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STRUCTURE PLANS

59-87 EMERGENCY BRIDGE REPAIR Br No. 53-0577

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
PROJECT PLANS FOR CONSTRUCTION ON
STATE HIGHWAY
IN LOS ANGELES COUNTY
IN LOS ANGELES AT ROUTE 2/5 SEPARATION

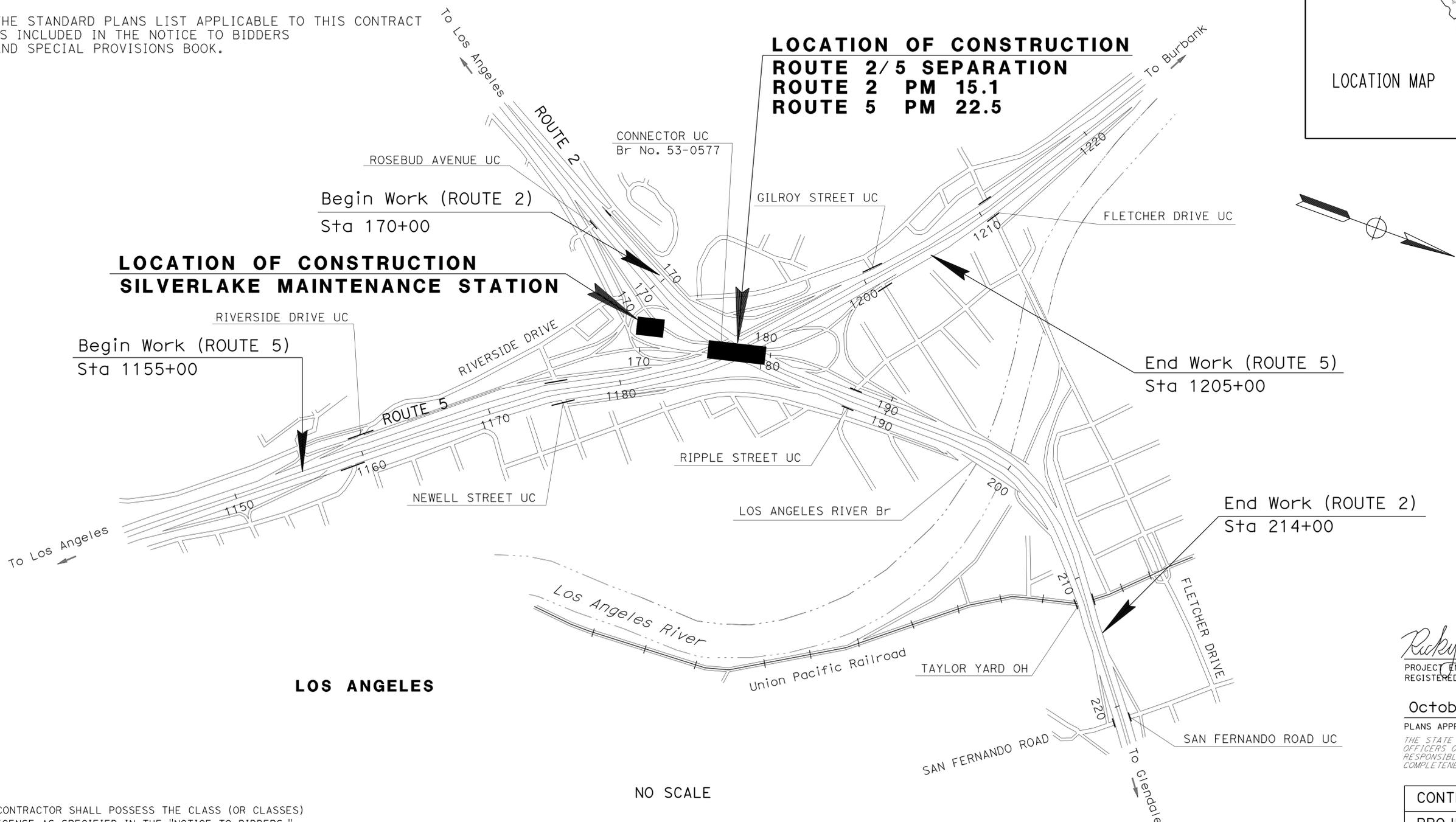
TO BE SUPPLEMENTED BY STANDARD PLANS DATED 2010

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	2,5	15.1,22.5	1	87





LOCATION MAP



NO SCALE

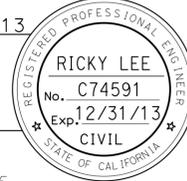
PROJECT MANAGER
MIRNA DAGHER
 DESIGN ENGINEER
DEREK HIGA

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

Ricky Lee 9-18-13
 PROJECT ENGINEER DATE
 REGISTERED CIVIL ENGINEER

October 7, 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.	07-4X1104
PROJECT ID	0714000043

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	2,5	15.1,22.5	2	87
<i>Ricky Lee</i> REGISTERED CIVIL ENGINEER			9-18-13	DATE	
10-7-13 PLANS APPROVAL DATE			RICKY LEE No. C74591 Exp. 12/31/13 CIVIL		
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					

NOTE:

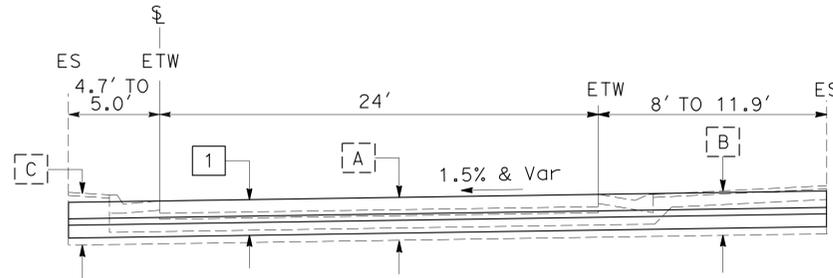
1. DIMENSIONS OF THE PAVEMENT STRUCTURES (STRUCTURAL SECTIONS) ARE SUBJECT TO TOLERANCES SPECIFIED IN THE STANDARD SPECIFICATIONS.

TYPICAL PAVEMENT STRUCTURE

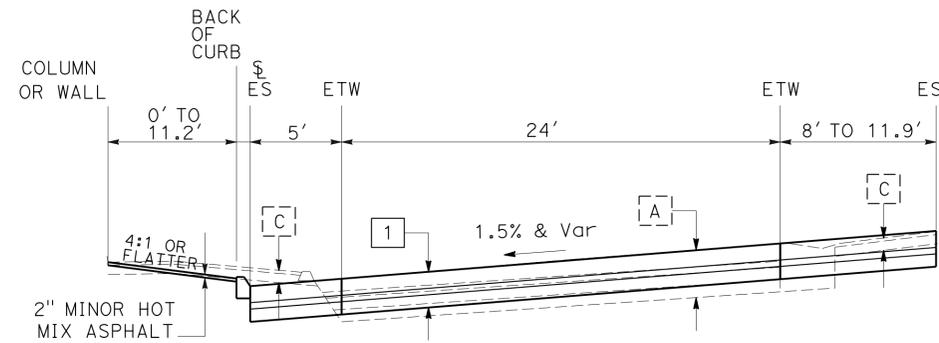
- 1 0.90' JOINTED PLAIN CONCRETE PAVEMENT
0.35' LEAN CONCRETE BASE
0.70' CLASS 3 AGGREGATE BASE

EXISTING PAVEMENT STRUCTURE

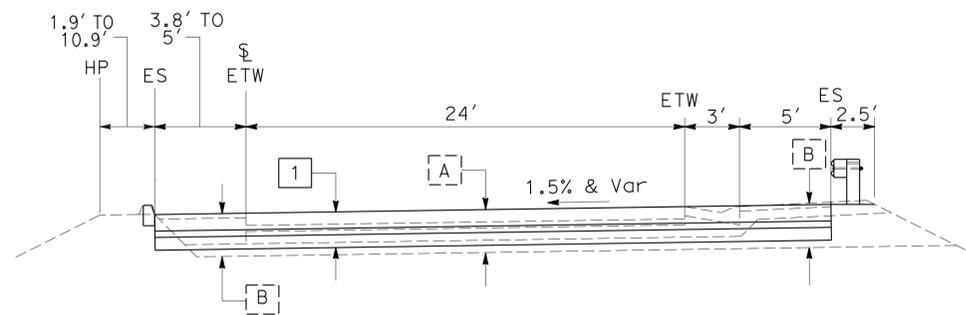
- A 0.67' PORTLAND CEMENT CONCRETE
0.33' CEMENT TREATED BASE
0.67' AGGREGATE BASE
0.67' AGGREGATE SUBBASE (TYPE 1)
- B 0.25' ASPHALT CONCRETE (TYPE A)
0.50' AGGREGATE BASE (VARIABLE WHERE SHOWN)
Var AGGREGATE SUBBASE (TYPE 1)
- C 0.17' ASPHALT CONCRETE (TYPE A)
Var AGGREGATE SUBBASE (TYPE 1)



NORTHBOUND 2 TO NORTHBOUND 5 CONNECTOR
"CONN2" Sta 177+59.36 to Sta 181+00.00



NORTHBOUND 2 TO NORTHBOUND 5 CONNECTOR
"CONN2" Sta 176+22.72 to Sta 177+59.36



NORTHBOUND 2 TO NORTHBOUND 5 CONNECTOR
"CONN2" Sta 173+38.74 to Sta 176+22.72
"CONN2" Sta 181+00.00 to Sta 181+28.64

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN C
 FUNCTIONAL SUPERVISOR: DEREK HIGA
 CALCULATED/DESIGNED BY: RICKY LEE
 CHECKED BY: RICKY LEE
 REVISED BY: KAZ KAYODA
 DATE REVISED:

TYPICAL CROSS SECTIONS

NO SCALE

X-1



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	2,5	15.1,22.5	3	87

Ricky Lee 9-18-13
 REGISTERED CIVIL ENGINEER DATE
 10-7-13
 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.

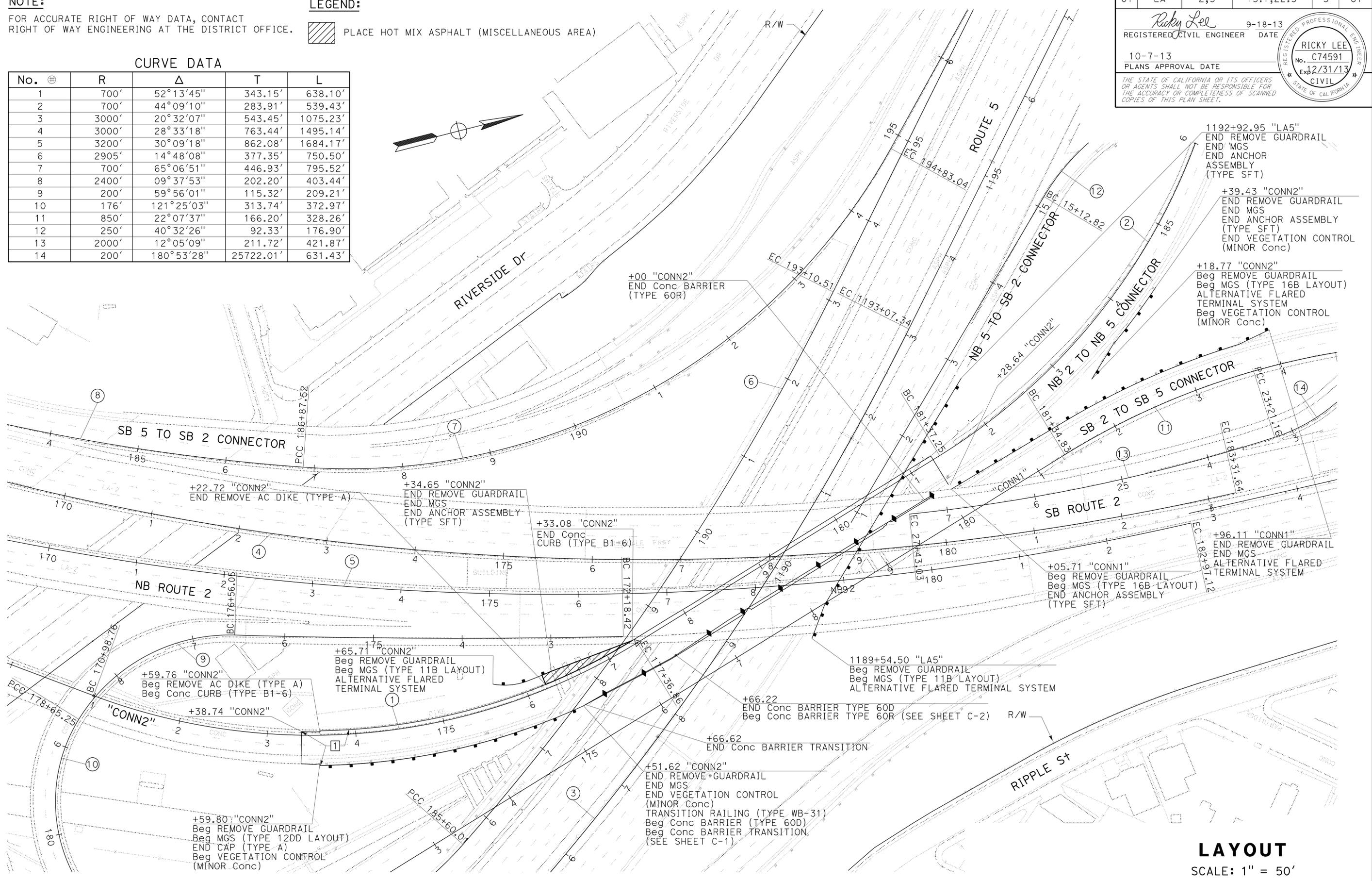
RICKY LEE
 No. C74591
 Exp. 2/31/13
 CIVIL

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

LEGEND:
 PLACE HOT MIX ASPHALT (MISCELLANEOUS AREA)

CURVE DATA

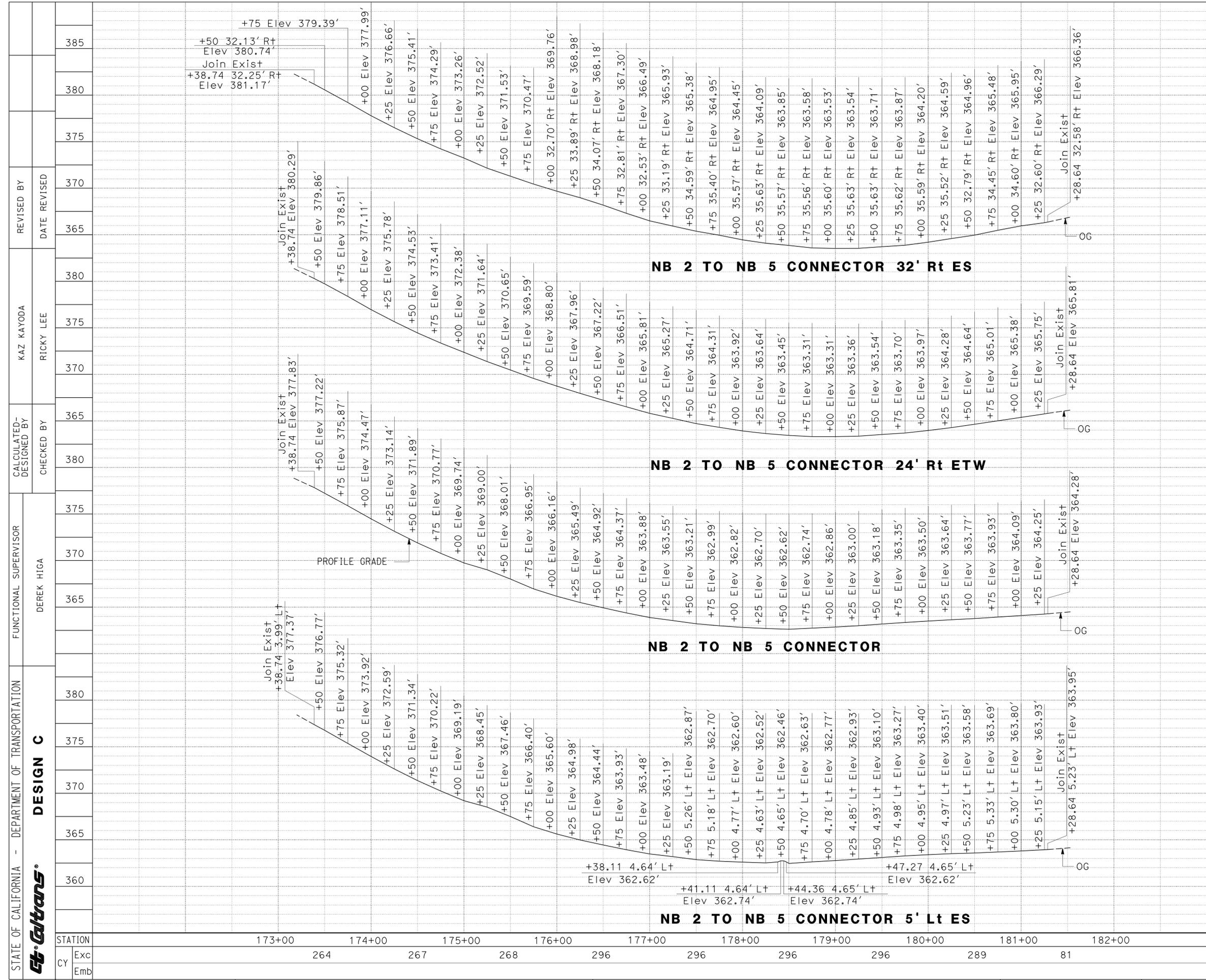
No.	⊕	R	Δ	T	L
1		700'	52°13'45"	343.15'	638.10'
2		700'	44°09'10"	283.91'	539.43'
3		3000'	20°32'07"	543.45'	1075.23'
4		3000'	28°33'18"	763.44'	1495.14'
5		3200'	30°09'18"	862.08'	1684.17'
6		2905'	14°48'08"	377.35'	750.50'
7		700'	65°06'51"	446.93'	795.52'
8		2400'	09°37'53"	202.20'	403.44'
9		200'	59°56'01"	115.32'	209.21'
10		176'	121°25'03"	313.74'	372.97'
11		850'	22°07'37"	166.20'	328.26'
12		250'	40°32'26"	92.33'	176.90'
13		2000'	12°05'09"	211.72'	421.87'
14		200'	180°53'28"	25722.01'	631.43'



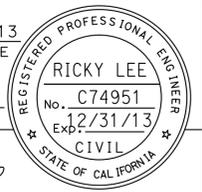
LAYOUT
 SCALE: 1" = 50'

L-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 DESIGN C
 FUNCTIONAL SUPERVISOR: DEREK HIGA
 CALCULATED/DESIGNED BY: RICKY LEE
 CHECKED BY: KAZ KAYODA
 REVISIONS: (None listed)
 REVISIONS: (None listed)
 REVISIONS: (None listed)



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	2,5	15.1,22.5	4	87
385	<i>Ricky Lee</i> REGISTERED CIVIL ENGINEER DATE 9-18-13				
380	10-7-13 PLANS APPROVAL DATE				
375	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.				



PROFILE
 SCALE: Horiz 1" = 50'
 Vert 1" = 5' **P-1**

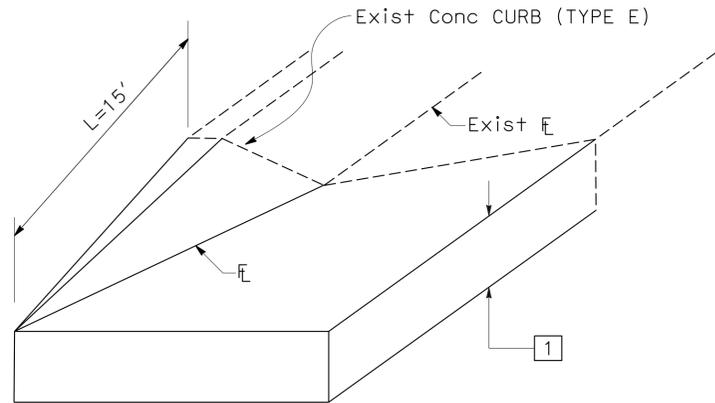
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	2,5	15.1,22.5	5	87

Ricky Lee 9-18-13
 REGISTERED CIVIL ENGINEER DATE
 10-7-13
 PLANS APPROVAL DATE

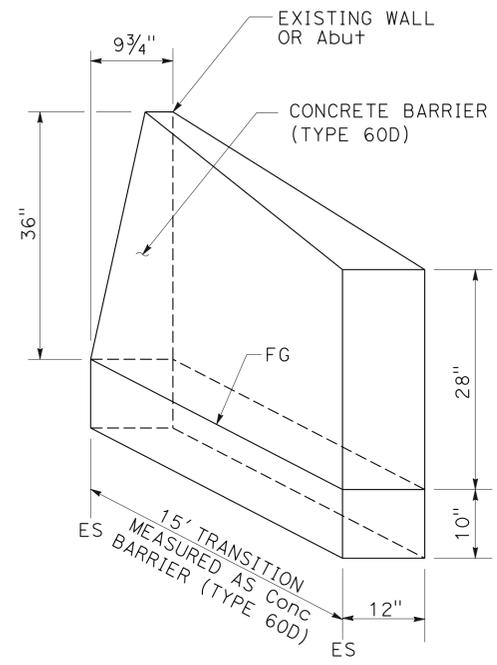
REGISTERED PROFESSIONAL ENGINEER
RICKY LEE
 No. C74591
 Exp. 12/31/13
 CIVIL
 STATE OF CALIFORNIA

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

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	DESIGN C
Caltrans	
FUNCTIONAL SUPERVISOR	DEREK HIGA
CALCULATED/DESIGNED BY	CHECKED BY
RICKY LEE	KAZ KAYODA
REVISOR	DATE
REVISOR	DATE
REVISOR	DATE



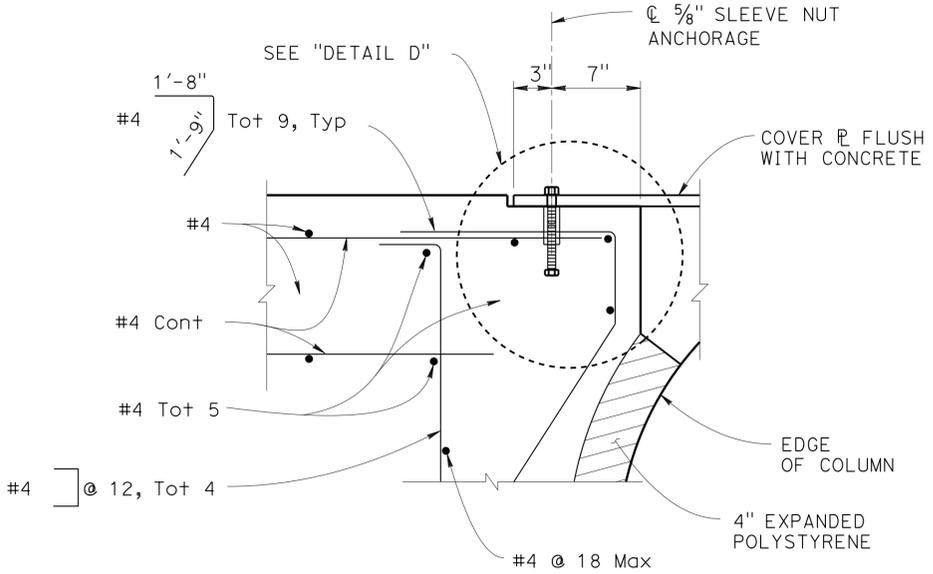
DETAIL A
 CONCRETE CURB (TYPE E) TRANSITION
 "CONN2" Sta 173+47.23 TO Sta 173+62.23
 "CONN2" Sta 181+13.64 TO Sta 181+28.64



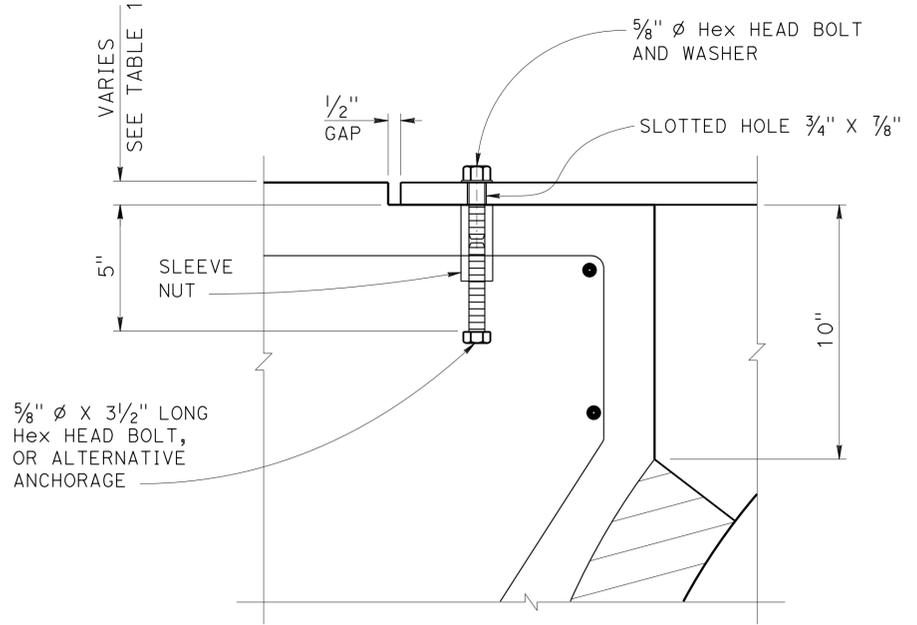
DETAIL B
 CONCRETE BARRIER TYPE 60D TRANSITION
 "CONN2" Sta 176+51.62 TO Sta 176+66.62

CONSTRUCTION DETAILS
 NO SCALE
C-1

LAST REVISION | DATE PLOTTED => 10-OCT-2013
 09-27-13 | TIME PLOTTED => 14:04



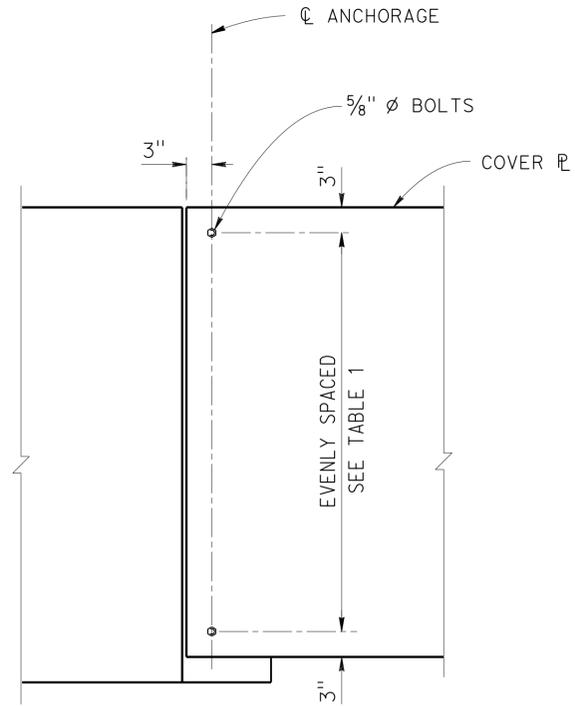
DETAIL C



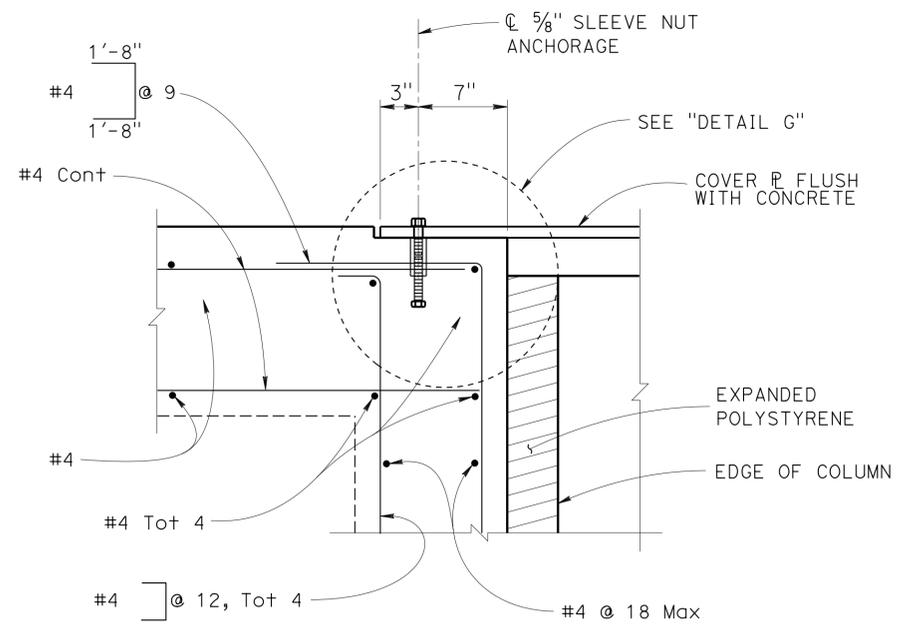
DETAIL D

L (ft)	PLATE THICKNESS (in)	TOTAL NO. OF BOLTS
8'-6" Max	7/8	10
6'-6" Max	1/2	7
4'-6" Max	7/16	5

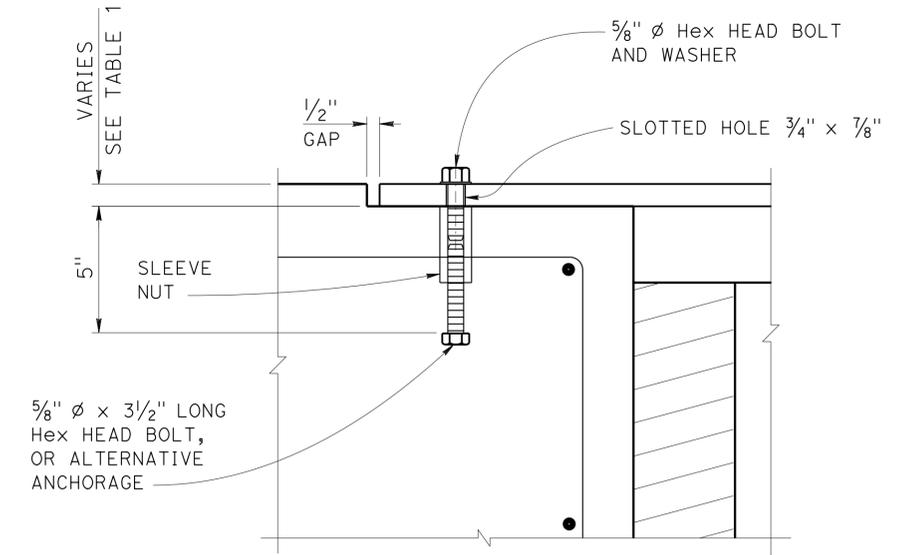
NOTE:
 STRUCTURAL STEEL, $f_y = 50,000$ PSI UNLESS OTHERWISE NOTED.



DETAIL E



DETAIL F



DETAIL G

CONSTRUCTION DETAILS

NO SCALE

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN C
 FUNCTIONAL SUPERVISOR: DEREK HIGA
 RICKY LEE
 KAZ KAYODA
 REVISED BY: DATE REVISION
 CALCULATED/DESIGNED BY: CHECKED BY:

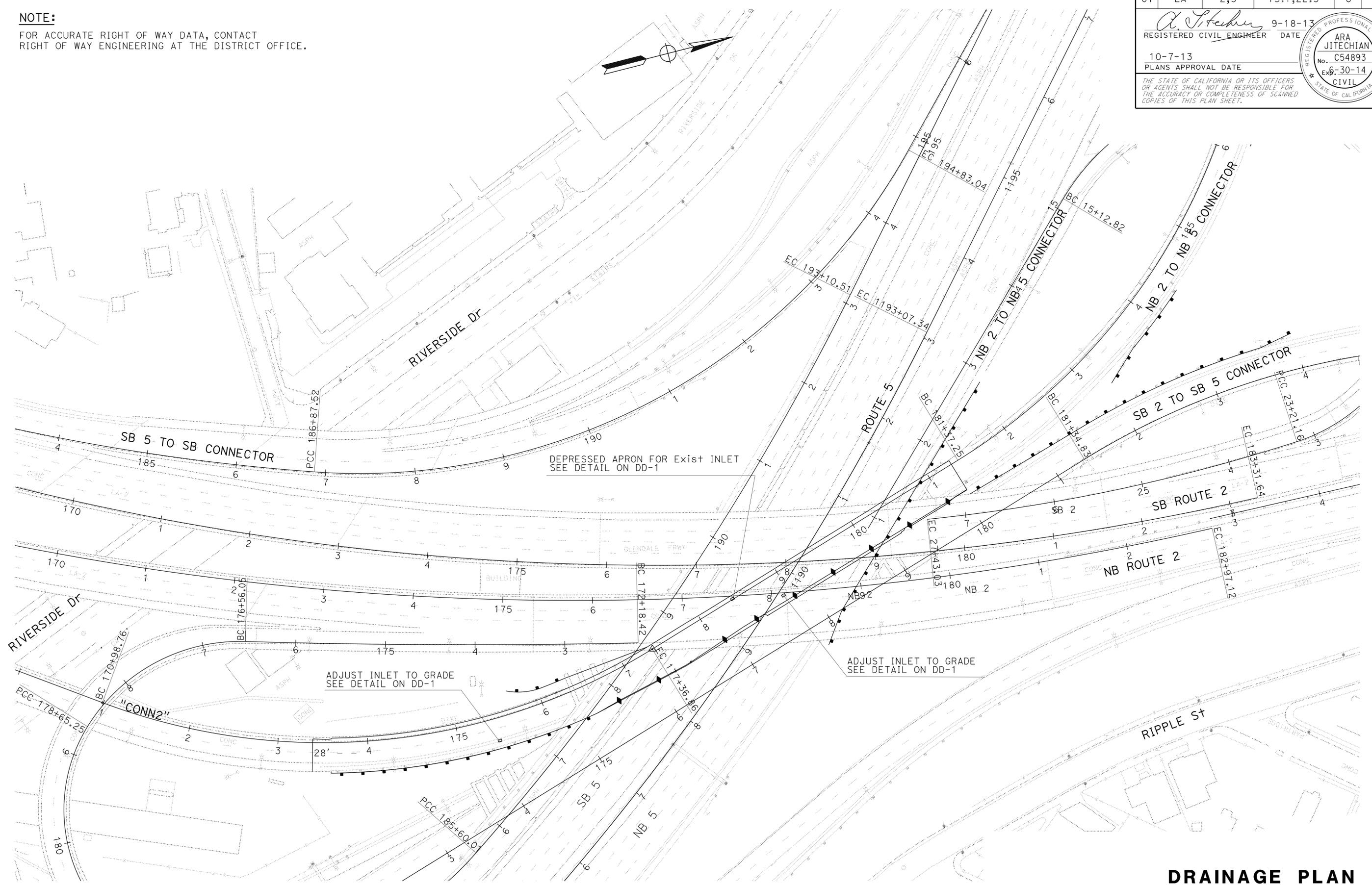
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	2,5	15.1,22.5	8	87

<i>A. Jitechian</i>	9-18-13
REGISTERED CIVIL ENGINEER	DATE
10-7-13	
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.

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

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED/DESIGNED BY	REVISOR
Hydraulics	DAVE BHALLA	DAVE BHALLA	DAVE BHALLA
Caltrans			



APPROVED FOR DRAINAGE ONLY

DRAINAGE PLAN
 SCALE: 1" = 50'
D-1

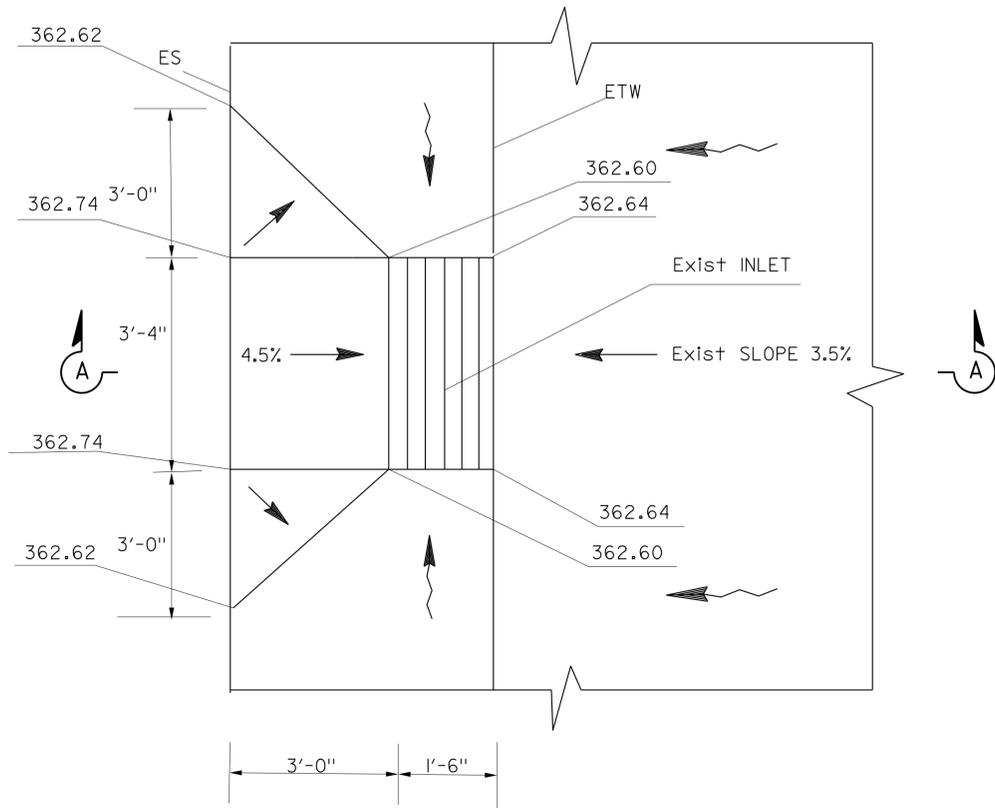
LAST REVISION DATE PLOTTED => 10-OCT-2013 08-27-13 TIME PLOTTED => 13:30

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	2,5	15.1,22.5	9	87

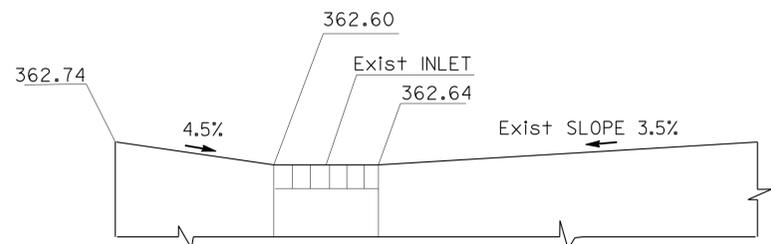
A. J. Jitechian 9-18-13
 REGISTERED CIVIL ENGINEER DATE
 10-7-13
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
ARA JITECHIAN
 No. C-54893
 Exp. 6-30-14
 CIVIL
 STATE OF CALIFORNIA

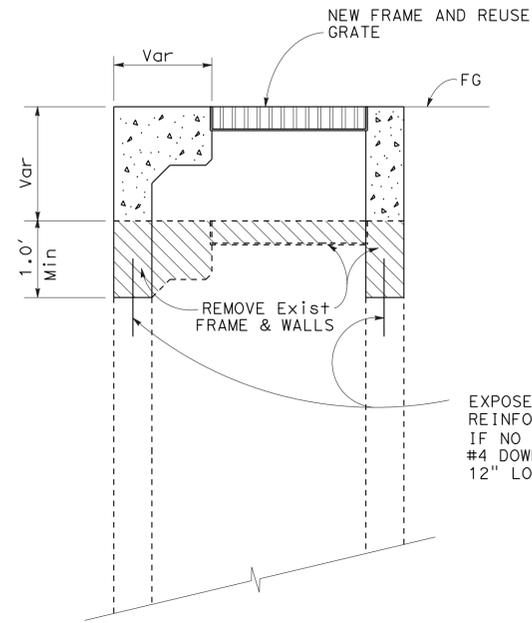
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



DEPRESSED APRON



SECTION A-A



ADJUST INLET TO GRADE

(TYPE G2 INLET SHOWN)

NOTE:

- FOR DETAILS AND INFORMATION NOT SHOWN SEE REVISED S+D PLAN D73

DRAINAGE QUANTITIES

SHEET No.	STATIONS	ADJUST INLET
		EA
D-1	26.56' Rt Sta 175+44.10 CONNECTOR TO Rte 5	1
D-1	28.33' Rt Sta 178+92.56 CONNECTOR TO Rte 5	1
TOTAL		2

DRAINAGE DETAILS

NO SCALE

DD-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 HYDRAULICS
 FUNCTIONAL SUPERVISOR: DAVE BHALLA
 REVISIONS: ARA JITECHIAN, DAVE BHALLA
 DESIGNED BY: DAVE BHALLA
 CHECKED BY: DAVE BHALLA
 REVISIONS: ARA JITECHIAN, DAVE BHALLA
 DATE: 7/2/2010

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	2,5	15.1,22.5	10	87

10-1-13
 REGISTERED CIVIL ENGINEER DATE
 10-7-13
 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
PARVIZ YEGANEH
 No. C53797
 Exp. 6-30-15
 CIVIL
 STATE OF CALIFORNIA

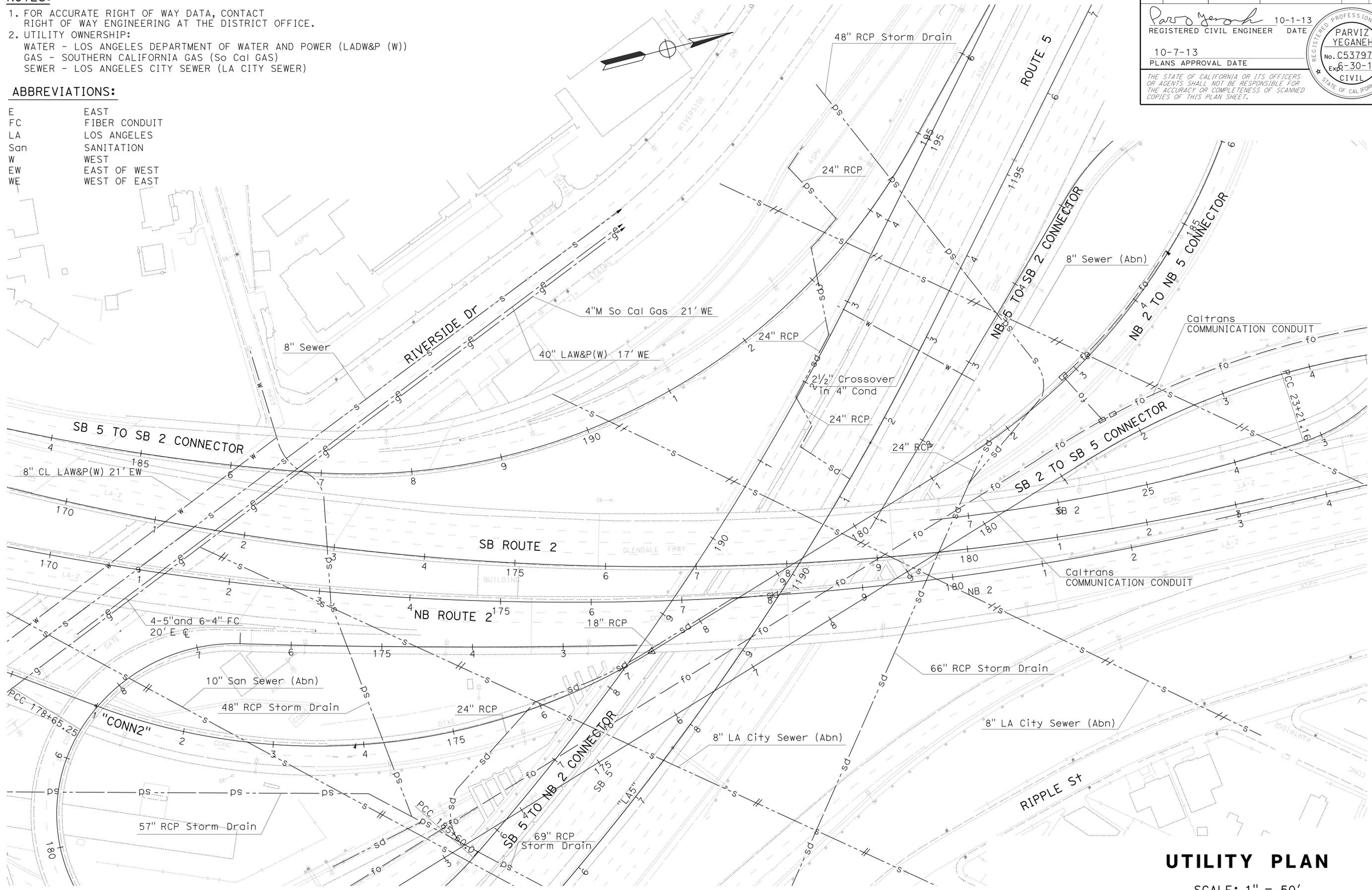
NOTES:

- FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
- UTILITY OWNERSHIP:
 WATER - LOS ANGELES DEPARTMENT OF WATER AND POWER (LADWP (W))
 GAS - SOUTHERN CALIFORNIA GAS (So Cal GAS)
 SEWER - LOS ANGELES CITY SEWER (LA CITY SEWER)

ABBREVIATIONS:

E	EAST
FC	FIBER CONDUIT
LA	LOS ANGELES
San	SANITATION
W	WEST
EW	EAST OF WEST
WE	WEST OF EAST

REVISIONS:
 REVISED BY: KAZ KAYODA
 DATE REVISED: RICKY LEE
 CALCULATED/DESIGNED BY: DEREK HIGA
 CHECKED BY: DESIGN C
 STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 Caltrans



APPROVED FOR UTILITY INFORMATION ONLY

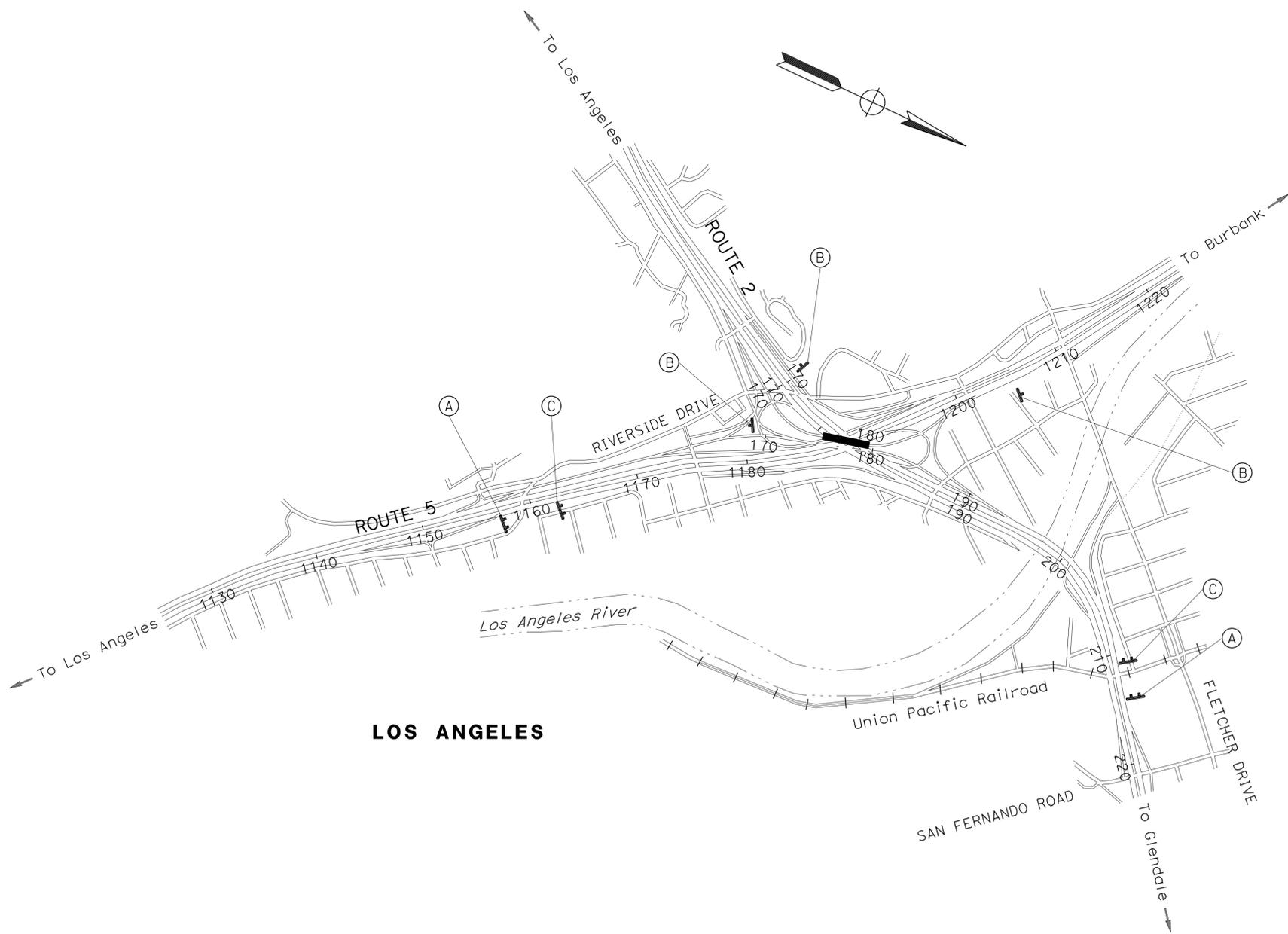
UTILITY PLAN
 SCALE: 1" = 50'
U-1

LAST REVISION DATE PLOTTED => 10-OCT-2013 07-05-13 TIME PLOTTED => 13:30

STATIONARY MOUNTED CONSTRUCTION AREA SIGNS

SIGN No. ⊗	SIGN CODE		PANEL SIZE	SIGN MESSAGE	NUMBER OF POSTS AND SIZE	No. OF SIGNS
	FEDERAL	CALIFORNIA				
A	W20-1	C23	60" x 60"	ROAD WORK AHEAD	2 - 4" x 6"	2
B	G20-2	C14	48" x 24"	END ROAD WORK	1 - 4" x 6"	3
C		C40	144" x 60"	TRAFFIC FINES DOUBLED IN CONSTRUCTION ZONES	2 - 6" x 8"	2

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



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
DESIGN C

FUNCTIONAL SUPERVISOR
DEREK HIGA

DESIGNED BY
KAZ KAYODA

CHECKED BY
RICKY LEE

REVISOR
REVISOR

DATE
DATE

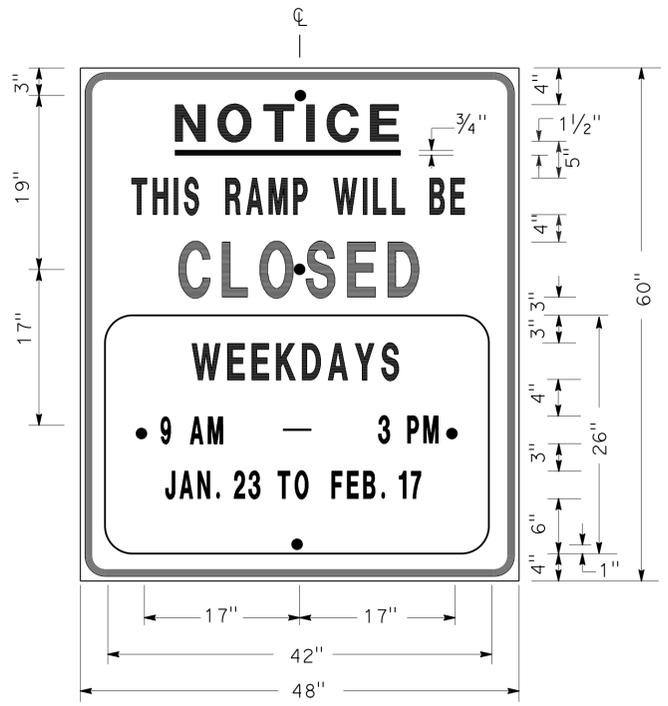
CONSTRUCTION AREA SIGNS
NO SCALE
CS-1

APPROVED FOR CONSTRUCTION AREA SIGN WORK ONLY

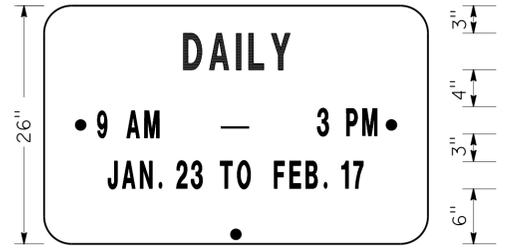
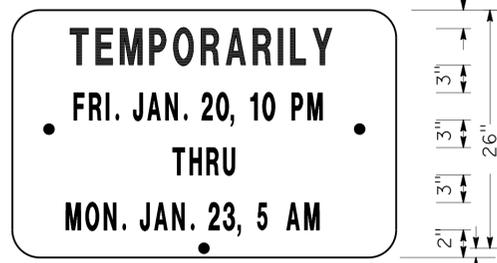
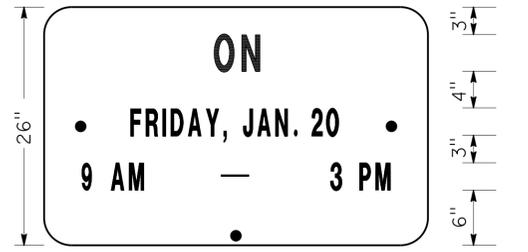
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	2,5	15.1,22.5	12	87

REGISTERED CIVIL ENGINEER: *Daisy Vergara* No. 62656 Exp. 6-30-14
 DATE: 8-14-13
 PLANS APPROVAL DATE: 10-7-13

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



SIGN SP-1



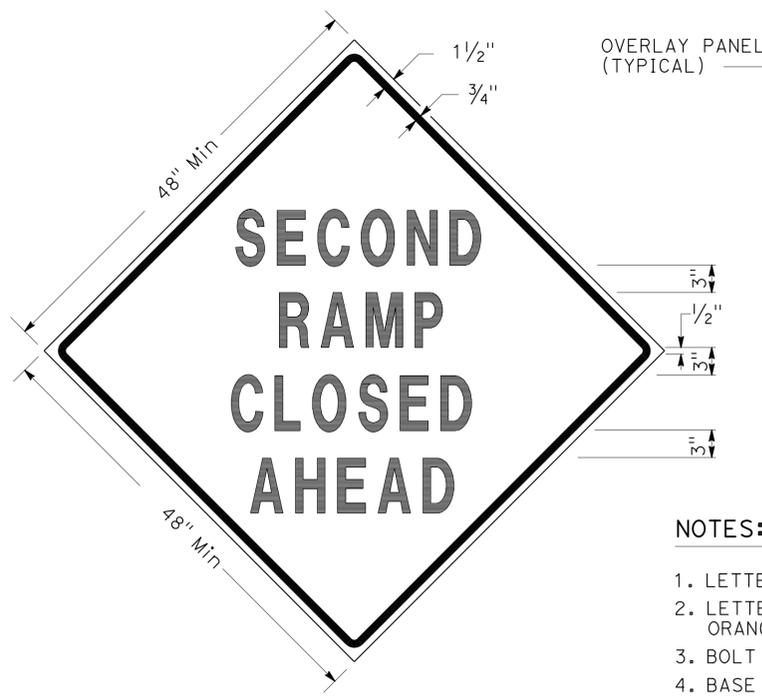
ALTERNATE OVERLAY PANELS (TYPICAL)

- 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"	1/4"	3/4"	4E	4D	6E	4D		3"
42"x26"	OVERLAY						3D	1/2"

* CONDENSED SPACING IF NECESSARY

SPECIAL ADVANCE NOTICE PUBLICITY SIGN



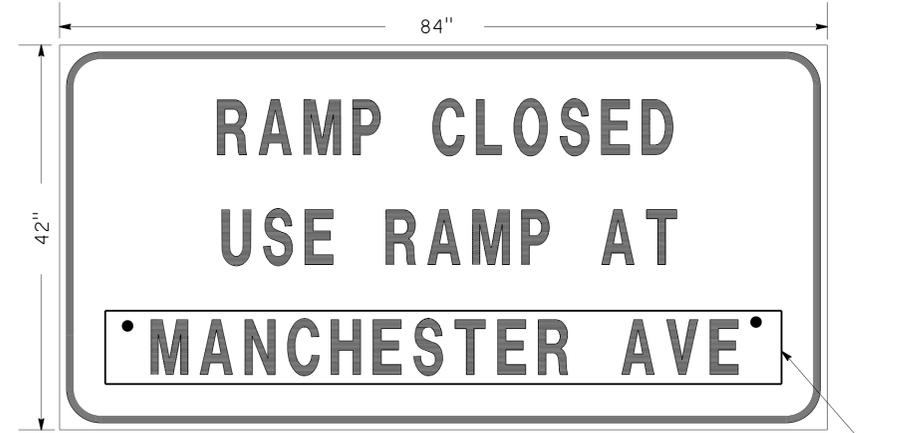
SIGN SP-3



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 RSP T14.

SPECIAL SIGN FOR ENTRANCE RAMP CLOSURES

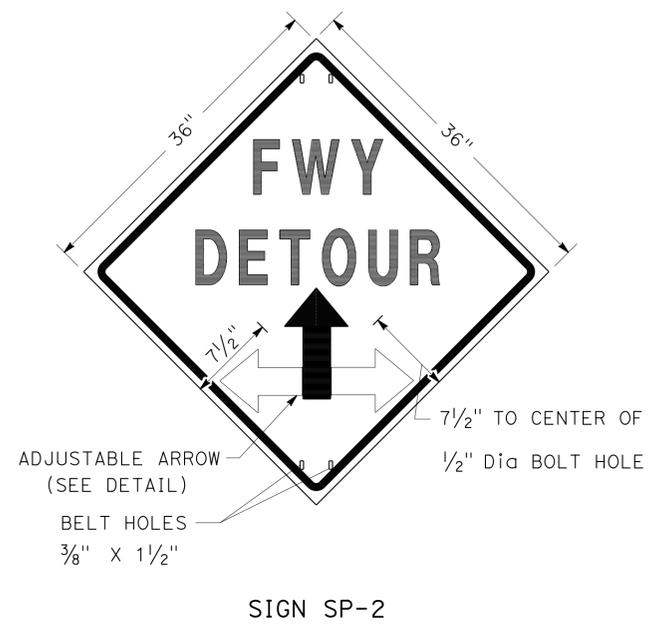
**TRAFFIC HANDLING DETAILS
 TRAFFIC CONTROL SYSTEM
 FOR RAMP CLOSURES, DETOUR SIGNS,
 AND MISCELLANEOUS DETAILS**

SHEET 1 OF 2

NO SCALE

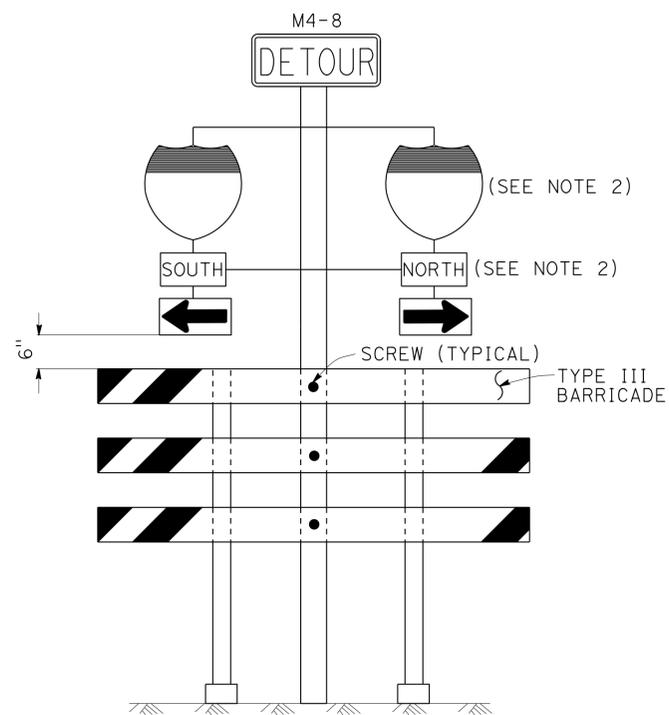
THD-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DTM
 FUNCTIONAL SUPERVISOR
 MARTIN OREGEL
 CHECKED BY
 JOCELYN C CHIANG
 REVISIONS
 REVISED BY
 JC
 DATE
 3/12

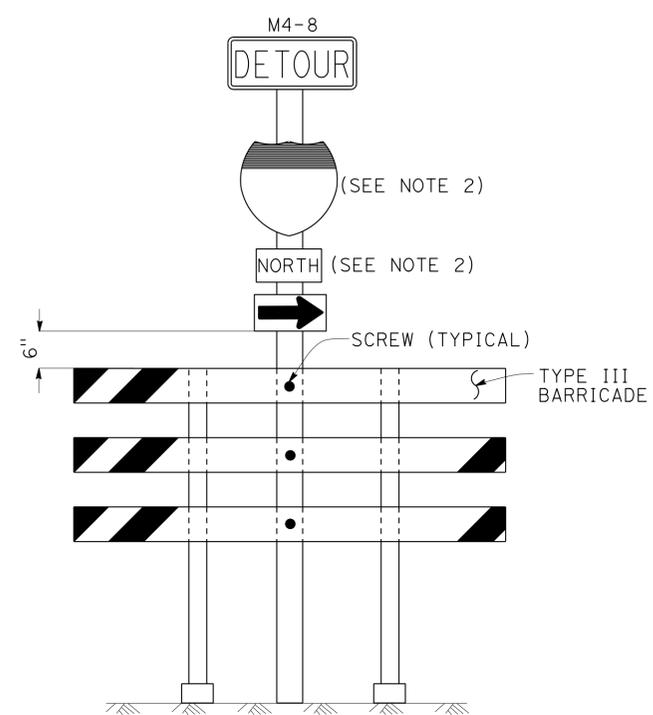


- NOTES:** SIGN SP-2
- LETTERS - 6" SERIES E.
 - LETTERS, BORDER AND ARROW - BLACK ON RETROREFLECTORIZED ORANGE BACKGROUND.
 - BASE MATERIAL FOR SIGNS AND ARROWS SHALL BE ALUMINUM (MINIMUM 0.06").
 - BELTS (LUGGAGE STRAPS) SHALL BE 1" WIDE BY 48" LONG, MADE OF COTTON OR POLYPROPYLENE WEB MATERIAL.
 -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

ABBREVIATION
 (CA) CALIFORNIA CODE



SIGN SP-6 (SEE NOTE 1)

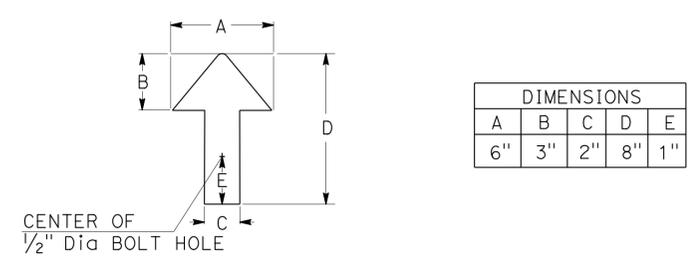


SIGN SP-7 (SEE NOTE 1)

NOTES: SIGNS SP-6 & SP-7

- IN LIEU OF PLACING SIGNS ON TYPE III BARRICADES, SIGNS, INCLUDING POSTS, MAY BE PLACED INTO THE GROUND OR FASTENED ONTO ELECTROLIERS.
- 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)].

SPECIAL PORTABLE FREEWAY DETOUR SIGNS



ADJUSTABLE ARROW DETAIL

TRAFFIC HANDLING DETAILS
TRAFFIC CONTROL SYSTEM
FOR RAMP CLOSURES, DETOUR SIGNS,
AND MISCELLANEOUS DETAILS
SHEET 2 OF 2
 NO SCALE

THD-2

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	2,5	15.1,22.5	14	87

REGISTERED CIVIL ENGINEER DATE 8-14-13
 10-7-13
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 DAISY VERGARA
 No. 62656
 Exp. 6-30-14
 CIVIL
 STATE OF CALIFORNIA

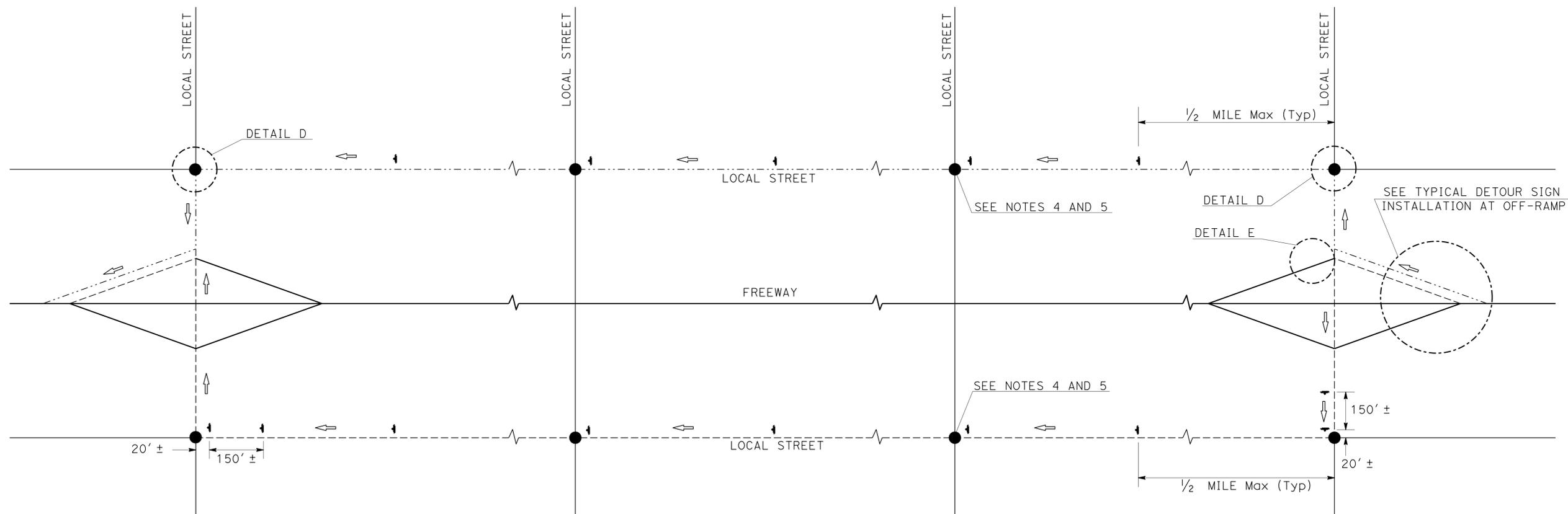
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

LEGEND

- ↓ SIGN SP-2
- AND/OR DESIGNATED DETOUR ROUTE
- ⇨ DETOUR DIRECTION
- CONTROLLED INTERSECTION

NOTES:

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. SIGN LOCATIONS ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED BY THE ENGINEER.
4. 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.
5. 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.
6. 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 3**

NO SCALE

THD-3

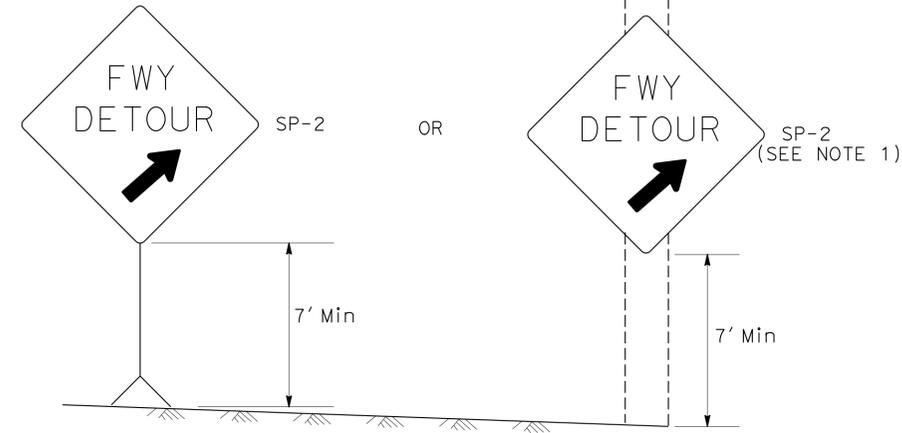
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 FUNCTIONAL SUPERVISOR: MARTIN OREGEL
 CALCULATED/DESIGNED BY: ALBERT K YU
 CHECKED BY: JOCELYN C CHIANG
 REVISED BY: JC
 DATE REVISED: 3/12

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	2,5	15.1,22.5	15	87

<i>D. Vergara</i>		8-14-13
REGISTERED CIVIL ENGINEER	DATE	
10-7-13		
PLANS APPROVAL DATE		

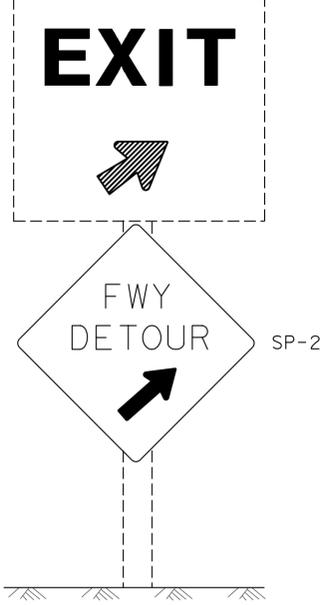
REGISTERED PROFESSIONAL ENGINEER	DAISY VERGARA
No. 62656	
Exp. 6-30-14	
CIVIL	

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



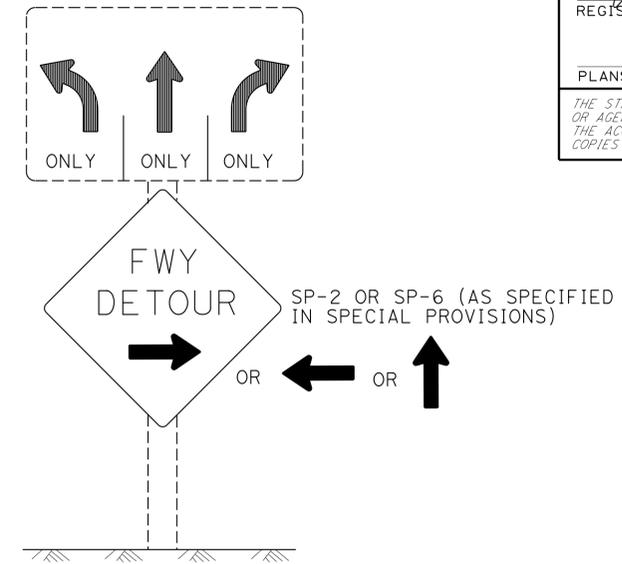
DETAIL A (SEE NOTE 3)

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

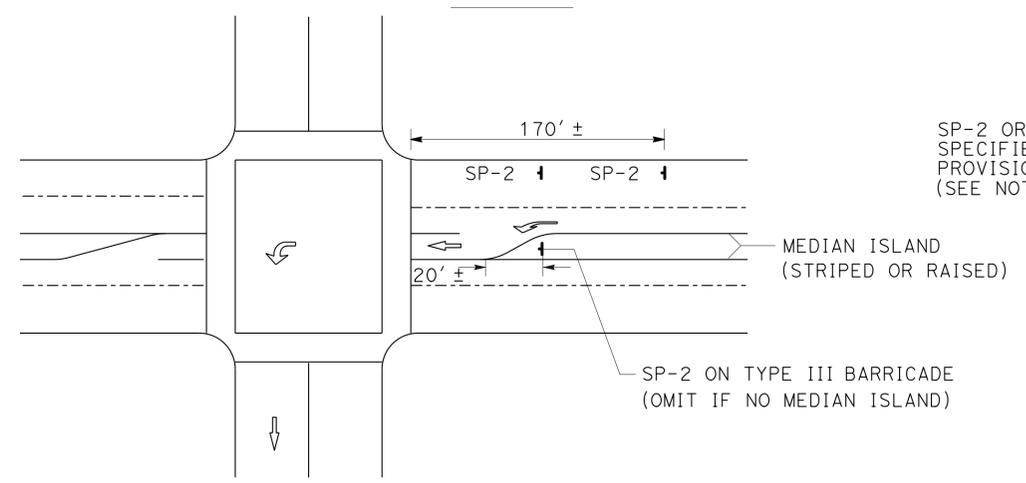


DETAIL B (SEE NOTE 3)

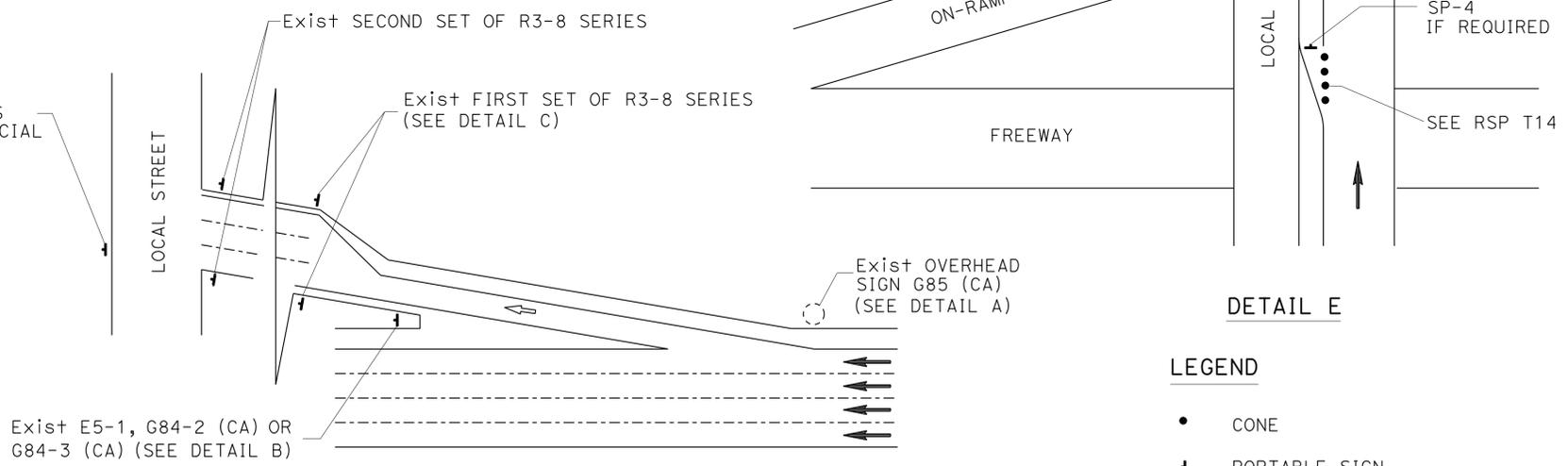
Exist R3-8 SERIES



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 3**

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.

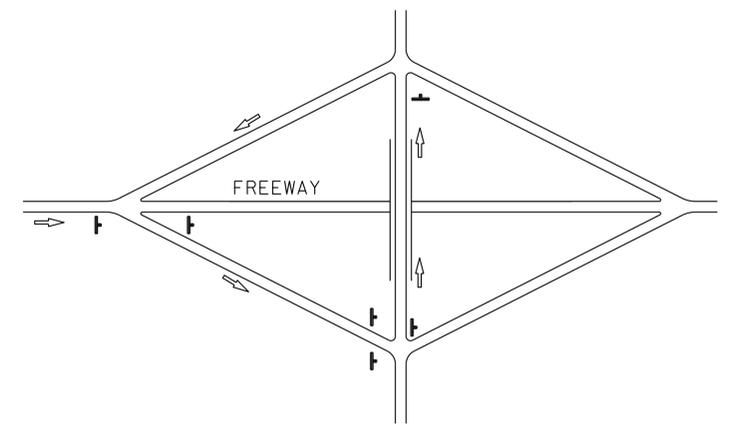
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
DTM
 FUNCTIONAL SUPERVISOR: MARTIN OREGEL
 CHECKED BY: JOCELYN C CHIANG
 REVISIONS: 3/12
 DESIGNED BY: ALBERT K YU
 DATE: 3/12

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	2,5	15.1,22.5	16	87

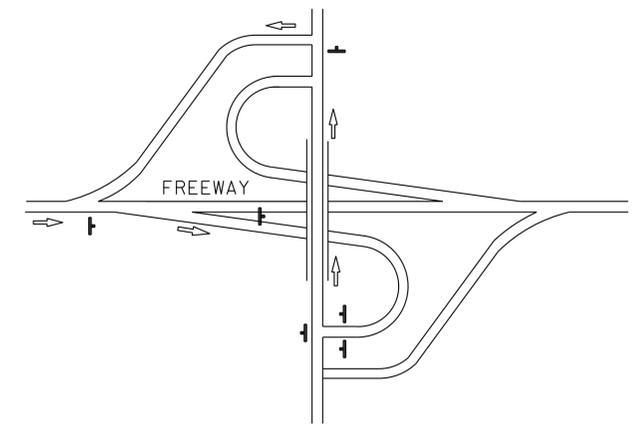
REGISTERED CIVIL ENGINEER *Daisy Vergara* DATE 8-14-13
 PLANS APPROVAL DATE 10-7-13
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER
DAISY VERGARA
 No. 62656
 Exp. 6-30-14
 CIVIL
 STATE OF CALIFORNIA

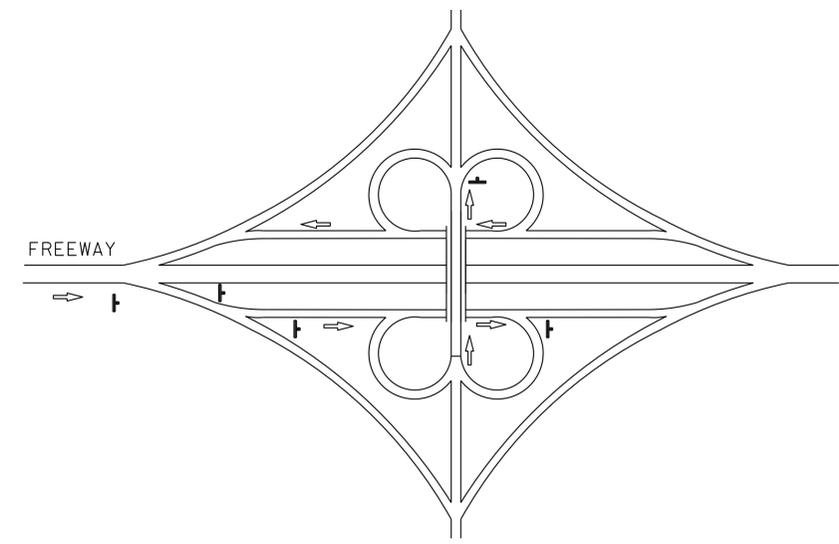
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DT M
 FUNCTIONAL SUPERVISOR: MARTIN OREGEL
 CHECKED BY: JOCELYN C CHIANG
 DESIGNED BY: ALBERT K YU
 REVISIONS: JC 3/12
 REVISIONS: DATE REVISIONS



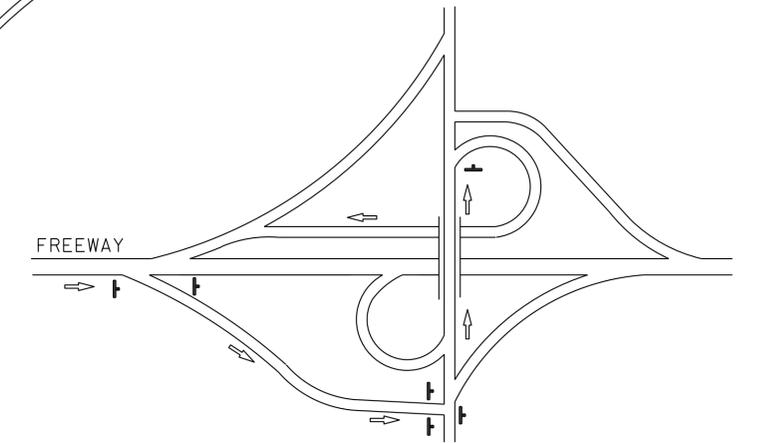
TYPE I



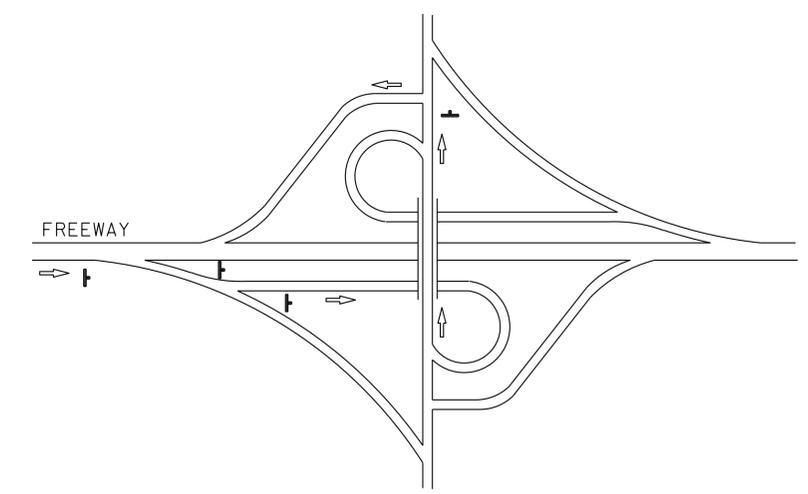
TYPE II



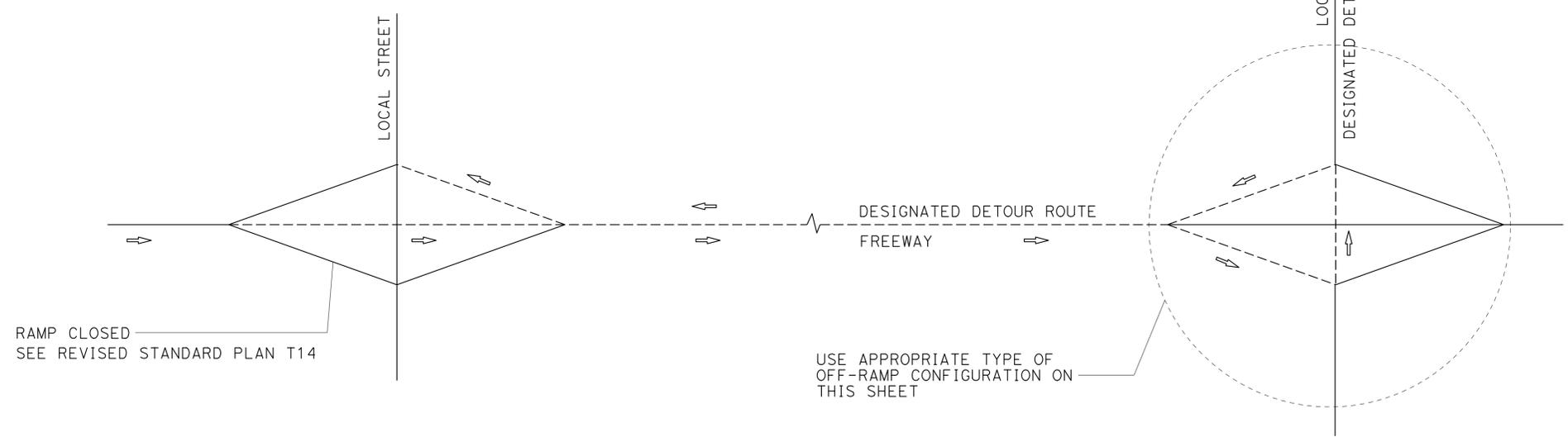
TYPE III



TYPE IV



TYPE V



TYPE OF OFF-RAMP CONFIGURATION	MINIMUM No. OF SP-2
TYPE I	6
TYPE II	6
TYPE III	5
TYPE IV	6
TYPE V	4

TYPICAL DETOUR SIGN INSTALLATION FOR OFF-RAMP CLOSURE

NOTES:

- FOR RAMP CONFIGURATIONS NOT SHOWN, THE EXACT LOCATIONS AND MINIMUM NUMBER OF SP-2 SIGNS SHALL BE DETERMINED BY THE ENGINEER.
- SEE TRAFFIC HANDLING DETAILS-TRAFFIC CONTROL SYSTEM FOR RAMP CLOSURES, DETOUR SIGNS, AND MISCELLANEOUS DETAILS PLAN SHEET 2 OF 2 FOR SP-2 SIGN DETAILS.

LEGEND

- SIGN SP-2
- DETOUR DIRECTION
- DESIGNATED DETOUR ROUTE

**TRAFFIC HANDLING DETAILS
TRAFFIC CONTROL SYSTEM
FOR DETOUR SIGN INSTALLATION
ALONG DESIGNATED DETOUR ROUTE
SHEET 3 OF 3**

NO SCALE

THD-5

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	2,5	15.1,22.5	17	87

<i>Jennifer Nguyen</i> REGISTERED CIVIL ENGINEER DATE 10-1-13	
10-7-13 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>	

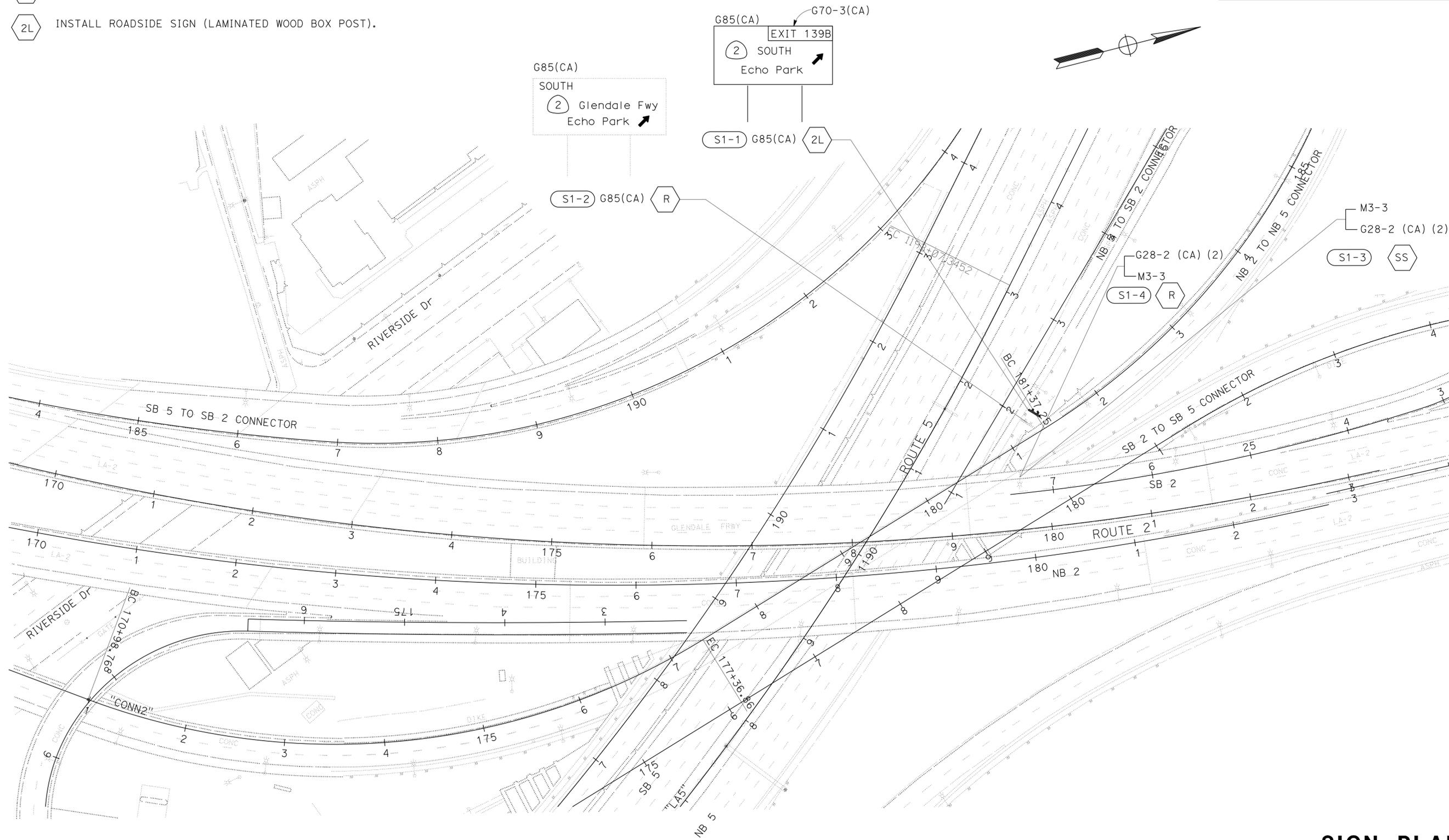
REGISTERED PROFESSIONAL ENGINEER
JENNIFER NGUYEN
 No. C65953
 Exp. 6/30/14
 CIVIL
STATE OF CALIFORNIA

LEGEND:

- No. ROADSIDE SIGN IDENTIFICATION (WITH NUMBER & LETTER).
- R REMOVE ROADSIDE SIGN.
- SS INSTALL ROADSIDE SIGN (STRAP AND SADDLE BRACKET METHOD).
- 2L INSTALL ROADSIDE SIGN (LAMINATED WOOD BOX POST).

SIGN CODE LEGENDS:

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



REVISOR	DATE	REVISION
JENNIFER NGUYEN		
VINCENT NGUYEN		
CALCULATED/DESIGNED BY	CHECKED BY	
GRISH BIGLIARIAN		
FUNCTIONAL SUPERVISOR		
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION		
Caltrans		
TRAFFIC DESIGN		

SIGN PLAN
SCALE: 1" = 50'

APPROVED FOR SIGN WORK ONLY

S-1

PAVEMENT DELINEATION QUANTITIES

	THERMOPLASTIC TRAFFIC STRIPE			PAVEMENT MARKER		
	DETAIL 25 4" YELLOW STRIPE	DETAIL 27B 4" WHITE STRIPE	DETAIL 13 Mod 4" WHITE (BROKEN 36-12)	RETRO-REFLECTIVE		NONREFLECTIVE TYPE A
				TYPE G	TYPE H	
	LF	LF	LF	EA	EA	EA
"CONN2" STA 173+38.74 TO STA 181+28.64	790	790	790	18	18	68
SUBTOTAL	790	790	790	18	18	68
TOTAL	1580	790	790	36		68

WOOD MULCH

LOCATION	TYPE	QUANTITY (CY)
"LA5" STA 1187+20.00 TO STA 1189+90.00	WOOD CHIP	55
	TOTAL	55

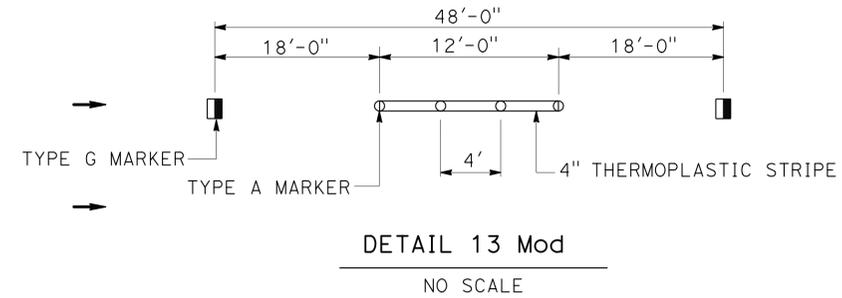
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	2,5	15.1,22.5	19	87

Ricky Lee
REGISTERED CIVIL ENGINEER DATE 9-18-13

10-7-13
PLANS APPROVAL DATE

RICKY LEE
No. C74591
Exp. 2-31-13
CIVIL

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



SUMMARY OF QUANTITIES

	REMOVE GUARDRAIL	REMOVE ASPHALT CONCRETE DIKE	ROADWAY EXCAVATION	TREATED WOOD WASTE	IMPORTED BORROW	CLASS 3 AGGREGATE BASE	LEAN CONCRETE BASE	JOINTED PLAIN CONCRETE PAVEMENT	JOINT SEAL (ASPHALT RUBBER)	MINOR CONCRETE (CURB)	MIDWEST GUARDRAIL SYSTEM	END CAP (TYPE A)	END ANCHOR ASSEMBLY (TYPE SFT)	ALTERNATIVE FLARED TERMINAL SYSTEM	TRANSITION RAILING (TYPE WB-31)	VEGETATION CONTROL (MINOR CONCRETE)	MINOR HOT ASPHALT	PLACE HOT MIX ASPHALT (MISCELLANEOUS AREA)	CONCRETE BARRIER (TYPE 60D)	CONCRETE BARRIER (TYPE 60R)	TEMPORARY WATER POLLUTION CONTROL					
																					TEMPORARY FIBER ROLL	TEMPORARY SILT FENCE	TEMPORARY GRAVEL BAG BERM	TEMPORARY DRAINAGE INLET PROTECTION		
"CONN2" STA 173+38.74 TO STA 181+28.64			2309			809	405	1040	4738																14	
"CONN2" STA 173+59.76 TO STA 176+22.72		263																								
"CONN2" STA 173+59.76 TO STA 176+33.08										8																
"CONN2" STA 173+59.80 TO STA 176+51.62	292			4710	10						267	1			1	146							600	600	600	
"CONN2" STA 175+65.71 TO STA 176+34.65	64			1103							25		1	1												
"CONN2" STA 176+22.72 TO STA 177+59.36																	10	88								
"CONN2" STA 176+51.62 TO STA 177+66.22																			115							
"CONN2" STA 177+66.22 TO STA 181+00.00																				334						
"CONN2" STA 183+18.77 TO STA 184+39.43	121			2005							77		1	1		61										
"CONN1" STA 180+05.71 TO STA 183+96.11	391			6314							347		1	1												
"LA5" STA 1189+54.50 TO STA 1192+92.95	339			5513							295		1	1												
FROM SD-1				1824																						
	1207	263	2309	21469	10	809	405	1040	4738	8	1011	1	4	4	1	207	10	88	115	334	600	600	600	14		

SUMMARY OF QUANTITIES

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	2,5	15.1,22.5	20	87

10-7-13
 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.

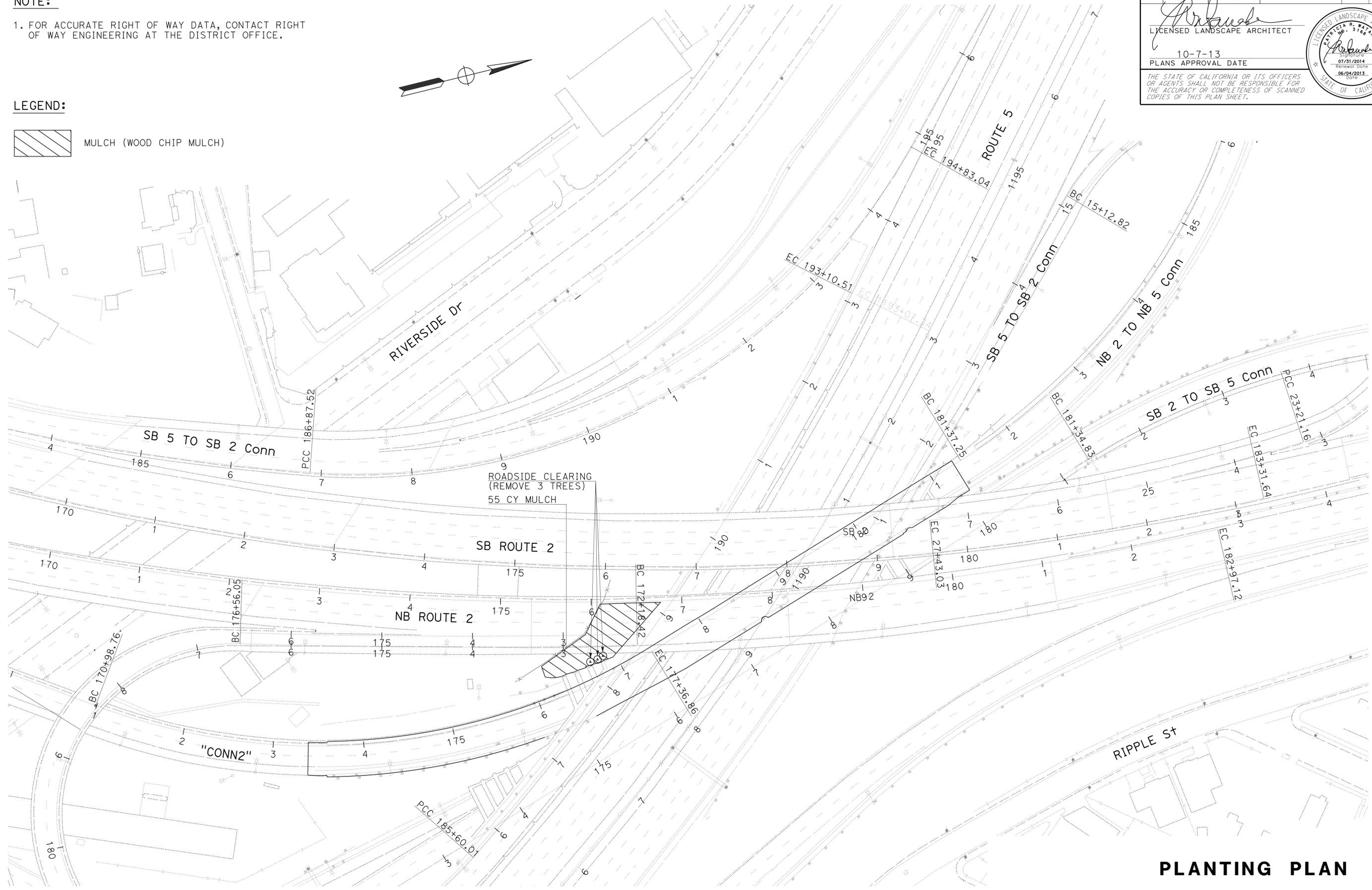
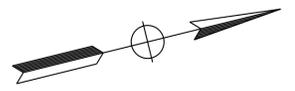


NOTE:

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

LEGEND:

 MULCH (WOOD CHIP MULCH)



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	SENIOR LANDSCAPE ARCHITECT	CALCULATED-DESIGNED BY	REVISOR
Caltrans LANDSCAPE ARCHITECTURE	PATTY WATANABE	CHECKED BY	DATE REVISED
		LEE DO	
		DAHLIA PERSOFF	

APPROVED FOR PLANTING WORK ONLY

PLANTING PLAN
 SCALE: 1" = 50'
PP-1

LAST REVISION:
 DATE PLOTTED => 10-OCT-2013
 00-00-00
 TIME PLOTTED => 1:34:47

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	2,5	15.1,22.5	21	87

REGISTERED ELECTRICAL ENGINEER	DATE
<i>adh</i>	6-18-12
PLANS APPROVAL DATE	
	10-7-13

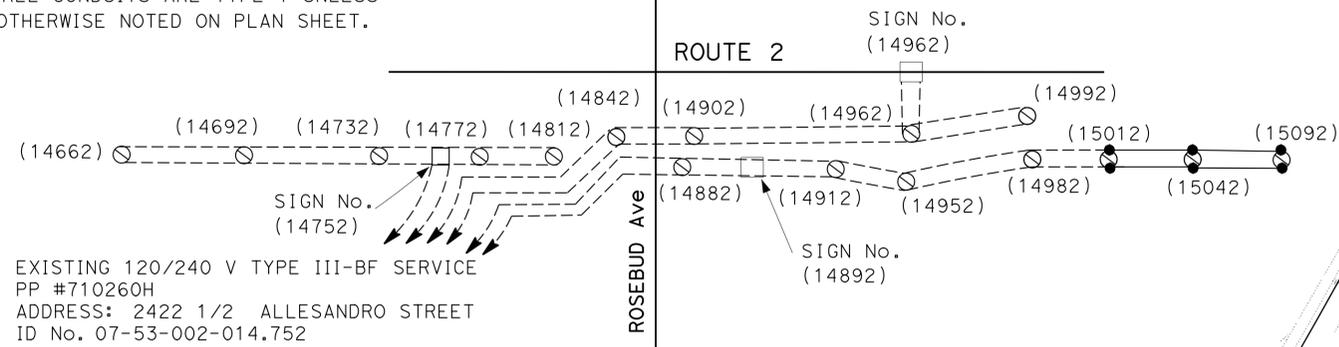
REGISTERED PROFESSIONAL ENGINEER
JAMSHED A. HYDER
 No. E18656
 Exp. 12/31/14
 ELECT

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.

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

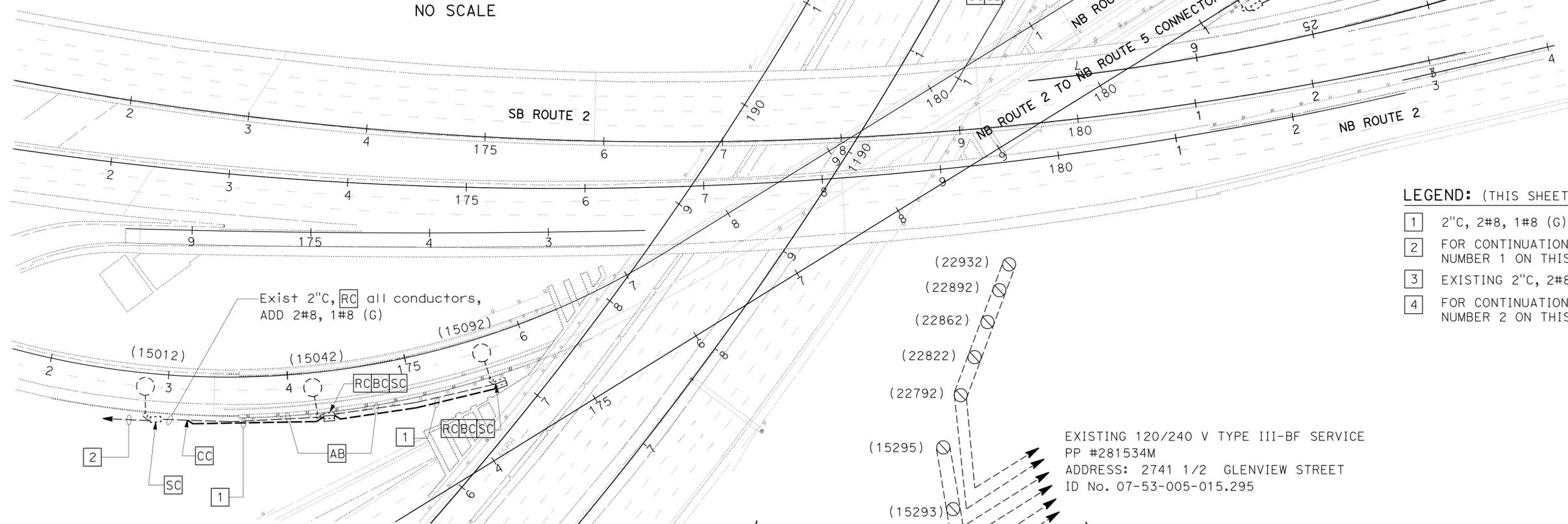
NOTE:

1. ALL CONDUITS ARE TYPE 1 UNLESS OTHERWISE NOTED ON PLAN SHEET.



WIRING DIAGRAM NUMBER 1
NO SCALE

EXISTING 120/240 V TYPE III-BF SERVICE
PP #710260H
ADDRESS: 2422 1/2 ALLESANDRO STREET
ID No. 07-53-002-014.752



WIRING DIAGRAM NUMBER 2
NO SCALE

EXISTING 120/240 V TYPE III-BF SERVICE
PP #281534M
ADDRESS: 2741 1/2 GLENVIEW STREET
ID No. 07-53-005-015.295

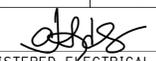
LEGEND: (THIS SHEET ONLY)

- 1 2"C, 2#8, 1#8 (G)
- 2 FOR CONTINUATION SEE WIRING DIAGRAM NUMBER 1 ON THIS SHEET.
- 3 EXISTING 2"C, 2#8, 1#8 (G)
- 4 FOR CONTINUATION SEE WIRING DIAGRAM NUMBER 2 ON THIS SHEET.

LEGEND: (WIRING DIAGRAM)

- EXISTING LUMINAIRE
- SPLICE CONDUCTOR
- EXISTING CONDUCTORS
- NEW CONDUCTOR
- EXISTING SIGN LAMP AND BALLAST

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	2,5	15.1,22.5	22	87

 6-18-12
 REGISTERED ELECTRICAL ENGINEER DATE

10-7-13
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
**JAMSHED
A. HYDER**
 No. E18656
 Exp. 12/31/14
 ELECT
 STATE OF CALIFORNIA

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

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans TRAFFIC DESIGN
 FUNCTIONAL SUPERVISOR
 OSWALD ELIZONDO
 CALCULATED/DESIGNED BY
 CHECKED BY
 JAMSHED HYDER
 OSWALD ELIZONDO
 REVISED BY
 DATE REVISED

MODIFY LIGHTING

SHEET No.	(N)	(N)	(N)	(N)
	CONDUIT 2"	CONDUCTOR #8	CONDUCTOR #8 (G)	PULL BOX
	FT	FT	FT	EA
E-1	550	1200	600	2
TOTAL	550	1200	600	2

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

ELECTRICAL QUANTITIES

E-2



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	2,5	15.1,22.5	23	87

Grace M. Tsushima
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 10-7-13

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
kip	1,000 POUNDS
cal	CALORIE
ft	FOOT OR FEET
gal	GALLON

* For use on a sign panel only

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**ABBREVIATIONS
(SHEET 2 OF 2)**

NO SCALE

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

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
SL	STATION LINE
SM	SELECTED MATERIAL
Spec	SPECIAL, SPECIFICATIONS
SPP	SLOTTED PLASTIC PIPE
SS	SLOPE STAKE
SSBM	STRAP AND SADDLE BRACKET METHOD
SSD	STRUCTURAL SECTION DRAIN
SSPA	STRUCTURAL STEEL PLATE ARCH
SSPP	STRUCTURAL STEEL PLATE PIPE
SSPPA	STRUCTURAL STEEL PLATE PIPE ARCH
SSRP	STEEL SPIRAL RIB PIPE
St	STREET
Sta	STATION
STBB	SINGLE THRIE BEAM BARRIER
Std	STANDARD
Str	STRUCTURE
Surf	SURFACING
SW	SIDEWALK, SOUND WALL
Swr	SEWER
Sym	SYMMETRICAL
S4S	SURFACE 4 SIDES

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

U

V

W

X

Y

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	2,5	15.1,22.5	24	87

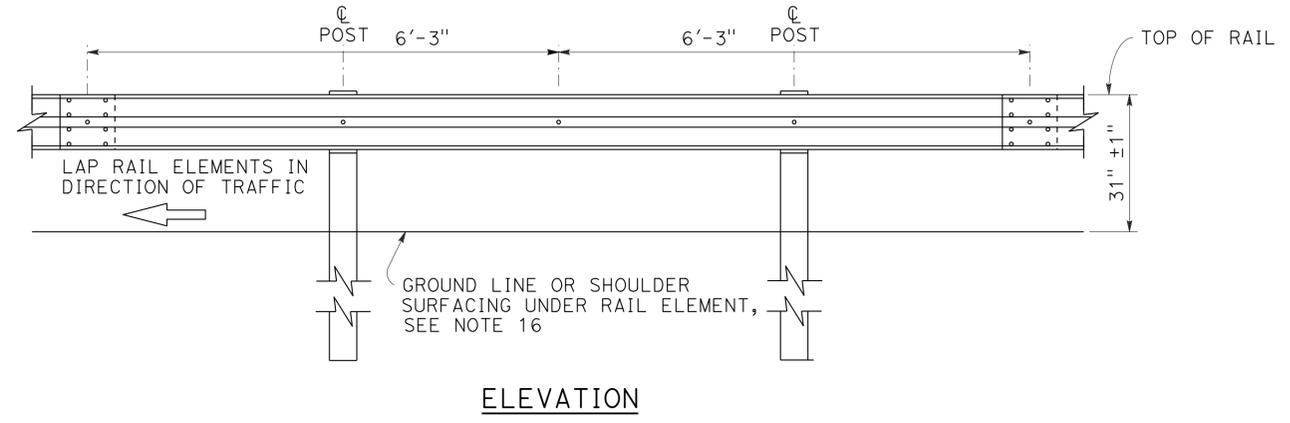
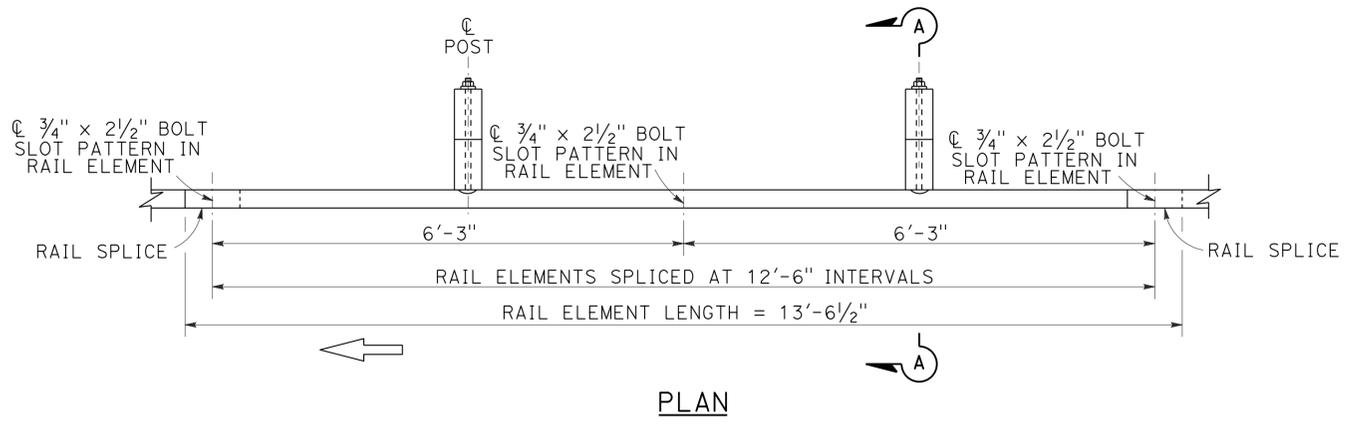
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

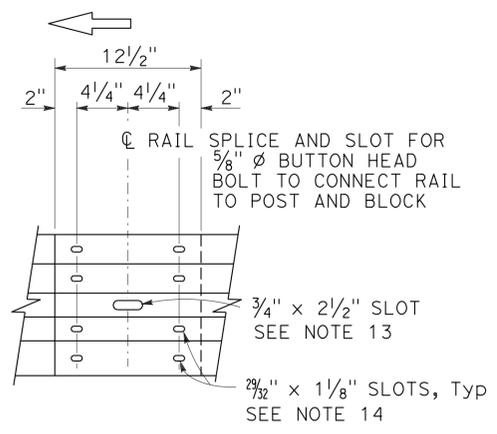
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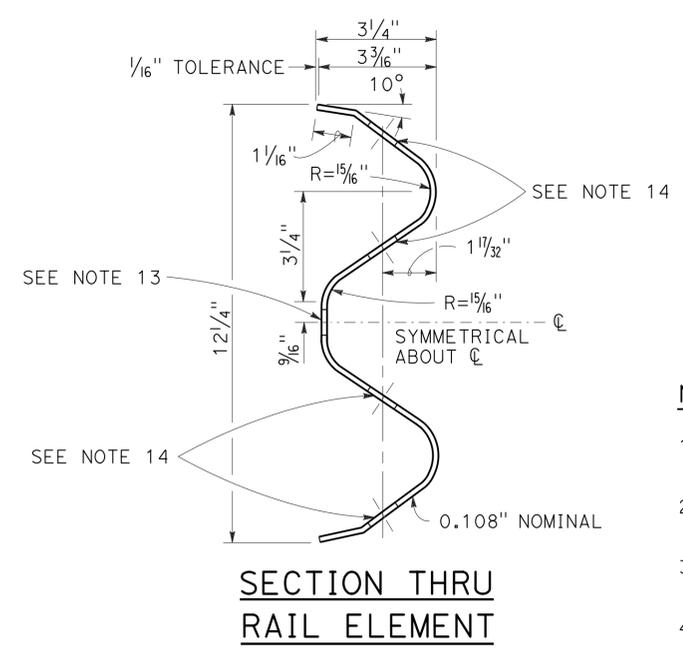
TO ACCOMPANY PLANS DATED 10-7-13



MIDWEST GUARDRAIL SYSTEM WITH WOOD POST AND BLOCKS

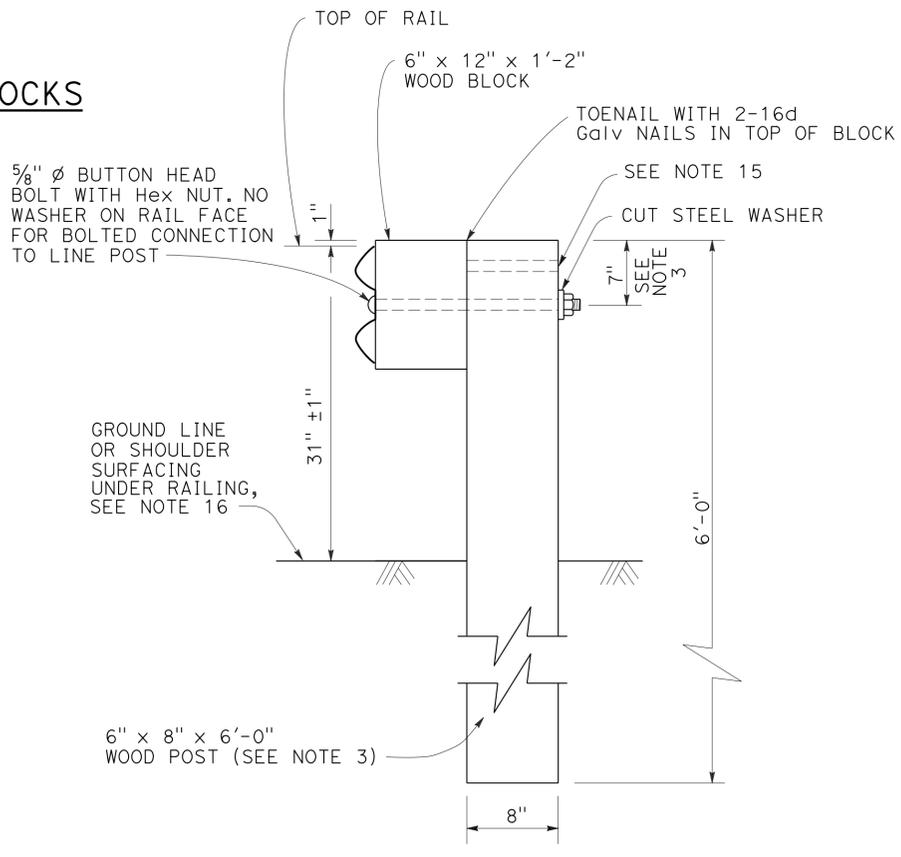


- Connect the over lapped end of the rail elements with $\frac{5}{8}$ " ϕ x $1\frac{3}{8}$ " button head oval shoulder splice bolts inserted into the $\frac{23}{32}$ " x $1\frac{1}{8}$ " slots and bolted together with $\frac{5}{8}$ " ϕ recessed hex nuts. Recess of hex nut points toward rail element. A total of 8 bolts and nuts are to be used at each rail splice connection.
- The ends of the rail elements are to be overlapped in the direction of traffic (see details).
- Where end cap is to be attached to the end of a rail element, a total of 4 of the above described splice bolts and nuts are to be used.



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 MSG 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.



SECTION A-A
TYPICAL WOOD LINE POST INSTALLATION
See Note 4

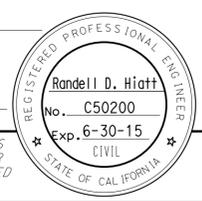
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**MIDWEST GUARDRAIL SYSTEM
STANDARD RAILING SECTION
(WOOD POST WITH
WOOD BLOCK)**

NO SCALE

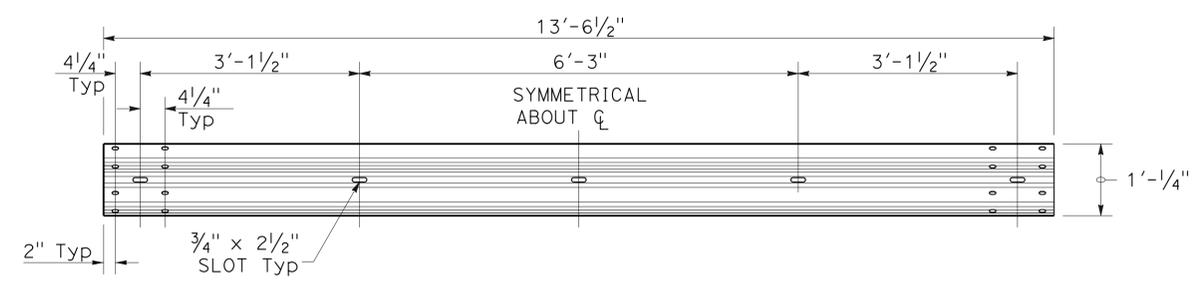
RSP A77L1 DATED JULY 19, 2013 SUPPLEMENTS STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77L1

2010 REVISED STANDARD PLAN RSP A77L1



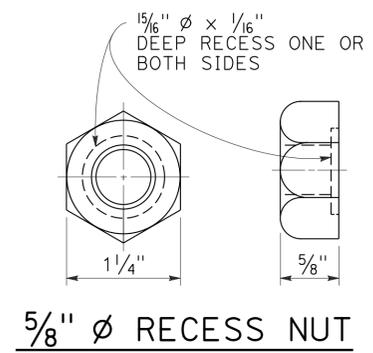
TO ACCOMPANY PLANS DATED 10-7-13



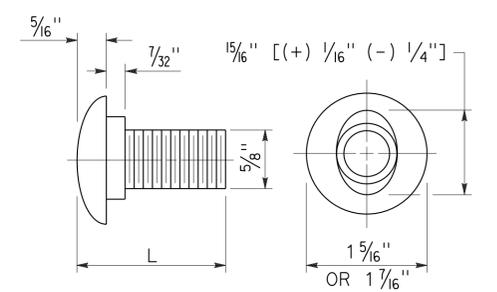
TYPICAL RAIL ELEMENT

NOTE:

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



5/8" Ø RECESS NUT

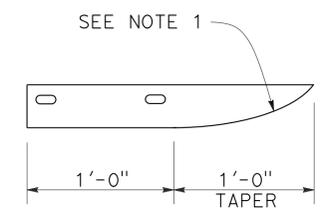


5/8" Ø BUTTON HEAD BOLT

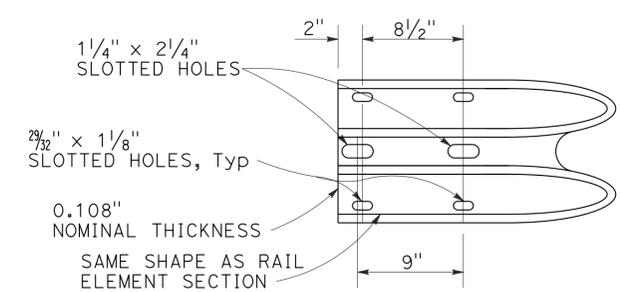
BUTTON HEAD BOLT

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	LA	2,5	15.1,22.5	26	87

Randell D. Hiatt
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July 19, 2013
PLANS APPROVAL DATE

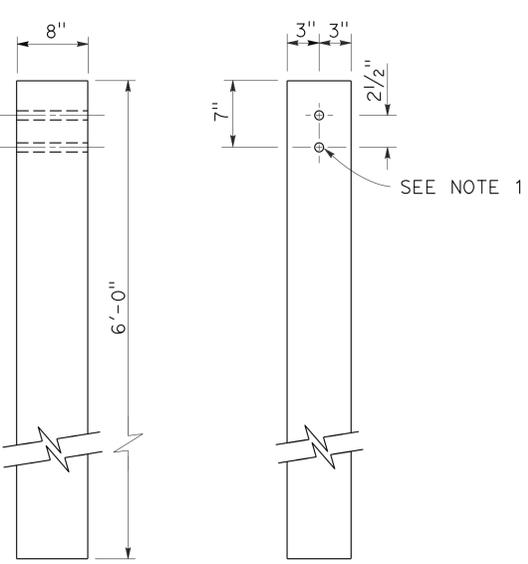
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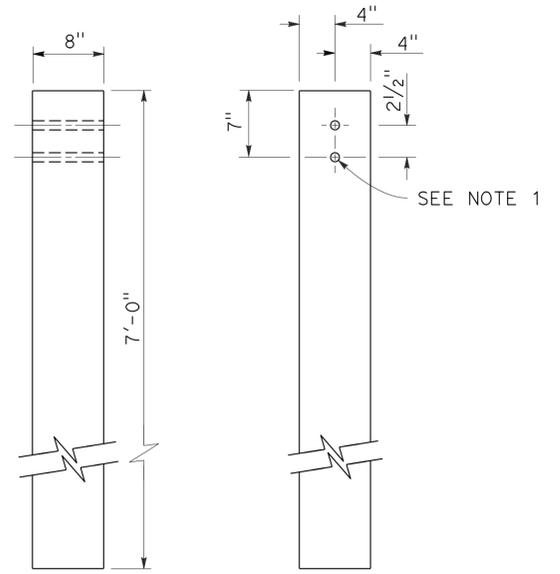
TO ACCOMPANY PLANS DATED 10-7-13

NOTES:

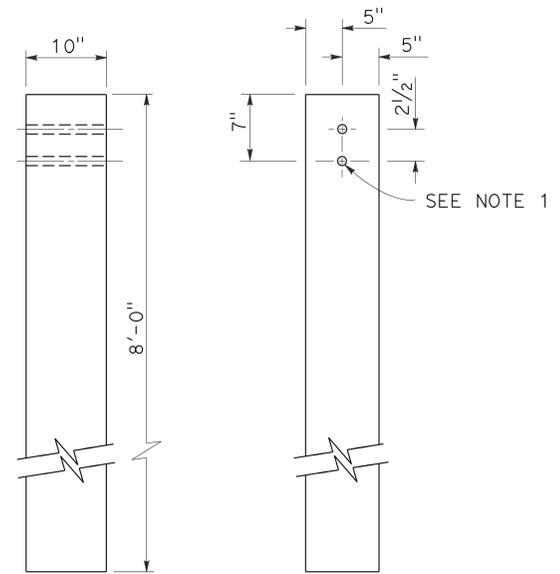
1. All holes in wood posts and blocks shall be $\frac{3}{4}$ " Dia \pm $\frac{1}{16}$ ".
2. Dimensions shown for wood post are nominal.
3. This post and block combination used for standard line post sections of MGS.
4. This post and 8" x 12" block combination used for line post sections of MGS on narrow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



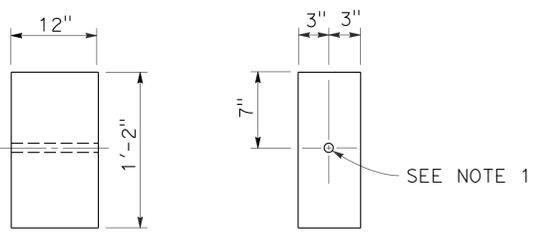
SIDE FRONT
6" x 8" WOOD POST
See Note 3



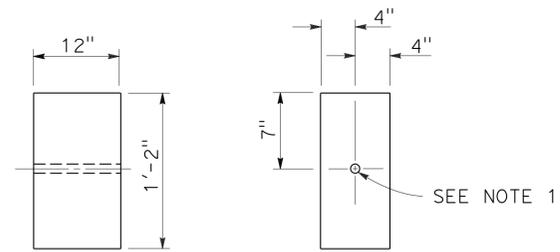
SIDE FRONT
8" x 8" WOOD POST
See Note 4



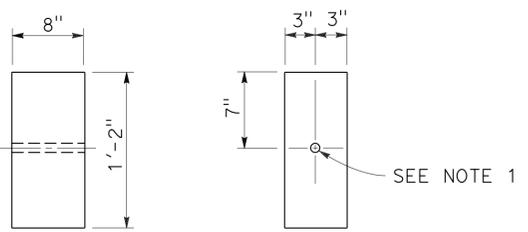
SIDE FRONT
10" x 10" WOOD POST
See Note 5



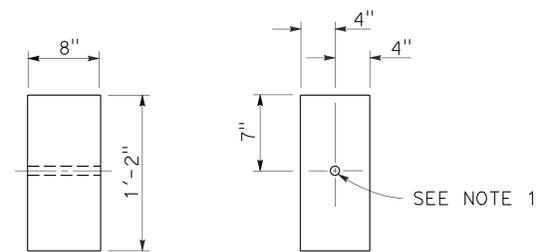
SIDE FRONT
6" x 12" WOOD BLOCK
See Note 3



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	LA	2,5	15.1,22.5	27	87

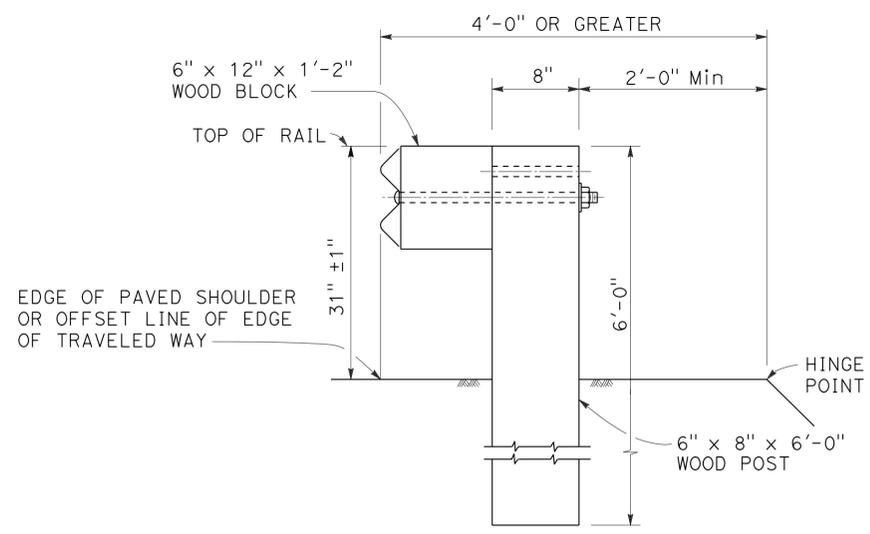
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July 19, 2013
PLANS APPROVAL DATE

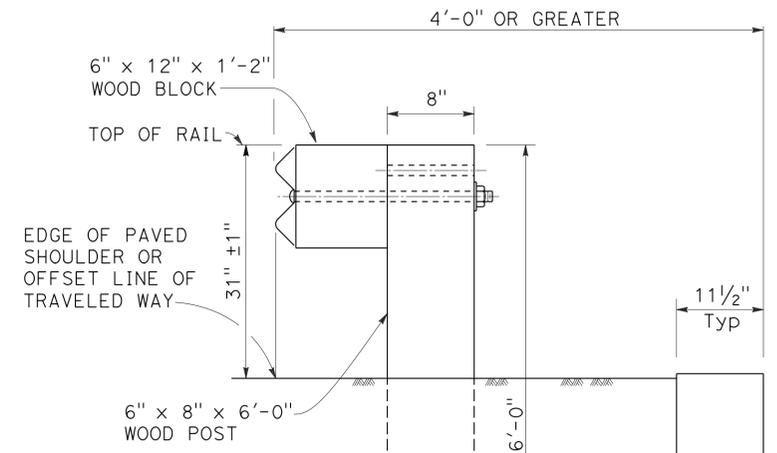
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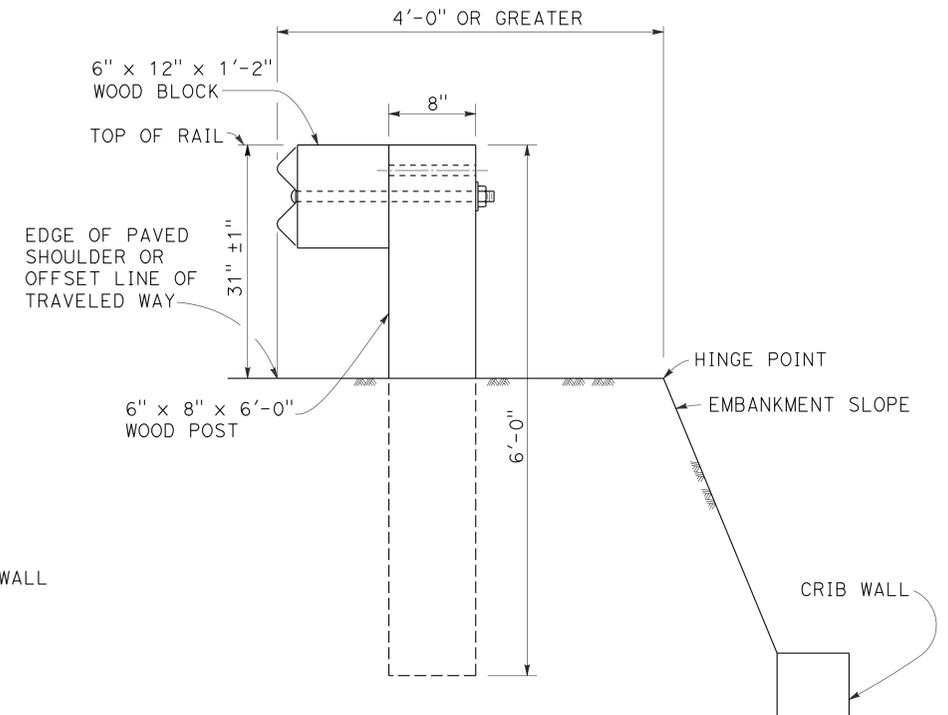
TO ACCOMPANY PLANS DATED 10-7-13



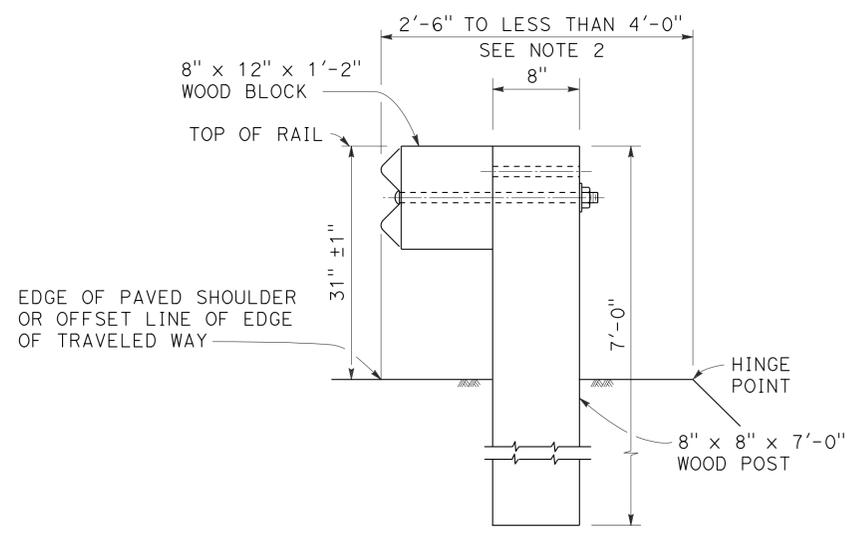
DETAIL A
TYPICAL ROADWAY
INSTALLATION
See Note 1



DETAIL C



DETAIL D



DETAIL B
NARROW ROADWAY
INSTALLATION
See Note 1

POST EMBEDMENT

INSTALLATION AT EARTH RETAINING WALLS

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, or 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 JULY 19, 2013 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	LA	2,5	15.1,22.5	28	87

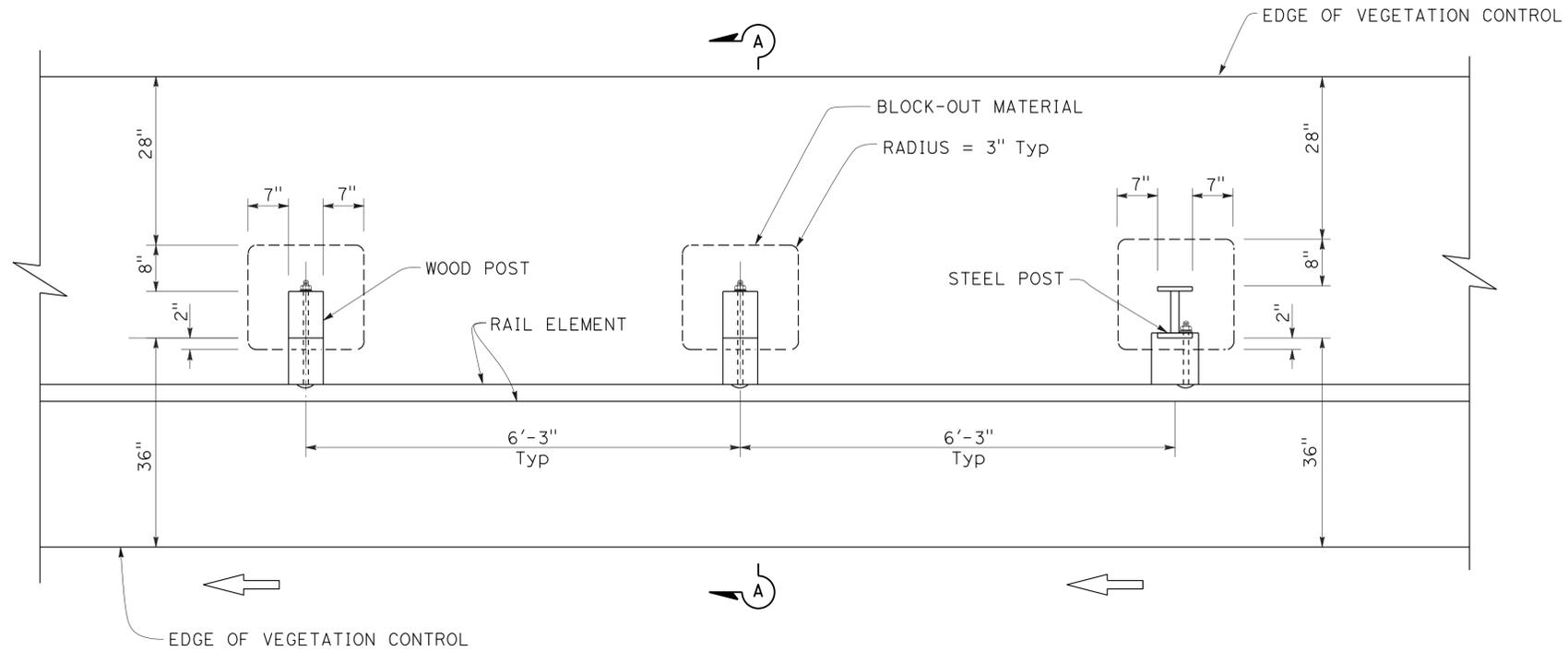
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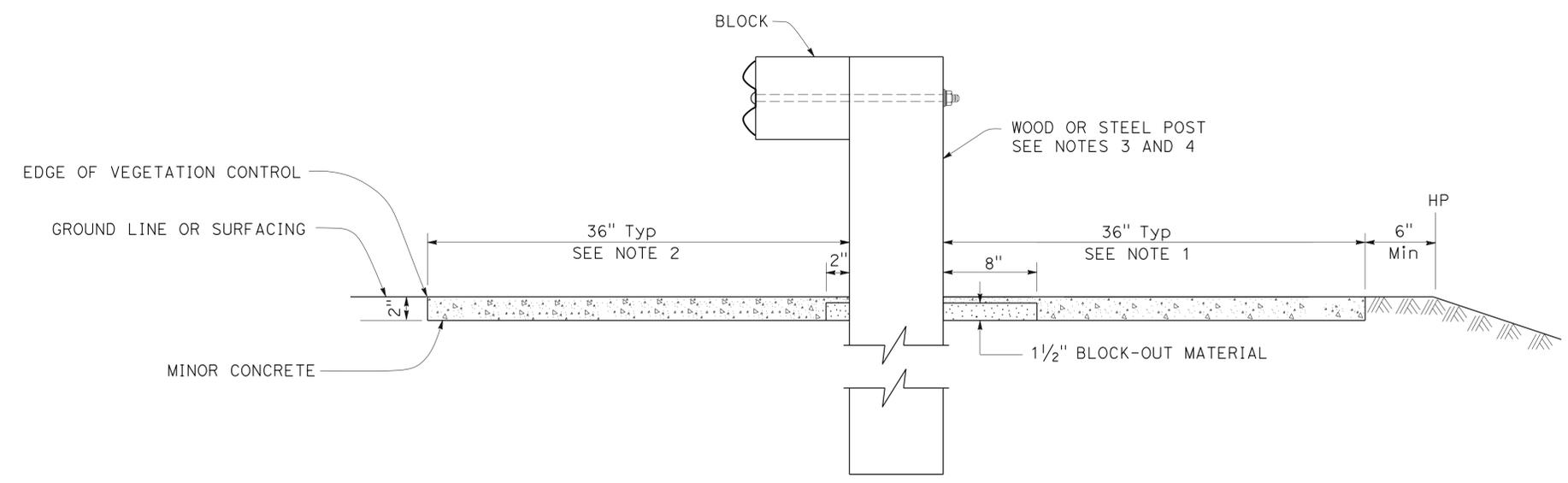
TO ACCOMPANY PLANS DATED 10-7-13



PLAN

NOTES:

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



SECTION A-A

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

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

NO SCALE

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

REVISED STANDARD PLAN RSP A77N5

2010 REVISED STANDARD PLAN RSP A77N5

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	2,5	15.1,22.5	29	87

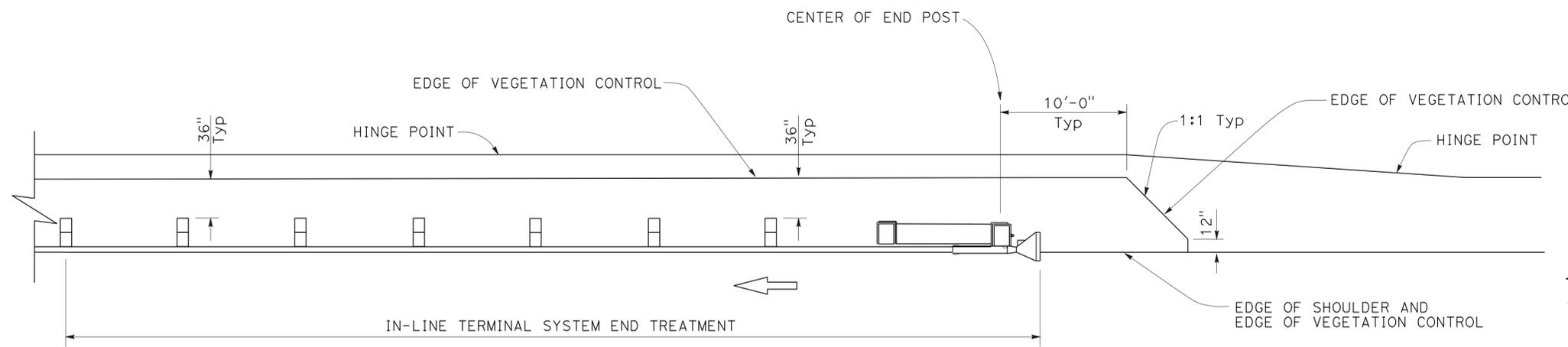
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July 19, 2013
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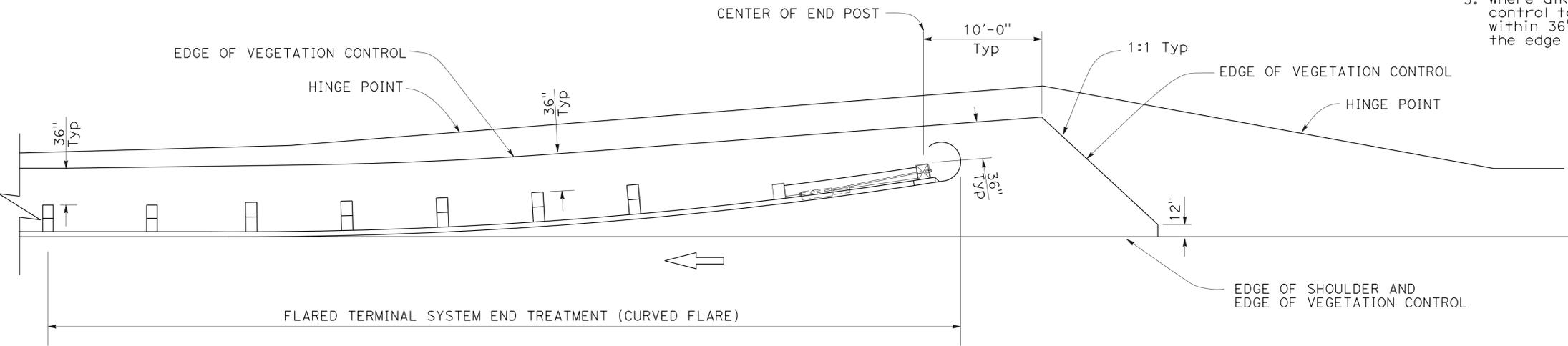
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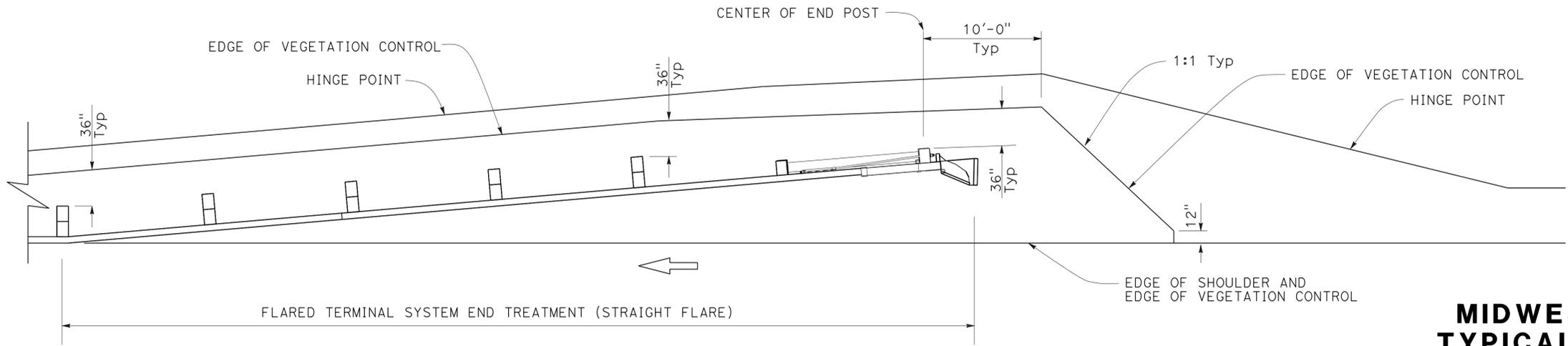
PLAN

NOTES:

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



PLAN



PLAN

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

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

NO SCALE

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

REVISED STANDARD PLAN RSP A77N6

2010 REVISED STANDARD PLAN RSP A77N6

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	2,5	15.1,22.5	30	87

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

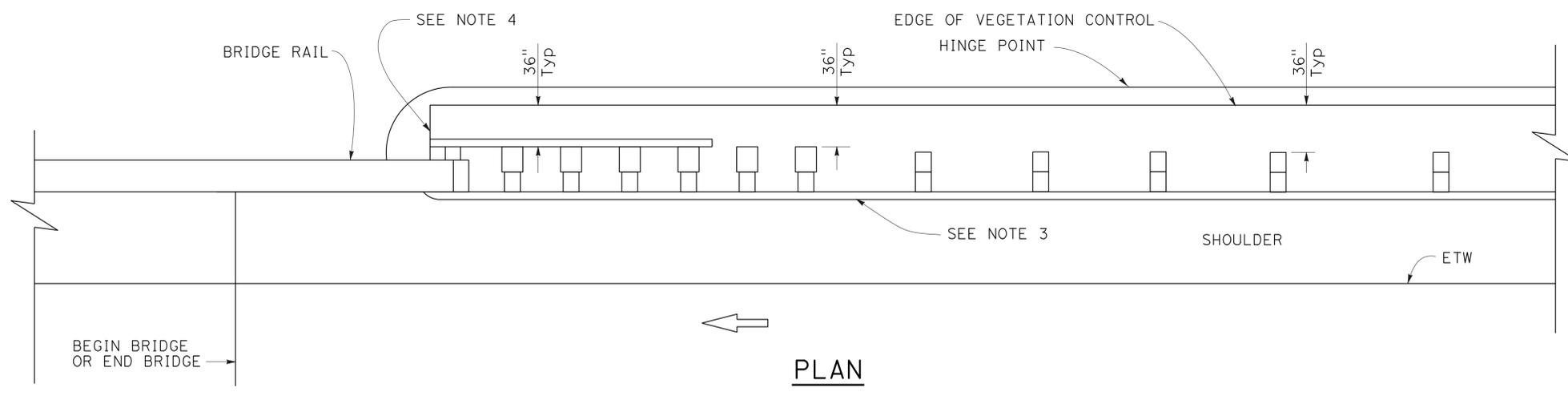
July 19, 2013
PLANS APPROVAL DATE

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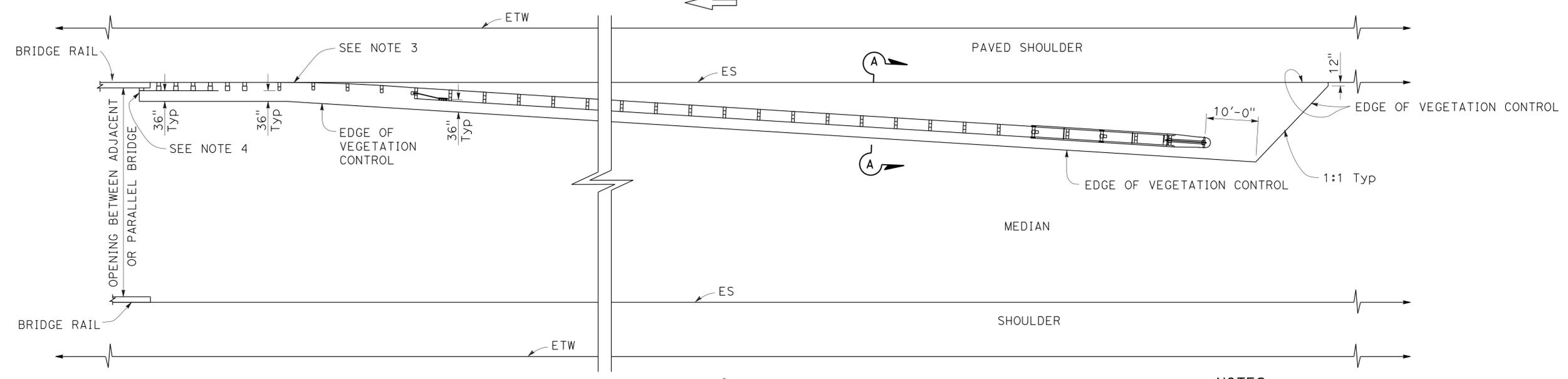
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No. C50200
Exp. 6-30-15
CIVIL
STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 10-7-13

2010 REVISED STANDARD PLAN RSP A77N7



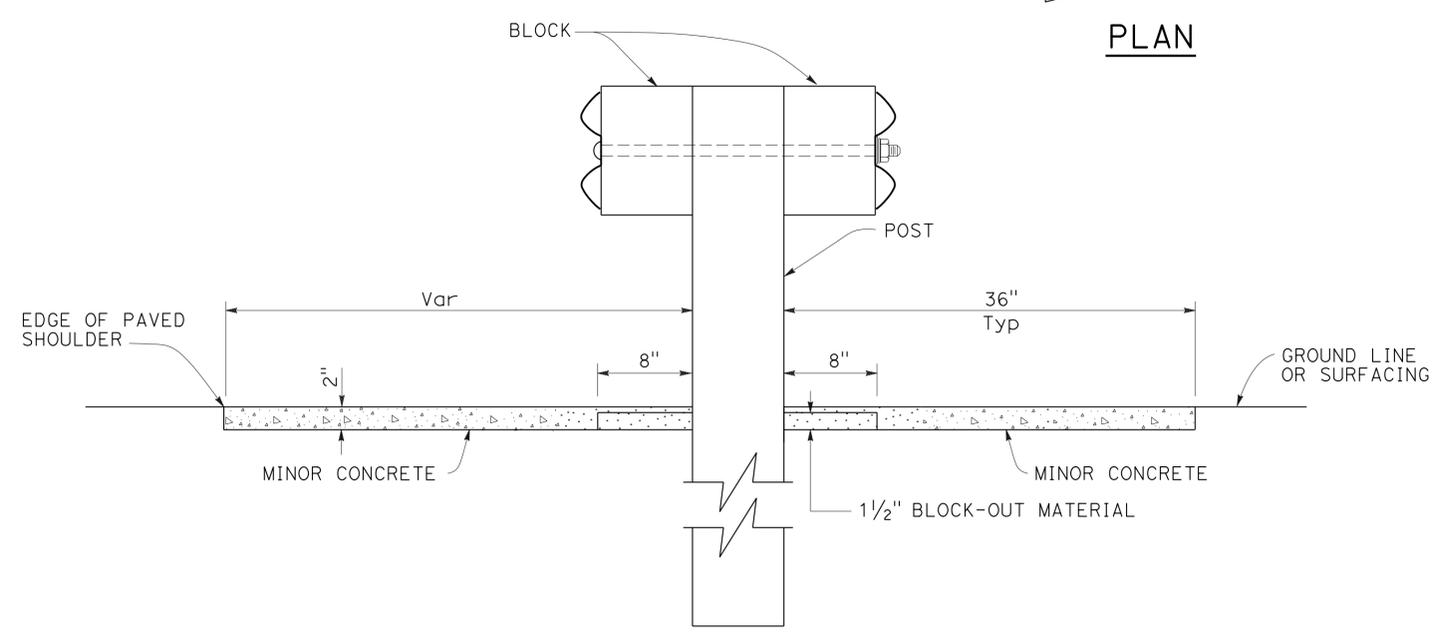
PLAN



PLAN

NOTES:

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



SECTION A-A

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**MIDWEST GUARDRAIL SYSTEM
TYPICAL VEGETATION CONTROL
AT STRUCTURE APPROACH**

NO SCALE

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

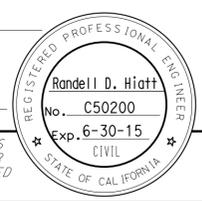
REVISED STANDARD PLAN RSP A77N7

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	2,5	15.1,22.5	31	87

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REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

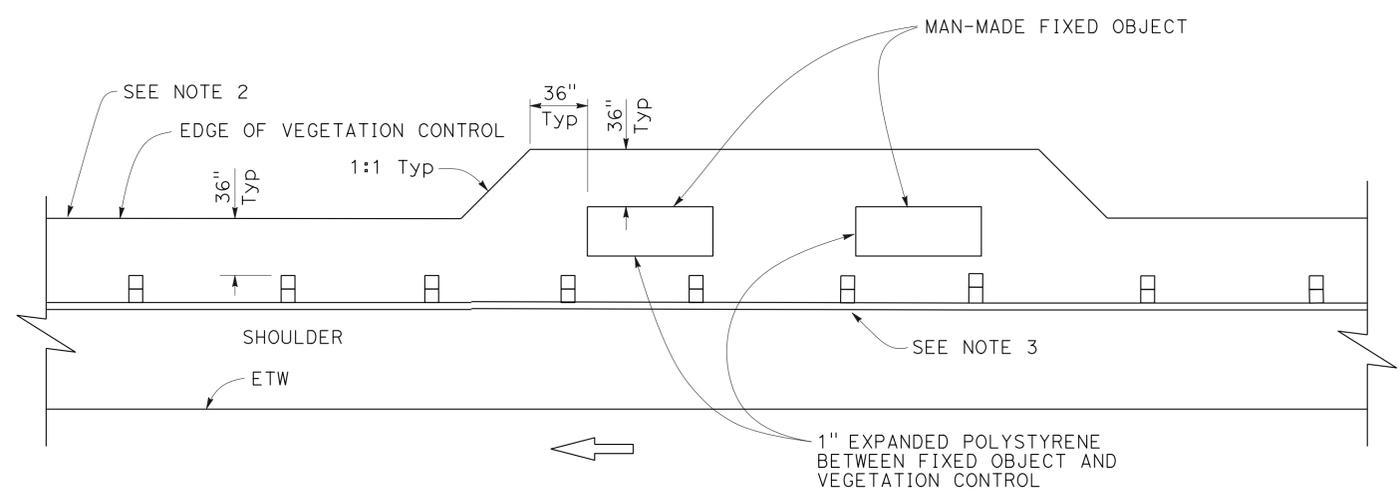
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TO ACCOMPANY PLANS DATED 10-7-13

NOTES:

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



PLAN
Fixed object(s) on shoulder

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**MIDWEST GUARDRAIL SYSTEM
TYPICAL VEGETATION CONTROL
AT FIXED OBJECT**

NO SCALE

RSP A77N8 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77N8

2010 REVISED STANDARD PLAN RSP A77N8

NOTES:

1. See Revised Standard Plan RSP A77N5 for additional vegetation control details.
2. Where dike is constructed under railing, construct vegetation control to back edge of dike. Where paved shoulder is constructed within 36" in front of the post, construct vegetation control to the edge of paved shoulder.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	2,5	15.1,22.5	32	87

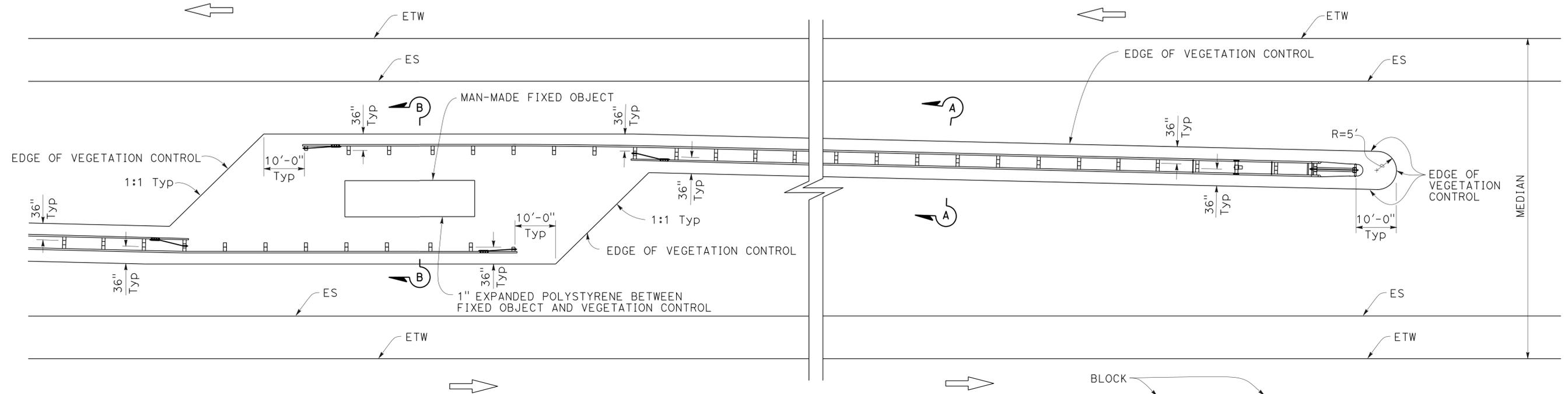
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

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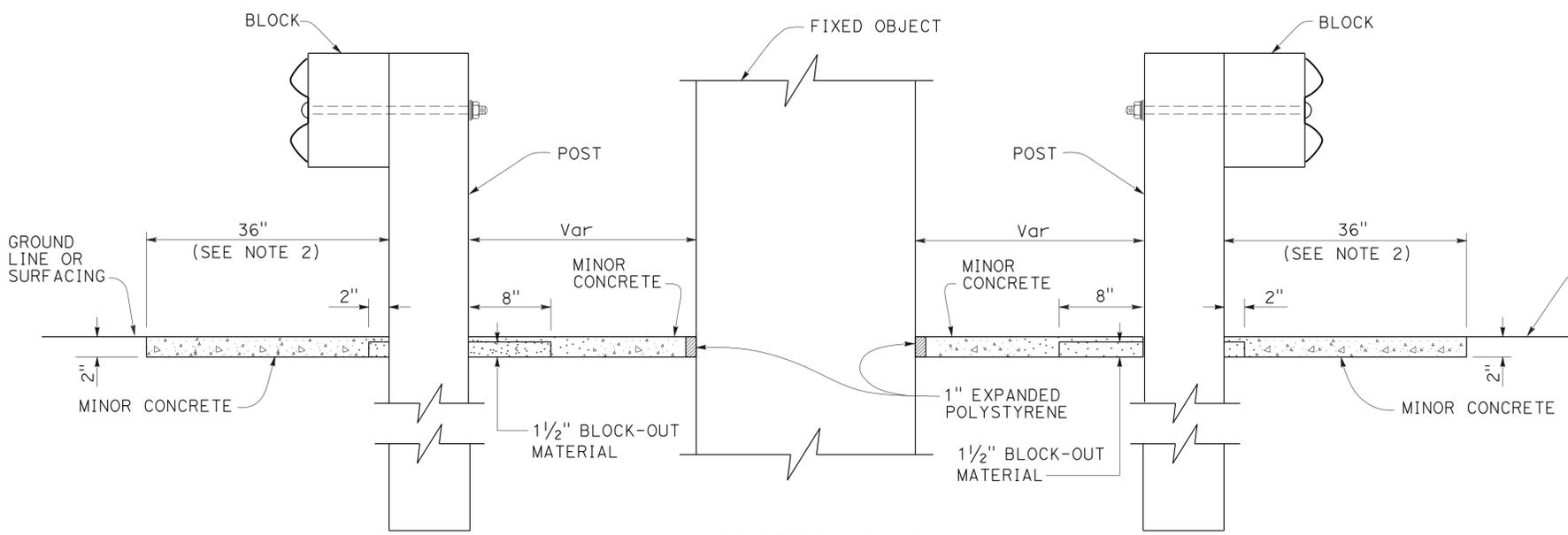


TO ACCOMPANY PLANS DATED 10-7-13

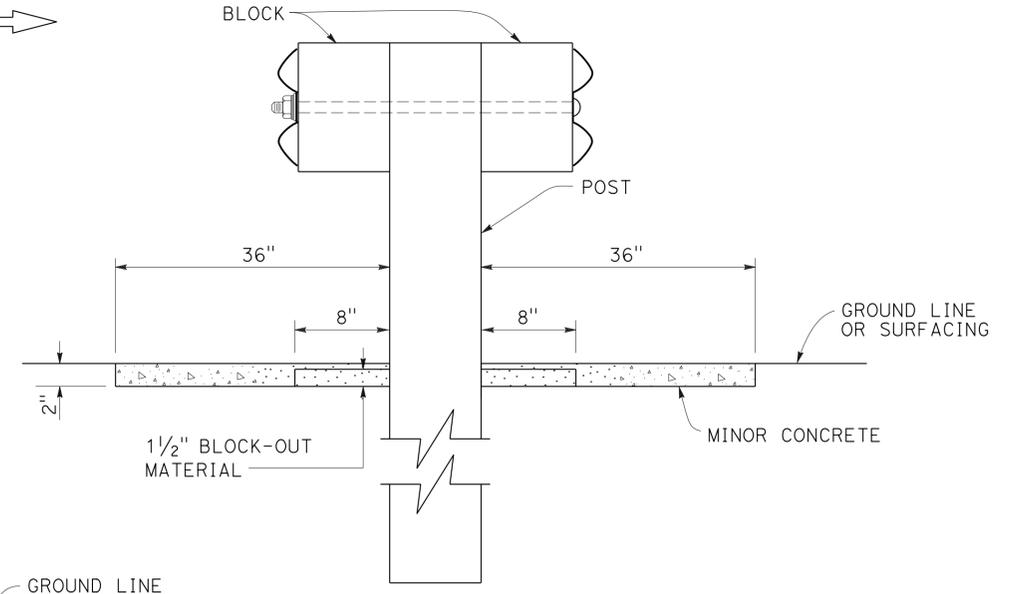


PLAN

Fixed object(s) in median



SECTION B-B



SECTION A-A

**MIDWEST GUARDRAIL SYSTEM
TYPICAL VEGETATION CONTROL
AT FIXED OBJECT**

NO SCALE

RSP A77N9 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77N9

2010 REVISED STANDARD PLAN RSP A77N9

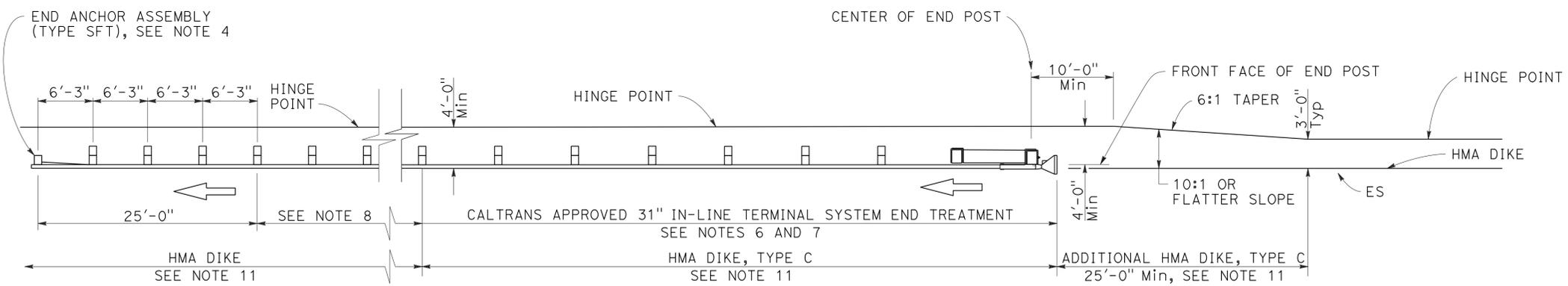
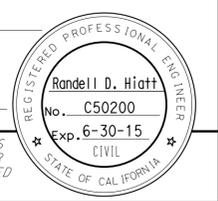
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	2,5	15.1,22.5	33	87

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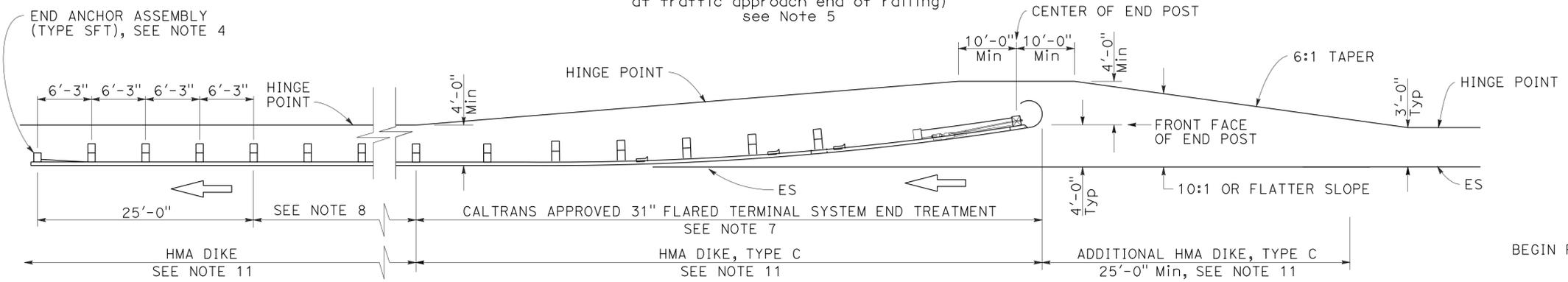
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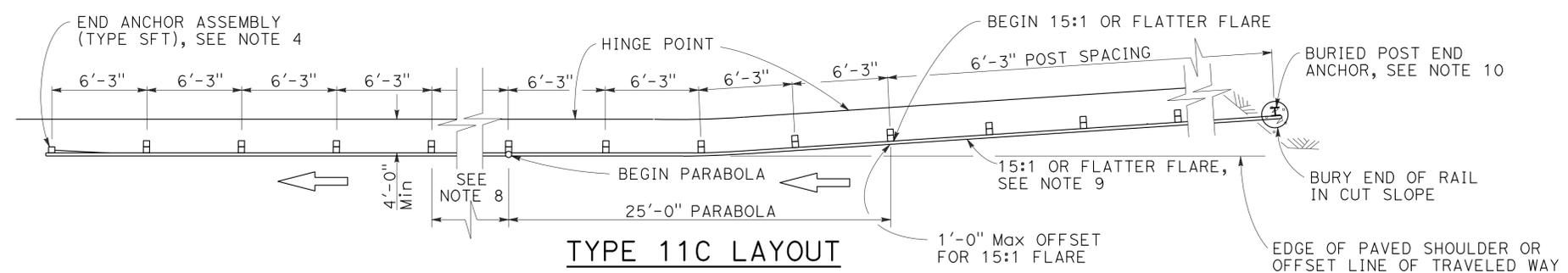
TYPE 11A LAYOUT

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



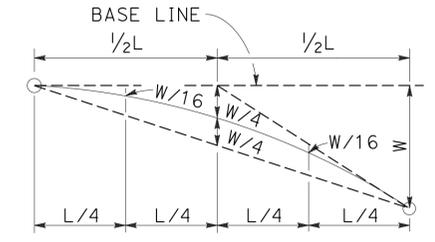
TYPE 11B LAYOUT

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

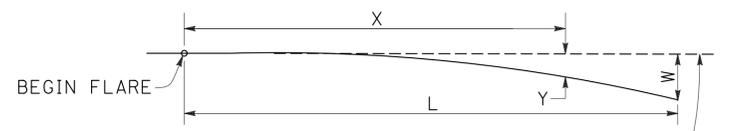


TYPE 11C LAYOUT

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



TYPICAL PARABOLIC LAYOUT

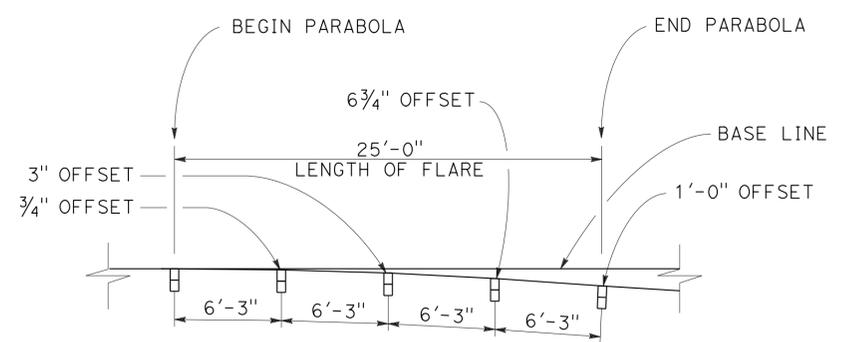


BASE LINE (EDGE OF PAVED SHOULDER OR OFFSET LINE OF EDGE OF TRAVELED WAY)

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

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 JULY 19, 2013 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 A77H1.
- 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

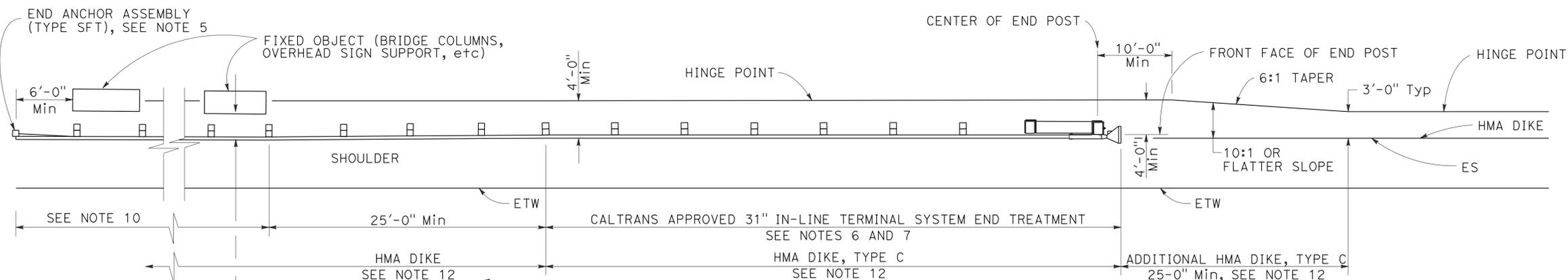
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	2,5	15.1,22.5	34	87

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

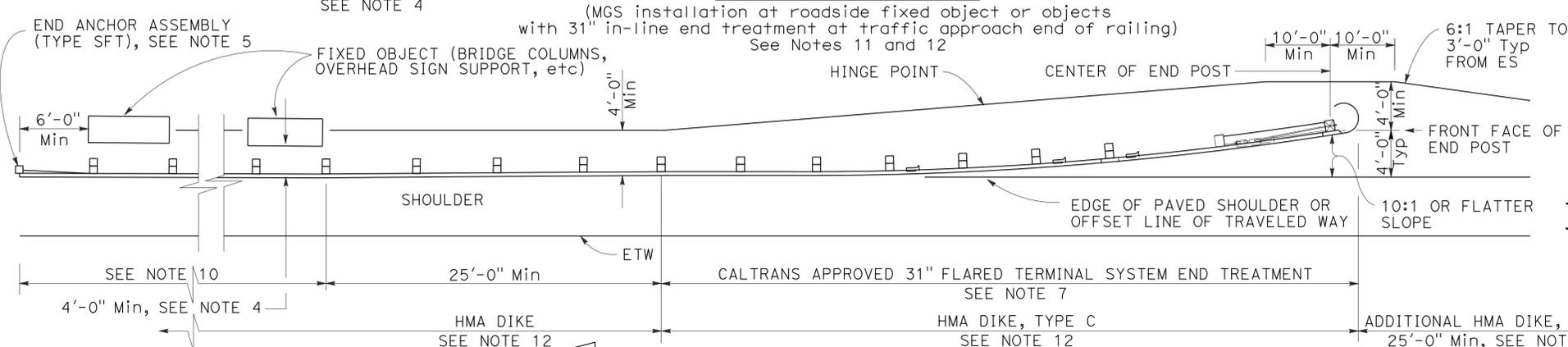
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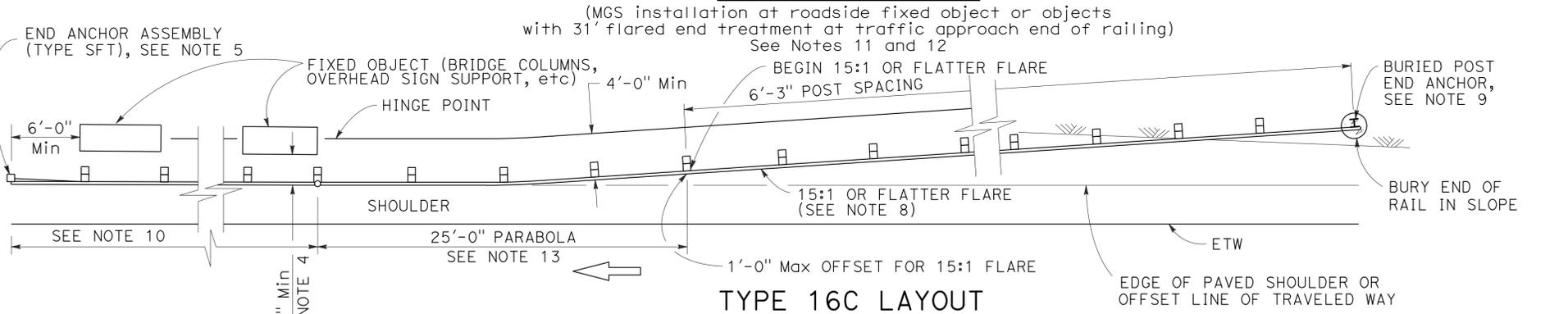
NO. C50200
EXP. 6-30-15
CIVIL
STATE OF CALIFORNIA



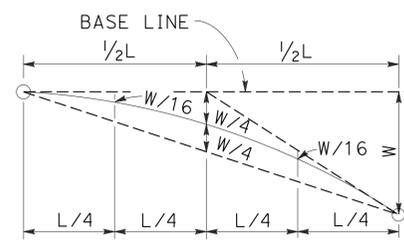
TYPE 16A LAYOUT



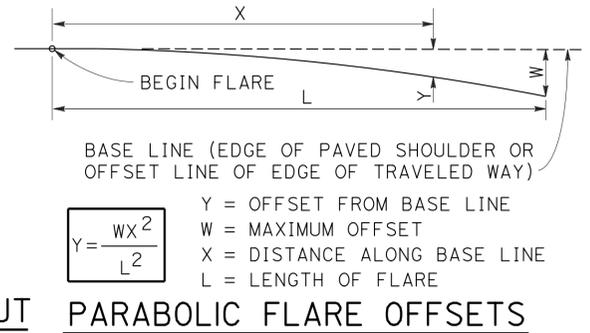
TYPE 16B LAYOUT



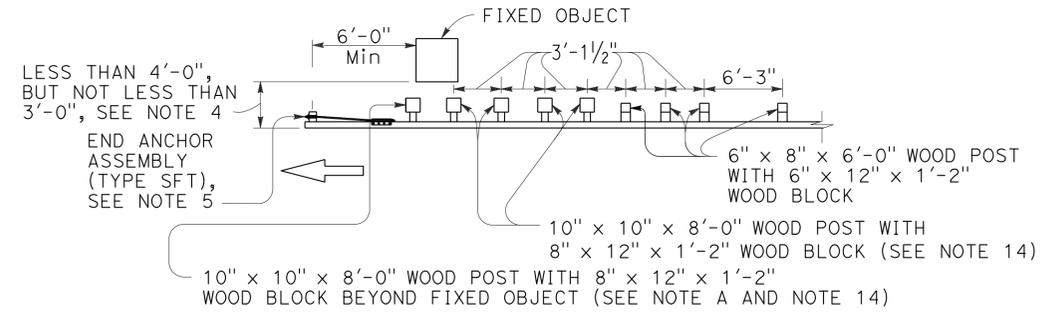
TYPE 16C LAYOUT



TYPICAL PARABOLIC LAYOUT



PARABOLIC FLARE OFFSETS



NOTE A: For a series of fixed objects (bridge columns, overhead sign supports, etc.) additional 10" x 10" x 8'-0" wood post with 8" x 12" x 1'-2" wood blocks at 3'-1/2" center to center spacing are to be used between fixed objects.

STRENGTHENED MIDWEST GUARDRAIL SYSTEM SECTIONS FOR FIXED OBJECT

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 line posts with 6" x 12" x 1'-2" wood blocks where applicable and when specified.
- A 4'-0" minimum clearance is required between the face of the railing and the face of a fixed object located directly behind MGS sections with post spacing of 6'-3". Construct MGS as shown in the detail "Strengthened Midwest Guardrail System Sections for Fixed Object" on this plan, where the clearance between the face of the railing and the face of a fixed object is less than 4'-0", but not less than 3'-0". Where the clearance is less than 3'-0", a concrete wall or barrier should be constructed to shield the fixed object(s).
- For End Anchor Assembly (Type SFT) details, see Revised Standard Plan RSP A77S1.
- 31" in-line terminal system end 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.
- The 15:1 or flatter flare used with Type 16C 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 16C Layout, see Revised Standard Plan RSP A77T2.
- As site conditions dictate, construct additional MGS to shield fixed object(s). Additional MGS length equal to multiples of 12'-6". Post spacing at 6'-3" except as specified in Note 4.
- Layout Types 16A, 16B or 16C are typically used where MGS is recommended to shield roadside fixed object(s) and a crashworthy 31" end treatment is required for only one direction of traffic.
- Where placement of dike is required with MGS, see Revised Standard Plan RSP A77N4 for dike positioning details.
- For typical flare offsets for 25'-0" length parabola with maximum offset of 1'-0", see Revised Standard Plan RSP A77P1.
- W6 x 15 steel post, 8'-0" in length, with 8" x 12" x 1'-2" notched wood block or notched recycled plastic blocks may be used in place of the 10" x 10" x 8'-0" wood post with 8" x 12" x 1'-2" wood block shown in the detail "Strengthened Midwest Guardrail System Sections for Fixed Object".

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**MIDWEST GUARDRAIL SYSTEM
TYPICAL LAYOUTS FOR
ROADSIDE FIXED OBJECTS**
NO SCALE

RSP A77R3 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77R3

2010 REVISED STANDARD PLAN RSP A77R3

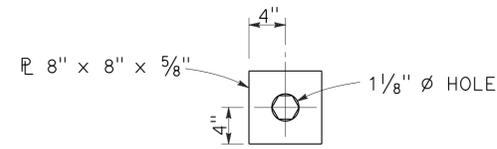
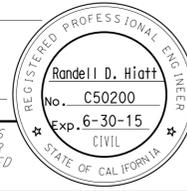
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	2,5	15.1,22.5	35	87

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

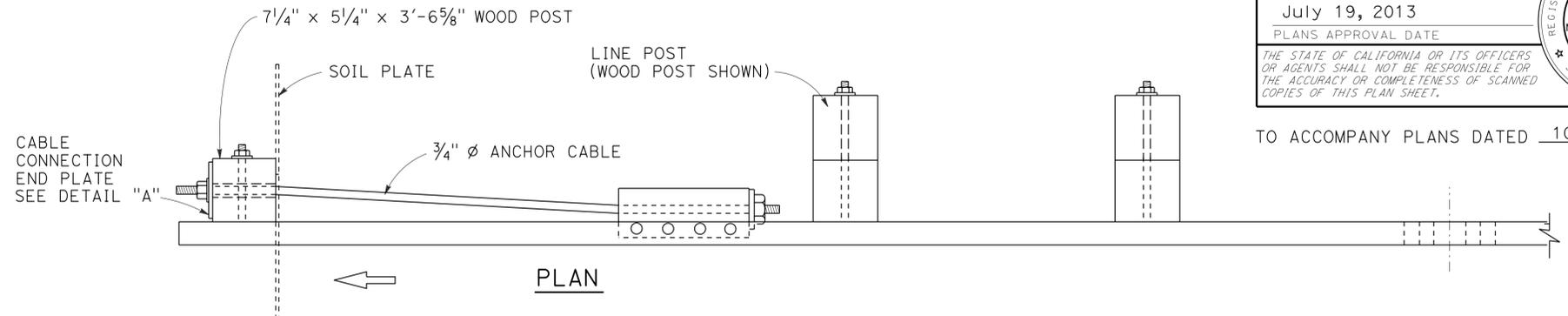
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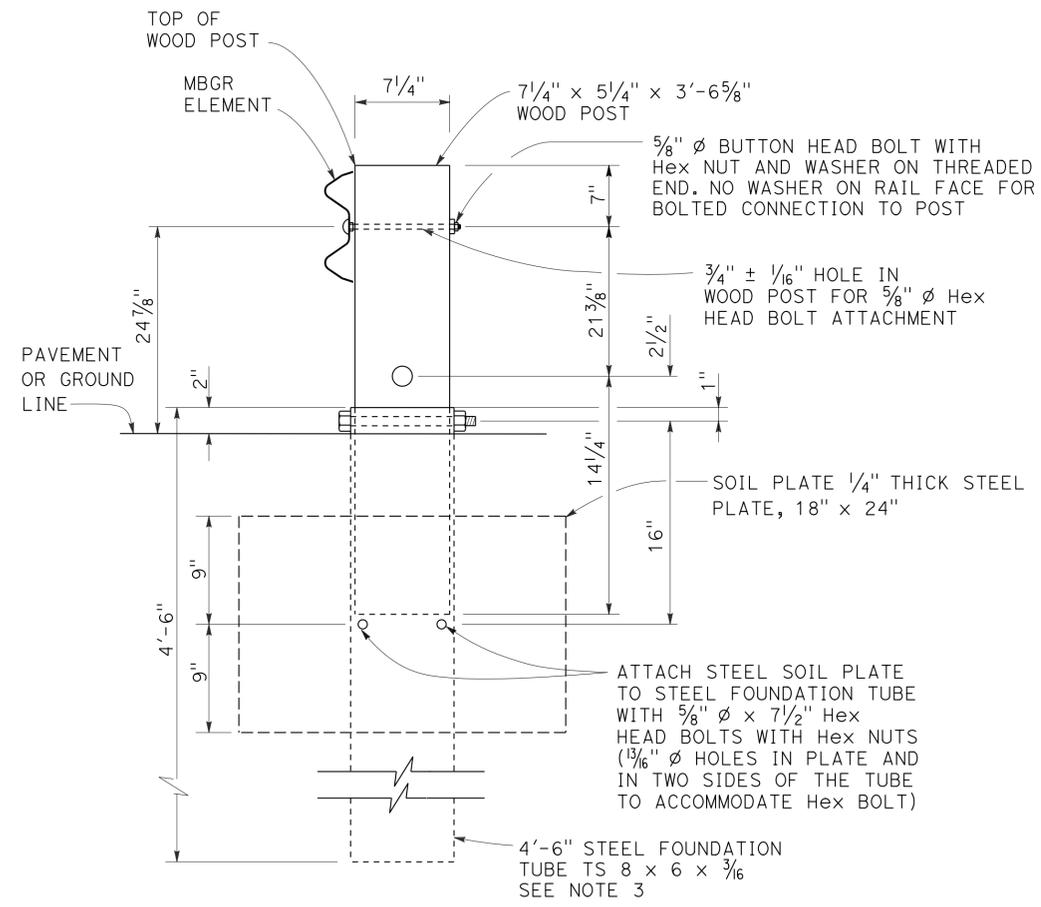
TO ACCOMPANY PLANS DATED 10-7-13



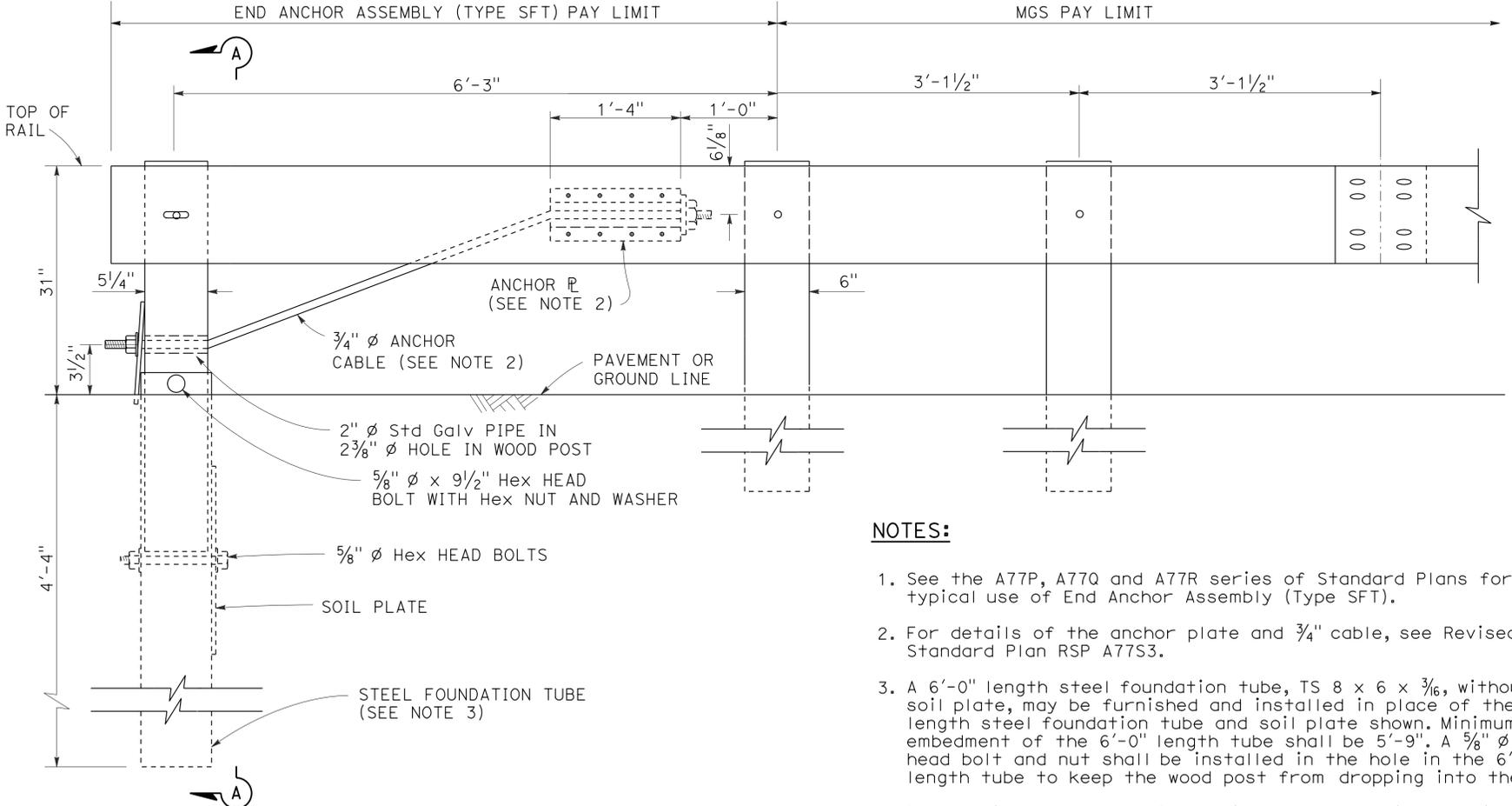
DETAIL "A"
CABLE CONNECTION
END PLATE



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
DEPARTMENT OF TRANSPORTATION

MIDWEST GUARDRAIL SYSTEM
END ANCHOR ASSEMBLY
(TYPE SFT)

NO SCALE

RSP A77S1 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

2010 REVISED STANDARD PLAN RSP A77S1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	2,5	15.1,22.5	36	87

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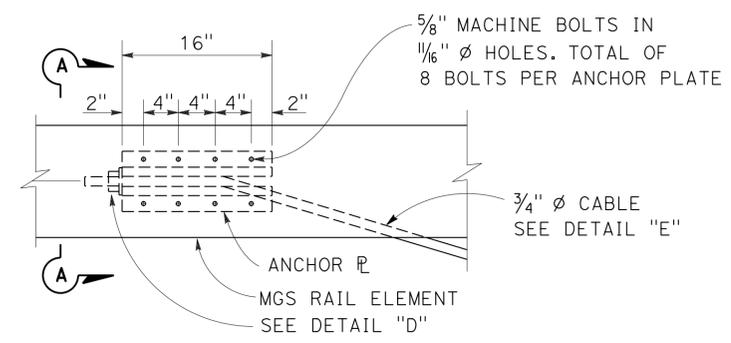
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Randell D. Hiatt
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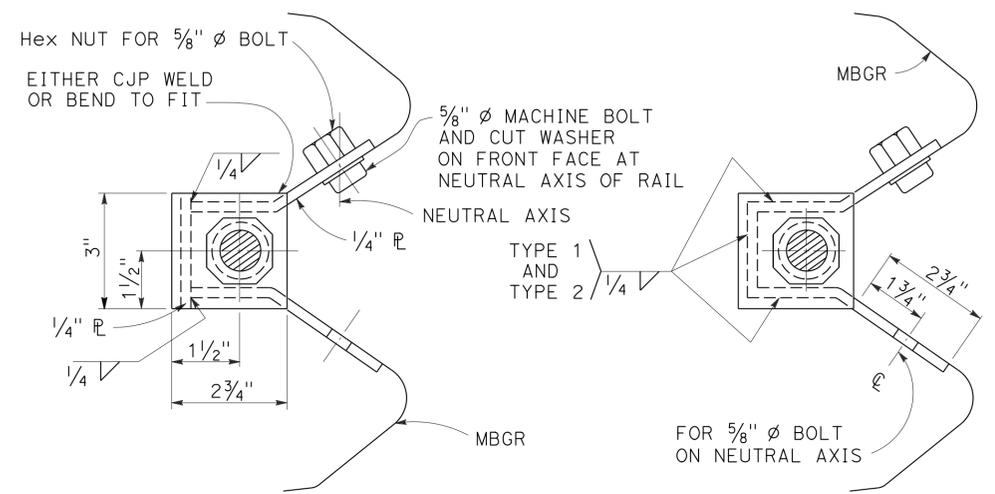
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NOTE:
See Revised Standard Plans RSP A77S1, RSP A77S2 and RSP A77T1 for typical use of anchor cable and anchor plate.

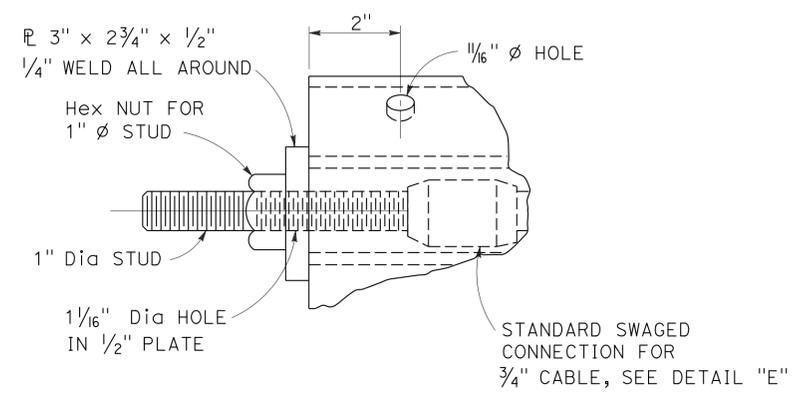


ANCHOR PLATE DETAIL
(MGS shown, TBB similar)

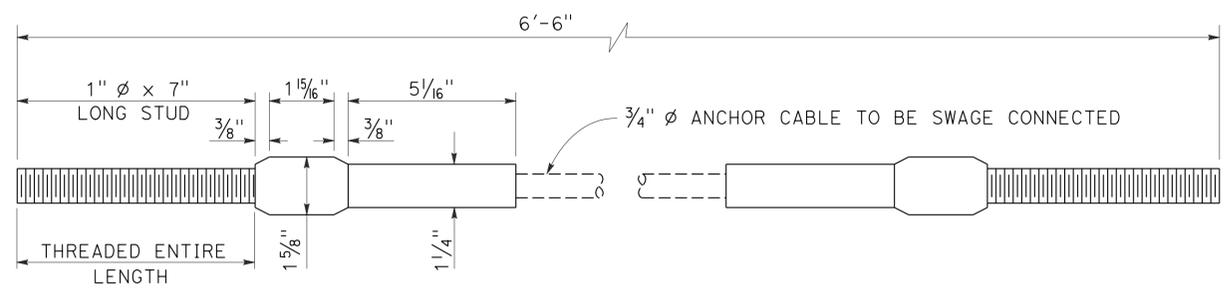


NOTE:
Dimensioning applies to both types.

SECTION A-A (ALTERNATIVE TYPE 1) **SECTION A-A (ALTERNATIVE TYPE 2)**



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

REVISED STANDARD PLAN RSP A77S3

2010 REVISED STANDARD PLAN RSP A77S3

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	2,5	15.1,22.5	37	87

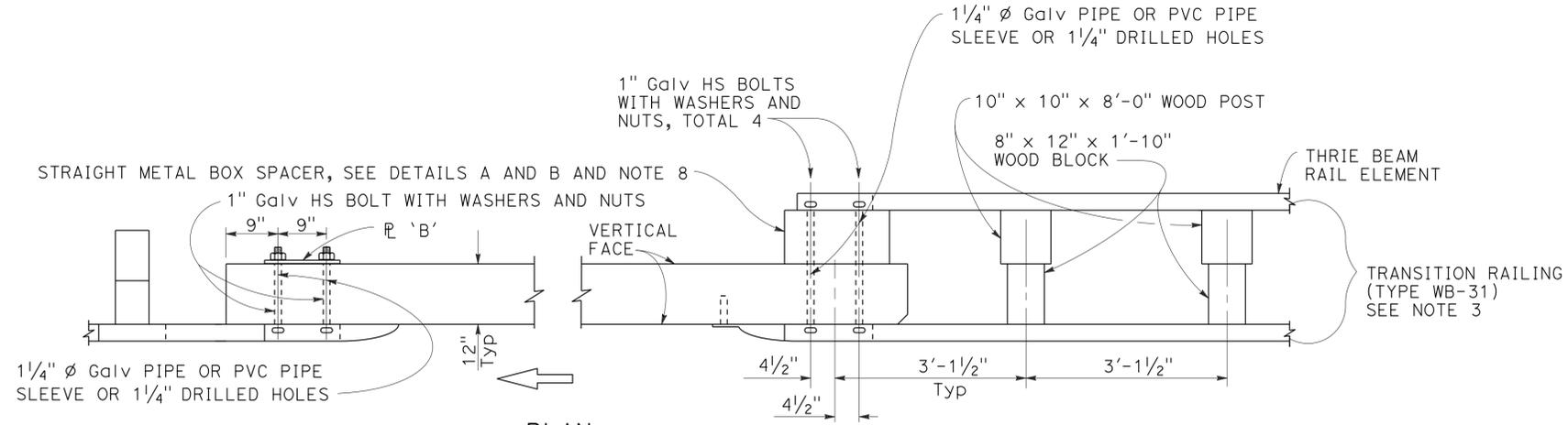
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July 19, 2013
PLANS APPROVAL DATE

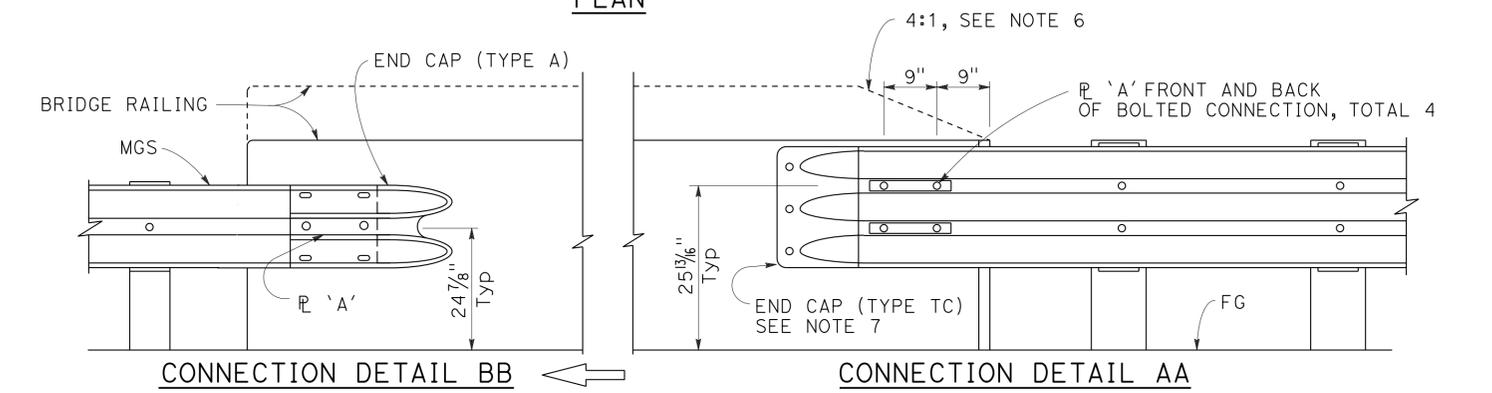
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TO ACCOMPANY PLANS DATED 10-7-13



PLAN

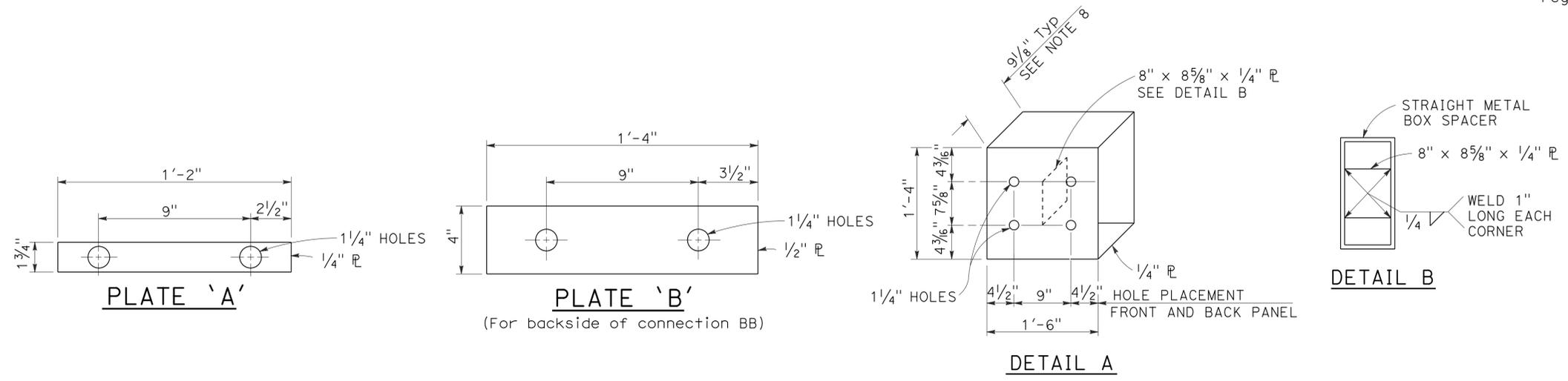


ELEVATION

MIDWEST GUARDRAIL SYSTEM CONNECTION TO BRIDGE RAILING WITHOUT SIDEWALK

NOTES:

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



STRAIGHT METAL BOX SPACER

MIDWEST GUARDRAIL SYSTEM CONNECTIONS TO BRIDGE RAILINGS WITHOUT SIDEWALKS DETAILS No. 1

NO SCALE

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

REVISED STANDARD PLAN RSP A77U1

2010 REVISED STANDARD PLAN RSP A77U1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
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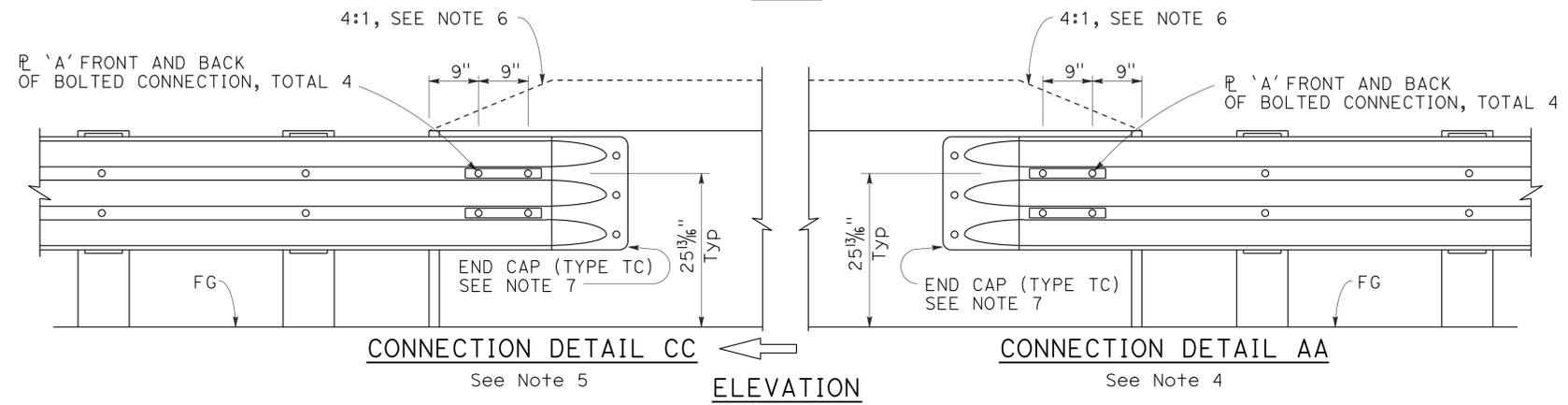
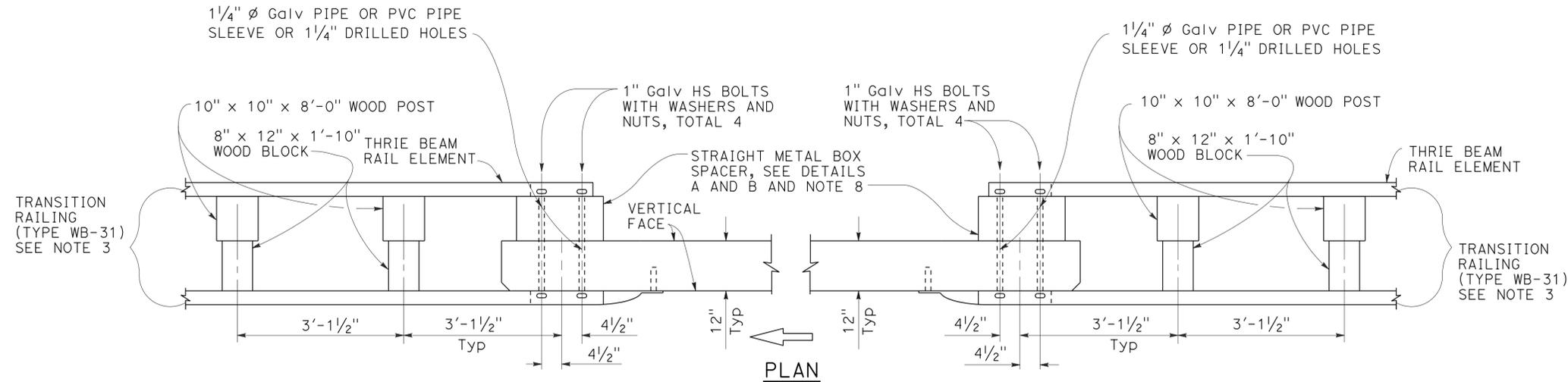
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July 19, 2013
PLANS APPROVAL DATE

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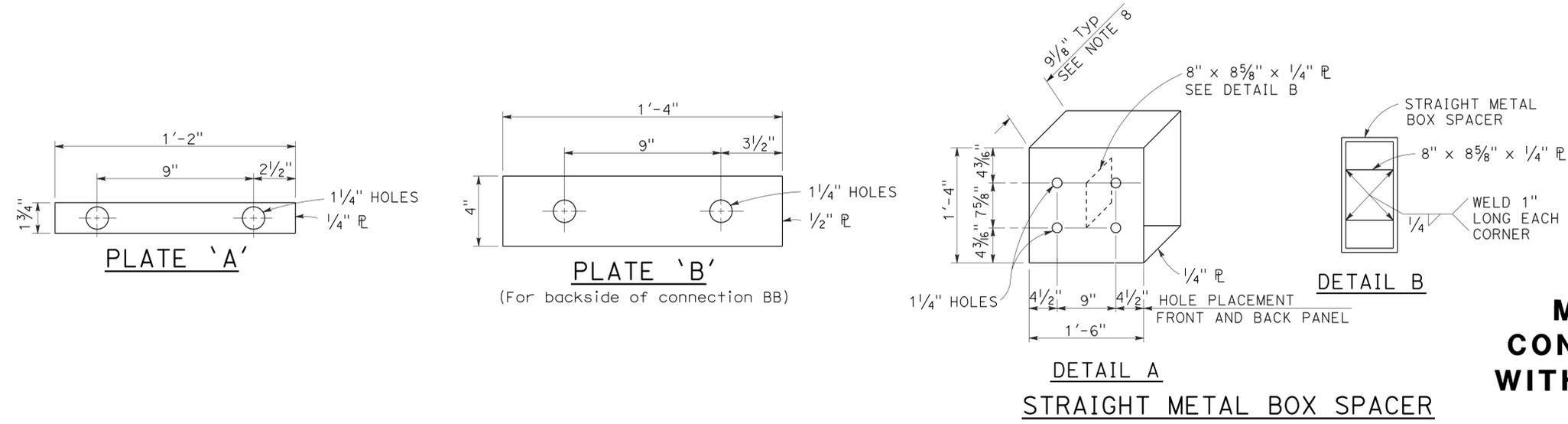
TO ACCOMPANY PLANS DATED 10-7-13



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" at Connection Detail AA and connection Detail CC, taper the top of the end of the bridge railing at 4:1 to match the top elevation of the thrie beam railing.
7. For details of End Cap (Type TC), see Revised Standard Plan RSP A77U4.
8. See Revised Standard Plan RSP A77U4 for additional details regarding depth dimension for straight metal box spacer.



STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

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

NO SCALE

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

REVISED STANDARD PLAN RSP A77U2

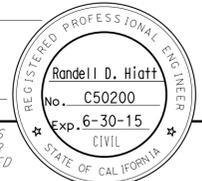
2010 REVISED STANDARD PLAN RSP A77U2

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
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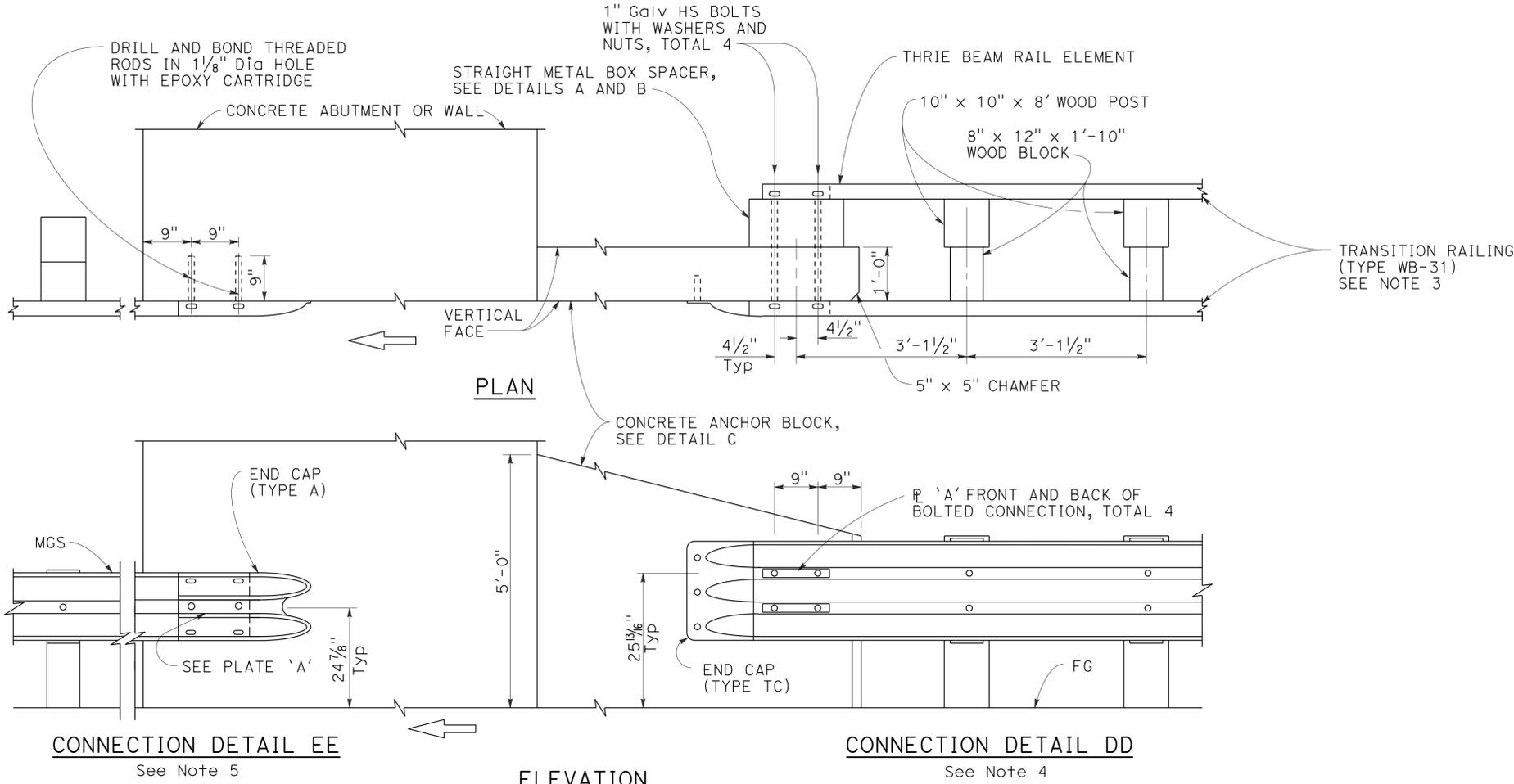
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July 19, 2013
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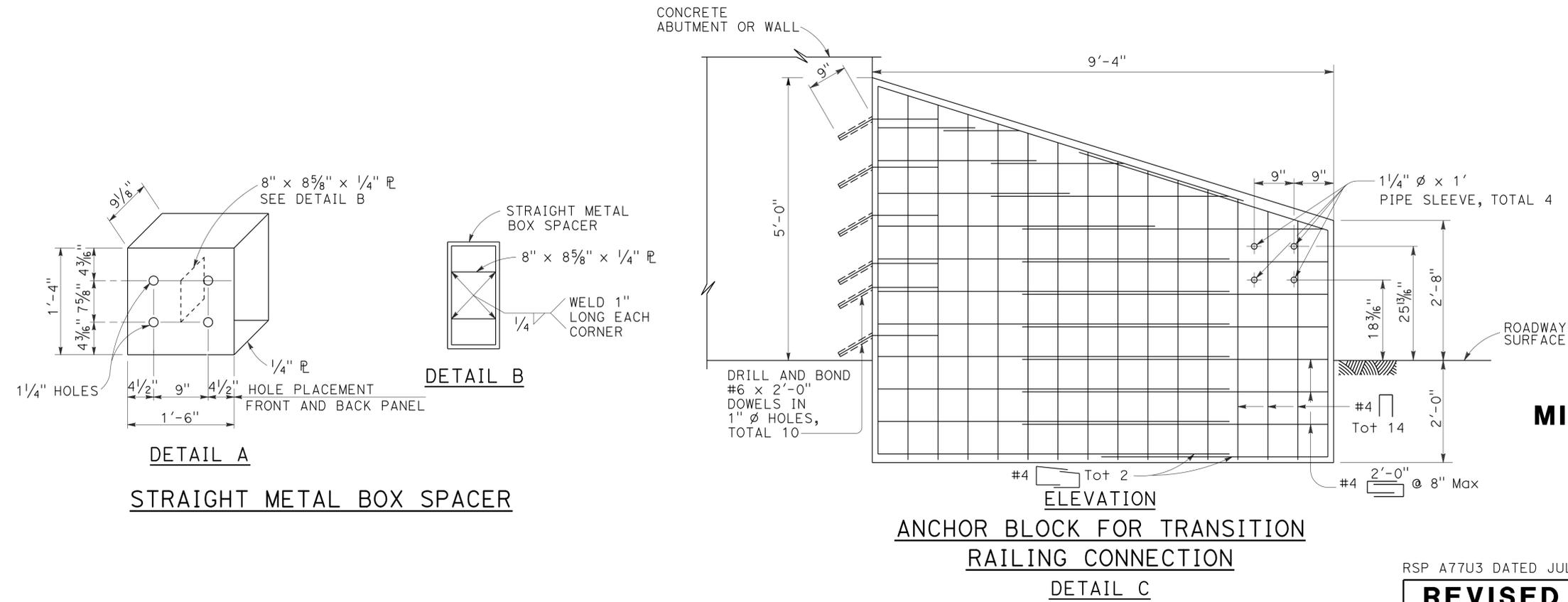
TO ACCOMPANY PLANS DATED 10-7-13



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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

NO SCALE

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

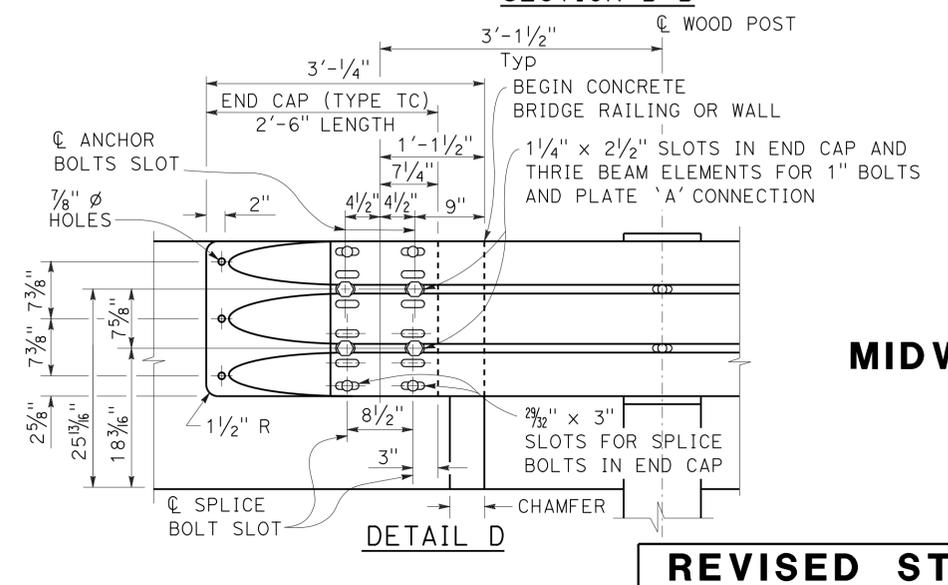
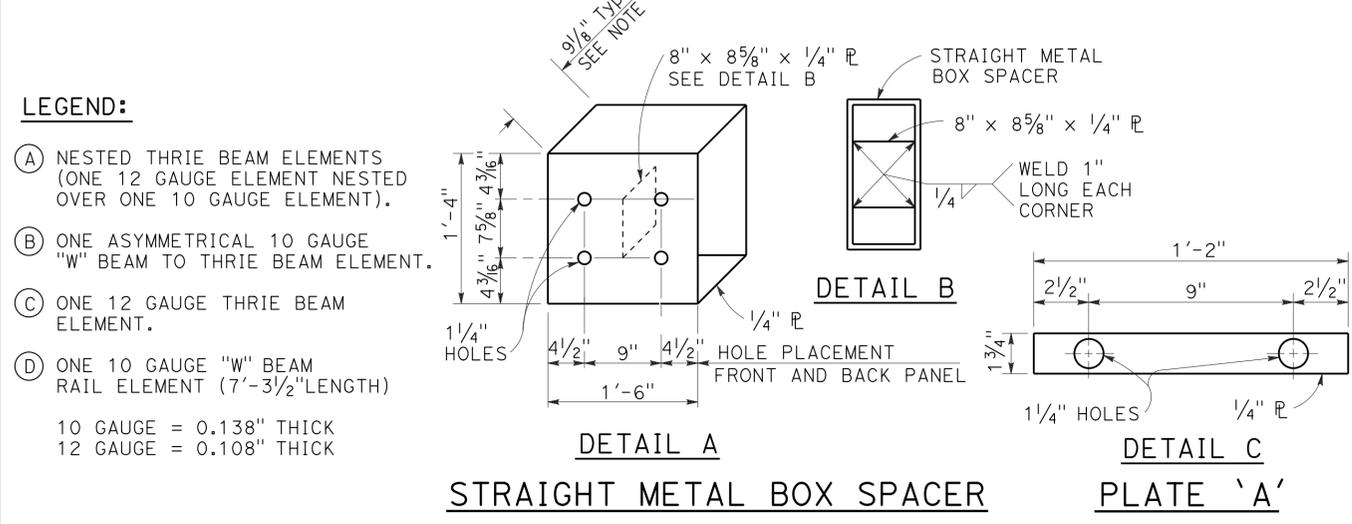
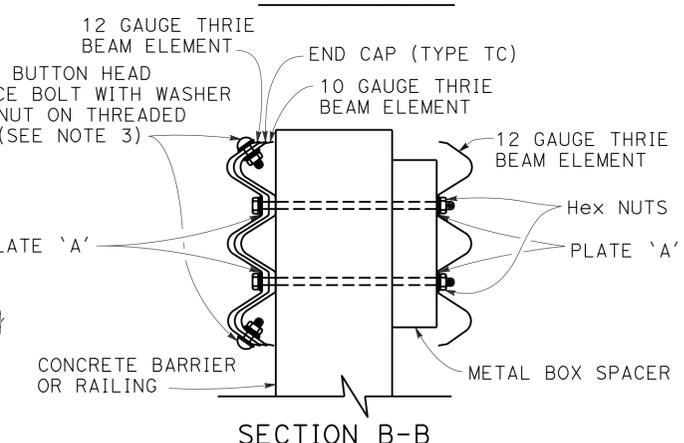
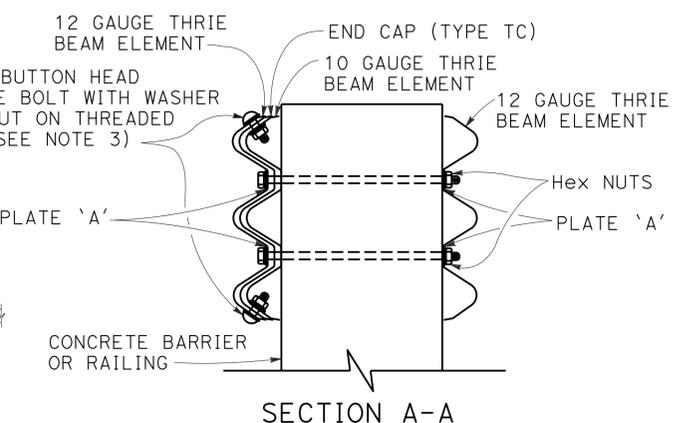
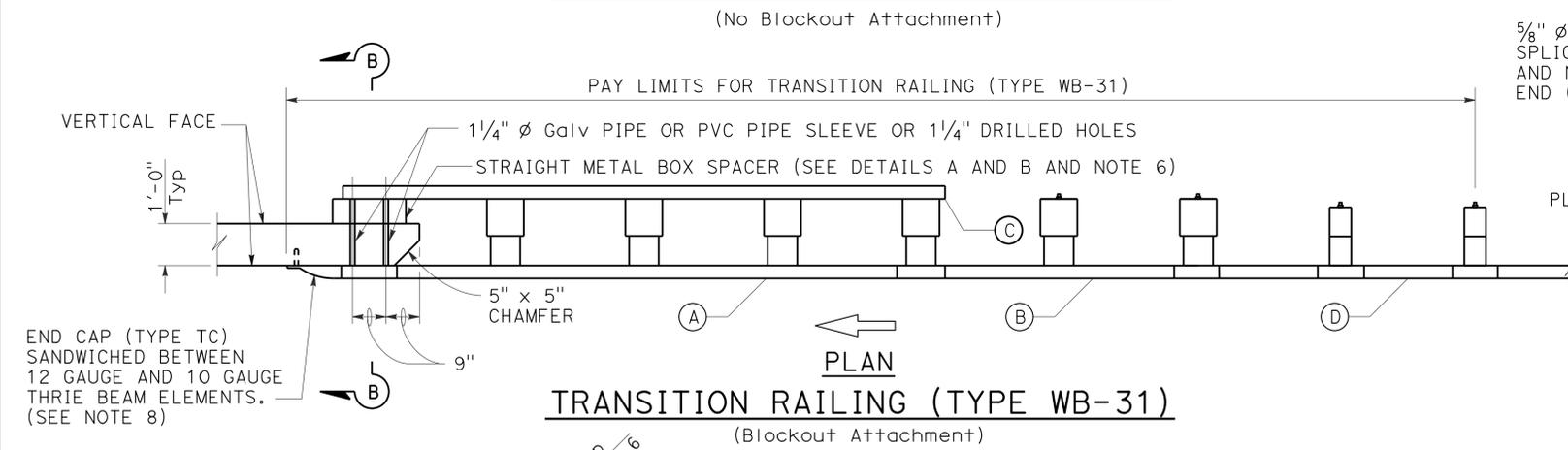
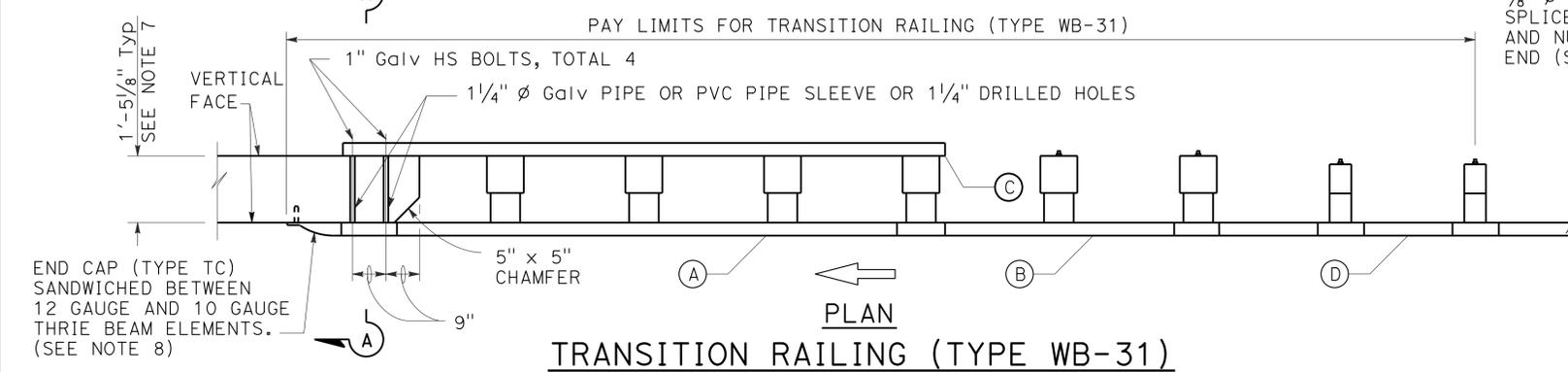
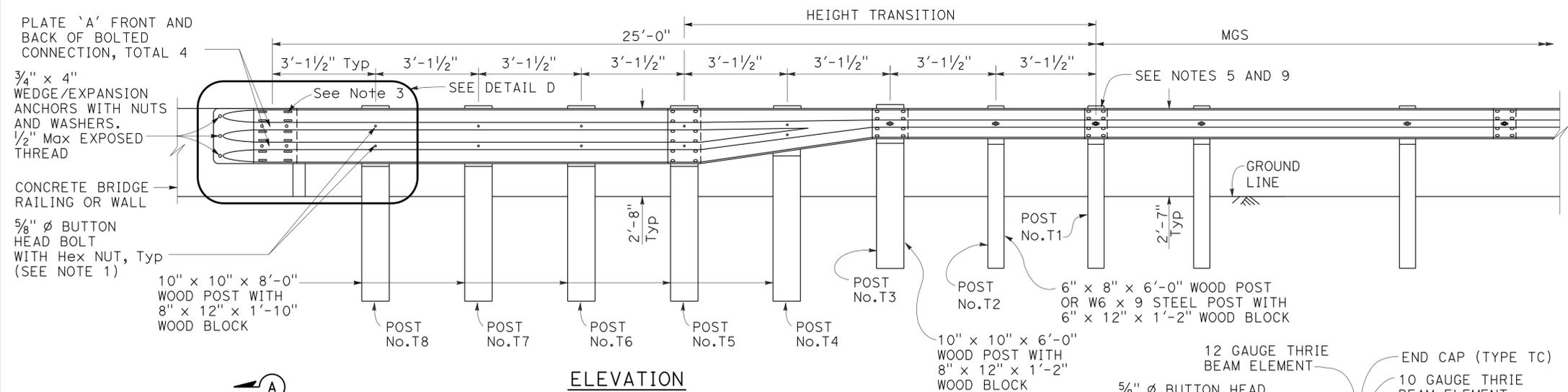
REVISED STANDARD PLAN RSP A77U3

2010 REVISED STANDARD PLAN RSP A77U3

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	2,5	15.1,22.5	40	87

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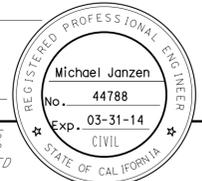
July 19, 2013
 PLANS APPROVAL DATE
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



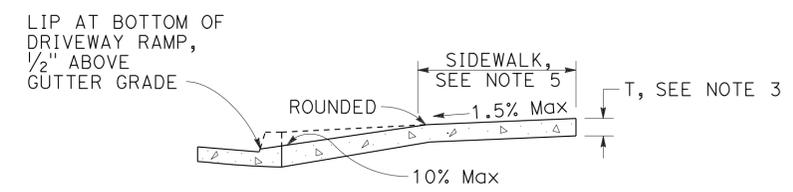
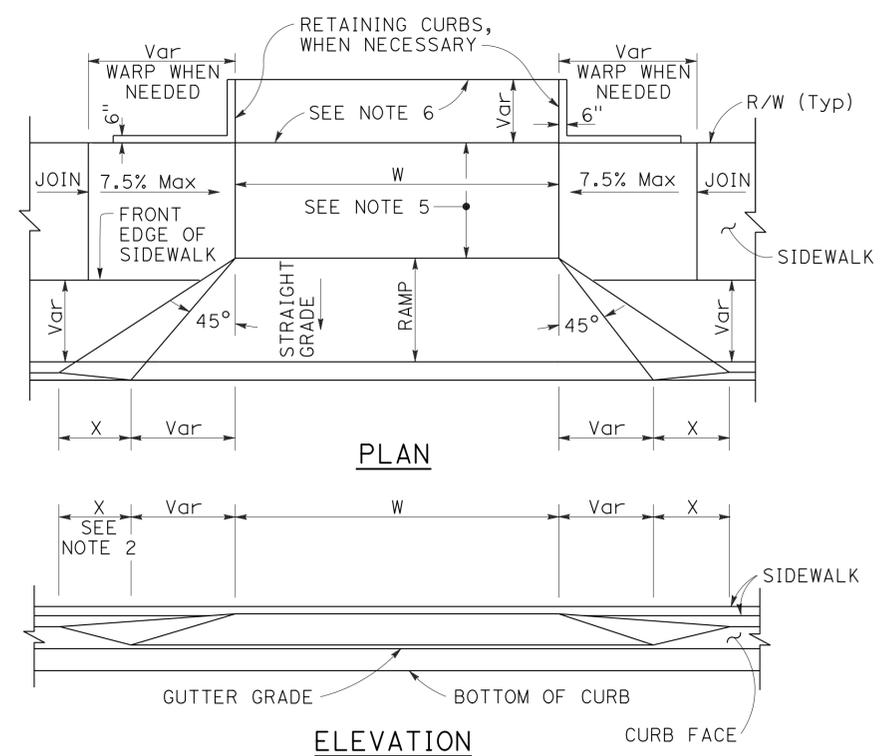
- NOTES:** TO ACCOMPANY PLANS DATED 10-7-13
- Use 5/8" ϕ Button head bolts and hex nuts for connections to posts. No washer on rail face for bolted connections to post.
 - The nested rail elements, end cap, and 'W' beam to thrie beam element may be spliced together prior to bolting the elements to the wood post and concrete barrier or railing.
 - 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" ϕ . Only the top 4 and the bottom 4 splice bolts with washers and nuts are required for rail splices at Post No. T5 and the connection to the concrete barrier or railing.
 - The top elevation of Posts No. T2 through No. T7 shall not project more than 1" above the top elevation of the rail element.
 - 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.
 - 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.
 - 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. T4 through No. T7 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.
 - 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.
 - 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 JULY 19, 2013 SUPPLEMENTS
 THE STANDARD PLANS BOOK DATED 2010.

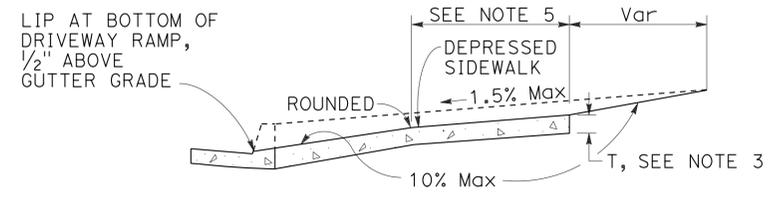
2010 REVISED STANDARD PLAN RSP A77U4



TO ACCOMPANY PLANS DATED 10-7-13



CASE A
Typical driveway, sidewalk not depressed



CASE B
Driveway with depressed sidewalk

SECTIONS

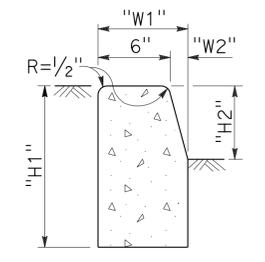
TABLE A

CURB TYPE	DIMENSIONS			
	"H1"	"H2"	"W1"	"W2"
A1-6	1'-2"	6"	7 1/2"	1 1/2"
A1-8	1'-4"	8"	8"	2"
A2-6	1'-0"	6"	2'-7 1/2"	1 1/2"
A2-8	1'-2"	8"	2'-8"	2"
A3-6	6"	5"	7 1/4"	1 1/4"
A3-8	8"	7"	7 3/4"	1 3/4"
B1-4	1'-0"	4"	7 1/2"	2 1/2"
B1-6	1'-2"	6"	9"	4"
B2-4	10"	4"	2'-7 1/2"	2 1/2"
B2-6	1'-0"	6"	2'-9"	4"
B3-4	4"	3"	7"	2"
B3-6	6"	5"	8 1/2"	3 1/2"
D-4	10"	4"	1'-6"	1'-1"
D-6	1'-0"	6"	2'-2"	1'-9"

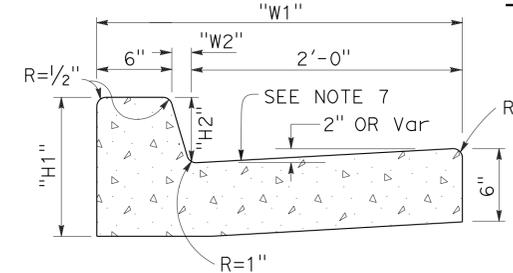
CURB QUANTITIES

TYPE	CUBIC YARDS PER LINEAR FOOT
A1-6	0.02585
A1-8	0.03084
A2-6	0.05903
A2-8	0.06379
A3-6	0.01036
A3-8	0.01435
B1-4	0.02185
B1-6	0.02930
B2-4	0.05515
B2-6	0.06171
B3-4	0.00641
B3-6	0.01074
B4	0.05709
D-4	0.04083
D-6	0.06804
E	0.06661

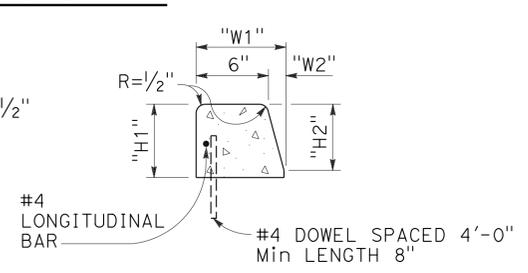
DRIVEWAYS



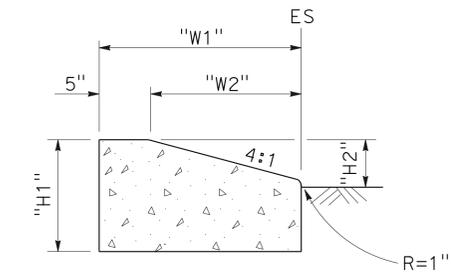
TYPE A1 CURBS
See Table A



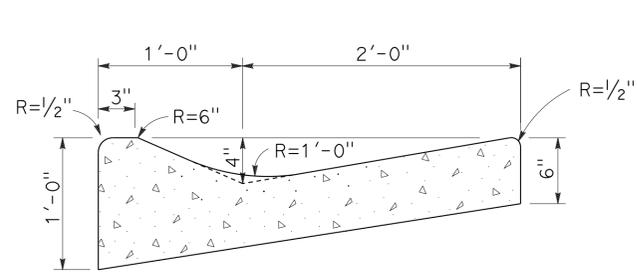
TYPE A2 CURBS
See Table A



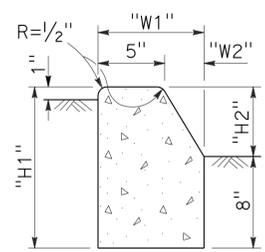
TYPE A3 CURBS
Superimposed on existing pavement
See Table A



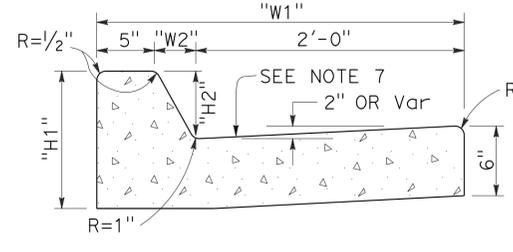
TYPE D CURBS
See Table A



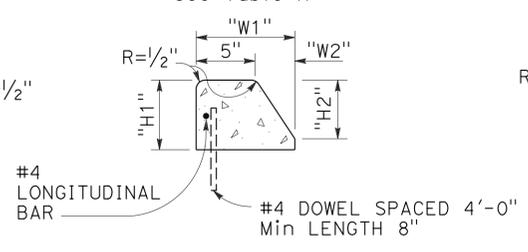
TYPE E CURB



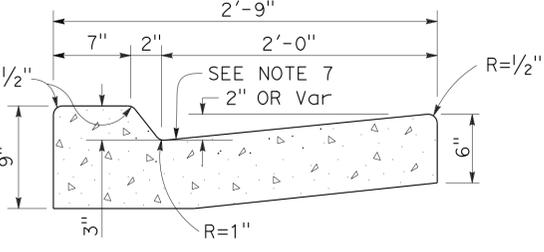
TYPE B1 CURBS
See Table A



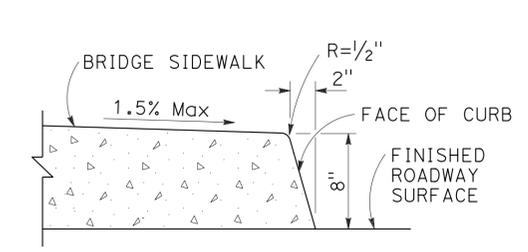
TYPE B2 CURBS
See Table A



TYPE B3 CURBS
Superimposed on existing pavement
See Table A



TYPE B4 CURBS



TYPE H CURB
On Bridges

CURBS

- NOTES:**
- Case A driveway section typically applies.
 - X=3'-0" except for curb heights over 10" where 4:1 slopes shall be used on curb slope.
 - Sidewalk and ramp thickness "T" at driveway shall be 4" for residential and 6" for commercial.
 - Difference in slope of the driveway ramp and the slope of a line between the gutter and a point on the roadway 5'-0" from gutter line shall not exceed 15%. Reduce driveway ramp slope, not gutter slope, where required.
 - Minimum width of clear passageway for sidewalk shall be 4'-2".
 - Retaining curbs and acquisition of construction easement may be necessary for narrow sidewalks or curb heights in excess of 6".
 - Across the pedestrian route at curb ramp locations, the gutter pan slope shall not exceed 1" of depth for each 2'-0" of width.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CURBS AND DRIVEWAYS

NO SCALE

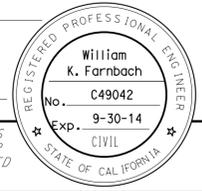
RSP A87A DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN A87A DATED MAY 20, 2011 - PAGE 119 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A87A

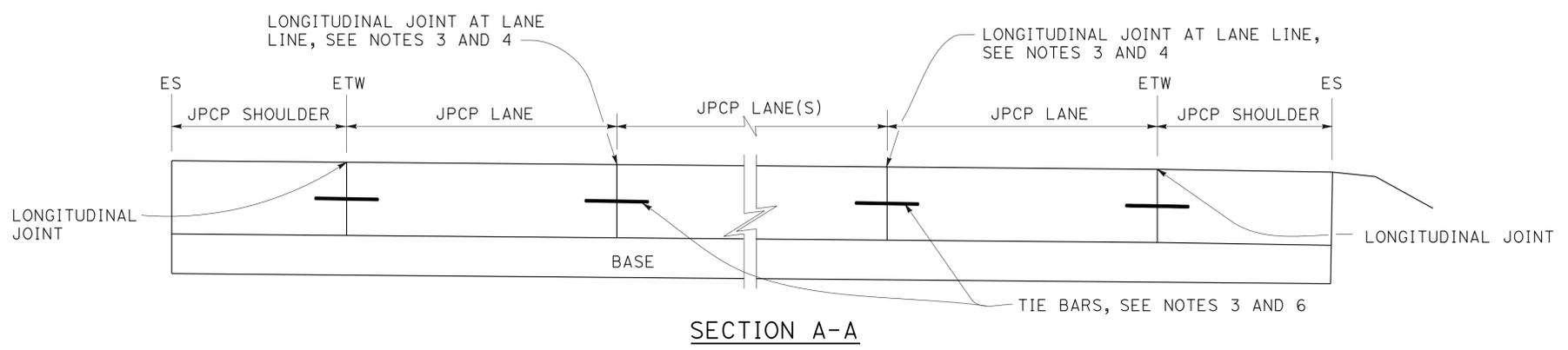
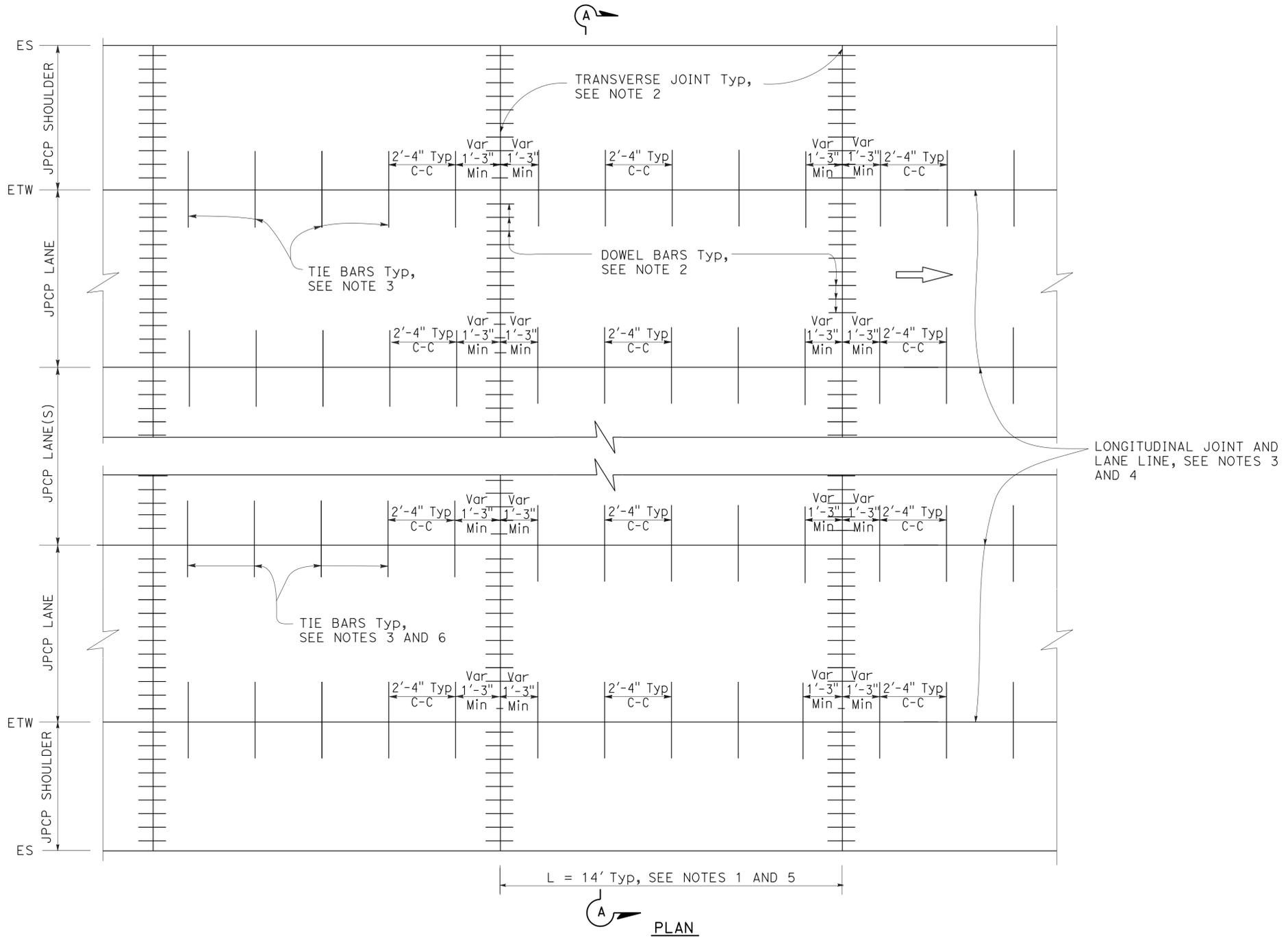
2010 REVISED STANDARD PLAN RSP A87A

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	2,5	15.1,22.5	42	87

William K. Farnbach
 REGISTERED CIVIL ENGINEER
 July 19, 2013
 PLANS APPROVAL DATE
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TO ACCOMPANY PLANS DATED 10-7-13



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.

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

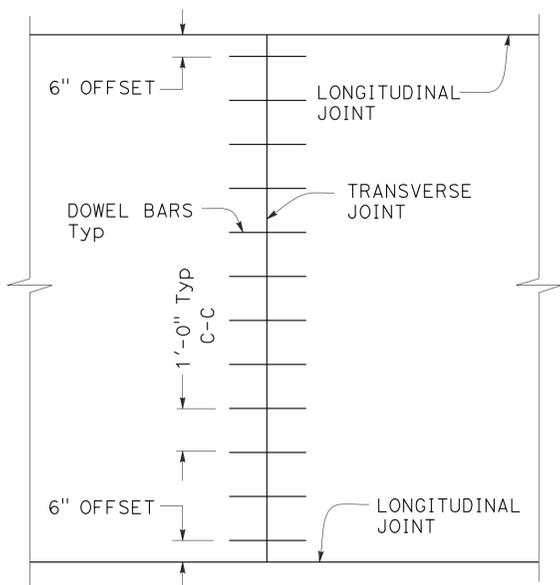
RSP P1 DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN P1 DATED MAY 20, 2011 - PAGE 125 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP P1

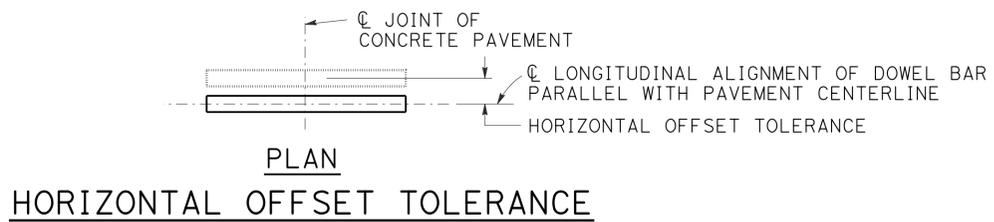
2010 REVISED STANDARD PLAN RSP P1

TO ACCOMPANY PLANS DATED 10-7-13

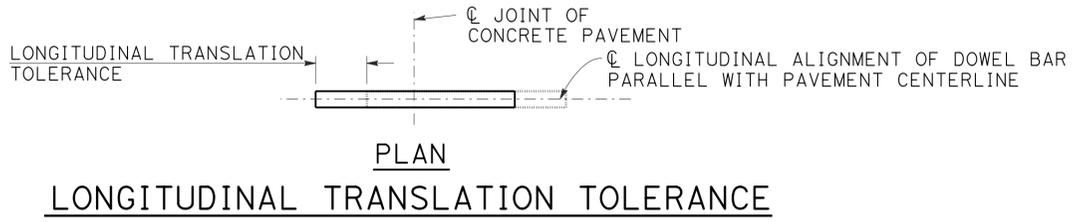
- NOTES:**
- See Revised Standard Plan RSP P1 for typical dowel bar placement and locations.
 - Where fresh concrete pavement is placed against new concrete or existing concrete pavement, rounding the corner of the existing concrete pavement is not required.
 - May also use 3/4" Dia dowel bars 2'-4"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



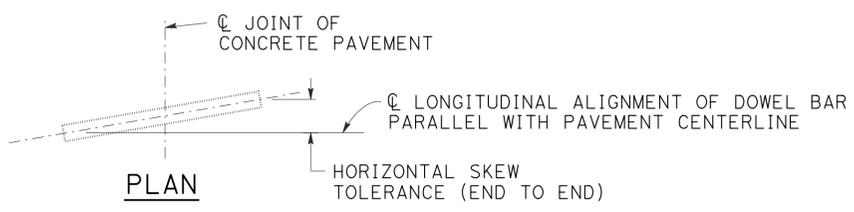
**TRANSVERSE JOINT
DOWEL BAR LAYOUT**



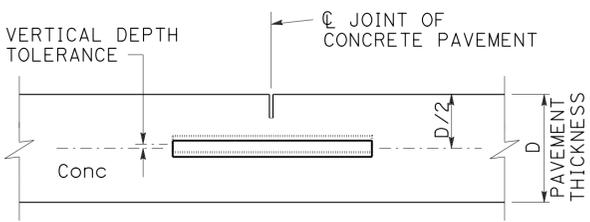
**PLAN
HORIZONTAL OFFSET TOLERANCE**



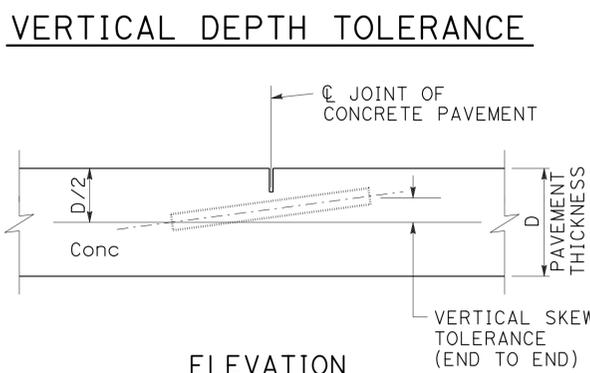
**PLAN
LONGITUDINAL TRANSLATION TOLERANCE**



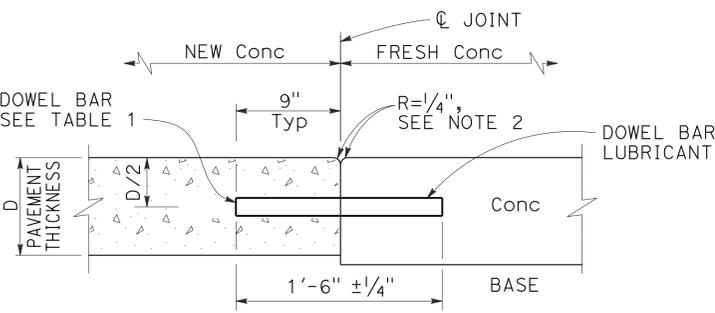
**PLAN
HORIZONTAL SKEW TOLERANCE**



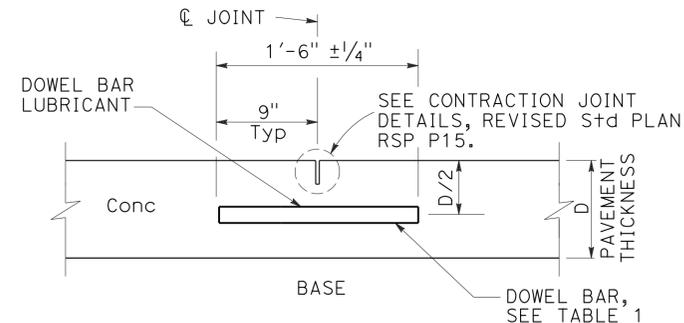
**ELEVATION
VERTICAL DEPTH TOLERANCE**



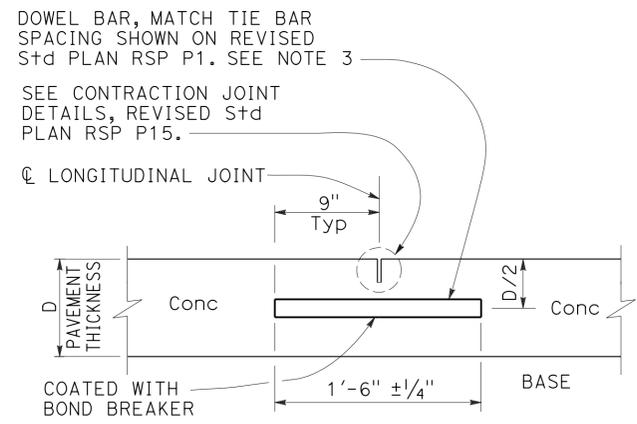
**ELEVATION
VERTICAL SKEW TOLERANCE**



**TRANSVERSE
CONSTRUCTION JOINT DETAIL**



TRANSVERSE CONTRACTION JOINT



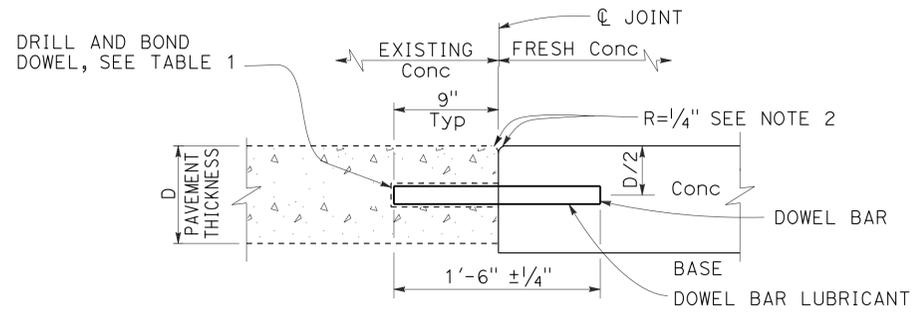
**LONGITUDINAL CONTRACTION
JOINT WITH DOWEL BARS**

See Revised Std Plan RSP P18

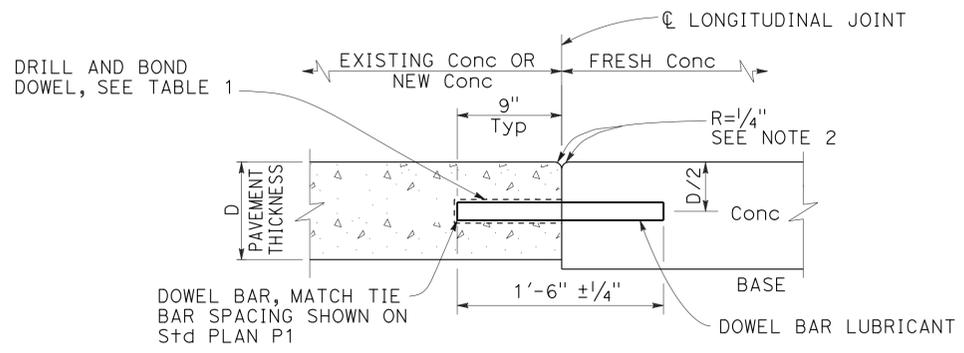
**TABLE 1
DOWEL BAR DIAMETER TABLE**

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**CONCRETE PAVEMENT
DOWEL BAR
DETAILS**

NO SCALE

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.

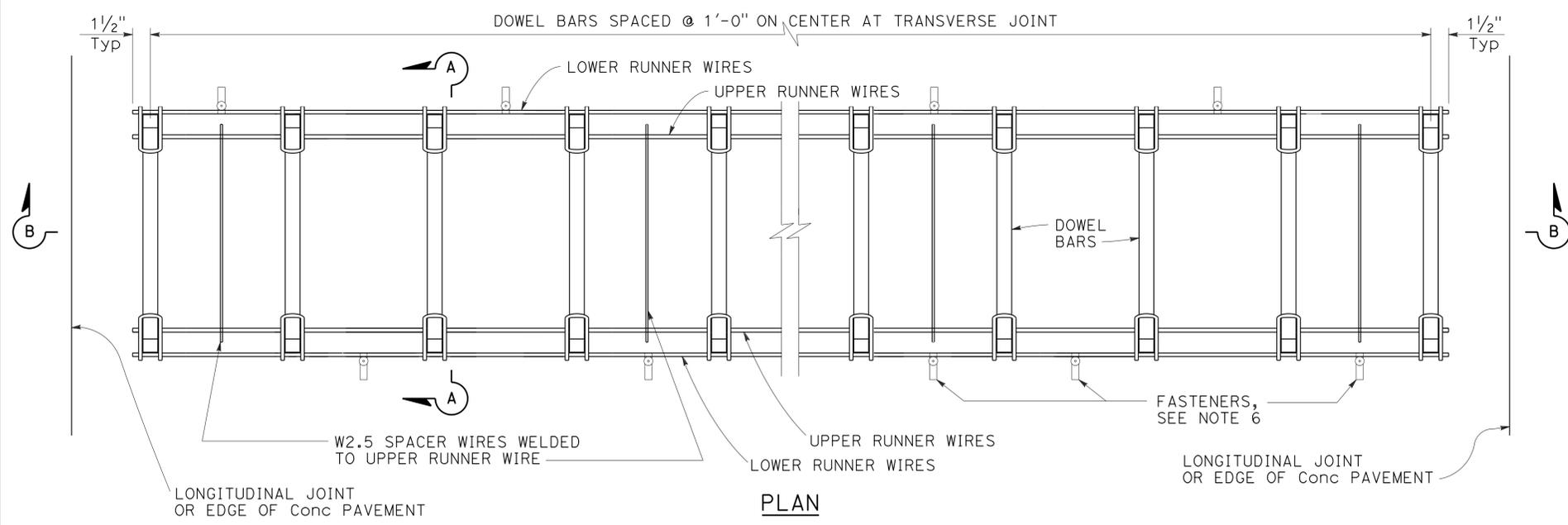
2010 REVISED STANDARD PLAN RSP P10

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	2,5	15.1,22.5	44	87

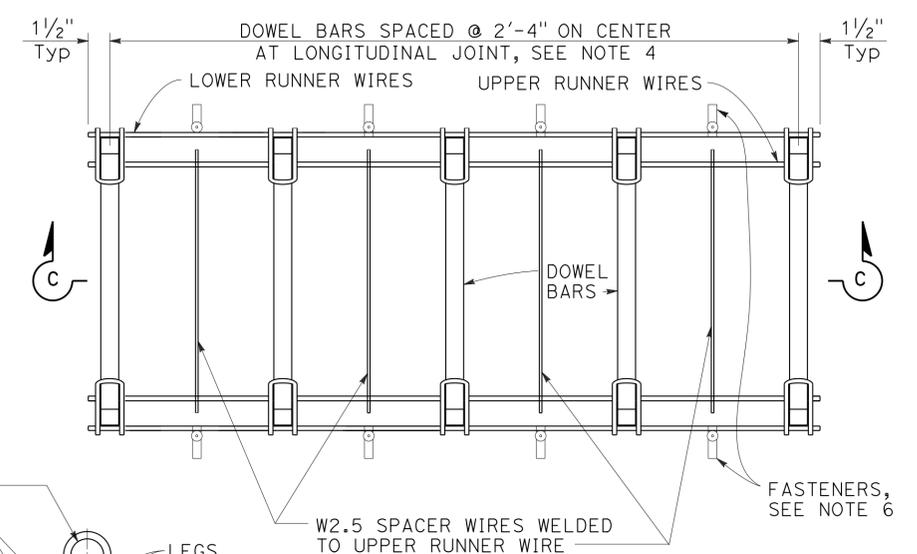
William K. Farnbach
 REGISTERED CIVIL ENGINEER
 July 19, 2013
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REGISTERED PROFESSIONAL ENGINEER
 William K. Farnbach
 No. C49042
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 STATE OF CALIFORNIA

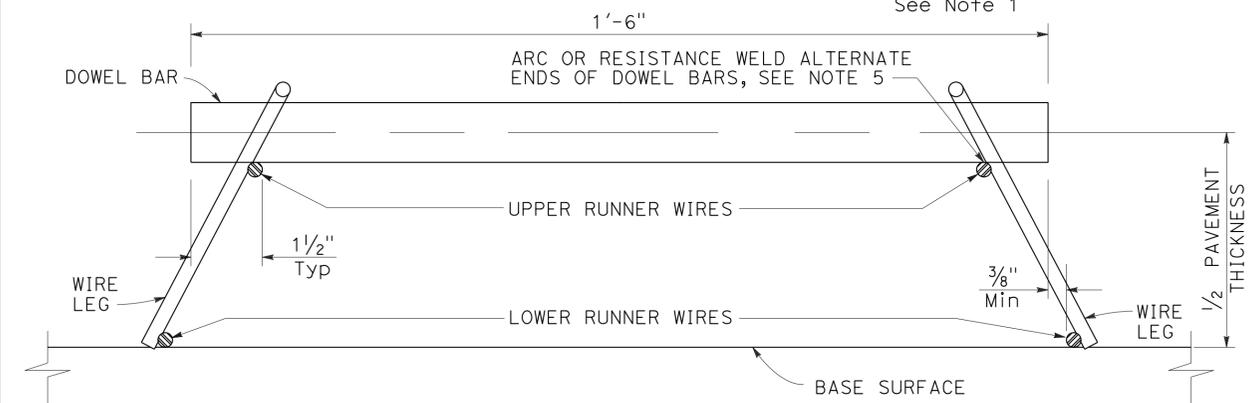
TO ACCOMPANY PLANS DATED 10-7-13



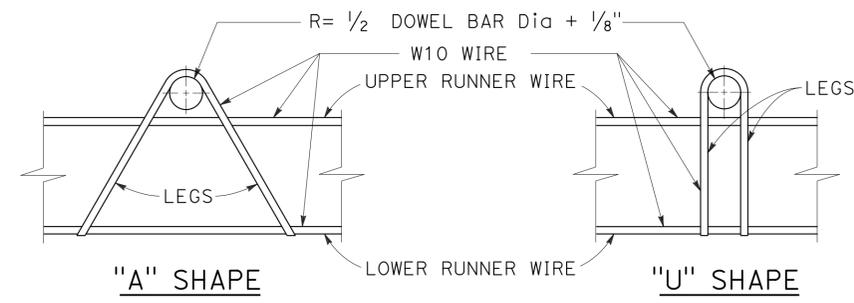
PLAN
DOWEL BAR BASKET
(TRANSVERSE JOINT)



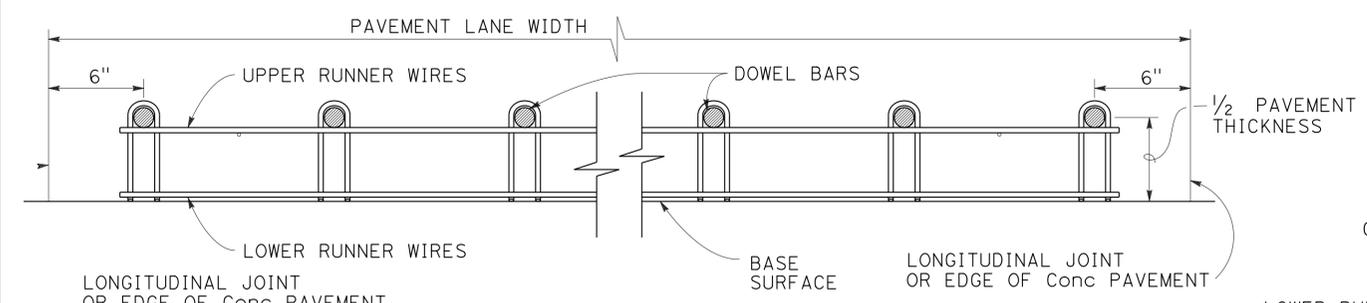
PLAN
DOWEL BAR BASKET
(LONGITUDINAL JOINT)



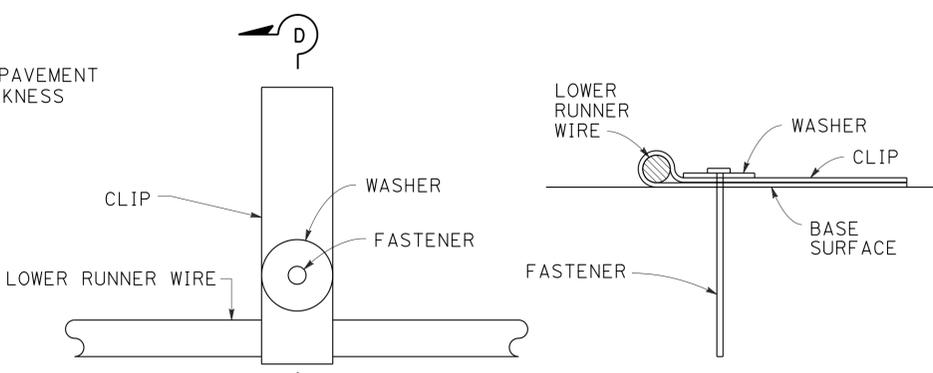
SECTION A-A



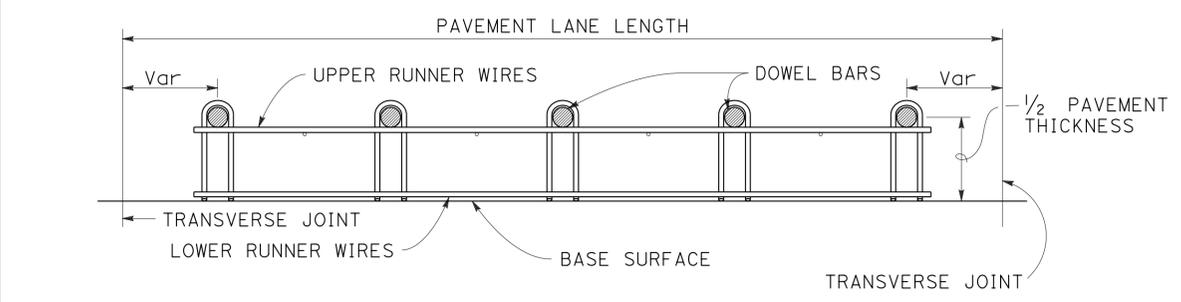
ASSEMBLY FRAME DETAILS



SECTION B-B



FASTENER DETAIL
See Note 6



SECTION C-C
See Notes 1 and 4

NOTES:

- "U" frame shape assembly shown. Use either "U" frame shape or "A" frame shape.
- Wire sizes shown are the minimum required.
- All wire intersections must be resistance welded.
- Use tie bar spacing for longitudinal dowel bar locations. See Revised Standard Plans RSP P1, RSP P2, RSP P3A, and RSP P3B for tie bar requirements.
- Weld may be at the top or bottom of the dowel bar.
- Use anchor pins where soil or granular base is used. See Revised Standard Plan RSP P17 for Anchor Pin Detail.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
CONCRETE PAVEMENT
DOWEL BAR BASKET
DETAILS
NO SCALE

RSP P12 DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN P12
DATED MAY 20, 2011 - PAGE 132 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP P12

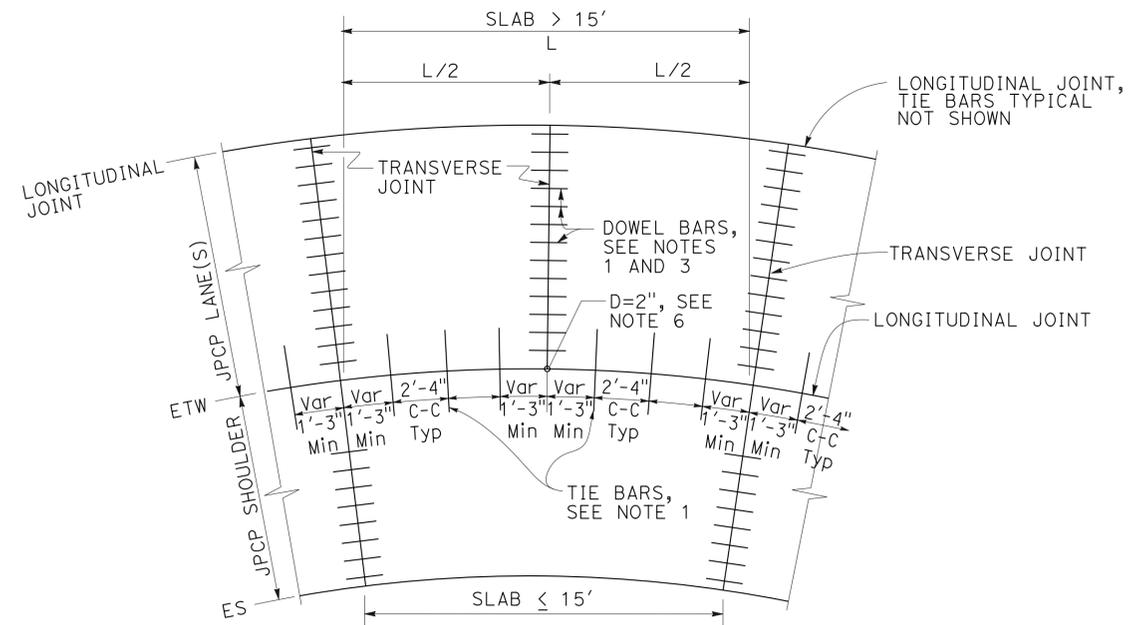
2010 REVISED STANDARD PLAN RSP P12

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
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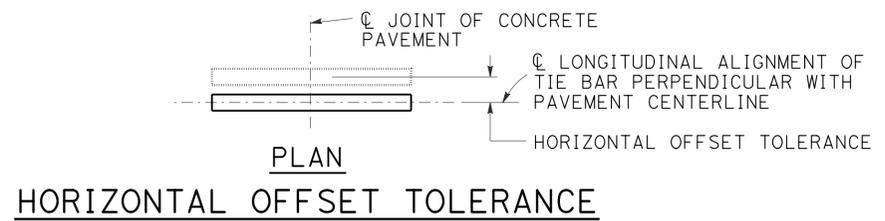
William K. Farnbach
 REGISTERED CIVIL ENGINEER
 July 19, 2013
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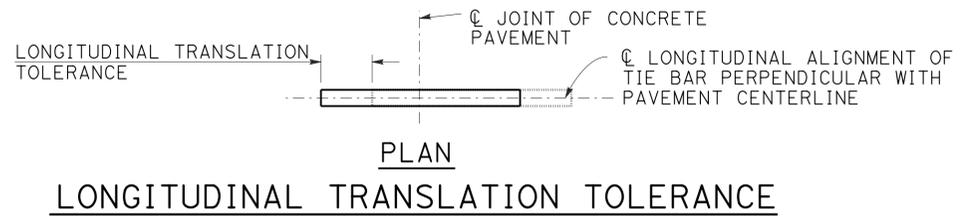
TO ACCOMPANY PLANS DATED 10-7-13



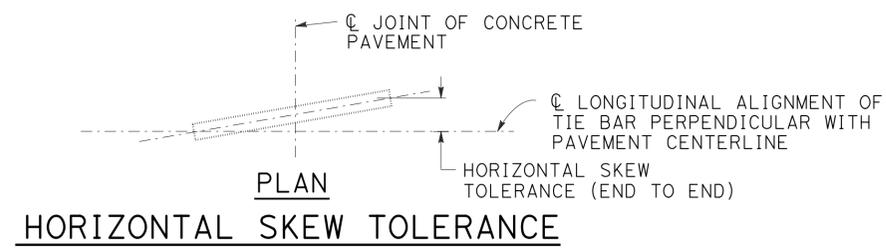
TIE BAR LAYOUT IN CURVED LANES



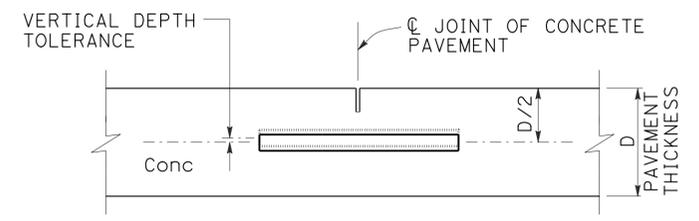
HORIZONTAL OFFSET TOLERANCE



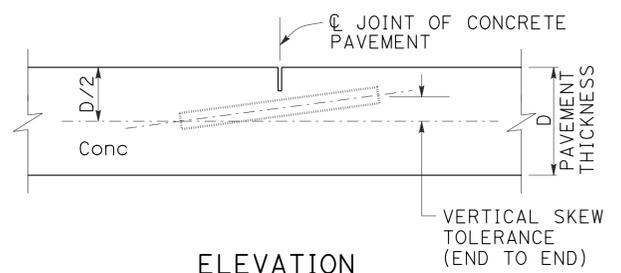
LONGITUDINAL TRANSLATION TOLERANCE



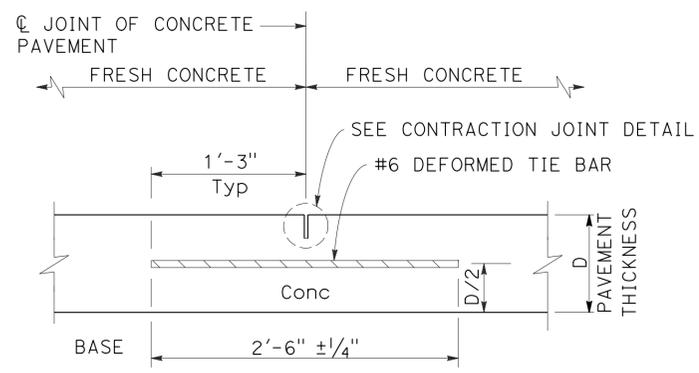
HORIZONTAL SKEW TOLERANCE



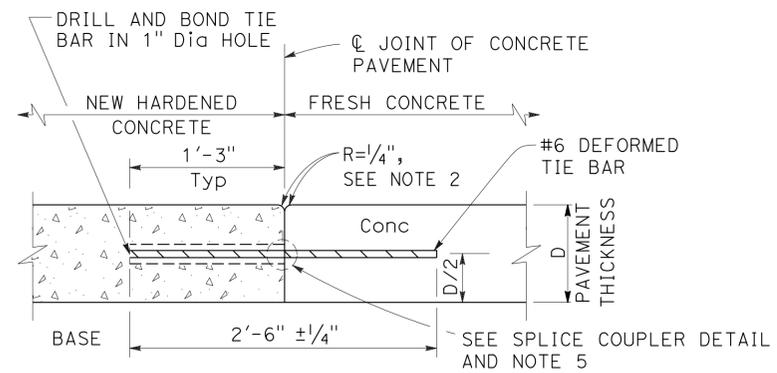
ELEVATION VERTICAL DEPTH TOLERANCE



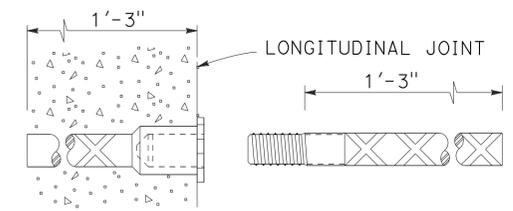
ELEVATION VERTICAL SKEW TOLERANCE



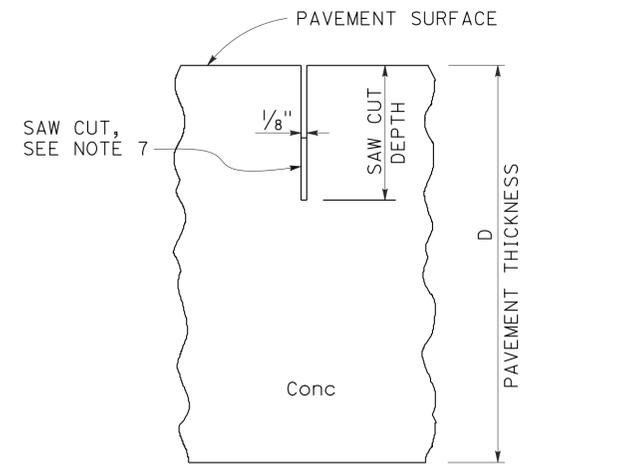
LONGITUDINAL CONTRACTION JOINT



LONGITUDINAL CONSTRUCTION JOINT



ALTERNATIVE SPLICE COUPLER



CONTRACTION JOINT DETAIL

- NOTES:**
1. See Revised Standard Plan RSP P1 for typical dowel bar and tie bar placement and locations.
 2. Where new pavement is placed against existing concrete pavement, rounding the corner is not required.
 3. For dowel bar sizes, See Revised Standard Plan RSP P10.
 4. Tie bar details apply to inside widenings.
 5. Use either drill and bond or splice couplers.
 6. Full depth drilled hole. Fill hole with filler material.
 7. The bottom of the saw cut must be at least 0.5" clear of any dowel bar, tie bar and bar reinforcement.

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
CONCRETE PAVEMENT-TIE BAR DETAILS
 NO SCALE

RSP P15 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP P15

2010 REVISED STANDARD PLAN RSP P15

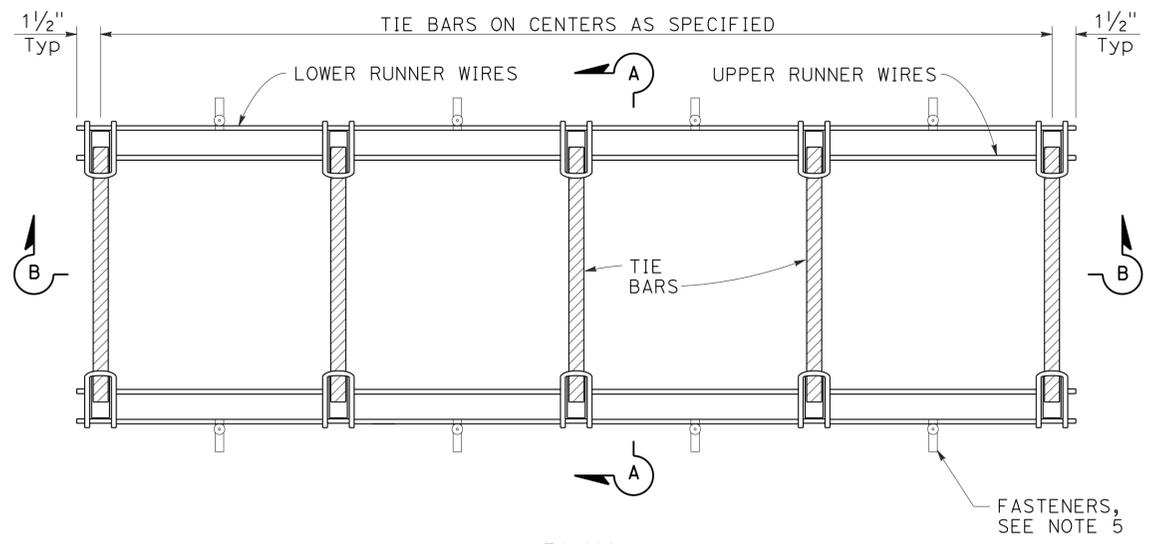
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	2,5	15.1,22.5	46	87

William K. Farnbach
 REGISTERED CIVIL ENGINEER
 July 19, 2013
 PLANS APPROVAL DATE
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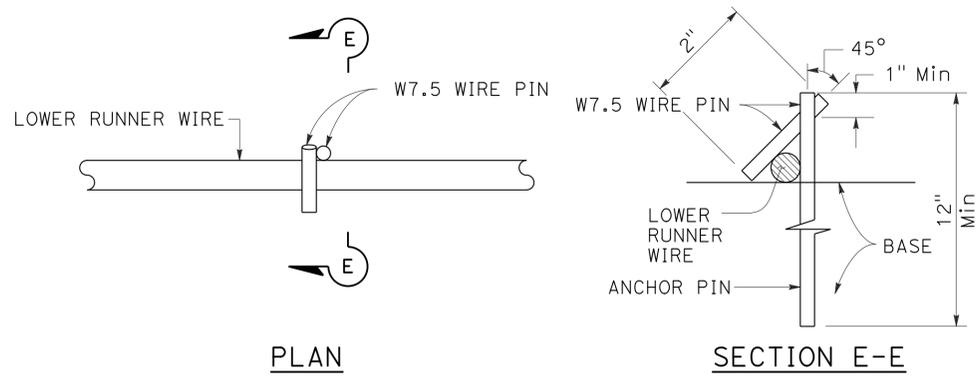
TO ACCOMPANY PLANS DATED 10-7-13

NOTES:

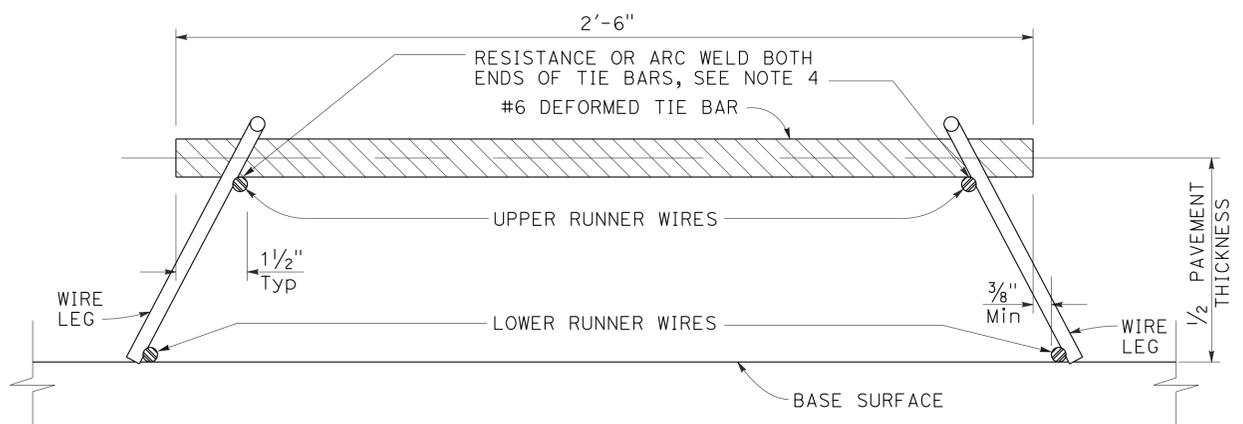
- "U" frame shape assembly shown. Use either "U" frame shape or "A" frame shape.
- Wire sizes shown are the minimum required.
- All wire intersections must be resistance welded.
- Weld may be at top or bottom of tie bars.
- Use anchor pins where soil or granular base is used.



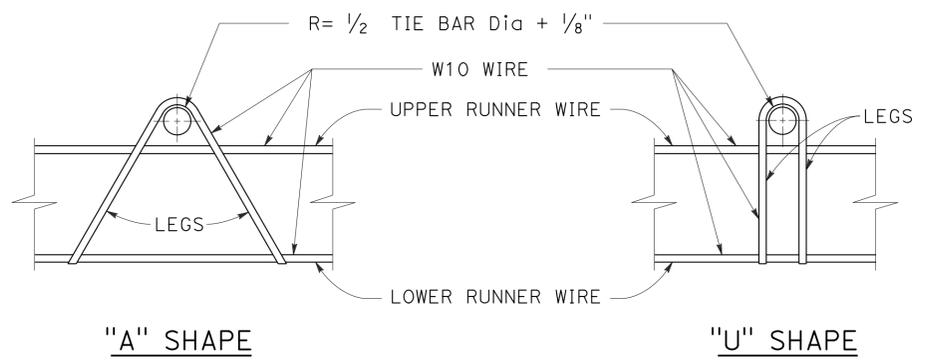
PLAN TIE BAR BASKET
(Tie bars at longitudinal joint)
See Note 1



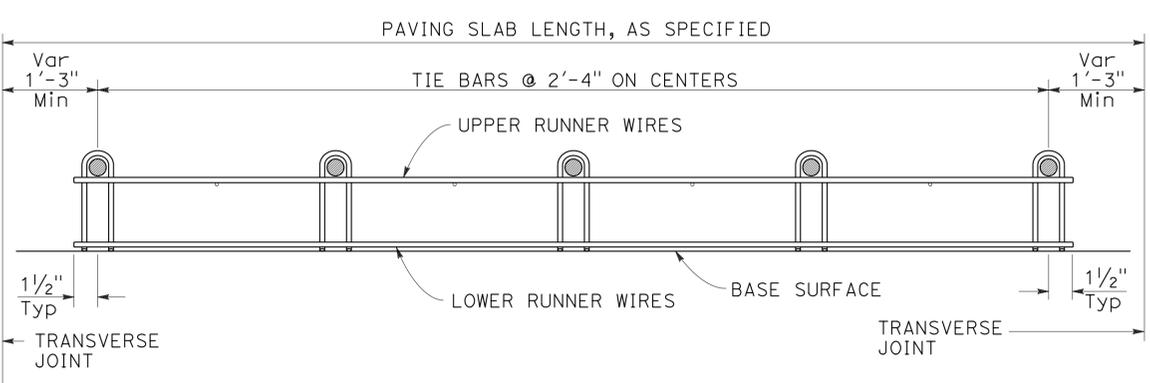
ANCHOR PIN DETAIL
See Note 5



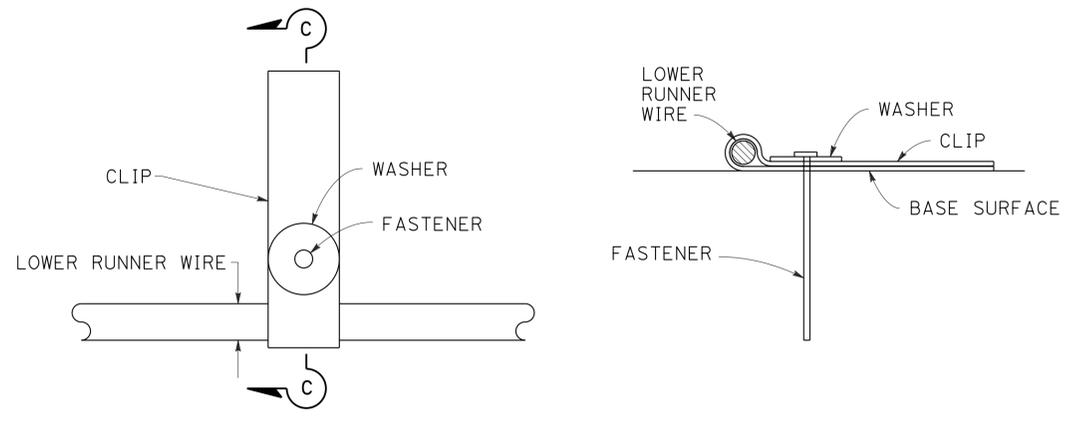
SECTION A-A



ASSEMBLY FRAME DETAILS
See Note 1



SECTION B-B
See Note 1



FASTENER DETAIL

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
CONCRETE PAVEMENT TIE BAR BASKET DETAILS
NO SCALE

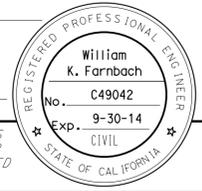
RSP P17 DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN P17 DATED MAY 20, 2011 - PAGE 134 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP P17

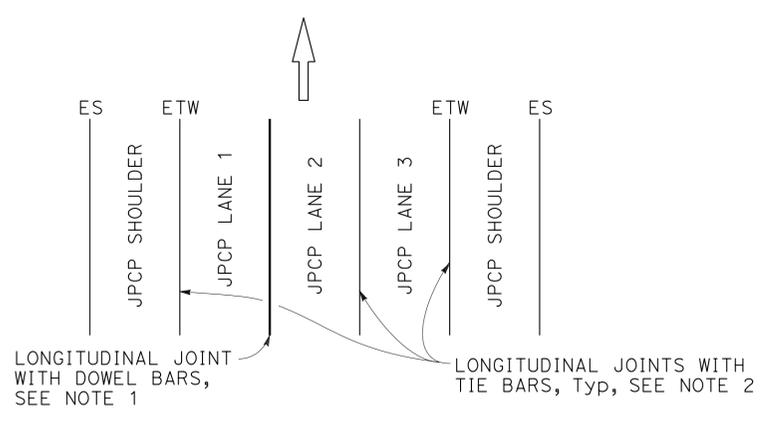
2010 REVISED STANDARD PLAN RSP P17

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	2,5	15.1,22.5	47	87

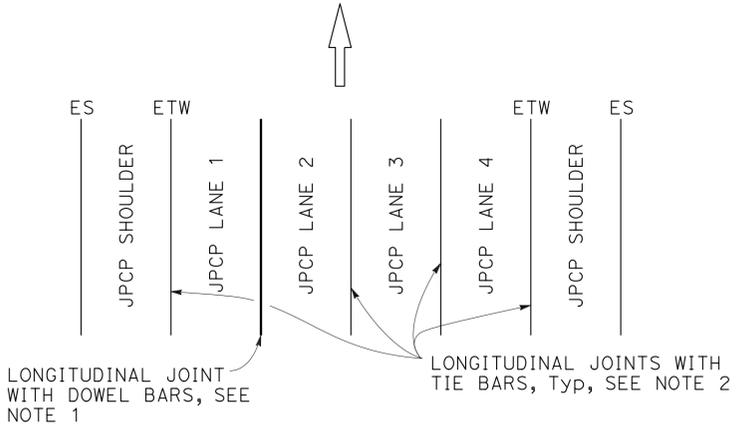
William K. Farnbach
 REGISTERED CIVIL ENGINEER
 July 19, 2013
 PLANS APPROVAL DATE
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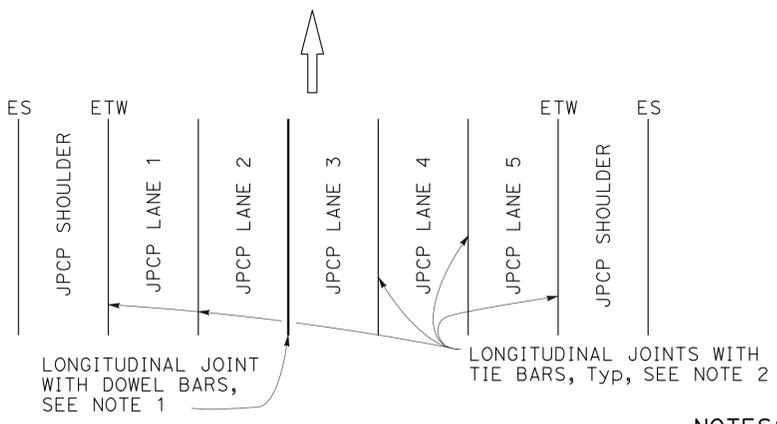
TO ACCOMPANY PLANS DATED 10-7-13



3 LANES WITH CONCRETE SHOULDERS
PLAN



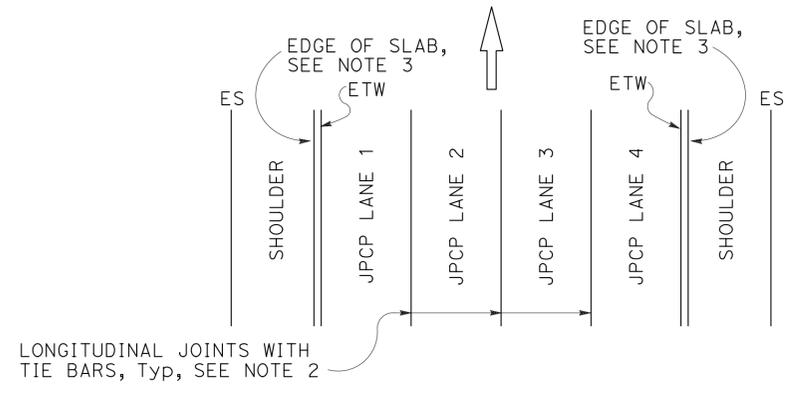
4 LANES WITH CONCRETE SHOULDERS
PLAN



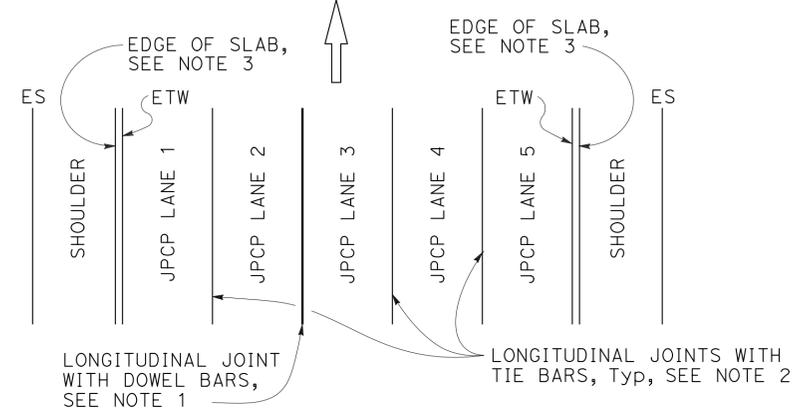
5 LANES WITH CONCRETE SHOULDERS
PLAN

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 $S = 1\frac{1}{16}'' \pm \frac{1}{16}''$



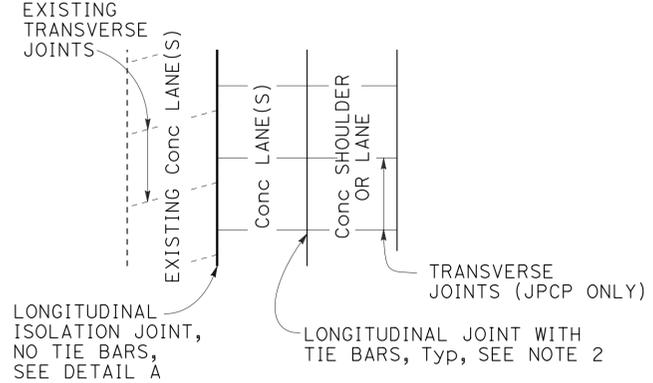
4 LANES OR LESS WITH AC SHOULDERS
PLAN



5 LANES WITH AC SHOULDERS
PLAN

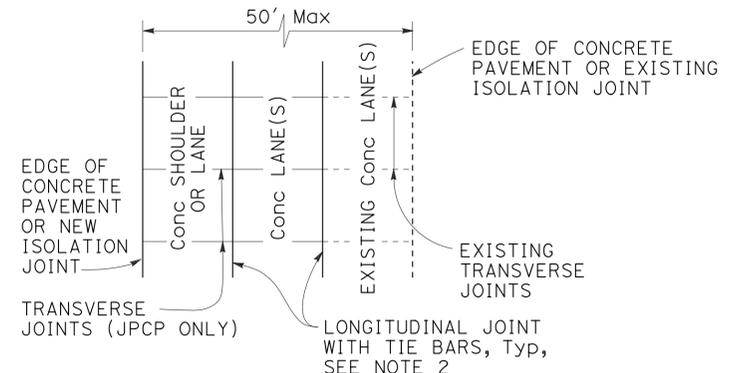
NEW CONSTRUCTION

Location of Longitudinal Joints For JPCP



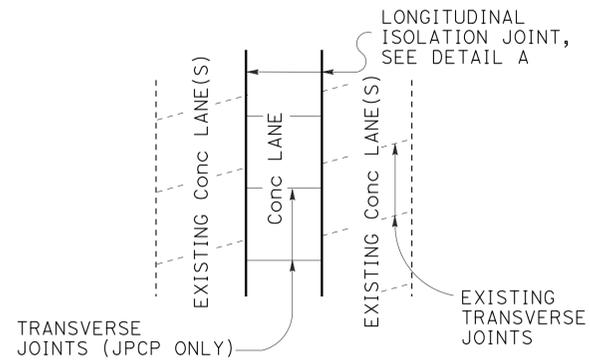
CASE 1
PLAN

Transverse Joints do not align between new and existing.



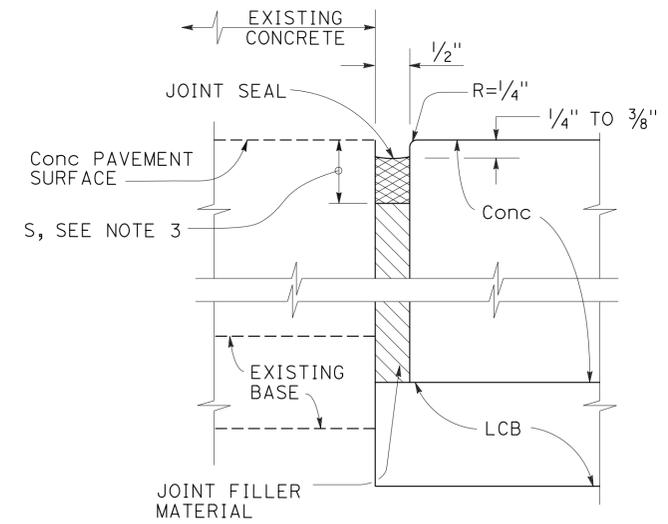
CASE 2
PLAN

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

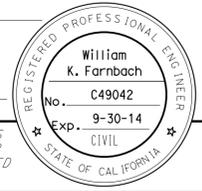
LANE/SHOULDER ADDITION OR RECONSTRUCTION

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

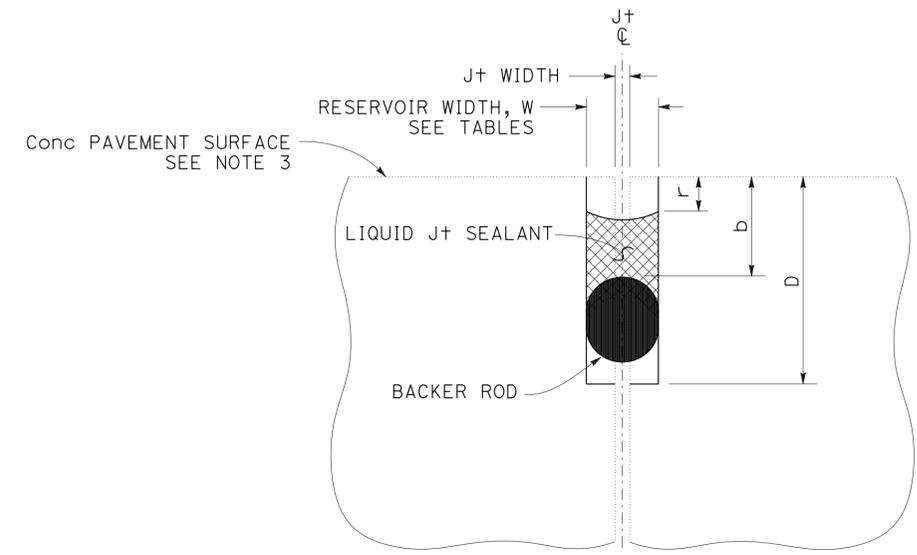
2010 REVISED STANDARD PLAN RSP P18



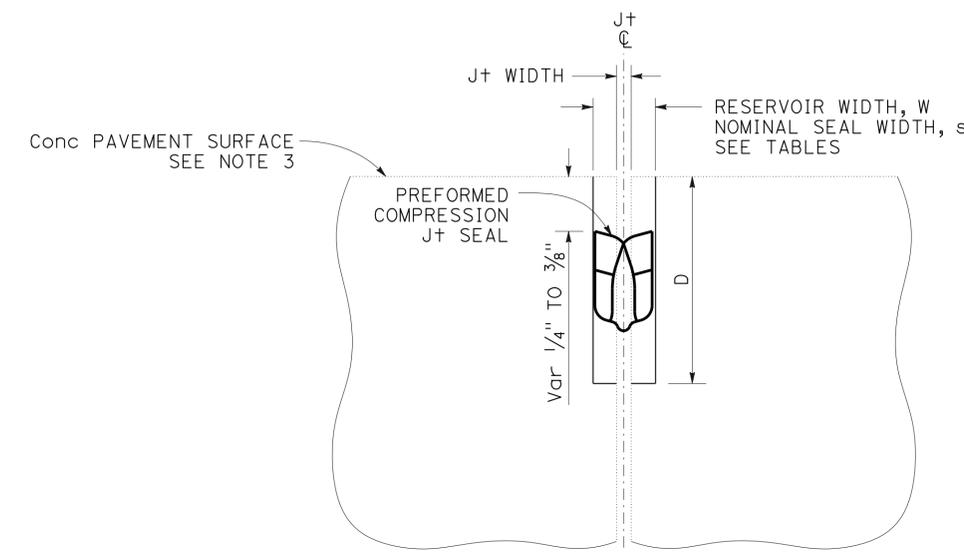
TO ACCOMPANY PLANS DATED 10-7-13

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 7/16"
1/2"	13/16"	1 11/16"
5/8"	1"	1 7/8"
3/4"	1 1/4"	2 1/8"
7/8"	1 5/8"	2 5/8"
1"	1 9/8"	2 9/8"
1 1/8"	2"	2 7/8"

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

JOINT SEALS

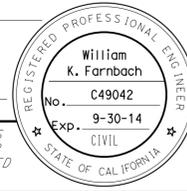
NO SCALE

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

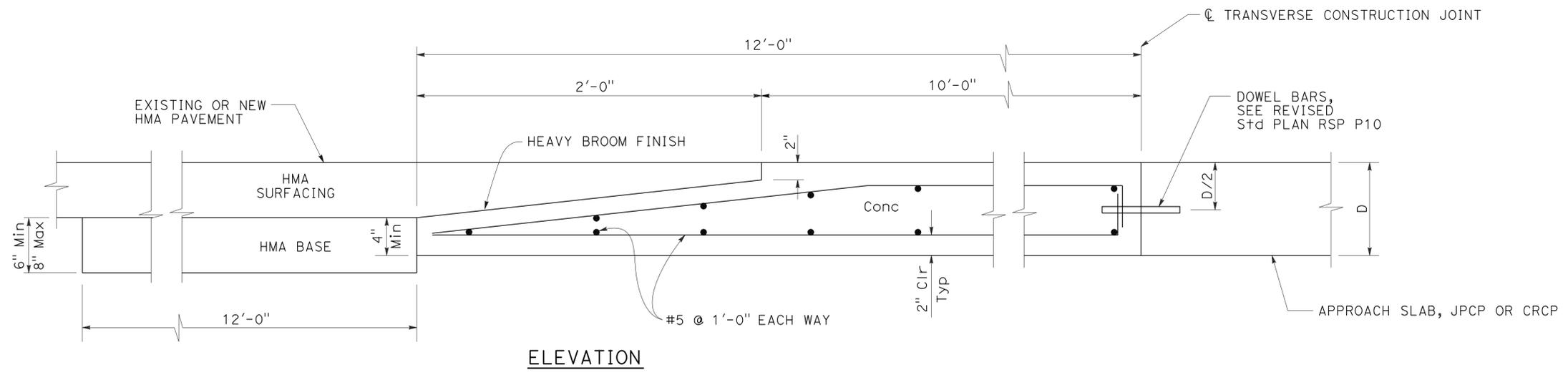
2010 REVISED STANDARD PLAN RSP P20

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	2,5	15.1,22.5	49	87

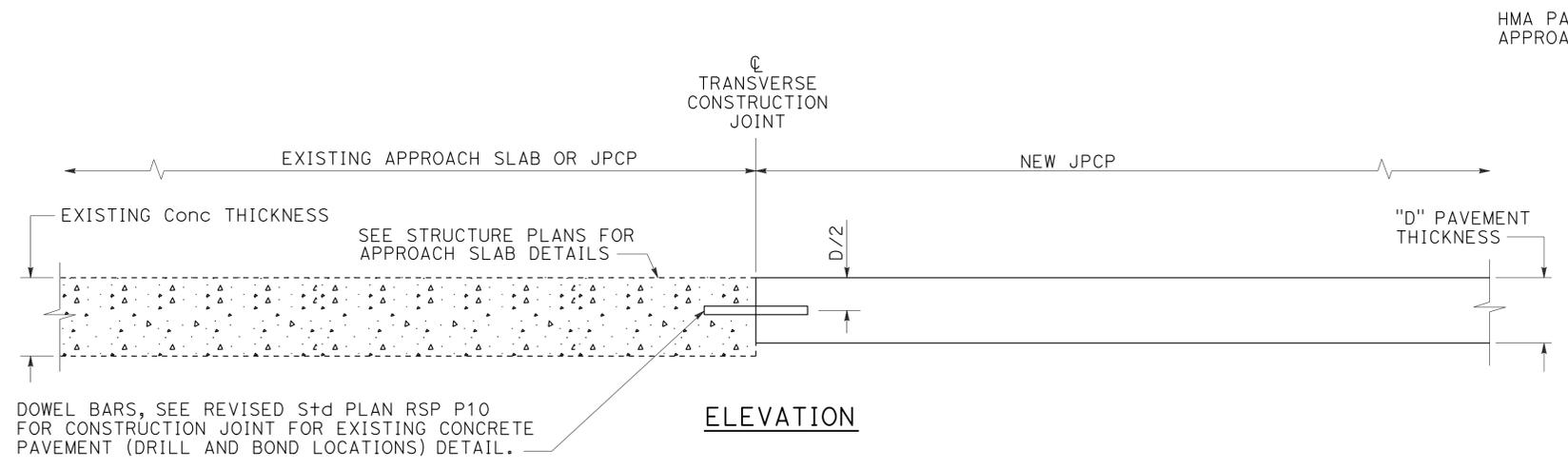
William K. Farnbach
 REGISTERED CIVIL ENGINEER
 July 19, 2013
 PLANS APPROVAL DATE
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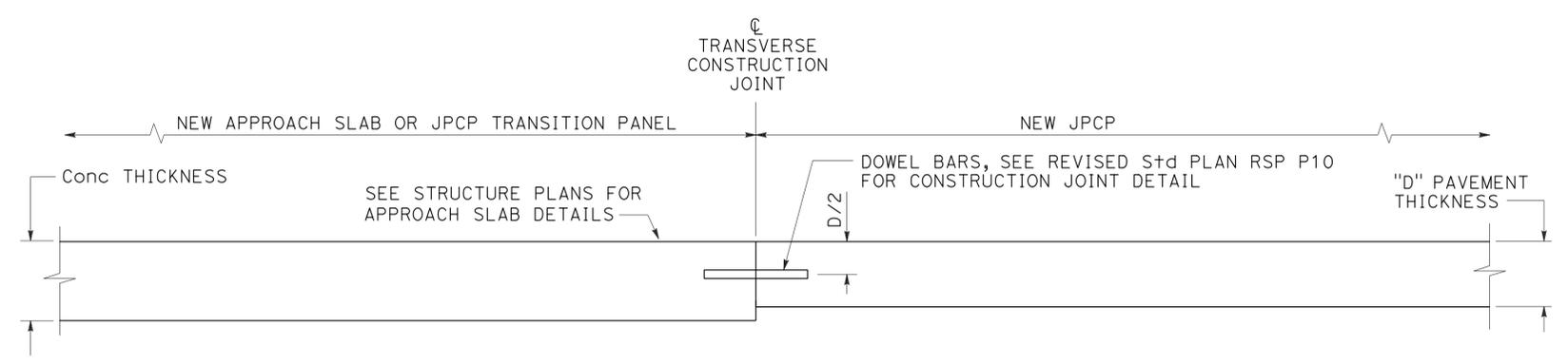
TO ACCOMPANY PLANS DATED 10-7-13



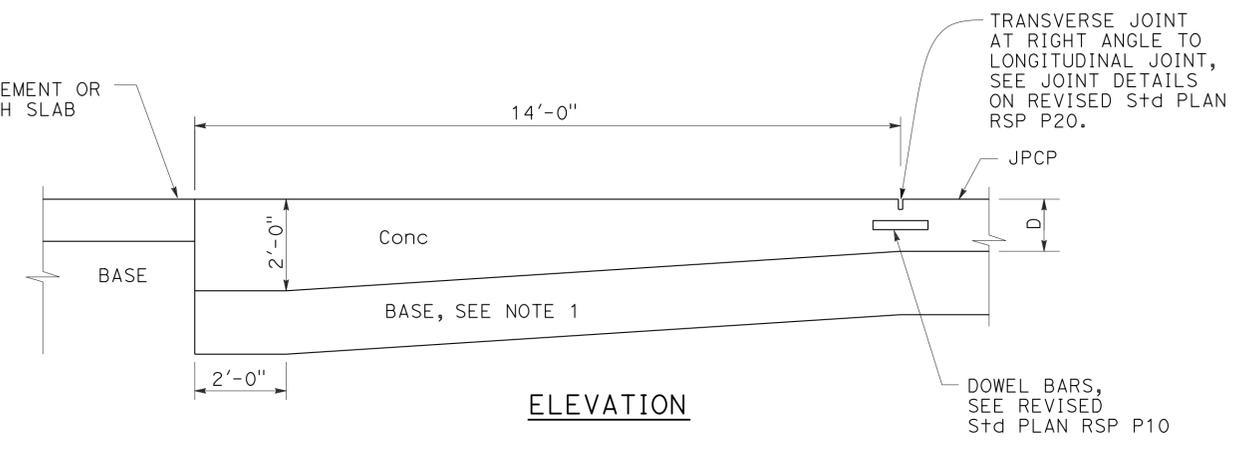
ELEVATION
CONCRETE PAVEMENT
TRANSITION PANEL



ELEVATION
TERMINAL JOINT TYPE 1
For Exist JPCP or Approach Slab



ELEVATION
TERMINAL JOINT TYPE 2
For JPCP Transition Panel or Approach Slab



ELEVATION
PAVEMENT END ANCHOR
For HMA Pavmt or Approach Slab

NOTE:
1. Maintain same base thickness as JPCP.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**CONCRETE PAVEMENT-
END PANEL
PAVEMENT TRANSITIONS**

NO SCALE

RSP P30 DATED JULY 19, 2013 SUPERSEDES RSP P30 DATED APRIL 20, 2012 AND STANDARD PLAN P30 DATED MAY 20, 2011 - PAGE 137 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP P30

2010 REVISED STANDARD PLAN RSP P30

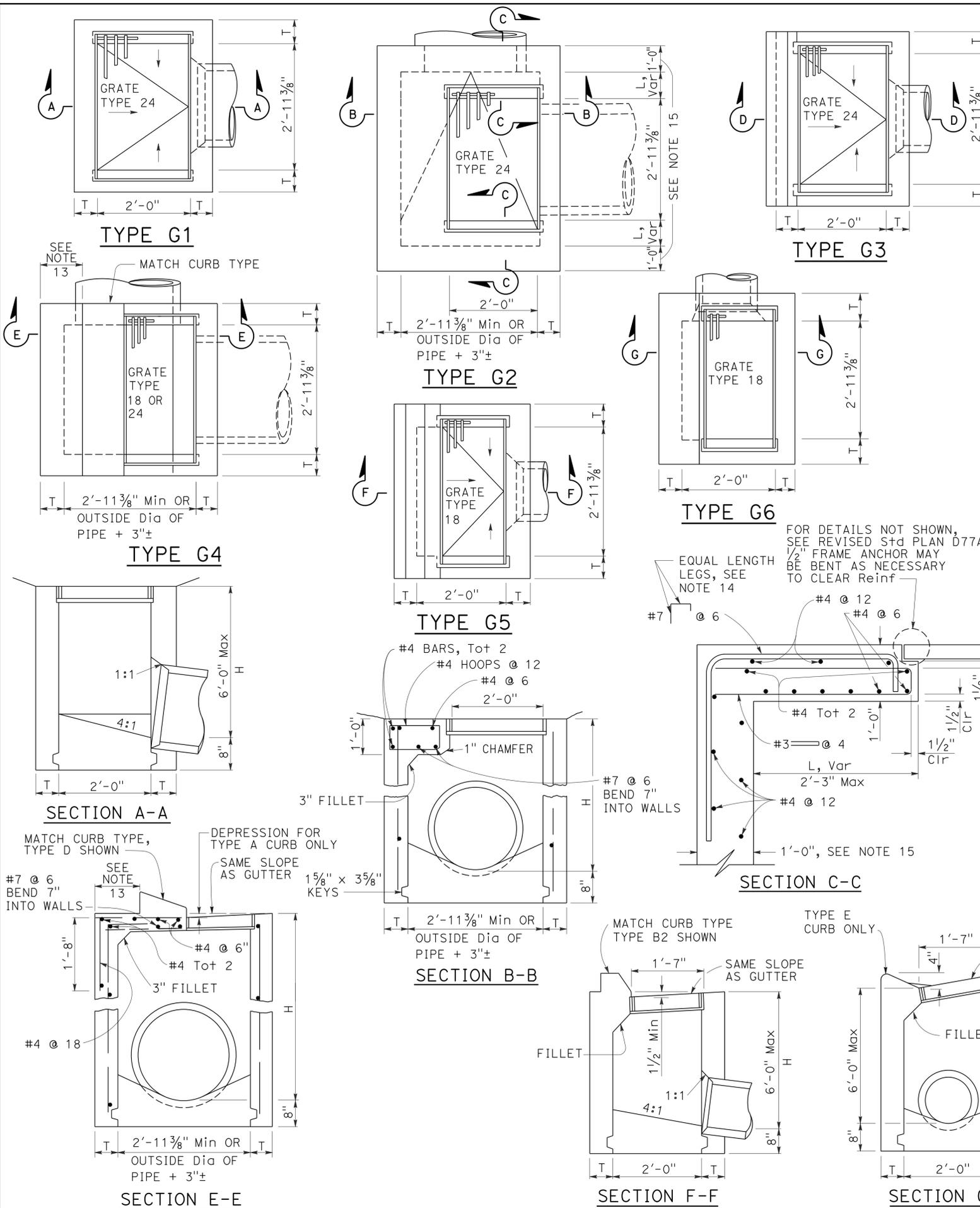
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	2,5	15.1,22.5	50	87

Glenn DeCou
REGISTERED CIVIL ENGINEER

October 19, 2012
PLANS APPROVAL DATE

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



- NOTES:**
- "H" is the difference in elevation between the outlet pipe flow line and the normal gutter grade line undepressed.
 - For "T" wall thickness, see Table A below.
 - Wall reinforcing not required when "H" is 8'-0" or less and the unsupported width or length is 7'-0" or less. Walls exceeding these limits shall be reinforced with #4 bars @ 1'-6" ± centers placed 1 1/2" clear to inside of box unless otherwise shown.
 - Inlet bottom reinforcing not required. See Standard Plan D74C for alternative reinforced bottom and alternative half round bottom.
 - Steps-None required where "H" is less than 2'-6". Where "H" is 2'-6" or more, install steps with lowest rung 1'-0" above the floor and highest rung not more than 6" below top of inlet. The distance between steps shall not exceed 1'-0" and shall be uniform throughout the length of the wall. Place steps in the wall without an opening. Steps inserts may be substituted for the bar steps. Step inserts shall comply with State Industrial Safety requirements. See Standard Plan D74C for step details.
 - Details shown apply to both metal and concrete pipe.
 - Pipe(s) can be placed in any wall.
 - Curb section shall match adjacent curb.
 - Basin floors shall have wood trowel finish and a minimum slope of 12:3 from all directions toward outlet pipe.
 - Set inlet so that grate bars are parallel to direction of principal surface flow.
 - See Revised Standard Plans D77A and D77B for grate and frame details and weights of miscellaneous iron and steel.
 - See Standard Plan D78A for gutter depression details.
 - This dimension will vary with different grates, curbs types, box width and wall thickness.
 - Bar may be rotated as necessary to clear opening. Where "L" is 6" or less, bar may be omitted.
 - Where "L" is 6" or less, wall thickness shall be as shown in Table A.
 - Cast-in-place inlets to be formed around all pipes/stubs intersecting the inlet, and concrete poured in one continuous operation. Precast inlets shall have mortared connections conforming to details for Type GCP Inlet shown on Standard Plan D75B. See Standard Specifications for mortar composition.

TABLE A

CONCRETE QUANTITIES

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

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

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

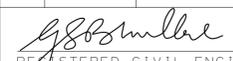
DRAINAGE INLETS
NO SCALE

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

REVISED STANDARD PLAN RSP D73

2010 REVISED STANDARD PLAN RSP D73

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	2,5	15.1,22.5	51	87


 REGISTERED CIVIL ENGINEER
 July 19, 2013
 PLANS APPROVAL DATE



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TO ACCOMPANY PLANS DATED 10-7-13

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.

2010 REVISED STANDARD PLAN RSP T9

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	2,5	15.1,22.5	52	87

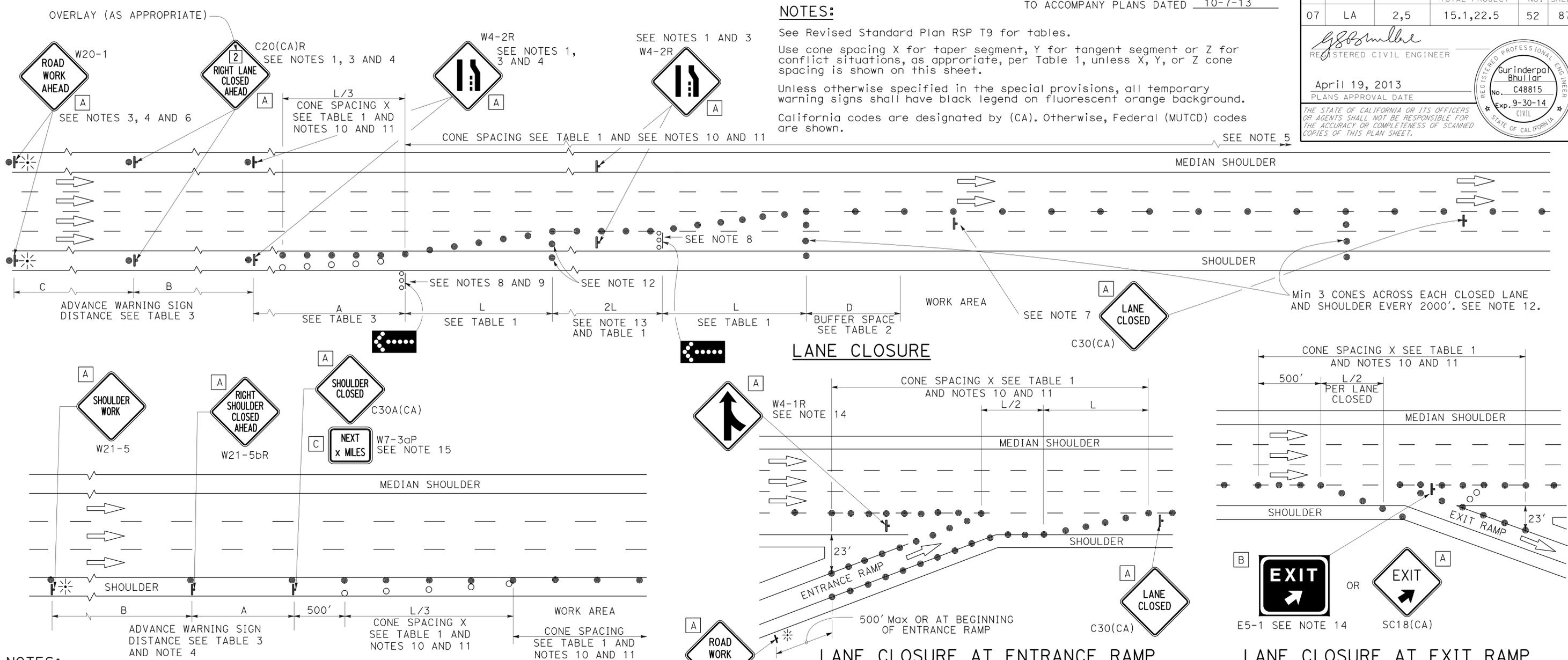
REGISTERED CIVIL ENGINEER
 April 19, 2013
 PLANS APPROVAL DATE
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

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

TO ACCOMPANY PLANS DATED 10-7-13

NOTES:

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



NOTES:

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

SHOULDER CLOSURE

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

W20-1 SEE NOTE 4

LEGEND

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

SIGN PANEL SIZE (Min)

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

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.

LANE CLOSURE AT EXIT RAMP

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

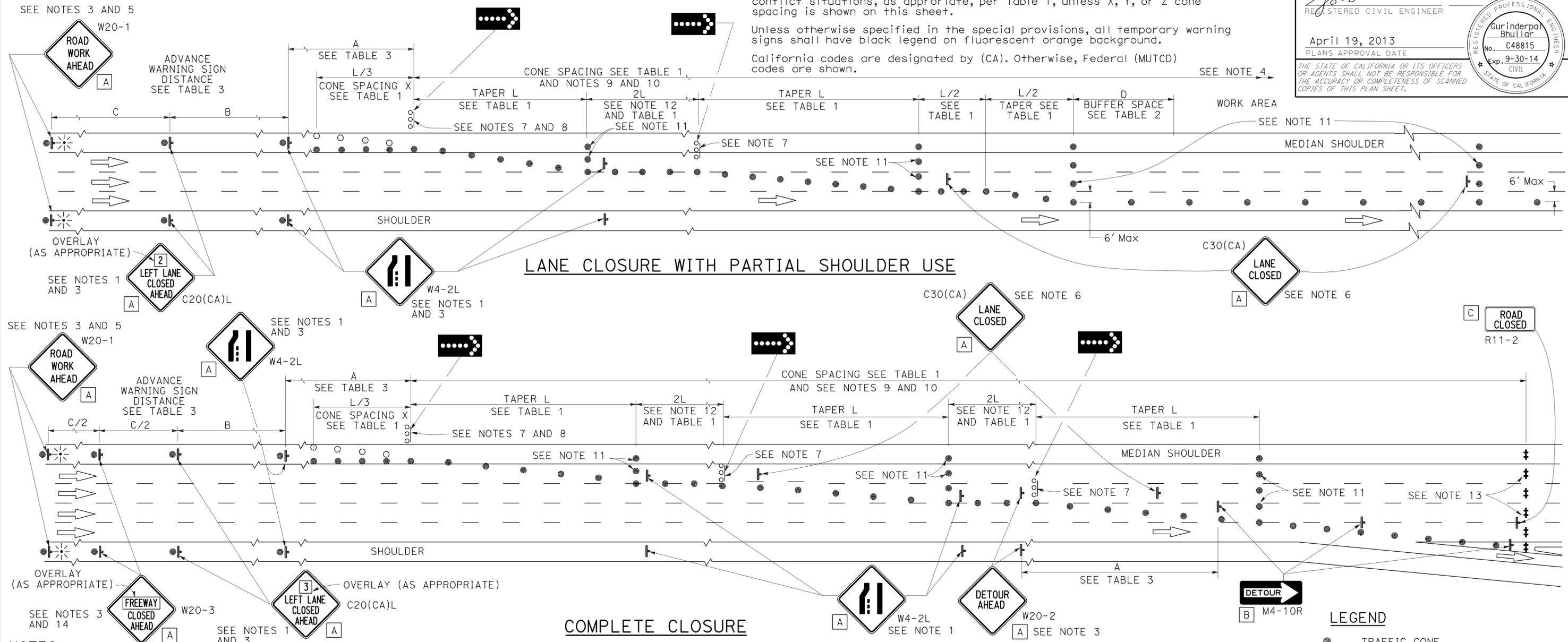
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	2,5	15.1,22.5	53	87

Gurinderpal Bhullar
 REGISTERED CIVIL ENGINEER
 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.



- 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

RSP T10A DATED APRIL 19, 2013 SUPERSEDES STANDARD PLAN T10A DATED MAY 20, 2011 - PAGE 238 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP T10A

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	LA	2,5	15.1,22.5	54	87

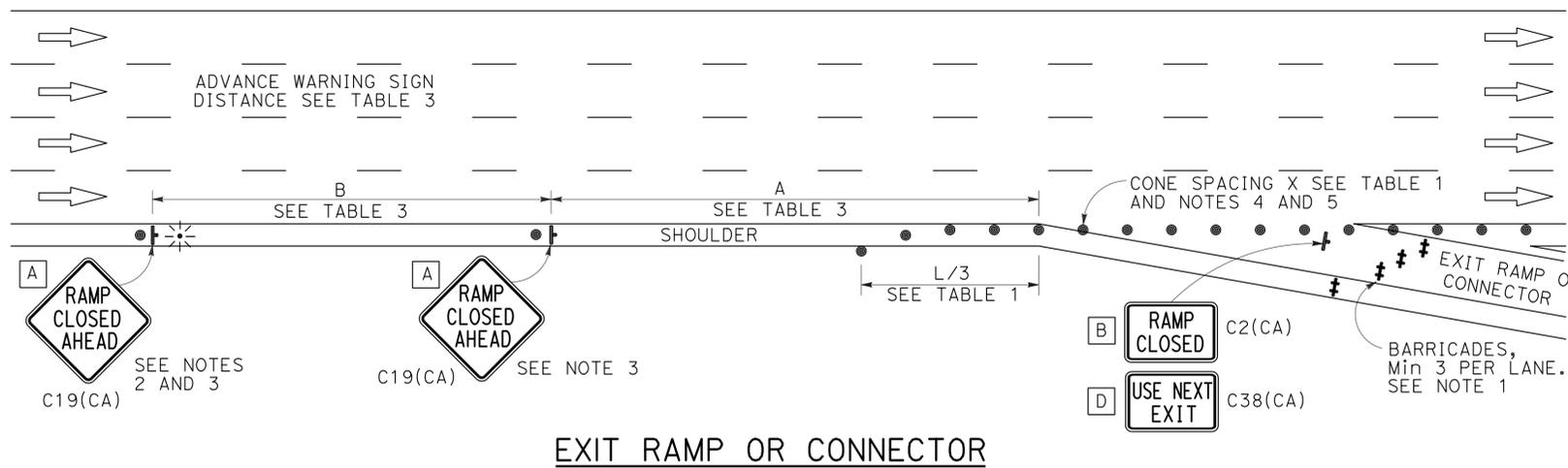
Gurinderpal Bhullar
 REGISTERED CIVIL ENGINEER
 April 19, 2013
 PLANS APPROVAL DATE
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

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

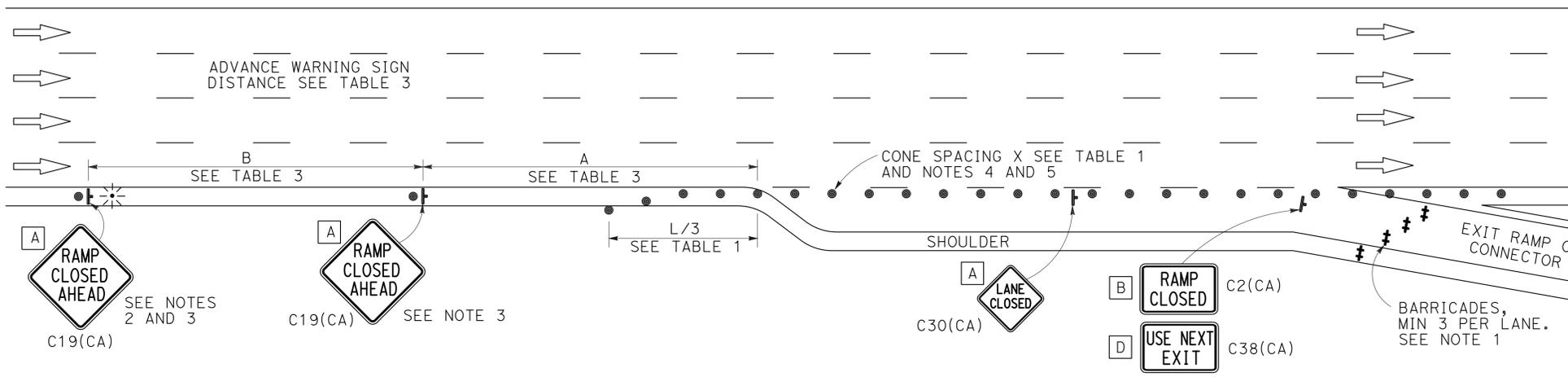
TO ACCOMPANY PLANS DATED 10-7-13

NOTES:

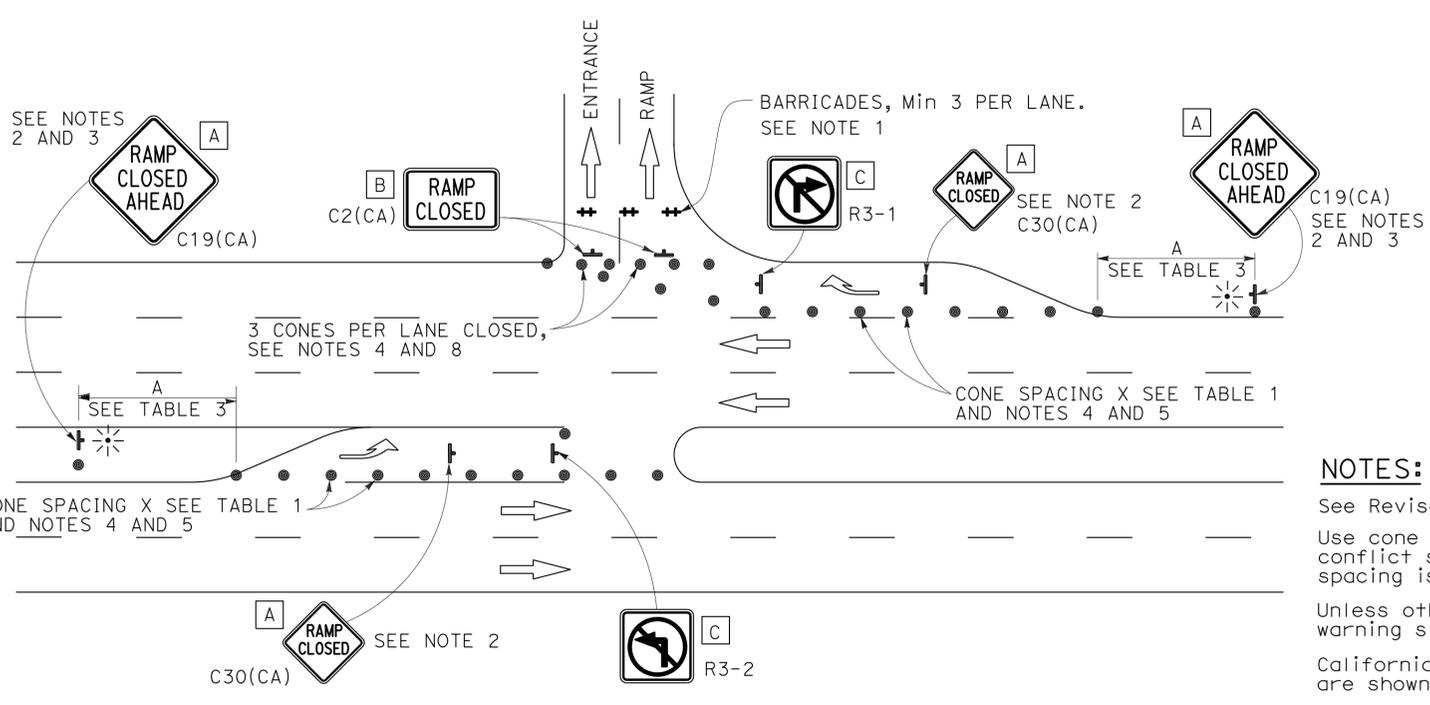
- Barricades shall be Type I, II, or III for closures lasting one week or less and Type III for closures lasting longer than one week.
- In addition to placing the C19(CA) "RAMP CLOSED AHEAD" and C30(CA) "RAMP CLOSED" signs, black on orange overlay plates with the word "CLOSED" may be mounted, as directed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



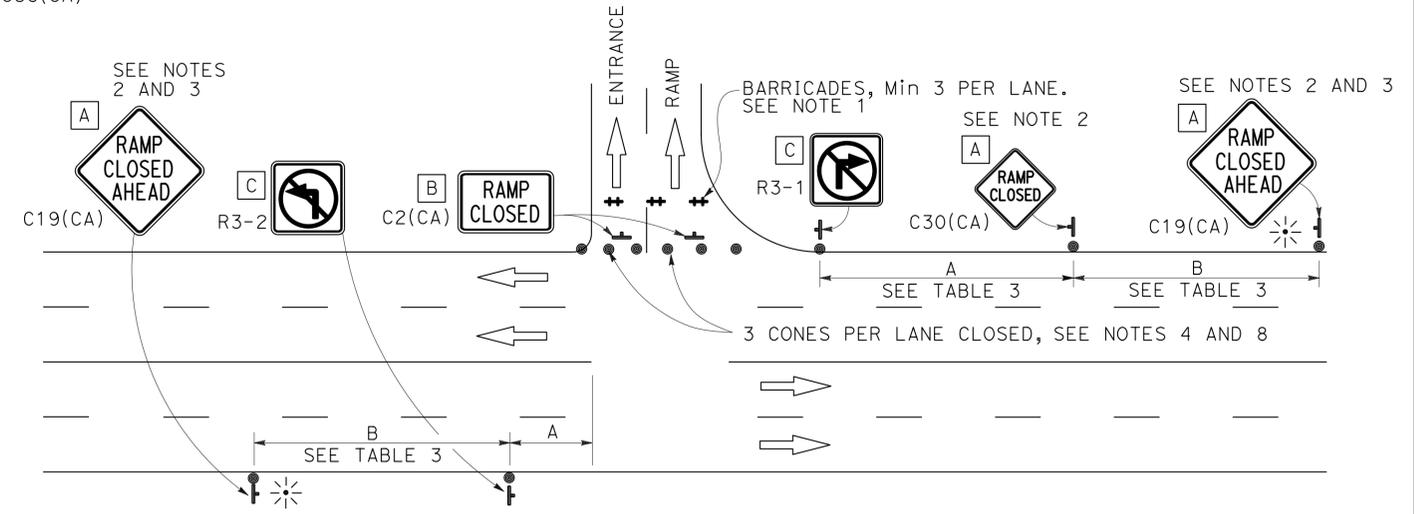
EXIT RAMP OR CONNECTOR



EXIT RAMP OR CONNECTOR WITH ADDITIONAL LANE



ENTRANCE RAMP WITH TURNING POCKETS



ENTRANCE RAMP WITHOUT TURNING POCKETS

NOTES:

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

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

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

REVISED STANDARD PLAN RSP T14

2010 REVISED STANDARD PLAN RSP T14

LEGEND:

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

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	2,5	15.1,22.5	55	87

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 10-7-13

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (LEGEND AND ABBREVIATIONS)

NO SCALE

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

REVISED STANDARD PLAN RSP ES-1A

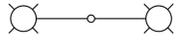
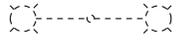
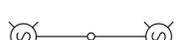
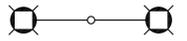
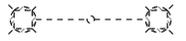
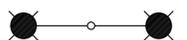
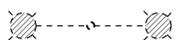
MISCELLANEOUS ELECTROLIERS

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

NOTES:

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

STANDARD ELECTROLIER

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

2010 REVISED STANDARD PLAN RSP ES-1A

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	2,5	15.1,22.5	56	87

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.

TO ACCOMPANY PLANS DATED 10-7-13

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

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

FLASHING BEACON

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

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

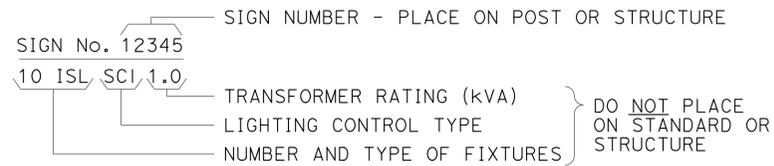
RSP ES-1B DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-1B DATED MAY 20, 2011 - PAGE 426 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-1B

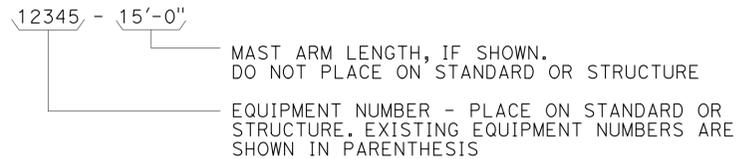
2010 REVISED STANDARD PLAN RSP ES-1B

EQUIPMENT IDENTIFICATION

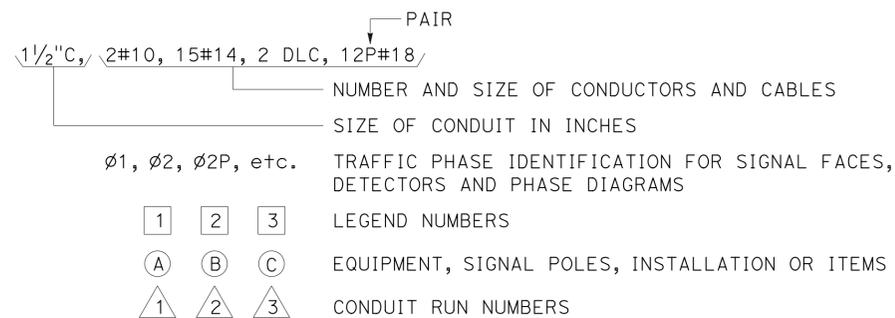
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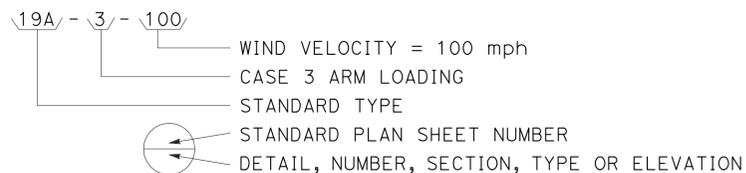
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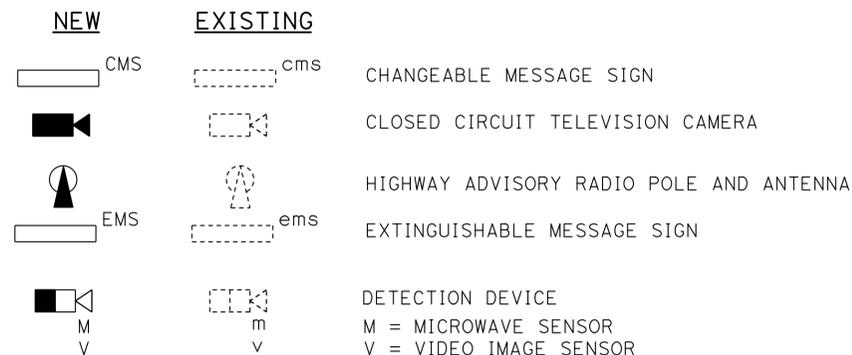
CONDUIT AND CONDUCTOR IDENTIFICATION:



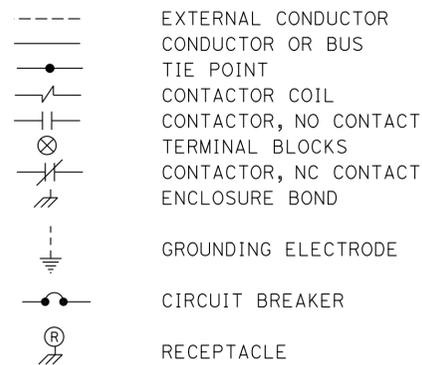
SIGNAL AND LIGHTING STANDARD (TYPICAL DESIGNATION):



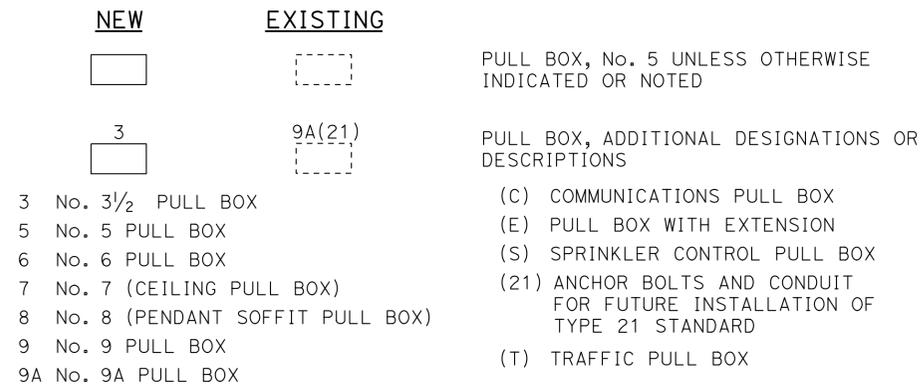
MISCELLANEOUS EQUIPMENT



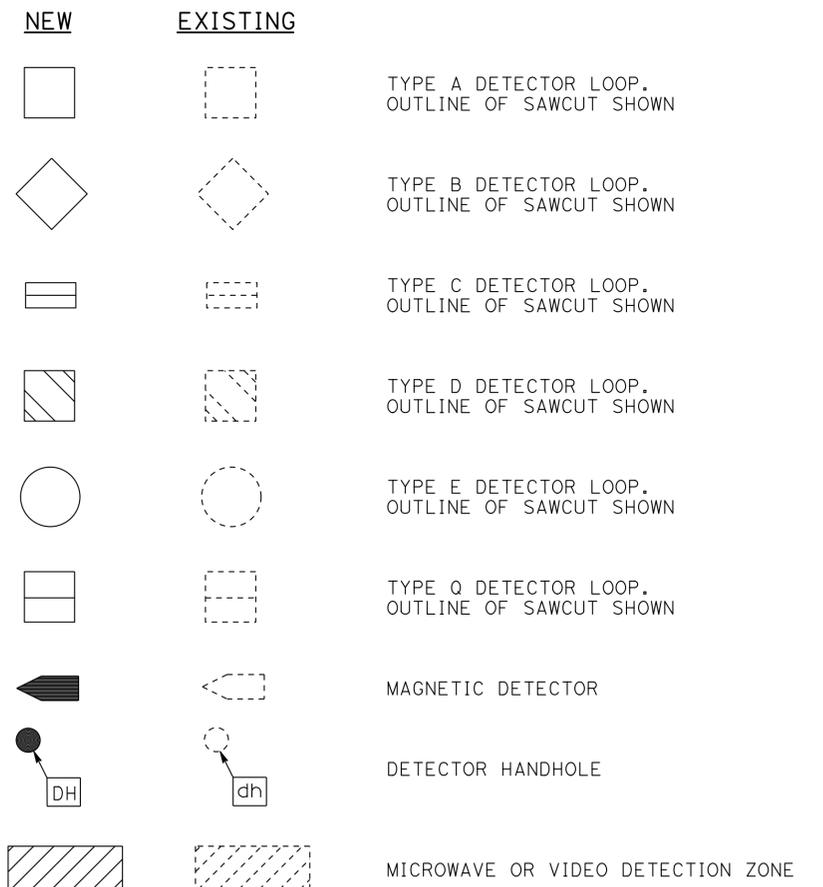
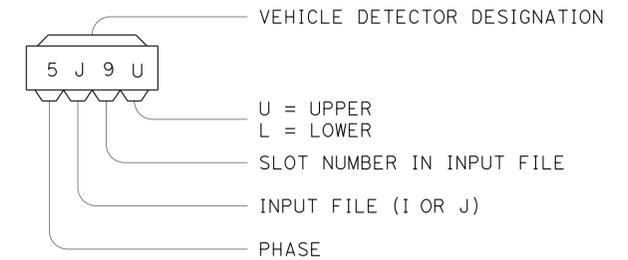
WIRING DIAGRAM LEGEND



PULL BOXES



VEHICLE DETECTORS



STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (LEGEND AND ABBREVIATIONS)

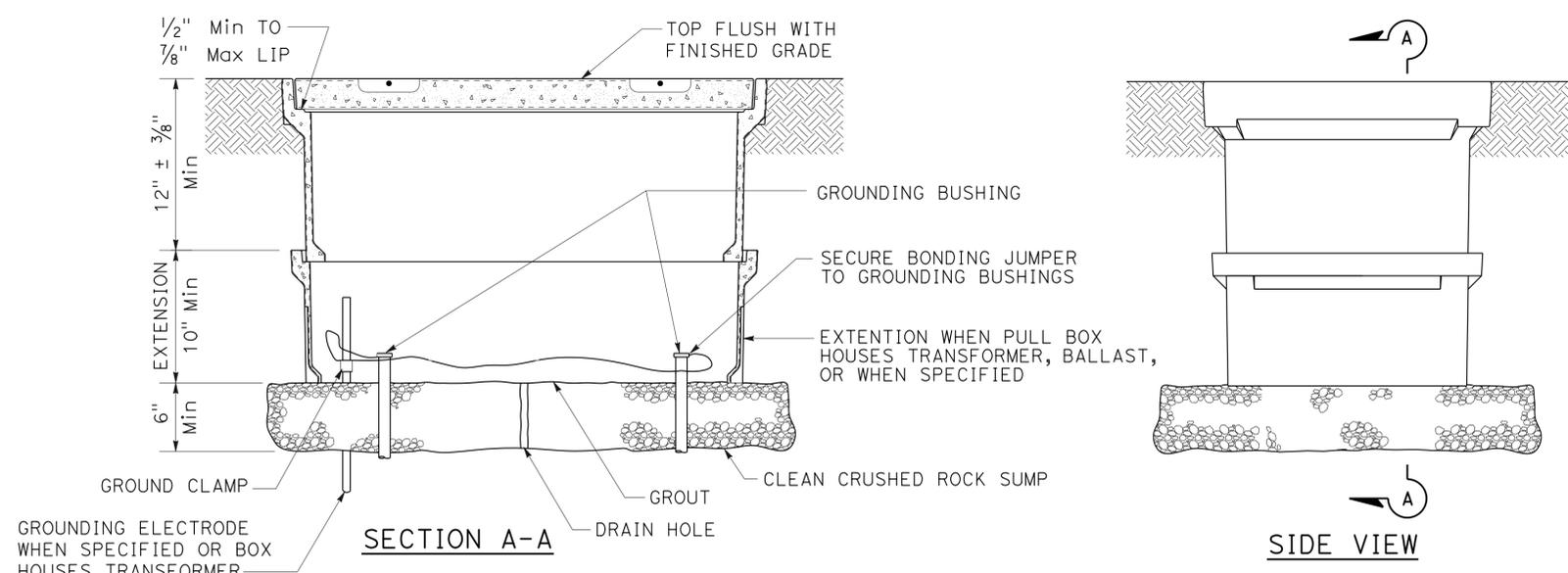
NO SCALE

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.

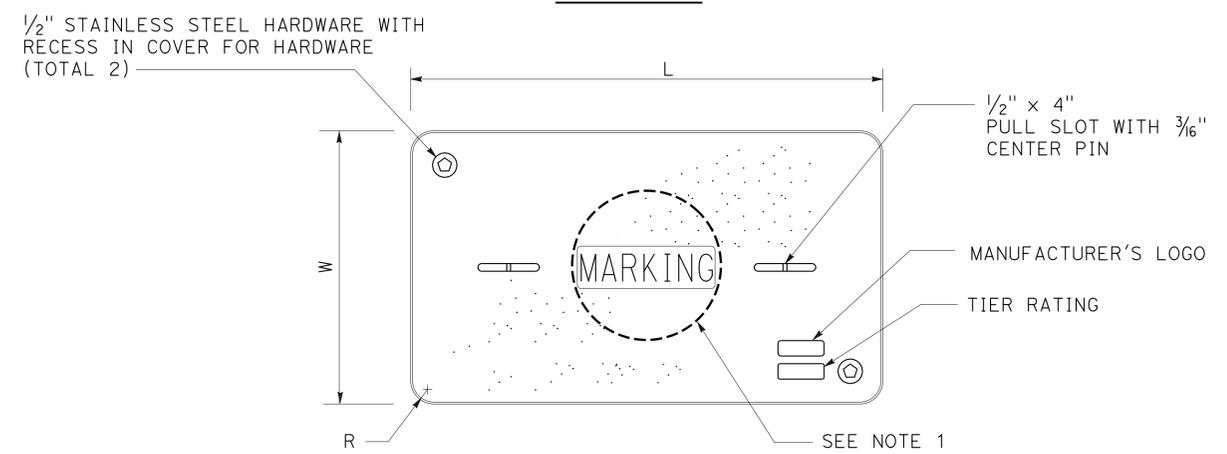
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	2,5	15.1,22.5	58	87

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.

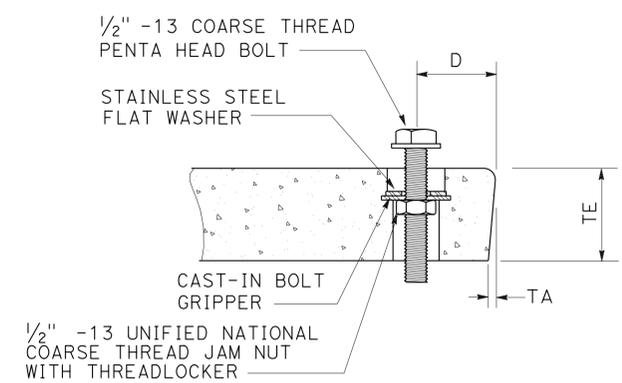
TO ACCOMPANY PLANS DATED 10-7-13



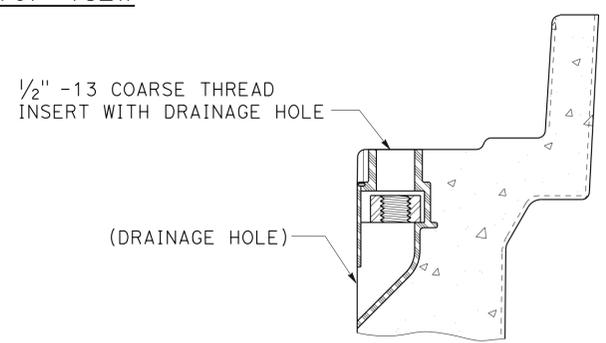
INSTALLATION DETAILS
DETAIL A



COVER TOP VIEW



TYPICAL COVER CAPTIVE BOLT
OR SIMILAR



TYPICAL THREADED INSERT
OR SIMILAR

NOTES:

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

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

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

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

REVISED STANDARD PLAN RSP ES-8A

2010 REVISED STANDARD PLAN RSP ES-8A

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	2,5	15.1, 22.5	59	87

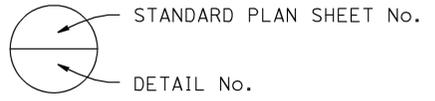
09/09/13
 REGISTERED CIVIL ENGINEER DATE
 10-7-13
 PLANS APPROVAL DATE
 No. C66900
 Exp. 09/30/14
 CIVIL
 STATE OF CALIFORNIA
 The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

INDEX TO PLANS

SHEET NO.	TITLE
1	GENERAL PLAN
2	PIER ELEVATION
3	ABUTMENT 2 ELEVATION
4	SOFFIT DETAILS
5	WALL PANELS DETAILS
6	COLUMN DETAILS NO. 1
7	COLUMN DETAILS NO. 2
8	BEAM DETAILS
9	EXTERIOR GIRDER DETAILS
10	MISCELLANEOUS DETAILS
11	TEMPORARY SUPPORT DETAILS
12	REPAIR SEQUENCE DETAILS
13	REPAIR DIMENSIONS

STANDARD PLANS DATED 2010

SHEET NO.	TITLE
A10A	ABBREVIATIONS (SHEET 1 OF 2)
RSP A10B	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)
B0-3	BRIDGE DETAILS



**GENERAL NOTES
LOAD FACTOR DESIGN**

DESIGN:
 CALTRANS BRIDGE DESIGN SPECIFICATIONS
 (1996 AASHTO with Interims and Revisions by Caltrans)

LIVE LOADING:
 HS20-44 and Alternative and Permit Design Load

CONCRETE:
 fy = 60 ksi
 f'c = 3.6 ksi
 Transverse Deck Slabs and walls (Working Stress):
 fa = 20 ksi
 fc = 1.20 ksi
 n = 10

SHOTCRETE:
 f'c = 3.6 ksi

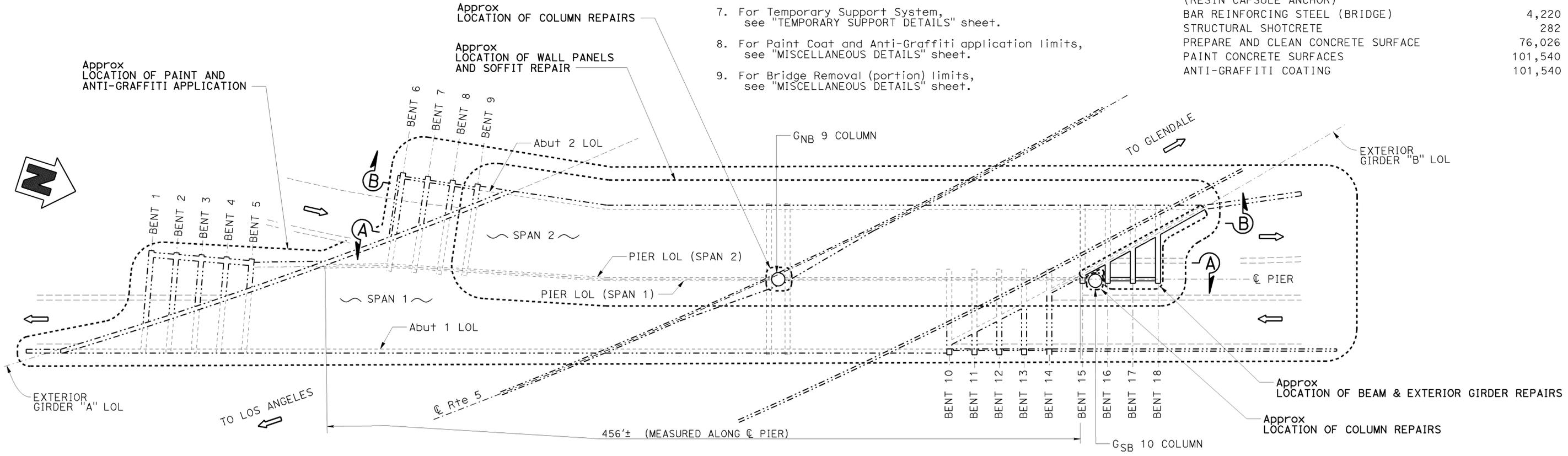
LEGEND:

----- Indicates existing.
 → Indicates direction of traffic.

NOTES:

- For VIEW A-A, see "PIER ELEVATION" sheet.
- For VIEW B-B, see "ABUTMENT 2 ELEVATION" sheet.
- For Column Repair, see "COLUMN DETAILS No. 1 & No. 2" sheets.
- For Beam Repair, see "BEAM DETAILS" sheet.
- For Exterior Girder Repair, see "EXTERIOR GIRDER DETAILS" sheet.
- For Soffit Repair, see "SOFFIT DETAILS" sheet.
- For Temporary Support System, see "TEMPORARY SUPPORT DETAILS" sheet.
- For Paint Coat and Anti-Graffiti application limits, see "MISCELLANEOUS DETAILS" sheet.
- For Bridge Removal (portion) limits, see "MISCELLANEOUS DETAILS" sheet.

CONNECTOR UC (REPAIR)	QUANTITIES	LUMP SUM
LEAD COMPLIANCE PLAN		LUMP SUM
WORK AREA MONITORING (BRIDGE)		LUMP SUM
INJECT CRACK (EPOXY)	145	LF
REPAIR SPALLED SURFACE AREA	1,480	SQFT
REMOVE UNSOUND CONCRETE	6,480	CF
BRIDGE REMOVAL (PORTION)		LUMP SUM
STRUCTURE EXCAVATION (BRIDGE)	49	CY
TEMPORARY SUPPORT		LUMP SUM
STRUCTURAL CONCRETE, BRIDGE	3	CY
COMPOSITE BENT CASING	2,720	SQFT
DRILL AND BOND DOWEL (RESIN CAPSULE ANCHOR)	5,995	EA
BAR REINFORCING STEEL (BRIDGE)	4,220	LB
STRUCTURAL SHOTCRETE	282	CY
PREPARE AND CLEAN CONCRETE SURFACE	76,026	SQFT
PAINT CONCRETE SURFACES	101,540	SQFT
ANTI-GRAFFITI COATING	101,540	SQFT



PLAN
NO SCALE

NOTE:
 THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL. EXISTING UTILITY FACILITIES HAVE NOT BEEN PLOTTED ON THESE PLANS.

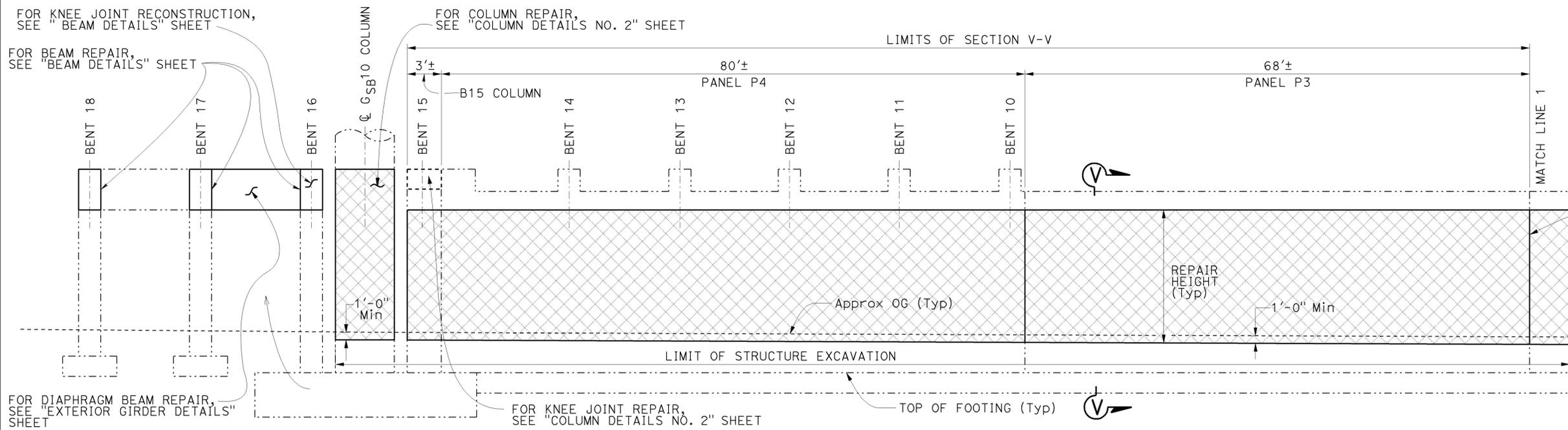
DESIGN ENGINEER TONY D. BRAKE	DESIGN	BY Edward Nahm	CHECKED Tony Brake	LOAD FACTOR DESIGN	LIVE LOADING: HS20-44 AND ALTERNATIVE AND PERMIT DESIGN LOAD	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF MAINTENANCE STRUCTURE MAINTENANCE DESIGN	BRIDGE NO. 53-0577
	DETAILS	BY Tom Dang	CHECKED Edward Nahm	LAYOUT	BY Tom Dang		CHECKED Edward Nahm	POST MILE 22.51
	QUANTITIES	BY Edward Nahm	CHECKED Tony Brake	SPECIFICATIONS	BY V. Renganathan		CHECKED V. Renganathan	

EMERGENCY BRIDGE REPAIR

CONNECTOR UC

GENERAL PLAN

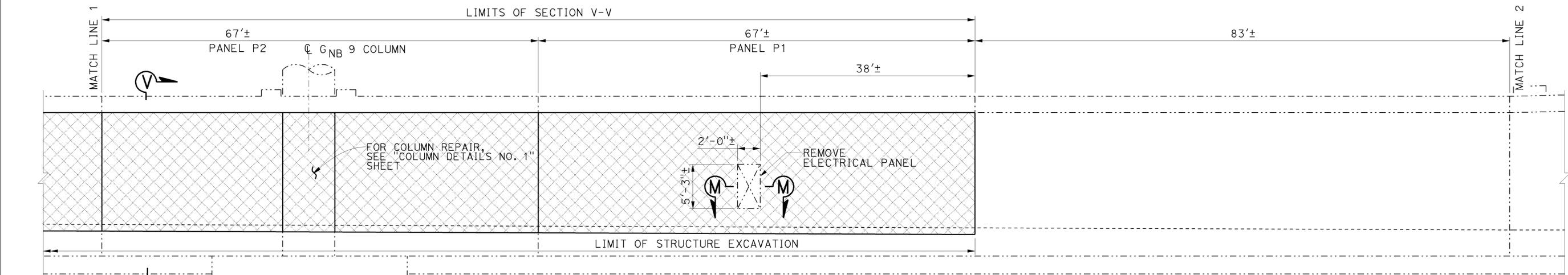
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	2,5	15.1,22.5	60	87
			09/09/13		
			REGISTERED CIVIL ENGINEER DATE		
			10-7-13		
			PLANS APPROVAL DATE		
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.					



Exist WALL EXPANSION JOINT (Typ) B0-3
3-4

LEGEND:

- Indicates existing.
- Indicates limits of remove unsound concrete.
- Indicates limits of structural shotcrete.



NOTES:

1. For repair sequence, see "REPAIR SEQUENCE DETAILS" sheet.
2. For SECTION V-V, see "WALL PANELS DETAILS" sheet.
3. For repair height, see "REPAIR DIMENSIONS" sheet. Panel length measured along PIER LOL.
4. Existing reinforcement shall be protected in place during concrete removal operation.
5. Location of weep holes are not shown. Existing weep holes shall be protected in place during shotcrete application.
6. Damaged and exposed premolded expansion joint filler shall be replaced prior to shotcrete operation, as directed by the Engineer.
7. For location of VIEW A-A, see "GENERAL PLAN" sheet.
8. For SECTION M-M, see "MISCELLANEOUS DETAILS" sheet.

VIEW A-A
NO SCALE

NOTE: THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL. EXISTING UTILITY FACILITIES HAVE NOT BEEN PLOTTED ON THESE PLANS.

DESIGN	BY Edward Nahm	CHECKED Tony Brake
DETAILS	BY Tom Dang	CHECKED Edward Nahm
QUANTITIES	BY Edward Nahm	CHECKED Tony Brake

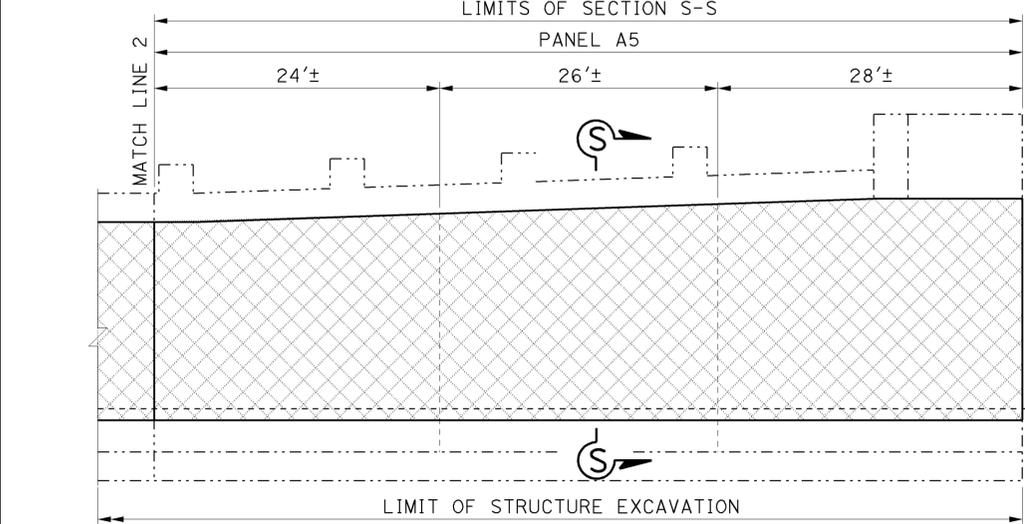
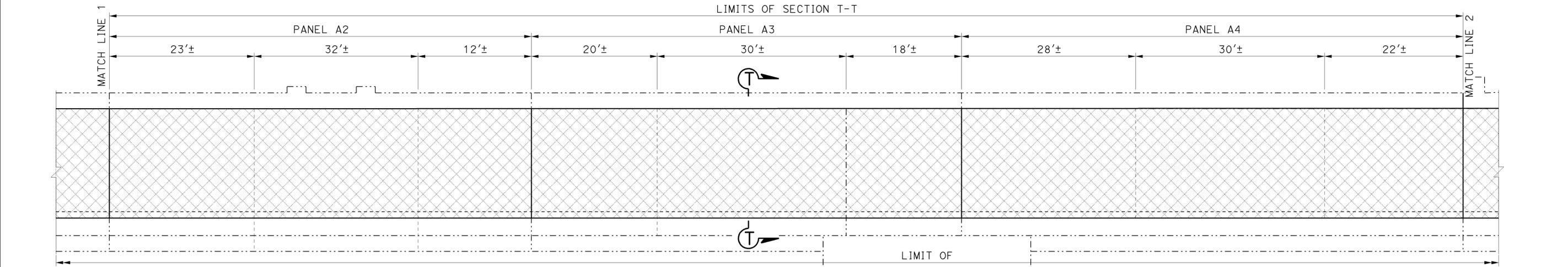
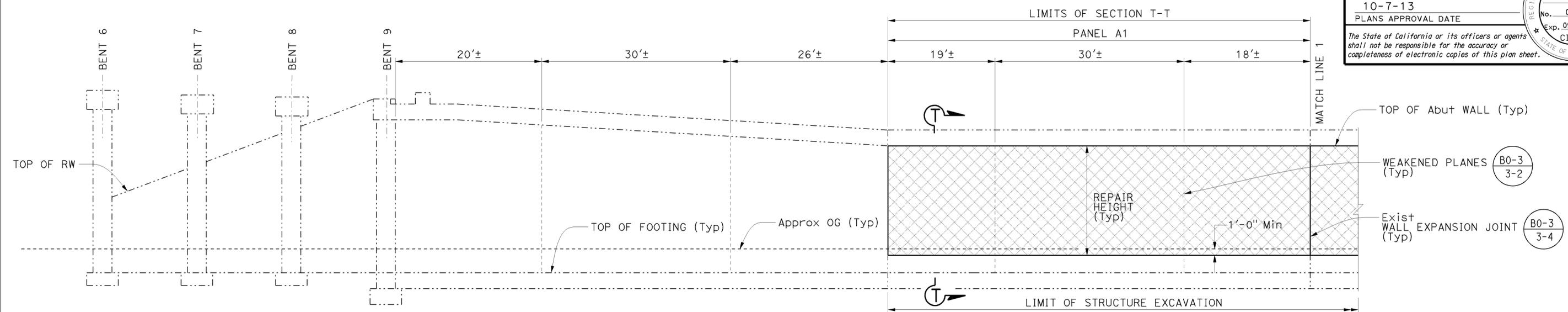
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF MAINTENANCE
STRUCTURE MAINTENANCE DESIGN

BRIDGE NO.	53-0577
POST MILE	22.51

EMERGENCY BRIDGE REPAIR
CONNECTOR UC
PIER ELEVATION

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	2,5	15.1,22.5	61	87
			09/09/13		
REGISTERED CIVIL ENGINEER			DATE		
10-7-13			PLANS APPROVAL DATE		
			No. C66900		
			Exp. 09/30/14		
			CIVIL		
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.					



LEGEND:

- Indicates existing.
- Indicates limits of remove unsound concrete.
- Indicates limits of structural shotcrete.

NOTES:

1. For repair sequence, see "REPAIR SEQUENCE DETAILS" sheet.
2. For SECTION S-S and SECTION T-T, see "WALL PANELS DETAILS" sheet.
3. For repair height, see "REPAIR DIMENSIONS" sheet. Panel length measured along Abutment Wall LOL.
4. Existing reinforcement shall be protected in place during concrete removal operation.
5. Location of weep holes are not shown. Existing weep holes shall be protected in place during shotcrete application.
6. Damaged and exposed premolded expansion joint filler shall be replaced prior to shotcrete operation, as directed by the Engineer.
7. For location of VIEW B-B, see "GENERAL PLAN" sheet.

NOTE: THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL. EXISTING UTILITY FACILITIES HAVE NOT BEEN PLOTTED ON THESE PLANS.

DESIGN	BY Edward Nahm	CHECKED Tony Brake
DETAILS	BY Tom Dang	CHECKED Edward Nahm
QUANTITIES	BY Edward Nahm	CHECKED Tony Brake

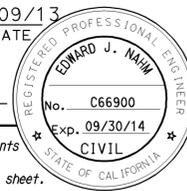
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF MAINTENANCE
STRUCTURE MAINTENANCE DESIGN

BRIDGE NO.	53-0577
POST MILE	22.51

EMERGENCY BRIDGE REPAIR
CONNECTOR UC
ABUTMENT 2 ELEVATION

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	2,5	15.1,22.5	62	87

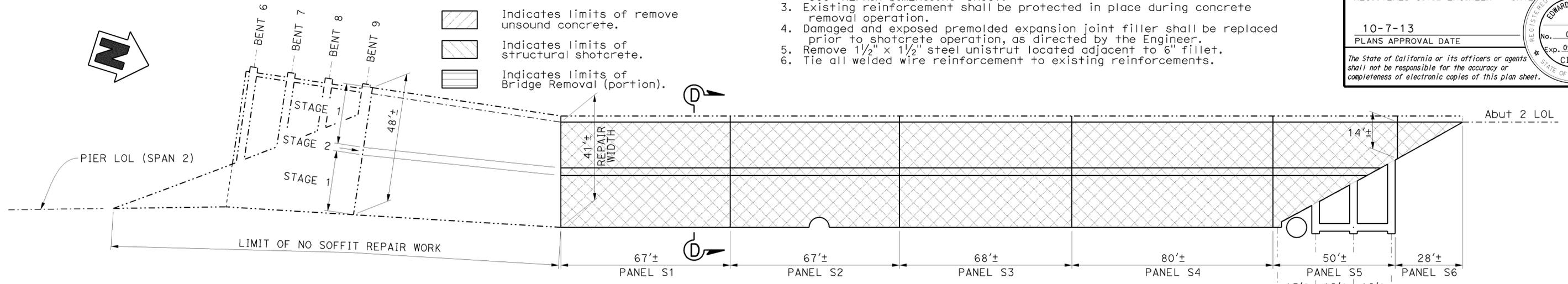
 REGISTERED CIVIL ENGINEER DATE 09/09/13		
PLANS APPROVAL DATE 10-7-13		
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.</small>		

LEGEND:

- Indicates existing.
-  Indicates limits of remove unsound concrete.
-  Indicates limits of structural shotcrete.
-  Indicates limits of Bridge Removal (portion).

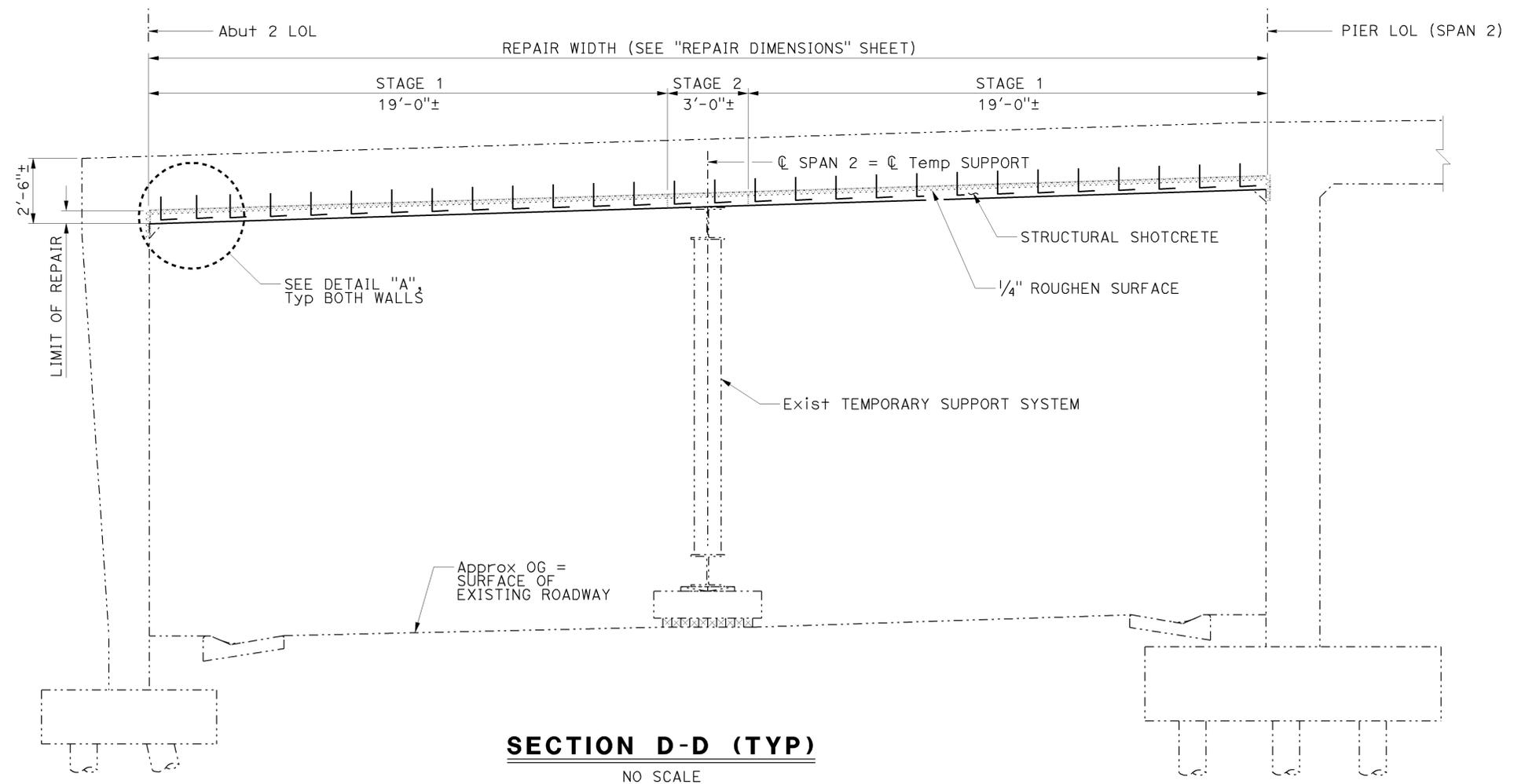
NOTES:

1. For repair sequence, see "REPAIR SEQUENCE DETAILS" sheet.
2. For remove and repair concrete to specified depth and width, see "REPAIR DIMENSIONS" sheet.
3. Existing reinforcement shall be protected in place during concrete removal operation.
4. Damaged and exposed premolded expansion joint filler shall be replaced prior to shotcrete operation, as directed by the Engineer.
5. Remove 1 1/2" x 1 1/2" steel unistrut located adjacent to 6" fillet.
6. Tie all welded wire reinforcement to existing reinforcements.



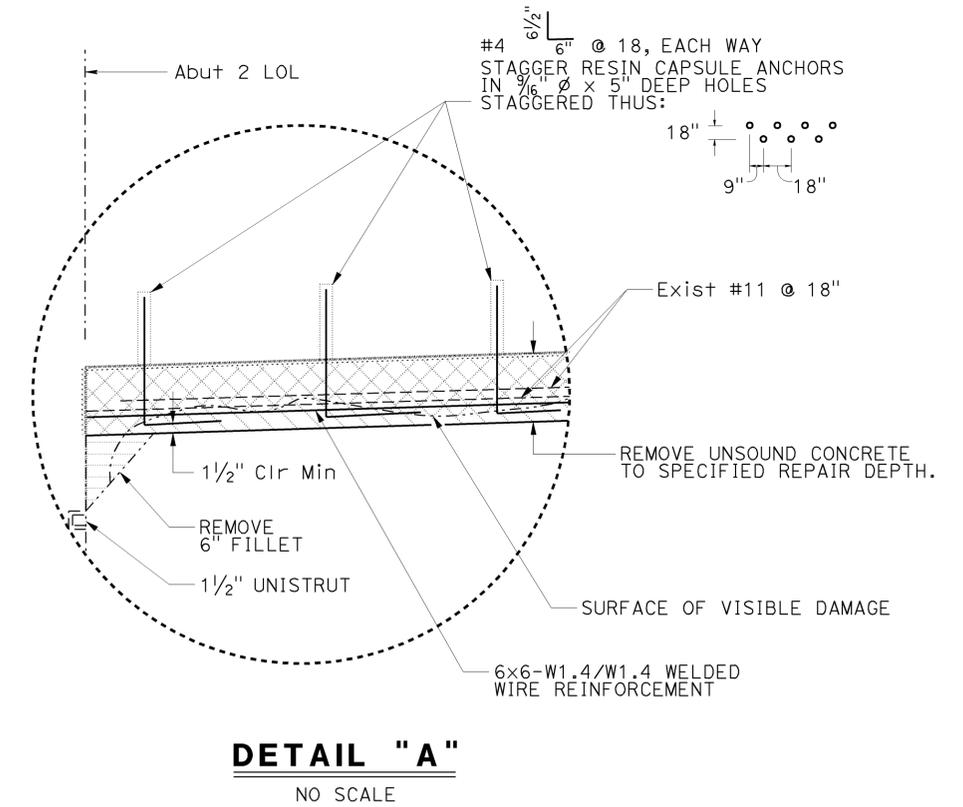
SOFFIT PLAN - VIEWED UPWARD (SPAN 2)

NO SCALE



SECTION D-D (TYP)

NO SCALE



DETAIL "A"

NO SCALE

NOTE: THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL. EXISTING UTILITY FACILITIES HAVE NOT BEEN PLOTTED ON THESE PLANS.

DESIGN	BY Edward Nahm	CHECKED Tony Brake
DETAILS	BY Tom Dang	CHECKED Edward Nahm
QUANTITIES	BY Edward Nahm	CHECKED Tony Brake

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF MAINTENANCE
STRUCTURE MAINTENANCE DESIGN

BRIDGE NO.	53-0577
POST MILE	22.51

EMERGENCY BRIDGE REPAIR

CONNECTOR UC

SOFFIT DETAILS

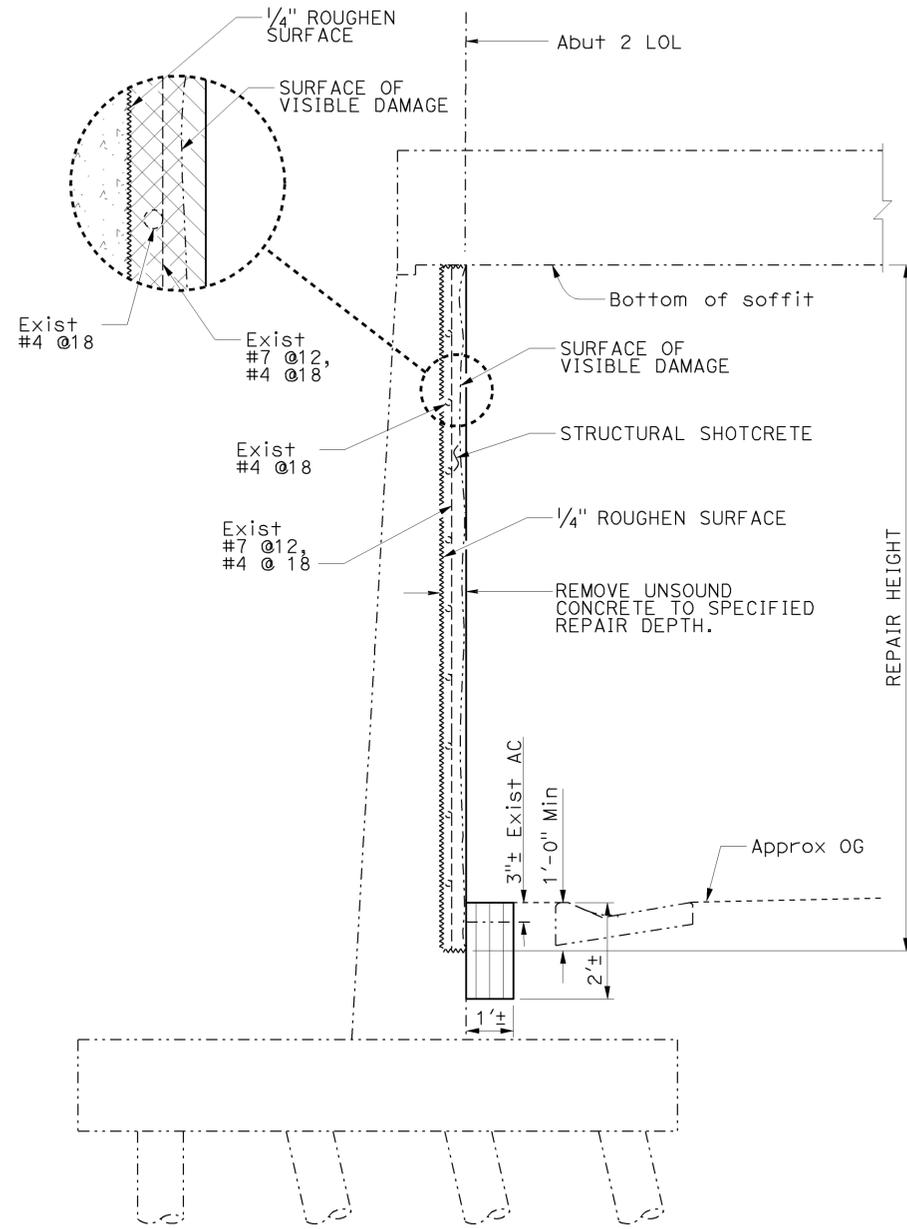
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	2,5	15.1,22.5	63	87
			09/09/13	DATE	
			10-7-13	PLANS APPROVAL DATE	
REGISTERED CIVIL ENGINEER EDWARD J. NAHM No. C66900 Exp. 09/30/14 CIVIL STATE OF CALIFORNIA					
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.					

LEGEND:

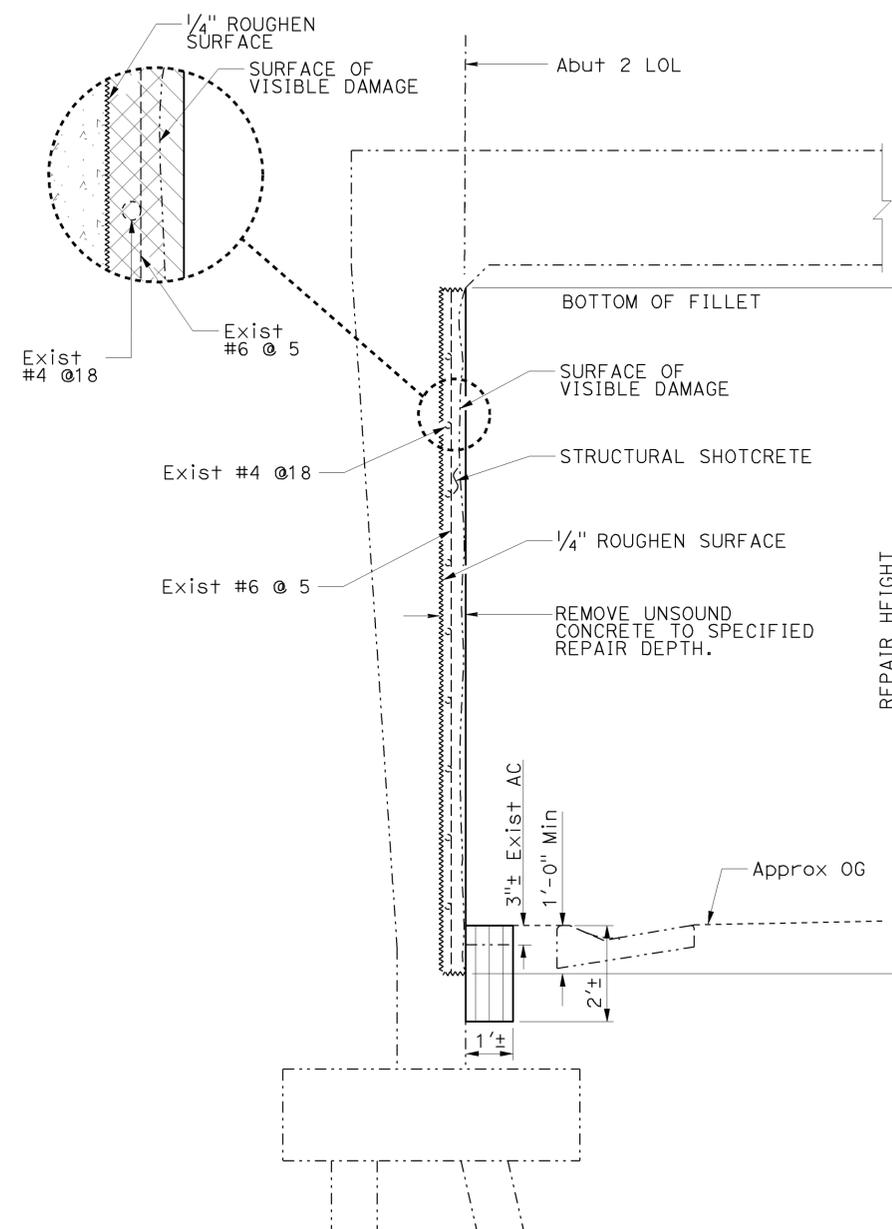
- Indicates existing.
-  Indicates limits of remove unsound concrete.
-  Indicates limits of structural shotcrete.
-  Indicates limits of structure excavation (Bridge).

NOTES:

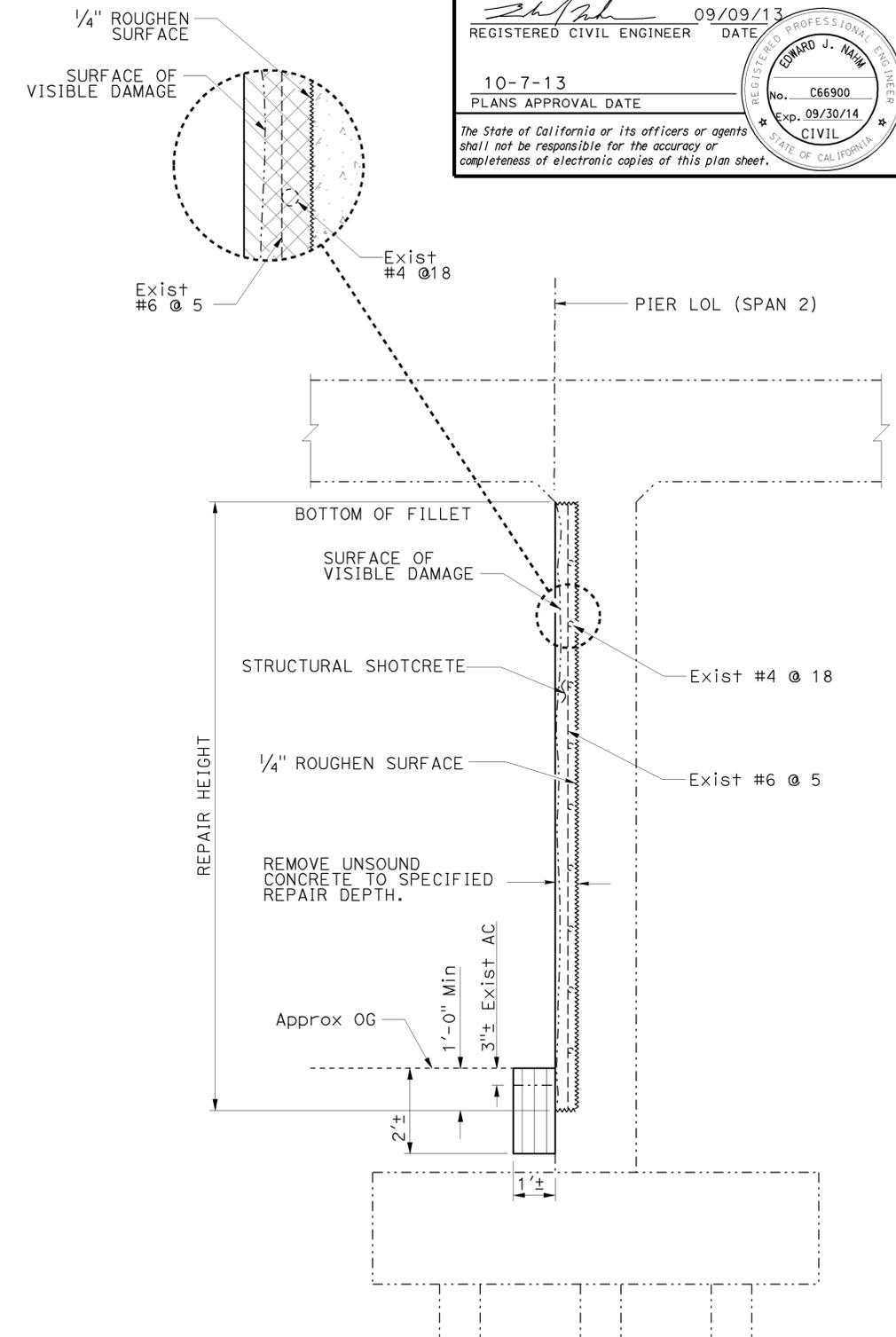
1. For location of SECTION S-S and SECTION T-T, see "ABUTMENT 2 ELEVATION" sheet.
2. For location of SECTION V-V, see "PIER ELEVATION" sheet.
3. For remove and repair concrete to specified depth and height, see "REPAIR DIMENSIONS" sheet.
4. For backfill details, see "ROAD PLANS".
5. For limit of structure excavation, see "PIER ELEVATION" and "ABUTMENT 2 ELEVATION" sheets.



SECTION S-S
NO SCALE



SECTION T-T
NO SCALE



SECTION V-V
NO SCALE

NOTE:
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DESIGN	BY Edward Nahm	CHECKED Tony Brake
DETAILS	BY Tom Dang	CHECKED Edward Nahm
QUANTITIES	BY Edward Nahm	CHECKED Tony Brake

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF MAINTENANCE
STRUCTURE MAINTENANCE DESIGN

BRIDGE NO.	53-0577
POST MILE	22.51

EMERGENCY BRIDGE REPAIR
CONNECTOR UC
WALL PANELS DETAILS

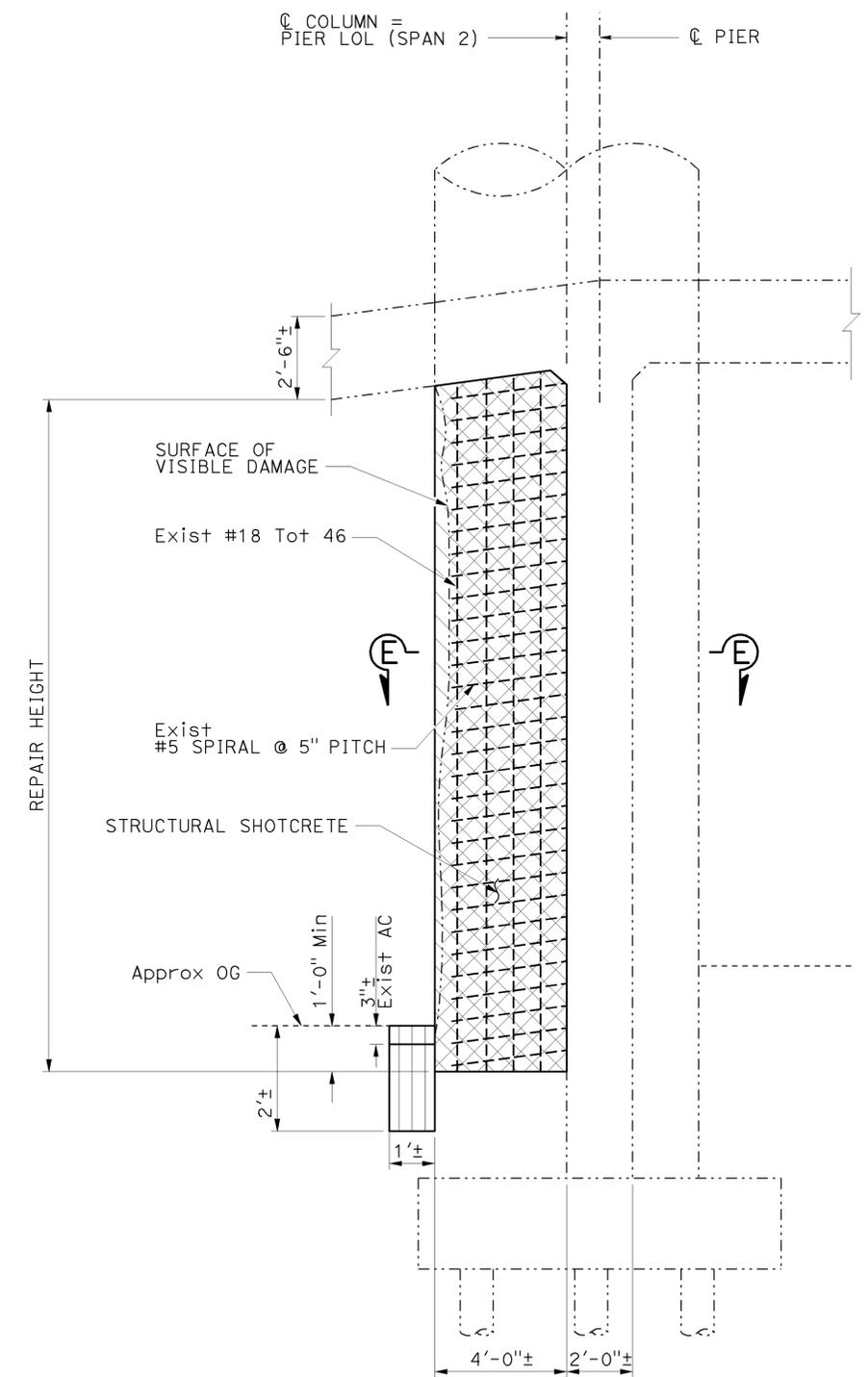
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	2,5	15.1,22.5	64	87
			09/09/13		
			REGISTERED CIVIL ENGINEER		
			10-7-13		
			PLANS APPROVAL DATE		
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.</small>					

NOTES:

1. Sawcut 1/2" deep along perimeter of concrete removal limit.
2. Only existing reinforcements that are intact within repair limit are shown for clarity.
3. For installation of concrete barrier at column, see "ROAD PLANS".
4. For remove and repair concrete to specified depth and height, see "REPAIR DIMENSIONS" sheet.
5. For backfill details, see "ROAD PLANS".
6. For limit of structure excavation, see "PIER ELEVATION" sheet.
7. Surface of new Structural Shotcrete equals existing undamaged original concrete surface.

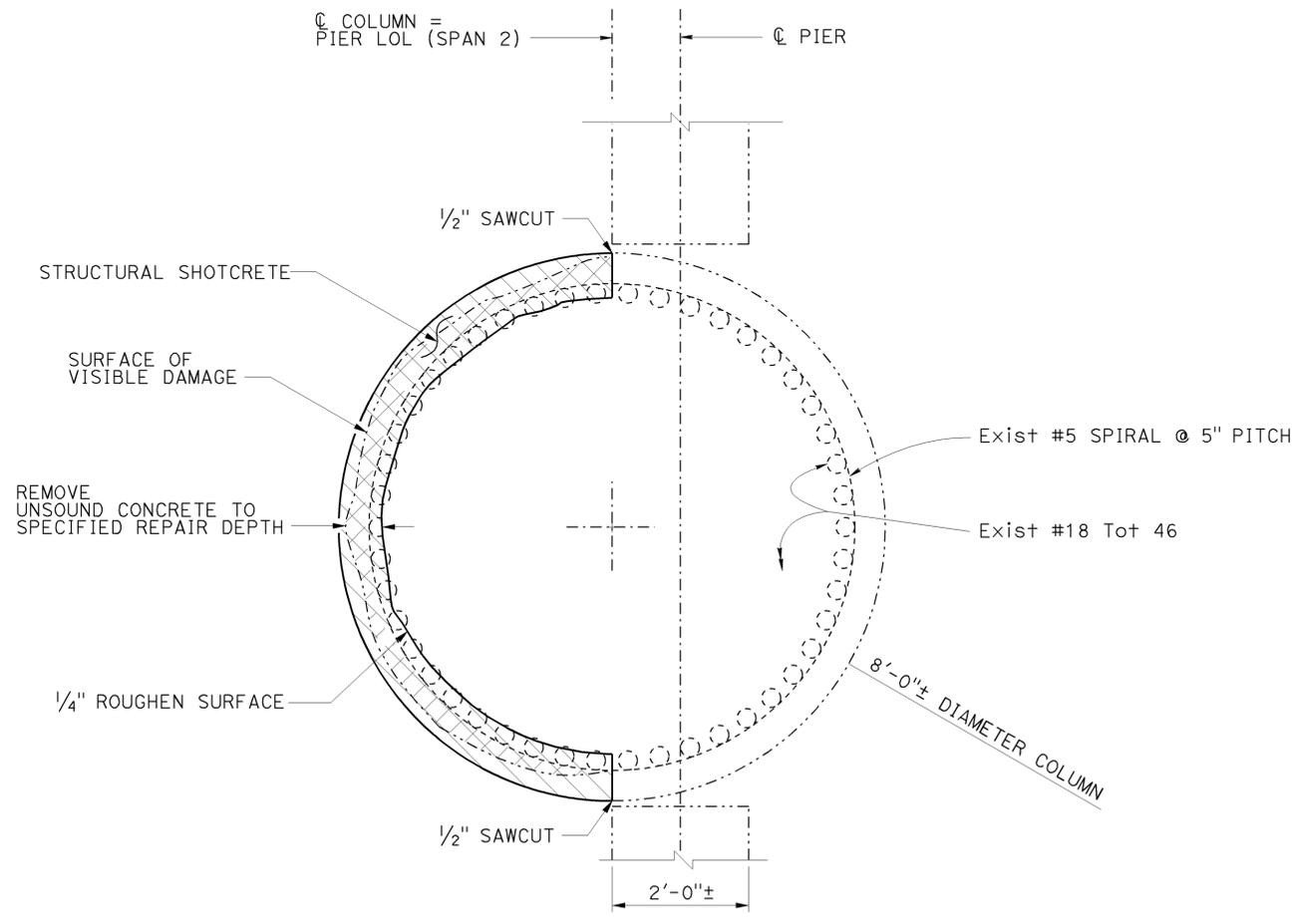
LEGEND:

- Indicates existing.
- Indicates limits of remove unsound concrete.
- Indicates limits of structural shotcrete.
- Indicates limits of structure excavation (Bridge).



COLUMN G_{NB} 9 ELEVATION

NO SCALE



SECTION E-E

NO SCALE

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL. EXISTING UTILITY FACILITIES HAVE NOT BEEN PLOTTED ON THESE PLANS.

DESIGN	BY Edward Nahm	CHECKED Tony Brake
DETAILS	BY Tom Dang	CHECKED Edward Nahm
QUANTITIES	BY Edward Nahm	CHECKED Tony Brake

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF MAINTENANCE
STRUCTURE MAINTENANCE DESIGN

BRIDGE NO.	53-0577
POST MILE	22.51

EMERGENCY BRIDGE REPAIR

CONNECTOR UC
COLUMN DETAILS NO. 1

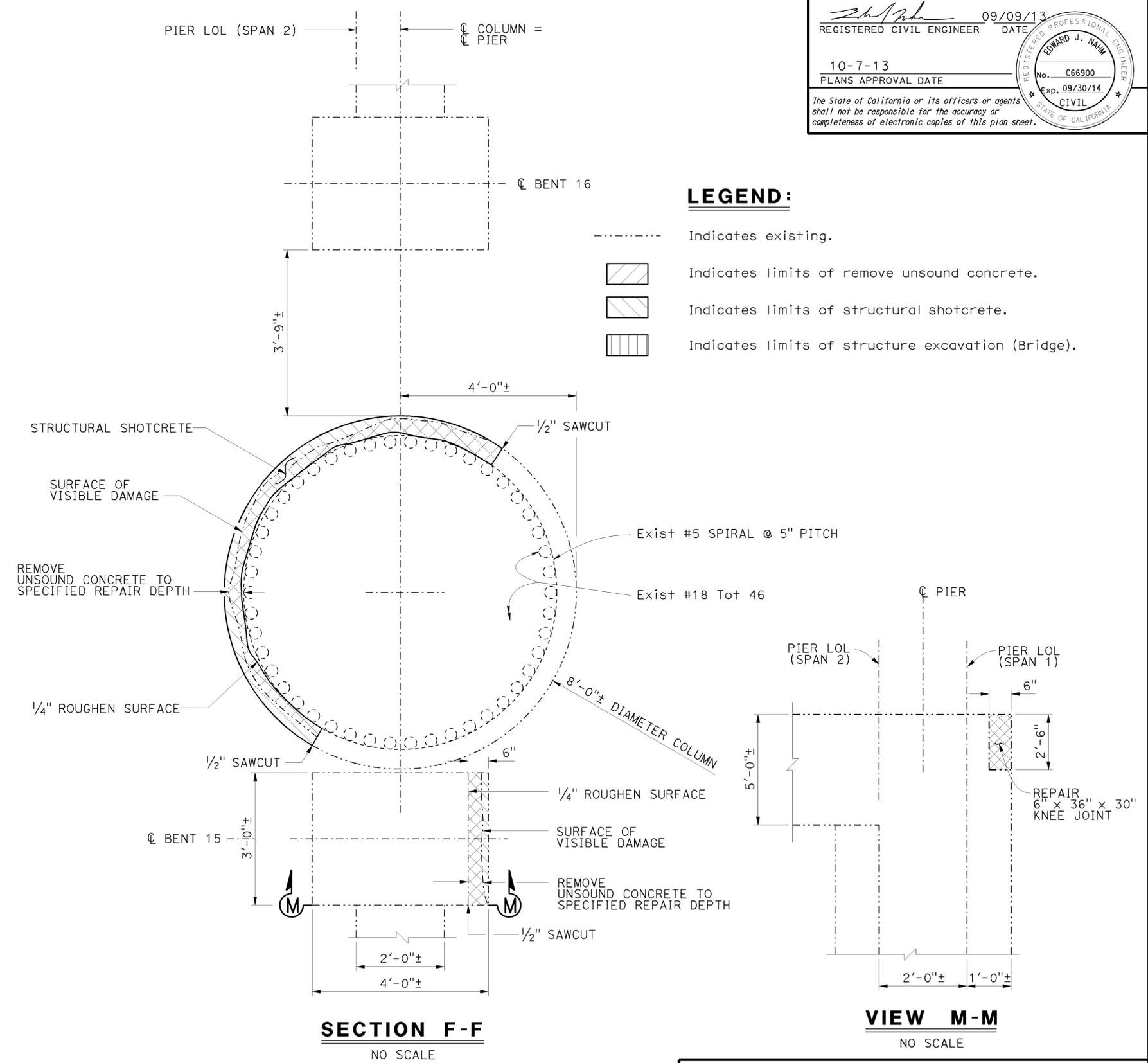
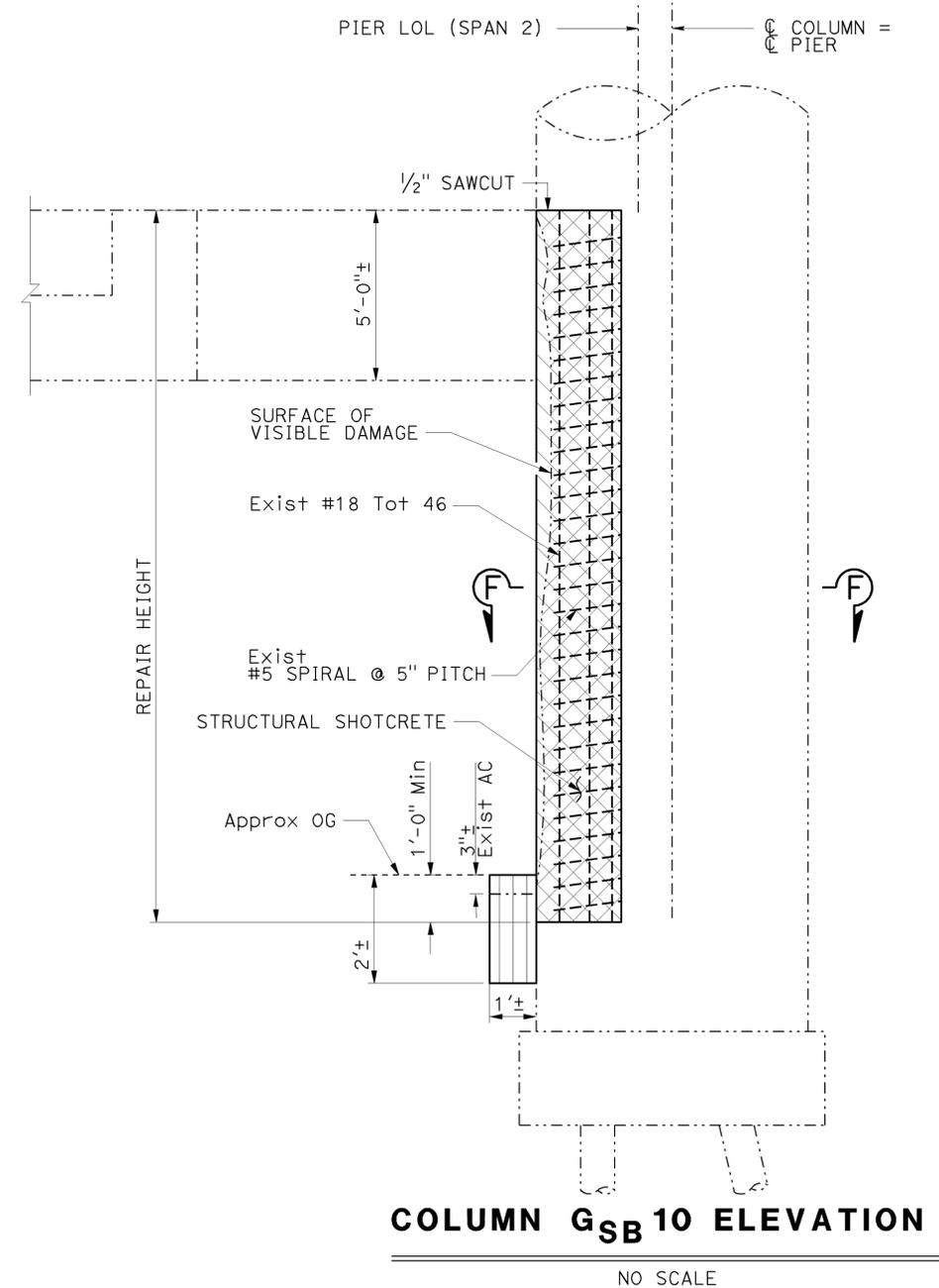
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DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	2,5	15.1,22.5	65	87

09/09/13
 REGISTERED CIVIL ENGINEER DATE
 10-7-13
 PLANS APPROVAL DATE
 No. C66900
 Exp. 09/30/14
 CIVIL
 STATE OF CALIFORNIA
 REGISTERED PROFESSIONAL ENGINEER
 EDWARD J. NAHM
 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.

NOTES:

1. Sawcut 1/2" deep along perimeter of concrete removal limit.
2. Only existing reinforcements that are intact within repair limit are shown for clarity.
3. For installation of concrete barrier at column, see "ROAD PLANS".
4. For remove and repair concrete to specified depth and height, see "REPAIR DIMENSIONS" sheet.
5. For backfill details, see "ROAD PLANS".
6. For limit of structure excavation, see "PIER ELEVATION" sheet.
7. Surface of new Structural Shotcrete equals existing undamaged original concrete surface.



LEGEND:

- Indicates existing.
- [Hatched Box] Indicates limits of remove unsound concrete.
- [Diagonal Line Box] Indicates limits of structural shotcrete.
- [Vertical Line Box] Indicates limits of structure excavation (Bridge).

NOTE:
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DESIGN	BY Edward Nahm	CHECKED Tony Brake
DETAILS	BY Tom Dang	CHECKED Edward Nahm
QUANTITIES	BY Edward Nahm	CHECKED Tony Brake

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

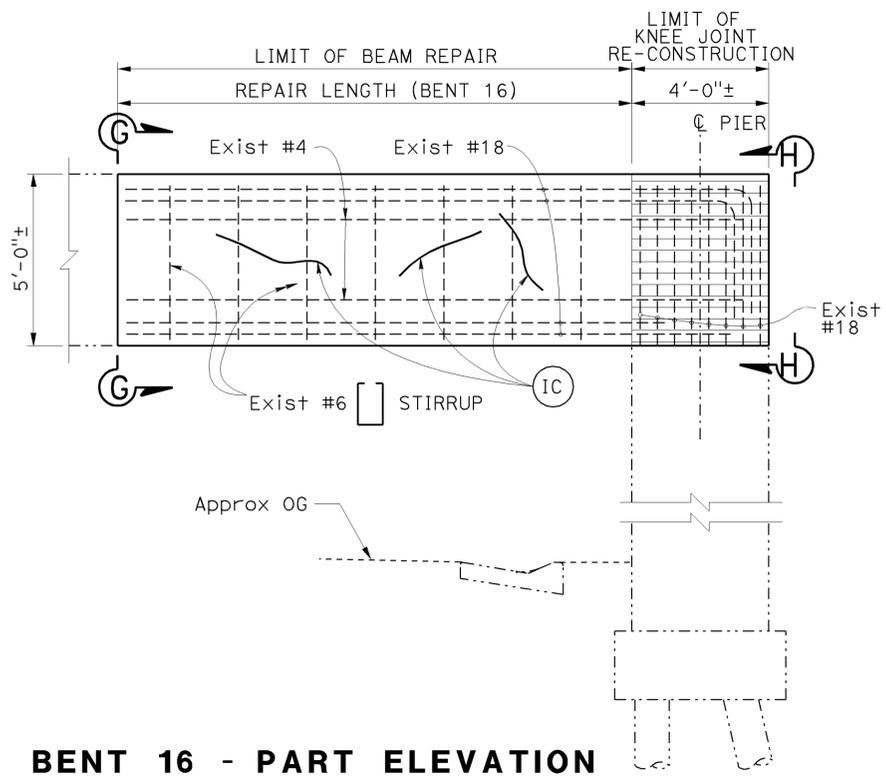
DIVISION OF MAINTENANCE
STRUCTURE MAINTENANCE DESIGN

BRIDGE NO. 53-0577
POST MILE 22.51

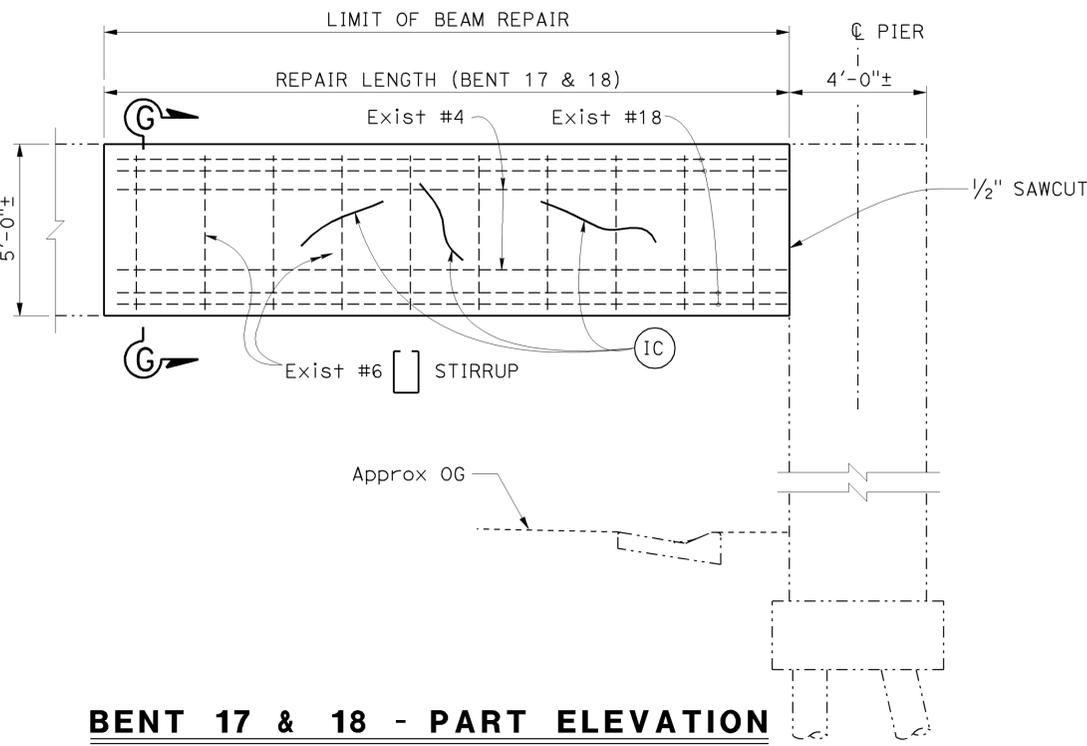
EMERGENCY BRIDGE REPAIR

CONNECTOR UC

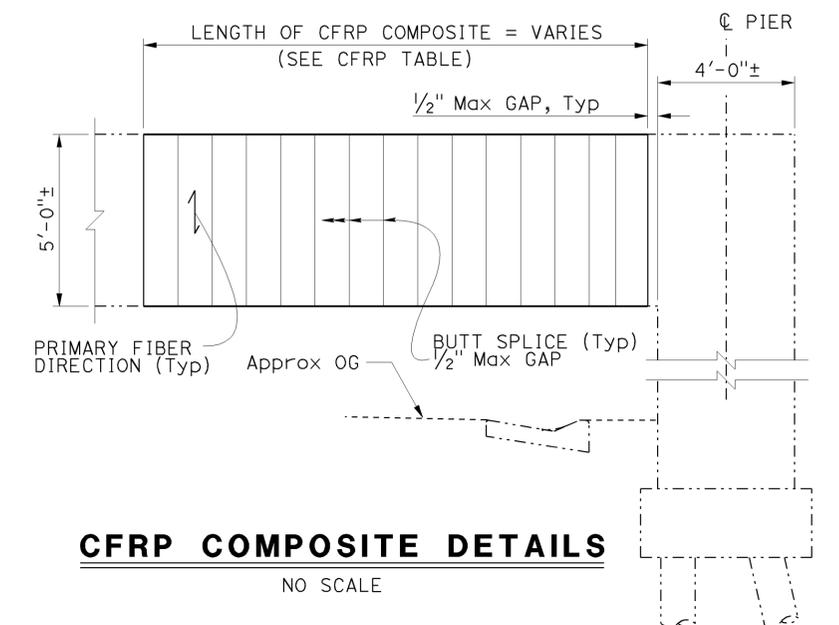
COLUMN DETAILS NO. 2



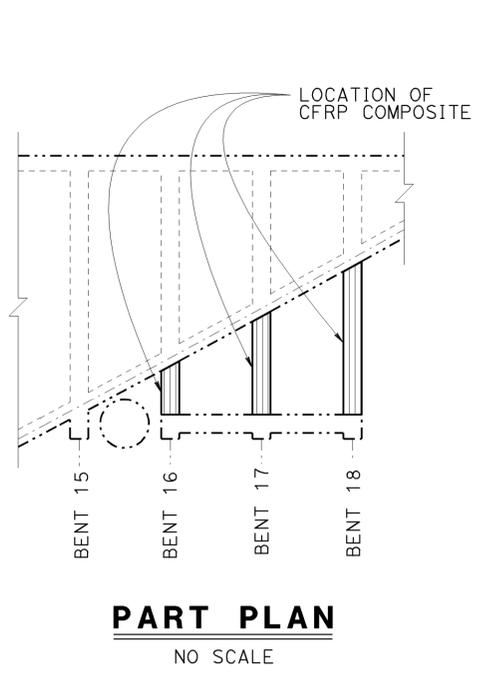
BENT 16 - PART ELEVATION
NO SCALE



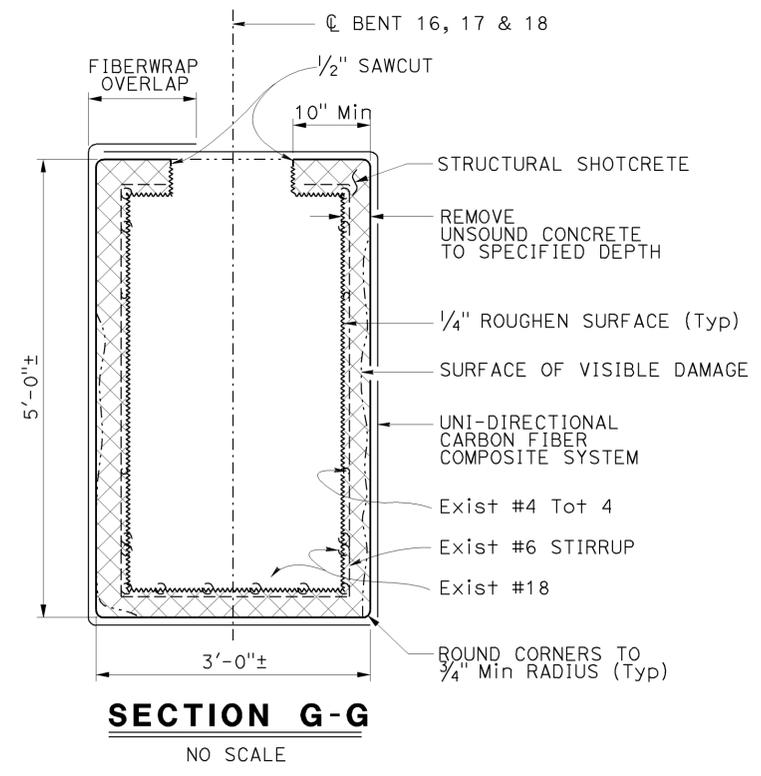
BENT 17 & 18 - PART ELEVATION
NO SCALE



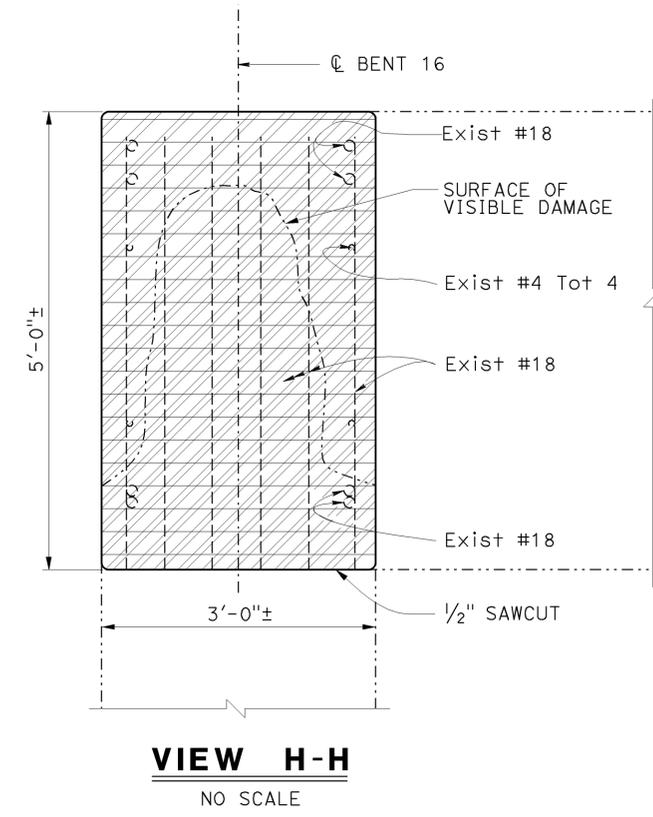
CFRP COMPOSITE DETAILS
NO SCALE



PART PLAN
NO SCALE



SECTION G-G
NO SCALE



VIEW H-H
NO SCALE

LEGEND:

- Indicates existing.
- [Hatched Box] Indicates limits of remove unsound concrete.
- [Diagonal Hatched Box] Indicates limits of structural shotcrete.
- [Horizontal Hatched Box] Indicates limits of structure concrete (Bridge).
- [Vertical Hatched Box] Indicates limits of Bridge Removal (Portion).
- [Dotted Box] Indicates limits of CFRP Composite.
- (IC) Indicates limits of epoxy crack injection.

NOTES:

1. For remove and repair concrete to specified depth and length, see "REPAIR DIMENSIONS" sheet.
2. For limit of Knee Joint re-construction, see "REPAIR DIMENSIONS" sheet.
3. CFRP Composite: Carbon Fiber Reinforced Polymer composite.

CFRP TABLE		
LOCATION	LENGTH OF CFRP COMPOSITE (ft)	NUMBER OF CFRP LAYERS
BENT 16	8±	2
BENT 17	16±	3
BENT 18	24±	4

EMERGENCY BRIDGE REPAIR
CONNECTOR UC
BEAM DETAILS

NOTE: THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL. EXISTING UTILITY FACILITIES HAVE NOT BEEN PLOTTED ON THESE PLANS.

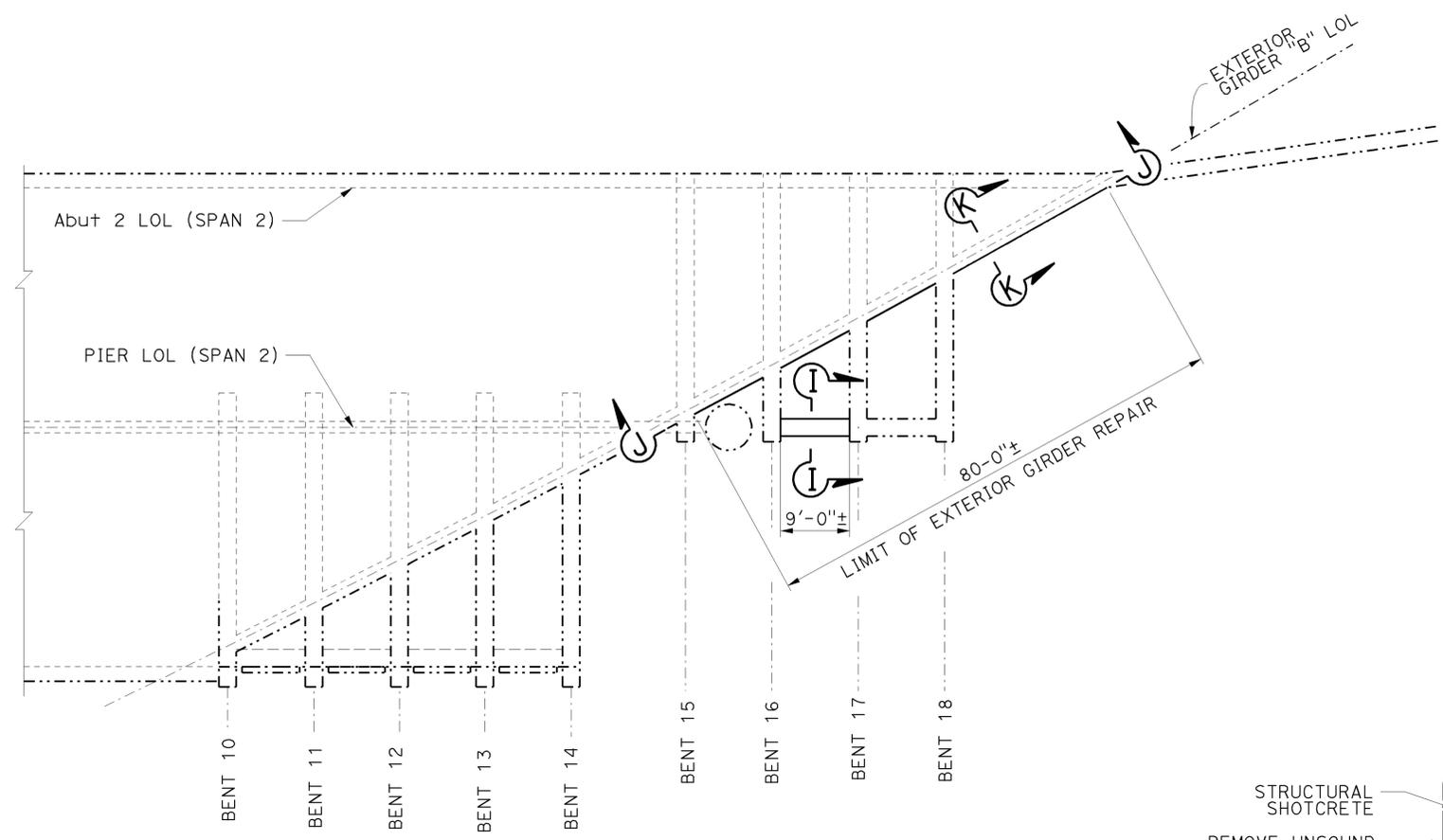
DESIGN	BY Edward Nahm	CHECKED Tony Brake
DETAILS	BY Tom Dang	CHECKED Edward Nahm
QUANTITIES	BY Edward Nahm	CHECKED Tony Brake

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF MAINTENANCE
STRUCTURE MAINTENANCE DESIGN

BRIDGE NO. 53-0577
POST MILE 22.51

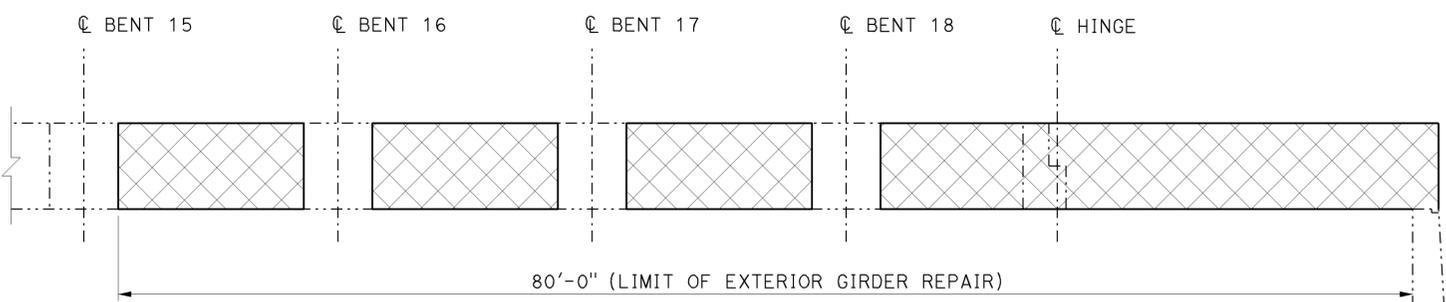
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	2,5	15.1,22.5	67	87
			09/09/13	DATE	
			10-7-13	PLANS APPROVAL DATE	
REGISTERED CIVIL ENGINEER No. C66900 Exp. 09/30/14 CIVIL STATE OF CALIFORNIA					



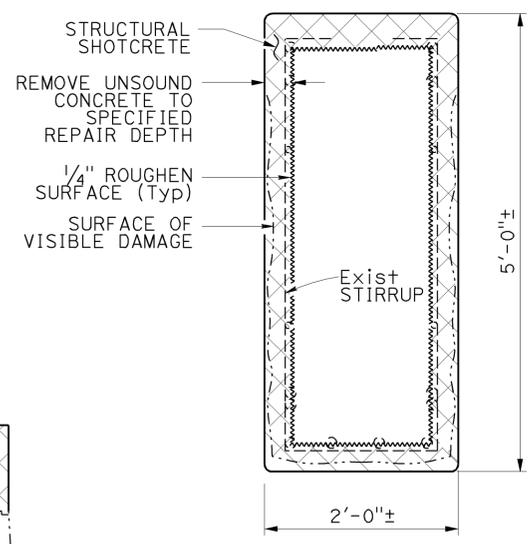
PART PLAN
NO SCALE

- LEGEND:**
- Indicates existing.
 - Indicates limits of remove unsound concrete.
 - Indicates limits of structural shotcrete.

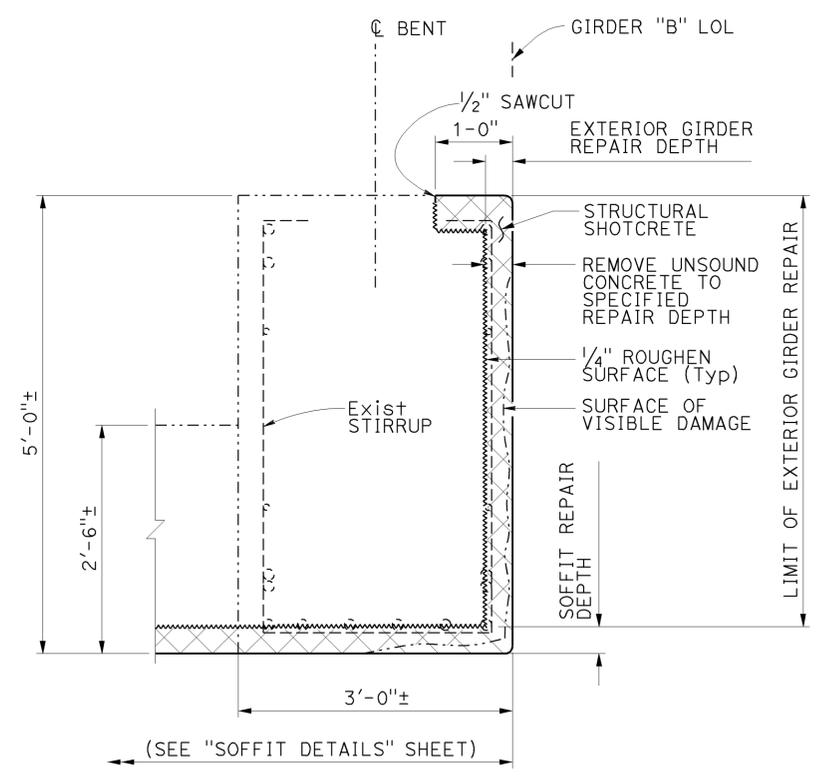
- NOTES:**
- For remove and repair concrete to specified depth and length, see "REPAIR DIMENSIONS" sheet.
 - Existing soffit reinforcements are not shown for clarity.



VIEW J-J
NO SCALE



SECTION I-I
NO SCALE



SECTION K-K
NO SCALE

NOTE: THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL. EXISTING UTILITY FACILITIES HAVE NOT BEEN PLOTTED ON THESE PLANS.

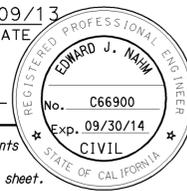
DESIGN	BY Edward Nahm	CHECKED Tony Brake
DETAILS	BY Tom Dang	CHECKED Edward Nahm
QUANTITIES	BY Edward Nahm	CHECKED Tony Brake

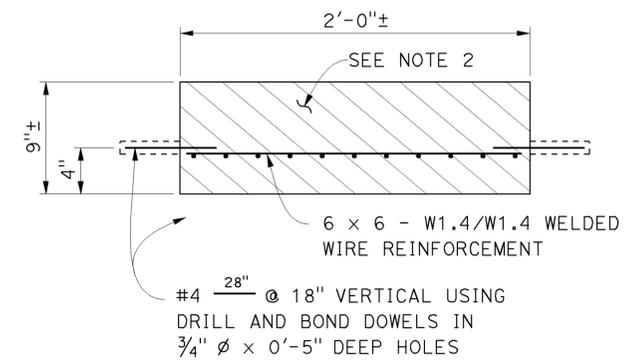
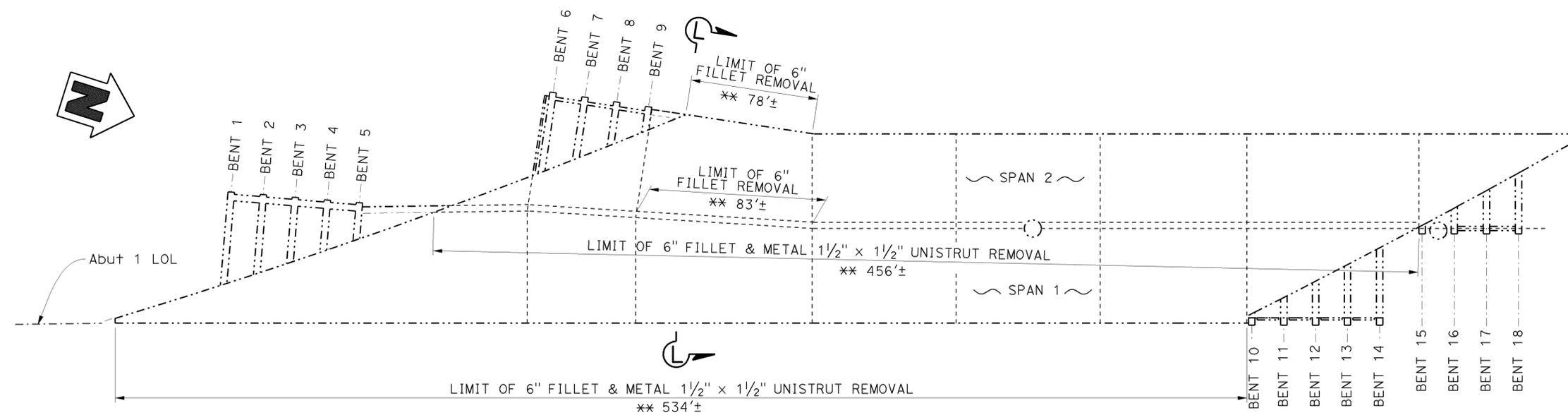
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF MAINTENANCE
STRUCTURE MAINTENANCE DESIGN

BRIDGE NO.	53-0577
POST MILE	22.51

EMERGENCY BRIDGE REPAIR
CONNECTOR UC
EXTERIOR GIRDER DETAILS

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	2,5	15.1,22.5	68	87
 REGISTERED CIVIL ENGINEER			09/09/13	DATE	
10-7-13 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>					



SECTION M-M
NO SCALE

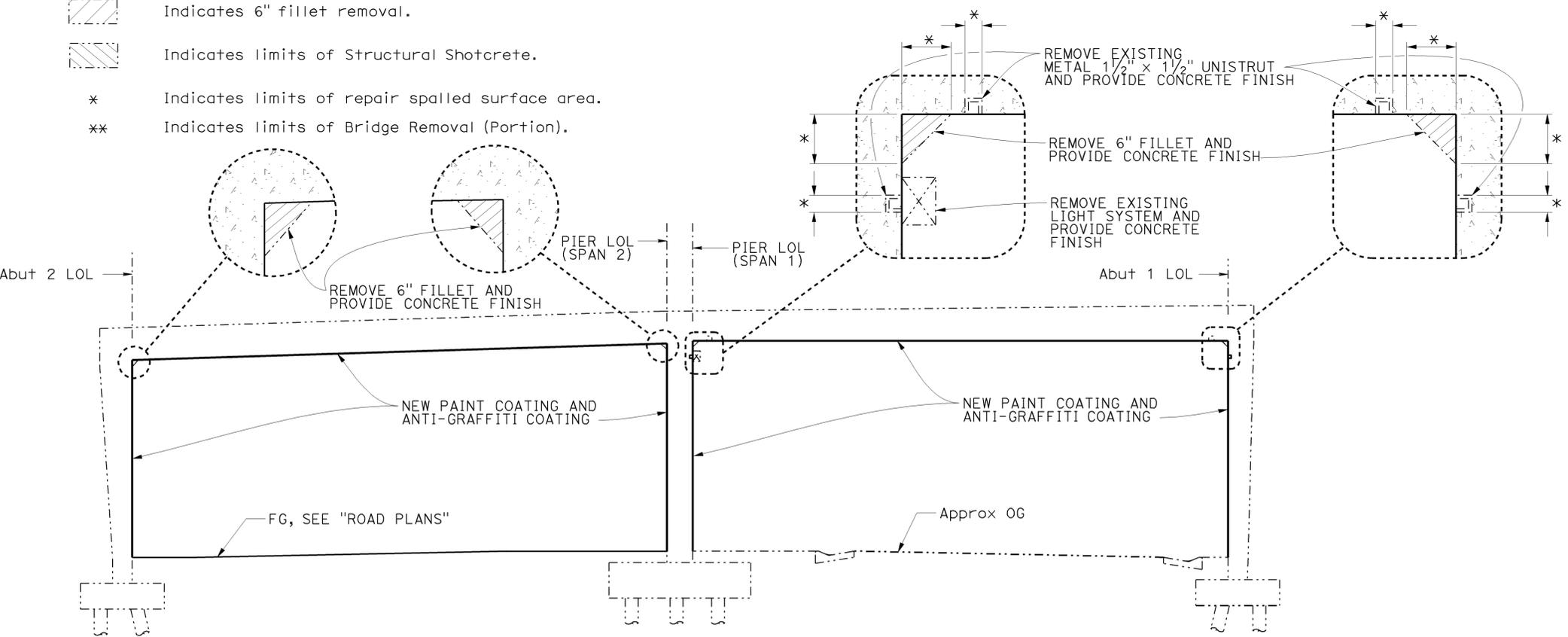
LEGEND:

- - - - - Indicates existing.
- — — — — Indicates limits of Paint coating application and Anti-Graffiti coating application.
-  Indicates existing light system and metal 1/2" X 1/2" unistrut removal.
-  Indicates 6" fillet removal.
-  Indicates limits of Structural Shotcrete.
- * Indicates limits of repair spalled surface area.
- ** Indicates limits of Bridge Removal (Portion).

PLAN
NO SCALE

NOTES:

- For location of SECTION M-M, see "PIER ELEVATION" sheet.
- Remove Electrical Panel and fill void with Structural Shotcrete.
- For removal of electrical fixtures in Span 1, see "ELECTRICAL PLANS".



SECTION L-L
NO SCALE

PAINT COATING & ANTI-GRAFFITI COATING TABLE	
LOCATION	APPROXIMATE PAINT AREA (SQFT)
Abut 1 LOL	11600
Pier LOL (Span 1)	10100
Pier LOL (Span 2)	9600
Abut 2 LOL	7900
Soffit (Span 1)	20500
Soffit (Span 2)	18900
Column G _{NB} 9	250
Column G _{SB} 10	300
Outrigger Beams	7100
Outrigger Columns	3800
Outrigger Beam Diaphragms	220
Entrance Walls (SB)	3800
Exit Walls (SB & NB)	3800
Exterior Girders "A" & "B"	2300

NOTE: THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL. EXISTING UTILITY FACILITIES HAVE NOT BEEN PLOTTED ON THESE PLANS.

DESIGN	BY Edward Nahm	CHECKED Tony Brake
DETAILS	BY Tom Dang	CHECKED Edward Nahm
QUANTITIES	BY Edward Nahm	CHECKED Tony Brake

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF MAINTENANCE
STRUCTURE MAINTENANCE DESIGN

BRIDGE NO.	53-0577
POST MILE	22.51

EMERGENCY BRIDGE REPAIR
CONNECTOR UC
MISCELLANEOUS DETAILS

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	2,5	15.1,22.5	69	87

09/09/13
 REGISTERED CIVIL ENGINEER DATE

10-7-13
 PLANS APPROVAL DATE

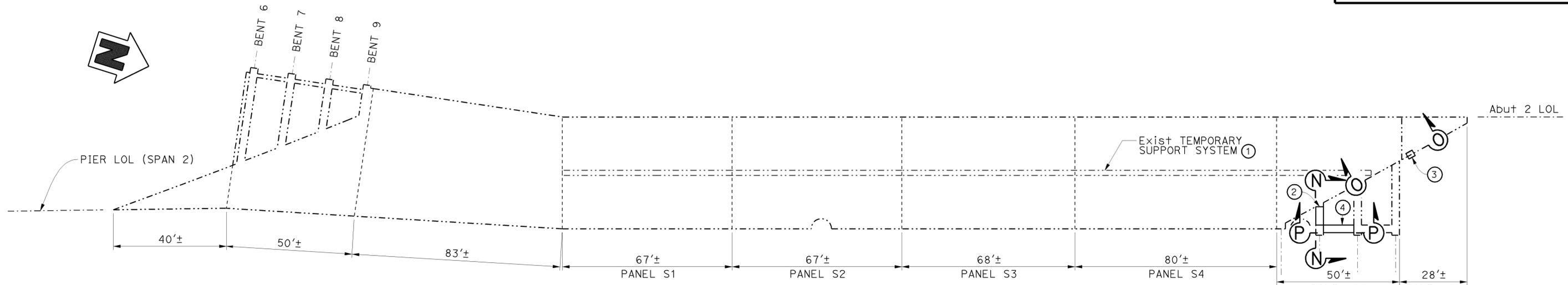
EDWARD J. NAHM
 No. C66900
 Exp. 09/30/14
 CIVIL
 STATE OF CALIFORNIA

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TEMPORARY SUPPORT TABLE					
BRIDGE NAME	BRIDGE NUMBER	LOCATION	DL+LL+I (Kips)	DL (Kips)	LATERAL LOAD (Kips)
CONNECTOR UC	53-0577	①	N/A	N/A	N/A
		②	85	85	2
		③	205	130	3
		④	15	15	0.5

NOTES:

- Existing Temporary Support System ①
- Temporary Support System ② & ④
 - Vertical temporary supports shown shall be located prior to Bent 16 knee joint repair.
- Temporary Support System ③
 - Vertical temporary supports shown shall be located prior to Bent 18 outrigger beam repair.

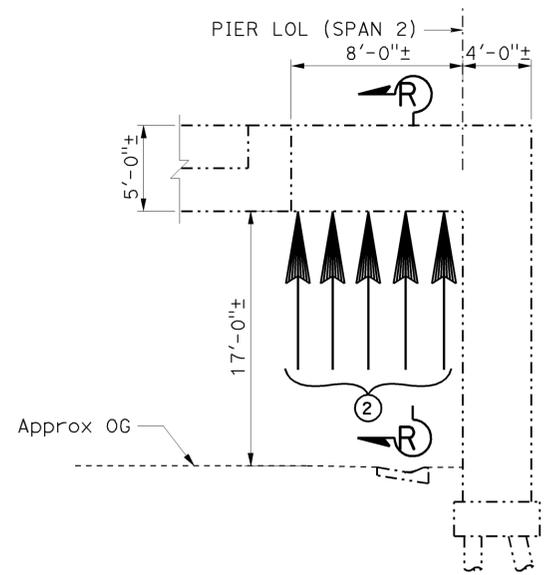


PLAN VIEW - SPAN 2

NO SCALE

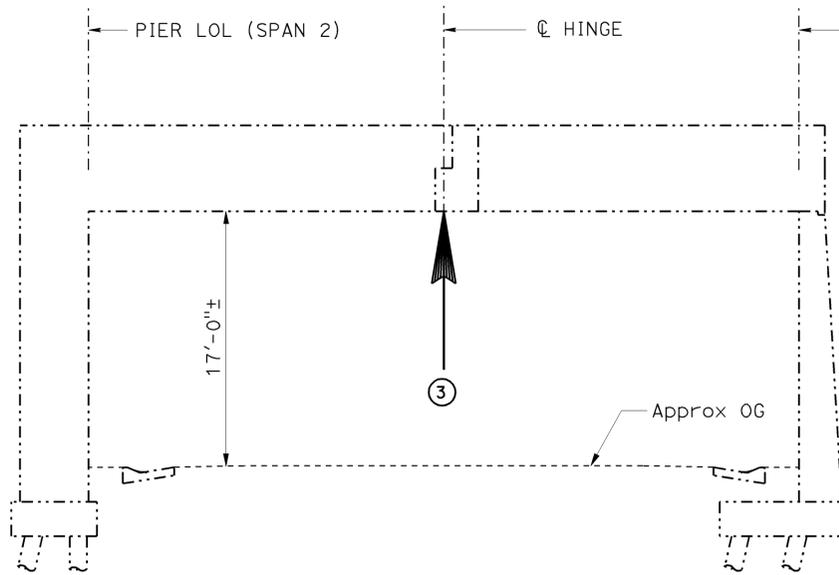
LEGEND:

- Indicates existing.
- ⊗ Indicates Temporary Support System No.
- ↑ Indicates location of Temporary Support System



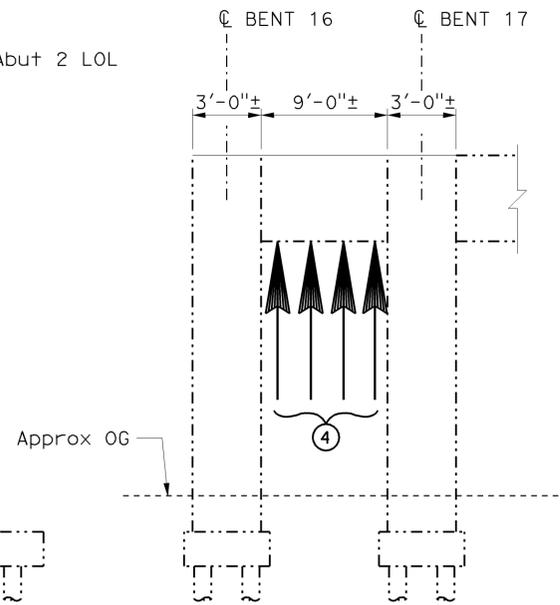
SECTION N-N

NO SCALE



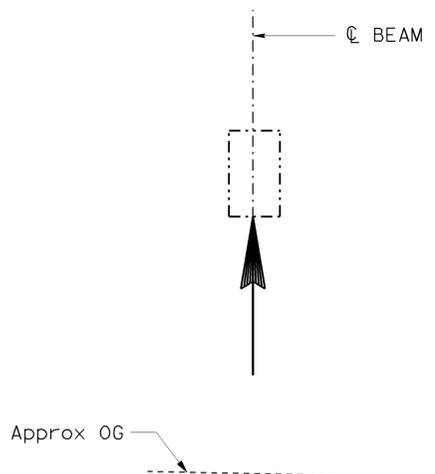
SECTION O-O

NO SCALE



SECTION P-P

NO SCALE



SECTION R-R

NO SCALE

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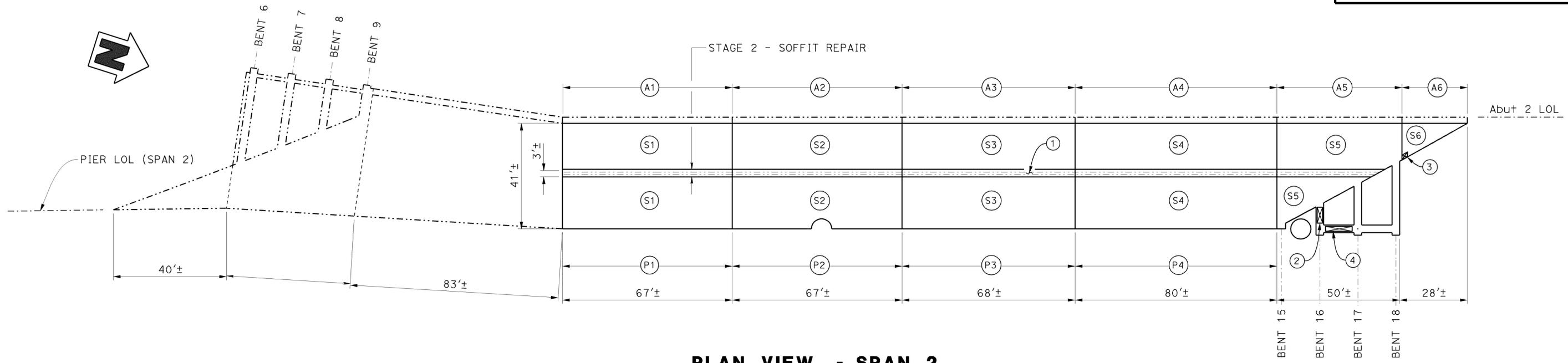
DESIGN	BY Edward Nahm	CHECKED Tony Brake
DETAILS	BY Tom Dang	CHECKED Edward Nahm
QUANTITIES	BY Edward Nahm	CHECKED Tony Brake

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

DIVISION OF MAINTENANCE
 STRUCTURE MAINTENANCE DESIGN

BRIDGE NO.	53-0577
POST MILE	22.51

EMERGENCY BRIDGE REPAIR
CONNECTOR UC
TEMPORARY SUPPORT DETAILS



PLAN VIEW - SPAN 2
NO SCALE

REPAIR SEQUENCE TABLE			
REPAIR SEQUENCE	TEMPORARY SUPPORT SYSTEM IN PLACE		REPAIR LOCATION
1	②④	NB	Bent 16 Knee Joint
	①	NB	ⓐ1ⓐ2ⓐ3ⓐ4ⓐ5ⓐ6
	③	NB	Bent 18 Outrigger Beam
	N/A	SB	Remove 6" fillet
2	①	NB	ⓐ1ⓐ2ⓐ3ⓐ4ⓐ5ⓐ6, Columns G _{NB9} & G _{SB10}
	①	NB	Bent 16 & 17 Outrigger Beams
	①	NB	Fiberwrap Outrigger Beams 16, 17 & 18
	①	NB	ⓐ5ⓐ6
	N/A	NB	Exterior Girder "B"
3	N/A	NB	Stage 2 Soffit Panels, Exterior Girder
4	N/A	NB,SB	Prepare & Paint
	N/A	SB	Electrical Work
5	N/A	NB	Electrical Work

LEGEND:

- ⓐ1~ⓐ6 Indicates Abutment 2 Wall Panels designation.
- ⓐ1~ⓐ4 Indicates Pier Wall Panels designation.
- ⓐ1~ⓐ6 Indicates Soffit Panels of Stage 1 designation.
- ① Indicates Existing Temporary Support System designation.
- ②~④ Indicates Temporary Support System designation.
- ▭ ▯ ▮ Indicates location of Temporary Support System ②, ③ & ④

NOTE:

1. Structural shotcrete to be cured 7 days or 2,500 psi minimum (which ever occur first) between repair sequences "1" and "2".
2. Structural shotcrete to be cured 7 days or 2,500 psi minimum (which ever occur first) between repair sequences "2" and "3".
3. For location of Temporary Support System, see "TEMPORARY SUPPORT DETAILS" sheet.

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DETAILS	BY Tom Dang	CHECKED Edward Nahm
QUANTITIES	BY Edward Nahm	CHECKED Tony Brake

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF MAINTENANCE
STRUCTURE MAINTENANCE DESIGN

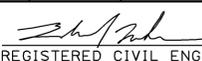
BRIDGE No. 53-0577
POST MILE 22.51

EMERGENCY BRIDGE REPAIR

CONNECTOR UC

REPAIR SEQUENCE DETAILS

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	2,5	15.1,22.5	71	87

 09/09/13
 REGISTERED CIVIL ENGINEER DATE

10-7-13
 PLANS APPROVAL DATE

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ABUTMENT WALL REPAIR TABLE			
LOCATION	REPAIR DEPTH (in)	REPAIR HEIGHT (ft)	REPAIR LENGTH (ft)
A1-1	2 3/4	15	19
A1-2	2 3/4	15	30
A1-3	4	15	18
A2-1	2 3/4	15	23
A2-2	4	15	32
A2-3	4	15	12
A3-1	4	15	20
A3-2	4	15	30
A3-3	4	15	18
A4-1	2 3/4	15	28
A4-2	2 3/4	15	30
A4-3	4	15	22
A5-1	2 7/8	16	24
A5-2	2 7/8	17	26
A6	2 7/8	18	28

PIER WALL REPAIR TABLE			
LOCATION	REPAIR DEPTH (in)	REPAIR HEIGHT (ft)	REPAIR LENGTH (ft)
P1	4	18	67
P2	4	19	67
P3	4	19	68
P4	2 3/4	18	80
B15 COLUMN	2 3/4	18	3

SOFFIT REPAIR TABLE			
LOCATION	REPAIR DEPTH (in)	REPAIR WIDTH (ft)	REPAIR LENGTH (ft)
S1	3	41	67
S2	4	41	67
S3	4	41	68
S4	4	41	80
S5	4	14 to 41 Var	50
S6	4	0 to 14 Var	28

COLUMN REPAIR TABLE			
LOCATION	REPAIR DEPTH (in)	REPAIR HEIGHT (ft)	REPAIR PERIMETER (ft)
G _{NB} 9	4	18	13
G _S B10	2 5/8	22	13

EXTERIOR GIRDER REPAIR TABLE			
LOCATION	REPAIR DEPTH (in)	REPAIR PERIMETER (ft)	REPAIR LENGTH (ft)
GIRDER "B"	2 3/4	6	71
DIAPHRAGM BEAM	2 3/4	14	9

OUTRIGGER BEAM REPAIR TABLE		
LOCATION	REPAIR DEPTH (in)	REPAIR LENGTH (ft)
BENT 16	2 3/4	6
BENT 17	2 3/4	16
BENT 18	2 3/4	24

OUTRIGGER BEAM KNEE JOINT RECONSTRUCTION TABLE			
LOCATION	REPAIR WIDTH (ft)	REPAIR HEIGHT (ft)	REPAIR LENGTH (ft)
BENT 16	3	5	4

- NOTE:**
- Limit of repair depth is from the face of original concrete surface to roughen surface.
 - All table dimensions are approximate.
 - Surface of new concrete repair equals existing undamaged original concrete surface.

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DESIGN	BY Edward Nahm	CHECKED Tony Brake
DETAILS	BY Tom Dang	CHECKED Edward Nahm
QUANTITIES	BY Edward Nahm	CHECKED Tony Brake

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF MAINTENANCE
STRUCTURE MAINTENANCE DESIGN

BRIDGE NO.	53-0577
POST MILE	22.51

EMERGENCY BRIDGE REPAIR	
CONNECTOR UC	
REPAIR DIMENSIONS	

USERNAME => s117283 DATE PLOTTED => 27-SEP-2013 TIME PLOTTED => 07:06

GRAPHIC SYMBOLS FOR ELECTRICAL WIRING AND LAYOUT DIAGRAMS

SYMBOL	DESCRIPTION
	POLE-TOP ELECTROLIER
	POLE-ARM ELECTROLIER
CEILING	WALL
	SURFACE FLUORESCENT, METAL HALIDE, LED, OR SODIUM VAPOR FIXTURE
	RECESSED FLUORESCENT, METAL HALIDE, LED, OR SODIUM VAPOR FIXTURE
	EXIT LIGHT
	SURFACE OR PENDANT INDIVIDUAL FLUORESCENT OR LED FIXTURE
	RECESSED INDIVIDUAL FLUORESCENT OR LED FIXTURE
	SURFACE OR PENDANT CONTINUOUS ROW FLUORESCENT OR LED FIXTURES
NOTE:	A LOWER CASE LETTER NEAR GRAPHIC LIGHTING FIXTURE SYMBOL DENOTES THAT FIXTURE IS CONTROLLED BY A SIMILARLY MARKED SWITCH, AN ALPHA-NUMERIC SYMBOL NEAR GRAPHIC LIGHTING FIXTURE SYMBOL DENOTES FIXTURE TYPE, (I=INCANDESCENT, F=FLUORESCENT, MH=METAL HALIDE, H=HIGH PRESSURE SODIUM VAPOR, L=LED), DESIGN TYPE, NUMBER OF LAMPS AND WATTAGE.
	EXAMPLE : (4) F2-2x32
	BLANK OUTLET
	JUNCTION BOX
	DROP CORD
	SINGLE RECEPTACLE OUTLET
	DUPLEX RECEPTACLE OUTLET
	DUPLEX RECEPTACLE OUTLET (WITH GFCI)
	DUPLEX RECEPTACLE OUTLET, WEATHERPROOF (WITH GFCI)
	SINGLE, SPECIAL PURPOSE RECEPTACLE OUTLET
	DUPLEX, SPECIAL PURPOSE RECEPTACLE OUTLET
	RANGE OUTLET
	CLOCK HANGER RECEPTACLE
	FAN HANGER RECEPTACLE
	FLOOR SINGLE RECEPTACLE OUTLET
	FLOOR DUPLEX RECEPTACLE OUTLET
	FLOOR SPECIAL PURPOSE OUTLET
	FLOOR RADIO OUTLET
	FLOOR TELEPHONE OUTLET
	MULTI-FLOOR OUTLET, 2 OR MORE GANG
	MULTI-OUTLET ASSEMBLY
	SWITCH AND SINGLE RECEPTACLE
	SWITCH AND DUPLEX RECEPTACLE
	RADIO OUTLET
	COMMUNICATION OUTLET
	SOUND SYSTEM LOUD SPEAKER OUTLET
	RADIO OUTLET
	TELEVISION OUTLET
	MICROPHONE OUTLET
	THERMOSTAT

SYMBOL	DESCRIPTION
S	SINGLE-POLE SWITCH
S2	DOUBLE-POLE SWITCH
S3	THREE-WAY SWITCH
S4	FOUR-WAY SWITCH
SD	AUTOMATIC DOOR
SK	KEY OPERATED SWITCH
SP	SWITCH AND PILOT LIGHT
SMC	MOMENTARY CONTACT SWITCH
SR	REMOTE CONTROL SWITCH
SWP	WEATHERPROOF SWITCH
SF	FAN SWITCH
SL	LIGHT SWITCH
SH	HEATER SWITCH
SVS	VARIABLE SPEED MOTOR CONTROL SWITCH
SCHLF	TWO TIMER SWITCHES, ONE SWITCH FOR LIGHT AND FAN AND ONE SWITCH FOR HEAT LAMP
S0	OCCUPANCY SENSOR WALL SWITCH, SINGLE LEVEL
S2	OCCUPANCY SENSOR WALL SWITCH, BILEVEL
SM	MOTION SENSOR SWITCH
ST	MANUAL MOTOR STARTING SWITCH, THERMAL OVERLOAD TYPE
SHP	MANUAL MOTOR STARTING SWITCH, WITHOUT OVERLOAD ELEMENT
TS	TIMER SWITCH
	PUSHBUTTON
	PUSHBUTTON STATION, NC, WITH LOCKING DEVICE FOR OPEN
	PUSHBUTTON STATION MOTOR CONTROL
	BUZZER
	BELL
	COMBINATION BELL-BUZZER
	PRESSURE SWITCH
	CONTROL RELAY
	FLOW SWITCH
	PHOTOELECTRIC UNIT
	HAND DRYER NOZZLE
	HAND DRYER
	FLUSH-MOUNTED PANELBOARD AND CABINET
	SURFACE-MOUNTED PANELBOARD AND CABINET
	LIGHTING PANEL
	POWER PANEL
	COMBINATION LIGHTING AND POWER
	MOTOR CONTROLLER
	DISCONNECT SWITCH
---	CONDUIT CONCEALED IN CEILING OR WALL
----	CONDUIT CONCEALED IN FLOOR
-x-x-	CONDUIT EXPOSED
-#-#-	CROSS-LINES INDICATE NUMBER OF #12 AWG CONDUCTORS. LONGER CROSS-LINE INDICATES 1#12 AWG (G) FOR EQUIPMENT GROUNDING CONDUCTOR. NO CROSS-LINE INDICATES 2#12 WITH 1#12 (G) UNLESS OTHERWISE NOTED. ALL CONDUIT 1/2" UNLESS OTHERWISE NOTED.
A1,2	HOMERUN TO PANELBOARD, ARROWS INDICATE NUMBER OF CIRCUITS, LETTER DENOTES PANELBOARD, NUMERAL DENOTES CIRCUIT

SYMBOL	DESCRIPTION
—SM—	SURFACE METAL RACEWAY
(2) 1/2" C, PVC, 2#12	CONDUCTOR INFO (PER CONDUIT) CONDUIT TYPE CONDUIT SIZE NUMBER OF CONDUITS (NO NUMBER INDICATES ONE CONDUIT)
—MC—	CONDUIT, TYPE 1
—PVC—	CONDUIT, TYPE 3
	CONDUIT, FLEXIBLE
	CONDUIT, TURN UP
	CONDUIT, TURN DOWN
	CONDUIT SEAL, EXPLOSION-PROOF
	CONDUIT, EXPANSION JOINT
	ADAPTER, ONE TYPE CONDUIT TO ANOTHER
○	POLE
	OCCUPANCY SENSOR
	OCCUPANCY SENSOR POWER PACK
	MANUAL PULL STATION
	AUDIO/VISUAL ALARM DEVICE
	HEAT DETECTOR
	SMOKE DETECTOR
	GLASS BREAK DISCRIMINATOR
	MAGNETIC CONTACT SWITCH-PEDESTRIAN DOOR
	MAGNETIC CONTACT SWITCH-VEHICLE DOOR
	KEYPAD FOR ALARM SYSTEM
	COMBINATION DETECTOR (MICROWAVE/PASSIVE INFRARED)
	PULL BOX-LETTER INDICATES TYPE OF PULL BOX (E-ELECTRICAL, T-TELEPHONE, R-RADIO)
	PULL BOX (TRAFFIC-RATED)-LETTER INDICATES TYPE OF PULL BOX (E-ELECTRICAL, T-TELEPHONE, R-RADIO)
	COMBINATION HEAT, LIGHT, AND FAN UNIT
	SECTION/ELEVATION LETTER
	SHEET NUMBER
	DETAIL NUMBER
	SHEET NUMBER

REMODEL WORK

SYMBOL	DESCRIPTION
	EXISTING FLUORESCENT FIXTURE-TO REMAIN
	EXISTING FLUORESCENT FIXTURE-REMOVE
	EXISTING INCANDESCENT FIXTURE-TO REMAIN
	EXISTING INCANDESCENT FIXTURE-REMOVE
	EXISTING OUTLET-TO REMAIN
	EXISTING RECEPTACLE OUTLET-TO REMAIN
	EXISTING RECEPTACLE OUTLET-REMOVE
-E---E-	EXISTING CONDUIT AND CONDUCTORS-TO REMAIN UNLESS OTHERWISE NOTED
-x---x-	EXISTING CONDUIT AND CONDUCTORS-REMOVE
S	EXISTING SWITCH-TO REMAIN
X	EXISTING SWITCH-REMOVE
	EXISTING JUNCTION BOX-TO REMAIN
	EXISTING JUNCTION BOX-REMOVE

GRAPHIC SYMBOLS FOR ELECTRICAL DIAGRAMS

SYMBOL	DESCRIPTION
	CIRCUIT BREAKER, SINGLE-POLE
	CIRCUIT BREAKER, DOUBLE-POLE
	CIRCUIT BREAKER, THREE-POLE
GFCI	CIRCUIT BREAKER, WITH GROUND FAULT CIRCUIT INTERRUPTER
	CIRCUIT BREAKER, SINGLE-POLE, SWITCHED NEUTRAL
	CONTACT, NORMALLY OPEN
	CONTACT, NORMALLY CLOSED
	CONTACT, NORMALLY CLOSED, TIME DELAY CLOSING ON DE-ENERGIZING
	CONTACT, NORMALLY OPEN, TIME DELAY OPENING ON DE-ENERGIZING
	CONTACT, NORMALLY OPEN, TIME DELAY CLOSING ON ENERGIZING
	CONTACT, NORMALLY CLOSED, TIME DELAY OPENING ON ENERGIZING
	CONTACT, SINGLE-POLE, DOUBLE-THROW
	OPERATING COIL
	LIQUID LEVEL ACTUATED SWITCH, NORMALLY CLOSED
	LIQUID LEVEL ACTUATED SWITCH, NORMALLY OPEN
	PRESSURE ACTUATED SWITCH, NORMALLY CLOSED
	PRESSURE ACTUATED SWITCH, NORMALLY OPEN
	FLOW ACTUATED SWITCH, NORMALLY CLOSED
	FLOW ACTUATED SWITCH, NORMALLY OPEN
	TEMPERATURE ACTUATED SWITCH, NORMALLY CLOSED
	TEMPERATURE ACTUATED SWITCH, NORMALLY OPEN
	LIMIT SWITCH, NORMALLY CLOSED
	LIMIT SWITCH, NORMALLY OPEN
	PUSHBUTTON SWITCH, NORMALLY CLOSED
	PUSHBUTTON SWITCH, NORMALLY OPEN
	SWITCH, SINGLE-POLE
	SWITCH, SINGLE-POLE, DOUBLE-THROW
	SWITCH, DOUBLE-POLE
	SWITCH, DOUBLE-POLE, DOUBLE-THROW
	SWITCH, SINGLE-POLE, 3-POSITION
	THERMAL OVERLOAD
	FUSE
	RESISTOR
	VARIABLE RESISTOR
	TRANSFORMER WINDING
	GROUNDING ELECTRODE
	ENCLOSURE BOND
	PILOT LIGHT (A=AMBER, G=GREEN, R=RED)
	INDICATING LIGHT (A=AMBER, G=GREEN, R=RED)
	GENERATOR
	MOTOR
	FAN MOTOR

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	2,5	15.1,22.5	72	87

Jaswinder Sandhu 10-01-13
 REGISTERED ELECTRICAL ENGINEER DATE

10-7-13
 PLANS APPROVAL DATE

Jaswinder Sandhu
 No. 11803
 Exp. 9-30-14
 ELEC
 STATE OF CALIFORNIA

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CALIFORNIA STATE FIRE MARSHAL APPROVED

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Reviewed by: *FRANCIS SELICH*
 Approval date: 09-03-13

LEGEND

MODIFY LIGHTING SYSTEM

SHEET **EE-0** OF

DESIGN	BY Jaswinder Sandhu	CHECKED Jaswinder Gill	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES ELECTRICAL-MECHANICAL-WATER AND WASTEWATER DESIGN	BRIDGE No.
DETAILS	BY Tapalla/Andreasen	CHECKED Jaswinder Sandhu			POST MILE
QUANTITIES	BY Jaswinder Sandhu	CHECKED Jaswinder Gill			

ABBREVIATIONS

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 Reviewed by: *[Signature]*
 FRANCIS SOLTCH
 Approval date: 09-03-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	2,5	15.1,22.5	73	87

Jaswinder Sandhu 10-01-13
 REGISTERED ELECTRICAL ENGINEER DATE

10-7-13
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A
 A/C AIR CONDITIONING UNIT
 ACS AIR COMPRESSOR STARTER
 AF AMPERE FRAME
 AFCI ARC FAULT CIRCUIT INTERRUPTER
 AI ANALOG INPUT
 AL ALARM LIGHT
 AO ANALOG OUTPUT
 AR ALARM RESET
 AT AMPERE TRIP
 ATS AUTOMATIC TRANSFER SWITCH
 AVC AIR VOLUME CONTROLLER

G
 GFCI GROUND FAULT CIRCUIT INTERRUPTER

I
 IC IRRIGATION CONTROLLER
 ICC IRRIGATION CONTROLLER CABINET
 IR INDUCTION RELAY
 ISR INTRINSICALLY SAFE RELAY

J
 JB JUNCTION BOX

P
 PB PUSHBUTTON
 PCP PUMP CONTROL PANEL
 PD PUMP DISCONNECT
 PFR PHASE FAILURE RELAY
 PFRD PHASE FAILURE RELAY DISCONNECT
 PL PILOT LIGHT
 PS PRESSURE SWITCH
 PTS POWER TRANSFER SWITCH
 PV PHOTOVOLTAIC

W
 WLS WATER LEVEL SWITCH
 WP WEATHERPROOF
 WSMS WEIGH STATION MESSAGE SIGN

B
 BC BARE COPPER
 BD BUILDING DISCONNECT
 BP BOOSTER PUMP
 Brk BREAKER

C
 Cat CATEGORY
 CC CENTER CHANNEL LIGHT
 CD CONTROL DISCONNECT
 CM CENTER MARGIN LIGHT
 COMM COMMUNICATION
 CR CONTROL RELAY
 CSW CURRENT SWITCH
 CT CURRENT TRANSFORMER

L
 L LIGHT or LENGTH
 LADWP LOS ANGELES DEPT. OF WATER & POWER
 LC LIGHTING CONTACTOR
 LCC LIGHTING CONTROR CABINET
 LCD LIQUID CRYSTAL DISPLAY
 LCP LIGHTING CONTROL PANEL
 LD LIGHT DISCONNECT
 LDCI LEAK DETECTOR CIRCUIT INTERRUPTER
 LLC LIQUID LEVEL CONTROLLER
 LP LIGHT PANEL
 LS LIGHT SWITCH
 LT LIGHT TRANSFORMER
 LTO LIGHT TRANSFORMER OVERLOAD

R
 RD RECEPTACLE DISCONNECT
 RES RESISTOR
 Rm ROOM
 RTB RADIO TERMINAL BOARD

X
 XFMR TRANSFORMER

SYMBOLS

∠ ANGLE
 ° DEGREES
 Δ DELTA
 ∅ PHASE
 ± PLUS OR MINUS

PROJECT NOTES

1. Separate grounded (Neutral) conductor must be used for each 120-volt circuit.
2. Homeruns to Panelboards must be installed as shown on the plans. Homeruns must not be combined.
3. A single insulated equipment grounding conductor, sized as required, must be installed in each conduit run.

STANDARD NOTES

See RSP Standard Plans ES-1A

STANDARD PLANS

Dated 2010
 See Project Special Provisions

D
 D DEPTH
 DI DIGITAL INPUT
 DO DIGITAL OUTPUT
 DP DUPLEX PLUG RECEPTACLE
 DS DOOR SWITCH

E
 (E) EXISTING
 EF EXHAUST FAN

M
 MB MAIN BREAKER
 MC METALLIC CONDUIT
 MCM THOUSANDS OF CIRCULAR MILS (kcmil)
 MCP MOTOR CIRCUIT PROTECTOR
 MCC MOTOR CONTROL CENTER
 MD MOTOR DISCONNECT
 MEA MECHANICAL EXPANSION ANCHOR
 MH MOUNTING HEIGHT
 MS MAINTENACE STATION
 MSB MAIN SWITCHBOARD

S
 S STARTER COIL
 Sch SCHEDULE
 SD SERVICE DISCONNECT
 Sec SECONDS
 SFR SEAL FAILURE RELAY
 SL SUMP LIGHT
 SPR STANDBY POWER RECEPTACLE
 Sq SQUARE
 SS SELECTOR SWITCH
 ST STARTER
 SV SOLENOID VALVE
 SWBD SWITCHBOARD
 SWIM SLOW WEIGH-IN-MOTION

T
 TB TERMINAL BLOCK
 TC TELEPHONE CABLE
 TDR TIME DELAY RELAY
 TGLS TOGGLE SWITCH
 TM TIME METER
 TS TIMER SWITCH
 TSW TEST SWITCH
 TTB TELEPHONE TERMINAL BOARD

F
 FL FAILURE LIGHT
 FLA FLASHER
 Flex FLEXIBLE CONDUIT
 FLS FLOW SWITCH
 FR FAILURE RESET or FLAME RESISTANT
 FS FLOAT SWITCH

N
 (N) NEW
 Nav NAVIGATIONAL LIGHTS
 NL NIGHT LIGHT
 NSW NEUTRAL SWITCHING BREAKER

U
 UPS UNINTERRUPTIBLE POWER SUPPLY

O
 O/C ON CENTER

NOTES AND ABBREVIATIONS	
MODIFY LIGHTING SYSTEM	
BRIDGE No.	
POST MILE	
SHEET	EE-1

DESIGN BY	Jaswinder Sandhu	CHECKED	Jaswinder Gill	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES ELECTRICAL-MECHANICAL-WATER AND WASTEWATER DESIGN	BRIDGE No.	
DETAILS BY	Tapalla/Andreasen	CHECKED	Jaswinder Sandhu			POST MILE	
QUANTITIES BY	Jaswinder Sandhu	CHECKED	Jaswinder Gill				



REVISION DATES (PRELIMINARY STAGE ONLY)						SHEET	OF
8-16-13	9-3-13	9-13-13	9-17-13	10-1-13			

GENERAL NOTES:

- A. Existing underground electrical conduits and conductors system as shown are diagrammatic and their location as shown is approximate only. Therefore, field verify exact location of existing underground facilities prior to the beginning of trenching and or removal work. The cost for pot holing and for locating existing underground utilities shall be considered to be paid for in the lump sump price and no additional cost will be paid.
- B. Not all underground utilities are shown.
- C. For conduits in the area around Undercrossing Electrical Equipment Enclosure, see sheet EE-5.
- D. Patch damage paved surfaces to match existing surface.
- E. All conduit to receive LADWP conductors must be installed per LADWP requirements.

NOTES:

- ① Install Department-furnished Undercrossing Electrical Equipment Enclosure. For installation and details, see sheets EE-5 and EE-6.
- ② (2) 4"C, each with 4#250 kcmil and 1#250 kcmil equipment grounding conductor.
- ③ At the You option, You may install additional pull boxes on as needed basis for ease of pulling conductors. For pull box details, see sheet EE-5.
- ④ (2) 2"C, each with 12#6, 2#6 (spares), 1#6G to Undercrossing Connector No. 1 and (2) 2"C, each with 12#6, 2#6 (spares), 1#6G, to Undercrossing Connector No. 2. For continuation, see sheet EE-3.
- ⑤ (2) 2"C, each with 12#6, 2#6 (spares), 1#6G, to Undercrossing Electrical Equipment Enclosure Lighting Contactor Structure No. 1 and (2) 2"C, each with 12#6, 2#6 (spares), 1#6G, to Undercrossing Electrical Equipment Enclosure Lighting Contactor Structure No. 2. For continuation, see Sheet EE-5.
- ⑥ (2) 1"C, PT, to Undercrossing Connector No. 1 and 2 and (2) 1"C, 2#10, 1#10G, to duplex receptacle inside Undercrossing Connector No. 1 and 2. For continuation, see sheet EE-3.
- ⑦ Type 15 Lighting Standard without a luminaire arm. For pole and foundation, See Standard Plan sheet ES-6A. Mount Department-furnished photodiode type sensor on the top of pole facing north as recommended by the sensor manufacturer. Provide and install sensor mounting bracket that fits on top of the pole.
- ⑧ 1"C, MC, 1-2 pair #18 twisted shielded cable with drain wire. pole to the Undercrossing Electrical Equipment Enclosure with #10G.
- ⑨ Install 6" diameter GSP steel guard post, filled with concrete. Embed guard post 3'-0" into ground and surround with 6" concrete. For detail, see sheet EE-5.
- ⑩ LADWP transformer and transformer pad. Provide and install transformer pad and other miscellaneous materials as required by LADWP. Contact LADWP at 213-367-6254 for sizing of the transformer pad and other requirements.
- ⑪ Department-furnished Main Service Switchboard. Perform the following:
 - Install Department-furnished Main Switchboard as shown.
 - Install concrete pad and foundation. For Details, see sheet EE-4.
 - Provide all mounting hardware as required for mounting of the Main Switchboard.
- ⑫ You may install these conduits by utilizing directional boring method.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	2,5	15.1,22.5	74	87

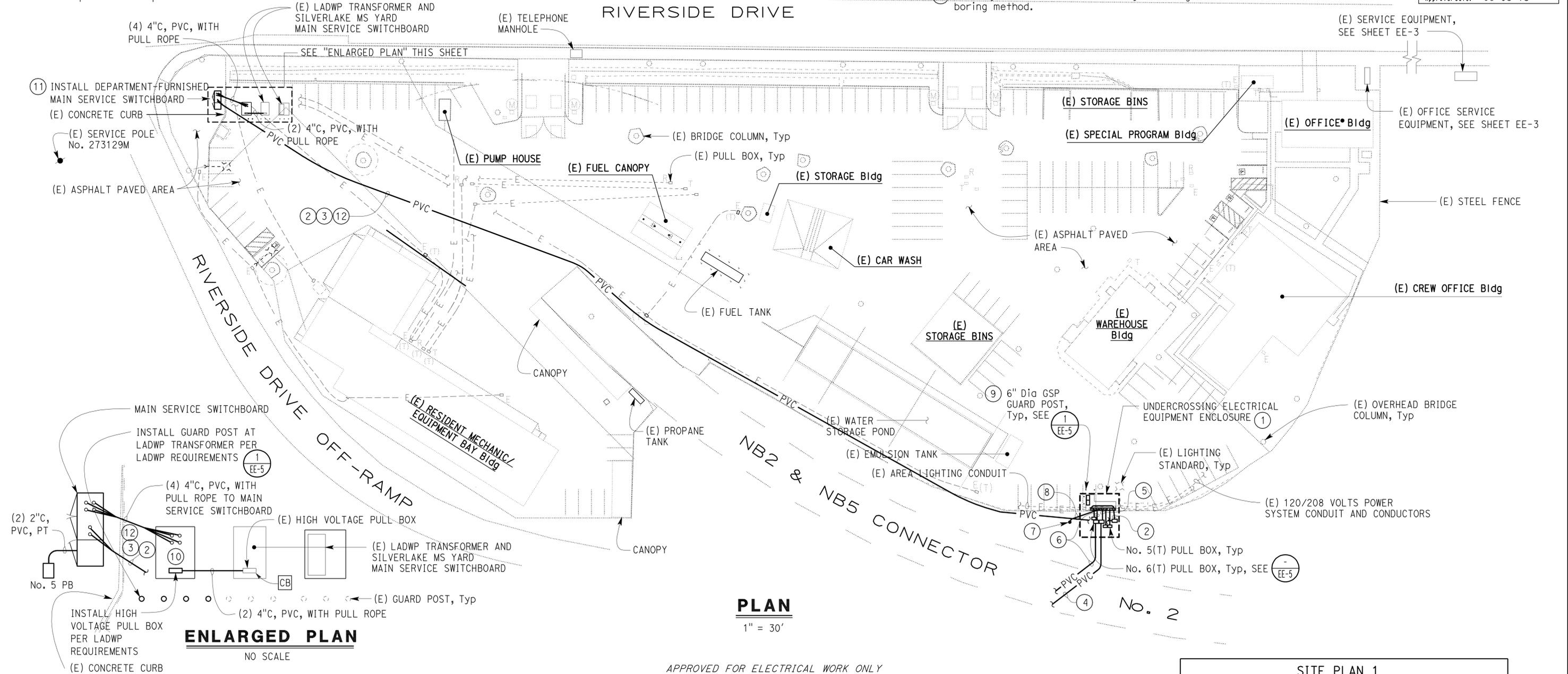
Bond
Jaswinder Sandhu 10-01-13
 REGISTERED ELECTRICAL ENGINEER DATE
 No. 11803
 Exp. 9-30-14
 ELEC
 STATE OF CALIFORNIA

10-7-13
 PLANS APPROVAL DATE
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Reviewed by: *Francis Solich*
 Approval date: 09-03-13



DESIGN SUPERVISOR <i>J. Schreff</i> DESIGN ENGINEER <i>Alan M. Jones</i>	DESIGN BY Jaswinder Sandhu	CHECKED Jaswinder Gill	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES ELECTRICAL-MECHANICAL-WATER AND WASTEWATER DESIGN	BRIDGE No.	SITE PLAN 1 MODIFY LIGHTING SYSTEM	SHEET EE-2
	DETAILS BY Tapalla/Andreasen	CHECKED Jaswinder Sandhu			POST MILE		
	QUANTITIES BY Jaswinder Sandhu	CHECKED Jaswinder Gill					
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS			0 1 2 3	UNIT: 3597 CONTRACT No.: 4X1101 PROJECT NUMBER & PHASE: 07140000431	DISREGARD PRINTS BEARING EARLIER REVISION DATES		REVISION DATES (PRELIMINARY STAGE ONLY) 8-24-13 8-27-13 9-3-13 9-17-13 10-1-13

TAEWW Imperial - CCSC Rev. 01/13

P:\dist_07\0714000043_sr2_to_15_connector_tunnel\expdite\ee_02.dgn

NOTES:

- ① Existing conduit and conductors to remain.
- ② Remove existing Service conductors and Service power pole as directed by LADWP. Remove above ground conduit and abandon underground conduit.
- ③ Existing Service Equipment. Perform the following:
 - Investigate and remove disconnect switch.
 - Remove unused conduit and conductors.
 - Remove meter and meter socket.
 - Modify existing wiring and terminate conductors from Undercrossing Electrical Equipment Enclosure on the line side of the existing main circuit breakers.
 - Identify unused existing conductors as spare.
 - Install neutral and ground bus inside the existing Equipment Enclosure and terminate neutral and equipment grounding conductors on them respectively
 - Install ground rod outside the existing enclosure. Provide swivel type connectors and connect ground rod to ground bus with 1/2" C, 1#6G.
- ④ Existing conduit and conductors. Replace existing conductors with 4#2/0 and 1#2/0 G.
- ⑤ Identify unused conductors as spare.
- ⑥ Transition from PVC to Type 1 conduit must be made 6" below finished grade. Remove and replace existing pavement as required for making transition. Wrap Type 1 conduit below grade with pipe wrapping tape
- ⑦ 2" C, 12#6, 2#6 (spares), 1#6G (Structure No. 2 west wall lights) and 1" C, PT to pull boxes behind Undercrossing Electrical Equipment Enclosure. For continuation, see sheet EE-5.
 - Install and stub out conduits adjacent to the wall by utilizing only directional boring method.
 - Cap MT conduit 6" above roadway surface.
- ⑧ 2" C, 12#6, 2#6 (spares), 1#6G (Structure No. 2 east wall lights) and 1" C, 2#10, 1#10G (Duplex receptacle on east wall of Structure No. 2) to pull boxes behind Undercrossing Electrical Equipment Enclosure. For continuation, see sheet EE-5.
 - Install and stub out conduits adjacent to the wall by utilizing only directional boring method.
 - Cap PT conduit 6" above roadway surface.
- ⑨ 2" C, 12#6, 2#6 (spares), 1#6G (Structure No. 1 west wall lights) 1" C, PT and 1" C, 2#10, 1#10G (Duplex receptacle on west wall of Structure No. 1) to pull boxes behind Undercrossing Electrical Equipment Enclosure. For continuation, see sheet EE-5.
 - Install and stub out conduits adjacent to the wall by utilizing only directional boring method.
 - Cap PT conduit 6" above roadway surface.
- ⑩ 2" C, 12#6, 2#6 (spares), 1#6G (Structure No. 1 east wall lights) to pull boxes behind Undercrossing Electrical Equipment Enclosure. For continuation, see sheet EE-5.
 - Install and stub out conduit adjacent to the wall by utilizing only directional boring method.
- ⑪ Remove and dispose of all existing high pressure sodium vapor fixtures (Total of 25) on the west wall. Remove existing conductors and any exposed conduit system.
- ⑫ Identify existing conductors as phase A, B, C, N and G, carry on with this sequence all the way up to the existing Service Equipment. Mark unused conductors as spare.
- ⑬ 2" C, 4#2/0, 1#2/0G to pull box behind Undercrossing Electrical Equipment Enclosure. For continuation, see sheet EE-2.
- ⑭ Approximate location of Undercrossing Electrical Equipment Enclosure, for exact location, see sheet EE-2

GENERAL NOTE:

See sheet EE-2 for continuation of all site conduits.

CALIFORNIA STATE FIRE MARSHAL
APPROVED
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 Reviewed by: *[Signature]*
FRANCIS SOLTCH
 Approval date: 09-03-13

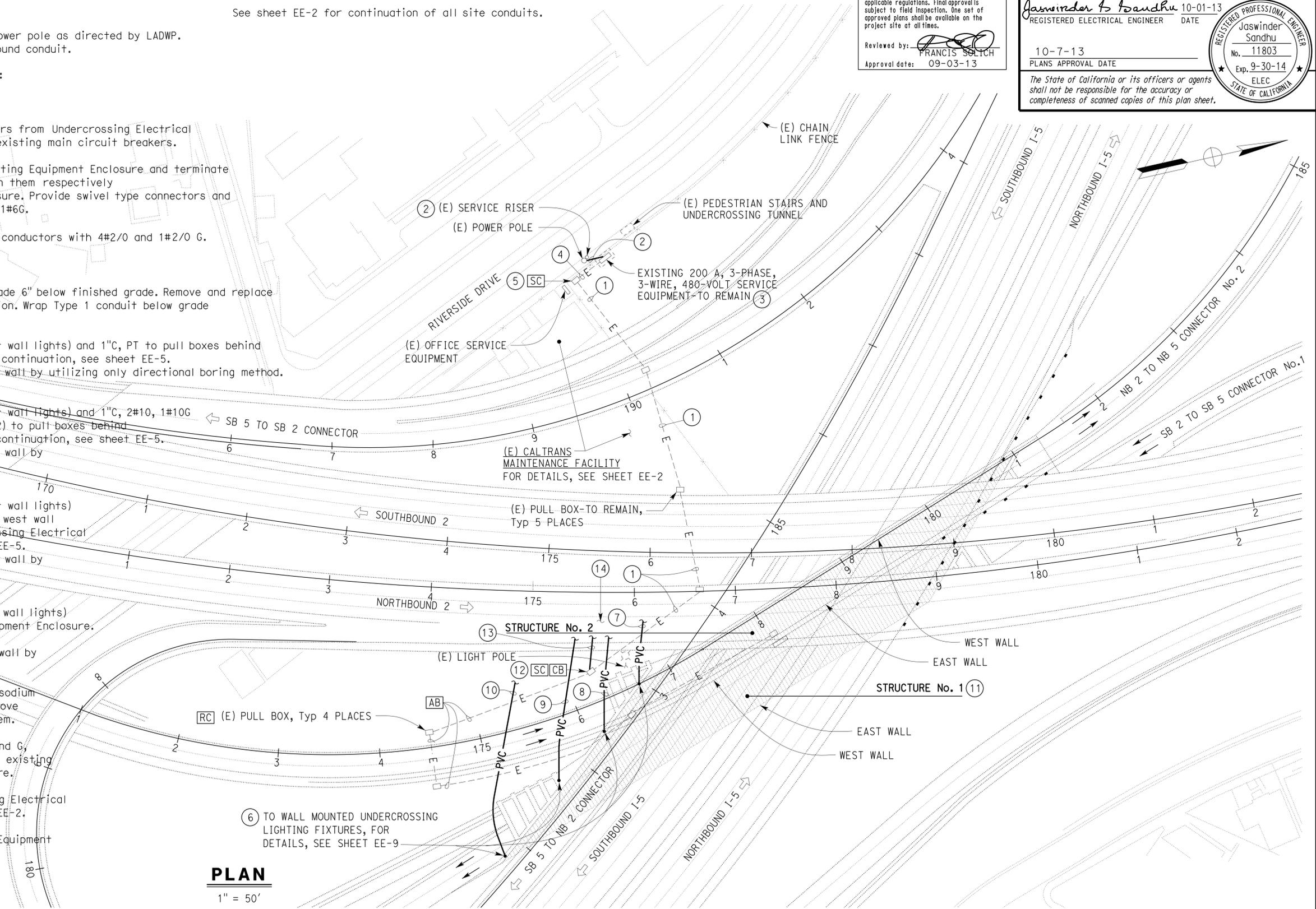
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	2,5	15.1,22.5	75	87

Jaswinder Sandhu 10-01-13
 REGISTERED ELECTRICAL ENGINEER DATE

10-7-13
 PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER
Jaswinder Sandhu
 No. 11803
 Exp. 9-30-14
 ELEC
 STATE OF CALIFORNIA

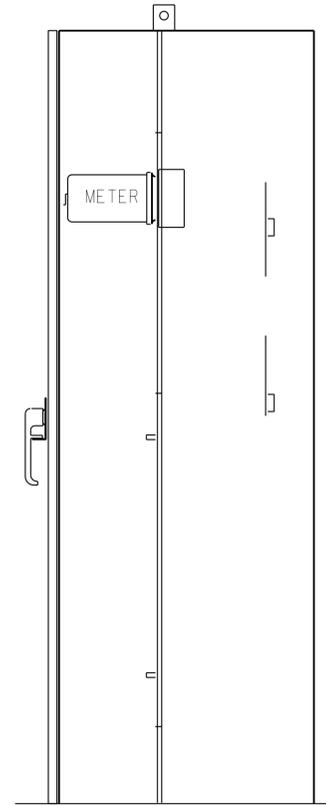
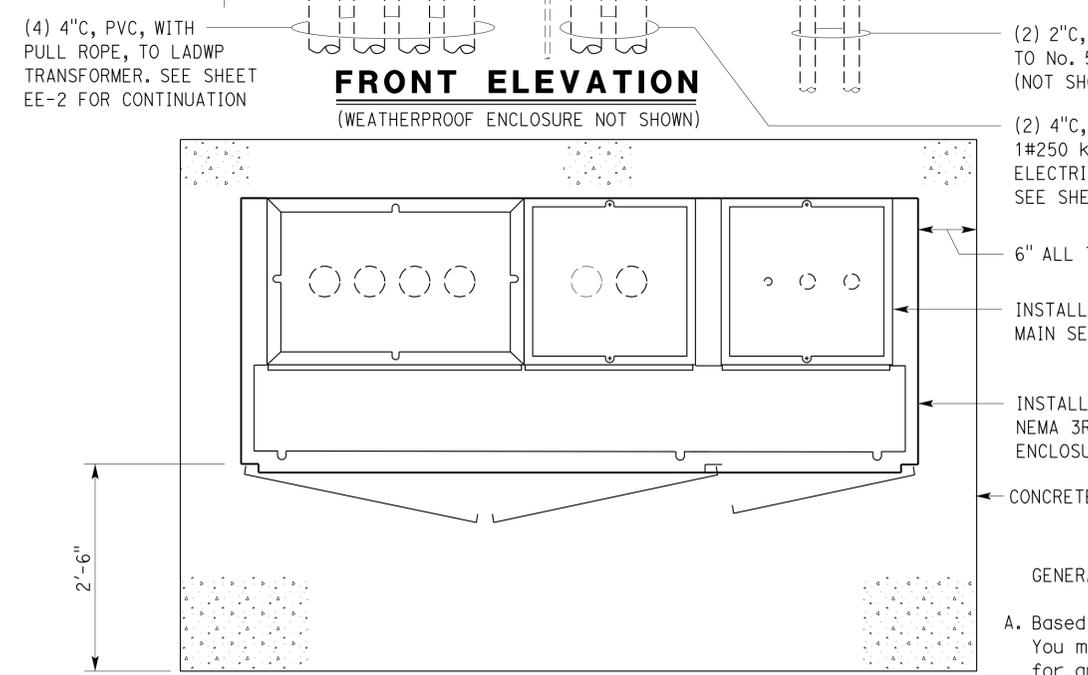
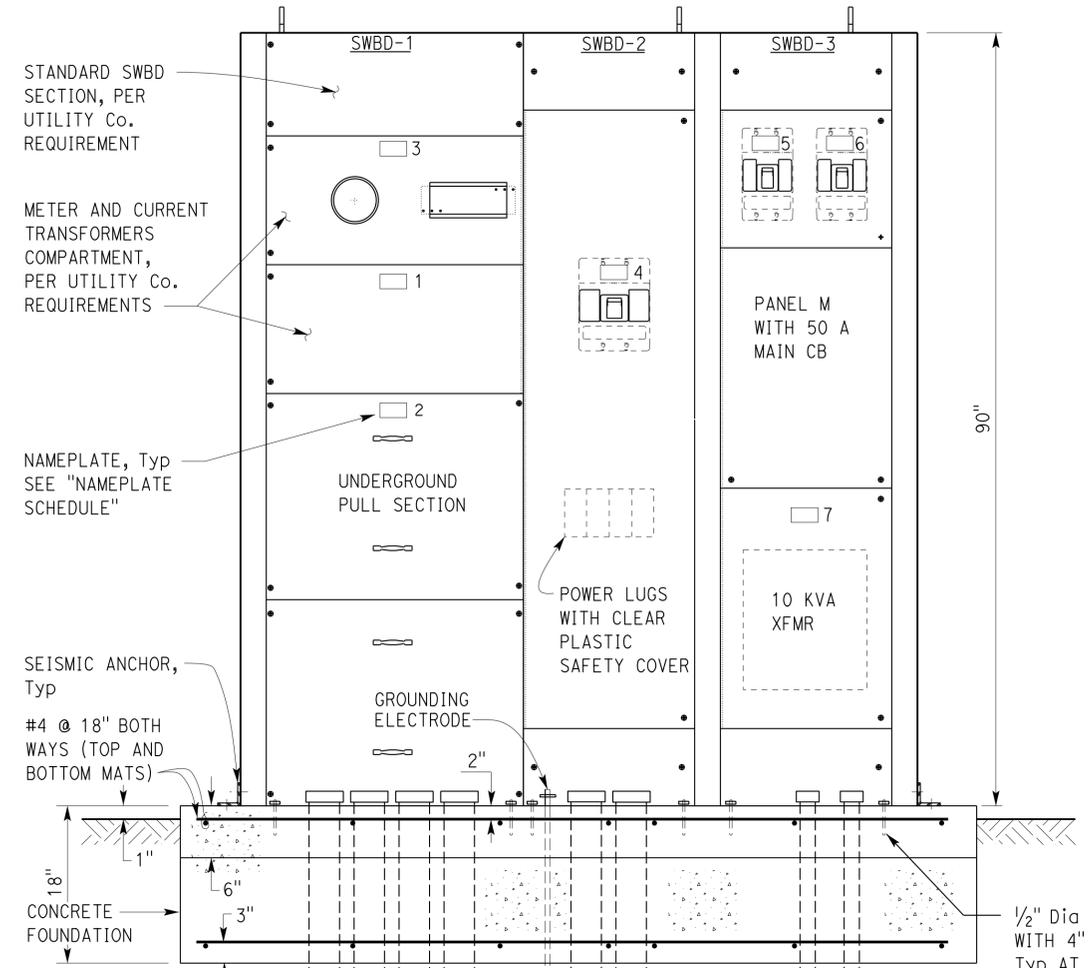


PLAN
 1" = 50'

APPROVED FOR ELECTRICAL WORK ONLY

SITE PLAN 2

DESIGN BY: Jaswinder Sandhu	CHECKED: Jaswinder Gill	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES ELECTRICAL-MECHANICAL-WATER AND WASTEWATER DESIGN	BRIDGE No.	MODIFY LIGHTING SYSTEM	SHEET
DETAILS BY: Tapalla/Andreasen	CHECKED: Jaswinder Sandhu			POST MILE		EE-3
QUANTITIES BY: Jaswinder Sandhu	CHECKED: Jaswinder Gill					OF



SIDE ELEVATION
(FOUNDATION NOT SHOWN FOR CLARITY)

! WARNING

ARC FLASH AND SHOCK HAZARD

Appropriate PPE and Tools Required when working on this equipment.

Available Fault Current: *

Installation Date: *

1 WARNING LABEL

Note: Main Service Switchboard must be legibly marked in the field with the available fault current to comply with NEC 110.24(A).

* The data will be provided by the Engineer to the Contractor after Utility Service related work is done by local Electric Utility Company.

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Reviewed by: FRANCIS SOLICH
Approval date: 09-03-13

! WARNING

ARC FLASH AND SHOCK HAZARD

Appropriate PPE and Tools Required when working on this equipment.

2 WARNING LABEL *
NO SCALE

Note: Install this Warning Label at all Sections of the Switchboard.

* Warning label must be constructed with high degree of chemical abrasion, heat resistance and UL recognized material. Install this label on all sections of the Main Switchboard.

NAMEPLATE SCHEDULE *

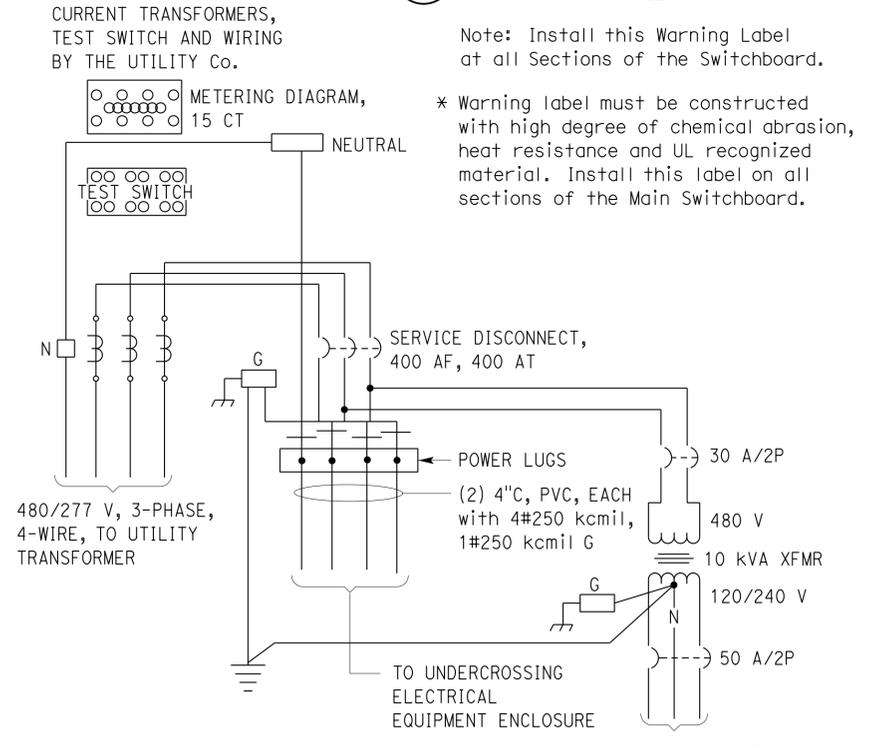
ITEM No.	INSCRIPTION	LETTER HEIGHT
1	UTILITY CT	1/2"
2	UTILITY PULL SECTION	1/2"
3	UTILITY METERING	1/2"
4	SERVICE DISCONNECT 480 V, 3-PHASE, 400 A	1/2"
5	TRANSFORMER DISCONNECT 480 V, 2-POLE, 30 A	1/2"
6	CIRCUIT BREAKER 50 A, 2-POLE, 120/240 V	1/2"
7	TRANSFORMER 480 V, 120/240 V, 1-PHASE, 10 kVA	1/2"

* White lettering on black phenolic

WIRE IDENTIFICATION

POWER	COLOR
PHASE A	BROWN
PHASE B	ORANGE
PHASE C	YELLOW
NEUTRAL	GRAY

POWER	COLOR
PHASE A	BLACK
PHASE C	RED
NEUTRAL	WHITE



POWER DIAGRAM

MAIN SERVICE SWITCHBOARD

MODIFY LIGHTING SYSTEM

DESIGN	BY Jaswinder Sandhu	CHECKED Jaswinder Gill
DETAILS	BY Tapalla/Andreasen	CHECKED Jaswinder Sandhu
QUANTITIES	BY Jaswinder Sandhu	CHECKED Jaswinder Gill

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

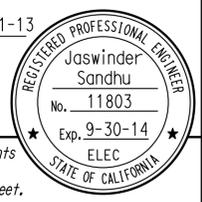
DIVISION OF ENGINEERING SERVICES
ELECTRICAL-MECHANICAL-WATER AND WASTEWATER DESIGN

BRIDGE No. _____
POST MILE _____

REVISION DATES (PRELIMINARY STAGE ONLY)	8-28-13	8-29-13	9-3-13	9-11-13	10-1-13
-----------------------------------------	---------	---------	--------	---------	---------

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	2,5	15.1,22.5	77	87

10-01-13
 REGISTERED ELECTRICAL ENGINEER DATE
 10-7-13
 PLANS APPROVAL DATE
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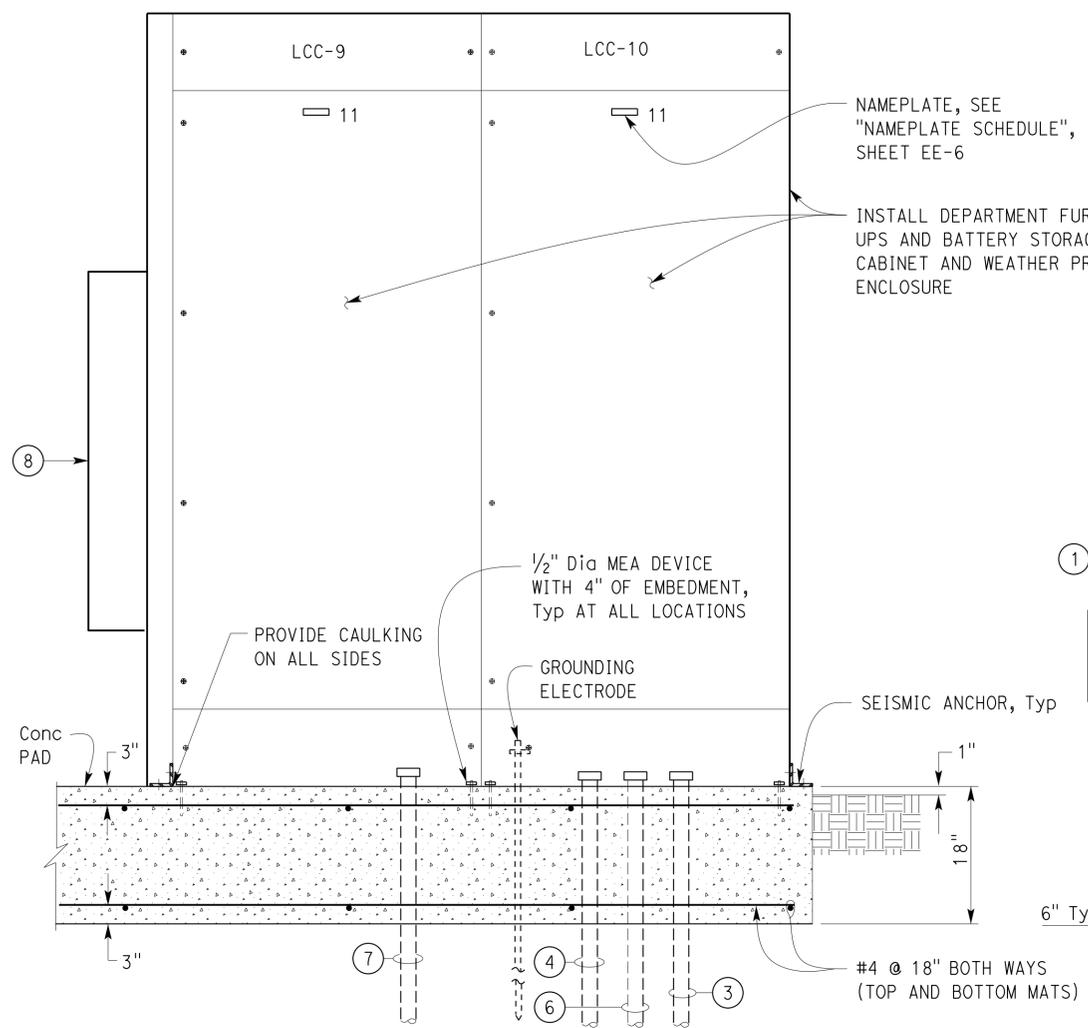
CALIFORNIA STATE FIRE MARSHAL APPROVED
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 Reviewed by: FRANCIS SOLICH
 Approval date: 09-03-13

NOTES:

- (2) 4"C, PVC, each with 4#250 kcmil and 1#250 kcmil G, to Main Service Switchboard.
- 1"C, MC, 1-2 Pair #18 twisted shielded cable with drain wire. Bond Type 1 Lighting Standard and photo sensor to the Undercrossing Electrical Equipment Enclosure with #10G wire. For continuation, see sheet EE-2.
- 2"C, PVC, 4#6, 1#6G, to UPS section.
- 2"C, PVC, 4#1, 1#1G, and 4#12 (Controls).
- 2"C, PVC, 12#6, 2#6 (spares), 1#6G, to Undercrossing Connector No. 1 and 2.
- 2"C, PVC, PT. to UPS section.
- 2"C, PVC, 2#10, 1#10G to UPS A/C unit.
- Side mounted thermo-electric type A/C unit.

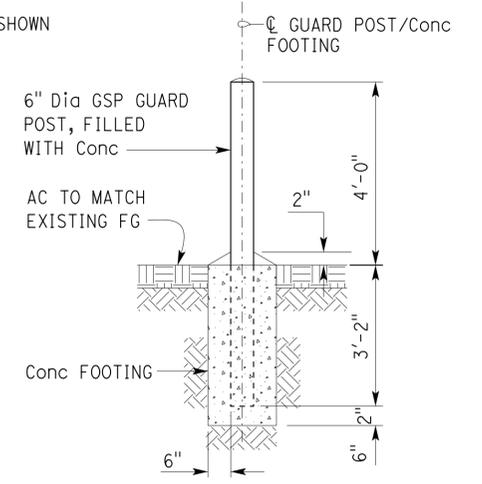
GENERAL NOTE:
 A. Based upon shop drawings submitted to you, you must prepare conduit stub out details for approval to the Engineer prior to installation.

FOR CONTINUATION, SEE SHEETS EE-2 AND EE-3

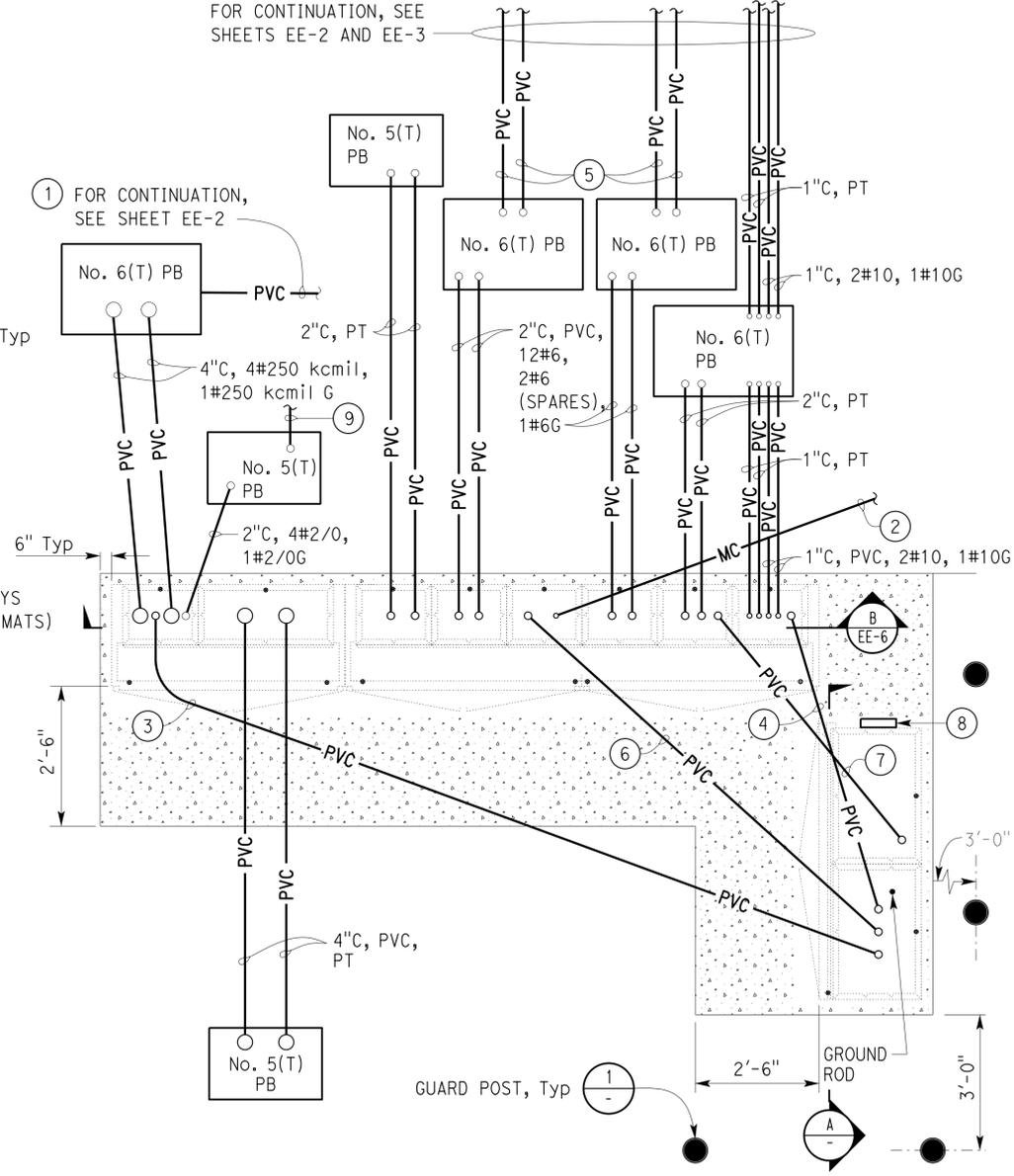


A ELEVATION
 NO SCALE
 WEATHERPROOF ENCLOSURE NOT SHOWN

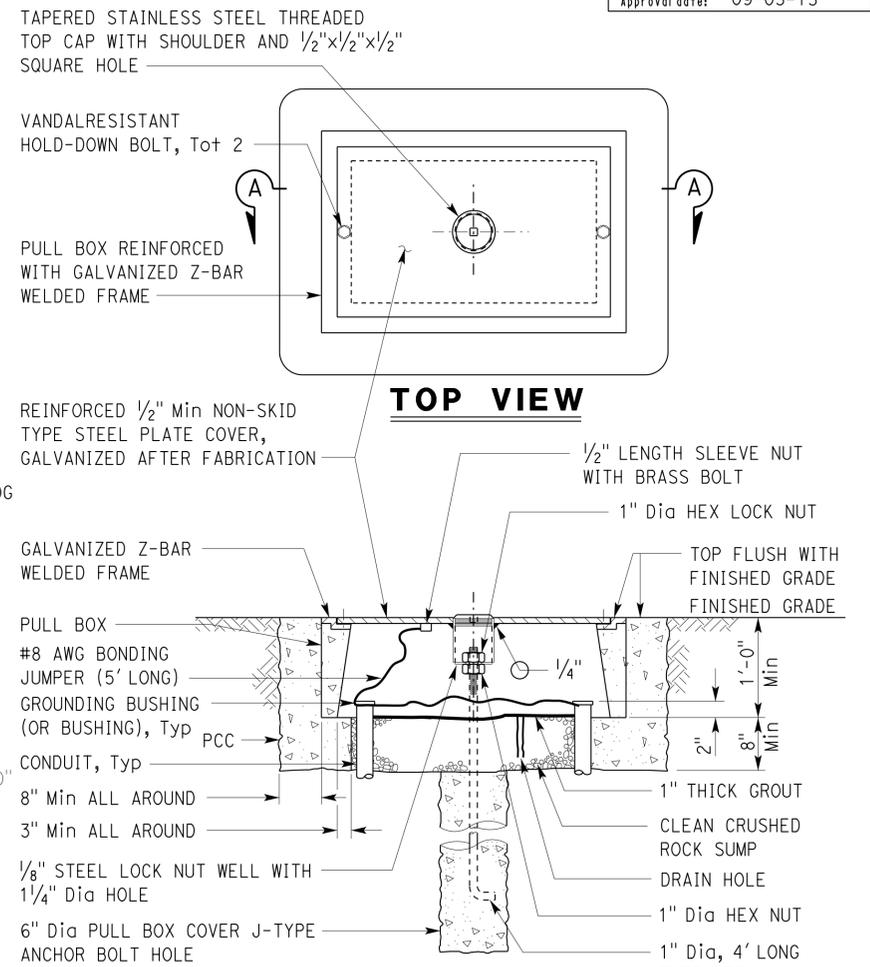
NOTES CON'T.
 9 2"C, 4#2/0, 1#2/0G to existing Service Equipment located on Riverside Drive. For continuation, see sheet EE-3.



1 GUARD POST DETAIL
 NO SCALE



UNDERCROSSING ELECTRICAL EQUIPMENT ENCLOSURE AND CONCRETE PAD LAYOUT
 NO SCALE



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

UNDERCROSSING ELECTRICAL EQUIPMENT ENCLOSURE AND LAYOUT DETAILS

APPROVED FOR ELECTRICAL WORK ONLY

DESIGN	BY Jaswinder Sandhu	CHECKED Jaswinder Gill
DETAILS	BY Tapalla/Andreasen	CHECKED Jaswinder Sandhu
QUANTITIES	BY Jaswinder Sandhu	CHECKED Jaswinder Gill

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
 DIVISION OF ENGINEERING SERVICES
 ELECTRICAL-MECHANICAL-WATER AND WASTEWATER DESIGN

BRIDGE No.		SHEET	EE-5
POST MILE		OF	

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	2,5	15.1,22.5	78	87

Jaswinder Sandhu 10-01-13
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REGISTERED PROFESSIONAL ENGINEER
Jaswinder Sandhu
No. 11803
Exp. 9-30-14
ELEC
STATE OF CALIFORNIA

NOTES:

- ① (2) 4"C, PVC, each with 4#250 kcmil, 1#250 kcmil G, to Main Service Switchboard via electrical pull boxes.
- ② (2) 4"C, PVC, PT. Terminate and cap conduits inside No. 5 traffic rated pull box.
- ③ 2"C, PVC, 4#6, 1#6G, to UPS and Battery Storage Unit.
- ④ (2) 2"C, PVC, each with 12#6, 2#6 (spares), 1#6G, to undercrossing lighting fixtures at Structure No. 2, via pull box.
- ⑤ (2) 2"C, PVC, each with 12#6, 2#6 (spares), 1#6G, to undercrossing lighting fixtures at Structure No. 1, via pull box.
- ⑥ (2) 2"C, PVC, PT. Terminate and cap conduits inside No. 5 traffic rated pull box.
- ⑦ 1"C, MC, 1-2 pair #18 twisted shielded cable with drain wire, and 1#10G, to photo sensor pole.
- ⑧ 2"C, PVC, PT, to UPS section.
- ⑨ (2) 1"C, PVC, PT, to Undercrossing Structure No. 1 and 2 via pull box.
- ⑩ (2) 1"C, PVC, each with 2#10, (Control), 1#10G, to Undercrossing Structure No. 1 and 2 via pull box.
- ⑪ 2"C, PVC, 4#1, 1#1G, 4#12, to UPS section.
- ⑫ 2"C, PVC, 2#10, 1#10G to UPS A/C unit.
- ⑬ 2"C, 4#2/0, 1#2/0G to existing Service Equipment located on Riverside Drive. For continuation, see sheet EE-3.



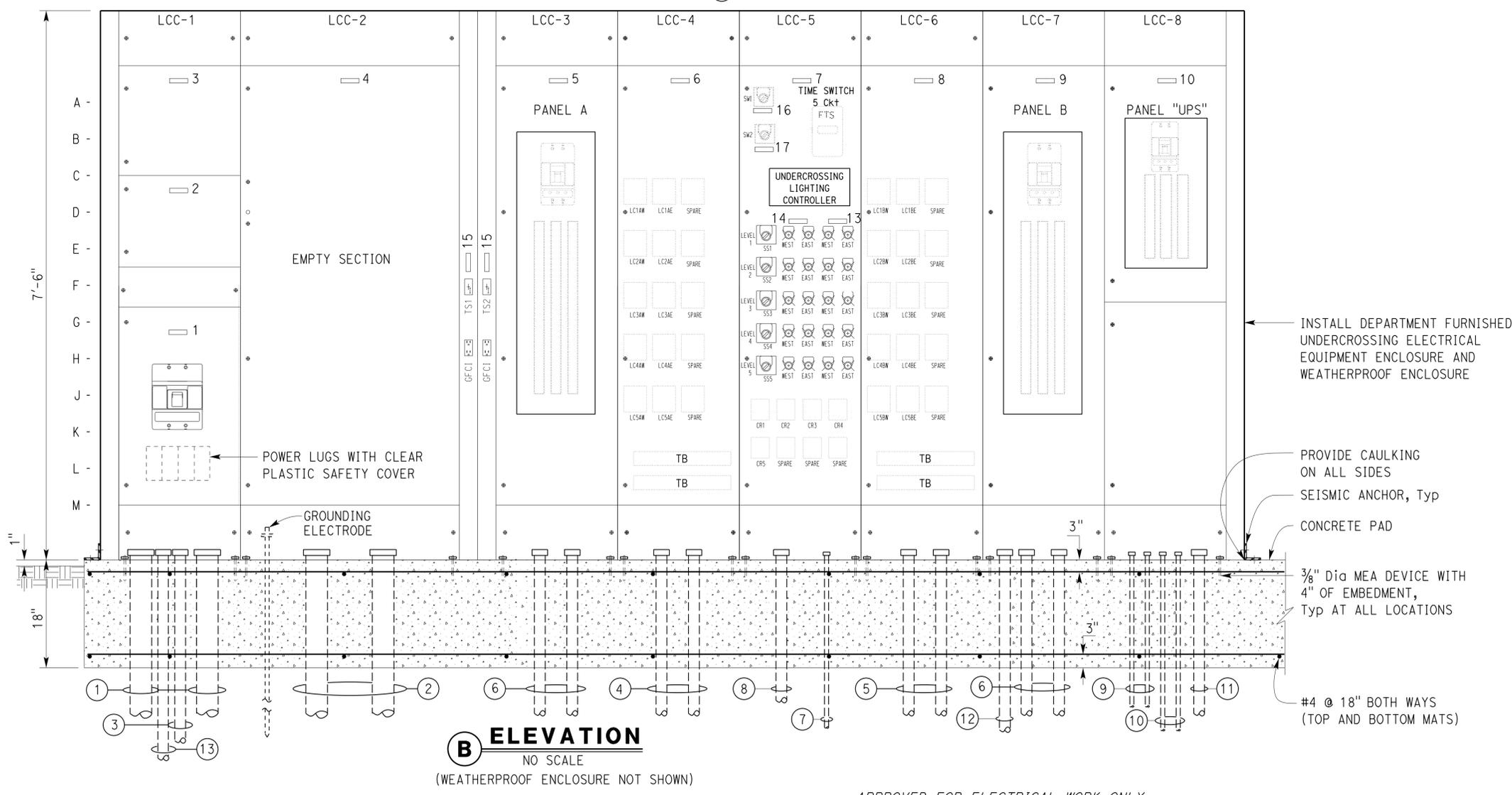
2 WARNING LABEL*
NO SCALE

* Warning label must be constructed with high degree of chemical abrasion, heat resistance and UL recognized material.

CALIFORNIA STATE FIRE MARSHAL APPROVED

Approval of this plan does not authorize or approve any omission or deviation from applicable regulations. Final approval is subject to field inspection. One set of approved plans shall be available on the project site at all times.

Reviewed by: FRANCIS SOLTICH
Approval date: 09-03-13



NAMEPLATE SCHEDULE		
ITEM No.	INSCRIPTION (ON COMPARTMENT DOOR)	LETTER HEIGHT
1	MAIN BREAKER	1/2"
2	UPS	1/2"
3	(E) SERVICE EQUIPMENT (ON RIVERSIDE DRIVE)	1/2"
4	MT FOR FUTURE ATS	1/2"
5	PANEL "A" 277/480 V, 3 PH, 4W	1/2"
6	UNDERCROSSING LIGHTING CONTACTORS STRUCTURE No. 2	1/2"
7	LIGHTING CONTROL	1/2"
8	UNDERCROSSING LIGHTING CONTACTORS STRUCTURE No. 1	1/2"
9	PANEL "B" 277/480 V, 3 PH, 4W	1/2"
10	PANEL "UPS" 120/208 V, 3 PH, 4W	1/2"
11	UPS AND STORAGE BATTERY	1/2"
12	NOT USED	1/4"
13	STRUCTURE No. 1 DAY LIGHTS CONTROL	1/4"
14	STRUCTURE No. 2 DAY LIGHTS CONTROL	1/4"
15	RECEPTACLES AND LIGHTS IN EQUIPMENT ENCLOSURE	1/4"
16	TIMER CONTROLLED	1/4"
17	PHOTO SENSOR CONTROLLED	1/4"

DESIGN BY Jaswinder Sandhu CHECKED Jaswinder Gill		STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES ELECTRICAL-MECHANICAL-WATER AND WASTEWATER DESIGN	BRIDGE No.	UNDERCROSSING ELECTRICAL EQUIPMENT ENCLOSURE MODIFY LIGHTING SYSTEM	SHEET
DETAILS BY Tapalla/Andreasen CHECKED Jaswinder Sandhu				POST MILE		EE-6
QUANTITIES BY Jaswinder Sandhu CHECKED Jaswinder Gill						

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS: 0 1 2 3

UNIT: 3597 CONTRACT No.: 4X1101 PROJECT NUMBER & PHASE: 07140000431

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY): 8-24-13, 9-3-13, 9-13-13, 9-17-13, 10-1-13

TAEWW Imperial - CCSC Rev. 01/13

P:\dist_07\0714000043_sr2_to_15_connector_tunnel\expdite\ee_06.dgn

STRUCTURE No. 1			
	TOTAL NUMBER OF LIGHTING FIXTURES		MOUNTING HEIGHT TO BOTTOM OF FIXTURES
	DAY LIGHTING	NIGHT LIGHTING	
WEST WALL	108	9	13'-6"
EAST WALL	125	12	13'-6"
TOTAL BOTH WALLS	233	21	

STRUCTURE No. 2			
	TOTAL NUMBER OF LIGHTING FIXTURES		MOUNTING HEIGHT TO BOTTOM OF FIXTURES
	DAY LIGHTING	NIGHT LIGHTING	
WEST WALL	102	8	13'-6"
EAST WALL	106	9	13'-6"
TOTAL BOTH WALLS	208	17	

CALIFORNIA STATE FIRE MARSHAL APPROVED
 Approval of this plan does not authorize or approve any omission or deviation from applicable regulations. Final approval is subject to field inspection. One set of approved plans shall be available on the project site at all times.
 Reviewed by: *[Signature]*
 FRANCIS SOLICH
 Approval date: 09-03-13

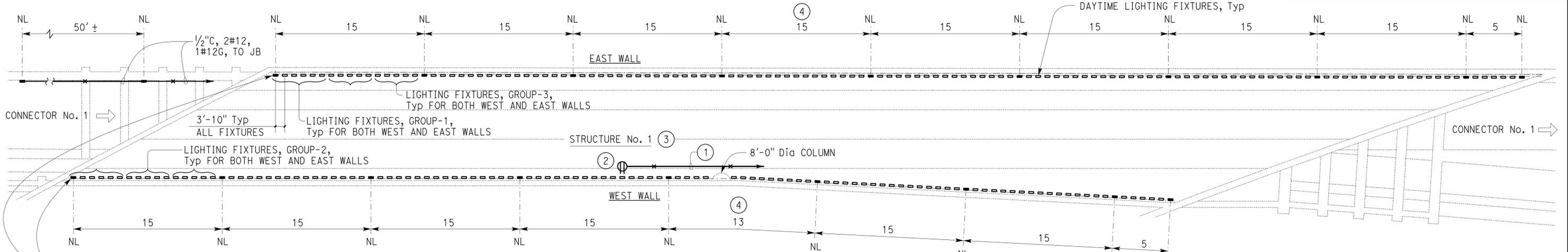
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	2,5	15.1,22.5	79	87

Jaswinder Sandhu 10-01-13
 REGISTERED ELECTRICAL ENGINEER DATE

10-7-13
 PLANS APPROVAL DATE

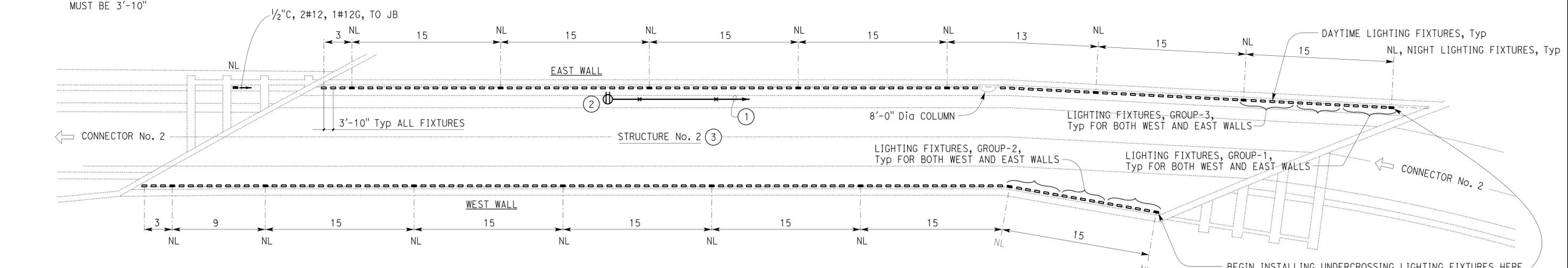
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REGISTERED PROFESSIONAL ENGINEER
Jaswinder Sandhu
 No. 11803
 Exp. 9-30-14
 ELEC
 STATE OF CALIFORNIA



SB SR2 TO SB I-5 (STRUCTURE No. 1)

1" = 20'



NB SR2 TO NB I-5 (STRUCTURE No. 2)

1" = 20'

GENERAL NOTES:

- A. All day and night lighting fixtures are "State Furnished". Contractor to install and wire all lighting fixtures as shown.
- B. Night lighting fixtures are unswitched and are "ON" 24/7/365.
- C. For wiring of each lighting fixture in a given lighting group of fixtures, see sheet EE-8.

NOTES:

- ① 1"C, 2#10, 1#10G, to the UPS Panel inside Undercrossing Electrical Equipment Enclosure. For continuation, see sheet EE-5.
- ② Duplex receptacle. Install duplex receptacle inside 12"x8" NEMA-4X stainless steel hinged enclosure with padlockable hasp. Mount 4'-0" above finish grade.
- ③ For lighting fixtures and conduit installation details, see sheet EE-9. This number represents number of luminaires between night lighting luminaires.
- ④ This number represents number of luminaires between night lighting luminaires, typical for all.

APPROVED FOR ELECTRICAL WORK ONLY

DESIGN	BY Jaswinder Sandhu	CHECKED Jaswinder Gill
DETAILS	BY Tapalla/Andreasen	CHECKED Jaswinder Sandhu
QUANTITIES	BY Jaswinder Sandhu	CHECKED Jaswinder Gill

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
 ELECTRICAL-MECHANICAL-WATER AND WASTEWATER DESIGN

BRIDGE No. _____
 POST MILE _____

UNDERCROSSING LIGHTING FIXTURES LAYOUT

MODIFY LIGHTING SYSTEM

SHEET **EE-7** OF _____

CALIFORNIA STATE FIRE MARSHAL APPROVED
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 Reviewed by: FRANCIS SOLICH
 Approval date: 09-03-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	2,5	15.1,22.5	80	87

Jaswinder Sandhu 10-01-13
 REGISTERED ELECTRICAL ENGINEER DATE

10-7-13
 PLANS APPROVAL DATE

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LIGHTING FIXTURE GROUP No.	LIGHT LEVEL No.	FIXTURE No. IN A GROUP OF 5 ON WEST WALL	CIRCUIT No. FOR FIXTURE ON WEST WALL	LIGHT LEVEL No.	FIXTURE No. IN A GROUP OF 5 ON EAST WALL	CIRCUIT No. FOR FIXTURE ON EAST WALL
1	1	1	A1-3	2	1	A2-4
	3	2	A5-7	5	2	A6-8
	5	3	A9-11	3	3	A10-12
	2	4	A13-15	1	4	A14-16
	4	5	A17-19	4	5	A22-24
2	1	1	A1-3	2	1	A2-4
	3	2	A5-7	5	2	A6-8
	5	3	A9-11	3	3	A10-12
	2	4	A13-15	1	4	A14-16
	4	5	A17-19	4	5	A22-24
3	1	1	A1-3	2	1	A2-4
	3	2	A5-7	5	2	A6-8
	5	3	A9-11	3	3	A10-12
	2	4	A13-15	1	4	A14-16
	4	5	A17-19	4	5	A22-24

ABBREVIATIONS

(THIS SHEET ONLY)
 F FIXTURE
 LL LIGHTING LEVEL

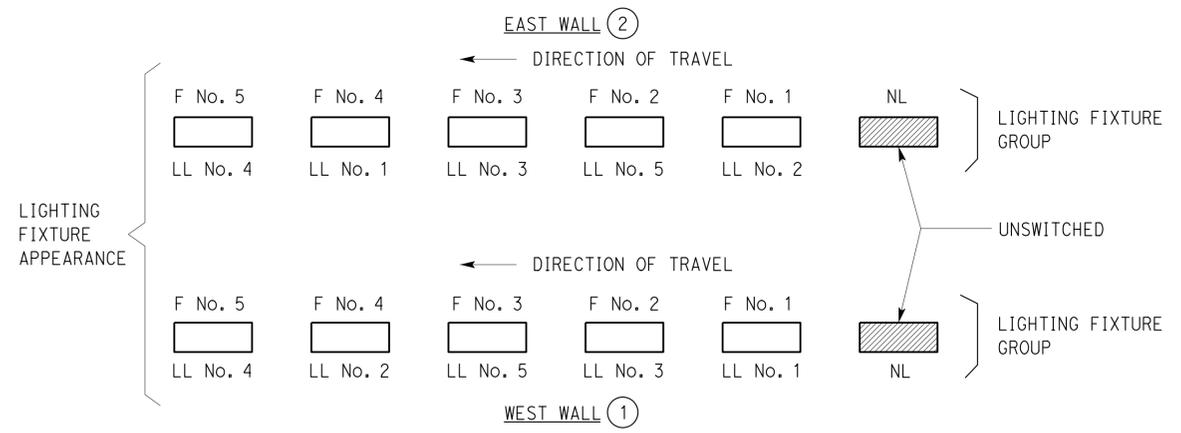
GENERAL NOTE:

A. For undercrossing "LIGHTING WIRING DIAGRAM" with corresponding circuit number, see this sheet and sheets EE-13 and EE-14.

NOTES:

- ① On west wall, the sequence of lighting levels (1-3-5-2-4) must be maintained on all lighting fixtures from undercrossing entrance, and must continue towards the exit.
- ② On east wall, the sequence of lighting level (2-5-3-1-4) must be maintained on all lighting fixtures from undercrossing entrance, and must continue towards the exit.

19	1	1	A1-3	2	1	A2-4
	3	2	A5-7	5	2	A6-8
	5	3	A9-11	3	3	A10-12
	2	4	A13-15	1	4	A14-16
	4	5	A17-19	4	5	A22-24
20	1	1	A1-3	2	1	A2-4
	3	2	A5-7	5	2	A6-8
	5	3	A9-11	3	3	A10-12
	2	4	A13-15	1	4	A14-16
	4	5	A17-19	4	5	A22-24
21	1	1	A1-3	2	1	A2-4
	3	2	A5-7	5	2	A6-8
	5	3	A9-11	3	3	A10-12
	2	4	A13-15	1	4	A14-16
	4	5	A17-19	4	5	A22-24



LIGHTING FIXTURE GROUP CONFIGURATION AND CORRESPONDING LEVEL DESIGNATION

(Structure No. 2 shown, Structure No. 1 similar, see Notes 1 and 2)

CONTINUE ON FOR THE ENTIRE LENGTH OF THE UNDERCROSSING

DESIGN BY Jaswinder Sandhu CHECKED Jaswinder Gill	DETAILS BY Tapalla/Andreasen CHECKED Jaswinder Sandhu	QUANTITIES BY Jaswinder Sandhu CHECKED Jaswinder Gill	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES ELECTRICAL-MECHANICAL-WATER AND WASTEWATER DESIGN	BRIDGE No.	TYPICAL LIGHTING LEVELS LAYOUT MODIFY LIGHTING SYSTEM	SHEET
					POST MILE		OF
					UNIT: 3597 CONTRACT No.: 4X1101 PROJECT NUMBER & PHASE: 07140000431		DISREGARD PRINTS BEARING EARLIER REVISION DATES

TAEMWW Imperial - CCSC Rev. 01/13 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

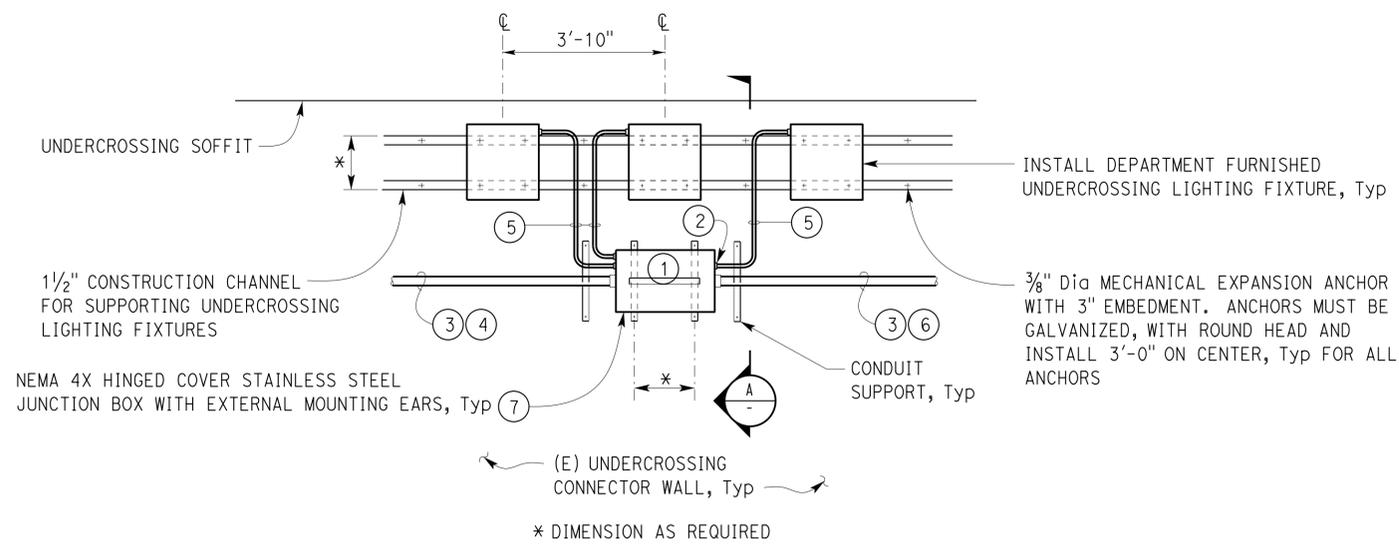
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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	2,5	15.1,22.5	81	87

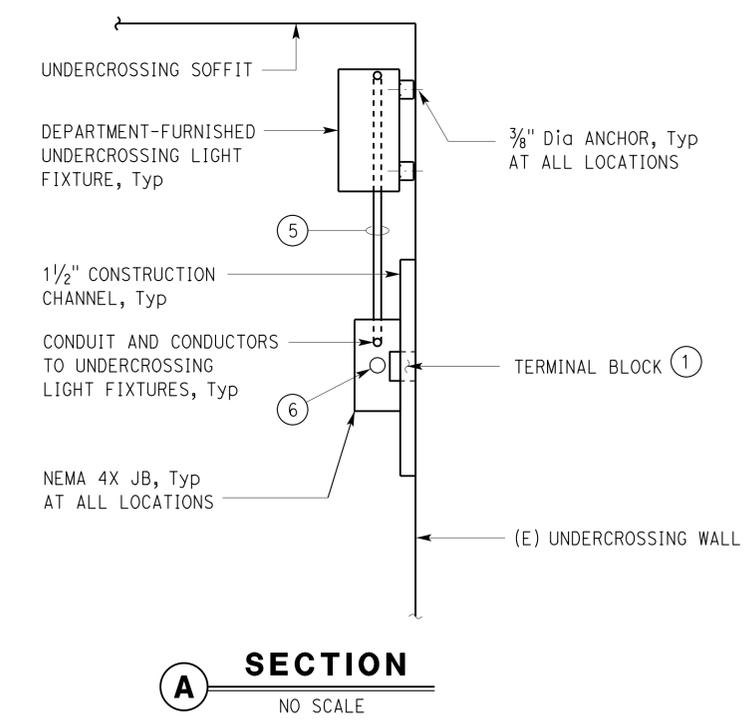
Approved by: *Jaswinder Sandhu* 10-01-13
 REGISTERED ELECTRICAL ENGINEER DATE
 10-7-13
 PLANS APPROVAL DATE
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 Reviewed by: *Francis Sollich*
 Approval date: 09-03-13

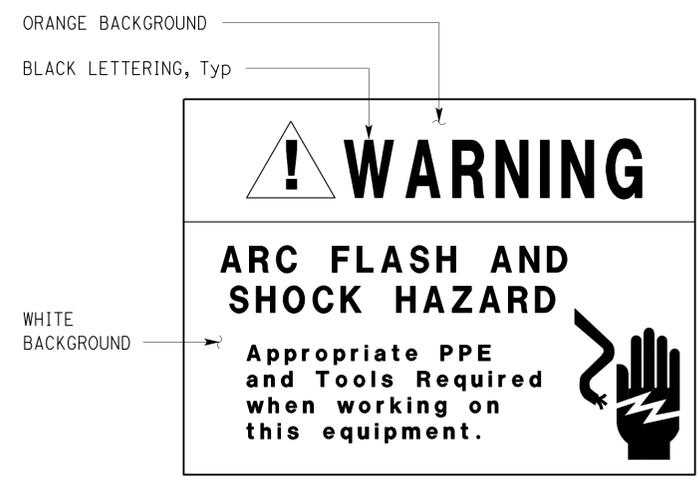
REGISTERED PROFESSIONAL ENGINEER
 Jaswinder Sandhu
 No. 11803
 Exp. 9-30-14
 ELEC
 STATE OF CALIFORNIA



UNDERCROSSING LIGHT FIXTURES LAYOUT
NO SCALE



A SECTION
NO SCALE



1 WARNING LABEL**
NO SCALE

** Warning label must be constructed with high degree of chemical abrasion, heat resistance and UL recognized material.

GENERAL NOTES:

- A. Each undercrossing connector has 10 expansion joints. At each expansion joint, perform the following:
 - Install expansion fitting, for detail refer to Standard Plan sheet ES-9B detail.
 - At each expansion joint, provide discontinuity in the construction channel supporting the lighting fixtures.
 - In the event a lighting fixture happen to be located at the expansion joint, extend construction channel over from one side to the other side. Do not anchor construction channel for the portion of length extending over the other side.
 - B. Use of 90 degree short conduit elbows or 90 degree raintight corner pulling ells will be allowed for connecting undercrossing light fixtures to the NEMA 4X junction box.
 - C. Paint all conduits, supporting devices and NEMA 4X junction boxes to match walls.
 - D. Use of galvanized rigid steel conduit (Type 1) only allowed inside the undercrossing connector.
- NOTES:
- ① Distribution type, 30 Amperes, 600-Volt rated terminal block suitable for accepting up to #4 AWG conductors. Perform the following inside NEMA 4X junction box:
 - Terminate all conductors for all five lighting levels and for night light entering and leaving the junction box on terminal block.
 - Supply the corresponding undercrossing lighting fixtures from the respective terminals representing the lighting level of that fixture.
 - Install arc flash and shock hazard warning label on all lighting fixture and junction box. See "DETAIL 1", this sheet.
 - ② Weatherproof type hubs, typical all undercrossing lighting fixtures and at junction boxes.
 - ③ Support conduit at interval of 5', typical.
 - ④ 2"C, 10#6 (Daytime lighting), 2#6 (Nighttime lighting), 2#6 (spares), 1#6G to adjacent NEMA 4X stainless steel junction box.
 - ⑤ 1/2"C, 2#12, 1#12G.
 - ⑥ 2"C, 12#6, 2#6 (spares), 1#6G from Undercrossing Electrical Equipment Enclosure.
 - ⑦ Install one junction box for each group of 3 lighting fixtures, Typ.

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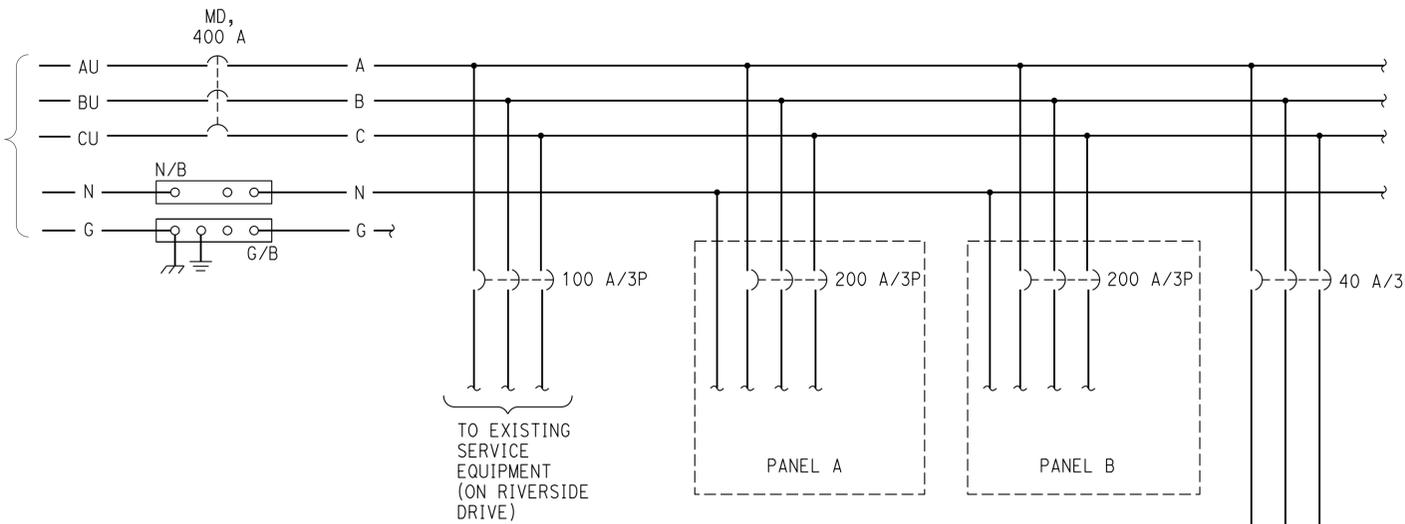
LIGHT FIXTURE AND NEMA 4X JUNCTION BOX MOUNTING DETAIL

DESIGN BY Jaswinder Sandhu CHECKED Jaswinder Gill	DETAILS BY Tapalla/Andreasen CHECKED Jaswinder Sandhu	QUANTITIES BY Jaswinder Sandhu CHECKED Jaswinder Gill	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES ELECTRICAL-MECHANICAL-WATER AND WASTEWATER DESIGN	BRIDGE No.	LIGHT FIXTURE AND NEMA 4X JUNCTION BOX MOUNTING DETAIL MODIFY LIGHTING SYSTEM	SHEET
					POST MILE		EE-9
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS			0 1 2 3	UNIT: 3597 CONTRACT No.: 4X1101 PROJECT NUMBER & PHASE: 0714000431	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES (PRELIMINARY STAGE ONLY) 8-28-13 9-3-13 9-18-13 9-17-13 10-1-13	SHEET OF

TAEWW Imperial - CCSC Rev. 01/13

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277/480 V,
3-PHASE, 4-WIRE
DISCONNECT AT
MAIN SERVICE
SWITCHBOARD



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Reviewed by: FRANCIS SOLICH
Approval date: 09-03-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	2,5	15.1,22.5	82	87

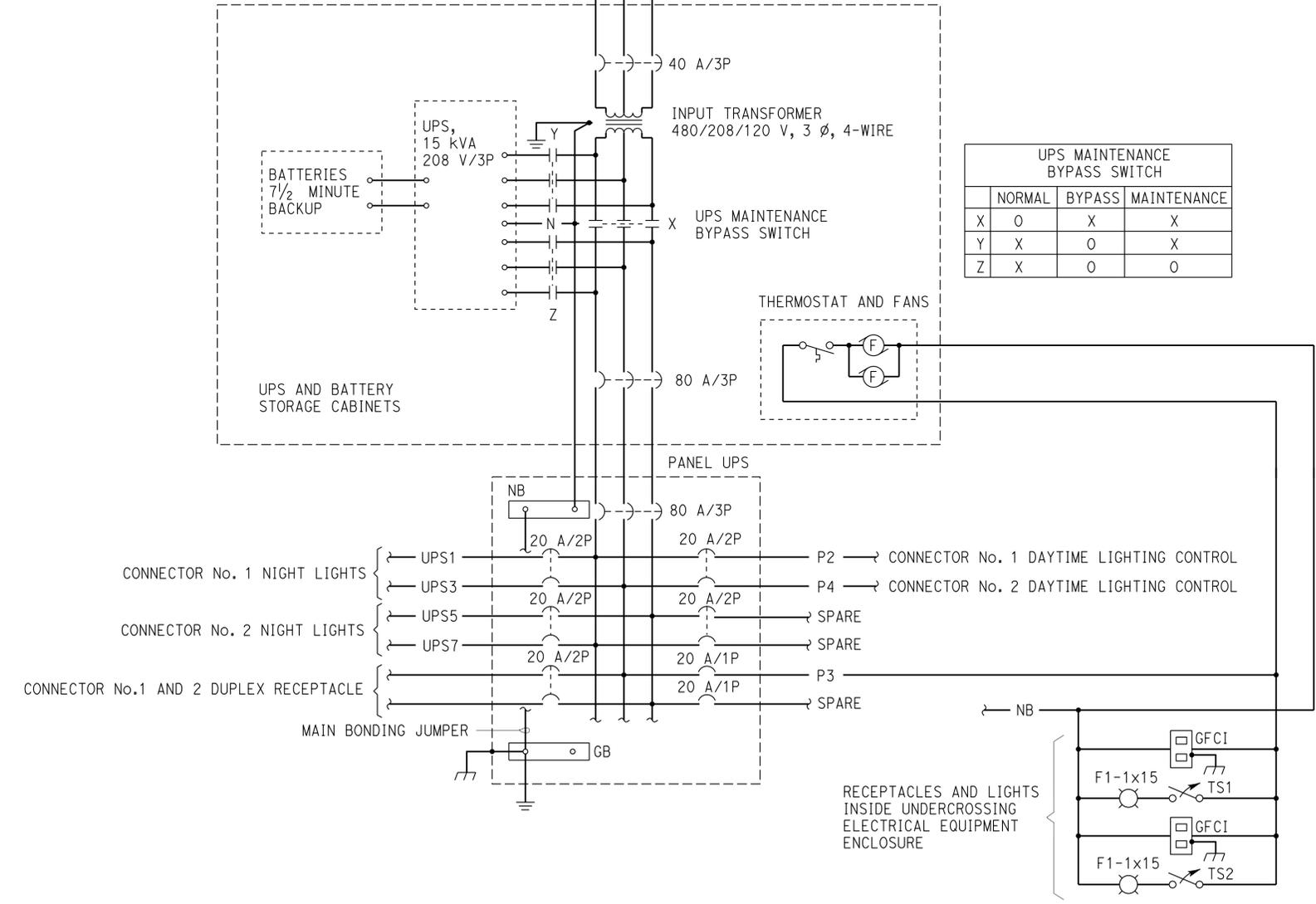
Jaswinder Sandhu 10-01-13
REGISTERED ELECTRICAL ENGINEER DATE

10-7-13
PLANS APPROVAL DATE

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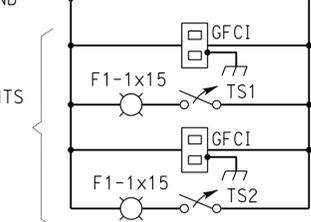
REGISTERED PROFESSIONAL ENGINEER
Jaswinder Sandhu
No. 11803
Exp. 9-30-14
ELEC
STATE OF CALIFORNIA

NOTE:
This drawing is for "Reference" only and describes internal functioning of the "Department-furnished" equipment.



UPS MAINTENANCE BYPASS SWITCH

	NORMAL	BYPASS	MAINTENANCE
X	0	X	X
Y	X	0	X
Z	X	0	0



UNDERCROSSING ELECTRICAL EQUIPMENT
POWER WIRING DIAGRAM

DESIGN	BY Jaswinder Sandhu	CHECKED Jaswinder Gill
DETAILS	BY Tapalla/Andreasen	CHECKED Jaswinder Sandhu
QUANTITIES	BY Jaswinder Sandhu	CHECKED Jaswinder Gill

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
ELECTRICAL-MECHANICAL-WATER AND WASTEWATER DESIGN

BRIDGE No.
POST MILE
MODIFY LIGHTING SYSTEM

SHEET OF
EE-10

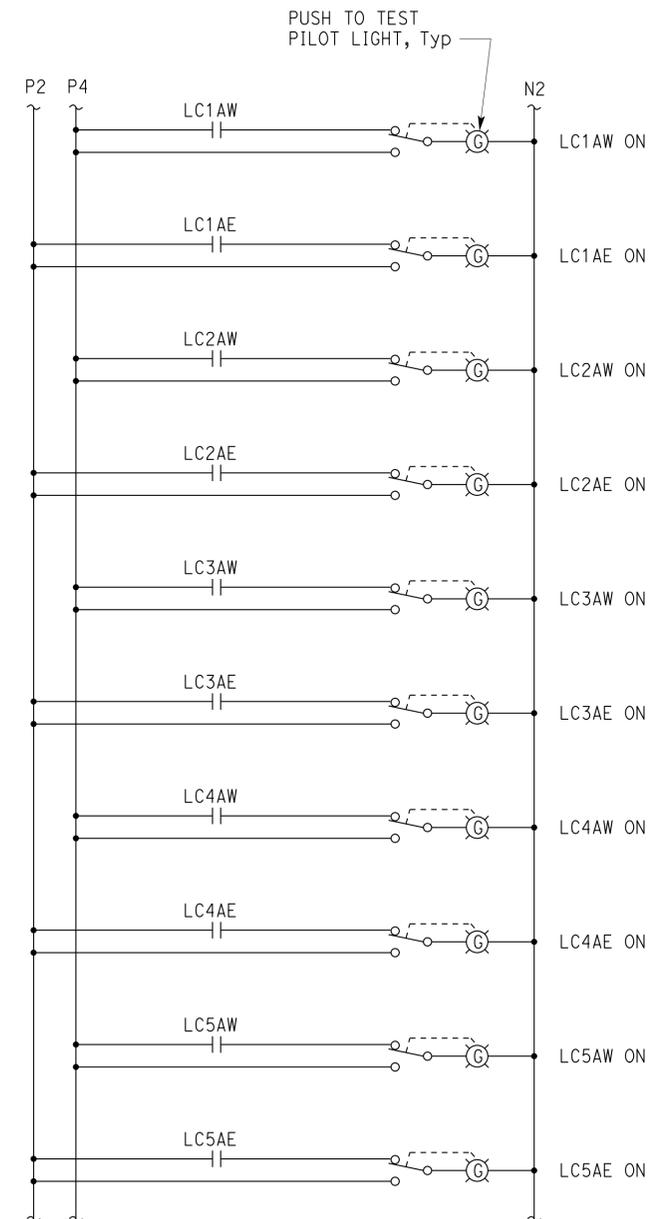
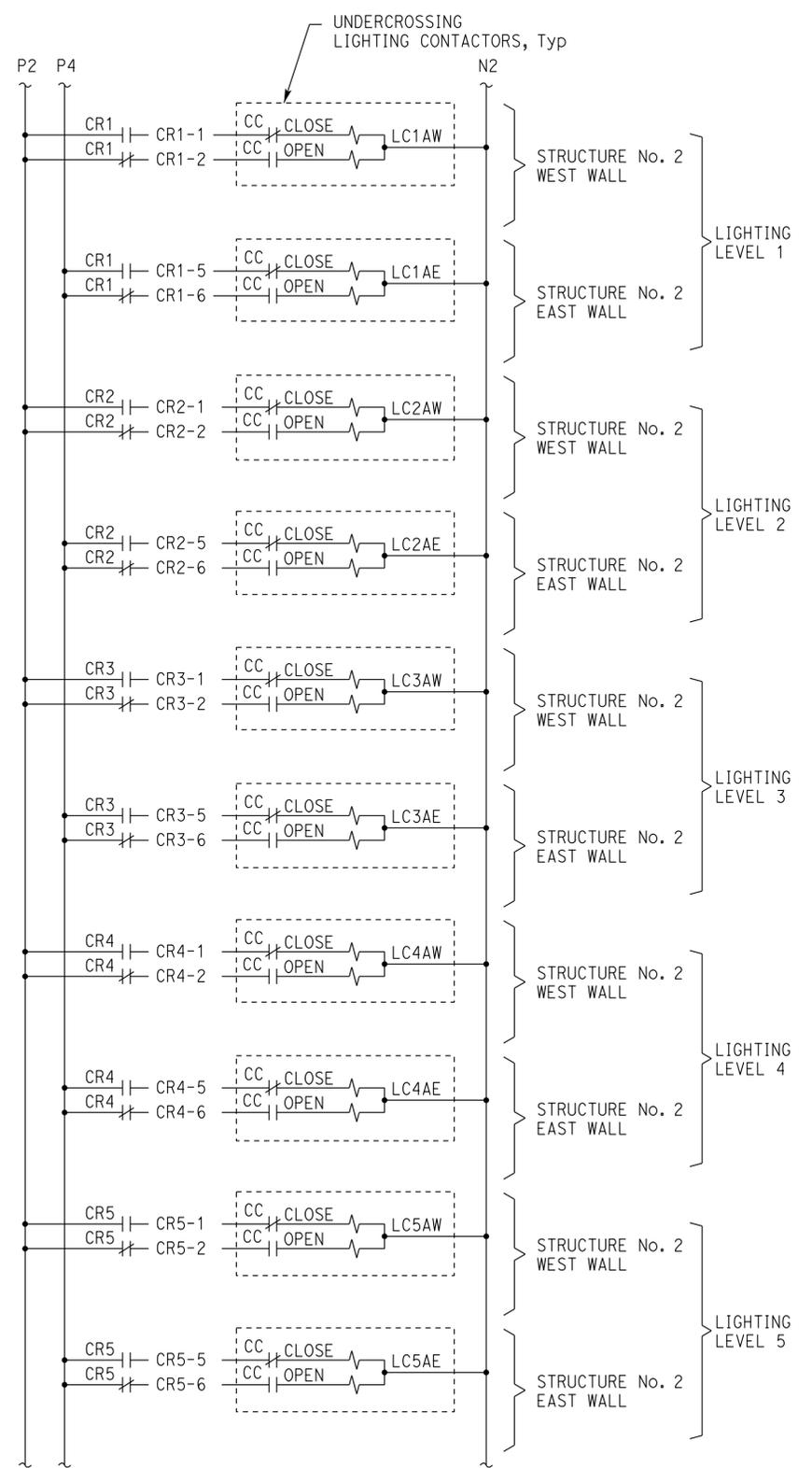
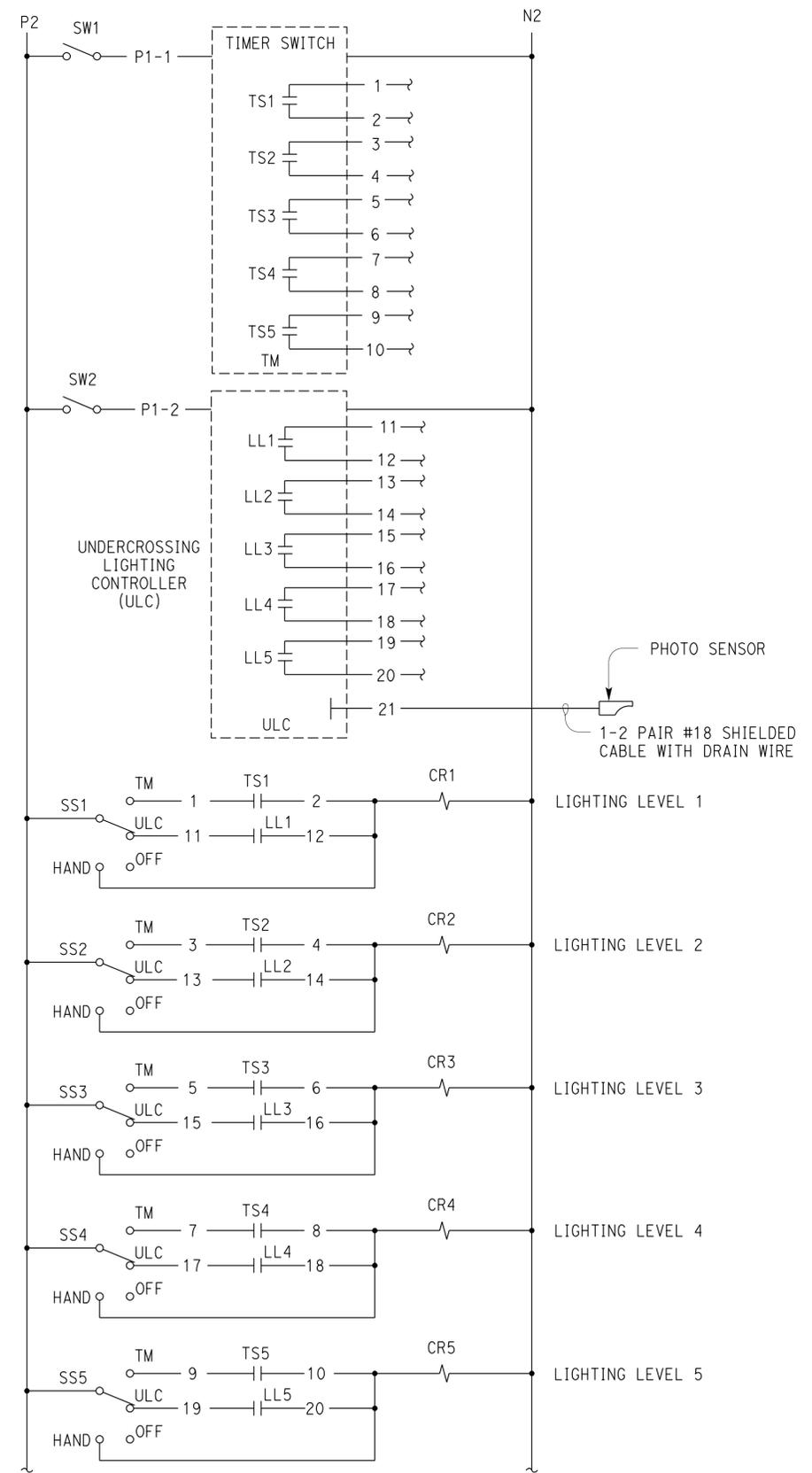
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	2,5	15.1,22.5	83	87

Approved by: *Jaswinder Sandhu* 10-01-13
 REGISTERED ELECTRICAL ENGINEER DATE
 10-7-13
 PLANS APPROVAL DATE
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Jaswinder Sandhu
 No. 11803
 Exp. 9-30-14
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 Reviewed by: *Francis Solich*
 Approval date: 09-03-13

NOTE:
 This drawing is for "Reference" only and describes internal functioning of the "Department-furnished" equipment.



STRUCTURE No. 2
 LIGHTING CONTROL SCHEMATIC

DESIGN	BY Jaswinder Sandhu	CHECKED Jaswinder Gill
DETAILS	BY Tapalla/Andreasen	CHECKED Jaswinder Sandhu
QUANTITIES	BY Jaswinder Sandhu	CHECKED Jaswinder Gill

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
 DIVISION OF ENGINEERING SERVICES
 ELECTRICAL-MECHANICAL-WATER AND WASTEWATER DESIGN

BRIDGE No.	
POST MILE	

MODIFY LIGHTING SYSTEM

SHEET OF
EE-11

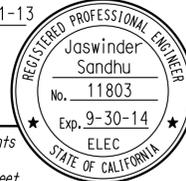
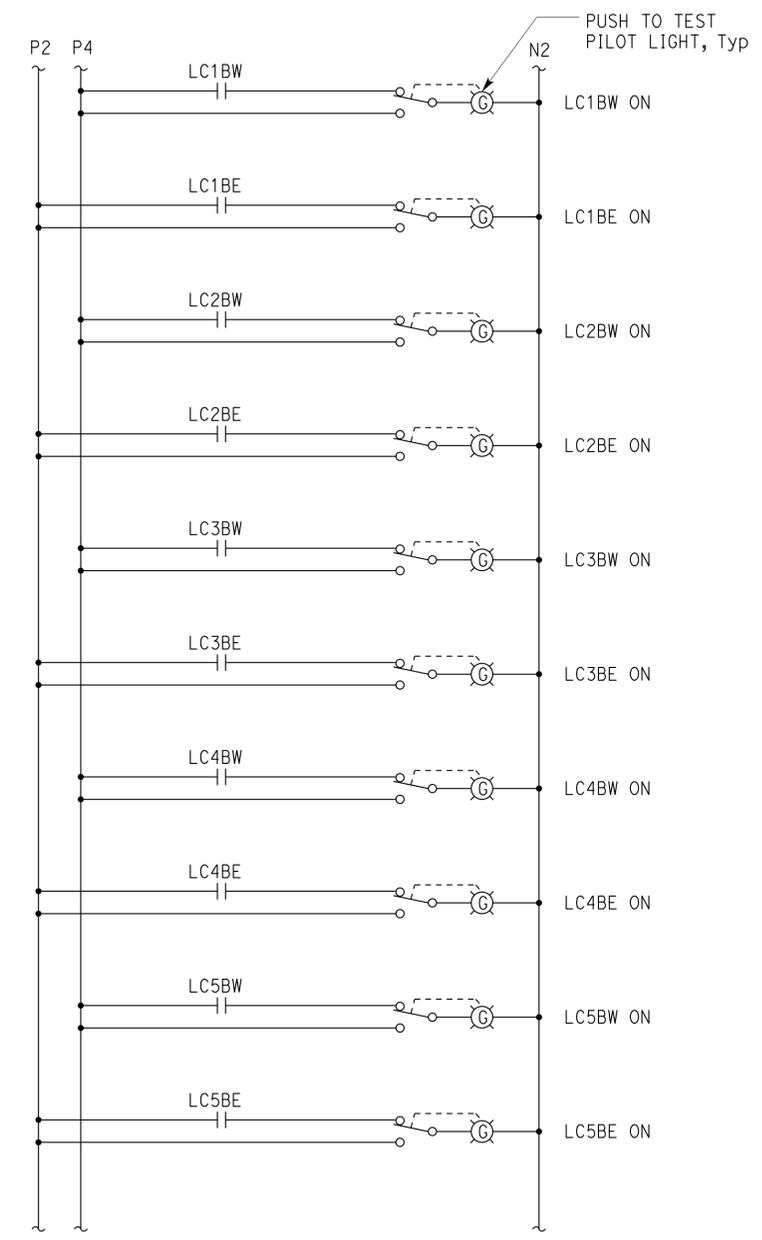
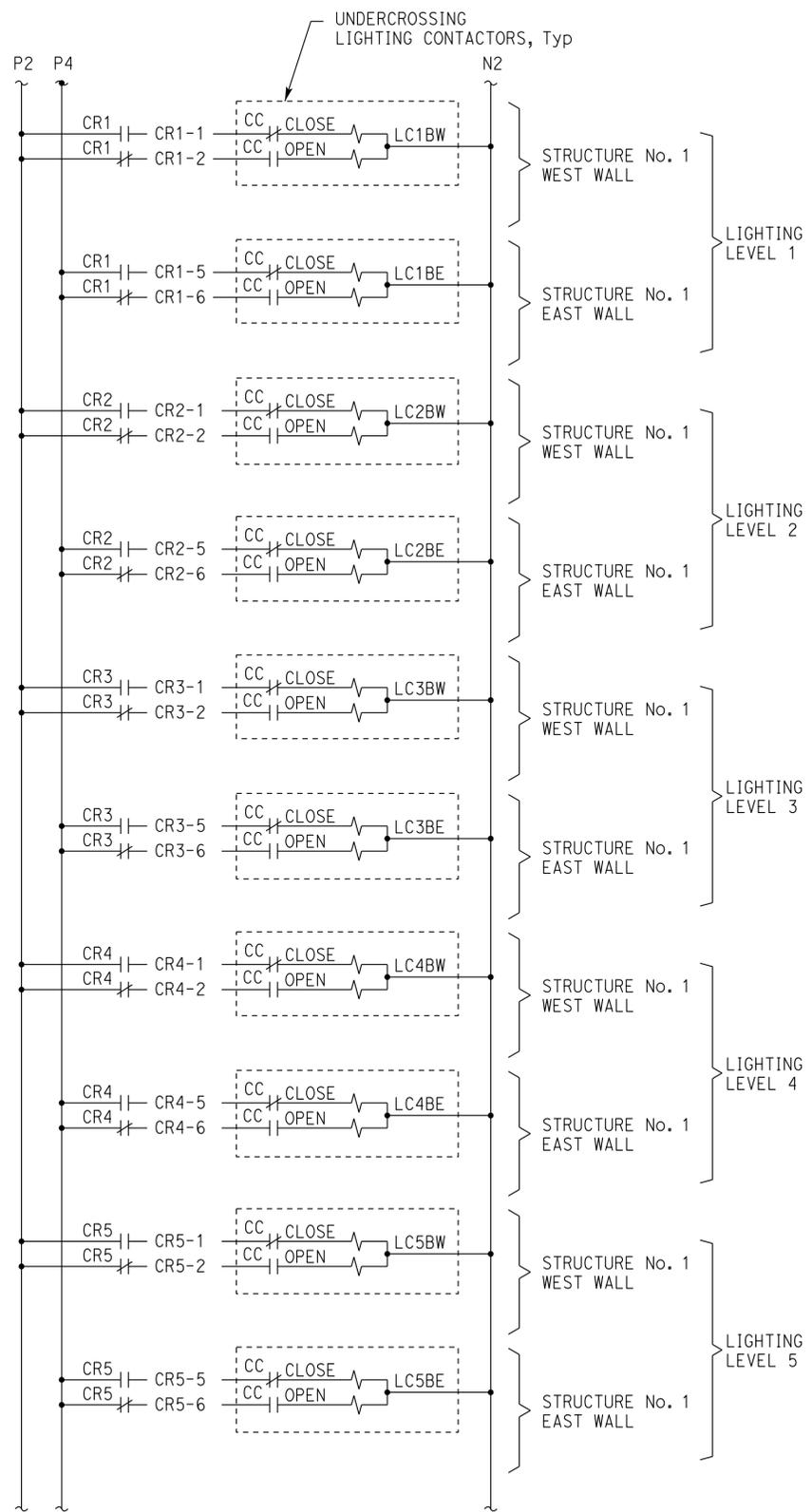
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	2,5	15.1,22.5	84	87

CALIFORNIA STATE FIRE MARSHAL APPROVED
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 Reviewed by: FRANCIS SOLTCH
 Approval date: 09-03-13

Jaswinder Sandhu 10-01-13
 REGISTERED ELECTRICAL ENGINEER DATE

10-7-13
 PLANS APPROVAL DATE

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NOTE:
 This drawing is for "Reference" only and describes internal functioning of the "Department-furnished" equipment.

STRUCTURE No. 1
 LIGHTING CONTROL SCHEMATIC

MODIFY LIGHTING SYSTEM

DESIGN	BY Jaswinder Sandhu	CHECKED Jaswinder Gill
DETAILS	BY Tapalla/Andreasen	CHECKED Jaswinder Sandhu
QUANTITIES	BY Jaswinder Sandhu	CHECKED Jaswinder Gill

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
 ELECTRICAL-MECHANICAL-WATER AND WASTEWATER DESIGN

BRIDGE No.
 POST MILE

UNIT: 3597	CONTRACT No.: 4X1101	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES (PRELIMINARY STAGE ONLY)	SHEET OF
PROJECT NUMBER & PHASE: 07140000431			8-25-13 9-3-13 9-11-13 9-17-13 10-1-13	EE-12

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 Approval date: 09-03-13

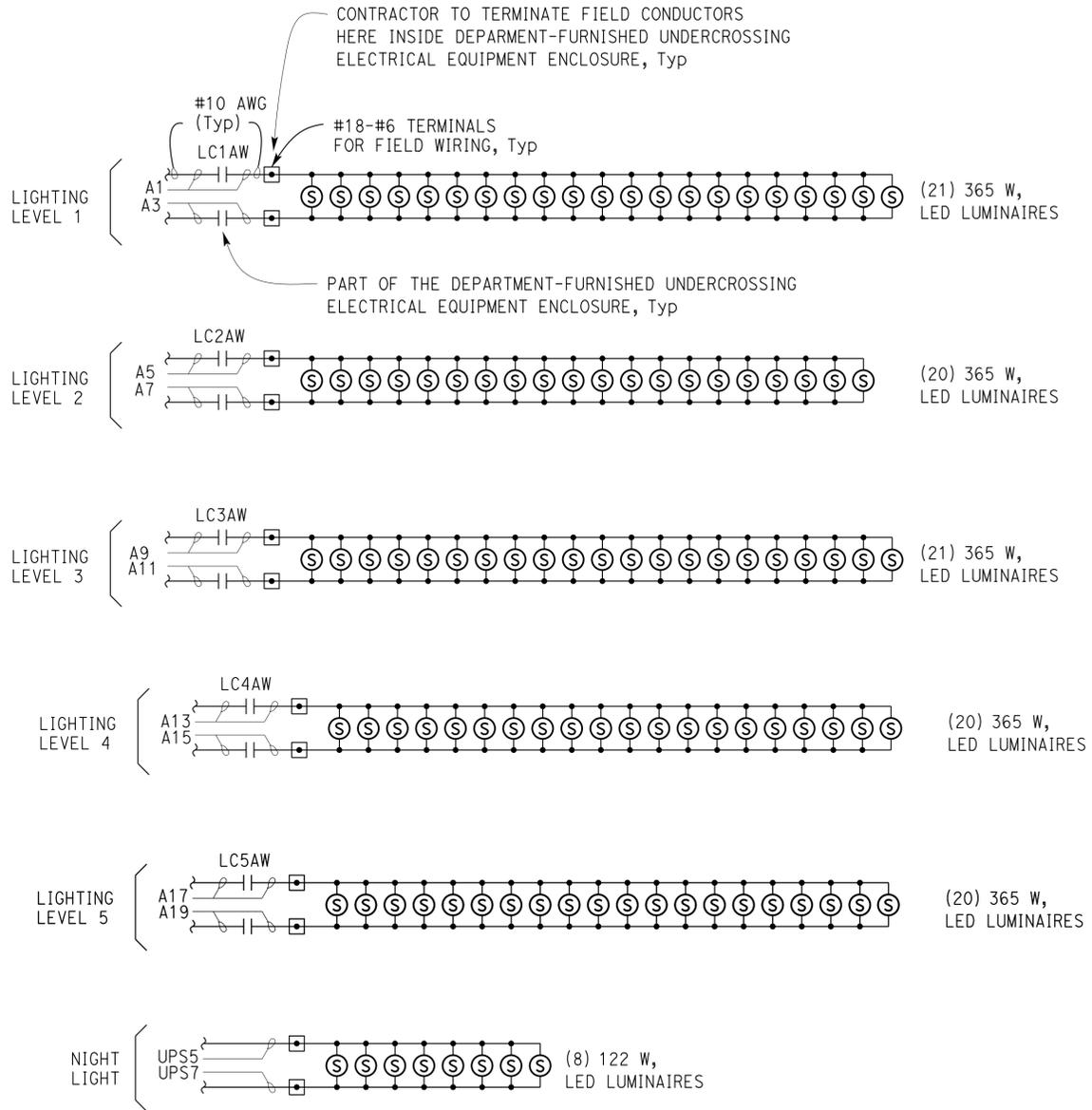
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	2,5	15.1,22.5	85	87

Jaswinder Sandhu 10-01-13
 REGISTERED ELECTRICAL ENGINEER DATE

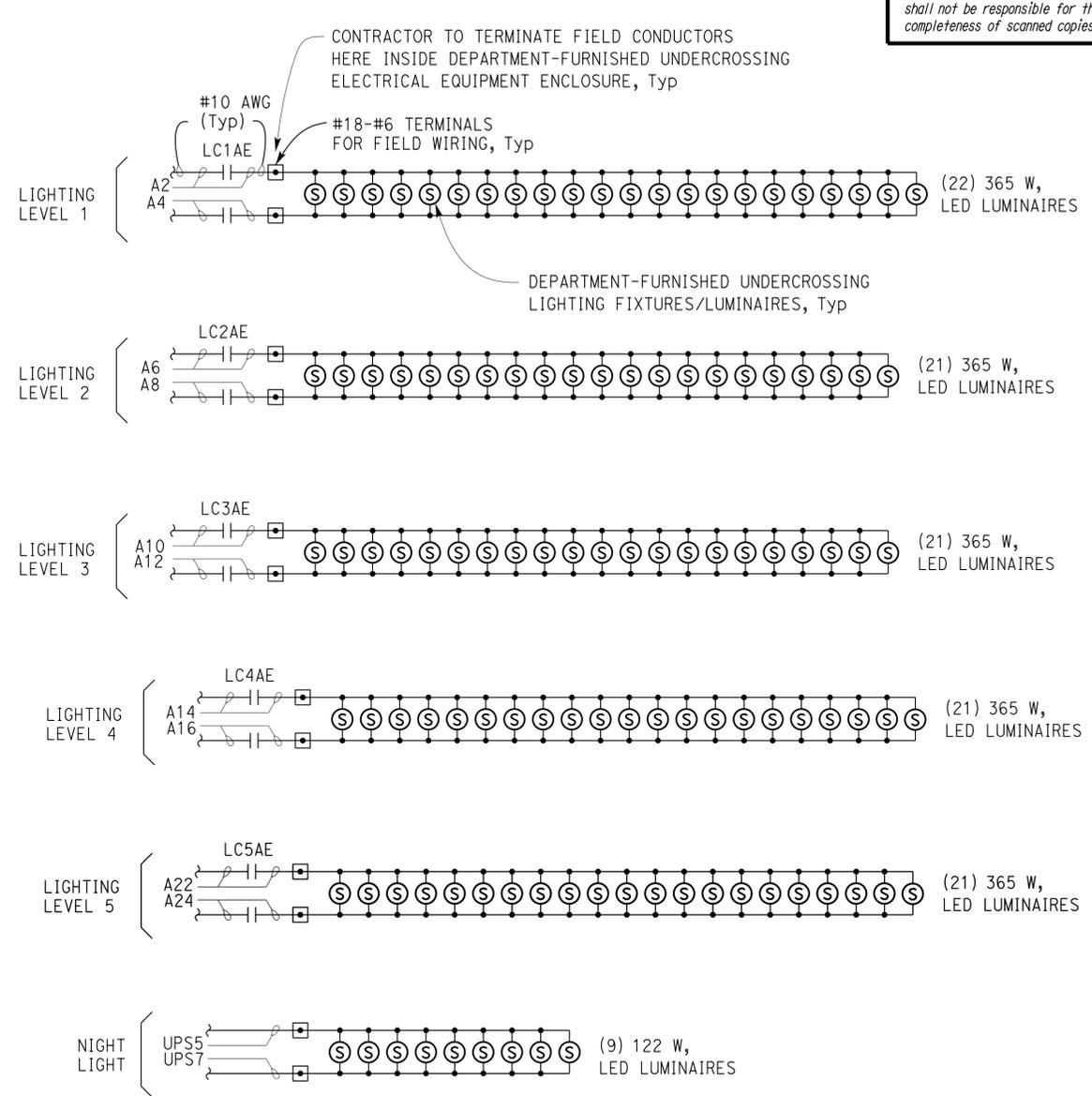
10-7-13
 PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER
 Jaswinder Sandhu
 No. 11803
 Exp. 9-30-14
 ELEC
 STATE OF CALIFORNIA



WEST WALL



EAST WALL

STRUCTURE No. 2

STRUCTURE No. 2
 LIGHTING WIRING SCHEMATIC

DESIGN	BY Jaswinder Sandhu	CHECKED Jaswinder Gill
DETAILS	BY Tapalla/Andreasen	CHECKED Jaswinder Sandhu
QUANTITIES	BY Jaswinder Sandhu	CHECKED Jaswinder Gill

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
 ELECTRICAL-MECHANICAL-WATER AND WASTEWATER DESIGN

BRIDGE No.
 POST MILE

MODIFY LIGHTING SYSTEM

SHEET OF
EE-13

CALIFORNIA STATE FIRE MARSHAL APPROVED
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 Reviewed by: FRANCIS SOLICH
 Approval date: 09-03-13

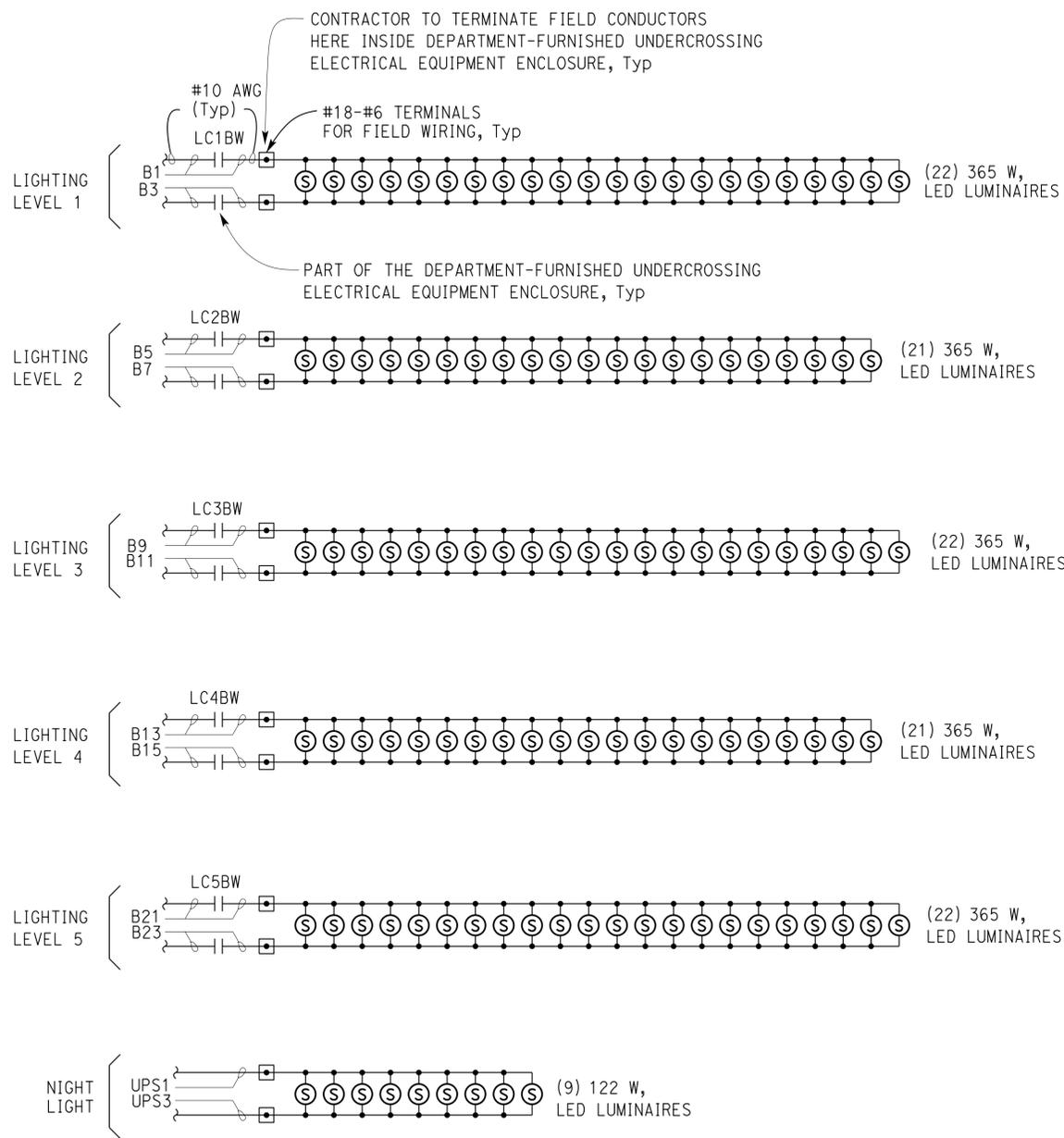
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	2,5	15.1,22.5	86	87

Jaswinder Sandhu 10-01-13
 REGISTERED ELECTRICAL ENGINEER DATE

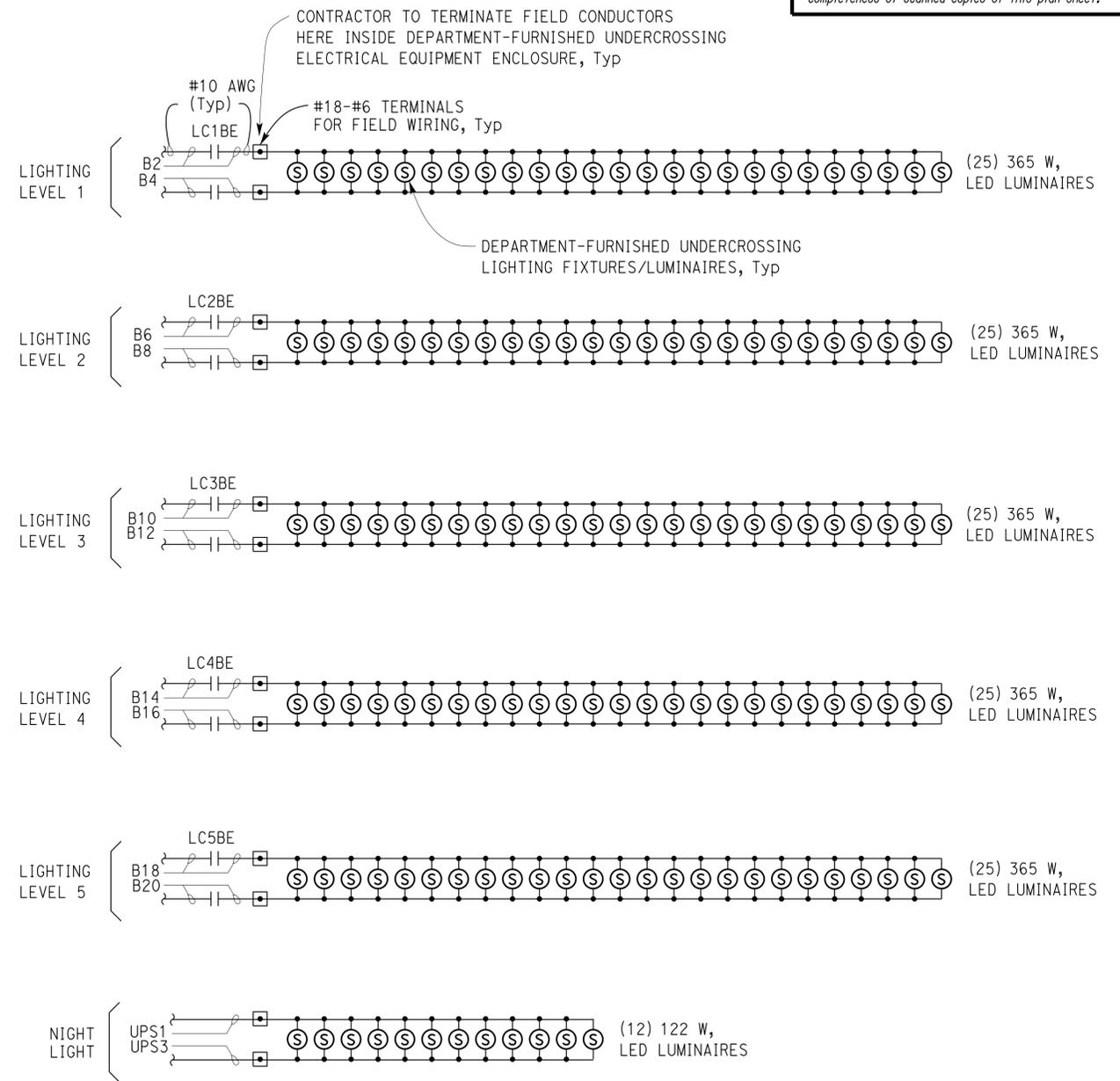
10-7-13
 PLANS APPROVAL DATE

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
 Jaswinder Sandhu
 No. 11803
 Exp. 9-30-14
 ELEC
 STATE OF CALIFORNIA



WEST WALL



EAST WALL

STRUCTURE No. 1

STRUCTURE No. 1
 LIGHTING WIRING SCHEMATIC

MODIFY LIGHTING SYSTEM

SHEET **EE-14**

DESIGN	BY Jaswinder Sandhu	CHECKED Jaswinder Gill
DETAILS	BY Tapalla/Andreasen	CHECKED Jaswinder Sandhu
QUANTITIES	BY Jaswinder Sandhu	CHECKED Jaswinder Gill

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
 ELECTRICAL-MECHANICAL-WATER AND WASTEWATER DESIGN

BRIDGE No. _____
 POST MILE _____

CALIFORNIA STATE FIRE MARSHAL APPROVED
 Approval of this plan does not authorize or approve any omission or deviation from applicable regulations. Final approval is subject to field inspection. One set of approved plans shall be available on the project site at all times.
 Reviewed by: *[Signature]* FRANCIS SOLTCH
 Approval date: 09-03-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	2,5	15.1,22.5	87	87
<i>Jaswinder Sandhu</i> 10-01-13 REGISTERED ELECTRICAL ENGINEER DATE				No. 11803 Exp. 9-30-14 ELEC STATE OF CALIFORNIA	
10-7-13 PLANS APPROVAL DATE					
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- GENERAL NOTES:
- A. Panelboard A, B, UPS and Panel M are part of Department-furnished Equipment. For exact location of these panelboards, see sheets EE-4 and EE-6.
 - B. Terminate field conductors at various branch circuit breakers.

MAIN: 200 A/3P CIRCUIT BREAKER
 VOLTS: 277/480 V, 3-PHASE, 4-WIRE

PANEL A (STRUCTURE No. 2)

LOCATION: UNDERCROSSING ELECTRICAL EQUIPMENT ENCLOSURE

DESCRIPTION	AMPERES			Brk	Ckt	A	B	C	Ckt	Brk	AMPERES			DESCRIPTION
	A	B	C								A	B	C	
WEST SIDE LIGHTS (LEVEL 1) - LC1AW	18			30/2	1	•			2	30/2	20			EAST SIDE LIGHTS (LEVEL 1) - LC1AE
		18			3		•		4	30/2		20		
WEST SIDE LIGHTS (LEVEL 2) - LC2AW			17	30/2	5			•	6	30/2			20	EAST SIDE LIGHTS (LEVEL 2) - LC2AE
	17				7	•			8	30/2	20			
WEST SIDE LIGHTS (LEVEL 3) - LC3AW		18		30/2	9		•		10	30/2		20		EAST SIDE LIGHTS (LEVEL 3) - LC3AE
			18		11			•	12	30/2			20	
WEST SIDE LIGHTS (LEVEL 4) - LC4AW	17			30/2	13	•			14	30/2	20			EAST SIDE LIGHTS (LEVEL 4) - LC4AE
		17			15		•		16	30/2		20		
WEST SIDE LIGHTS (LEVEL 5) - LC5AW			18	30/2	17			•	18	30/2			-	SPARE
	18				19	•			20	30/2	-			
SPARE		-		30/2	21		•		22	30/2		20		EAST SIDE LIGHTS (LEVEL 5) - LC5AE
			-		23			•	24	30/2			20	
	-			30/2	25	•			26	30/2	-			SPARE
		-			27		•		28	30/2		-		
			-	30/2	29			•	30	30/2			-	
					31	•			32	30/2				
			-	30/2	33		•		34	30/2				
					35			•	36	30/2				
SPARE				40/3	37	•			38	20/1				
					39		•		40	15/2				
					41		•		42					

A	B	C	TOTAL CONNECTED LOAD (AMPERES PER PHASE)
130	133	103	

MAIN: 200 A/3P CIRCUIT BREAKER
 VOLTS: 277/480 V, 3-PHASE, 4-WIRE

PANEL B (STRUCTURE No. 1)

LOCATION: UNDERCROSSING ELECTRICAL EQUIPMENT ENCLOSURE

DESCRIPTION	AMPERES			Brk	Ckt	A	B	C	Ckt	Brk	AMPERES			DESCRIPTION
	A	B	C								A	B	C	
WEST SIDE LIGHTS (LEVEL 1) - LC1BW	18			30/2	1	•			2	30/2	20			EAST SIDE LIGHTS (LEVEL 1) - LC1BE
		18			3		•		4	30/2		20		
WEST SIDE LIGHTS (LEVEL 2) - LC2BW			17	30/2	5			•	6	30/2			20	EAST SIDE LIGHTS (LEVEL 2) - LC2BE
	17				7	•			8	30/2	20			
WEST SIDE LIGHTS (LEVEL 3) - LC3BW		18		30/2	9		•		10	30/2		20		EAST SIDE LIGHTS (LEVEL 3) - LC3BE
			18		11			•	12	30/2			20	
WEST SIDE LIGHTS (LEVEL 4) - LC4BW	17			30/2	13	•			14	30/2	20			EAST SIDE LIGHTS (LEVEL 4) - LC4BE
		17			15		•		16	30/2		20		
SPARE			-	30/2	17			•	18	30/2			20	EAST SIDE LIGHTS (LEVEL 5) - LC5BE
	-				19	•			20	30/2	20			
WEST SIDE LIGHTS (LEVEL 5) - LC5BW		18		30/2	21		•		22	20/1		4		A/C UNIT AT UPS CABINET
			18		23			•	24	20/1			-	SPARE
SPARE			-	30/2	25	•			26	30/2	-			SPARE
			-		27		•		28	30/2		-		
			-	30/2	29			•	30	30/2			-	SPARE
					31	•			32	30/2			-	SPARE
			-	30/2	33		•		34	30/2			-	SPARE
					35			•	36	30/2			-	SPARE
			-	20/3	37	•			38				-	SPARE
					39		•		40	40/3			-	SPARE
					41		•		42				-	SPARE

A	B	C	TOTAL CONNECTED LOAD (AMPERES PER PHASE)
132	135	113	

MAIN: 80 A/3P CIRCUIT BREAKER
 VOLTS: 120/208 V, 3-PHASE, 3-WIRE

PANEL UPS

LOCATION: UNDERCROSSING ELECTRICAL EQUIPMENT ENCLOSURE

DESCRIPTION	AMPERES			Brk	Ckt	A	B	C	Ckt	Brk	AMPERES			DESCRIPTION
	A	B	C								A	B	C	
CONNECTOR No. 1 NIGHT LIGHTS	12			20/2	1	•			2	20/2				SPARE
		12			3		•		4	20/2				
CONNECTOR No. 2 NIGHT LIGHTS			10	20/2	5			•	6	20/2				SPARE
	10				7	•			8	20/2				
CONNECTOR No. 1 AND 2 DUPLEX RECEPTACLE		1.5		20/2	9		•		10	20/1		2		LIGHTING CONTROL
			1.5		11			•	12	20/1				

A	B	C	TOTAL CONNECTED LOAD (AMPERES PER PHASE)
22	16	14	

MAIN: 50 A/2P CB

VOLTS: 120/240 V, 1-PHASE, 3-WIRE

PANEL M

LOCATION: MAIN SERVICE SWITCHBOARD

DESCRIPTION	AMPERES		Brk	Ckt	A	C	Ckt	Brk	AMPERES		DESCRIPTION
	A	C							A	C	
SPARE			20/1	1	•		2	40/2			SPARE
				3		•	4				SPARE
				5	•		6	20/1			SPARE
				7		•	8	20/1			SPARE
				9	•		10	20/1			SPARE
				11		•	12	20/1			SPARE

A	C	TOTAL CONNECTED LOAD (AMPERES PER PHASE)
-	-	

PANEL SCHEDULES	
MODIFY LIGHTING SYSTEM	
SHEET	EE-15

DESIGN BY	Jaswinder Sandhu	CHECKED	Jaswinder Gill
DETAILS BY	Tapalla/Andreasen	CHECKED	Jaswinder Sandhu
QUANTITIES BY	Jaswinder Sandhu	CHECKED	Jaswinder Gill

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
 DIVISION OF ENGINEERING SERVICES
 ELECTRICAL-MECHANICAL-WATER AND WASTEWATER DESIGN
 BRIDGE No. _____
 POST MILE _____

UNIT: 3597	CONTRACT No.: 4X1101	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES (PRELIMINARY STAGE ONLY)	SHEET	OF
PROJECT NUMBER & PHASE: 07140000431			8-25-13 9-3-13 9-11-13 9-17-13 10-1-13		