATPB
0.30' CLASS 3 AB
0.75' CLASS 4 AS</p> <p>B 0.65'-0.75' Conc PAVEMENT
0.45' CLASS A CTB
0.50'-0.66' CLASS 3 AB</p> <p>C 0.25'-0.70' AC (TYPE B)
0.45'-0.60' CLASS 2 AB
0.85'-1.25' CLASS 4 AS</p> <p>D 0.17'-0.42' AC (TYPE B)</p> <p>E 0.25' AC (TYPE B)
0.65'-0.75' Conc PAVEMENT
0.45' CLASS A CTB
0.50'-0.66' CLASS 3 AB</p> <p>F 0.45' AC (TYPE B)
0.25' ATPB
0.60' CLASS 2 AB
1.60' CLASS 4 AS</p> | <p>G 0.45' AC (TYPE B)
0.65'-0.75' Conc PAVEMENT
0.35'-0.45' CLASS A RMCTB
0.33'-0.60' CLASS 3 AB
0'-0.65' AS CLASS 4</p> <p>H 0.10 RAC (TYPE G)
0.45 AC (TYPE B)
0.67 Conc PAVEMENT
0.33 CLASS A RMCTB
0.33 CLASS 3 AB
0.65 CLASS 4 AS</p> <p>I 0.20' RHMA (TYPE G)
0.84'-0.89' JPCP
0.39'-0.49' LCB
0.59'-0.69' CLASS 3 AB</p> <p>J 0.10 RAC (TYPE G)
0.65 AC (TYPE B)
0.65 LCB
0.50 CLASS 2 AB</p> |
|---|---|



PROPOSED PAVEMENT SECTIONS

- | | |
|---|--|
| <p>1 0.20' COLD PLANE AC Pvmt
0.20' RHMA-SP-G</p> <p>2 GRIND Exist CONCRETE Pvmt</p> <p>3 0.25' COLD PLANE AC Pvmt
0.25' HMA-SP TYPE A</p> | <p>4 SLURRY SEAL</p> <p>5 0.15' COLD PLANE AC Pvmt
0.15' RHMA-SP-G</p> |
|---|--|

FOR PROPOSED ROADWAY CONCRETE SLAB REPLACEMENT
(0.65', 0.75' & 0.85' THICKNESS)
REFER TO SHEET Q-2 & NOTE 7

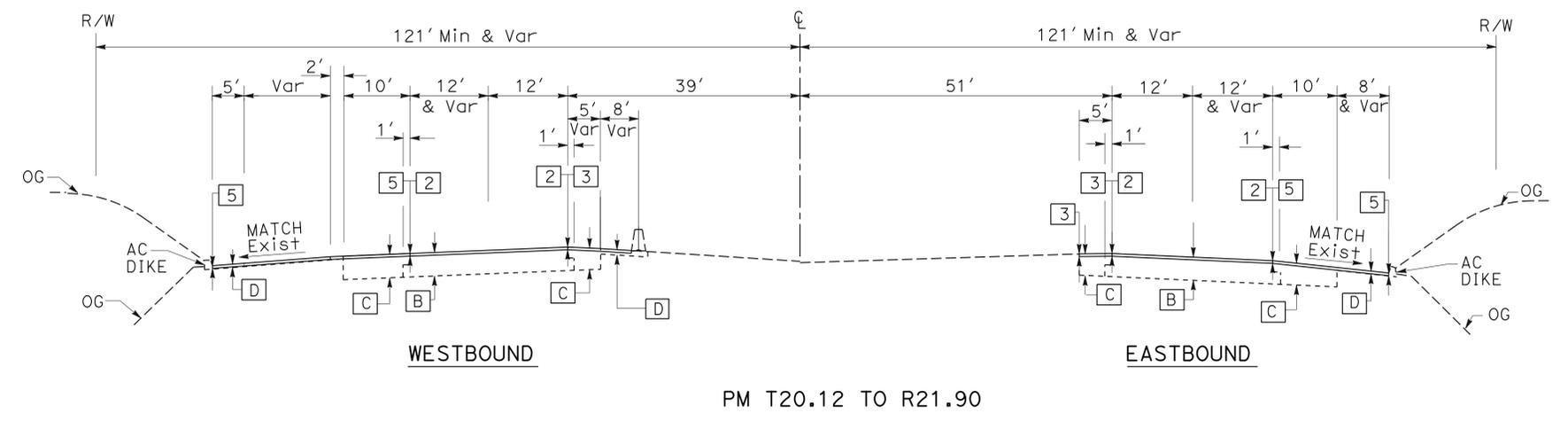
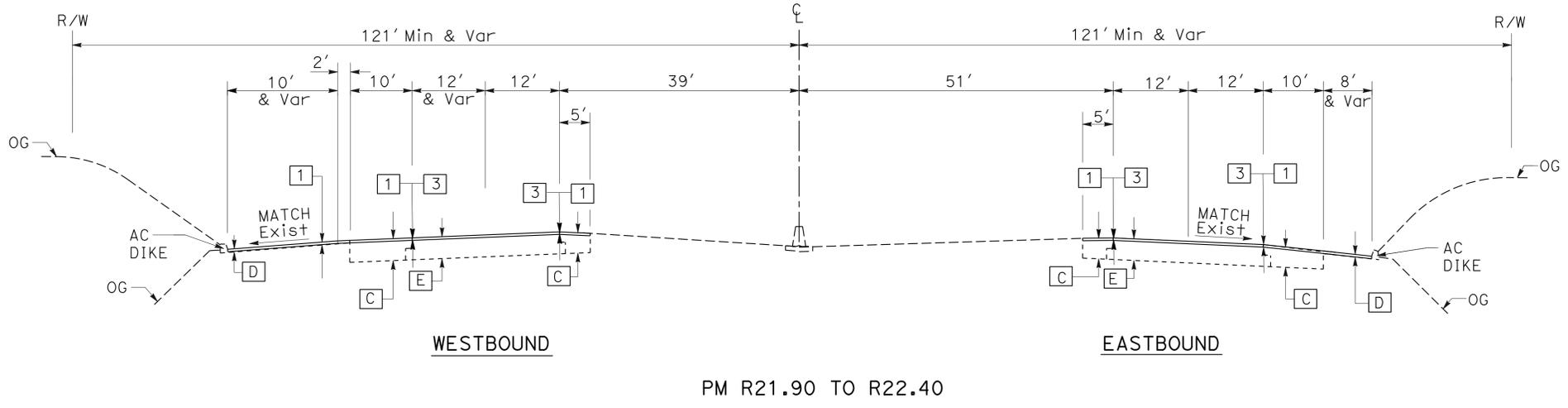
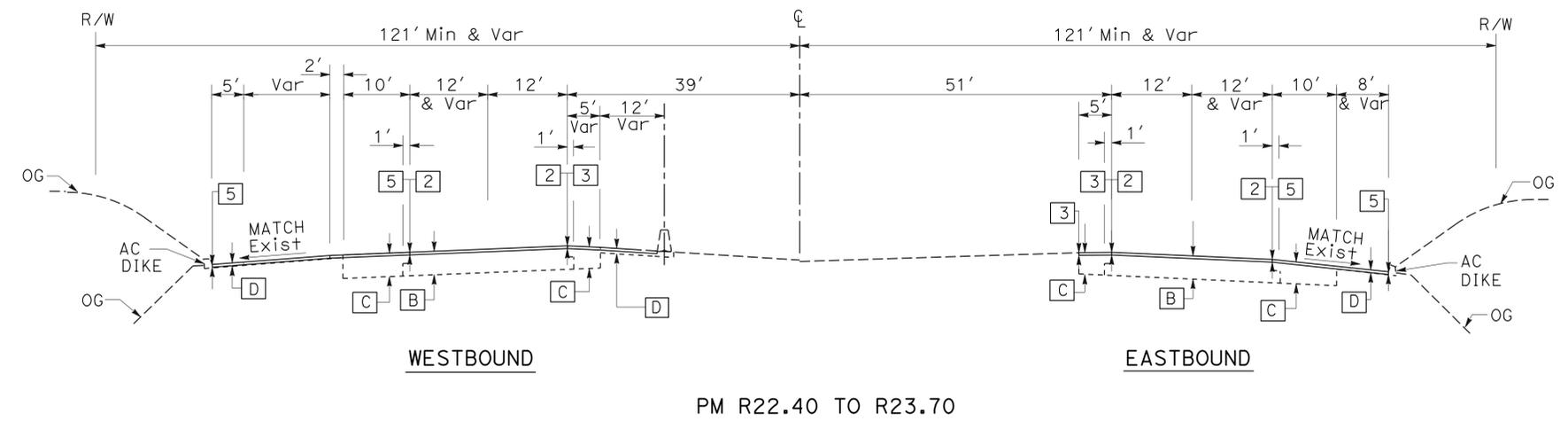
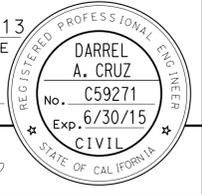


TYPICAL CROSS SECTIONS
NO SCALE

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 Jose Ochoa
 Darrel Cruz
 OC LEE
 DESIGN

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	118	T18.7/R32.6	3	98

Darrel A. Cruz 10-2-13
 REGISTERED CIVIL ENGINEER DATE
 12-16-13
 PLANS APPROVAL DATE
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

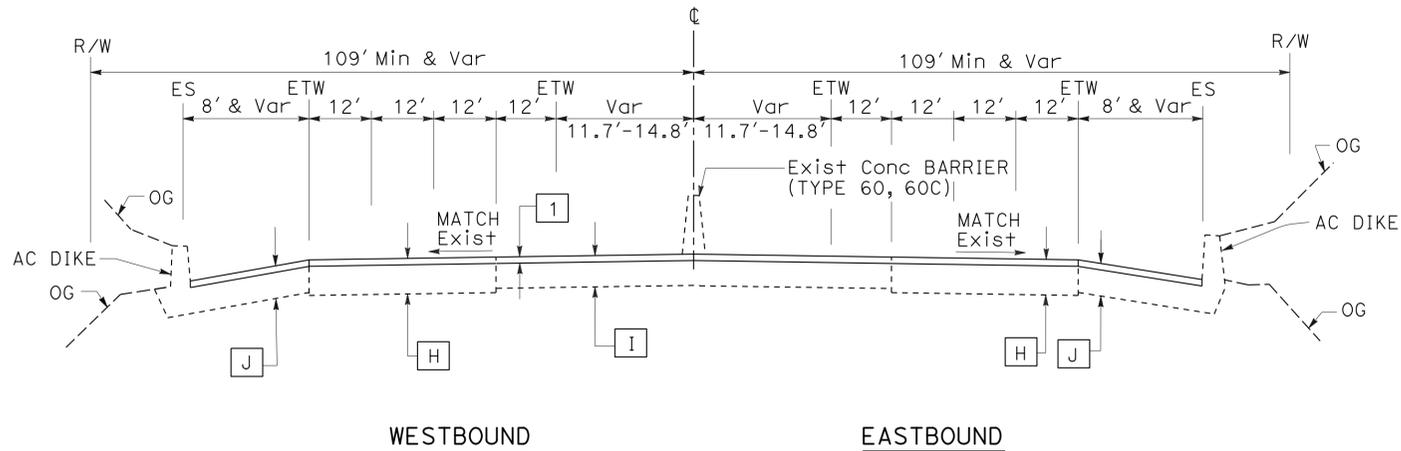


TYPICAL CROSS SECTIONS
NO SCALE
X-2

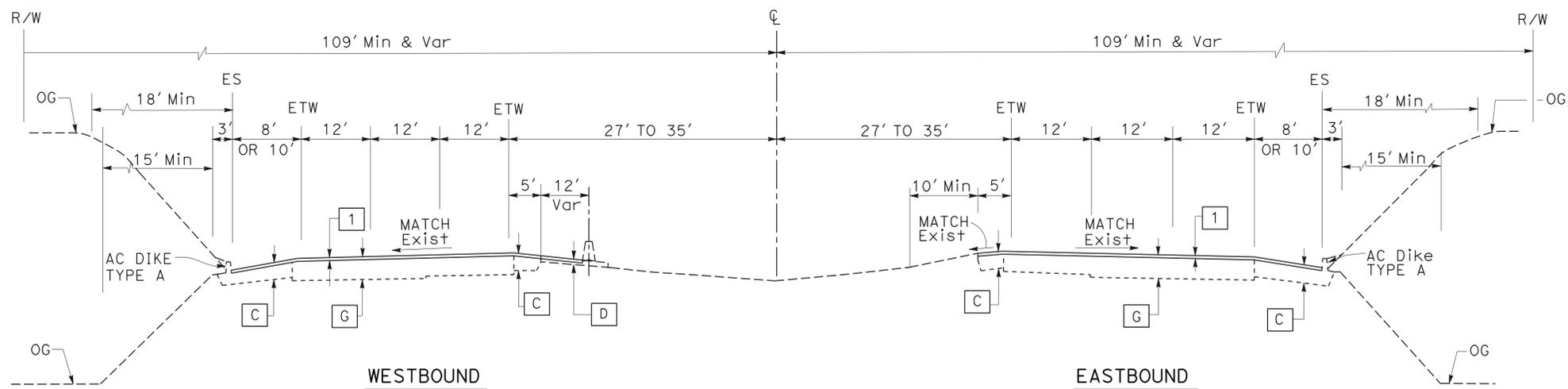
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION DESIGN
 FUNCTIONAL SUPERVISOR OC LEE
 CALCULATED/DESIGNED BY CHECKED BY
 JOSE OCHOA DARREL CRUZ
 REVISED BY DATE REVISED
 REVISIONS: x, x, x, x, x, x, x

LAST REVISION DATE PLOTTED => 14-JAN-2014
 11-18-13 TIME PLOTTED => 13:48

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	118	T18.7/R32.6	4	98
<i>Darrel A. Cruz</i> 10-2-13 REGISTERED CIVIL ENGINEER DATE			12-16-13 PLANS APPROVAL DATE		
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PM R26.87 TO R32.60



PM R23.70 TO R26.87

TYPICAL CROSS SECTIONS

NO SCALE

X-3

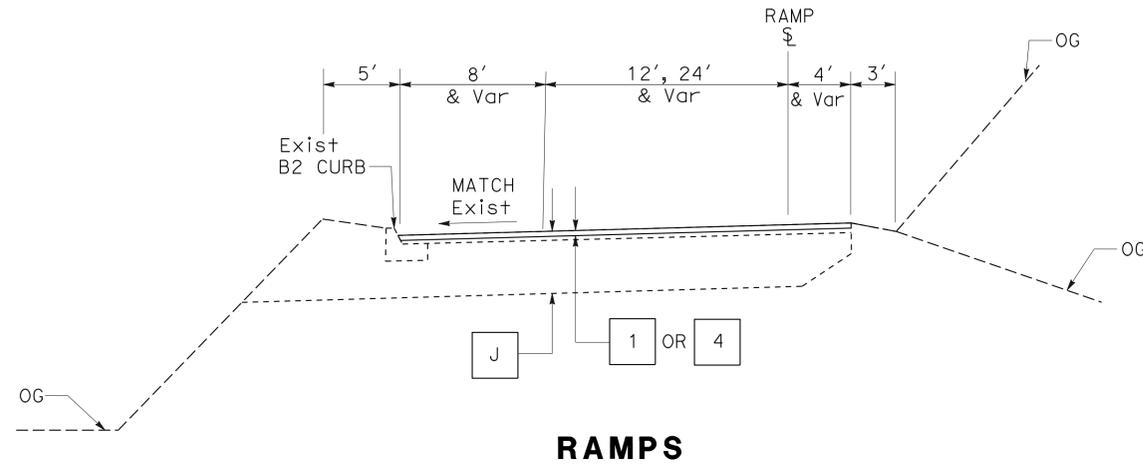
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN
 FUNCTIONAL SUPERVISOR: OC LEE
 CALCULATED/DESIGNED BY: JOSE OCHOA, DARREL CRUZ
 CHECKED BY:
 REVISED BY: JOSE OCHOA, DARREL CRUZ
 DATE REVISED:



PROPOSED PAVEMENT SECTIONS

RAMP LOCATION	TYPE
EB OFF TO	PRINCETON Ave PM T19.19
WB OFF TO	
WB ON FROM	
EB ON FROM	COLLINS Dr PM T19.98
EB OFF TO	
WB OFF TO	
WB ON FROM	BREA CANYON Rd PM R22.86
WB OFF TO	
EB OFF TO	MADERA Rd PM R22.99
WB OFF TO	
EB ON FROM NB	
EB ON FROM SB	FIRST St PM R23.80
WB ON FROM NB	
WB ON FROM SB	
EB OFF TO	ERRINGER Rd PM R24.81
WB ON FROM SB	
EB ON FROM NB	
WB OFF TO	SYCAMORE Dr PM R25.81
EB ON FROM SB	
EB OFF TO	
WB ON FROM SB	ROCKY PEAK Rd PM R32.50
EB ON FROM NB	
WB OFF TO	
EB ON FROM	

RAMP LOCATION	TYPE
EB OFF TO	TAPO CANYON Rd PM R27.30
WB OFF TO	
WB ON FROM SB	
WB ON FROM NB	STEARNS St PM R28.81
EB ON FROM NB	
EB ON FROM SB	
EB ON FROM SB	YOSEMITE Ave PM R29.60
WB ON FROM NB	
EB OFF FROM	
WB OFF FROM	KUEHNER Dr PM R30.52
WB ON FROM	
EB OFF TO	
WB ON FROM	ROCKY PEAK Rd PM R32.50
WB OFF TO	
EB ON FROM	



RAMPS

TYPICAL CROSS SECTIONS
NO SCALE

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 Caltrans®
 DESIGN
 FUNCTIONAL SUPERVISOR: OC LEE
 CALCULATED/DESIGNED BY: DARREL CRUZ
 CHECKED BY:
 RAKESH KARKI
 REVISOR BY: DARREL CRUZ
 DATE REVISOR:

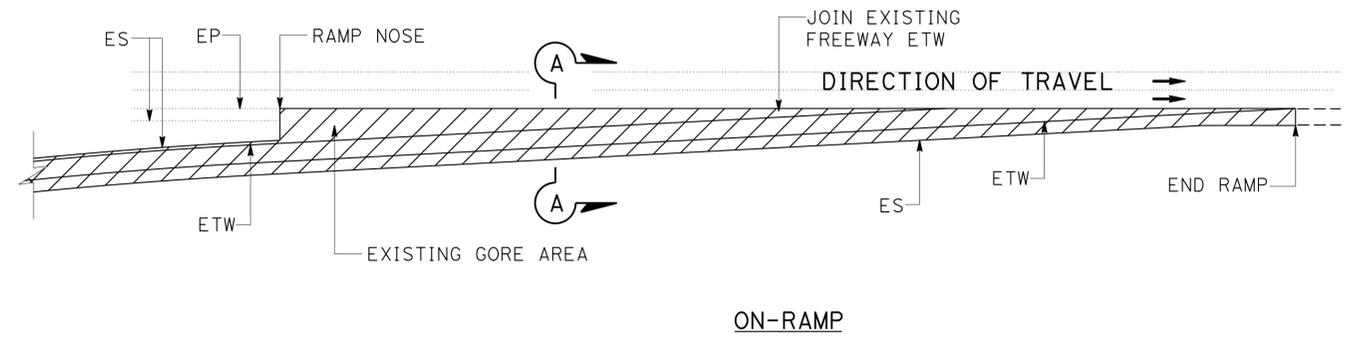
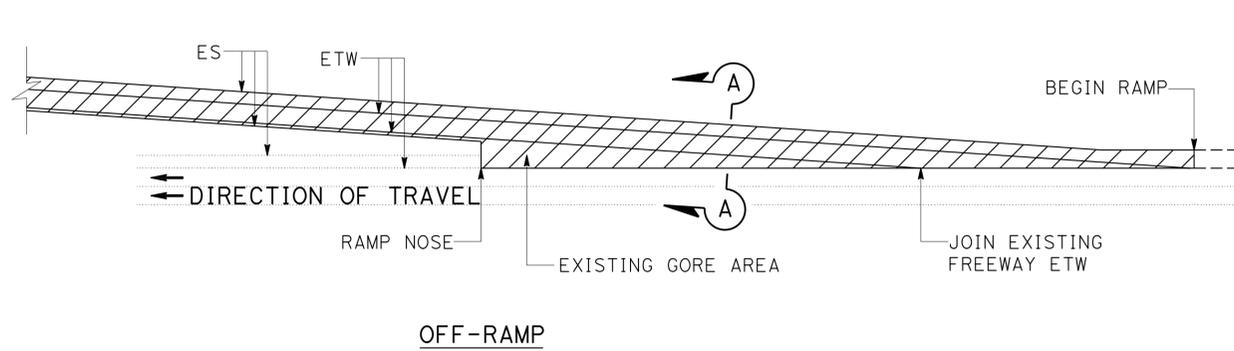
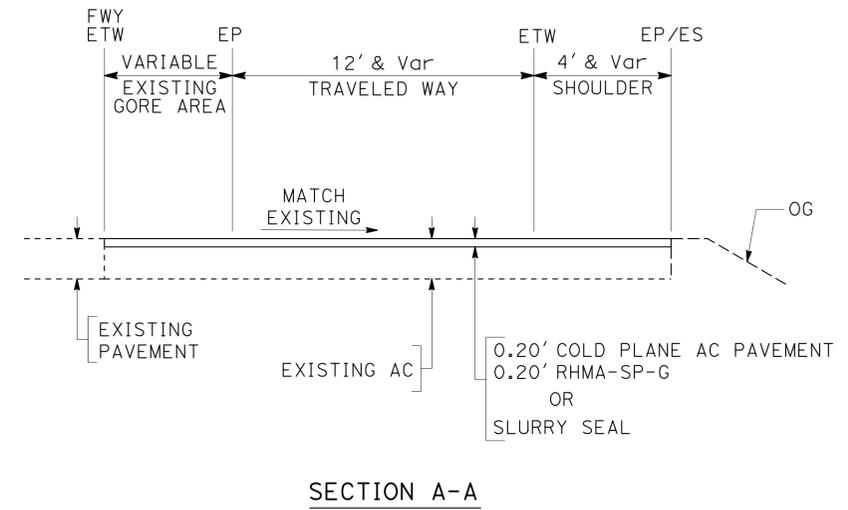
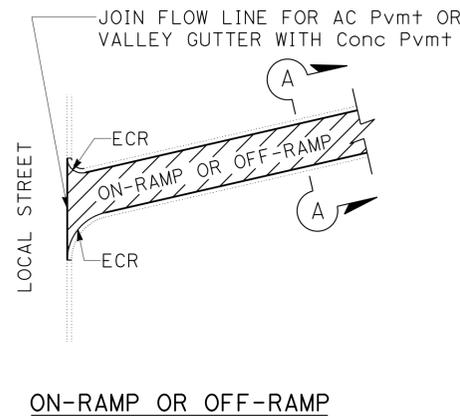
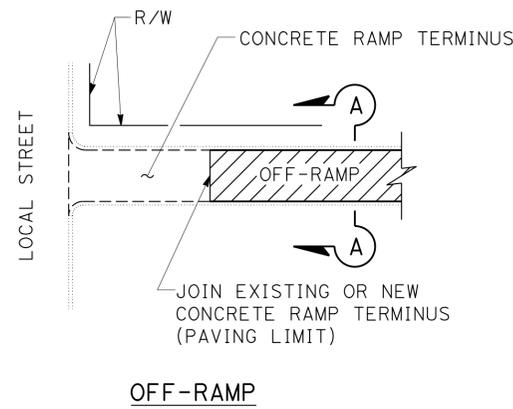
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	118	T18.7/R32.6	6	98
Darrel A. Cruz 10-2-13 REGISTERED CIVIL ENGINEER DATE					
12-16-13 PLANS APPROVAL DATE					
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NOTES:

1. EXISTING DRAINAGE INLETS ARE NOT SHOWN.
2. EXACT PAVING LIMITS WILL BE DETERMINED BY THE ENGINEER.
3. OMIT COLD PLANING AND AC ON BRIDGE DECKS, Conc RAMP TERMINI AND Conc PAVEMENT.

LEGEND:

- 0.20' COLD PLANE AC PAVEMENT
- 0.20' RHMA-SP-G
- OR
- SLURRY SEAL (SEE Sht X-4)



TYPICAL RAMP PAVING DETAILS

CONSTRUCTION DETAILS

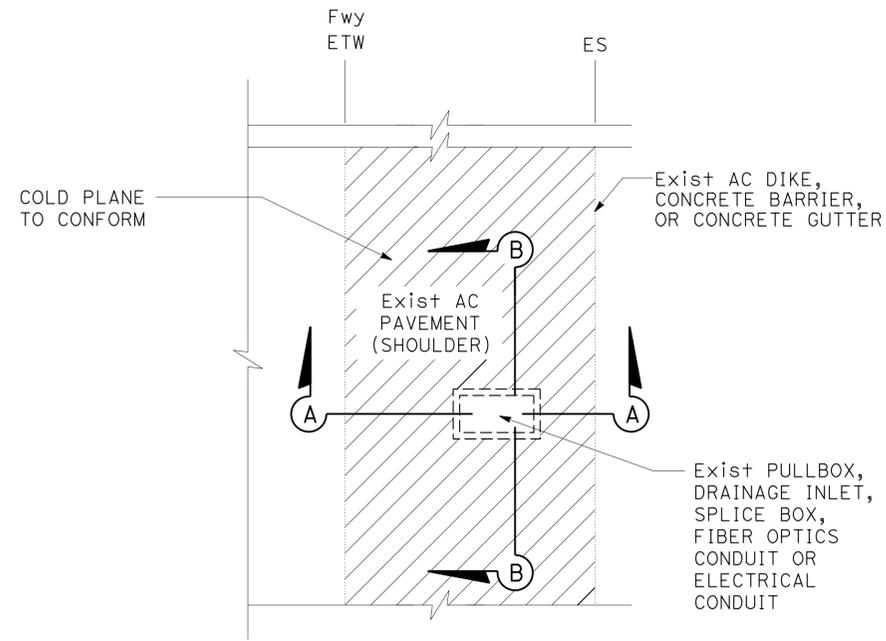
NO SCALE

C-1

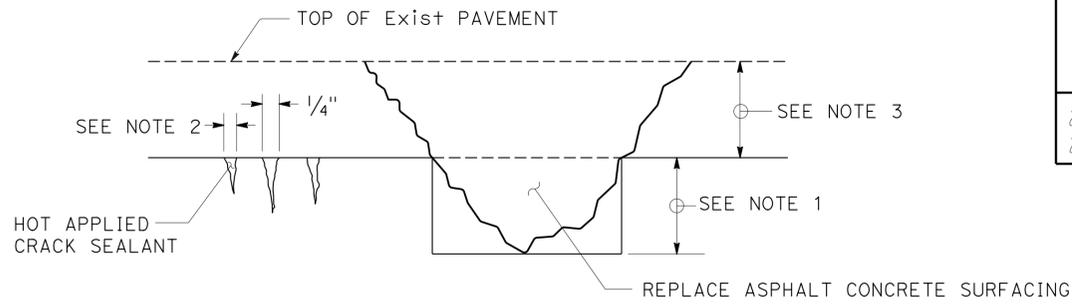
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	118	T18.7/R32.6	7	98

<i>Darrel A. Cruz</i> 10-2-13 REGISTERED CIVIL ENGINEER DATE	
12-16-13 PLANS APPROVAL DATE	
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>	

REGISTERED PROFESSIONAL ENGINEER
DARREL A. CRUZ
 No. C59271
 Exp. 6/30/15
 CIVIL
STATE OF CALIFORNIA



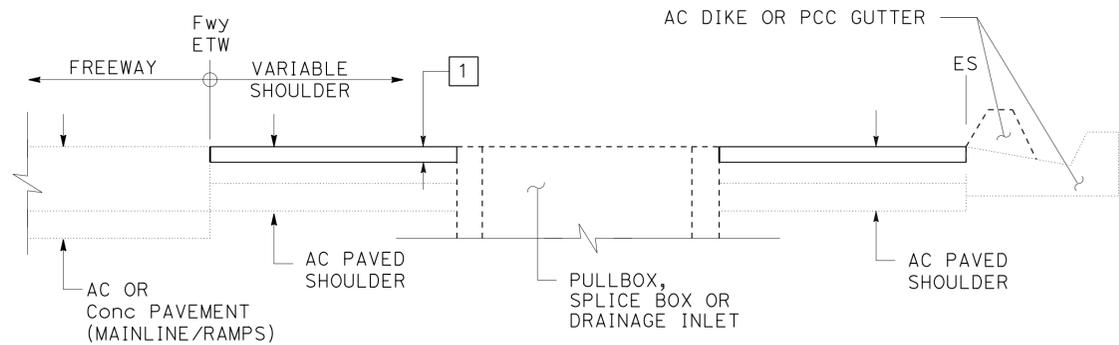
FIBER OPTIC PULLBOX, DRAINAGE INLET OR SPLICEBOX (VARIOUS LOCATIONS)



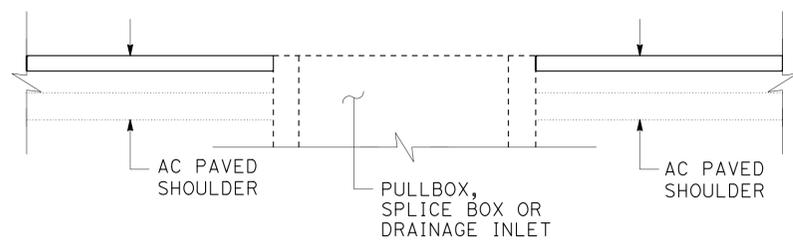
TYPICAL DETAIL FOR SEAL RANDOM CRACKS AND REPAIR FAILED AREAS

NOTES:

1. REMOVE LOCALIZED FAILED OR HIGHLY DAMAGED AREAS AND REPLACE AC SURFACING WITH MINIMUM 0.15' HMA-SP TYPE A.
2. SEAL CRACKS GREATER THAN 1/4" WITH HOT APPLIED CRACK SEALANT.
3. PLACE HMA-SP TYPE A AFTER CRACK SEALANT HAS BEEN APPLIED AND LOCALIZED FAILED AREAS HAVE BEEN REPAIRED.

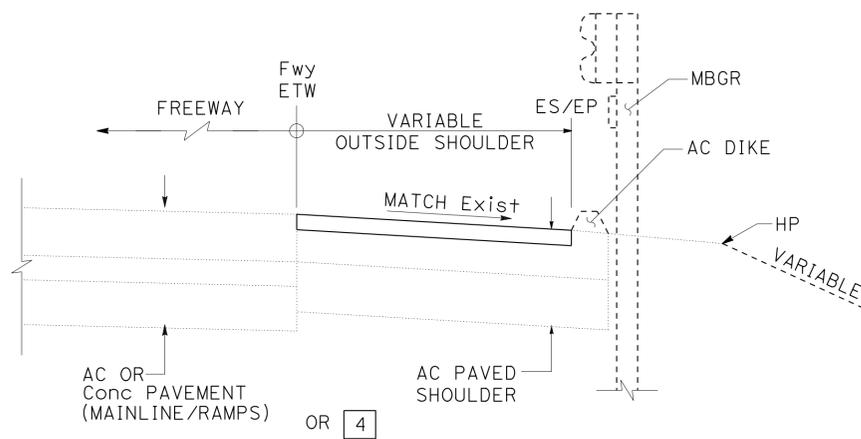


SECTION A-A

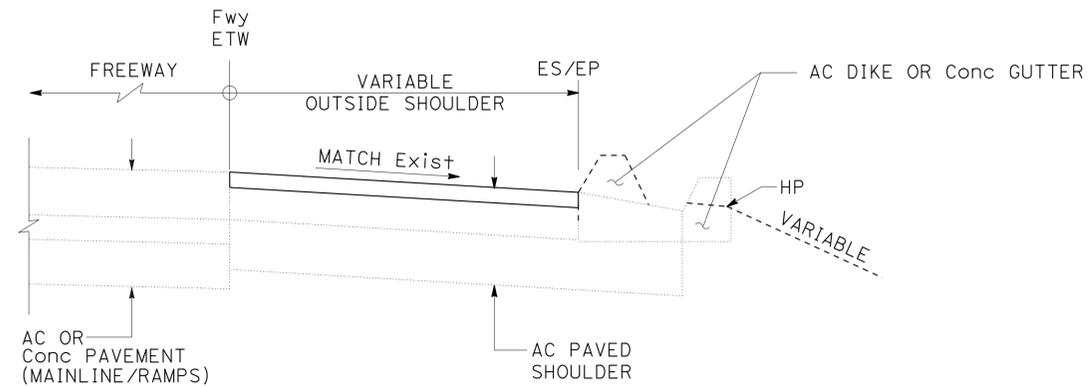


SECTION B-B

TYPICAL FIBER OPTIC PULLBOX, SPLICE BOX OR DRAINAGE INLET



TYPICAL AT METAL BEAM GUARD RAILING



TYPICAL AT CONCRETE BARRIER

CONSTRUCTION DETAILS

NO SCALE

C-2

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN
 FUNCTIONAL SUPERVISOR: OC LEE
 CALCULATED/DESIGNED BY: PAUL H HSU
 CHECKED BY: DARREL CRUZ
 REVISED BY: PAUL H HSU
 DATE REVISED:

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	118	T18.7/R32.6	8	98

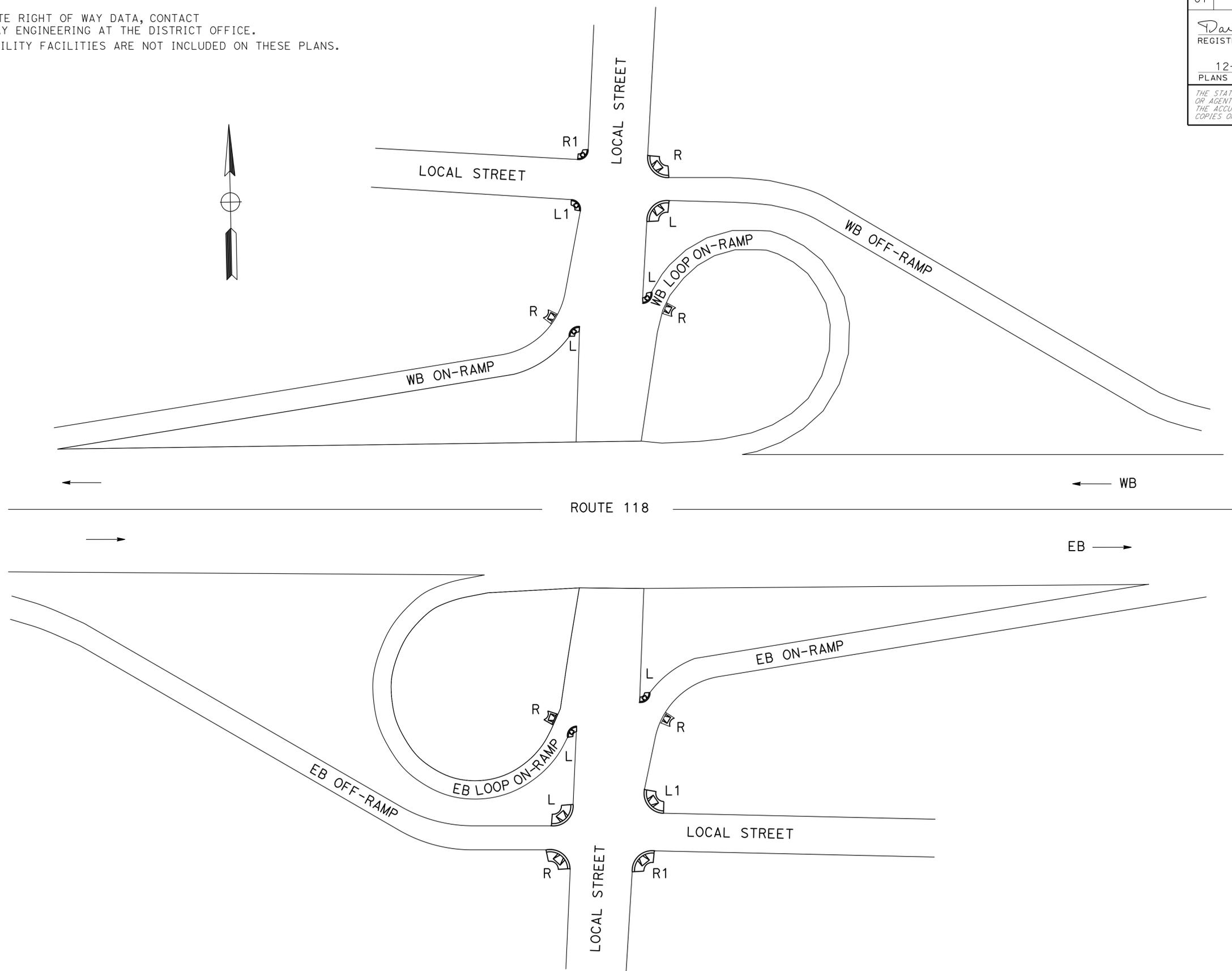
<i>Darrel A. Cruz</i>	10-2-13
REGISTERED CIVIL ENGINEER	DATE
12-16-13	
PLANS APPROVAL DATE	

REGISTERED PROFESSIONAL ENGINEER
DARREL A. CRUZ
No. C59271
Exp. 6/30/15
CIVIL
STATE OF CALIFORNIA

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NOTES:

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



CURB RAMP LOCATIONS

CONSTRUCTION DETAILS

NO SCALE

C-3

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	DESIGN
Caltrans	
FUNCTIONAL SUPERVISOR	OC LEE
CALCULATED/DESIGNED BY	CHECKED BY
BARNABAS F. VORREITER	PAUL H. HSU
REVISED BY	DATE
	REVISED

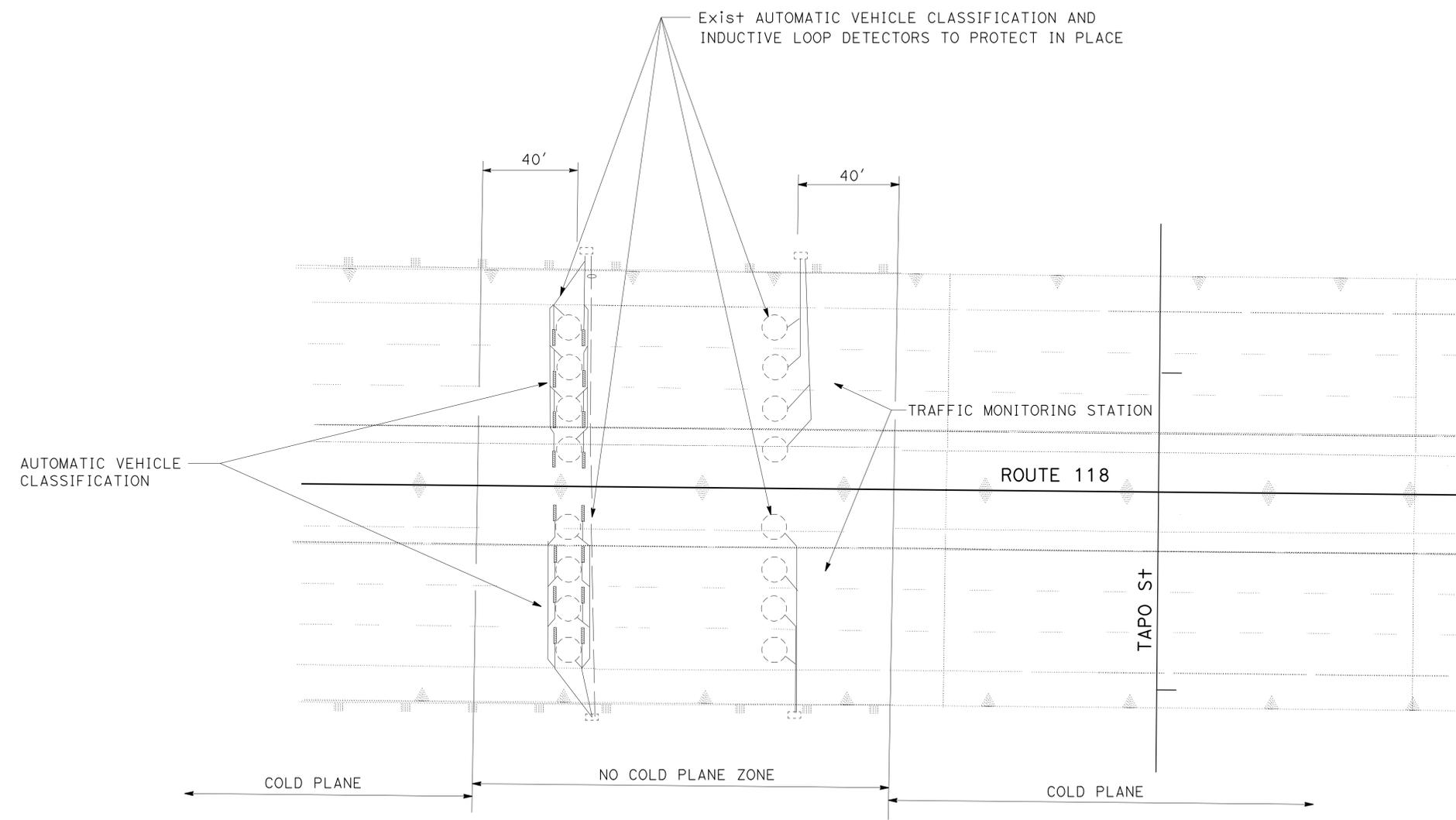
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	118	T18.7/R32.6	9	98

<i>Darrel A. Cruz</i>	10-2-13
REGISTERED CIVIL ENGINEER	DATE
12-16-13	
PLANS APPROVAL DATE	

REGISTERED PROFESSIONAL ENGINEER
DARREL A. CRUZ
No. C59271
Exp. 6/30/15
CIVIL
STATE OF CALIFORNIA

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NOTE:
 1. THE EXACT LOCATION OF NO COLD PLANE ZONE WILL BE DIRECTED BY THE ENGINEER.



**NO COLD PLANE ZONE
 NEAR TAPO St (PM 27.81)**

CONSTRUCTION DETAILS
 NO SCALE
C-4

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	DESIGN
OC LEE	FUNCTIONAL SUPERVISOR
CHECKED BY	DESIGNED BY
VUONG HONG	RAKESH KARKI
DATE	REVISOR
REVISED BY	DATE

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	118	T18.7/R32.6	10	98

George Olguin
LICENSED LANDSCAPE ARCHITECT

12-16-13
PLANS APPROVAL DATE

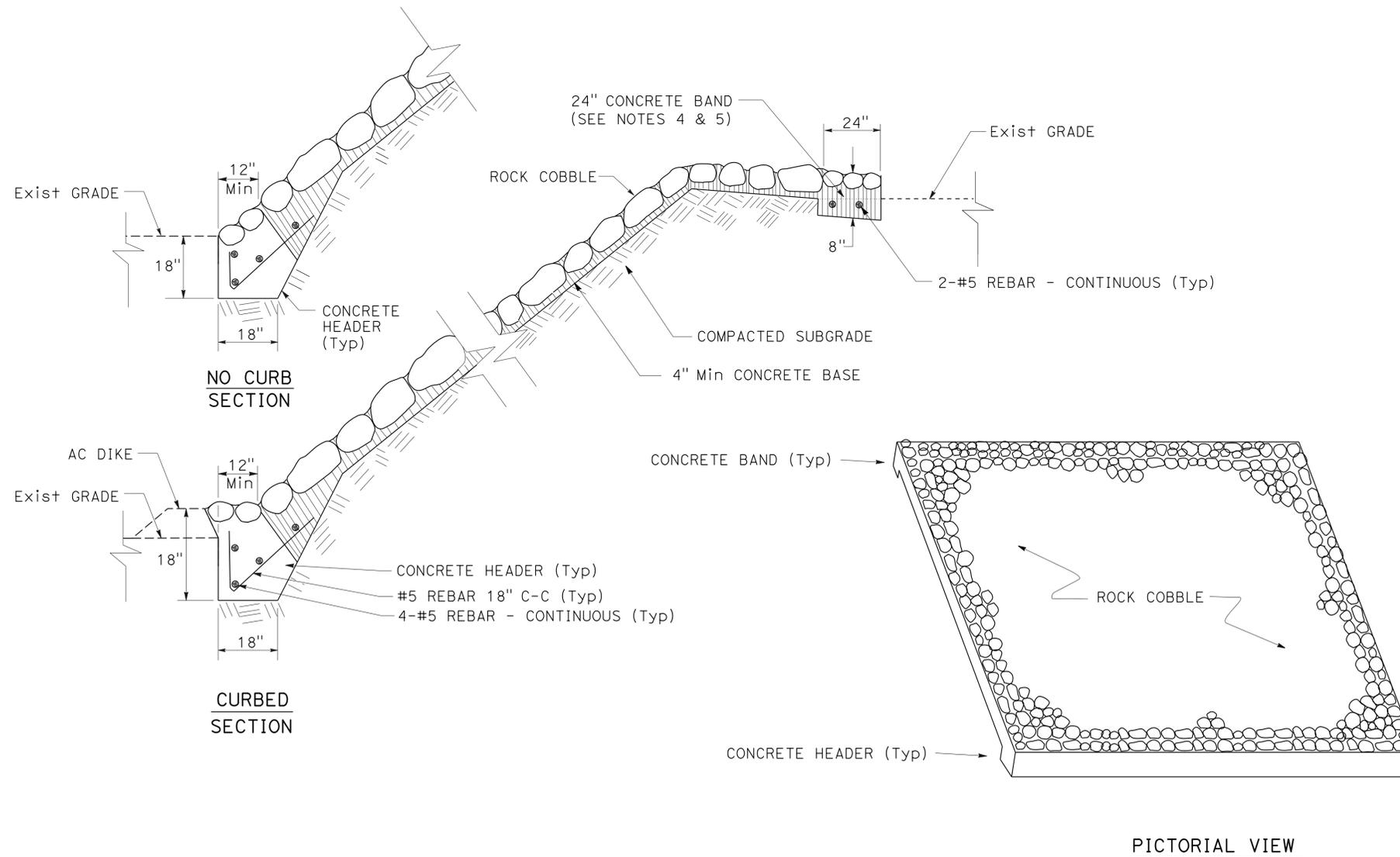
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NOTES:

1. COBBLES MUST BE PLACED TO MINIMIZE MORTAR EXPOSURE TO THE TOP SURFACE.
2. REINFORCING BARS MUST HAVE A MINIMUM 2" CLEARANCE FROM ALL CONCRETE EDGES.
3. LOCATE CONCRETE HEADERS AS SHOWN.
4. ROCK BLANKET MUST NOT BE INSTALLED AROUND THE MIDWEST GUARD RAIL SYSTEM OR SIGN POSTS.
5. CONSTRUCTION JOINTS MUST BE AT 6' C-C MINIMUM.
6. WELDED WIRE MESH OPTIONAL.

ROCK BLANKET ON SLOPE QUANTITIES

BRIDGE	BRIDGE No.	LOCATION PM	QUANTITIES SQFT
ACCESS Rd OC	52-387	R22.56	3,070
FIRST S+ OC	52-329	R23.80	9,080
STOW S+ OC	52-301	R29.30	3,600
YOSEMITE S+ OC	52-300	R29.60	7,800
COCHRAN S+ OC	53-324	R30.00	2,800
TOTAL			26,350



ROCK BLANKET - ON SLOPE

**CONSTRUCTION DETAILS
ROCK BLANKET ON SLOPE**

NO SCALE

C-5

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	118	T18.7/R32.6	11	98

Daniel A. Cruz 10-2-13
 REGISTERED CIVIL ENGINEER DATE
 12-16-13
 PLANS APPROVAL DATE

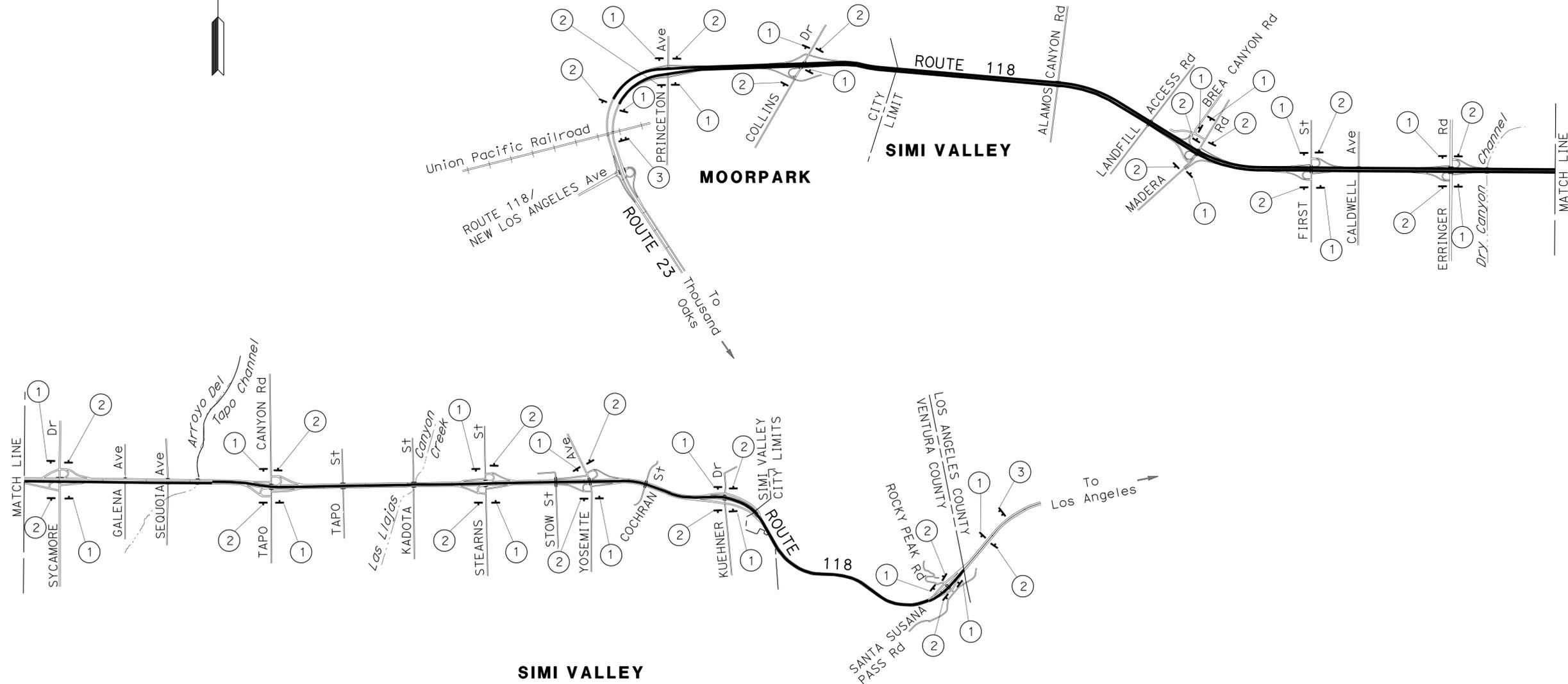
REGISTERED PROFESSIONAL ENGINEER
 DARREL A. CRUZ
 No. C59271
 Exp. 6/30/15
 CIVIL
 STATE OF CALIFORNIA

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STATIONARY MOUNTED CONSTRUCTION AREA SIGNS

SIGN No.	SIGN CODE		PANEL SIZE	SIGN MESSAGE	NUMBER OF POSTS AND SIZE	NUMBER OF SIGNS
	FEDERAL	CALIFORNIA				
1	W20-1		48" x 48"	ROAD WORK AHEAD	1 - 6" x 6"	25
2	G20-2		48" x 24"	END ROAD WORK	1 - 4" x 6"	25
3		C40(CA)	144" x 60"	TRAFFIC FINES DOUBLED IN CONSTRUCTION ZONES	2 - 6" x 8"	2

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



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN
 FUNCTIONAL SUPERVISOR: OC LEE
 CALCULATED/DESIGNED BY: PAUL H HSU
 CHECKED BY: DARREL CRUZ
 REVISED BY: PAUL H HSU
 DATE REVISED:

CONSTRUCTION AREA SIGNS

NO SCALE

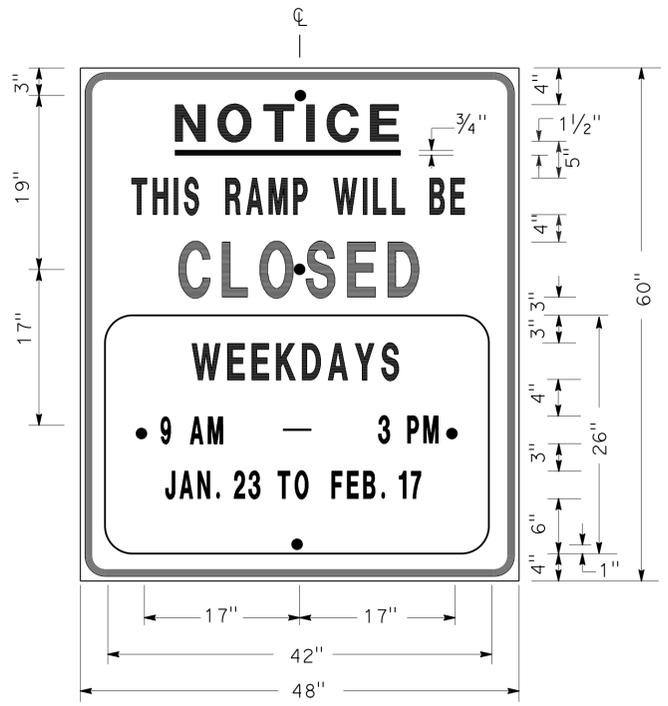
CS-1

APPROVED FOR CONSTRUCTION AREA SIGN WORK ONLY

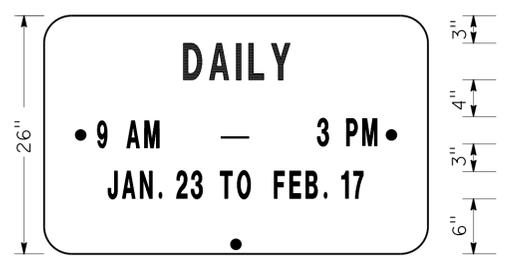
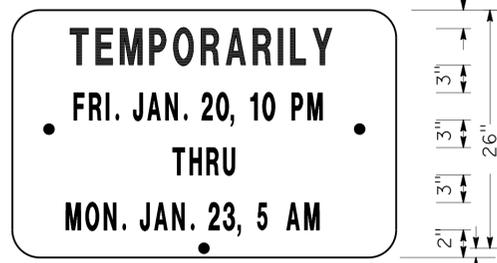
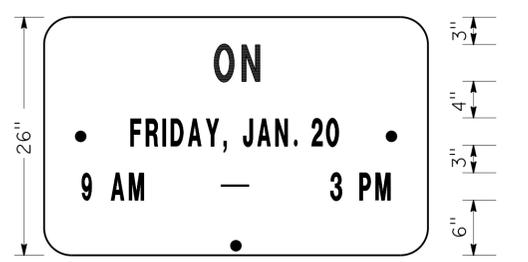


Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	118	T18.7/R32.6	12	98

Albert K. Yu 10-01-13
 REGISTERED CIVIL ENGINEER DATE
 12-16-13
 PLANS APPROVAL DATE
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SIGN SP-1



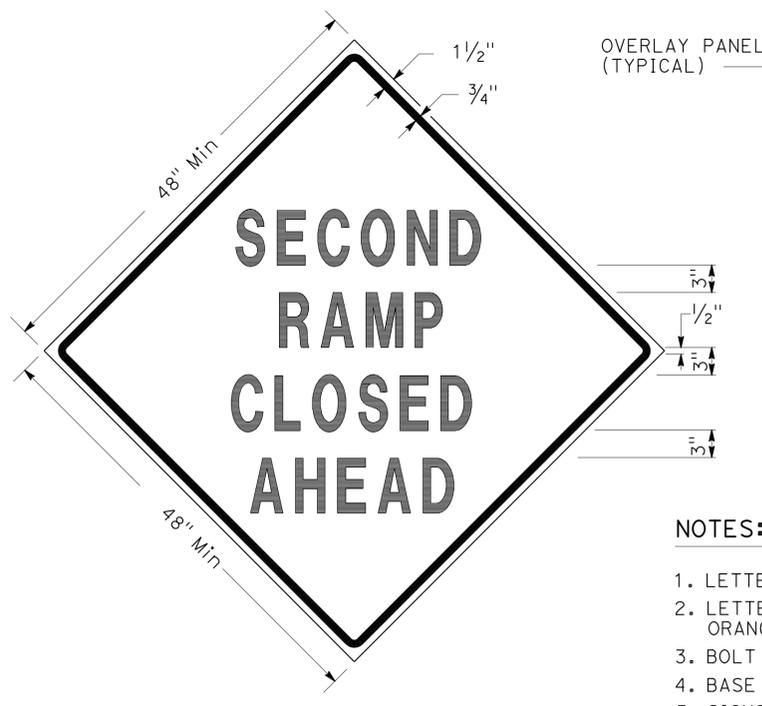
ALTERNATE OVERLAY PANELS (TYPICAL)

- NOTES: (SIGN SP-1)**
- LETTERS AND BORDER SHALL BE BLACK ON REFLECTORIZED ORANGE BACKGROUND.
 - BOLT HOLES SHALL BE 3/8" DIAMETER.
 - BASE MATERIAL SHALL BE ALUMINUM (MINIMUM 0.06").
 - SIGNS SHALL BE MOUNTED WITH BOTTOMS OF SIGNS A MINIMUM OF 7' ABOVE GROUND.

SIZE	BORDER WIDTH	MARGIN WIDTH	LETTER SIZE					CORNER RADIUS
			LINE 1	LINE 2*	LINE 3	LINE 4	LINE 5, 6, & 7*	
48"x60"	1 1/4"	3/4"	4E	4D	6E	4D		3"
42"x26"	OVERLAY						3D	1 1/2"

* CONDENSED SPACING IF NECESSARY

SPECIAL ADVANCE NOTICE PUBLICITY SIGN



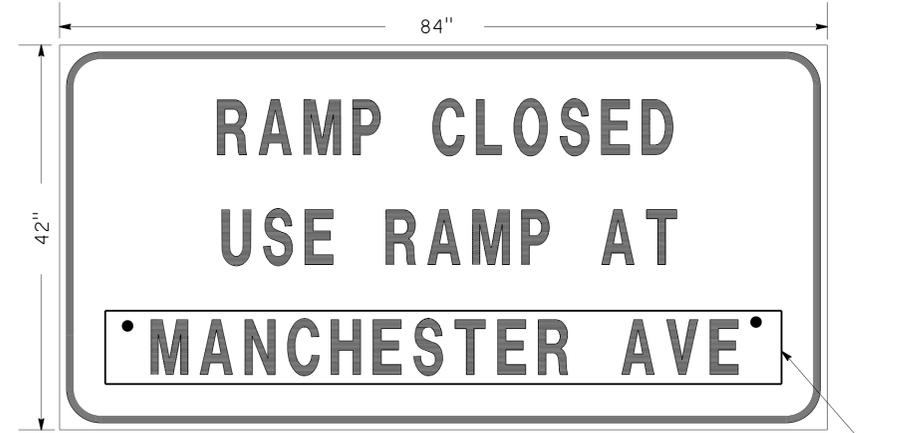
SIGN SP-3



SIGN SP-5

- NOTES: (SIGNS SP-3 & SP-5)**
- LETTERS - 6" SERIES D.
 - LETTERS AND BORDER SHALL BE BLACK ON REFLECTORIZED ORANGE BACKGROUND.
 - BOLT HOLES SHALL BE 3/8" DIAMETER.
 - BASE MATERIAL SHALL BE ALUMINUM (MINIMUM 0.06").
 - SIGNS SHALL BE MOUNTED WITH BOTTOMS OF SIGNS A MINIMUM OF 7' ABOVE GROUND.
 - SIGN SP-5 SHALL BE USED IF THE OFF-RAMP TO BE CLOSED FOLLOWS A FREEWAY OFF-CONNECTOR.

SPECIAL SIGNS FOR EXIT RAMP CLOSURES



SIGN SP-4

- NOTES: (SIGN SP-4)**
- LETTERS - 6" SERIES C.
 - LETTERS AND BORDER SHALL BE BLACK ON REFLECTORIZED WHITE BACKGROUND.
 - BOLT HOLES SHALL BE 3/8" DIAMETER.
 - BASE MATERIAL SHALL BE ALUMINUM (MINIMUM 0.06").
 - SIGNS SHALL BE PLACED AT RAMP ENTRANCES IN ADDITION TO SIGNS POSTED IN ACCORDANCE WITH STANDARD PLAN RSP T14.

SPECIAL SIGN FOR ENTRANCE RAMP CLOSURES

**TRAFFIC HANDLING DETAILS
 TRAFFIC CONTROL SYSTEM
 FOR RAMP CLOSURES, DETOUR SIGNS,
 AND MISCELLANEOUS DETAILS**

SHEET 1 OF 2

NO SCALE

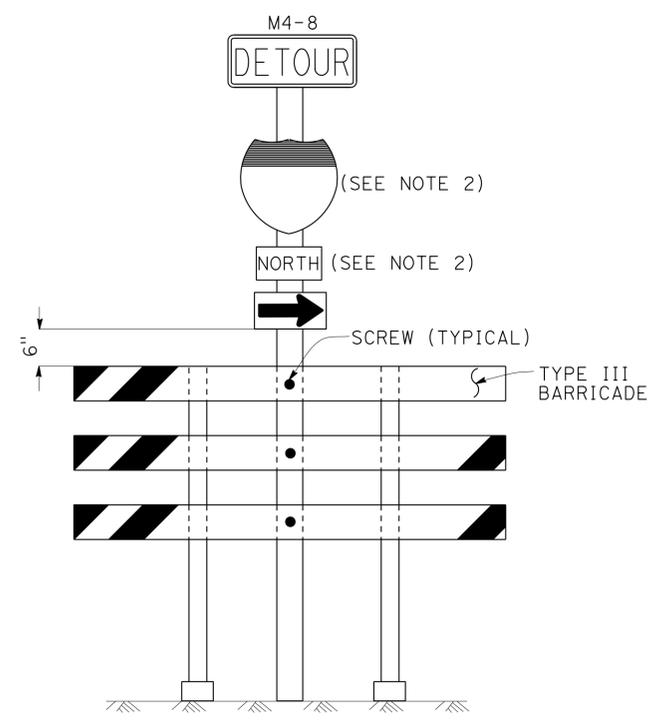
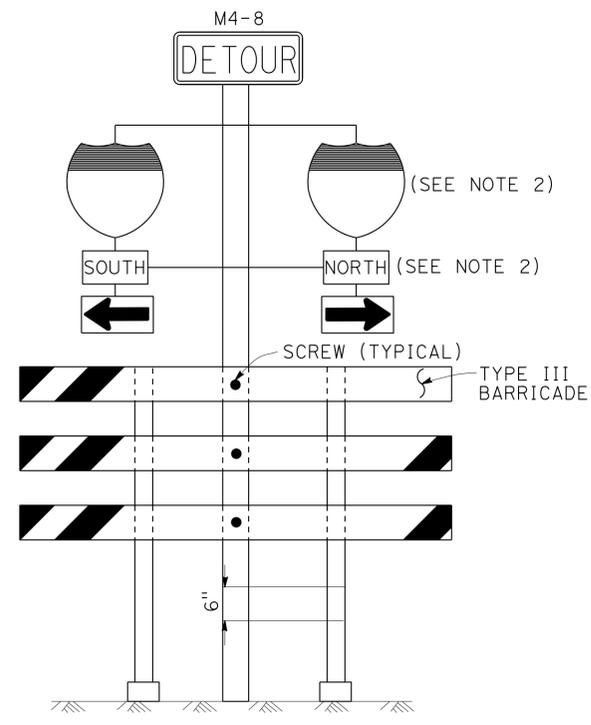
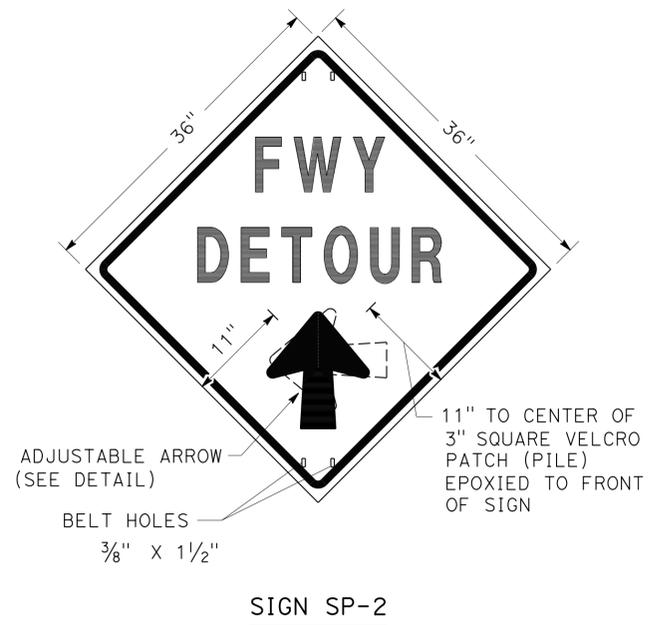
THD-1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	118	T18.7/R32.6	13	98

10-01-13
 REGISTERED CIVIL ENGINEER DATE
 12-16-13
 PLANS APPROVAL DATE

ALBERT K. YU
 No. 43220
 Exp. 3/31/14
 CIVIL

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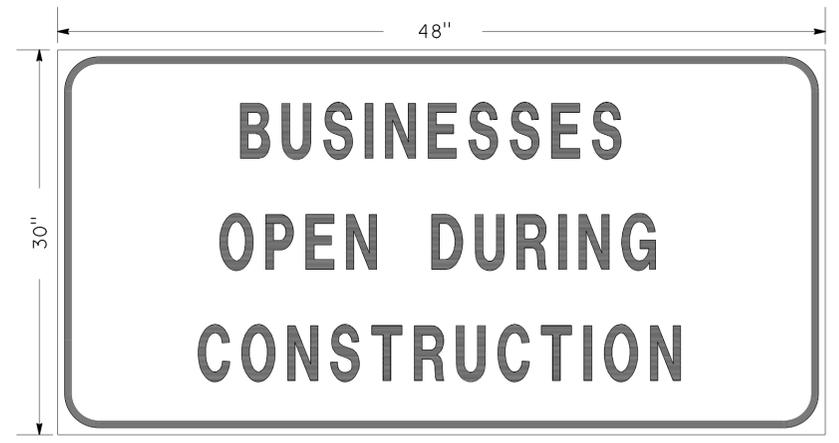


NOTES: (SIGNS SP-6 & SP-7)

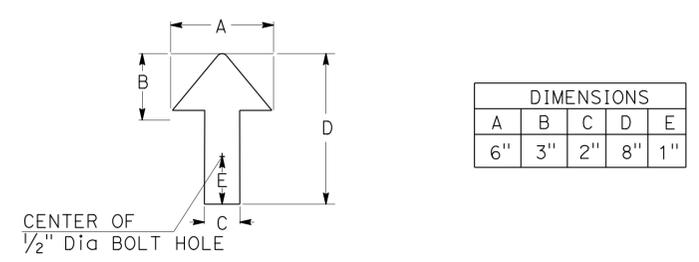
1. IN LIEU OF PLACING SIGNS ON TYPE III BARRICADES, SIGNS, INCLUDING POSTS, MAY BE PLACED INTO THE GROUND OR FASTENED ONTO ELECTROLIERS.
2. USE APPROPRIATE ROUTE MARKER [G26-2(CA), G27-2(CA), G28-2(CA)] AND CARDINAL DIRECTION [NORTH (M3-1), SOUTH (M3-3), EAST (M3-2), WEST (M3-4)].

NOTES: SIGN SP-2

1. LETTERS - 6" SERIES E.
2. LETTERS, BORDER AND ARROW - BLACK ON RETROREFLECTORIZED ORANGE BACKGROUND.
3. BASE MATERIAL FOR SIGNS AND ARROWS SHALL BE ALUMINUM (MINIMUM 0.06").
4. BELTS (LUGGAGE STRAPS) SHALL BE 1" WIDE BY 48" LONG, MADE OF COTTON OR POLYPROPYLENE WEB MATERIAL.
5. SIGNS SHALL BE MOUNTED WITH BOTTOMS OF SIGNS A MINIMUM OF 7' ABOVE GROUND EXCEPT AS OTHERWISE SHOWN ON OTHER TRAFFIC HANDLING DETAILS PLANS.



SPECIAL PORTABLE FREEWAY DETOUR SIGNS



ADJUSTABLE ARROW DETAIL

ABBREVIATION

(CA) CALIFORNIA CODE

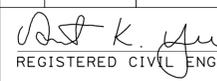
**TRAFFIC HANDLING DETAILS
TRAFFIC CONTROL SYSTEM
FOR RAMP CLOSURES, DETOUR SIGNS,
AND MISCELLANEOUS DETAILS**

SHEET 2 OF 2

NO SCALE

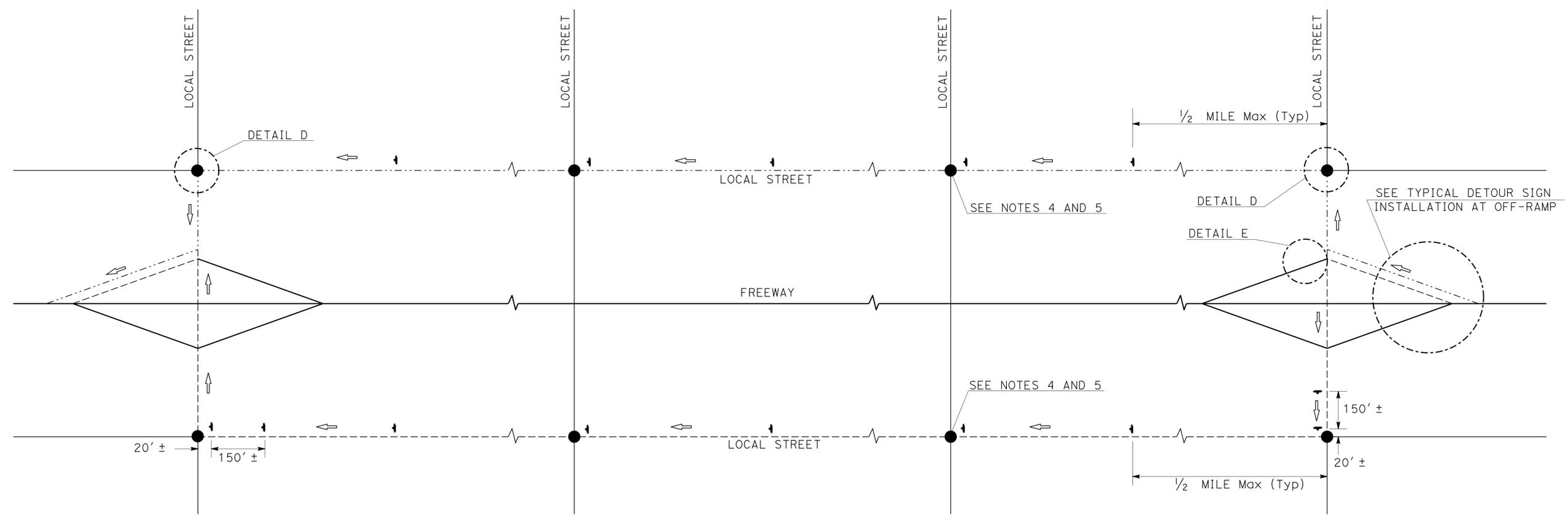
THD-2

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 DTM
 FUNCTIONAL SUPERVISOR JOHN YANG
 CHECKED BY
 CALCULATED/DESIGNED BY
 ALBERT K YU
 JOCELYN C CHIANG
 REVISOR BY JC
 DATE REVISED 3/12

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	118	T18.7/R32.6	14	98
 10-01-13 REGISTERED CIVIL ENGINEER DATE					
12-16-13 PLANS APPROVAL DATE					
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					

- LEGEND**
-  SIGN SP-2
 -  AND/OR DESIGNATED DETOUR ROUTE
 -  DETOUR DIRECTION
 -  CONTROLLED INTERSECTION

- NOTES:**
- SP-2 SIGNS MAY BE STRAPPED ON EXISTING ELECTROLIER, SIGNAL POST OR SIGN POST.
 - SP-2 SIGNS SHALL NOT BE INSTALLED ON BARRICADES EXCEPT AS OTHERWISE SHOWN.
 - SIGN LOCATIONS ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED BY THE ENGINEER.
 - SP-2 SIGNS SHALL BE POSTED AT EACH CONTROLLED INTERSECTION (EXCEPT AT COMMERCIAL PROPERTY, RESIDENTIAL COMPLEX OR T-INTERSECTION FROM ONE-WAY STREET) ALONG THE DESIGNATED DETOUR ROUTE.
 - UNLESS OTHERWISE SHOWN ON OTHER THD PLANS, WHEN CONTROLLED INTERSECTIONS ALONG THE DESIGNATED DETOUR ROUTE ARE CLOSELY SPACED, PLACE SP-2 SIGNS AT CONTROLLED INTERSECTIONS AT A DISTANCE NOT TO EXCEED 1/4 MILE FROM THE PRECEDING DETOUR SIGN.
 - EXCEPT AS OTHERWISE SHOWN ON OTHER PLANS OR SPECIFIED IN THE SPECIAL PROVISIONS, SP-2 SIGNS SHALL BE PLACED AS SHOWN ON THIS PLAN.

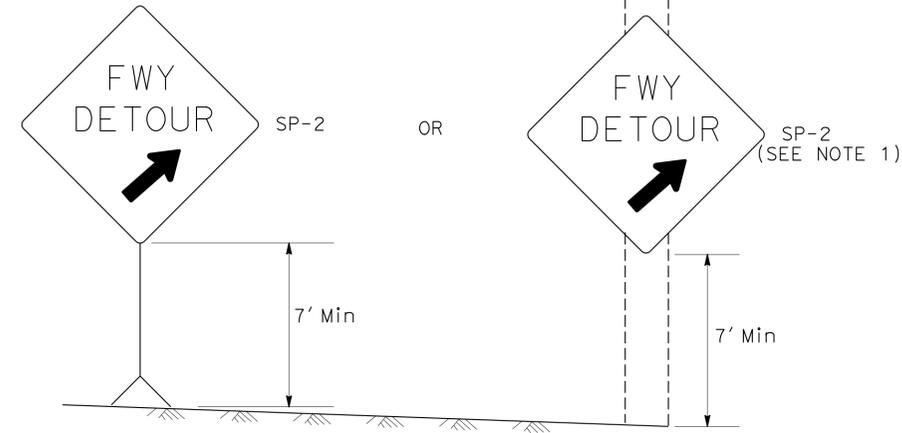


TYPICAL DETOUR SIGN INSTALLATION ALONG DESIGNATED DETOUR ROUTE

**TRAFFIC HANDLING DETAILS
TRAFFIC CONTROL SYSTEM
FOR DETOUR SIGN INSTALLATION
ALONG DESIGNATED DETOUR ROUTE
SHEET 1 OF 2
NO SCALE
THD-3**

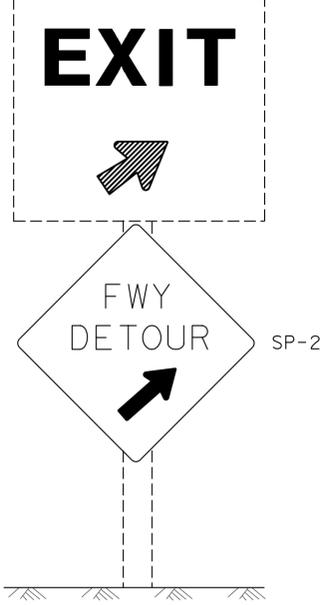
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DT M
 FUNCTIONAL SUPERVISOR: JOHN YANG
 CALCULATED/DESIGNED BY: ALBERT K YU
 CHECKED BY: JOCELYN C CHIANG
 REVISED BY: JC
 DATE REVISED: 3/12

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	118	T18.7/R32.6	15	98
10-01-13 REGISTERED CIVIL ENGINEER DATE			ALBERT K. YU No. 43220 Exp. 3/31/14 CIVIL		
12-16-13 PLANS APPROVAL DATE					
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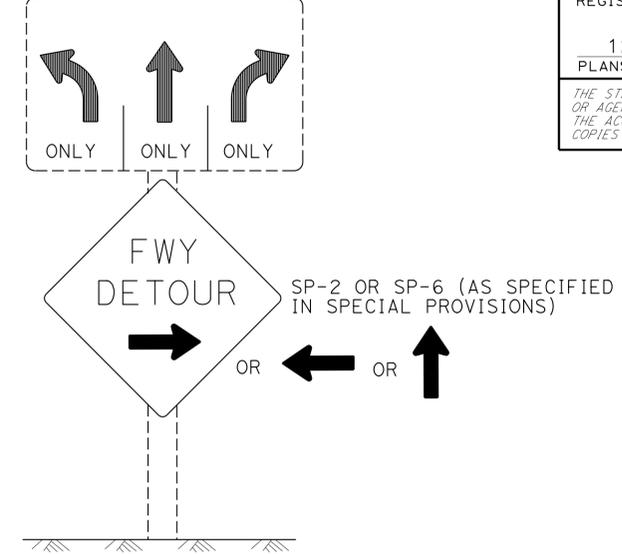
DETAIL A (SEE NOTE 3)

Exist E5-1, G84-2 (CA) OR G84-3 (CA)

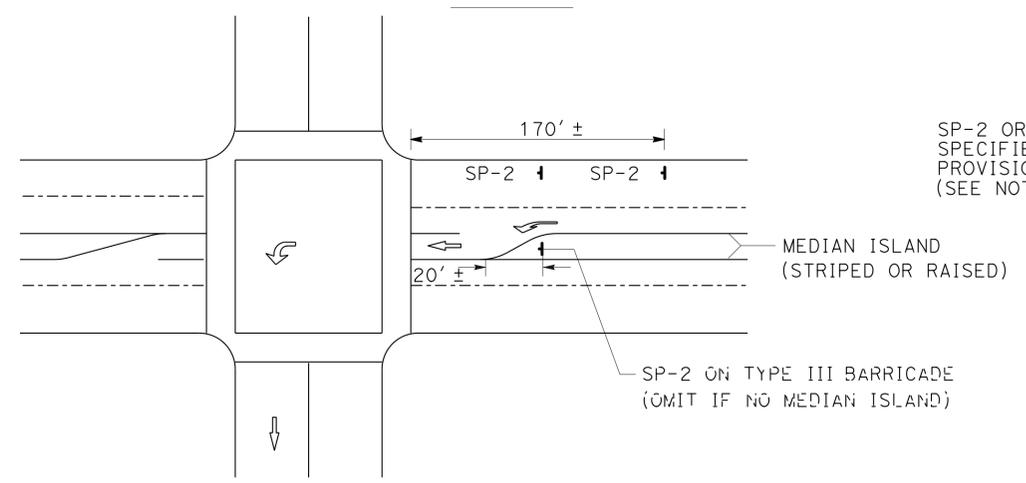


DETAIL B (SEE NOTE 3)

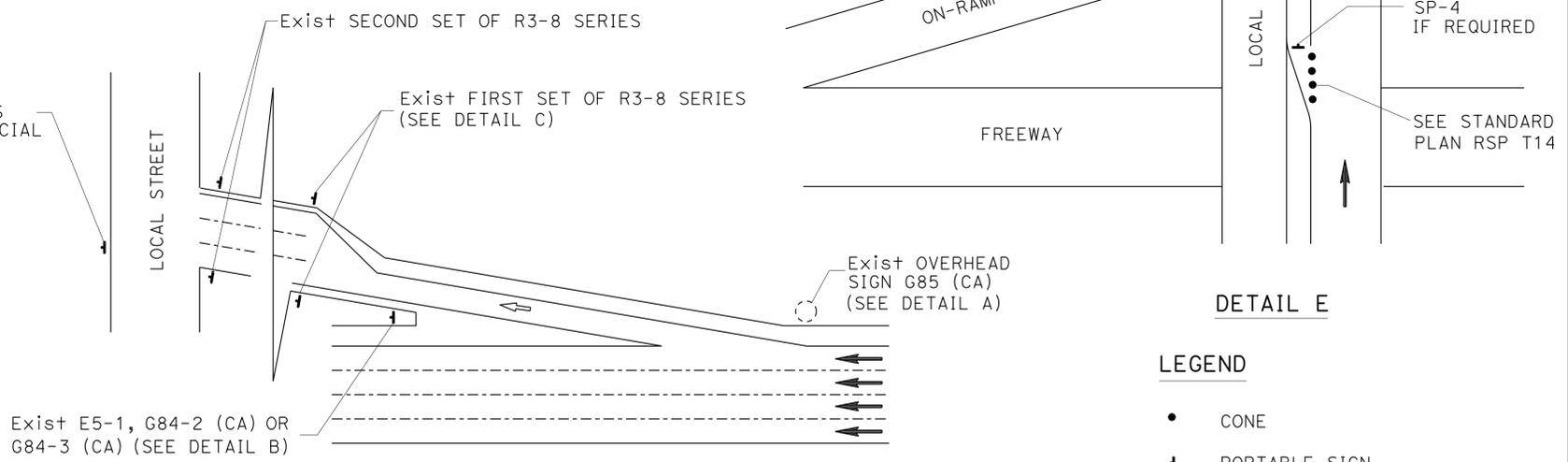
Exist R3-8 SERIES



DETAIL C (SEE NOTES 4, 5, AND 6)



DETAIL D



DETAIL E

- LEGEND**
- CONE
 - ↑ PORTABLE SIGN
 - DIRECTION OF TRAVEL
 - ⇨ DETOUR DIRECTION
 - EXISTING OVERHEAD SIGN

TYPICAL DETOUR SIGN INSTALLATION AT OFF-RAMP

SIGN CODE LEGEND

XXYY-Y: FEDERAL SIGN CODE PER MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD)
 XXYY-Y (CA): CALIFORNIA SIGN CODE PER CALIFORNIA MUTCD

**TRAFFIC HANDLING DETAILS
 TRAFFIC CONTROL SYSTEM
 FOR DETOUR SIGN INSTALLATION
 ALONG DESIGNATED DETOUR ROUTE
 SHEET 2 OF 2**

NO SCALE **THD-4**

NOTES: SIGN SP-2

1. SP-2 SIGNS MAY BE STRAPPED ON EXISTING ELECTROLIER, SIGNAL POST OR SIGN POST.
2. SP-2 SIGNS SHALL NOT BE INSTALLED ON BARRICADES EXCEPT AS OTHERWISE SHOWN.
3. OMIT DETAILS A AND B FOR FULL FREEWAY CLOSURES.
4. SEE TRAFFIC HANDLING DETAILS-TRAFFIC CONTROL SYSTEM FOR RAMP CLOSURES, DETOUR SIGNS, AND MISCELLANEOUS DETAILS PLAN SHEET 2 OF 2 FOR SP-6 SIGN DETAILS.
5. IF R3-8 SERIES SIGNS ARE NOT PRESENT AT THE OFF-RAMP, SP-2 OR SP-6 SIGNS SHALL BE FASTENED ONTO EXISTING ELECTROLIER, SIGNAL POST OR SIGN POST.
6. EXCEPT FOR DETAILS A & B, OMIT SP-2 SIGNS IF RAMP HAS MANDATORY SINGLE MOVE.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
DTM
 FUNCTIONAL SUPERVISOR: JOHN YANG
 CHECKED BY: JOCELYN C CHIANG
 REVISIONS: 3/12
 DESIGNED BY: ALBERT K YU
 DATE: 3/12

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	118	T18.7/R32.6	16	98

10-01-13
 REGISTERED CIVIL ENGINEER DATE
 ALBERT K. YU
 No. 43220
 Exp. 3/31/14
 CIVIL
 STATE OF CALIFORNIA

12-16-13
 PLANS APPROVAL DATE

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LEGEND

- IAV [V1] TRAFFIC CONTROL CREW No. 1
- IAV [V2] TRAFFIC CONTROL CREW No. 2
- CHP [CHP] CHP CAR
- CONES FOR INITIAL LANE CLOSURE
- △ CONES FOR SECOND STAGE LANE CLOSURE
- [1] → DIRECTION OF TRAVEL FOR INITIAL LANE CLOSURE
- [2] → DIRECTION OF TRAVEL FOR SECOND STAGE LANE CLOSURE
- ↑↑↑ FLASHING ARROW SIGN
- ▬ PORTABLE SIGN
- [H] PCMS

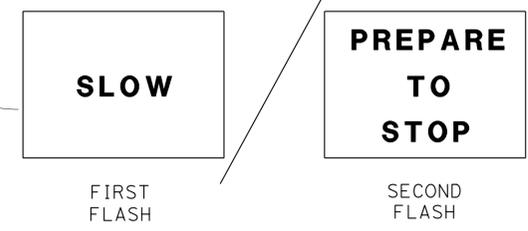
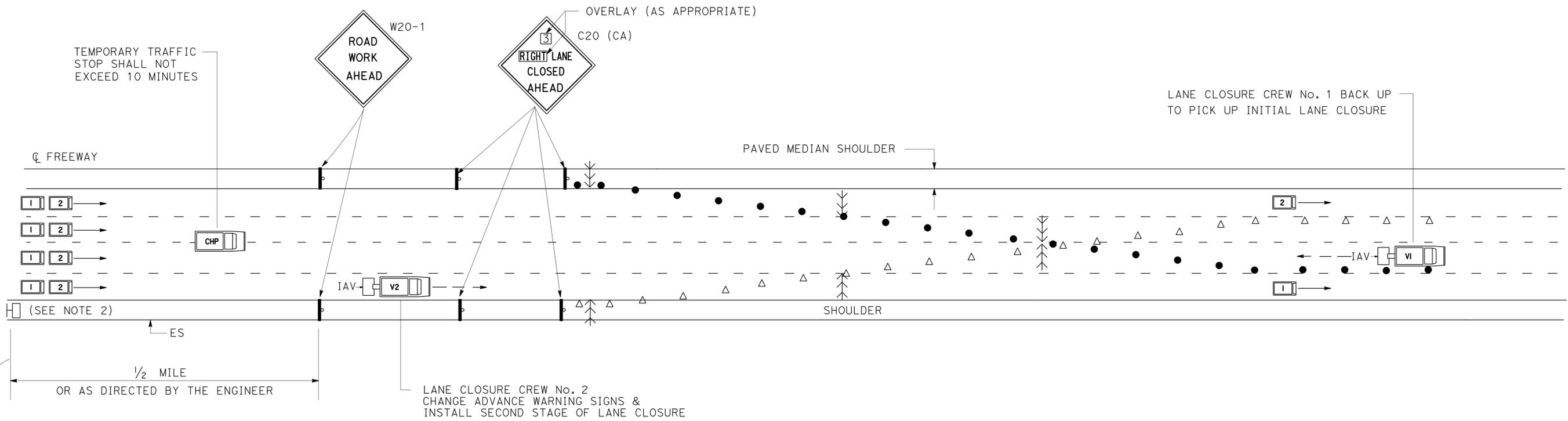
NOTES:

- SEE STANDARD PLAN RSP T10 FOR LANE CLOSURE DETAILS NOT SHOWN.
- ACTIVATE PCMS ONLY DURING SECOND STAGE LANE CLOSURE INSTALLATION.
- CLOSE ALL ON-RAMPS BETWEEN CHP CAR AND THE CLOSURE.

ABBREVIATIONS

- (CA) CALIFORNIA CODE
- CHP CALIFORNIA HIGHWAY PATROL
- PCMS PORTABLE CHANGEABLE MESSAGE SIGN

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 Caltrans®
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 ALBERT K YU
 JOCELYN C CHIANG
 3/12
 JC
 10-01-13
 12-16-13
 10-01-13
 10-01-13



PCMS MESSAGE

**TRAFFIC HANDLING DETAILS
TRAFFIC CONTROL SYSTEM
FOR "FLIP-FLOP" OPERATIONS**

NO SCALE

THD-5

LAST REVISION DATE PLOTTED => 14-JAN-2014
 00-00-00 TIME PLOTTED => 13:48

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	118	T18.7/R32.6	18	98

Darrel A. Cruz 10-2-13
 REGISTERED CIVIL ENGINEER DATE
 12-16-13
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 DARREL A. CRUZ
 No. C59271
 Exp. 6/30/15
 CIVIL
 STATE OF CALIFORNIA

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NOTES:

1. VERIFY ALL PAVEMENT DELINEATION DETAILS PRIOR TO CONSTRUCTION.
2. LIMIT LINES, CROSSWALKS, CHEVRONS AND DIAGONALS MUST BE 12" SOLID.
3. CHEVRON AND DIAGONAL MARKINGS MUST BE APPLIED AT A 45 DEGREE ANGLE FROM THE EDGE OF TRAVELED WAY.
4. USE TYPE HR RED-YELLOW RETROREFLECTIVE MARKERS ON BUFFER STRIPES AT SEGMENTS WITHIN LIMITS OF DETAIL 14 (MODIFIED). REFER TO SHEET PDD-1.

PAVEMENT DELINEATION QUANTITIES

DIRECTION	POST MILE	LOCATION	THERMOPLASTIC TRAFFIC STRIPE														PAVEMENT MARKER				THERMOPLASTIC PAVEMENT MARKING			
			DETAIL 9	DETAIL 13 (ModA)	DETAIL 14 (ModA)	DETAIL 13 (Mod)	DETAIL 14 (Mod)	DETAIL D	DETAIL 25A	DETAIL 25	DETAIL 27B	DETAIL 36	DETAIL 36A	DETAIL 38	DETAIL 38B	DETAIL 37	TYPE A	TYPE C	TYPE G	TYPE H	ARROWS / SYMBOLS	WORDS	DIAGONALS, CROSSWALKS AND LIMIT LINES	CHEVRONS
			4" THERMOPLASTIC TRAFFIC STRIPE (BROKEN 17-7) (RAMPS)	4" THERMOPLASTIC TRAFFIC STRIPE (BROKEN 36-12) (2)BLACK &(1)WHITE	4" THERMOPLASTIC TRAFFIC STRIPE (BROKEN 36-12) (2)BLACK &(1)WHITE	4" THERMOPLASTIC TRAFFIC STRIPE (BROKEN 36-12)	4" THERMOPLASTIC TRAFFIC STRIPE (BROKEN 36-12)	HOV LANE BUFFER STRIPING (1)-4" WHITE (2)-4" YELLOW	4" SOLID YELLOW LEFT EDGE LINE RAMPS	4" SOLID YELLOW LEFT EDGE LINE MAINLINE	4" SOLID WHITE RIGHT EDGE LINE RAMPS/MAINLINE	8" SOLID WHITE EXIT RAMP (GORE)	8" SOLID WHITE ENTRANCE RAMP (MERGE)	8" SOLID WHITE CHANNELIZING LINES	8" SOLID WHITE CHANNELIZING LINES AT EXIT RAMPS	8" (BROKEN 12-3) LANE DROP AT EXIT RAMPS	(NON-REFLECTIVE)	(RETROREFLECTIVE)						
LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	EA	EA	EA	EA	SQFT	SQFT	SQFT	SQFT		
EB	T18.75/T19.13	END ARROYO SIMI Br TO PRINCETON Ave UC		5,586	432										168	4	65	43						
EB	T19.13/T19.98	PRINCETON Ave UC TO COLLINS Dr OC		13,029	432										374	64	143	95				154		
EB	T19.98/R21.86	COLLINS Dr OC TO ALAMOS CANYON Rd	200	29,775											827		235	208				2,712		
EB	R21.86/R22.56	ALAMOS CANYON Rd TO DUMP SITE ACCESS Rd OC		3,168		2,640									308		78	78				1,875		
EB	R22.56/R22.99	DUMP SITE ACCESS Rd OC TO MADERA Rd UC		6,378	432										190	4	78	49				1,380		
EB	R22.99/R23.82	MADERA Rd UC TO FIRST St OC (TURNS TO 3 LANES FROM 2 LANES @ PM 23.24)		21,468	864										621	8	201	93				1,958		
EB	R23.82/R24.15	FIRST St OC TO CALDWELL Ave UC	265			3,484									291		89	38				45		
EB	R24.15/R24.81	CALDWELL Ave UC TO ERRINGER Dr UC				6,680	288								581	8	173	74				1,065		
EB	R24.81/R25.07	ERRINGER Dr UC TO DRY CANYON Chnl	220			2,746									229		72	30				45		
EB	R25.07/R25.81	DRY CANYON Chnl TO SYCAMORE Dr UC				7,526	288								652	8	190	83				768		
EB	R25.81/R26.28	SYCAMORE Dr UC TO GALENA Ave UC	558			4,962									414		139	53				225		
EB	R26.28/R26.56	GALENA Ave UC TO SEQUOIA Ave UC				2,956									247		63	32				496		
EB	R26.56/R26.80	SEQUOIA Ave UC TO ARROYO DEL TAPO Chnl				2,534									212		54	28				378		
EB	R26.80/R27.30	ARROYO DEL TAPO Chnl TO TAPO CANYON Rd UC (TURNS TO 4 LANES FROM 3 LANES @ PM 26.97)	250			6,588	432								585	12	192	56				810		
EB	R27.30/R27.81	TAPO CANYON Rd UC TO TAPO St UC	215			8,076									673		184	57				61		
EB	R27.81/R28.31	TAPO St UC TO KADOTA St UC				7,920									660		166	56				420		
EB	R28.31/R28.81	KADOTA St UC TO STEARNS St UC				7,488	432								660	12	199	56				690		
EB	R28.81/R29.32	STEARNS St UC TO STOW St OC	263			7,644	432								673	50	173	57				480		
EB	R29.32/R29.56	STOW St OC TO YOSEMITE St OC				3,369	432								317	12	111	28				595		
SUB-TOTAL PDQ-1			1,971	79,404	2,160	74,613	3,024																	
TOTAL PDQ-1			1,971		159,201																			

PAVEMENT DELINEATION QUANTITIES PDQ-1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	118	T18.7/R32.6	19	98

Darrel A. Cruz 10-2-13
REGISTERED CIVIL ENGINEER DATE

12-16-13
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
DARREL A. CRUZ
No. C59271
Exp. 6/30/15
CIVIL
STATE OF CALIFORNIA

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PAVEMENT DELINEATION QUANTITIES

DIRECTION	LOCATION	POST MILE	THERMOPLASTIC TRAFFIC STRIPE														PAVEMENT MARKER				THERMOPLASTIC PAVEMENT MARKING			
			DETAIL 9	DETAIL 13 (ModA)	DETAIL 14 (ModA)	DETAIL 13 (Mod)	DETAIL 14 (Mod)	DETAIL D	DETAIL 25A	DETAIL 25	DETAIL 27B	DETAIL 36	DETAIL 36A	DETAIL 38	DETAIL 38B	DETAIL 37	TYPE A	TYPE C	TYPE G	TYPE H	ARROWS / SYMBOLS	WORDS	DIAGONALS, CROSSWALKS AND LIMIT LINES	CHEVRONS
			4" THERMOPLASTIC TRAFFIC STRIPE (BROKEN 17-7) (RAMPS)	4" THERMOPLASTIC TRAFFIC STRIPE (BROKEN 36-12) (2)BLACK &(1)WHITE	4" THERMOPLASTIC TRAFFIC STRIPE (BROKEN 36-12) (2)BLACK &(1)WHITE	4" THERMOPLASTIC TRAFFIC STRIPE (BROKEN 36-12)	4" THERMOPLASTIC TRAFFIC STRIPE (BROKEN 36-12)	HOV LANE BUFFER STRIPING (1)-4" WHITE (2)-4" YELLOW	4" SOLID YELLOW LEFT EDGE LINE RAMPS	4" SOLID YELLOW LEFT EDGE LINE MAINLINE	4" SOLID WHITE RIGHT EDGE LINE RAMPS/MAINLINE	8" SOLID WHITE EXIT RAMP (GORE)	8" SOLID WHITE ENTRANCE RAMP (MERGE)	8" SOLID WHITE CHANNELIZING LINES	8" SOLID WHITE CHANNELIZING LINES AT EXIT RAMPS	8" (BROKEN 12-3) LANE DROP AT EXIT RAMPS	(NON-REFLECTIVE)	(RETROREFLECTIVE)	EA	EA				
		DESCRIPTION	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	EA	EA	EA	EA	SQFT	SQFT	SQFT	SQFT	
EB	R29.56/R29.96	YOSEMITE St OC TO COCHRAN St OC	745			5,904	432			2,112	2,022		181				10	146	45				358	
EB	R29.96/R30.52	COCHRAN St OC TO KUEHNER Dr UC				8,436	432			2,956	2,615	682					10	208	63				1,168	
EB	R30.52/R32.43	KUEHNER Dr UC TO ROCKY PEAK Rd OC	259			29,817	432			10,083	9,389	640	758				10	676	212				5,472	
EB	R32.43/R32.60	ROCKY PEAK Rd OC TO END OF VENTURA Co	180			2,691				897	730		336					70	20				322	
EB	T18.88	EB OFF TO PRINCETON/118	948						1,140		1,505							20	48	246	63	216		
EB	T19.34	EB ON FROM PRINCETON							1,011		1,376			795				35	44	94	64	248		
EB	T19.76	EB OFF TO COLLINS Dr	808						1,020		1,540							18	44	174	106	138		
EB	T19.95	EB ON FROM COLLINS Dr							640		1,184	360		504				41	28	142		145		
EB	R22.80	EB OFF TO MADERA Rd	502						1,023		1,508			596				38	44	413	126	260		
EB	R22.98	EB ON FROM SB MADERA Rd							678		1,010	180						9	30	25		176		
EB	R23.18	EB ON FROM NB MADERA Rd	760						1,300		2,210	398		388				57	56	290		628	220	
EB	R23.64	EB OFF TO FIRST St	634						936		1,634			105					21	40	134		240	
EB	R23.78	EB ON FROM SB FIRST St							602		750			362					17	26	58		212	
EB	R23.97	EB ON FROM NB FIRST St							790		965			517					23	34	94	128	164	
EB	R24.63	EB OFF TO ERRINGER Rd	724						926		1,397			86					21	40	240		212	
EB	R24.78	EB ON FROM SB ERRINGER Rd							685		835			403					18	30	22		265	
EB	R24.97	EB ON FROM NB ERRINGER Rd							747		1,020			550					24	34	78	128	256	
EB	R25.63	EB OFF TO SYCAMORE Dr	710						976		1,470			114					22	42	240		310	
SUB-TOTAL PDQ-2			6,270			46,848	1,296		12,474	16,048	33,160	2,260	1,275	4,420			30	1,464	880	2,250	615	10,790	220	
TOTAL PDQ-2			6,270		48,144				61,682				7,955				2,374			13,875				

PAVEMENT DELINEATION QUANTITIES PDQ-2



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN

FUNCTIONAL SUPERVISOR
 OC LEE

CALCULATED/DESIGNED BY
 RAKESH KARKI

CHECKED BY
 DARREL CRUZ

REVISOR BY
 DATE REVISED

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	118	T18.7/R32.6	20	98

Darrel A. Cruz 10-2-13
 REGISTERED CIVIL ENGINEER DATE
 12-16-13
 PLANS APPROVAL DATE

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

PAVEMENT DELINEATION QUANTITIES

DIRECTION	POST MILE	LOCATION	THERMOPLASTIC TRAFFIC STRIPE														PAVEMENT MARKER				THERMOPLASTIC PAVEMENT MARKING			
			DETAIL 9	DETAIL 13 (ModA)	DETAIL 14 (ModA)	DETAIL 13 (Mod)	DETAIL 14 (Mod)	DETAIL D	DETAIL 25A	DETAIL 25	DETAIL 27B	DETAIL 36	DETAIL 36A	DETAIL 38	DETAIL 38B	DETAIL 37	TYPE A	TYPE C	TYPE G	TYPE H	ARROWS / SYMBOLS	WORDS	DIAGONALS, CROSSWALKS AND LIMIT LINES	CHEVRONS
			4" THERMOPLASTIC TRAFFIC STRIPE (BROKEN 17-7) (RAMPS)	4" THERMOPLASTIC TRAFFIC STRIPE (BROKEN 36-12) (2)BLACK &(1)WHITE	4" THERMOPLASTIC TRAFFIC STRIPE (BROKEN 36-12) (2)BLACK &(1)WHITE	4" THERMOPLASTIC TRAFFIC STRIPE (BROKEN 36-12)	4" THERMOPLASTIC TRAFFIC STRIPE (BROKEN 36-12)	HOV LANE BUFFER STRIPING (1)-4" WHITE (2)-4" YELLOW	4" SOLID YELLOW LEFT EDGE LINE RAMPS	4" SOLID YELLOW LEFT EDGE LINE MAINLINE	4" SOLID WHITE RIGHT EDGE LINE RAMPS/MAINLINE	8" SOLID WHITE EXIT RAMP (GORE)	8" SOLID WHITE ENTRANCE RAMP (MERGE)	8" SOLID WHITE CHANNELIZING LINES	8" SOLID WHITE CHANNELIZING LINES AT EXIT RAMPS	8" (BROKEN 12-3) LANE DROP AT EXIT RAMPS	(NON-REFLECTIVE)		(RETROREFLECTIVE)					
LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	EA	EA	EA	EA	SQFT	SQFT	SQFT	SQFT		
EB	R25.78	EB ON FROM SB SYCAMORE Dr								654		885							20	29	110		233	
EB	R25.98	EB ON FROM NB SYCAMORE Dr								796		1,074							28	35	110	128	160	
EB	R27.11	EB OFF TO TAPO CANYON Rd	840							1,056		1,623							26	45	234		138	
EB	R27.29	EB ON FROM SB TAPO CANYON Rd								710		950							22	31	99		208	
EB	R27.47	EB ON FROM NB TAPO CANYON Rd								814		1,230							28	35	110	128	112	
EB	R28.63	EB OFF TO STEARNS St	804							1,018		1,532							24	44	240		716	
EB	R28.79	EB ON FROM SB STEARNS St								620		744							18	27	99		204	
EB	R28.98	EB ON FROM NB STEARNS St								798		1,136							22	35	110	128	118	
EB	R29.37	EB OFF TO YOSEMITE Ave	540							770		1,618							29	34	318		179	
EB	R29.54	EB ON FROM SB YOSEMITE Ave								700		748							19	30	66		170	
EB	R29.73	EB ON FROM NB YOSEMITE Ave								810		1,092							26	35	110	128	94	
EB	R30.39	EB OFF TO KUEHNER Dr	190							662		972							12	30	167	44	140	
EB	R30.82	EB ON FROM KUEHNER Dr								1,324		1,560							37	57	44		62	
EB	R32.53	EB OFF TO ROCKY PEAK Rd	796							1,146		1,648							26	49	240	44	108	
EB	R32.53	EB ON FROM ROCKY PEAK Rd	100							522		772							15	24	99		76	
SUB-TOTAL PDQ-3			3,270							12,400		17,584				5,860			352	540	2,156	600	2,718	
TOTAL PDQ-3			3,270							29,984					5,860				892			5,474		

PAVEMENT DELINEATION QUANTITIES PDQ-3

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	118	T18.7/R32.6	21	98

Darrel A. Cruz 10-2-13
 REGISTERED CIVIL ENGINEER DATE
 12-16-13
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PAVEMENT DELINEATION QUANTITIES

DIRECTION	POST MILE	LOCATION	THERMOPLASTIC TRAFFIC STRIPE														PAVEMENT MARKER				THERMOPLASTIC PAVEMENT MARKING			
			DETAIL 9	DETAIL 13 (ModA)	DETAIL 14 (ModA)	DETAIL 13 (Mod)	DETAIL 14 (Mod)	DETAIL D	DETAIL 25A	DETAIL 25	DETAIL 27B	DETAIL 36	DETAIL 36A	DETAIL 38	DETAIL 38B	DETAIL 37	TYPE A	TYPE C	TYPE G	TYPE H	ARROWS / SYMBOLS	WORDS	DIAGONALS, CROSSWALKS AND LIMIT LINES	CHEVRONS
			4" THERMOPLASTIC TRAFFIC STRIPE (BROKEN 17-7) (RAMPS)	4" THERMOPLASTIC TRAFFIC STRIPE (BROKEN 36-12) (2)BLACK &(1)WHITE	4" THERMOPLASTIC TRAFFIC STRIPE (BROKEN 36-12) (2)BLACK &(1)WHITE	4" THERMOPLASTIC TRAFFIC STRIPE (BROKEN 36-12)	4" THERMOPLASTIC TRAFFIC STRIPE (BROKEN 36-12)	HOV LANE BUFFER STRIPING (1)-4" WHITE (2)-4" YELLOW	4" SOLID YELLOW LEFT EDGE LINE RAMPS	4" SOLID YELLOW LEFT EDGE LINE MAINLINE	4" SOLID WHITE RIGHT EDGE LINE RAMPS/MAIN LINE	8" SOLID WHITE EXIT RAMP (GORE)	8" SOLID WHITE ENTRANCE RAMP (MERGE)	8" SOLID WHITE CHANNELIZING LINES	8" SOLID WHITE CHANNELIZING LINES AT EXIT RAMPS	8" (BROKEN 12-3) LANE DROP AT EXIT RAMPS	(NON-REFLECTIVE)	(RETROREFLECTIVE)						
DESCRIPTION	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	EA	EA	EA	EA	SQFT	SQFT	SQFT	SQFT		
WB	T18.75/T19.13	END ARROYO SIMI Br TO PRINCETON Ave UC	280	6,018						2,006	1,540		936		168		71	43						
WB	T19.13/T19.98	PRINCETON Ave UC TO COLLINS Dr OC		13,029	432					4,487	3,446	1,309	774		374	54	213	95						
WB	T19.98/R21.86	COLLINS Dr OC TO ALAMOS CANYON Rd		29,343	432					9,925	9,600	652			827	4	235	208						
WB	R21.86/R22.56	ALAMOS CANYON Rd TO DUMP SITE ACCESS Rd OC		3,168		2,640				3,695	3,695				308		78	78			2,145			
WB	R22.56/R22.99	DUMP SITE ACCESS Rd OC TO MADERA Rd UC (START 3 LANES)	280	13,620						2,270	2,020		500		379		155	49	99		1,199			
WB	R22.99/R23.82	MADERA Rd UC TO FIRST St OC	274	24,564	1,728					4,382	3,703	1,357		450	731	65	278	93			1,300			
WB	R23.82/R24.15	FIRST St OC TO CALDWELL Ave UC	234			3,196	288			1,742	1,129	603	624		291	8	116	38			569			
WB	R24.15/R24.81	CALDWELL Ave UC TO ERRINGER Dr UC	283			6,968				3,484	3,259		450		581		165	74			1,136			
WB	R24.81/R25.07	ERRINGER Dr UC TO DRY CANYON Chnl				2,458	288			1,373	841	665	399		229	8	93	30			460			
WB	R25.07/R25.81	DRY CANYON Chnl TO SYCAMORE Dr UC	307			7,814				3,907	3,664		487		652		184	83			1,320			
WB	R25.81/R26.28	SYCAMORE Dr UC TO GALENA Ave UC	184			4,674	288			2,481	1,919	684	441		414	8	146	53			880			
WB	R26.28/R26.56	GALENA Ave UC TO SEQUOIA Ave UC				2,956				1,478	1,478				247		63	32			485			
WB	R26.56/R26.80	SEQUOIA Ave UC TO ARROYO DEL TAPO Chnl				2,534				1,267	1,267				212		54	28			400			
WB	R26.80/R27.30	ARROYO DEL TAPO Chnl TO TAPO CANYON Rd UC (START 4 LANES @ PM 27.29)	577			5,333				2,640	2,393		492		445		138	56	84		893			
WB	R27.30/R27.81	TAPO CANYON Rd UC TO TAPO St UC				7,644	432			2,692	2,093	769	430		673	12	205	57	42		838			
WB	R27.81/R28.31	TAPO St UC TO KADOTA St UC				7,488	432			2,640	2,640				660	12	157	56			1,279			
WB	R28.31/R28.81	KADOTA St UC TO STEARNS St UC	553			7,488	432			2,640	2,463		354		660	12	179	56			1,273			
WB	R28.81/R29.32	STEARNS St UC TO STOW St OC				7,644	432			2,692	2,179	609	416		673	46	227	57			1,215			
WB	R29.32/R29.56	STOW St OC TO YOSEMITE St UC	263			3,801				1,267	909		716		317		88	28			600			
SUB-TOTAL PDQ-4			3,235	89,742	2,592	72,638	3,456			57,068	50,238	6,648	7,019		1,731	3,877	8,841	229	2,845	1,214	225	15,992		
TOTAL PDQ-4			3,235		168,428					107,306			15,398		3,877	8,841	4,288				16,217			

PAVEMENT DELINEATION QUANTITIES PDQ-4

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN
 FUNCTIONAL SUPERVISOR: OC LEE
 CALCULATED/DESIGNED BY: DARREL CRUZ
 CHECKED BY: RAKESH KARKI
 REVISOR: RAKESH KARKI
 DATE REVISOR: DARREL CRUZ

LAST REVISION: DATE PLOTTED => 14-JAN-2014
 TIME PLOTTED => 13:48

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	118	T18.7/R32.6	22	98

Darrel A. Cruz 10-2-13
 REGISTERED CIVIL ENGINEER DATE
 12-16-13
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 DARREL A. CRUZ
 No. C59271
 Exp. 6/30/15
 CIVIL
 STATE OF CALIFORNIA

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PAVEMENT DELINEATION QUANTITIES

DIRECTION	POST MILE	LOCATION	THERMOPLASTIC TRAFFIC STRIPE														PAVEMENT MARKER				THERMOPLASTIC PAVEMENT MARKING			
			DETAIL 9	DETAIL 13 (ModA)	DETAIL 14 (ModA)	DETAIL 13 (Mod)	DETAIL 14 (Mod)	DETAIL D	DETAIL 25A	DETAIL 25	DETAIL 27B	DETAIL 36	DETAIL 36A	DETAIL 38	DETAIL 38B	DETAIL 37	TYPE A	TYPE C	TYPE G	TYPE H	ARROWS / SYMBOLS	WORDS	DIAGONALS, CROSSWALKS AND LIMIT LINES	CHEVRONS
			4" THERMOPLASTIC TRAFFIC STRIPE (BROKEN 17-7) (RAMPS)	4" THERMOPLASTIC TRAFFIC STRIPE (BROKEN 36-12) (2)BLACK &(1)WHITE	4" THERMOPLASTIC TRAFFIC STRIPE (BROKEN 36-12) (2)BLACK &(1)WHITE	4" THERMOPLASTIC TRAFFIC STRIPE (BROKEN 36-12)	4" THERMOPLASTIC TRAFFIC STRIPE (BROKEN 36-12)	HOV LANE BUFFER STRIPING (1)-4" WHITE (2)-4" YELLOW	4" SOLID YELLOW LEFT EDGE LINE RAMPS	4" SOLID YELLOW LEFT EDGE LINE MAINLINE	4" SOLID WHITE RIGHT EDGE LINE RAMPS/MAINLINE	8" SOLID WHITE EXIT RAMP (GORE)	8" SOLID WHITE ENTRANCE RAMP (MERGE)	8" SOLID WHITE CHANNELIZING LINES	8" SOLID WHITE CHANNELIZING LINES AT EXIT RAMPS	8" (BROKEN 12-3) LANE DROP AT EXIT RAMPS	(NON-REFLECTIVE)	(RETROREFLECTIVE)						
DESCRIPTION	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	EA	EA	EA	EA	SQFT	SQFT	SQFT	SQFT		
WB	R29.56/R29.96	YOSEMITE St OC TO COCHRAN St OC				5,471	866			2,112	1,650	653	272		528	24	152	45				950		
WB	R29.96/R30.52	COCHRAN St OC TO KUEHNER Dr UC (R+)	204			8,436	432			2,956	2,739		435		739	12	194	63				940		
WB	R30.52/R32.43	KUEHNER Dr UC (R+) TO ROCKY PEAK Rd OC	180			29,817	432	4,752		10,083	9,431	519	785		2,522	12	670	609	99			675		
WB	R32.43/R32.60	ROCKY PEAK Rd OC TO END OF VENTURA Co				2,259	432	2,693							225	12	76	247	66					
WB	T19.00	WB ON FROM PRINCETON Ave								782	1,265			520				26	34	94	64	108		
WB	T19.36	WB OFF TO PRINCETON Ave	822							1,040	1,403							20	45	268	63	108		
WB	T19.87	WB ON FROM COLLINS Dr	82							810	1,555	330		406				37	36	94		425		
WB	T20.18	WB OFF TO COLLINS Dr	721							935	1,195							16	40	240	126	188		
WB	R22.86	WB ON FROM BREA/MADERA								590	710			321				16	26	55	64	140		
WB	R22.99	WB OFF TO BREA Rd	910							696	1,092			368				38	30	225		135		
WB	R23.20	WB OFF TO MADERA Rd								938	1,313								41	75	22	310		
WB	R23.62	WB ON FROM SB FIRST St								987	1,162			762				34	43	94	128	160		
WB	R23.89	WB ON FROM NB FIRST St								883	1,078			540				24	38	83	64	124		
WB	R24.02	WB OFF TO FIRST St	991							1,102	1,550			723				54	47	441		194		
WB	R24.67	WB ON FROM SB ERRINGER Rd								762	1,045			564				25	34	44	128	162		
WB	R24.85	WB ON FROM NB ERRINGER Rd								638	790			370				18	28	88	64	146		
WB	R25.00	WB OFF TO ERRINGER Rd	896							932	1,410			534				44	40	447		242		
WB	R25.67	WB ON FROM SB SYCAMORE Dr								760	1,044			560				26	34	99	128	210		
SUB-TOTAL PDQ-5			4,806			45,983	2,162	7,445	11,855	16,048	31,018	2,126	1,492	5,668		4,014	60	1,470	1,480	2,512	851	5,217		
TOTAL PDQ-5			4,806	48,145				66,366				9,286				4,014	3,010			8,580				

PAVEMENT DELINEATION QUANTITIES PDQ-5

MIDWEST GUARDRAIL SYSTEM

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	118	T18.7/R32.6	24	98

Darrel A. Cruz 10-2-13
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LOCATION	POST MILE	REMOVE GUARDRAIL	MIDWEST GUARDRAIL SYSTEM	END ANCHOR ASSEMBLY (TYPE SFT)	ALTERNATIVE FLARED TERMINAL SYSTEM	ALTERNATIVE IN-LINE TERMINAL SYSTEM	TRANSITION RAILING (TYPE WB-31)	BURIED POST AND ANCHOR (N)	GUARD RAILING DELINEATOR	TREATED WOOD WASTE	MGS TYPICAL LAYOUT	LANDMARK
		LF	LF	EA	EA	EA	EA	EA	EA	EA	LB	
EASTBOUND ROUTE 118	T18.760 TO T18.782	113	63	2	1				2	2,813	16B	ARROYO SIMI OH
	T19.405 TO T20.040	3,375	3,338	2	1				56	79,774	11B	COLLINS Dr UC
	R20.307 TO R20.381	400	400	2					12	9,585	11B	COLLINS Dr UC
	R21.830 TO R21.852	125	88	1	1				2	3,097	12B	ALAMOS CANYON Rd UC
	R22.163 TO R22.186	125	88	1	1			1	2	3,097	11C	S MADERA Rd RAMP
	R22.953 TO R22.967	75	38	1	1				2	1,917	12B	MADERA Rd UC
	R23.005 TO R23.065	325	325	1					5	7,815	12DD	Rte 118 MADERA Rd UC
	R23.009 TO R23.580	3,063	3,025	2	1				51	72,413	11B	S MADERA Rd RAMP
	R25.782 TO R25.793	63	25	1	1				2	1,634	12B	SYCAMORE Rd UC
	R26.809 TO R26.862	288	288						5	6,942	12DD	ARROYO DEL TAPO CHANNEL
	R26.863 TO R27.068	1,075	1,038	1	1				17	25,510	11B	TAPO CANYON Rd UC
R27.270 TO R27.283	75	13	1	1			1	2	1,917	12A	TAPO CANYON Rd UC	
R32.128 TO R32.242		600	1					20			ROCKY PEAK Rd OFF-RAMP	
WESTBOUND ROUTE 118	T18.746 TO T18.760	88	50	2	1				2	2,224	16B	ARROYO SIMI OH
	T20.342 TO T20.372	200	163	1	1				3	4,866	16B	COLLINGS Dr OC
	R20.538 TO R20.553	88	50	2	1				2	2,224	16B	STRATHEARN CHANNEL
	R20.602 TO R20.721	625	588	2	1				21	14,893	11B	Exist EQUIPMENT PASS UC
	R21.886 TO R21.918	163	125	1	1				3	3,993	12B	ALAMOS CANYON Rd UC
	R22.397 TO R22.546	800	750	2		1			27	19,022	11A	LANDFILL ACCESS Rd OC
	R22.812 TO R22.878	438	400	2	1				7	10,481	11B	MADERA Rd UC
	R23.073 TO R23.087	75	38	2	1				2	1,917	16B	MADERA Rd UC
	R23.219 TO R23.239	100	63	2	1				2	2,507	16B	MADERA Rd UC
	R23.754 TO R23.812	300	250	2		1			5	7,225	11A	FIRST St OC
	R23.856 TO R23.874	100	50	2		1			2	2,507	16A	FIRST St OC
	R24.111 TO R24.123	75	38	2	1				2	1,917	16B	CALDWELL Ave UC
	R24.169 TO R24.183	75	38	1	1				2	1,917	12B	CALDWELL Ave UC
	R25.785 TO R25.797	75	75	1					2	1,917	12DD	SYCAMORE Dr UC
	R25.770 TO R25.783	75	50	1				1	2	1,917	12B	SYCAMORE Dr UC
	R25.829 TO R25.844	88	38	1		1			2	2,224	12A	SYCAMORE Dr UC
	R26.030 TO R26.047	100	50	2		1			2	2,507	16A	SYCAMORE Dr UC
	R26.569 TO R26.592	125	75	1		1			2	3,097	12C	SEQUOIA Ave UC
	R26.781 TO R26.786	25	25	1					1	737	12DD	ARROYO DEL TAPO CHANNEL
	R26.813 TO R27.020	1,088	1,038			1			18	25,817	12D	ARROYO DEL TAPO CHANNEL
R27.201 TO R27.214	75	38	2	1				2	1,917	16B	TAPO CANYON Rd UC	
R28.909 TO R28.926	100	50	2		1			2	2,507	16A	STEARNS St UC	
R30.562 TO R30.754	1,063	1,013	2		1			18	25,227	11A	KUEHNER Dr UC	
R30.571 TO R30.750	950	900	1		1			15	22,561	12A	KUEHNER Dr UC	
R30.869 TO R31.098	1,338	1,300	2	1				22	31,715	11B	KUEHNER Dr UC	
	TOTAL	17,400	16,600	55	21	10	2	1	346	415,000		

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

TEMPORARY WATER POLLUTION CONTROL QUANTITIES

POST MILE		TEMPORARY COVER	TEMPORARY DRAINAGE INLET PROTECTION	TEMPORARY FIBER ROLL
FROM	TO	SQYD	EA	LF
T18.75	R32.60	2,930	50	630
TOTAL		2,930	50	630

REPAIR SPALL JOINTS POLYESTER GROUT QUANTITIES

POST MILE		REPAIR SPALLED JOINTS, POLYESTER GROUT
FROM	TO	SQYD
T18.75	R32.60	105
TOTAL		105

SUMMARY OF QUANTITIES

Q-1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	118	T18.7/R32.6	25	98

Darrel A. Cruz 10-2-13
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SLAB REPLACEMENT QUANTITIES

LOCATION		POST MILE		THICKNESS OF SLAB FT	E/B LANES				W/B LANES			
					NUMBER OF SLABS (N) (EACH)		INDIVIDUAL SLAB REPLACEMENT (RSC) CY	DRILL AND BOND (DOWEL BAR) EA	NUMBER OF SLABS (N) (EACH)		INDIVIDUAL SLAB REPLACEMENT (RSC) CY	DRILL AND BOND (DOWEL BAR) EA
FROM	TO	FROM	TO	LANE NUMBER		LANE NUMBER						
					1	2			1	2		
PRINCETON Ave UC	COLLINS Dr OC	T19.19	T19.98	0.85								
COLLINS Dr OC	ALAMOS CANYON Rd UC	T19.98	R21.86	0.65					35		152	560
				0.75	33	44	385	1,232		38	190	608
ALAMOS CANYON Rd UC	LANDFILL ACCESS Rd OC	R21.86	R22.56	0.65					2		9	32
				0.75	7	2	45	144		2	10	32
LANDFILL ACCESS Rd OC	MADERA Rd UC	R22.56	R22.99	0.65					2		9	32
				0.75	4	5	45	144		13	65	208
MADERA Rd UC	FIRST St OC	R22.99	R23.80	0.65	5		22	80	7		30	112
				0.75						1	5	16
TOTAL							497	1,600			470	1,600

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

SUMMARY OF QUANTITIES

LOCATION	INDIVIDUAL SLAB REPLACEMENT (RSC) CY	DRILL AND BOND (DOWEL BAR) EA
E/B LANES	497	1,600
W/B LANES	470	1,600
GRAND TOTAL	967	3,200

SUMMARY OF QUANTITIES

Q-2

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN
 FUNCTIONAL SUPERVISOR OC LEE
 CALCULATED/DESIGNED BY RAKESH KARKI
 CHECKED BY DARREL CRUZ
 REVISED BY
 DATE REVISED



ROADWAY QUANTITIES

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	118	T18.7/R32.6	26	98

Darrel A. Cruz 10-2-13
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12-16-13
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REGISTERED PROFESSIONAL ENGINEER
DARREL A. CRUZ
 No. C59271
 Exp. 6/30/15
 CIVIL
 STATE OF CALIFORNIA

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MAINLINE LOCATION				GRIND EXISTING CONCRETE PAVEMENT	COLD PLANE ASPHALT CONCRETE PAVEMENT (0.20')	COLD PLANE ASPHALT CONCRETE PAVEMENT (0.25')	COLD PLANE ASPHALT CONCRETE PAVEMENT (0.15')	RUBBERIZED HOT MIX ASPHALT SUPERPAVE (GAP GRADED) (0.20')	RUBBERIZED HOT MIX ASPHALT SUPERPAVE (GAP GRADED) (0.15')	HOT MIX ASPHALT SUPERPAVE (TYPE A) (0.25')	SHOULDER RUMBLE STRIP	REPLACE ASPHALT CONCRETE SURFACING	TACK COAT	
LANDMARK	FROM	TO	DIRECTION	SQYD	SQYD	SQYD	SQYD	TON	TON	TON	STA	CY	TON	
END ARROYO SIMI Br TO PRINCETON Ave UC	T18.75	T19.13	EB	8,480							39			
			WB	12,882								55		
PRINCETON Ave UC TO COLLINS Dr OC	T19.13	T19.98	EB	24,445							86			
			WB	23,082		2,702		244			86		1.45	
COLLINS Dr OC TO ALAMOS CANYON Rd	T19.98	R21.86	EB	27,530		3,927	11,277		1,016	663	195		8.15	
			WB	28,340		10,855	7,296		658	1,832	195		9.73	
ALAMOS CANYON Rd TO DUMP SITE ACCESS Rd OC	R21.86	R22.56	EB	1,739	6,310	6,696	911	759	82	1,130	70		7.46	
			WB	2,592	7,160	6,306	951	860	86	1,064	70		7.73	
DUMP SITE ACCESS Rd OC TO MADERA Rd UC	R22.56	R22.99	EB	7,767		1,120	2,915		262	189	45		2.16	
			WB	8,330		2,148	3,437		310	362	45		2.99	
MADERA Rd UC TO FIRST St OC	R22.99	R23.82	EB	14,420	1,574	1,501	4,755	189	428	253	87		4.20	
			WB	14,162	1,964	4,831	6,459	236	582	816	87		6.05	
FIRST St OC TO CALDWELL Ave UC	R23.82	R24.15	EB		10,454			1,256			34	41	5.60	
			WB		9,825			1,180			34	84	5.26	
CALDWELL Ave UC TO ERRINGER Dr UC	R24.15	R24.81	EB		17,714			2,129			67	144	9.49	
			WB		21,140			2,540			67	41	11.33	
ERRINGER Dr UC TO DRY CANYON Chnl	R24.81	R25.07	EB		7,482			899			25	35	4.01	
			WB		6,895			829			25	29	3.69	
DRY CANYON Chnl TO SYCAMORE Dr UC	R25.07	R25.81	EB		20,359			2,446			77	66	10.91	
			WB		23,672			2,844			76	70	12.68	
SYCAMORE Dr UC TO GALENA Ave UC	R25.81	R26.28	EB		13,137			1,579			46	140	7.04	
			WB		13,403			1,611			46	49	7.18	
GALENA Ave UC TO SEQUOIA Ave UC	R26.28	R26.56	EB		6,830			820			26	57	3.66	
			WB		6,853			823			26	23	3.67	
SEQUOIA Ave UC TO ARROYO DEL TAPO Chnl	R26.56	R26.80	EB		5,609			675			22	27	3.01	
			WB		5,979			719			22	74	3.20	
ARROYO DEL TAPO Chnl TO TAPO CANYON Rd UC	R26.80	R27.30	EB		19,278			2,316			50	119	10.33	
			WB		19,993			2,403			50	136	10.71	
TAPO CANYON Rd UC TO TAPO St UC	R27.30	R27.81	EB		20,765			2,495			47	202	11.13	
			WB		19,226			2,311			50	45	10.23	
TAPO St UC TO KADOTA St UC	R27.81	R28.31	EB		19,098			2,294			50	63	10.23	
			WB		19,529			2,346			50	52	10.46	
KADOTA St UC TO STEARNS St UC	R28.31	R28.81	EB		19,451			2,337			50	31	10.42	
			WB		20,814			2,501			50	21	11.15	
STEARNS St UC TO STOW St OC	R28.81	R29.32	EB		22,102			2,655			50	181	11.84	
			WB		21,900			2,632			50	101	11.73	
STOW St OC TO YOSEMITE St OC	R29.32	R29.56	EB		10,228			1,228			25	25	5.48	
			WB		10,702			1,286			25	18	5.73	
YOSEMITE St OC TO COCHRAN St OC	R29.56	R29.96	EB		18,112			2,176			42	107	9.70	
			WB		16,833			2,022			42	31	9.02	
COCHRAN St OC TO KUEHNER Dr UC	R29.96	R30.52	EB		22,592			2,715			59	170	12.11	
			WB		22,950			2,758			59	59	12.30	
KUEHNER Dr UC TO ROCKY PEAK Rd OC	R30.52	R32.43	EB		70,377			8,455			198	37	37.71	
			WB		68,539			8,235			198	97	36.72	
ROCKY PEAK Rd OC TO END OF VENTURA Co	R32.43	R32.60	EB		6,865			825			18	163	3.68	
			WB		6,722			807			18	168	3.60	
SUB TOTAL				173,769	642,438	37,383	40,705	77,189	3,668	6,308	2,834	2,706	384.93	
TOTAL				173,769	720,526			80,857		6,308	2,834	2,706	384.93	

SUMMARY OF QUANTITIES

Q-3

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN
 FUNCTIONAL SUPERVISOR: OC LEE
 CALCULATED/DESIGNED BY: RAKESH KARKI
 CHECKED BY: DARREL CRUZ
 REVISED BY: DATE REVISED:

LAST REVISION DATE PLOTTED => 14-JAN-2014
 12-10-13 TIME PLOTTED => 13:48

RAMP QUANTITIES

RAMP LOCATION			COLD PLANE ASPHALT CONCRETE PAVEMENT (0.20')	RUBBERIZED HOT MIX ASPHALT, SUPERPAVE (GAP GRADED)(0.20')	SLURRY SEAL	REPLACE ASPHALT CONCRETE SURFACE AREA	TACK COAT	
DIRECTION	PM	LANDMARK	SQYD	TON	TON	CY	TON	
EB OFF TO	T18.88	PRINCETON Ave			2.0			
WB OFF TO	T19.36				1.9			
WB ON FROM	T19.00				1.8			
EB ON FROM	T19.34				2.4			
EB OFF TO	T19.76	COLLINS Dr			1.8			
WB ON FROM	T19.87				2.6			
EB ON FROM	T19.95				2.1			
WB ON FROM	R22.86	BREA Rd			1.3			
WB OFF TO	R22.99				1.8			
EB OFF TO	R22.80	MADERA Rd			3.2			
WB OFF TO	R23.20				2.0			
EB ON FROM SB	R22.98			2,689	323			1.44
EB ON FROM SB	R23.78	FIRST St	2,414	290				1.29
WB ON FROM NB	R23.89		4,252	510				2.28
EB OFF TO	R23.64					3.5		
EB ON FROM NB	R23.97					2.3		
WB OFF TO	R24.02					4.3		
EB OFF TO	R24.63	ERRINGER Rd			3.1			
EB ON FROM NB	R24.97				2.1			
EB ON FROM SB	R24.78		2,557	307				1.37
WB ON FROM NB	R24.85		3,027	634				1.62
WB ON FROM NB	R25.86	SYCAMORE Dr	2,428	291				1.30
EB ON FROM SB	R25.78					2.1		
EB OFF TO	R25.63					3.5		
WB ON FROM SB	R25.67					2.9		
EB ON FROM NB	R25.98					2.3		
WB OFF TO	R26.01	TAPO CANYON Rd			3.1			
EB OFF TO	R27.11					3.4		
WB OFF TO	R27.52					3.7		
WB ON FROM SB	R27.16					2.3		
WB ON FROM NB	R27.35					1.8		
EB ON FROM NB	R27.47				2.5			
EB ON FROM SB	R27.29		3,649	439				1.96
SUB TOTAL			22,522	2,705	65.8			11.26

RAMP LOCATION			COLD PLANE ASPHALT CONCRETE PAVEMENT (0.20')	RUBBERIZED HOT MIX ASPHALT SUPERPAVE (GAP GRADED)(0.20')	SLURRY SEAL	REPLACE ASPHALT CONCRETE SURFACE AREA	TACK COAT
DIRECTION	PM	LANDMARK	SQYD	TON	TON	CY	TON
EB ON FROM SB	R28.79	STEARNS St	2,310	277			1.45
WB ON FROM NB	R28.86		2,545	306			1.45
EB OFF TO	R28.63					3.7	
EB ON FROM	R28.98					2.3	
WB OFF FROM	R29.02					3.4	
EB ON FROM SB	R29.54	YOSEMITE Ave	2,730	328			1.45
WB ON FROM NB	R29.59		2,870	344			1.45
WB ON FROM SB	R29.36					2.6	
EB OFF FROM	R29.37					3.0	
EB ON FROM NB	R29.73					2.6	
WB OFF FROM	R29.76	KUEHNER Dr				3.7	
WB ON FROM	R30.38					2.2	
EB OFF TO	R30.39					2.2	
EB ON FROM	R30.82					3.4	
WB OFF TO	R30.83					3.7	
EB OFF TO	R32.53	ROCKY PEAK Rd				3.3	
WB ON FROM	R32.53					3.8	
WB OFF TO	R32.53					1.7	
EB ON FROM	R32.53					1.6	
SUB TOTAL			10,455	1,255	43.2		5.80
TOTAL			31,470	3,780	109.0		17.06

SUMMARY OF QUANTITIES

SHEET	GRIND EXISTING CONCRETE PAVEMENT	COLD PLANE ASPHALT CONCRETE PAVEMENT	RUBBERIZED HOT MIX ASPHALT SUPERPAVE (GAP GRADED)	HOT MIX ASPHALT, SUPERPAVE (TYPE A) (0.25')	SLURRY SEAL	SHOULDER RUMBLE STRIP	REPLACE ASPHALT CONCRETE SURFACE AREA	TACK COAT
	SQYD	SQYD	TON	TON	TON	STA	CY	TON
(MAINLINE) TOTAL Sht Q-3	173,769	720,526	80,857	6,308		2,834	2,706	384.93
(RAMPS) TOTAL Sht Q-4		31,470	3,780		109			17.06
GRAND TOTAL	173,769	751,996	84,637	6,308	109	2,834	2,706	401.99

SUMMARY OF QUANTITIES

Q-4

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	118	T18.7/R32.6	27	98

Darrel A. Cruz 10-2-13
 REGISTERED CIVIL ENGINEER DATE

12-16-13
 PLANS APPROVAL DATE

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

DARREL A. CRUZ
 No. C59271
 Exp. 6/30/15
 CIVIL
 REGISTERED PROFESSIONAL ENGINEER
 STATE OF CALIFORNIA

CURB RAMP ITEMS

INTERCHANGE (PM)	RAMP DESCRIPTION	CURB RAMP LOCATION (SEE CONSTRUCTION DETAIL SHEET C-3)	CASE A	CASE A	CASE F	CASE CM	CASE A	TYPE 24-10S	ADJUST	ROADWAY	REMOVE CONCRETE	MINOR CONCRETE	CURB RAMP DETECTABLE	PRE/POST	MISCELLANEOUS
			EA	EA	EA	EA	EA	EA	EA	EA	CY	CY	CY	SQFT	EA
PRINCETON Ave UC (T19.19)	WB OFF-RAMP TO PRINCETON Ave	L		1							5	5	12.50	1	
	EB OFF-RAMP TO PRINCETON Ave	R											12.50 *		
	EB OFF-RAMP TO PRINCETON Ave	L		1					2		5	5	12.50	1	
	EB ON-RAMP FROM PRINCETON Ave	R		1					2		5	5	12.50	1	
	EB ON-RAMP FROM PRINCETON Ave	L		1							5	5	12.50	1	
COLLINS Dr OC (T19.98)	WB OFF-RAMP TO COLLINS Ave	R				1			1		7	7	40.00	1	
	WB OFF-RAMP TO COLLINS Ave	L				1			2		7	7	40.00	1	
MADERA Rd UC (R22.99)	WB OFF-RAMP TO MADERA Rd	R				1					7	7	40.00	1	
	WB OFF-RAMP TO MADERA Rd	L			1						1	1	12.50	1	
	EB OFF-RAMP TO MADERA Rd	R						1			7	7	40.00	1	229
	EB LOOP ON-RAMP FROM MADERA Rd	R				1					7	7	40.00	1	
	EB LOOP ON-RAMP FROM MADERA Rd	L											12.50 *		
FIRST St OC (R23.80)	WB OFF-RAMP TO FIRST St	R	1						2		10	10	25.00	1	
	WB OFF-RAMP TO FIRST St	R1											25.00 *		
	WB LOOP ON-RAMP FROM FIRST St	R				1					7	7	40.00	1	
	WB ON-RAMP FROM FIRST St	R				1					7	7	40.00	1	
	WB ON-RAMP FROM FIRST St	L				1					7	7	40.00	1	
	EB LOOP ON-RAMP FROM FIRST St	R				1					7	7	40.00	1	
	EB ON-RAMP FROM FIRST St	R				1					7	7	40.00	1	
	EB ON-RAMP FROM FIRST St	L											12.50 *		
ERRINGER Rd UC (R24.81)	WB OFF-RAMP TO ERRINGER Rd	R	1					1			10	10	25.00	1	229
	WB OFF-RAMP TO ERRINGER Rd	R1											12.50 *		
	WB OFF-RAMP TO ERRINGER Rd	L1											12.50 *		
	WB ON-RAMP FROM ERRINGER Rd	L		1							5	5	12.50	1	
	EB LOOP ON-RAMP FROM ERRINGER Rd	R		1							5	5	12.50	1	
	EB OFF-RAMP TO ERRINGER Rd	R1		1							5	5	12.50	1	
	EB ON-RAMP FROM ERRINGER Rd	R				1					7	7	40.00	1	
	EB ON-RAMP FROM ERRINGER Rd	L		1					1		5	5	12.50	1	
SYCAMORE Dr UC (R25.81)	WB OFF-RAMP TO SYCAMORE Dr	R1		1							5	5	12.50	1	
	WB LOOP ON-RAMP FROM SYCAMORE Dr	R		1							5	5	12.50	1	
TAPO CANYON Rd UC (R27.30)	WB OFF-RAMP TO TAPO CANYON Rd	R1											12.50 *		
	WB OFF-RAMP TO TAPO CANYON Rd	L1											12.50 *		
	WB LOOP ON-RAMP FROM TAPO CANYON Rd	R		1							5	5	12.50	1	
	WB ON-RAMP FROM TAPO CANYON Rd	R											12.50 *		
SHEET TOTAL									10		153	153	777.50	25	458

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

* DETECTABLE WARNING SURFACE PAD ONLY.

SUMMARY OF QUANTITIES

Q-5

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	118	R18.7/R32.6	28	98

Darrel A. Cruz 10-2-13
 REGISTERED CIVIL ENGINEER DATE

12-16-13
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 DARREL A. CRUZ
 No. C59271
 Exp. 6/30/15
 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.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	118	R18.7/R32.6	29	98

Darrel A. Cruz 10-2-13
REGISTERED CIVIL ENGINEER DATE

12-16-13
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
DARREL A. CRUZ
No. C59271
Exp. 6/30/15
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.

CURB RAMP ITEMS

INTERCHANGE (PM)	RAMP DESCRIPTION	CURB RAMP LOCATION (SEE CONSTRUCTION DETAIL SHEET C-3)	CASE A CURB RAMP (N)	CASE A CURB RAMP (N)	CASE F CURB RAMP (N)	CASE CM CURB RAMP (N)	CASE A CURB RAMP (N)	TYPE 24-10S FRAME AND GRATE (N)	ADJUST PULLBOX	ROADWAY EXCAVATION	REMOVE CONCRETE (CURB, GUTTER & SIDEWALK)	MINOR CONCRETE (CURB, SIDEWALK AND CURB RAMP)	CURB RAMP DETECTABLE WARNING SURFACE	PRE/POST CONSTRUCTION SURVEY	MISCELLANEOUS IRON AND STEEL	
			EA	EA	EA	EA	EA									EA
TAPO CANYON Rd UC (R27.30)	WB ON-RAMP FROM TAPO CANYON Rd	L		1								5	5	12.50	1	
	EB LOOP ON-RAMP FROM TAPO CANYON Rd	R												12.50 *		
	EB OFF-RAMP TO TAPO CANYON Rd	R		1								5	5	12.50	1	
	EB OFF-RAMP TO TAPO CANYON Rd	R1												12.50 *		
	EB OFF-RAMP TO TAPO CANYON Rd	L1												12.50 *		
	EB ON-RAMP FROM TAPO CANYON Rd	R												12.50 *		
	EB ON-RAMP FROM TAPO CANYON Rd	L												12.50 *		
STEARNS St UC (R28.81)	WB OFF-RAMP TO STEARNS St	R		1								5	5	12.50	1	
	WB OFF-RAMP TO STEARNS St	R1		1								5	5	12.50	1	
	WB OFF-RAMP TO STEARNS St	L1		1								5	5	12.50	1	
	WB LOOP ON-RAMP FROM STEARNS St	R												12.50 *		
	WB ON-RAMP FROM STEARNS St	R		1								5	5	12.50	1	
	WB ON-RAMP FROM STEARNS St	L		1								5	5	12.50	1	
	EB OFF-RAMP TO STEARNS St	R												12.50 *		
	EB OFF-RAMP TO STEARNS St	R1		1								5	5	12.50	1	
	EB ON-RAMP FROM STEARNS St	R		1								5	5	12.50	1	
	EB ON-RAMP FROM STEARNS St	L		1								5	5	12.50	1	
YOSEMITE Ave OC (R29.60)	WB OFF-RAMP TO YOSEMITE Ave	R												12.50 *		
	WB OFF-RAMP TO YOSEMITE Ave	R1		1					1		5	5	12.50	1		
	WB ON-RAMP FROM YOSEMITE Ave	R		1							5	5	12.50	1		
	WB ON-RAMP FROM YOSEMITE Ave	L		1							5	5	12.50	1		
	EB LOOP ON-RAMP FROM YOSEMITE Ave	R												12.50 *		
	EB OFF-RAMP TO YOSEMITE Ave	R												12.50 *		
KUEHNER Dr UC (R30.52)	WB OFF-RAMP TO KUEHNER Dr	R						1		2	10		5	12.50	1	
	WB ON-RAMP FROM KUEHNER Dr	R												12.50 *		
	EB OFF-RAMP TO KUEHNER Dr	L				1					7	7	40.00	1		
SHEET TOTAL									3	10	72	77	352.50	15		
FROM SHEETS Q-5 TOTAL									10		153	153	777.50	25	458	
GRAND TOTAL									13	10	225	230	1,130.00	40	458	

(N) NOT A SEPARATE PAY ITEM. FOR INFORMATION ONLY.
* DETECTABLE WARNING SURFACE PAD ONLY.

SUMMARY OF QUANTITIES

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION DESIGN

Caltrans

FUNCTIONAL SUPERVISOR: OC LEE

DESIGNED BY: BARNABAS F. VORREITER

CHECKED BY: PAUL H. HSU

REVISOR: REVISED BY: DATE REVISED:

USERNAME => s119140
DGN FILE => 729670pa006.dgn

BORDER LAST REVISED 7/2/2010



LAST REVISION DATE PLOTTED => 14-JAN-2014
11-18-13 TIME PLOTTED => 13:48

HOT MIX ASPHALT DIKE ITEMS

LOCATION	POST MILE	REMOVE ASPHALT CONCRETE DIKE	PLACE HOT MIX ASPHALT DIKE (TYPE F)	HOT MIX ASPHALT, SUPERPAVE (TYPE A)	LANDMARK
		LF	LF	TON	
EASTBOUND ROUTE 118	T18.760 TO T18.782	111	111	1.38	ARROYO SIMI OH
	T19.405 TO T20.040	3,367	3,367	41.98	COLLINS Dr UC
	R20.307 TO R20.381	391	391	4.88	COLLINS Dr UC
	R21.830 TO R21.852	113	113	1.41	ALAMOS CANYON Rd UC
	R22.163 TO R22.186	117	117	1.46	S MADERA Rd RAMP
	R22.953 TO R22.967	74	74	0.91	MADERA Rd UC
	R23.005 TO R23.065	322	322	4.01	Rte 118 MADERA Rd UC
	R23.009 TO R23.580	3,057	3,057	38.13	S MADERA Rd RAMP
	R25.782 TO R25.793	61	61	0.77	SYCAMORE Rd UC
	R26.809 TO R26.862	284	284	3.55	ARROYO DEL TAPO CHANNEL
	R26.863 TO R27.068	1,074	1,074	13.39	TOPO CANYON Rd
R27.270 TO R27.283	71	71	0.89	TOPO St UC	
R31.670 TO R31.780	600	600	7.48	KUEHNER Dr ON-RAMP (R+)	
WESTBOUND ROUTE 118	T18.746 TO T18.760	77	77	0.96	ARROYO SIMI OH
	T20.342 TO T20.372	189	189	2.36	COLLINGS Dr OC
	R20.538 TO R20.553	76	76	0.94	STRATHEARN CHANNEL
	R20.602 TO R20.721	624	624	7.78	Exist EQUIPMENT PASS UC
	R21.886 TO R21.918	159	159	1.99	ALAMOS CANYON Rd UC
	R22.397 TO R22.546	799	799	9.97	LANDFILL ACCESS Rd OC
	R22.812 TO R22.878	436	436	5.44	MADERA Rd UC
	R23.073 TO R23.087	75	75	0.93	MADERA Rd UC
	R23.219 TO R23.239	97	97	1.21	MADERA Rd UC
	R23.754 TO R23.812	298	298	3.71	FIRST St OC
	R23.856 TO R23.874	88	88	1.10	FIRST St OC
	R24.111 TO R24.123	64	64	0.80	CALDWELL Ave UC
	R24.169 TO R24.183	73	73	0.91	CALDWELL Ave UC
	R25.785 TO R25.797	70	70	0.88	SYCAMORE Dr UC
	R25.770 TO R25.783	70	70	0.88	SYCAMORE Dr UC
	R25.829 TO R25.844	81	81	1.01	SYCAMORE Dr UC
	R26.030 TO R26.047	90	90	1.12	SYCAMORE Dr UC
	R26.569 TO R26.592	120	120	1.49	SEQUOIA Ave UC
	R26.781 TO R26.786	24	24	0.30	ARROYO DEL TAPO CHANNEL
	R26.813 TO R27.020	1,085	1,085	13.53	ARROYO DEL TAPO CHANNEL
R27.201 TO R27.214	63	63	0.78	TAPO CANYON Rd UC	
R28.909 TO R28.926	90	90	1.12	STEARNS St UC	
R30.562 TO R30.754	1,061	1,061	13.23	KUEHNER Dr UC	
R30.571 TO R30.750	948	948	11.82	KUEHNER Dr UC	
R30.869 TO R31.098	1,336	1,336	16.67	KUEHNER Dr UC	
TOTAL		17,735	17,735	221.19	

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	118	T18.7/R32.6	30	98

Darrel A. Cruz 10-2-13
 REGISTERED CIVIL ENGINEER DATE

12-16-13
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 DARREL A. CRUZ
 No. C59271
 Exp. 6/30/15
 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.

SUMMARY OF QUANTITIES

Q-7

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	118	T18.7/R32.6	31	98

Darrel A. Cruz 10-2-13
 REGISTERED CIVIL ENGINEER DATE

12-16-13
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 DARREL A. CRUZ
 No. C59271
 Exp. 6/30/15
 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.

HMA DIKE QUANTITIES

MAINLINE LOCATION				REMOVE ASPHALT CONCRETE DIKE	PLACE HOT MIX ASPHALT DIKE (TYPE A)	PLACE HOT MIX ASPHALT DIKE (TYPE B)	HOT MIX ASPHALT, SUPERPAVE (TYPE A)
LANDMARK	FROM	TO	DIRECTION	LF	LF	LF	TON
END ARROYO SIMI Br TO PRINCETON Ave UC	T18.75	T19.13	EB	197		197	10.91
			WB	345		345	19.10
PRINCETON Ave UC TO COLLINS Dr OC	T19.13	T19.98	EB	1,632		1,632	90.36
			WB	2,989	1,991	998	106.06
COLLINS Dr OC TO ALAMOS CANYON Rd	T19.98	R21.86	EB	6,033	5,164	869	179.85
			WB	2,493	1,941	552	80.08
ALAMOS CANYON Rd TO DUMP SITE ACCESS Rd OC	R21.86	R22.56	EB	2,579	2,579		65.79
			WB	1,543	1,543		39.36
DUMP SITE ACCESS Rd OC TO MADERA Rd UC	R22.56	R22.99	EB	1,441	1,441		36.76
			WB	1,724	1,724		43.98
MADERA Rd UC TO FIRST St OC	R22.99	R23.82	EB	183	183		4.68
			WB	2,810	2,621	189	77.32
FIRST St OC TO CALDWELL Ave UC	R23.82	R24.15	EB	1,369	1,369		34.93
			WB	973	973		24.82
CALDWELL Ave UC TO ERRINGER Dr UC	R24.15	R24.81	EB	2,609	2,609		66.55
			WB	2,922	2,922		74.54
ERRINGER Dr UC TO DRY CANYON Chnl	R24.81	R25.07	EB	562	562		14.33
			WB	721	721		18.39
DRY CANYON Chnl TO SYCAMORE Dr UC	R25.07	R25.81	EB	659	659		16.82
			WB	669	669		17.07
SYCAMORE Dr UC TO GALENA Ave UC	R25.81	R26.28	EB	2,007	2,007		51.20
			WB	1,794	1,794		45.76
GALENA Ave UC TO SEQUOIA Ave UC	R26.28	R26.56	EB	1,219	1,219		31.09
			WB	1,187	1,187		30.28
SEQUOIA Ave UC TO ARROYO DEL TAPO Chnl	R26.56	R26.80	EB	1,018	1,018		25.97
			WB	1,018	1,018		25.97
TOTAL				42,696	37,914	4,782	1,231.98

SUMMARY OF QUANTITIES

HMA DIKE QUANTITIES

RAMP LOCATION			REMOVE ASPHALT CONCRETE DIKE	PLACE HOT MIX ASPHALT DIKE (TYPE A)	PLACE HOT MIX ASPHALT DIKE (TYPE D)	HOT MIX ASPHALT SUPERPAVE (TYPE A)
DIRECTION	PM	LANDMARK	LF	LF	LF	TON
EB OFF TO	18.88	PRINCETON Ave	635	635		16.20
WB OFF TO	19.36		1,315	1,315		33.55
WB ON FROM	19.00		1,790	1,250	540	61.79
EB ON FROM	19.34		1,280		1,280	70.87
EB OFF TO	19.76	COLLINS Dr	275	275		7.02
WB OFF TO	20.18		960	960		24.49
WB ON FROM	19.87		1,453	718	735	59.01
EB ON FROM	19.95		870	115	755	44.74
WB ON FROM	22.86	BREA Rd	600	600		15.30
WB OFF TO	22.99		802	802		20.46
EB OFF TO	22.80	MADERA Rd	1,177	1,177		30.03
WB OFF TO	23.20		476	476		12.14
EB ON FROM NB	23.18		315	315		8.03
EB ON FROM SB	22.98		584	584		14.90
EB ON FROM SB	23.78	FIRST St	715	715		18.24
WB ON FROM NB	23.89		1,099	292	807	52.13
WB ON FROM SB	23.62		1,255	1,255		32.02
EB OFF TO	23.64		750	750		19.13
EB ON FROM NB	23.97		1,111	1,111		28.34
WB OFF TO	24.02		732	732		18.67
EB OFF TO	24.63	ERRINGER Rd	1,000	1,000		25.51
WB ON FROM SB	24.67		1,080	1,080		27.55
EB ON FROM NB	24.97		1,030	1,030		26.27
WB OFF TO	25.00		607	607		15.48
EB ON FROM SB	24.78		656	656		16.72
WB ON FROM NB	24.85		661	151	510	32.08
WB ON FROM NB	25.86	SYCAMORE Dr	430	430		10.97
EB ON FROM SB	25.78		356	356		9.08
EB OFF TO	25.63		164	164		4.18
WB ON FROM SB	25.67		293	293		7.47
EB ON FROM NB	25.98		398	398		10.14
WB OFF TO	26.01		383	383		9.77
TOTAL			25,252	20,625	4,627	782.31

SUMMARY OF QUANTITIES

SHEET	REMOVE ASPHALT CONCRETE DIKE	PLACE HOT MIX ASPHALT DIKE (TYPE F)	PLACE HOT MIX ASPHALT DIKE (TYPE A)	PLACE HOT MIX ASPHALT DIKE (TYPE D)	HOT MIX ASPHALT SUPERPAVE (TYPE A)
	LF	LF	LF	LF	TON
TOTAL Sht Q-4					6,308
TOTAL Sht Q-7	17,735	17,735			222
TOTAL Sht Q-8	42,696		37,914	4,782	1,232
TOTAL Sht Q-9	25,252		20,625	4,627	782
GRAND TOTAL	85,683	17,735	58,539	9,409	8,544

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	118	T18.7/R32.6	32	98

Darrel A. Cruz 10-2-13
 REGISTERED CIVIL ENGINEER DATE

12-16-13
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 DARREL A. CRUZ
 No. C59271
 Exp. 6/30/15
 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.

SUMMARY OF QUANTITIES

Q-9

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans LANDSCAPE ARCHITECTURE
 SENIOR LANDSCAPE ARCHITECT JENNIFER TAIRA
 CALCULATED/DESIGNED BY CHECKED BY
 Y1 SU GEORGE OLGUIN
 REVISED BY 10/29/13 DATE REVISED 10/29/13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	118	T18.7/R32.6	33	98

George Olguin
 LICENSED LANDSCAPE ARCHITECT
 12-16-13
 PLANS APPROVAL DATE

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

EROSION CONTROL QUANTITIES

LOCATION PM	DESCRIPTION	HYDROSEED	HYDROMULCH	REMARKS
		SQFT	SQFT	
19.14/26.8	EROSION CONTROL TYPE 1	2,688,958	2,688,958	CENTER MEDIAN AREA
TOTAL		2,688,958	2,688,958	

SEED MIX

SEED	BOTANICAL NAME (COMMON NAME)	PERCENT GERMINATION (MINIMUM)	POUNDS PURE LIVE SEED PER ACRE (SLOPE MEASUREMENT)	
MIX	ERIOGONUM FASCICULATUM ¹ CALIFORNIA BUCKWHEAT	5	2.00	
	SALVIA APIANA ¹ WHITE SAGE	25	2.00	
	DIPLACUS (MIMULUS AURANTIACUS) ¹ AURANTIACUS STICKY MONKEYFLOWER	30	0.40	
	ERIOPHYLLUM CONFERTIFLORUM ¹ GOLDEN YARROW	30	0.50	
	LASTHENIA GLABRATA ¹ GOLDFIELDS	40	0.25	
	ESCHSCHOLZIA CALIFORNICA ¹ CALIFORNIA POPPY	35	2.00	
	PLANTAGO ERECTA ¹ CALIFORNIA PLANTAIN	35	3.0	
	NASSELLA PULCHRA ¹ (PURPLE NEEDLEGRASS)	35	4.00	
	SALVIA MELLIFERA ¹ BLACK SAGE	25	4.00	
	TOTAL			18.15
	¹ SEED PRODUCED IN CALIFORNIA ONLY.			

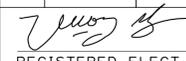
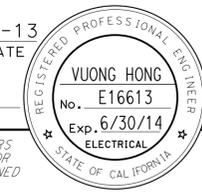
EROSION CONTROL TYPE 1

SEQUENCE	ITEM	MATERIAL		APPLICATION RATE
		DESCRIPTION	TYPE	
STEP 1	HYDROSEED	SEED	MIX	18.5 LB/ACRE
		FIBER	WOOD	500 LB/ACRE
STEP 2	HYDROMULCH	FIBER	WOOD	1,500 LB/ACRE
		TACKIFIER	GUAR	125 LB/ACRE

EROSION CONTROL QUANTITIES

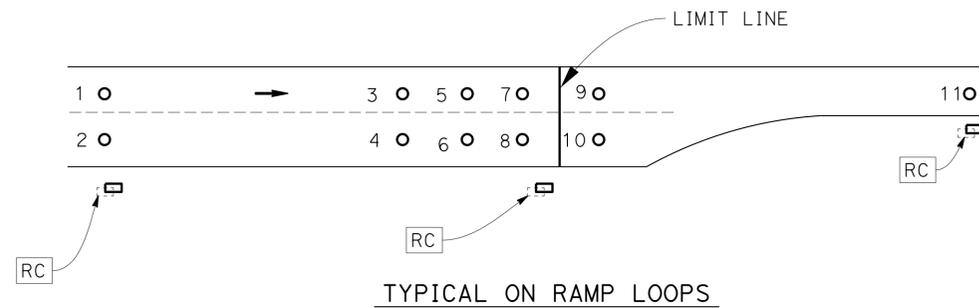
ECQ-1



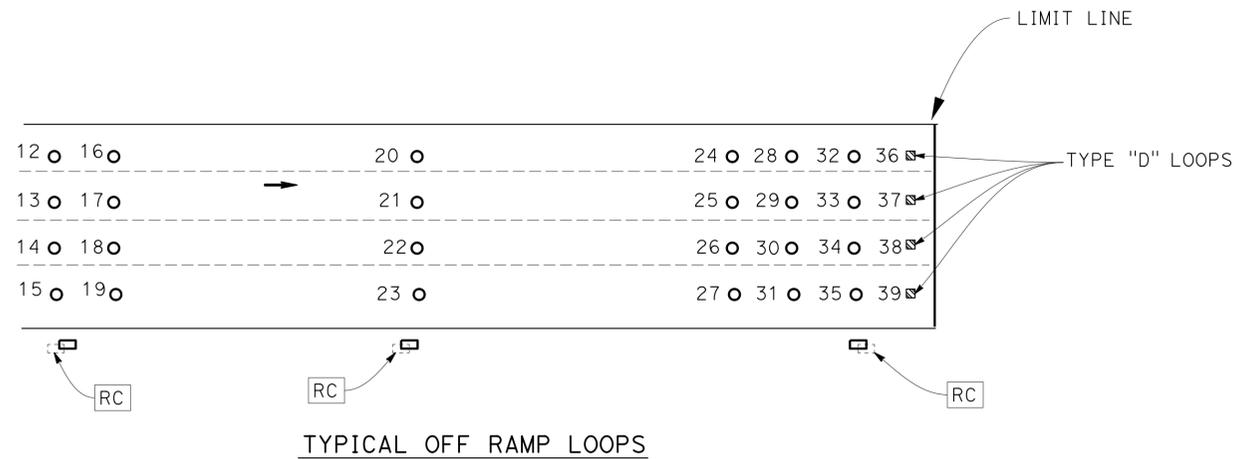
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	118	T18.7/R32.6	34	98
 REGISTERED ELECT ENGINEER			12-10-13 DATE		
12-16-13 PLANS APPROVAL DATE					
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					

GENERAL NOTES:(SHEETS E-1 TO E-4)

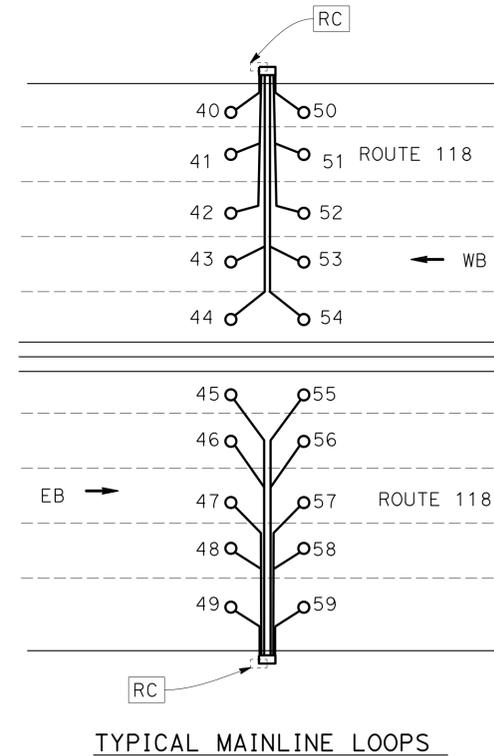
1. YOU MUST IDENTIFY ALL EXISTING INDUCTIVE LOOP DETECTORS BEFORE CONSTRUCTION.
2. **RC** EXISTING PULL BOXES. INSTALL TYPE 5 PULL BOXES AT THE SAME LOCATIONS.
3. **RC** EXISTING STUBOUTS. INSTALL NEW STUBOUTS.
4. CUT AND TERMINATE ALL LOOPS TO THE SHOULDER.
5. NEW INDUCTIVE LOOP DETECTORS MUST BE SPLICED TO EXISTING DLC'S IN ADJACENT PULL BOX.
6. TYPE 'D' LOOPS REQUIRE 5 TURNS OF LOOP WIRES.
7. ABANDON EXISTING INDUCTIVE LOOP DETECTORS. INSTALL NEW INDUCTIVE LOOPS AT THE SAME LOCATIONS.
8. IDENTIFY AND TAG EXISTING DLC IN ADJACENT PULL BOX AND IN CONTROLLER CABINET.



TYPICAL ON RAMP LOOPS



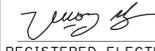
TYPICAL OFF RAMP LOOPS



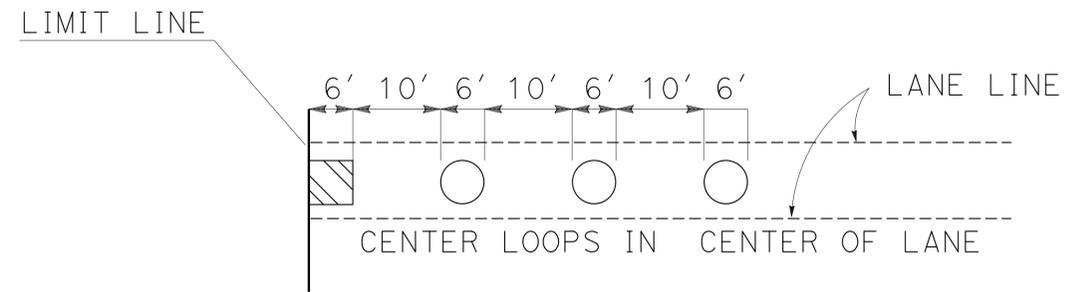
TYPICAL MAINLINE LOOPS

INDUCTIVE LOOP DETECTOR
NO SCALE

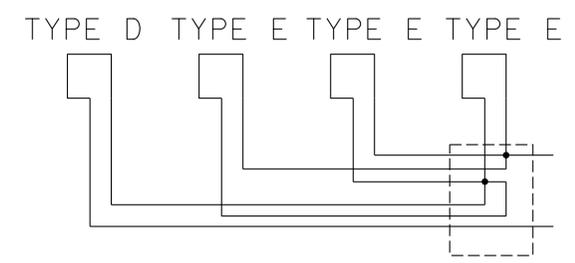
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans TRAFFIC DESIGN
 FUNCTIONAL SUPERVISOR: OSWALD ELIZONDO
 CALCULATED/DESIGNED BY: OSWALD ELIZONDO
 CHECKED BY: OSWALD ELIZONDO
 REVISIONS: (None listed)
 REVISOR: (None listed)
 REVISION DATE: (None listed)
 REVISION DESCRIPTION: (None listed)
 REVISOR: (None listed)
 REVISION DATE: (None listed)
 REVISION DESCRIPTION: (None listed)

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	118	T18.7/R32.6	35	98
			12-10-13	REGISTERED ELECTRICAL ENGINEER DATE	
12-16-13			PLANS APPROVAL DATE		
					
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					

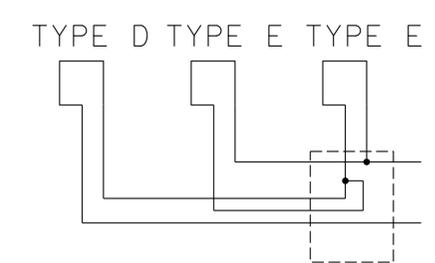
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	REVISOR	DATE
Caltrans TRAFFIC DESIGN	OSWALD ELIZONDO	VH	10/30/12
	OSWALD ELIZONDO	REVISOR	DATE
	CHECKED BY	DESIGNED BY	



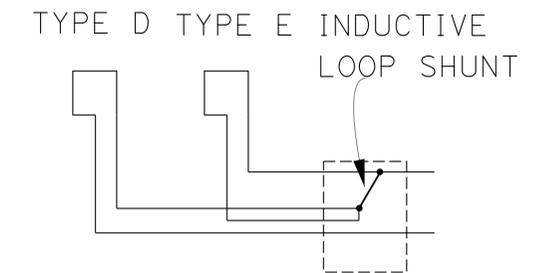
TYPICAL LOOP DETAIL



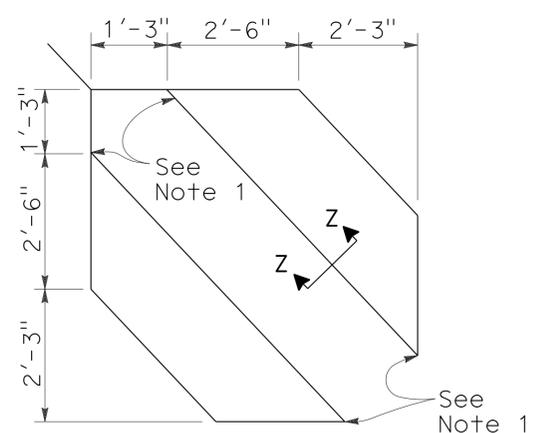
LOOP CONNECTION
TYPE D + 3 TYPE E



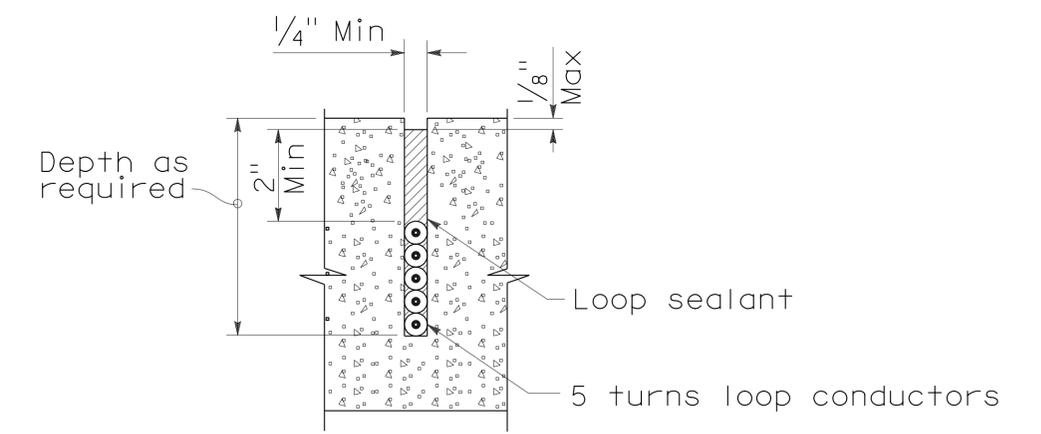
LOOP CONNECTION
TYPE D + 2 TYPE E



LOOP CONNECTION
TYPE D + TYPE E +
INDUCTIVE LOOP SHUNT



SAWCUT DETAIL



SECTION Z-Z (FOR TYPE D LOOP DETECTOR)

TYPE D LOOP DETECTOR CONFIGURATION

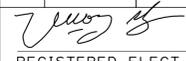
NOTES:

1. ROUND CORNERS OF ACUTE ANGLE SAWCUTS TO PREVENT DAMAGE TO CONDUCTORS.
2. USE SECTION Z-Z INSTEAD OF A-A IN ES-5A FOR TYPE D LOOP DETECTOR.
3. INSTALL 5 TURNS FOR ALL TYPE D LOOP DETECTORS.
4. USE TYPE "D" LOOP DETECTORS DETAIL IN REVISED STANDARD PLAN ES-5B.

SLOT DETAILS - TYPE 2 LOOP CONDUCTOR

**INDUCTOR LOOP DETECTOR
(BICYCLE LOOP DETECTOR DETAILS)
E-2**

NO SCALE

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	118	T18.7/R32.6	36	98
			12-10-13	DATE	
REGISTERED ELECT ENGINEER			DATE		
12-16-13			PLANS APPROVAL DATE		
					
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					

No.	DIR	PM	NAME - LOCATION	#LOOP	TYPE	STUBOUTS	PULL BOX	INDUCTIVE LOOP DETECTORS													
								1	2	3	4	5	6	7	8	9	10	11			
1	E	T19.0	W/O PRINCETON/LA Ave	2	MAINLINE	1	1	47	48												
2	E	T19.0	E/O PRINCETON/LA Ave	6	MAINLINE	1	1	47	48	49	57	58	59								
3	E	T19.9	WEST OF COLLINS Dr	2	MAINLINE	1	1	48	49												
4	E	T19.9	COLLINS Dr	9	ON RAMP	4	4	2	4	6	8	10	3	5	7	11					
5	E	R20.5	E/O COLLINS Dr	2	MAINLINE	1	1	48	49												
6	E	R21.5	W/O ALMOS CYN ACCESS	2	MAINLINE	1	1	48	49												
7	E	R22.43	W/O DUMP SITE ACCESS	2	MAINLINE	1	1	48	49												
8	E	R22.93	MADERA Rd 1	3	MAINLINE	1	1	47	48	49											
9	E	R22.93	MADERA Rd SB	6	ON RAMP	3	3	2	4	6	8	10	11								
10	E	R23.18	MADERA Rd 2	3	MAINLINE	1	1	47	48	49											
11	E	R23.18	MADERA Rd NB	11	ON RAMP	4	4	1	2	4	6	8	10	3	5	7	9	11			
12	E	R23.4	E OF MADERA Rd	6	MAINLINE	1	1	47	48	49	57	58	59								
13	E	R23.78	FIRST St 1	3	MAINLINE	1	1	47	48	49											
14	E	R23.78	FIRST St SB	10	ON RAMP	4	4	1	2	4	6	8	10	3	5	7	11				
15	E	R23.97	FIRST St 2	3	MAINLINE	1	1	47	48	49											
16	E	R23.97	FIRST St NB	9	ON RAMP	4	4	2	4	6	8	10	3	5	7	11					
17	E	R24.2	CALDWELL	3	MAINLINE	1	1	47	48	49											
18	E	R24.78	ERRINGER Rd 1	3	MAINLINE	1	1	47	48	49											
19	E	R24.78	ERRINGER Rd SB	9	ON RAMP	4	4	2	4	6	8	10	3	5	7	11					
20	E	R24.97	ERRINGER Rd 2	3	MAINLINE	1	1	47	48	49											
21	E	R24.97	ERRINGER Rd NB	9	ON RAMP	4	4	2	4	6	8	10	3	5	7	11					
22	E	R25.1	ATHERWOOD	3	MAINLINE	1	1	47	48	49											
23	E	R25.78	SYCAMORE Dr 1	3	MAINLINE	1	1	47	48	49											
24	E	R25.78	SYCAMORE Dr SB	9	ON RAMP	4	4	2	4	6	8	10	3	5	7	11					
25	E	R25.9	SYCAMORE Dr NB	9	ON RAMP	4	4	2	4	6	8	10	3	5	7	11					
26	E	R25.98	SYCAMORE Dr 2	3	MAINLINE	1	1	47	48	49											
27	E	R26.35	GALENA	3	MAINLINE	1	1	47	48	49											
28	E	R26.8	COPPERFIELD	3	MAINLINE	1	1	47	48	49											
29	E	R27.29	TAPO CYN 1	4	MAINLINE	1	1	46	47	48	49										
30	E	R27.29	TAPO CYN SB	9	ON RAMP	4	4	2	4	6	8	10	3	5	7	11					
31	E	R27.48	TAPO CYN 2	4	MAINLINE	1	1	46	47	48	49										
32	E	R27.48	TAPO CYN NB	10	ON RAMP	4	4	1	2	4	6	8	10	3	5	7	11				
33	E	R27.81	TAPO ST	4	MAINLINE	1	1	46	47	48	49										
34	E	R28.3	KADOTA	4	MAINLINE	1	1	46	47	48	49										
35	E	R28.79	STEARNS St 1	4	MAINLINE	1	1	46	47	48	49										
36	E	R28.79	STEARNS St SB	9	ON RAMP	4	4	2	4	6	8	10	3	5	7	11					
37	E	R28.98	STEARNS St 2	4	MAINLINE	1	1	46	47	48	49										
38	E	R28.98	STEARNS St NB	10	ON RAMP	4	4	1	2	4	6	8	10	3	5	7	11				
39	E	R29.3	STOW	4	MAINLINE	1	1	46	47	48	49										
40	E	R29.53	YOSEMITE Ave SB	9	ON RAMP	4	4	2	4	6	8	10	3	5	7	11					
41	E	R29.53	YOSEMITE Ave 1	4	MAINLINE	1	1	46	47	48	49										
42	E	R29.73	YOSEMITE Ave NB	10	ON RAMP	4	4	1	2	4	6	8	10	3	5	7	11				
43	E	R29.73	YOSEMITE Ave 2	4	MAINLINE	1	1	46	47	48	49										
44	E	R29.96	COCHRAN	4	MAINLINE	1	1	46	47	48	49										
45	E	R30.82	KUEHNER Dr	4	MAINLINE	1	1	46	47	48	49										
46	E	R31.32	E/O KUEHNER Dr	4	MAINLINE	1	1	46	47	48	49										
47	E	R32.53	ROCKY PEAK Rd 2	4	MAINLINE	1	1	46	47	48	49										
			TOTAL	248		91	91														

LEGEND: (SHEETS E-3 TO E-4)

W/O = WEST OF
E/O = EAST OF
DIR = DIRECTION
CYN = CANYON

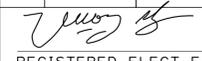
INDUCTIVE LOOP DETECTOR

E-3

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans **TRAFFIC DESIGN**
FUNCTIONAL SUPERVISOR: OSWALD ELIZONDO
DESIGNED BY: OSWALD ELIZONDO
CHECKED BY:
REVISOR: VUONG HONG
DATE: 12-10-13
REVISIONS:
DATE: 12-16-13
DATE:

LAST REVISION DATE PLOTTED => 14-JAN-2014
00-00-00 TIME PLOTTED => 13:48

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	118	T18.7/R32.6	37	98

 12-10-13
 REGISTERED ELECT ENGINEER DATE

12-16-13
 PLANS APPROVAL DATE

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

REGISTERED PROFESSIONAL ENGINEER
VUONG HONG
 No. E16613
 Exp. 6/30/14
 ELECTRICAL
 STATE OF CALIFORNIA

No.	DIR	PM	NAME - LOCATION	#LOOP	TYPE	STUBOUTS	PULL BOX	INDUCTIVE DETECTON RAMP LOOPS													
48	W	T19.0	PRINCETON/LA Ave	2	MAINLINE	1	1	40	41												
49	W	T19.87	COLLINS Dr	2	MAINLINE	1	1	40	41												
50	W	T19.87	COLLINS Dr	11	ON RAMP	4	4	1	2	4	6	8	10	3	5	7	9	11			
51	W	R20.5	E/O COLLINS Dr	2	MAINLINE	1	1	40	41												
52	W	R21.5	W/O ALMOS CYN ACCESS	2	MAINLINE	1	1	40	41												
53	W	R22.43	W/O DUMP SITE ACCESS	2	MAINLINE	1	1	40	41												
54	W	R22.86	MADERA Rd 1	3	MAINLINE	1	1	40	41	42											
55	W	R22.86	MADERA Rd	9	ON RAMP	4	4	2	4	6	8	9	3	5	7	11					
56	W	R23.4	MADERA Rd 2	4	MAINLINE	1	1	40	41	42	43										
57	W	R23.62	FIRST S+1	3	MAINLINE	1	1	40	41	42											
58	W	R23.62	FIRST S+ SB	9	ON RAMP	4	4	2	4	6	8	10	3	5	7	11					
59	W	R23.89	FIRST S+ 2	3	MAINLINE	1	1	40	41	42											
60	W	R23.89	FIRST S+ NB	11	ON RAMP	4	4	1	2	4	6	8	10	3	5	7	9	11			
61	W	R24.2	CALDWELL	3	MAINLINE	1	1	40	41	42											
62	W	R24.67	ERRINGER Rd 1	3	MAINLINE	1	1	40	41	42											
63	W	R24.67	ERRINGER Rd SB	9	ON RAMP	4	4	2	4	6	8	10	3	5	7	11					
64	W	R24.85	ERRINGER Rd 2	3	MAINLINE	1	1	40	41	42											
65	W	R24.85	ERRINGER Rd NB	9	ON RAMP	4	4	2	4	6	8	10	3	5	7	11					
66	W	R25.1	ATHERWOOD	3	MAINLINE	1	1	40	41	42											
67	W	R25.67	SYCAMORE Dr 1	3	MAINLINE	1	1	40	41	42											
68	W	R25.67	SYCAMORE SB	9	ON RAMP	4	4	2	4	6	8	10	3	5	7	11					
69	W	R25.86	SYCAMORE Dr 2	3	MAINLINE	1	1	40	41	42											
70	W	R25.86	SYCAMON RAMP NB	9	ON RAMP	4	4	2	4	6	8	10	3	5	7	11					
71	W	R26.35	GALENA	3	MAINLINE	1	1	40	41	42											
72	W	R26.8	COPPERFIELD	3	MAINLINE	1	1	40	41	42											
73	W	R27.16	TAPO CYN Rd 1	4	MAINLINE	1	1	40	41	42	43										
74	W	R27.16	TAPO CYN Rd SB	9	ON RAMP	4	4	2	4	6	8	10	3	5	7	11					
75	W	R27.35	TAPO CYN Rd 2	4	MAINLINE	1	1	40	41	42	43										
76	W	R27.35	TAPO CYN Rd NB	9	ON RAMP	4	4	2	4	6	8	10	3	5	7	11					
77	W	R27.81	TAPO S+	4	MAINLINE	1	1	40	41	42	43										
78	W	R28.3	KADOTA S+	4	MAINLINE	1	1	40	41	42	43										
79	W	R28.67	STEARNS S+ 1	4	MAINLINE	1	1	40	41	42	43										
80	W	R28.67	STEARNS S+ SB	9	ON RAMP	4	4	2	4	6	8	10	3	5	7	11					
81	W	R28.86	STEARNS S+ 2	4	MAINLINE	1	1	40	41	42	43										
82	W	R28.86	STEARNS S+ NB	9	ON RAMP	4	4	2	4	6	8	10	3	5	7	11					
83	W	R29.3	STOW	4	MAINLINE	1	1	40	41	42	43										
84	W	R29.36	YOSEMITE Ave SB	9	ON RAMP	4	4	2	4	6	8	10	3	5	7	11					
85	W	R29.36	YOSEMITE Ave 1	4	MAINLINE	1	1	40	41	42	43										
86	W	R29.5	YOSEMITE Ave 2	4	MAINLINE	1	1	40	41	42	43										
87	W	R29.59	YOSEMITE Ave NB	9	ON RAMP	4	4	2	4	6	8	10	3	5	7	11					
88	W	R29.96	COCHRAN	4	MAINLINE	1	1	40	41	42	43										
89	W	R30.38	KUEHNER Dr	4	MAINLINE	1	1	40	41	42	43										
90	W	R30.38	KUEHNER Dr	9	ON RAMP	4	4	2	4	6	8	10	3	5	7	11					
91	W	R32.48	ROCKY PEAK Rd 1	4	MAINLINE	1	1	40	41	42	43										
92	W	R32.48	ROCKY PEAK Rd 1	1	HV	1	1	40													
93	W	R32.53	ROCKY PEAK Rd 2	4	MAINLINE	1	1	40	41	42	43										
			TOTAL	239		91	91														

NOTE:
FOR LEGEND, SEE SHEET E-3.

INDUCTIVE LOOP DETECTOR
E-4

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans **TRAFFIC DESIGN**
 FUNCTIONAL SUPERVISOR: OSWALD ELIZONDO
 CALCULATED/DESIGNED BY: VUONG HONG
 CHECKED BY: OSWALD ELIZONDO
 REVISED BY: VUONG HONG
 DATE REVISED: OSWALD ELIZONDO

LAST REVISION: DATE PLOTTED => 14-JAN-2014
 00-00-00 TIME PLOTTED => 13:48

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	118	T18.7/R32.6	38	98

Jacqueline C. Tan 12-9-13
 REGISTERED ELECTRICAL ENGINEER DATE

12-16-13
 PLANS APPROVAL DATE

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

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans OFFICE OF ITS
 FUNCTIONAL SUPERVISOR
 JACQUELINE C. TAN
 CALCULATED/DESIGNED BY
 CHECKED BY
 BOB TIEU
 JACQUELINE C. TAN
 REVISED BY
 DATE REVISED

ABBREVIATIONS: (SHEETS E-6 TO E-8)

#	NUMBER
AC	ALTERNATING CURRENT
C-MIC	CABINET MOUNT INTERFACE CENTER
FOAM	FIBER OPTIC AUDIO MODEM
FOSE	FIBER OPTIC SPLICE ENCLOSURE
HT	HIGH TEMPERATURE
RD	RECEIVE DATA
RX	RECEIVE OR RECEIVER
TX	TRANSMIT OR TRANSMITTER

LEGEND: (SHEETS E-6 TO E-8)

NEW	EXISTING	
<input type="checkbox"/>	<input type="checkbox"/>	SPLICE VAULT
<input checked="" type="checkbox"/>	<input type="checkbox"/>	CCTV CABINET
<input checked="" type="checkbox"/>	<input type="checkbox"/>	CMS CABINET
<input checked="" type="checkbox"/> ^S	<input type="checkbox"/> ^S	SPLICE VAULT WITH SPLICE CLOSURE

GENERAL NOTES: (E-6 TO E-8)

1. MAIN LINE CONDUITS MUST ENTER PULL BOXES ON THE SHORT SIDE OF THE PULLBOX.
2. EXISTING IRRIGATION SYSTEMS ARE NOT SHOWN FOR CLARITY.
3. NEW FIBER OPTIC COMMUNICATION CONDUIT RUNS MUST HAVE A TRACER WIRE.
4. NUMBER OF CONDUITS IN SOME COMMUNICATION RUNS MAY NOT BE SHOWN FOR CLARITY. THE CONTRACTOR MUST REROUTE IMPACTED CONDUITS AND REPLACE ITS CONTENTS AS NOTED ON THE PLANS.

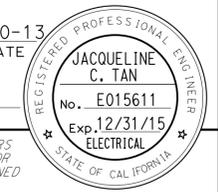
**MODIFY CHANGEABLE MESSAGE SIGN
(ABBREVIATIONS, LEGEND AND NOTES)**

NO SCALE



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	118	T18.7/R32.6	39	98

<i>Jacqueline C. Tan</i> 12-10-13 REGISTERED ELECTRICAL ENGINEER DATE	
12-16-13 PLANS APPROVAL DATE	
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>	

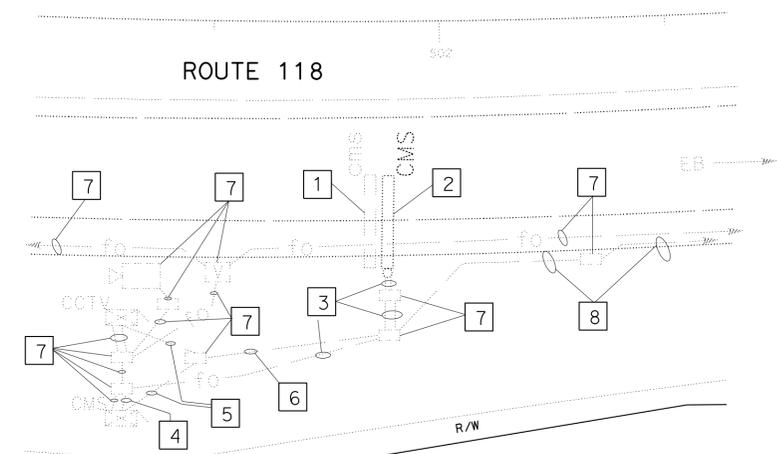


NOTE:
 FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

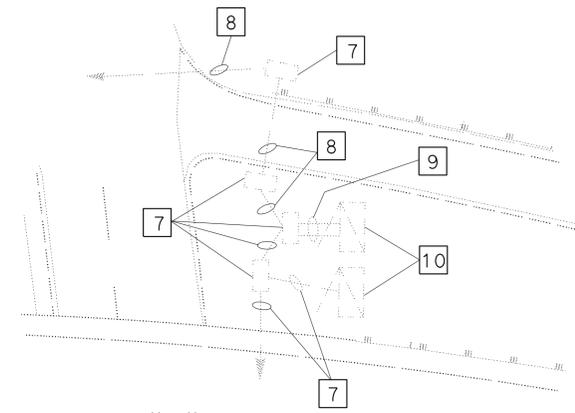
LEGEND: (THIS SHEET ONLY)

- 1 RC Exist CMS PANEL.
- 2 INSTALL DEPARTMENT-FURNISHED MODEL 500 LED CMS PANEL ON EXISTING CMS SIGN STRUCTURE. SEE SHEET E-7 FOR DETAILS.
- 3 Exist 2"C, RC CMS CONTROL CABLES. INSTALL DEPARTMENT-FURNISHED CMS CONTROL CABLES.
- 4 RC Exist CMS CONTROL CABLES, INSTALL DEPARTMENT-FURNISHED CMS CONTROL CABLES IN EXIST MODEL 334 CONTROLLER CABINET.
- 5 Exist 2"C, 2#4, 1#6 (G).
- 6 Exist 2"C, 4#4, 1#6 (G).
- 7 SHOWN FOR REFERENCE ONLY.
- 8 Exist 4"C, 4#4, 6#3/0, 1#4 (G)
- 9 Exist 4"C, 4#4, 6#3/0, 2#1/0, 1#4 (G)

- 10 Exist 120 / 240 V, 3W, 2-100 A, METERED, TYPE III-CF SERVICE EQUIPMENT ENCLOSURE AND FOUNDATION WITH:
 METER 1:
 1-100 A, 240 V, 2P MAIN CIRCUIT BREAKER.
 1-40 A, 120 V, 1P CIRCUIT FOR CCTV.
 CtId 07-52-118-R-030.522-M
 2362 1/2 KEUHNER Dr
 METER 2:
 1-100 A, 240 V, 2P MAIN CIRCUIT BREAKER.
 RC 4-40 A, 120 V, 1P CIRCUIT BREAKER FOR CMS PANELS.
 ADD 2-30A, 240V, 2P CIRCUIT BREAKER (GANGED)FOR CMS PANELS.
 1-40 A, 120 V, 1P CIRCUIT BREAKER FOR CMS CABINET.
 CtId 07-52-118-R-030.524-M
 2362 3/4 KEUHNER Dr



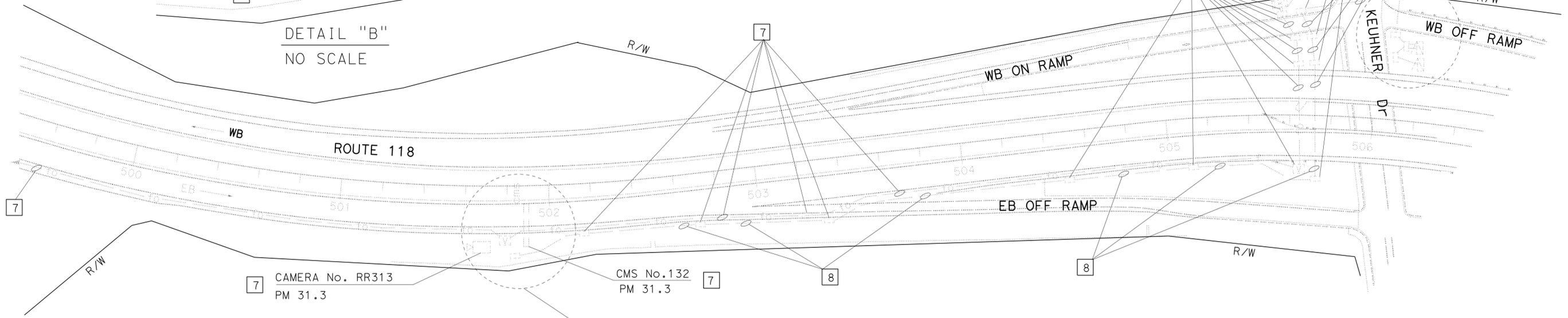
DETAIL "B"
 NO SCALE



DETAIL "A"
 NO SCALE

7 Exist RMS CONTROLLER 4525
 PM 30.38

SEE DETAIL "A"
 (THIS SHEET)



7 CAMERA No. RR313
 PM 31.3

CMS No.132
 PM 31.3

SEE DETAIL "B"
 (THIS SHEET)

**MODIFY CHANGEABLE MESSAGE SIGN
 (CMS No. 132)**
 NO SCALE

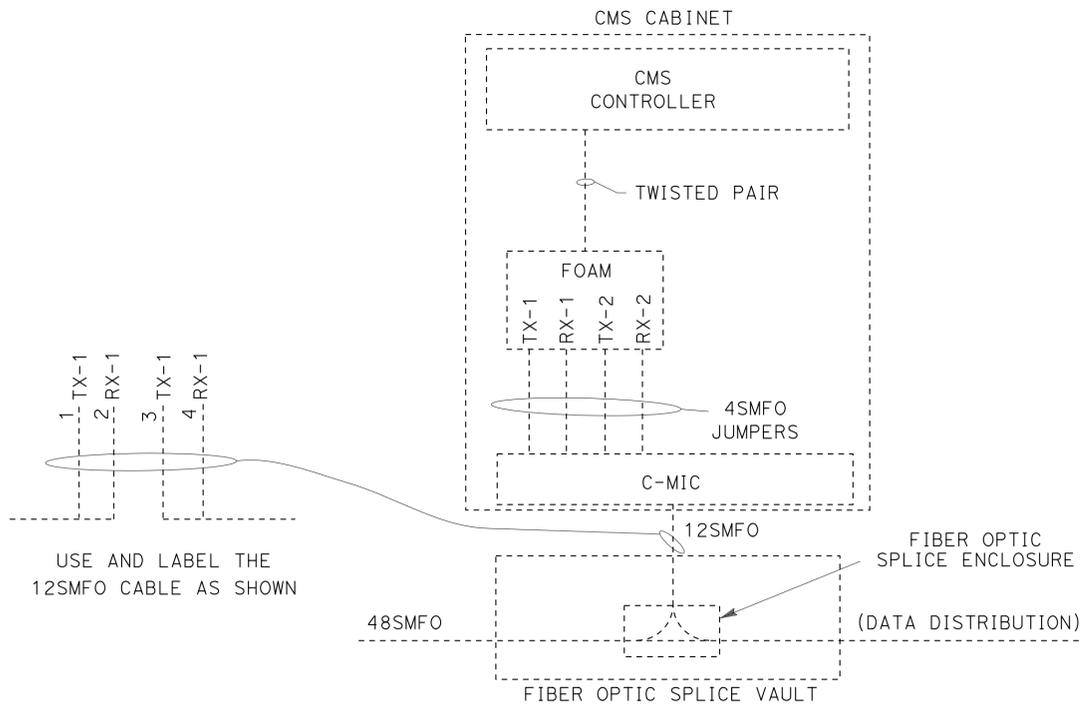
APPROVED FOR ELECTRICAL WORK ONLY
 FOR ABBREVIATIONS AND GENERAL NOTES SEE SHEET E-5

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 OFFICE OF ITS
 FUNCTIONAL SUPERVISOR
 JACQUELINE C. TAN
 CALCULATED/DESIGNED BY
 CHECKED BY
 BOB TIEU
 JACQUELINE C. TAN
 REVISED BY
 DATE REVISED

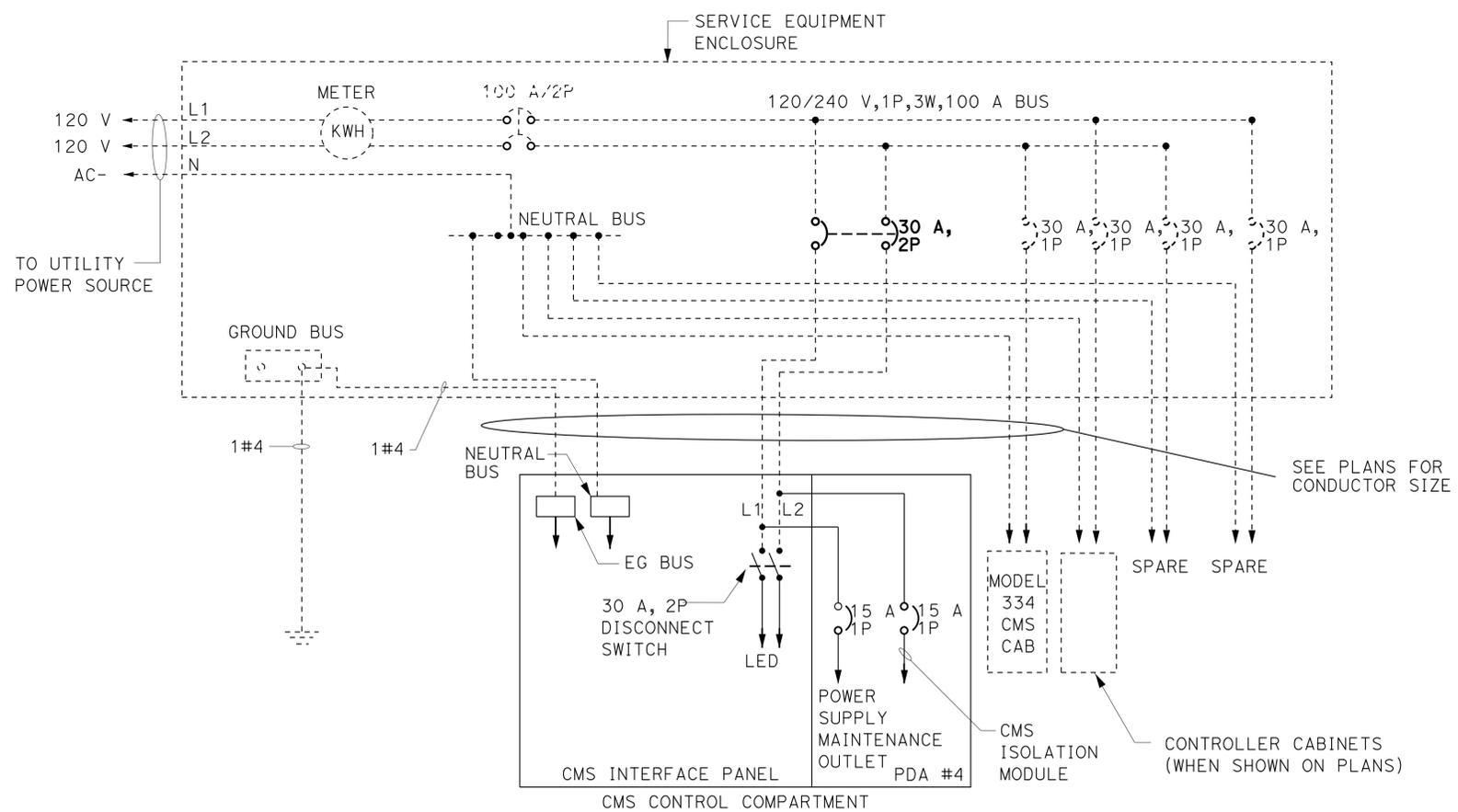
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	118	T18.7/R32.6	40	98

<i>Jacqueline C. Tan</i> 12-10-13 REGISTERED ELECTRICAL ENGINEER DATE	
12-16-13 PLANS APPROVAL DATE	

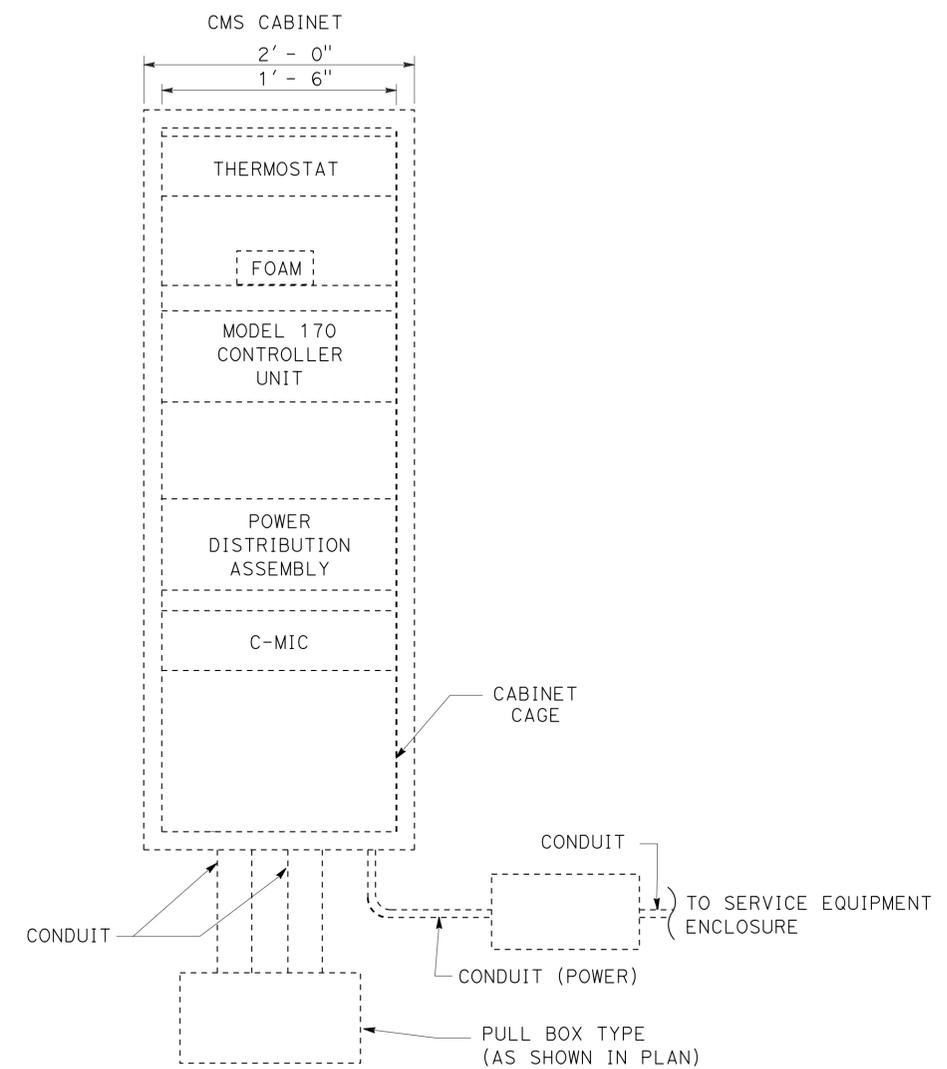
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



MODEL 334 CMS CONTROLLER CABINET



TYPICAL CMS 500 LED SYSTEM AC WIRING AND CIRCUIT BREAKER



CMS CONTROLLER CABINET EQUIPMENT MOUNTING DETAILS

MODIFY CHANGEABLE MESSAGE SIGN (WIRING DETAILS)

NO SCALE

E-7

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION - OFFICE OF ITS
Caltrans

REVISOR: BOB TIEU
 DATE: JACQUELINE C. TAN

FUNCTIONAL SUPERVISOR: JACQUELINE C. TAN

DESIGNER: JACQUELINE C. TAN

LAST REVISION: DATE PLOTTED => 14-JAN-2014
 00-00-00 TIME PLOTTED => 13:48

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® **TRAFFIC DESIGN**

BORDER LAST REVISED 7/2/2010

USERNAME => s119140
 DGN FILE => 729670ud008.dgn

RELATIVE BORDER SCALE
 IS IN INCHES

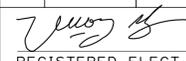


UNIT 1878

PROJECT NUMBER & PHASE

07130000861

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	118	T18.7/R32.6	41	98

 12-10-13
 REGISTERED ELECT ENGINEER DATE

12-16-13
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
VUONG HONG
 No. E16613
 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.

INDUCTIVE LOOP DETECTOR

SHEET No	STUBOUT (EA) (N)	No. 5 PB (EA) (N)	LOOPS (EA) (N)
E-3	91	91	248
E-4	91	91	239
TOTAL	182	182	487

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

MODIFY CHANGEABLE MESSAGE SIGN

SHEET No	CHANGEABLE MESSAGE SIGN PANEL (EA) (N)	CMS CONTROL CABLES (EA) (N)	30A, 2P CIRCUIT BREAKER (EA) (N)
E-6	1	1	1
TOTAL	1	1	1

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

ELECTRICAL QUANTITIES

E-8

LAST REVISION | DATE PLOTTED => 14-JAN-2014
 00-00-00 | TIME PLOTTED => 13:48

	M	
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	
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	
	O	
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	
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	

	P continued	
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	
	Q	
Qty	QUANTITY	
	R	
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	

	S	
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	
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	

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

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	118	T18.7/R32.6	42	98

Grace M. Tsushima
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

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

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 12-16-13

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

TABLE A

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

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

TABLE B

SYMBOL USED	DEFINITIONS
ksi	KIPS PER SQUARE INCH
ksf	KIPS PER SQUARE FOOT
psi	POUNDS PER SQUARE INCH
psf	POUNDS PER SQUARE FOOT
lb/ft 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

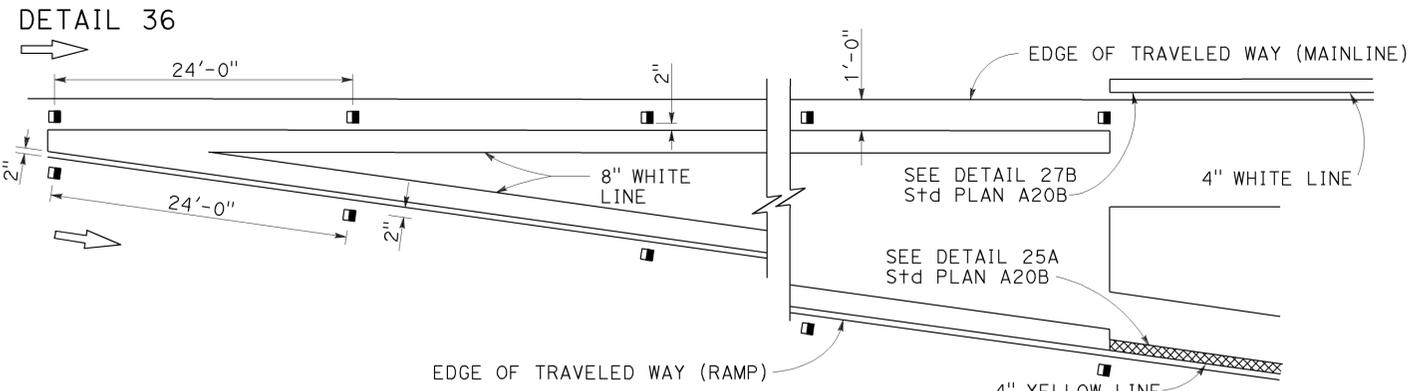
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**ABBREVIATIONS
(SHEET 2 OF 2)**

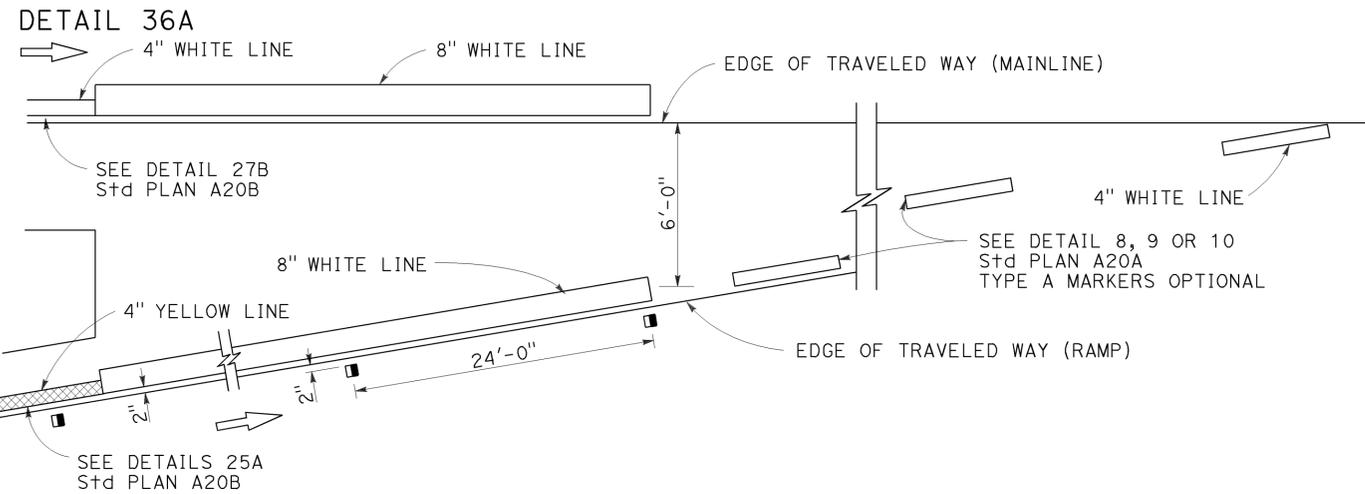
NO SCALE

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

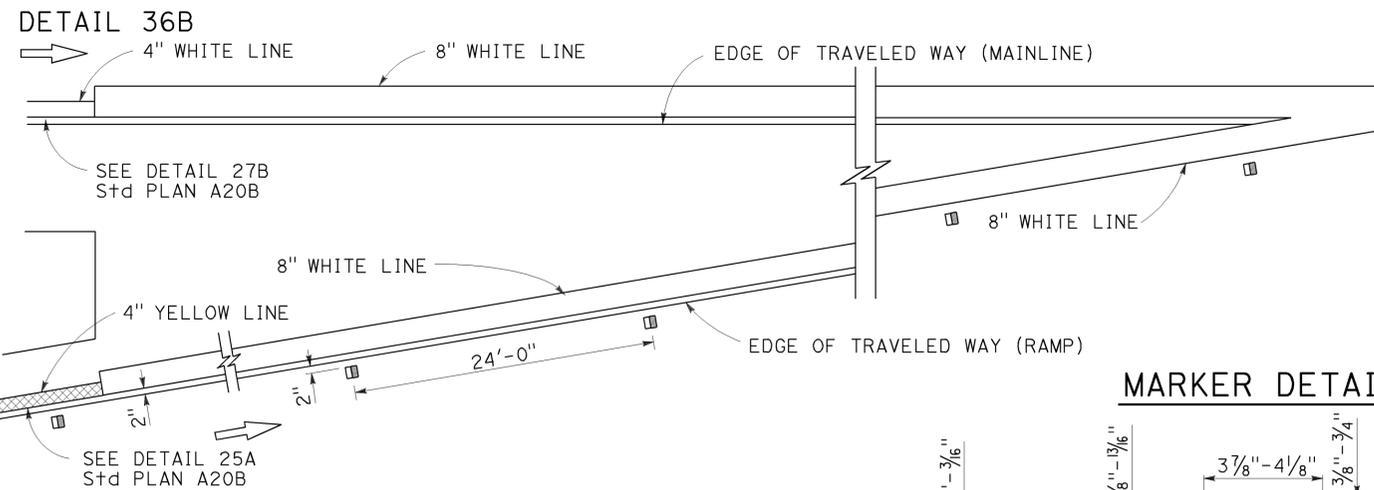
EXIT RAMP NEUTRAL AREA (GORE) TREATMENT



ENTRANCE RAMP NEUTRAL AREA (MERGE) TREATMENT



ENTRANCE RAMP NEUTRAL AREA (ACCELERATION LANE) TREATMENT

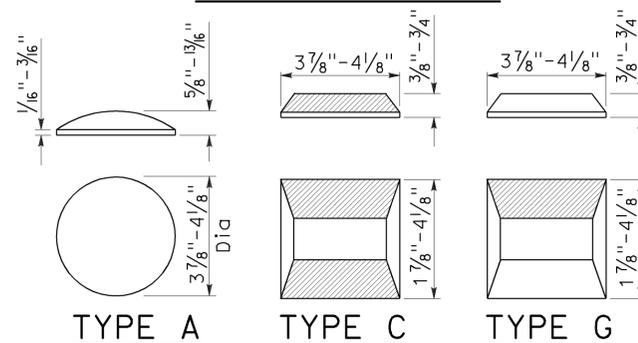


MARKER DETAILS

LEGEND:

MARKERS

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



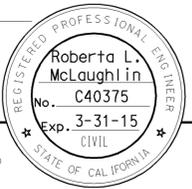
RETROREFLECTIVE FACE

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	118	T18.7/R32.6	43	98

Roberta L. McLaughlin
REGISTERED CIVIL ENGINEER

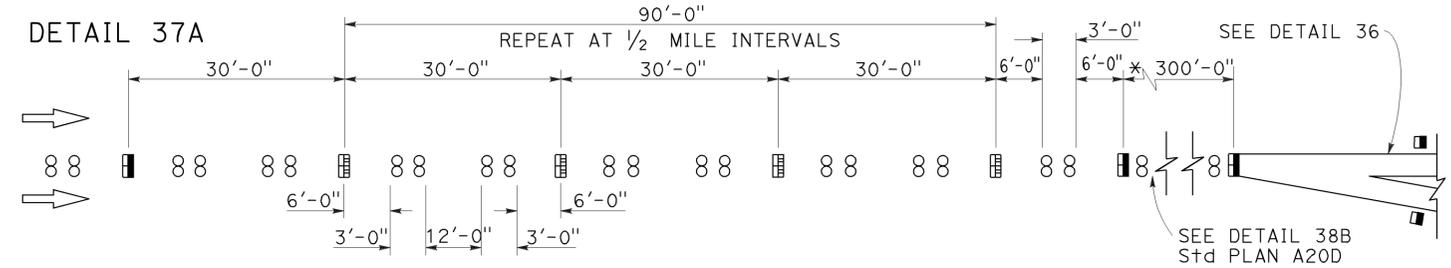
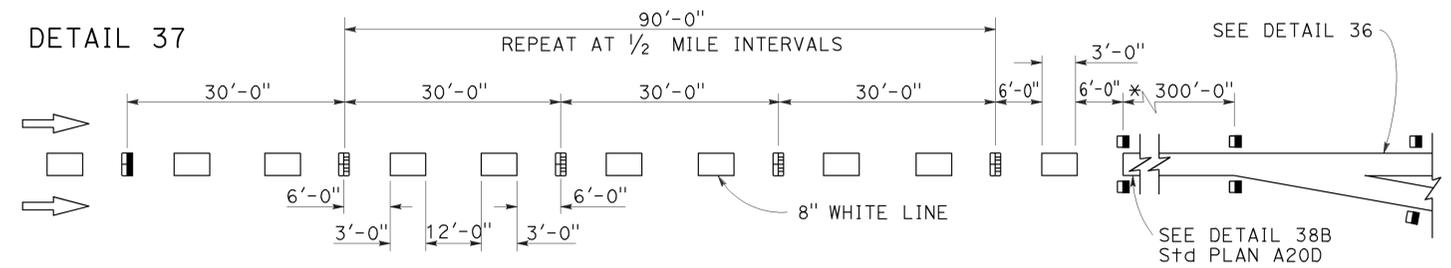
July 19, 2013
PLANS APPROVAL DATE

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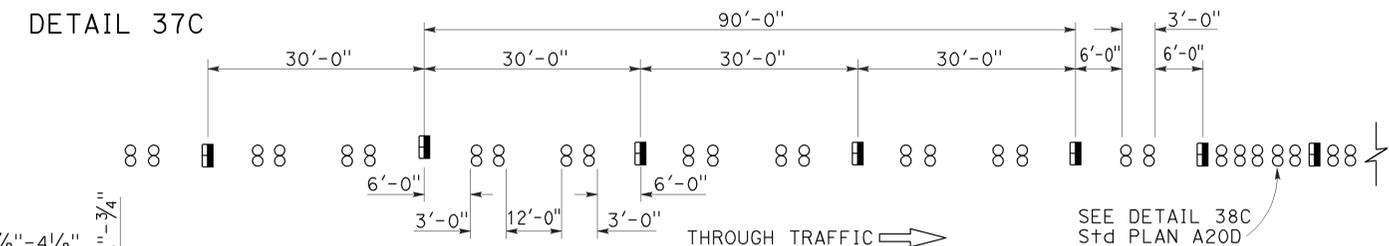
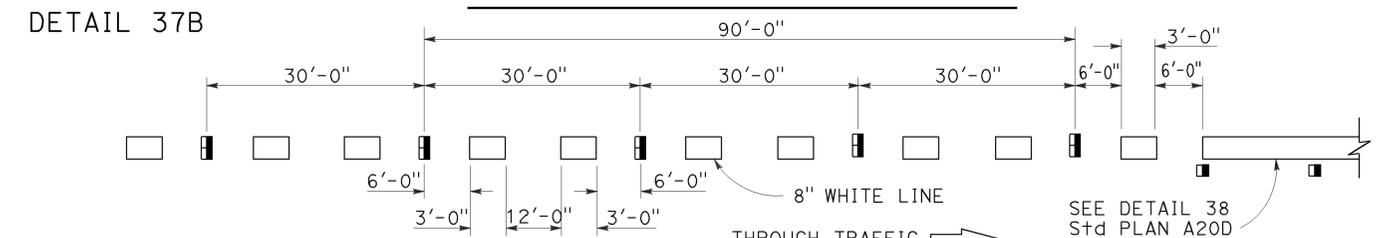
TO ACCOMPANY PLANS DATED 12-16-13

LANE DROP AT EXIT RAMPS



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

LANE DROP AT INTERSECTIONS



STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

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

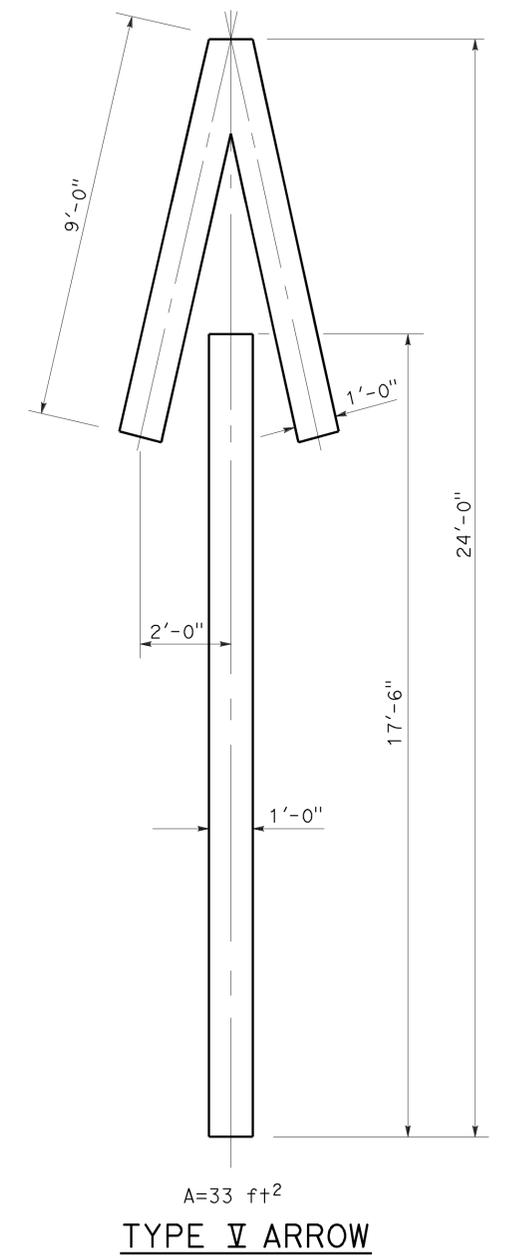
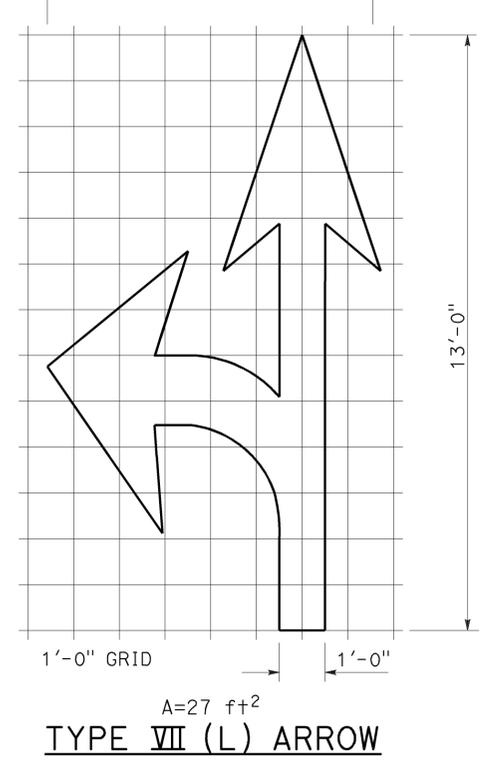
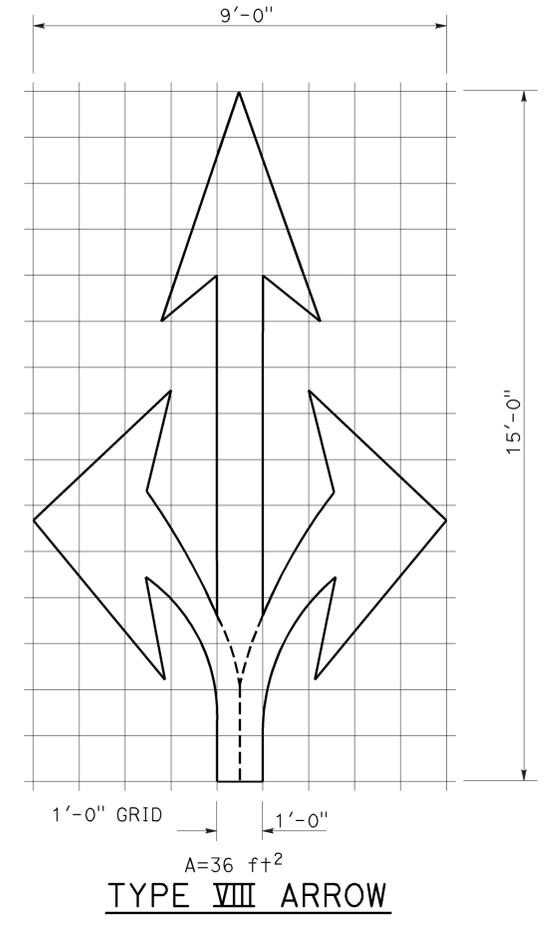
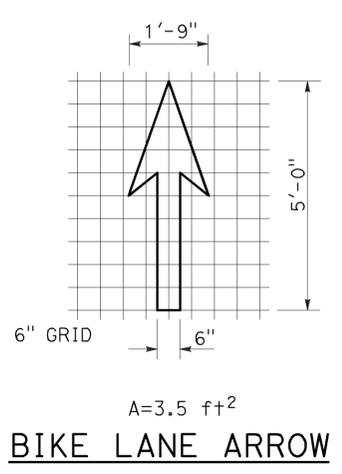
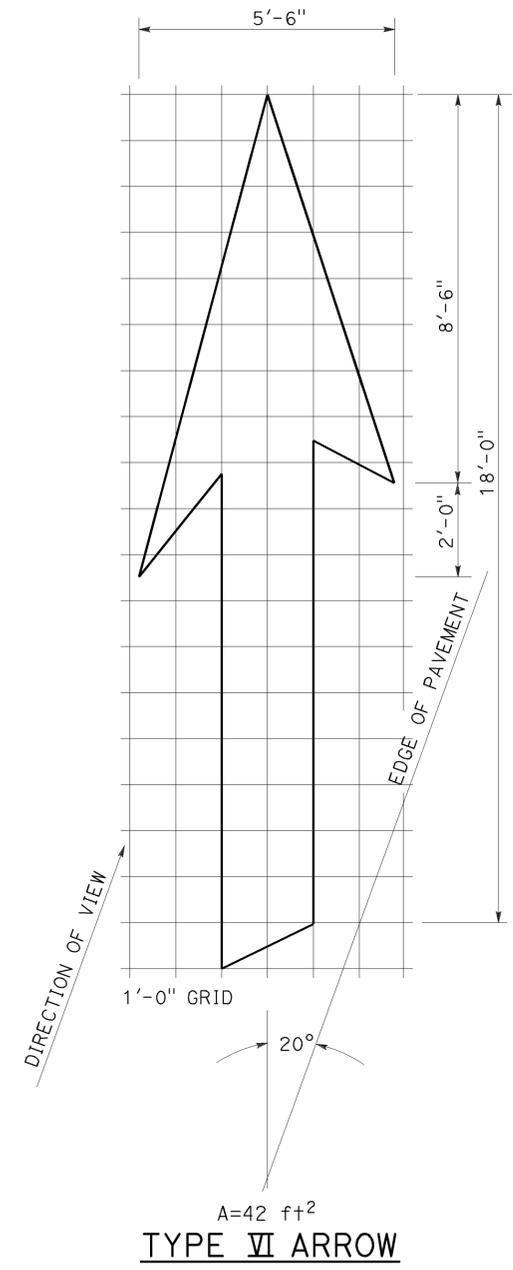
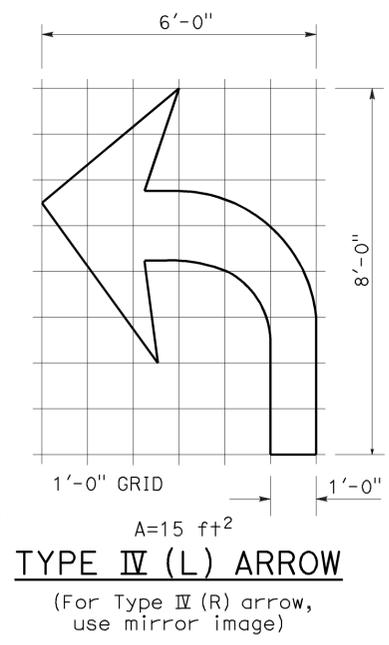
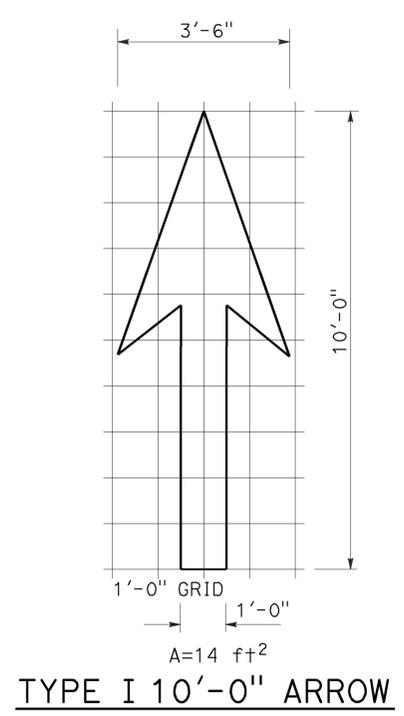
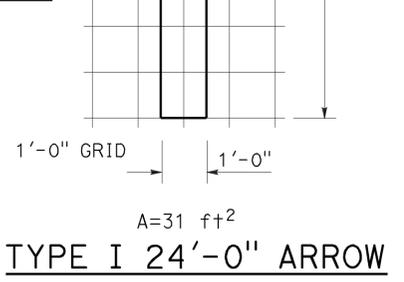
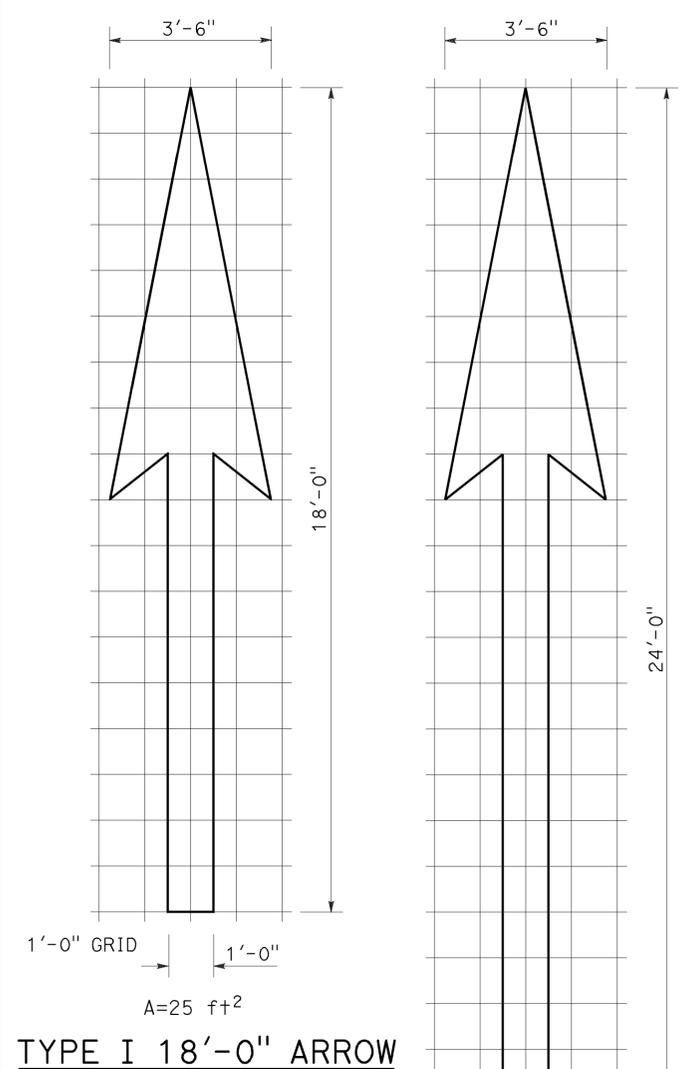
2010 REVISED STANDARD PLAN RSP A20C

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	118	T18.7/R32.6	44	98

Robert L. McLaughlin
 REGISTERED CIVIL ENGINEER
 April 20, 2012
 PLANS APPROVAL DATE
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER
 Roberta L. McLaughlin
 No. C40375
 Exp. 3-31-13
 CIVIL
 STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 12-16-13



NOTE:
Minor variations in dimensions may be accepted by the Engineer.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**PAVEMENT MARKINGS
ARROWS**
NO SCALE

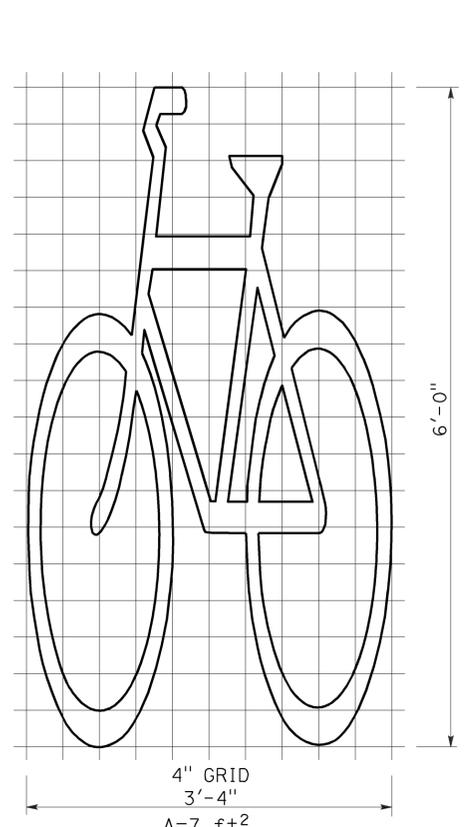
RSP A24A DATED APRIL 20, 2012 SUPERSEDES STANDARD PLAN A24A DATED MAY 20, 2011 - PAGE 13 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A24A

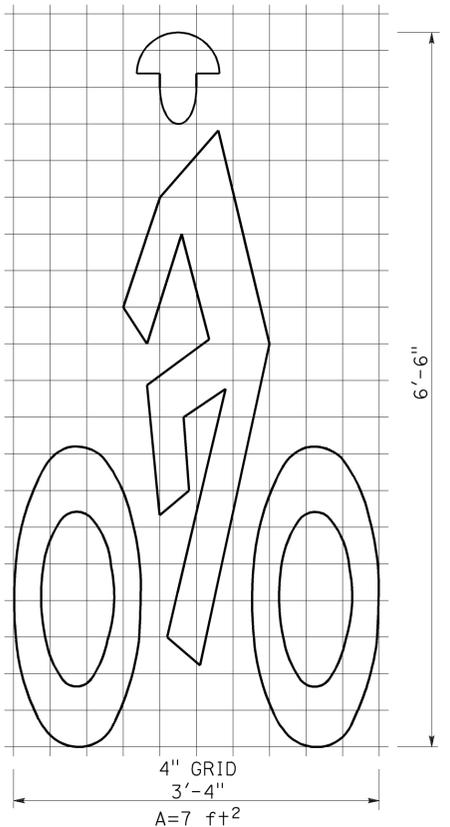
2010 REVISED STANDARD PLAN RSP A24A

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	118	T18.7/R32.6	45	98

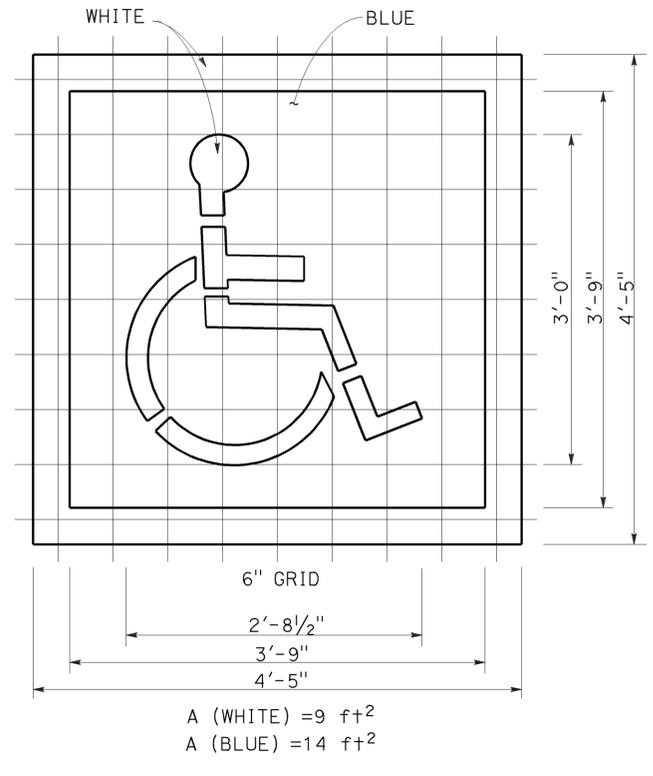
Robert L. McLaughlin
 REGISTERED CIVIL ENGINEER
 October 19, 2012
 PLANS APPROVAL DATE
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



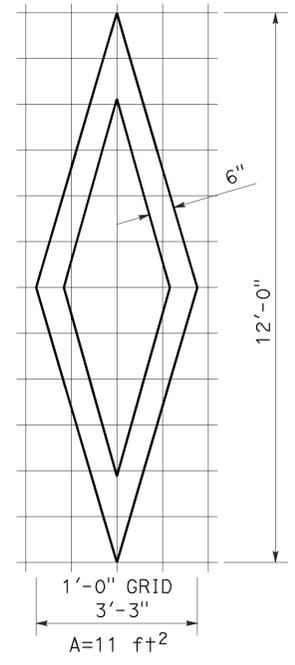
BIKE LANE SYMBOL WITHOUT PERSON



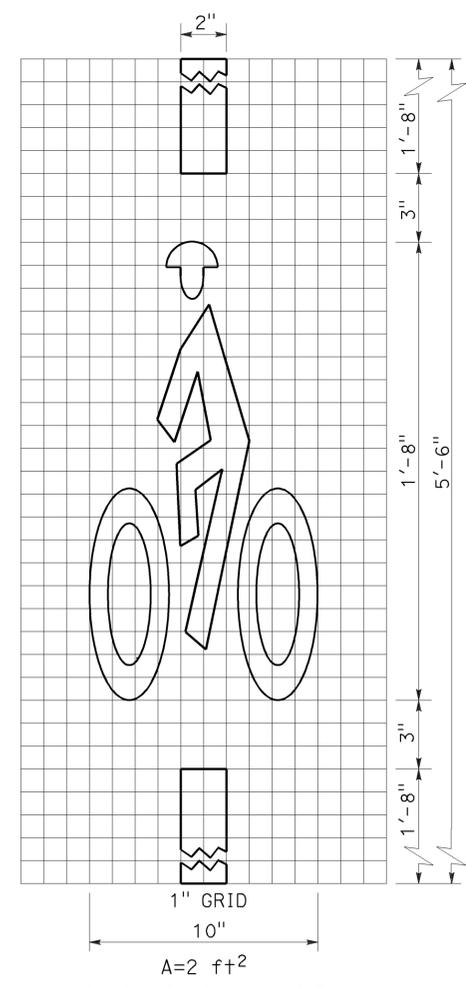
BIKE LANE SYMBOL WITH PERSON



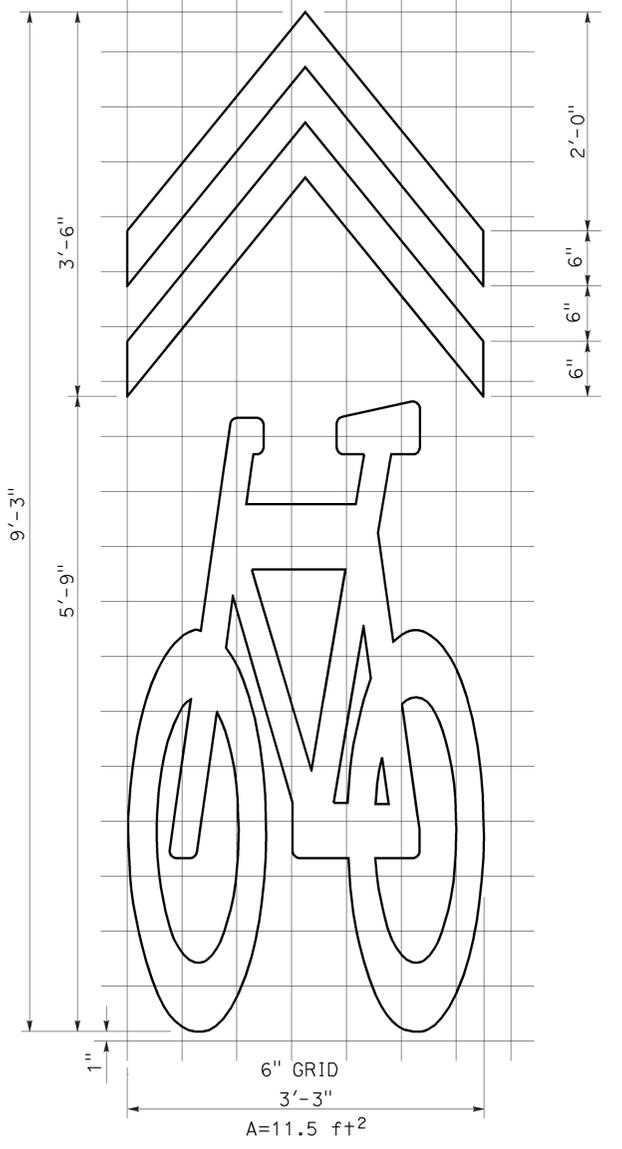
INTERNATIONAL SYMBOL OF ACCESSIBILITY (ISA) MARKING



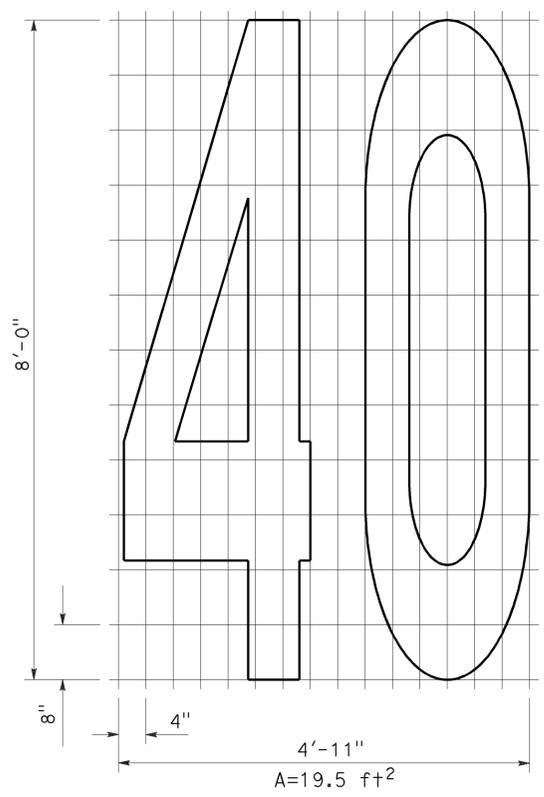
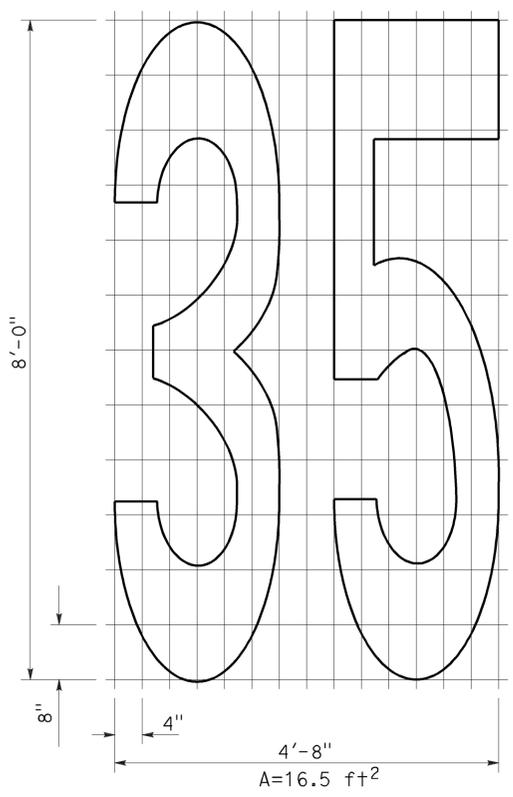
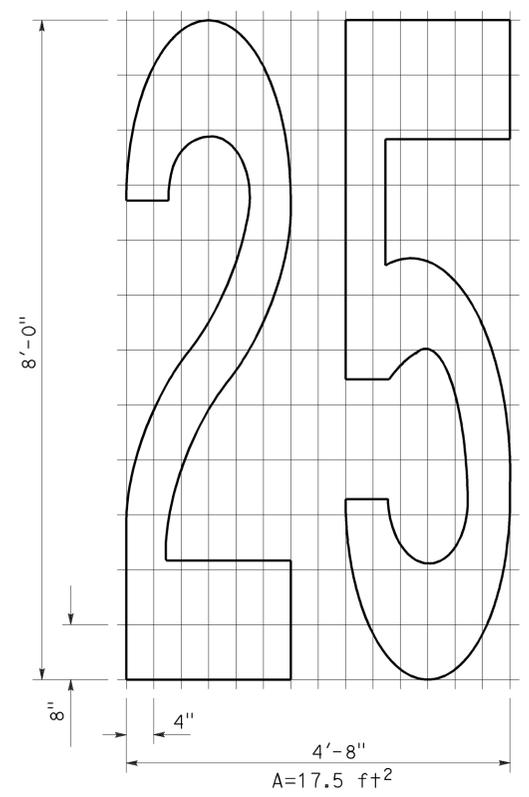
DIAMOND SYMBOL



BICYCLE LOOP DETECTOR SYMBOL



SHARED ROADWAY BICYCLE MARKING



NUMERALS

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
PAVEMENT MARKINGS SYMBOLS AND NUMERALS
 NO SCALE

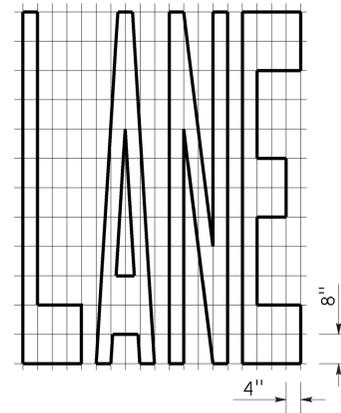
RSP A24C DATED OCTOBER 19, 2012 SUPERSEDES STANDARD PLAN A24C DATED MAY 20, 2011 - PAGE 15 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A24C

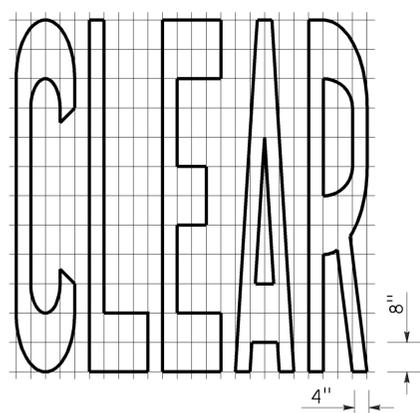
2010 REVISED STANDARD PLAN RSP A24C

TO ACCOMPANY PLANS DATED 12-16-13

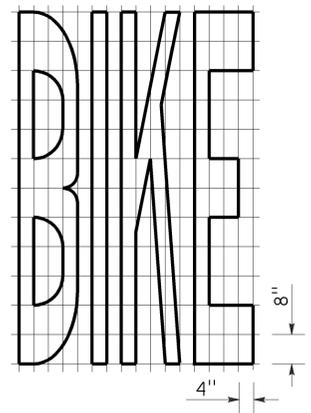
2010 REVISED STANDARD PLAN RSP A24E



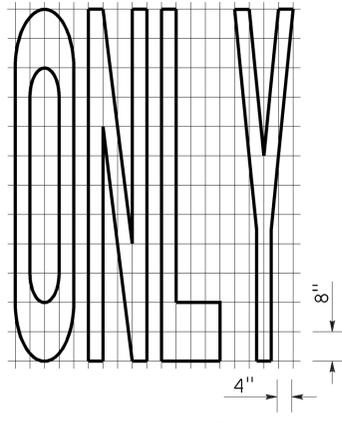
A=24 ft²



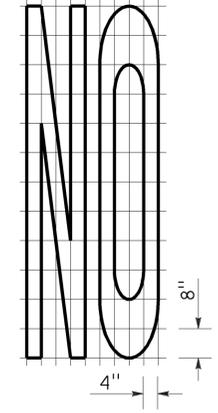
A=27 ft²



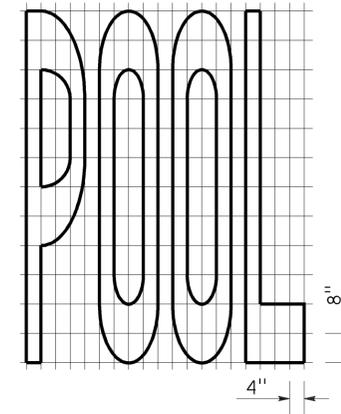
A=21 ft²



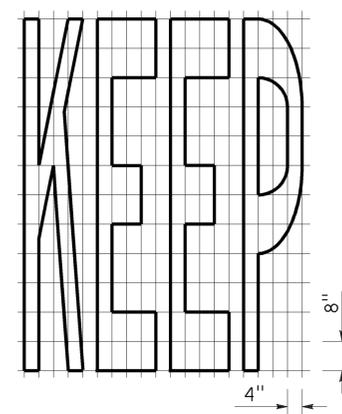
A=22 ft²



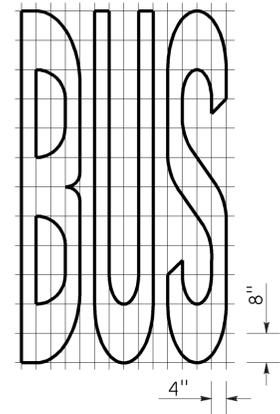
A=14 ft²



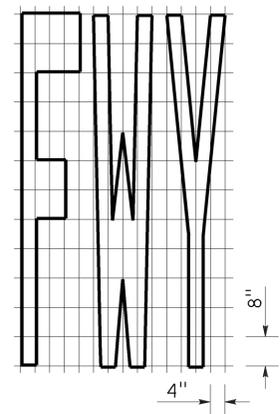
A=23 ft²



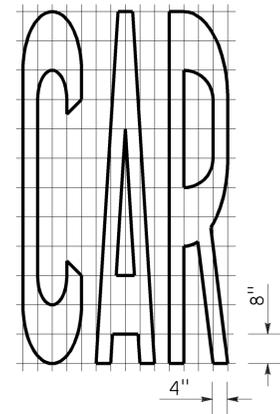
A=24 ft²



A=20 ft²

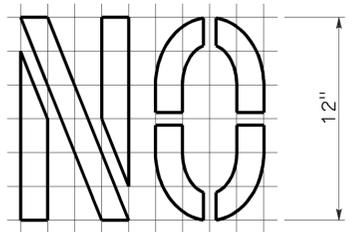


A=16 ft²



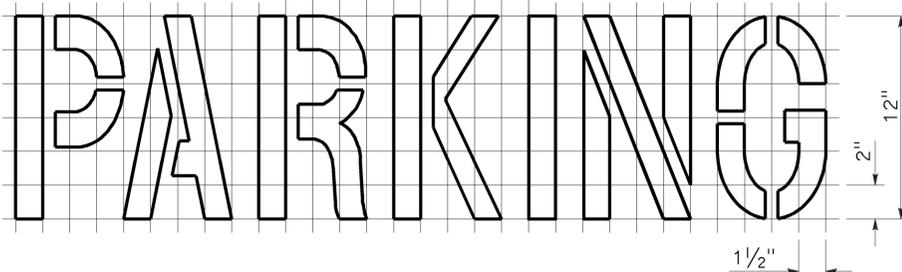
A=17 ft²

WORD MARKINGS			
ITEM	ft ²	ITEM	ft ²
LANE	24	NO	14
POOL	23	BIKE	21
CAR	17	BUS	20
CLEAR	27	ONLY	22
KEEP	24	FWY	16



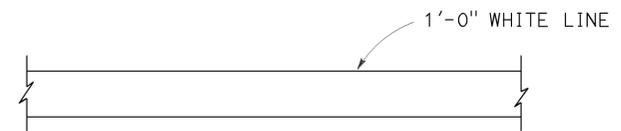
A=2 ft²

See Notes 6 and 7

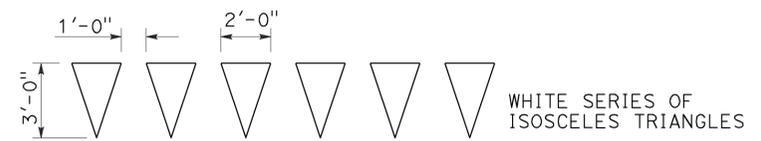


A=2 ft²

See Notes 6 and 7



LIMIT LINE (STOP LINE)



YIELD LINE

NOTES:

1. If a message consists of more than one word, it should read "UP", i.e., the first word should be nearest the driver.
2. The space between words should be at least four times the height of the characters for low speed roads, but not more than ten times the height of the characters. The space may be reduced appropriately where there is limited space because of local conditions.
3. Minor variations in dimensions may be accepted by the Engineer.
4. Portions of a letter, number or symbol may be separated by connecting segments not to exceed 2" in width.
5. The words "NO PARKING" pavement marking is to be used for parking facilities. For typical locations of markings, see Standard Plans A90A and A90B.
6. The words "NO PARKING", shall be painted in white letters no less than 1'-0" high on a contrasting background and located so that it is visible to traffic enforcement officials.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**PAVEMENT MARKINGS
WORDS, LIMIT AND YIELD LINES**

NO SCALE

RSP A24E DATED JULY 20, 2012 SUPERSEDES STANDARD PLAN A24E
DATED MAY 20, 2011 - PAGE 17 OF THE STANDARD PLANS BOOK DATED 2010.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	118	T18.7/R32.6	47	98

Roberta L. McLaughlin
REGISTERED CIVIL ENGINEER

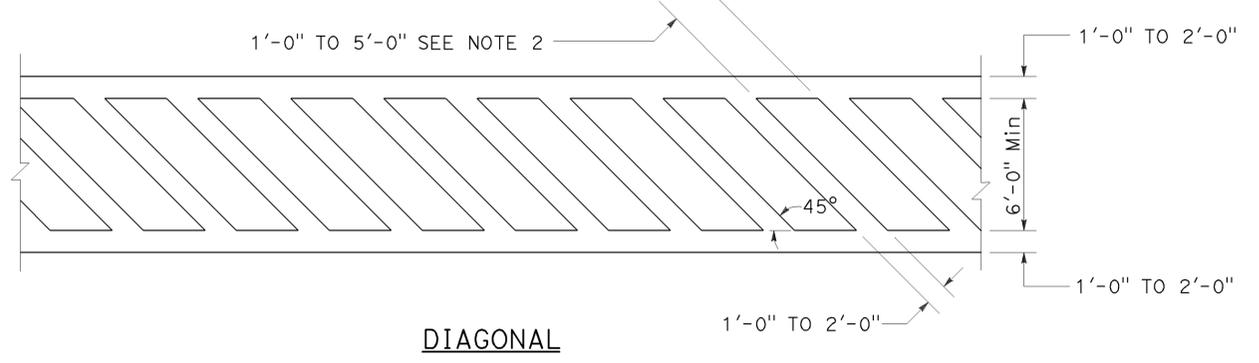
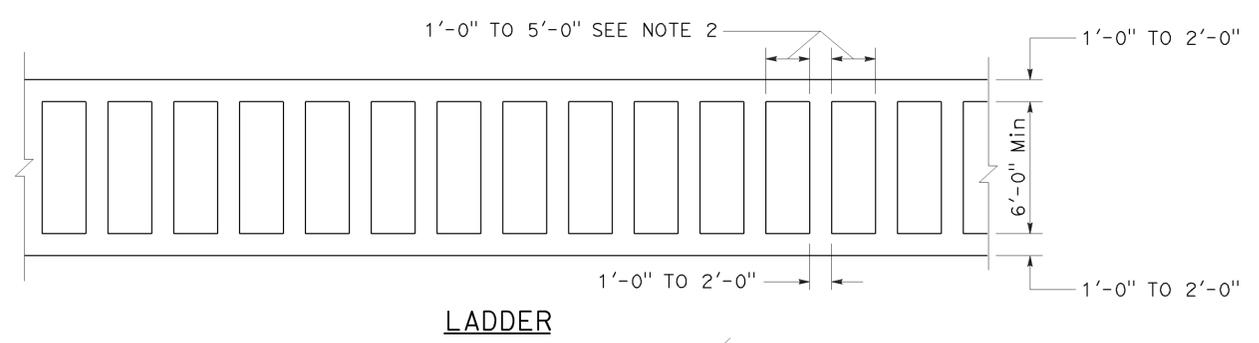
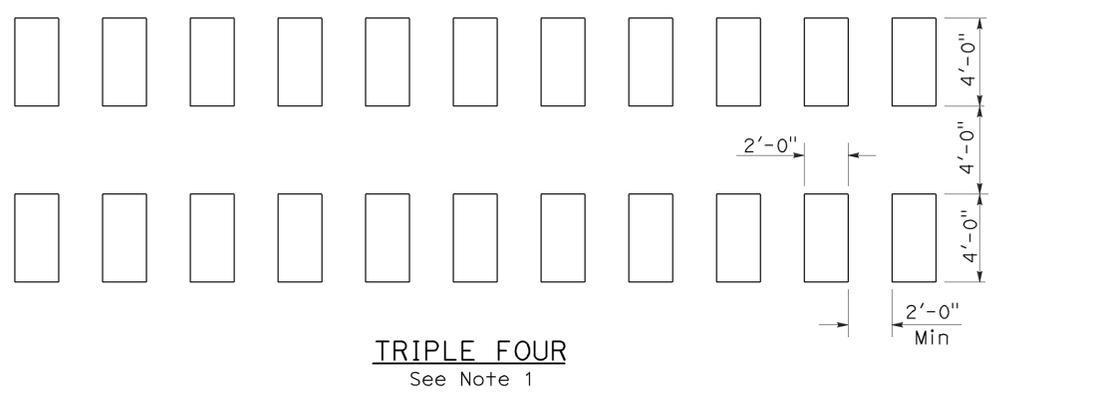
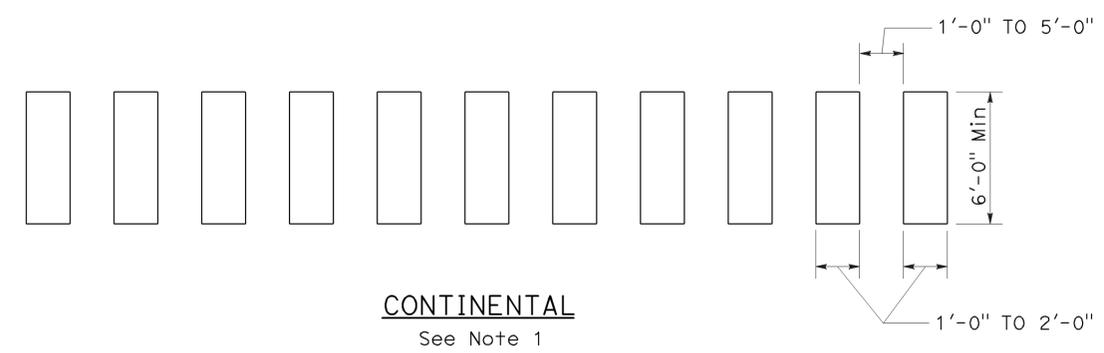
July 20, 2012
PLANS APPROVAL DATE

Roberta L. McLaughlin
No. C40375
Exp. 3-31-13
CIVIL
STATE OF CALIFORNIA

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TO ACCOMPANY PLANS DATED 12-16-13

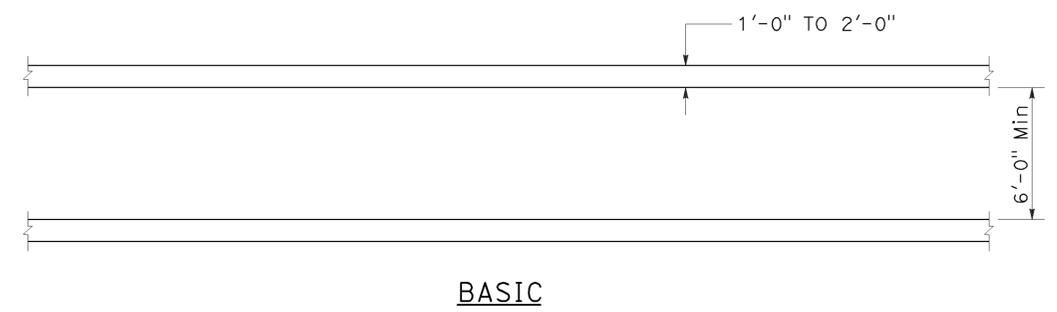
2010 REVISED STANDARD PLAN RSP A24F



HIGHER VISIBILITY CROSSWALKS

NOTES:

1. Spaces between markings should be placed in wheel tracks of each lane.
2. Spacings not to exceed 2.5 times width of longitudinal line.
3. All crosswalk markings must be white except for those near schools must be yellow.



BASIC

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**PAVEMENT MARKINGS
CROSSWALKS**

NO SCALE
RSP A24F DATED JULY 20, 2012 SUPPLEMENTS THE
STANDARD PLANS BOOK DATED 2010.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	118	T18.7/R32.6	48	98

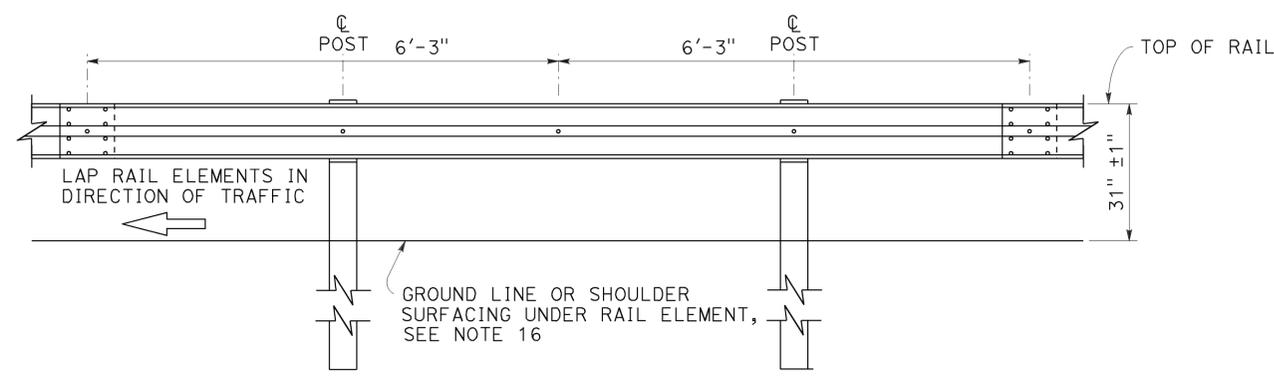
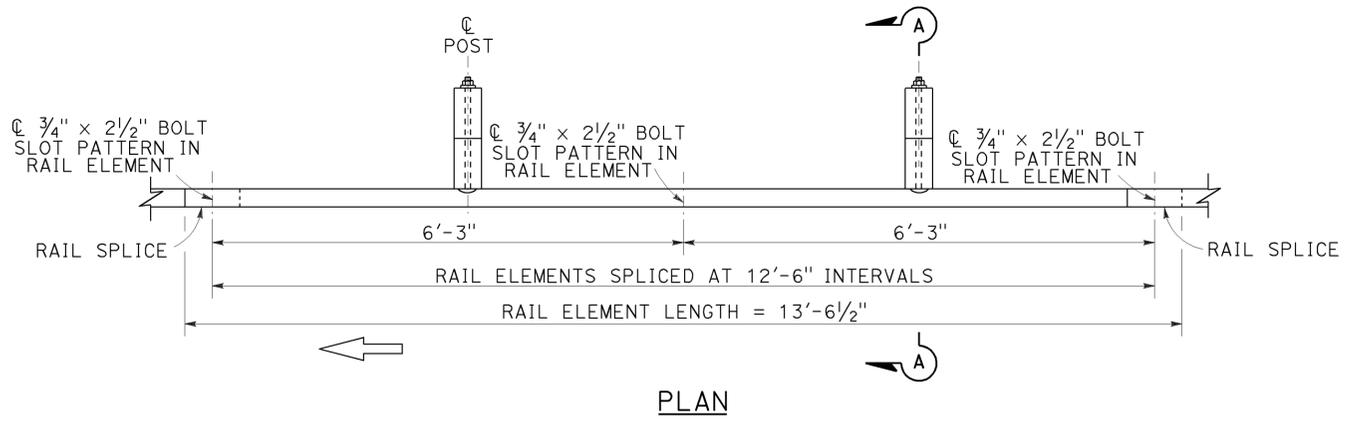
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

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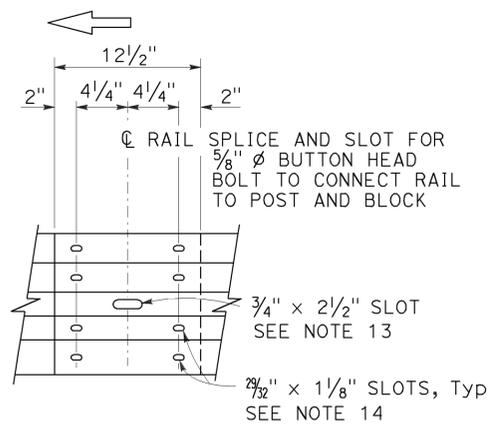
REGISTERED PROFESSIONAL ENGINEER
No. C50200
Exp. 6-30-15
CIVIL
STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 12-16-13



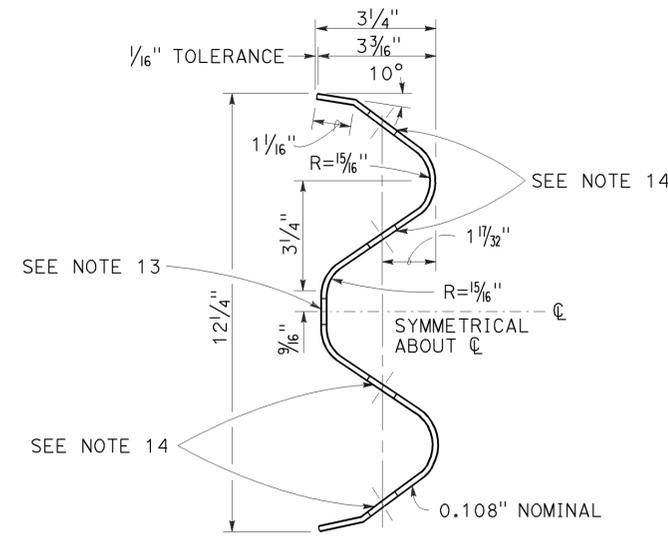
ELEVATION

MIDWEST GUARDRAIL SYSTEM WITH WOOD POST AND BLOCKS

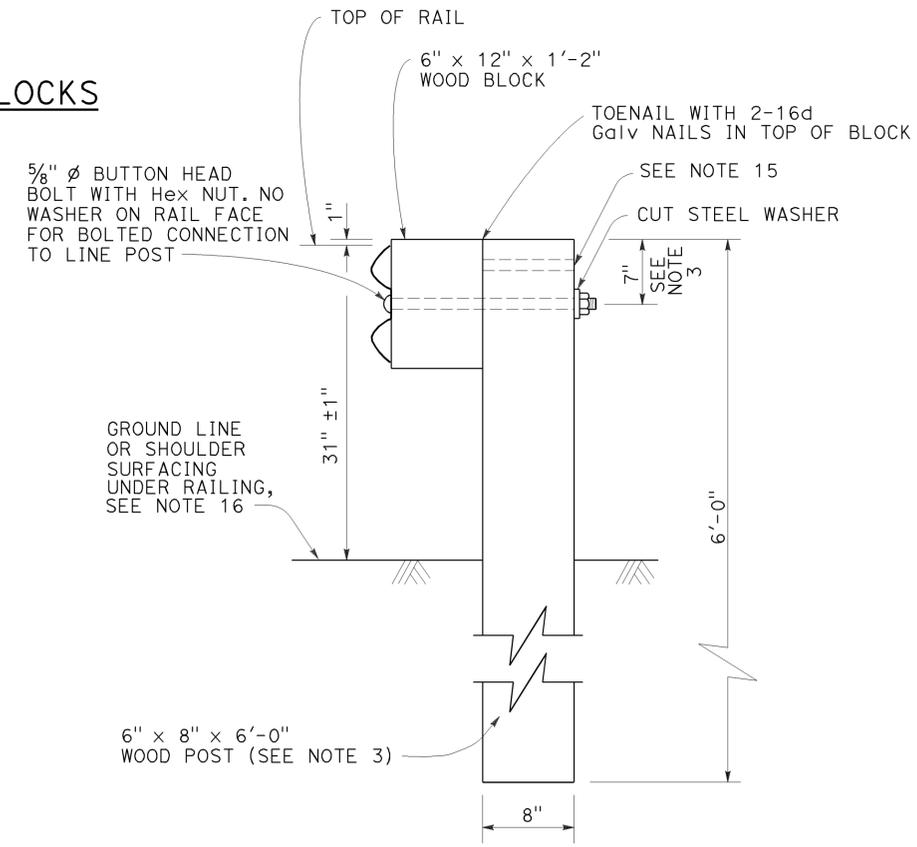


ELEVATION
RAIL ELEMENT SPLICE DETAIL

- Connect the over lapped end of the rail elements with $\frac{5}{8}$ " ϕ x $1\frac{3}{8}$ " button head oval shoulder splice bolts inserted into the $\frac{7}{32}$ " x $\frac{1}{8}$ " 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
DEPARTMENT OF TRANSPORTATION

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

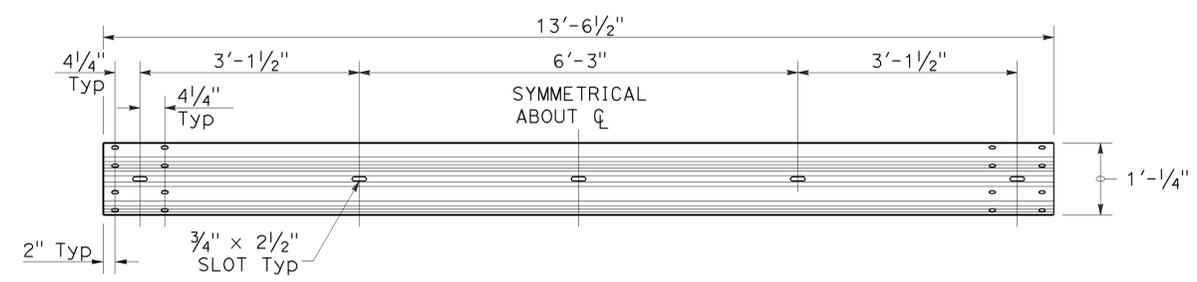
NO SCALE

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

REVISED STANDARD PLAN RSP A77L1

2010 REVISED STANDARD PLAN RSP A77L1

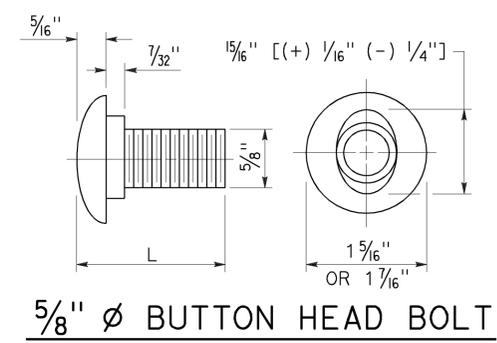
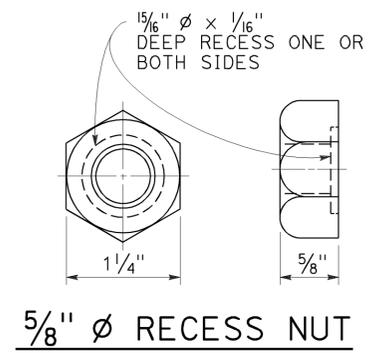
TO ACCOMPANY PLANS DATED 12-16-13



TYPICAL RAIL ELEMENT

NOTE:

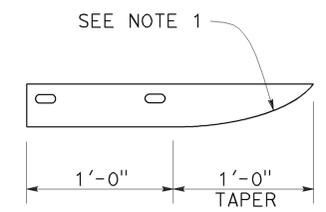
1. Slotted holes for splice bolts to overlap ends of rail element.



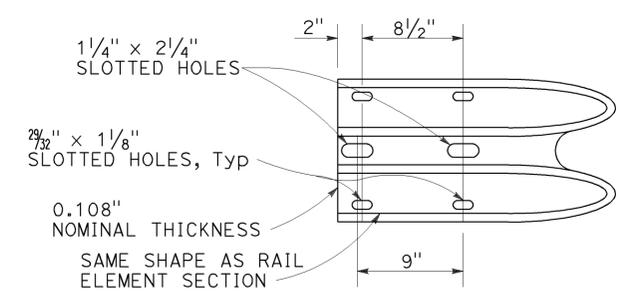
BUTTON HEAD BOLT

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.



PLAN



ELEVATION
END CAP
(TYPE A)

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
07	Ven	118	T18.7/R32.6	50	98

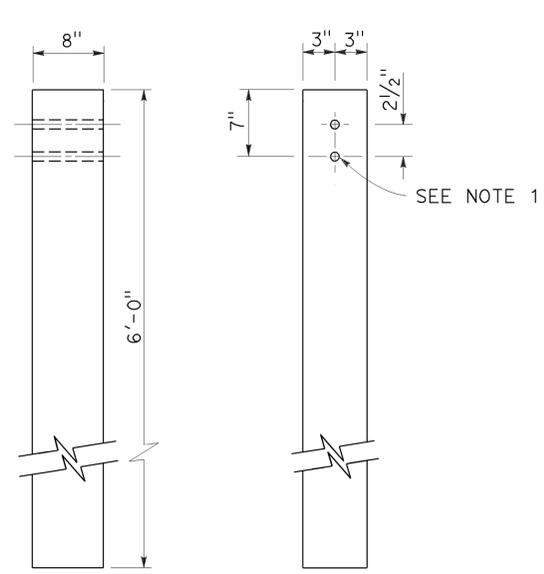
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

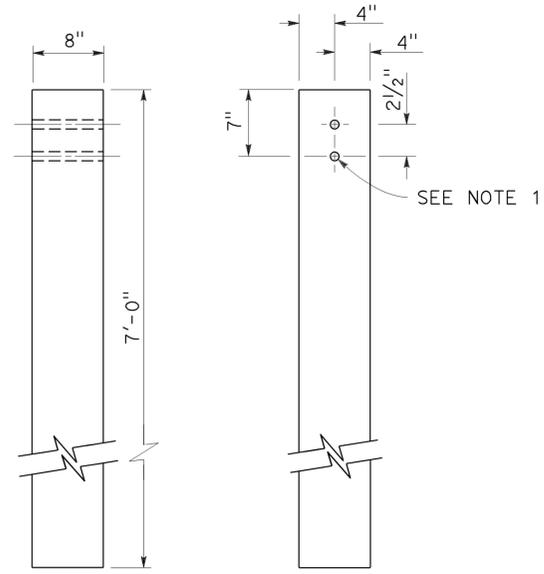
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REGISTERED PROFESSIONAL ENGINEER
Randell D. Hiatt
No. C50200
Exp. 6-30-15
CIVIL
STATE OF CALIFORNIA

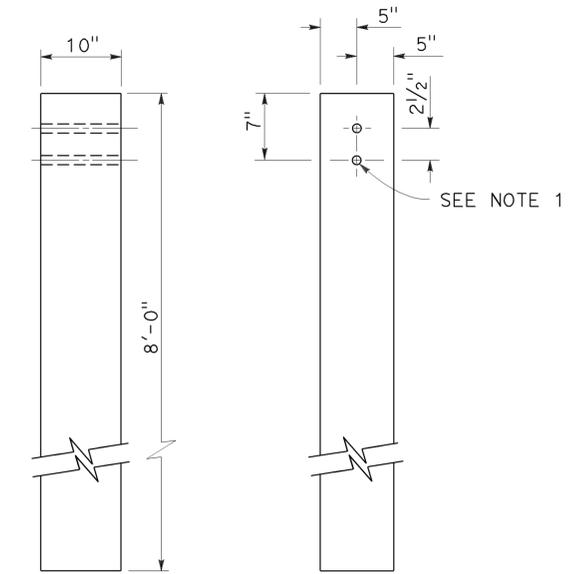
TO ACCOMPANY PLANS DATED 12-16-13



SIDE FRONT
6" x 8" WOOD POST
See Note 3



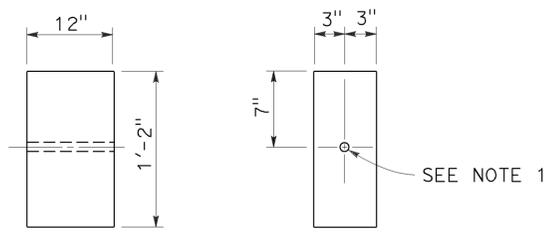
SIDE FRONT
8" x 8" WOOD POST
See Note 4



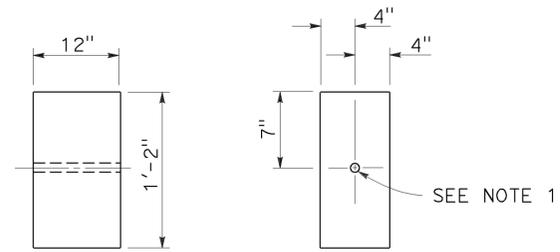
SIDE FRONT
10" x 10" WOOD POST
See Note 5

NOTES:

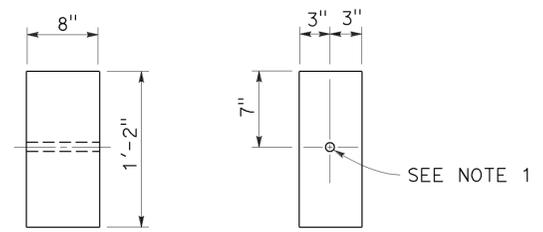
1. All holes in wood posts and blocks shall be $\frac{3}{4}$ " Dia \pm $\frac{1}{16}$ ".
2. Dimensions shown for wood post are nominal.
3. This post and block combination used for standard line post sections of MGS.
4. This post and 8" x 12" block combination used for line post sections of MGS on narrow 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.



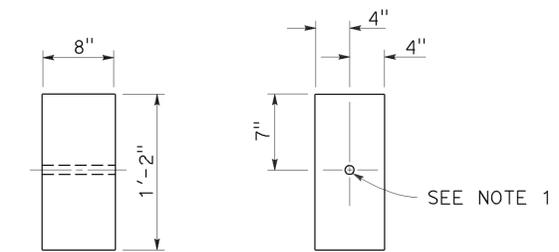
SIDE FRONT
6" x 12" WOOD BLOCK
See Note 3



SIDE FRONT
8" x 12" WOOD BLOCK



SIDE FRONT
6" x 8" WOOD BLOCK
Only for use with metal beam guard rail see Note 6



SIDE FRONT
8" x 8" WOOD BLOCK
Only for use with metal beam guard rail see Note 6

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**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
07	Ven	118	T18.7/R32.6	51	98

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

November 15, 2013
PLANS APPROVAL DATE

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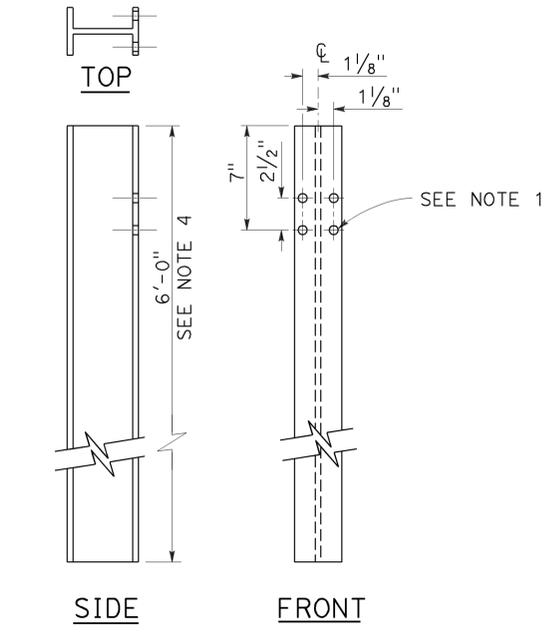
REGISTERED PROFESSIONAL ENGINEER
Randell D. Hiatt
No. C50200
Exp. 6-30-15
CIVIL
STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 12-16-13

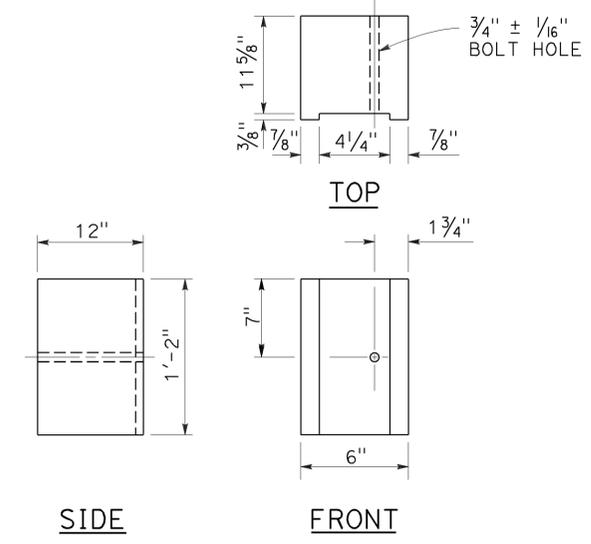
NOTES:

1. All holes in steel post shall be $\frac{13}{16}$ " Dia maximum.
2. Dimensions shown for wood block are nominal.
3. Notched face of block faces steel post.
4. 6'-0" length posts to be used for typical roadway installation. See Revised Standard Plan RSP A77N3.
5. See Revised Standard Plan RSP A77L3 for use of 6" x 8" and 8" x 8" notched wood blocks.
6. This post and 8" x 12" block combination to be used for line post sections of MGS on narrow roadways and where strengthened line post sections of MGS are warranted to shield fixed objects.

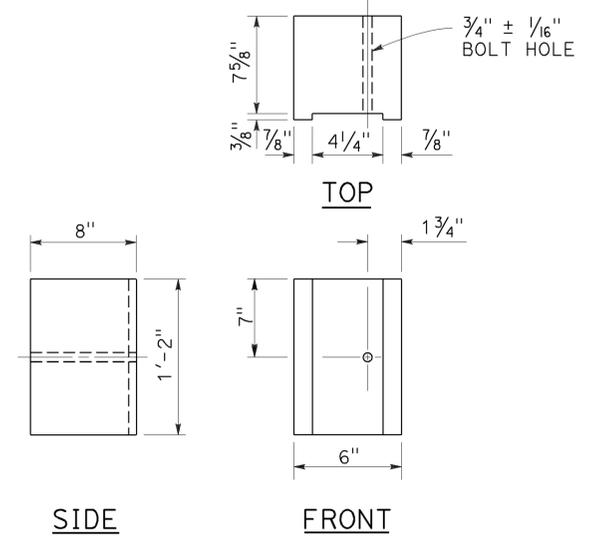
2010 REVISED STANDARD PLAN RSP A77N2



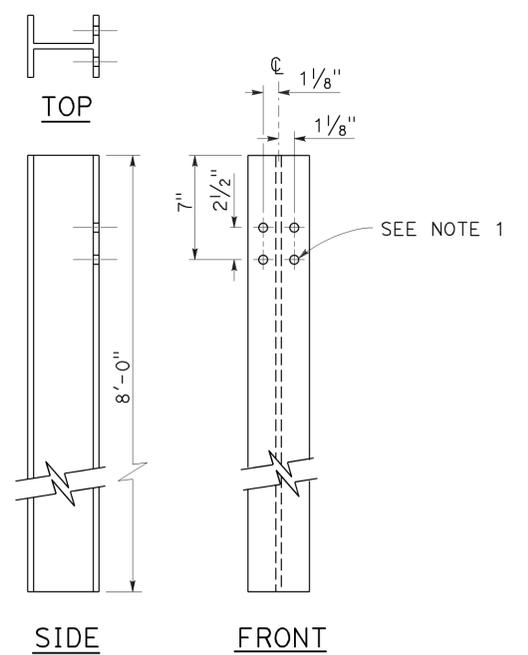
**W6 x 9 OR W6 x 8.5
STEEL POST**
See Note 4



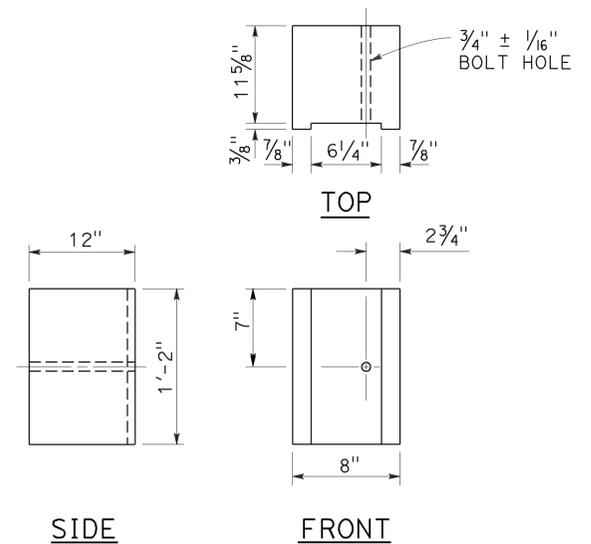
**6" x 12"
NOTCHED WOOD BLOCK**
See Notes 2 and 3



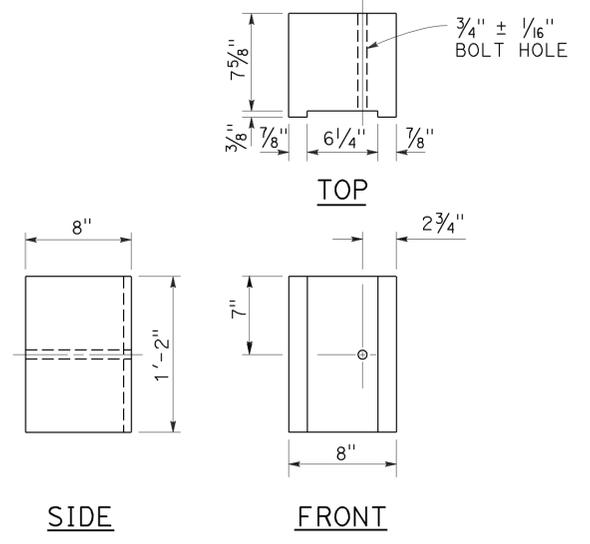
**6" x 8"
NOTCHED WOOD BLOCK**
Only for use with metal beam guard railing. See Note 5



**W6 x 15
STEEL POST**
See Note 6



**8" x 12"
NOTCHED WOOD BLOCK**
See Notes 2 and 3



**8" x 8"
NOTCHED WOOD BLOCK**
Only for use with metal beam guard railing. See Note 5

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**MIDWEST GUARDRAIL SYSTEM
STEEL POST AND
NOTCHED WOOD BLOCK DETAILS**

NO SCALE

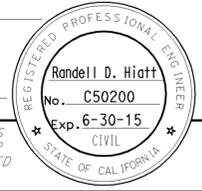
RSP A77N2 DATED NOVEMBER 15, 2013 SUPERSEDES RSP A77N2
DATED JULY 19, 2013 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

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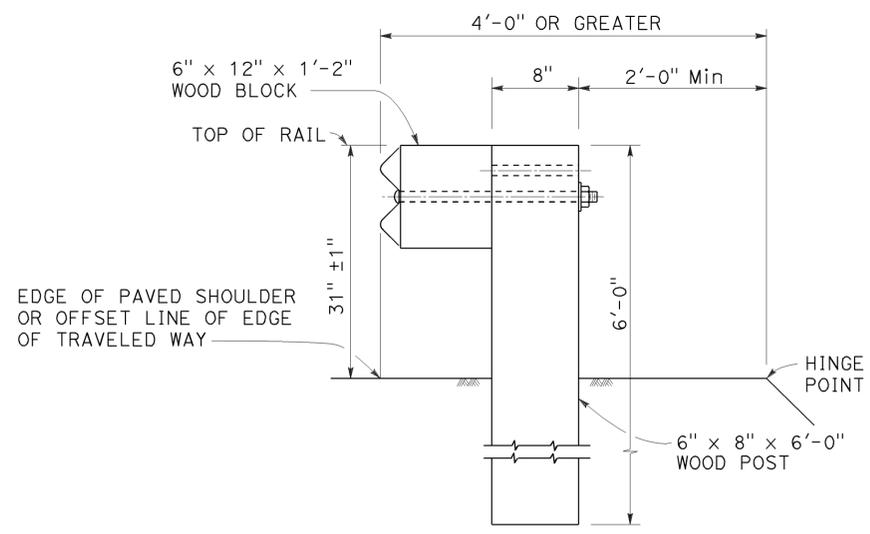
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

November 15, 2013
PLANS APPROVAL DATE

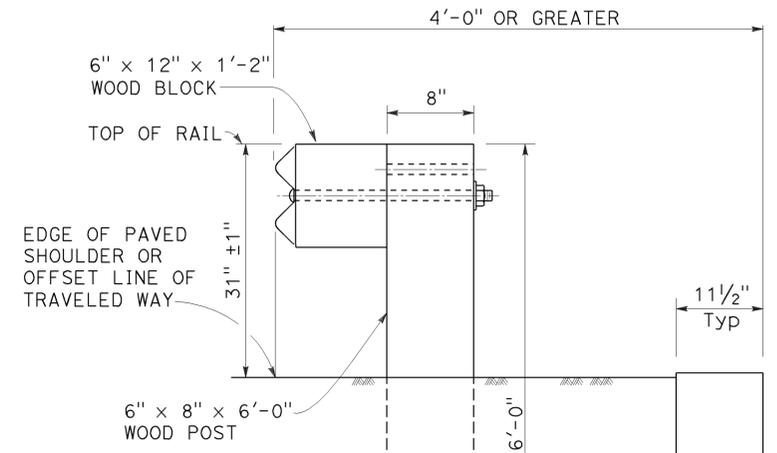
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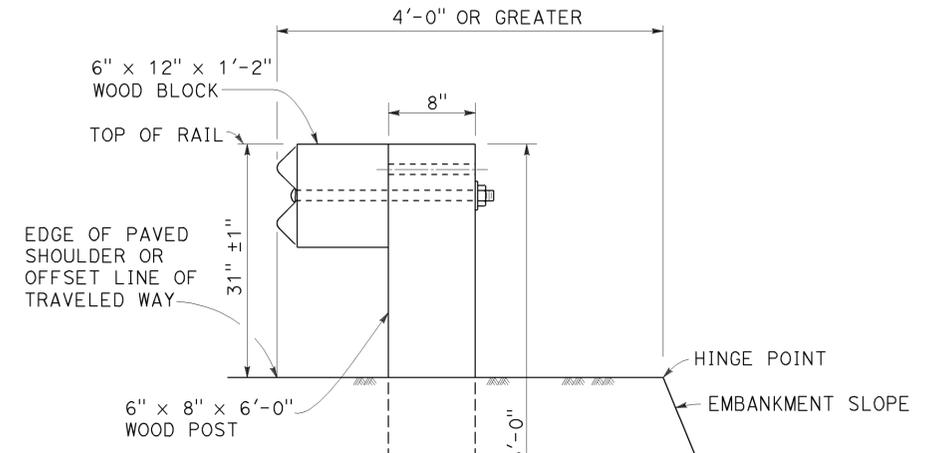
TO ACCOMPANY PLANS DATED 12-16-13



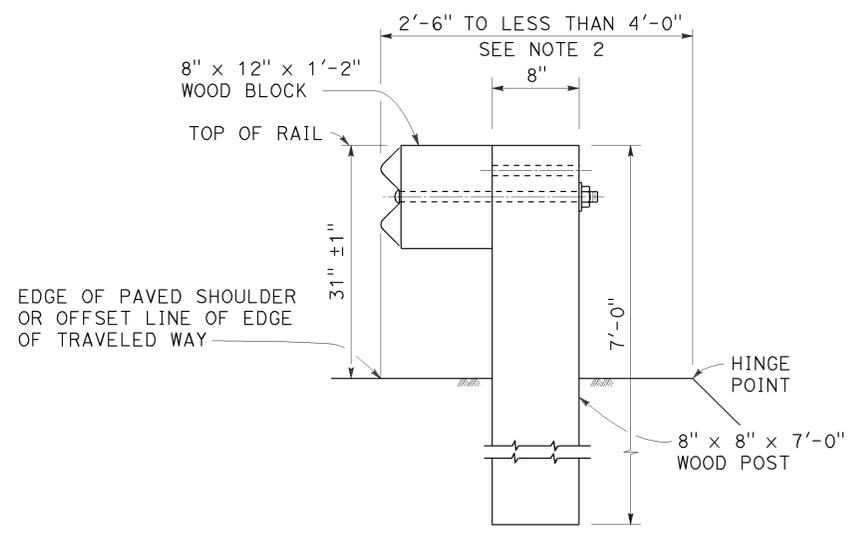
DETAIL A
TYPICAL ROADWAY
INSTALLATION
See Note 1



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
07	Ven	118	T18.7/R32.6	53	98

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

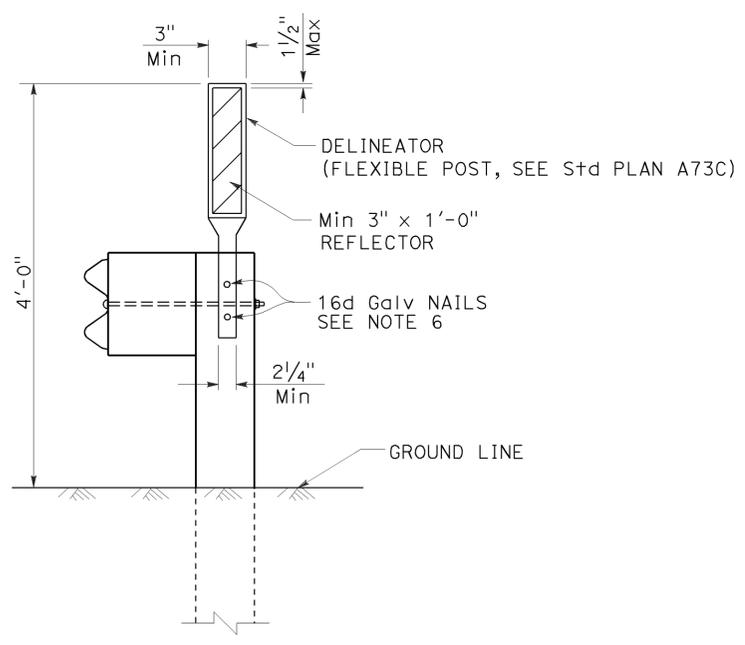
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REGISTERED PROFESSIONAL ENGINEER
No. C50200
Exp. 6-30-15
CIVIL
STATE OF CALIFORNIA

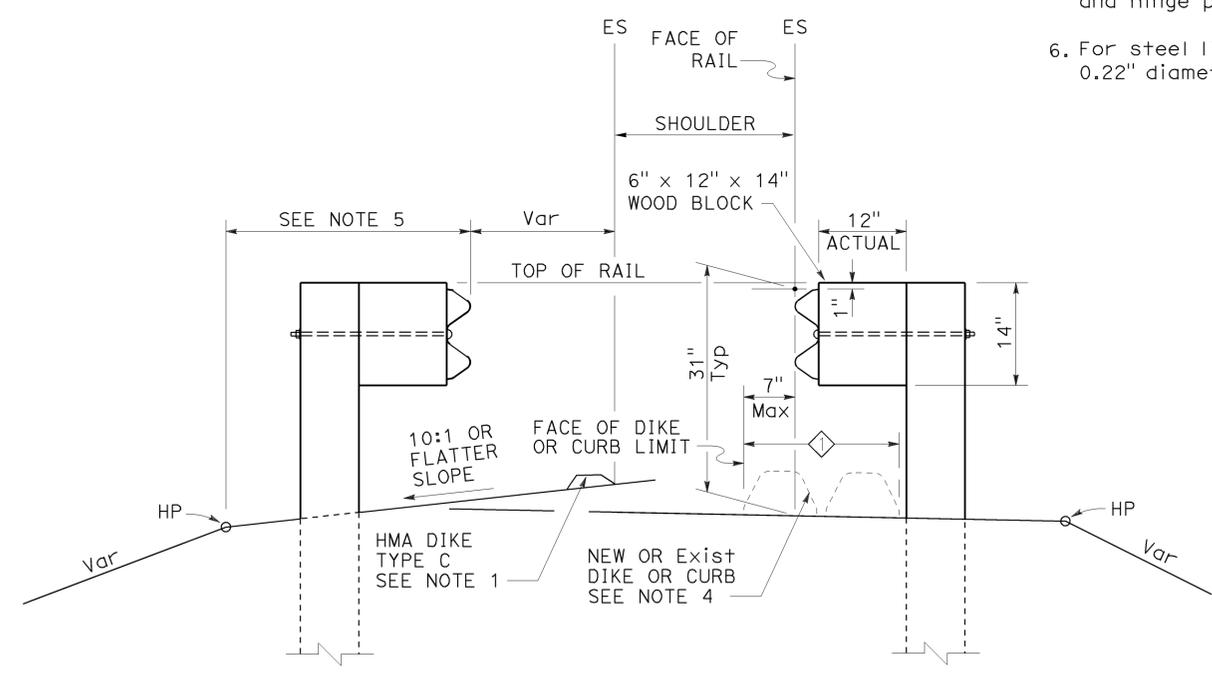
TO ACCOMPANY PLANS DATED 12-16-13

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

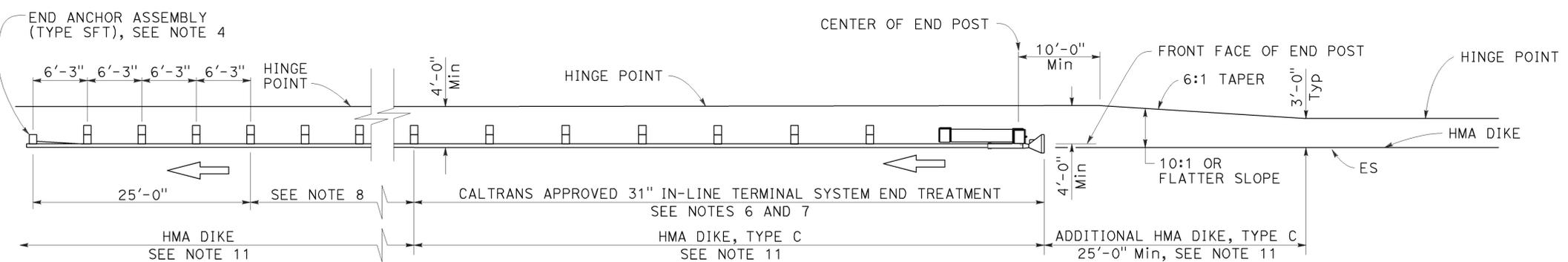
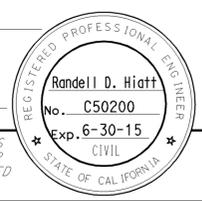
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	118	T18.7/R32.6	54	98

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

November 15, 2013
PLANS APPROVAL DATE

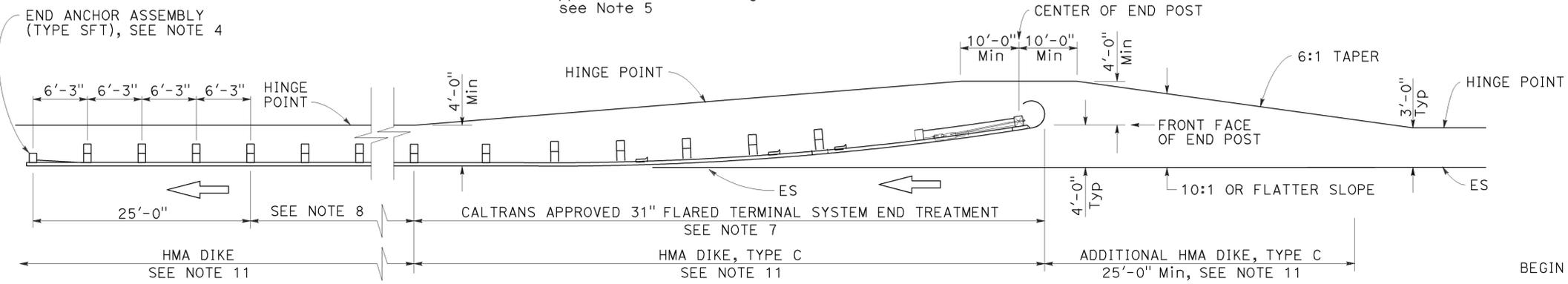
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TO ACCOMPANY PLANS DATED 12-16-13



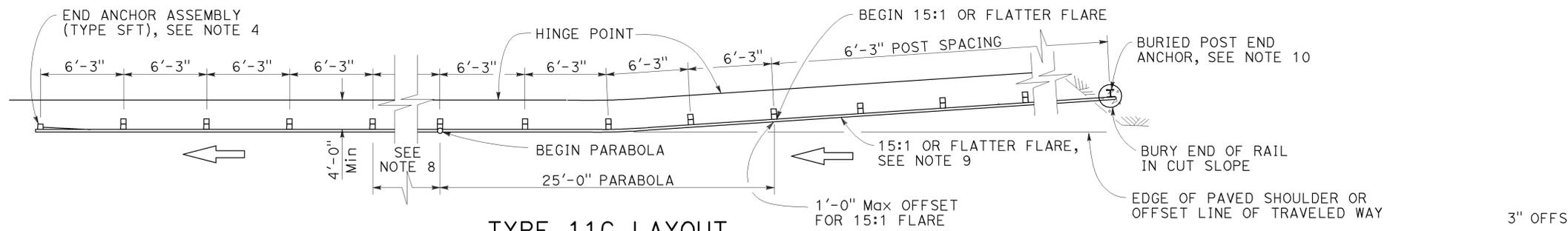
TYPE 11A LAYOUT

(Embankment MGS installation with 31" in-line end treatment at traffic approach end of railing) see Note 5



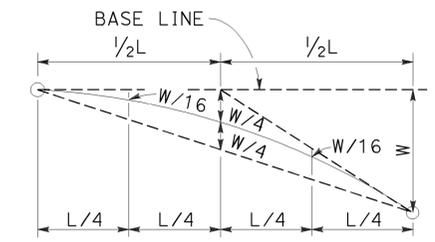
TYPE 11B LAYOUT

(Embankment MGS installation with 31" flared end treatment at traffic approach end of railing) see Note 5

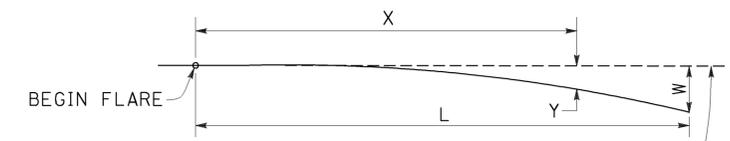


TYPE 11C LAYOUT

(Embankment MGS installation with buried end anchor treatment at traffic approach end of railing) see Notes 5 and 11



TYPICAL PARABOLIC LAYOUT

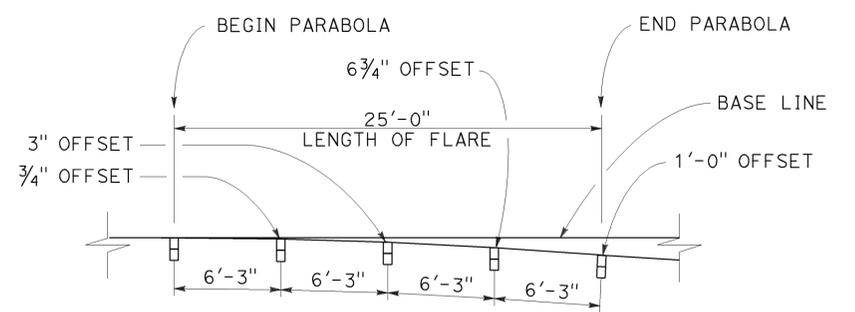


BASE LINE (EDGE OF PAVED SHOULDER OR OFFSET LINE OF EDGE OF TRAVELED WAY)

$$Y = \frac{WX^2}{L^2}$$

Y = OFFSET FROM BASE LINE
W = MAXIMUM OFFSET
X = DISTANCE ALONG BASE LINE
L = LENGTH OF FLARE

PARABOLIC FLARE OFFSETS



TYPICAL FLARE OFFSETS FOR 1 FOOT Max END OFFSET

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

MIDWEST GUARDRAIL SYSTEM TYPICAL LAYOUTS FOR EMBANKMENTS

NO SCALE

RSP A77P1 DATED NOVEMBER 15, 2013 SUPERSEDES RSP A77P1 DATED JULY 19, 2013 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77P1

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 recycled plastic blocks may be used for 6" x 8" x 6'-0" wood post with 6" x 12" x 1'-2" wood blocks where applicable and when specified.
- For End Anchor Assembly (Type SFT) details, see Revised Standard Plan RSP A77S1.
- Layout Types 11A, 11B or 11C are typically used where MGS is recommended to shield embankment slopes and a crashworthy end treatment is required for only one direction of traffic.
- 31" in-line terminal system end treatments are used where site conditions will not accommodate a flared end treatment.
- The type of 31" terminal system end treatment to be used will be shown on the Project Plans.
- Dependent on site conditions (embankment height and side slope), construction of additional MGS (length equal to multiples of 12'-6" with 6'-3" post spacing) may be advisable.
- The 15:1 or flatter flare used with buried end anchors is based on the edge of the paved shoulder or offset line of edge of the traveled way. The length of MGS within the 15:1 or flatter flare is based on site conditions and should be a length equal to multiples of 12'-6".
- For details of the buried post end anchor used with Type 11C Layout, see Revised Standard Plan RSP A77T2.
- Where placement of dike is required with MGS installations, see Revised Standard Plan RSP A77N4 for dike positioning details.

2010 REVISED STANDARD PLAN RSP A77P1

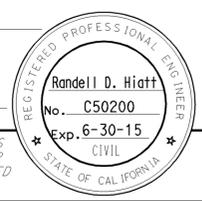
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	118	T18.7/R32.6	55	98

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

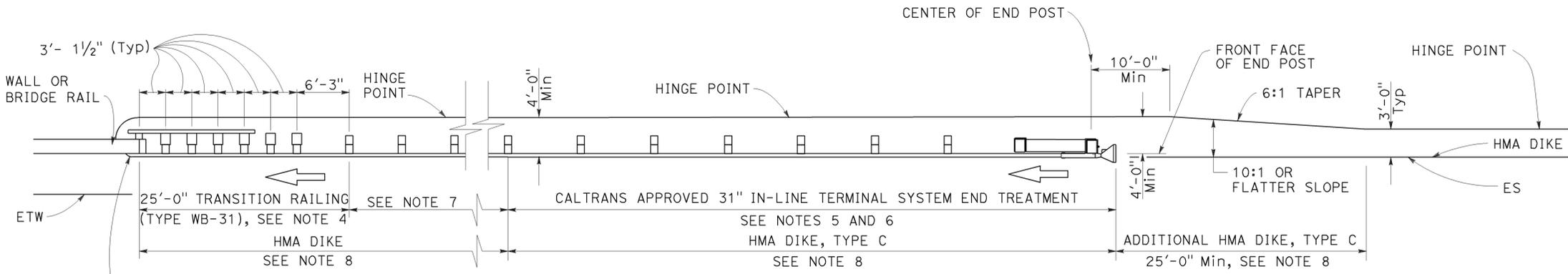
July 19, 2013
PLANS APPROVAL DATE

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TO ACCOMPANY PLANS DATED 12-16-13

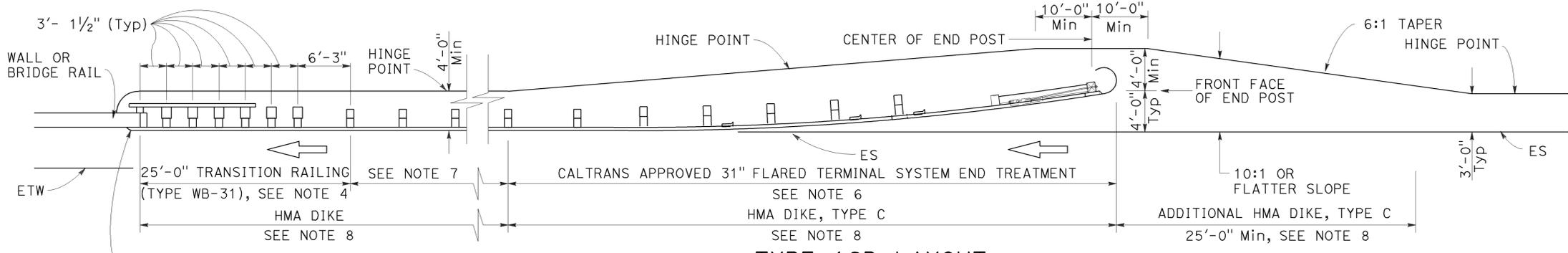


2010 REVISED STANDARD PLAN RSP A77Q1



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

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	118	T18.7/R32.6	56	98

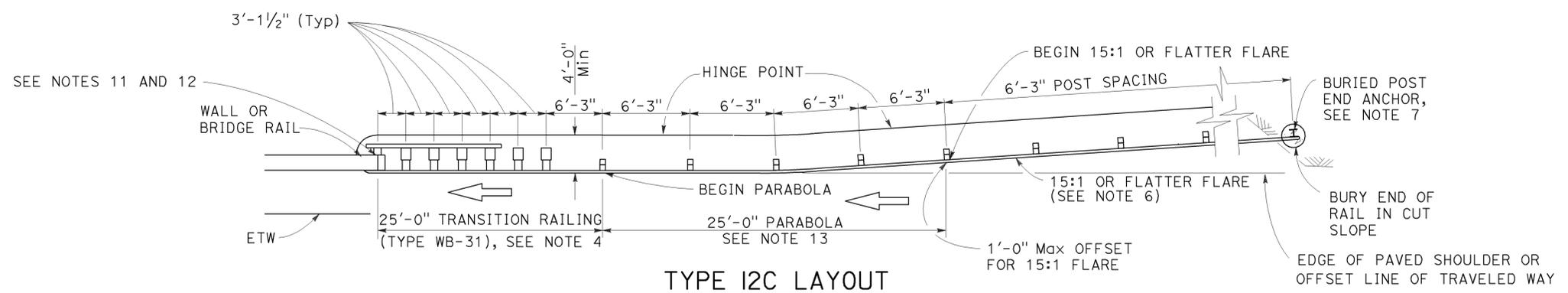
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REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

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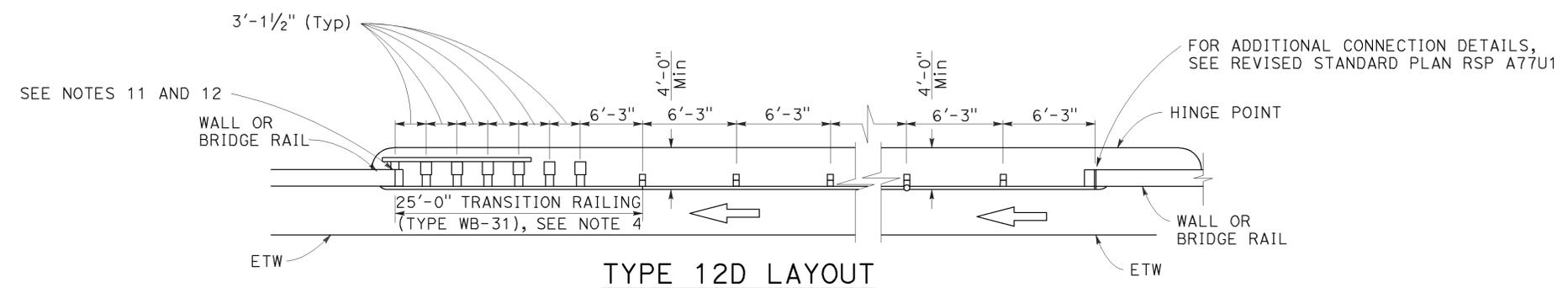
REGISTERED PROFESSIONAL ENGINEER
No. C50200
Exp. 6-30-15
CIVIL
STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 12-16-13



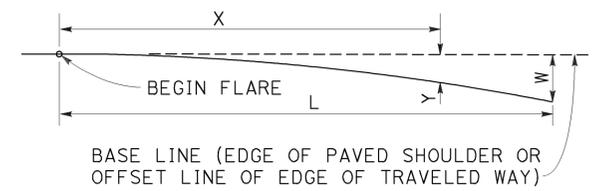
TYPE 12C LAYOUT

(MGS installation at structure approach with a Buried end anchor treatment at traffic approach end of railing)
See Notes 8 and 9



TYPE 12D LAYOUT

(Continuous MGS installation between structures)
See Notes 5 and 9

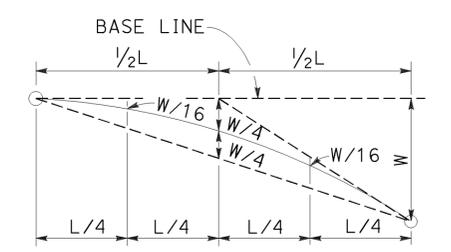


BASE LINE (EDGE OF PAVED SHOULDER OR OFFSET LINE OF EDGE OF TRAVELED WAY)

Y = OFFSET FROM BASE LINE
W = MAXIMUM OFFSET
X = DISTANCE ALONG BASE LINE
L = LENGTH OF FLARE

$$Y = \frac{WX^2}{L^2}$$

PARABOLIC FLARE OFFSETS



TYPICAL PARABOLIC LAYOUT

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" m 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 12C and 12D Layouts, see Revised Standard Plan RSP A77U4.
- Type 12D layout is typically used where continuous MGS is recommended between structures.
- The 15:1 or flatter flare for Type 12C Layout is based on the edge of the paved shoulder or offset line of edge of the traveled way. The length of MGS with the 15:1 or flatter flare is based on site conditions and should be a length equal to multiples of 12'-6".
- For details of the buried post end anchor used with Type 12C Layout, see Revised Standard Plan RSP A77T2.
- Where placement of dike is required with MGS installations, see Revised Standard Plan RSP A77N4 for dike positioning details.
- Type 12C Layout is typically used:
 - To the right of approaching traffic, at the end of the 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 each 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.
- For typical flare offsets for 25'-0" length parabola with maximum offset of 1'-0", see Revised Standard Plan RSP A77P1.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**MIDWEST GUARDRAIL SYSTEM
TYPICAL LAYOUTS FOR
STRUCTURE APPROACH
AND BETWEEN STRUCTURES**

NO SCALE

RSP A77Q2 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77Q2

2010 REVISED STANDARD PLAN RSP A77Q2

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	118	T18.7/R32.6	57	98

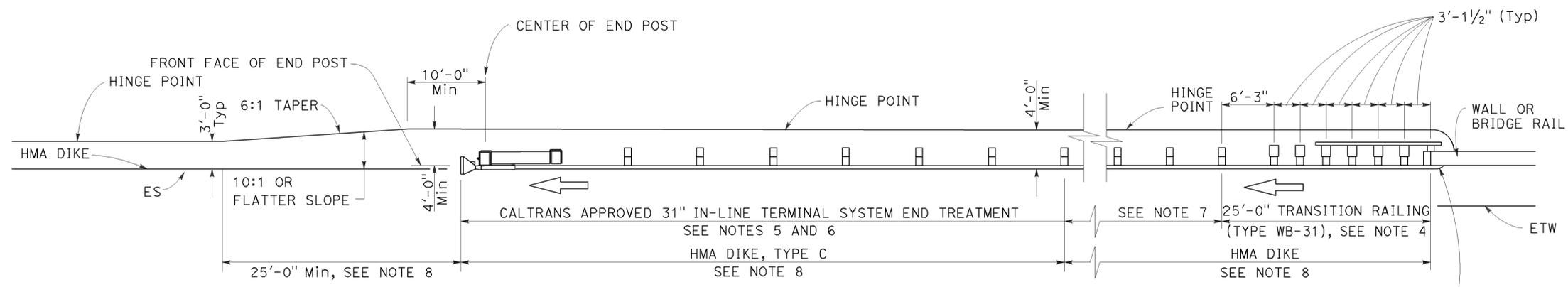
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
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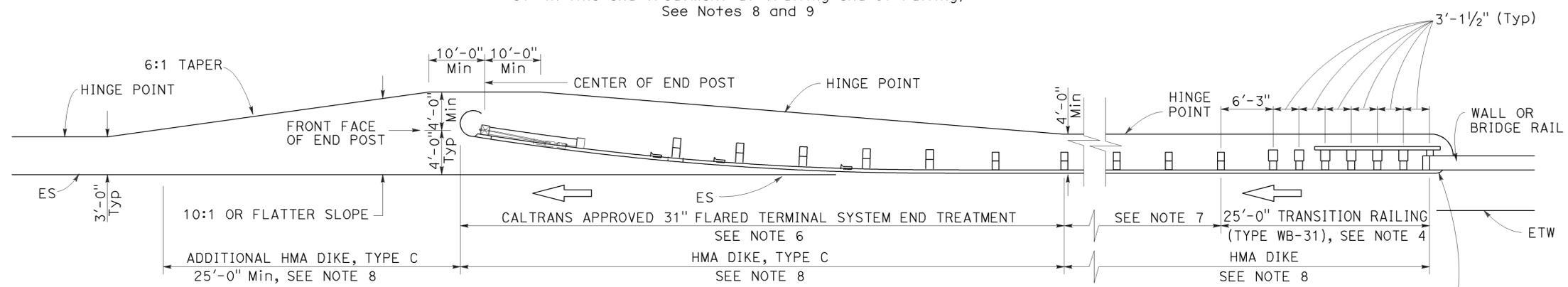
REGISTERED PROFESSIONAL ENGINEER
Randell D. Hiatt
No. C50200
Exp. 6-30-15
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STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 12-16-13



TYPE 12AA LAYOUT

(MGS installation at structure departure with 31" in-line end treatment at trailing end of railing)
See Notes 8 and 9



TYPE 12BB LAYOUT

(MGS installation at structure departure with 31" flared end treatment at trailing end of railing)
See Notes 8 and 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 notched recycled 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 12AA and 12BB Layouts, see Revised Standard Plan RSP A77U4.
- 31" in-line terminal system treatments are used where site conditions will not accommodate a 31" flared end treatment.
- The type of 31" terminal system to be used will be shown on the Project Plans.
- Dependent on site conditions (embankment height, side slopes, other fixed objects), it may be advisable to construct additional MGS (a length equal to multiples of 12'-6" with 6'-3" post spacing) between the transition railing and 31" end treatments.
- Where placement of dike is required with MGS installations, see Revised Standard Plan RSP A77N4 for dike positioning details.
- Type 12AA or Type 12BB Layouts are typically used to the right of traffic departing a structure on two-way conventional highways where the roadbed width across the structure is less than 40 feet.
- For additional details of typical connections to bridge rail, see Connection Detail CC on Revised Standard Plan RSP A77U2 and Connection Detail HH on Revised Standard Plan RSP A77V2.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**MIDWEST GUARDRAIL SYSTEM
TYPICAL LAYOUTS FOR
STRUCTURE DEPARTURE**
NO SCALE

RSP A77Q4 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77Q4

2010 REVISED STANDARD PLAN RSP A77Q4

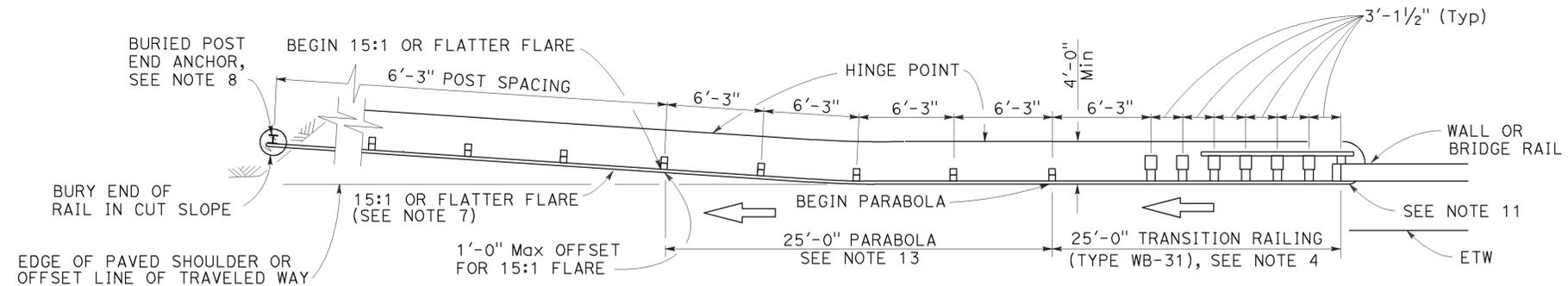
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	118	T18.7/R32.6	58	98

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July 19, 2013
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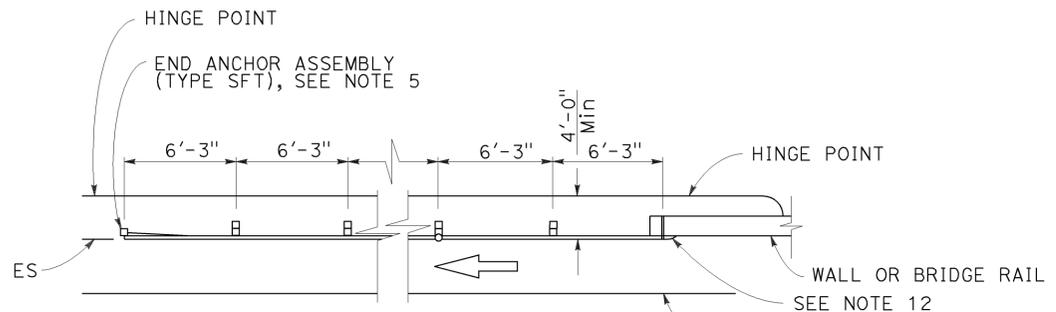
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TYPE 12CC LAYOUT

(MGS installation at structure departure with a Buried end anchor treatment at trailing end of railing)
See Notes 9 and 10



TYPE 12DD LAYOUT

(MGS installation at structure departure With end anchor assembly at trailing end of railing)
See Notes 6 and 9

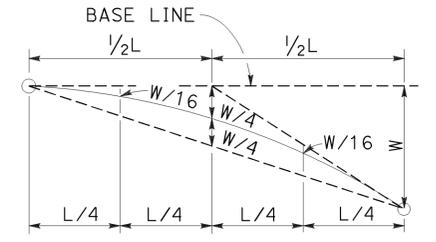


BASE LINE (EDGE OF PAVED SHOULDER OR OFFSET LINE OF EDGE OF TRAVELED WAY)

$Y = \frac{WX^2}{L^2}$

Y = OFFSET FROM BASE LINE
W = MAXIMUM OFFSET
X = DISTANCE ALONG BASE LINE
L = LENGTH OF FLARE

PARABOLIC FLARE OFFSETS



TYPICAL PARABOLIC LAYOUT

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.
- MSG 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 notched recycled plastic blocks may be used for 6" x 8" x 6'-0" wood line posts with 6" x 12" x 1'-2" wood blocks where applicable and when specified.
- For Transition Railing (Type WB-31) details for Type 12CC Layout, see Revised Standard Plan RSP A77U4.
- For details of End Anchor Assembly (Type SFT) used with Type 12DD Layout, see Revised Standard Plan RSP A77S1.
- Type 12DD layout is typically used to the right of traffic departing a structure on two-way conventional highways where the roadbed width across the structure is equal to or greater than 40 feet and MGS is recommended (embankment height, side slopes, other fixed objects). Length of railing to be equal to multiples of 12'-6". For MGS connection details to bridge rail, see Revised Standard Plans RSP A77U1 and RSP A77V1. For MGS connection details to wall, see Revised Standard Plan RSP A77U3.
- The 15:1 or flatter flare for Type 12CC Layout is based on the edge of the paved shoulder or offset line of edge of the traveled way. The length of MGS within the 15:1 or flatter flare is based on site conditions and should be a length equal to multiples of 12'-6".
- For details of the buried post end anchor used with Type 12CC Layout, see Revised Standard Plan RSP A77T2.
- Where placement of dike is required with MGS installations, see Revised Standard Plan RSP A77N4 for dike positioning details.
- Type 12CC Layout is typically used to the right of traffic departing a structure on two-way conventional highways where the roadbed width across the structure is less than 40 feet.
- For additional details of a typical connection to bridge rail for Layout Type 12CC, see Connection Detail CC on Revised Standard Plan RSP A77U2 and Connection Detail HH on Revised Standard Plan RSP A77V2.
- For additional details of a typical connection to bridge rail for Layout Type 12DD, see Connection Detail BB on Revised Standard Plan RSP A77U1 and Connection Detail GG on Revised Standard Plan RSP A77V1.
- For typical flare offsets for 25'-0" length parabola with maximum offset of 1'-0", see Revised Standard Plan RSP A77P1.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

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

NO SCALE

RSP A77Q5 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77Q5

2010 REVISED STANDARD PLAN RSP A77Q5

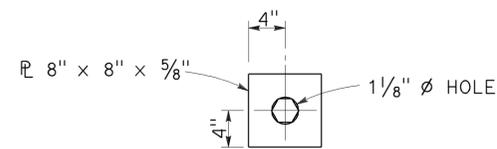
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	118	T18.7/R32.6	59	98

Randell D. Hiatt
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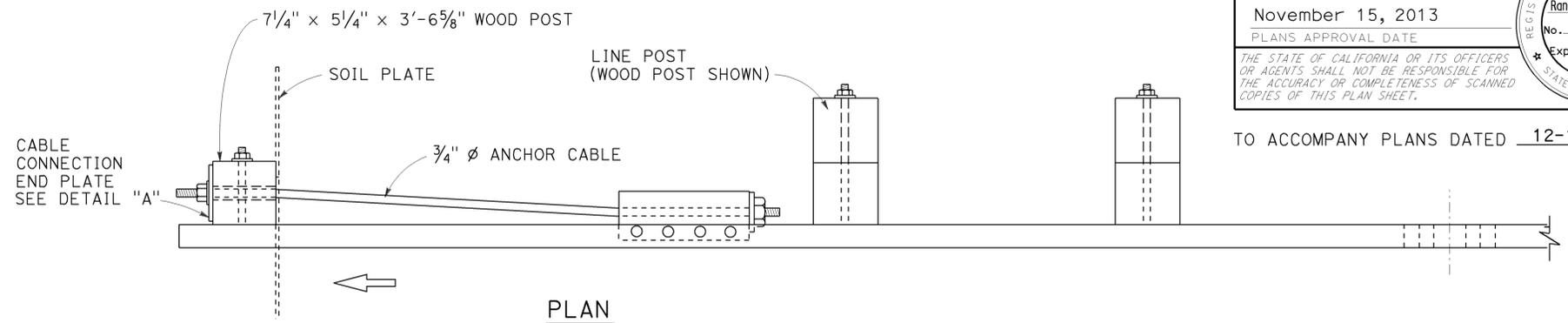
November 15, 2013
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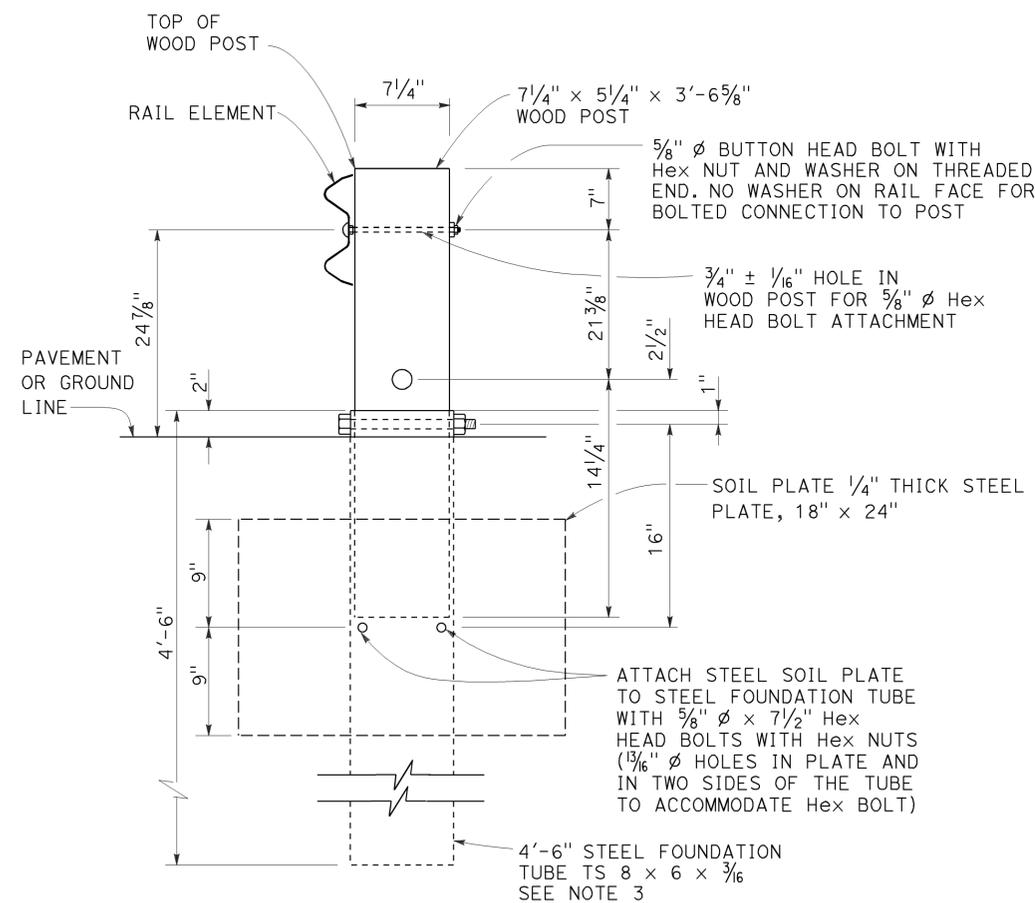
TO ACCOMPANY PLANS DATED 12-16-13



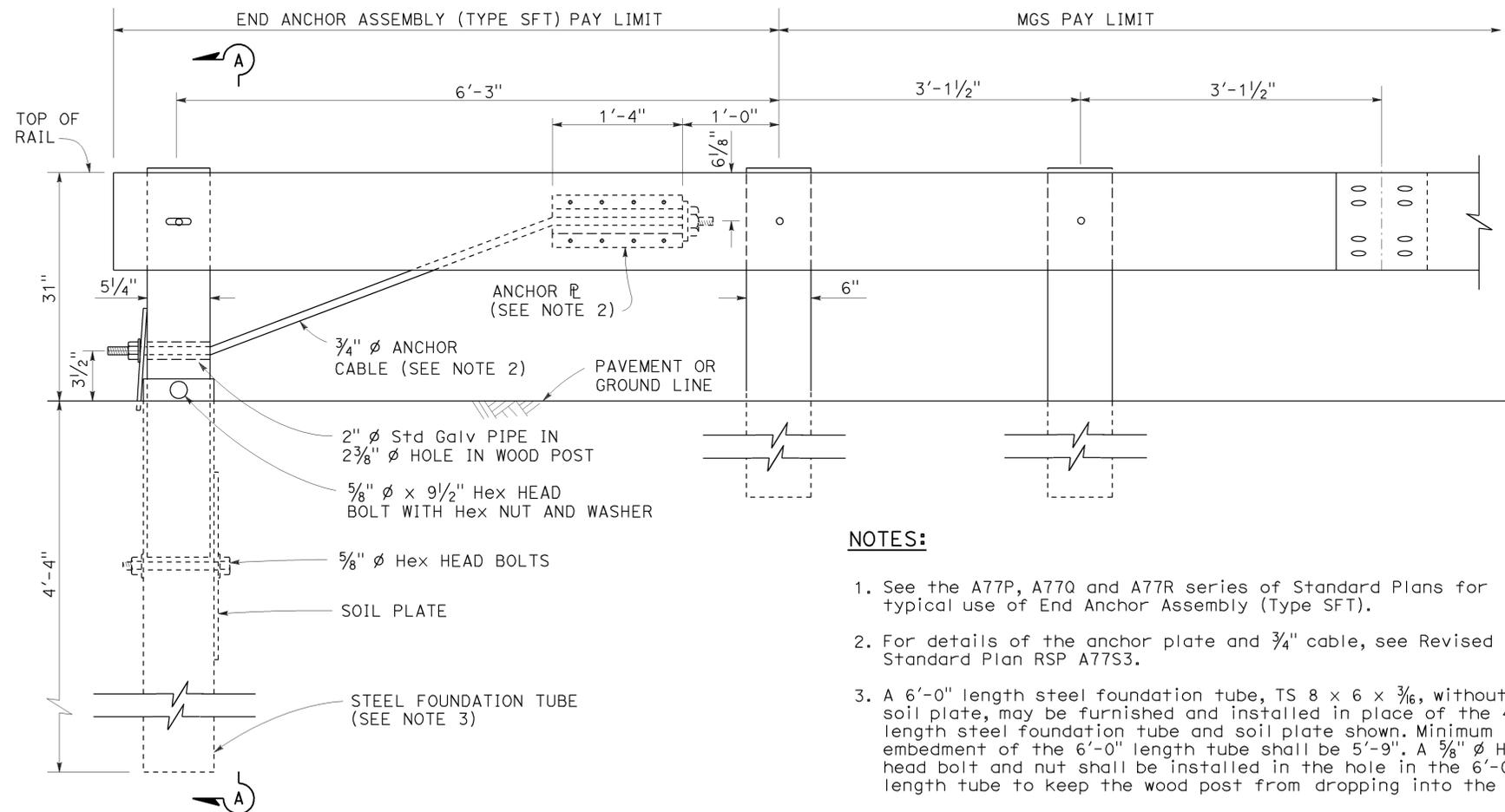
DETAIL "A"
CABLE CONNECTION
END PLATE



PLAN



SECTION A-A



ELEVATION

END ANCHOR
ASSEMBLY (TYPE SFT)

See Note 1

NOTES:

1. See the A77P, A77Q and A77R series of Standard Plans for typical use of End Anchor Assembly (Type SFT).
2. For details of the anchor plate and 3/4" cable, see Revised Standard Plan RSP A77S3.
3. A 6'-0" length steel foundation tube, TS 8 x 6 x 3/16, without a soil plate, may be furnished and installed in place of the 4'-6" length steel foundation tube and soil plate shown. Minimum embedment of the 6'-0" length tube shall be 5'-9". A 5/8" diameter Hex head bolt and nut shall be installed in the hole in the 6'-0" length tube to keep the wood post from dropping into the tube.
4. Install line post, steel foundation tube and soil plate in soil.

STATE OF CALIFORNIA
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MIDWEST GUARDRAIL SYSTEM
END ANCHOR ASSEMBLY
(TYPE SFT)

NO SCALE

RSP A77S1 DATED NOVEMBER 15, 2013 SUPERSEDES RSP A77S1
DATED JULY 19, 2013 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77S1

2010 REVISED STANDARD PLAN RSP A77S1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	118	T18.7/R32.6	60	98

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

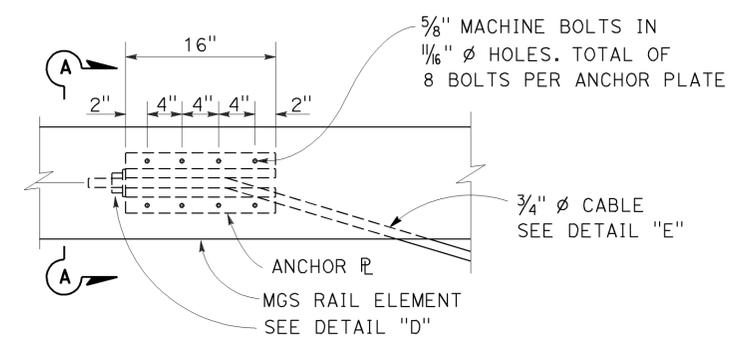
November 15, 2013
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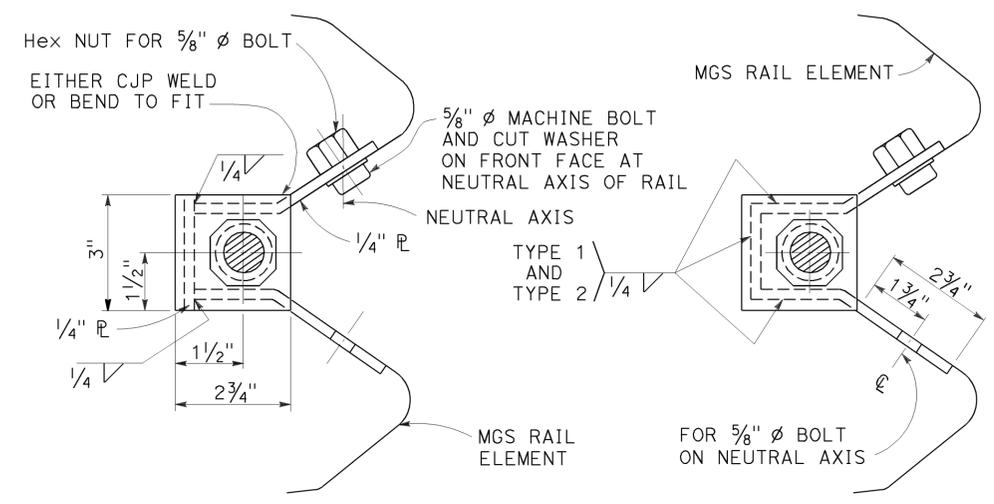
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TO ACCOMPANY PLANS DATED 12-16-13

NOTE:
See Revised Standard Plans RSP A77S1, RSP A77S2 and RSP A77T1 for typical use of anchor cable and anchor plate.



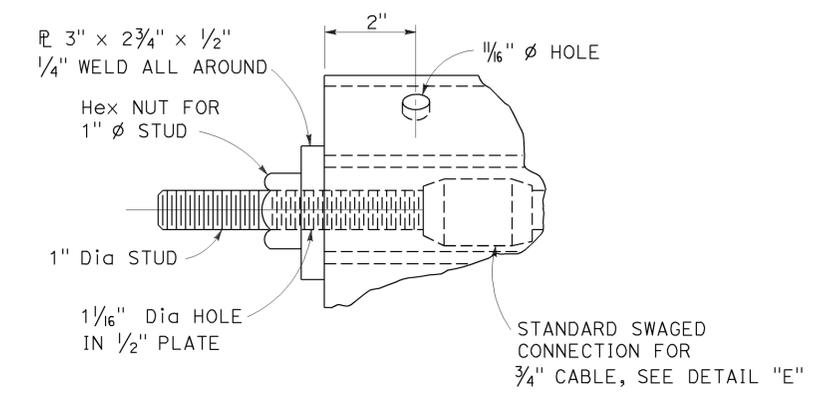
ANCHOR PLATE DETAIL
(MGS shown, TBB similar)



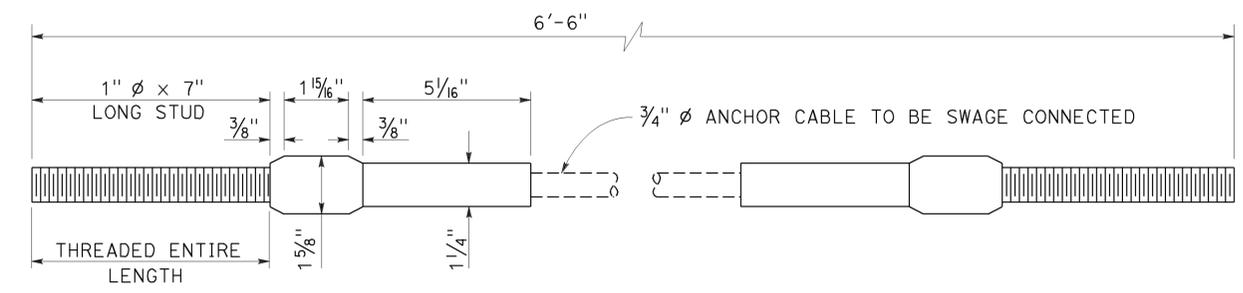
SECTION A-A (ALTERNATIVE TYPE 1)

SECTION A-A (ALTERNATIVE TYPE 2)

NOTE:
Dimensioning applies to both types.



DETAIL "D"



ANCHOR CABLE WITH SWAGED FITTING AND STUD
DETAIL "E"

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**METAL RAILING
ANCHOR CABLE AND
ANCHOR PLATE DETAILS**

NO SCALE
RSP A77S3 DATED NOVEMBER 15, 2013 SUPERSEDES RSP A77S3 DATED JULY 19, 2013 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

2010 REVISED STANDARD PLAN RSP A77S3

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
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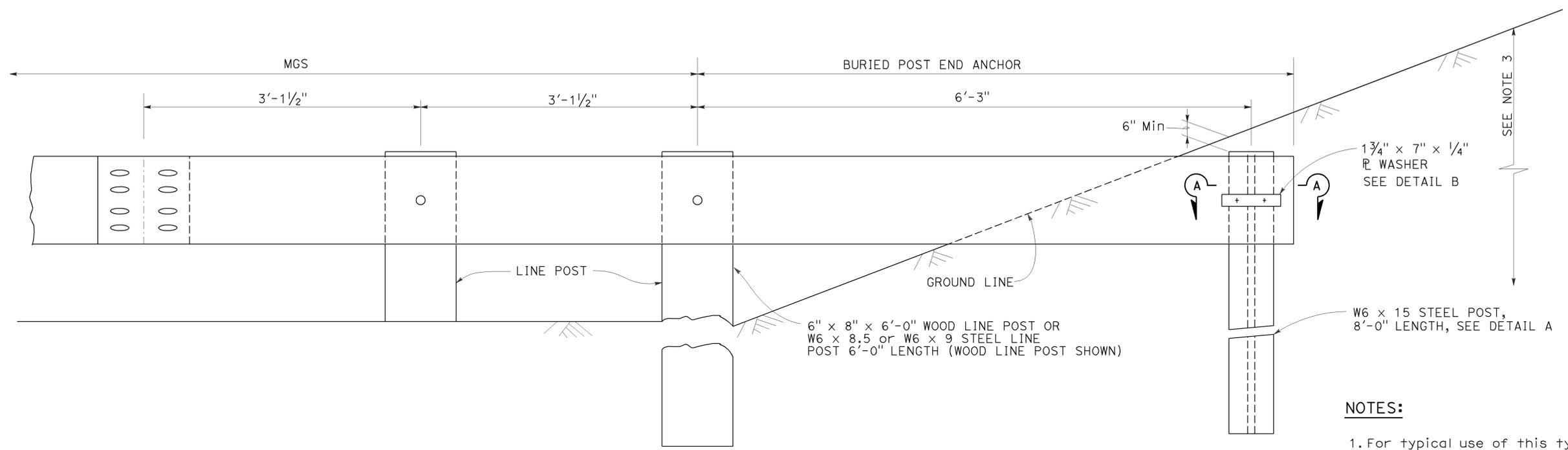
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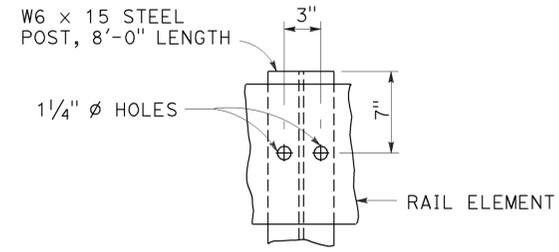


BURIED POST END ANCHOR

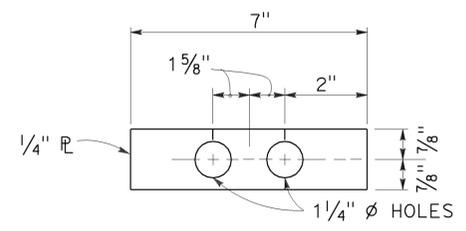
See Note 3

NOTES:

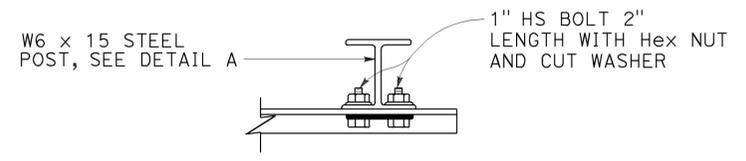
1. For typical use of this type of end anchor with MGS see the A77P, A77Q and A77R Series of the Standard Plans.
2. Holes excavation in the slope to construct the buried post end anchor shall be backfilled with selected earth, placed in layers approximately 1'-0" thick. Each layer shall be moistened and thoroughly compacted.
3. The buried post end anchor shall only be constructed at those locations where the slope perpendicular to the roadway is non-traversable.



DETAIL A



DETAIL B



SECTION A-A

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**MIDWEST GUARDRAIL SYSTEM
BURIED POST END ANCHOR**

NO SCALE

RSP A77T2 DATED NOVEMBER 15, 2013 SUPERSEDES RSP A77T2 DATED JULY 19, 2013 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77T2

2010 REVISED STANDARD PLAN RSP A77T2

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	118	T18.7/R32.6	62	98

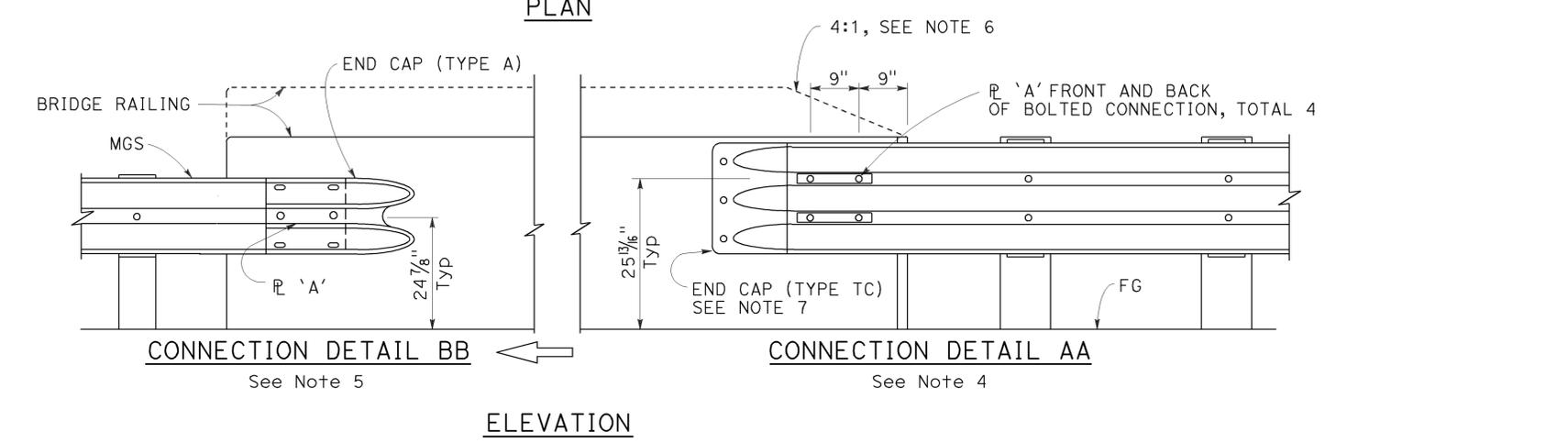
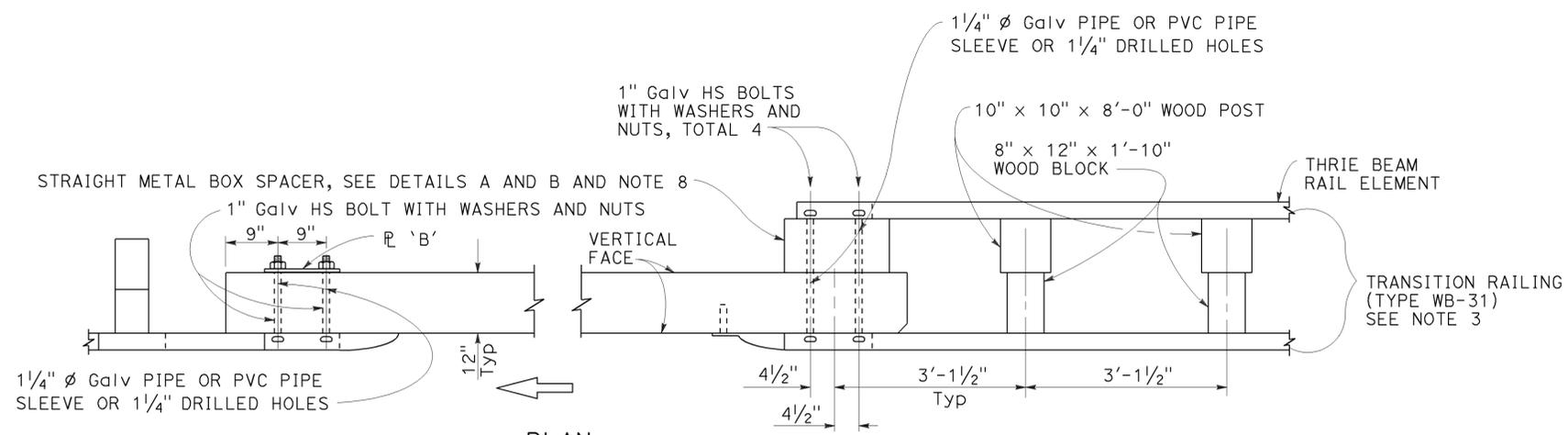
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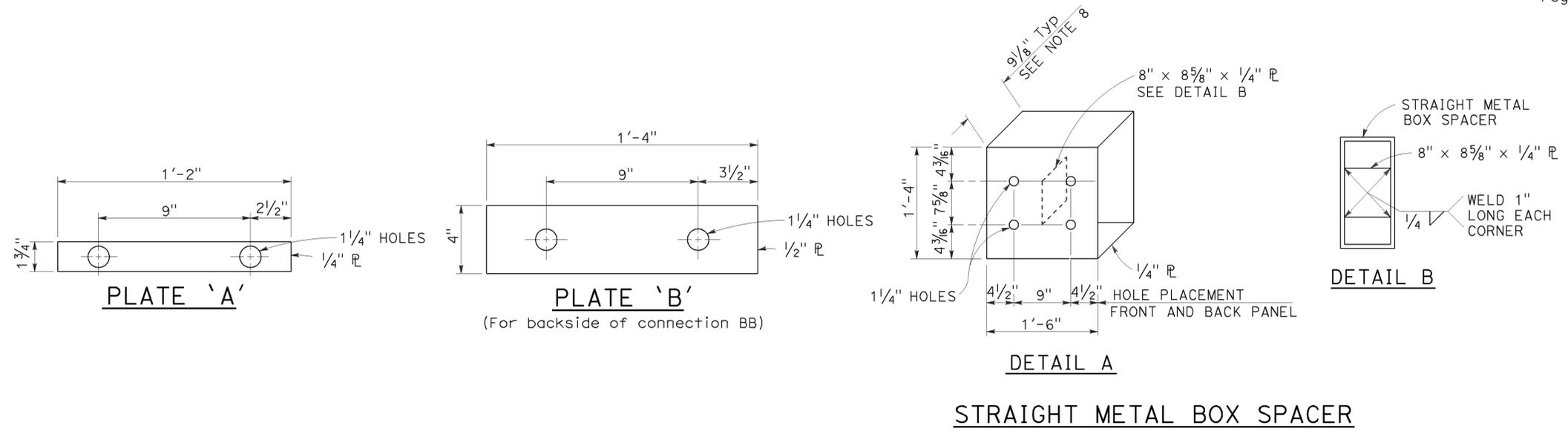
TO ACCOMPANY PLANS DATED 12-16-13



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.



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

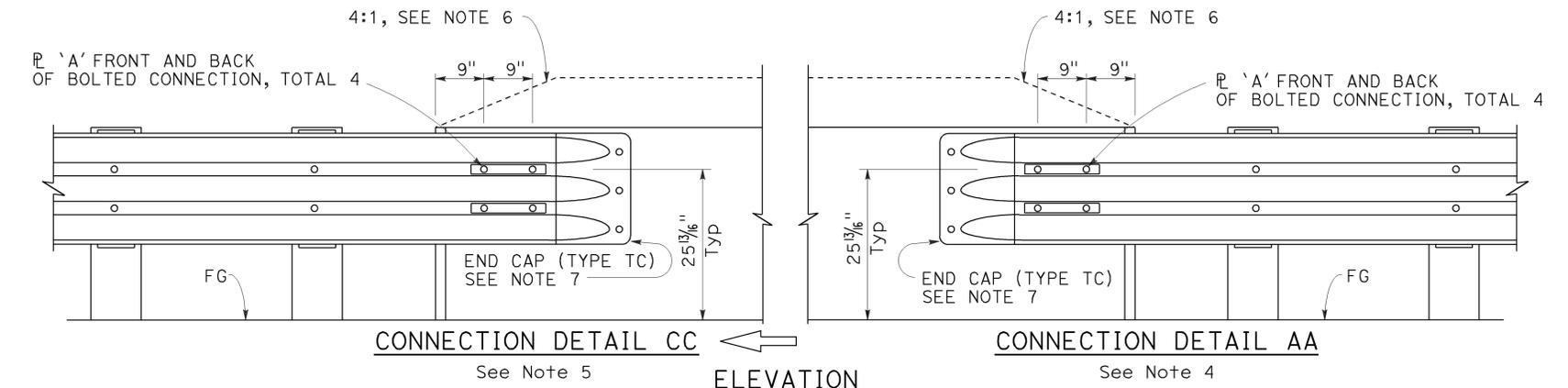
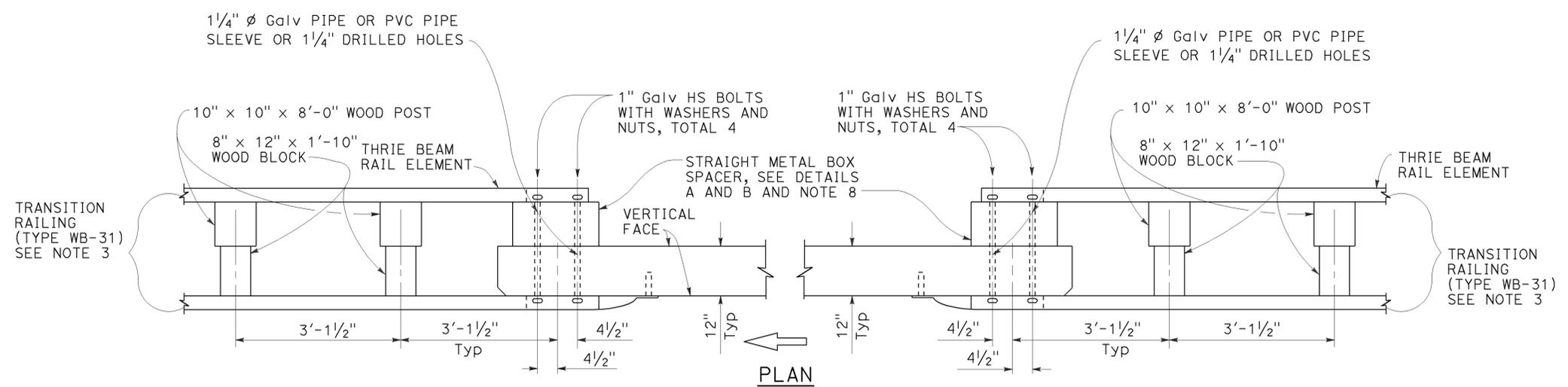
2010 REVISED STANDARD PLAN RSP A77U1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	118	T18.7/R32.6	63	98

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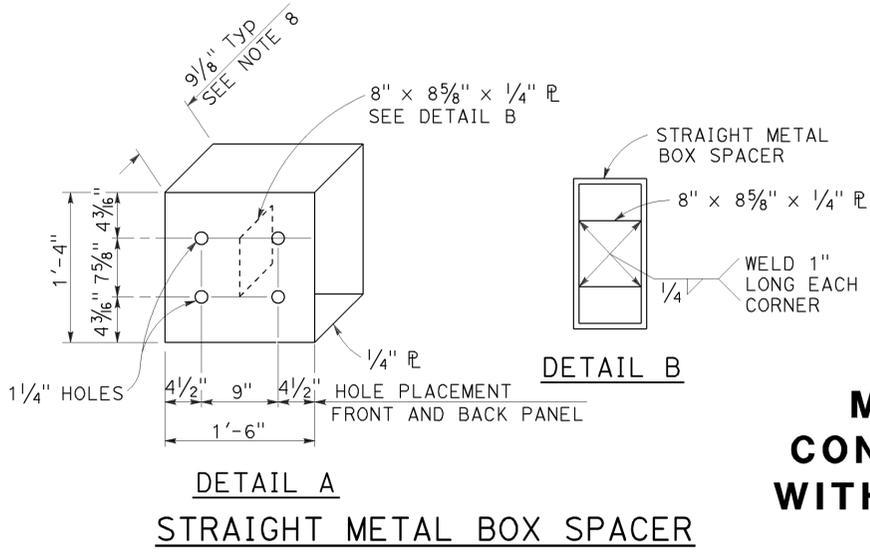
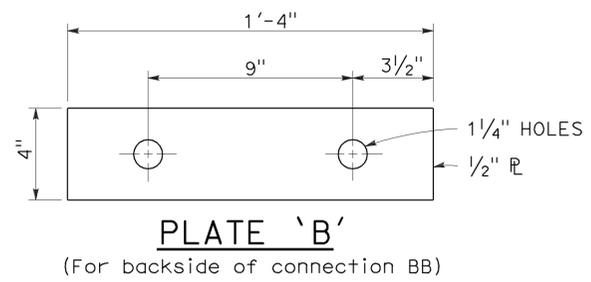
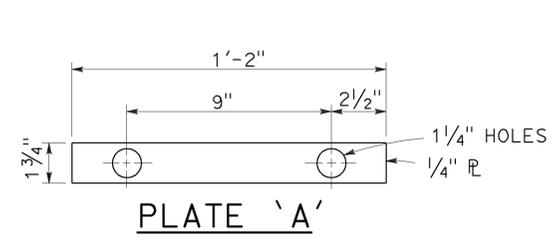
TO ACCOMPANY PLANS DATED 12-16-13



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\"/>



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

NO SCALE

RSP A77U2 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77U2

2010 REVISED STANDARD PLAN RSP A77U2

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	118	T18.7/R32.6	64	98

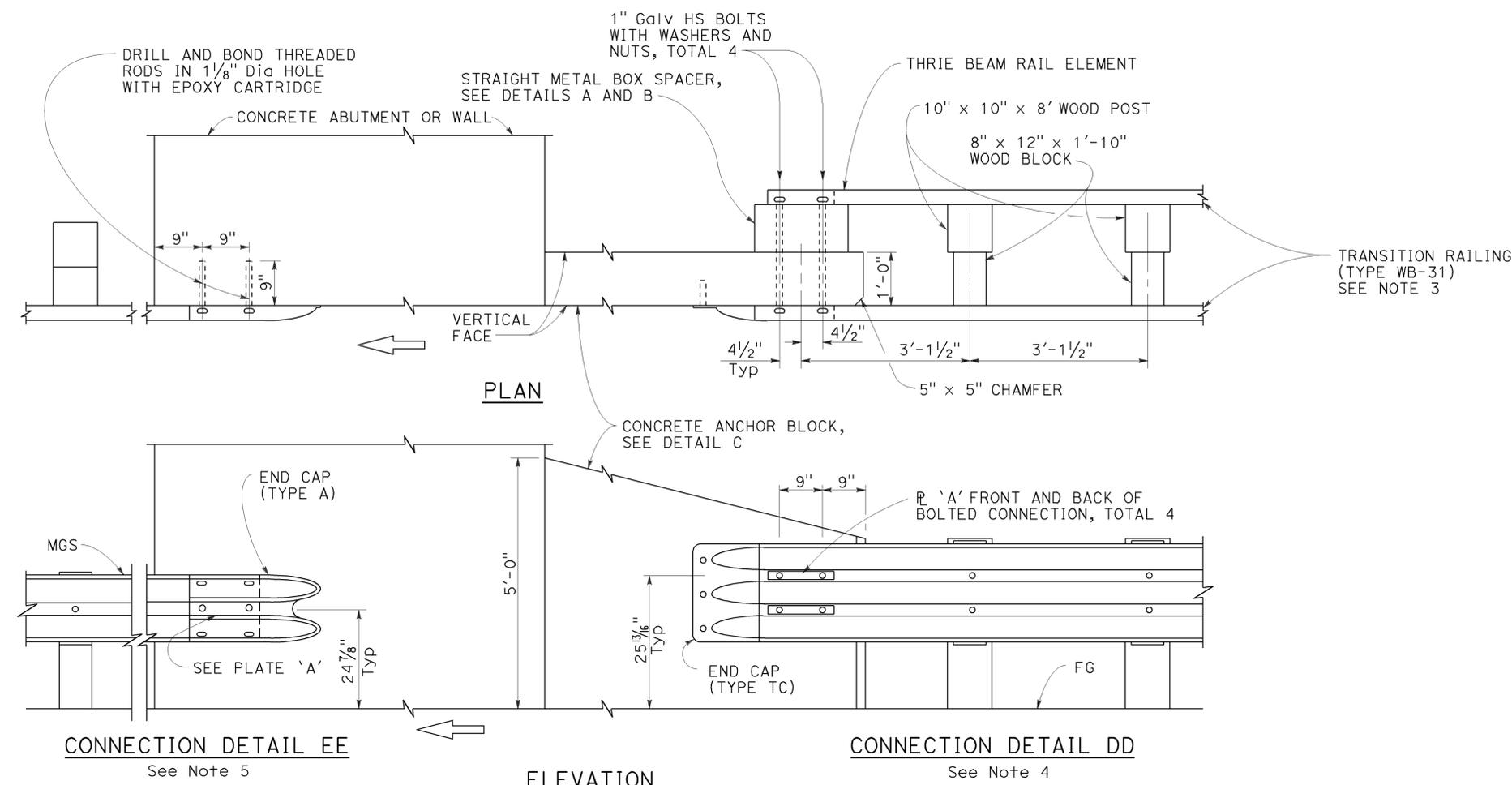
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July 19, 2013
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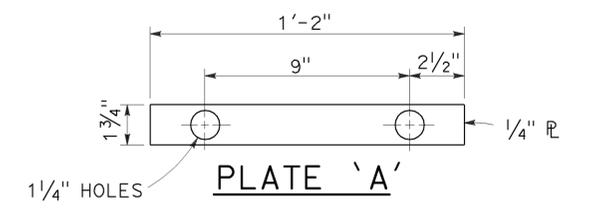
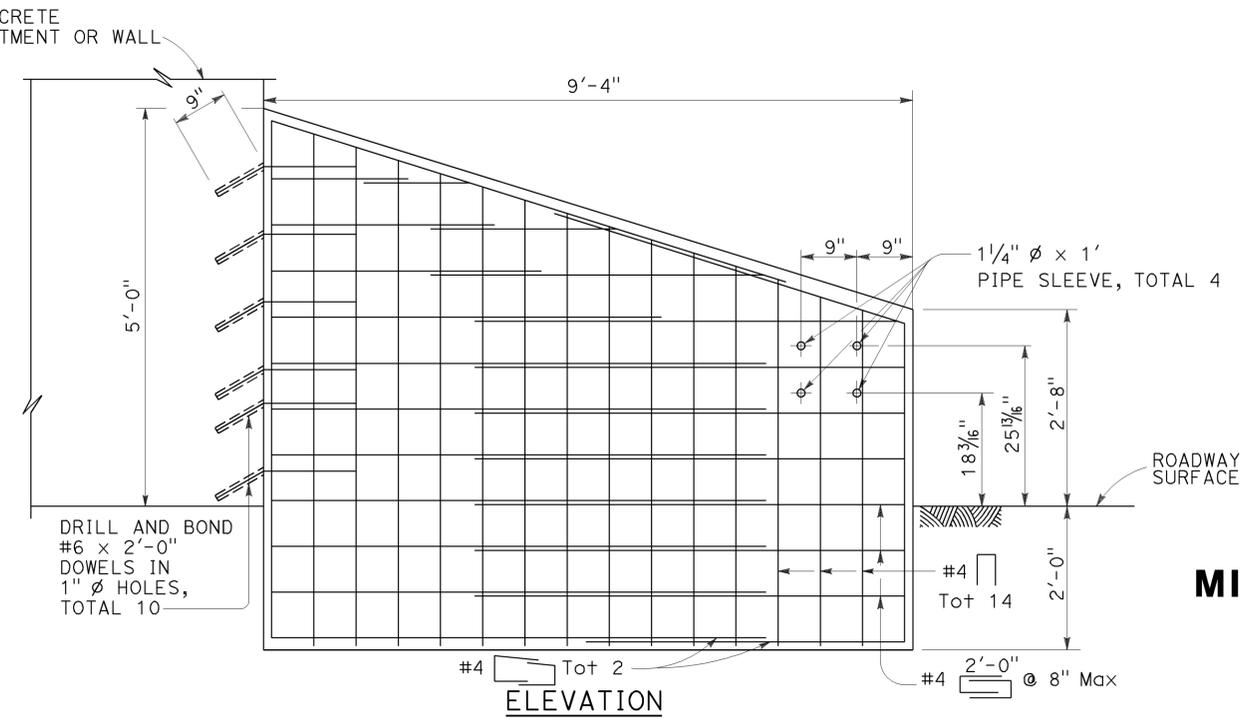
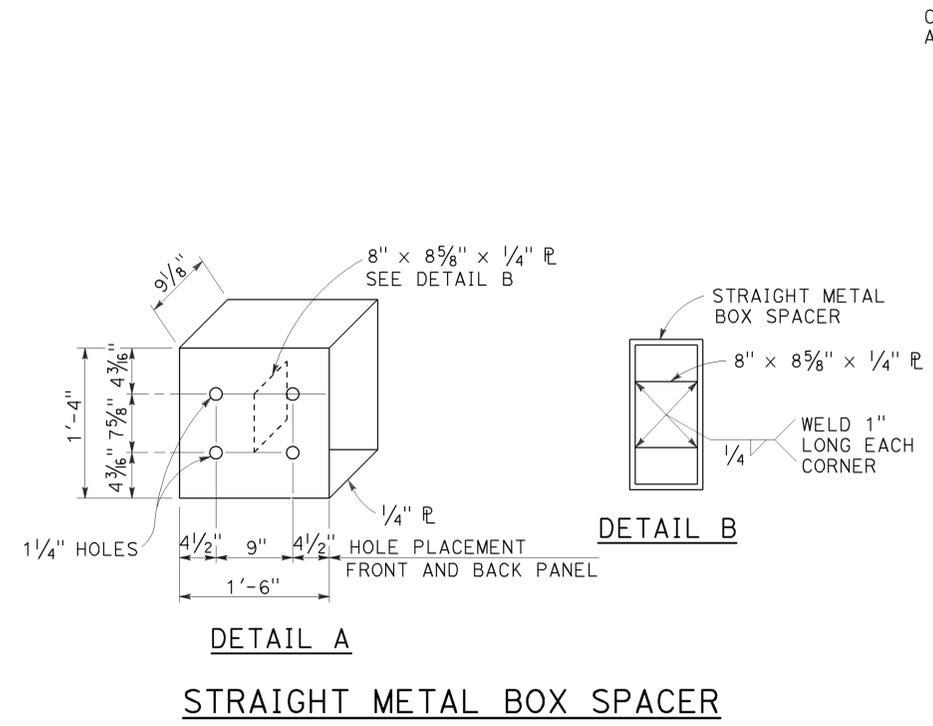
TO ACCOMPANY PLANS DATED 12-16-13



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

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

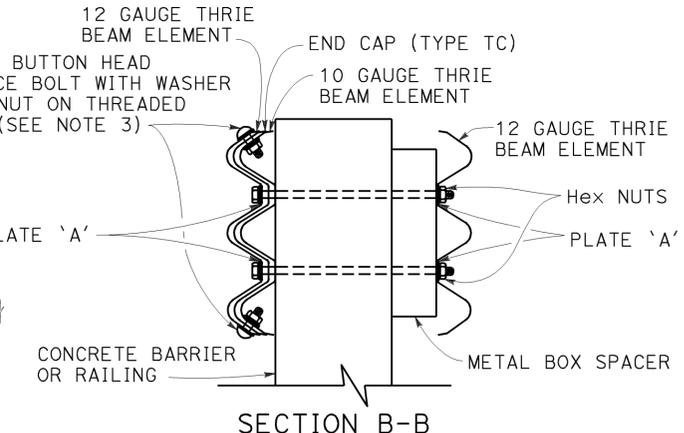
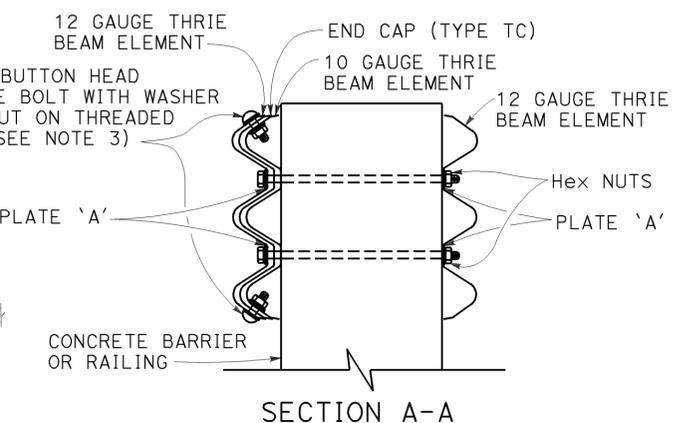
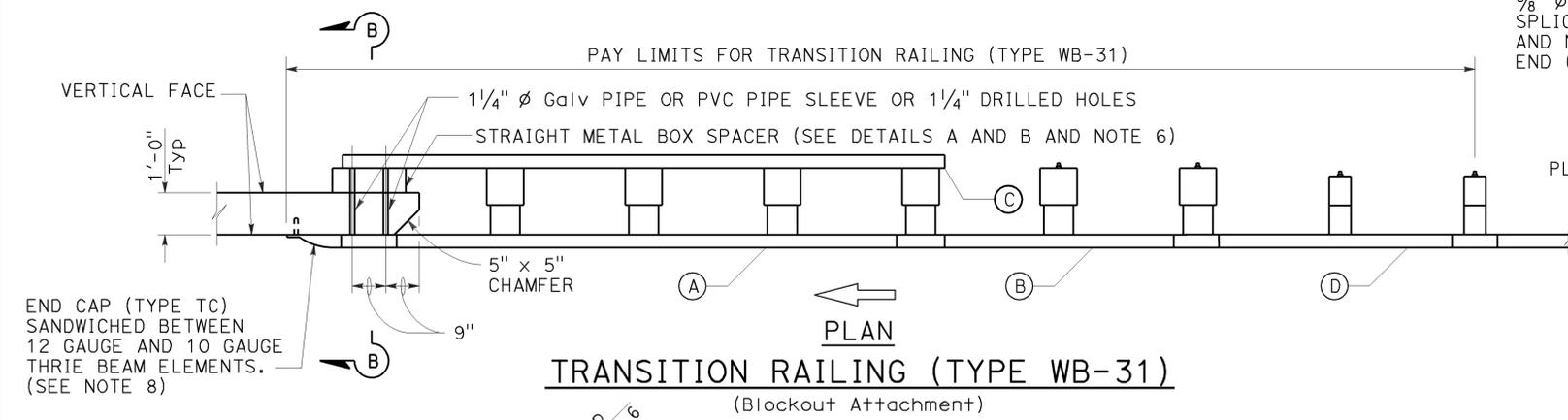
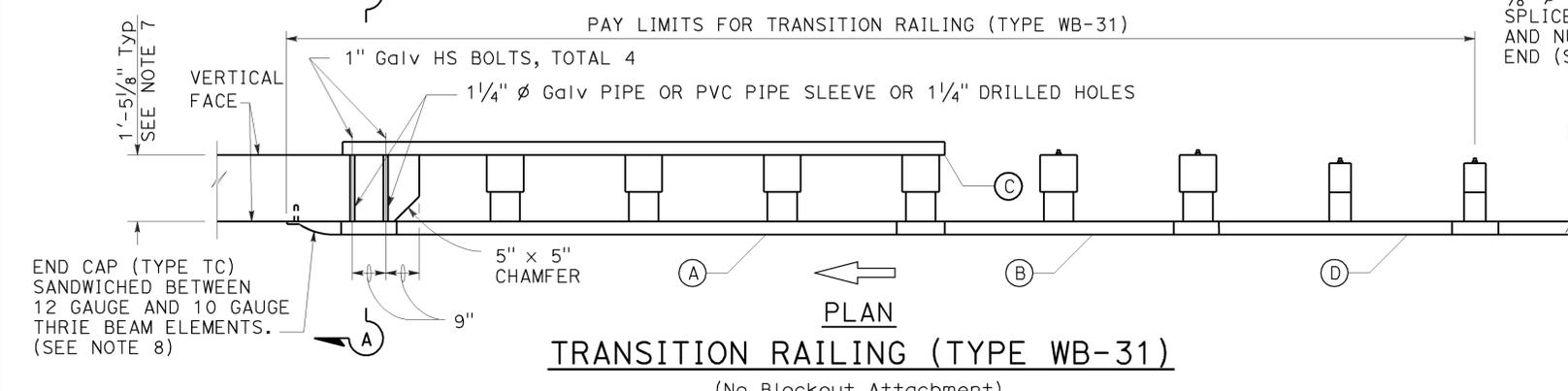
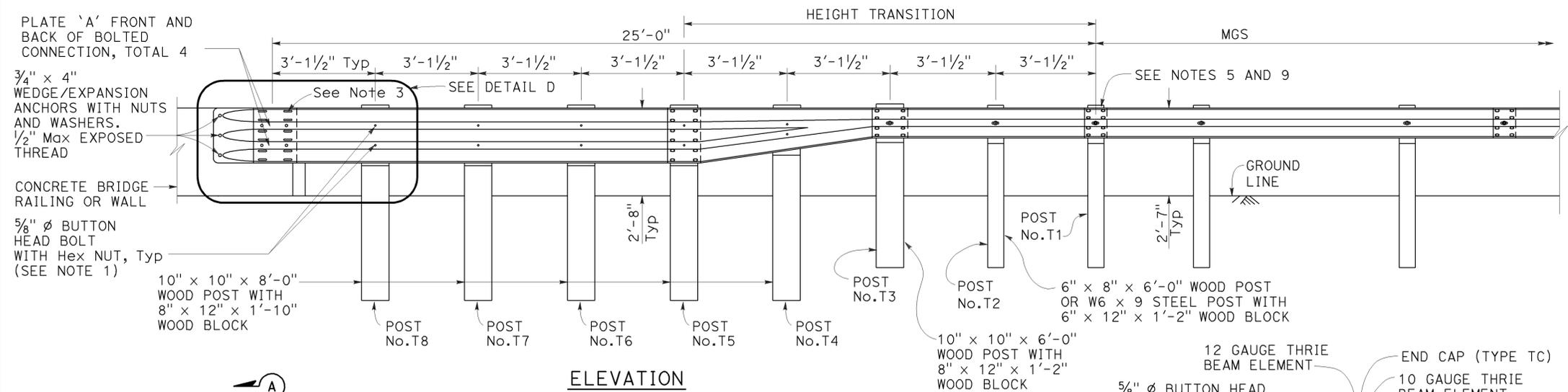
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	118	T18.7/R32.6	65	98

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

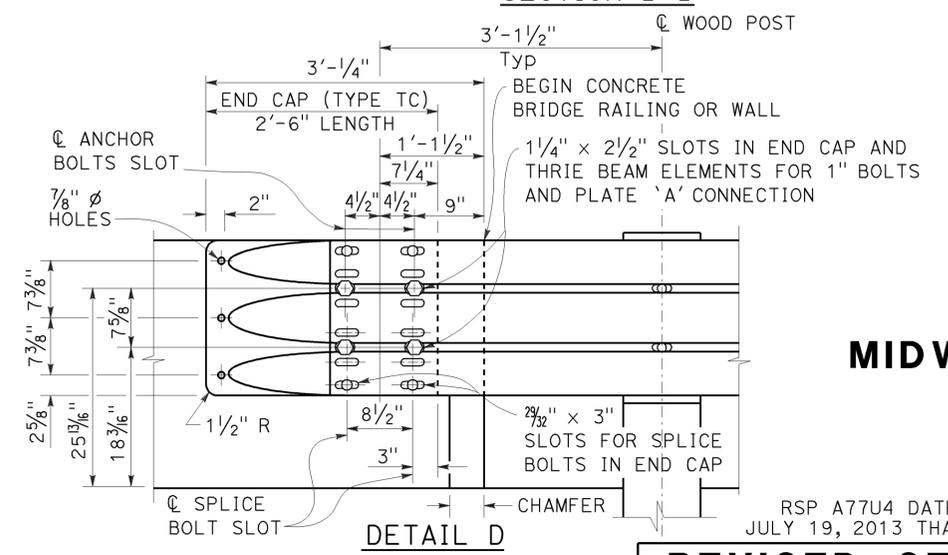
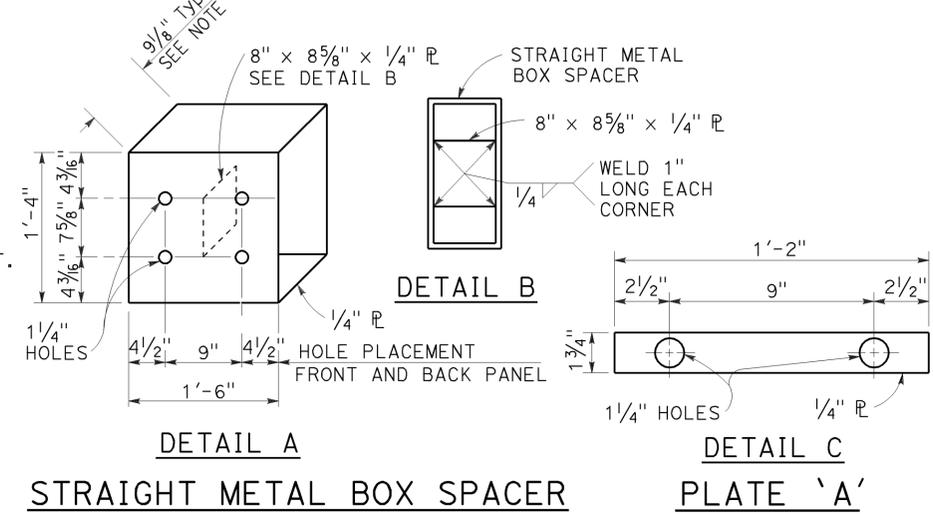
November 15, 2013
PLANS APPROVAL DATE

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.

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 1/2" LENGTH)
- 10 GAUGE = 0.138" THICK
12 GAUGE = 0.108" THICK



- NOTES:** TO ACCOMPANY PLANS DATED 12-16-13
1. Use 5/8" Ø 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 1/8" slot size. Interior splice bolt holes at these locations may be increased up to 1 1/4" Ø. 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 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 NOVEMBER 15, 2013 SUPERSEDES 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
07	Ven	118	T18.7/R32.6	66	98

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

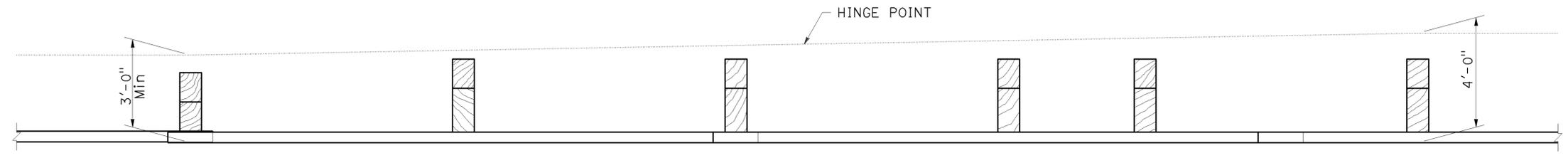
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

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

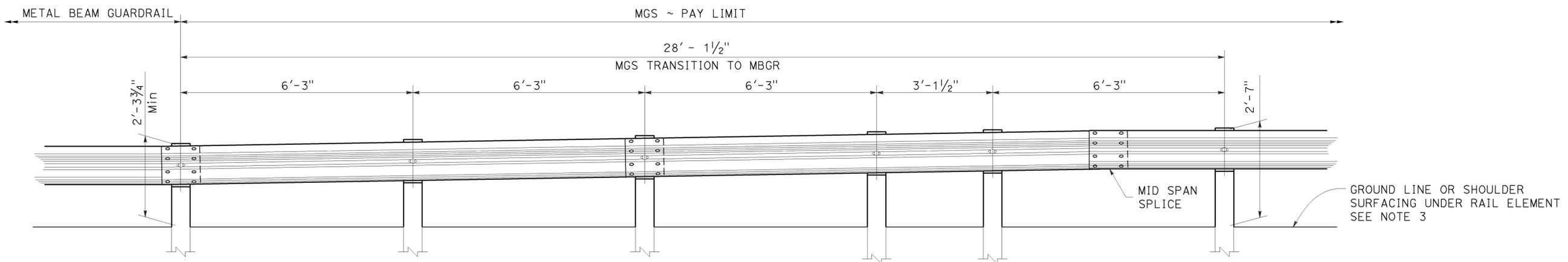
TO ACCOMPANY PLANS DATED 12-16-13

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**

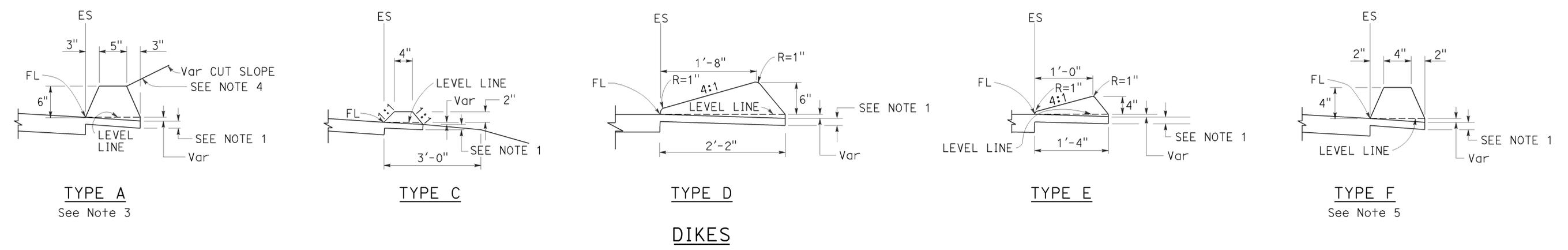
NO SCALE

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

REVISED STANDARD PLAN RSP A77U5

2010 REVISED STANDARD PLAN RSP A77U5

TO ACCOMPANY PLANS DATED 12-16-13



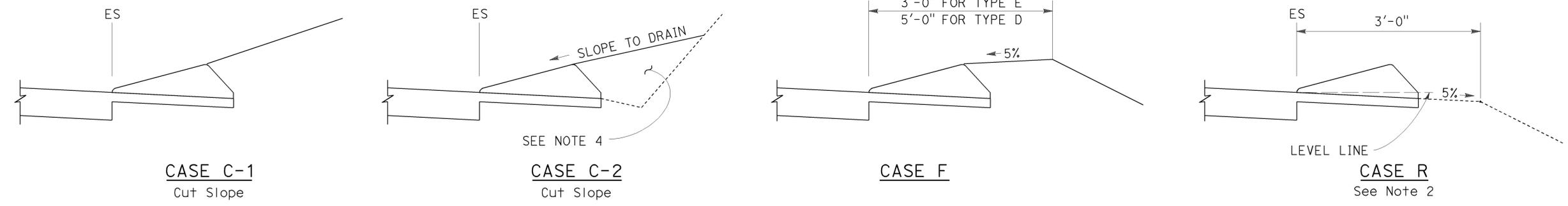
TYPE A
See Note 3

TYPE C

TYPE D

TYPE E

TYPE F
See Note 5



CASE C-1
Cut Slope

CASE C-2
Cut Slope

CASE F

CASE R
See Note 2

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

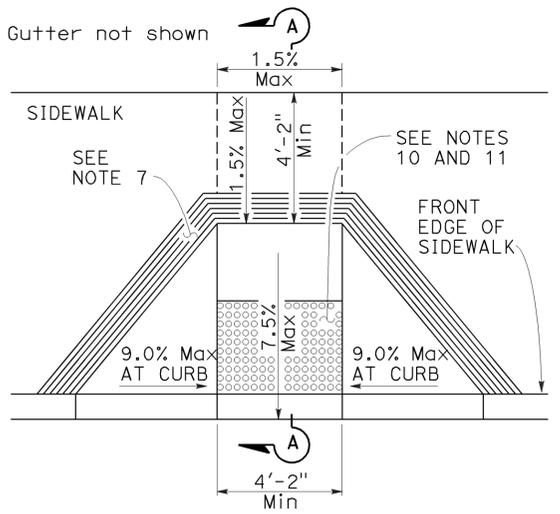
RSP A87B DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN A87B
DATED MAY 20, 2011 - PAGE 120 OF THE STANDARD PLANS BOOK DATED 2010.

2010 REVISED STANDARD PLAN RSP A87B

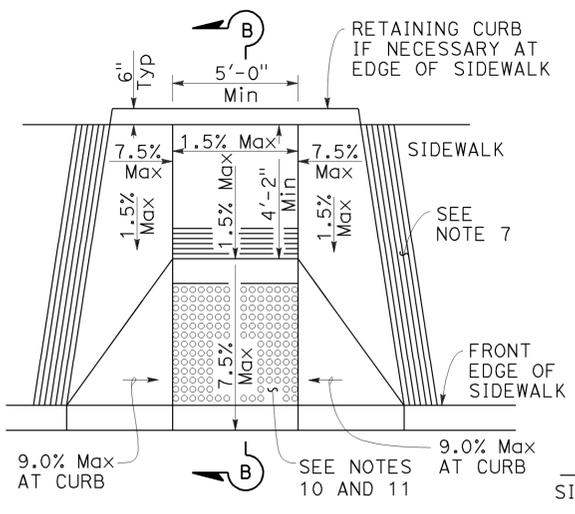
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	118	T18.7/R32.6	68	98

H. David Cordova
 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.

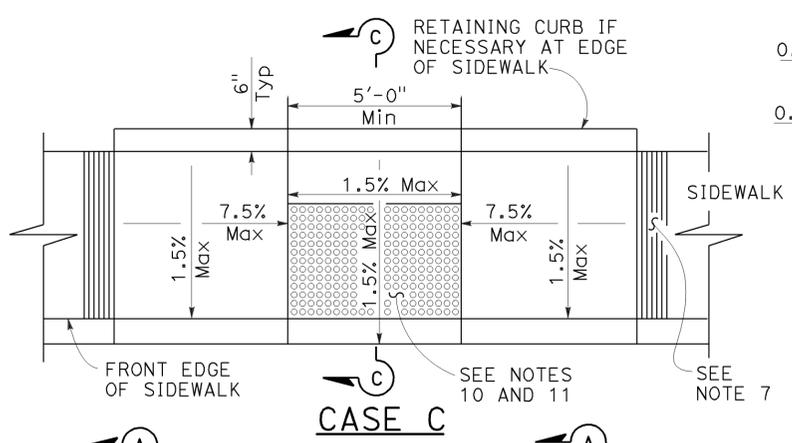
REGISTERED PROFESSIONAL ENGINEER
Hector David Cordova
 No. C41957
 Exp. 3-31-14
 CIVIL
 STATE OF CALIFORNIA



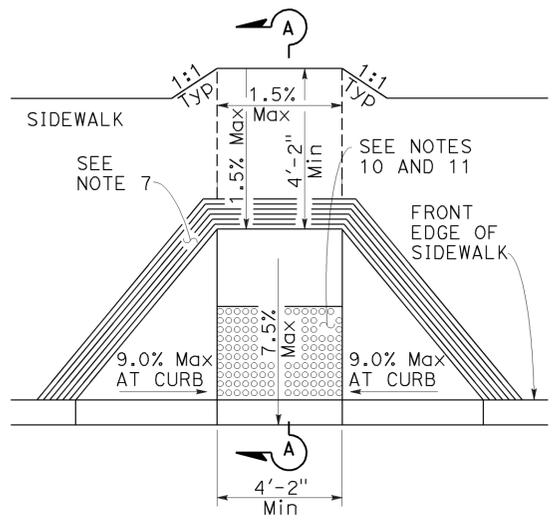
CASE A



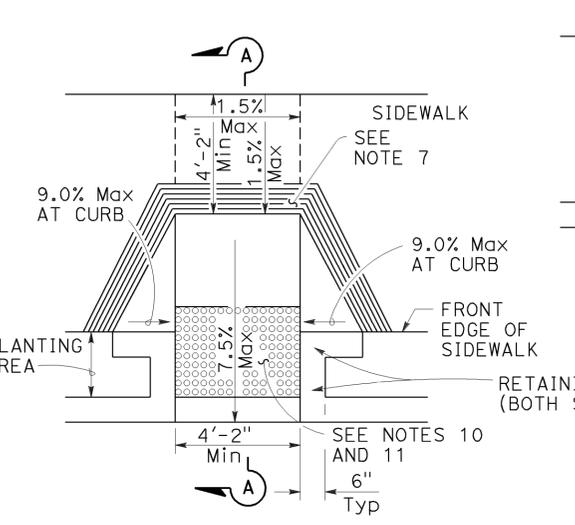
CASE B



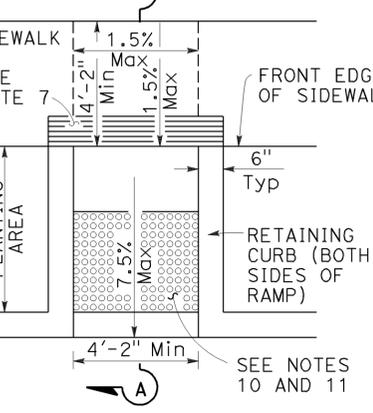
CASE C



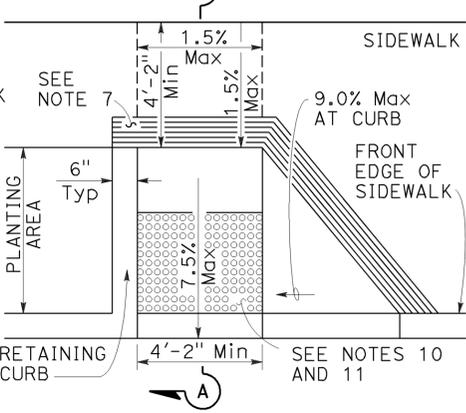
CASE D



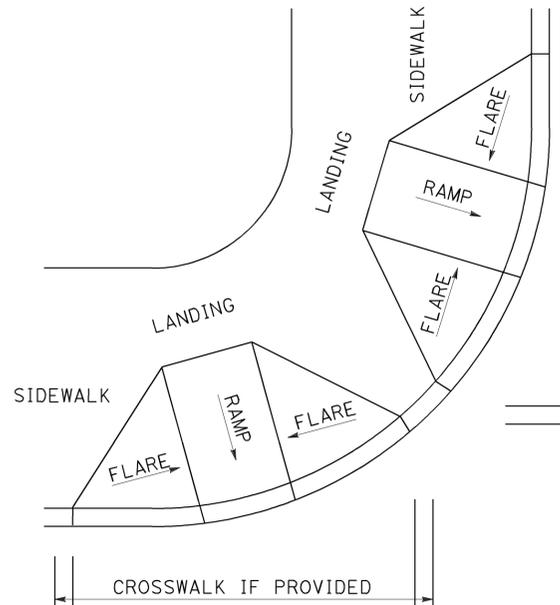
CASE E



CASE F



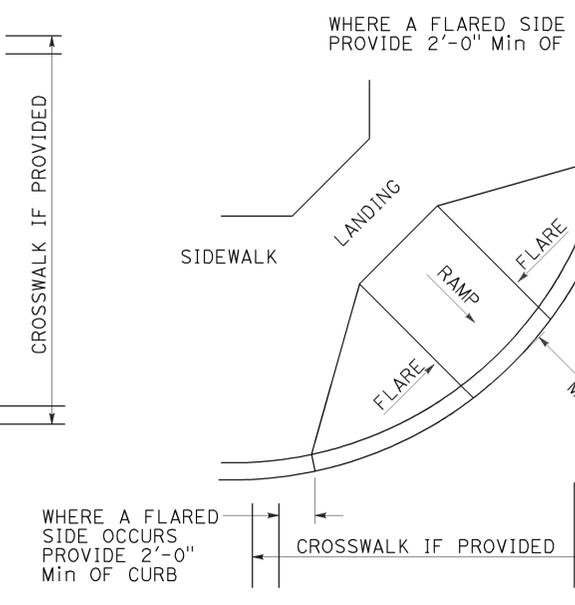
CASE G



DETAIL A

TYPICAL TWO-RAMP CORNER INSTALLATION

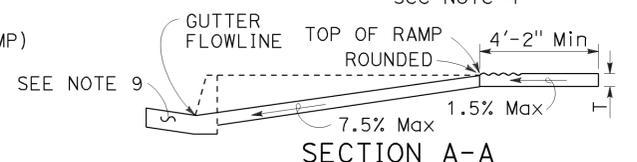
See Note 1



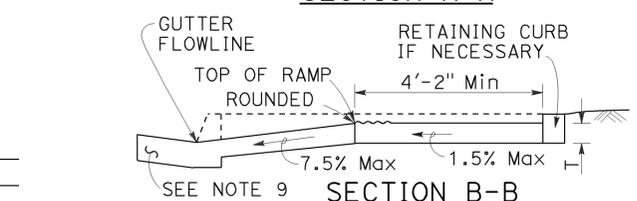
DETAIL B

TYPICAL ONE-RAMP CORNER INSTALLATION

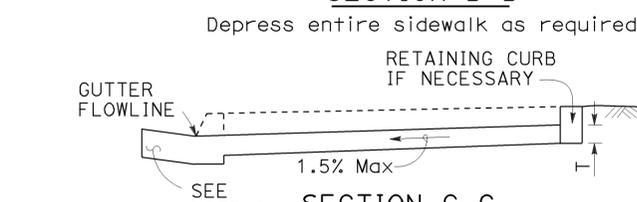
See Notes 1 and 3



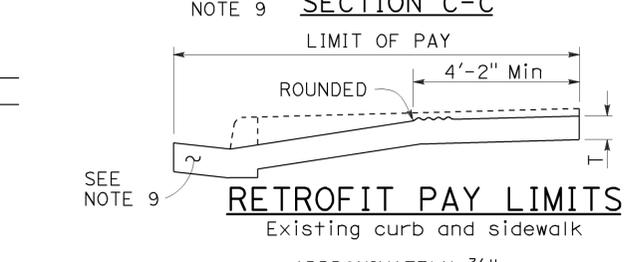
SECTION A-A



SECTION B-B

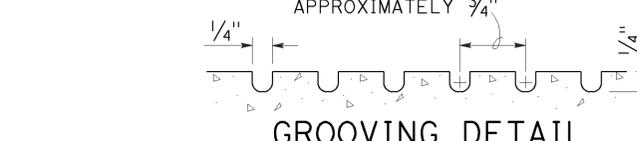


SECTION C-C

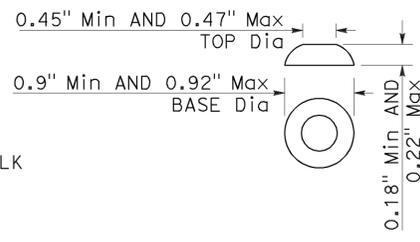


RETROFIT PAY LIMITS

Existing curb and sidewalk



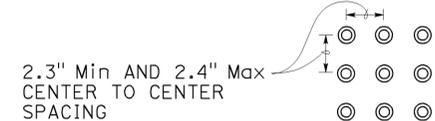
GROOVING DETAIL



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. Detectable Warning Surfaces shall conform to the details on this plan and 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 3/2" 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 JULY 19, 2013 SUPERSEDES STANDARD PLAN A88A DATED MAY 20, 2011 - PAGE 121 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A88A

2010 REVISED STANDARD PLAN RSP A88A

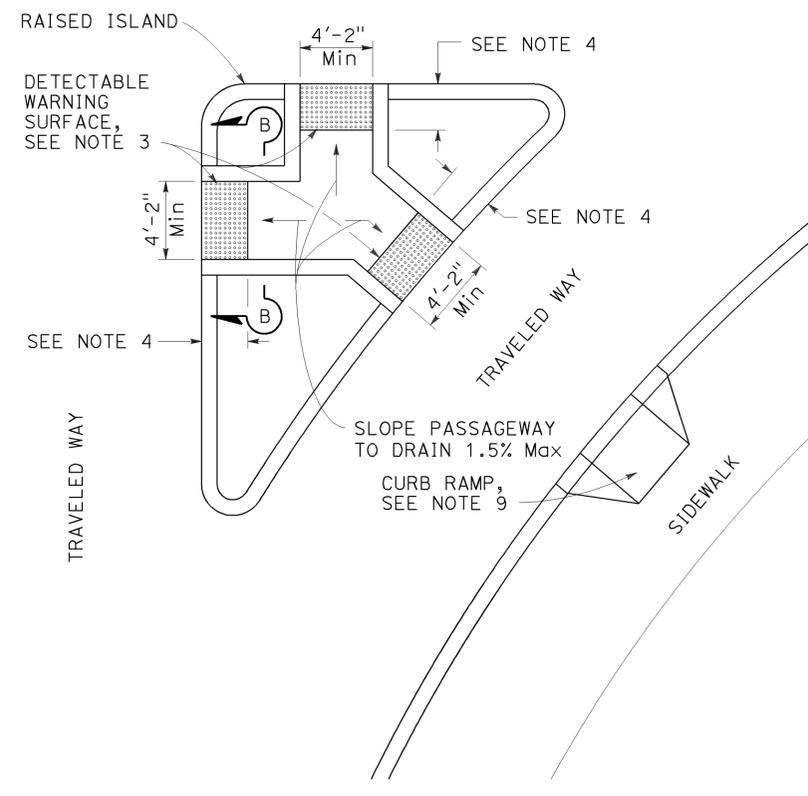
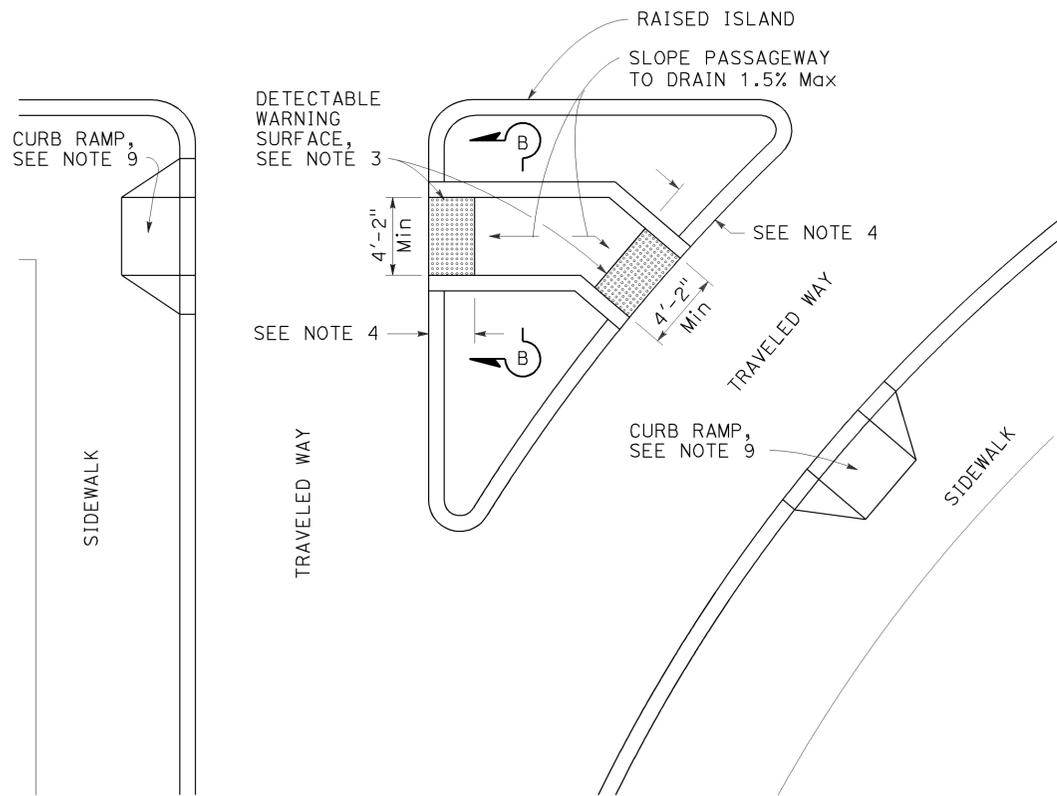
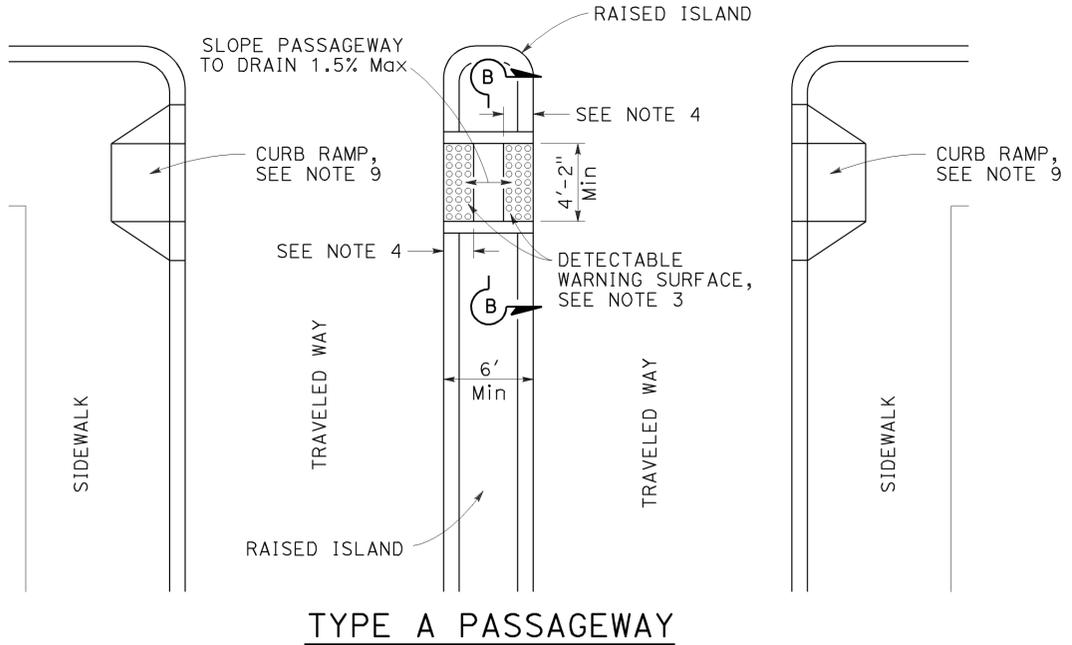
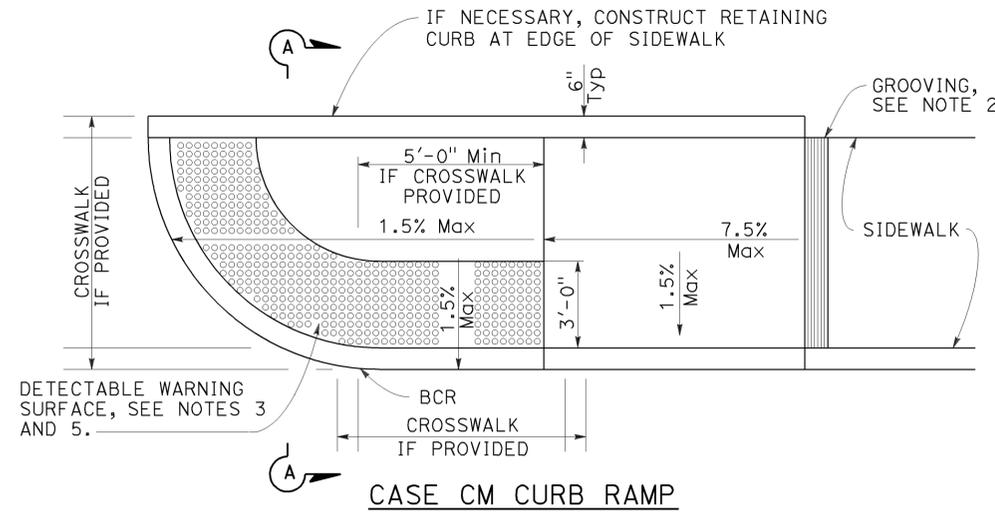
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	118	T18.7/R32.6	69	98

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

July 19, 2013
 PLANS APPROVAL DATE

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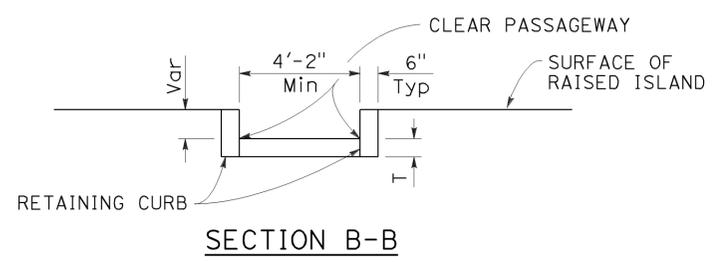
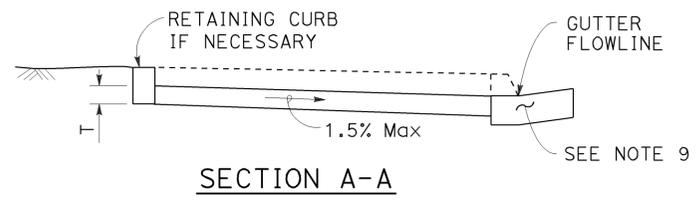
Gutter not shown



NOTES:

- Sidewalk, ramp and passageway thickness, "T", shall be 3 1/2" minimum.
- For details of grooving used with Case CM curb ramp, see Revised Standard Plan RSP A88A.
- For details of detectable warning surfaces, see Revised Standard Plan RSP A88A.
- Where an island passageway length is greater than or equal to 6'-0", but less than 8'-0", each detectable warning surface shall extend the full width and 2'-0" depth of the passageway length. Where an island passageway length is greater than or equal to 8'-0", each detectable warning surface shall extend the full width and 3'-0" depth of the passageway length.
- For Case CM curb ramp, the edge of the detectable warning surface nearest the street shall be between 6" and 8" from the gutter flowline.
- Transitions from ramps to walks, gutters or streets shall be flush (no lip) and free of abrupt changes.
- 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.
- For additional curb ramp details, see Revised Standard Plan RSP A88A.

TO ACCOMPANY PLANS DATED 12-16-13



STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

CURB RAMP AND ISLAND PASSAGEWAY DETAILS

NO SCALE

RSP A88B DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN A88B DATED MAY 20, 2011 - PAGE 122 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A88B

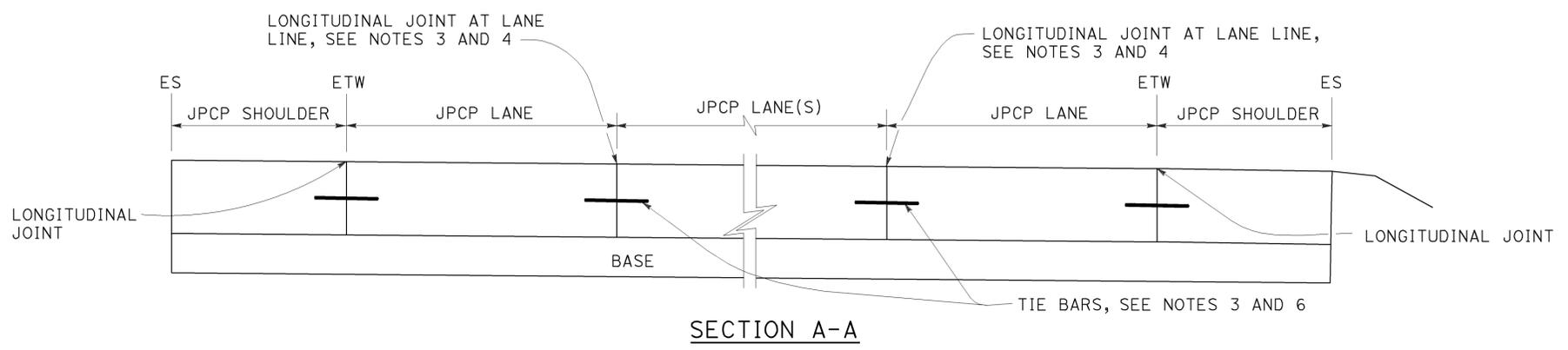
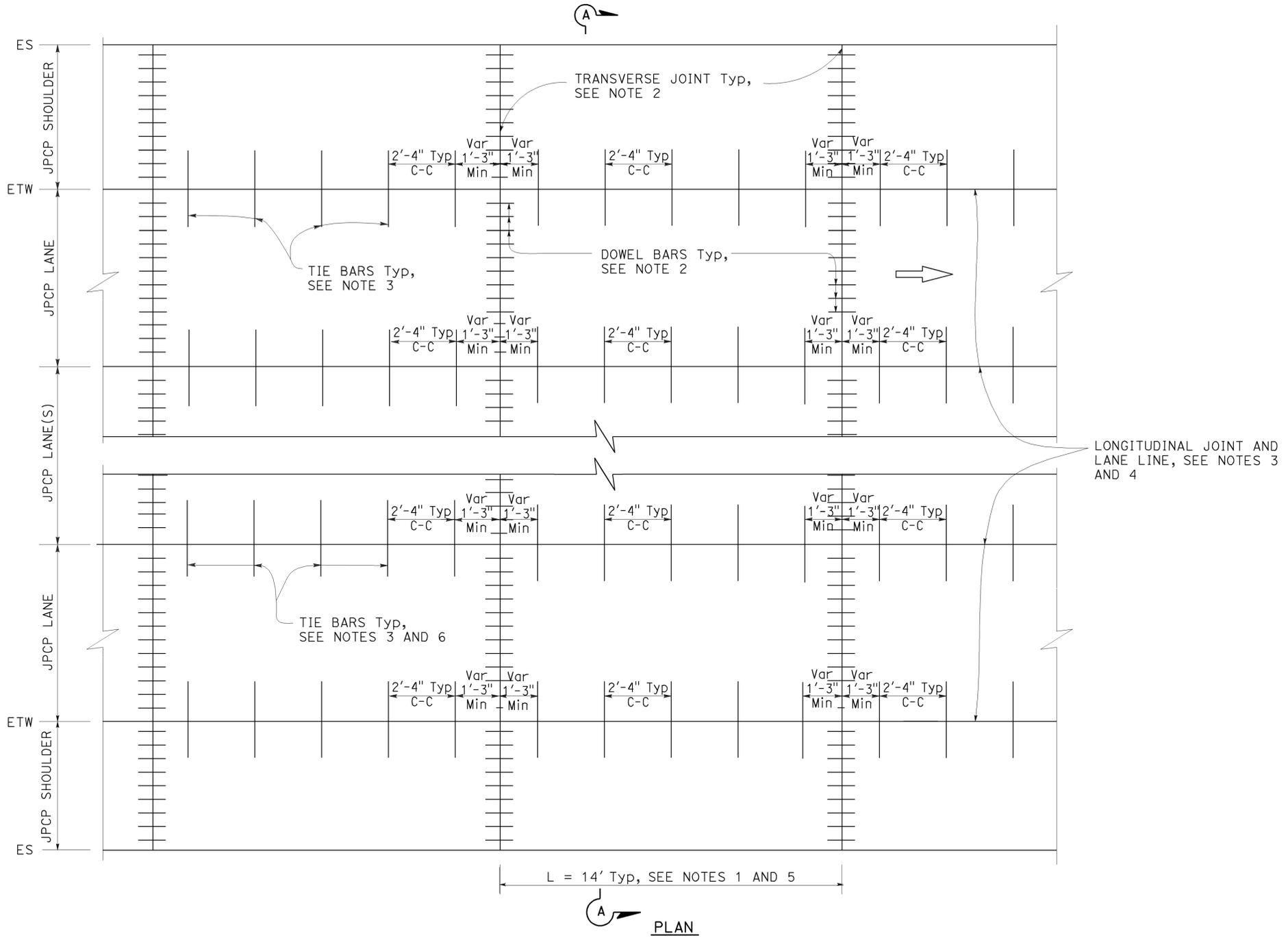
2010 REVISED STANDARD PLAN RSP A88B

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	Ven	118	T18.7/R32.6	70	98

William K. Farnbach
 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
 William K. Farnbach
 No. C49042
 Exp. 9-30-14
 CIVIL
 STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 12-16-13



NOTES:

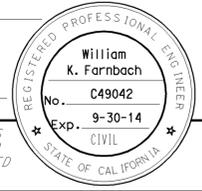
1. Transverse joint spacing may be adjusted to no less than 10' and no more than 14' to conform to bridges, change in pavement type, and hardened concrete pavement.
2. For transverse joint and dowel bar details not shown, see Revised Standard Plan RSP P10.
3. For longitudinal joint and tie bar details not shown, see Revised Standard Plan RSP P15.
4. For additional longitudinal joint layout details, see Revised Standard Plan RSP P18.
5. For joint layout at intersections, see Project Plans.
6. For dowel bars at longitudinal joint. see Revised Standard Plan RSP P18.

2010 REVISED STANDARD PLAN RSP P1

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**JOINTED PLAIN
 CONCRETE PAVEMENT
 NEW CONSTRUCTION**
 NO SCALE

RSP P1 DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN P1
 DATED MAY 20, 2011 - PAGE 125 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP P1



TO ACCOMPANY PLANS DATED 12-16-13

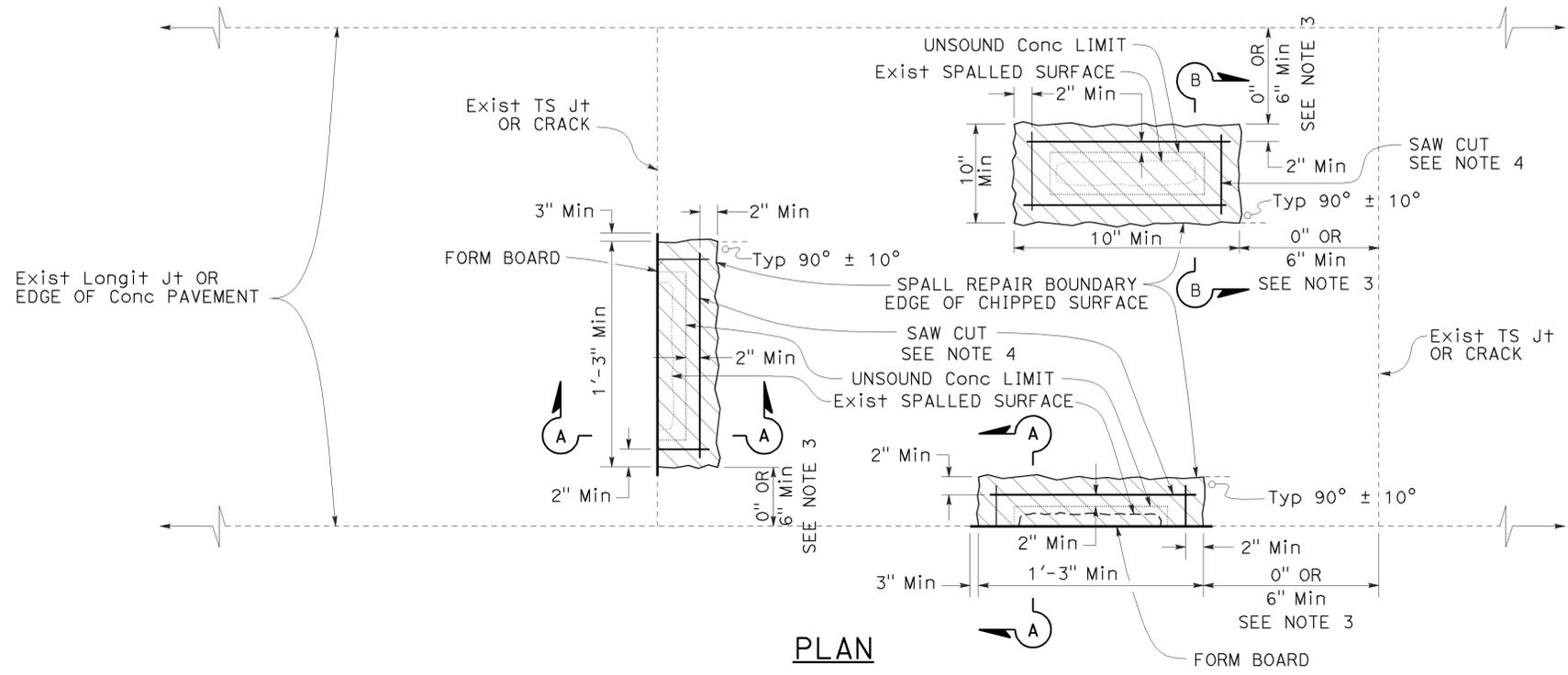
LEGEND



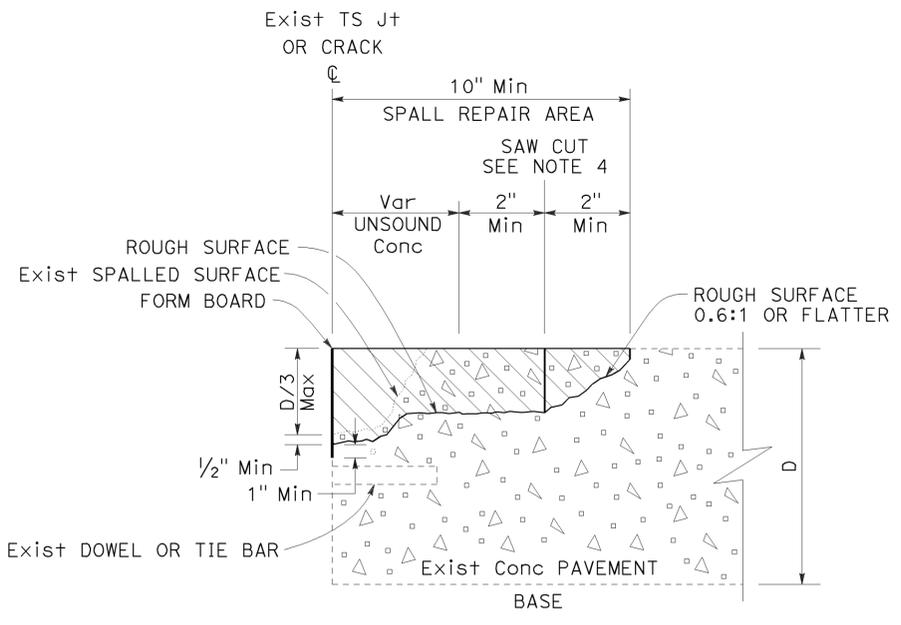
NOTES:

1. See Project Plans for spall repair locations.
2. Combine spall repair areas closer than 2' apart.
3. If the spall repair area is less than 6" from a joint, extend the repair to the joint.
4. Cut at least 2" beyond the rectangular limits of unsound concrete determined by the Engineer. Determine the saw cut depth using the following table:

Conc MATERIAL	SAW CUT DEPTH	
	Min	Max
FAST-SETTING	2"	3 1/2"
POLYESTER	1 1/2"	3 1/2"

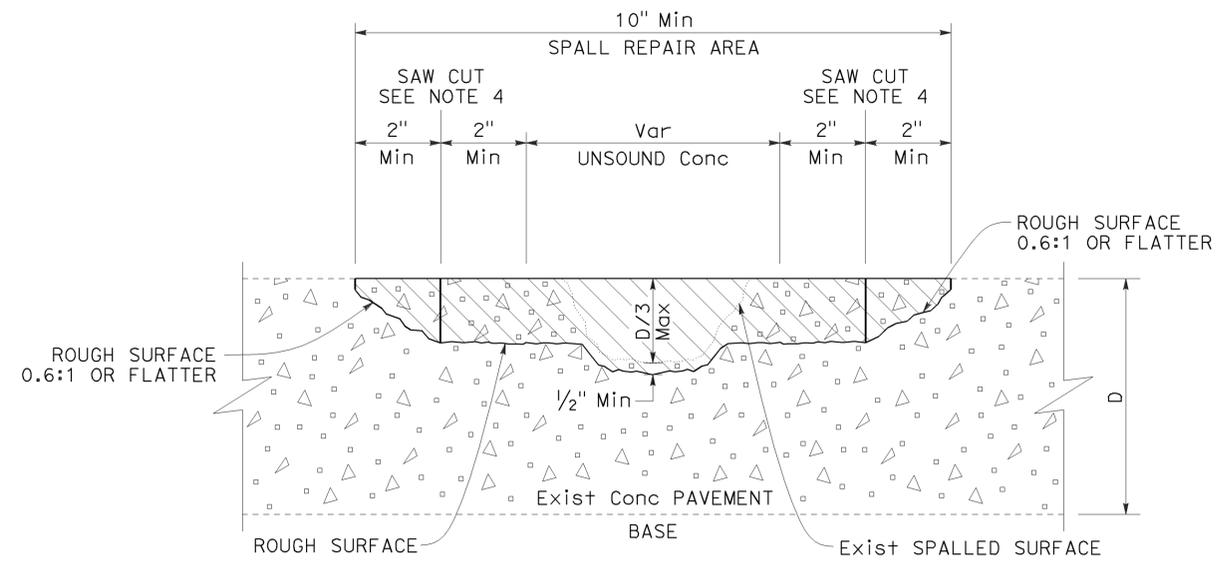


PLAN



SECTION A-A

JOINT, CRACK, OR EDGE OF CONCRETE PAVEMENT REPAIR



SECTION B-B

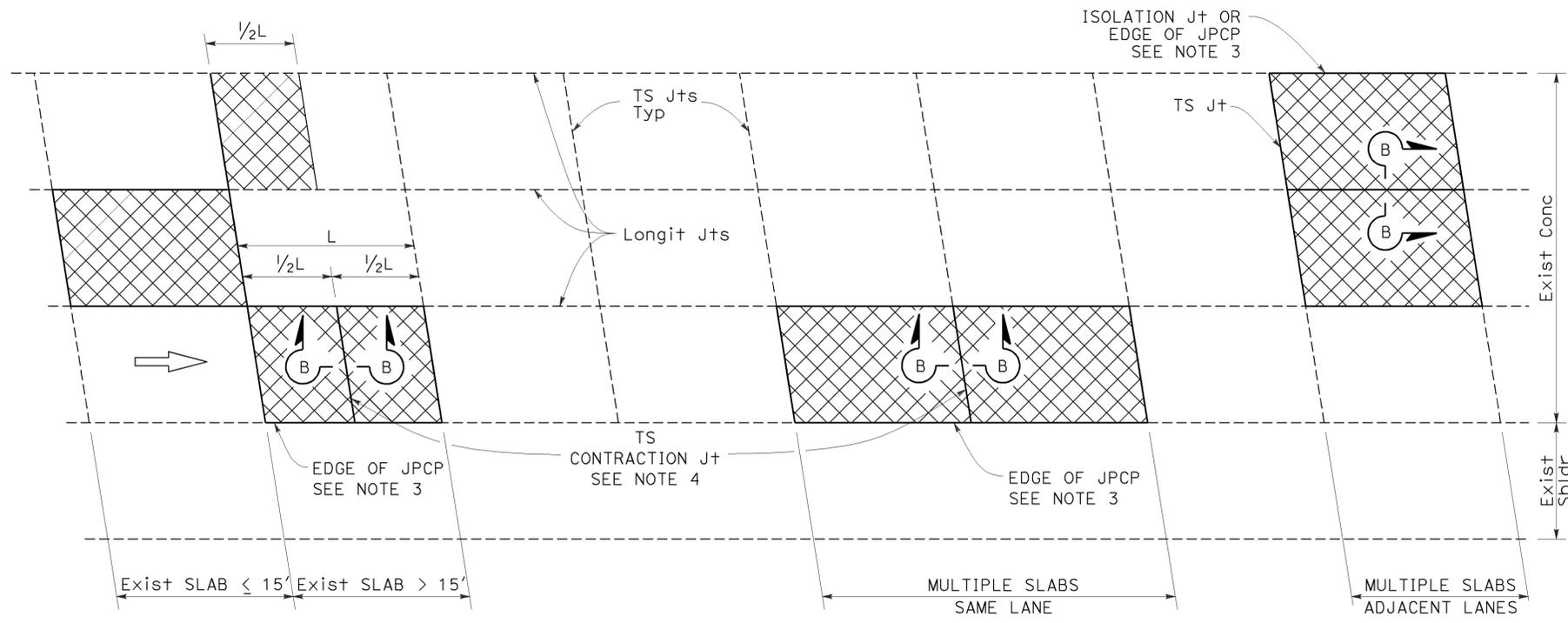
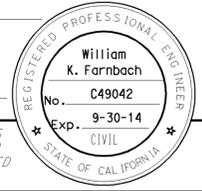
MISCELLANEOUS SPALL REPAIR

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
SPALL REPAIR
 NO SCALE

2010 REVISED STANDARD PLAN RSP P6

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	118	T18.7/R32.6	72	98

William K. Farnbach
 REGISTERED CIVIL ENGINEER
 July 19, 2013
 PLANS APPROVAL DATE
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PLAN

LEGEND:

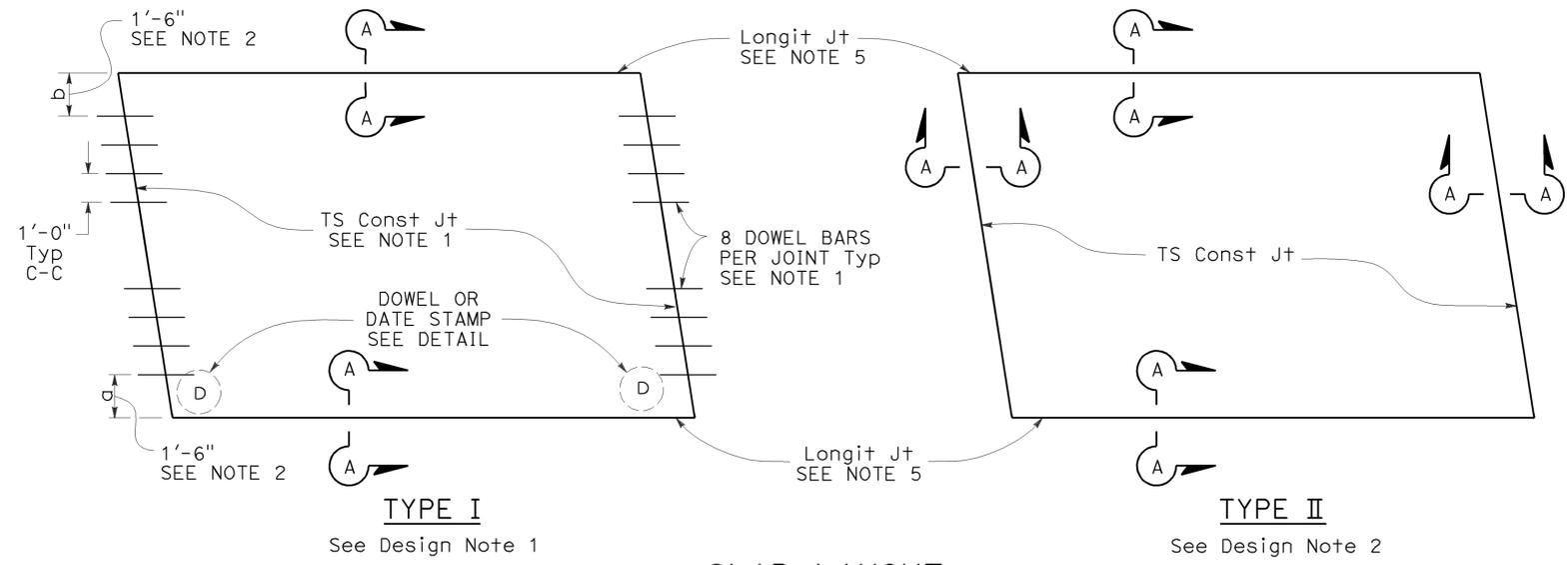
- RSC RAPID STRENGTH CONCRETE
- INDIVIDUAL SLAB REPLACEMENT WITH RSC

NOTES:

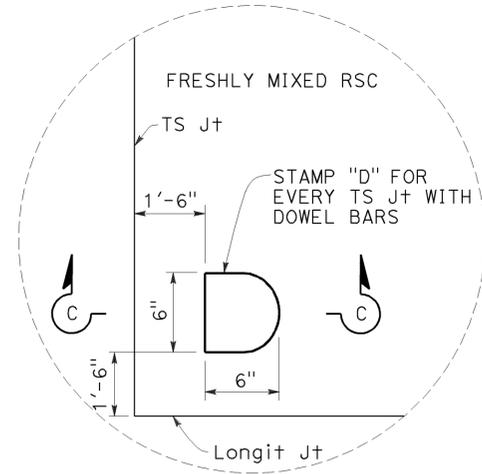
- For details not shown, see Revised Standard Plan RSP P10.
- Where the existing outside shoulder is asphalt concrete pavement, "a" = 1'-0" and "b" = 2'-0".
- Use side forms where edge of RSC pavement is adjacent to asphalt concrete.
- Transverse contraction joint to match skew of existing joint. Omit dowel bars.
- Do not place tie bars at longitudinal joints.

DESIGN NOTES:

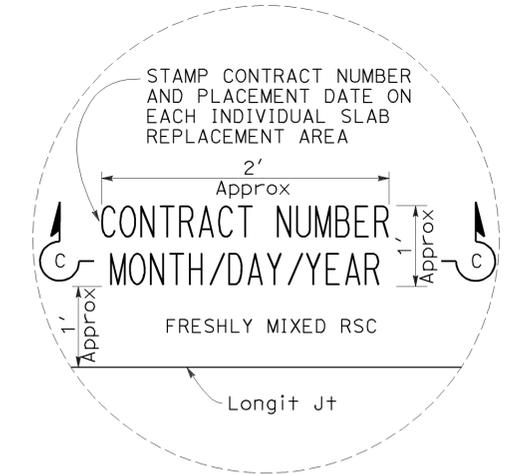
- For concrete slab repair with at least 5 years design life.
- For short term repairs < 5 yrs design life or for slab replacements with cracking and seating.



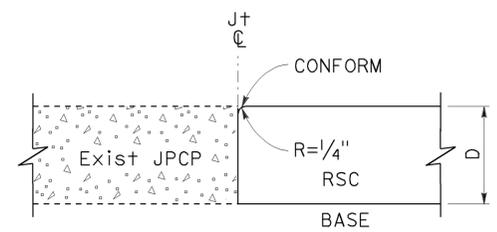
SLAB LAYOUT



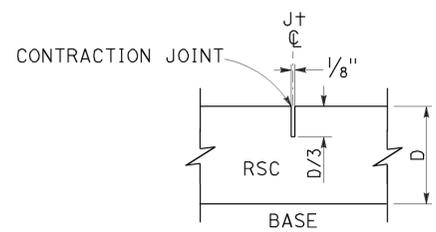
DOWEL STAMP DETAIL



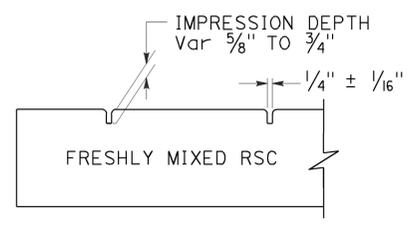
DATE STAMP DETAIL



SECTION A-A



SECTION B-B



SECTION C-C

INDIVIDUAL SLAB REPLACEMENT WITH RAPID STRENGTH CONCRETE

NO SCALE

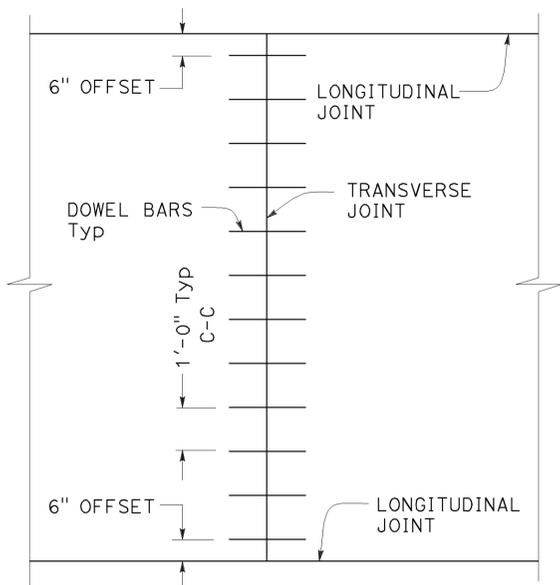
RSP P8 DATED JULY 19, 2013 SUPERSEDES RSP P8 DATED APRIL 20, 2012 AND STANDARD PLAN P8 DATED MAY 20, 2011 - PAGE 130 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP P8

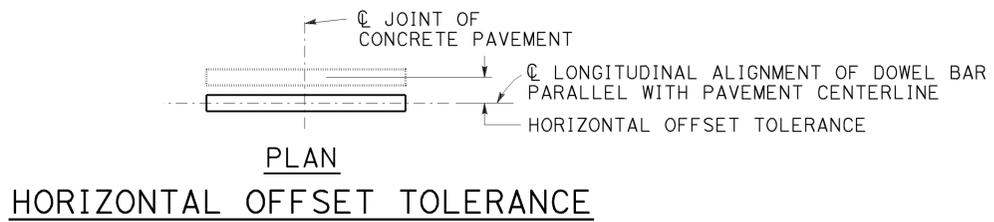
2010 REVISED STANDARD PLAN RSP P8

TO ACCOMPANY PLANS DATED 12-16-13

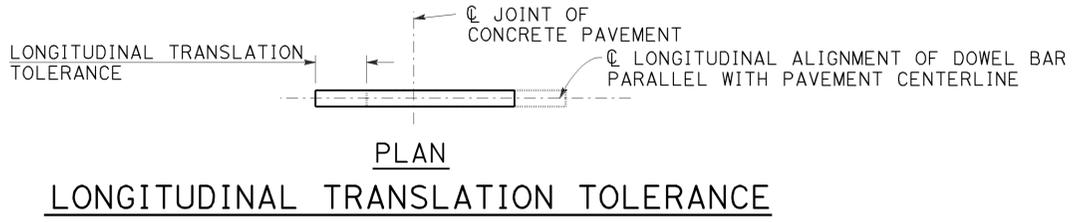
- NOTES:**
- See Revised Standard Plan RSP P1 for typical dowel bar placement and locations.
 - Where fresh concrete pavement is placed against new concrete or existing concrete pavement, rounding the corner of the existing concrete pavement is not required.
 - May also use 3/4" Dia dowel bars 2'-4" ± 1/4" in length. Center the length of dowel bars at the centerline of longitudinal joint.



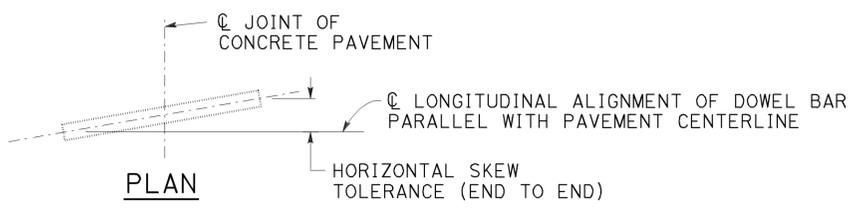
**TRANSVERSE JOINT
DOWEL BAR LAYOUT**



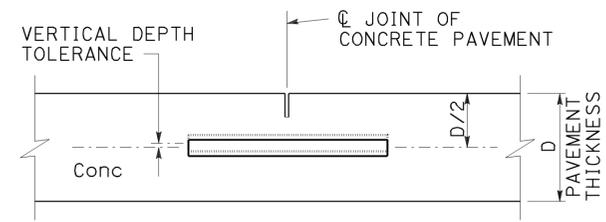
**PLAN
HORIZONTAL OFFSET TOLERANCE**



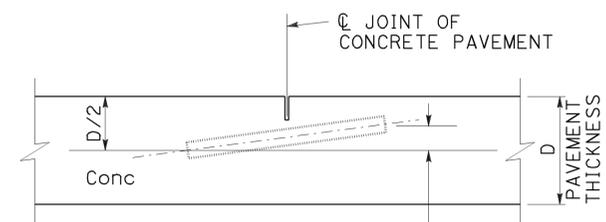
**PLAN
LONGITUDINAL TRANSLATION TOLERANCE**



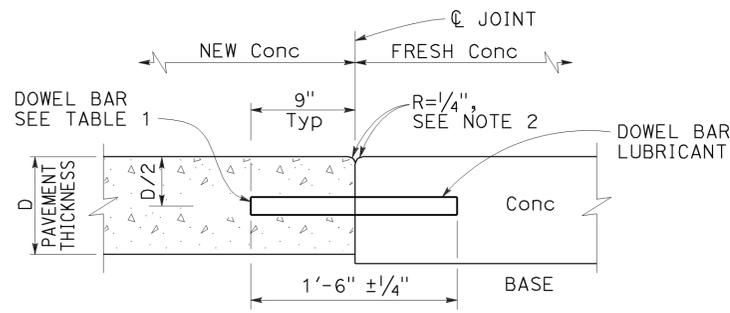
**PLAN
HORIZONTAL SKEW TOLERANCE**



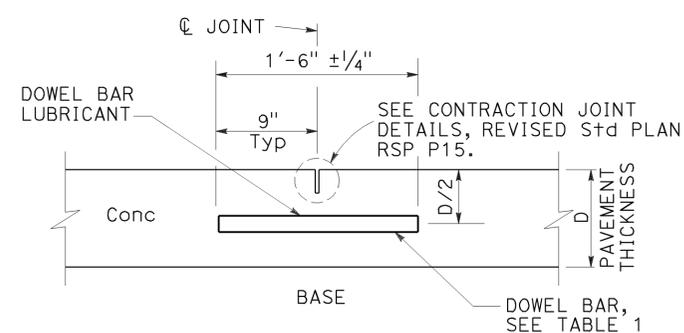
**ELEVATION
VERTICAL DEPTH TOLERANCE**



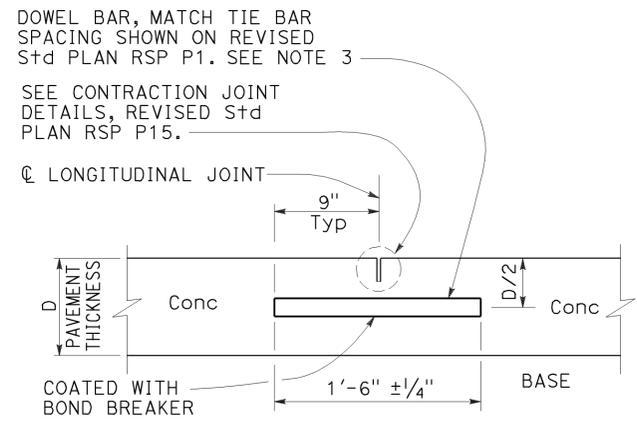
**ELEVATION
VERTICAL SKEW TOLERANCE**



**TRANSVERSE
CONSTRUCTION JOINT DETAIL**



TRANSVERSE CONTRACTION JOINT



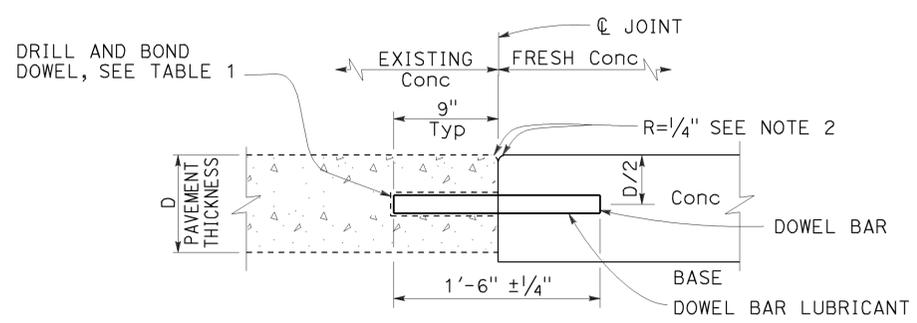
**LONGITUDINAL CONTRACTION
JOINT WITH DOWEL BARS**

See Revised Std Plan RSP P18

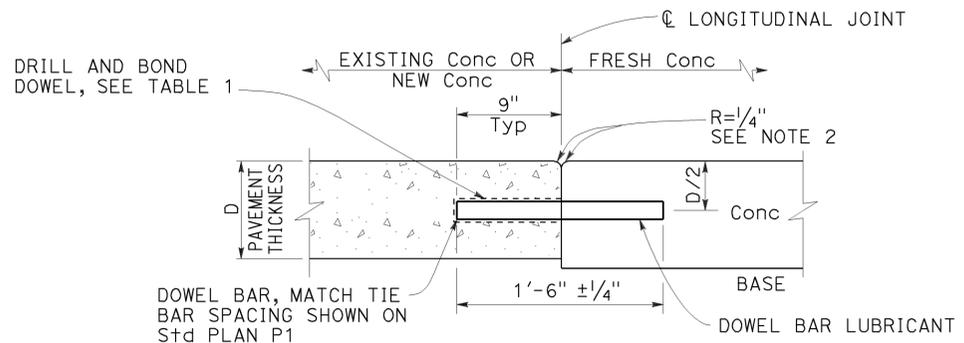
**TABLE 1
DOWEL BAR DIAMETER TABLE**

PAVEMENT THICKNESS	0.65'	> 0.65' - 0.85'	> 0.85'
MINIMUM DOWEL * BAR DIAMETER	1"	1 1/4"	1 1/2"

* The drilled hole diameter must be 1/8" to 3/16" larger than the bar diameter.



**TRANSVERSE CONSTRUCTION JOINT
FOR EXISTING CONCRETE PAVEMENT**



**LONGITUDINAL CONSTRUCTION JOINT
WITH DOWEL BARS**

See Revised Std Plan RSP P18

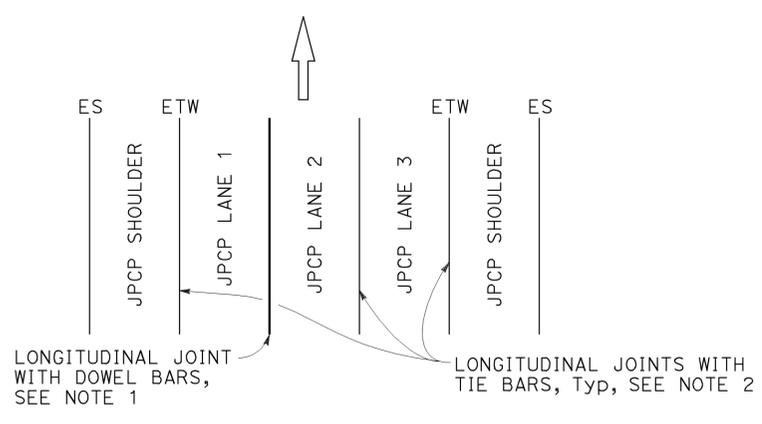
RSP P10 DATED JULY 19, 2013 SUPERSEDES RSP P10 DATED APRIL 20, 2012 AND STANDARD PLAN P10 DATED MAY 20, 2011 - PAGE 131 OF THE STANDARD PLANS BOOK DATED 2010.

2010 REVISED STANDARD PLAN RSP P10

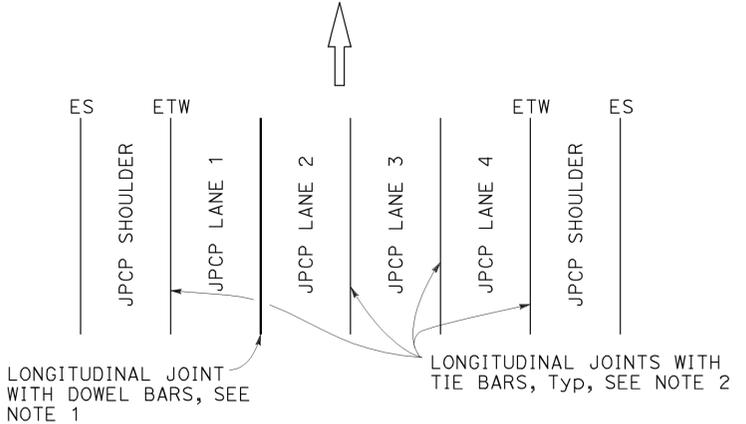
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	118	T18.7/R32.6	74	98

William K. Farnbach
 REGISTERED CIVIL ENGINEER
 July 19, 2013
 PLANS APPROVAL DATE
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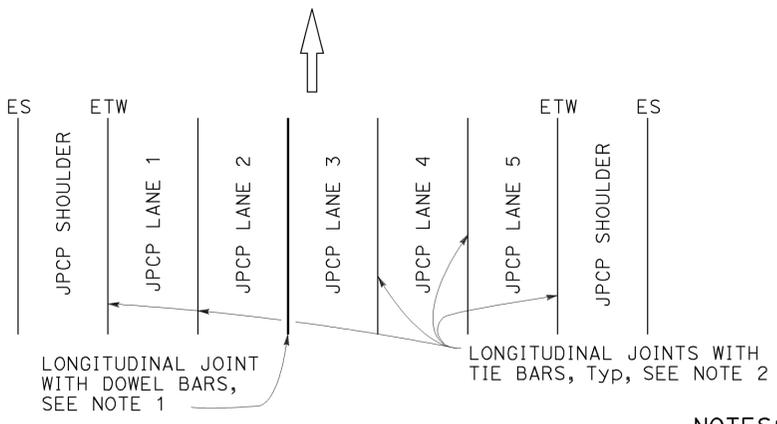
TO ACCOMPANY PLANS DATED 12-16-13



3 LANES WITH CONCRETE SHOULDERS
PLAN



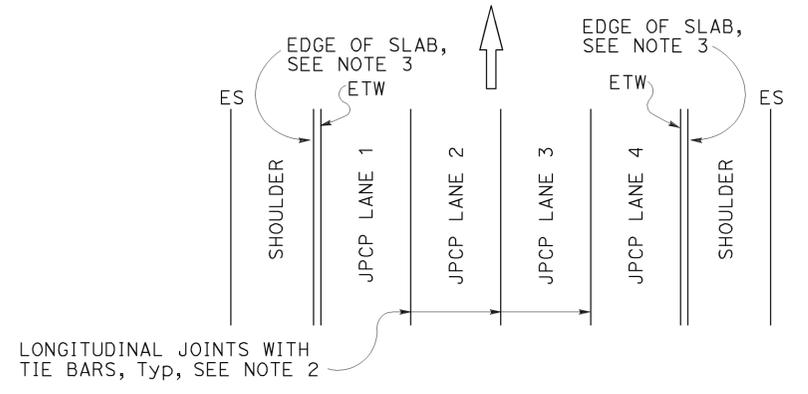
4 LANES WITH CONCRETE SHOULDERS
PLAN



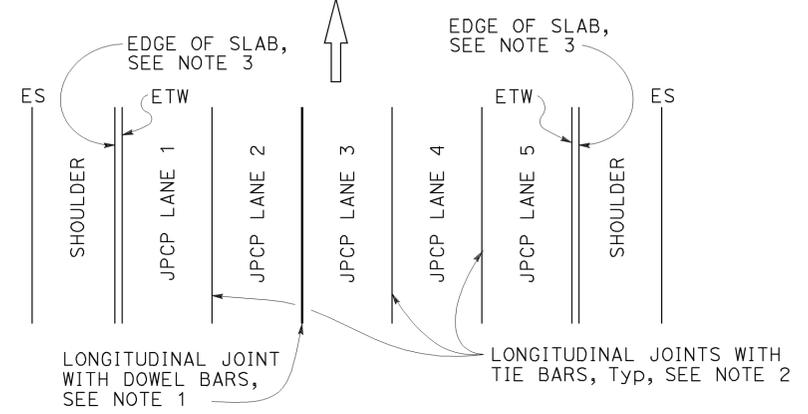
5 LANES WITH CONCRETE SHOULDERS
PLAN

NOTES:

1. See Revised Standard Plan RSP P10 for longitudinal joint with dowel bars.
2. See Revised Standard Plan RSP P15 for longitudinal joint with tie bars.
3. S = Reservoir depth.
 $S = \frac{7}{8}'' \pm \frac{1}{16}''$ for asphalt rubber seals
 $S = \frac{9}{16}'' \pm \frac{1}{16}''$ for silicone seals
 Preformed compression seals must be $\frac{13}{16}''$ wide and $S = 1\frac{1}{16}'' \pm \frac{1}{16}''$

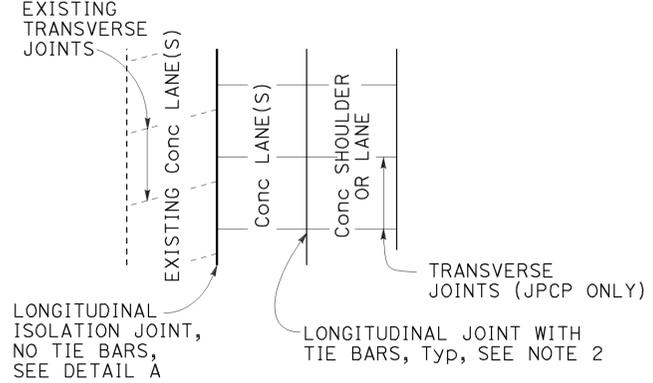


4 LANES OR LESS WITH AC SHOULDERS
PLAN



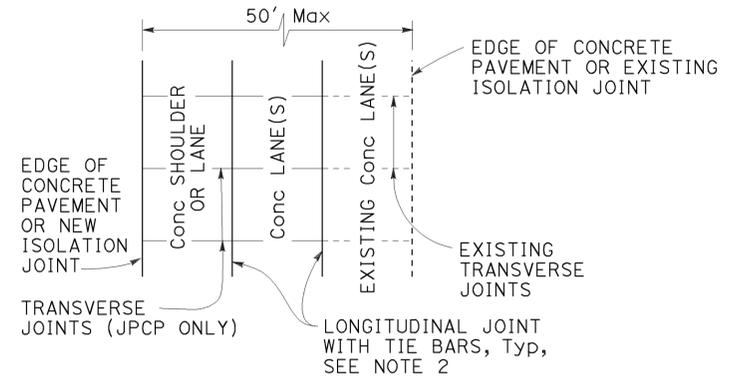
5 LANES WITH AC SHOULDERS
PLAN

NEW CONSTRUCTION
Location of Longitudinal Joints For JPCP



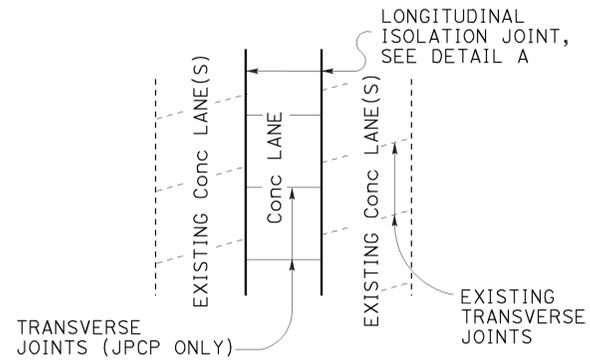
CASE 1
PLAN

Transverse joints do not align between new and existing.



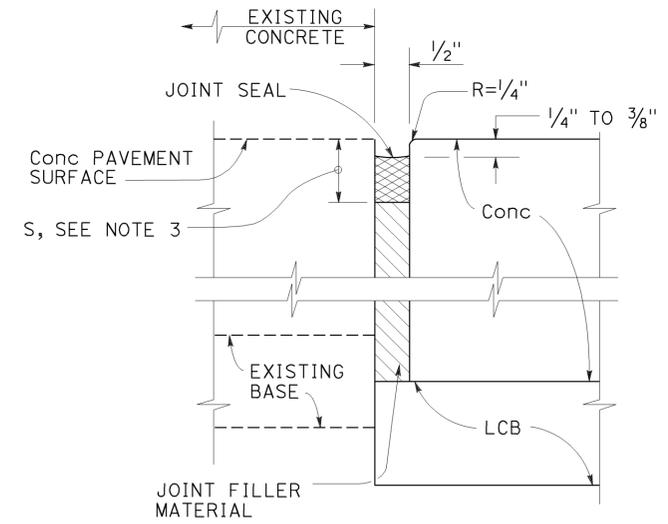
CASE 2
PLAN

Transverse joints align between new and existing. (For JPCP only)



CASE 3 (INTERIOR LANE REPLACEMENT)
PLAN

Transverse joints do not align between new and existing.



DETAIL "A"
ISOLATION JOINT

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**CONCRETE PAVEMENT
LANE SCHEMATICS
AND ISOLATION JOINT DETAIL**

NO SCALE

LANE/SHOULDER ADDITION OR RECONSTRUCTION
For JPCP and CRCP

RSP P18 DATED JULY 19, 2013 SUPERSEDES RSP P18 DATED APRIL 20, 2012 AND STANDARD PLAN P18 DATED MAY 20, 2011 - PAGE 135 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP P18

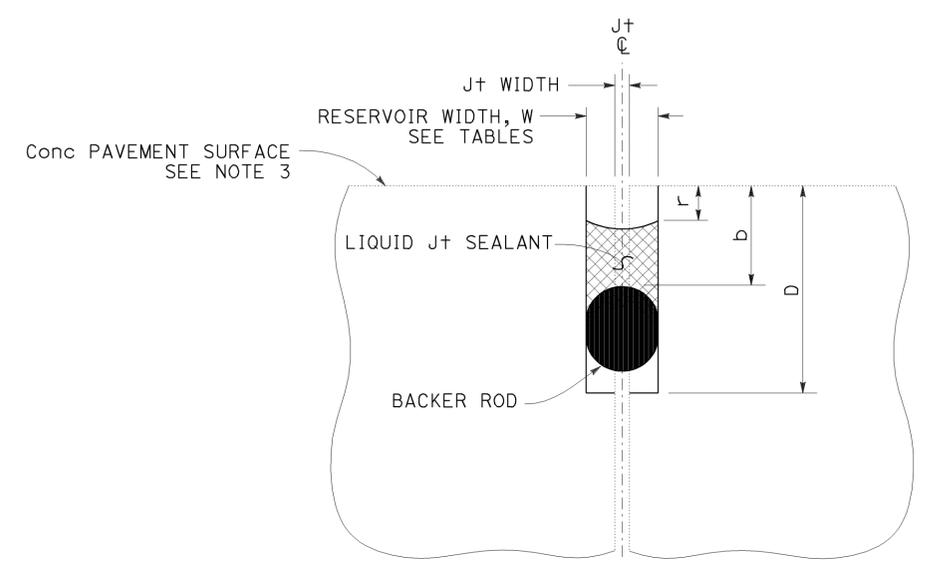
2010 REVISED STANDARD PLAN RSP P18



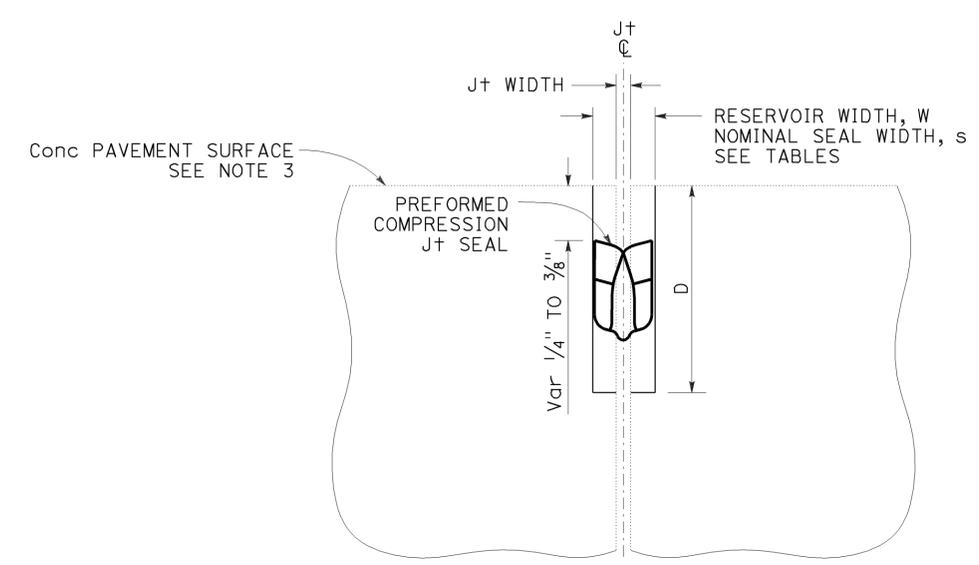
TO ACCOMPANY PLANS DATED 12-16-13

NOTES:

1. Details do not apply to isolation joints and longitudinal construction joints.
2. Tie bars, dowel bars, and bar reinforcement are not shown.
3. Depths are measured from the final concrete pavement surface elevation after any grinding.



LIQUID JOINT SEALANT



PREFORMED COMPRESSION JOINT SEAL

Const SEASON	Min RESERVOIR WIDTH * W ± 1/16"
WINTER	1/4"
SPRING	3/8"
SUMMER	
FALL	

* Minimum reservoir width for replace joint seal = existing joint width + 1/8"

RESERVOIR WIDTH W ± 1/16"	LIQUID JOINT SEALANT DIMENSIONS					
	BACKER ROD NOMINAL Dia *	DEPTHS (ASPHALT RUBBER) **		DEPTHS (SILICONE)		
		RESERVOIR D ± 1/4"	BACKER ROD b ± 1/16"	RESERVOIR D ± 1/4"	BACKER ROD b ± 1/16"	RECESS r ± 1/16"
1/4"	3/8"	1 3/4"	7/8"	1 3/8"	1/2"	1/4"
3/8"	1/2"	1 7/8"	7/8"	1 1/2"	1/2"	1/4"
1/2"	3/4"	2"	7/8"	1 3/4"	9/16"	5/16"
5/8"	7/8"	2 1/4"	1"	2"	5/8"	5/16"
3/4"	1"	2 3/4"	1 1/8"	2 1/4"	3/4"	3/8"
7/8"	1 1/4"	3"	1 1/4"	2 1/2"	13/16"	3/8"
1"	1 1/2"	3 1/4"	1 3/8"	2 5/8"	7/8"	3/8"
1 1/8"	1 1/2"	3 1/2"	1 1/2"	2 13/16"	1"	1/2"

* Larger diameter backer rods may be substituted according to manufacturer recommendations if reservoir depth is increased equivalently.

** Asphalt rubber sealant recess depth "r" varies from 1/4" to 3/8"

RESERVOIR WIDTH W ± 1/16"	PREFORMED COMPRESSION JOINT SEAL DIMENSIONS	
	NOMINAL SEAL WIDTH s	RESERVOIR DEPTH D ± 1/4"
1/4"	7/16"	1 1/4"
3/8"	11/16"	1 1/16"
1/2"	13/16"	1 1/8"
5/8"	1"	1 7/8"
3/4"	1 1/4"	2 1/8"
7/8"	1 5/8"	2 5/8"
1"	1 7/8"	2 3/8"
1 1/8"	2"	2 7/8"

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

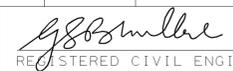
JOINT SEALS

NO SCALE

RSP P20 DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN P20
DATED MAY 20, 2011 - PAGE 136 OF THE STANDARD PLANS BOOK DATED 2010.

2010 REVISED STANDARD PLAN RSP P20

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	118	T18.7/R32.6	76	98


 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.

TO ACCOMPANY PLANS DATED 12-16-13

TABLE 1

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

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

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

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

TABLE 2

LONGITUDINAL BUFFER SPACE AND FLAGGER STATION SPACING				
SPEED *	Min D **	DOWNGRADE Min D ***		
		-3%	-6%	-9%
		ft	ft	ft
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.

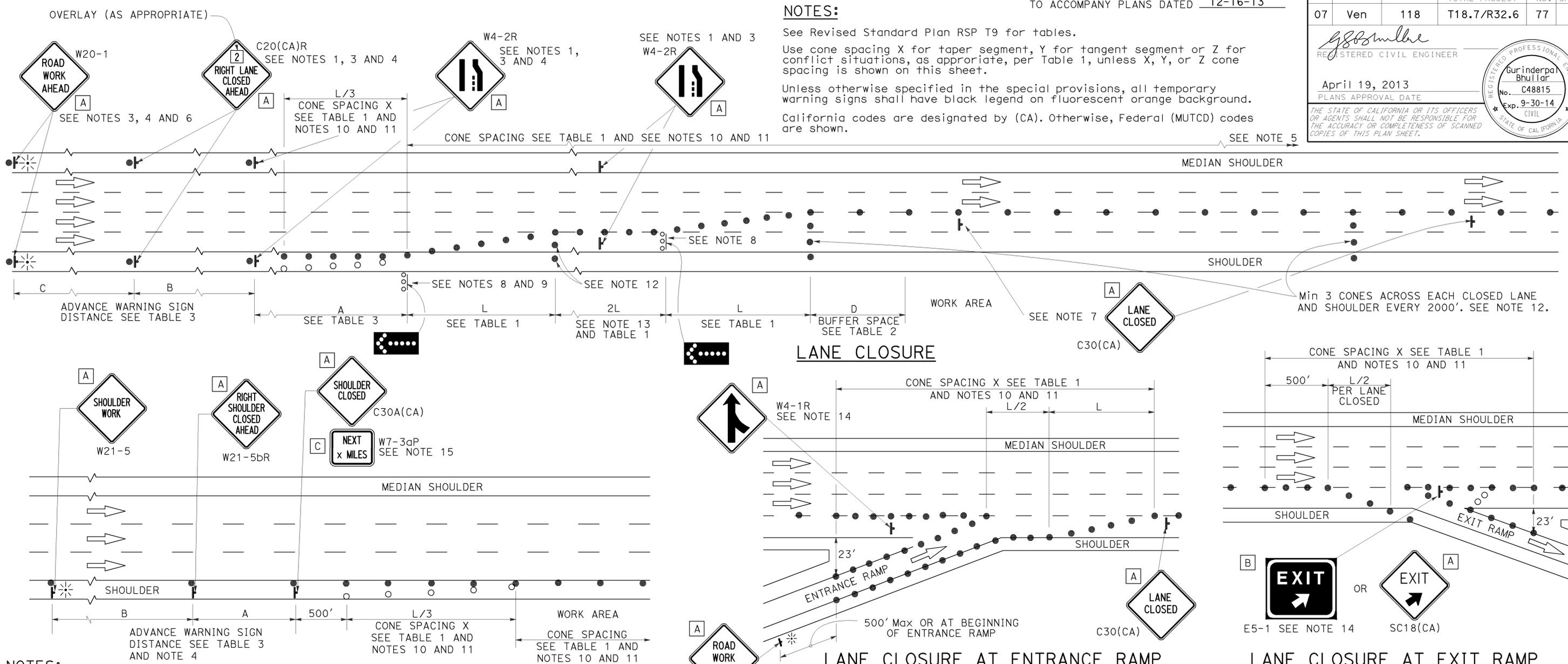
REVISED STANDARD PLAN RSP T9

2010 REVISED STANDARD PLAN RSP T9

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	118	T18.7/R32.6	77	98

REGISTERED CIVIL ENGINEER
 April 19, 2013
 PLANS APPROVAL DATE
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Gurinderpal Bhullar
 No. C48815
 Exp. 9-30-14
 CIVIL ENGINEER
 STATE OF CALIFORNIA



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

- SHOULDER CLOSURE**
6. If the W20-1 sign would follow within 2000' of a stationary W20-1 or G20-1 "ROAD WORK NEXT _____ MILES", use a C20(CA) and W4-2L signs shall be used.
 7. Place a C30(CA) sign every 2000' throughout length of lane closure.
 8. One flashing arrow sign for each lane closed. The flashing arrow signs shall be Type I.
 9. A minimum 1500' of sight distance shall be provided where possible for vehicles approaching the first flashing arrow sign. Lane closures shall not begin at top of crest vertical curve or on a horizontal curve.
 10. All cones used for lane closures during the hours of darkness shall be fitted with retroreflective bands (or sleeves) as specified in the specifications.
 11. Portable delineators, placed at one-half the spacing indicated for traffic cones may be used instead of cones for daytime closures only.

- LANE CLOSURE AT ENTRANCE RAMP**
12. 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.
 13. 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.
 14. Unless otherwise specified in the special provisions, the E5-1 or SC18(CA) and W4-1 signs shall be used as shown.
 15. 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

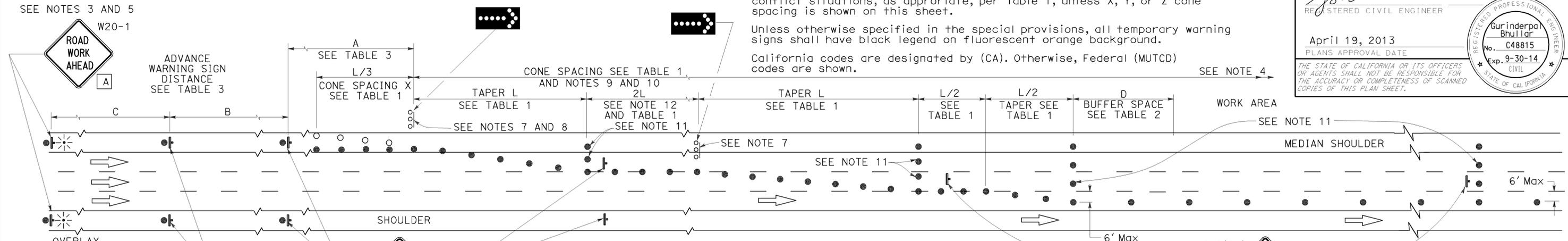
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	118	T18.7/R32.6	78	98

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

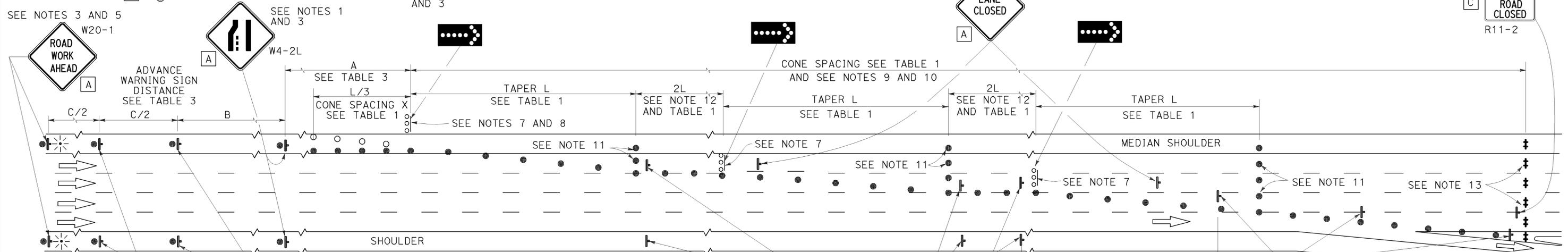
April 19, 2013
 PLANS APPROVAL DATE

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.

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.



LANE CLOSURE WITH PARTIAL SHOULDER USE



COMPLETE CLOSURE

- NOTES:**
- Lane closures on the right side using partial median shoulder as a traffic lane shall conform to the details as shown except that C20(CA)R and W4-2R signs shall be used.
 - At least one person shall be assigned to provide full time maintenance of traffic control devices for lane closures.
 - 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.
 - If the W20-1 sign would follow within 2000' of a stationary W20-1 or G20-1 "ROAD WORK NEXT ___ MILES", use a C20(CA) sign for the first advance warning sign.
 - 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 the 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 With Partial Shoulder Use" 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.
- A minimum of Two Type II or III barricades shall be placed across each closed lane and shoulder at the location shown and every 2000' within the complete closure area. Within the complete closure area, the transverse alignment of the barricades on the closed shoulder may be shifted from the transverse alignment to provide access to the work.
- When specified in the special provisions, a W20-2 "DETOUR AHEAD" sign is to be used in place of the W20-3 "FREEWAY CLOSED AHEAD" sign.

SIGN PANEL SIZE (Min)

A	48" x 48"
B	48" x 18"
C	48" x 30"

LEGEND

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

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

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

NO SCALE

2010 REVISED STANDARD PLAN RSP T10A

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
07	Ven	118	T18.7/R32.6	79	98

G. S. Miller
 REGISTERED CIVIL ENGINEER
 April 19, 2013
 PLANS APPROVAL DATE

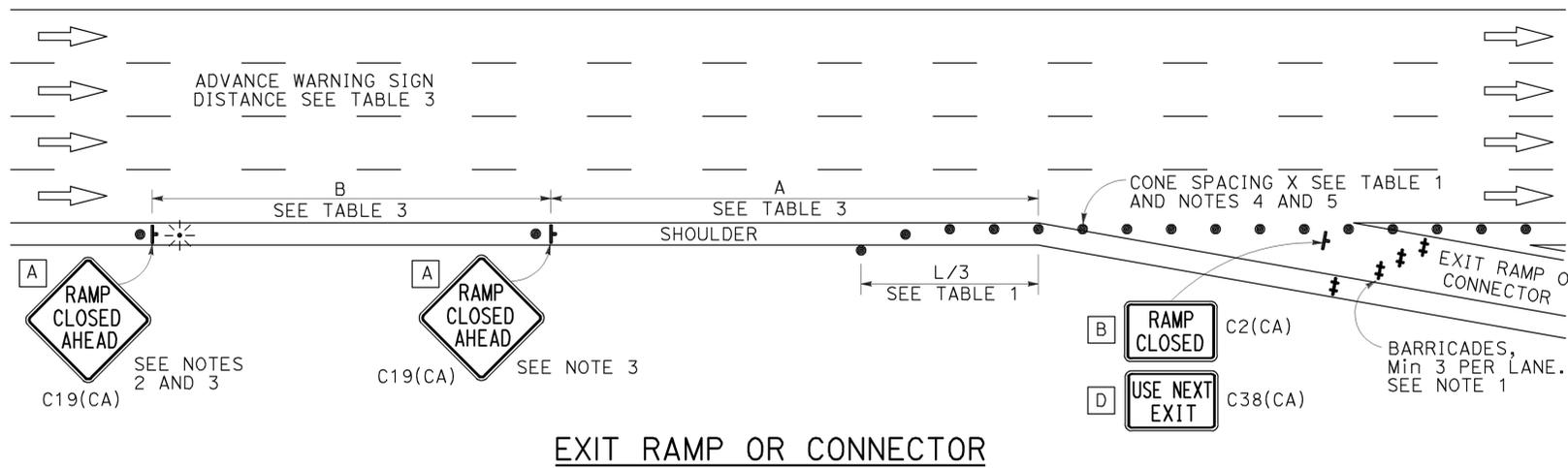
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REGISTERED PROFESSIONAL ENGINEER
 Gurinderpal Bhullar
 No. C48815
 Exp. 9-30-14
 CIVIL
 STATE OF CALIFORNIA

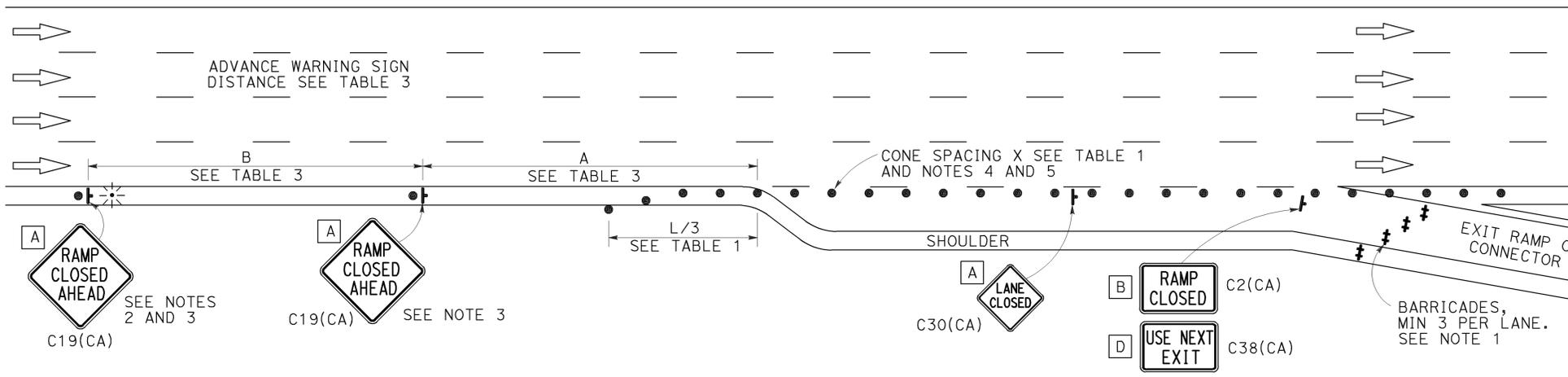
TO ACCOMPANY PLANS DATED 12-16-13

NOTES:

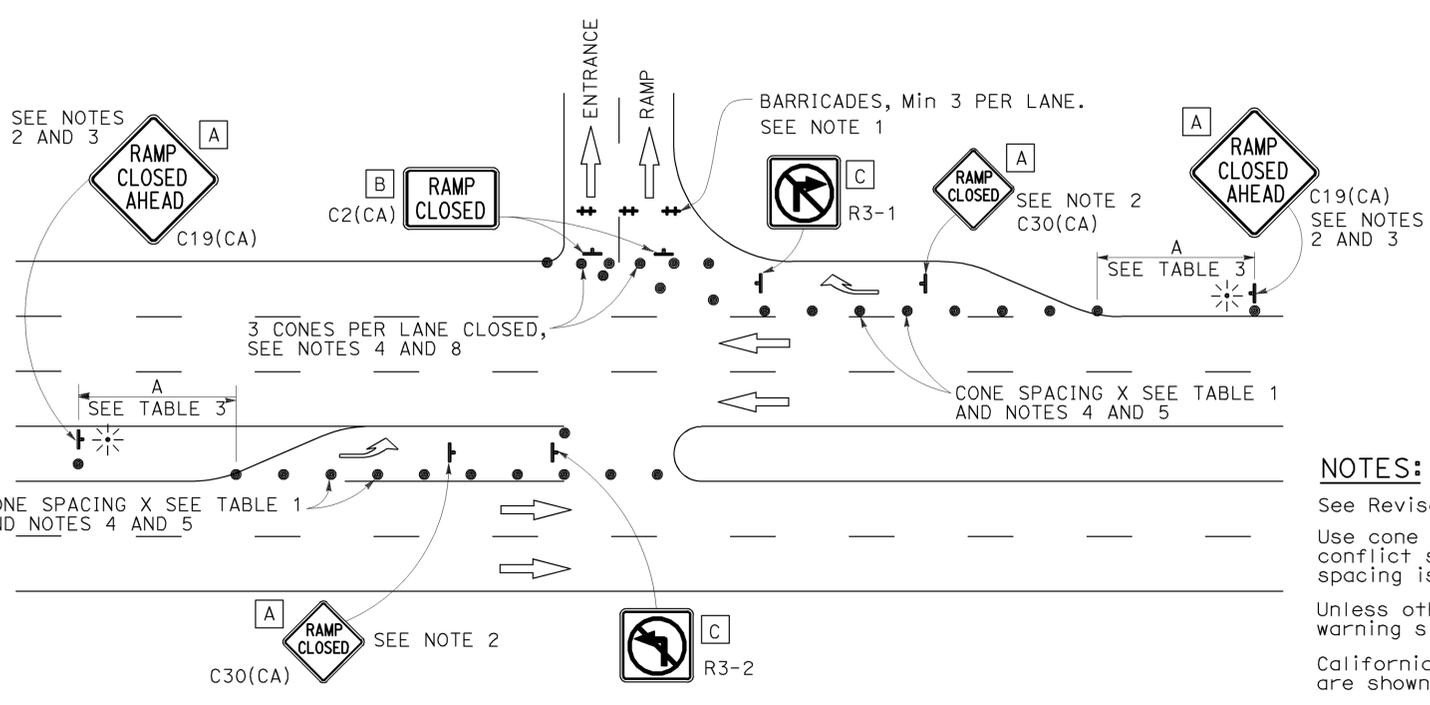
- Barricades shall be Type I, II, or III for closures lasting one week or less and Type III for closures lasting longer than one week.
- In addition to placing the C19(CA) "RAMP CLOSED AHEAD" and C30(CA) "RAMP CLOSED" signs, black on orange overlay plates with the word "CLOSED" may be mounted, as directed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



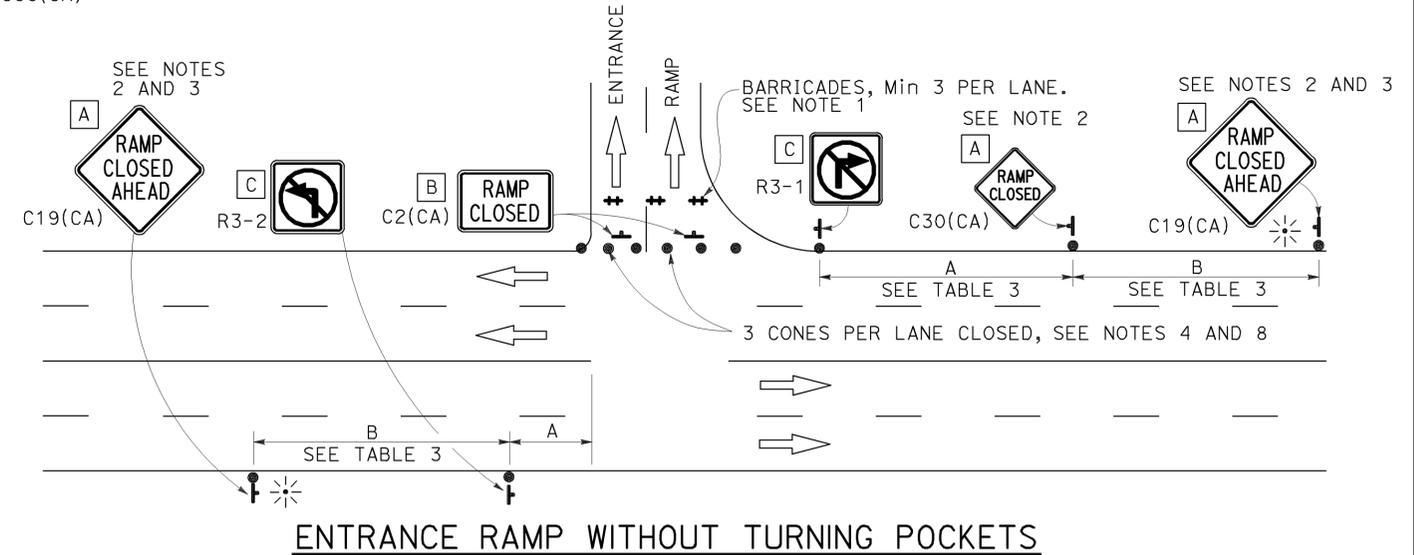
EXIT RAMP OR CONNECTOR



EXIT RAMP OR CONNECTOR WITH ADDITIONAL LANE



ENTRANCE RAMP WITH TURNING POCKETS



ENTRANCE RAMP WITHOUT TURNING POCKETS

NOTES:

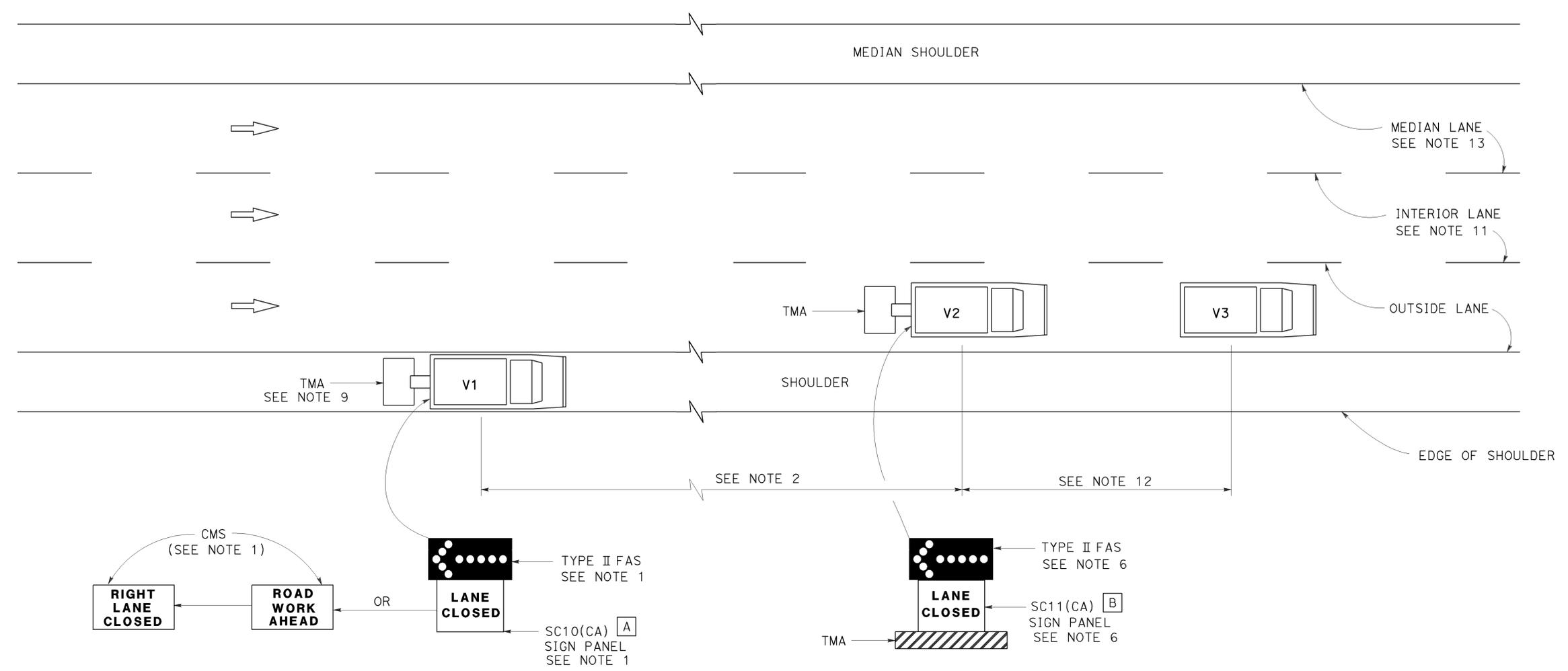
- See Revised Standard Plan RSP T9 for tables.
- Use cone spacing X for taper segment, Y for tangent segment or Z for conflict situations, as appropriate, per Table 1, unless X, Y, or Z cone spacing is shown on this sheet.
- Unless otherwise specified in the special provisions, all temporary warning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

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

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

2010 REVISED STANDARD PLAN RSP T14

TO ACCOMPANY PLANS DATED 12-16-13



SIGN PANEL SIZE (Min)

- A 66" x 36"
- B 54" x 42"

LEGEND

- V1 SIGN VEHICLE
- V2 SHADOW VEHICLE
- V3 WORK/APPLICATION VEHICLE
-  FLASHING ARROW SIGN (FAS)
- CMS CHANGEABLE MESSAGE SIGN
- TMA TRUCK-MOUNTED ATTENUATOR

**MOVING LANE CLOSURE ON MEDIAN LANE OR
OUTSIDE LANE OF MULTILANE HIGHWAYS**

NOTES:

1. Either a changeable message sign or a SC10(CA) sign panel and a Type II flashing arrow sign shall be mounted on the rear of sign vehicle V1. The changeable message sign shall be sequenced to show the "ROAD WORK AHEAD" message first, followed by the "RIGHT LANE CLOSED" message. For median lane closure, the flashing arrow symbol shall be reversed with the arrowhead on the right and the changeable message sign shall show "LEFT LANE CLOSED".
2. If traffic queues develop, sign vehicle V1 should be positioned upstream from the end of queue. Sign vehicle V1 shall be positioned where highly visible when shoulders are not available.
3. A minimum sight distance of 1500' should be provided in advance of sign vehicle V1.
4. Sign vehicle V1 should remain at the beginning of horizontal or vertical curves until the other vehicles (V2 and V3) are far enough beyond the curve to resume the minimum sight distance of 1500'.
5. Vehicle-mounted sign panels shall have Type III or above retroreflective sheeting, black on white, or black on fluorescent orange, with 6" minimum series D letters per Caltrans sign specifications.
6. Shadow vehicle V2 shall be equipped with a truck-mounted attenuator. The sign panel shown and a Type II flashing arrow sign shall be mounted on the rear of shadow vehicle V2. For median lane closure the flashing arrow sign symbol shall be displayed with the arrowhead on the right.
7. All vehicles used for lane closures shall be equipped with two-way radios, and the vehicle operators shall maintain communication during the work or application operation.
8. All vehicles shall be equipped with flashing or rotating amber lights.
9. If sign vehicle V1 encroaches into the traffic lane due to insufficient shoulder width, sign vehicle V1 shall be equipped with a truck-mounted attenuator. Sign vehicle V1 shall stay as close to the edge of shoulder as practicable.
10. Where workers would be on foot in the work area, a stationary type lane closure (Revised Standard Plan T10, T11, etc., as applicable) shall be used instead of this plan.
11. For moving lane closure on interior lane of multilane highways, use Revised Standard Plan T16.
12. The spacing between work vehicle(s) and the shadow vehicles, and between each shadow vehicle should be minimized to deter road users from driving in between.
13. When the work/application vehicle V3 occupies the median lane, sign vehicle V1 should drive in the median shoulder and indicate left lane closed ahead.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**TRAFFIC CONTROL SYSTEM
FOR MOVING LANE CLOSURE
ON MULTILANE HIGHWAYS**

NO SCALE

RSP T15 DATED APRIL 19, 2013 SUPERSEDES STANDARD PLAN T15
DATED MAY 20, 2011 - PAGE 243 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP T15

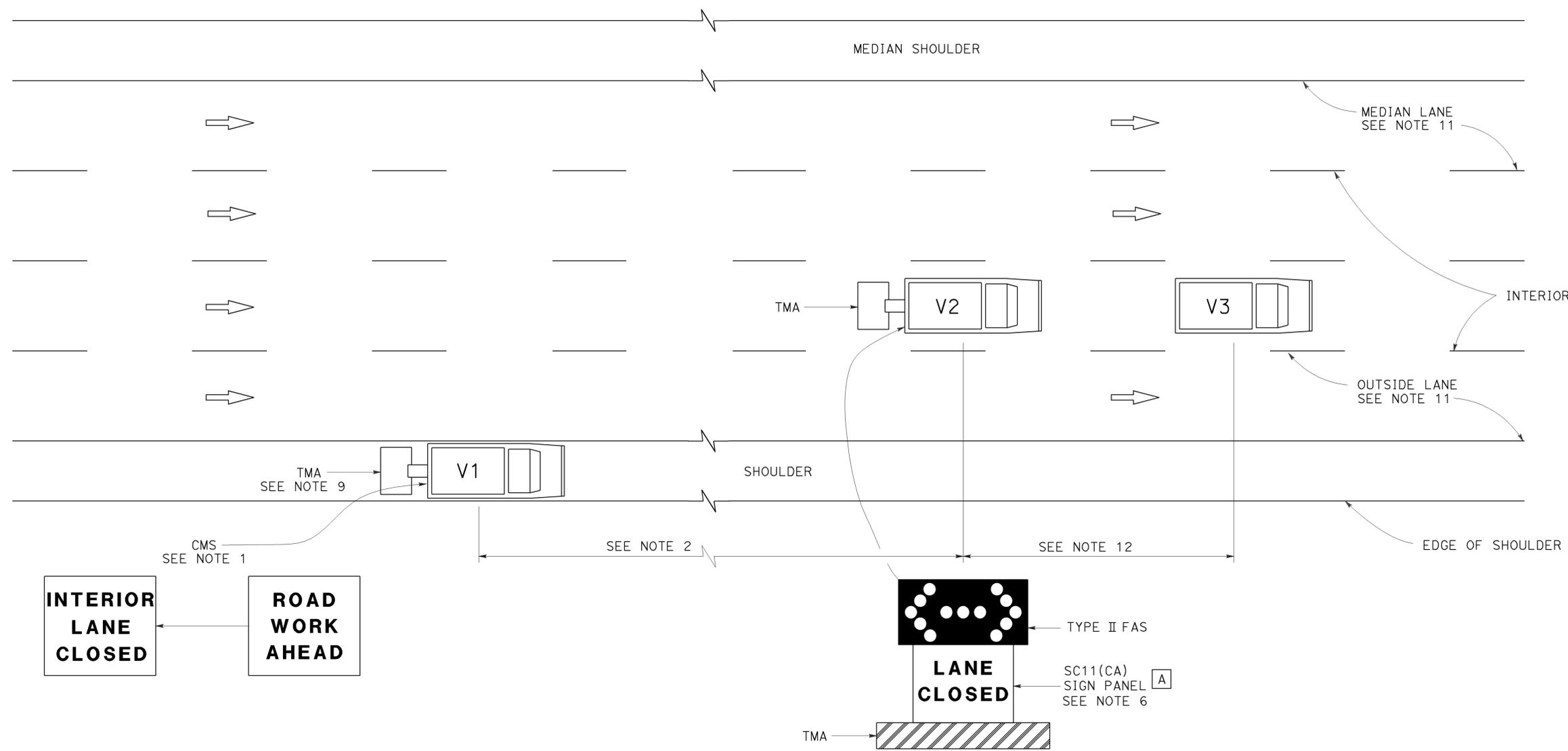
2010 REVISED STANDARD PLAN RSP T15

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	118	T18.7/R32.6	81	98

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.



TO ACCOMPANY PLANS DATED 12-16-13



SIGN PANEL SIZE (Min)

A 54" x 42"

LEGEND

- V1 SIGN VEHICLE
- V2 SHADOW VEHICLE
- V3 WORK/APPLICATION VEHICLE
-  FLASHING ARROW SIGN (FAS) IN FLASHING DOUBLE ARROW MODE
- CMS CHANGEABLE MESSAGE SIGN
- TMA TRUCK-MOUNTED ATTENUATOR

MOVING LANE CLOSURE ON INTERIOR LANE OF MULTILANE HIGHWAYS

NOTES:

1. A changeable message sign shall be mounted on the rear of sign vehicle V1. The changeable message sign shall be sequenced to show the "ROAD WORK AHEAD" message first, followed by the "INTERIOR LANE CLOSED" message. The message "CENTER LANE CLOSED" may be used in place of the "INTERIOR LANE CLOSED" message.
2. If traffic queues develop, sign vehicle V1 should be positioned upstream from the end of queue. Sign vehicle V1 shall be positioned where highly visible when shoulders are not available.
3. A minimum sight distance of 1500' should be provided in advance of sign vehicle V1.
4. Sign vehicle V1 should remain at the beginning of horizontal or vertical curves until the other vehicles (V2 and V3) are far enough beyond the curve to resume the minimum sight distance of 1500'.
5. Vehicle-mounted sign panels shall have Type III or above retroreflective sheeting, black on white, or black on fluorescent orange, with 6" minimum series D letters per Caltrans sign specifications.
6. Shadow vehicle V2 shall be equipped with a truck-mounted attenuator. The sign panel shown and a Type II flashing arrow sign shall be mounted on the rear of shadow vehicle V2.
7. All vehicles used for lane closures shall be equipped with two-way radios, and the vehicle operators shall maintain communication during the work or application operation.
8. All vehicles shall be equipped with flashing or rotating amber lights.
9. If sign vehicle V1 encroaches into the traffic lane due to insufficient shoulder width, sign vehicle V1 shall be equipped with a truck-mounted attenuator. Sign vehicle V1 shall stay as close to the edge of shoulder as practicable.
10. Where workers would be on foot in the work area, a stationary type lane closure (Revised Standard Plan T10, T11 etc., as applicable) shall be used instead of this plan.
11. For moving lane closure on median lane or outside lane of multilane highways, use Revised Standard Plan T15.
12. The spacing between work vehicle(s) and the shadow vehicles, and between each shadow vehicle should be minimized to deter road users from driving in between.

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

RSP T16 DATED APRIL 19, 2013 SUPERSEDES STANDARD PLAN T16
 DATED MAY 20, 2011 - PAGE 244 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP T16

2010 REVISED STANDARD PLAN RSP T16

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
07	Ven	118	T18.7/R32.6	82	98

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 12-16-13

SOFFIT AND WALL MOUNTED LUMINAIRES

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

NOTE:
Arrow indicates "street side" of luminaire.

COMMONLY USED SYMBOLS FOR UNITED STATES CUSTOMARY UNITS OF MEASUREMENT:

SYMBOL USED	DEFINITIONS
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
07	Ven	118	T18.7/R32.6	83	98

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 12-16-13

CONDUIT

SIGNAL EQUIPMENT

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

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

SIGNAL EQUIPMENT Cont

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

SERVICE EQUIPMENT

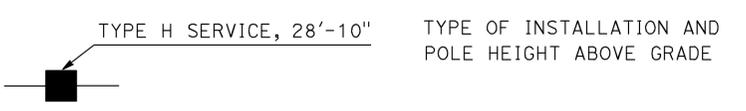
NEW	EXISTING	
---OH---	---oh---	OVERHEAD LINES
		WOOD POLE, "U" INDICATES UTILITY OWNED
		POLE GUY WITH ANCHOR
		UTILITY TRANSFORMER - GROUND MOUNTED
		SERVICE EQUIPMENT ENCLOSURE TYPE. DOOR INDICATES FRONT OF ENCLOSURE
		TELEPHONE DEMARCATION CABINET

		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

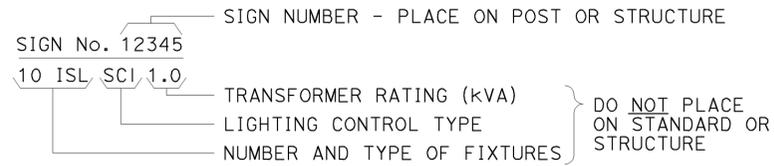
RSP ES-1B DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-1B DATED MAY 20, 2011 - PAGE 426 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-1B

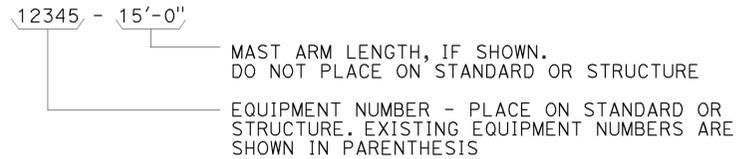
2010 REVISED STANDARD PLAN RSP ES-1B

EQUIPMENT IDENTIFICATION

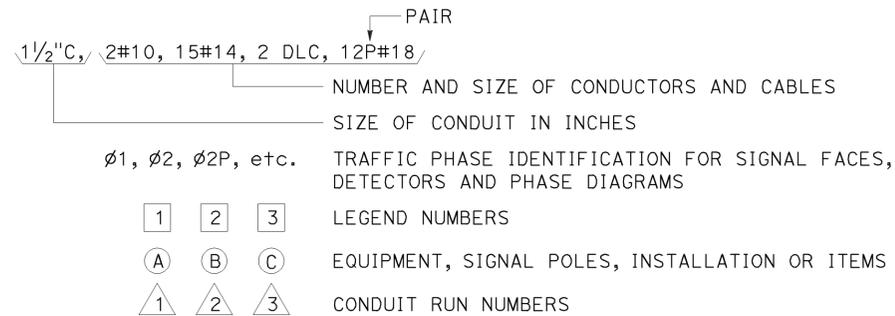
ILLUMINATED SIGN IDENTIFICATION NUMBER:



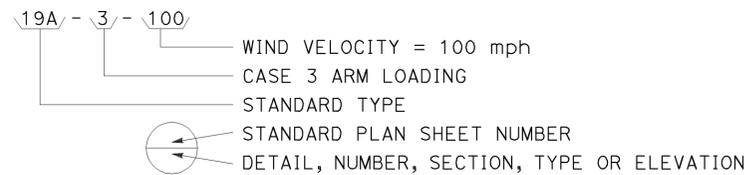
ELECTROLIER OR EQUIPMENT IDENTIFICATION NUMBER:



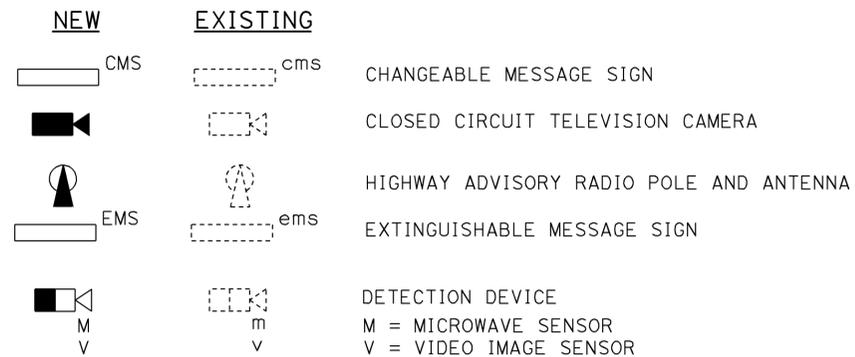
CONDUIT AND CONDUCTOR IDENTIFICATION:



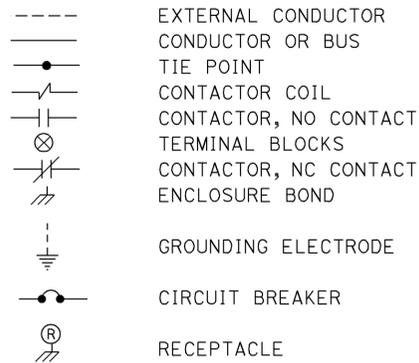
SIGNAL AND LIGHTING STANDARD (TYPICAL DESIGNATION):



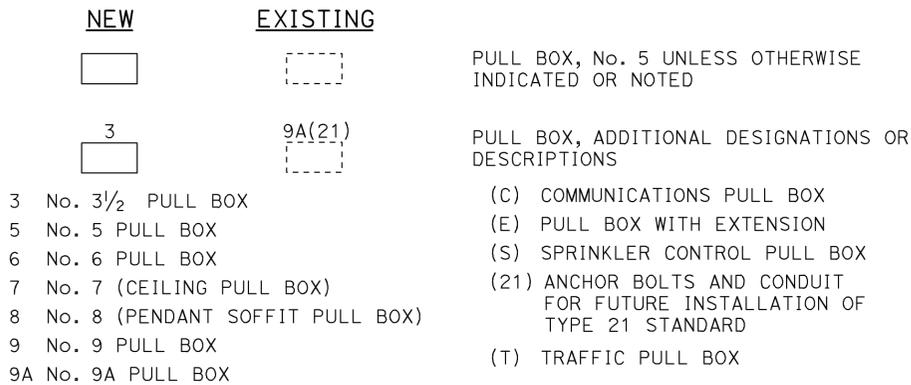
MISCELLANEOUS EQUIPMENT



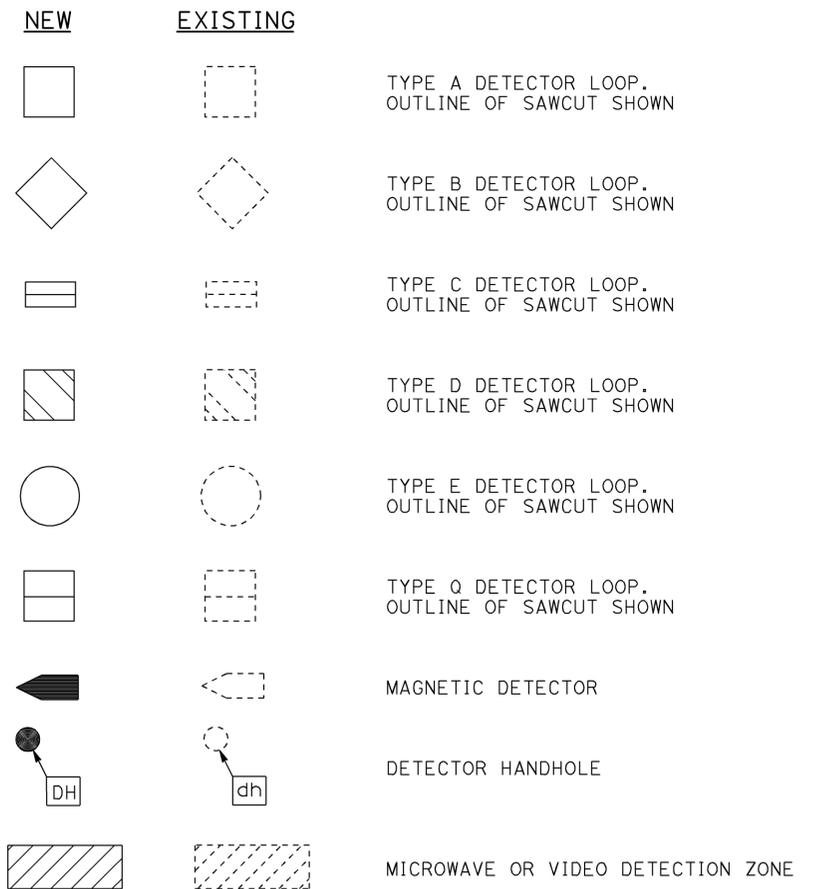
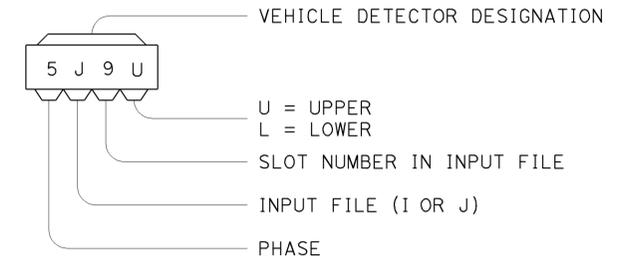
WIRING DIAGRAM LEGEND



PULL BOXES



VEHICLE DETECTORS



STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (LEGEND AND ABBREVIATIONS)

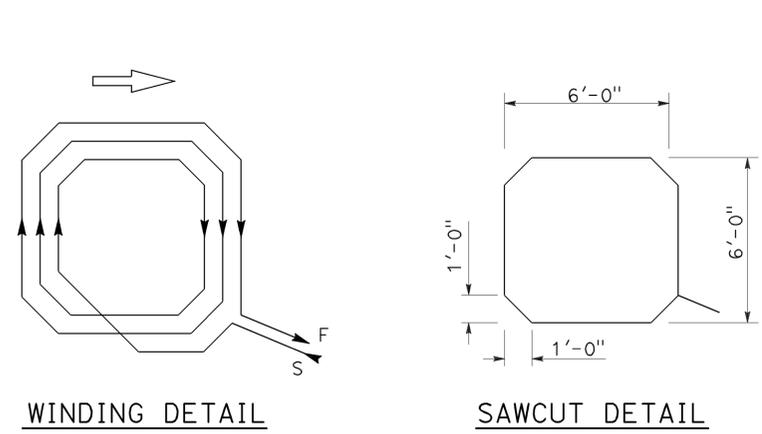
NO SCALE

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.

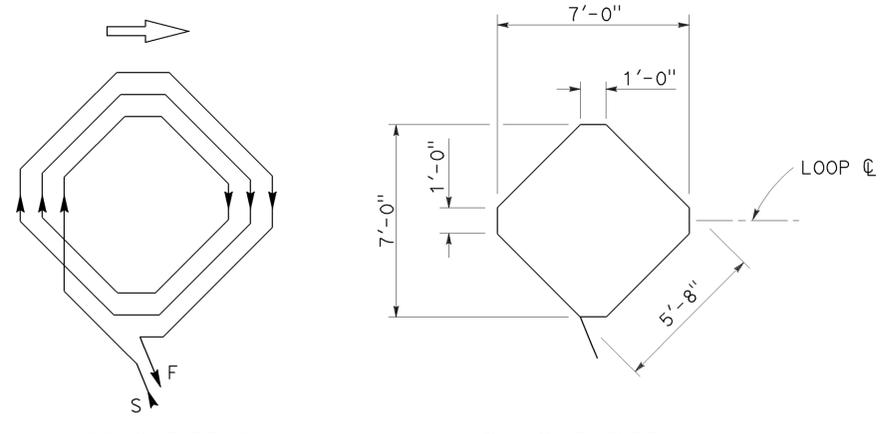
REVISED STANDARD PLAN RSP ES-1C

2010 REVISED STANDARD PLAN RSP ES-1C

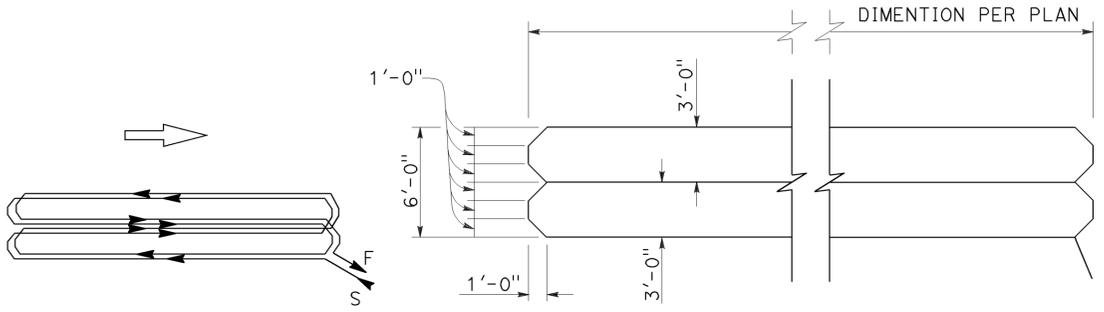
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	118	T18.7/R32.6	85	98
<i>Theresa Gabriel</i> REGISTERED ELECTRICAL ENGINEER July 19, 2013 PLANS APPROVAL DATE <small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					
TO ACCOMPANY PLANS DATED <u>12-16-13</u>					



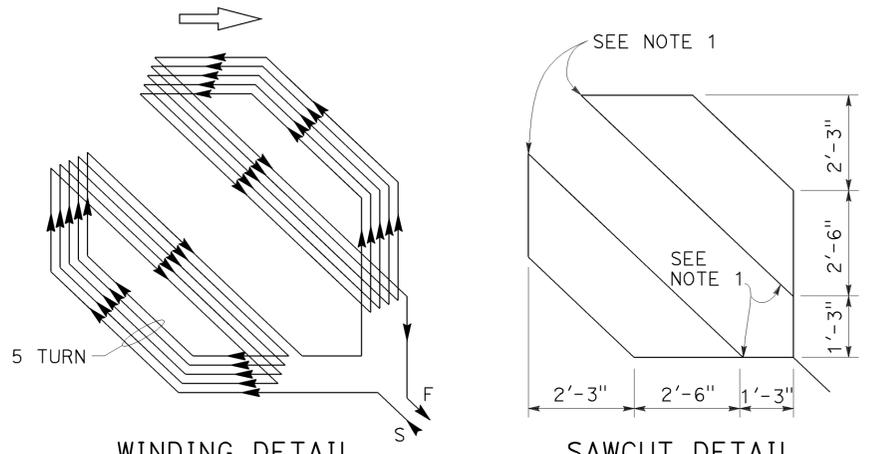
WINDING DETAIL
SAWCUT DETAIL
TYPE A LOOP DETECTOR CONFIGURATION



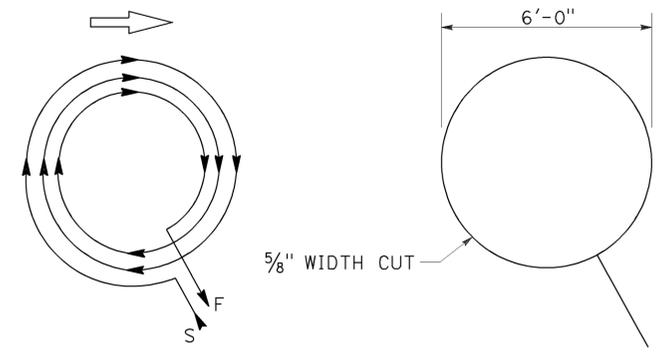
WINDING DETAIL
SAWCUT DETAIL
TYPE B LOOP DETECTOR CONFIGURATION



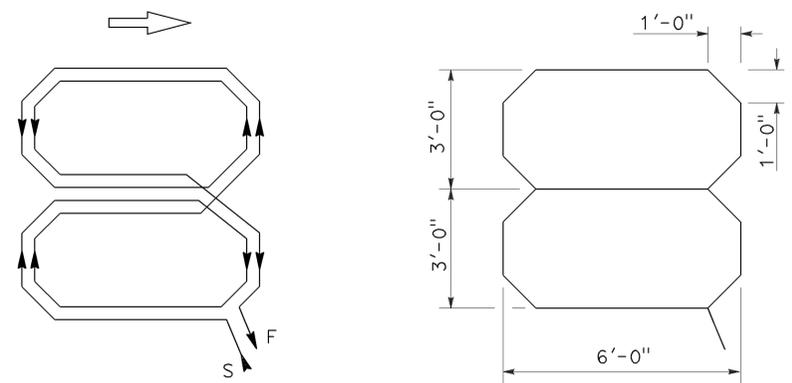
WINDING DETAIL
SAWCUT DETAIL
TYPE C LOOP DETECTOR CONFIGURATION



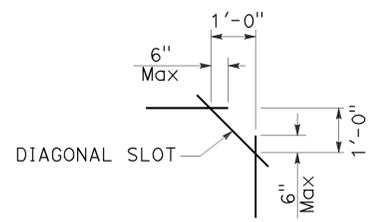
WINDING DETAIL
SAWCUT DETAIL
TYPE D LOOP DETECTOR CONFIGURATION



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

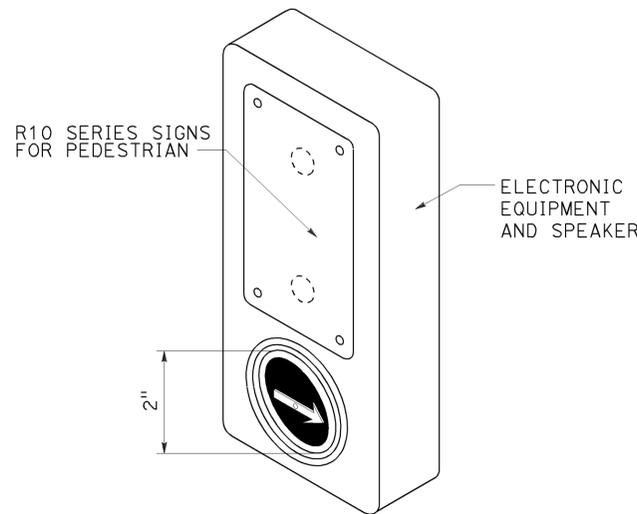
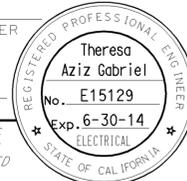
ELECTRICAL SYSTEMS (DETECTORS)

NO SCALE

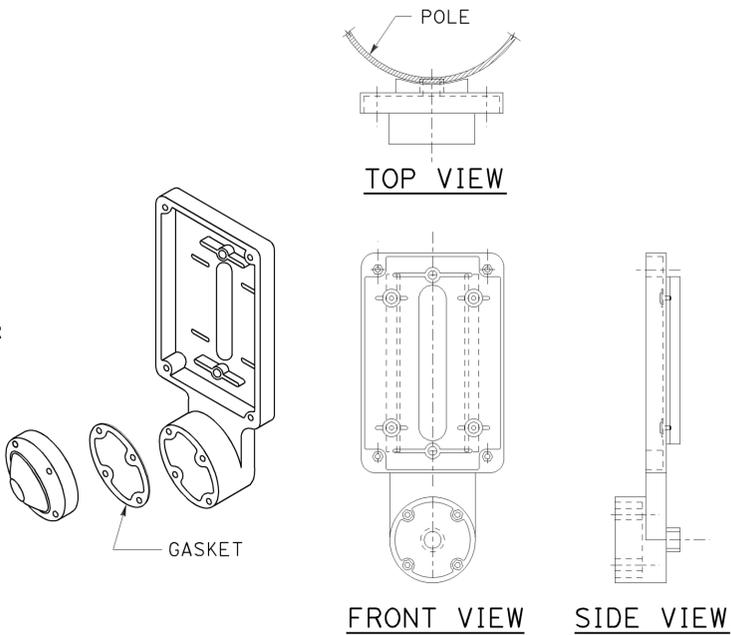
RSP ES-5B DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-5B DATED MAY 20, 2011 - PAGE 449 OF THE STANDARD PLANS BOOK DATED 2010.

2010 REVISED STANDARD PLAN RSP ES-5B

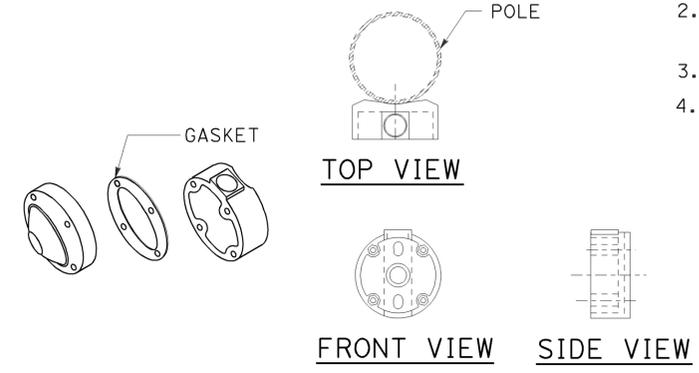
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	118	T18.7/R32.6	86	98
<p><i>Theresa Gabriel</i> REGISTERED ELECTRICAL ENGINEER</p> <p>July 19, 2013 PLANS APPROVAL DATE</p> <p>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</p>					
<p>TO ACCOMPANY PLANS DATED <u>12-16-13</u></p>					



ACCESSIBLE PEDESTRIAN SIGNAL
DETAIL A
(See note 1 to 4)

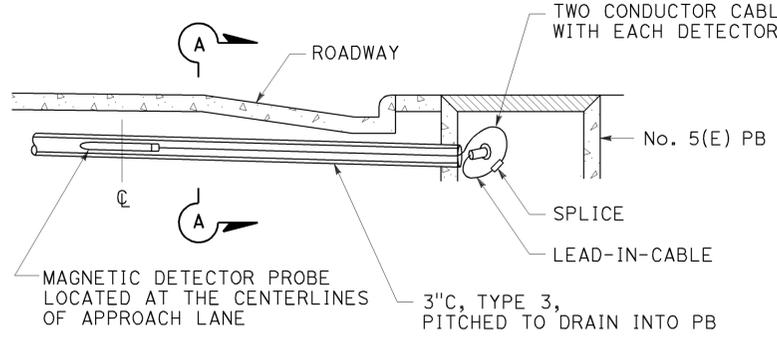
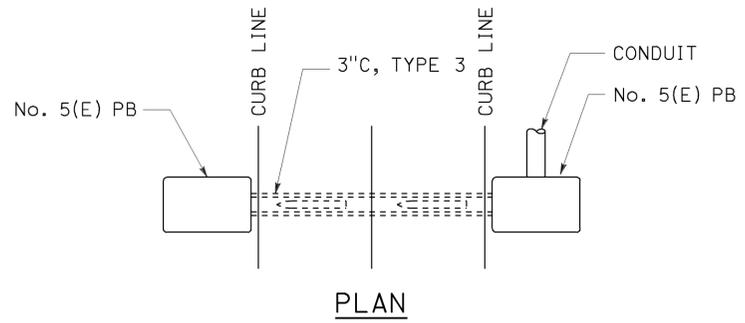


TYPE B PUSH BUTTON ASSEMBLY
DETAIL B
(See note 1 to 4)

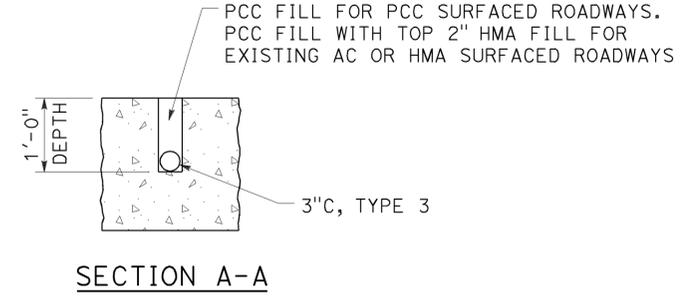


TYPE C PUSH BUTTON ASSEMBLY
DETAIL C
(See note 1 to 4)

- NOTES:**
1. Back casting shape to fit curvature of pole.
 2. Provide cover fitting for top of post, when PBA is mounted on push button assembly post.
 3. Install push button on crosswalk side of standard.
 4. Use R10 series regulatory signs and plaques for pedestrian and bicycle facilities.



MAGNETIC VEHICLE DETECTOR
INSTALLATION DETAILS
DETAIL D



STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
ELECTRICAL SYSTEMS
(ACCESSIBLE PEDESTRIAN SIGNAL,
PUSH BUTTON ASSEMBLIES AND
MAGNETIC VEHICLE DETECTOR)
NO SCALE

RSP ES-5C DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-5C DATED MAY 20, 2011 - PAGE 450 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-5C

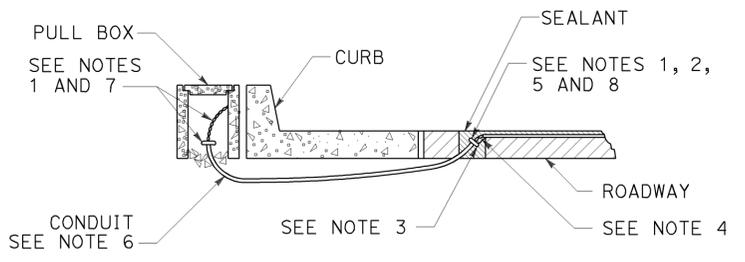
2010 REVISED STANDARD PLAN RSP ES-5C

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	118	T18.7/R32.6	87	98

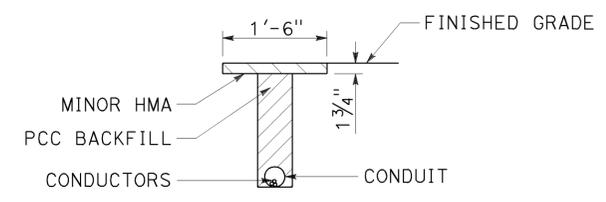
Theresa Gabriel
 REGISTERED ELECTRICAL ENGINEER
 July 19, 2013
 PLANS APPROVAL DATE
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

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

TO ACCOMPANY PLANS DATED 12-16-13

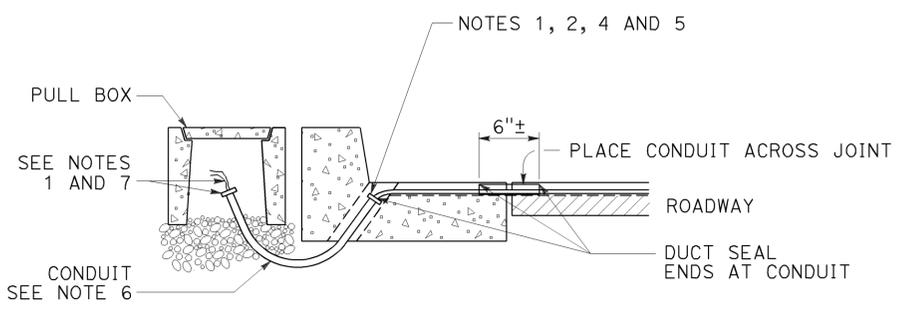


TYPE A
CURB TERMINATION DETAIL

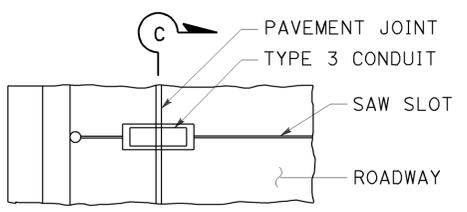


"T" TRENCH
DETAIL T

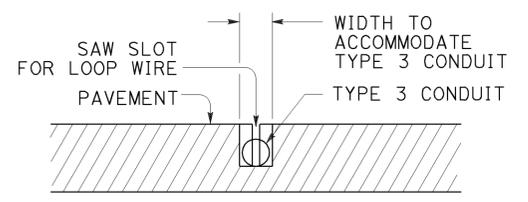
5/16" x 1 1/2" SCREW (BRASS, STAINLESS STEEL OR OTHER NON-CORRODING MATERIAL)



CROSS SECTION

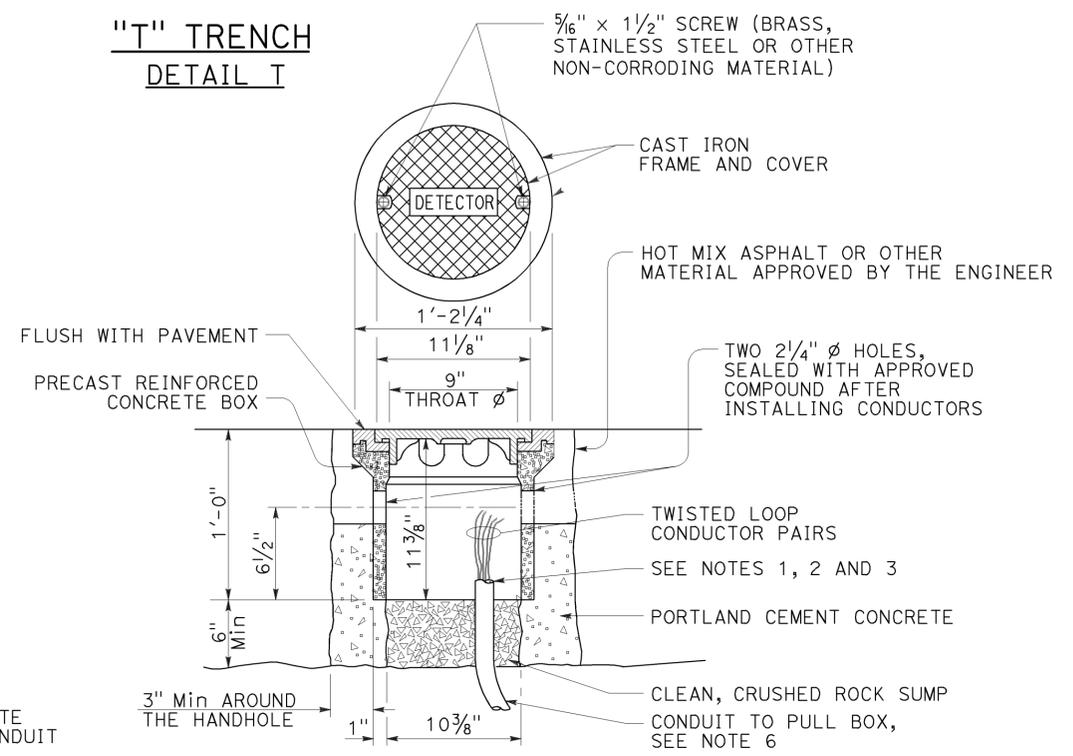


PLAN VIEW

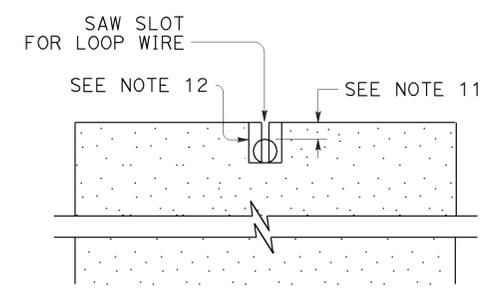


SECTION C-C

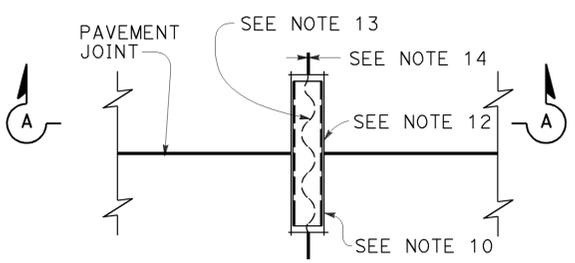
TYPE B
CURB TERMINATION DETAIL



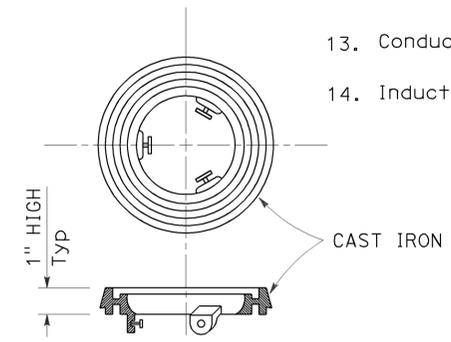
DETECTOR HANDHOLE DETAIL



SECTION A-A



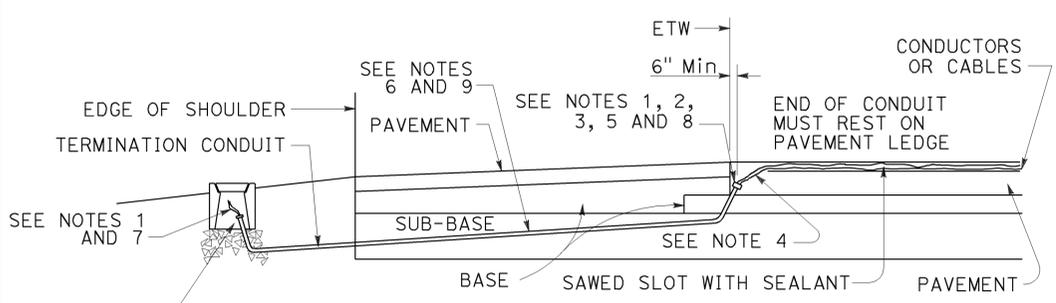
PLAN VIEW
TYPICAL LOOP LEAD-IN DETAIL
AT PAVEMENT JOINT



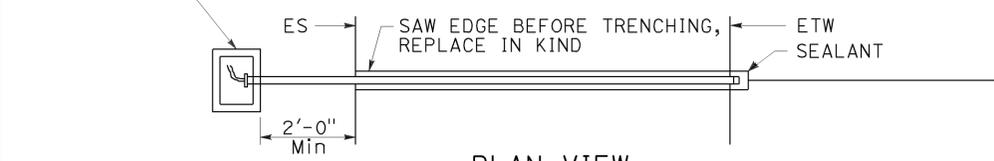
LOCKING GRADE RING

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.



CROSS SECTION



PLAN VIEW
SHOULDER TERMINATION DETAILS

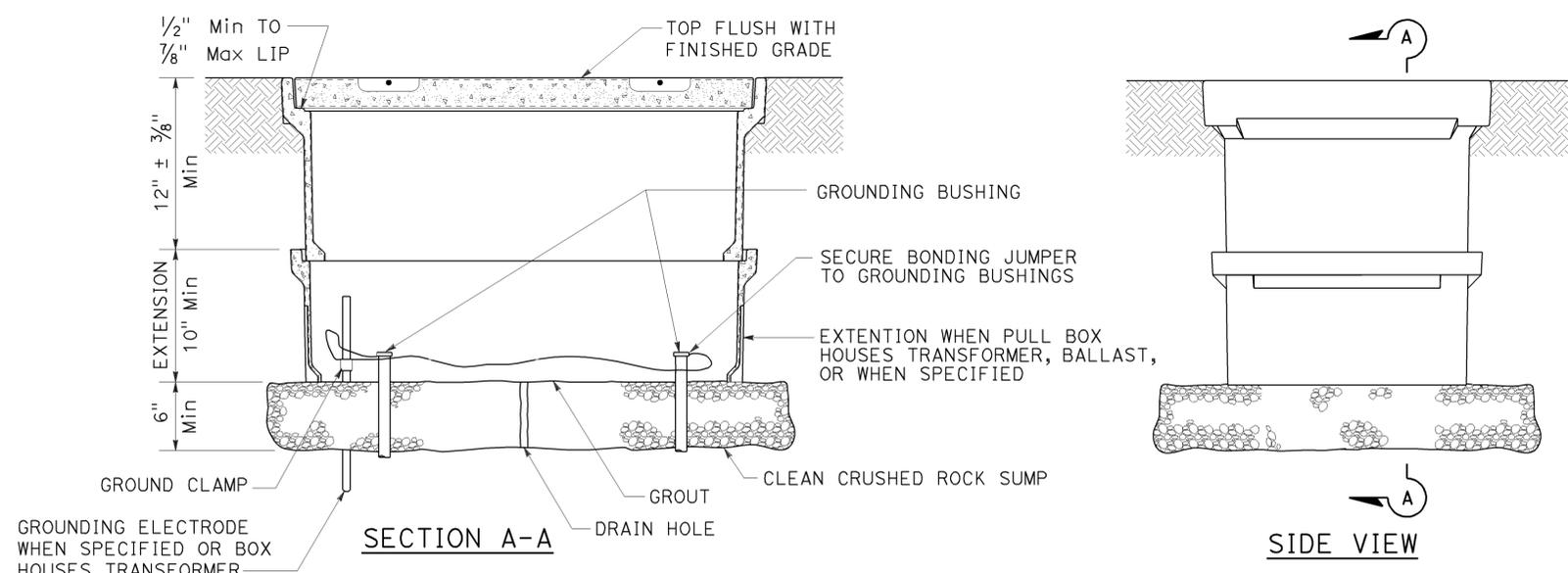
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
ELECTRICAL SYSTEMS
(CURB TERMINATION
AND HANDHOLE)
NO SCALE

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.

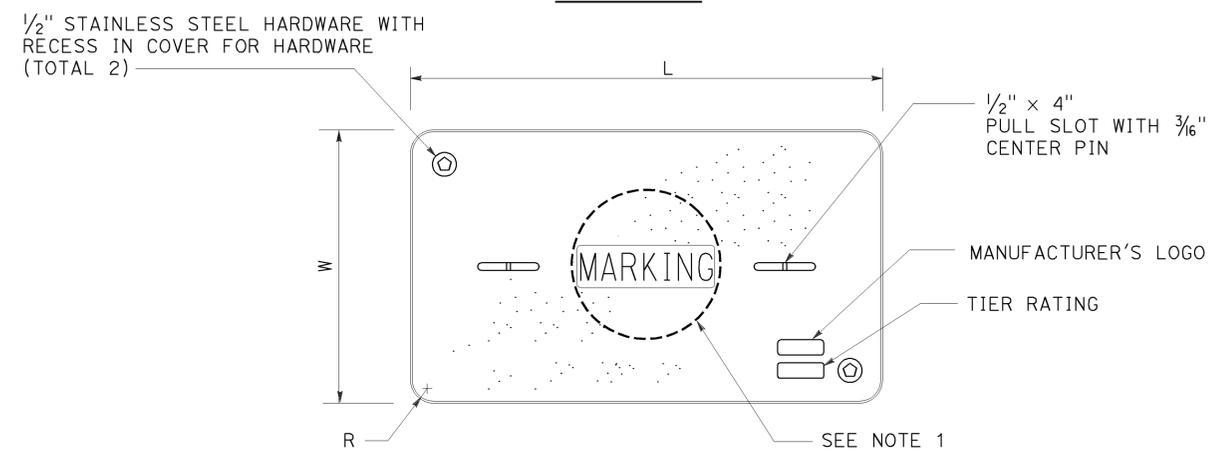
REVISED STANDARD PLAN RSP ES-5D

2010 REVISED STANDARD PLAN RSP ES-5D

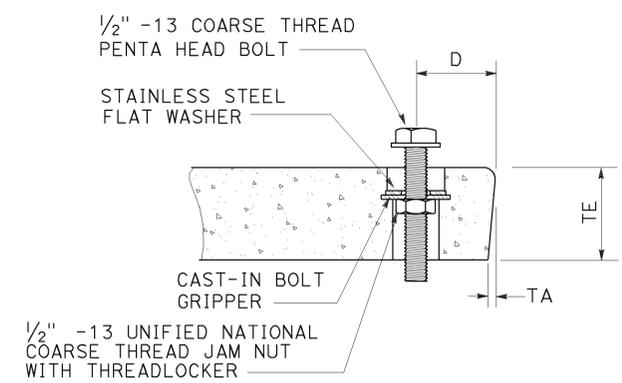
2010 REVISED STANDARD PLAN RSP ES-8A



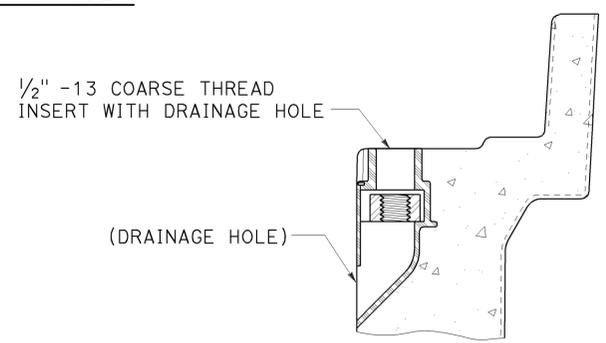
INSTALLATION DETAILS
DETAIL A



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.

TO ACCOMPANY PLANS DATED 12-16-13

DIMENSION TABLE										
PULL BOX	PULL BOX			COVER						
	MINIMUM DEPTH BOX	MINIMUM DEPTH EXTENSION	MAXIMUM WEIGHT	L	W	R	TE	TA	D	MAXIMUM WEIGHT
No. 3 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

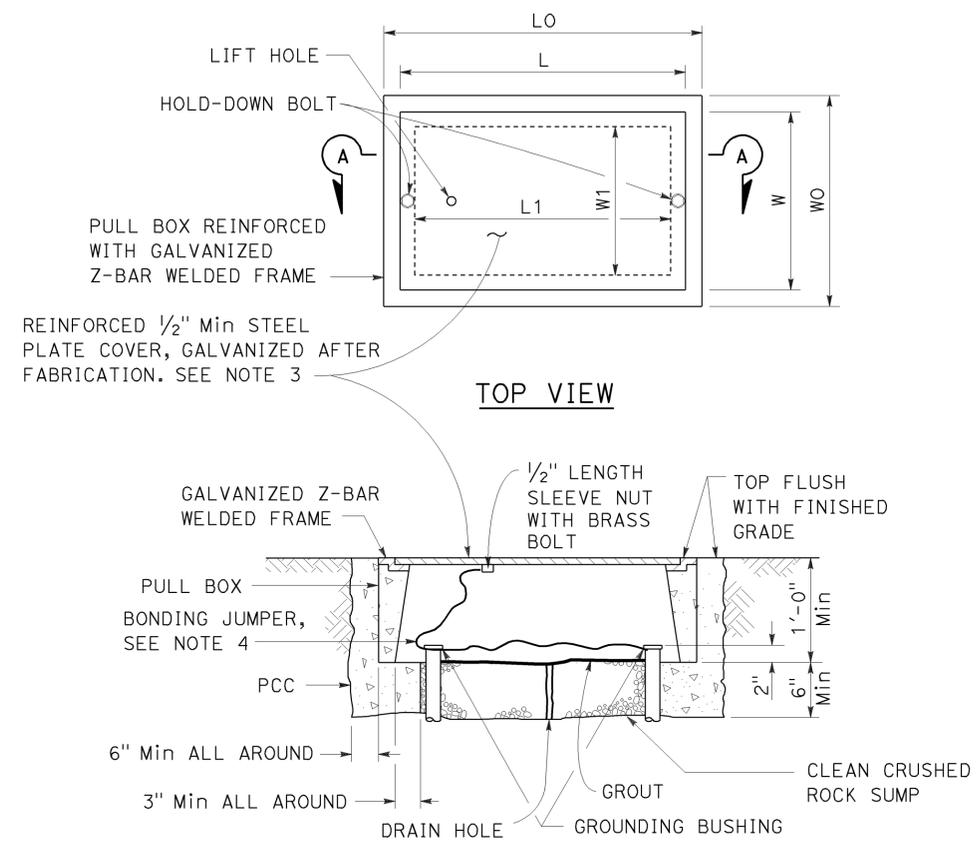
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	Ven	118	T18.7/R32.6	89	98

Theresa Gabriel
 REGISTERED ELECTRICAL ENGINEER
 July 19, 2013
 PLANS APPROVAL DATE

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

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TO ACCOMPANY PLANS DATED 12-16-13



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

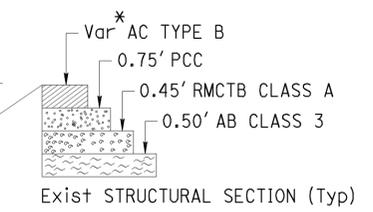
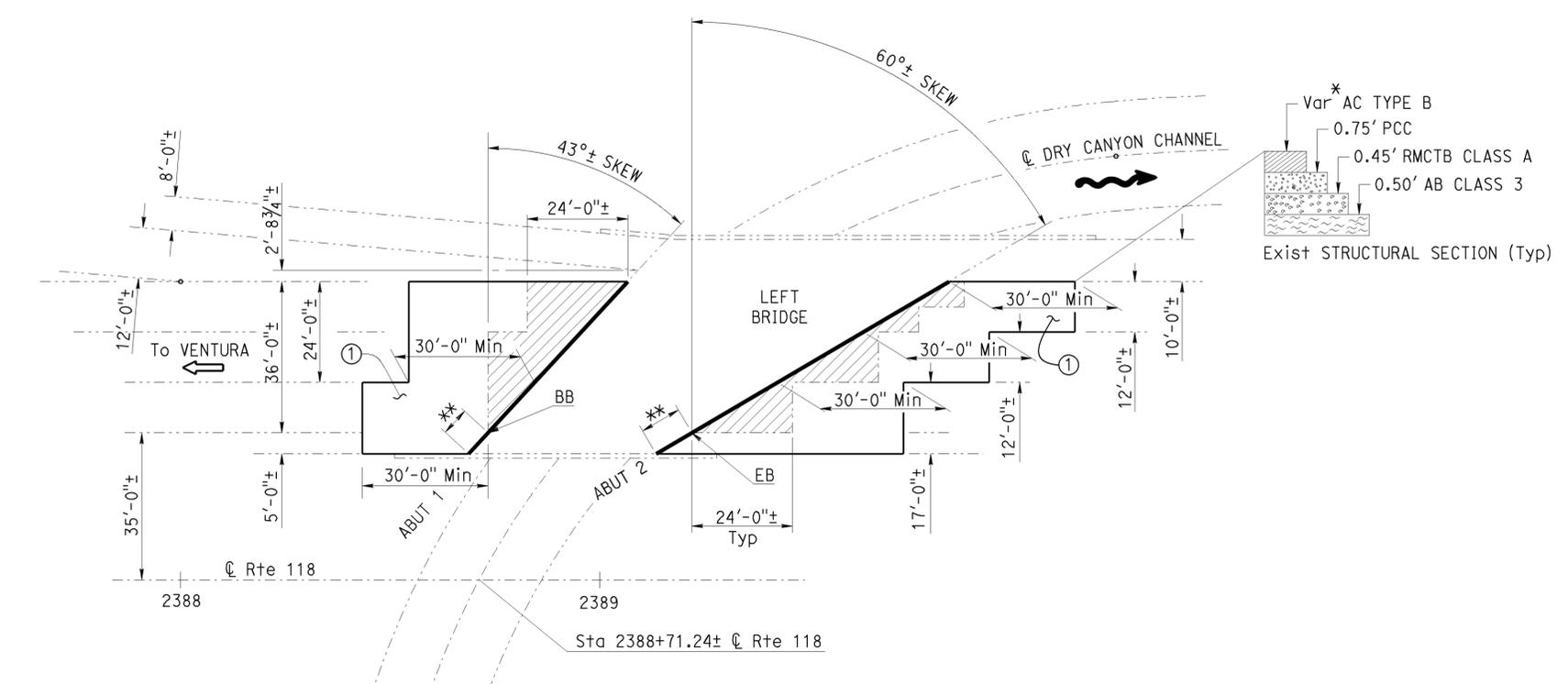
* EXCLUDING CONDUIT WEB ** TOP DIMENSION

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.

2010 REVISED STANDARD PLAN RSP ES-8B

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	118	T18.7/R32.6	90	98
<i>J. Estrada</i> 11/14/13 REGISTERED CIVIL ENGINEER DATE					
12-16-13 PLANS APPROVAL DATE					
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.</small>					



Note:
 For transition anchor block locations on right bridge, see "General Plan No. 4" sheet



DRY CANYON CHANNEL
 Br. No. 52-0320R/L, ROUTE 118, Ven, PM R25.08
 1"=20'

DRY CANYON CHANNEL BRIDGE NO. 52-0320R/L

QUANTITIES

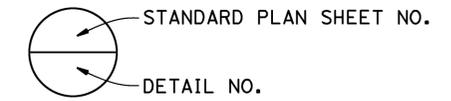
AGGREGATE BASE (APPROACH SLAB)	15	CY
STRUCTURAL CONCRETE, APPROACH SLAB (TYPE R)	152	CY
PAVING NOTCH EXTENSION	13	CF
JOINT SEAL (MR 1/2")	138	LF
CONCRETE BARRIER (TRANSITION ANCHOR BLOCK)	9	LF

INDEX TO PLANS

SHEET NO.	TITLE
1	GENERAL PLAN NO. 1
2	GENERAL PLAN NO. 2
3	GENERAL PLAN NO. 3
4	GENERAL PLAN NO. 4
5	JOINT SEAL DETAILS
6	STRUCTURE APPROACH TYPE R(30D)
7	THRIE BEAM CONNECTION - TYPE 25
8	THRIE BEAM CONNECTION - TYPE 1
9	THRIE BEAM CONNECTION - TYPE 9

STANDARD PLANS DATED 2010

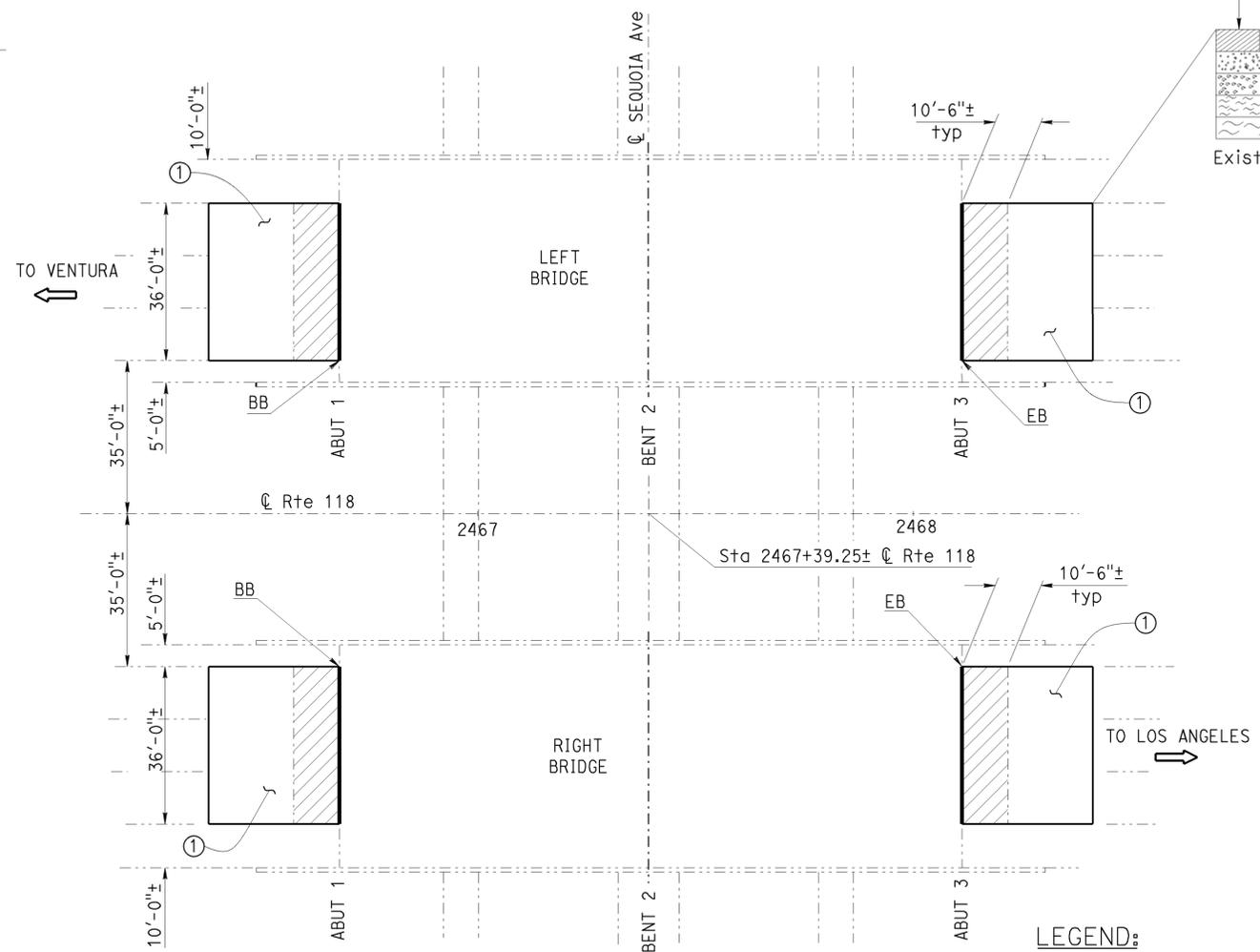
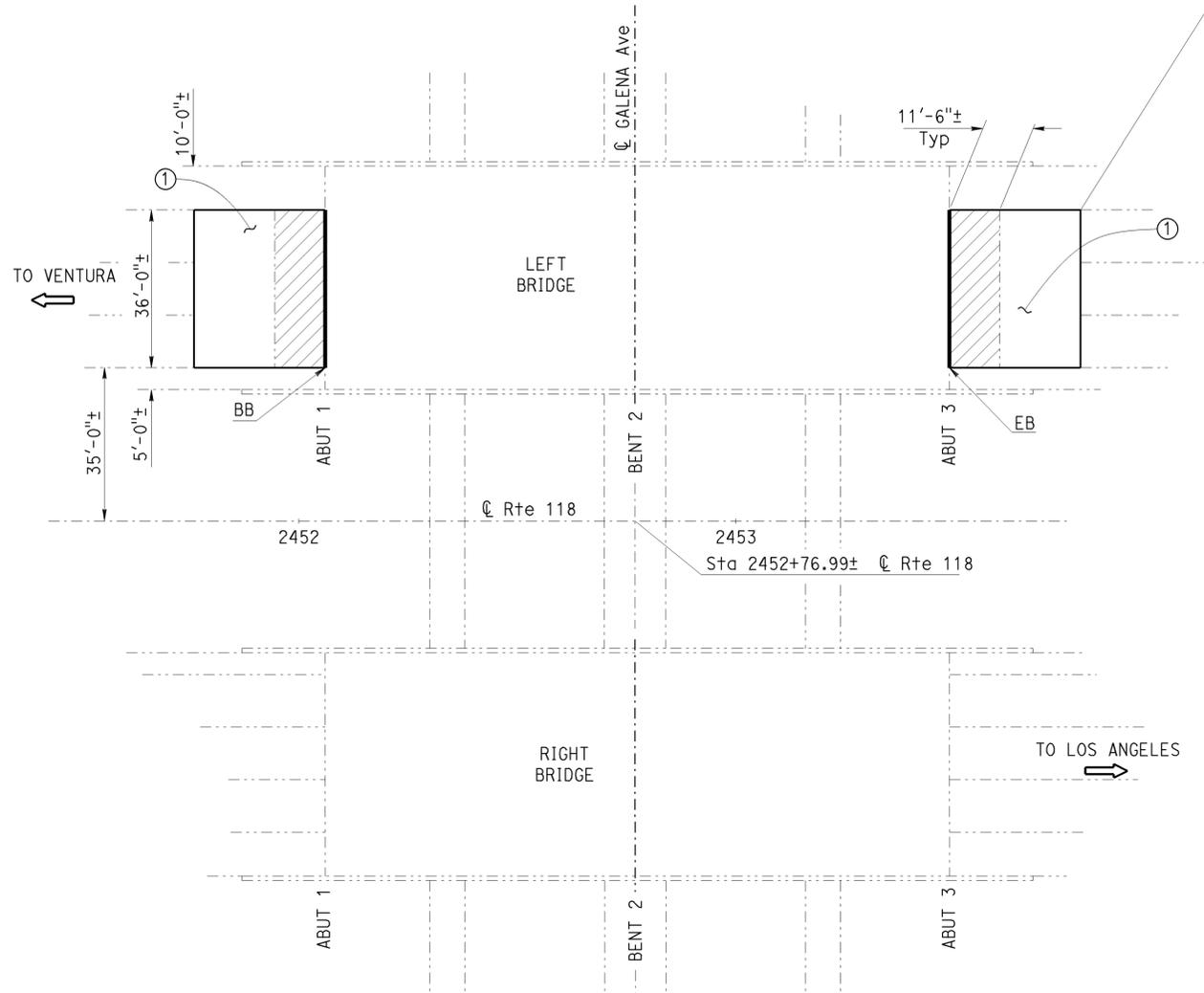
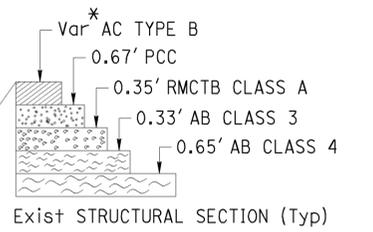
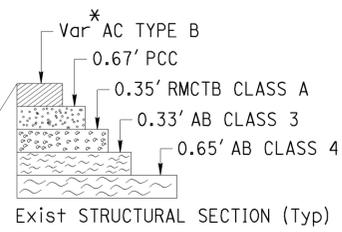
SHEET NO.	TITLE
A10A	ACRONYMS AND ABBREVIATIONS (SHEET 1 OF 2)
RSP A10B	ACRONYMS AND ABBREVIATIONS (SHEET 2 OF 2)
A10C	LINES AND SYMBOLS (SHEET 1 OF 3)
A10D	LINES AND SYMBOLS (SHEET 2 OF 3)
A10E	LINES AND SYMBOLS (SHEET 3 OF 3)
B6-21	JOINT SEALS (MAXIMUM MOVEMENT RATING = 2")
RSP A77U1	MIDWEST GUARDRAIL SYSTEM CONNECTIONS TO BRIDGE RAILINGS WITHOUT SIDEWALKS DETAILS No.1
RSP A77U2	MIDWEST GUARDRAIL SYSTEM CONNECTIONS TO BRIDGE RAILINGS WITHOUT SIDEWALKS DETAILS No.2



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

MIKE POPE DESIGN ENGINEER	DESIGN	BY Jorge Estrada	CHECKED Mike Pope	LOAD & RESISTANCE FACTOR DESIGN	LIVE LOADING: HL93 W/"LOW-BOY"; PERMIT DESIGN VEHICLE	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 18	BRIDGE NO.	ROUTE 118 BRIDGE APPROACH AND DEPARTURE SLAB REPLACEMENT GENERAL PLAN NO. 1	
	DETAILS	BY Suraj Dutta	CHECKED Jorge Estrada	LAYOUT	BY Suraj Dutta			CHECKED Jorge Estrada		VARIOUS
	QUANTITIES	BY Jorge Estrada	CHECKED Matt Schott	SPECIFICATIONS	BY Theresa Nedwick	PLANS AND SPECS COMPARED Theresa Nedwick	VARIOUS			
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS						0 1 2 3	UNIT: 3603 PROJECT NUMBER & PHASE: 0713000086-1 CONTRACT NO.: 07-296704		DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES 8/20/13 9/24/13 11/12/13 11/20/13 SHEET 1 OF 9

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	118	T18.7/R32.6	91	98
			Estrada 11/14/13 REGISTERED CIVIL ENGINEER DATE		
			12-16-13 PLANS APPROVAL DATE		
			The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.		



GALENA AVENUE UNDERCROSSING
 Br. No. 52-0323L, ROUTE 118, Ven, PM R26.28
 1"=20'

SEQUOIA AVENUE UNDERCROSSING
 Br. No. 52-0322R/L, ROUTE 118, Ven, PM R26.56
 1"=20'

GALENA AVE UC BRIDGE NO. 52-0323L

QUANTITIES	
AGGREGATE BASE (APPROACH SLAB)	9 CY
STRUCTURAL CONCRETE, APPROACH SLAB (TYPE R)	86 CY
JOINT SEAL (MR 1/2")	72 LF

SEQUOIA AVE UC BRIDGE NO. 52-0322R/L

QUANTITIES	
AGGREGATE BASE (APPROACH SLAB)	18 CY
STRUCTURAL CONCRETE, APPROACH SLAB (TYPE R)	172 CY
JOINT SEAL (MR 1/2")	144 LF
CONCRETE BARRIER (TRANSITION ANCHOR BLOCK)	5 LF

- LEGEND:**
- LIMITS OF EXISTING APPROACH SLAB, EXISTING PAVING NOTCH TO REMAIN.
 - NEW CONSTRUCTION
 - EXISTING STRUCTURE
 - CONSTRUCT NEW STRUCTURE APPROACH SLAB TYPE R(30D)
 - LOCATION OF EXISTING JOINT SEAL REMOVAL AND PLACEMENT OF NEW JOINT SEAL

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

Note:
 For transition anchor block locations, see "General Plan No. 4" sheet

* AC thickness varies from 0' near paving notch to 0.10'± at opposite end of approach slab

MIKE POPE DESIGN ENGINEER	DESIGN	BY Jorge Estrada	CHECKED Mike Pope	LOAD & RESISTANCE FACTOR DESIGN	LIVE LOADING: HL93 W/"LOW-BOY"; PERMIT DESIGN VEHICLE
	DETAILS	BY Suraj Dutta	CHECKED Jorge Estrada	LAYOUT	BY Suraj Dutta
	QUANTITIES	BY Jorge Estrada	CHECKED Matt Schott	SPECIFICATIONS	BY Theresa Nedwick

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
 DIVISION OF ENGINEERING SERVICES
 STRUCTURE DESIGN
DESIGN BRANCH 18

BRIDGE NO. VARIOUS
 POST MILE VARIOUS
ROUTE 118 BRIDGE APPROACH AND DEPARTURE SLAB REPLACEMENT
GENERAL PLAN NO. 2

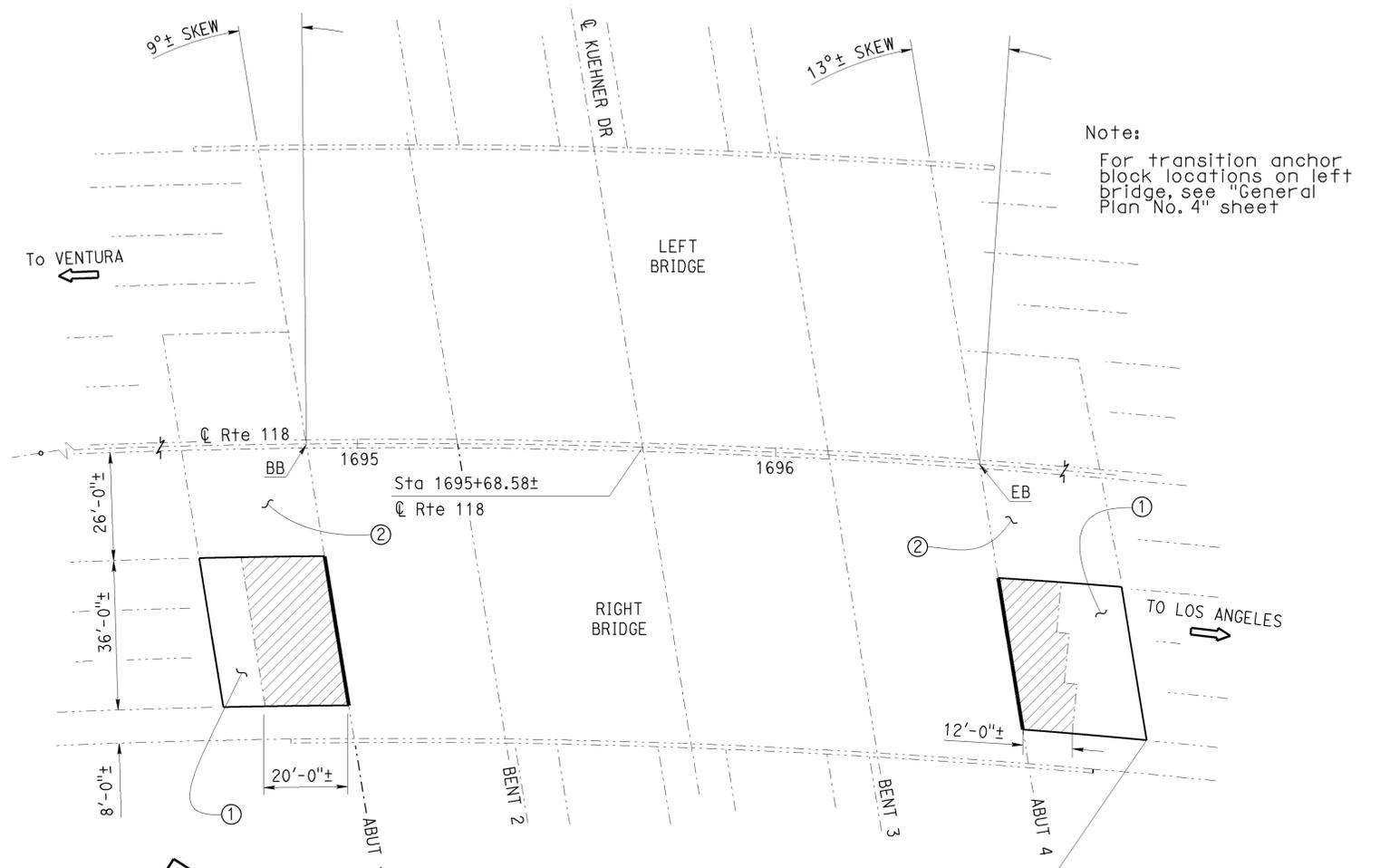
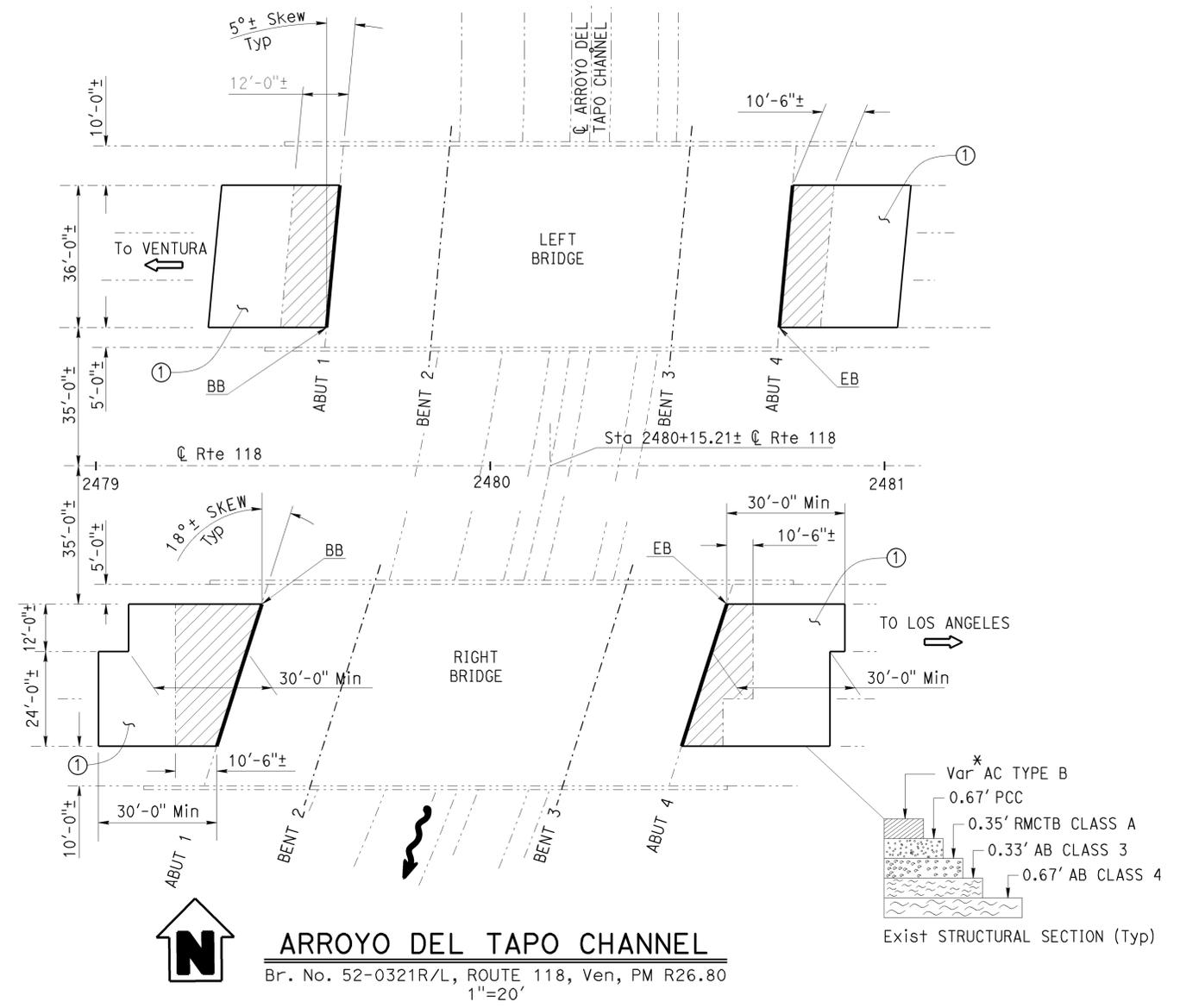
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	118	T18.7/R32.6	92	98

Estrada, 11/14/13
 REGISTERED CIVIL ENGINEER DATE

12-16-13
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 Jorge Estrada
 No. C51473
 Exp. 06/30/14
 CIVIL
 STATE OF CALIFORNIA

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Note:
 For transition anchor block locations on left bridge, see "General Plan No. 4" sheet

ARROYO DEL TAPO CHANNEL
 Br. No. 52-0321R/L, ROUTE 118, Ven, PM R26.80
 1"=20'

ARROYO DEL TAPO CHANNEL		BRIDGE NO. 52-0321R/L	
QUANTITIES			
AGGREGATE BASE (APPROACH SLAB)	18	CY	
STRUCTURAL CONCRETE, APPROACH SLAB (TYPE R)	181	CY	
JOINT SEAL (MR 1 1/2")	148	LF	
CONCRETE BARRIER (TRANSITION ANCHOR BLOCK)	13	LF	

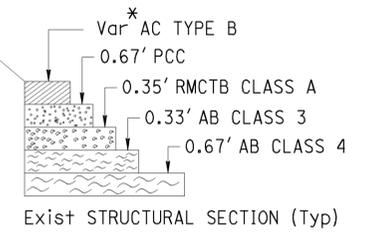
Note:
 For transition anchor block locations, see "General Plan No. 4" sheet

- LEGEND:**
- LIMITS OF EXISTING APPROACH SLAB, EXISTING PAVING NOTCH TO REMAIN.
 - NEW CONSTRUCTION
 - EXISTING STRUCTURE
 - ① CONSTRUCT NEW STRUCTURE APPROACH SLAB TYPE R(30D)
 - ② EXISTING APPROCH SLAB TO REMAIN
 - LOCATION OF EXISTING JOINT SEAL REMOVAL AND PLACEMENT OF NEW JOINT SEAL

* AC thickness varies from 0' near paving notch to 0.10± at opposite end of approach slab

KUEHNER DRIVE UNDERCROSSING
 Br. No. 52-0282R/L, ROUTE 118, Ven, PM R30.52
 1"=20'

KUEHNER DR UC		BRIDGE NO. 52-0282R/L	
QUANTITIES			
AGGREGATE BASE (APPROACH SLAB)	9	CY	
STRUCTURAL CONCRETE, APPROACH SLAB (TYPE R)	86	CY	
JOINT SEAL (MR 1")	74	LF	
CONCRETE BARRIER (TRANSITION ANCHOR BLOCK)	4	LF	



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

MIKE POPE DESIGN ENGINEER	DESIGN	By Jorge Estrada	CHECKED Mike Pope	LOAD & RESISTANCE FACTOR DESIGN	LIVE LOADING: HL93 W/"LOW-BOY"; PERMIT DESIGN VEHICLE
	DETAILS	By Suraj Dutta	CHECKED Jorge Estrada	LAYOUT	By Suraj Dutta
	QUANTITIES	By Jorge Estrada	CHECKED Matt Schott	SPECIFICATIONS	By Theresa Nedwick

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
 STRUCTURE DESIGN
DESIGN BRANCH 18

BRIDGE NO. VARIOUS
 POST MILE VARIOUS
ROUTE 118 BRIDGE APPROACH AND DEPARTURE SLAB REPLACEMENT
GENERAL PLAN NO. 3

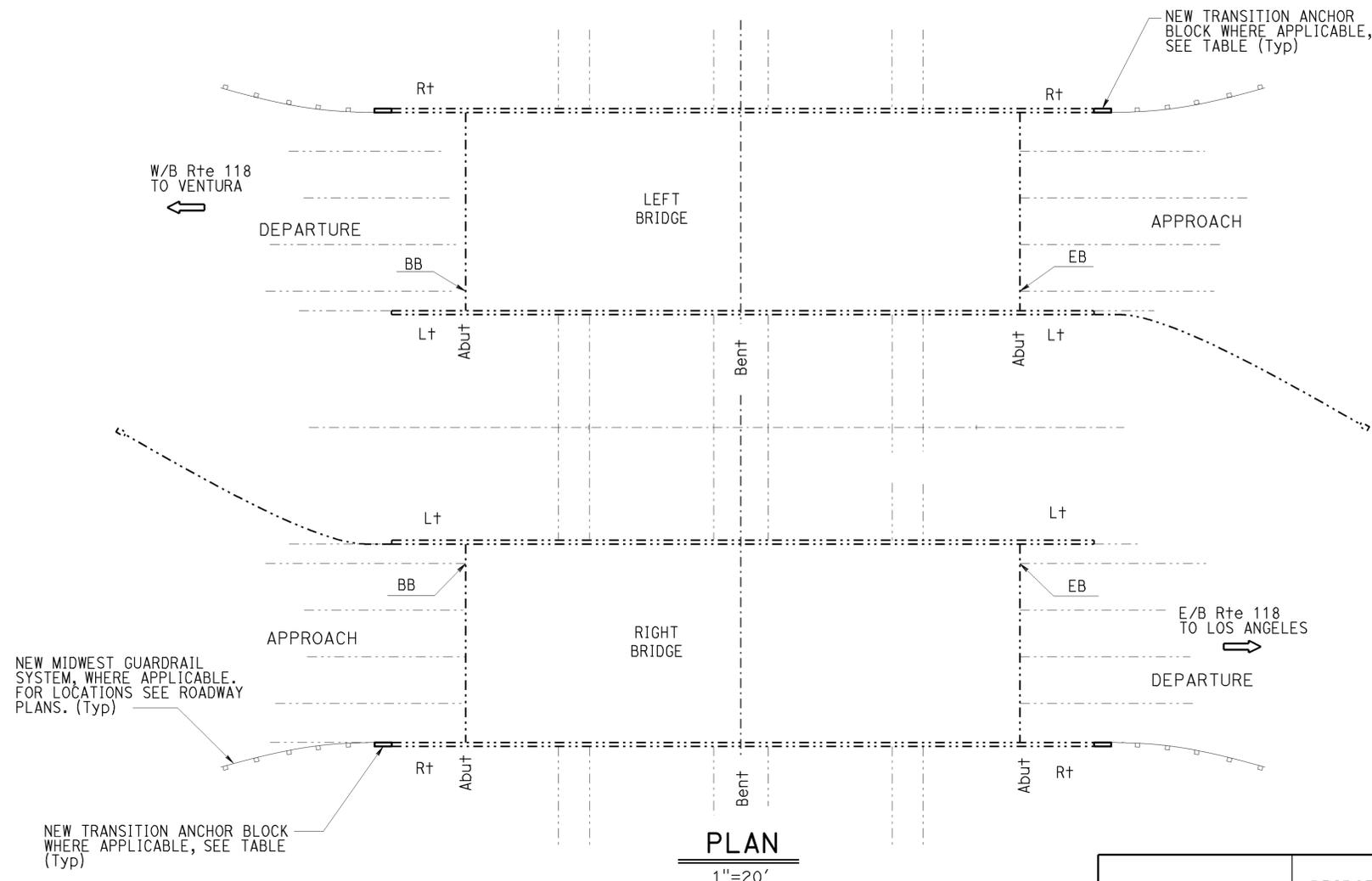
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	118	T18.7/R32.6	93	98

J. Estrada 11/14/13
 REGISTERED CIVIL ENGINEER DATE

12-16-13
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ALAMOS CANYON RD UC	BRIDGE NO. 52-0355R/L
QUANTITIES	
CONCRETE BARRIER (TRANSITION ANCHOR BLOCK)	7 LF
MADERA RD UC	BRIDGE NO. 52-0354R/L
QUANTITIES	
CONCRETE BARRIER (TRANSITION ANCHOR BLOCK)	7 LF
CALDWELL AVE UC	BRIDGE NO. 52-0346R/L
QUANTITIES	
CONCRETE BARRIER (TRANSITION ANCHOR BLOCK)	5 LF
SYCAMORE DR UC	BRIDGE NO. 52-0327R/L
QUANTITIES	
CONCRETE BARRIER (TRANSITION ANCHOR BLOCK)	13 LF
TAPO CANYON RD UC	BRIDGE NO. 52-0309R/L
QUANTITIES	
CONCRETE BARRIER (TRANSITION ANCHOR BLOCK)	4 LF

- NOTES:**
- (1) For Transition Anchor Block details, see "Thrie Beam Connection - Type 25" Sheet
 - (2) For Transition Anchor Block details, see "Thrie Beam Connection - Type 9" Sheet
 - (3) For Transition Anchor Block details, see "Thrie Beam Connection - Type 1" Sheet

BRIDGE NAME	BRIDGE NUMBER	POST MILE	BRIDGE BARRIER RAILING TYPE	THRIE BEAM CONNECTION TYPE								TRANSITION ANCHOR BLOCK LENGTH
				EASTBOUND DIRECTION				WESTBOUND DIRECTION				
				APPROACH		DEPARTURE		APPROACH		DEPARTURE		
L+	R+	L+	R+	L+	R+	L+	R+					
ALAMOS CANYON RD UC	52-0355R/L	R21.86	25	N/A	25	N/A	N/A	N/A	25	N/A	N/A	3'-6" Min (1)
MADERA RD UC	52-0354R/L	R22.99	25	N/A	25	N/A	25	N/A	N/A	N/A	N/A	3'-6" Min (1)
CALDWELL AVE UC	52-0346R/L	R24.15	9	N/A	N/A	N/A	N/A	N/A	9	N/A	N/A	4'-2" (2)
DRY CANYON CHANNEL BRIDGE	52-0320R/L	R25.08	9	N/A	9	N/A	9	N/A	N/A	N/A	N/A	4'-2" (2)
SYCAMORE DR UC	52-0327R/L	R25.81	9	N/A	9	N/A	N/A	N/A	9	N/A	9	4'-2" (2)
SEQUOIA AVE UC	52-0322R/L	R26.56	9	N/A	N/A	N/A	N/A	N/A	9	N/A	N/A	4'-2" (2)
ARROYO DEL TAPO CHANNEL BRIDGE	52-0321R/L	R26.80	9	N/A	N/A	N/A	9	N/A	9	N/A	9	4'-2" (2)
TAPO CANYON RD UC	52-0309R/L	R27.30	736 MOD	N/A		N/A	N/A	N/A	N/A	N/A	N/A	3'-6" Min (3)
KUEHNER DR UC	52-0282R/L	R30.52		N/A	N/A	N/A	N/A	N/A		N/A	N/A	3'-6" Min (3)

TRANSITION ANCHOR BLOCK UPGRADE LOCATIONS

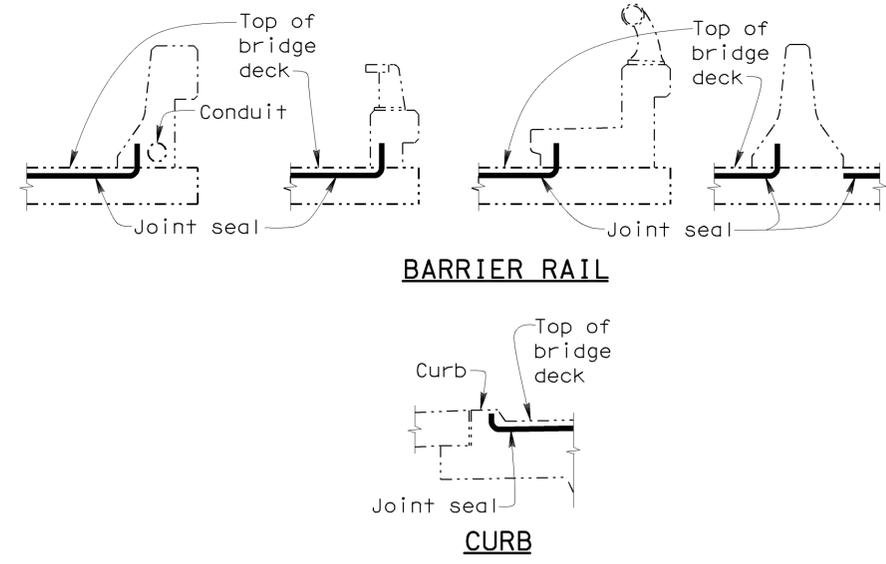
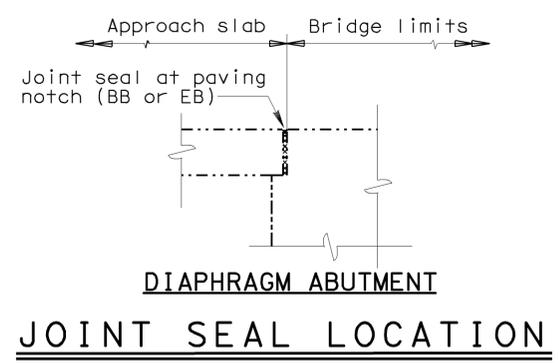
NOTE:
 THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)	DESIGN BY Jorge Estrada DETAILS BY Suraj Dutta QUANTITIES BY Jorge Estrada	CHECKED Mike Pope CHECKED Jorge Estrada CHECKED Matt Schott	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 18	BRIDGE NO. VARIOUS POST MILE VARIOUS	ROUTE 118 BRIDGE APPROACH AND DEPARTURE SLAB REPLACEMENT GENERAL PLAN NO. 4
	ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	UNIT: 3603 PROJECT NUMBER & PHASE: 0713000086-1	CONTRACT NO.: 07-296704	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET 4 OF 9

JOINT SEAL TABLE							
BRIDGE NAME	BRIDGE NUMBER	LOCATION		MINIMUM "MR" (in)	JOINT SEAL LENGTH (Ft)	EXISTING WATERSTOP	APPROX DEPTH TO CLEAN EXP JOINT (in)
DRY CANYON CHANNEL	52-0320L	Abut 1	BB	1/2	56.0	No	12
		Abut 2	EB	1/2	82.0	No	12
GALENA AVENUE UNDERCROSSING	52-0323L	Abut 1	BB	1/2	36.0	No	12
		Abut 3	EB	1/2	36.0	No	12
SEQUOIA AVENUE UNDERCROSSING	52-0322R	Abut 1	BB	1/2	36.0	No	12
		Abut 3	EB	1/2	36.0	No	12
	52-0322L	Abut 1	BB	1/2	36.0	No	12
		Abut 3	EB	1/2	36.0	No	12
ARROYO DEL TAPO CHANNEL	52-0321R	Abut 1	BB	1/2	38.0	No	12
		Abut 4	EB	1/2	38.0	No	12
	52-0321L	Abut 1	BB	1/2	36.0	No	12
		Abut 4	EB	1/2	36.0	No	12
KUEHNER DRIVE UNDERCROSSING	52-0282R	Abut 1	BB	1	37.0	No	12
		Abut 4	EB	1	37.0	No	12

NOTES:

- The following notes apply to JOINT SEAL TYPE A:
- Install Joint Seal (MR = 1/2") or Silicone Joint Seal 3" up into curb or barrier rail on the low side of the deck where deck joint aligns with curb or barrier rail joint.
- For details not shown see B6-21 sheet.
- The following notes apply to JOINT SEAL TYPE B:
- 1) Seal must satisfy both minimum movement Rating (MR) and minimum W1 requirements.
 - 2) Minimum W1 is the calculated maximum width of the joint based on field measurements. After the joints have been cleaned, minimum W1 is to be recalculated by the Engineer.
 - 3) W1 shall be the smaller of the values determined as follows:
 - A) 0.85 times the manufacturer's designed minimum uncompressed width of the seal.
 - B) The width of the seal on the third successive test cycle of the pressure deflection test, when compressed to an average pressure of 3.0 PSI.
 - 4) Bend Type B joint seal 6 inches up into curb or rail on the low side of the deck where deck joint matches curb or rail joint.
- For details not shown see B6-21 sheet



JOINT SEAL AT LOW SIDE OF DECK

Notes: Details shown for illustration purposes only.
 For use only where deck joint matches the sidewalk, curb or barrier rail joint.

NOTE:
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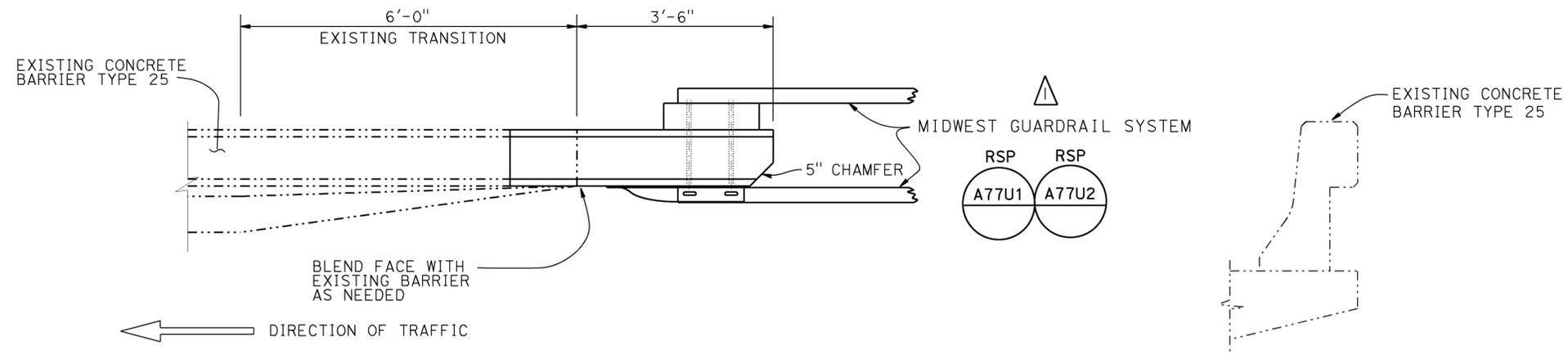
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	118	T18.7/R32.6	96	98

J. Estrada 11/14/13
 REGISTERED CIVIL ENGINEER DATE

12-16-13
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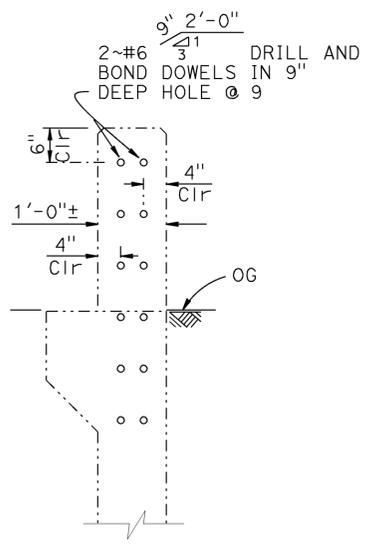
REGISTERED PROFESSIONAL ENGINEER
 Jorge Estrada
 No. C51473
 Exp. 06/30/14
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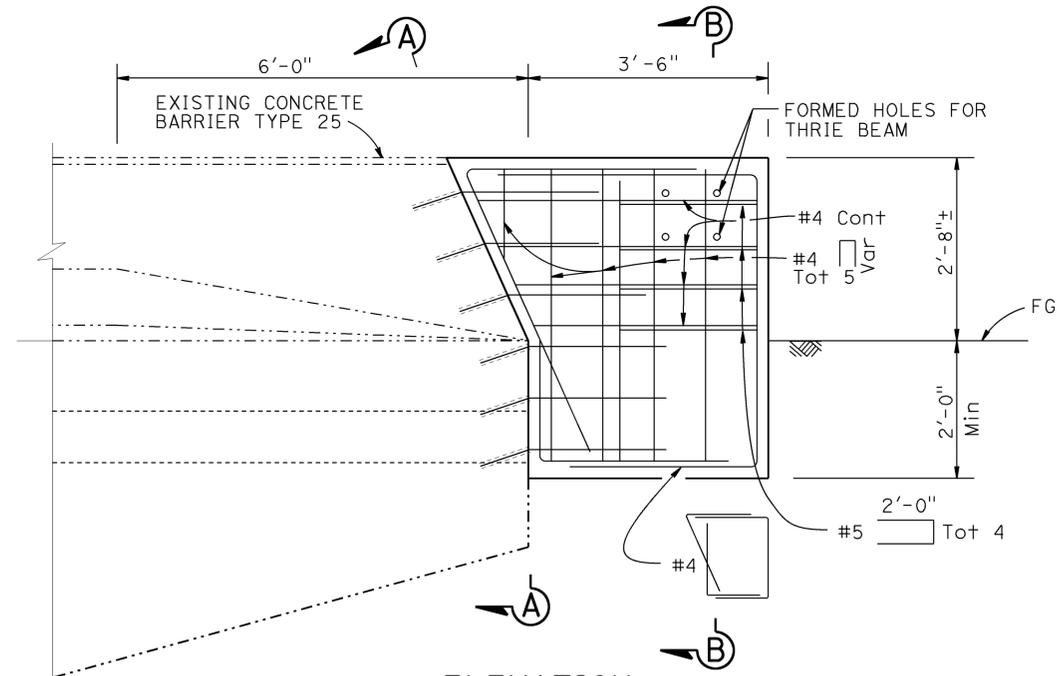


PLAN
 $\frac{3}{4}'' = 1'-0''$

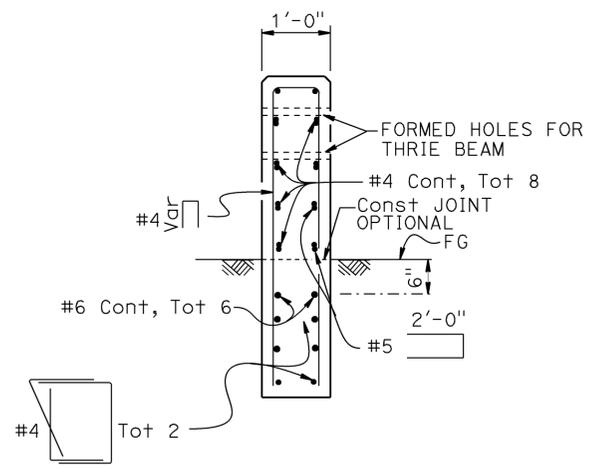
CONCRETE BARRIER TYPE 25
 $\frac{3}{4}'' = 1'-0''$



SECTION A-A
 $\frac{3}{4}'' = 1'-0''$



ELEVATION
 $\frac{3}{4}'' = 1'-0''$



SECTION B-B
 $\frac{3}{4}'' = 1'-0''$

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LEGEND:
 - - - - - Indicates Existing Structure
 _____ Indicates New Construction

STANDARD DRAWING	
FILE NO. xs16-010	APPROVAL DATE July 2011

Revised Note

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

BRIDGE NO. VARIOUS
 POST MILE VARIOUS

ROUTE 118 BRIDGE APPROACH AND DEPARTURE SLAB REPLACEMENT
THRIE BEAM CONNECTION-TYPE 25

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	118	T18.7/R32.6	97	98

J. Estrada 11/14/13
REGISTERED CIVIL ENGINEER DATE

12-16-13
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER

Jorge Estrada

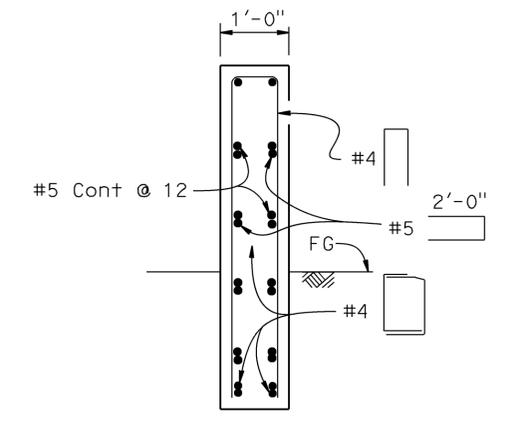
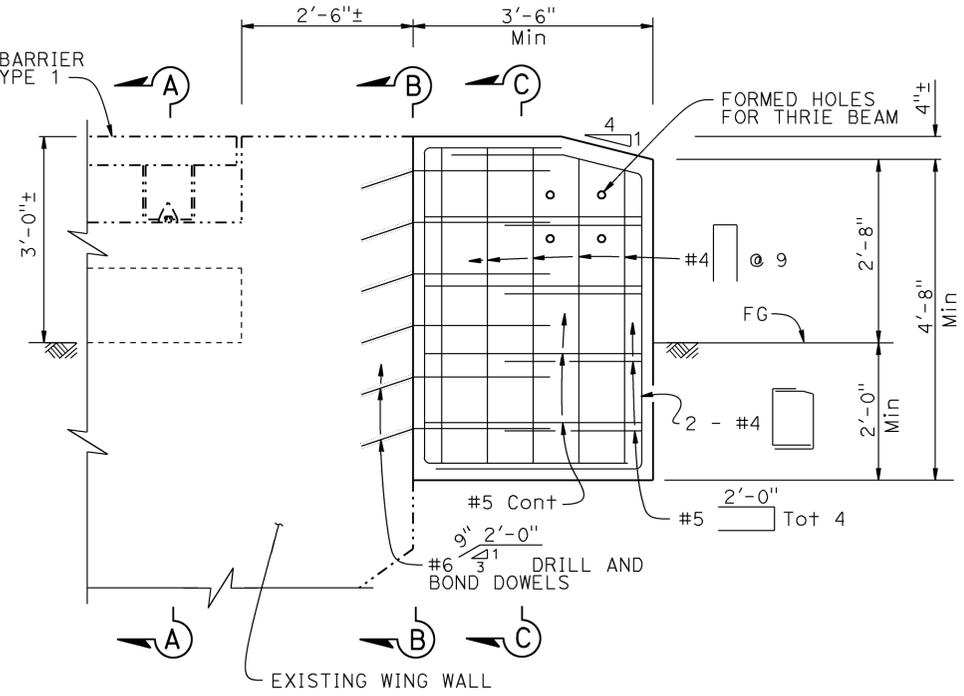
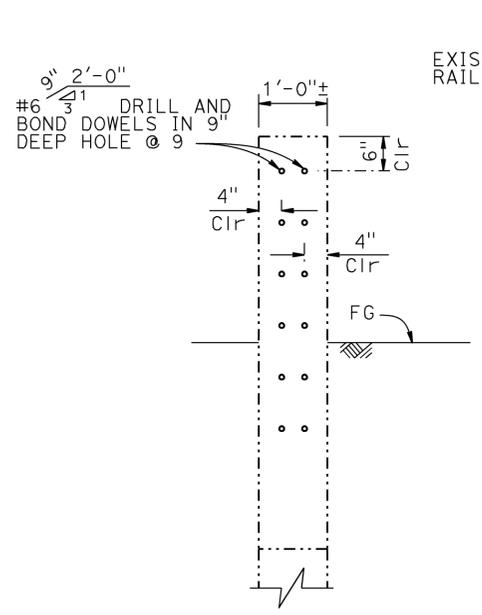
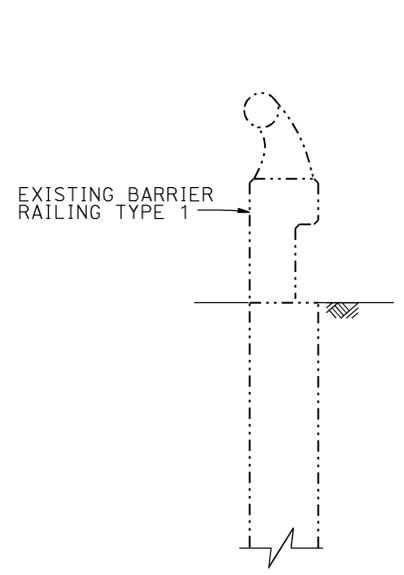
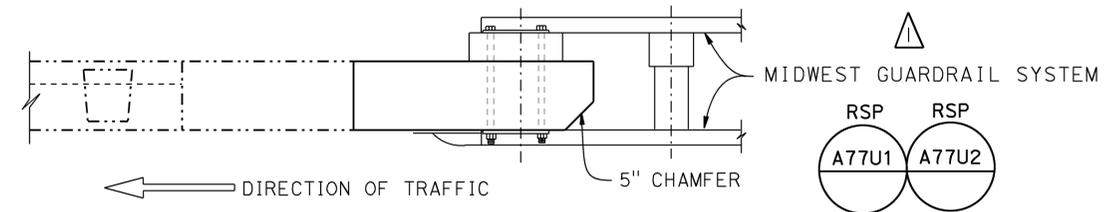
No. C51473

Exp. 06/30/14

CIVIL

STATE OF CALIFORNIA

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NOTE:
Drill and bond dowels not shown

NOTE:
Barrier railing Type 1 shown. Details for Barrier Railing Type 136 similar.

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

NOTE:
Cut and remove portion of Type 1 and BAGR as required

LEGEND:
--- Indicates Existing Structure
— Indicates New Structure

STANDARD DRAWING	
FILE NO. xs16-025	APPROVAL DATE July 2011

△ Revised Note △ Added Note

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

BRIDGE NO. VARIOUS
POST MILE VARIOUS

ROUTE 118 BRIDGE APPROACH AND DEPARTURE SLAB REPLACEMENT

THRIE BEAM CONNECTION-TYPE 1

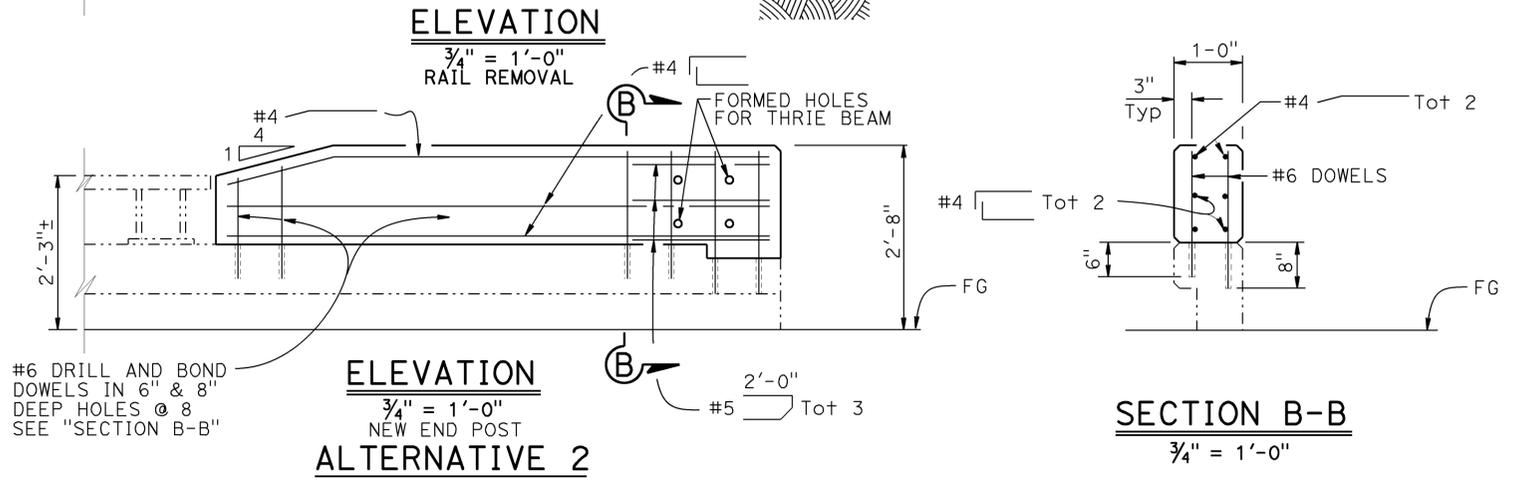
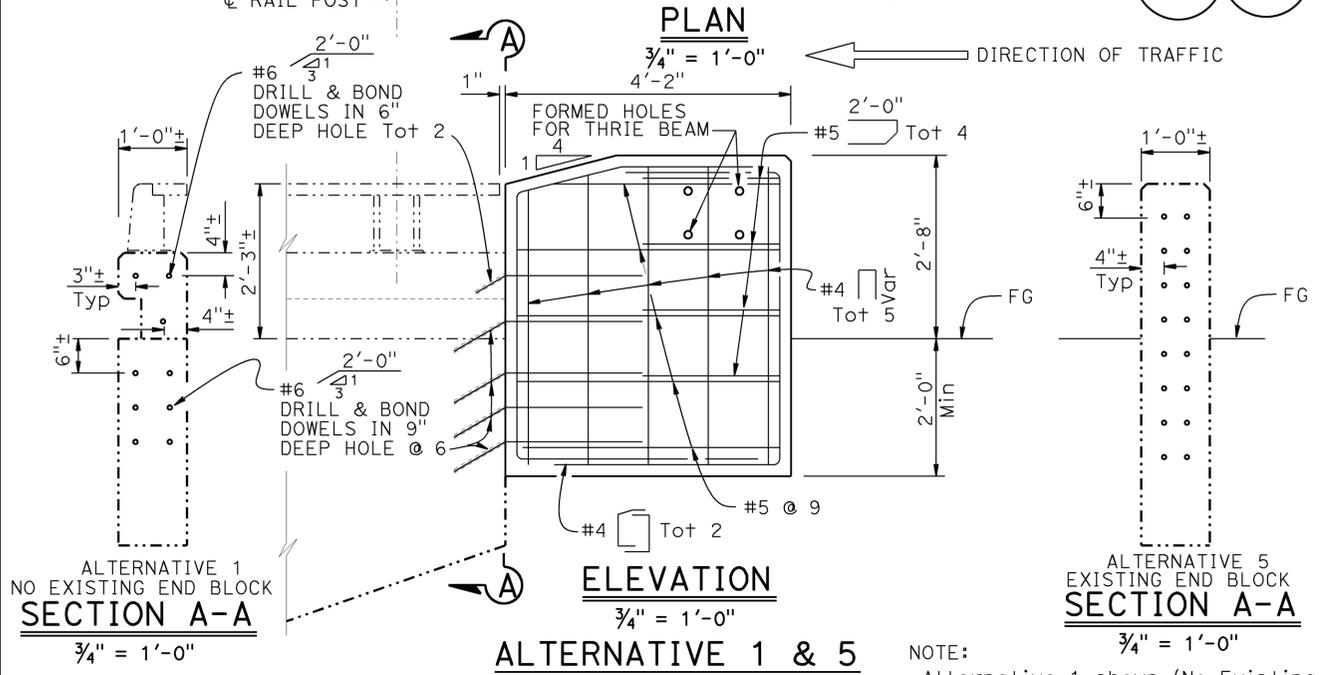
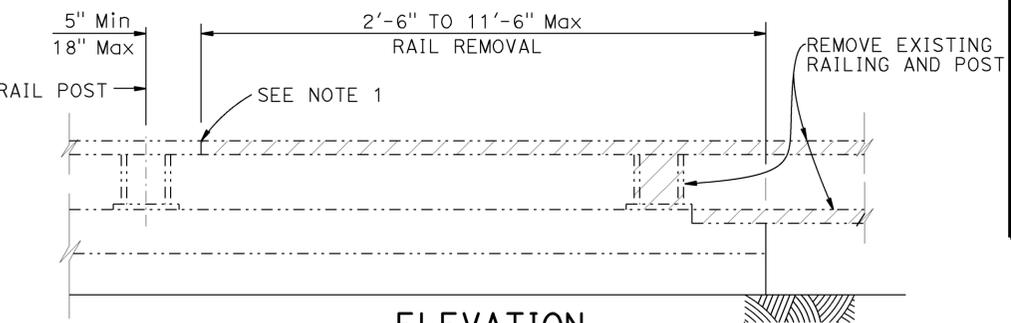
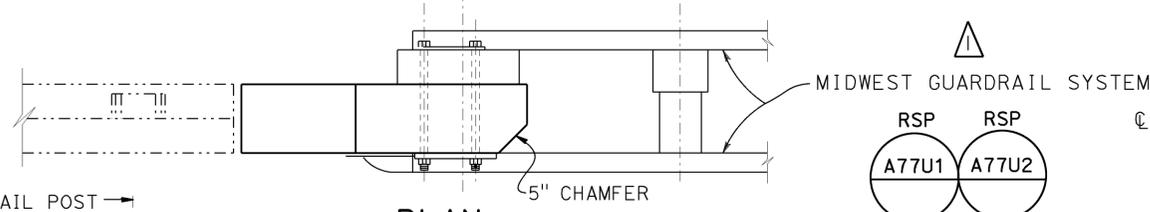
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	118	T18.7/R32.6	98	98

J. Estrada, 11/14/13
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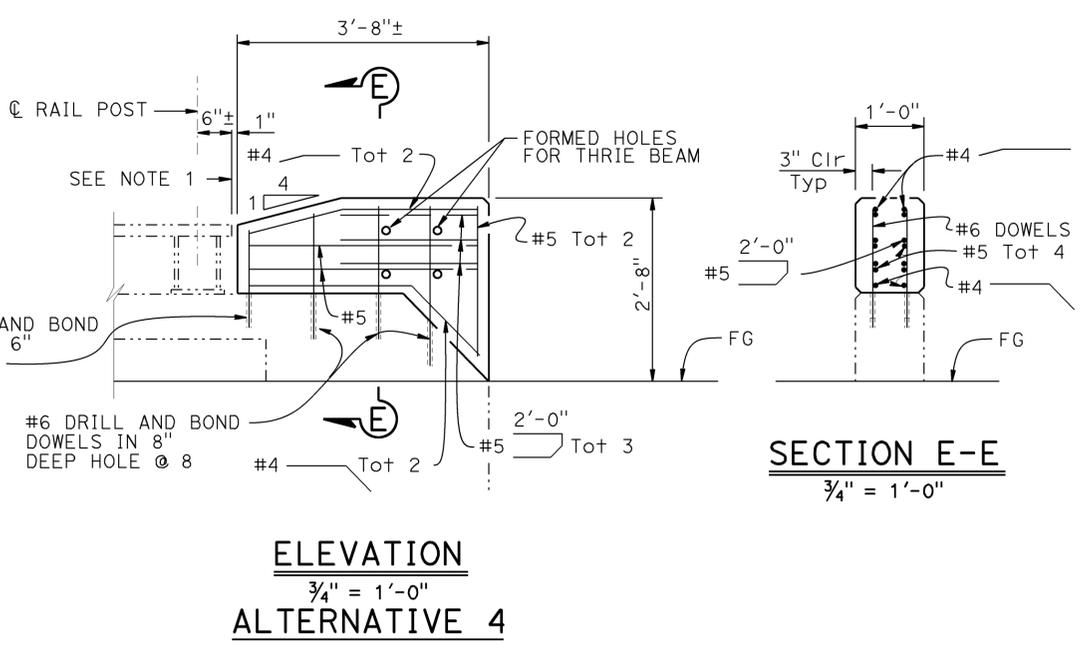
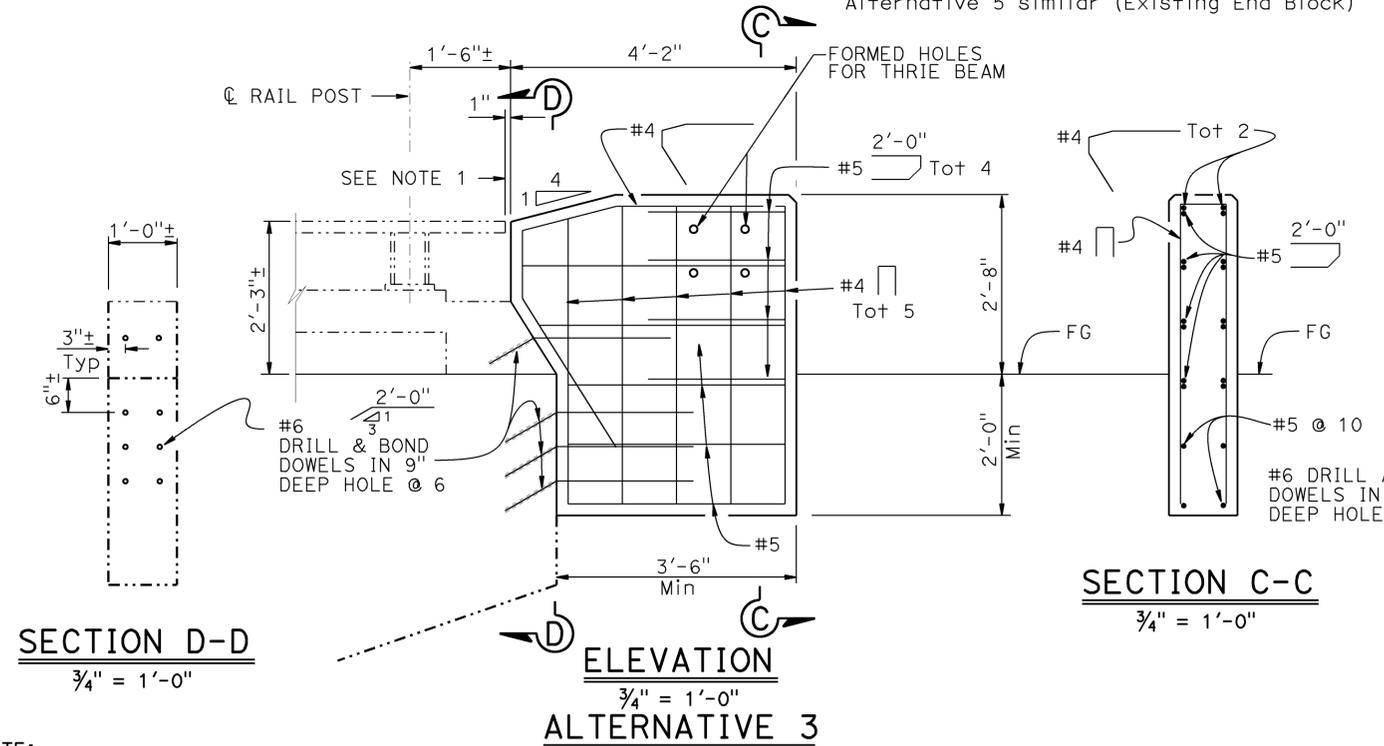
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NOTE:
 Alternative 1 shown (No Existing End Block),
 Alternative 5 similar (Existing End Block)

LEGEND:
 - - - - - Indicates Existing Structure
 ———— Indicates New Structure

NOTE:
 1. Cut and remove Type 9 and BAGR as required



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

STANDARD DRAWING	
FILE NO. xs16-030	APPROVAL DATE July 2010

Revised Note

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

BRIDGE NO. VARIOUS	ROUTE 118 BRIDGE APPROACH AND DEPARTURE SLAB REPLACEMENT
POST MILE VARIOUS	
THRIE BEAM CONNECTION-TYPE 9	