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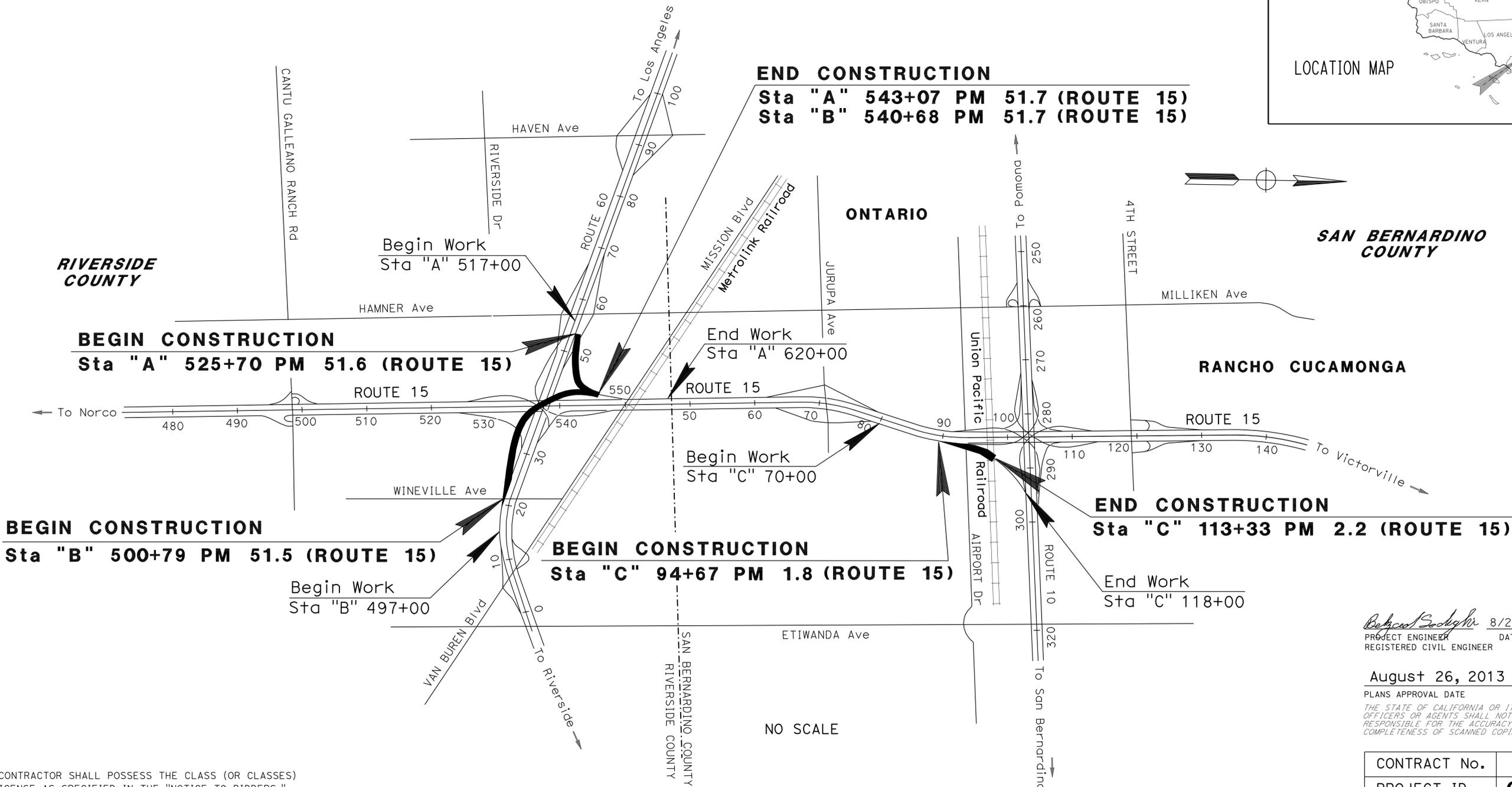
THE STANDARD PLANS LIST APPLICABLE TO THIS CONTRACT IS INCLUDED IN THE NOTICE TO BIDDERS AND SPECIAL PROVISIONS BOOK

STATE OF CALIFORNIA **HSIMG-015-5(159)106E OTS**  
**DEPARTMENT OF TRANSPORTATION**  
**PROJECT PLANS FOR CONSTRUCTION ON**  
**STATE HIGHWAY**  
**IN RIVERSIDE AND SAN BERNARDINO COUNTIES**  
**IN AND NEAR ONTARIO**  
**FROM 0.1 MILE SOUTH**  
**TO 0.1 MILE NORTH OF 15/60 SEPARATION**  
**AND FROM 0.6 MILE SOUTH**  
**TO 0.2 MILE SOUTH OF 15/10 SEPARATION**

TO BE SUPPLEMENTED BY STANDARD PLANS DATED MAY 2010

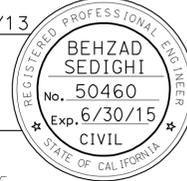
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv Sbd	15	51.5/51.7 1.8/2.2	1	54

LOCATION MAP



PROJECT MANAGER: RAFI H. ACHY  
DESIGN ENGINEER: KEVIN DINH

PROJECT ENGINEER DATE: 8/26/13  
 REGISTERED CIVIL ENGINEER  
**August 26, 2013**  
 PLANS APPROVAL DATE  
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



CONTRACT No.	<b>08-ON5104</b>
PROJECT ID	<b>0800001008</b>

DATE PLOTTED => 27-AUG-2013 TIME PLOTTED => 14:28

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv Sbd	15	51.5/51.7 1.8/2.2	2	54

REGISTERED CIVIL ENGINEER	DATE	8-26-13
8-26-13		
PLANS APPROVAL DATE		

BEHZAD SEDIGHI	No. 50460	Exp. 6/30/15
CIVIL		

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

**NOTES:**

- DIMENSIONS OF THE STRUCTURAL SECTION ARE SUBJECT TO TOLERANCES SPECIFIED IN THE STANDARD SPECIFICATIONS.
- FOR LOCATION OF CONCRETE BARRIER TYPE 732B (MOD), SEE LAYOUT SHEETS.
- FOR DETAILS OF CONCRETE BARRIER TYPE 732B (MOD), SEE CONSTRUCTION DETAIL SHEET C-1.

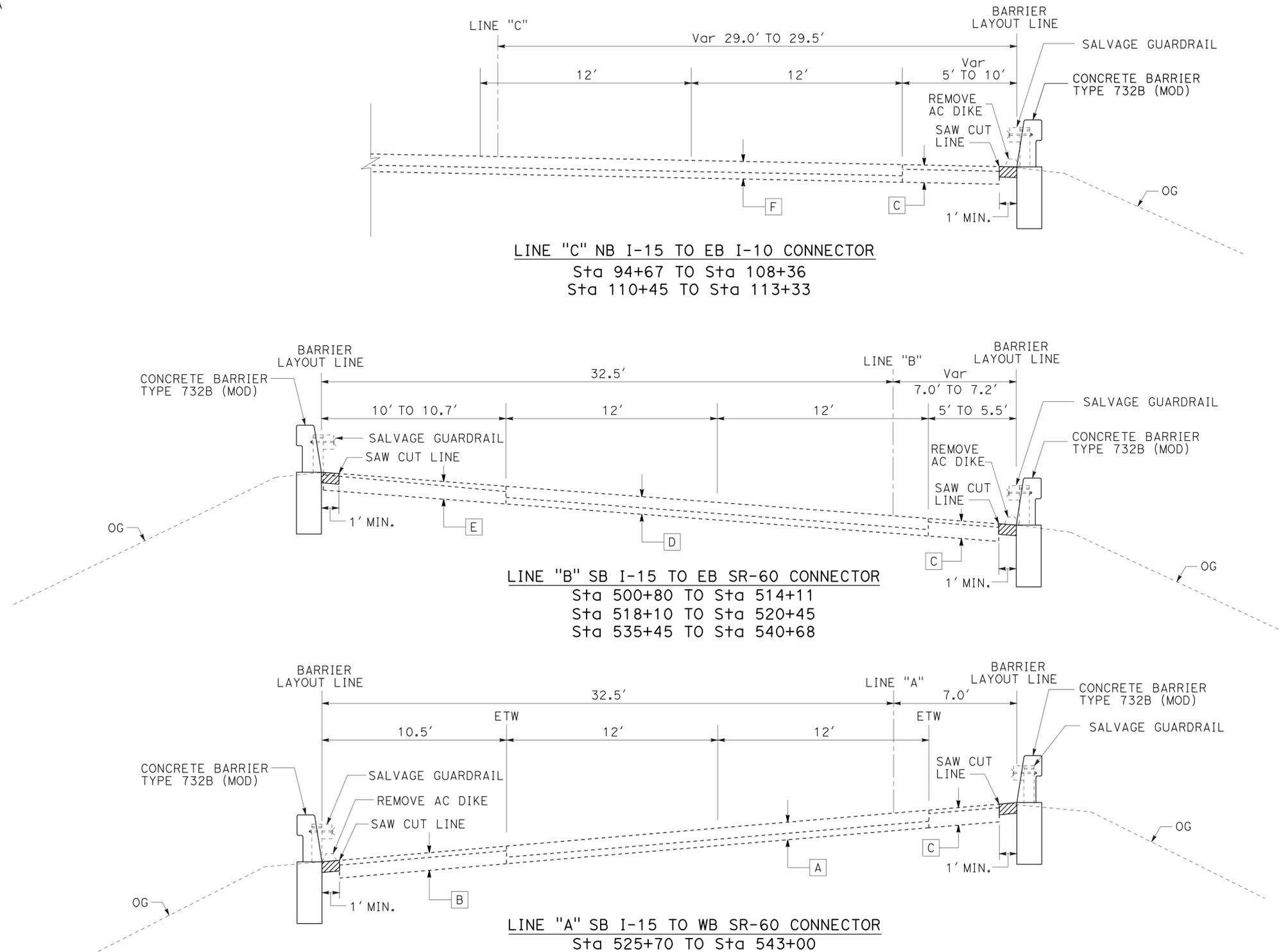
**LEGEND:**

 0.50' HMA

**DESIGN DESIGNATION (ROUTE-15)**

	I-15 SB to SR-60 EB Connector	I-15 SB to SR-60 WB Connector	I-15 NB to I-10 EB Connector
AADT (2013)	29,100	47,800	22,900
AADT (2030)	35,800	58,800	29,500
DHV (2030)	2,580	4,170	2,090
T (2013)	8%	8%	10%
T (2030)	10%	10%	10%

REVISOR	DATE	REVISION
KEVIN DINH	BEHZAD SEDIGHI	
CALCULATED/DESIGNED BY	CHECKED BY	
FUNCTIONAL SUPERVISOR	BEHZAD SEDIGHI	
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	DESIGN	



**EXIST STRUCTURAL SECTIONS:**

- A 1.0' PCC  
0.5' AC
- B 0.3' AC  
CLASS 2 AB
- C 0.2' AC  
CLASS 2 AB
- D VARIES PCC  
0.4' ATPB
- E 0.15'-0.35' AC  
CLASS 2 AB
- F 1.1' PCC  
0.5' AC

**ROUTE 15**

**TYPICAL CROSS SECTIONS**

NO SCALE

**X-1**



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv SBd	15	51.5/51.7 1.8/2.2	3	54

*Behzad Sedighi* 8-26-13  
 REGISTERED CIVIL ENGINEER DATE

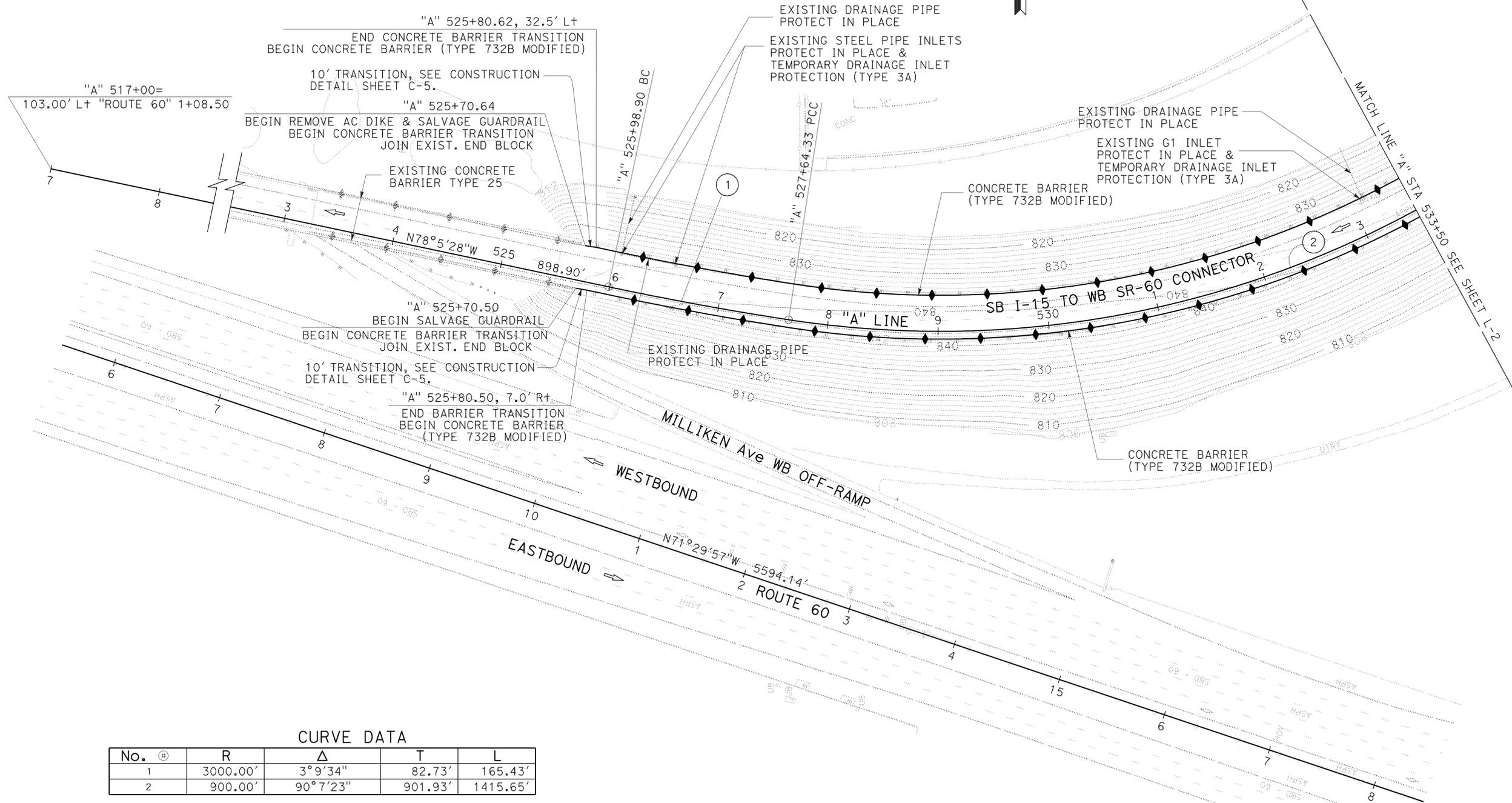
8-26-13  
 PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER  
**BEHZAD  
 SEDIGHI**  
 No. 50460  
 Exp. 6/30/15  
 CIVIL  
 STATE OF CALIFORNIA

**NOTES:**

1. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
2. FOR DETAILS OF CONCRETE BARRIER (TYPE 732B MODIFIED) AT EXISTING DRAINAGE INLETS, SEE CONSTRUCTION DETAIL SHEETS C-1 & C-2.
3. FOR CONCRETE BARRIER TRANSITION (TYPE 732B MODIFIED) TO EXISTING BRIDGE RAIL (TYPE 9), SEE CONSTRUCTION DETAILS SHEETS C-3 & C-4.
4. FOR CONCRETE BARRIER TRANSITION (TYPE 732B MODIFIED) TO EXISTING CONCRETE BARRIER (TYPE 25), SEE CONSTRUCTION DETAILS SHEET C-5.
5. FOR DETAILS OF METAL BEAM GUARD RAILING TYPE 12A & 12B LAYOUT, SEE STANDARD PLAN A77F1.
6. FOR DETAILS OF CONCRETE BARRIER TRANSITION (TYPE 732), SEE STANDARD PLAN B11-55.
7. FOR DETAILS OF TEMPORARY DRAINAGE INLET PROTECTION (TYPE 3A), SEE STANDARD PLAN T62.



**CURVE DATA**

No.	⊕	R	Δ	T	L
1		3000.00'	3°9'34"	82.73'	165.43'
2		900.00'	90°7'23"	901.93'	1415.65'

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

FUNCTIONAL SUPERVISOR  
 BEHZAD SEDIGHI

CALCULATED-DESIGNED BY  
 CHECKED BY

KEVIN DINH  
 BEHZAD SEDIGHI

REVISED BY  
 DATE REVISED

x  
 x  
 x  
 x  
 x  
 x

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv SBd	15	51.5/51.7 1.8/2.2	4	54

8-26-13  
 REGISTERED CIVIL ENGINEER DATE  
 8-26-13  
 PLANS APPROVAL DATE

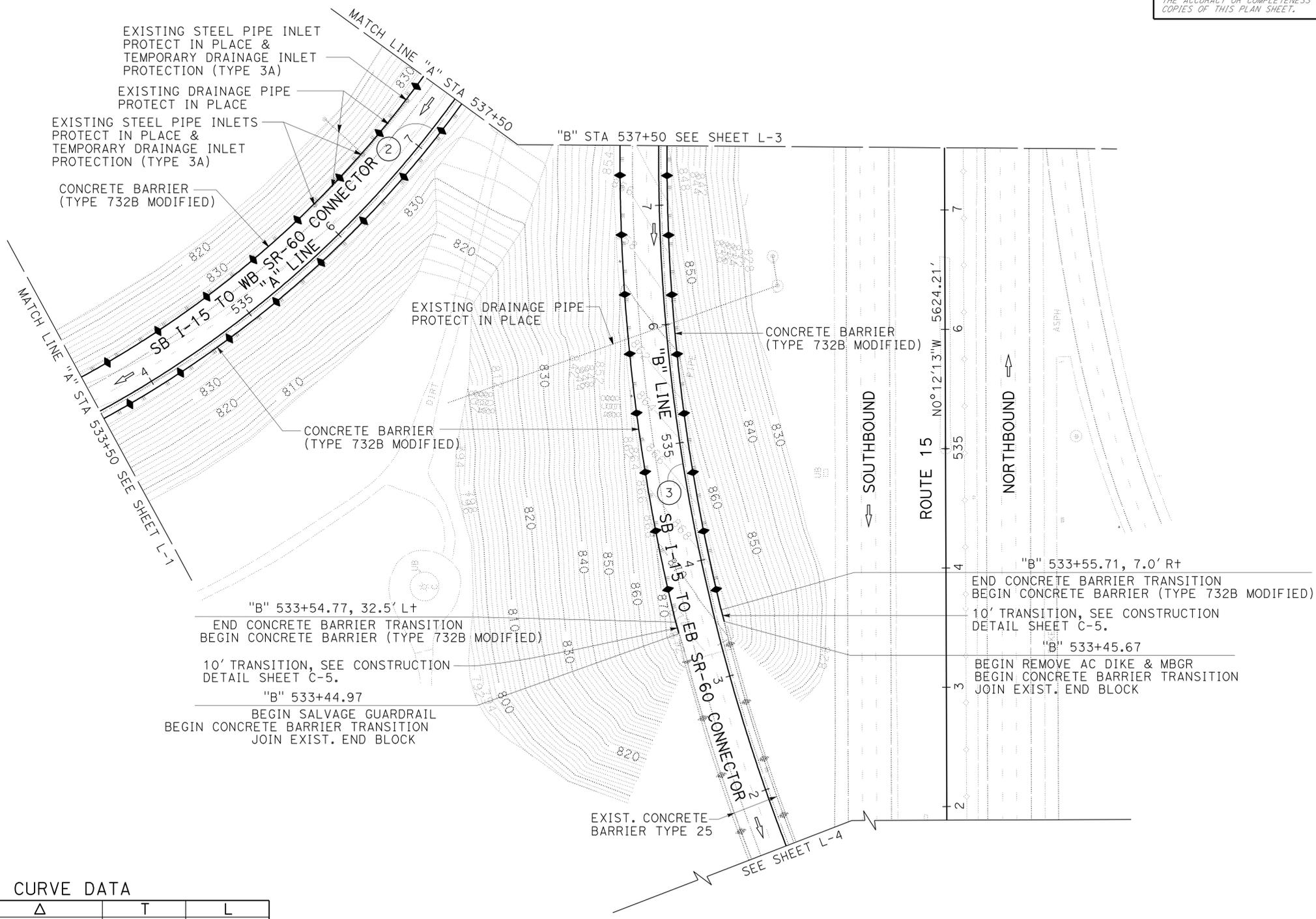
BEHZAD SEDIGHI  
 No. 50460  
 Exp. 6/30/15  
 CIVIL

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**NOTE:**

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

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	DESIGN
FUNCTIONAL SUPERVISOR	BEHZAD SEDIGHI
CALCULATED/DESIGNED BY	CHECKED BY
KEVIN DINH	BEHZAD SEDIGHI
REVISED BY	DATE REVISED



**CURVE DATA**

No.	⊕	R	Δ	T	L
2		900.00'	90° 7' 23"	901.93'	1415.65'
3		1600.00'	81° 52' 01"	1387.60'	2286.15'



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv Sbd	15	51.5/51.7 1.8/2.2	6	54

REGISTERED CIVIL ENGINEER DATE 8-26-13  
 BEHZAD SEDIGHI  
 No. 50460  
 Exp. 6/30/15  
 CIVIL  
 STATE OF CALIFORNIA

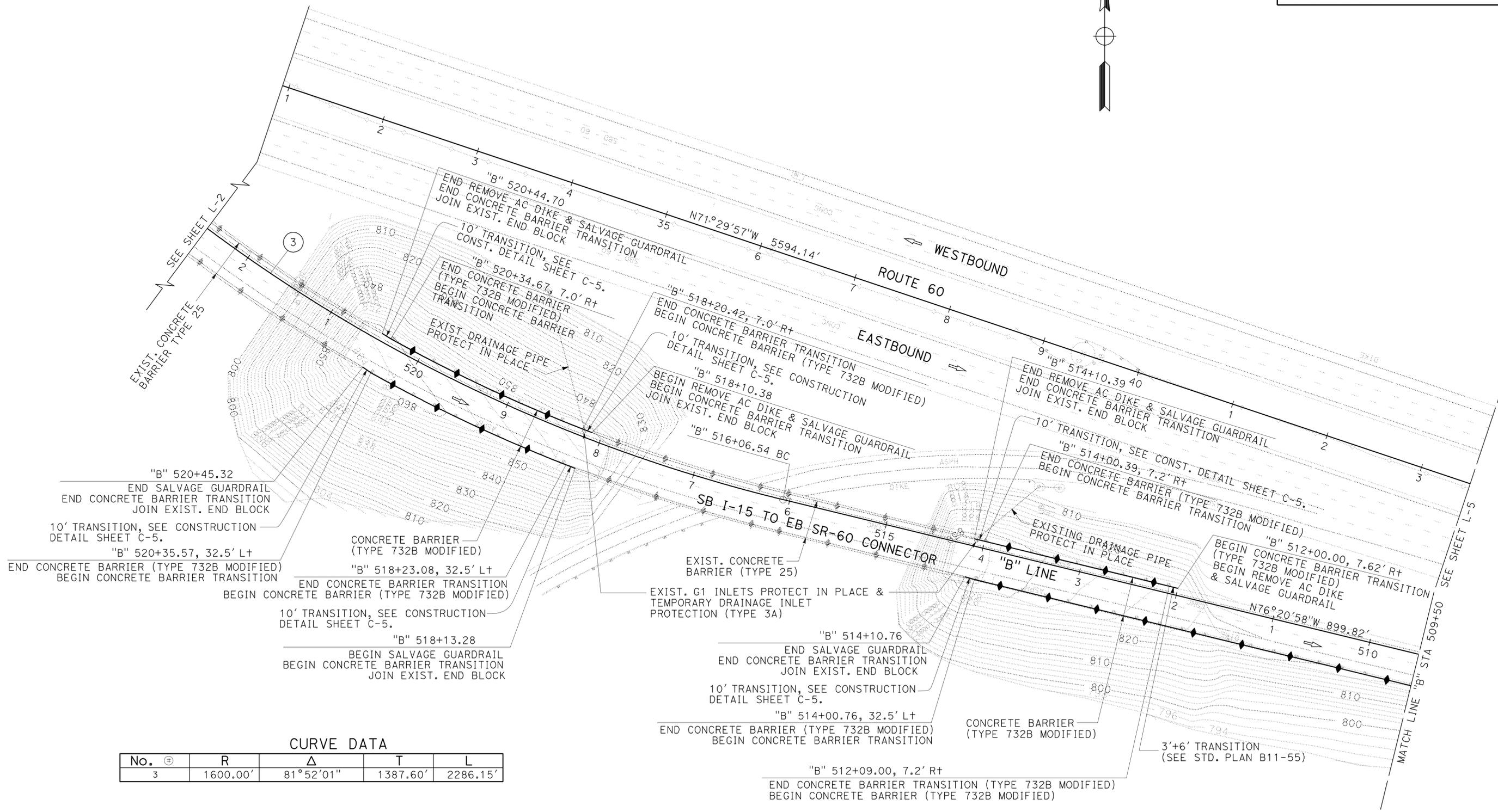
8-26-13  
 PLANS APPROVAL DATE

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**NOTE:**

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

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
 DESIGN  
 BEHZAD SEDIGHI  
 KEVIN DINH  
 BEHZAD SEDIGHI  
 REVISIONS: KEVIN DINH, BEHZAD SEDIGHI  
 REVISIONS: DATE, DATE



**CURVE DATA**

No.	R	Δ	T	L
3	1600.00'	81°52'01"	1387.60'	2286.15'

**LAYOUT**  
SCALE: 1" = 50' L-4

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

**NOTE:**

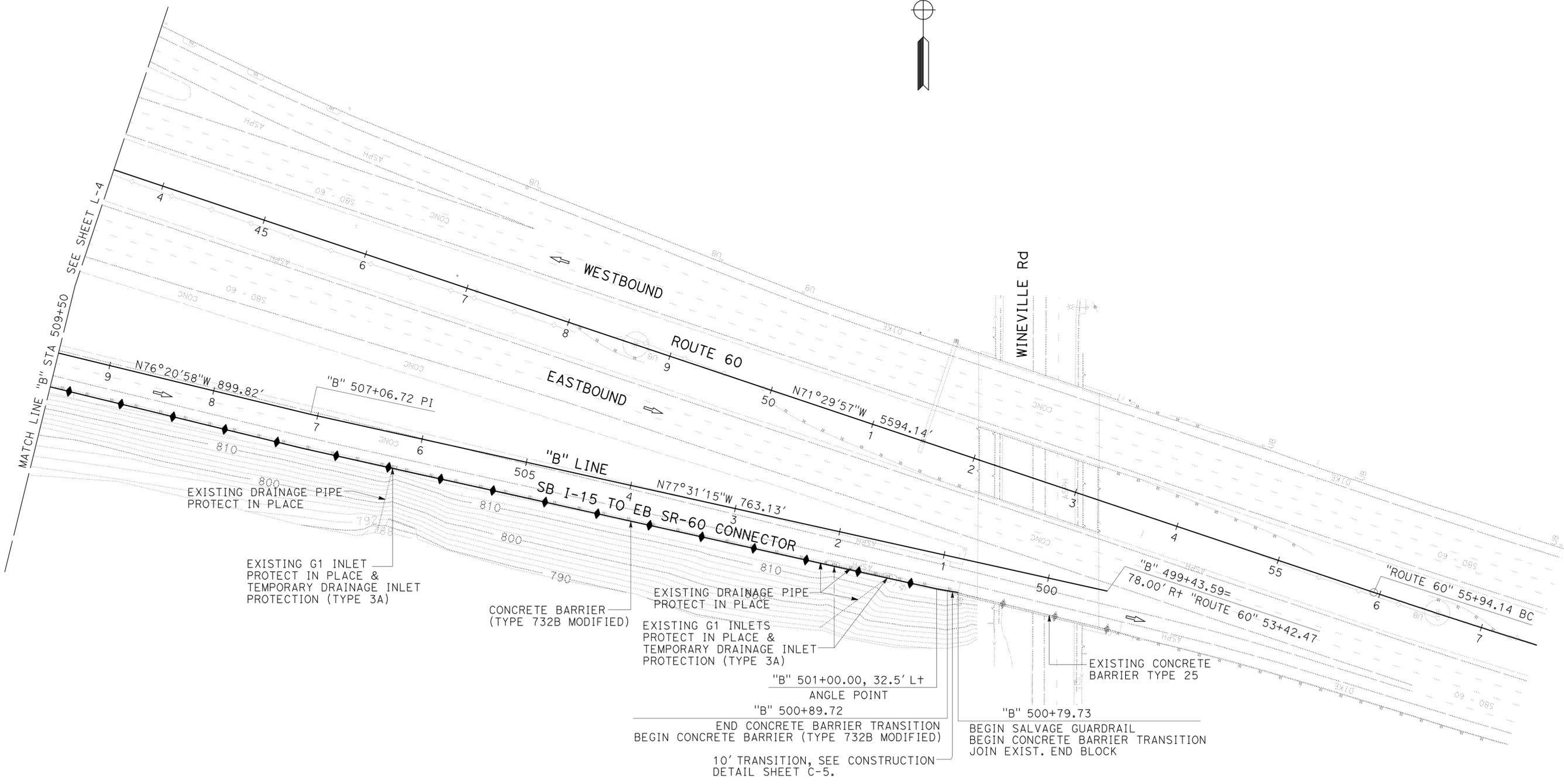
FOR ACCURATE RIGHT OF WAY DATA, CONTACT  
 RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv SBd	15	51.5/51.7 1.8/2.2	7	54

*Behzad Sedighi* 8-26-13  
 REGISTERED CIVIL ENGINEER DATE  
 8-26-13  
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
**BEHZAD  
 SEDIGHI**  
 No. 50460  
 Exp. 6/30/15  
 CIVIL  
 STATE OF CALIFORNIA

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**LAYOUT**  
 SCALE: 1" = 50' L-5

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv Sbd	15	51.5/51.7 1.8/2.2	8	54

*Behzad Sedighi* 8-26-13  
 REGISTERED CIVIL ENGINEER DATE

8-26-13  
 PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER  
**BEHZAD SEDIGHI**  
 No. 50460  
 Exp 6/30/15  
 CIVIL  
 STATE OF CALIFORNIA

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

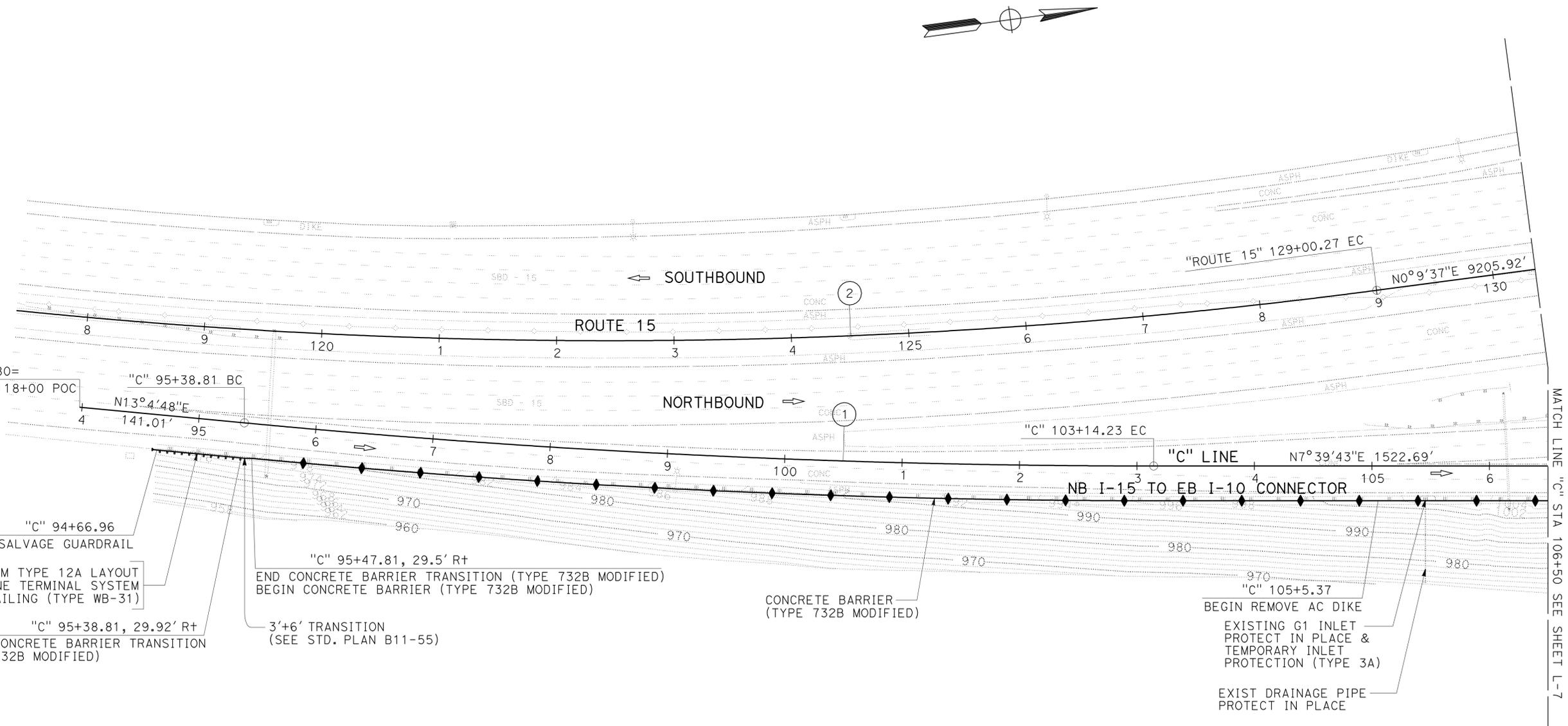
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
 DESIGN

FUNCTIONAL SUPERVISOR  
 BEHZAD SEDIGHI

CALCULATED/DESIGNED BY  
 CHECKED BY

KEVIN DINH  
 BEHZAD SEDIGHI

REVISED BY  
 DATE REVISED



**CURVE DATA**

No.	⊕	R	Δ	T	L
1		8200.00'	5°25'05"	388.00'	775.43'
2		5000.00'	22°0'22"	972.17'	1920.39'

**LAYOUT**  
 SCALE: 1" = 50' **L-6**

LAST REVISION      DATE PLOTTED => 27-AUG-2013      TIME PLOTTED => 14:29

**NOTE:**

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

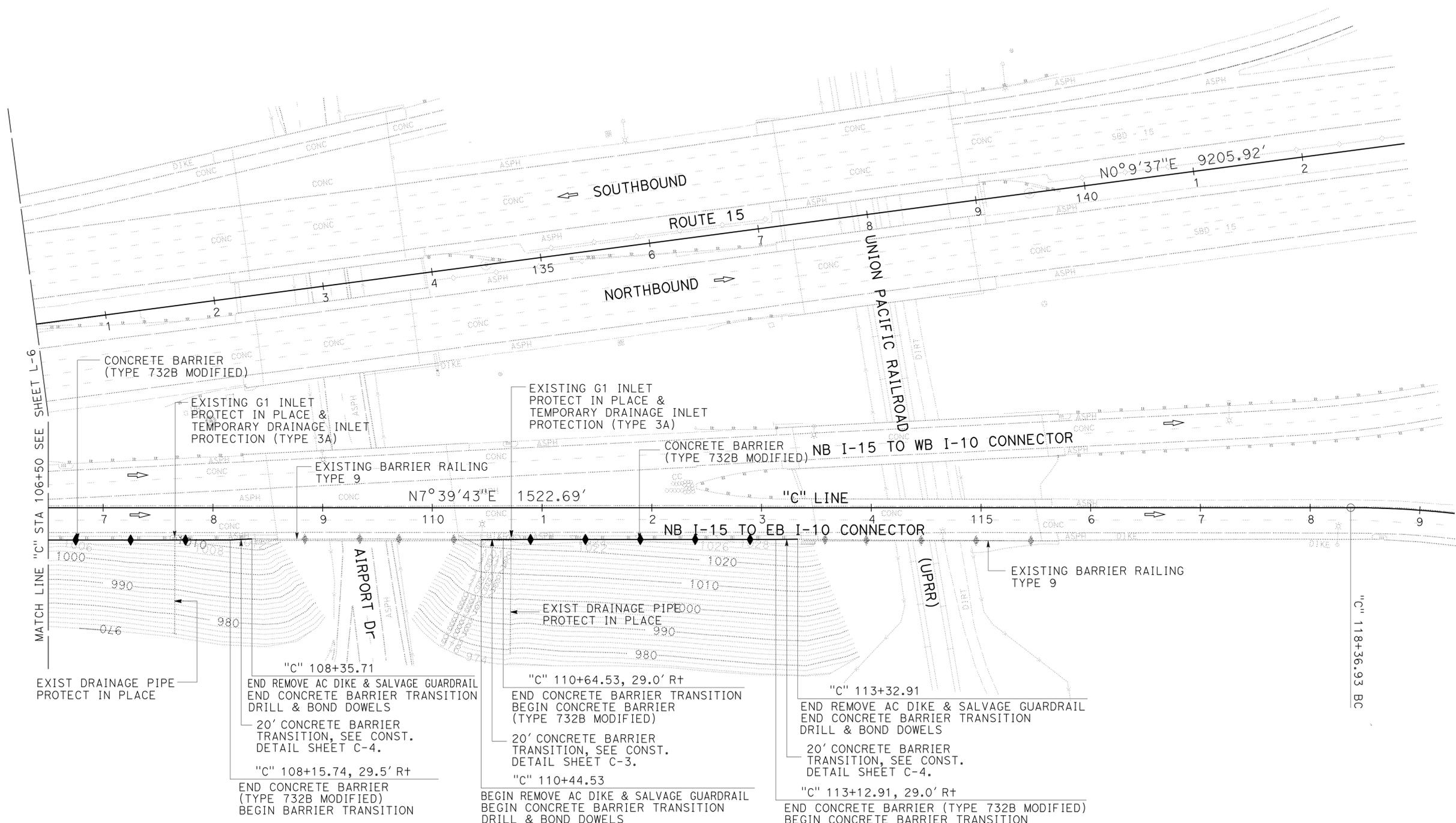
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv SBd	15	51.5/51.7 1.8/2.2	9	54

*Behzad Sedighi* 8-26-13  
 REGISTERED CIVIL ENGINEER DATE

8-26-13  
 PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER  
**BEHZAD  
 SEDIGHI**  
 No. 50460  
 Exp. 6/30/15  
 CIVIL  
 STATE OF CALIFORNIA



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

FUNCTIONAL SUPERVISOR: BEHZAD SEDIGHI  
 CALCULATED/DESIGNED BY: KEVIN DINH  
 CHECKED BY: BEHZAD SEDIGHI  
 REVISED BY: KEVIN DINH  
 DATE REVISED:

**LAYOUT**  
 SCALE: 1" = 50'  
**L-7**

LAST REVISION:    DATE PLOTTED => 27-AUG-2013    TIME PLOTTED => 14:29

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv SBd	15	51.5/51.7 1.8/2.2	10	54

<i>Behzad Sedighi</i>	8-26-13
REGISTERED CIVIL ENGINEER	DATE
BEHZAD SEDIGHI	
No. 50460	
Exp. 6/30/15	
CIVIL	

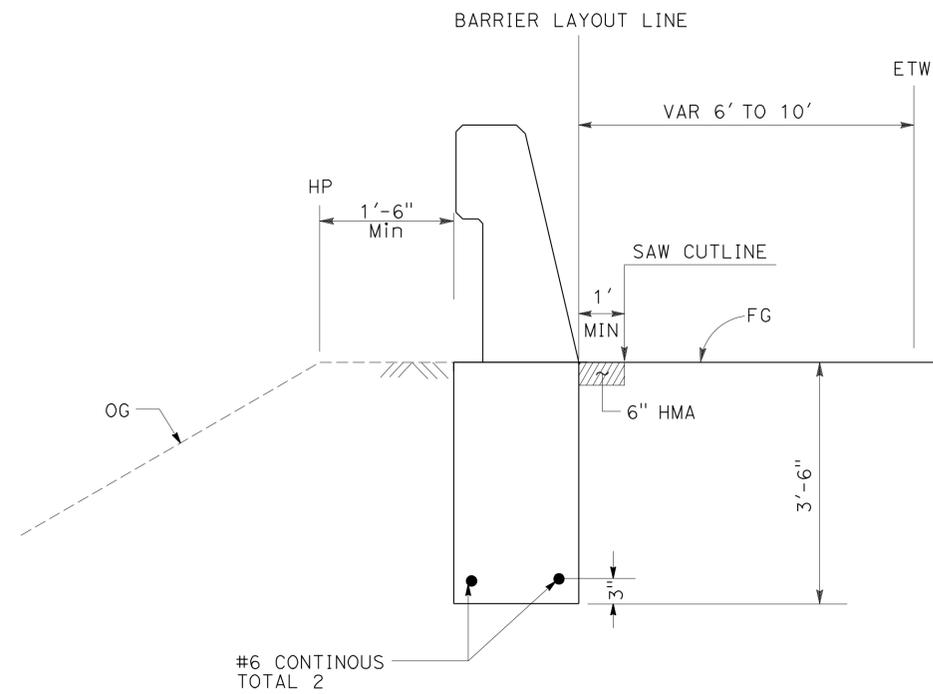
  

8-26-13  
PLANS APPROVAL DATE

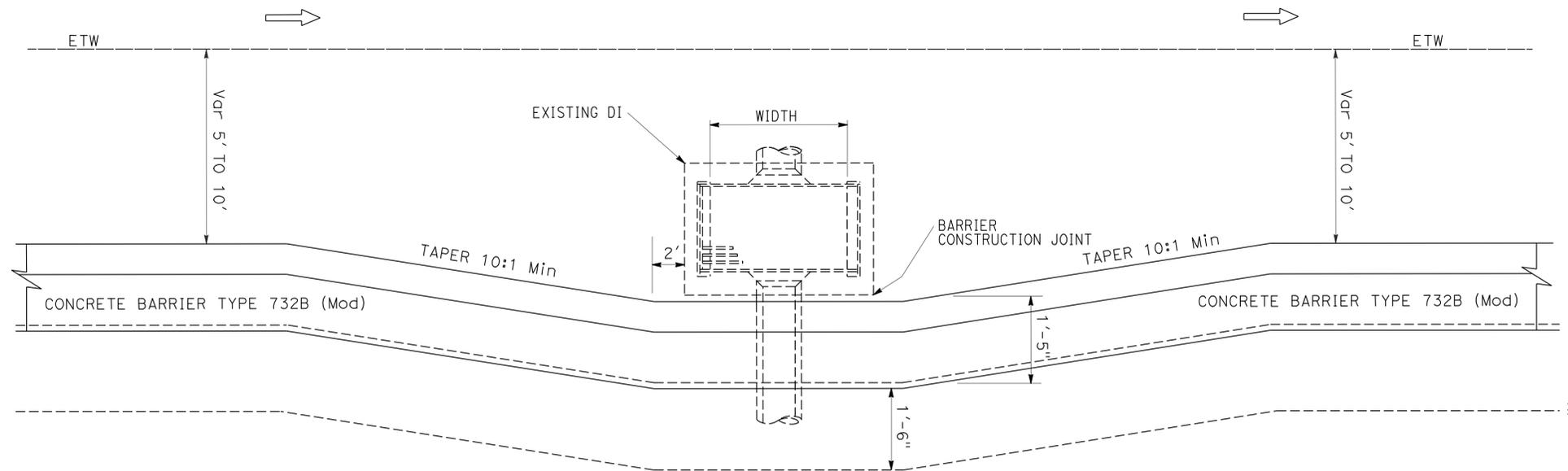
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**NOTE:**

FOR NOTE, DIMENSION AND REINFORCEMENT NOT SHOWN, SEE STANDARD PLAN B11-55.



**TYPE 732B (Mod)**  
TYPICAL DETAIL



**TYPE 732B (Mod)**  
PLAN VIEW @ EXISTING DI OPENING

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	DESIGN
Caltrans	
FUNCTIONAL SUPERVISOR	BEHZAD SEDIGHI
CALCULATED/DESIGNED BY	CHECKED BY
KEVIN DINH	BEHZAD SEDIGHI
REVISED BY	DATE

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv SBd	15	51.5/51.7 1.8/2.2	11	54

REGISTERED CIVIL ENGINEER	DATE
<i>Behzad Sedighi</i>	8-26-13
PLANS APPROVAL DATE	
	8-26-13

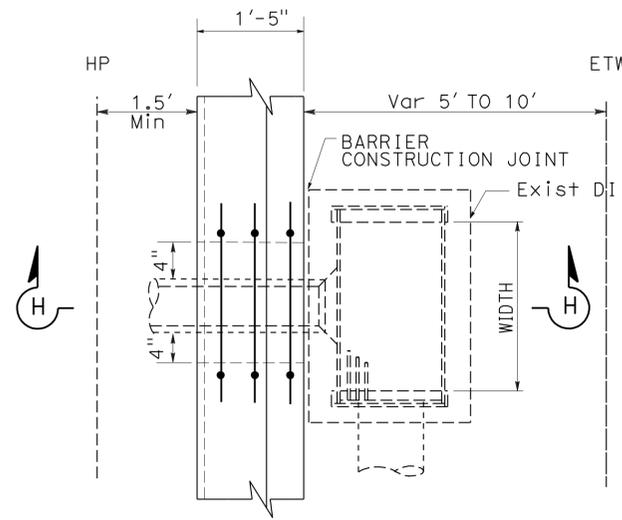
  

REGISTERED PROFESSIONAL ENGINEER
BEHZAD SEDIGHI
No. 50460
Exp 6/30/15
CIVIL

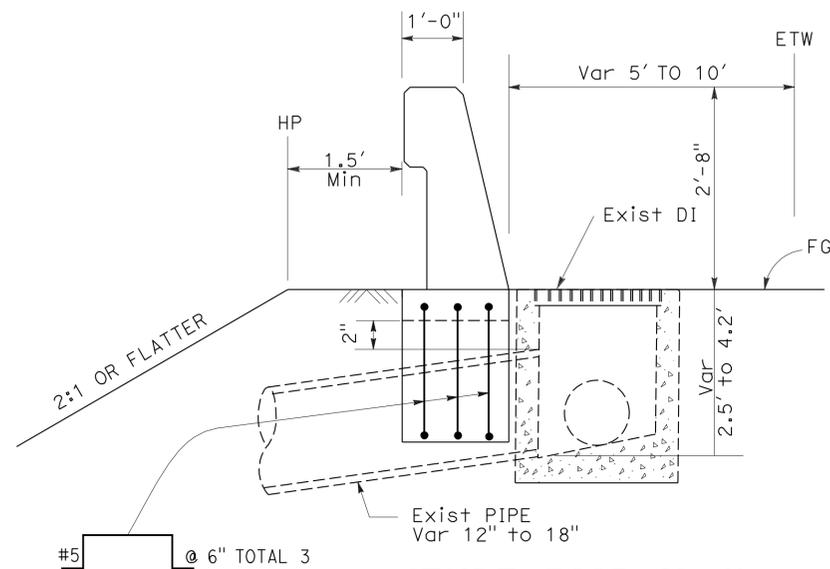
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

**NOTES:**

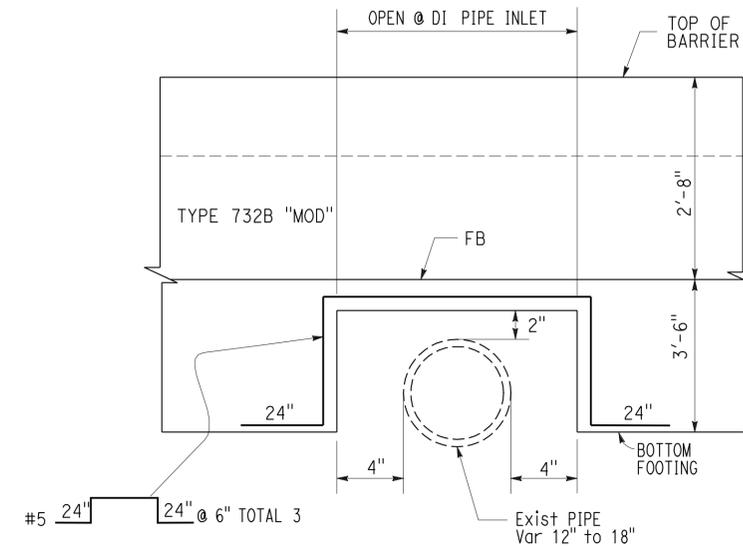
- FOR REINFORCEMENT NOT SHOW, SEE STANDARD PLAN B11-55.
- AVOID EXISTING REINFORCEMENT WHEN DRILLING.



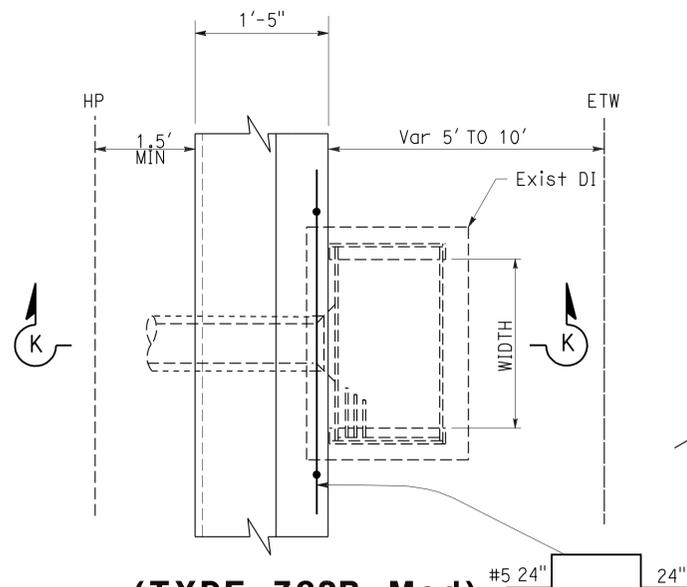
**(TYPE 732B Mod)**  
PLAN VIEW @ Exist DI OPENING  
ON LINES "A" & "B"



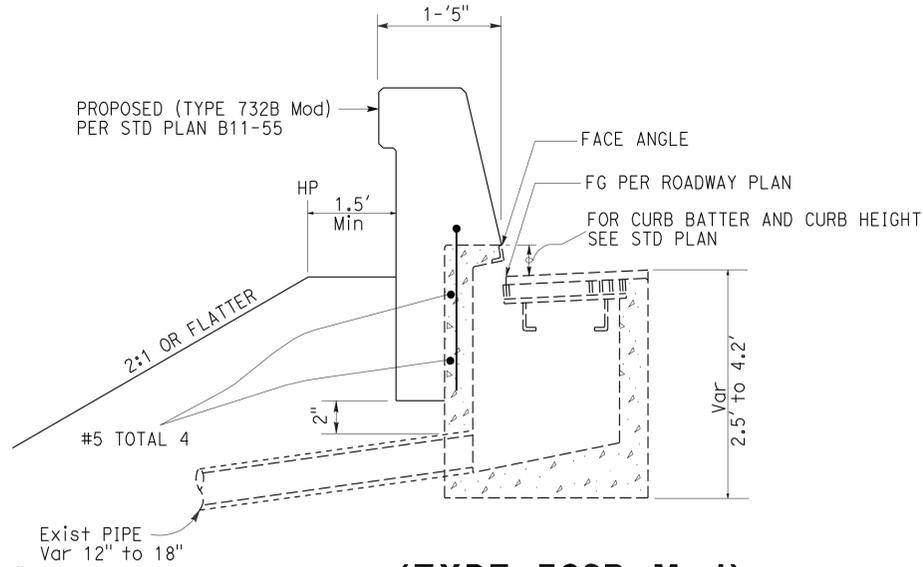
**(TYPE 732B Mod)**  
SECTION H-H @ Exist DI OPENING



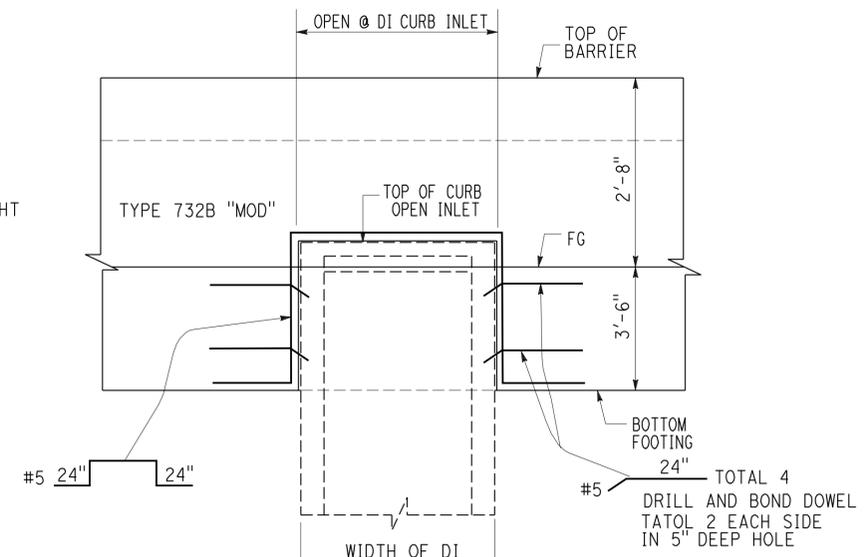
**(TYPE 732B Mod)**  
ELEVATION VIEW @ Exist DI OPENING



**(TYPE 732B Mod)**  
PLAN VIEW @ Exist DI CURB OPENING  
ON LINE "C"



**(TYPE 732B Mod)**  
SECTION K-K @ Exist DI CURB OPENING



**(TYPE 732B Mod)**  
ELEVATION VIEW @ Exist DI CURB OPENING

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

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv SBd	15	51.5/51.7 1.8/2.2	12	54

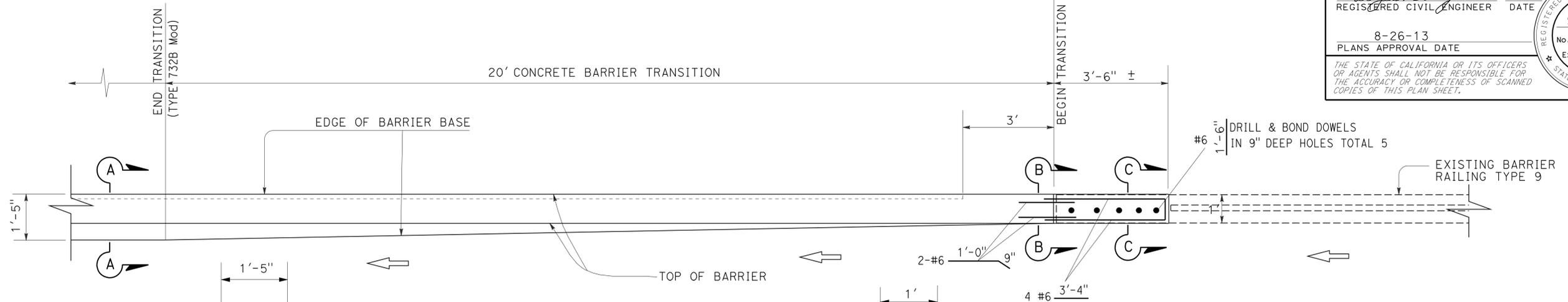
REGISTERED CIVIL ENGINEER	DATE
BEHZAD SEDIGHI	8-26-13
No. 50460	
Exp 6/30/15	
CIVIL	

PLANS APPROVAL DATE 8-26-13

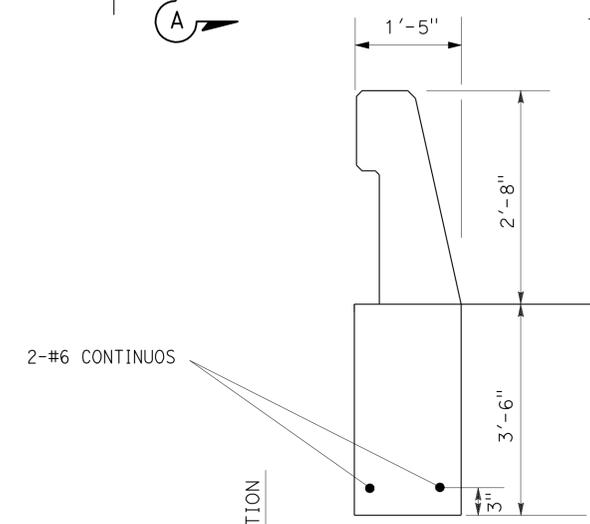
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**NOTES:**

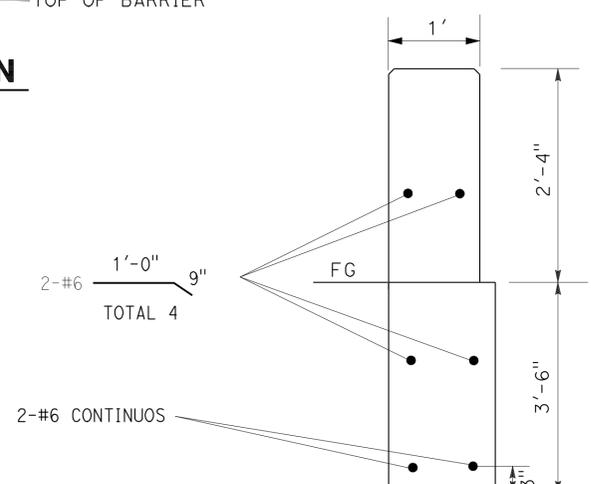
- FOR NOTE, DIMENSION AND REINFORCEMENT NOT SHOWN, SEE STANDARD PLAN B11-55
- AVOID EXISTING REINFORCEMENT WHEN DRILLING



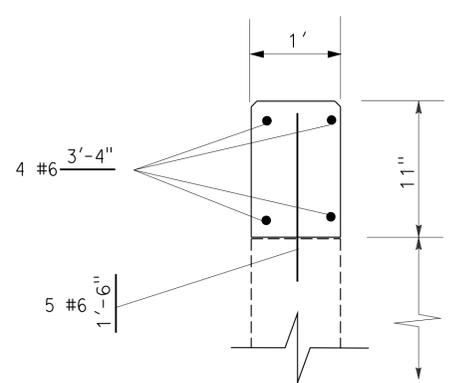
**PLAN**



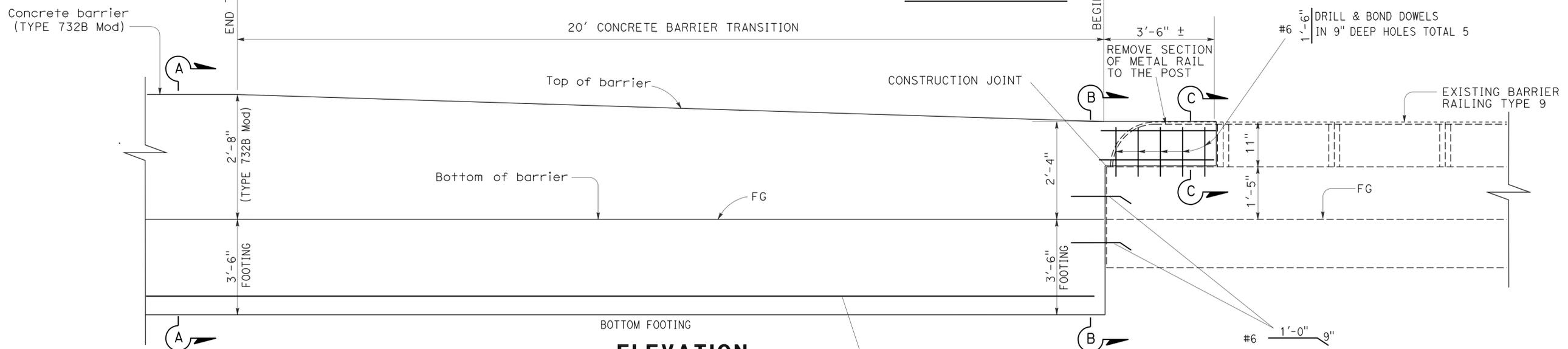
**SECTION A-A**



**SECTION B-B**



**SECTION C-C**



**ELEVATION**

**TRANSITION (TYPE 732B Mod) TO EXISTING BRIDGE RAIL (TYPE 9)**

**CONSTRUCTION DETAILS**  
NO SCALE  
**C-3**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
DESIGN  
Caltrans

USERNAME => s110420  
DGN FILE => 0800001008ga003.dgn

RELATIVE BORDER SCALE  
IS IN INCHES  
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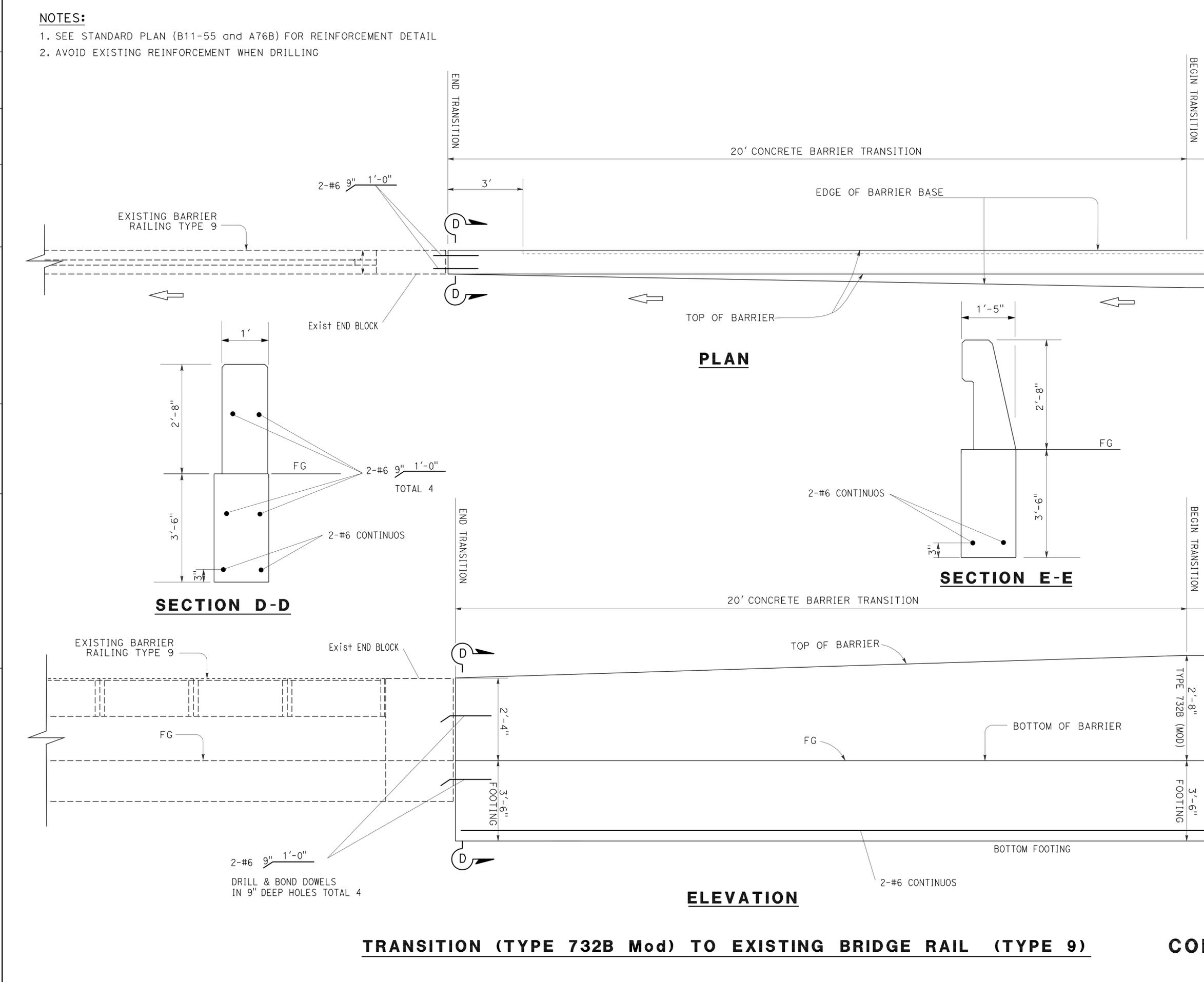
UNIT 2294

PROJECT NUMBER & PHASE

08000010081

LAST REVISION | DATE PLOTTED => 27-AUG-2013  
08-26-13 | TIME PLOTTED => 14:29

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



**NOTES:**  
 1. SEE STANDARD PLAN (B11-55 and A76B) FOR REINFORCEMENT DETAIL  
 2. AVOID EXISTING REINFORCEMENT WHEN DRILLING

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv SBd	15	51.5/51.7 1.8/2.2	13	54

Behzad Sedighi 8-26-13  
 REGISTERED CIVIL ENGINEER DATE  
 8-26-13  
 PLANS APPROVAL DATE  
 BEHZAD SEDIGHI  
 No. 50460  
 Exp 6/30/15  
 CIVIL  
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

LAST REVISION | DATE PLOTTED => 27-AUG-2013  
 08-26-13 | TIME PLOTTED => 14:29

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv Sbd	15	51.5/51.7 1.8/2.2	14	54

<i>Behzad Sedighi</i> REGISTERED CIVIL ENGINEER	8-26-13 DATE
8-26-13 PLANS APPROVAL DATE	

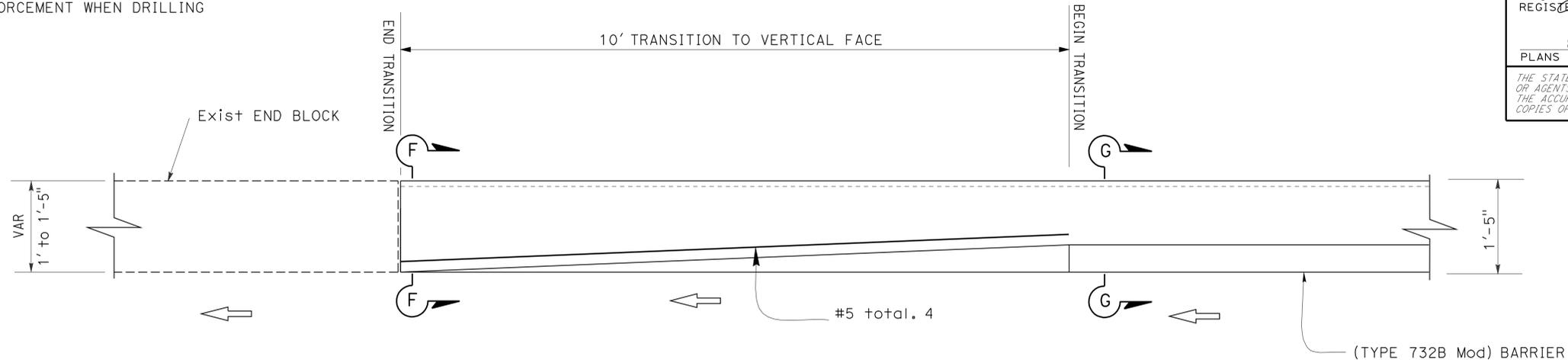
  

REGISTERED PROFESSIONAL ENGINEER
BEHZAD SEDIGHI
No. 50460
Exp 6/30/15
CIVIL

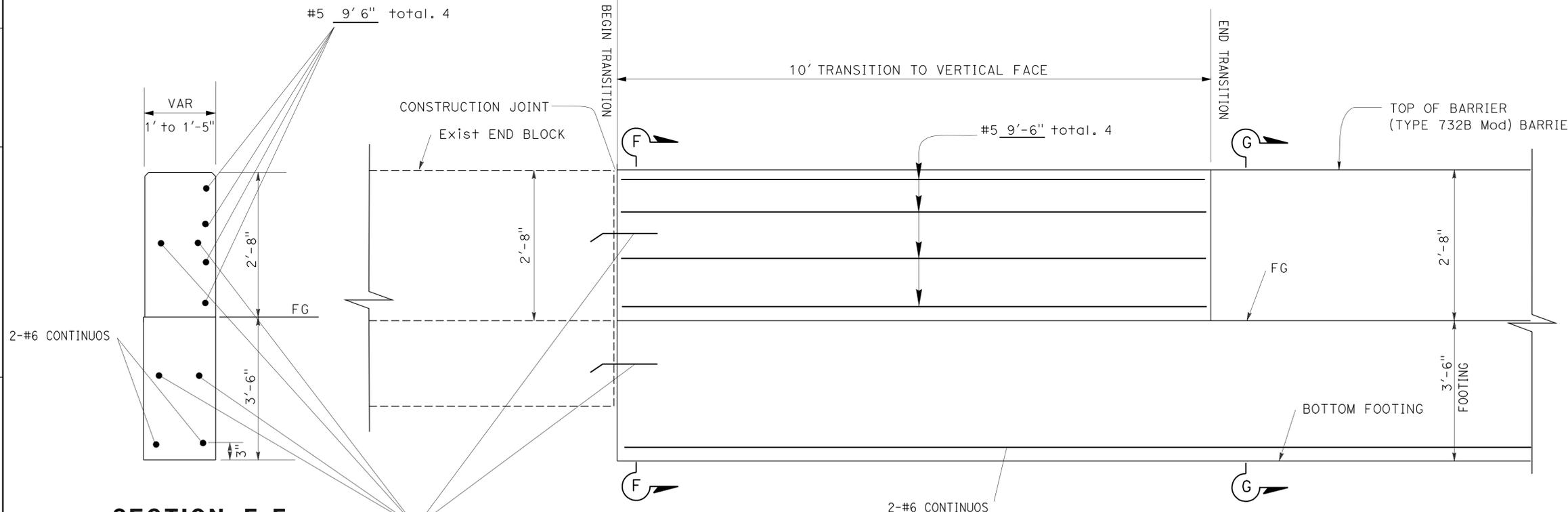
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

**NOTES:**

- REBAR SHOWN IS IN ADDITION TO STANDARD PLAN B11-55 BARRIER REINFORCEMENT
- AVOID EXISTING REINFORCEMENT WHEN DRILLING



**PLAN**



**ELEVATION**

**SECTION F-F**

**SECTION G-G**

**TRANSITION CONCRETE BARRIER (TYPE 732B Mod) TO EXISTING CONCRETE BARRIER (TYPE 25)**

**CONSTRUCTION DETAILS**  
NO SCALE  
**C-5**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	DESIGN
FUNCTIONAL SUPERVISOR	BEHZAD SEDIGHI
CALCULATED/DESIGNED BY	CHECKED BY
KEVIN DINH	BEHZAD SEDIGHI
REVISED BY	DATE REVISED

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

REVISOR BY DATE

KEVIN DINH BEHZAD SEDIGHI

CALCULATED BY CHECKED BY

FUNCTIONAL SUPERVISOR BEHZAD SEDIGHI

**NOTE:**

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

**LEGEND:**

- e- (oh) 500 KV OVERHEAD ELECTRICAL (SCE SOUTHERN CALIFORNIA EDITION)
- e- -e- UNDER GROUND ELECTRICAL (CALTRANS)
- fo- -fo- FIBER OPTICS COMMUNICATION LINE (CALTRANS)
- w- -w- APPROXIMATE LOCATION IRRIGATION LINE
- t- -t- VERIZON CONDUIT (COMMUNICATION LINE)

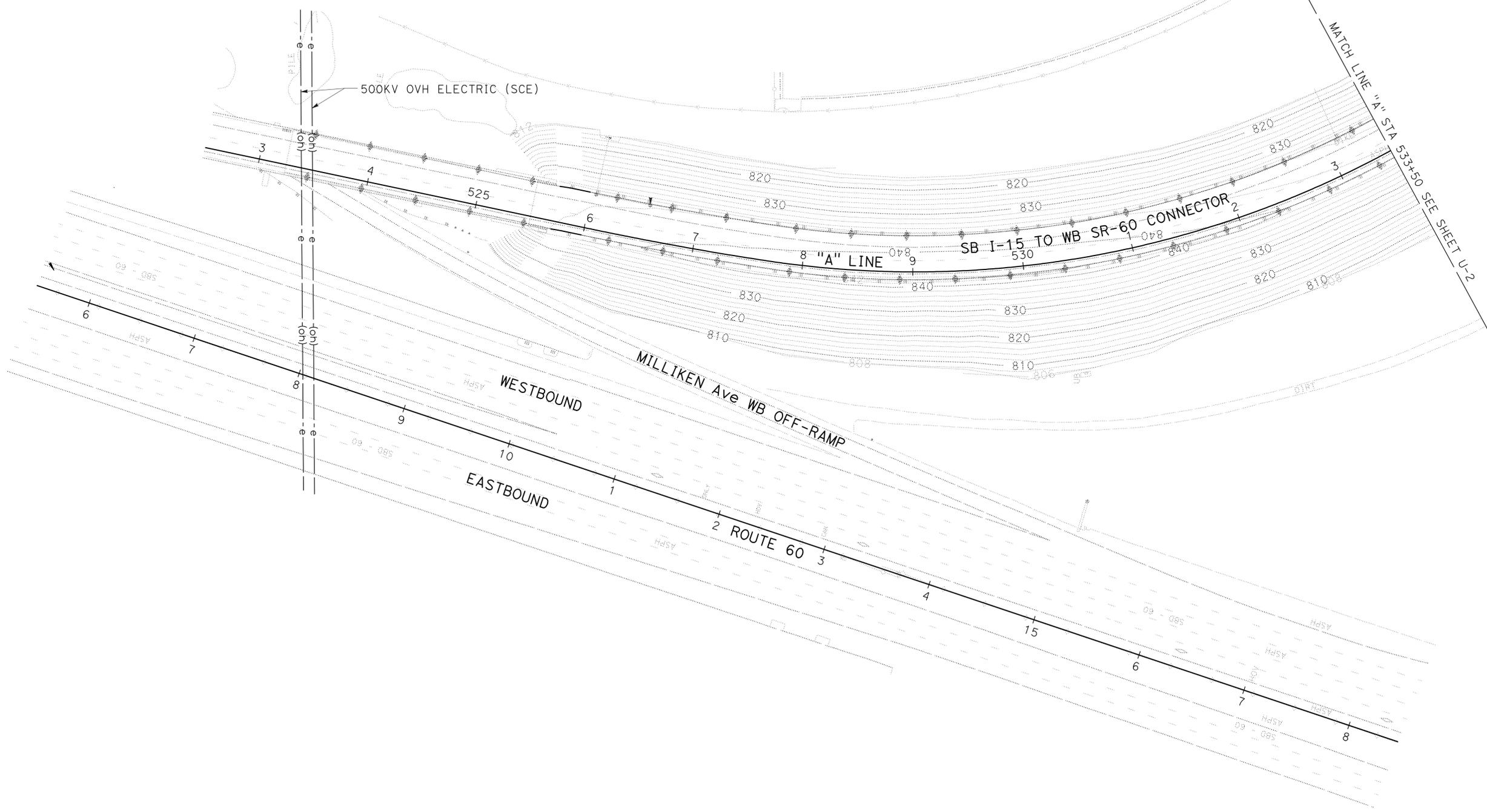


Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv SBd	15	51.5/51.7 1.8/2.2	15	54

Behzad Sedighi 8-26-13  
 REGISTERED CIVIL ENGINEER DATE  
 8-26-13  
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
 BEHZAD SEDIGHI  
 No. 50460  
 Exp 6/30/15  
 CIVIL  
 STATE OF CALIFORNIA

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



APPROVED FOR UTILITY WORK ONLY

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

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv SBd	15	51.5/51.7 1.8/2.2	16	54

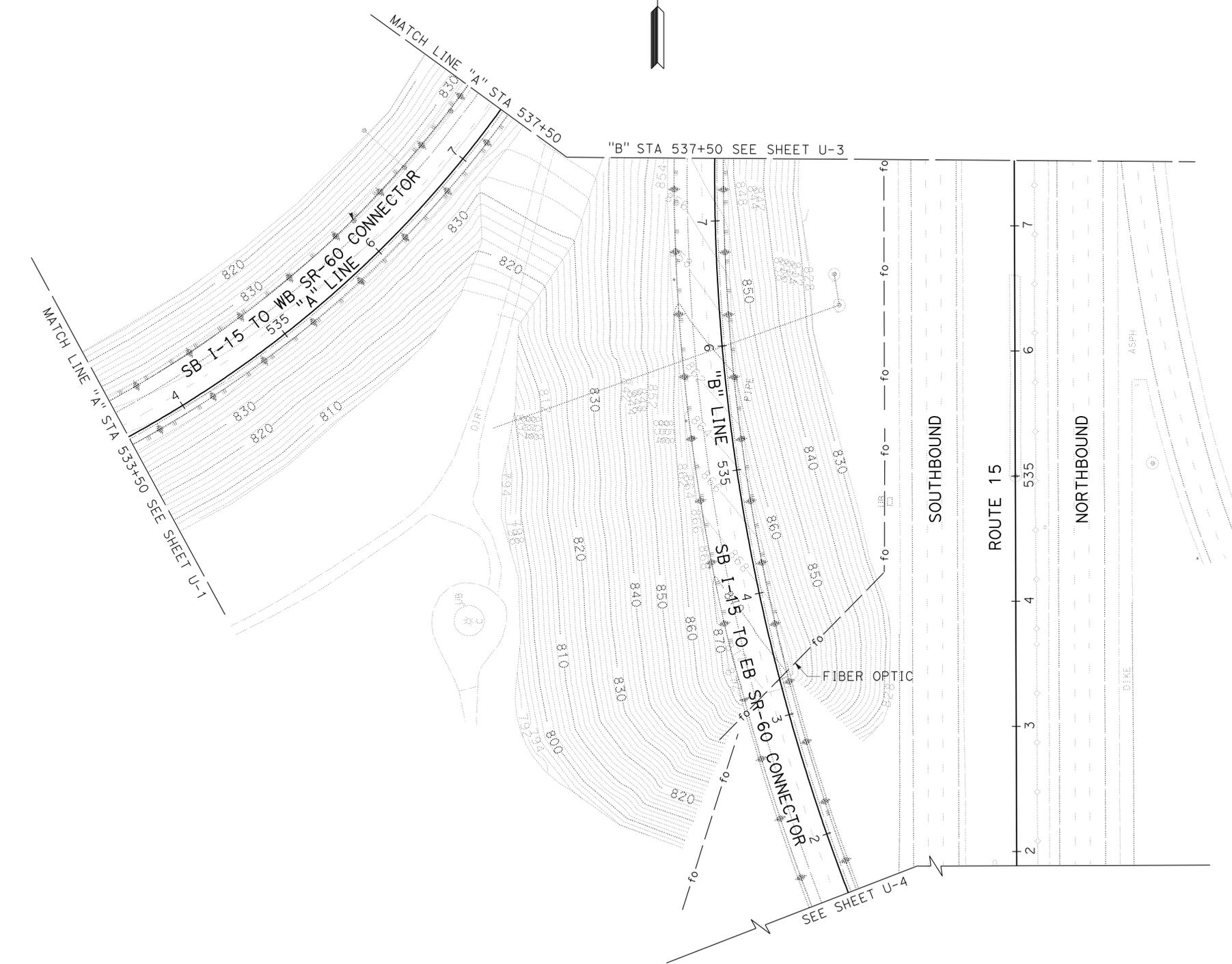
  

<i>Behzad Sedighi</i>	8-26-13
REGISTERED CIVIL ENGINEER	DATE
REGISTERED PROFESSIONAL ENGINEER <b>BEHZAD SEDIGHI</b> No. 50460 Exp. 6/30/15 CIVIL STATE OF CALIFORNIA	
8-26-13	
PLANS APPROVAL DATE	

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

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	DESIGN
<b>Caltrans</b>	
FUNCTIONAL SUPERVISOR	BEHZAD SEDIGHI
CALCULATED/DESIGNED BY	CHECKED BY
KEVIN DINH	BEHZAD SEDIGHI
REVISED BY	DATE REVISED



APPROVED FOR UTILITY WORK ONLY

**UTILITY PLAN**  
SCALE: 1" = 50' **U-2**

LAST REVISION      DATE PLOTTED => 27-AUG-2013      TIME PLOTTED => 14:29

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv SBd	15	51.5/51.7 1.8/2.2	17	54

<i>Behzad Sedighi</i>	8-26-13
REGISTERED CIVIL ENGINEER	DATE
8-26-13	
PLANS APPROVAL DATE	

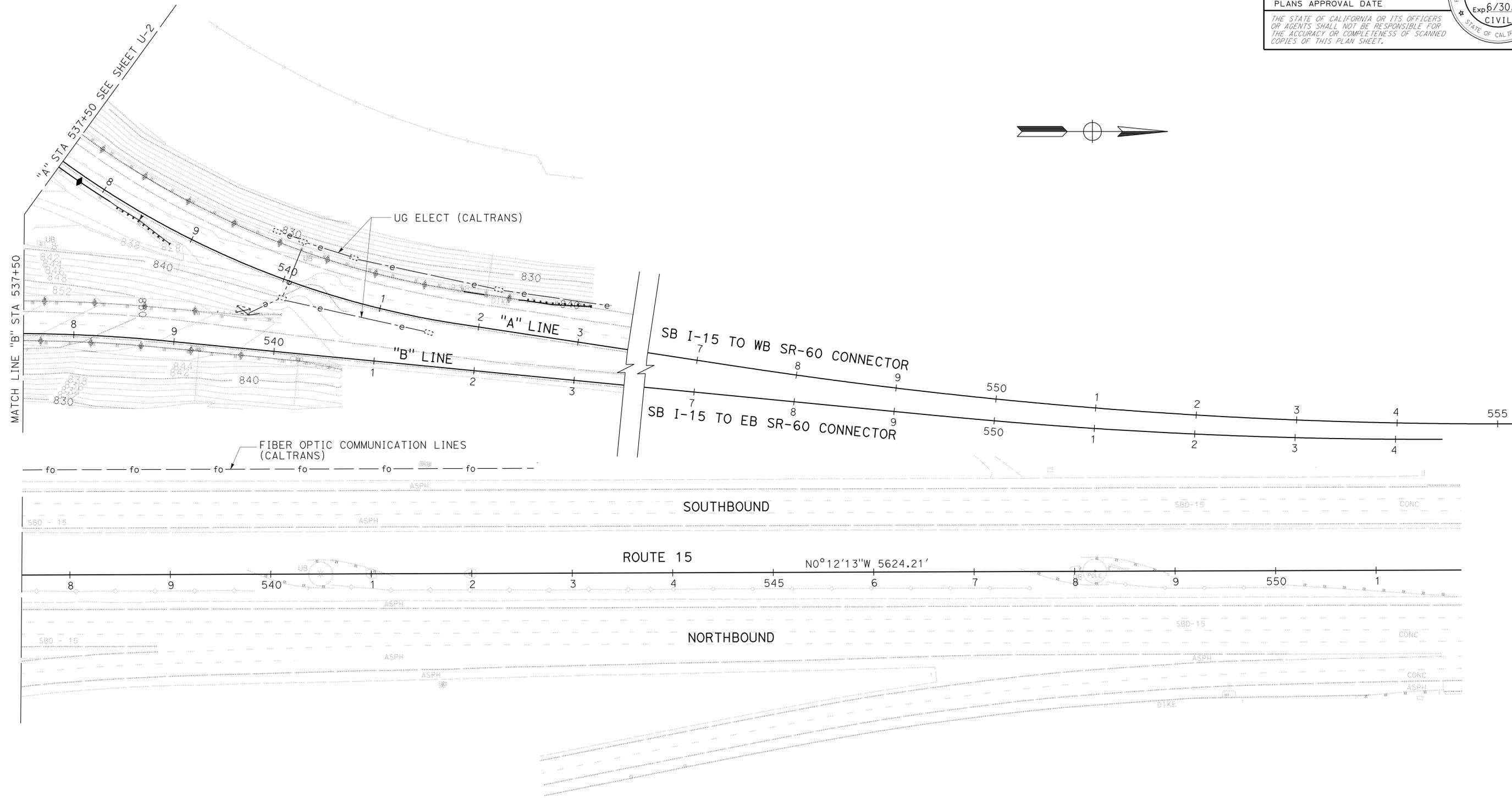
REGISTERED PROFESSIONAL ENGINEER
BEHZAD SEDIGHI
No. 50460
Exp 6/30/15
CIVIL

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

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

FUNCTIONAL SUPERVISOR: BEHZAD SEDIGHI  
 CALCULATED/DESIGNED BY: KEVIN DINH  
 CHECKED BY: BEHZAD SEDIGHI  
 REVISED BY: DATE REVISION



APPROVED FOR UTILITY WORK ONLY

**UTILITY PLAN**  
SCALE: 1" = 50' **U-3**

LAST REVISION: DATE PLOTTED => 27-AUG-2013    TIME PLOTTED => 14:29

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv SBd	15	51.5/51.7 1.8/2.2	18	54

<i>Behzad Sedighi</i>	8-26-13
REGISTERED CIVIL ENGINEER	DATE
8-26-13	
PLANS APPROVAL DATE	

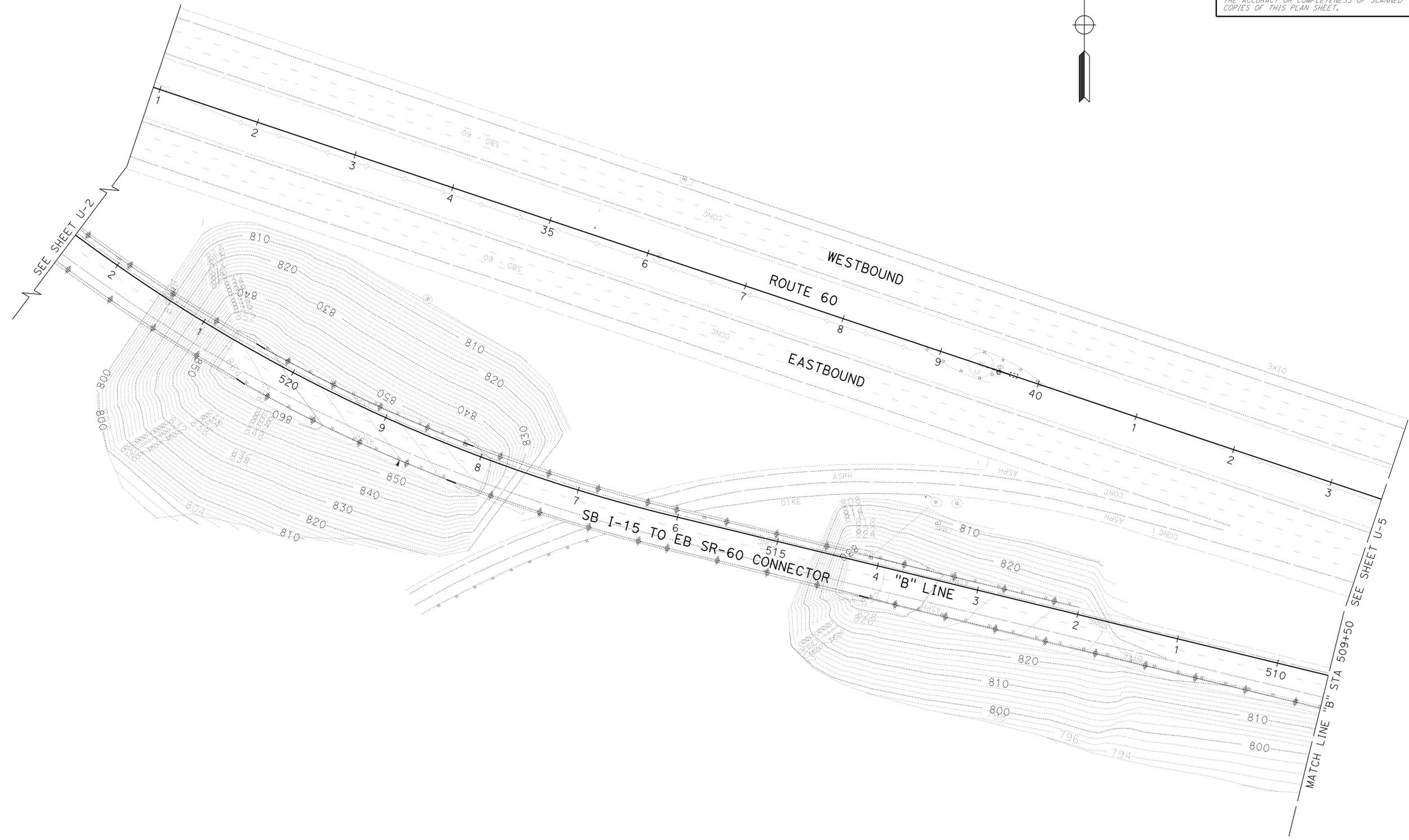
  

REGISTERED PROFESSIONAL ENGINEER
<b>BEHZAD SEDIGHI</b>
No. 50460
Exp. 6/30/15
CIVIL
STATE OF CALIFORNIA

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



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



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION <b>Caltrans</b>	DESIGN	FUNCTIONAL SUPERVISOR	CHECKED BY	REVISOR	DATE
		BEHZAD SEDIGHI	BEHZAD SEDIGHI	KEVIN DINH	

APPROVED FOR UTILITY WORK ONLY

**UTILITY PLAN**  
SCALE: 1" = 50' U-4

LAST REVISION    DATE PLOTTED => 27-AUG-2013    TIME PLOTTED => 14:29

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

FUNCTIONAL SUPERVISOR  
 BEHZAD SEDIGHI

CALCULATED/DESIGNED BY  
 CHECKED BY

KEVIN DINH  
 BEHZAD SEDIGHI

REVISED BY  
 DATE REVISED

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

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv SBd	15	51.5/51.7 1.8/2.2	19	54

*Behzad Sedighi* 8-26-13  
 REGISTERED CIVIL ENGINEER DATE  
 8-26-13  
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
**BEHZAD  
 SEDIGHI**  
 No. 50460  
 Exp. 6/30/15  
 CIVIL  
 STATE OF CALIFORNIA

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 OR AGENTS SHALL NOT BE RESPONSIBLE FOR  
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APPROVED FOR UTILITY WORK ONLY

**UTILITY PLAN**  
 SCALE: 1" = 50' **U-5**

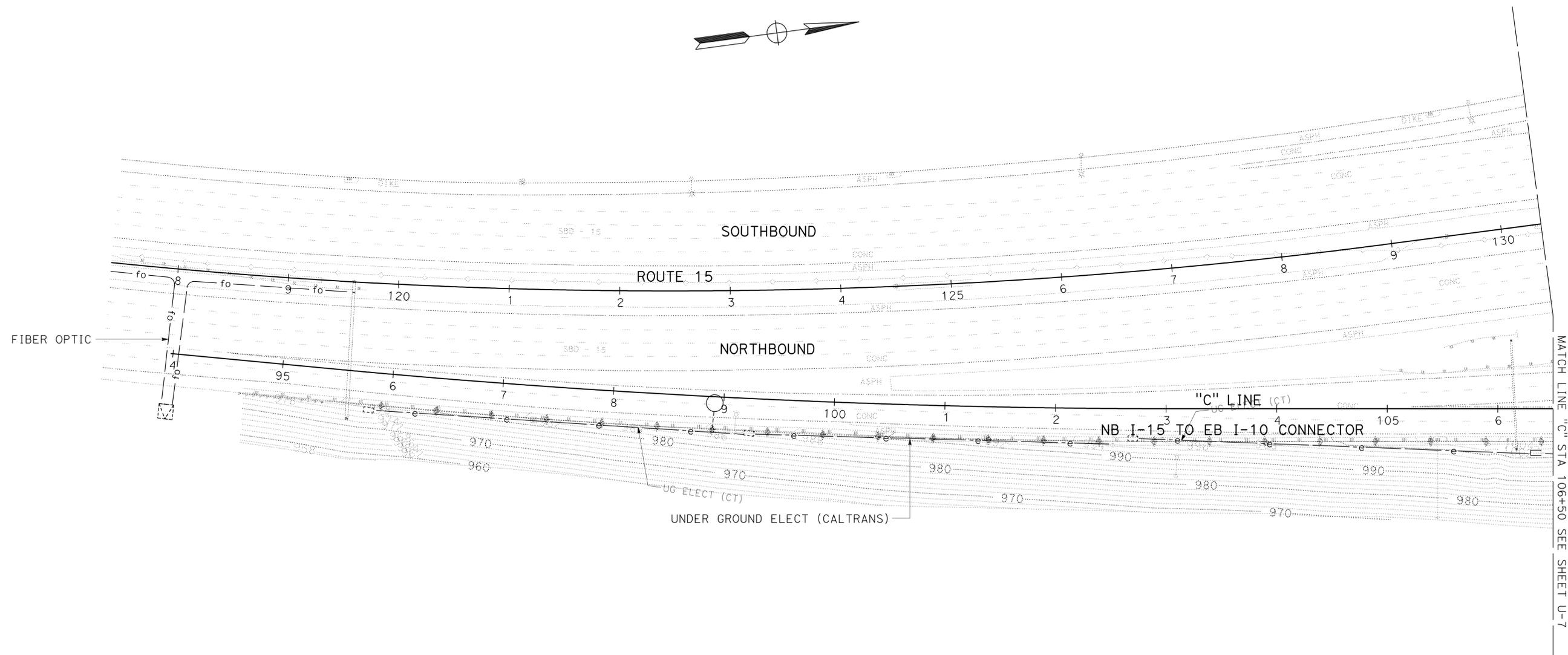
LAST REVISION DATE PLOTTED => 27-AUG-2013 08-26-13 TIME PLOTTED => 14:29

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv SBd	15	51.5/51.7 1.8/2.2	20	54
			8-26-13		
REGISTERED CIVIL ENGINEER			DATE		
			8-26-13		
			PLANS APPROVAL DATE		
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					

**NOTE:**

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

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	DESIGN
FUNCTIONAL SUPERVISOR	BEHZAD SEDIGHI
CALCULATED/DESIGNED BY	CHECKED BY
KEVIN DINH	BEHZAD SEDIGHI
REVISED BY	DATE
REVISED BY	DATE



APPROVED FOR UTILITY WORK ONLY

**UTILITY PLAN**  
SCALE: 1" = 50' **U-6**



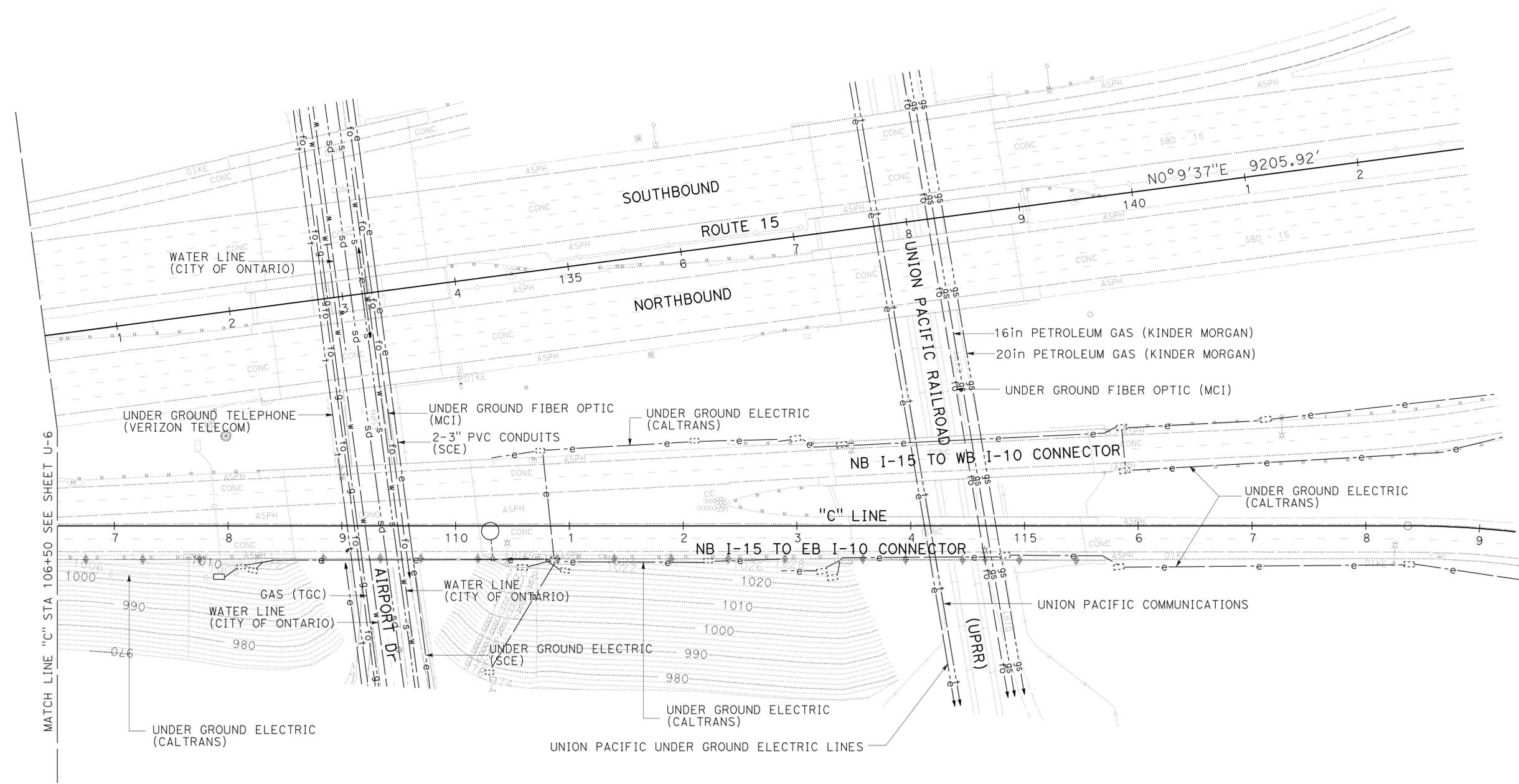
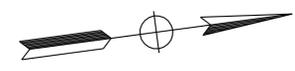
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv SBd	15	51.5/51.7 1.8/2.2	21	54

*Behzad Sedighi*  
 REGISTERED CIVIL ENGINEER DATE 8-26-13  
 8-26-13  
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
**BEHZAD SEDIGHI**  
 No. 50460  
 Exp. 6/30/15  
 CIVIL  
 STATE OF CALIFORNIA

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

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



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
 DESIGN  
 FUNCTIONAL SUPERVISOR: BEHZAD SEDIGHI  
 CALCULATED/DESIGNED BY: BEHZAD SEDIGHI  
 CHECKED BY:  
 KEVIN DINH  
 BEHZAD SEDIGHI  
 REVISED BY: DATE REVISION  
 REVISIONS:

APPROVED FOR UTILITY WORK ONLY

**UTILITY PLAN**  
 SCALE: 1" = 50' **U-7**

LAST REVISION:    DATE PLOTTED => 27-AUG-2013    TIME PLOTTED => 14:29

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv SBd	15	51.5/51.7 1.8/2.2	22	54

*Thanh Trinh* 8-26-13  
 REGISTERED CIVIL ENGINEER DATE

8-26-13  
 PLANS APPROVAL DATE

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

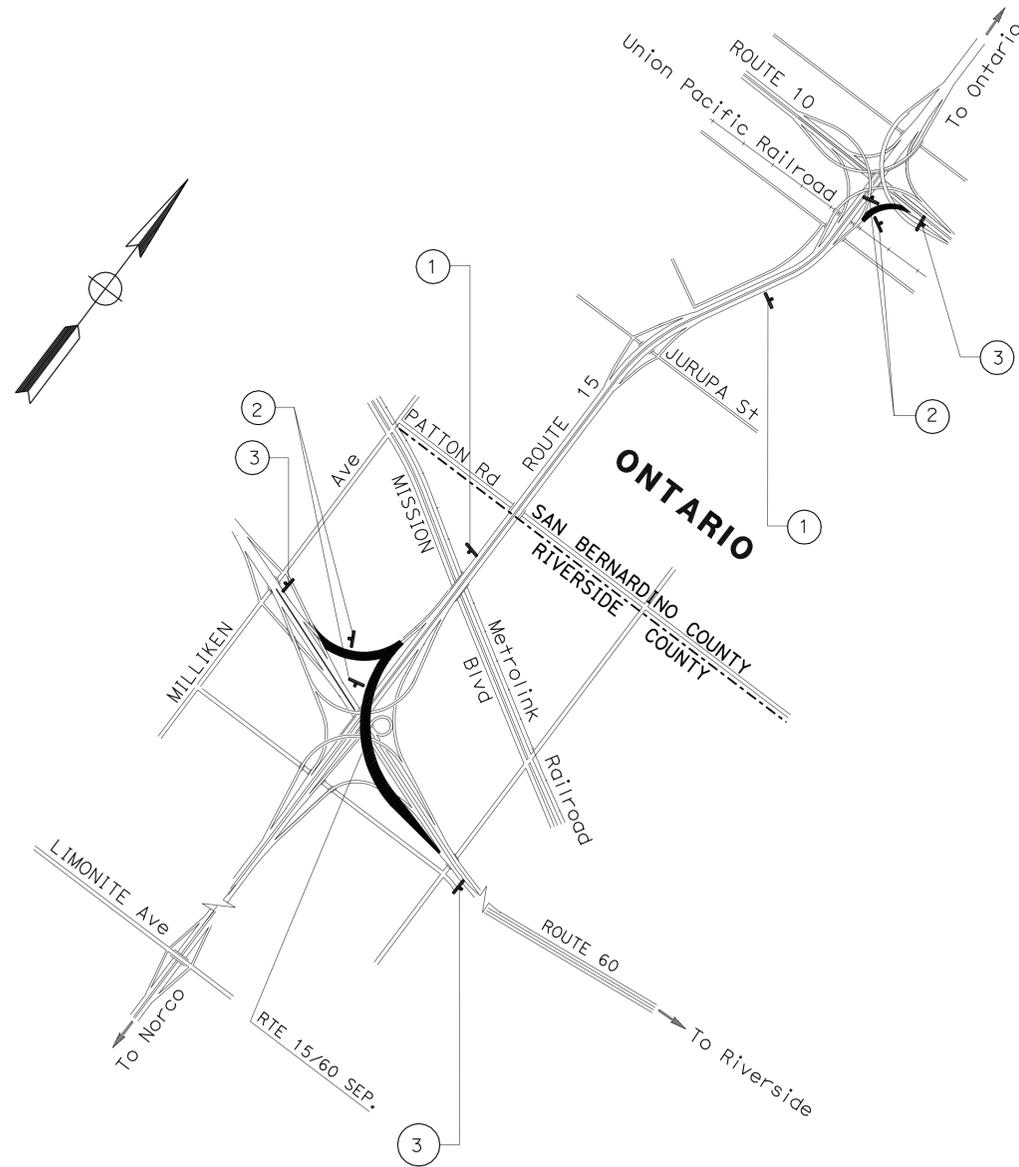
REGISTERED PROFESSIONAL ENGINEER  
**THANH TRINH**  
 No. 41189  
 Exp. 3/31/15  
 CIVIL  
 STATE OF CALIFORNIA

**NOTES:**

1. CONSTRUCTION AREA SIGN LOCATIONS SHOWN ARE APPROXIMATE. EXACT LOCATIONS TO BE DETERMINED BY THE ENGINEER.
2. EXACT PORTABLE CHANGE MESSAGE SIGN (PCMS) LOCATIONS TO BE DETERMINED BY THE ENGINEER.
3. FOR ADDITIONAL CONSTRUCTION AREA SIGNS, SEE SHEET MI-1, & MI-2.

**LEGEND:**

■ WORK AREA



**PORTABLE CHANGEABLE MESSAGE SIGNS (PCMS)**

(EA)
6

**STATIONARY MOUNTED CONSTRUCTION AREA SIGNS**

SIGN No. (X)	SIGN CODE		PANEL SIZE	SIGN MESSAGE	NUMBER OF POSTS AND SIZE	NUMBER OF SIGNS (N)
	FEDERAL	CALIFORNIA				
①	W20-1		48" x 48"	ROAD WORK AHEAD	1-6" x 6"	2
②		SC6-4	48" x 60"	RAMP CLOSED DATE, TIME TO DATE, TIME	1-6" x 6"	4
③	G20-2		36" x 18"	END ROAD WORK	1-4" x 4"	3

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

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans** TRAFFIC DESIGN  
 FUNCTIONAL SUPERVISOR: BILL WASSER  
 CALCULATED/DESIGNED BY: KEVIN DINH  
 CHECKED BY: THANH TRINH  
 REVISED BY: KEVIN DINH  
 DATE REVISED:

APPROVED FOR CONSTRUCTION AREA SIGN WORK ONLY

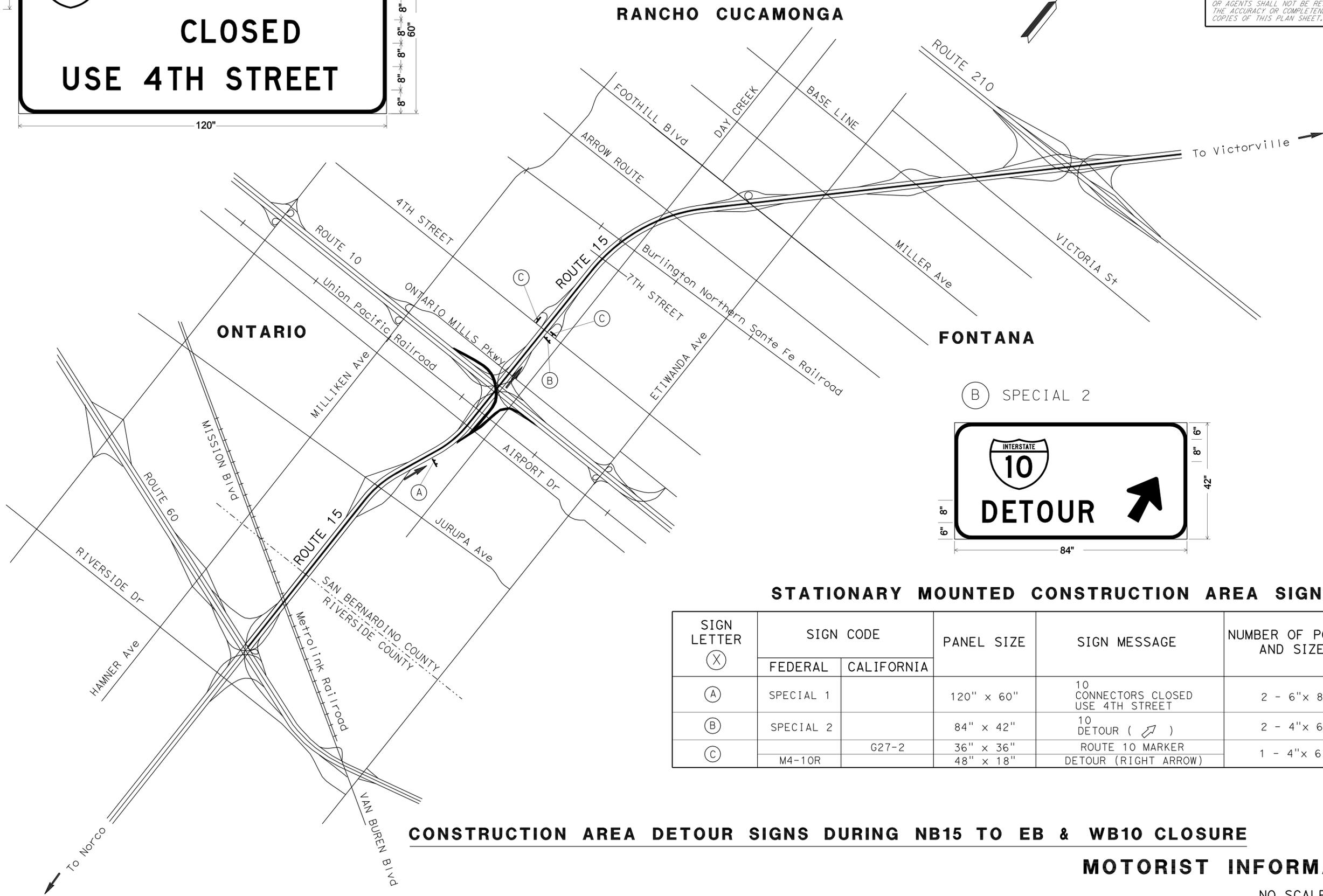
**CONSTRUCTION AREA SIGNS**  
NO SCALE **CS-1**

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv SBd	15	51.5/51.7 1.8/2.2	23	54

8-26-13  
 REGISTERED CIVIL ENGINEER DATE  
 8-26-13  
 PLANS APPROVAL DATE

THANK TRINH  
 No. 41189  
 Exp. 3/31/15  
 CIVIL

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 THE ACCURACY OR COMPLETENESS OF SCANNED  
 COPIES OF THIS PLAN SHEET.



**STATIONARY MOUNTED CONSTRUCTION AREA SIGNS**

SIGN LETTER	SIGN CODE		PANEL SIZE	SIGN MESSAGE	NUMBER OF POSTS AND SIZE	NUMBER OF SIGNS
	FEDERAL	CALIFORNIA				
(A)	SPECIAL 1		120" x 60"	10 CONNECTORS CLOSED USE 4TH STREET	2 - 6"x 8"	1
(B)	SPECIAL 2		84" x 42"	10 DETOUR ( → )	2 - 4"x 6"	1
(C)		G27-2	36" x 36"	ROUTE 10 MARKER	1 - 4"x 6"	2
	M4-10R		48" x 18"	DETOUR (RIGHT ARROW)		

**CONSTRUCTION AREA DETOUR SIGNS DURING NB15 TO EB & WB10 CLOSURE**

**MOTORIST INFORMATION PLAN**

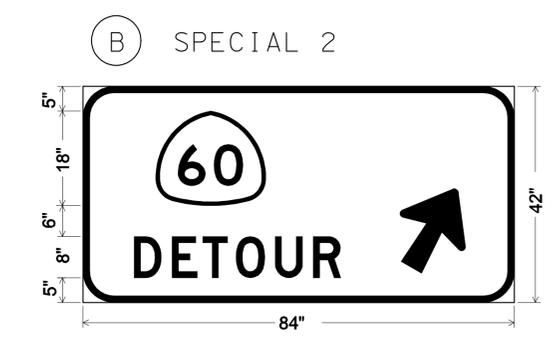
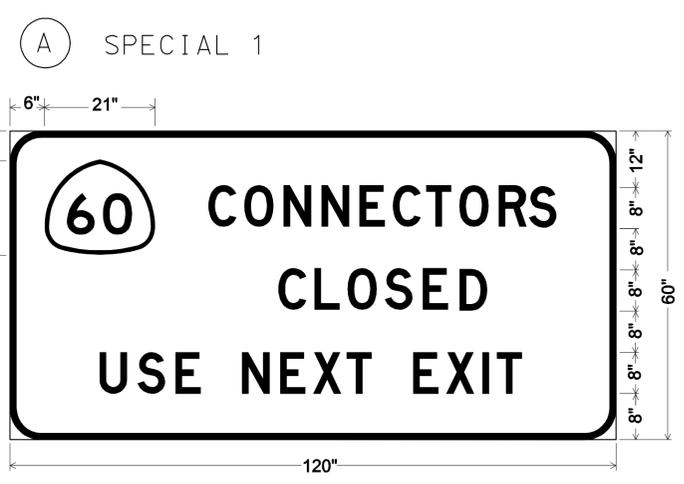
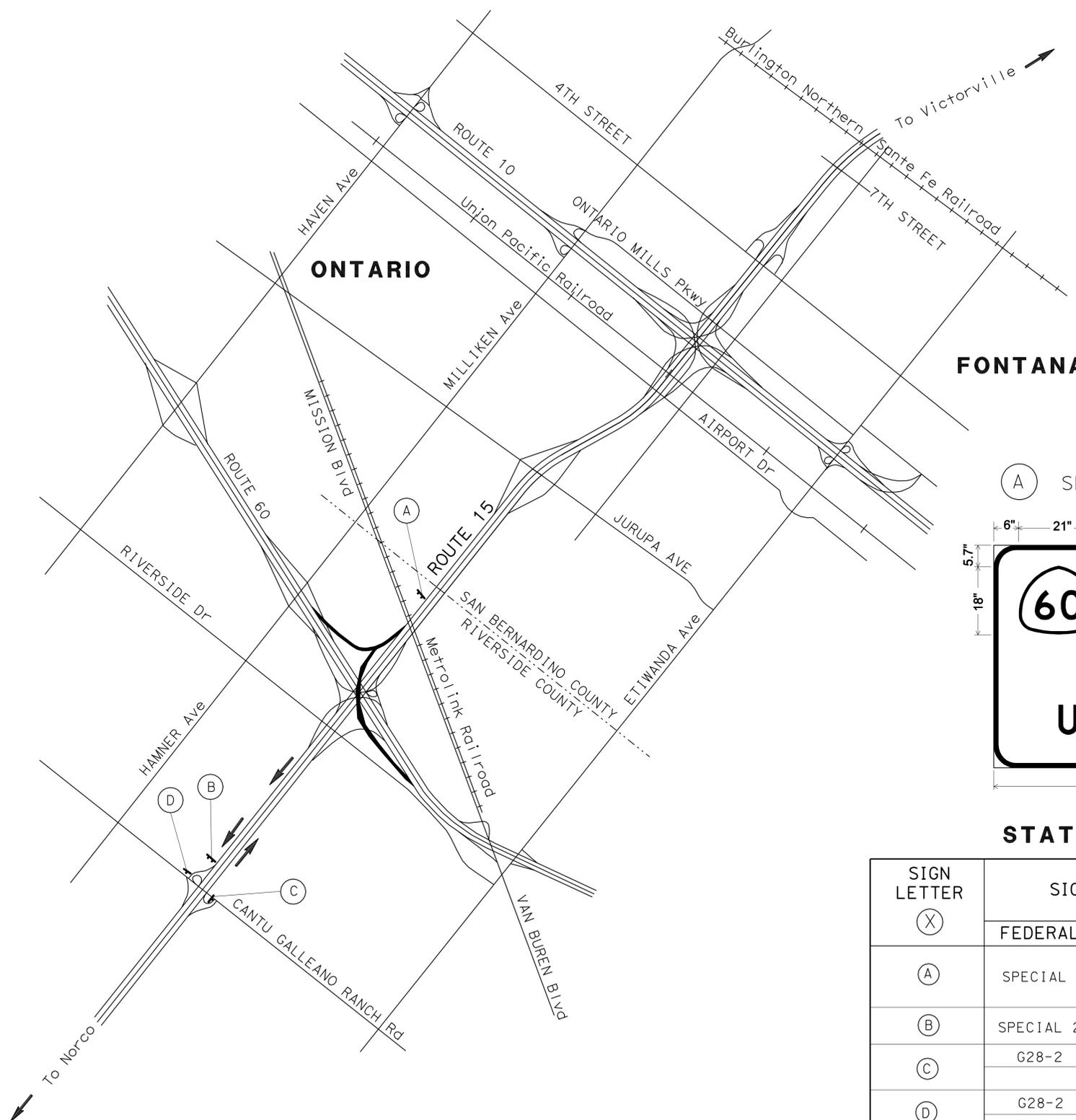
**MI-1**

APPROVED FOR MOTORIST INFORMATION WORK ONLY

NO SCALE

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

FUNCTIONAL SUPERVISOR: BILL WASSER  
 CALCULATED/DESIGNED BY: KEVIN DINH  
 CHECKED BY: THANH TRINH  
 REVISED BY: DATE REVISION



**STATIONARY MOUNTED CONSTRUCTION AREA SIGNS**

SIGN LETTER	SIGN CODE		PANEL SIZE	SIGN MESSAGE	NUMBER OF POSTS AND SIZE	NUMBER OF SIGNS
	FEDERAL	CALIFORNIA				
(A)	SPECIAL 1		120" x 60"	60 CONNECTORS CLOSED USE NEXT EXIT	2 - 6" x 8"	1
(B)	SPECIAL 2		84" x 42"	60 DETOUR ( → )	2 - 4" x 6"	1
(C)	G28-2		30" x 32"	ROUTE 60 MARKER	1 - 4" x 6"	1
		M4-10(RT)	48" x 18"	DETOUR (RIGHT ARROW)		
(D)	G28-2		30" x 32"	ROUTE 60 MARKER	1 - 4" x 6"	1
		M4-10(LT)	48" x 18"	DETOUR (LEFT ARROW)		

**CONSTRUCTION AREA DETOUR SIGNS DURING NB15 TO EB & WB10 CLOSURE**

**MOTORIST INFORMATION PLAN**  
NO SCALE  
**MI-2**

APPROVED FOR MOTORIST INFORMATION WORK ONLY

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
**TRAFFIC DESIGN**  
 FUNCTIONAL SUPERVISOR: BILL WASSER  
 CALCULATED/DESIGNED BY: KEVIN DINH  
 CHECKED BY: THANH TRINH  
 REVISED BY: KEVIN DINH  
 DATE REVISED: 7/2/2010

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv SBd	15	51.5/51.7 1.8/2.2	25	54

*Behzad Sedighi* 8-26-13  
 REGISTERED CIVIL ENGINEER DATE

8-26-13  
 PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS  
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### ROADWAY QUANTITIES

STATION	ROADWAY EXCAVATION	SALVAGE GUARDRAIL	REMOVE CONCRETE ASPHALT DIKE	CONCRETE BARRIER (TYPE 732B MODIFIED)	MINOR HOT MIX ASPHALT	TREATED WOOD WASTE
	CY	LF	LF	LF	TON	LB
LINE "A" I-15 SB TO SR-60 WB CONNECTOR						
Sta 525+70.50 to Sta 538+20.00 Rt	210	1,250	-	1,250	70	11,404
Sta 538+20.00 to Sta 538+81.77 Rt	-	62	-	-	-	570
Sta 525+70.64 to Sta 542+44.00 Lt	279	1,674	1,674	1,674	93	15,282
Sta 542+44.00 to Sta 543+06.95 Lt	-	63	-	-	-	570
LINE "B" I-15 SB TO SR-60 EB CONNECTOR						
Sta 512+00.00 to Sta 514+10.39 Rt	35	211	211	211	12	1,939
Sta 518+10.38 to Sta 520+44.70 Rt	39	235	235	235	14	2,167
Sta 533+45.67 to Sta 540+05.00 Rt	110	660	660	660	36	6,044
Sta 540+05.00 to Sta 540+67.70 Rt	-	63	-	-	-	570
Sta 500+79.73 to Sta 514+10.76 Lt	222	1,331	-	1,331	74	12,146
Sta 518+13.28 to Sta 520+45.32 Lt	39	232	-	232	13	2,110
Sta 533+44.97 to Sta 539+40.00 Lt	99	595	-	595	34	5,417
Sta 539+40.00 to Sta 540+03.50 Lt	-	64	-	-	-	570
LINE "C" I-15 NB TO I-10 EB CONNECTOR						
Sta 94+66.96 to Sta 95+38.81 Rt	-	72	-	-	-	684
Sta 95+38.81 to Sta 108+35.71 Rt	216	1,297	-	1,297	72	11,860
Sta 105+05.37 to Sta 108+35.71 Rt	-	-	331	-	-	-
Sta 110+44.53 to Sta 113+32.91 Rt	48	288	288	288	16	2,623
<b>TOTAL</b>	<b>1,297</b>	<b>8,097</b>	<b>3,399</b>	<b>7,773</b>	<b>434</b>	<b>73,956</b>

### TRANSITION RAILING AND TERMINAL SYSTEM

LOCATION	TRANSITION RAILING (TYPE WB-31)	ALTERNATIVE FLARED TERMINAL SYSTEM	ALTERNATIVE IN-LINE TERMINAL SYSTEM
	EA	EA	EA
"A" Sta 538+20.00 Rt	1	1	
"A" Sta 542+44.00 Lt	1	1	
"B" Sta 539+40.00 Lt	1	1	
"B" Sta 540+05.00 Rt	1	1	
"C" Sta 95+38.81 Rt	1		1
<b>TOTAL</b>	<b>5</b>	<b>4</b>	<b>1</b>

### TEMPORARY DRAINAGE INLET PROTECTION

LOCATION	TEMPORARY DRAINAGE INLET PROTECTION
	EA
LINE "A" I-15 SB TO SR-60 WB CONNECTOR Sta 526+06.70 to Sta 542+44.00 Lt	7
LINE "B" I-15 SB TO SR-60 EB CONNECTOR Sta 501+47.00 to Sta 506+21.09 Lt Sta 514+08.13 to Sta 540+26.30 Rt	3 4
LINE "C" I-15 NB TO I-10 EB CONNECTOR Sta 105+45.42 to Sta 110+71.54 Rt	3
<b>TOTAL</b>	<b>17</b>

## SUMMARY OF QUANTITIES Q-1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv SBd	15	51.5/51.7 1.8/2.2	26	54

8-26-13  
8-26-13  
PLANS APPROVAL DATE

10/31/2013  
8-26-13  
DATE

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### SEED MIX TABLE

SEED	BOTANICAL NAME (COMMON NAME)	PERCENT GERMINATION (MINIMUM)	POUNDS PURE LIVE SEED PER ACRE (SLOPE MEASUREMENT)
MIX 1	Eriogonum fasciculatum (California Buckwheat)	50	1.0
	Eschscholzia californica (California Poppy)	40	2.0
TOTAL			3.0

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

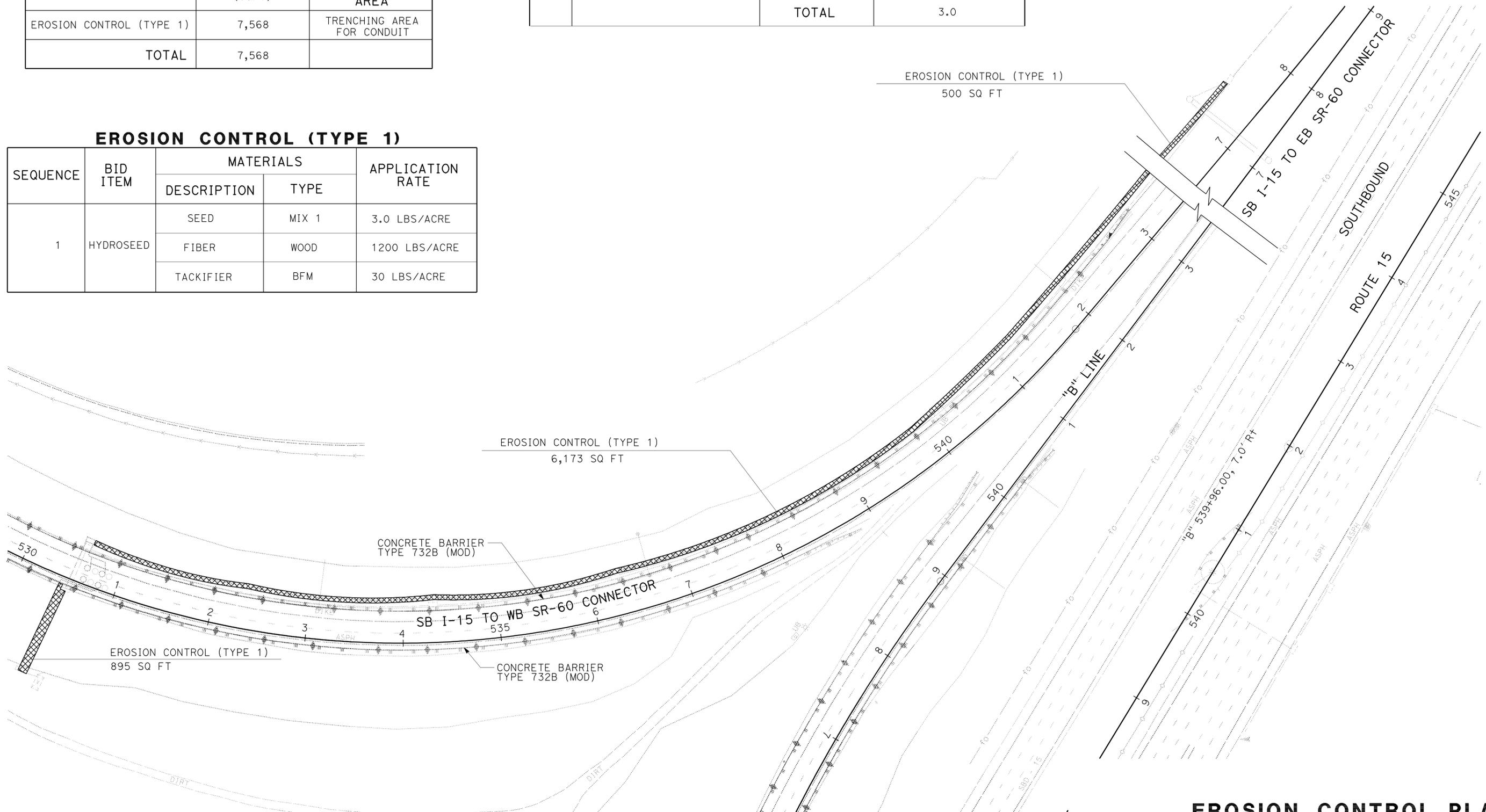


### EROSION CONTROL QUANTITIES

TYPE	HYDROSEED (SQFT)	DISTURBED SOIL AREA
EROSION CONTROL (TYPE 1)	7,568	TRENCHING AREA FOR CONDUIT
TOTAL	7,568	

### EROSION CONTROL (TYPE 1)

SEQUENCE	BID ITEM	MATERIALS		APPLICATION RATE
		DESCRIPTION	TYPE	
1	HYDROSEED	SEED	MIX 1	3.0 LBS/ACRE
		FIBER	WOOD	1200 LBS/ACRE
		TACKIFIER	BFM	30 LBS/ACRE



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
LANDSCAPE ARCHITECTURE

SENIOR LANDSCAPE ARCHITECT: BYRON STROUT  
LANDSCAPE ARCHITECTURE

CALCULATED/DESIGNED BY: CHECKED BY:

TIM WANDS: MATTHEW HALL

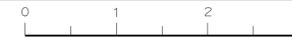
REVISED BY: DATE REVISED:



APPROVED FOR EROSION CONTROL WORK ONLY

## EROSION CONTROL PLAN EC-1

SCALE: 1" = 50'



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv SBd	15	51.5/51.7 1.8/2.2	27	54

8-26-13  
 REGISTERED ELECTRICAL ENGINEER DATE  
 8-26-13  
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
 FERDINAND DE LA CRUZ  
 No. E17215  
 Exp. 6/30/14  
 ELECTRICAL  
 STATE OF CALIFORNIA

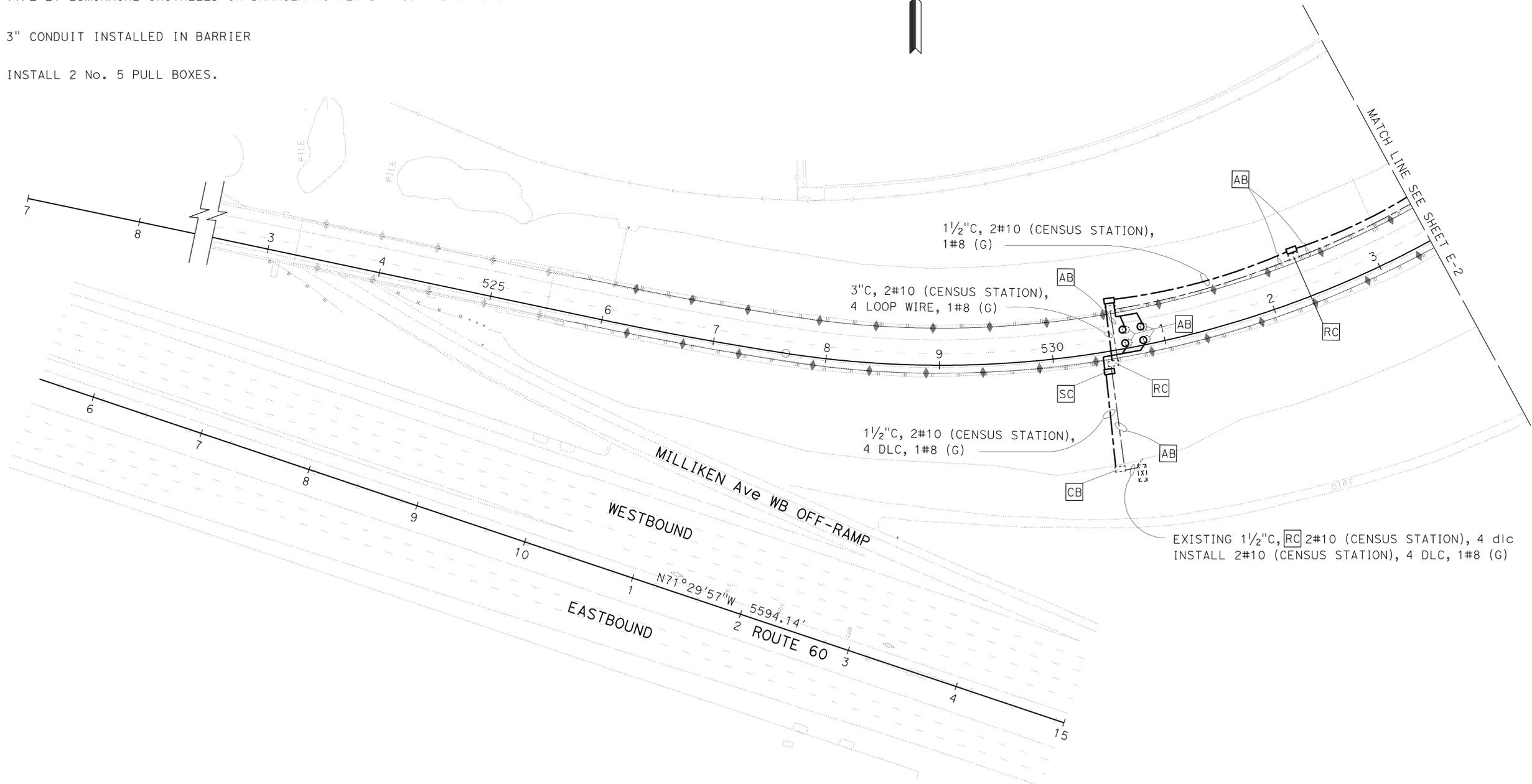
THE STATE OF CALIFORNIA OR ITS OFFICERS  
 OR AGENTS SHALL NOT BE RESPONSIBLE FOR  
 THE ACCURACY OR COMPLETENESS OF SCANNED  
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**NOTES:**

1. THE CONTRACTOR SHALL CONTACT THE ENGINEER THREE WORKING DAYS PRIOR TO INSTALLING DETECTOR LOOPS
2. EXISTING INDUCTIVE LOOP DETECTORS SHOWN TO BE REPLACED MUST BE **AB**
3. LABEL CONDUCTOR ENDS AS PER STANDARD PLAN ES-13B.
4. CONDUIT SHOWN PARALLEL TO MBGR SHALL BE INSTALLED A MINIMUM THREE FEET FROM MBGR

**LEGEND:**

- 1 TYPE 21 LUMINAIRE INSTALLED ON BARRIER AS PER B11-55 AND ES-6A.
- 2 3" CONDUIT INSTALLED IN BARRIER
- 3 INSTALL 2 No. 5 PULL BOXES.



**MODIFY TRAFFIC MONITORING STATION (COUNT)**

SCALE: 1' = 50'

**E-1**

APPROVED FOR ELECTRICAL WORK ONLY

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	DESIGNED BY	REVISOR	DATE
<b>Caltrans</b> ELECTRICAL DESIGN B	LUIS PENALOZA, JR	FERDINAND DE LA CRUZ	
FUNCTIONAL SUPERVISOR	CHECKED BY		
FERDINANA DE LA CRUZ			

USERNAME => s110420  
DGN FILE => 0800001008ud001.dgn



UNIT 2292

PROJECT NUMBER & PHASE

08000010081

BORDER LAST REVISED 7/2/2010

LAST REVISION | DATE PLOTTED => 27-AUG-2013  
08-26-13 | TIME PLOTTED => 14:29

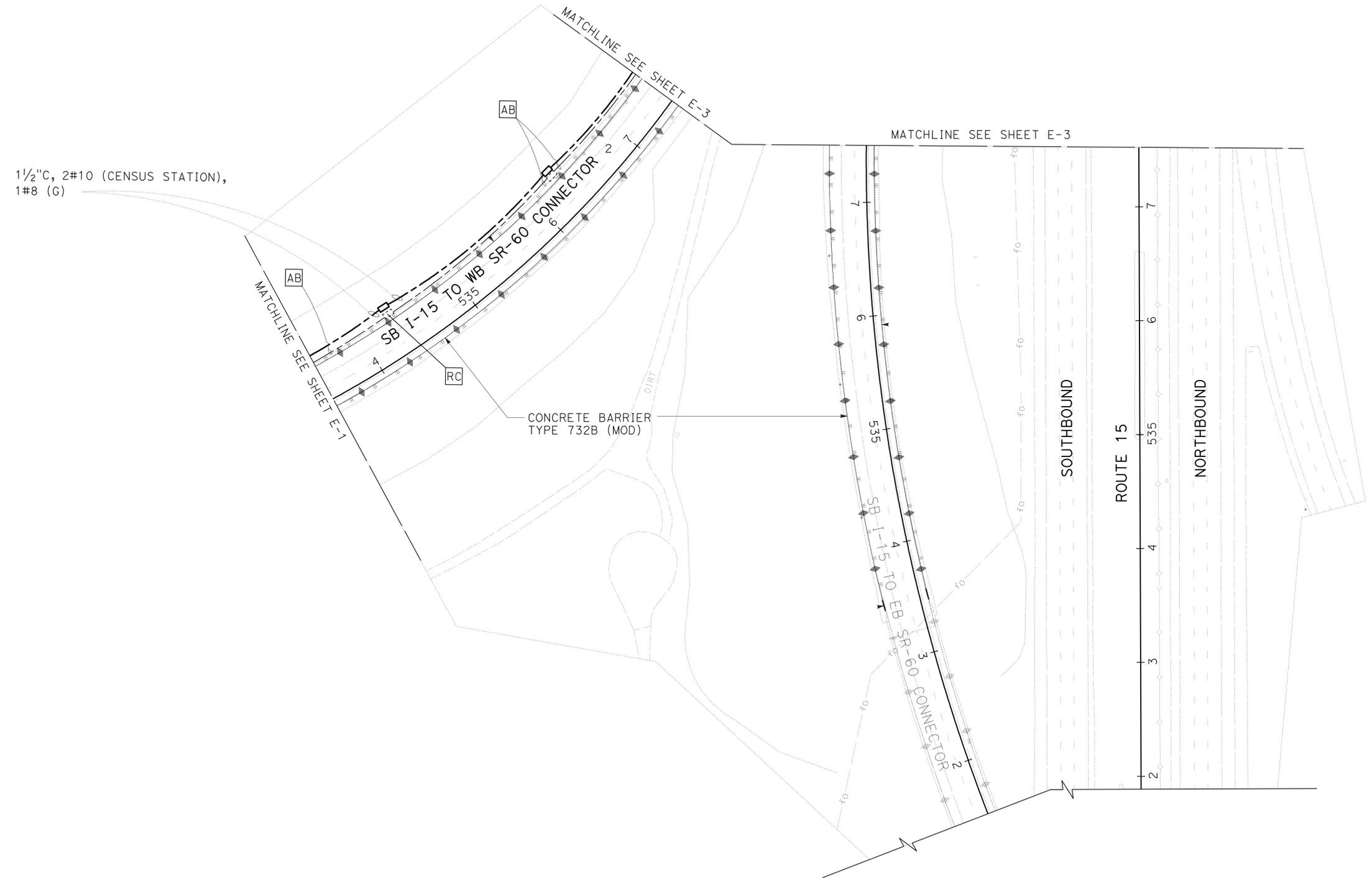
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED/DESIGNED BY	REVISOR	DATE
<b>Caltrans</b> ELECTRICAL DESIGN B	FERDINANA DE LA CRUZ	CHECKED BY	LUIS PENALOZA, JR	
			FERDINAND DE LA CRUZ	

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv SBd	15	51.5/51.7 1.8/2.2	28	54

8-26-13  
 REGISTERED ELECTRICAL ENGINEER DATE  
 8-26-13  
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
 FERDINAND DE LA CRUZ  
 No. E17215  
 Exp 6/30/14  
 ELECTRICAL  
 STATE OF CALIFORNIA

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**MODIFY TRAFFIC MONITORING STATION (COUNT)**

APPROVED FOR ELECTRICAL WORK ONLY

SCALE: 1' = 50'

E-2







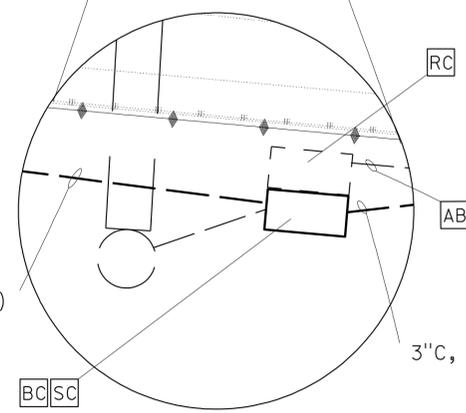
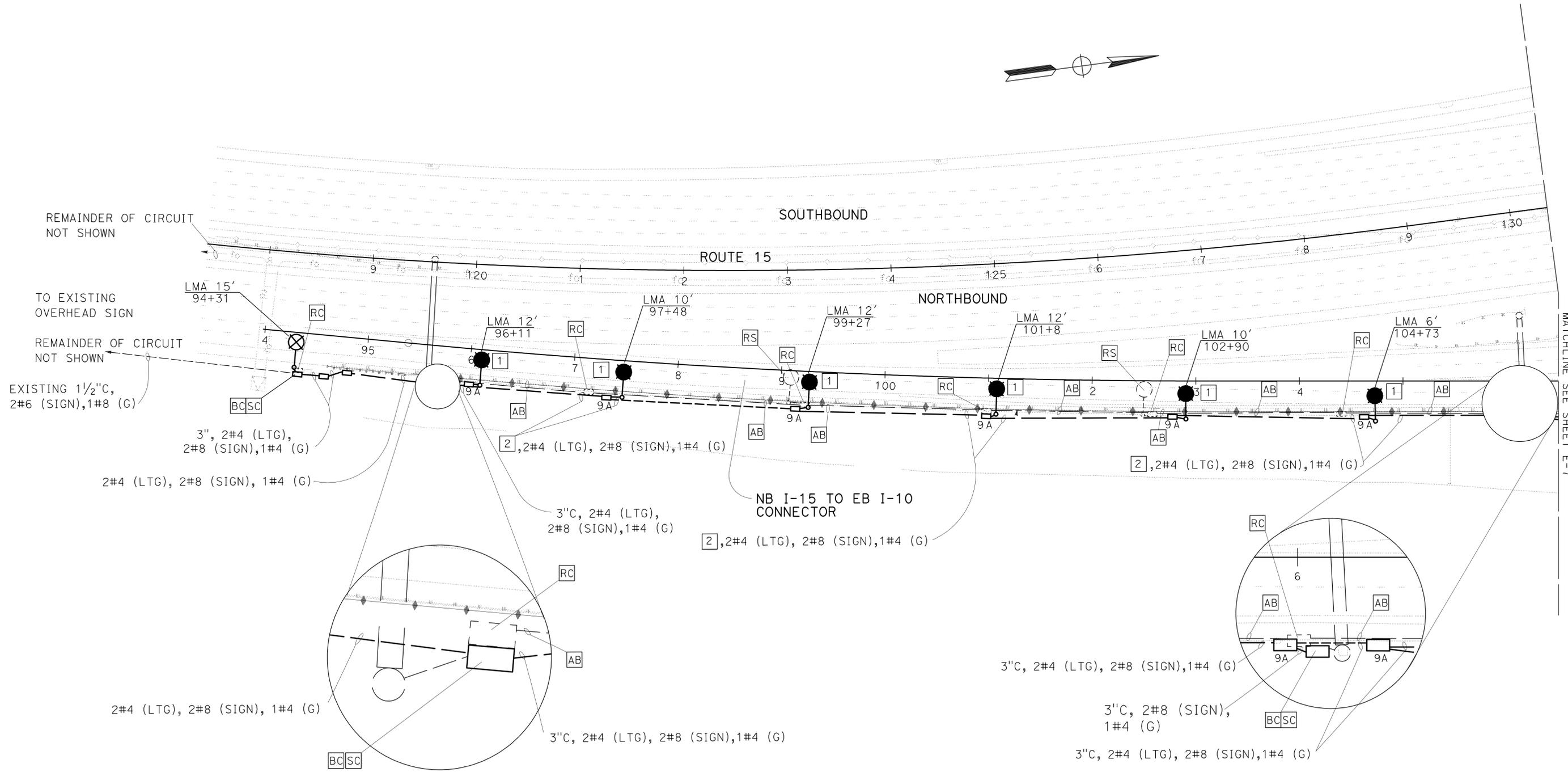
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08	Riv SBd	15	51.5/51.7 1.8/2.2	32	54

8-26-13  
 REGISTERED ELECTRICAL ENGINEER DATE  
 8-26-13  
 PLANS APPROVAL DATE

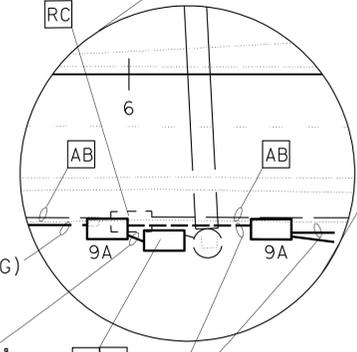
REGISTERED PROFESSIONAL ENGINEER  
 FERDINAND DE LA CRUZ  
 No. E17215  
 Exp. 6/30/14  
 ELECTRICAL  
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**Caltrans** ELECTRICAL DESIGN B  
 FUNCTIONAL SUPERVISOR: FERDINAND DE LA CRUZ  
 CALCULATED/DESIGNED BY: FERDINAND DE LA CRUZ  
 CHECKED BY:  
 REVISOR: LUIS PENALOZA, JR.  
 DATE: FERDINAND DE LA CRUZ



**DETAIL A**



**DETAIL B**

**MODIFY LIGHTING AND SIGN ILLUMINATION**

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SCALE 1"=50'

**E-6**

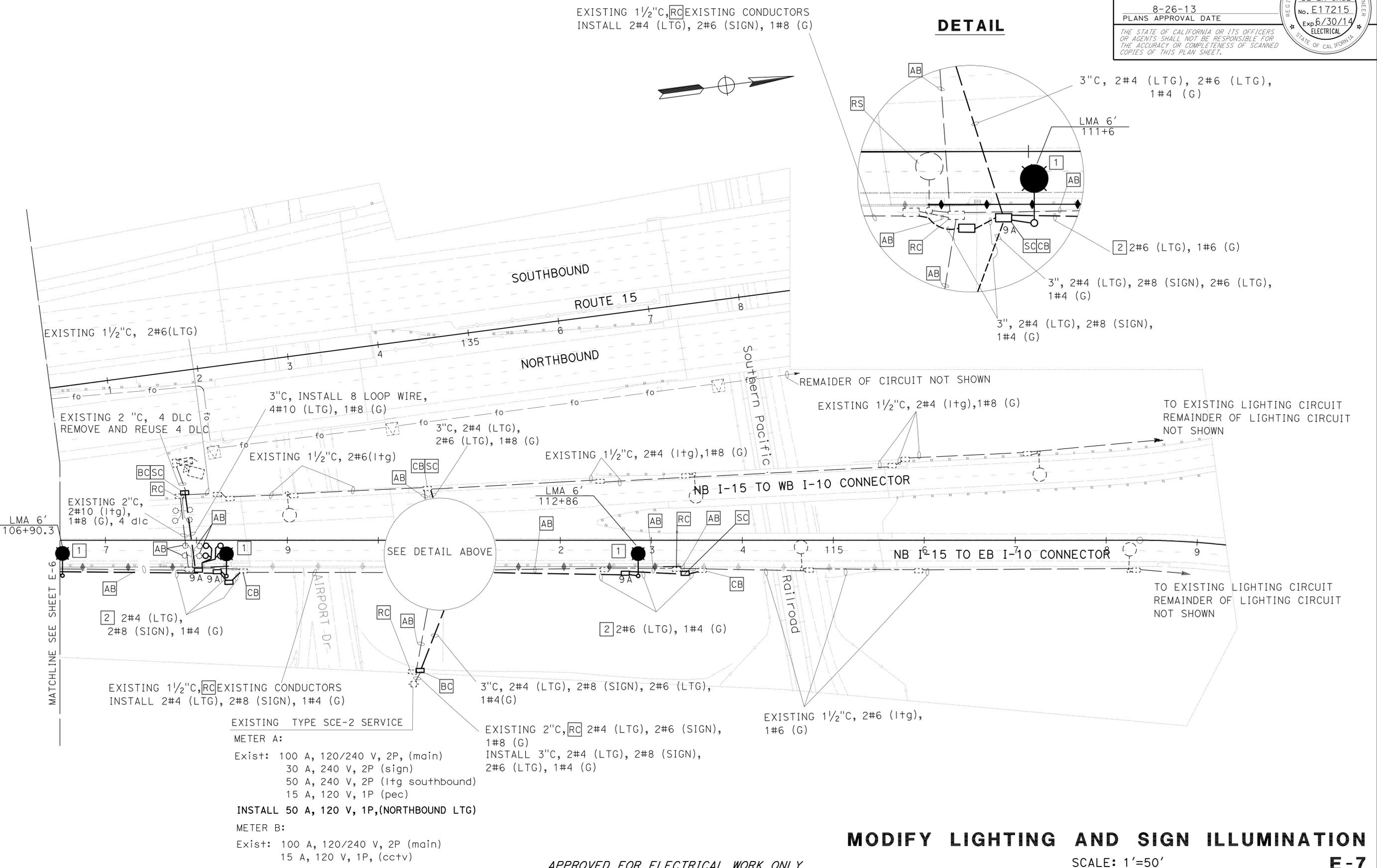
LAST REVISION DATE PLOTTED => 27-AUG-2013 08-26-13 TIME PLOTTED => 14:29

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv SBd	15	51.5/51.7 1.8/2.2	33	54

8-26-13  
 REGISTERED ELECTRICAL ENGINEER DATE  
 8-26-13  
 PLANS APPROVAL DATE  
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REGISTERED PROFESSIONAL ENGINEER  
 FERDINAND DE LA CRUZ  
 No. E17215  
 Exp. 6/30/14  
 ELECTRICAL  
 STATE OF CALIFORNIA

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans** ELECTRICAL DESIGN B  
 FUNCTIONAL SUPERVISOR: FERDINAND DE LA CRUZ  
 CALCULATED/DESIGNED BY: CHECKED BY:  
 LUIS PENALOZA, JR. FERDINAND DE LA CRUZ  
 REVISED BY: DATE REVISION:



APPROVED FOR ELECTRICAL WORK ONLY

**MODIFY LIGHTING AND SIGN ILLUMINATION**  
 SCALE: 1"=50'  
**E-7**

LAST REVISION DATE PLOTTED => 27-AUG-2013  
 08-26-13 TIME PLOTTED => 14:29

**NOTES:**

1. THE QUANTITIES ON THIS SHEET ARE APPROXIMATE MEASUREMENTS.
2. (N) = NOT A SEPARATE PAY ITEM, FOR INFORMATION ONLY.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv SBd	15	51.5/51.7 1.8/2.2	34	54

*Ferdinand De La Cruz* 8-26-13  
 REGISTERED ELECTRICAL ENGINEER DATE

8-26-13  
 PLANS APPROVAL DATE

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**MODIFY TRAFFIC MONITORING STATION (COUNT)**

SHEET No.	(N)	(N)	(N)	(N)	(N)	(N)	(N)
	1/2" C TYPE 3	2" C TYPE 3	No. 5 PB	No. 10 CONDUCTOR	No. 8 (G)	TYPE E LOOPS	DLC
	LF	LF	EA	LF	LF	EA	LF
E-1	400	100	3	1000	500	4	115
E-2	400	-	2	800	400	-	-
E-3	1000	-	4	2000	1000	-	-
E-4	50	-	1	-	-	-	-

**MODIFY LIGHTING AND SIGN ILLUMINATION**

SHEET No.	(N)	(N)	(N)	(N)	(N)	(N)	(N)	(N)	(N)	(N)
	3" C TYPE 3	No. 5 PB	No. 9A PB	No. 4 CONDUCTOR	No. 6 CONDUCTOR	No. 8 (G)	TYPE 21 LUMINAIRE (LED)	TYPE 30 LUMINAIRE (LED)	No. 10 (G)	TYPE E LOOPS
	LF	EA	EA	LF	LF	LF	EA	EA	LF	EA
E-5	-	2	-	-	-	-	-	-	-	-
E-6	1300	5	8	3400	3400	1700	6	1	-	-
E-7	1000	3	4	2000	2000	1500	4	-	1000	4

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans** ELECTRICAL DESIGN B  
 FUNCTIONAL SUPERVISOR  
 FERDINAND DE LA CRUZ  
 CALCULATED/DESIGNED BY  
 CHECKED BY  
 LUIS PENALOZA, JR  
 FERDINAND DE LA CRUZ  
 REVISED BY  
 DATE REVISED

**ELECTRICAL QUANTITIES  
E-8**

LAST REVISION     
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 TIME PLOTTED => 14:29

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv SBd	15	51.5/51.7 1.8/2.2	35	54

*Grace M. Tsushima*  
REGISTERED CIVIL ENGINEER

July 19, 2013  
PLANS APPROVAL DATE

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TO ACCOMPANY PLANS DATED 8-26-13

**UNIT OF MEASUREMENT SYMBOLS:**

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

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:

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

\* For use on a sign panel only

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**ABBREVIATIONS  
(SHEET 2 OF 2)**

NO SCALE

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

**REVISED STANDARD PLAN RSP A10B**

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

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

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

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

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv SBd	15	51.5/51.7 1.8/2.2	36	54

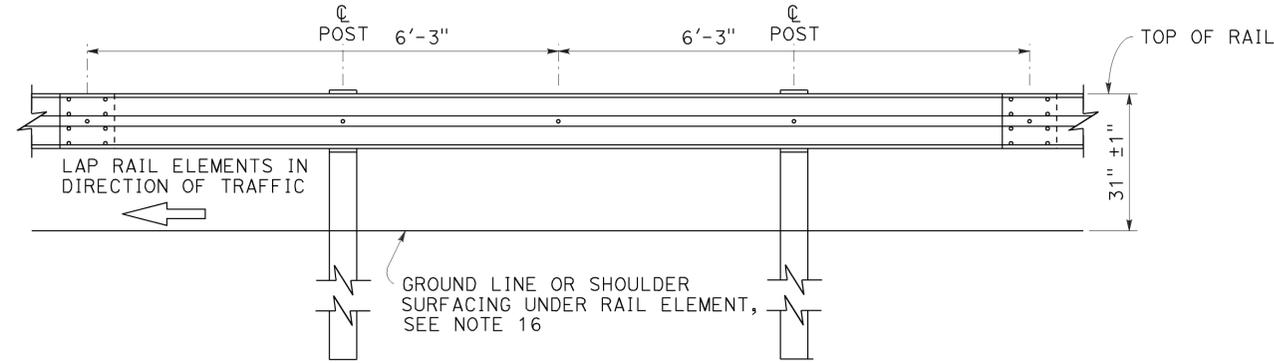
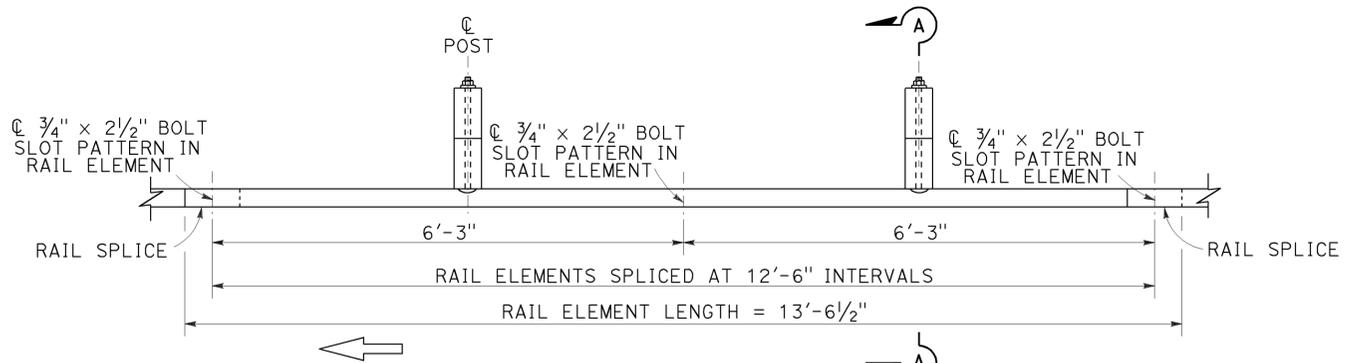
*Randell D. Hiatt*  
REGISTERED CIVIL ENGINEER

July 19, 2013  
PLANS APPROVAL DATE

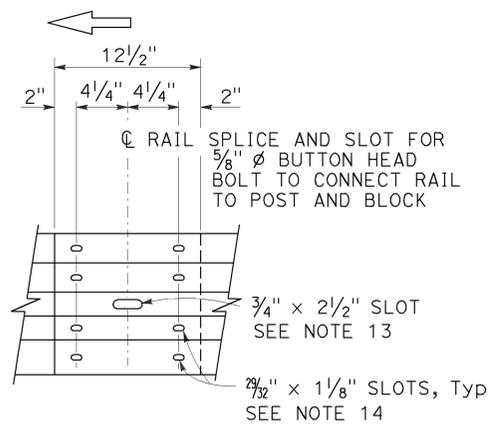
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REGISTERED PROFESSIONAL ENGINEER  
No. C50200  
Exp. 6-30-15  
CIVIL  
STATE OF CALIFORNIA

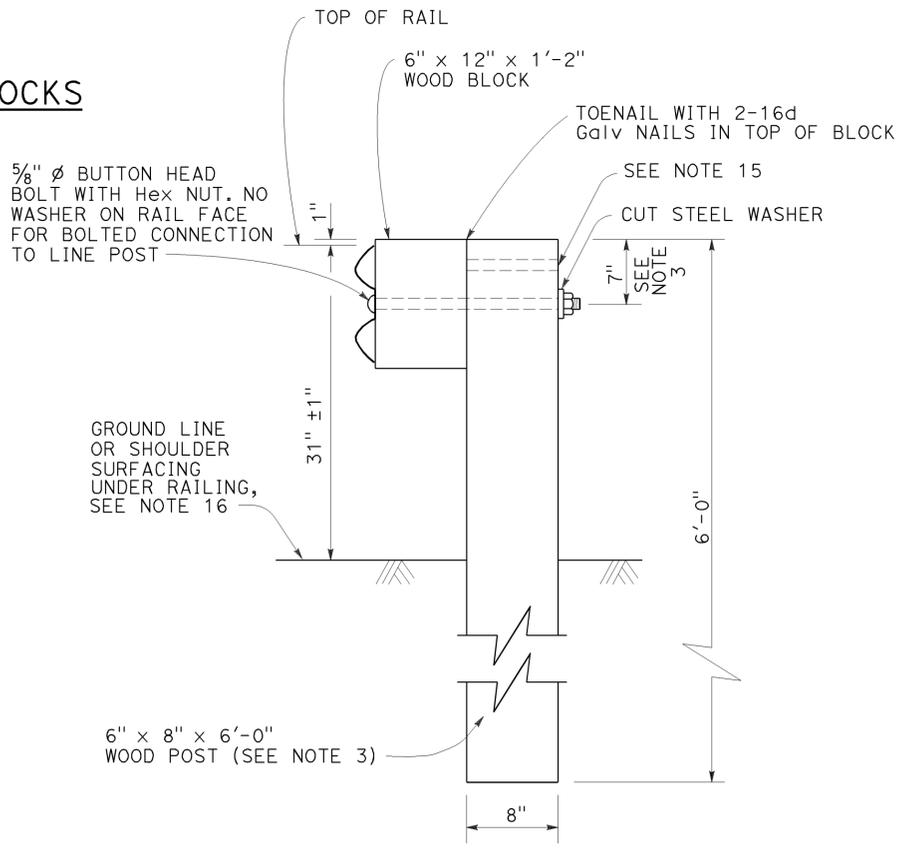
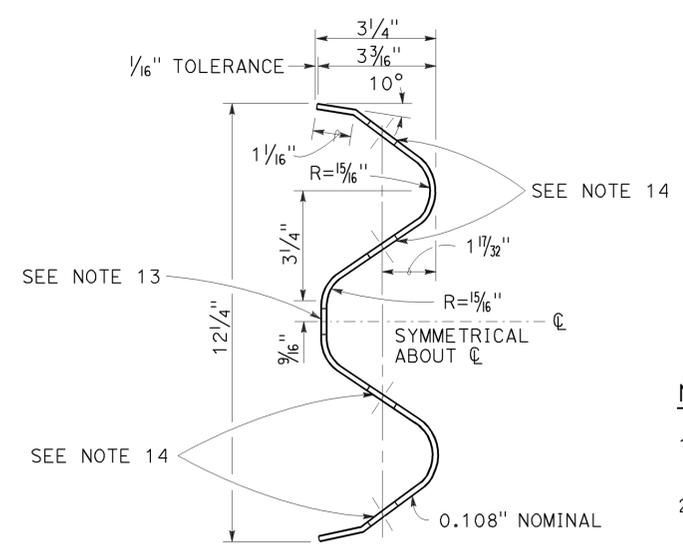
TO ACCOMPANY PLANS DATED 8-26-13



**MIDWEST GUARDRAIL SYSTEM WITH WOOD POST AND BLOCKS**



- Connect the over lapped end of the rail elements with 5/8" Ø x 1 3/8" button head oval shoulder splice bolts inserted into the 2 3/32" x 1 1/8" slots and bolted together with 5/8" Ø recessed hex nuts. Recess of hex nut points toward rail element. A total of 8 bolts and nuts are to be used at each rail splice connection.
- The ends of the rail elements are to be overlapped in the direction of traffic (see details).
- Where end cap is to be attached to the end of a rail element, a total of 4 of the above described splice bolts and nuts are to be used.



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

**NOTES:**

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

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

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

NO SCALE

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

**REVISED STANDARD PLAN RSP A77L1**

2010 REVISED STANDARD PLAN RSP A77L1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv SBd	15	51.5/51.7 1.8/2.2	37	54

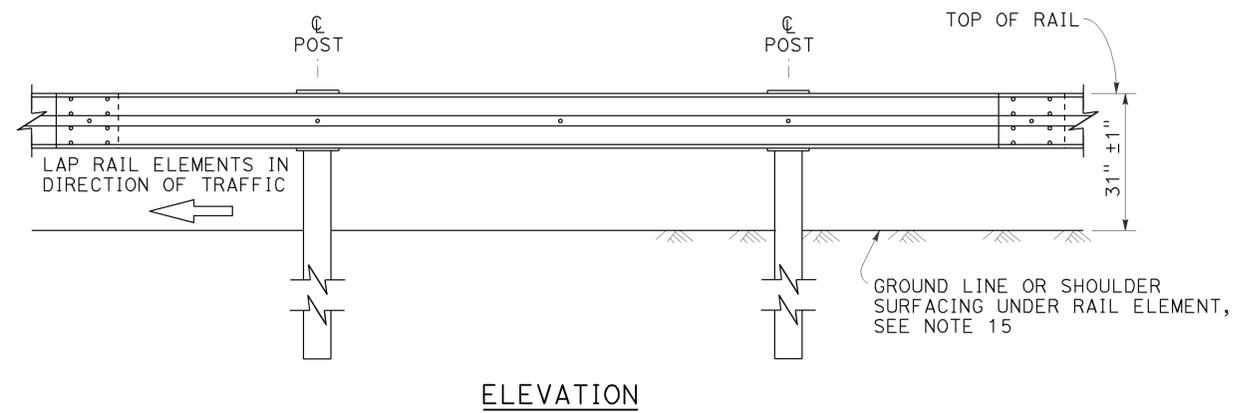
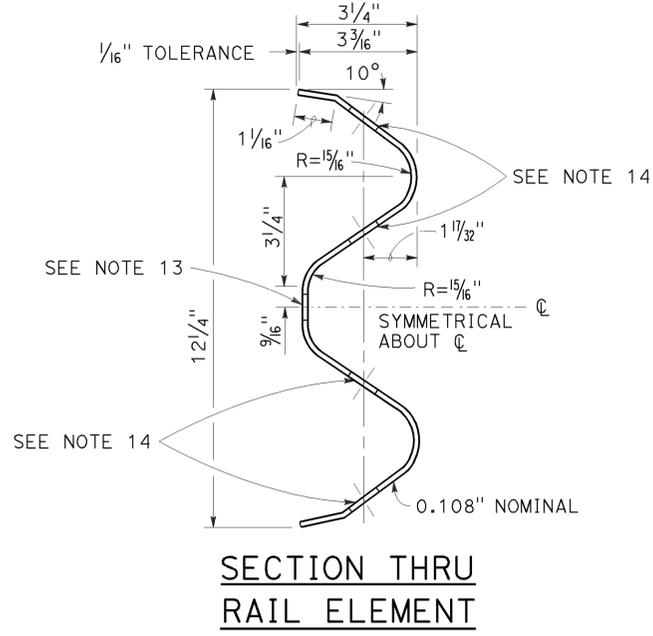
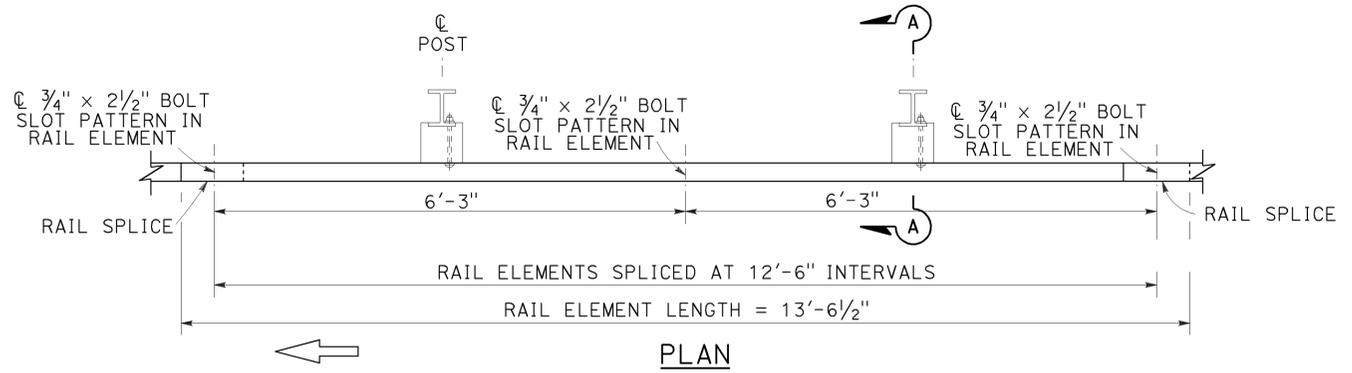
**Randell D. Hiatt**  
REGISTERED CIVIL ENGINEER

July 19, 2013  
PLANS APPROVAL DATE

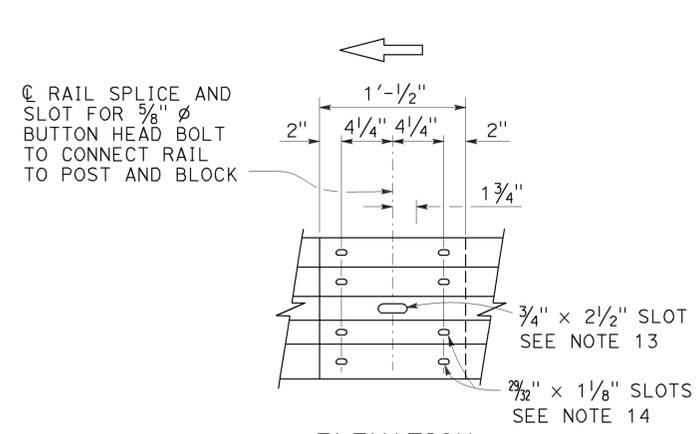
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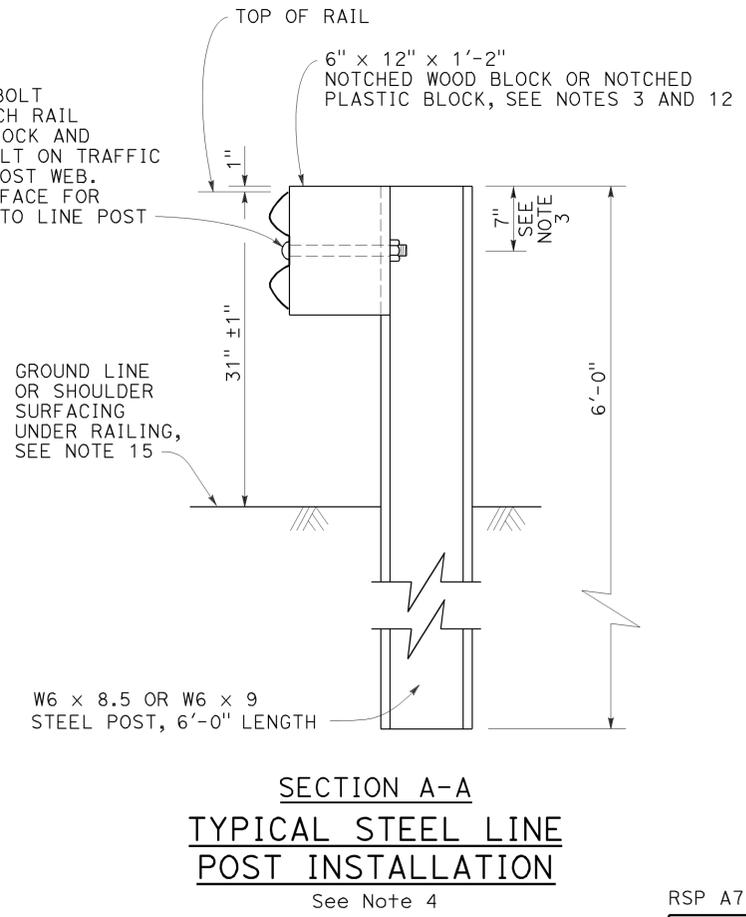
**Randell D. Hiatt**  
REGISTERED PROFESSIONAL ENGINEER  
No. C50200  
Exp. 6-30-15  
CIVIL  
STATE OF CALIFORNIA



**MIDWEST GUARDRAIL SYSTEM WITH STEEL POSTS AND NOTCHED WOOD OR NOTCHED RECYCLED PLASTIC BLOCKS**



- Connect the overlapped end of the rail elements with 5/8"  $\phi$  x 1 3/8" button head oval shoulder splice bolts inserted into the 7/32" x 1 1/8" slots and bolted together with 5/8"  $\phi$  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 wood post installations, see Revised Standard Plan RSP A77L1.
- For details of standard hardware used to construct MGS, see Revised Standard Plan RSP A77M1.
- For details of steel posts and notched wood blocks used to construct MGS, see Revised Standard Plan RSP A77N2.
- For additional installation details, see Revised Standard Plan RSP A77N3.
- MGS post spacing to be 6'-3" center to center, except as otherwise noted.
- For MGS typical layouts, see the A77P, A77Q and A77R Series of Standard Plans.
- If railing is connected to terminal system end treatment, use 31" height terminal system end treatment.
- For MGS end anchor details, see Revised Standard Plans RSP A77S1 and RSP A77T2.
- For details of MGS transition to bridge railing, see Revised Standard Plan RSP A77U4.
- For additional details of MGS connection to bridge railings, see Revised Standard Plans RSP A77U1, RSP A77U2 and RSP A77V1.
- For dike positioning and MGS delineation details, see Revised Standard Plan RSP A77N4.
- Notched face of block faces steel post.
- 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".
- Install posts in soil.

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**MIDWEST GUARDRAIL SYSTEM  
STANDARD RAILING SECTION  
(STEEL POST WITH NOTCHED  
WOOD OR NOTCHED  
RECYCLED PLASTIC BLOCK)**

NO SCALE

RSP A77L2 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP A77L2**

2010 REVISED STANDARD PLAN RSP A77L2

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv Sbd	15	51.5/51.7 1.8/2.2	38	54

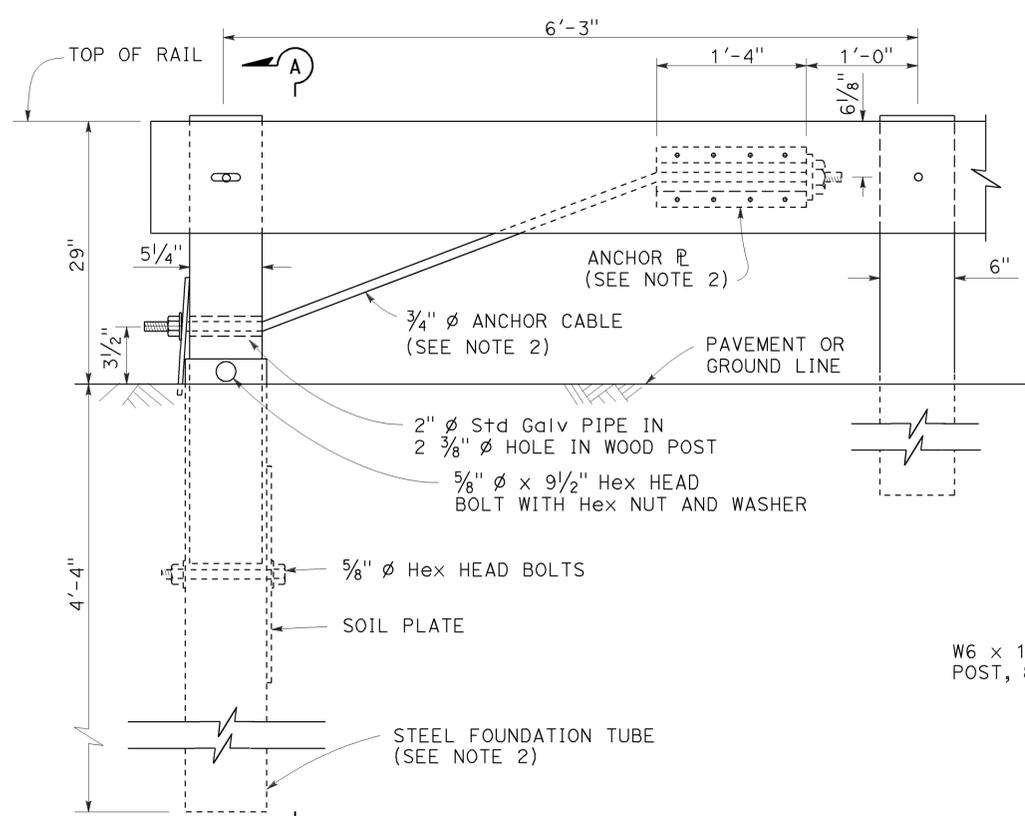
**Randell D. Hiatt**  
REGISTERED CIVIL ENGINEER

July 19, 2013  
PLANS APPROVAL DATE

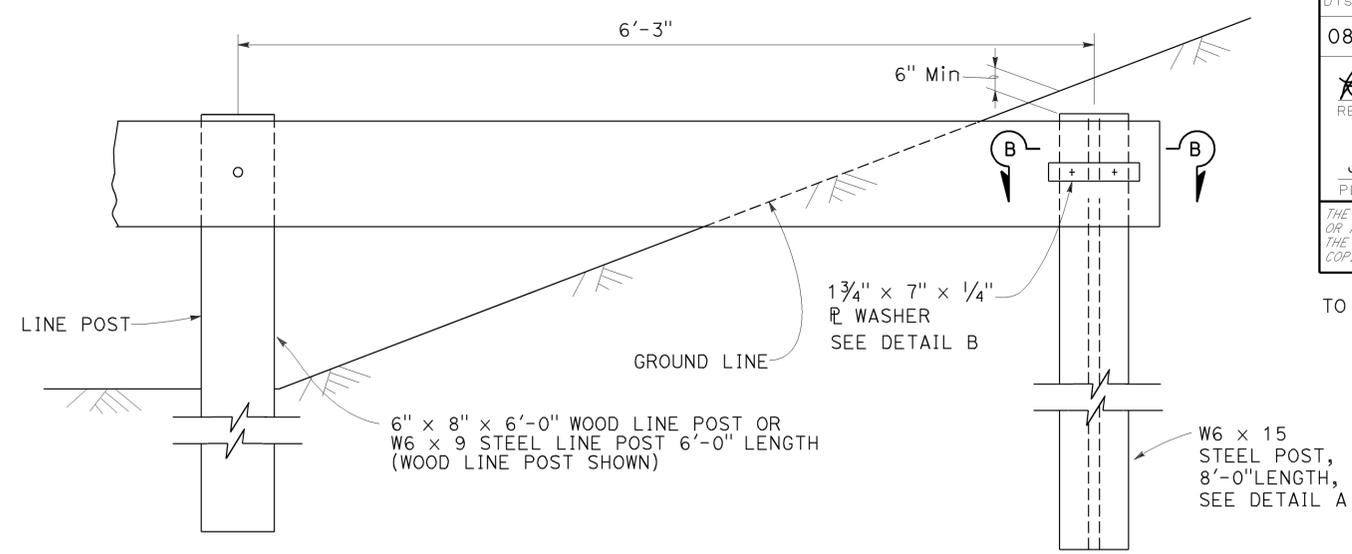
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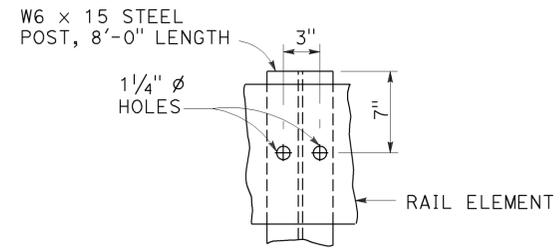
REGISTERED PROFESSIONAL ENGINEER  
Randell D. Hiatt  
No. C50200  
Exp. 6-30-15  
CIVIL  
STATE OF CALIFORNIA



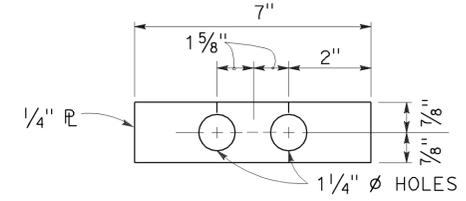
**ELEVATION  
END ANCHOR  
ASSEMBLY (TYPE SFT)**



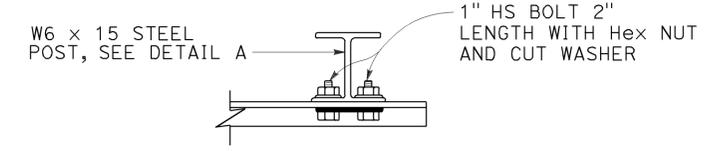
**BURIED POST END ANCHOR**



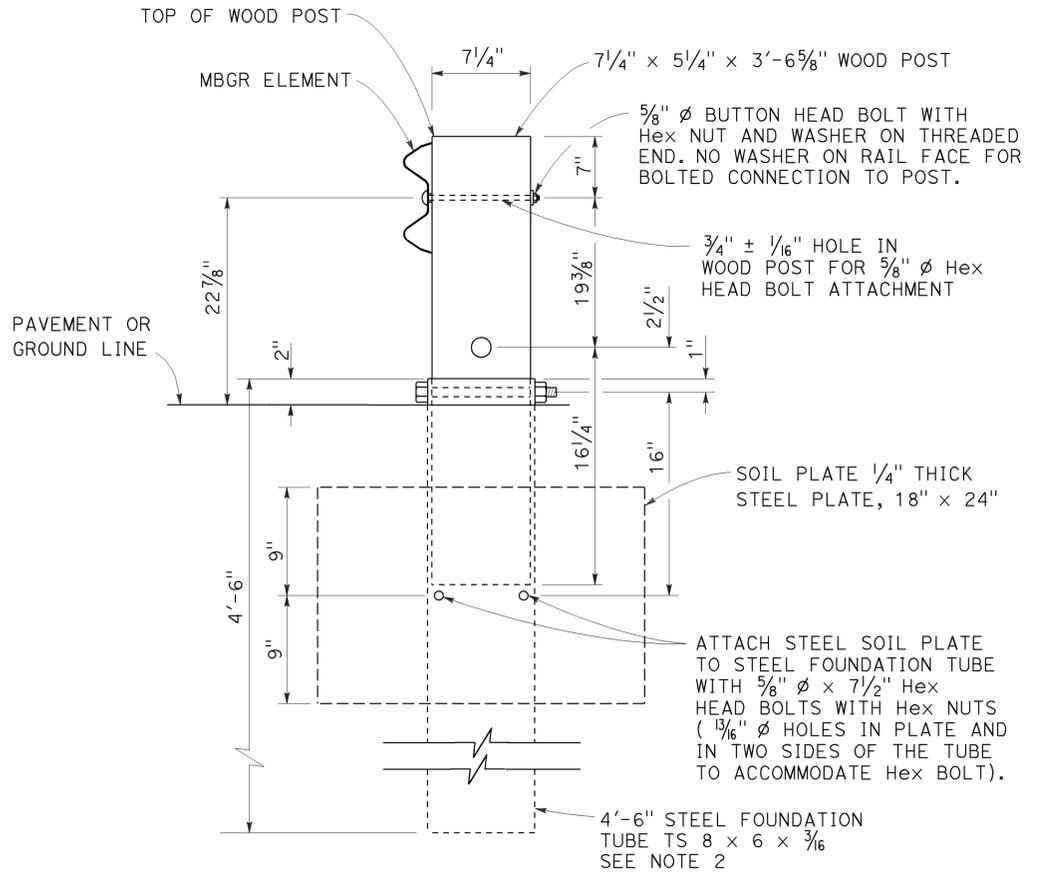
**DETAIL A**



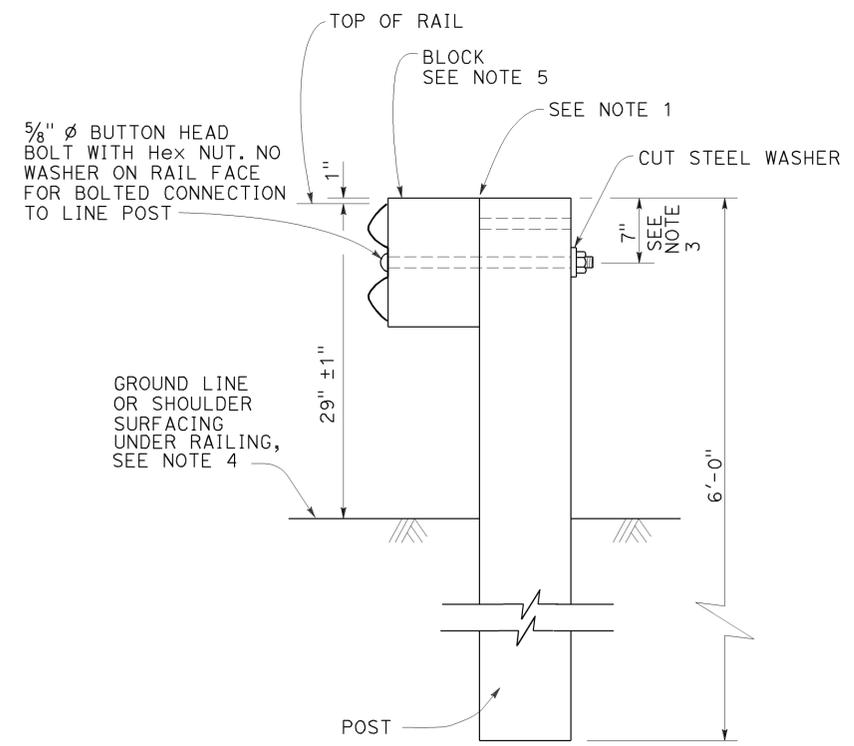
**DETAIL B**



**SECTION B-B**



**SECTION A-A**



**TYPICAL LINE  
POST INSTALLATION**

**NOTES:**

1. For wood post and wood block, toenail with 2-16d Galv nails in top of block. For steel post and notched wood or plastic block, notched face of block faces steel post.
2. 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.
3. To connect railing to 27" terminal system end treatment, transition the top of railing height at a ratio of 120:1 to terminal system end treatment height plus one 12'-6" standard railing section at the transitioned height for a horizontal connection to the end treatment.
4. Install posts in soil.
5. See Revised Standard Plans RSP A77N1 and RSP A77N2 for details.
6. Holes excavation in the slope to construct the buried post end anchor shall be backfilled with selected earth, placed in layers approximately 1'-0" thick. Each layer shall be moistened and thoroughly compacted.

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**METAL BEAM GUARD RAILING  
RECONSTRUCT INSTALLATION**

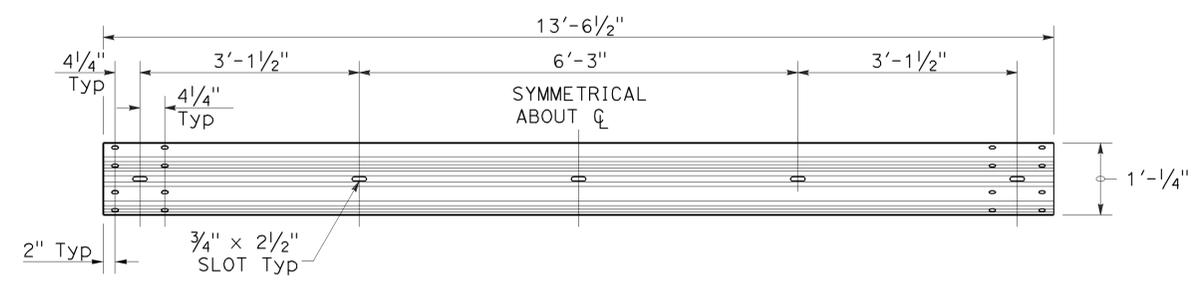
NO SCALE

RSP A77L3 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP A77L3**

2010 REVISED STANDARD PLAN RSP A77L3

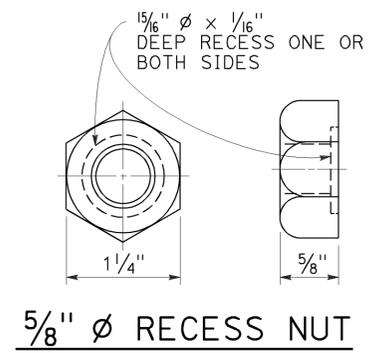
TO ACCOMPANY PLANS DATED 8-26-13



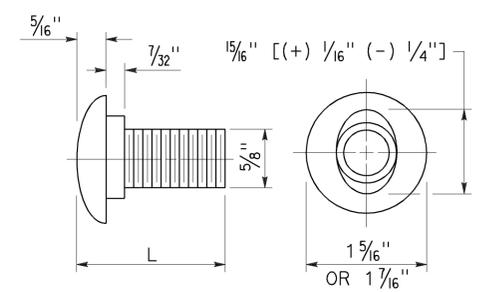
**TYPICAL RAIL ELEMENT**

**NOTE:**

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



**5/8" Ø RECESS NUT**

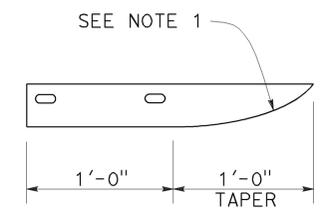


**5/8" Ø BUTTON HEAD BOLT**

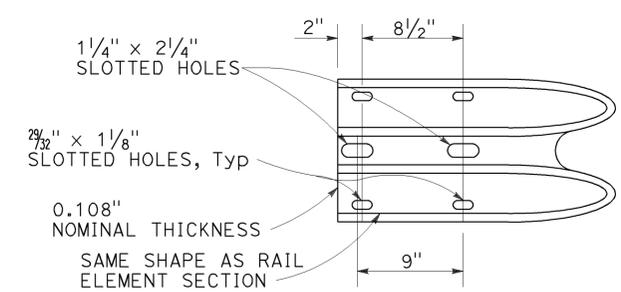
**BUTTON HEAD BOLT**

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
08	Riv SBd	15	51.5/51.7 1.8/2.2	40	54

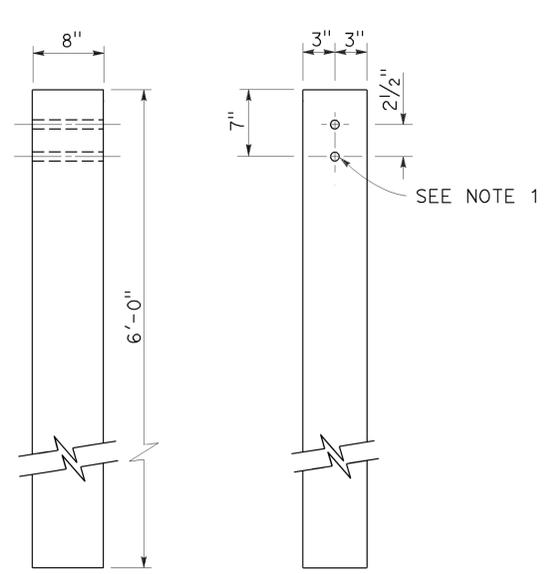
*Randell D. Hiatt*  
REGISTERED CIVIL ENGINEER

July 19, 2013  
PLANS APPROVAL DATE

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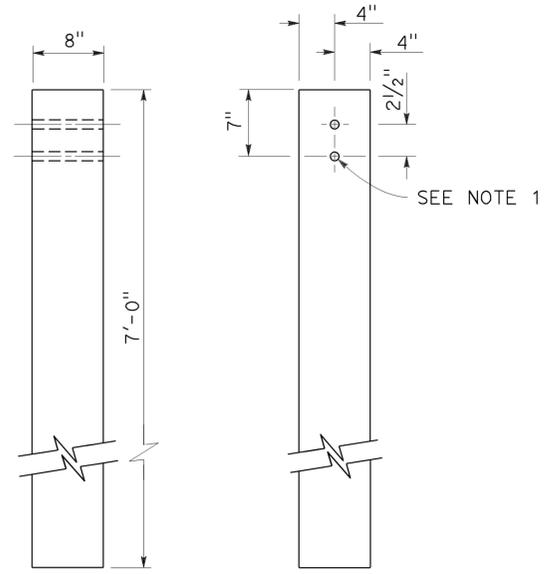
REGISTERED PROFESSIONAL ENGINEER  
Randell D. Hiatt  
No. C50200  
Exp. 6-30-15  
CIVIL  
STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 8-26-13



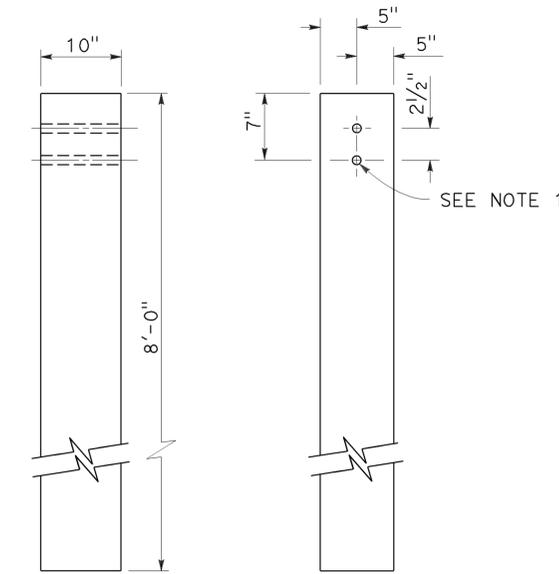
SIDE      FRONT  
6" x 8" WOOD POST  
See Note 3

SEE NOTE 1



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

SEE NOTE 1

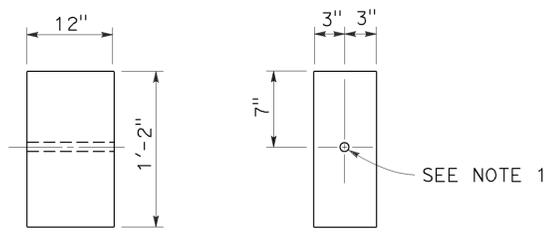


SIDE      FRONT  
10" x 10" WOOD POST  
See Note 5

SEE NOTE 1

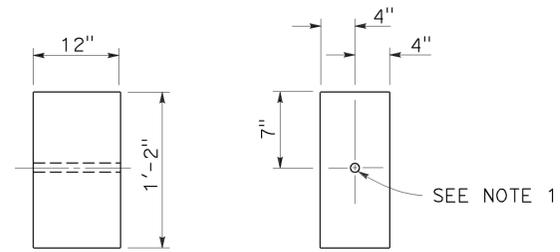
**NOTES:**

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



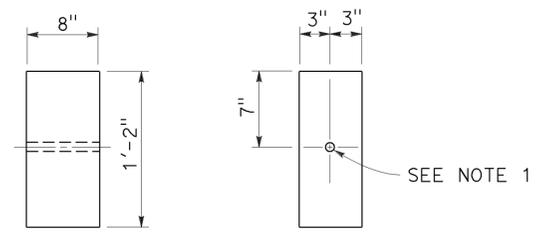
SIDE      FRONT  
6" x 12" WOOD BLOCK  
See Note 3

SEE NOTE 1



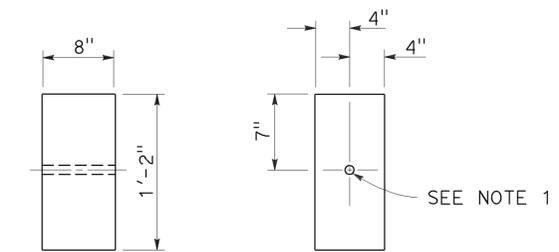
SIDE      FRONT  
8" x 12" WOOD BLOCK

SEE NOTE 1



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

SEE NOTE 1



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

SEE NOTE 1

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
08	Riv SBd	15	51.5/51.7 1.8/2.2	41	54

Randell D. Hiatt  
REGISTERED CIVIL ENGINEER

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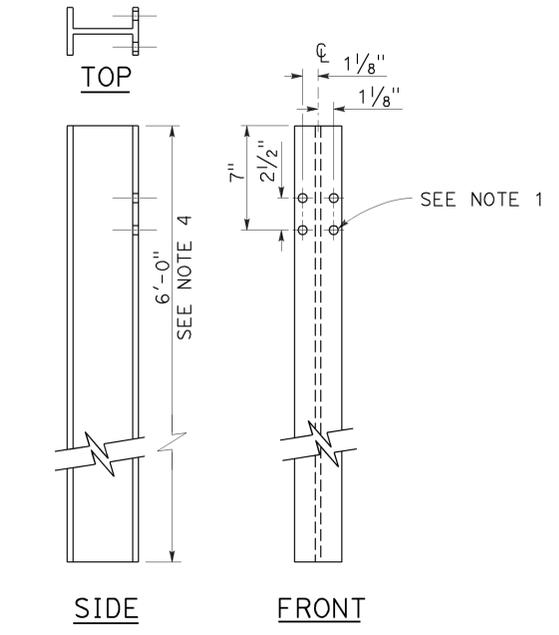
REGISTERED PROFESSIONAL ENGINEER  
Randell D. Hiatt  
No. C50200  
Exp. 6-30-15  
CIVIL  
STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 8-26-13

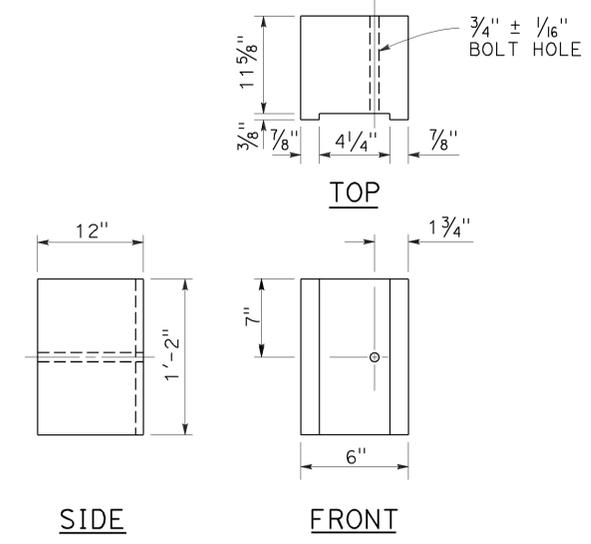
**NOTES:**

- All holes in steel post shall be  $\frac{13}{16}$ " Dia maximum.
- Dimensions shown for wood block are nominal.
- Notched face of block faces steel post.
- 6'-0" length posts to be used for typical roadway installation. 7'-0" length posts to be used for narrow roadway installation. See Revised Standard Plan RSP A77N3.
- See Revised Standard Plan RSP A77L3 for use of 6" x 8" and 8" x 8" notched wood blocks.
- This post and 8" x 12" block combination to be used for line post sections of MGS on narrow roadways and where strengthened line post sections of MGS are warranted to shield fixed objects.

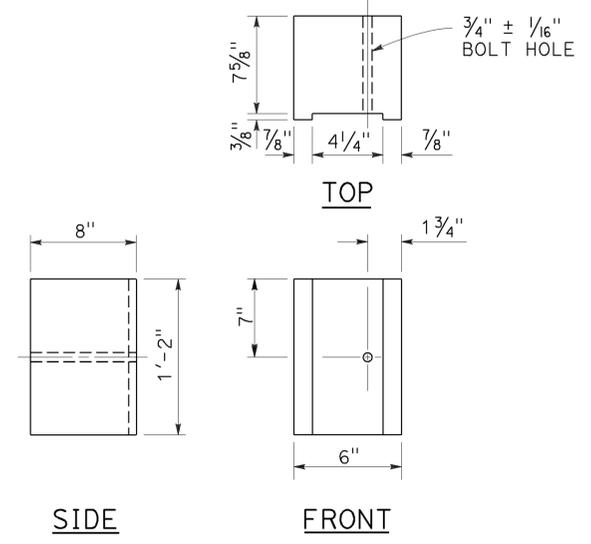
2010 REVISED STANDARD PLAN RSP A77N2



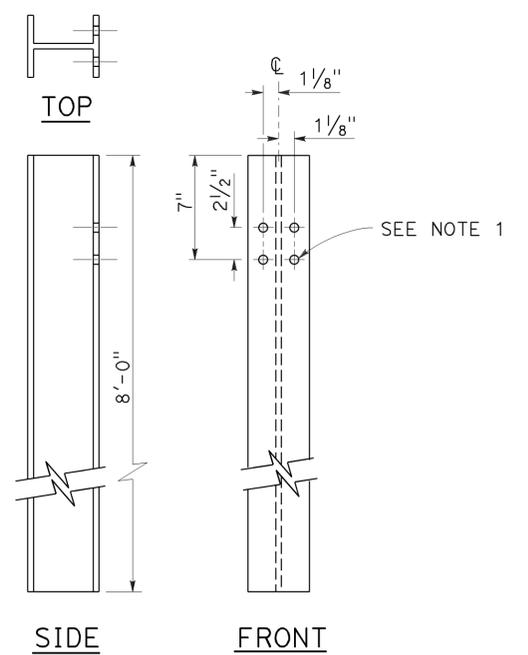
**W6 x 9 OR W6 x 8.5  
STEEL POST**  
See Note 4



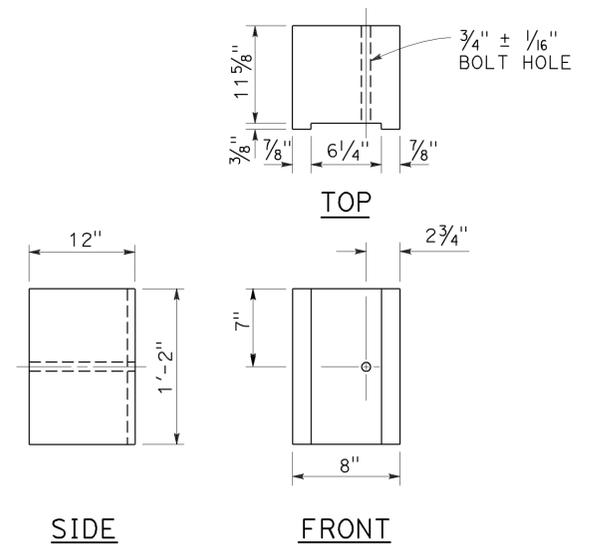
**6" x 12"  
NOTCHED WOOD BLOCK**  
See Notes 2 and 3



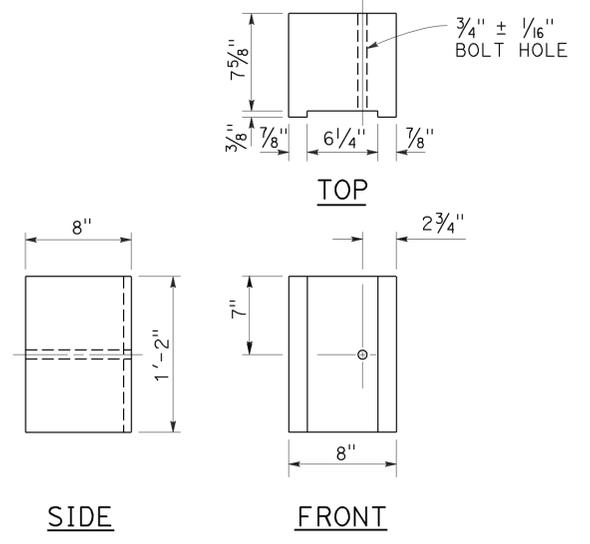
**6" x 8"  
NOTCHED WOOD BLOCK**  
Only for use with metal beam guard railing. See Note 5



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



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



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

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

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

NO SCALE

RSP A77N2 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP A77N2**

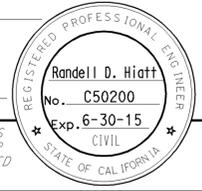
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv SBd	15	51.5/51.7 1.8/2.2	42	54

*Randell D. Hiatt*  
REGISTERED CIVIL ENGINEER

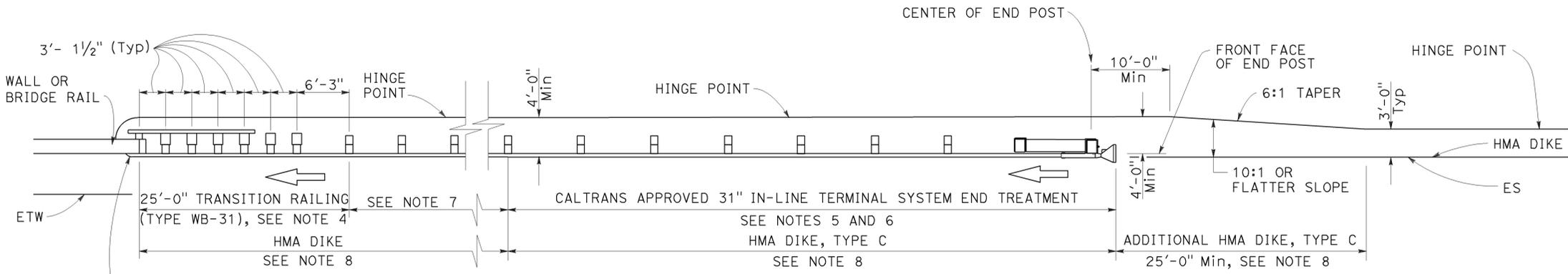
July 19, 2013  
PLANS APPROVAL DATE

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TO ACCOMPANY PLANS DATED 8-26-13

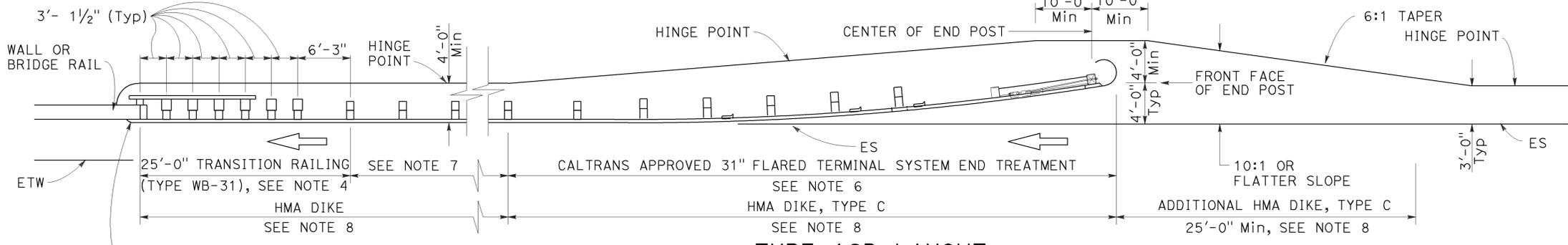


2010 REVISED STANDARD PLAN RSP A77Q1



**TYPE 12A LAYOUT**

(MGS installation at structure approach with 31" in-line end treatment at traffic approach end of railing)  
See Notes 5 and 6  
SEE NOTE 8  
SEE NOTE 9



**TYPE 12B LAYOUT**

(MGS installation at structure approach with 31" Flared end treatment at traffic approach end of railing)  
SEE NOTE 6  
SEE NOTE 8  
SEE NOTE 9

**NOTES:**

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

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

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

NO SCALE

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv SBd	15	51.5/51.7 1.8/2.2	43	54

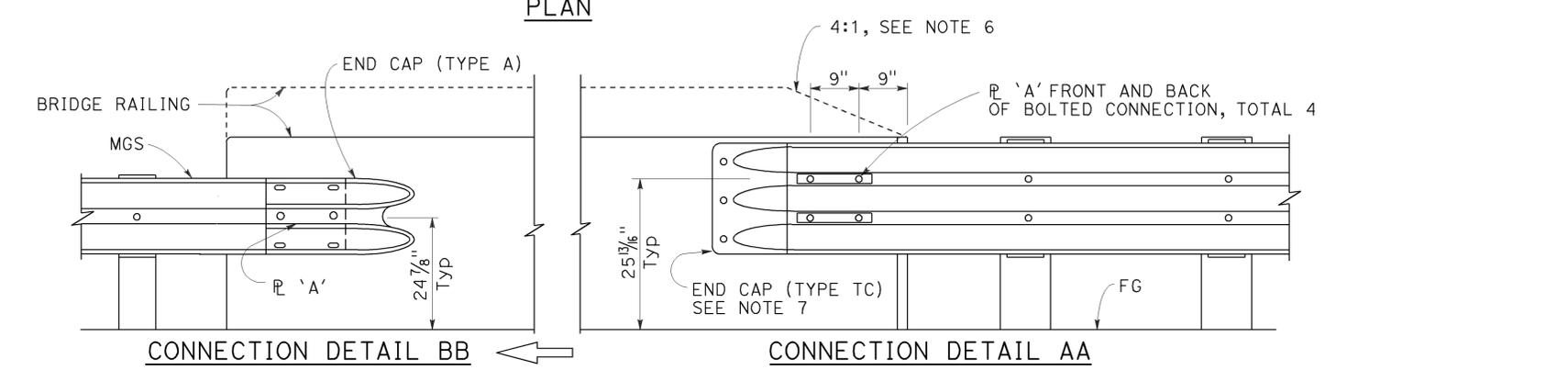
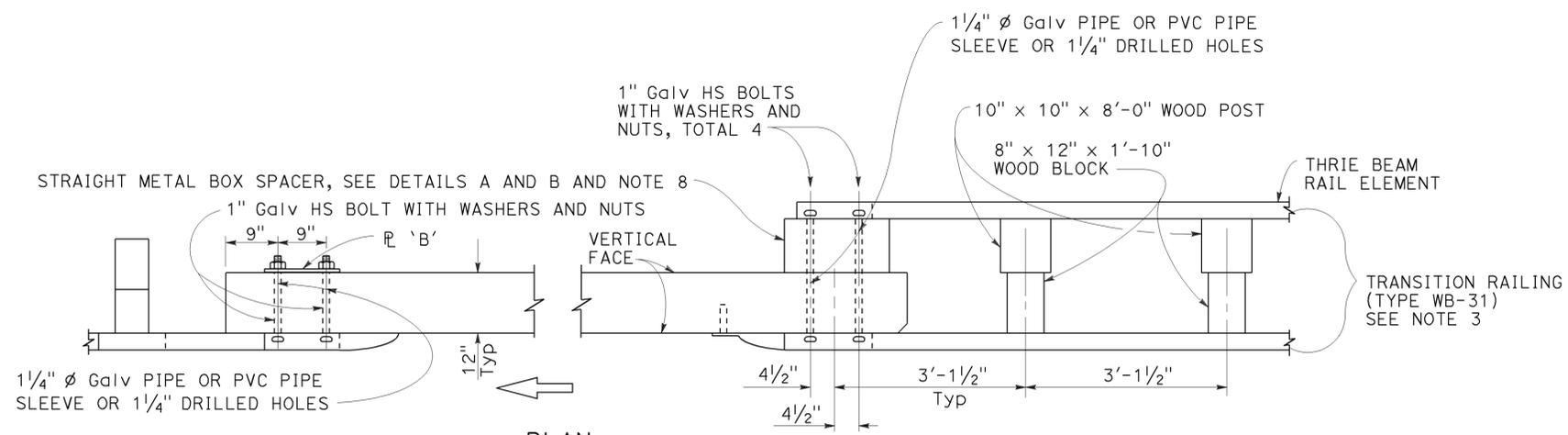
**Randell D. Hiatt**  
REGISTERED CIVIL ENGINEER

July 19, 2013  
PLANS APPROVAL DATE

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

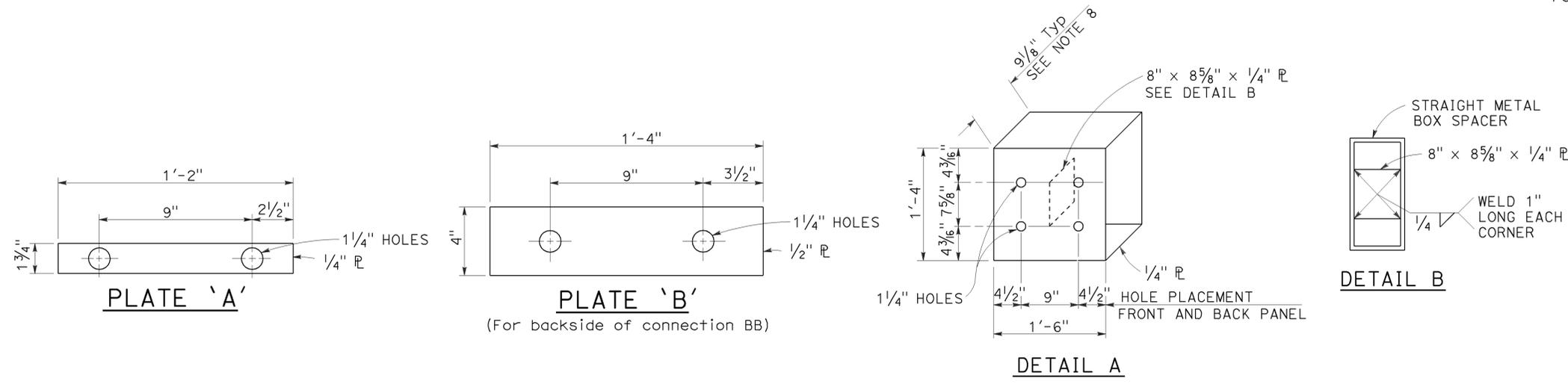
TO ACCOMPANY PLANS DATED 8-26-13



**MIDWEST GUARDRAIL SYSTEM CONNECTION TO BRIDGE RAILING WITHOUT SIDEWALK**

**NOTES:**

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



**STRAIGHT METAL BOX SPACER**

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

NO SCALE

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

**REVISED STANDARD PLAN RSP A77U1**

2010 REVISED STANDARD PLAN RSP A77U1

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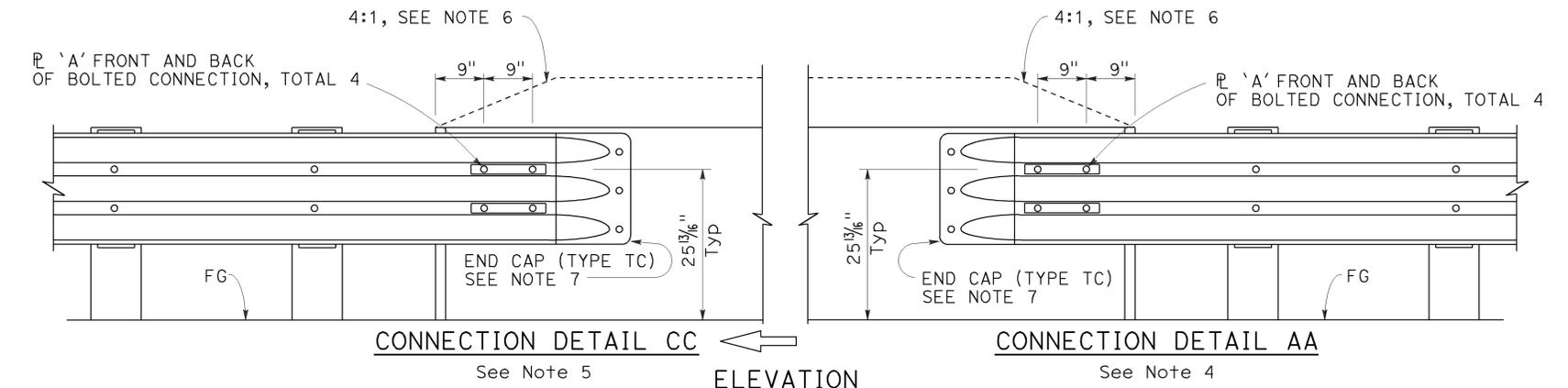
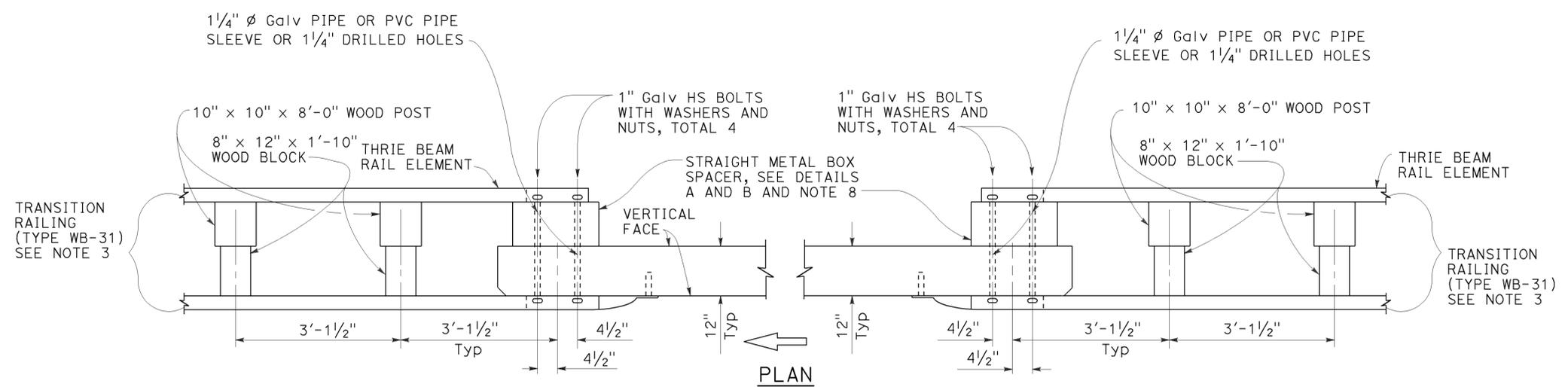
**Randell D. Hiatt**  
REGISTERED CIVIL ENGINEER

July 19, 2013  
PLANS APPROVAL DATE

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

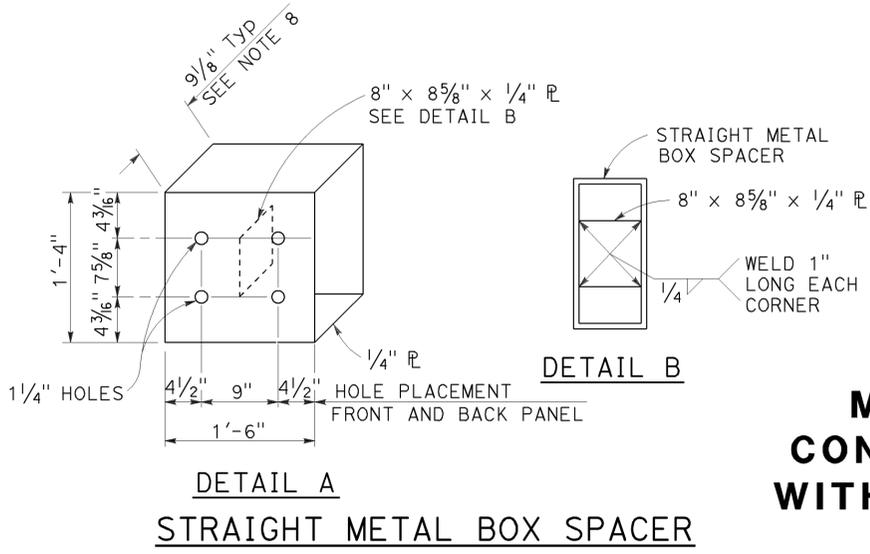
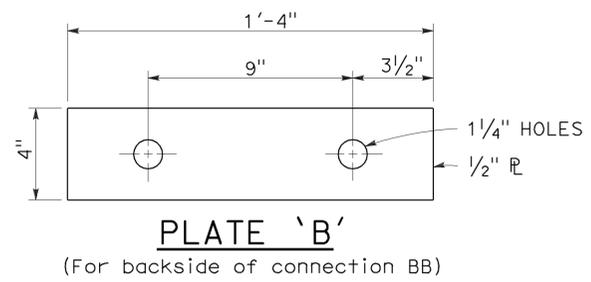
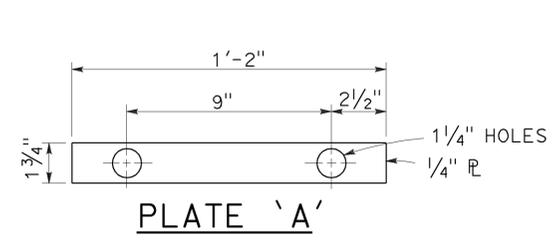
TO ACCOMPANY PLANS DATED 8-26-13



**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

2010 REVISED STANDARD PLAN RSP A77U2



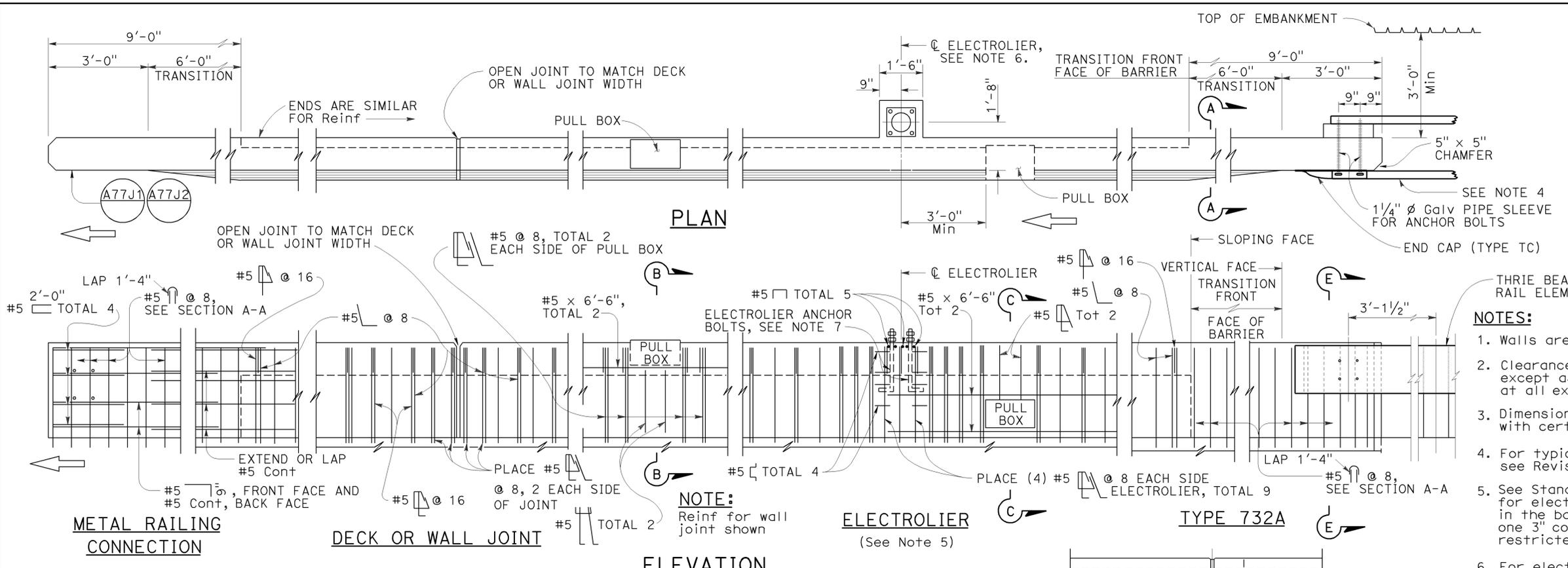
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv Sbd	15	51.5/51.7 1.8/2.2	46	54

REGISTERED CIVIL ENGINEER

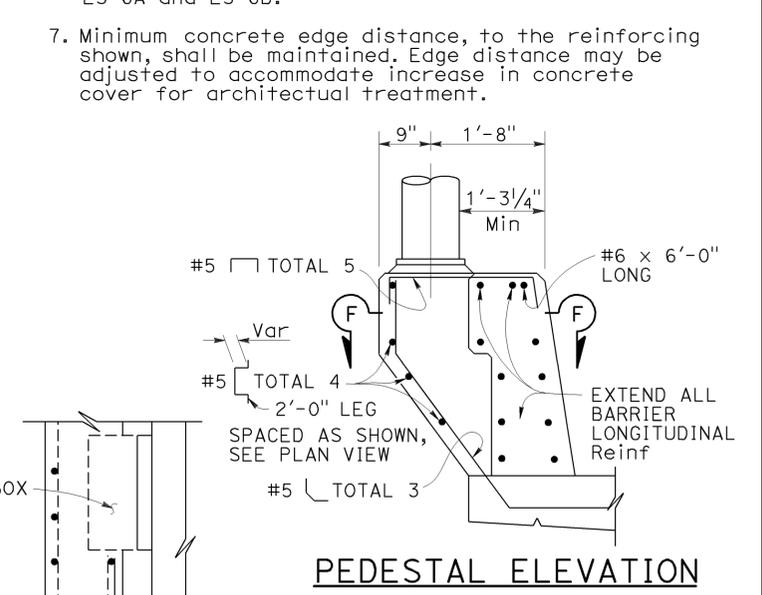
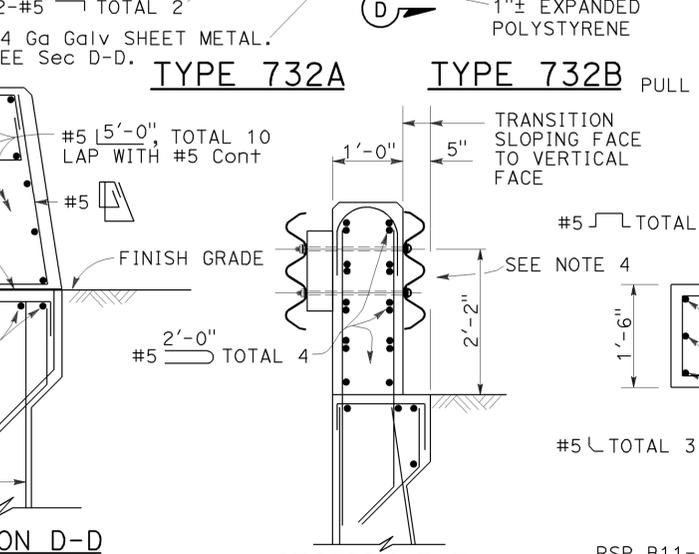
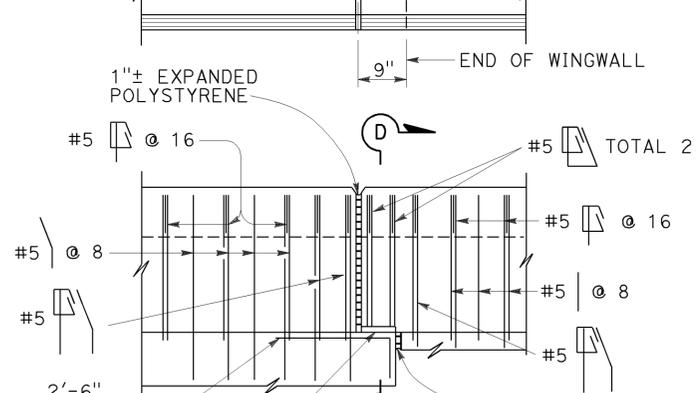
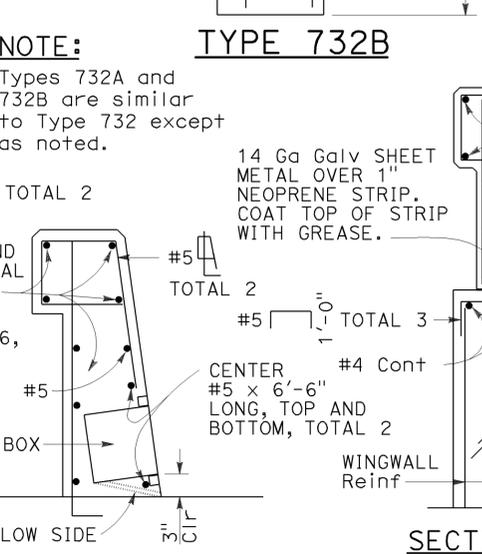
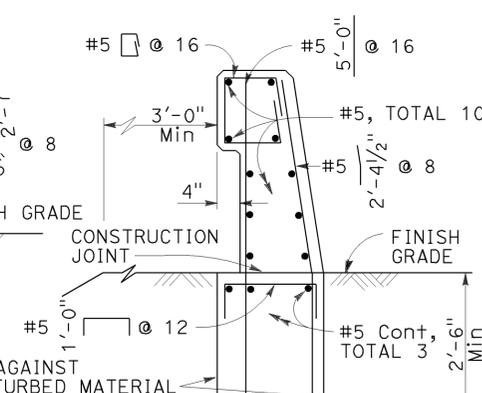
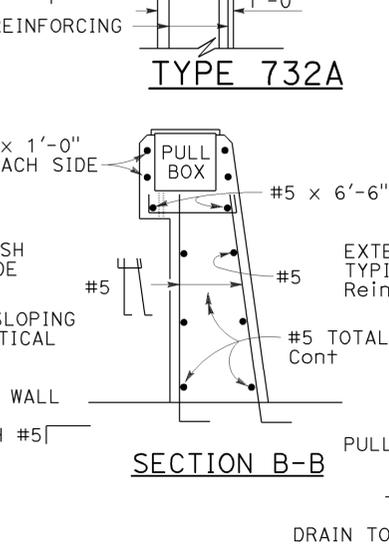
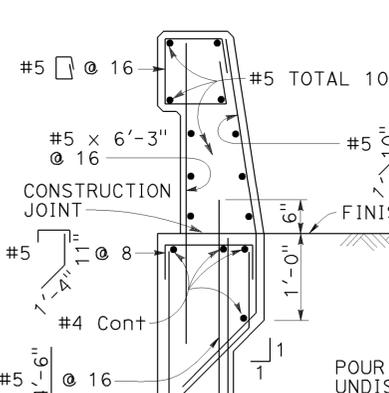
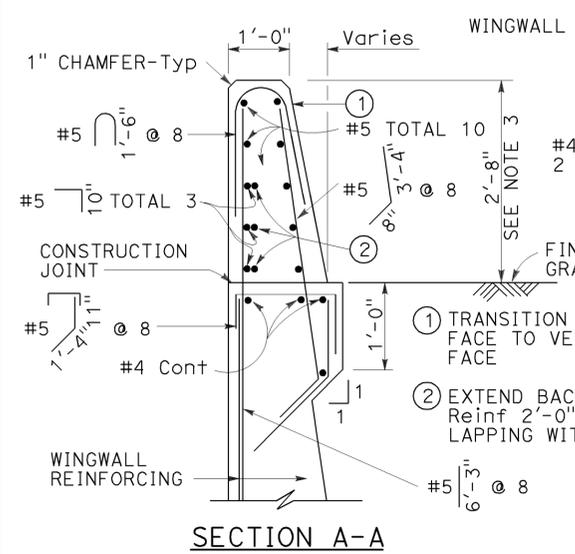
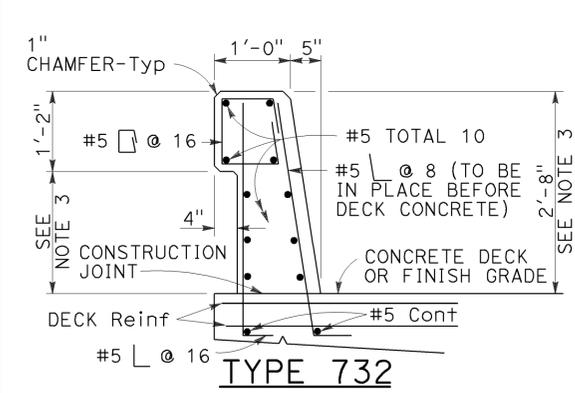
July 19, 2013  
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
Tillett Satter  
No. C42892  
Exp. 3-31-14  
CIVIL  
STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 8-26-13



- NOTES:**
- Walls are to be backfilled before barrier is placed.
  - Clearance to reinforcing steel in barrier to be 1", except as noted. Longitudinal reinforcement to stop at all expansion joints.
  - Dimensions may vary with roadway cross slope and with certain thickness of surfacing. See Project Plans.
  - For typical metal railing connection details not shown, see Revised Standard Plans RSP A77U1 and RSP A77U2.
  - See Standard Plans ES-9A, ES-9B, ES-9C, ES-9D and ES-9E for electrical details. The maximum number of conduits in the barrier is limited to two 2" conduits along with one 3" conduit. When a 3" conduit is used, it is restricted to the base of the barrier.
  - For electrolier mounting details, See Standard Plans ES-6A and ES-6B.
  - Minimum concrete edge distance, to the reinforcing shown, shall be maintained. Edge distance may be adjusted to accommodate increase in concrete cover for architectural treatment.



Details shown for barrier anchorage to Type 732A. Anchorage for barrier Types 732 and 732A are similar to their respective details.

REVISED STANDARD PLAN RSP B11-55

2010 REVISED STANDARD PLAN RSP B11-55

RSP B11-55 DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN B11-55 DATED MAY 20, 2011 - PAGE 297 OF THE STANDARD PLANS BOOK DATED 2010.

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
**CONCRETE BARRIER  
TYPE 732**  
NO SCALE

**LEGEND:**

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

**ABBREVIATIONS**

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

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv SBd	15	51.5/51.7 1.8/2.2	47	54

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 8-26-13

**SOFFIT AND WALL MOUNTED LUMINAIRES**

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

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

COMMONLY USED SYMBOLS FOR UNITED STATES CUSTOMARY UNITS OF MEASUREMENT:

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

**MISCELLANEOUS ELECTROLIERS**

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

**NOTES:**

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

**STANDARD ELECTROLIER**

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

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**ELECTRICAL SYSTEMS (LEGEND AND ABBREVIATIONS)**

NO SCALE

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

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

2010 REVISED STANDARD PLAN RSP ES-1A

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv SBd	15	51.5/51.7 1.8/2.2	48	54

Theresa Gabriel  
REGISTERED ELECTRICAL ENGINEER

July 19, 2013  
PLANS APPROVAL DATE

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

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TO ACCOMPANY PLANS DATED 8-26-13

**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**

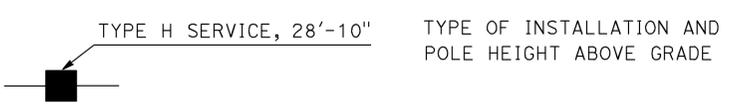
NEW	EXISTING	
---OH---	---oh---	OVERHEAD LINES
		WOOD POLE, "U" INDICATES UTILITY OWNED
		POLE GUY WITH ANCHOR
		UTILITY TRANSFORMER - GROUND MOUNTED
		SERVICE EQUIPMENT ENCLOSURE TYPE. DOOR INDICATES FRONT OF ENCLOSURE
		TELEPHONE DEMARCATION CABINET

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

**NOTES:**

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

**POLE-MOUNTED SERVICE DESIGNATION**



**FLASHING BEACON**

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

**ILLUMINATED OVERHEAD SIGN**

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

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
**ELECTRICAL SYSTEMS  
(LEGEND AND ABBREVIATIONS)**

NO SCALE

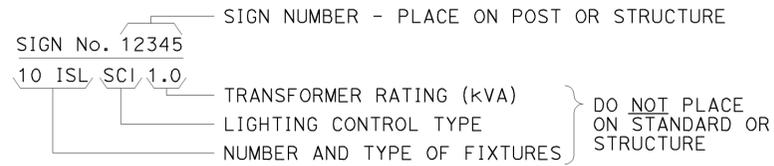
RSP ES-1B DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-1B DATED MAY 20, 2011 - PAGE 426 OF THE STANDARD PLANS BOOK DATED 2010.

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

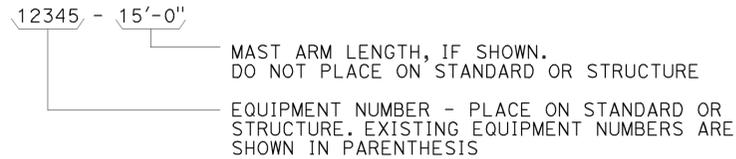
2010 REVISED STANDARD PLAN RSP ES-1B

### EQUIPMENT IDENTIFICATION

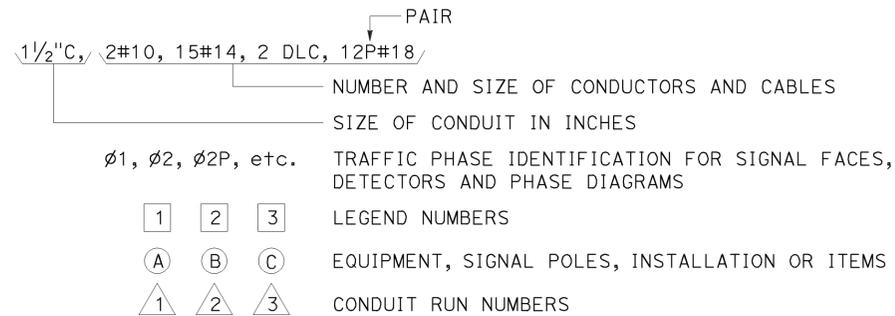
#### ILLUMINATED SIGN IDENTIFICATION NUMBER:



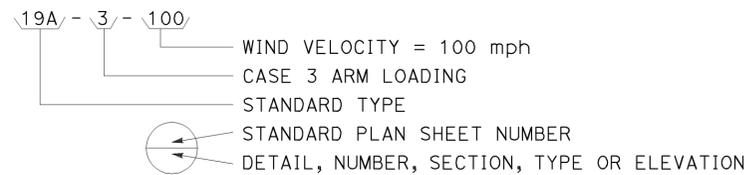
#### ELECTROLIER OR EQUIPMENT IDENTIFICATION NUMBER:



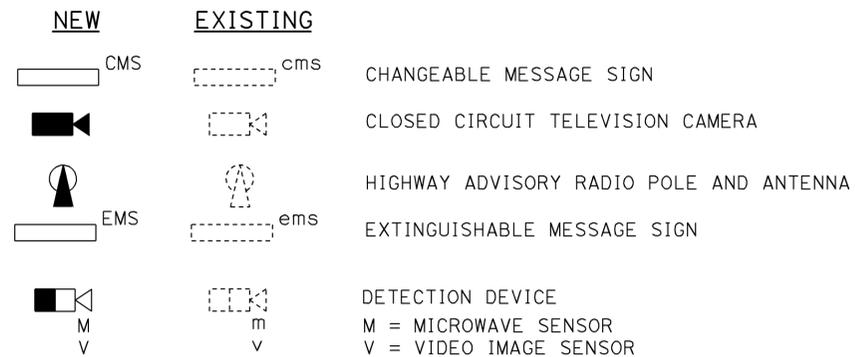
#### CONDUIT AND CONDUCTOR IDENTIFICATION:



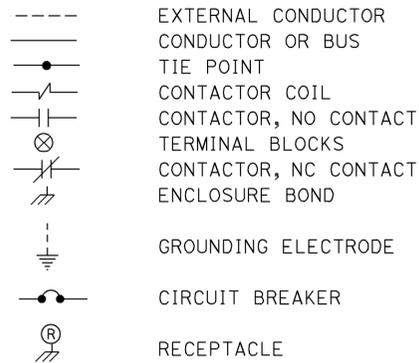
#### SIGNAL AND LIGHTING STANDARD (TYPICAL DESIGNATION):



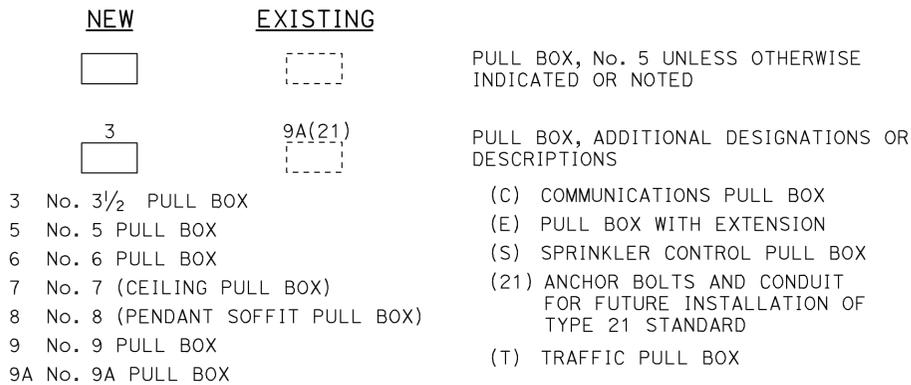
### MISCELLANEOUS EQUIPMENT



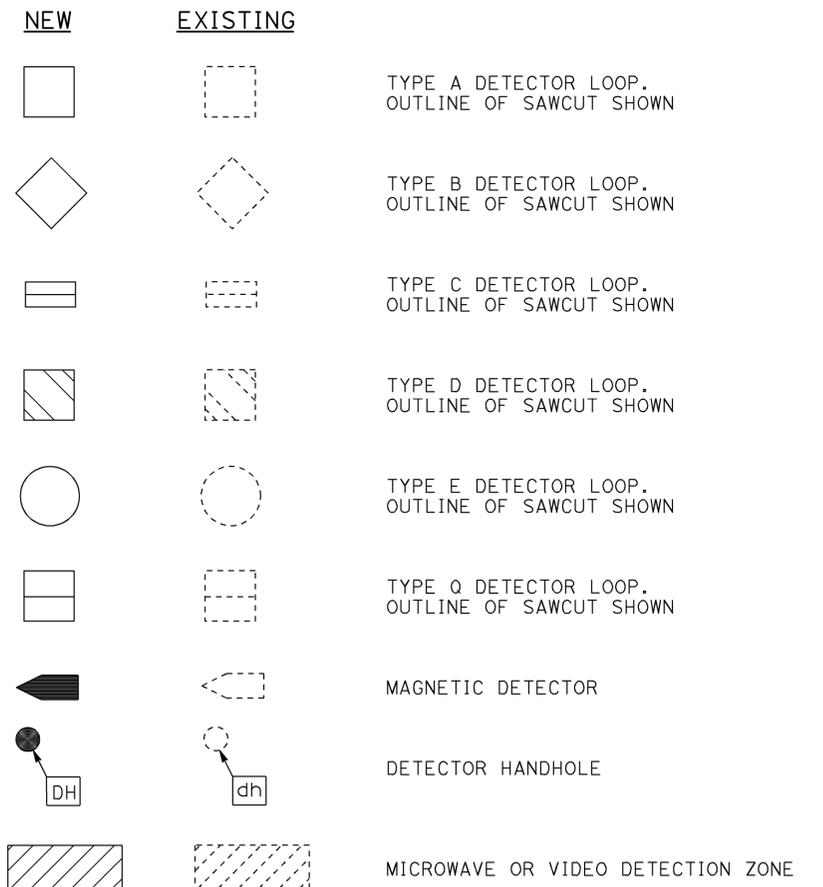
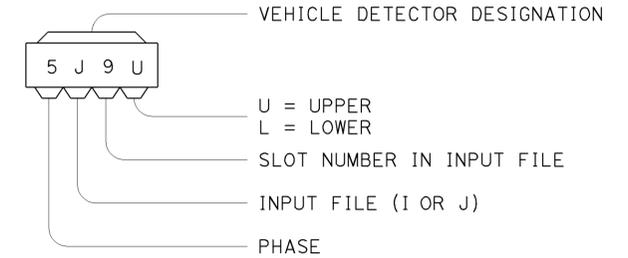
### WIRING DIAGRAM LEGEND



### PULL BOXES



### VEHICLE DETECTORS



STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

## ELECTRICAL SYSTEMS (LEGEND AND ABBREVIATIONS)

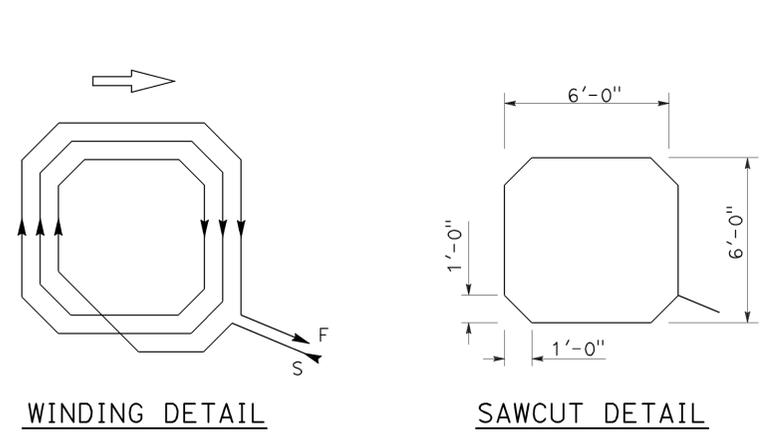
NO SCALE

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

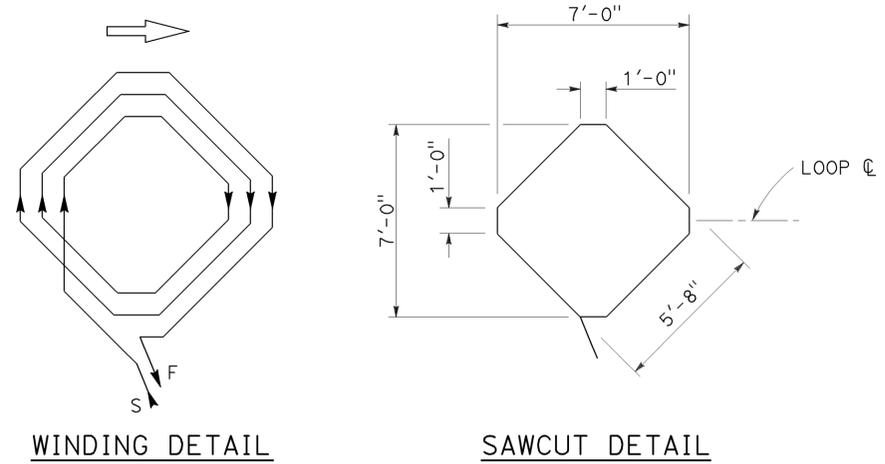
**REVISED STANDARD PLAN RSP ES-1C**

2010 REVISED STANDARD PLAN RSP ES-1C

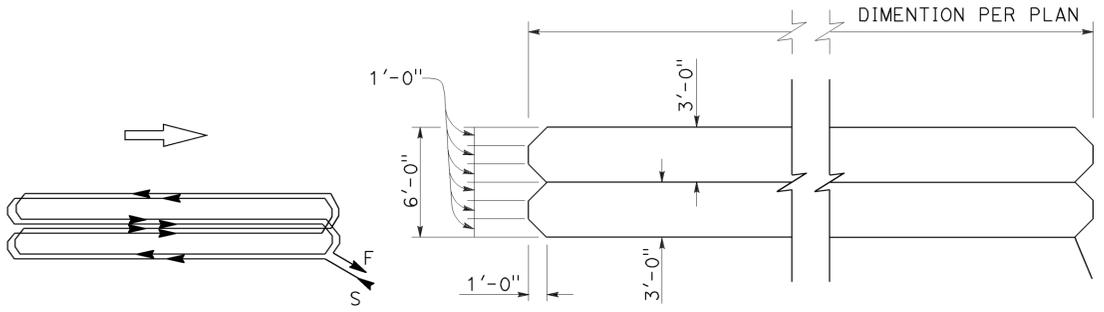
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv SBd	15	51.5/51.7 1.8/2.2	50	54
<i>Theresa Gabriel</i> REGISTERED ELECTRICAL ENGINEER July 19, 2013 PLANS APPROVAL DATE <small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					
TO ACCOMPANY PLANS DATED <u>8-26-13</u>					



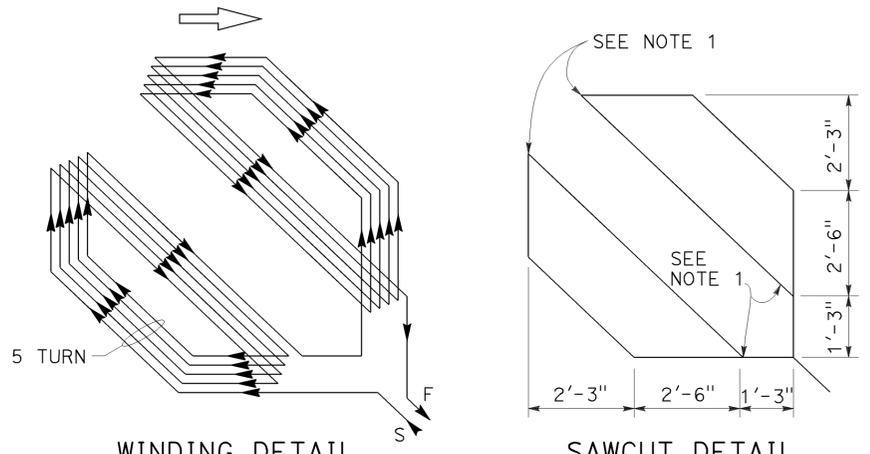
WINDING DETAIL  
SAWCUT DETAIL  
TYPE A LOOP DETECTOR CONFIGURATION



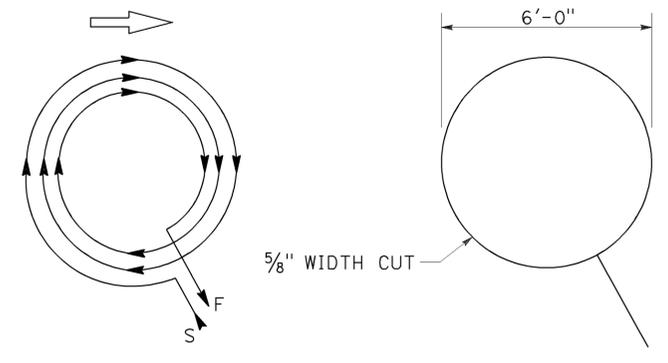
WINDING DETAIL  
SAWCUT DETAIL  
TYPE B LOOP DETECTOR CONFIGURATION



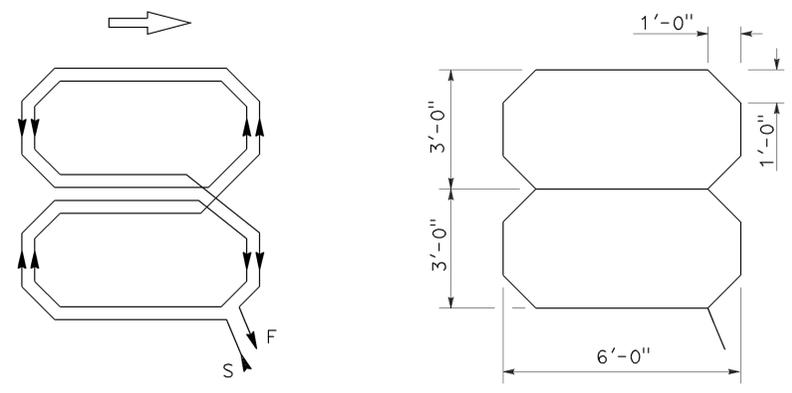
WINDING DETAIL  
SAWCUT DETAIL  
TYPE C LOOP DETECTOR CONFIGURATION



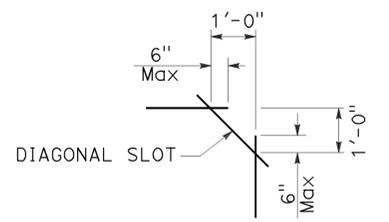
WINDING DETAIL  
SAWCUT DETAIL  
TYPE D LOOP DETECTOR CONFIGURATION



WINDING DETAIL  
SAWCUT DETAIL  
TYPE E LOOP DETECTOR CONFIGURATION



WINDING DETAIL  
SAWCUT DETAIL  
TYPE Q LOOP DETECTOR CONFIGURATION



PLAN VIEW OF  
DIAGONAL SLOT  
AT CORNERS

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

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**ELECTRICAL SYSTEMS  
(DETECTORS)**

NO SCALE

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

2010 REVISED STANDARD PLAN RSP ES-5B

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv Sbd	15	51.5/51.7 1.8/2.2	51	54

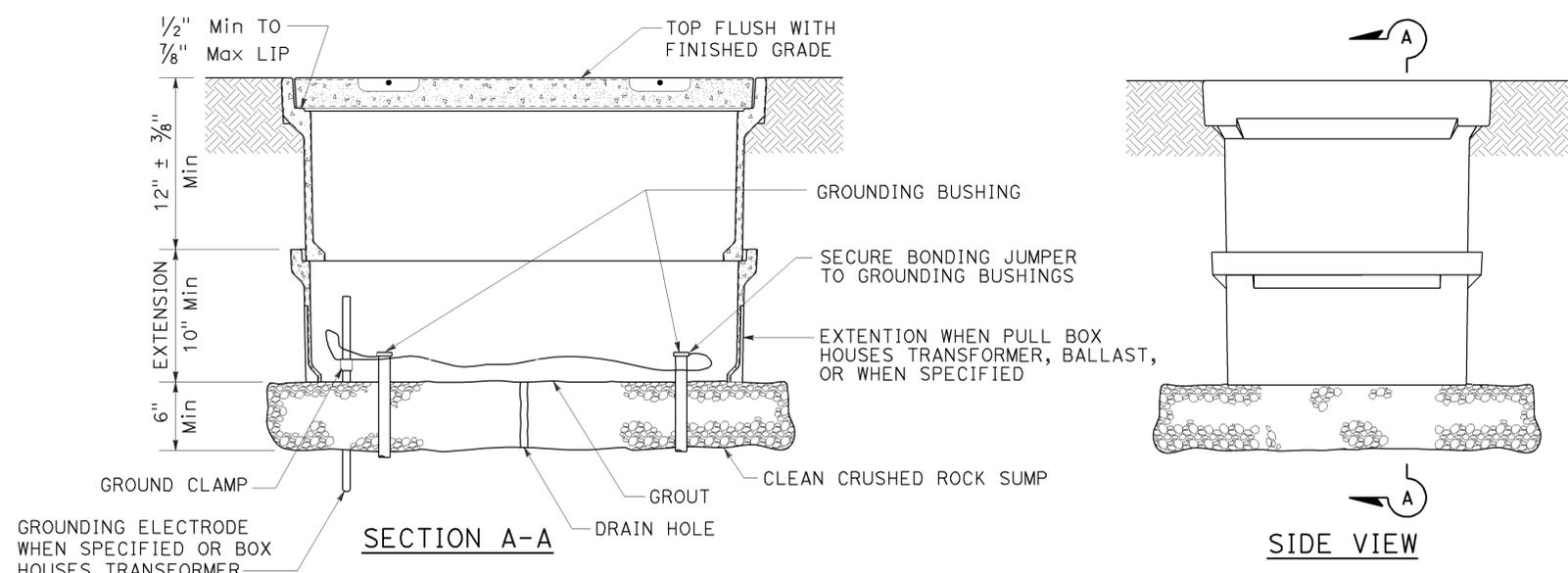
Theresa Gabriel  
REGISTERED ELECTRICAL ENGINEER

July 19, 2013  
PLANS APPROVAL DATE

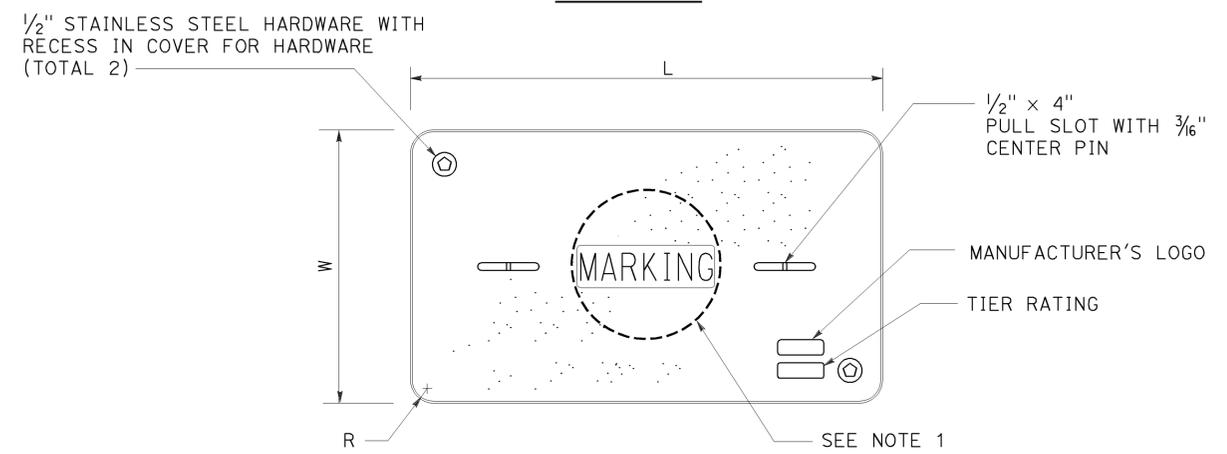
Theresa Aziz Gabriel  
No. E15129  
Exp. 6-30-14  
ELECTRICAL  
STATE OF CALIFORNIA

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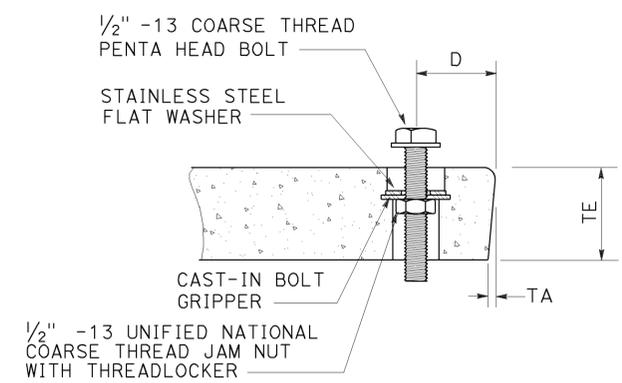
TO ACCOMPANY PLANS DATED 8-26-13



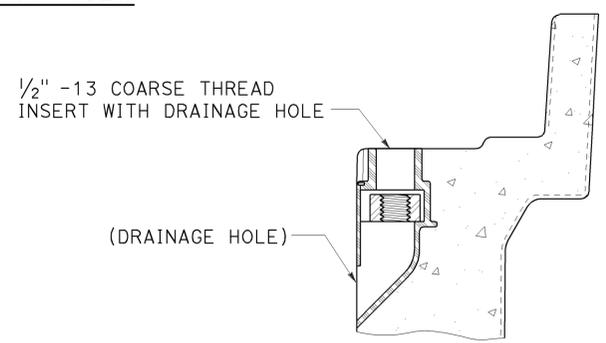
**INSTALLATION DETAILS**  
**DETAIL A**



**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
08	Riv SBd	15	51.5/51.7 1.8/2.2	52	54

*Gregory A. Balzer*  
LICENSED LANDSCAPE ARCHITECT

July 19, 2013  
PLANS APPROVAL DATE

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

TO ACCOMPANY PLANS DATED 8-26-13

**A**

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

**B**

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

**C**

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

**D**

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

**E**

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

**F**

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

**G**

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

**H**

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

**I**

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

**L**

L LENGTH

**M**

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

**N**

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

**O**

O/C ON CENTER  
 OD OUTSIDE DIAMETER  
 OL OVERLAP

**P**

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

**Q**

Q QUARTER CIRCLE  
 QCV QUICK COUPLING VALVE

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

**R**

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

**S**

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

**T**

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

**U**

UG UNDERGROUND

**W**

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

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

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

**REVISED STANDARD PLAN RSP H1**

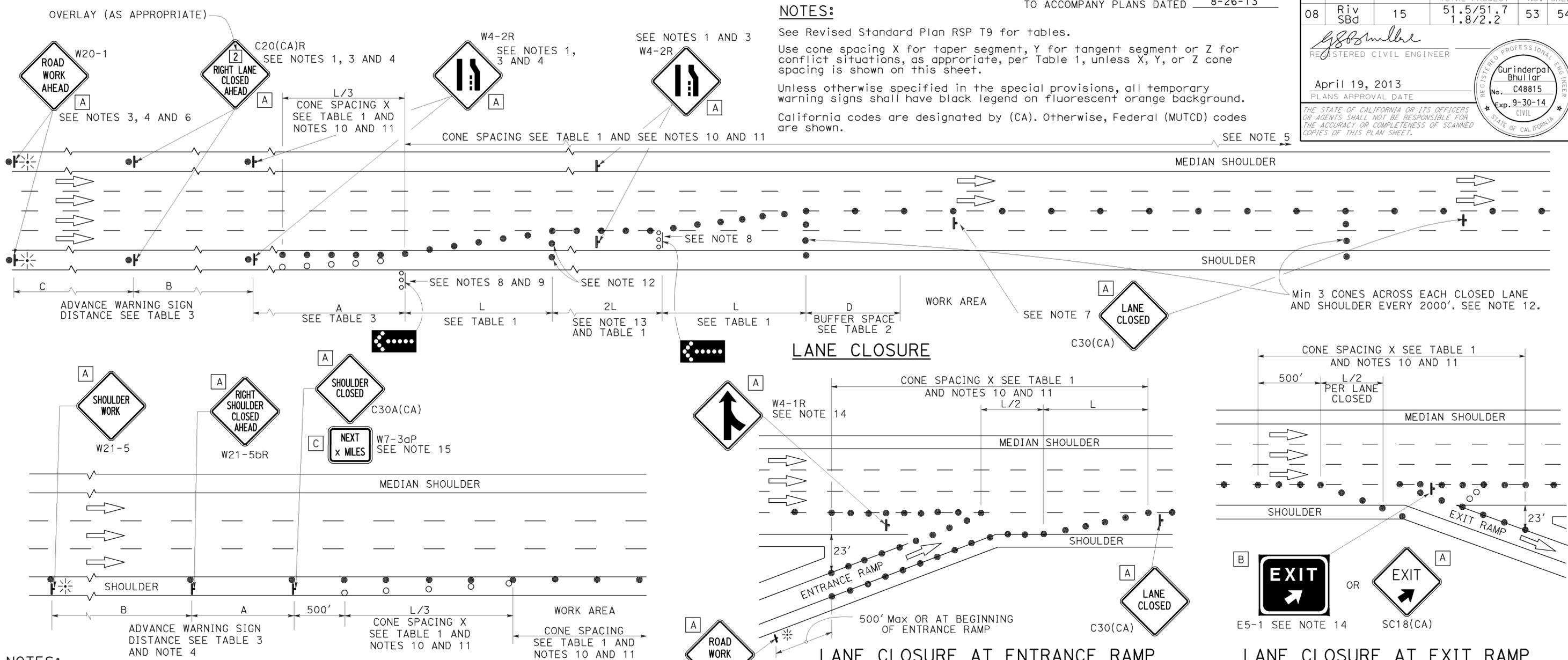
2010 REVISED STANDARD PLAN RSP H1

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv SBd	15	51.5/51.7 1.8/2.2	53	54

REGISTERED CIVIL ENGINEER  
 April 19, 2013  
 PLANS APPROVAL DATE

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

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



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

- LANE CLOSURE AT ENTRANCE RAMP**
- LANE CLOSURE AT EXIT RAMP**
12. Unless otherwise specified in the special provisions, a minimum of 3 cones shall be placed transversely across each closed lane and shoulder at each location where a taper across a traffic lane ends and every 2000' as shown on the "Lane Closure" detail. Two Type II barricades may be used instead of the 3 cones. The transverse alignment of the cones or barricades on the closed shoulder may be shifted from the transverse alignment to provide access to the work.
  13. Unless otherwise specified in the special provisions, the 2L tangent shown along lane lines shall be used between the L tapers required for each closed traffic lane.
  14. Unless otherwise specified in the special provisions, the E5-1 or SC18(CA) and W4-1 signs shall be used as shown.
  15. A W7-3aP "NEXT \_\_\_\_\_ MILES" plaque must be used if the shoulder closure extends beyond the distance that can be perceived by road users.

**LEGEND**

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

**SIGN PANEL SIZE (Min)**

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

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

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

NO SCALE

RSP T10 DATED APRIL 19, 2013 SUPERSEDES STANDARD PLAN T10 DATED MAY 20, 2011 - PAGE 237 OF THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP T10**

2010 REVISED STANDARD PLAN RSP T10

# 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

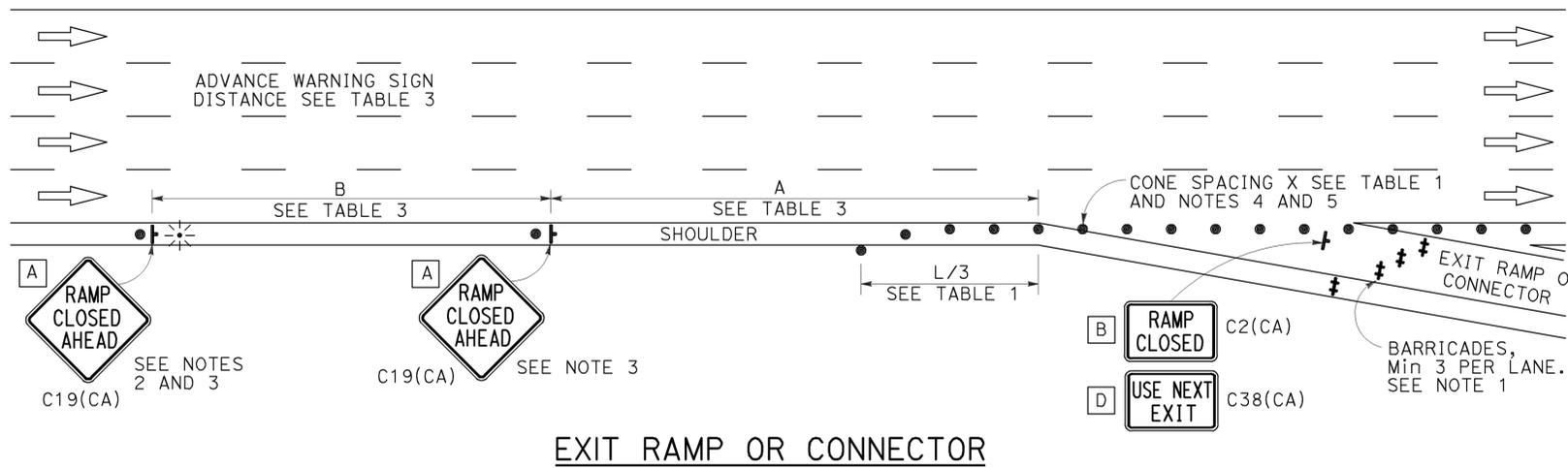
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv Sbd	15	51.5/51.7 1.8/2.2	54	54

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

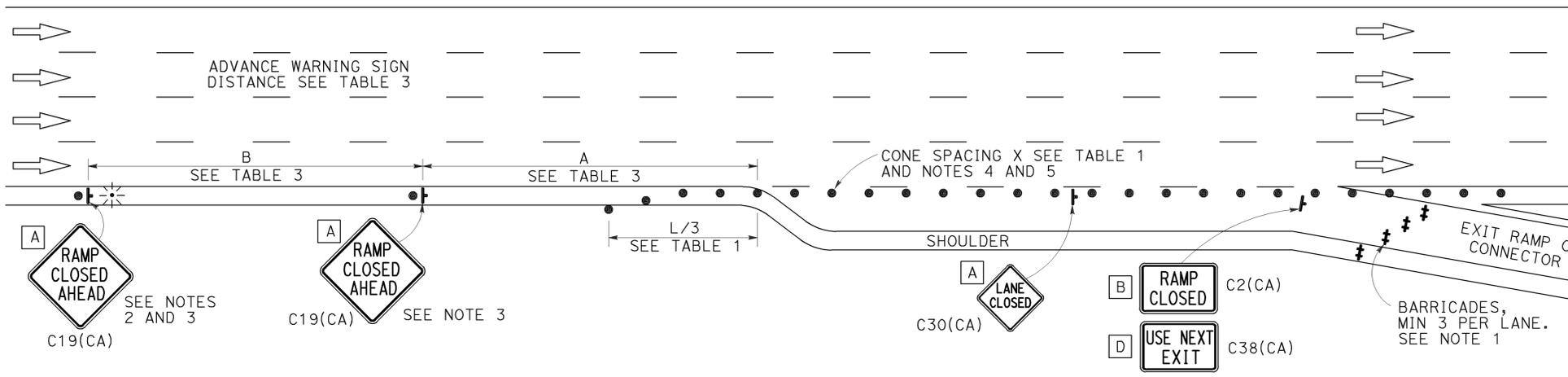
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TO ACCOMPANY PLANS DATED 8-26-13

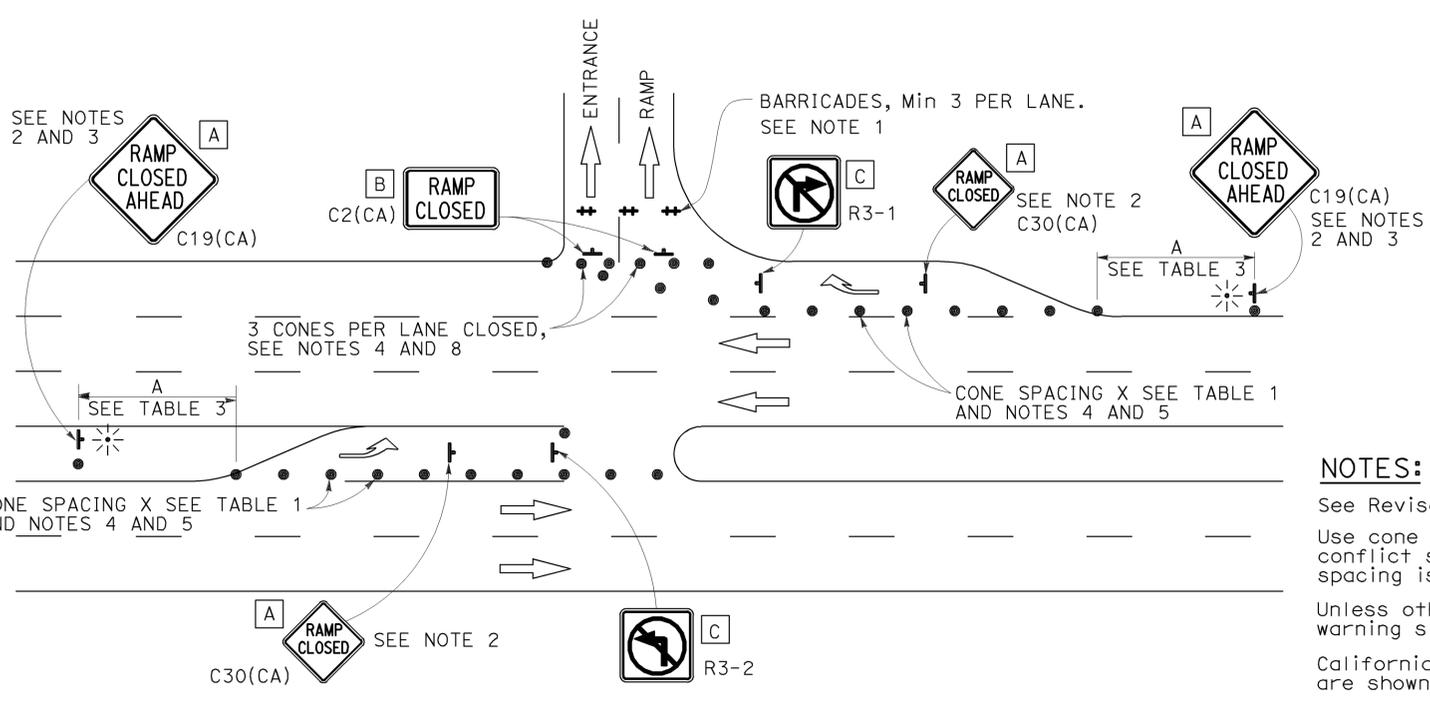
2010 REVISED STANDARD PLAN RSP T14



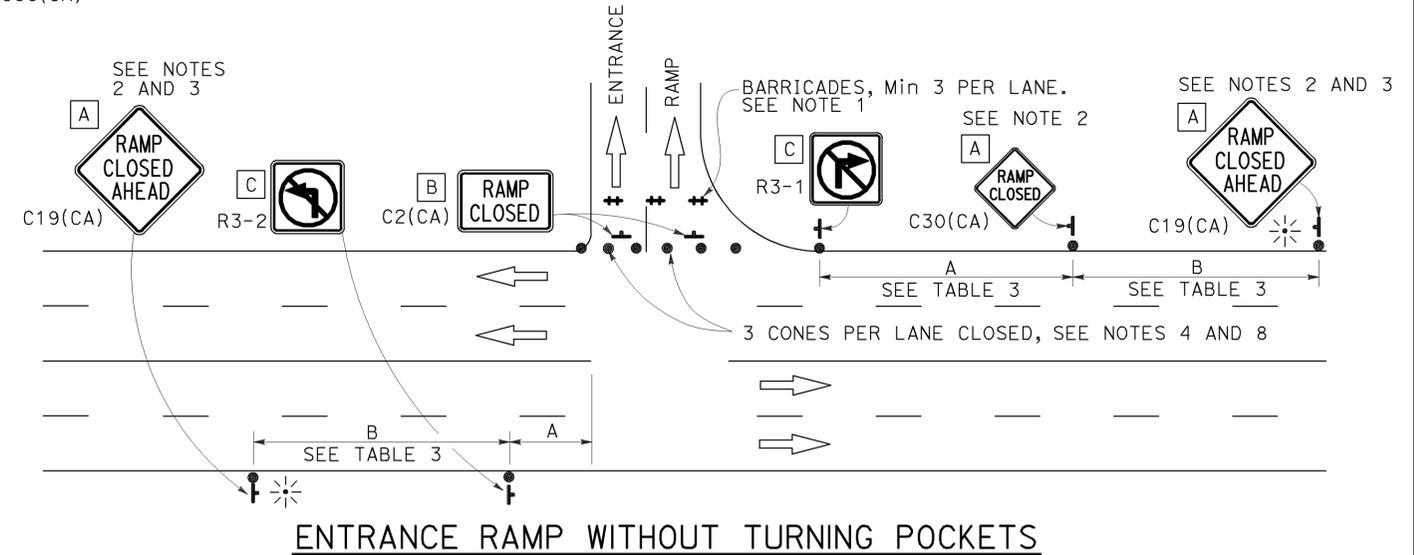
EXIT RAMP OR CONNECTOR



EXIT RAMP OR CONNECTOR WITH ADDITIONAL LANE



ENTRANCE RAMP WITH TURNING POCKETS



ENTRANCE RAMP WITHOUT TURNING POCKETS

## NOTES:

1. See Revised Standard Plan RSP T9 for tables.
2. 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.
3. Unless otherwise specified in the special provisions, all temporary warning signs shall have black legend on fluorescent orange background.
4. California codes are designated by (CA). Otherwise, Federal (MUTCD) codes are shown.

## NOTES:

1. 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.
2. 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.
3. 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.
4. All cones used for ramp closures during the hours of darkness shall be fitted with retroreflective bands (or sleeves) as specified in the specifications.
5. Portable delineators, placed at one-half the spacing indicated for traffic cones, may be used instead of cones for daytime ramp closures only.
6. At least one person shall be assigned to provide full time maintenance of traffic control devices, unless otherwise directed by the Engineer.
7. The existing "EXIT" signs shall be covered during ramp closures.
8. A minimum of 3 cones shall be placed transversely across each closed lane and shoulder.

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**