







**NOTE:**

THE QUANTITIES ON THIS SHEET ARE NOT SEPARATE PAY ITEMS AND ARE FOR INFORMATION ONLY.

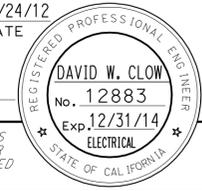
**COMMUNICATION CONDUIT**

SHEET No.	3" CONDUIT TYPE 1 IN BARRIER											
	LF	LF	EA	LF	LF	EA	EA	EA	EA	EA	EA	LF
E-26	825	660	725	-	-	-	-	2	4	2	600	
E-27	3,630	-	2,420	-	-	9	6	18	-	-	-	
E-28	4,290	-	2,860	-	-	9	6	21	-	-	-	
E-29	2,890	-	2,065	110	275	6	4	12	-	2	250	

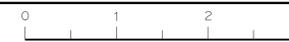
**FIBER OPTIC SYSTEM**

SHEET No.	2" CONDUIT TYPE 3															
	LF	LF	LF	LF	LF	LF	LF	EA	LF							
E-30	-	-	1,450	-	1,450	-	-	1	-	-	-	-	-	-	-	650
E-31	-	-	4,225	-	3,080	585	-	2	2	-	-	-	-	-	-	1,920
E-32	-	25	2,270	-	2,270	-	-	-	4	-	-	-	-	-	-	1,030
E-33	220	-	4,226	-	-	2,125	-	4	-	-	-	-	-	-	-	1,930
E-34	-	-	-	-	-	-	-	-	-	3	3	3	3	2	-	-
E-35	-	-	-	50	-	-	50	-	-	-	-	-	-	-	-	-

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	4,5	Var	304	486
David W. Clow REGISTERED ELECTRICAL ENGINEER			12/24/12	DATE	
7-22-13 PLANS APPROVAL DATE					
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.					
ALLIANCE ENGINEERING CONSULTANT, INC. 4701 PATRICK HENRY DR., #10 SANTA CLARA, CA 95054			SJCOG 555 E. WEBER Ave STOCKTON, CA 95202-2804		



**ELECTRICAL QUANTITIES**





**NOTE:**  
THE QUANTITIES ON THIS SHEET ARE NOT SEPARATE PAY ITEMS AND ARE FOR INFORMATION ONLY.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	4,5	Var	306	486

REGISTERED CIVIL ENGINEER: *S. Sakhamuri* DATE: 9/4/12  
 PLANS APPROVAL DATE: 7-22-13  
 No. 76343 Exp. 12/31/2014  
 SRILAKSHMI SAKHAMURI CIVIL ENGINEER  
 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.  
 RAJAPPAN & MEYER CONSULTING ENGINEERS INC. 1038 LEIGH AVE, SUITE 100 SAN JOSE, CA 95126  
 SJCOG 555 E. WEBER AVE. STOCKTON, CA 95202-2804

**SIGNAL AND LIGHTING (STAGE CONSTRUCTION)**

SHEET No.	DESCRIPTION	EA	LF
E-36	TYPE 16-1-100 POLE	1	
E-37	TYPE III CABINET, COORDINATE WITH PG&E	1	
	SIGNAL CABINET	1	
	TYPE 1-B POLE	1	
	WOOD SIGNAL POLE	4	
	SIGNAL HEADS	6	
	PED HEADS	2	
	REMOVE PULL BOXES	1	
	REMOVE CONCRETE PAD WITH 2-PULL BOXES	1	
	REMOVE WIRING NO LONGER NEEDED	1	
	REPAIR SIDEWALK AND GRADE TO MATCH EXISTING	1	

**SIGNAL AND LIGHTING (LOCATION 2)**

SHEET No.	DESCRIPTION	EA	LF
E-25	Exist SIGN TYPE 9B	1	
	Exist PULL BOX	1	

**TRAFFIC MONITORING STATION**

SHEET No.	DESCRIPTION	EA	LF
E-16	3" CONDUIT TYPE 1	500	
	2" CONDUIT TYPE 1	450	
	DETECTOR LOOP TYPE A (6'X6')	20	
	DLC		6,750
	No. 5 (T) PULL BOX	8	

**SIGNAL AND LIGHTING (LOCATION 2)**

SHEET No.	DESCRIPTION	EA	LF
E-22	TYPE III CF SERVICE CABINET		
E-23	TYPE III CF SERVICE CABINET FOUNDATION	1	
E-24	MODEL 332L CONTROLLER CABINET FOUNDATION	1	
	POLE TYPE 1-A	2	
	POLE TYPE 15TS	1	
	POLE TYPE 18-4-100 WITH 20ft MAST ARM	1	
	POLE TYPE 19-4-100 WITH 30ft MAST ARM	1	
	POLE TYPE 24-4-100 WITH 35ft MAST ARM	1	
	POLE TYPE 1-A CIDH PILE	2	
	POLE TYPE 15TS CIDH PILE	1	
	POLE TYPE 18-4-100 CIDH PILE	1	
	POLE TYPE 19-4-100 CIDH PILE	1	
	POLE TYPE 24-4-100 CIDH PILE	1	
	POLE TYPE 9B		
	POLE TYPE 9B CIDH PILE	1	
	SIGNAL HEAD & BACKPLATE 12" R,Y,G	7	
	SIGNAL HEAD & BACKPLATE 12" R,Y,G (ARROW)	6	
	4" CONDUIT TYPE 1		10
	3" CONDUIT TYPE 1		6
	2" CONDUIT TYPE 1		4
	4" CONDUIT TYPE 3		330
	3" CONDUIT TYPE 3		270
	2" CONDUIT TYPE 3		840
	DETECTOR LOOP TYPE A (6'X6')	30	
	INDUCTIVE DETECTOR LOOP TYPE D (6'X6')	6	
	PTZ CAMERA	1	
	165 W LED LUMINAIRE	3	
	CONDUCTOR No. 8		1,700
	CONDUCTOR No. 6		20
	12CSC		1,100
	EVC		625
	CCTV CABLE		320
	DLC		5,950
	EVD		3
	EMS		2
	No. 5 PULL BOX		1
	No. 5(T) PULL BOX		13
	No. 6(T)(E) PULL BOX		5
	INSTALL SIGN		6
	BATTERY BACK-UP		1

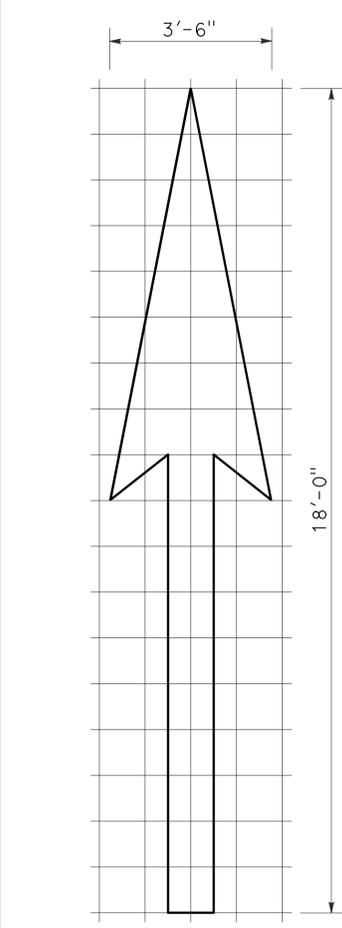
**ELECTRICAL QUANTITIES**

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	4,5	Var	307	486

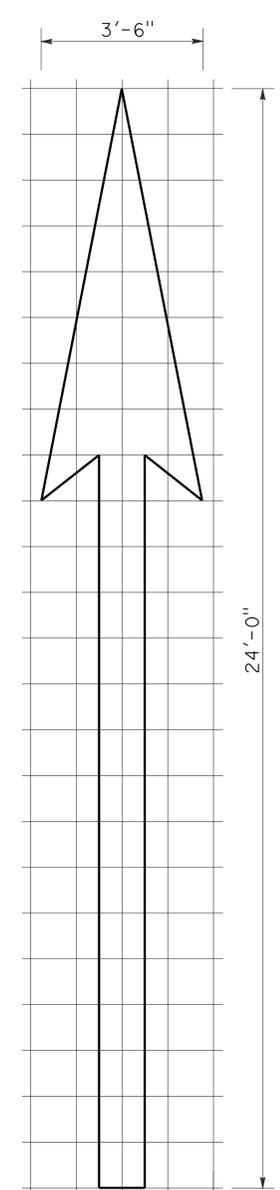
Roberto L. McLaughlin  
 REGISTERED CIVIL ENGINEER  
 April 20, 2012  
 PLANS APPROVAL DATE  
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

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

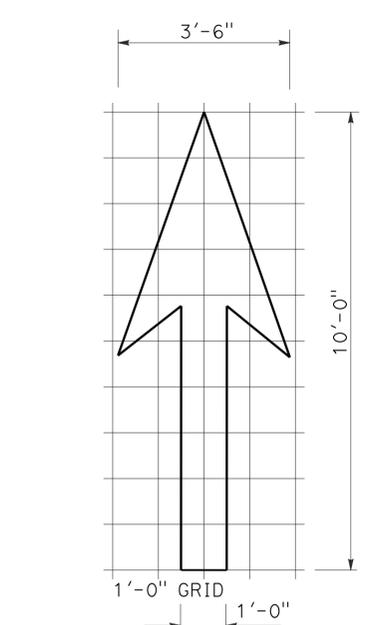
TO ACCOMPANY PLANS DATED 7-22-13



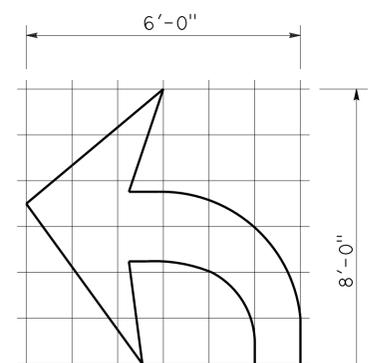
A=25 ft<sup>2</sup>  
**TYPE I 18'-0" ARROW**



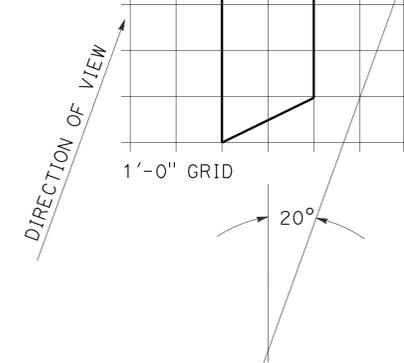
A=31 ft<sup>2</sup>  
**TYPE I 24'-0" ARROW**



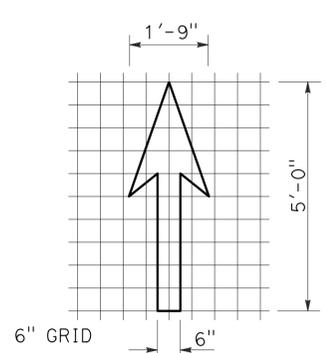
A=14 ft<sup>2</sup>  
**TYPE I 10'-0" ARROW**



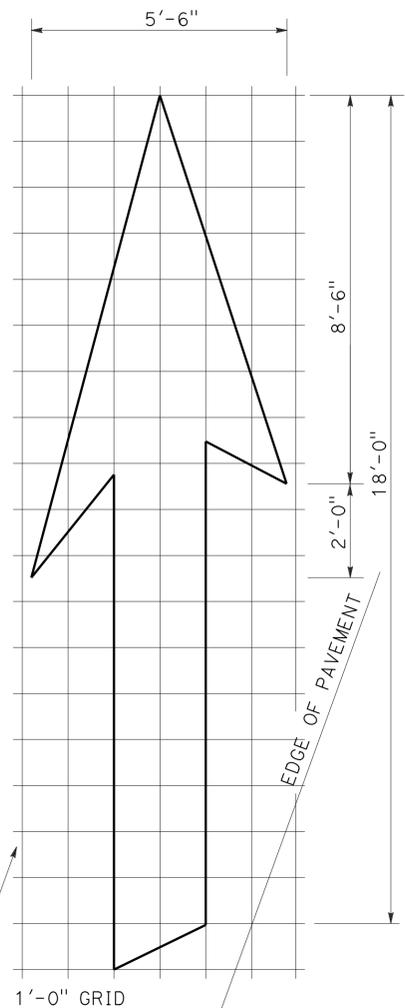
A=15 ft<sup>2</sup>  
**TYPE IV (L) ARROW**  
(For Type IV (R) arrow, use mirror image)



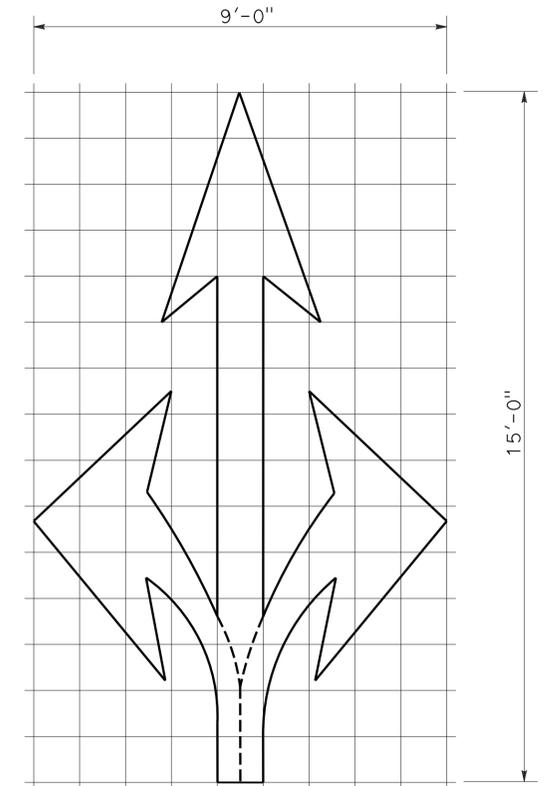
A=42 ft<sup>2</sup>  
**TYPE VI ARROW**  
Right lane drop arrow  
(For left lane, use mirror image)



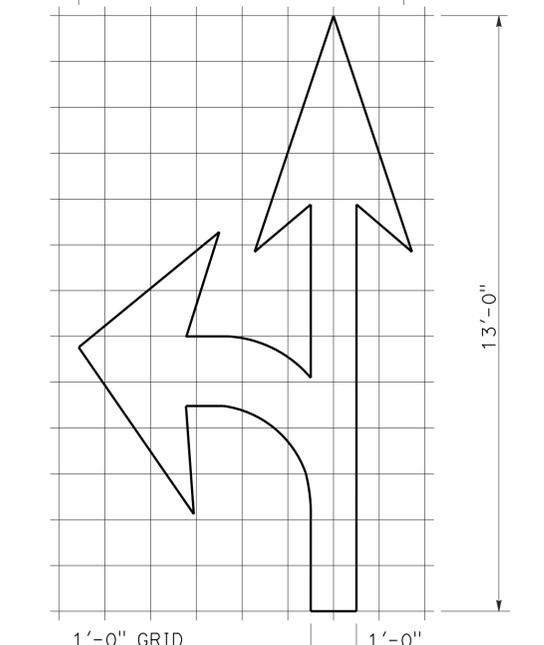
A=3.5 ft<sup>2</sup>  
**BIKE LANE ARROW**



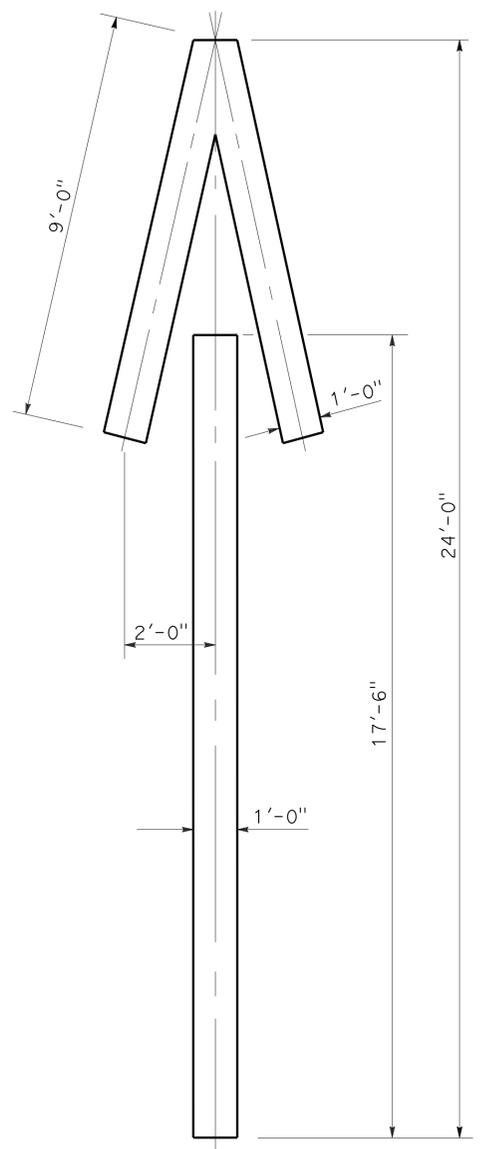
A=42 ft<sup>2</sup>  
**TYPE VIII ARROW**



A=36 ft<sup>2</sup>  
**TYPE VIII ARROW**



A=27 ft<sup>2</sup>  
**TYPE VII (L) ARROW**  
(For Type VII (R) arrow, use mirror image)



A=33 ft<sup>2</sup>  
**TYPE V ARROW**

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

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

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

**REVISED STANDARD PLAN RSP A24A**

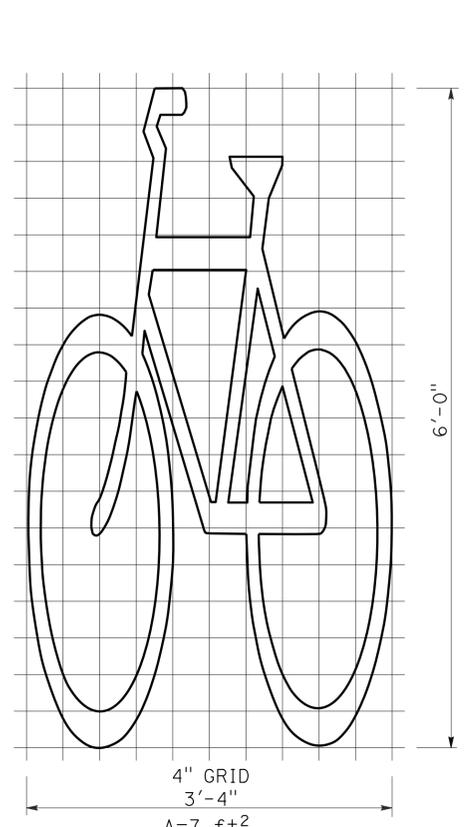
**2010 REVISED STANDARD PLAN RSP A24A**

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	4,5	Var	308	486

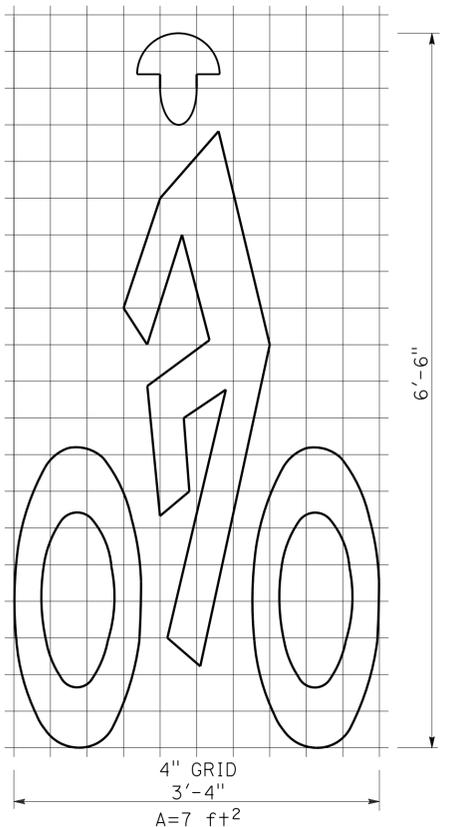
Registered Professional Engineer  
 Roberto L. McLaughlin  
 No. C40375  
 Exp. 3-31-13  
 CIVIL  
 STATE OF CALIFORNIA

October 19, 2012  
 PLANS APPROVAL DATE

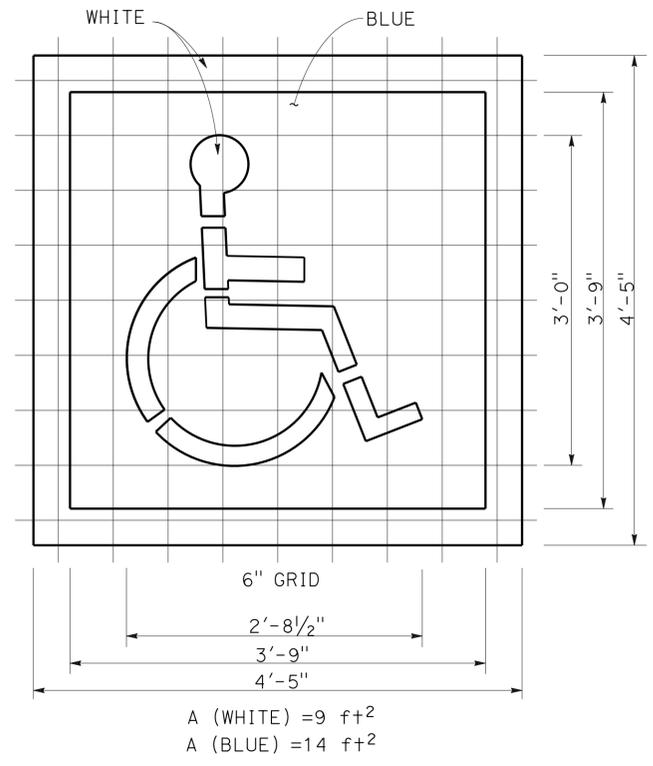
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



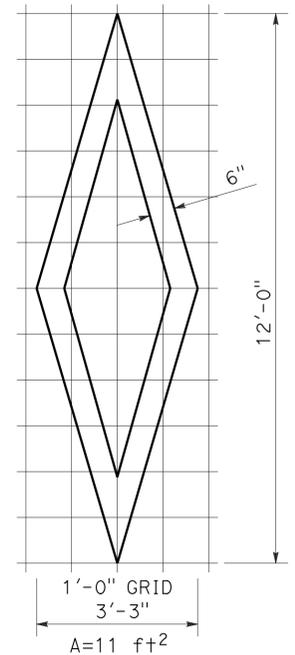
**BIKE LANE SYMBOL WITHOUT PERSON**



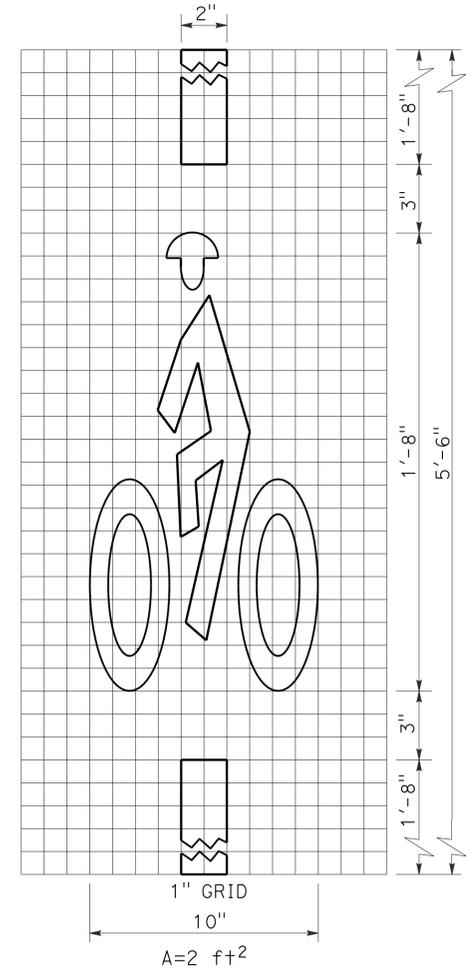
**BIKE LANE SYMBOL WITH PERSON**



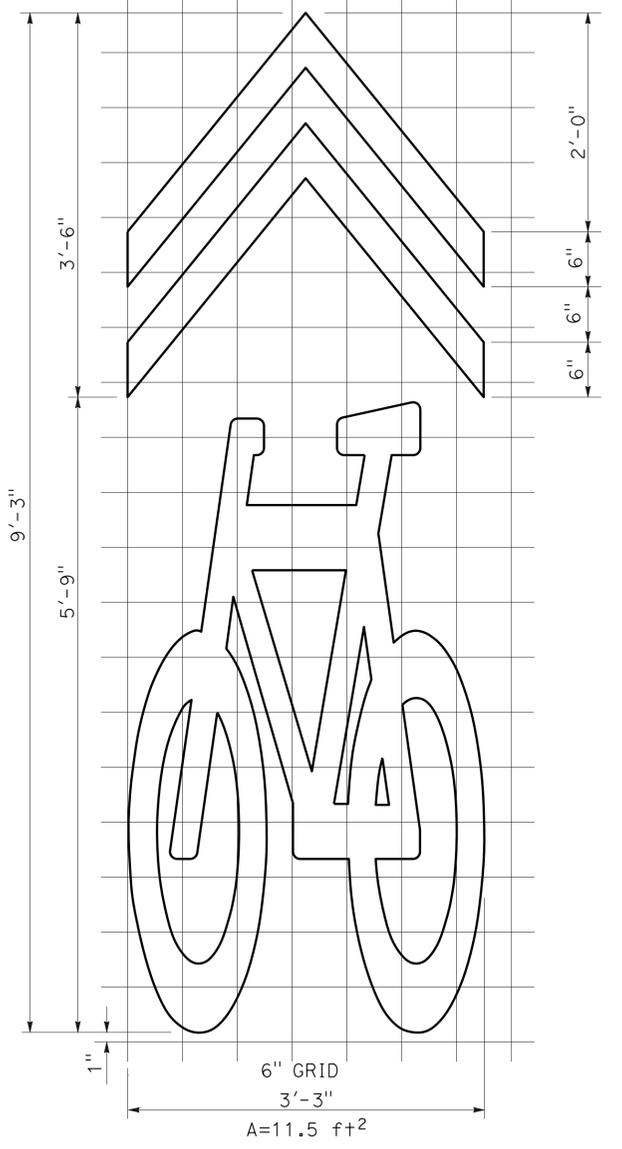
**INTERNATIONAL SYMBOL OF ACCESSIBILITY (ISA) MARKING**



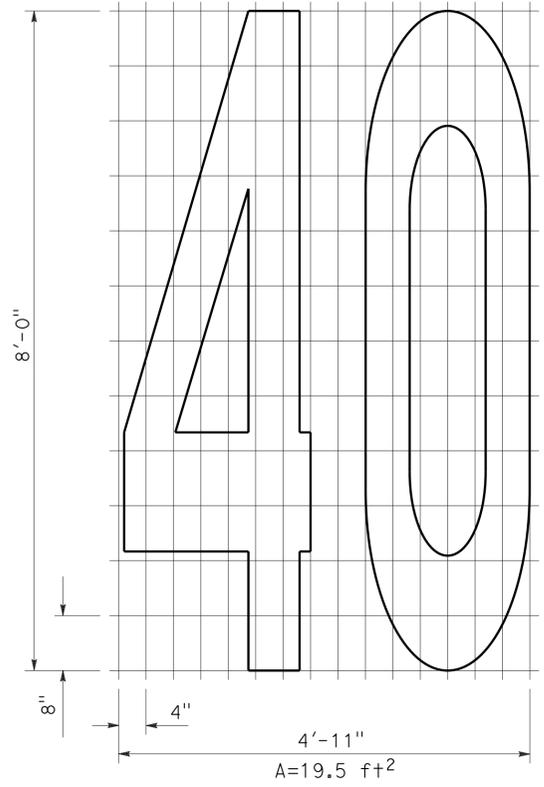
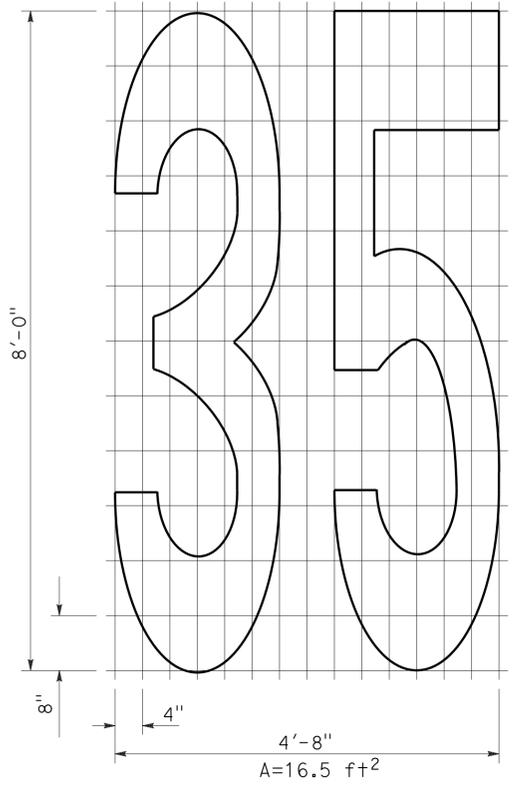
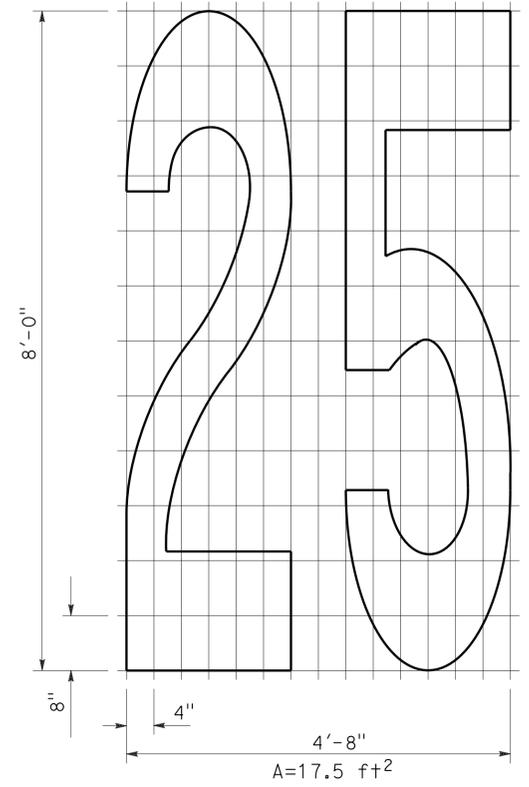
**DIAMOND SYMBOL**



**BICYCLE LOOP DETECTOR SYMBOL**



**SHARED ROADWAY BICYCLE MARKING**



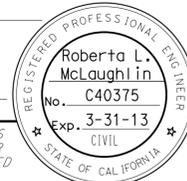
**NUMERALS**

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

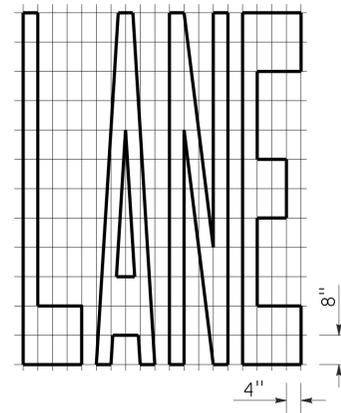
RSP A24C DATED OCTOBER 19, 2012 SUPERSEDES STANDARD PLAN A24C DATED MAY 20, 2011 - PAGE 15 OF THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP A24C**

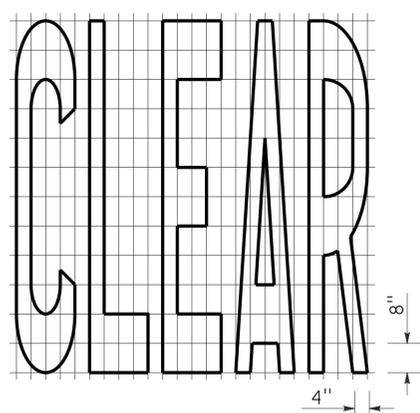
**2010 REVISED STANDARD PLAN RSP A24C**



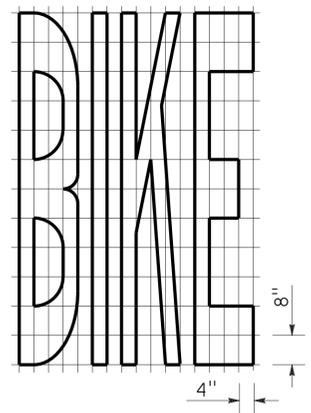
TO ACCOMPANY PLANS DATED 7-22-13



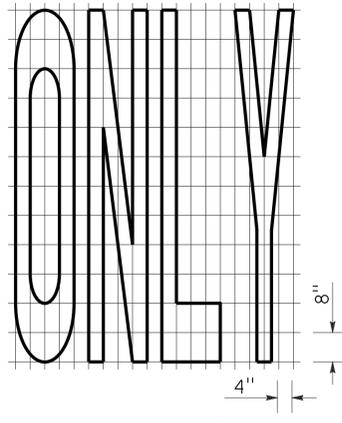
A=24 ft<sup>2</sup>



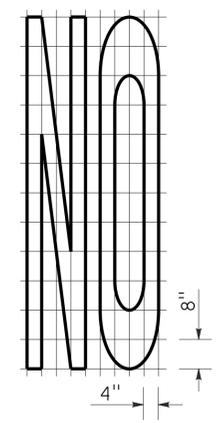
A=27 ft<sup>2</sup>



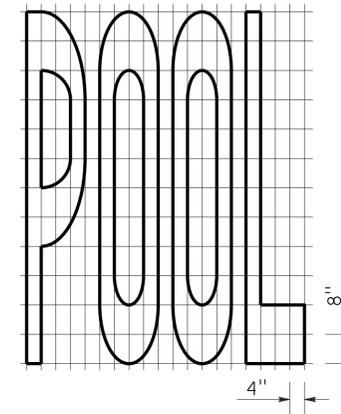
A=21 ft<sup>2</sup>



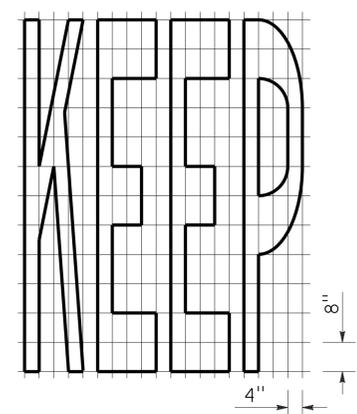
A=22 ft<sup>2</sup>



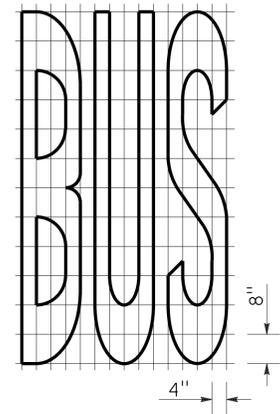
A=14 ft<sup>2</sup>



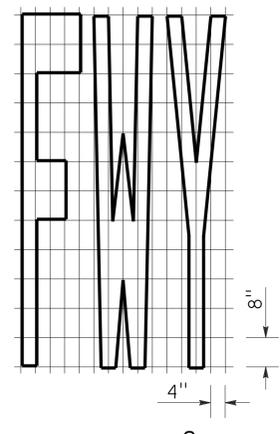
A=23 ft<sup>2</sup>



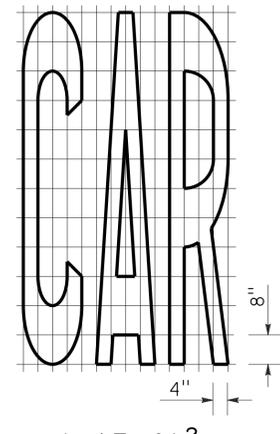
A=24 ft<sup>2</sup>



A=20 ft<sup>2</sup>

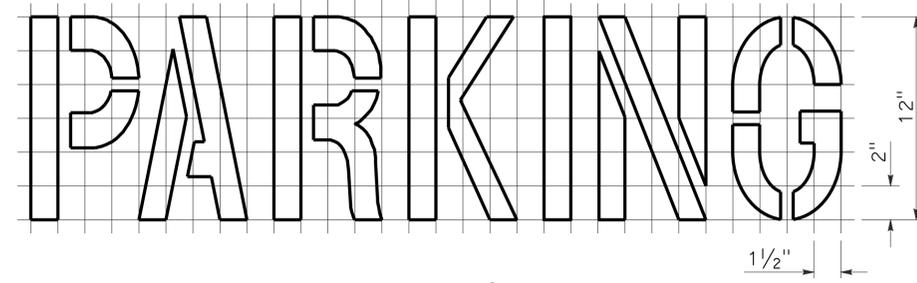
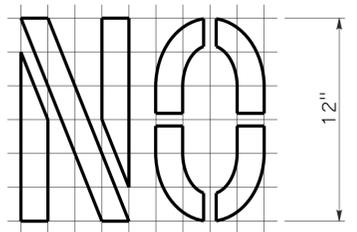


A=16 ft<sup>2</sup>

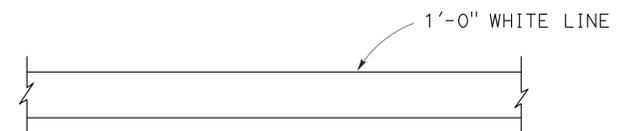


A=17 ft<sup>2</sup>

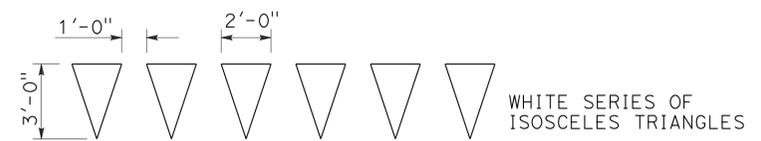
WORD MARKINGS			
ITEM	ft <sup>2</sup>	ITEM	ft <sup>2</sup>
LANE	24	NO	14
POOL	23	BIKE	21
CAR	17	BUS	20
CLEAR	27	ONLY	22
KEEP	24	FWY	16



A=2 ft<sup>2</sup>  
See Notes 6 and 7



LIMIT LINE (STOP LINE)



YIELD LINE

**NOTES:**

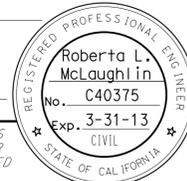
1. If a message consists of more than one word, it should read "UP", i.e., the first word should be nearest the driver.
2. The space between words should be at least four times the height of the characters for low speed roads, but not more than ten times the height of the characters. The space may be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

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
**PAVEMENT MARKINGS  
WORDS, LIMIT AND YIELD LINES**  
NO SCALE

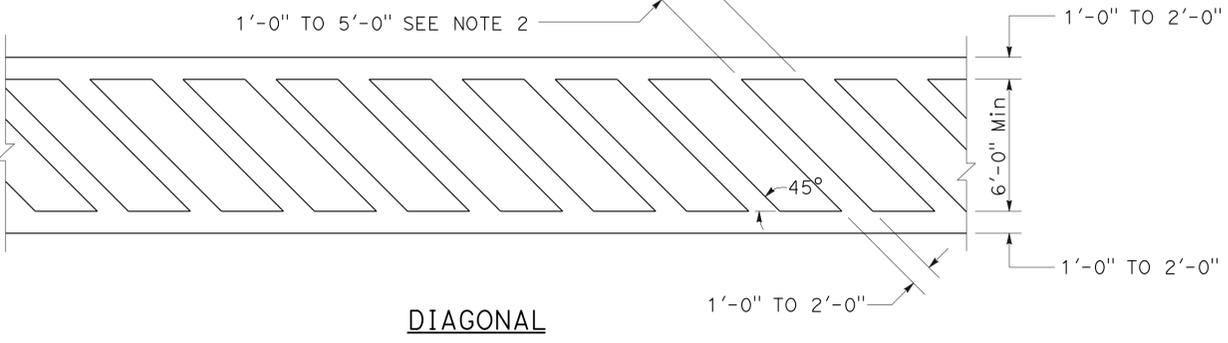
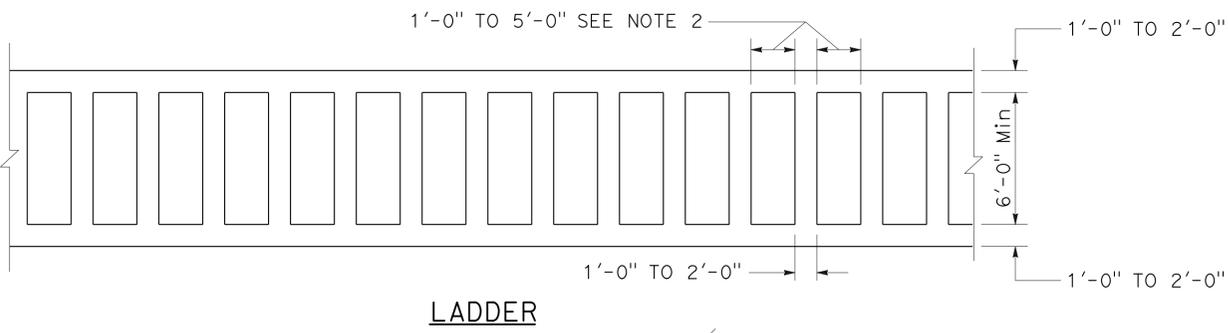
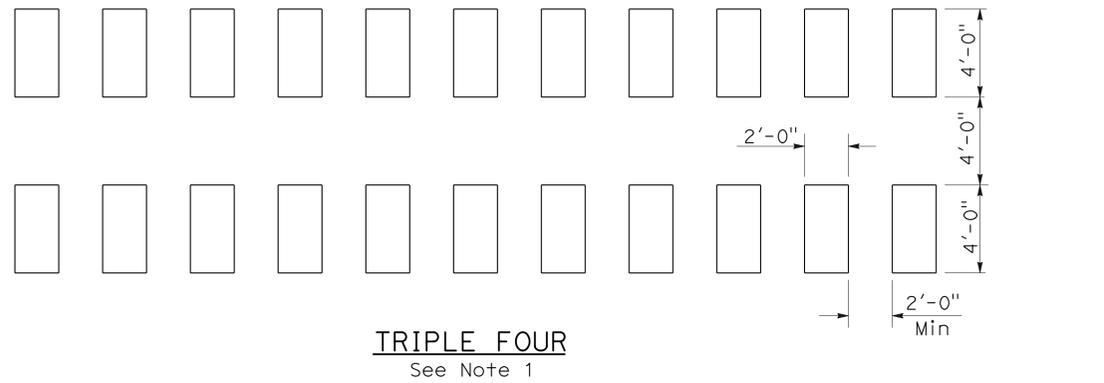
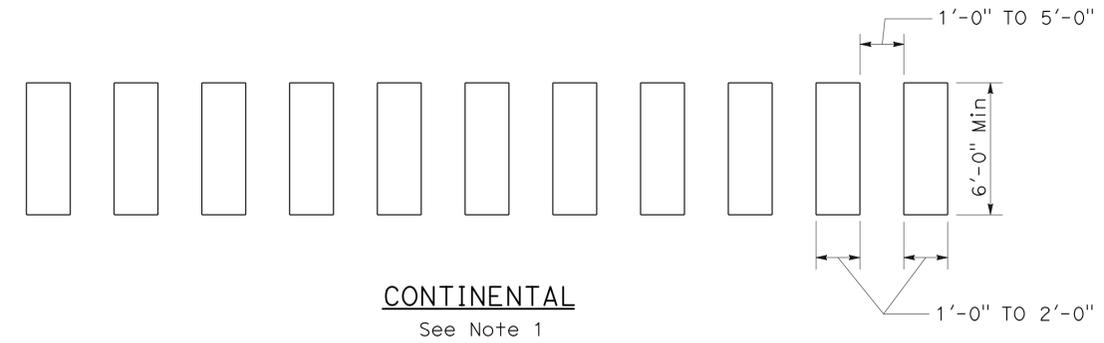
RSP A24E DATED JULY 20, 2012 SUPERSEDES STANDARD PLAN A24E  
DATED MAY 20, 2011 - PAGE 17 OF THE STANDARD PLANS BOOK DATED 2010.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	4,5	Var	310	486

 REGISTERED CIVIL ENGINEER		
July 20, 2012 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>		

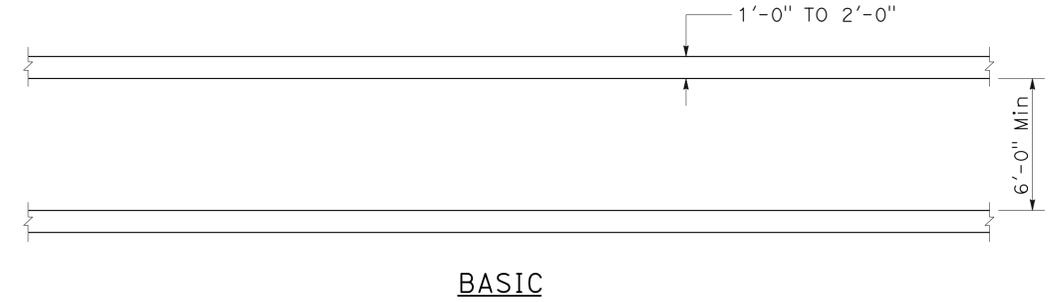
TO ACCOMPANY PLANS DATED 7-22-13



**HIGHER VISIBILITY CROSSWALKS**

**NOTES:**

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



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

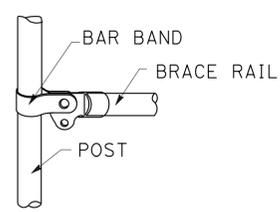
RSP A24F DATED JULY 20, 2012 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

**2010 REVISED STANDARD PLAN RSP A24F**

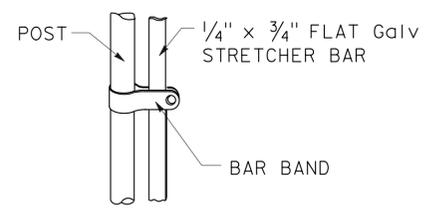
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	4,5	Var	311	486

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

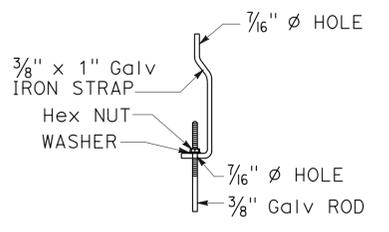
REGISTERED PROFESSIONAL ENGINEER  
 Glenn DeCou  
 No. C34547  
 Exp. 9-30-13  
 CIVIL  
 STATE OF CALIFORNIA



**BRACE RAIL**



**STRETCHER BAR**

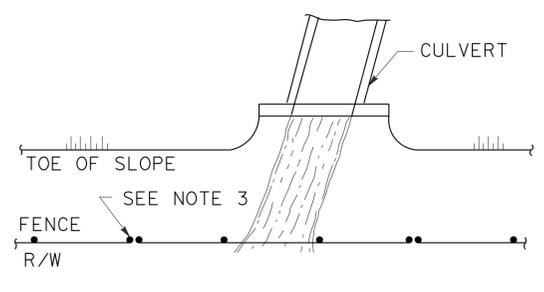


**TRUSS TIGHTENER**

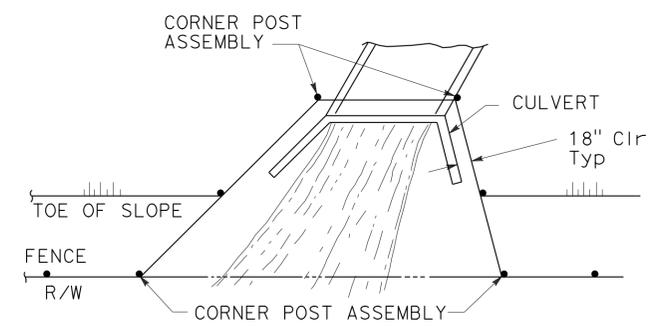
**NOTES:**

1. All material for abutment connection to be galvanized.
2. The chain link fabric shall be replaced by barbed wire strands at 12" maximum centers between the double posts.
3. When the width of the culvert makes it necessary to anchor a post to the top of the culvert, a cast iron shoe or other device approved by the Engineer shall be used.
4. Fencing over stream and around headwall may also use Barbed Wire or Wire Mesh fencing with either wood post or steel post installation.
5. See Standard Plan A85 for Chain Link fence dimensions. See Standard Plan A86 for Barbed Wire and Wire Mesh fence dimensions and for wood post and steel post installation.

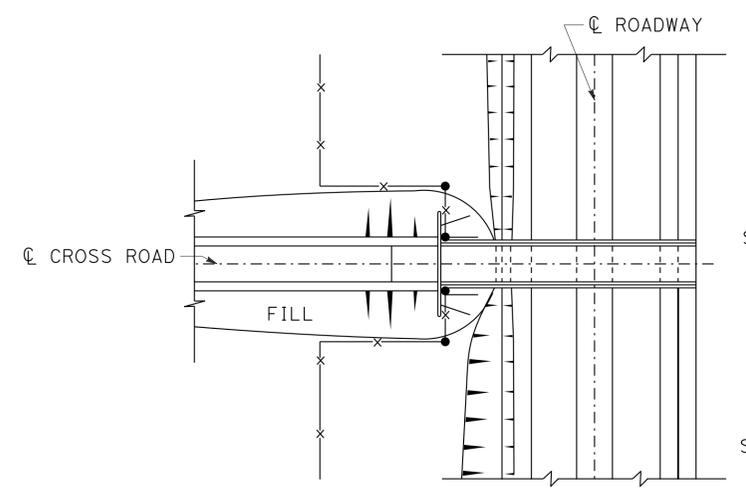
TO ACCOMPANY PLANS DATED 7-22-13



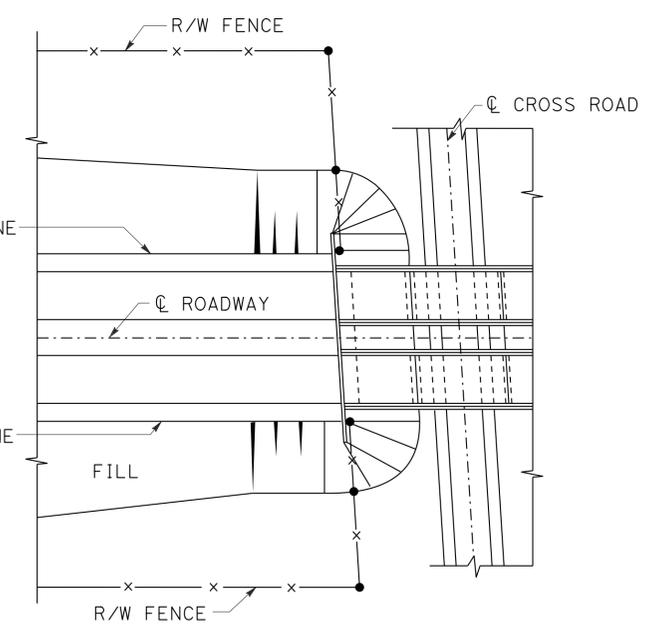
**PLAN**



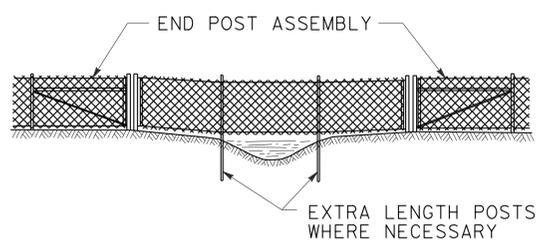
**PLAN**



**PLAN OF ROADWAY - OVERCROSSING**

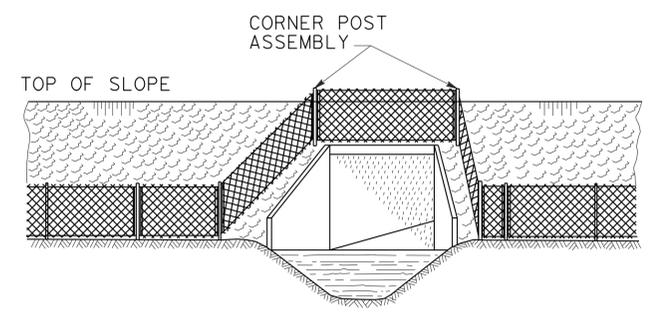


**PLAN OF ROADWAY - UNDERCROSSING**



**ELEVATION**

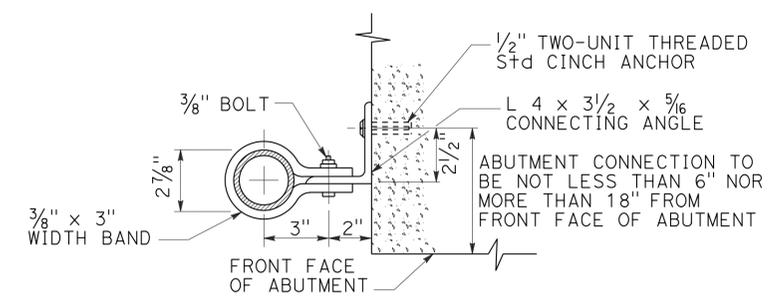
**INSTALLATION OVER STREAM**



**ELEVATION**

**INSTALLATION AROUND HEADWALL**

See Note 4



**ABUTMENT CONNECTION**

**TYPICAL INSTALLATION AT BRIDGES**

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
**CHAIN LINK FENCE DETAILS**  
 NO SCALE

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

**REVISED STANDARD PLAN RSP A85B**

**2010 REVISED STANDARD PLAN RSP A85B**



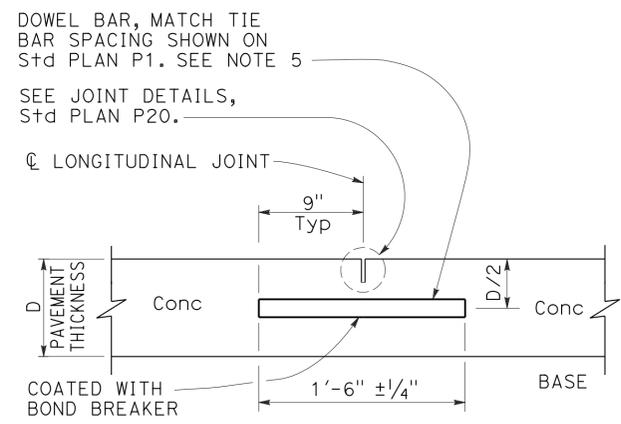
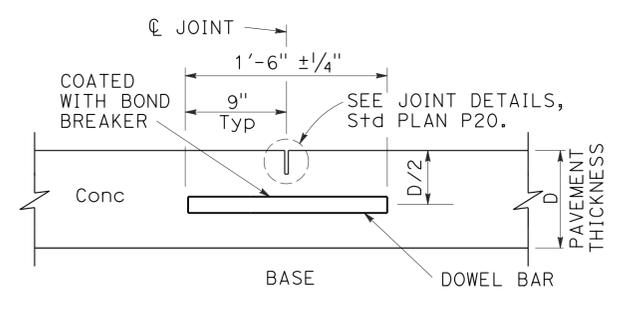
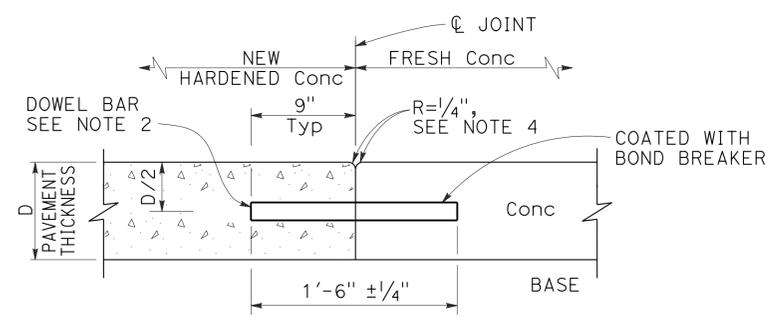
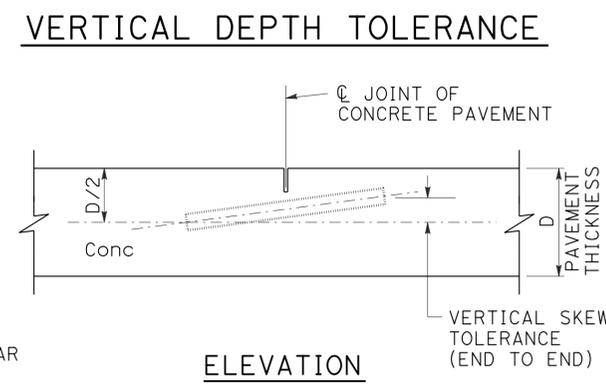
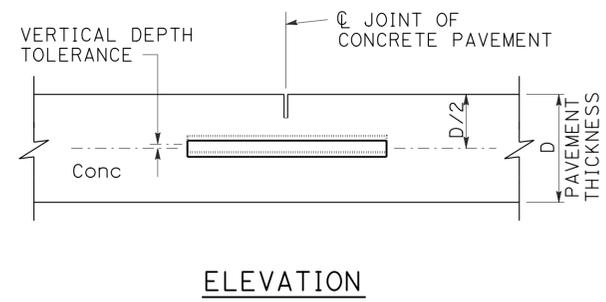
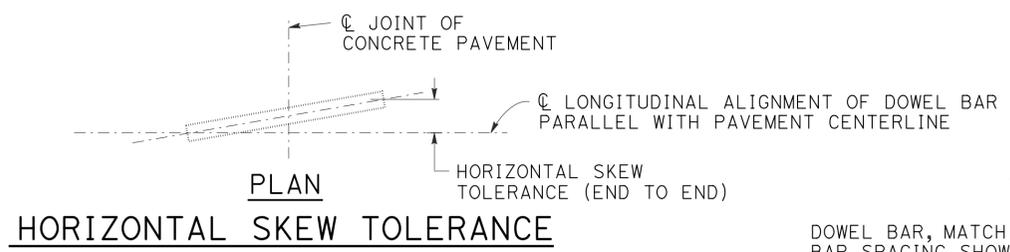
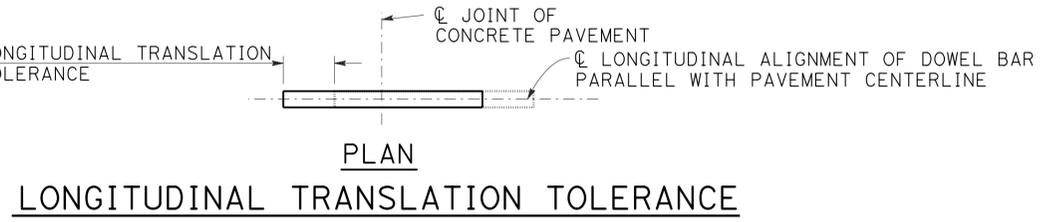
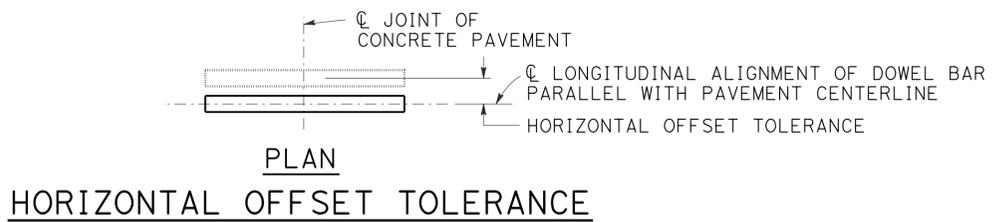
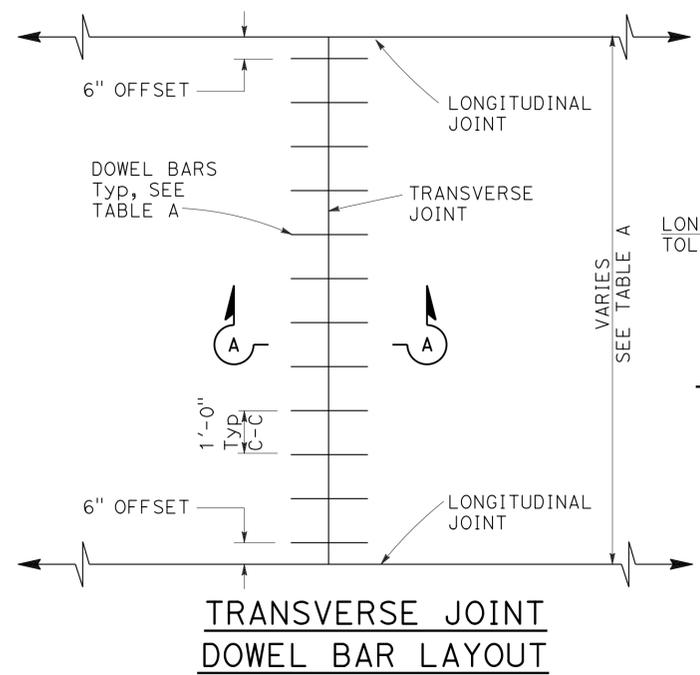
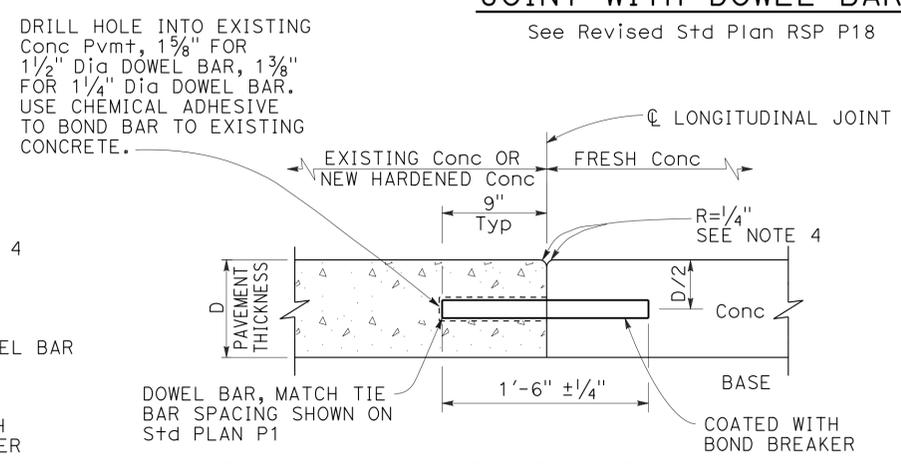
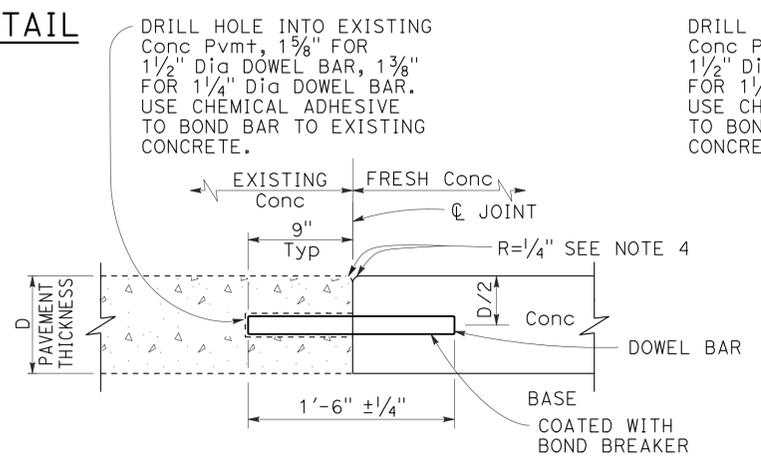


TABLE A (See Note 3)

DOWEL BAR TRANSVERSE SPACING TABLE

WIDTH BETWEEN LONGITUDINAL JOINTS	NUMBER OF DOWELS BETWEEN LONGITUDINAL JOINTS
14'-0"	14
13'-0"	13
12'-0"	12
11'-0"	11
10'-0"	10
8'-0"	8
5'-0"	5
4'-0"	4



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

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

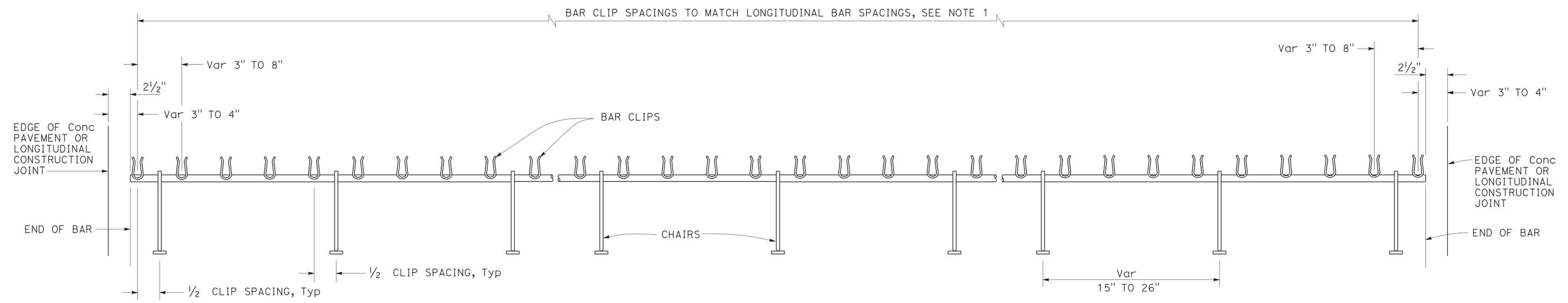
**REVISED STANDARD PLAN RSP P10**

2010 REVISED STANDARD PLAN RSP P10

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	4,5	Var	314	486

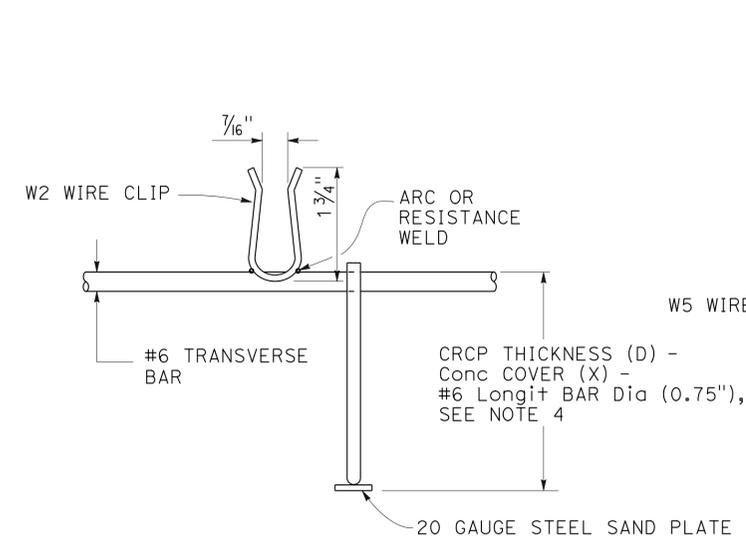
William K. Farnbach  
 REGISTERED CIVIL ENGINEER  
 October 19, 2012  
 PLANS APPROVAL DATE  
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

TO ACCOMPANY PLANS DATED 7-22-13

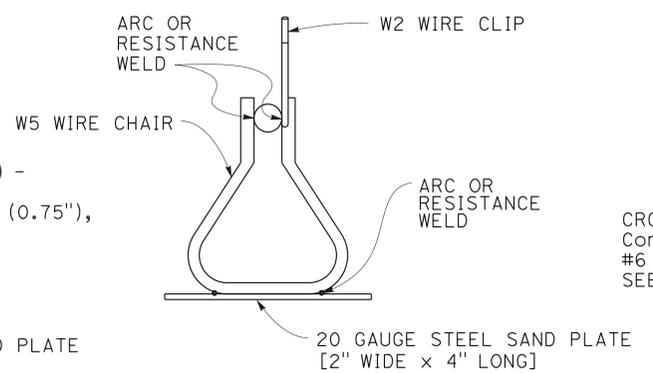


**TRANSVERSE BAR ASSEMBLY**

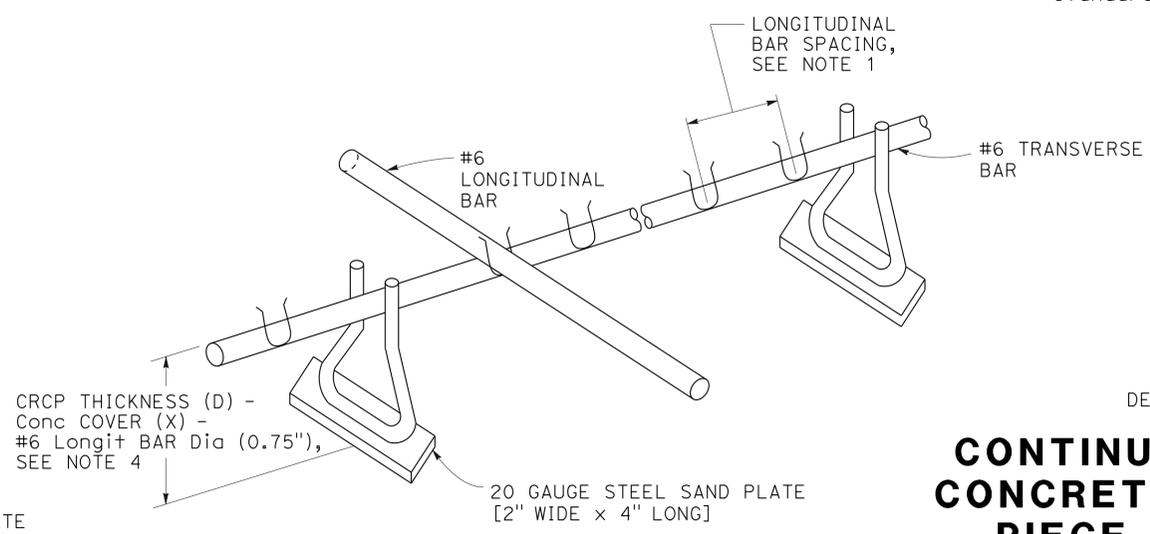
- NOTES:**
1. See Revised Standard Plan RSP P4 for spacing of longitudinal bars.
  2. Tensile strength of chair shall be at least 50,000 psi.
  3. Wire sizes shown are minimum required.
  4. For concrete cover (X), see Table 1 in Revised Standard Plan RSP P4.



**#6 BAR CLIP DETAIL**



**CHAIR DETAIL**



**ISOMETRIC VIEW OF CHAIR ASSEMBLY**

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

**CONTINUOUSLY REINFORCED CONCRETE PAVEMENT-SINGLE PIECE TRANSVERSE BAR ASSEMBLY**

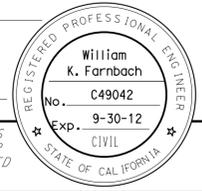
NO SCALE

RSP P13 DATED OCTOBER 19, 2012 SUPERSEDES STANDARD PLAN P13 DATED MAY 20, 2011 - PAGE 133 OF THE STANDARD PLANS BOOK DATED 2010.

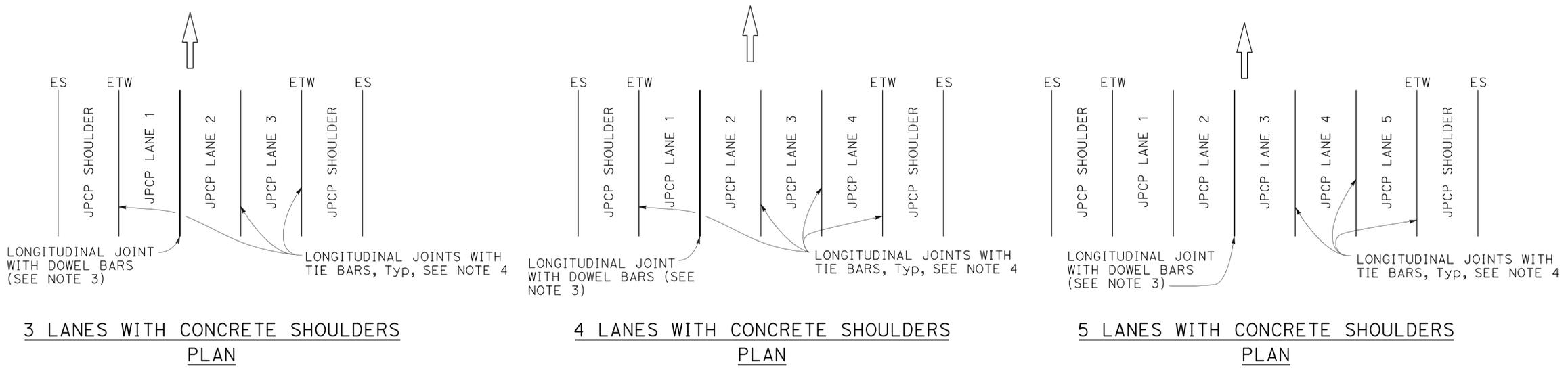
2010 REVISED STANDARD PLAN RSP P13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	4,5	Var	315	486

William K. Farnbach  
 REGISTERED CIVIL ENGINEER  
 April 20, 2012  
 PLANS APPROVAL DATE  
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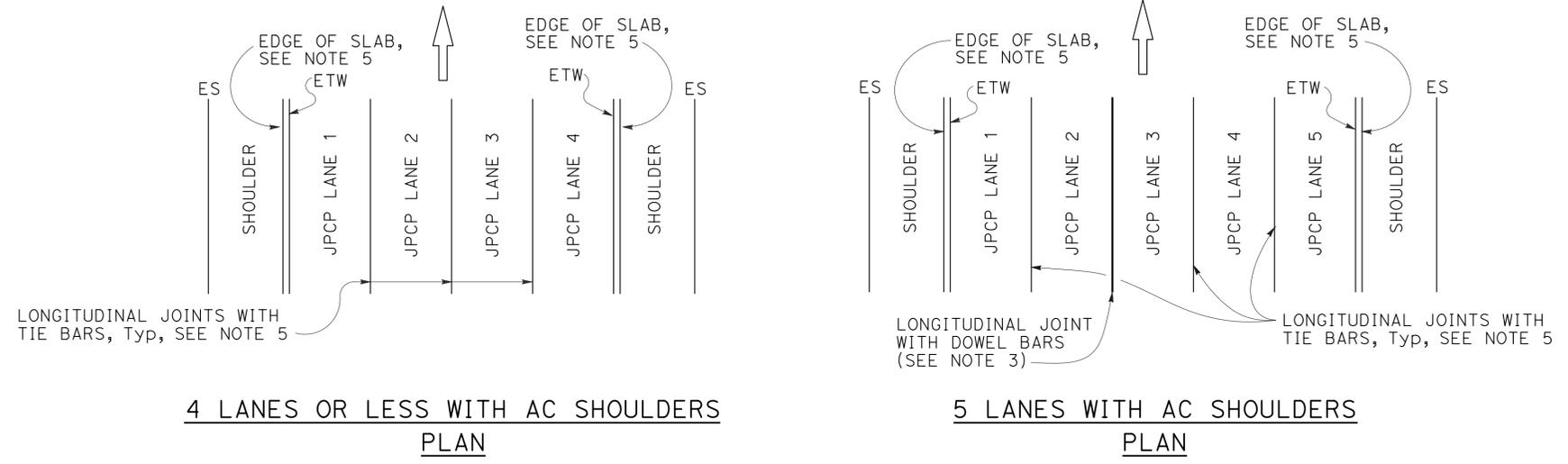


TO ACCOMPANY PLANS DATED 7-22-13

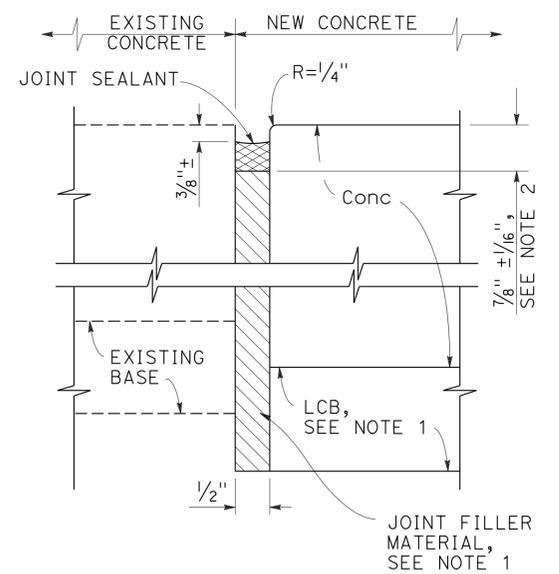
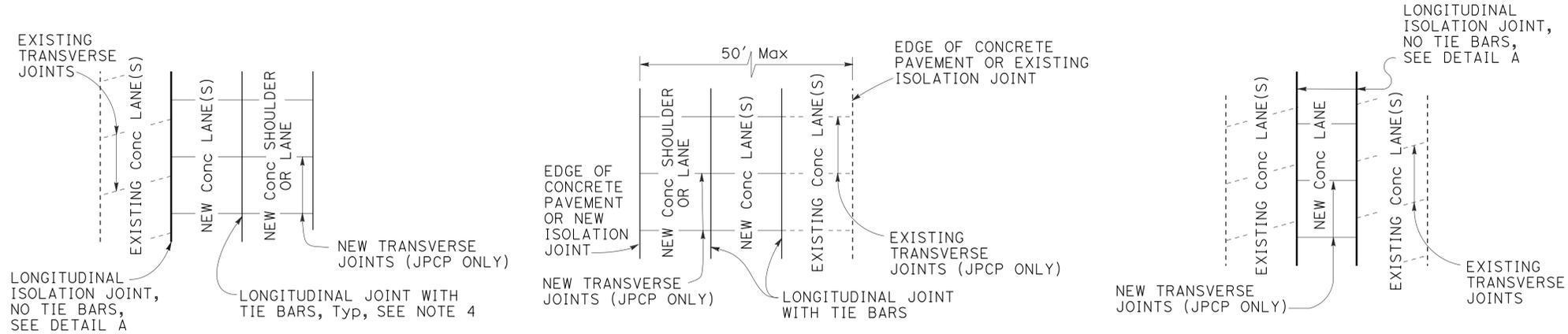


**NOTES:**

- Where Lean Concrete Base is not used as base material, the joint filler material used for the longitudinal isolation joint shall only extend to the bottom of the new concrete slab. See Detail A.
- Use  $\frac{5}{8}'' \pm \frac{1}{16}''$  dimension for silicone sealant.
- See Revised Standard Plan RSP P10 for longitudinal joint with dowel bars.
- See Standard Plan P1.
- See Standard Plan P2.



**NEW CONSTRUCTION**  
Location of Longitudinal Joints For JPCP



STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
**CONCRETE PAVEMENT-  
LANE SCHEMATICS  
AND ISOLATION JOINT DETAIL**  
NO SCALE

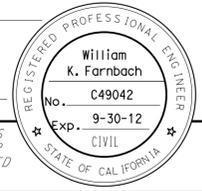
RSP P18 DATED APRIL 20, 2012 SUPERSEDES STANDARD PLAN P18  
DATED MAY 20, 2011 - PAGE 135 OF THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP P18**

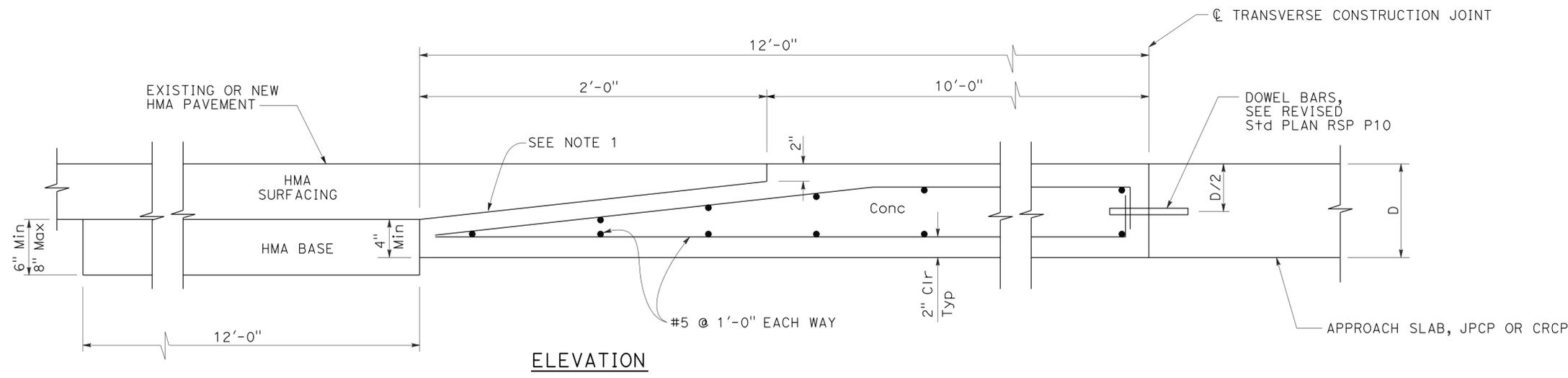
2010 REVISED STANDARD PLAN RSP P18

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	4,5	Var	316	486

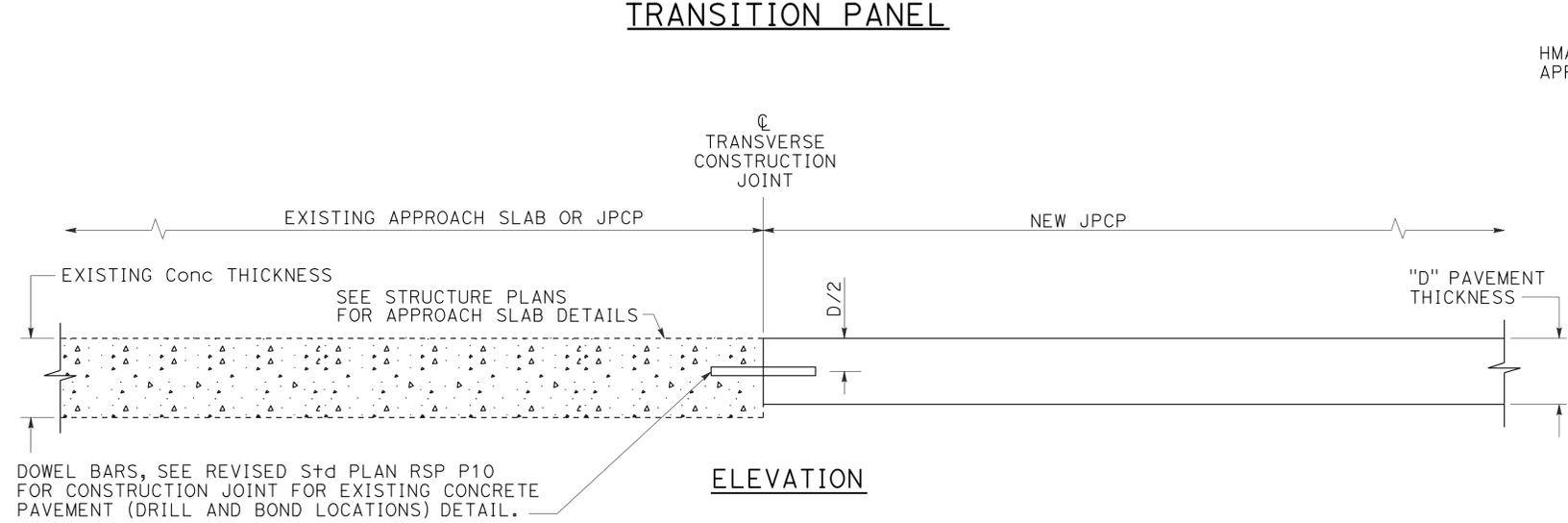
William K. Farnbach  
 REGISTERED CIVIL ENGINEER  
 April 20, 2012  
 PLANS APPROVAL DATE  
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



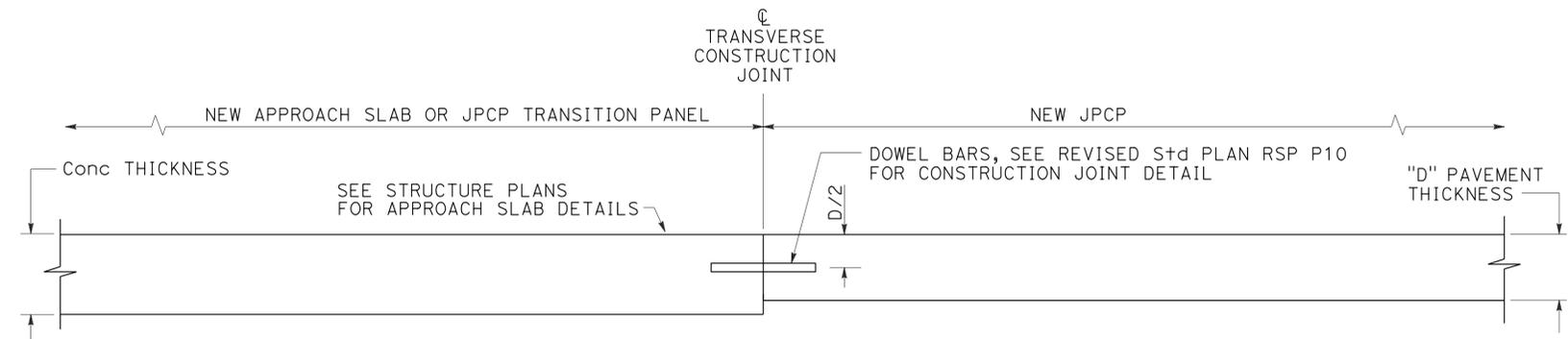
TO ACCOMPANY PLANS DATED 7-22-13



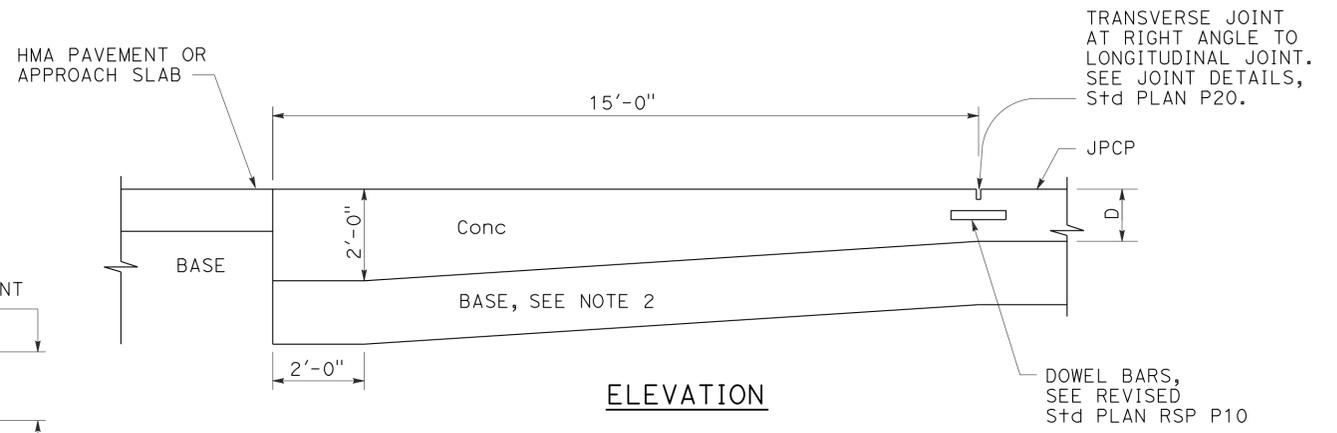
**ELEVATION**  
**CONCRETE PAVEMENT**  
**TRANSITION PANEL**



**ELEVATION**  
**TERMINAL JOINT TYPE 1**  
For Exist JPCP or Structure Approach Slab



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



**ELEVATION**  
**PAVEMENT END ANCHOR**  
For HMA Pvmt or Structure Approach Slab

- NOTES:**
1. Heavy broom finish.
  2. Maintain same base thickness as JPCP.

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

NO SCALE

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

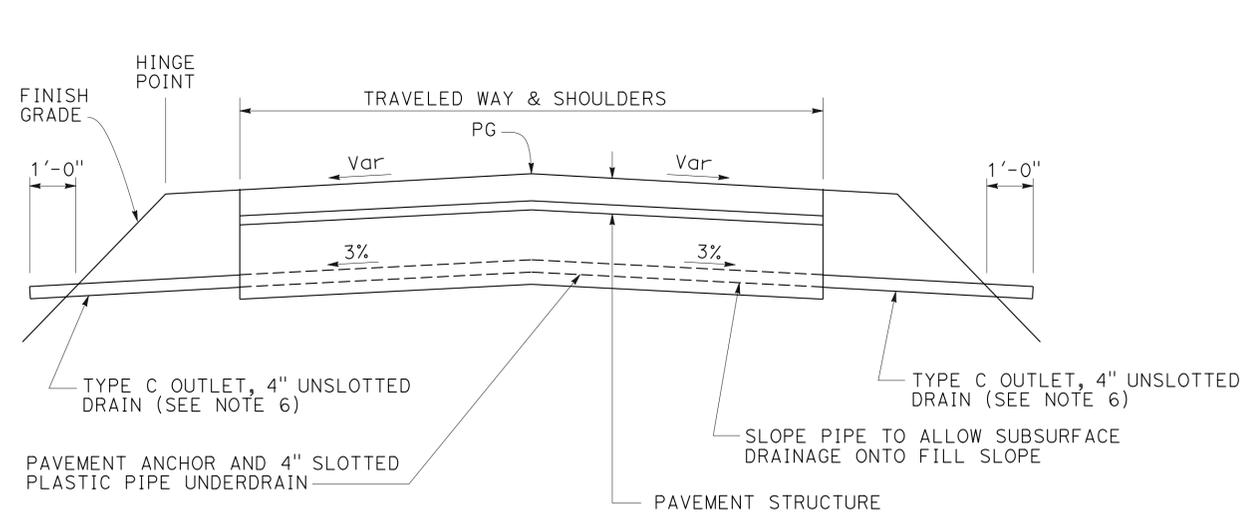
**REVISED STANDARD PLAN RSP P30**

2010 REVISED STANDARD PLAN RSP P30

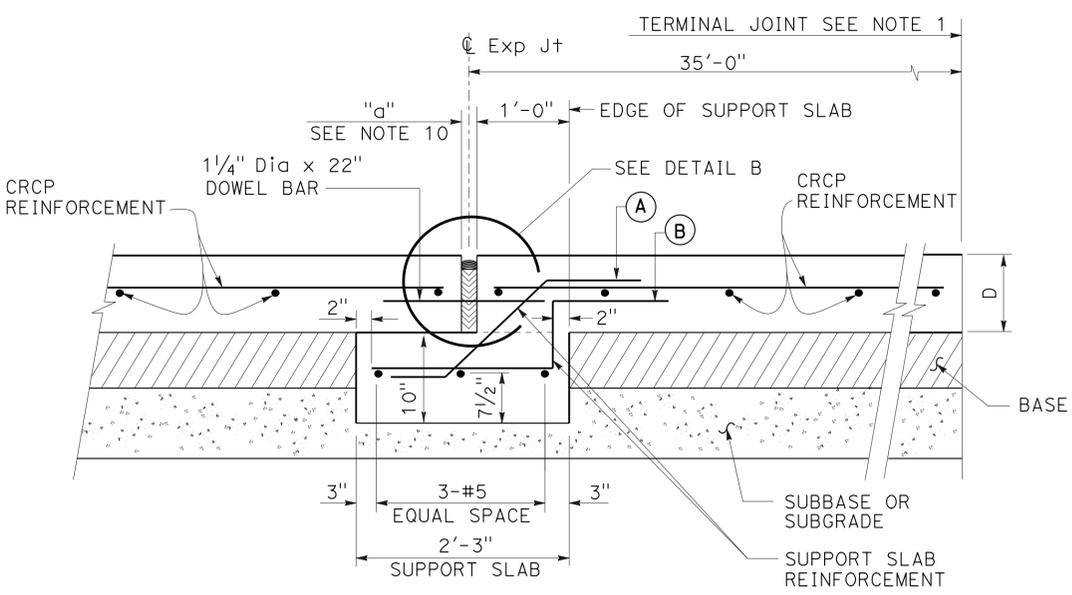
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	4,5	Var	317	486

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

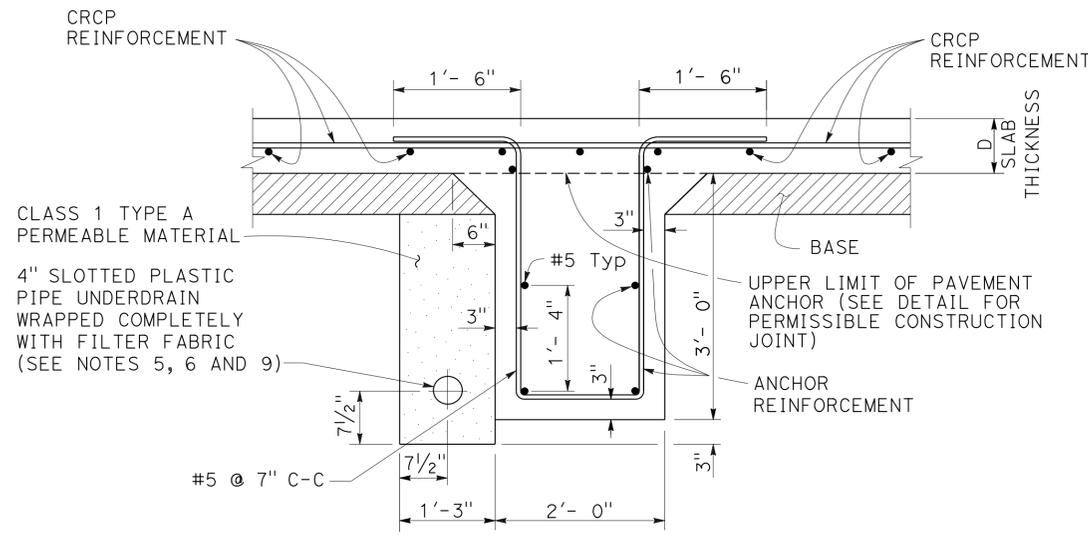
2010 REVISED STANDARD PLAN RSP P31B



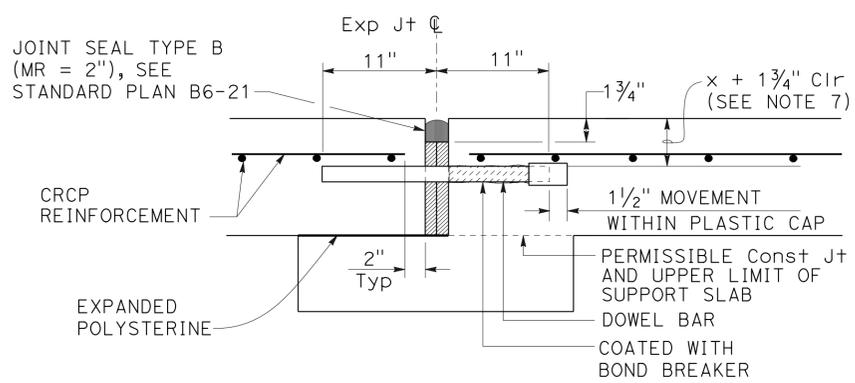
**PAVEMENT ANCHOR PROFILE**



**EXPANSION JOINT TYPE AN**



**PAVEMENT ANCHOR**

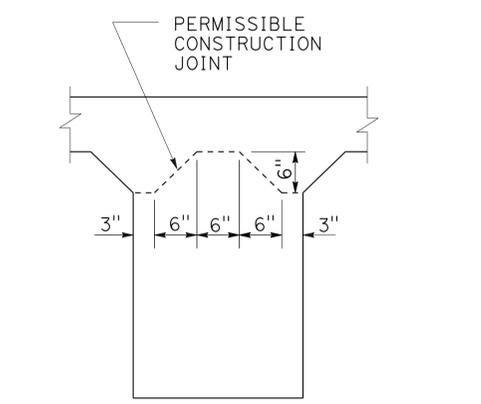


**DETAIL B**

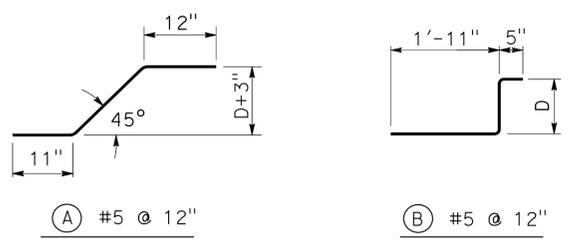
(For layout, tolerances, and other details not shown, see Revised Standard Plan RSP P10.)

**NOTES:**

1. For the locations of the terminal joints, expansion joints and pavement anchors, see project plans.
2. The CRCP shall continue across the pavement anchor and expansion joints as shown.
3. Details of reinforcement, tie bars, and longitudinal joints (and if necessary, transverse construction joints) are shown on Revised Standard Plan RSP P4.
4. Transverse construction joints are not allowed within 20'-0" of the pavement anchor.
5. When placing pipe through concrete barrier, use 4" unslotted plastic pipe wrapped completely with 3/8" polystyrene.
6. See Standard Plan D99B for details not shown.
7. See Revised Standard Plan RSP P4 for "x".
8. D = thickness of CRCP
9. Place the 4" Slotted Plastic Pipe on the high side of the longitudinal grade.
10. See Standard Plan B6-21 for "a".



**PAVEMENT ANCHOR DETAIL SHOWING PERMISSIBLE CONSTRUCTION JOINT**



**REINFORCEMENT DETAIL**

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**CONTINUOUSLY REINFORCED  
CONCRETE PAVEMENT-  
EXPANSION JOINT AND ANCHOR DETAILS**

NO SCALE

RSP P31B DATED APRIL 20, 2012 SUPERSEDES STANDARD PLAN P31B  
DATED MAY 20, 2011 - PAGE 139 OF THE STANDARD PLANS BOOK DATED 2010.

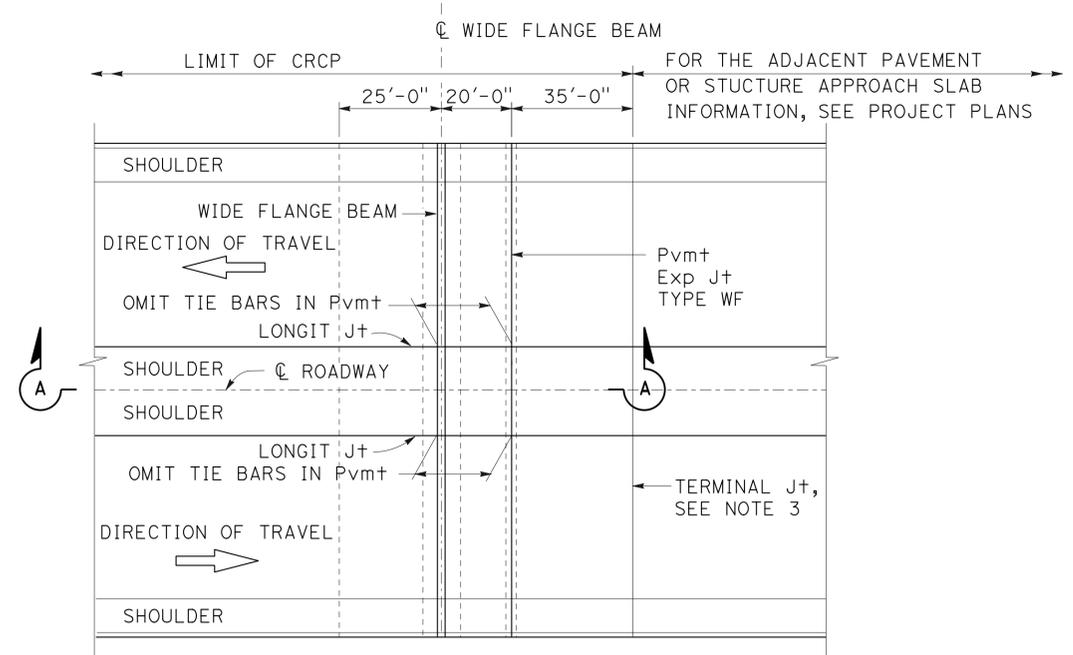
**REVISED STANDARD PLAN RSP P31B**

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	4,5	Var	318	486

Florante E. Bautista  
 REGISTERED CIVIL ENGINEER  
 April 20, 2012  
 PLANS APPROVAL DATE  
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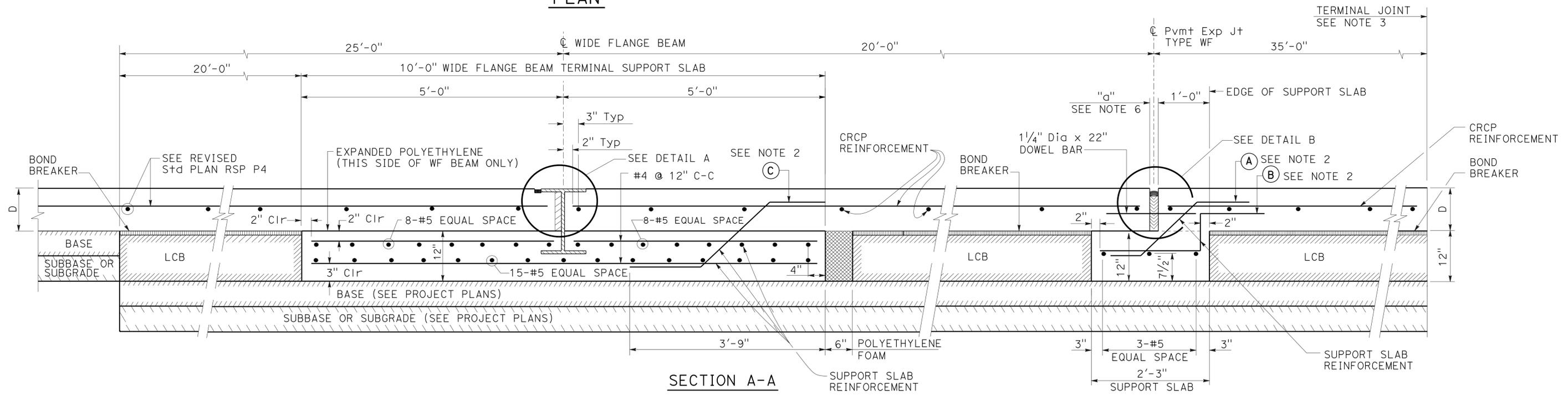
TO ACCOMPANY PLANS DATED 7-22-13



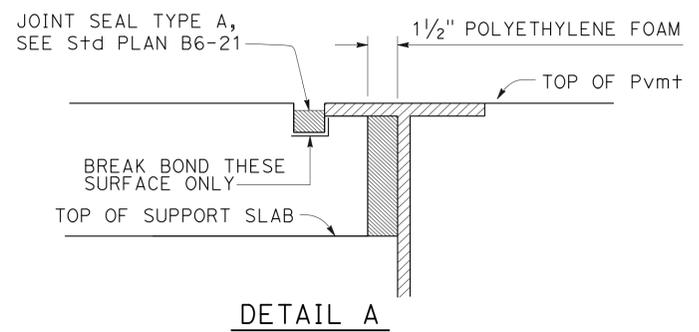
PLAN

NOTES:

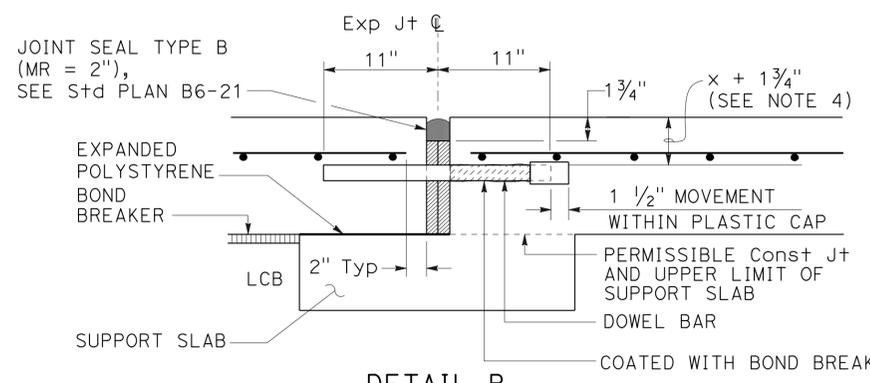
1. For additional details on reinforcement member quantities of the wide flange beam terminal and Pavement Expansion Joint Type WF, see Revised Standard Plan RSP P32B.
2. For reinforcement (A), (B), and (C) Details, see Revised Standard Plan RSP P32B.
3. For the Pavement Terminal Joint Details, see Standard Plan P31A. For Pavement Terminal Joint Type, see Project Plans.
4. See Revised Standard Plan RSP P4 for "x".
5. D = Thickness of CRCP
6. See Standard Plan B6-21 for "a".



SECTION A-A



DETAIL A



DETAIL B

For layout, tolerances, and other details not shown see Revised Std Plan RSP P10.

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
**CONTINUOUSLY REINFORCED  
 CONCRETE PAVEMENT -  
 WIDE FLANGE BEAM TERMINALS**

NO SCALE

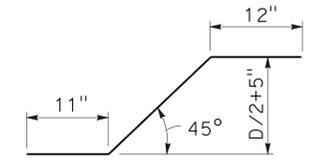
RSP P32A DATED APRIL 20, 2012 SUPERSEDES STANDARD PLAN P32A  
 DATED MAY 20, 2011 - PAGE 140 OF THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP P32A**

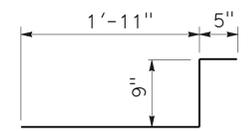
2010 REVISED STANDARD PLAN RSP P32A



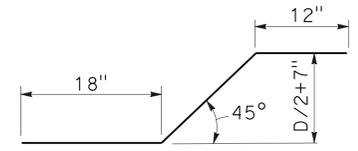
TO ACCOMPANY PLANS DATED 7-22-13



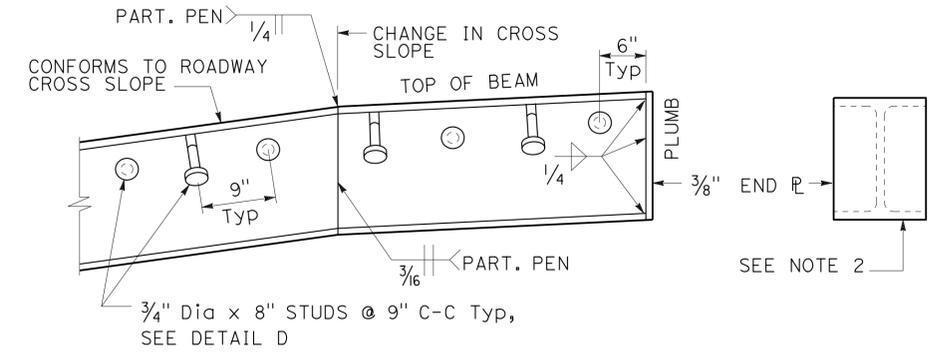
(A) #5 @ 12"



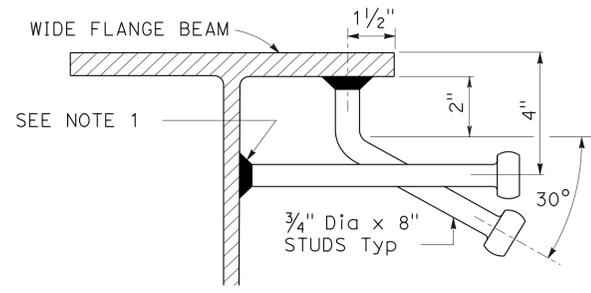
(B) #5 @ 12"



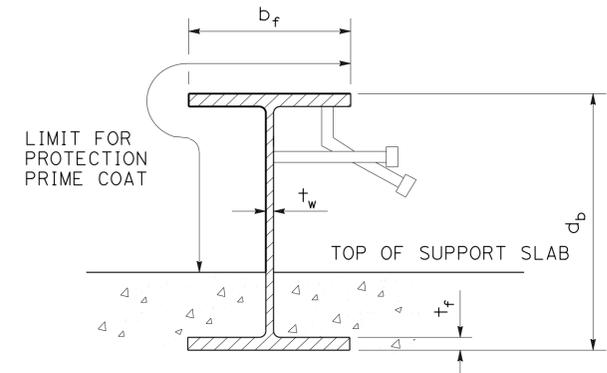
(C) #4 @ 12"



WIDE FLANGE DETAIL



DETAIL D



WIDE FLANGE PAINTING DETAIL

See "TABLE OF BEAM SIZES"

LEGEND:

- b<sub>f</sub> - FLANGE WIDTH
- t<sub>f</sub> - FLANGE THICKNESS
- t<sub>w</sub> - WEB THICKNESS
- d<sub>b</sub> - BEAM DEPTH

NOTES:

1. Studs shall be electric arc end welded with complete fusion. Any stud which is dislodged in shipping or can be dislodged by hammer shall be replaced.
2. Weld 3/8" Plate to each end of wide flange beam at pavement edges only. End plate covers entire wide flange beam.

CONCRETE AND STEEL QUANTITIES

ITEM	PAVEMENT THICKNESS						
	.80'	.85'	.90'	.95'	1.00'	1.05'	1.10'
WIDE FLANGE BEAM CONCRETE	4.81 CY						
TERMINAL SLAB REINFORCING STEEL	552.2 LBS	552.4 LBS	552.6 LBS	552.8 LBS	553.0 LBS	553.1 LBS	553.3 LBS
Exp JOINT TYPE CONCRETE	1.1 CY						
WF SUPPORT SLAB REINFORCING STEEL	99.9 LBS	100.2 LBS	100.5 LBS	100.8 LBS	101.1 LBS	101.1 LBS	101.6 LBS
STEEL BEAM (WEIGHT OF WIDE FLANGE BEAM AND STUDS)	69.51 LBS/LF +2 PLATES @ 14.87 LBS EA	90.51 LBS/LF +2 PLATES @ 18.46 LBS EA	90.51 LBS/LF +2 PLATES @ 18.46 LBS EA	98.51 LBS/LF +2 PLATES @ 22.01 LBS EA	98.51 LBS/LF +2 PLATES @ 22.01 LBS EA	98.51 LBS/LF +2 PLATES @ 22.01 LBS EA	98.51 LBS/LF +2 PLATES @ 22.01 LBS EA

TABLE OF BEAM SIZES

PAVEMENT THICKNESS	WIDE FLANGE BEAM DESIGNATION	d <sub>b</sub>	b <sub>f</sub>	t <sub>f</sub>	t <sub>w</sub>
.80'	W14 x 68	14.04"	10.04"	0.72"	0.42"
.85'	W16 x 89	16.75"	10.37"	0.88"	0.53"
.90'	W16 x 89	16.75"	10.37"	0.88"	0.53"
.95'	W18 x 97	18.59"	11.15"	0.87"	0.54"
1.00'	W18 x 97	18.59"	11.15"	0.87"	0.54"
1.05'	W18 x 97	18.59"	11.15"	0.87"	0.54"
1.10'	W18 x 97	18.59"	11.15"	0.87"	0.54"

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**CONTINUOUSLY REINFORCED  
CONCRETE PAVEMENT -  
WIDE FLANGE BEAM TERMINALS**

NO SCALE

RSP P32B DATED APRIL 20, 2012 SUPERSEDES STANDARD PLAN P32B  
DATED MAY 20, 2011 - PAGE 141 OF THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP P32B**

2010 REVISED STANDARD PLAN RSP P32B

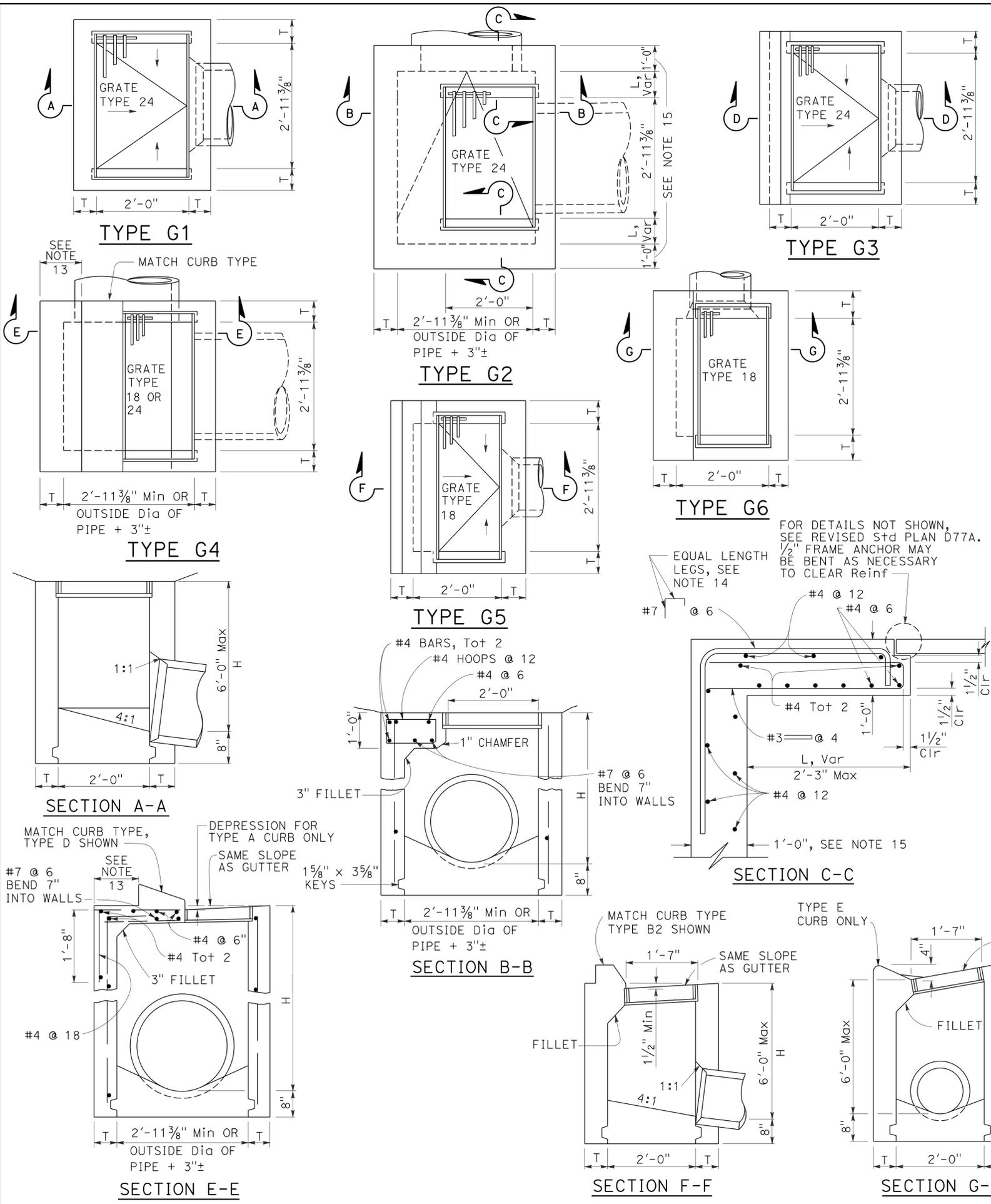
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	4,5	Var	320	486

Glenn DeCou  
REGISTERED CIVIL ENGINEER

October 19, 2012  
PLANS APPROVAL DATE

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

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



**NOTES:**

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

**TABLE A**

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

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

**NOTE A:**

Maximum allowable height 6'-0".

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**DRAINAGE INLETS**  
NO SCALE

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

**REVISED STANDARD PLAN RSP D73**

2010 REVISED STANDARD PLAN RSP D73

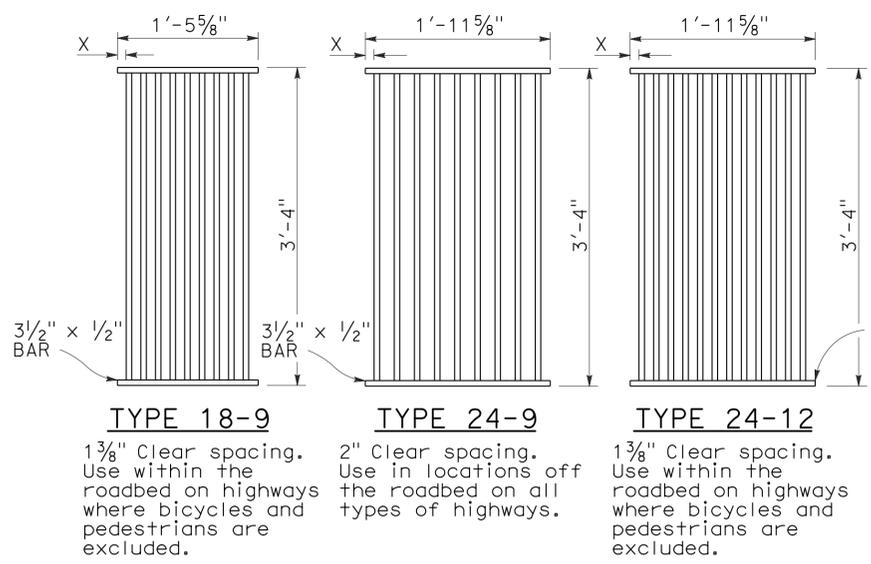
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	4,5	Var	321	486

Raymond Don Tsztou  
REGISTERED CIVIL ENGINEER

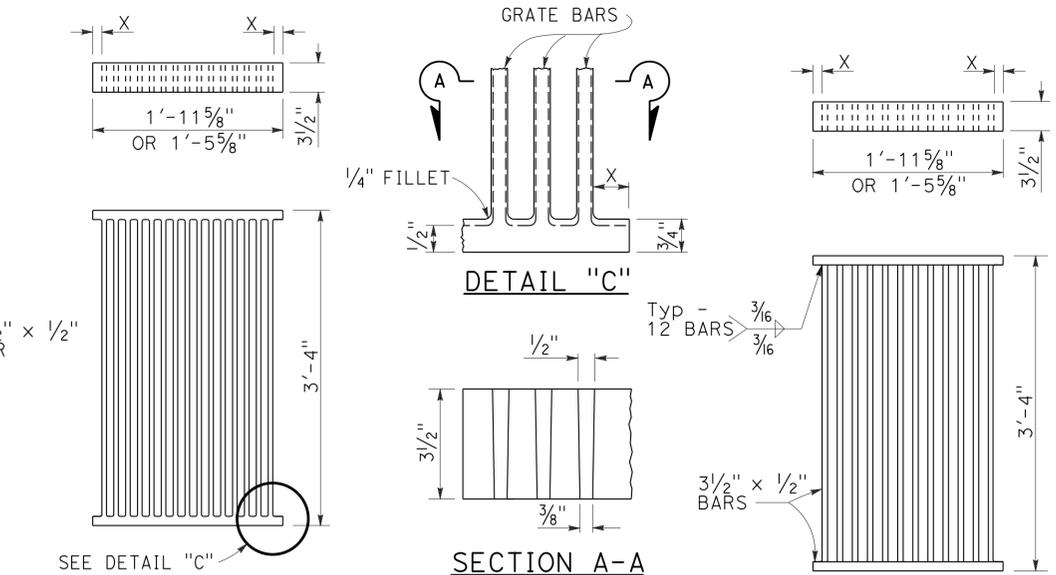
April 19, 2013  
PLANS APPROVAL DATE

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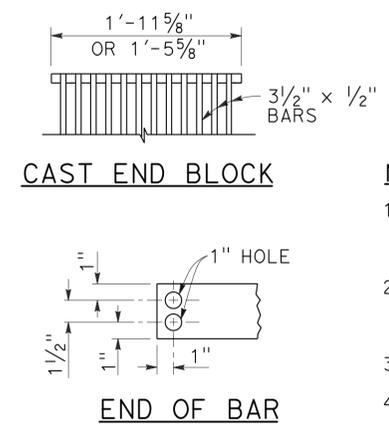
Raymond Don Tsztou  
REGISTERED PROFESSIONAL ENGINEER  
No. C37332  
Exp. 6-30-14  
STATE OF CALIFORNIA



**RECTANGULAR GRATE DETAILS**  
(See table below)

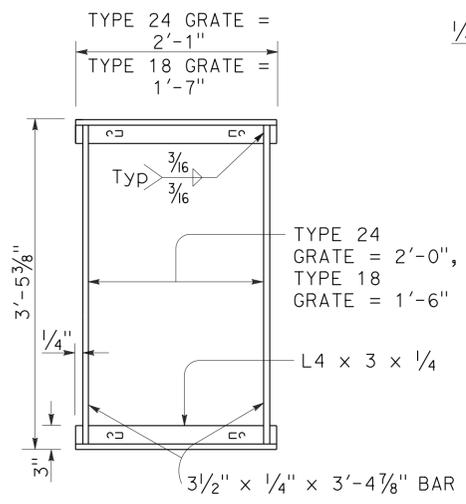


**ALTERNATIVE CAST DUCTILE IRON GRATE OR CAST CARBON STEEL GRATE**  
**ALTERNATIVE WELDED GRATE**

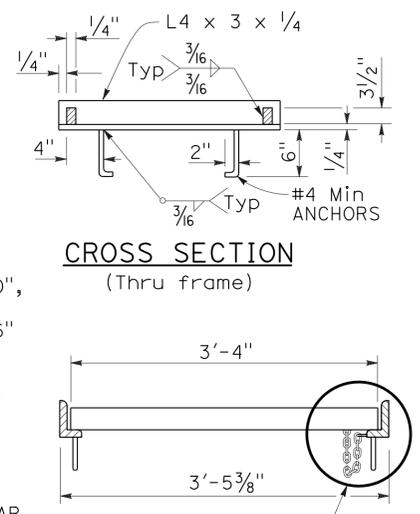


**CAST END BLOCK**  
**END OF BAR**

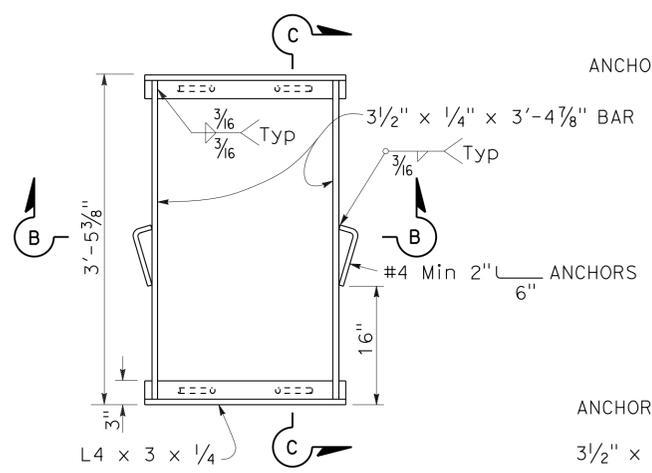
- NOTES:**
- Grate type numbers refer to approximate width of grate in inches and number of bars, respectively.
  - Contractor has the option of using cast ductile iron, cast carbon steel, welded, bolted, or cast end block grate.
  - Rounded top of bars optional on all grates.
  - Pipe inlets with a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



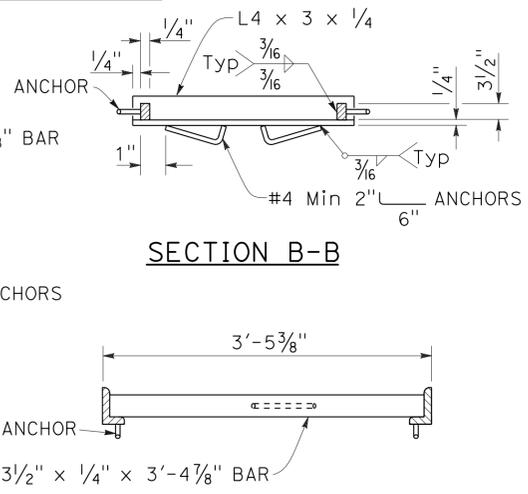
**TYPICAL FRAME**



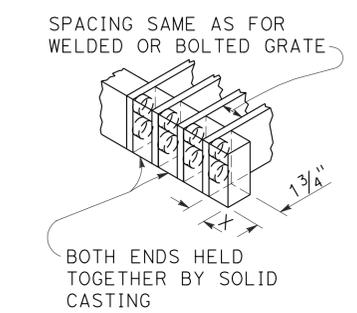
**CROSS SECTION (Thru frame)**  
**LONGITUDINAL SECTION (Thru frame and grate)**



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



**SECTION B-B**  
**SECTION C-C**



**ALTERNATIVE CAST DUCTILE IRON OR CAST CARBON STEEL END BLOCK GRATE**

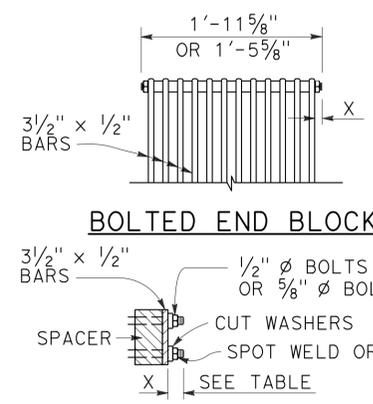
**RECTANGULAR FRAME DETAILS**  
(For all rectangular grates)

**GRATE BAR SPACING TABLE**

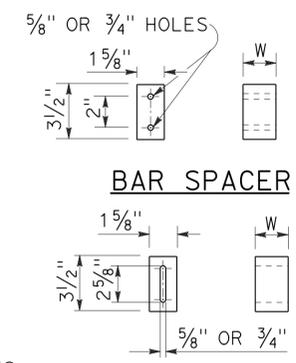
TYPE	NO. OF BARS	CLEAR BAR SPACING	X
18-9	9	1 3/8"	1 1/16"
24-9	9	2"	1 9/16"
24-12	12	1 3/8"	1 1/4"

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

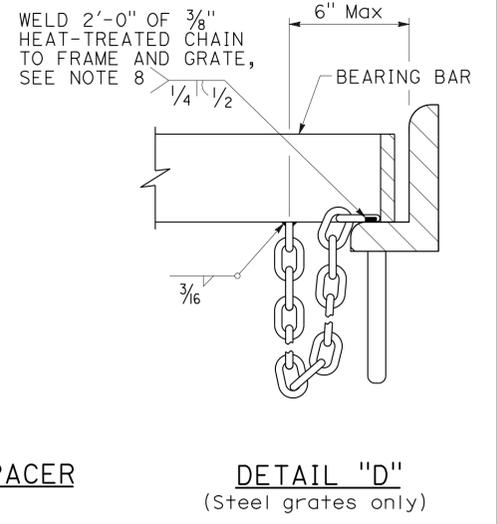
INLET TYPE	GRATE TYPE	NO. OF GRATES	WEIGHT LB
GDO	24-12	2	634
GOL-7	24-12	1	326
GOL-10	24-12	1	326
G0,G1,G2,G3,G4 (TYPE 24)	24-9	1	263
	24-12	1	326
G4 (TYPE 18),G5,G6	18-9	1	249
GT1	18-9	2	498
GT2	18-9	2	498
GT3	24-12	2	652
GT4	24-12	2	652
TRASH RACK			22
GRATE CHAIN			3



**BOLTED END BLOCK**  
**BOLTING DETAIL**  
**ALTERNATIVE BOLTED GRATE**



**BAR SPACER**  
**ALTERNATIVE SPACER**  
W = 1 3/8" or 2"



**DETAIL "D"**  
(Steel grates only)

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

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
**GRATE DETAILS No. 1**  
NO SCALE

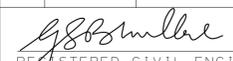
RSP D77A DATED APRIL 19, 2013 SUPERSEDES RSP D77A DATED JULY 20, 2012 AND STANDARD PLAN D77A DATED MAY 20, 2011 - PAGE 164 OF THE STANDARD PLANS BOOK DATED 2010.

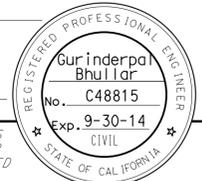
**REVISED STANDARD PLAN RSP D77A**

2010 REVISED STANDARD PLAN RSP D77A



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	4,5	Var	323	486

  
 REGISTERED CIVIL ENGINEER  
 April 19, 2013  
 PLANS APPROVAL DATE



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TO ACCOMPANY PLANS DATED 7-22-13

TABLE 1

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

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

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

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

TABLE 2

LONGITUDINAL BUFFER SPACE AND FLAGGER STATION SPACING				
SPEED *	Min D **	DOWNGRADE Min D ***		
		-3%	-6%	-9%
		ft	ft	ft
mph	ft	ft	ft	ft
20	115	116	120	126
25	155	158	165	173
30	200	205	215	227
35	250	257	271	287
40	305	315	333	354
45	360	378	400	427
50	425	446	474	507
55	495	520	553	593
60	570	598	638	686
65	645	682	728	785
70	730	771	825	891

\* - Speed is posted speed limit, off-peak 85th-percentile speed prior to work starting, or the anticipated operating speed in mph  
 \*\* - Longitudinal buffer space or flagger station spacing  
 \*\*\* - Use on sustained downgrade steeper than -3 percent and longer than 1 mile.

TABLE 3

ADVANCE WARNING SIGN SPACING			
ROAD TYPE	DISTANCE BETWEEN SIGNS *		
	A	B	C
	ft	ft	ft
URBAN - 25 mph OR LESS	100	100	100
URBAN - MORE THAN 25 mph TO 40 mph	250	250	250
URBAN - MORE THAN 40 mph	350	350	350
RURAL	500	500	500
EXPRESSWAY / FREEWAY	1000	1500	2640

\* - The distances are approximate, are intended for guidance purposes only, and should be applied with engineering judgment. These distances should be adjusted by the Engineer for field conditions, if necessary, by increasing or decreasing the recommended distances.

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

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

NO SCALE

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

**REVISED STANDARD PLAN RSP T9**

2010 REVISED STANDARD PLAN RSP T9

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	4,5	Var	324	486

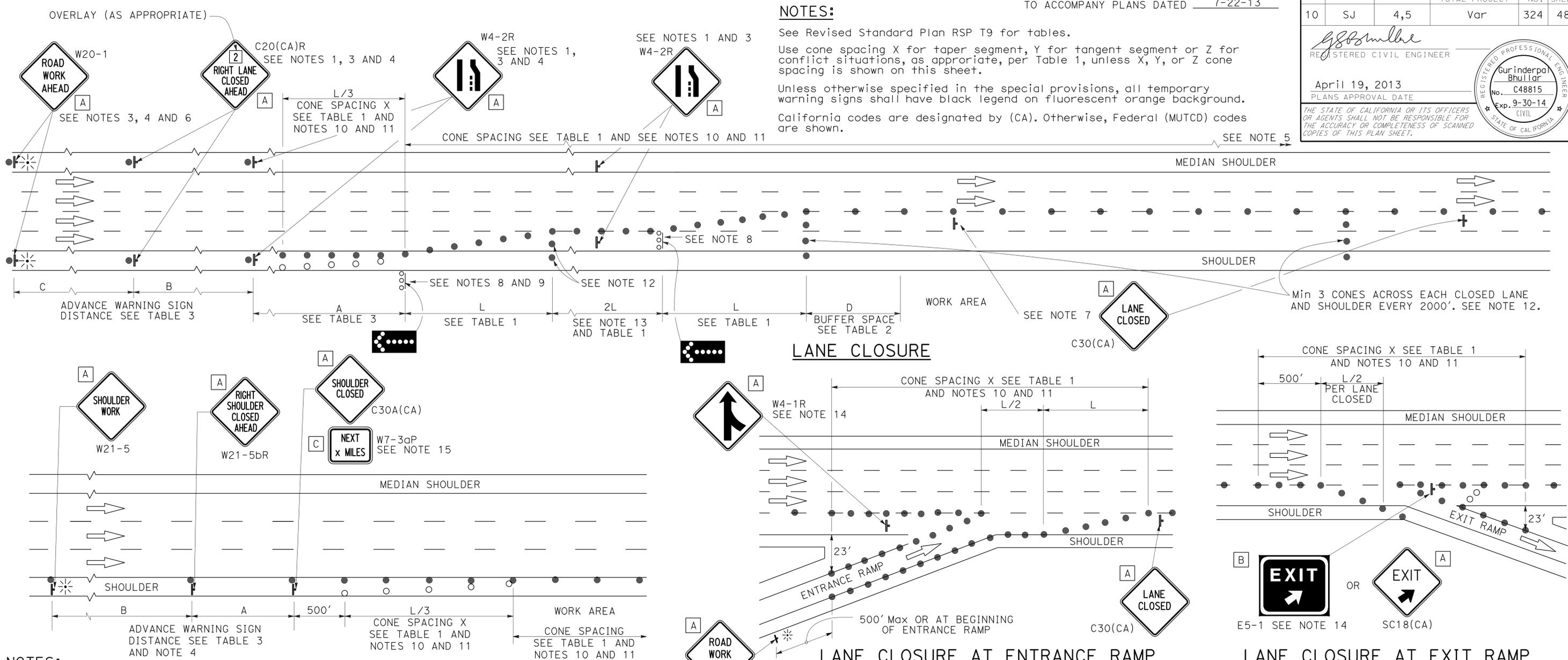
REGISTERED CIVIL ENGINEER  
 Gurinderpal Bhullar  
 No. C48815  
 Exp. 9-30-14  
 CIVIL  
 STATE OF CALIFORNIA

April 19, 2013  
 PLANS APPROVAL DATE  
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TO ACCOMPANY PLANS DATED 7-22-13

**NOTES:**

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



**NOTES:**

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

**SHOULDER CLOSURE**

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

**LANE CLOSURE AT ENTRANCE RAMP**

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

**LEGEND**

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

**SIGN PANEL SIZE (Min)**

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

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

NO SCALE

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

**REVISED STANDARD PLAN RSP T10**

2010 REVISED STANDARD PLAN RSP T10

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	4,5	Var	325	486

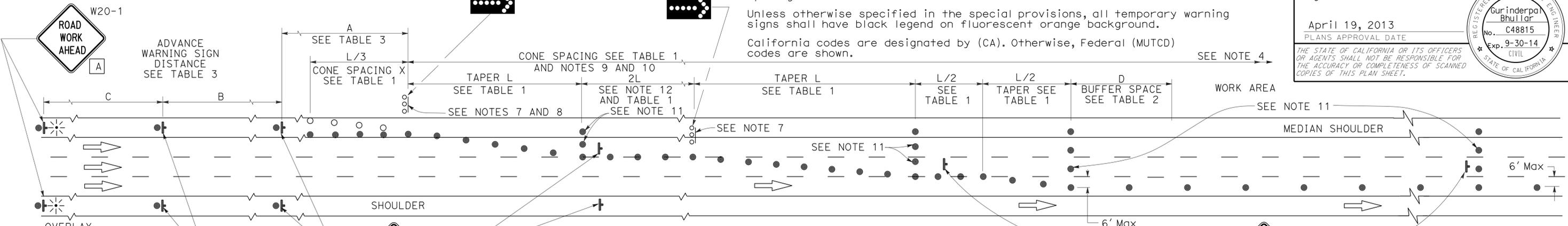
REGISTERED CIVIL ENGINEER  
 April 19, 2013  
 PLANS APPROVAL DATE

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

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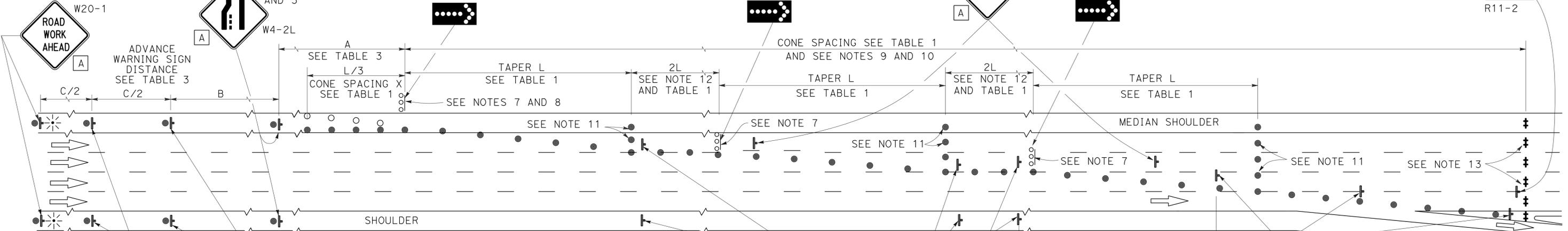
**NOTES:** See Revised Standard Plan RSP T9 for tables.  
 Use cone spacing X for taper segment, Y for tangent segment or Z for conflict situations, as appropriate, per Table 1, unless X, Y, or Z cone spacing is shown on this sheet.  
 Unless otherwise specified in the special provisions, all temporary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

SEE NOTES 3 AND 5



**LANE CLOSURE WITH PARTIAL SHOULDER USE**

SEE NOTES 3 AND 5



**COMPLETE CLOSURE**

**NOTES:**

- Lane closures on the right side using partial median shoulder as a traffic lane shall conform to the details as shown except that C20(CA)R and W4-2R signs shall be used.
- At least one person shall be assigned to provide full time maintenance of traffic control devices for lane closures.
- Each advance warning sign on each side of the roadway shall be equipped with at least two flags for daytime closure. Each flag shall be at least 16" x 16" in size and shall be orange or fluorescent red-orange in color. Flashing beacons shall be placed at the locations indicated for lane closure during hours of darkness.
- A G20-2 "END ROAD WORK" sign, with minimum size of 48" x 24" as appropriate, shall be placed at the end of the lane closure unless the end of work area is obvious or ends within a larger project's limits.
- If the W20-1 sign would follow within 2000' of a stationary W20-1 or G20-1 "ROAD WORK NEXT \_\_\_ MILES", use a C20(CA) sign for the first advance warning sign.
- Place a C30(CA) sign every 2000' throughout length of lane closure.
- One flashing arrow sign for each lane closed. The flashing arrow signs shall be Type I.
- A minimum 1500' of sight distance shall be provided where possible for vehicles approaching the first flashing arrow sign. Lane closures shall not begin at the top of crest vertical curve or on a horizontal curve.
- All cones used for lane closures during the hours of darkness shall be fitted with retroreflective bands (or sleeves) as specified in the specifications.
- Portable delineators, placed at one-half the spacing indicated for traffic cones, may be used instead of cones for daytime closures only.
- Unless otherwise specified in the special provisions, a minimum of 3 cones shall be placed transversely across each closed lane and shoulder at each location where a taper across a traffic lane ends and every 2000' as shown on the "Lane Closure With Partial Shoulder Use" detail. Two Type II barricades may be used instead of the 3 cones. The transverse alignment of the cones or barricades on the closed shoulder may be shifted from the transverse alignment to provide access to the work.

- Unless otherwise specified in the special provisions, the 2L tangent shown along lane lines shall be used between the L tapers required for each closed traffic lane.
- A minimum of Two Type II or III barricades shall be placed across each closed lane and shoulder at the location shown and every 2000' within the complete closure area. Within the complete closure area, the transverse alignment of the barricades on the closed shoulder may be shifted from the transverse alignment to provide access to the work.
- When specified in the special provisions, a W20-2 "DETOUR AHEAD" sign is to be used in place of the W20-3 "FREEWAY CLOSED AHEAD" sign.

**SIGN PANEL SIZE (Min)**

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

**LEGEND**

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

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
**TRAFFIC CONTROL SYSTEM  
 FOR LANE CLOSURES ON  
 FREEWAYS AND EXPRESSWAYS**  
 NO SCALE

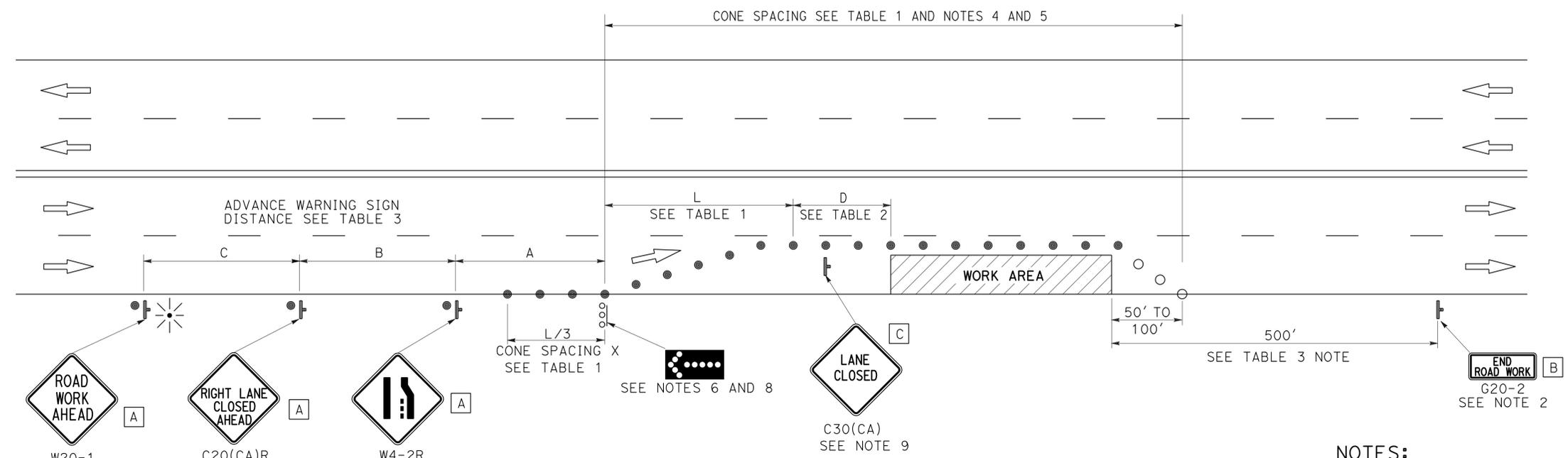
RSP T10A DATED APRIL 19, 2013 SUPERSEDES STANDARD PLAN T10A DATED MAY 20, 2011 - PAGE 238 OF THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP T10A**

2010 REVISED STANDARD PLAN RSP T10A



TO ACCOMPANY PLANS DATED 7-22-13



TYPICAL LANE CLOSURE

NOTES:

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

NOTES:

- Each advance warning sign shall be equipped with at least two flags for daytime closure. Each flag shall be at least 16" x 16" in size and shall be orange or fluorescent red-orange in color. Flashing beacons shall be placed at the locations indicated for lane closure during hours of darkness.
- A G20-2 "END ROAD WORK" sign, as appropriate, shall be placed at the end of the lane closure unless the end of work area is obvious, or ends within a larger project's limits.
- If the W20-1 sign would follow within 2000' of a stationary W20-1 or G20-1 "ROAD WORK NEXT \_\_\_\_\_ MILES", use a C20(CA) sign for the first advance warning sign.
- All cones used for lane closures during the hours of darkness shall be fitted with retroreflective bands (or sleeves) as specified in the specifications.
- Portable delineators, placed at one-half the spacing indicated for traffic cones, may be used instead of cones for daytime closures only.
- Flashing arrow sign shall be either Type I or Type II.
- For approach speeds over 50 mph, use the "Traffic Control System for Lane Closure On Freeways And Expressways" plan for lane closure details and requirements.
- A minimum 1500' of sight distance shall be provided where possible for vehicles approaching the first flashing arrow sign. Lane closures shall not begin at the top of crest vertical curve or on a horizontal curve.
- Place a C30(CA) sign every 2000' throughout length of lane closure.
- Median lane closures shall conform to the details as shown except that C20(CA)L and W4-2L signs shall be used.
- At least one person shall be assigned to provide full time maintenance of traffic control devices for lane closure unless, otherwise directed by the Engineer.

LEGEND

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

SIGN PANEL SIZE (Min)

- A 48" x 48"
- B 36" x 18"
- C 30" x 30"

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

NO SCALE

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

**REVISED STANDARD PLAN RSP T11**

2010 REVISED STANDARD PLAN RSP T11

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	4,5	Var	327	486

April 19, 2013  
 PLANS APPROVAL DATE

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

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**LEGEND**

- TRAFFIC CONE
- ⌋ TEMPORARY TRAFFIC CONTROL SIGN
- ⬢ FLASHING ARROW SIGN (FAS)
- ⦿ FAS SUPPORT OR TRAILER
- ☀ PORTABLE FLASHING BEACON

**SIGN PANEL SIZE (Min)**

- A 48" x 48"
- B 24" x 24"
- C 36" x 18"

**NOTES:**

See Revised Standard Plan RSP T9 for tables.

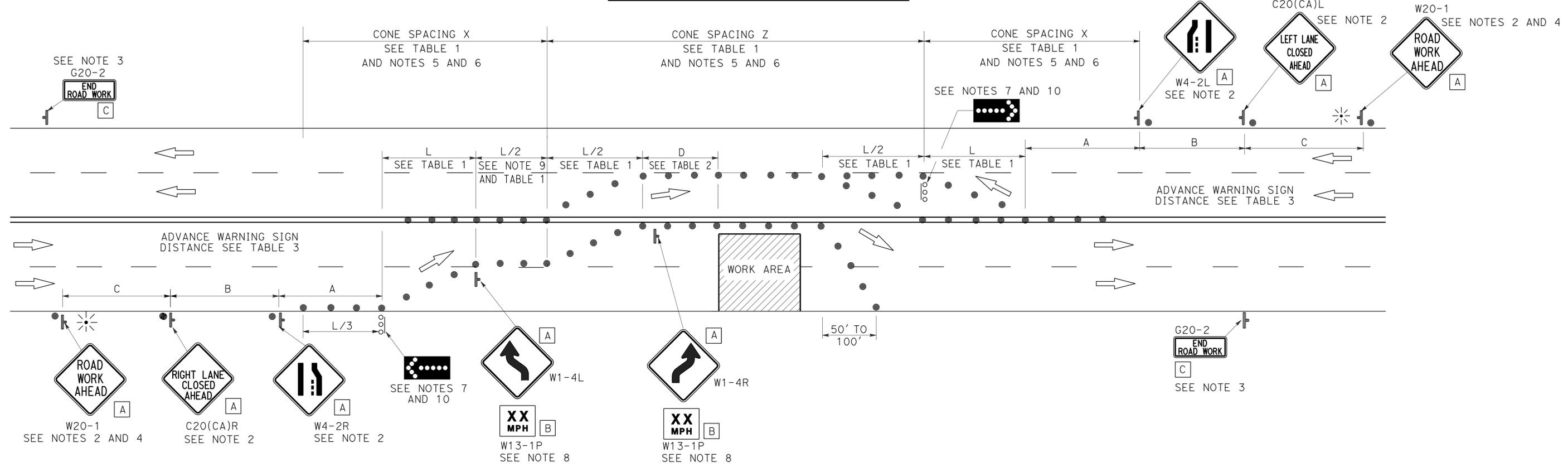
Use cone spacing X for taper segment, Y for tangent segment or Z for conflict situations, as appropriate, per Table 1, unless X, Y, or Z cone spacing is shown on this sheet.

Unless otherwise specified in the special provisions, all temporary warning signs shall have black legend on fluorescent orange background.

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

TO ACCOMPANY PLANS DATED 7-22-13

**TYPICAL HALF ROAD CLOSURE**



**NOTES:**

- At least one person shall be assigned to provide full time maintenance of traffic control devices for lane closure unless, otherwise directed by the Engineer.
- Each advance warning sign in each direction of travel shall be equipped with at least two flags for daytime closure. Each flag shall be at least 16" x 16" in size and shall be orange or fluorescent red-orange in color. Flashing beacons shall be placed at the locations indicated for lane closure during hours of darkness.
- A G20-2 "END ROAD WORK" sign, as appropriate, shall be placed at the end of the lane closure unless the end of work area is obvious, or ends within a larger project's limits.
- If the W20-1 sign would follow within 2000' of a stationary W20-1 or G20-1 "ROAD WORK NEXT \_\_\_\_\_ MILES", use a C20(CA) sign for the first advance warning sign.
- All cones used for lane closures during the hours of darkness shall be fitted with retroreflective bands (or sleeves) as specified in the specifications.
- Portable delineators, placed at one-half the spacing indicated for traffic cones, may be used instead of cones for daytime closures only.
- Flashing arrow signs shall be either Type I or Type II.
- Advisory speed will be determined by the Engineer. The W13-1P Plaque will not be required when advisory speed is more than the posted or maximum speed limit.
- Unless otherwise specified in the special provisions, the tangent (L/2) shall be used.
- A minimum 1500' of sight distance shall be provided where possible for vehicles approaching the first flashing arrow sign. Lane closures shall not begin at the top of crest vertical curve or on a horizontal curve.

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**TRAFFIC CONTROL SYSTEM  
FOR HALF ROAD CLOSURE ON  
MULTILANE CONVENTIONAL  
HIGHWAYS AND EXPRESSWAYS**

NO SCALE

RSP T12 DATED APRIL 19, 2013 SUPERSEDES STANDARD PLAN T12  
DATED MAY 20, 2011 - PAGE 240 OF THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP T12**

2010 REVISED STANDARD PLAN RSP T12

**NOTES:**

See Revised Standard Plan RSP T9 for tables.

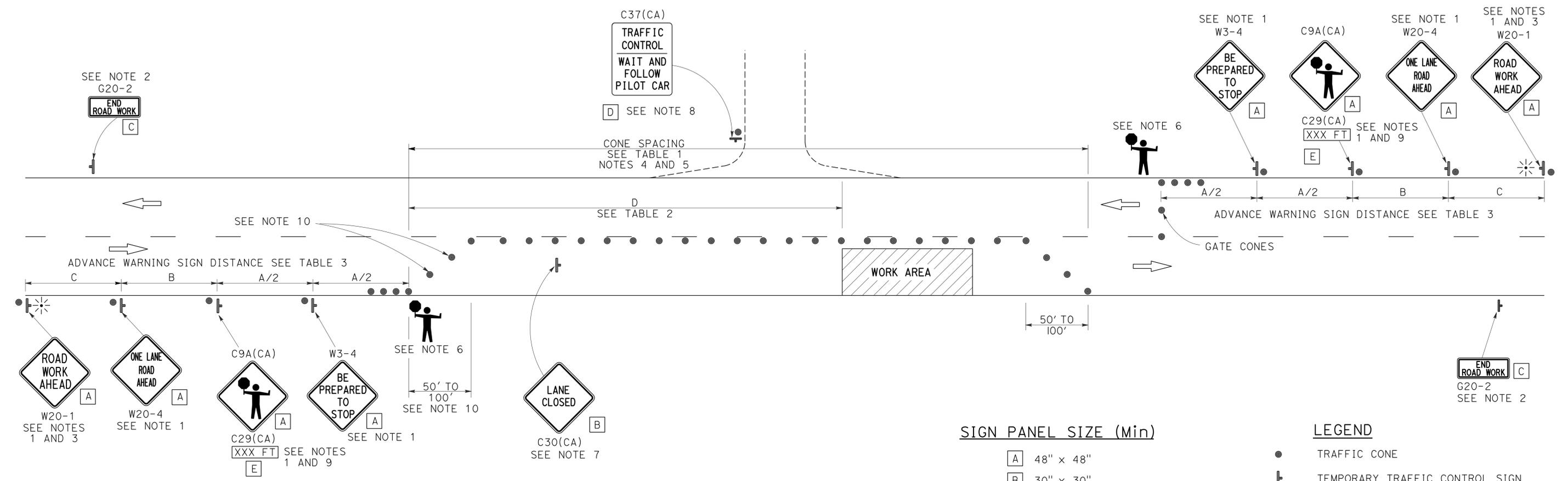
Use cone spacing X for taper segment, Y for tangent segment or Z for conflict situations, as appropriate, per Table 1, unless X, Y, or Z cone spacing is shown on this sheet.

Unless otherwise specified in the special provisions, all temporary warning signs shall have black legend on fluorescent orange background.

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

**TYPICAL LANE CLOSURE WITH REVERSIBLE CONTROL**

TO ACCOMPANY PLANS DATED 7-22-13



**NOTES:**

- Each advance warning sign in each direction of travel shall be equipped with at least two flags for daytime closure. Each flag shall be at least 16" x 16" in size and shall be orange or fluorescent red-orange in color. Flashing beacons shall be placed at the locations indicated for lane closure during hours of darkness.
- A G20-2 "END ROAD WORK" sign, as appropriate, shall be placed at the end of the lane control unless the end of work area is obvious, or ends within a larger project's limits.
- If the W20-1 sign would follow within 2000' of a stationary W20-1 or G20-1 "ROAD WORK NEXT \_\_\_\_\_ MILES", use a W20-4 sign for the first advance warning sign.
- All cones used for lane closures during the hours of darkness shall be fitted with retroreflective bands (or sleeves) as specified in the specifications.
- Portable delineators, placed at one-half the spacing indicated for traffic cones, may be used instead of cones for daytime closures only.
- Additional advance flaggers may be required. Flagger should stand in a conspicuous place, be visible to approaching traffic as well as approaching vehicles after the first vehicle has stopped. During the hours of darkness, the flagging station and flagger shall be illuminated and clearly visible to approaching traffic. The illumination footprint of the lighting on the ground shall be at least 20' in diameter. Place a minimum of four cones at 50' intervals in advance of flagger station as shown.
- Place C30(CA) "LANE CLOSED" sign at 500' to 1000' intervals throughout extended work areas. They are optional if the work area is visible from the flagger station.
- When a pilot car is used, place a C37(CA) "TRAFFIC CONTROL-WAIT AND FOLLOW PILOT CAR" sign with black legend on white background at all intersections, driveways and alleys without a flagger within traffic control area. Signs shall be clean and visible at all times. Where traffic can not be effectively self-regulated, at least one flagger shall be used at each intersection within traffic control area.
- An optional C29(CA) sign may be placed below the C9A(CA) sign.
- Either traffic cones or barricades shall be placed on the taper. Barricades shall be Type I, II, or III.

**SIGN PANEL SIZE (Min)**

- A 48" x 48"
- B 30" x 30"
- C 36" x 18"
- D 36" x 42"
- E 20" x 7"

**LEGEND**

- TRAFFIC CONE
- ⊥ TEMPORARY TRAFFIC CONTROL SIGN
- ⚡ PORTABLE FLASHING BEACON
- 👤 FLAGGER

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**TRAFFIC CONTROL SYSTEM  
FOR LANE CLOSURE ON  
TWO LANE CONVENTIONAL  
HIGHWAYS**

NO SCALE

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

**REVISED STANDARD PLAN RSP T13**

2010 REVISED STANDARD PLAN RSP T13

# 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
10	SJ	4,5	Var	329	486

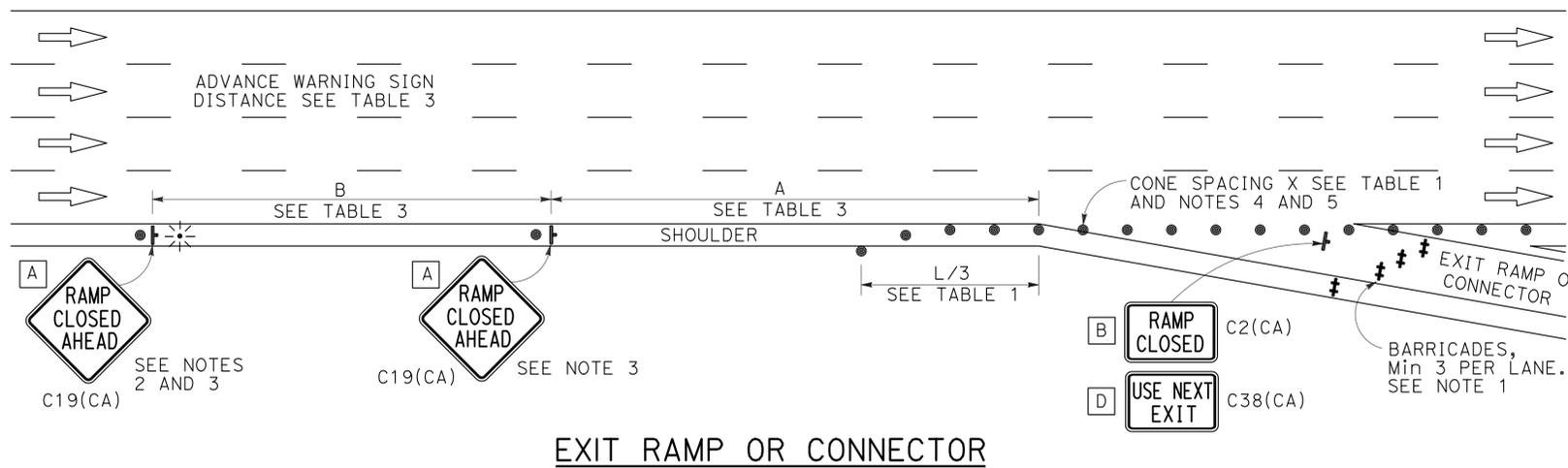
*Gurinderpal Bhullar*  
 REGISTERED CIVIL ENGINEER  
 April 19, 2013  
 PLANS APPROVAL DATE  
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

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

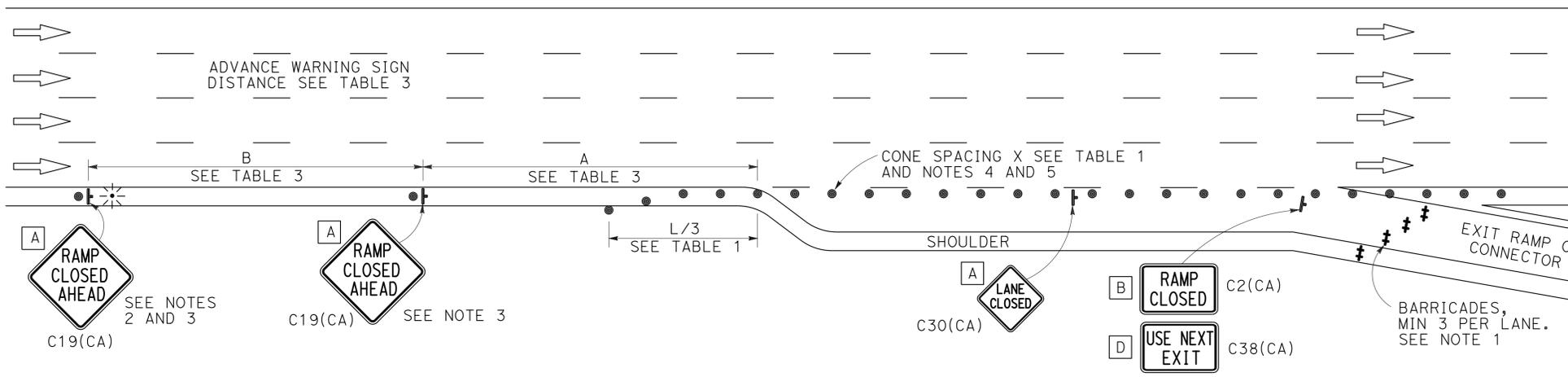
TO ACCOMPANY PLANS DATED 7-22-13

## NOTES:

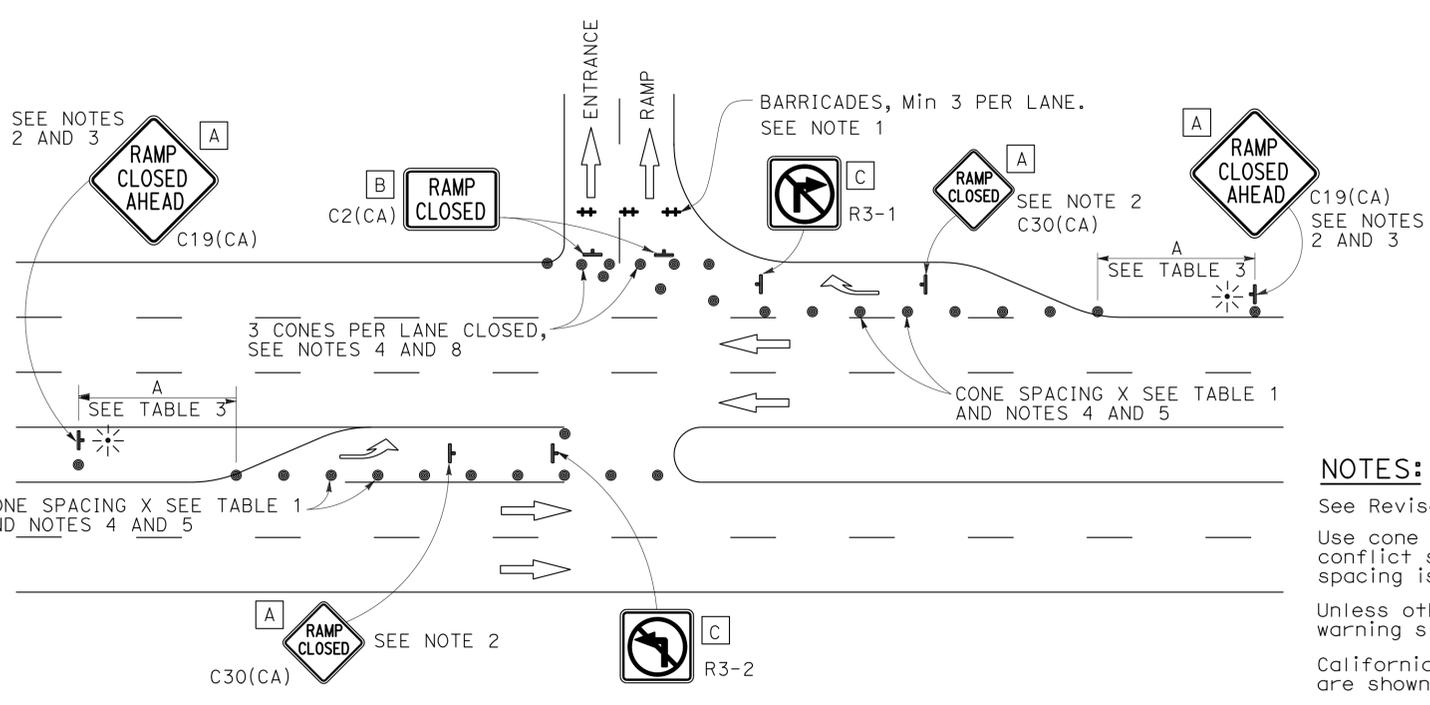
- Barricades shall be Type I, II, or III for closures lasting one week or less and Type III for closures lasting longer than one week.
- In addition to placing the C19(CA) "RAMP CLOSED AHEAD" and C30(CA) "RAMP CLOSED" signs, black on orange overlay plates with the word "CLOSED" may be mounted, as directed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



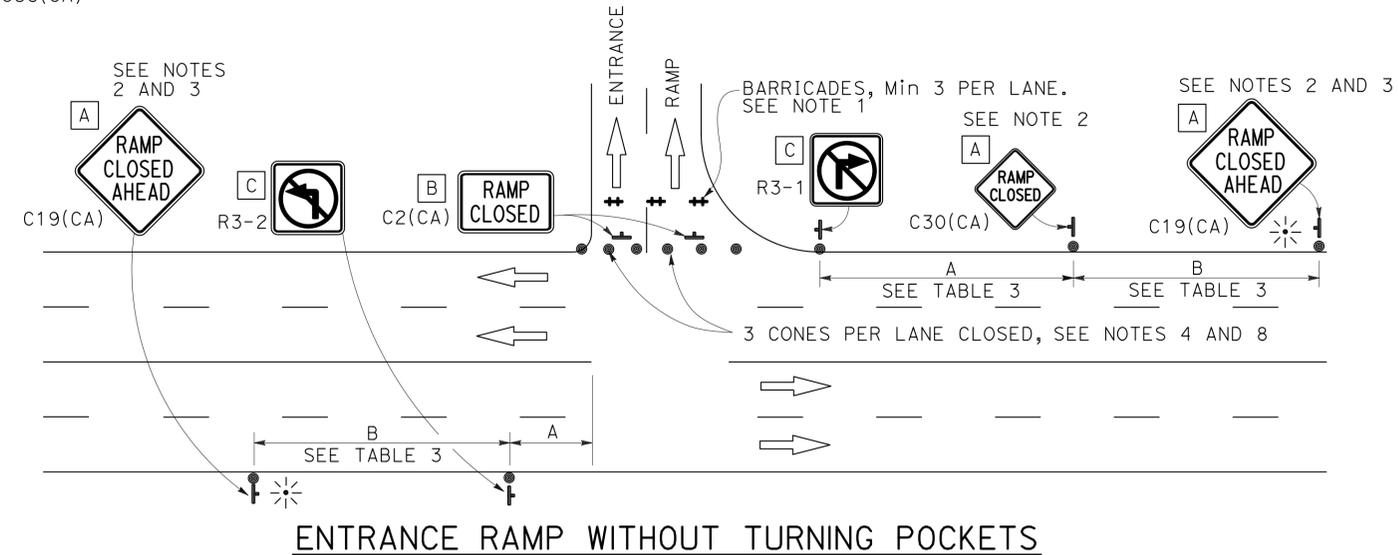
EXIT RAMP OR CONNECTOR



EXIT RAMP OR CONNECTOR WITH ADDITIONAL LANE



ENTRANCE RAMP WITH TURNING POCKETS



ENTRANCE RAMP WITHOUT TURNING POCKETS

## NOTES:

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

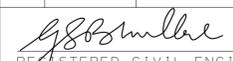
STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
**TRAFFIC CONTROL SYSTEM  
 FOR RAMP CLOSURE**  
 NO SCALE

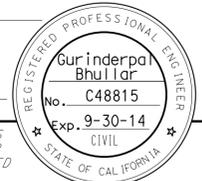
RSP T14 DATED APRIL 19, 2013 SUPERSEDES STANDARD PLAN T14 DATED MAY 20, 2011 - PAGE 242 OF THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP T14**

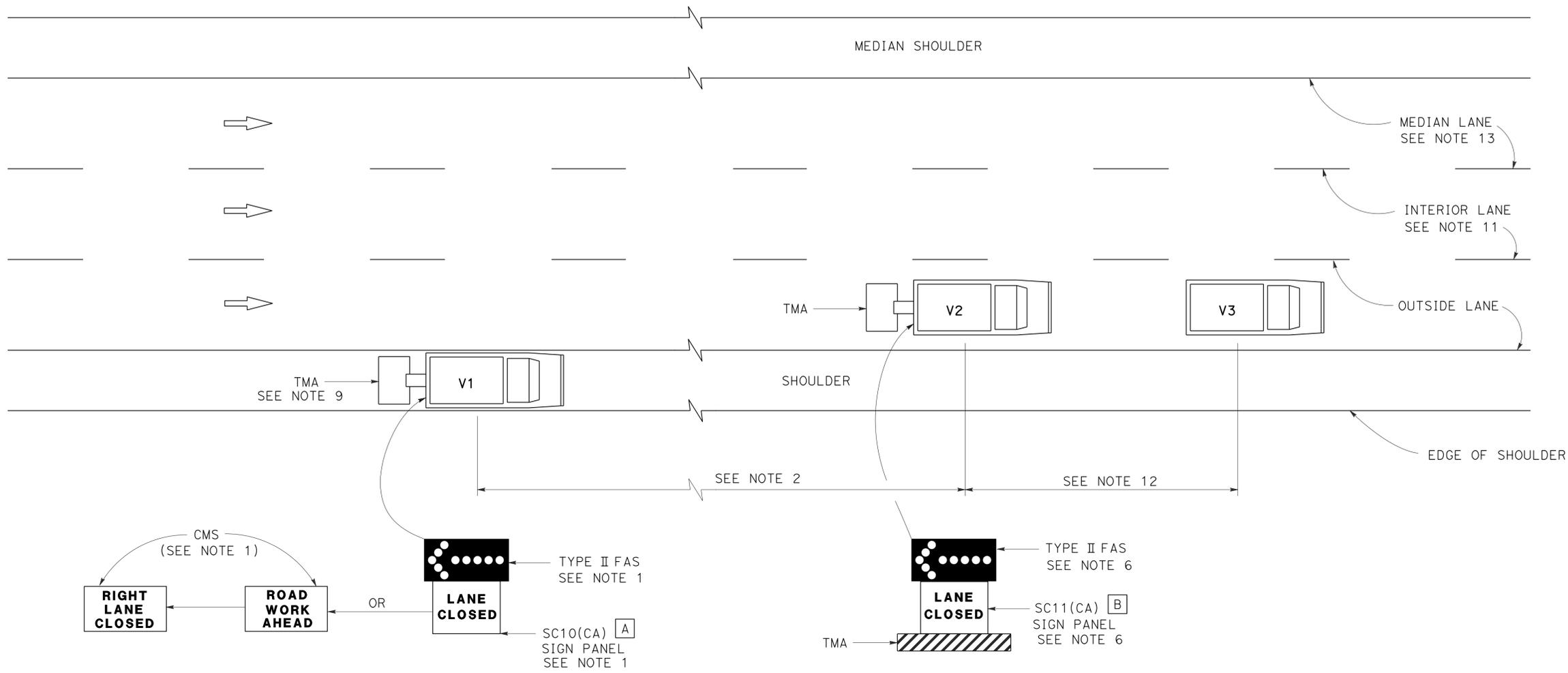
2010 REVISED STANDARD PLAN RSP T14

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	4,5	Var	330	486

  
 REGISTERED CIVIL ENGINEER  
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TO ACCOMPANY PLANS DATED 7-22-13



**SIGN PANEL SIZE (Min)**

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

**LEGEND**

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

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

**NOTES:**

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

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

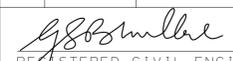
**TRAFFIC CONTROL SYSTEM FOR MOVING LANE CLOSURE ON MULTILANE HIGHWAYS**  
NO SCALE

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

**REVISED STANDARD PLAN RSP T15**

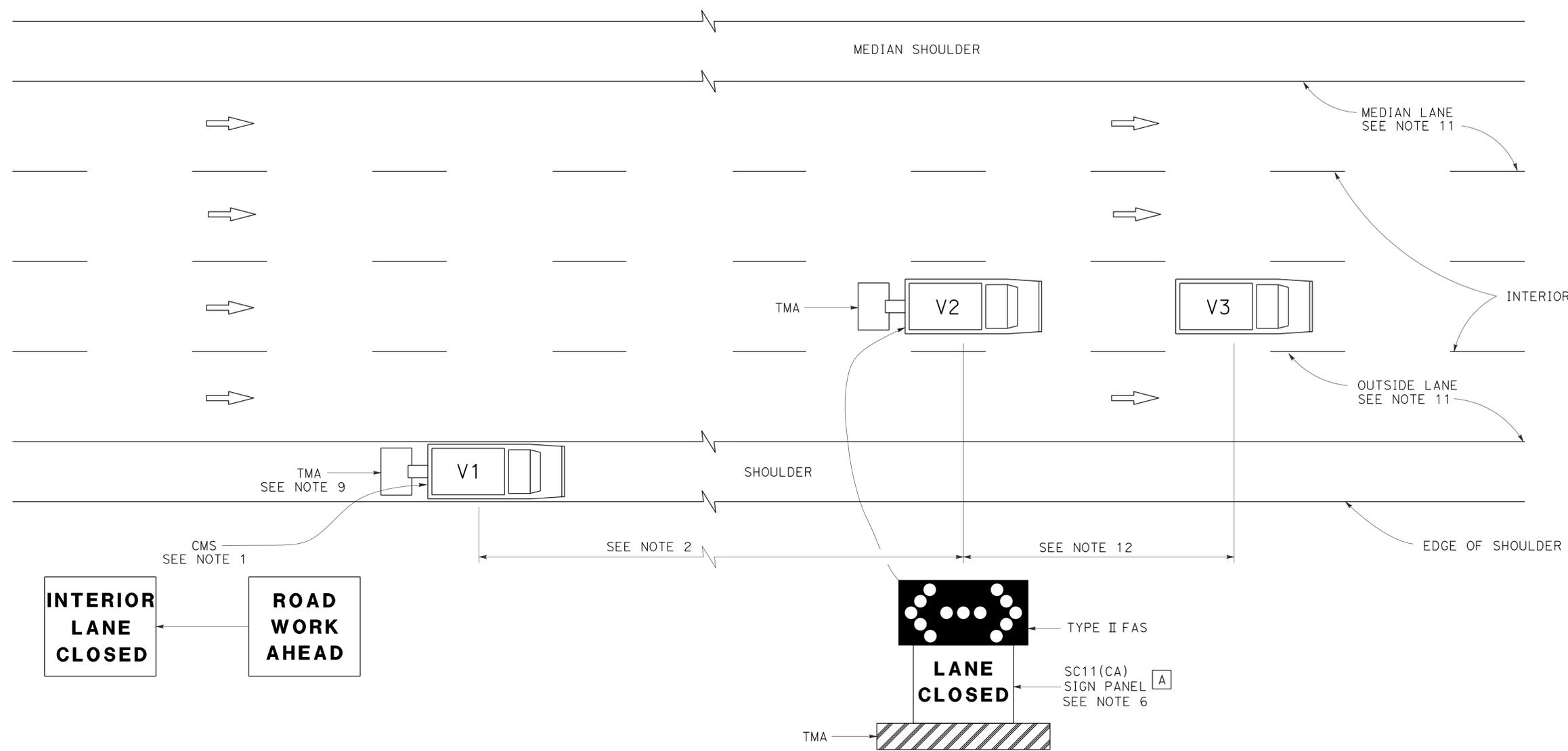
2010 REVISED STANDARD PLAN RSP T15

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	4,5	Var	331	486

  
 REGISTERED CIVIL ENGINEER  
 April 19, 2013  
 PLANS APPROVAL DATE  
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TO ACCOMPANY PLANS DATED 7-22-13



SIGN PANEL SIZE (Min)

A 54" x 42"

LEGEND

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

**MOVING LANE CLOSURE ON INTERIOR LANE OF MULTILANE HIGHWAYS**

NOTES:

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

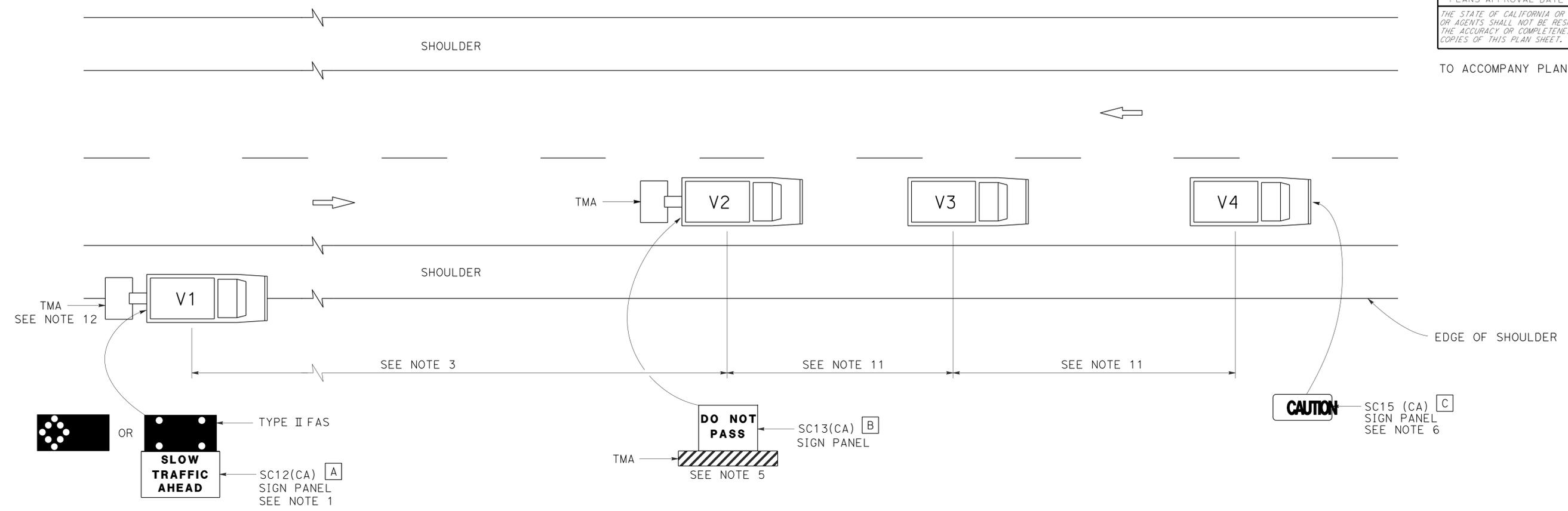
STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
**TRAFFIC CONTROL SYSTEM  
 FOR MOVING LANE CLOSURE  
 ON MULTILANE HIGHWAYS**  
 NO SCALE

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

**REVISED STANDARD PLAN RSP T16**

2010 REVISED STANDARD PLAN RSP T16

TO ACCOMPANY PLANS DATED 7-22-13



**NOTES:**

1. Either a changeable message sign or a SC12(CA) "SLOW TRAFFIC AHEAD" sign shall be mounted on the rear of sign vehicle V1. The changeable message sign shall be sequenced to show the "CAUTION" message first, follow by the "SLOW TRAFFIC AHEAD" message. A Type II flashing arrow sign may be used with the SC12(CA) sign panel.
2. Sign vehicle V1 should be positioned where highly visible when shoulders are not available.
3. If traffic queues develop, sign vehicle V1 should be positioned upstream from the end of queue.
4. Vehicle-mounted sign panels shall have Type III or above retroreflective sheeting, black on white, or black on fluorescent orange, with 6" minimum series D letters per Caltrans sign specifications.
5. Shadow vehicle shall be equipped with a truck-mounted attenuator. The sign panel shown shall be mounted on the rear of shadow vehicle V2. The message "LANE CLOSED" may be used in place of the "DO NOT PASS" message.
6. The sign panel shown shall be mounted on the front of sign vehicle V4, facing opposing traffic.
7. All vehicles shall be equipped with flashing or rotating amber lights.
8. Sign vehicle V4 will not be required when the work and vehicles V2 and V3 are 2' or more from the centerline of the highway during the work or application operations.
9. All vehicles used for lane closures shall be equipped with two-way radios and the vehicle operators shall maintain communication during the work or application operation.
10. This plan shall not be used where workers would be on foot in the work area. Use a stationary type lane closure (Revised Standard Plan T13) for this condition.
11. Minimize spacing between vehicles V2 and V3 and vehicles V3 and V4 to deter road users from driving in between them.
12. If sign vehicle V1 encroaches into the traffic lane due to insufficient shoulder width, sign vehicle V1 shall be equipped with a truck-mounted attenuator. Sign vehicle V1 shall stay as close to the edge of shoulder as practicable.

**LEGEND**

- V1 SIGN VEHICLE
- V2 SHADOW VEHICLE
- V3 WORK/APPLICATION VEHICLE
- V4 SIGN VEHICLE
- TMA TRUCK-MOUNTED ATTENUATOR
-  FLASHING ARROW SIGN (FAS) IN FLASHING CAUTION MODE
-  FLASHING ARROW SIGN (FAS) IN ALTERNATING DIAMOND CAUTION

**SIGN PANEL SIZE (Min)**

- A** 72" x 42"
- B** 54" x 42"
- C** 54" x 24"

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

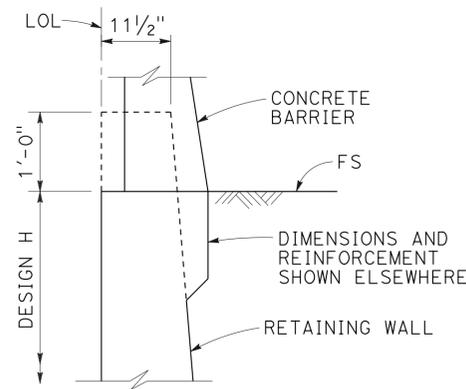
RSP T17 DATED APRIL 19, 2013 SUPERSEDES STANDARD PLAN T17  
 DATED MAY 20, 2011 - PAGE 245 OF THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP T17**

2010 REVISED STANDARD PLAN RSP T17

**DESIGN CONDITIONS:**

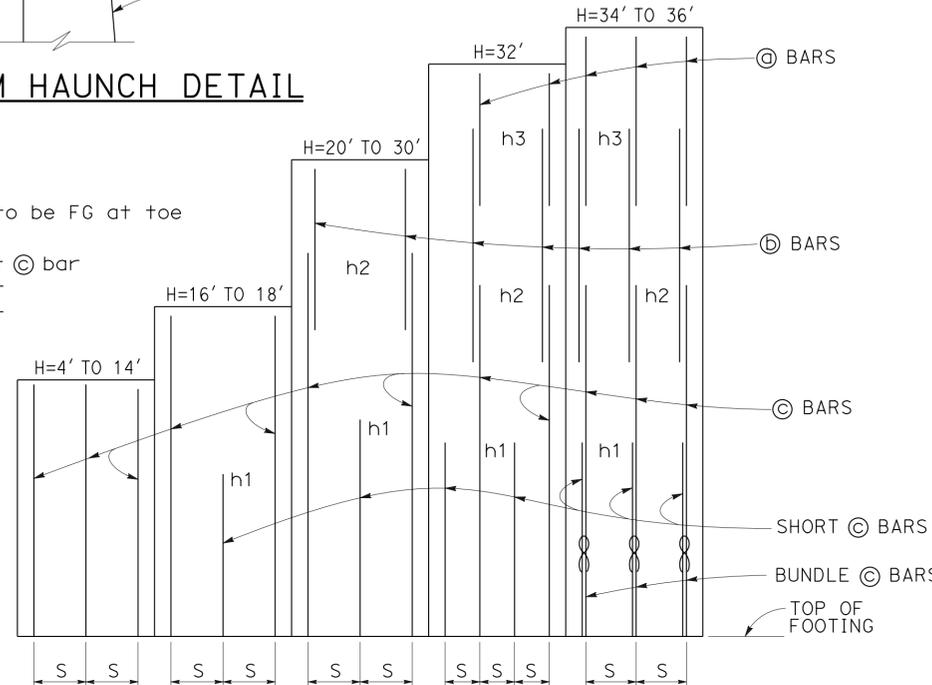
Design H may be exceeded by 6" before going to the next size. Special footing design is required where foundation material is incapable of supporting bearing stress listed in the table.



**STEM HAUNCH DETAIL**

**SYMBOLS:**

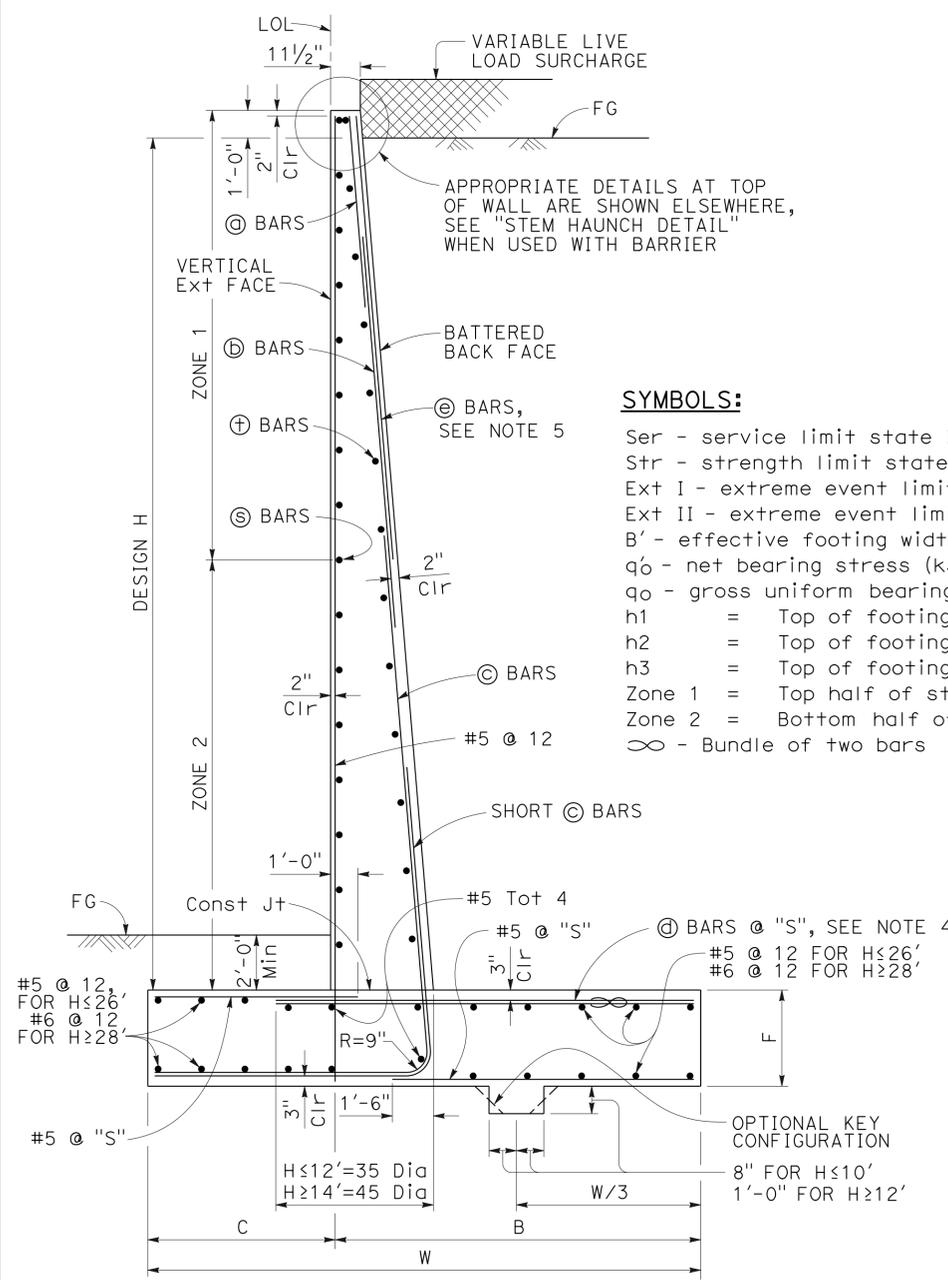
- Ser - service limit state I
- Str - strength limit state I
- Ext I - extreme event limit state I
- Ext II - extreme event limit state II
- B' - effective footing width (ft)
- q<sub>0</sub> - net bearing stress (ksf), OG assumed to be FG at toe
- q<sub>o</sub> - gross uniform bearing stress (ksf)
- h<sub>1</sub> = Top of footing to top of short © bar
- h<sub>2</sub> = Top of footing to top of © bar
- h<sub>3</sub> = Top of footing to top of Ⓣ bar
- Zone 1 = Top half of stem height
- Zone 2 = Bottom half of stem height
- ∞ - Bundle of two bars



**ELEVATION**

**DESIGN NOTES:**

- TO ACCOMPANY PLANS DATED 7-22-13
- DESIGN: AASHTO LRFD Bridge Design Specifications, 4th Edition with California Amendments
  - LS: Varied surcharge on level ground surface
  - DC: Stem Architectural Treatment of thickness up to 6" of concrete (75 psf) considered
  - CT: 54 kip transverse force applied at H<sub>e</sub> = 32", distributed over 10 feet at the top of wall and 1:1 distribution down and outward. Distribution below footing taken no less than 40'.
  - SEISMIC: k<sub>H</sub> = 0.2, k<sub>V</sub> = 0.0
  - SOIL: φ = 34°, γ = 120 pcf
  - REINFORCED CONCRETE: f'<sub>c</sub> = 3,600 psi  
f<sub>y</sub> = 60,000 psi
  - LOAD COMBINATIONS AND LIMIT STATES:
    - Service I Q = 1.00DC+1.00EV+1.00EH+1.00LS
    - Strength I Q = αDC+βEV+ηEH+1.75LS
    - Extreme I Q = 1.00DC+1.00EV+1.00EH+1.00EQD+1.00EQE
    - Extreme II Q = 1.00DC+1.00EV+1.00EH+1.00CT
  - Where:
    - Q: Force Effects
    - α: 1.25 or 0.90, Whichever Controls Design
    - β: 1.35 or 1.00, Whichever Controls Design
    - η: 1.50 or 0.90, Whichever Controls Design
    - DC: Dead Load of Structure Components
    - EH: Horizontal Earth Fill Pressure
    - EV: Vertical Earth Pressure from Earth Fill Weight
    - LS: Live Load Surcharge
    - EQE: Seismic Earth Pressure
    - EQD: Soil and Structural and Nonstructural Components Inertia
    - CT: Vehicular Collision Force



**TYPICAL SECTION**

DESIGN H	4'	6'	8'	10'	12'	14'	16'	18'	20'	22'	24'	26'	28'	30'	32'	34'	36'
W	6'-10"	7'-0"	7'-3"	7'-7"	8'-4"	9'-7"	10'-9"	12'-0"	13'-3"	14'-6"	15'-9"	17'-1"	18'-5"	19'-10"	21'-2"	22'-7"	24'-0"
C	2'-2"	2'-3"	2'-3"	2'-4"	2'-6"	3'-0"	3'-6"	4'-0"	4'-6"	5'-0"	5'-5"	6'-0"	6'-6"	7'-2"	7'-8"	8'-2"	9'-0"
B	4'-8"	4'-9"	5'-0"	5'-3"	5'-10"	6'-7"	7'-3"	8'-0"	8'-9"	9'-6"	10'-4"	11'-1"	11'-11"	12'-8"	13'-6"	14'-5"	15'-0"
F	1'-4"	1'-4"	1'-4"	1'-4"	1'-6"	1'-8"	1'-8"	1'-9"	1'-9"	1'-11"	2'-2"	2'-5"	2'-10"	3'-3"	3'-6"	4'-0"	4'-3"
BATTER	1/2: 12	1/2: 12	1/2: 12	1/2: 12	1/2: 12	1/2: 12	1/2: 12	1/2: 12	1/2: 12	1/2: 12	5/8: 12	5/8: 12	3/4: 12	7/8: 12	1: 12	1: 12	1: 12
SPACING "S"	9"	9"	9"	9"	9"	7"	6"	5"	6"	6"	6"	6"	6"	6"	6"	10"	8"
© BARS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	#7	#7	#6
Ⓣ BARS	-	-	-	-	-	-	-	-	#7	#7	#7	#7	#7	#7	#9	#9	#8
© BARS	#6	#6	#6	#6	#6	#6	#7	#7	#8	#9	#9	#10	#10	#10	#11	#11	#11
Ⓣ BARS	#5	#5	#6	#6	#6	#6	#9	#8	#8	#9	#9	#10	#10	#10	#11	#11	#11
h <sub>1</sub>	-	-	-	-	-	-	5'-9"	5'-10"	8'-0"	9'-0"	10'-1"	11'-0"	12'-1"	13'-0"	13'-0"	12'-7"	11'-6"
h <sub>2</sub>	-	-	-	-	-	-	-	-	10'-5"	13'-0"	14'-7"	17'-6"	19'-0"	20'-5"	19'-0"	18'-0"	20'-2"
h <sub>3</sub>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21'-2"	21'-10"	24'-0"
ZONE 1 © BARS	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 12
ZONE 2 © BARS	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 12	#6 @ 12	#6 @ 12	#6 @ 12	#7 @ 12	#7 @ 12
ZONE 1 ⊕ BARS	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 12	#4 @ 12	#4 @ 12	#4 @ 12	#4 @ 12	#4 @ 12	#4 @ 12
ZONE 2 ⊕ BARS	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 12	#4 @ 12	#4 @ 12	#4 @ 12	#5 @ 12	#5 @ 12	#5 @ 12
Ser: B', q <sub>0</sub>	6.8, 0.7	6.5, 1.0	6.2, 1.3	6.0, 1.6	6.3, 2.0	7.5, 2.1	8.6, 2.2	9.8, 2.3	11.0, 2.4	12.1, 2.5	13.2, 2.8	14.4, 2.9	15.5, 3.1	16.8, 3.3	18.0, 3.5	19.2, 3.7	20.6, 3.7
Str: B', q <sub>o</sub>	6.6, 1.6	5.0, 1.8	3.6, 2.3	3.0, 3.3	3.2, 4.0	4.3, 3.8	5.3, 3.7	6.4, 3.7	7.4, 3.8	8.2, 4.1	9.0, 4.4	9.9, 4.6	10.7, 4.9	11.7, 5.2	12.6, 5.4	13.6, 5.8	14.6, 5.9
Ext I: B', q <sub>o</sub>	5.2, 1.1	4.7, 1.5	3.9, 2.2	3.1, 3.4	2.8, 4.8	3.2, 5.3	3.6, 5.7	4.1, 6.1	4.6, 6.4	5.0, 6.9	5.3, 7.6	5.8, 8.1	6.1, 8.9	6.7, 9.4	7.1, 10.0	7.5, 10.7	8.2, 10.9
Ext II: B', q <sub>o</sub>	2.6, 2.2	2.7, 2.6	2.8, 3.1	2.9, 3.6	3.7, 3.6	5.2, 3.3	6.7, 3.1	8.3, 3.0	9.8, 3.0	11.2, 3.1	12.5, 3.2	13.9, 3.4	15.2, 3.6	16.7, 3.8	18.0, 4.0	19.3, 4.2	20.8, 4.3

**NOTES:**

1. For details not shown and drainage notes see RSP B3-5
2. For wall stem joint details see B0-3 3-3 and B0-3 3-4
3. At © bars:
  - H ≤ 6', no splices are allowed within 1'-8" above the top of footing.
  - H > 6', no splices are allowed within H/4 above the top of footing.
4. Bundle ⊕ bars for H = 34' & 36'.
5. Provide #6 @ 10" x 15'-0" © bars over a distance of 8'-0" measured from all expansion joints, begin wall and end wall locations. For H ≤ 14', hook © bar into footing and reduce bar length as needed to maintain Min Clr cover.

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
**RETAINING WALL TYPE 1 (CASE 1)**  
NO SCALE

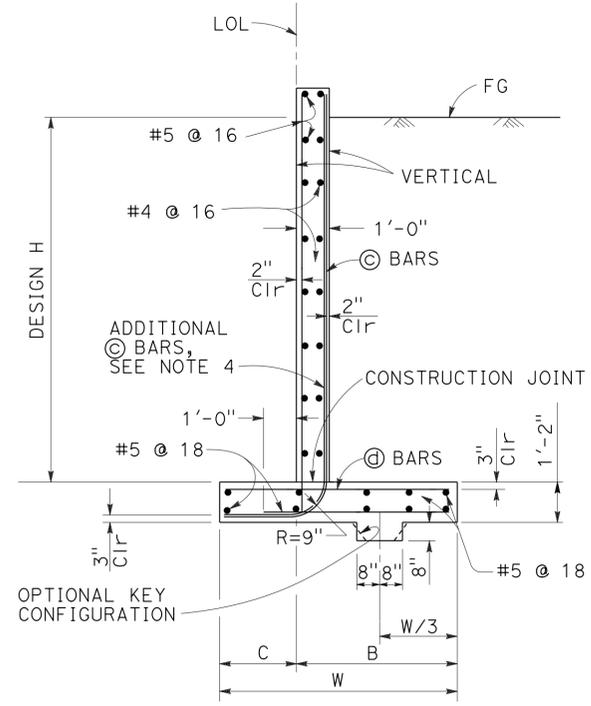
RSP B3-1A DATED APRIL 20, 2012 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

2010 REVISED STANDARD PLAN RSP B3-1A

TO ACCOMPANY PLANS DATED 7-22-13

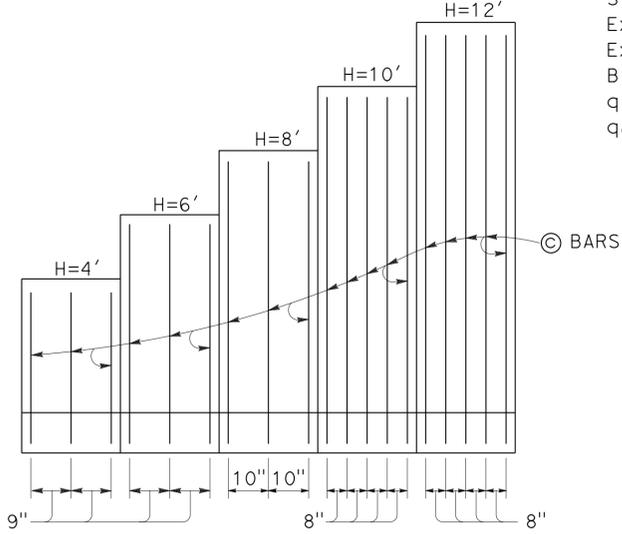
**SYMBOLS:**

- Ser - service limit state I
- Str - strength limit state I
- Ext I - extreme event limit state I
- Ext II - extreme event limit state II
- B' - effective footing width (ft)
- q<sub>o</sub> - net bearing stress (ksf), OG assumed to be FG at toe
- q<sub>o</sub> - gross uniform bearing stress (ksf)

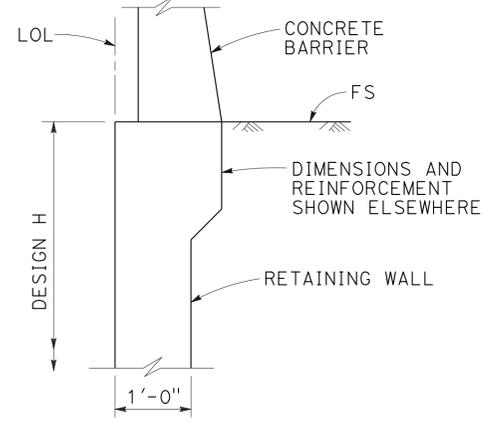


**SPREAD FOOTING SECTION**

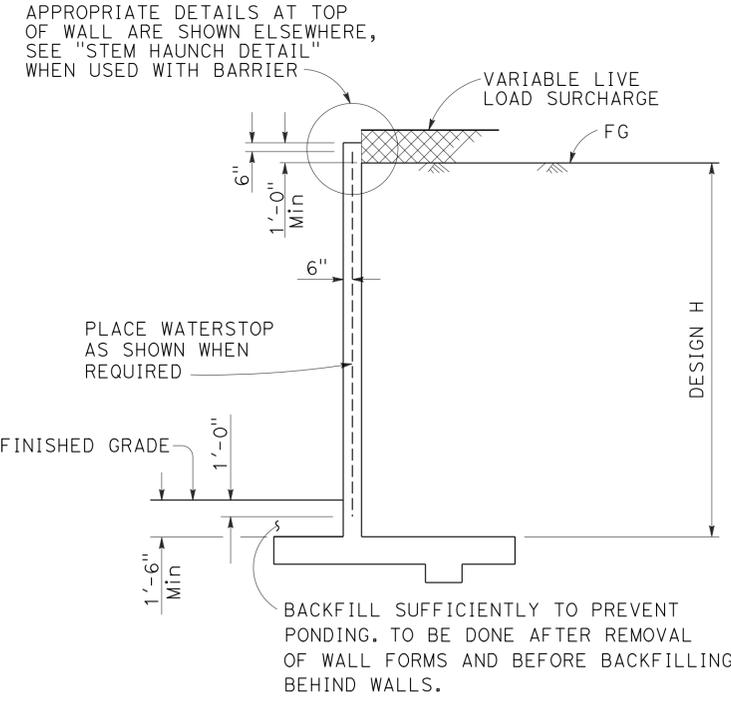
Place concrete in toe against undisturbed material, except as permitted by the Engineer.



**ELEVATION**



**STEM HAUNCH DETAIL**



**DESIGN SECTION**

**TABLE OF REINFORCING STEEL, DIMENSIONS AND DATA**

DESIGN H	4'	6'	8'	10'	12'
W	7'-0"	7'-0"	7'-3"	7'-5"	8'-2"
C	2'-3"	2'-3"	2'-3"	2'-5"	2'-7"
B	4'-9"	4'-9"	5'-0"	5'-0"	5'-7"
⊙ BARS	#6 @ 9	#6 @ 9	#7 @ 10	#7 @ 8	#7 @ 8
⊙ BARS	#5 @ 9	#5 @ 9	#6 @ 10	#7 @ 8	#7 @ 8
Ser: B', q <sub>o</sub>	6.7, 0.8	6.7, 1.0	6.3, 1.3	5.8, 1.6	6.2, 1.9
Str: B', q <sub>o</sub>	6.6, 1.6	5.2, 1.7	3.7, 2.2	2.8, 3.3	3.0, 3.9
Ext I: B', q <sub>o</sub>	5.6, 0.9	4.8, 1.4	4.1, 2.0	3.1, 3.2	2.7, 4.5
Ext II: B', q <sub>o</sub>	2.8, 1.9	2.7, 2.5	2.8, 3.0	2.6, 3.7	3.4, 3.6

**DESIGN CONDITIONS:**

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

**DESIGN NOTES:**

- DESIGN: AASHTO LRFD Bridge Design Specifications, 4th Edition with California Amendments
- LS: Varied surcharge on level ground surface
- DC: Stem Architectural Treatment of thickness up to 6" of concrete (75 psf) considered
- CT: 54 kip transverse force applied at H<sub>e</sub> = 32", distributed over 10 feet at the top of wall and 1 : 1 distribution down and outward. Distribution below footing taken no less than 40'.
- SEISMIC: K<sub>h</sub> = 0.2  
K<sub>v</sub> = 0.0
- SOIL: φ = 34°  
γ = 120 pcf
- REINFORCED CONCRETE: f'<sub>c</sub> = 3,600 psi  
f<sub>y</sub> = 60,000 psi
- LOAD COMBINATIONS AND LIMIT STATES:
  - Service I Q = 1.00DC+1.00EV+1.00EH+1.00LS
  - Strength I Q = aDC+φEV+ηEH+1.75LS
  - Extreme I Q = 1.00DC+1.00EV+1.00EH+1.00EQD+1.00EQE
  - Extreme II Q = 1.00DC+1.00EV+1.00EH+1.00CT
- Where:
  - Q: Force Effects
  - a: 1.25 or 0.90, Whichever Controls Design
  - φ: 1.35 or 1.00, Whichever Controls Design
  - η: 1.50 or 0.90, Whichever Controls Design
  - DC: Dead Load of Structure Components
  - EH: Horizontal Earth Fill Pressure
  - EV: Vertical Earth Pressure from Earth Fill Weight
  - LS: Live Load Surcharge
  - EQE: Seismic Earth Pressure
  - EQD: Soil and Structural and Nonstructural Components Inertia
  - CT: Vehicular Collision Force

**NOTES:**

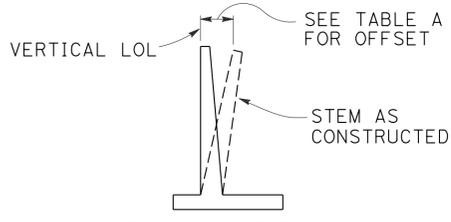
1. For details not shown and drainage notes see RSP B3-5
2. For wall stem joint details see B0-3 3-3 and B0-3 3-4
3. At ⊙ bars:
  - H ≤ 6', no splices are allowed within 1'-8" above the top of footing.
  - H > 6', no splices are allowed within H/4 above the top of footing.
4. Provide #6 @ 8" ⊙ bars in addition to tabulated ⊙ bars over a distance of 8'-0" measured from all expansion joints, begin wall and end wall location.

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
**RETAINING WALL TYPE 1A (CASE 1)**  
 NO SCALE  
 RSP B3-3A DATED APRIL 20, 2012 SUPPLEMENTS THE  
 STANDARD PLANS BOOK DATED 2010.

2010 REVISED STANDARD PLAN RSP B3-3A

TO ACCOMPANY PLANS DATED 7-22-13

2010 REVISED STANDARD PLAN RSP B3-5

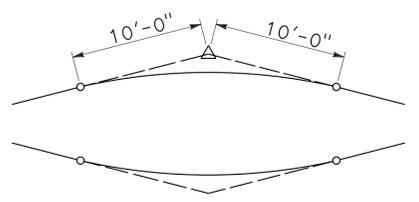


**TABLE A**

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

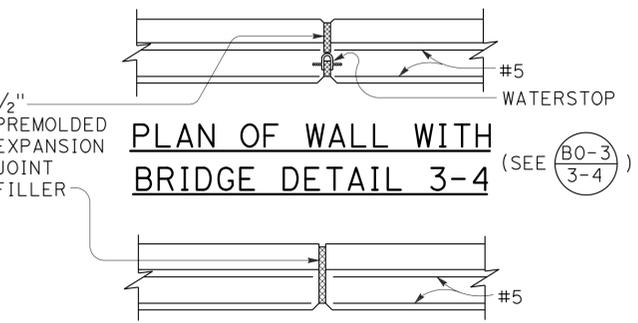
**APPROXIMATE WALL OFFSET VALUES**

Values for offsetting forms to be determined by the Engineer.



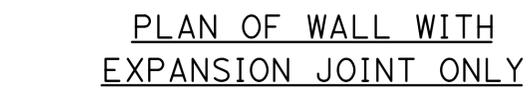
**20'-0" VC AT TOP OF WALL SLOPE CHANGE**

Where shown on the plans

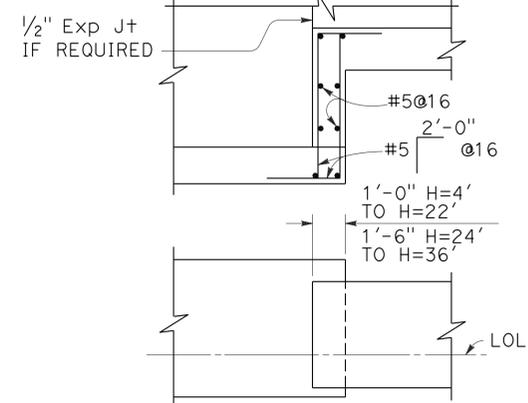


**PLAN OF WALL WITH BRIDGE DETAIL 3-4**

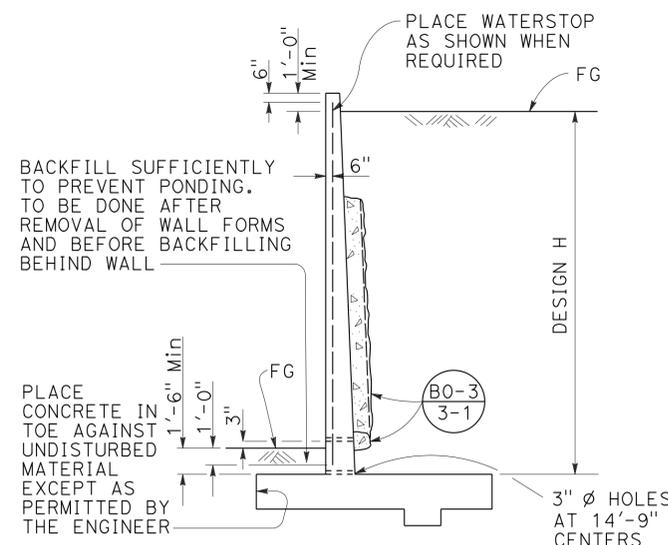
(SEE (B0-3) 3-4)



**PLAN OF WALL WITH EXPANSION JOINT ONLY**



**FOOTING STEP**



**DESIGN AND DRAINAGE**

**DESIGN CONDITIONS:**

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

Return wall not required unless shown elsewhere

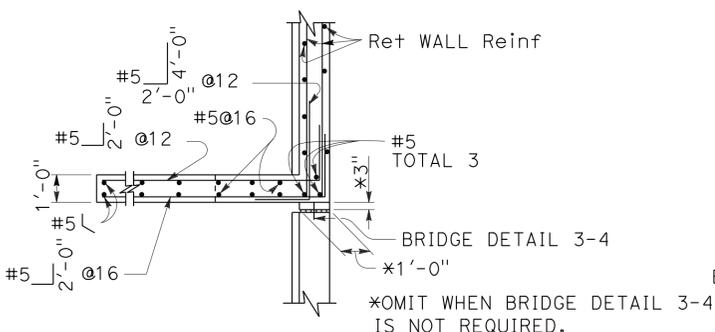
**DESIGN NOTES:**

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

LIVE LOAD: Surcharge on level ground surface

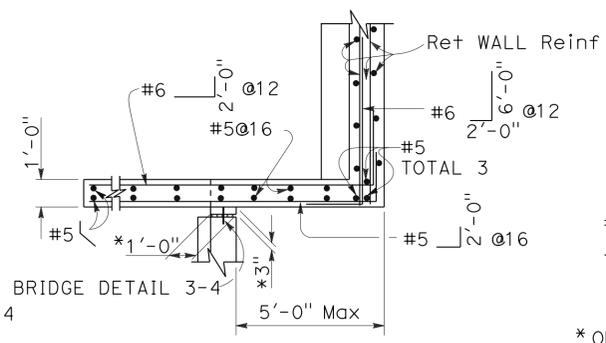
SOIL:  $\phi = 34^\circ$   
 $\gamma = 120$  pcf

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



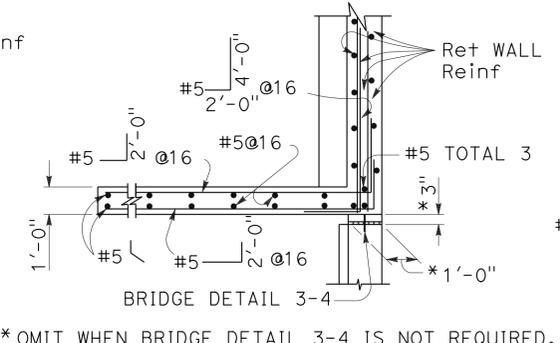
**PLAN**

(For return wall Type "A")



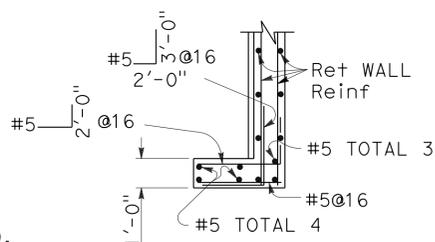
**PLAN**

(For return wall Type "B")



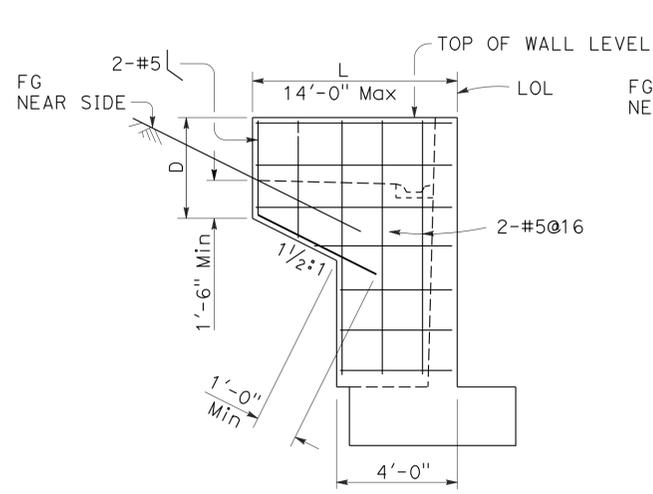
**PLAN**

(For return wall Type "C")



**PLAN**

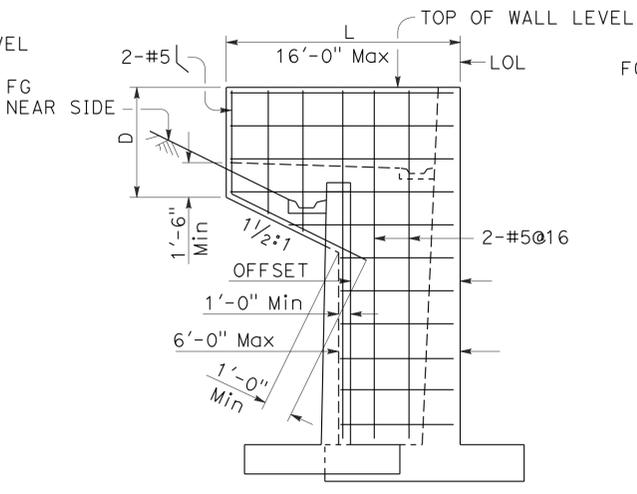
(For return wall Type "D")



**ELEVATION**

**RETURN WALL TYPE "A"**

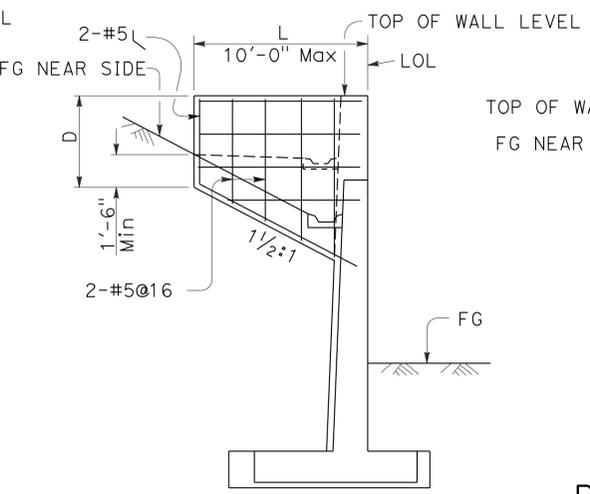
Use where H=8' or less



**ELEVATION**

**RETURN WALL TYPE "B"**

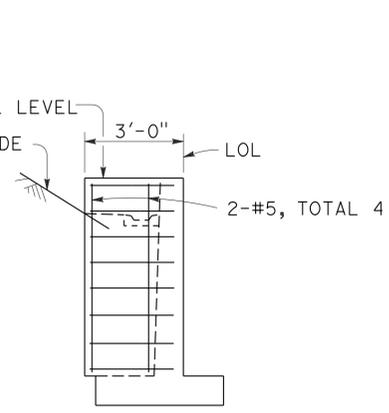
Use where H=10' or more on offset walls



**ELEVATION**

**RETURN WALL TYPE "C"**

Use where H=10' or more on straight walls



**ELEVATION**

**RETURN WALL TYPE "D"**

Use where H=6' or less

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**RETAINING WALL DETAILS No. 1**

NO SCALE

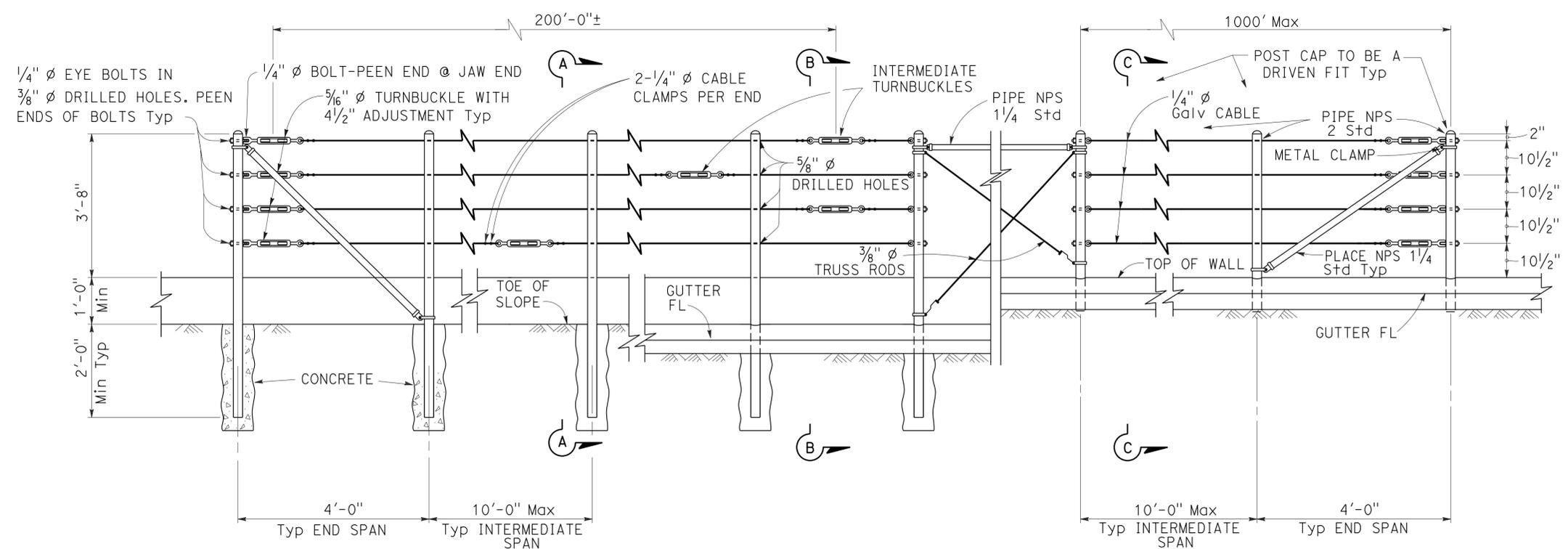
RSP B3-5 DATED APRIL 20, 2012 SUPERSEDES STANDARD PLAN B3-5 DATED MAY 20, 2011 - PAGE 277 OF THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP B3-5**

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	4,5	Var	336	486

REGISTERED CIVIL ENGINEER		
October 21, 2011		
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>		

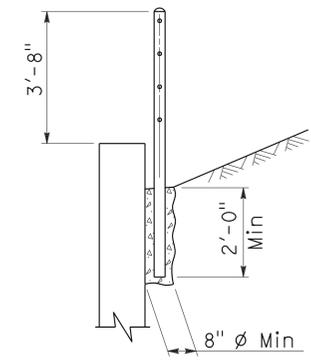


**EXISTING WALL (WITHOUT GUTTER)** Existing      **RETAINING WALL (WITH GUTTER)** Existing      **RETAINING WALL (WITH GUTTER)** New construction

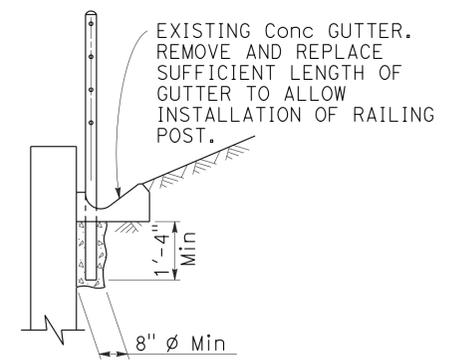
**ELEVATION**

**NOTES:**

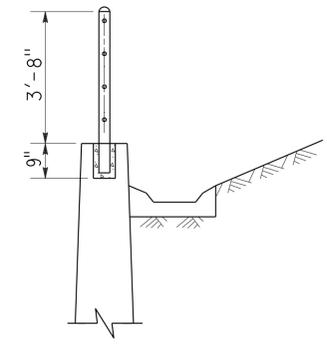
1. Maximum distance between turnbuckles shall be 200'-0"±.
2. Intermediate turnbuckles to be placed in adjacent spans.
3. Cable shall not be spliced between intermediate turnbuckles and end posts.
4. Posts to be vertical.
5. Alignment of holes in posts may vary to conform to slope of top of retaining wall.
6. The Contractor shall verify all dependent dimensions in the field before ordering or fabricating any material.
7. Line posts shall be braced horizontally and trussed diagonally in both directions at intervals not to exceed 1000'.
8. Post pockets to be centered in top of wall.
9. Typical end spans, braced in both directions, shall be constructed at changes in line where the angle of deflection is 15° or more.
10. Provide thimbles at all cable loops.



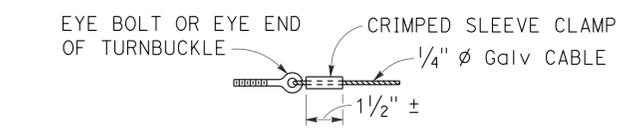
**SECTION A-A**  
Existing



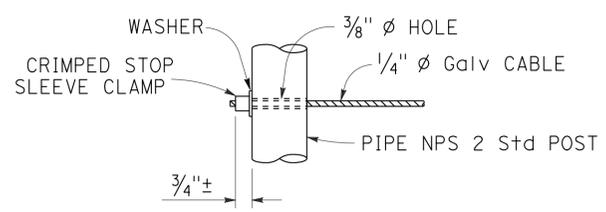
**SECTION B-B**  
Existing



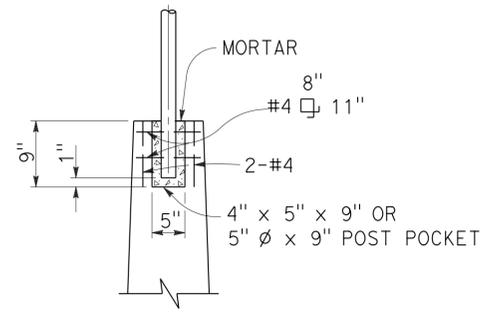
**SECTION C-C**  
New construction



**ALTERNATIVE CABLE CONNECTION**



**ALTERNATIVE DEAD END ANCHORAGE**



**POST POCKET**

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
**CABLE RAILING**

NO SCALE

RSP B11-47 DATED OCTOBER 21, 2011 SUPERSEDES STANDARD PLAN B11-47 DATED MAY 20, 2011 - PAGE 293 OF THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP B11-47**

2010 REVISED STANDARD PLAN RSP B11-47

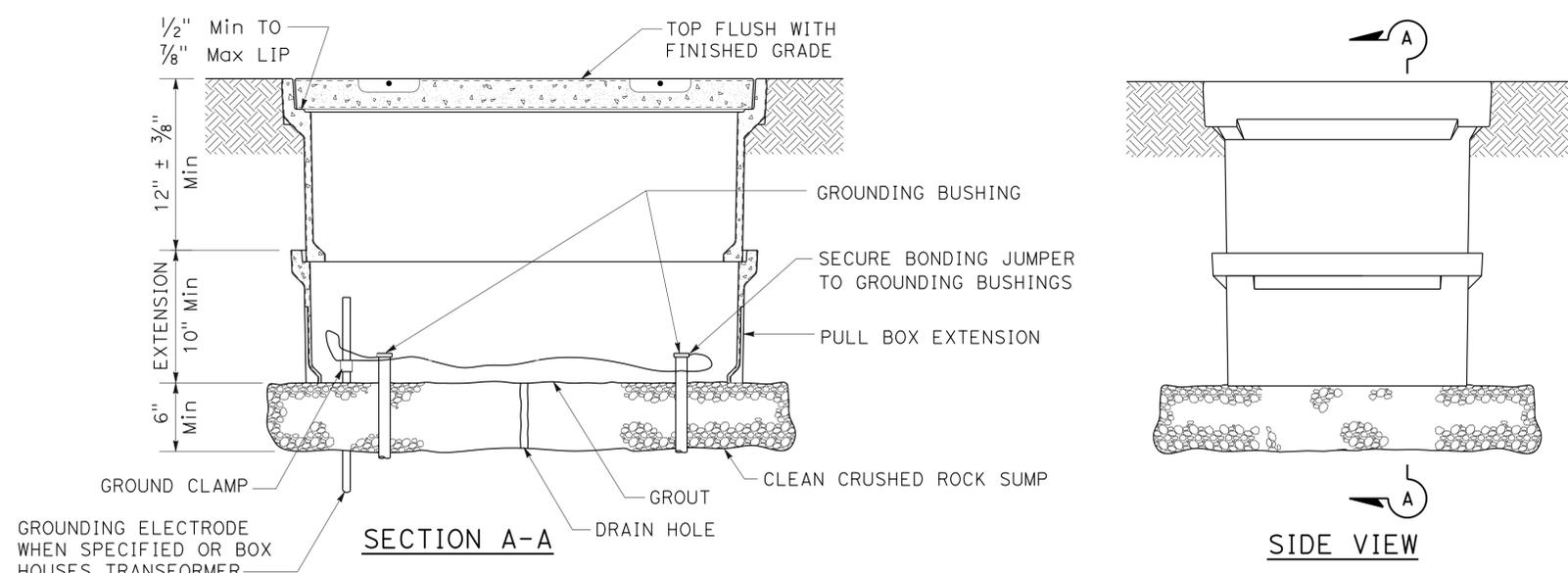
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	SJ	4,5	Var	337	486

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

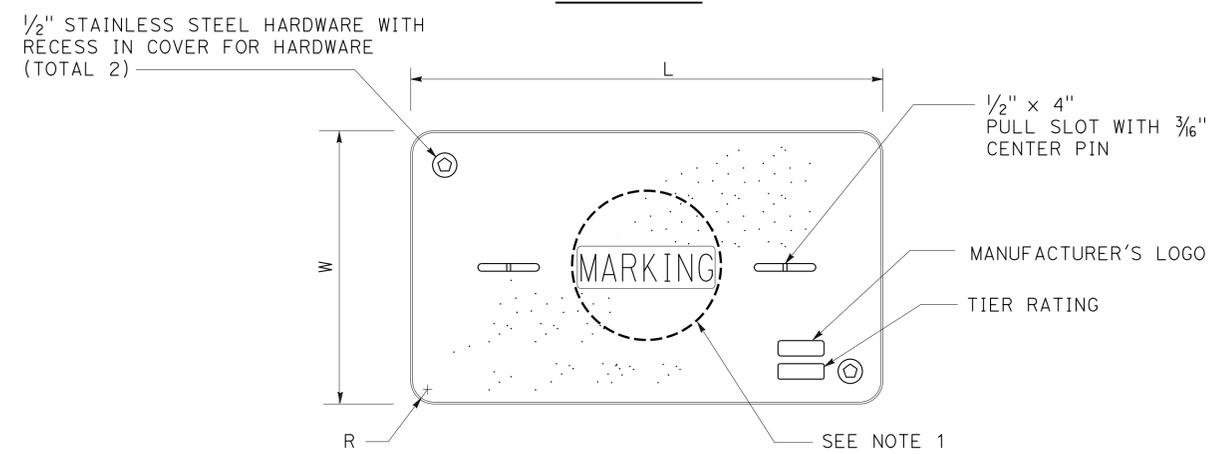
January 20, 2012  
 PLANS APPROVAL DATE

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

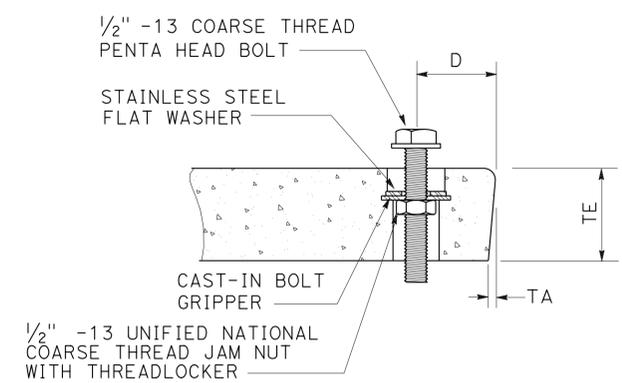
TO ACCOMPANY PLANS DATED 7-22-13



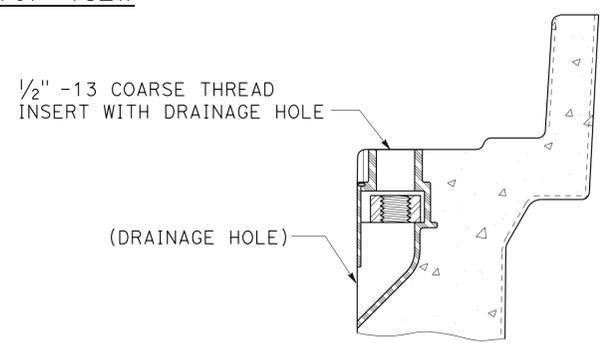
**INSTALLATION DETAILS**  
**DETAIL A**



**COVER TOP VIEW**



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



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

**NOTES ON PULL BOXES:**

1. Pull box covers must be marked as follows: "SERVICE" Service circuits between service point and service disconnect; "SPRINKLER-CONTROL" sprinkler control circuits, 50 V or less; "CALTRANS" on all pull boxes, except pull boxes marked "SPRINKLER-CONTROL"; and "TELEPHONE" Telephone service;
  - A) No. 3/2 pull box.
    - 1) "SIGNAL" - Traffic signal circuits with or without street or sign lighting circuits.
    - 2) "ST LIGHTING" - Street or sign lighting circuits where voltage is under 600 V.
  - B) No. 5, 6, 9 or 9A pull box.
    - 1) "TRAFFIC SIGNAL" - Traffic signal circuits with or without street or sign lighting circuits.
    - 2) "STREET LIGHTING" - Street or sign lighting circuits where voltage is under 600 V.
    - 3) "STREET LIGHTING-HIGH VOLTAGE" - Street or sign lighting circuits where voltage is above 600 V.
    - 4) "IRRIGATION" - Circuits to irrigation controller 120 V or more.
    - 5) "RAMP METER" - Ramp meter circuits.
    - 6) "COUNT STATION" - Count or speed monitor circuits.
    - 7) "COMMUNICATIONS" - Communication circuits.
    - 8) "TOS COMMUNICATIONS" - TOS communication line.
    - 9) "TOS POWER" - TOS power.
    - 10) "TDC POWER" - Telephone demarcation cabinet power.
    - 11) "CCTV" - Closed circuit television circuits.
    - 12) "TMS" - Traffic monitoring station circuits.
    - 13) "CMS" - Changeable message sign circuits.
    - 14) "HAR" - Highway advisory radio circuits.
2. The nominal dimensions of the opening in which the cover sets must be the same as the cover dimensions (L and W) plus 1/8" or greater.
3. Covers and boxes must be interchangeable with California Standard. When interchanged with a standard, the top surfaces must be flush within 1/8". Top outside radius of covers and pull boxes must have a 1/8" radius.
4. Pull box extension may be another pull box as long as the bottom edge of the pull box can fit into the cover opening.

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

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

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

2010 REVISED STANDARD PLAN RSP ES-8A

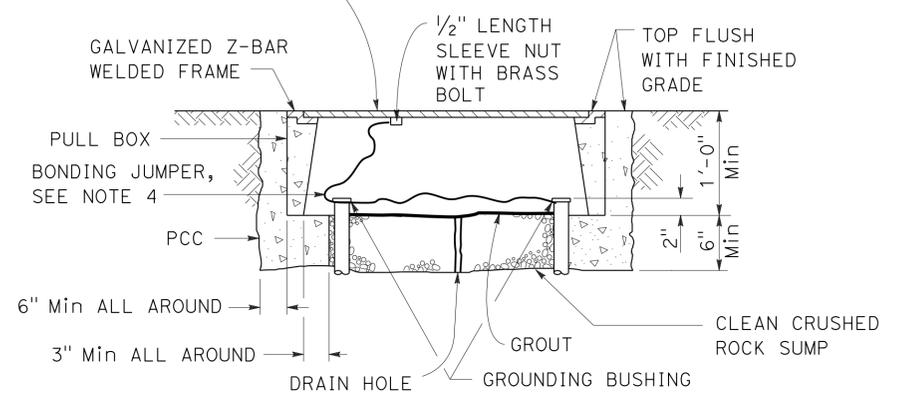
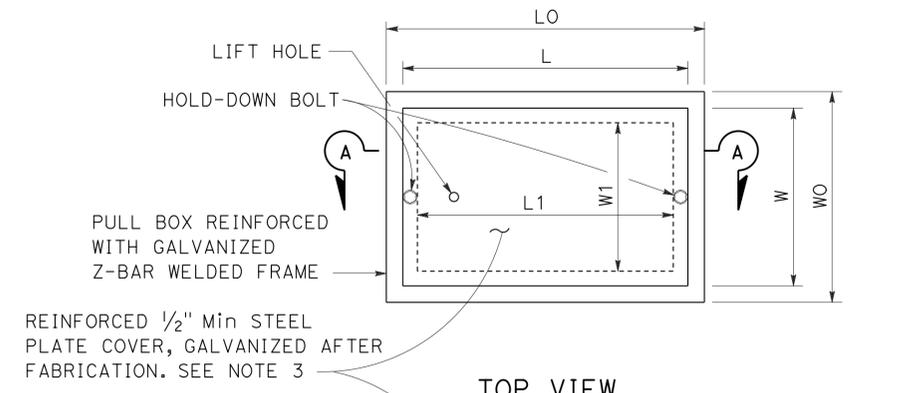
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	SJ	4,5	Var	338	486

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

January 20, 2012  
 PLANS APPROVAL DATE

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

TO ACCOMPANY PLANS DATED 7-22-13



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

**NOTES ON PULL BOXES:**

- Traffic pull box shall be provided with steel cover and special concrete footing. Steel cover shall have embossed non-skid pattern.
- Steel reinforcing shall be as regularly used in the standard products of the respective manufacturer.
- Pull box covers must be marked as follows: "SERVICE" Service circuits between service point and service disconnect; "SPRINKLER-CONTROL" Sprinkler control circuits, 50 V or less; "CALTRANS" On all pull boxes, except pull boxes marked "SPRINKLER-CONTROL"; and "TELEPHONE" Telephone service.
  - No. 3 1/2(T) pull box.
    - "SIGNAL" - Traffic signal circuits with or without street or sign lighting circuits.
    - "ST LIGHTING" - Street or sign lighting circuits where voltage is under 600 V.
  - No. 5(T) or 6(T) pull box.
    - "TRAFFIC SIGNAL" - Traffic signal circuits with or without street or sign lighting circuits.
    - "STREET LIGHTING" - Street or sign lighting circuits where voltage is under 600 V.
    - "STREET LIGHTING-HIGH VOLTAGE" - Street or sign lighting circuits where voltage is above 600 V.
    - "IRRIGATION" - Circuits to irrigation controller 120 V or more.
    - "RAMP METER" - Ramp meter circuits.
    - "COUNT STATION" - Count or speed monitor circuits.
    - "COMMUNICATION" - Communication circuits.
    - "TOS COMMUNICATIONS" - TOS communications line.
    - "TOS POWER" - TOS power.
    - "TDC POWER" - Telephone demarcation cabinet power.
    - "CCTV" - Closed circuit television circuits.
    - "TMS" - Traffic monitoring station circuits.
    - "CMS" - Changeable message sign circuits.
    - "HAR" - Highway advisory radio circuits.
- Bonding jumper for metal covers shall be 3' long, minimum.
- The nominal dimensions of the opening in which the cover sets must be the same as the cover dimensions except the length and width dimensions shall be 1/8" greater.
- Covers and boxes must be interchangeable with California standard male and female gages. When interchanged with a standard male or female gage, the top surfaces must be flush within 1/8".

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

\* EXCLUDING CONDUIT WEB      \*\* TOP DIMENSION

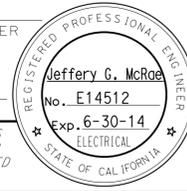
STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
**ELECTRICAL SYSTEMS**  
**(TRAFFIC RATED PULL BOX)**  
 NO SCALE

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

2010 REVISED STANDARD PLAN RSP ES-8B

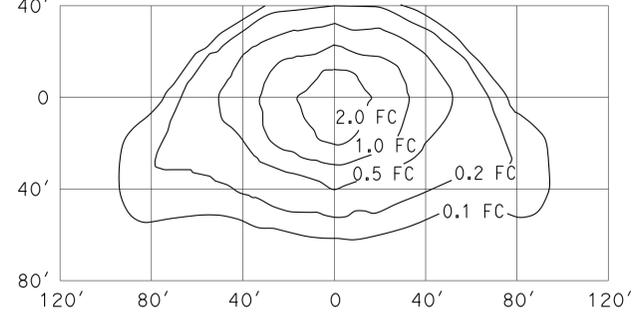
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	4,5	Var	339	486

Jeffrey B. McRae  
 REGISTERED ELECTRICAL ENGINEER  
 July 20, 2012  
 PLANS APPROVAL DATE  
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



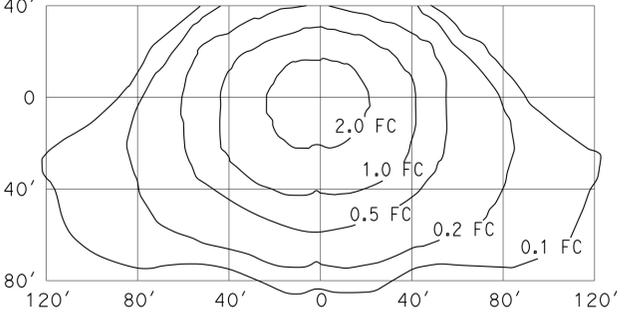
TO ACCOMPANY PLANS DATED 7-22-13

**ISOFOOTCANDLE CURVE - MINIMUM**



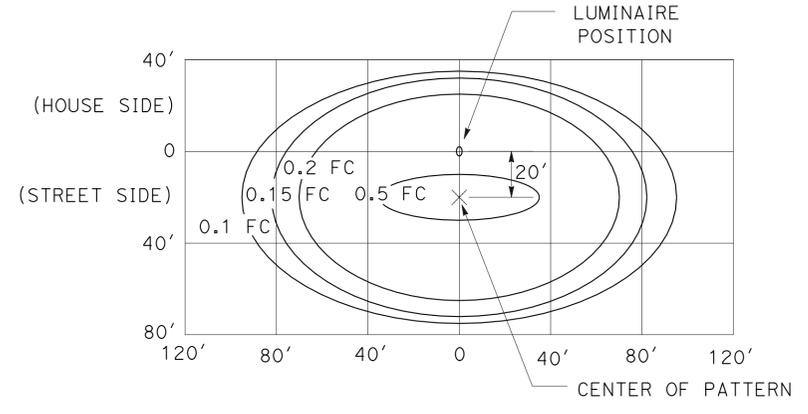
**TYPE III MEDIUM CUTOFF**  
 Cutoff Luminaire  
 34' Mounting Height  
 Lamp operated at 22,000 lm  
 200-W high pressure sodium lamp  
 ANSI Designation S66

**ISOFOOTCANDLE CURVE - MINIMUM**



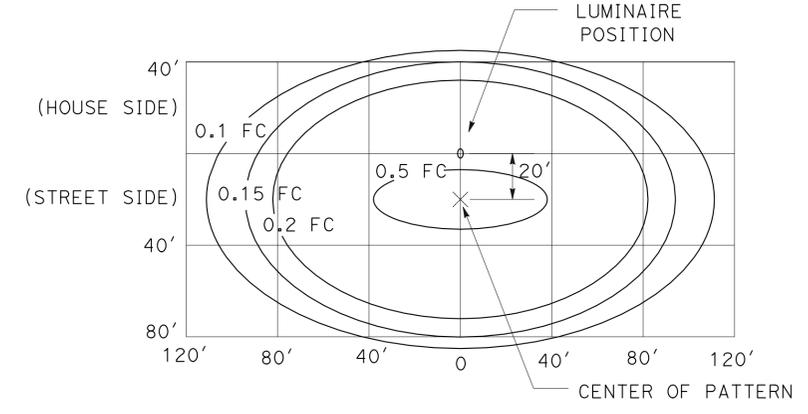
**TYPE III MEDIUM CUTOFF**  
 Cutoff Luminaire  
 40' Mounting Height  
 Lamp operated at 37,000 lm  
 310-W high pressure sodium lamp  
 ANSI Designation S67

**ISOFOOTCANDLE CURVE - MINIMUM**



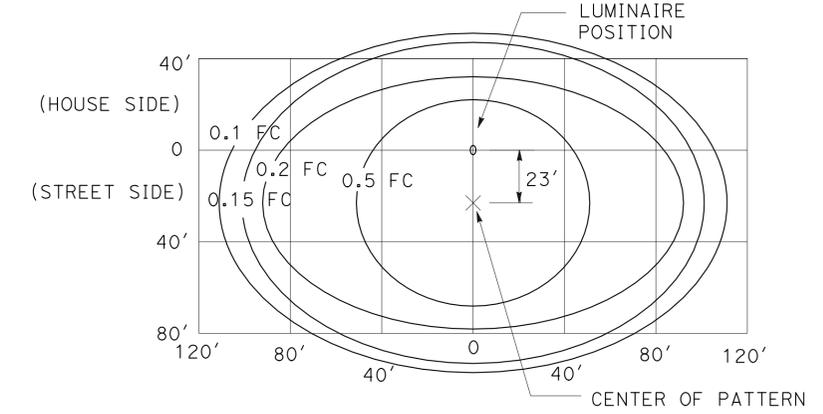
**LED LUMINAIRE ROADWAY 1**  
 200-W HPS Equivalent at 34' Mounting Height

**ISOFOOTCANDLE CURVE - MINIMUM**



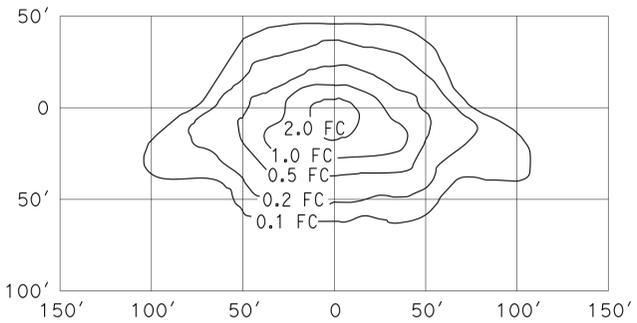
**LED LUMINAIRE ROADWAY 2**  
 310-W HPS Equivalent at 40' Mounting Height

**ISOFOOTCANDLE CURVE - MINIMUM**



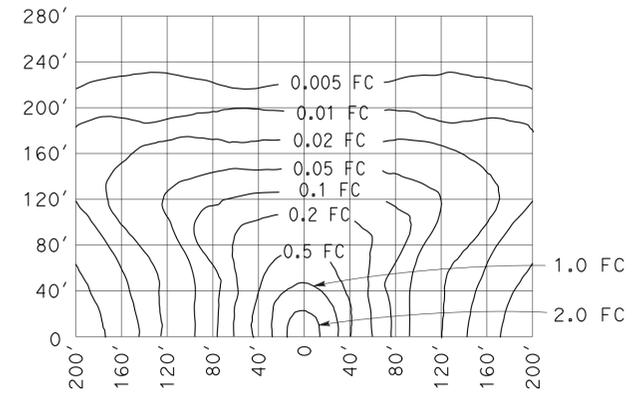
**LED LUMINAIRE ROADWAY 4**  
 400-W HPS Equivalent at 40' Mounting Height

**ISOFOOTCANDLE CURVE - MINIMUM**



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

**ISOFOOTCANDLE CURVE - MINIMUM**



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

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

**ELECTRICAL SYSTEMS  
 (ISOFOOTCANDLE DIAGRAMS)**

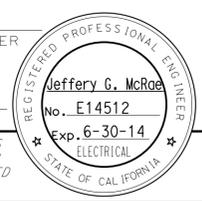
NO SCALE

RSP ES-10A DATED JULY 20, 2012 SUPPLEMENTS THE  
 STANDARD PLANS BOOK DATED 2010.

2010 REVISED STANDARD PLAN RSP ES-10A

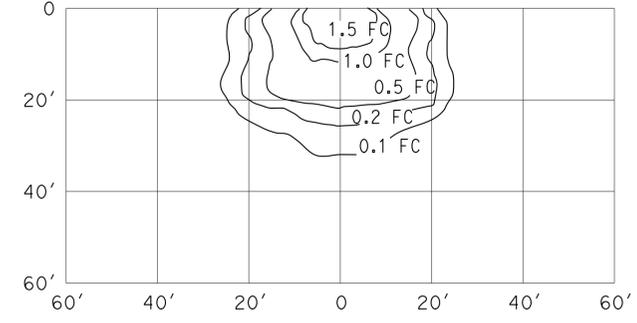
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	4,5	Var	340	486

Jeffrey G. McRae  
 REGISTERED ELECTRICAL ENGINEER  
 July 20, 2012  
 PLANS APPROVAL DATE  
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



TO ACCOMPANY PLANS DATED 7-22-13

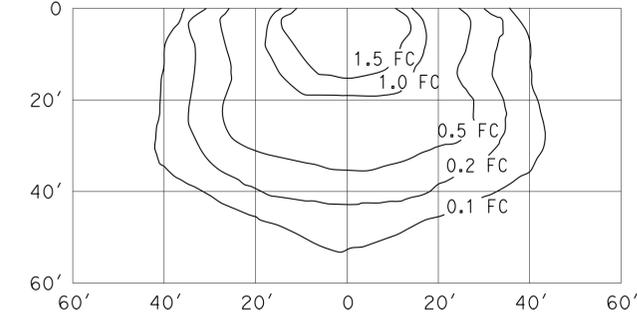
**ISOFOOTCANDLE CURVE - MINIMUM**



**WALL LUMINAIRE**

15' Mounting Height  
 Lamp operated at 5,800 lm  
 70-W high pressure sodium lamp  
 ANSI Designation S62

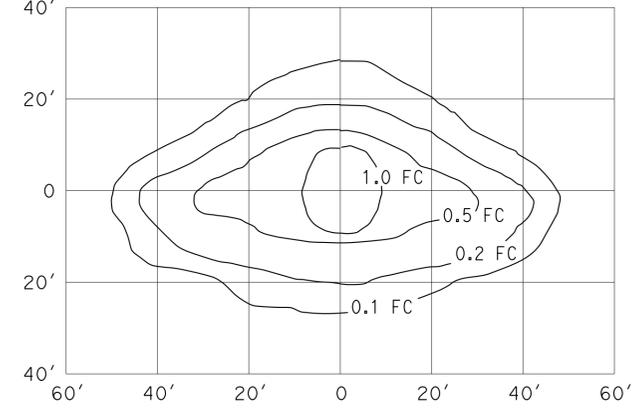
**ISOFOOTCANDLE CURVE - MINIMUM**



**WALL LUMINAIRE**

15' Mounting Height  
 Lamp operated at 9,500 lm  
 100-W high pressure sodium lamp  
 ANSI Designation S54

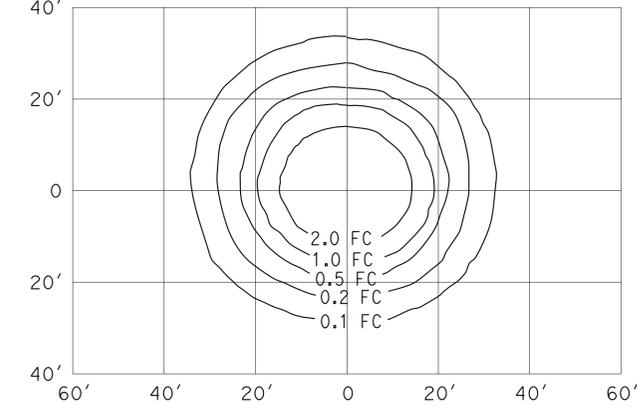
**ISOFOOTCANDLE CURVE - MINIMUM**



**PENDANT SOFFIT LUMINAIRE  
 TYPE III SHORT**

17' Mounting Height  
 Lamp operated at 5,800 lm  
 70-W high pressure sodium lamp  
 ANSI Designation S62

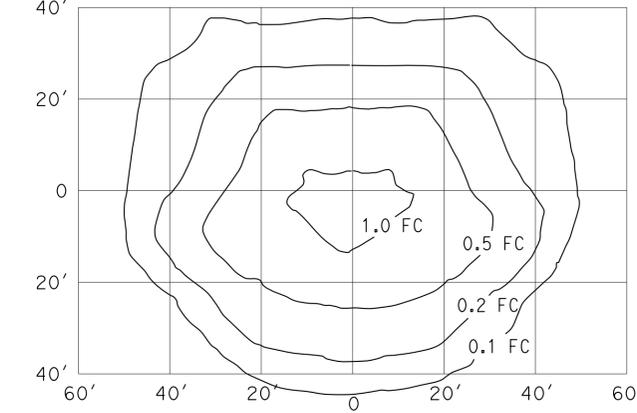
**ISOFOOTCANDLE CURVE - MINIMUM**



**PENDANT SOFFIT LUMINAIRE**

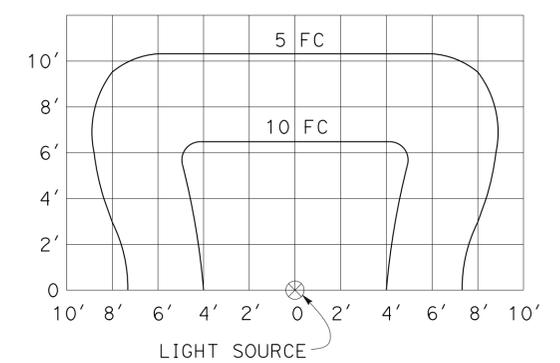
17' Mounting Height  
 Lamp operated at 5,800 lm  
 70-W high pressure sodium lamp  
 ANSI Designation S62

**ISOFOOTCANDLE CURVE - MINIMUM**



**FLUSH SOFFIT LUMINAIRE**

17' Mounting Height  
 Lamp operated at 5,800 lm  
 70-W high pressure sodium lamp  
 ANSI Designation S62



**SIGN LIGHTING FIXTURE  
 ISOFOOTCANDLE DIAGRAM**

**NOTES:**

- Curves represent the minimum footcandle (FC) of initial illumination on a 10'-0" x 20'-0" panel.
- The FC shown are with the fixture attached to the light fixture mounting channel which places the center of the source 4'-8" in front of panel and 1'-0" below the bottom edge.
- Applicable lamp: 85-W fluorescent phosphor coated induction lamp.

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

**ELECTRICAL SYSTEMS  
 (ISOFOOTCANDLE DIAGRAMS)**

NO SCALE

RSP ES-10B DATED JULY 20, 2012 SUPPLEMENTS THE  
 STANDARD PLANS BOOK DATED 2010.

2010 REVISED STANDARD PLAN RSP ES-10B

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	SJ	4,5	Var	341	486

REGISTERED CIVIL ENGINEER *K. Haririaz* 11/27/12 DATE  
 7-22-13 PLANS APPROVAL DATE  
 REGISTERED PROFESSIONAL ENGINEER  
 KIANOUSH HARIRIAZ  
 No. C39591  
 Exp. 12/31/13  
 CIVIL  
 STATE OF CALIFORNIA

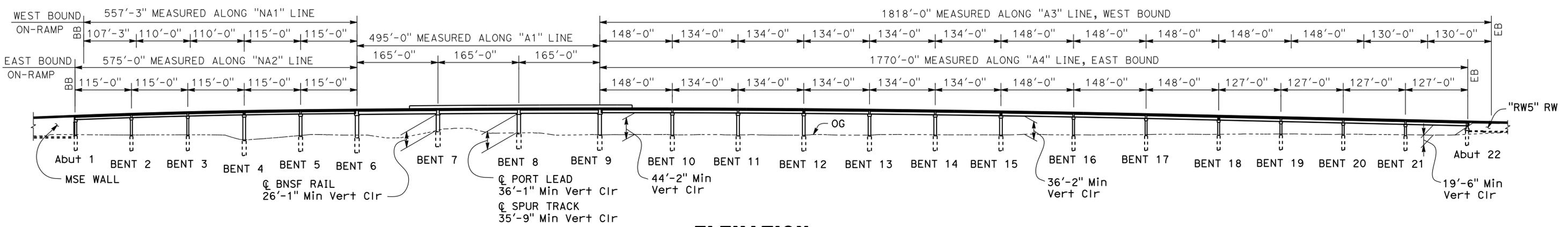
SAN JOAQUIN COUNCIL OF GOVERNMENTS  
 555 E. WEBER AVENUE  
 STOCKTON, CA 95202  
 RAJAPPAN & MEYER  
 CONSULTING ENGINEERS, INC.  
 1038 LEIGH AVE, SUITE 100  
 SAN JOSE, CA 95126

**LEGEND:**

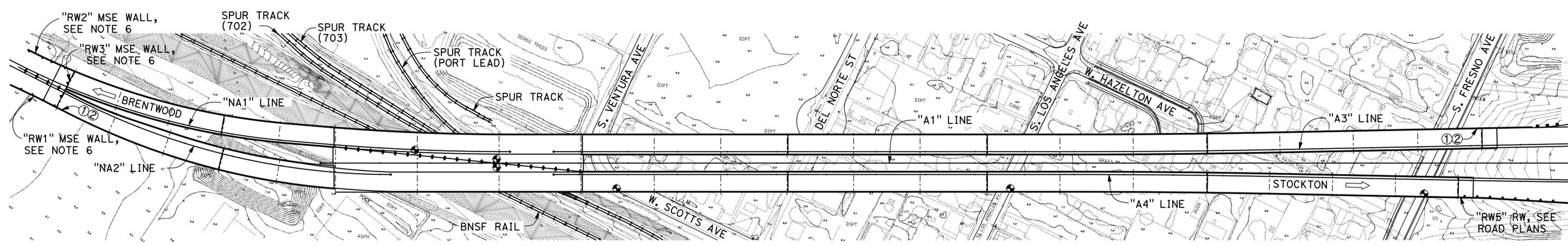
- ① Paint Bridge Name "SR4 CROSSTOWN VIADUCT".
- ② Paint "Br. No. 29-0350".
- ⊕ Indicates Point of Minimum Vertical Clearance
- ▲▲ Indicates Retaining Wall
- ← Indicates Traffic Direction
- BNSF Indicates Burlington Northern and Santa Fe Railroad

**NOTES:**

1. For curve data table and control line information, see "FOUNDATION PLAN" sheets.
2. For "TYPICAL SECTIONS", see "GENERAL PLAN No. 2", "GENERAL PLAN No. 3", and "GENERAL PLAN No. 4" sheets.
3. For "PROFILE GRADE", see "DECK CONTOUR" sheets.
4. For "GENERAL NOTES", "QUANTITIES", and "INDEX TO BRIDGE PLANS", see "INDEX TO PLAN" sheets.
5. For "PILE DATA TABLE", see "PILE DATA" sheet.
6. For retaining wall, see "RETAINING WALL PLANS".



**ELEVATION**  
1" = 100'



**PLAN**  
1" = 100'

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

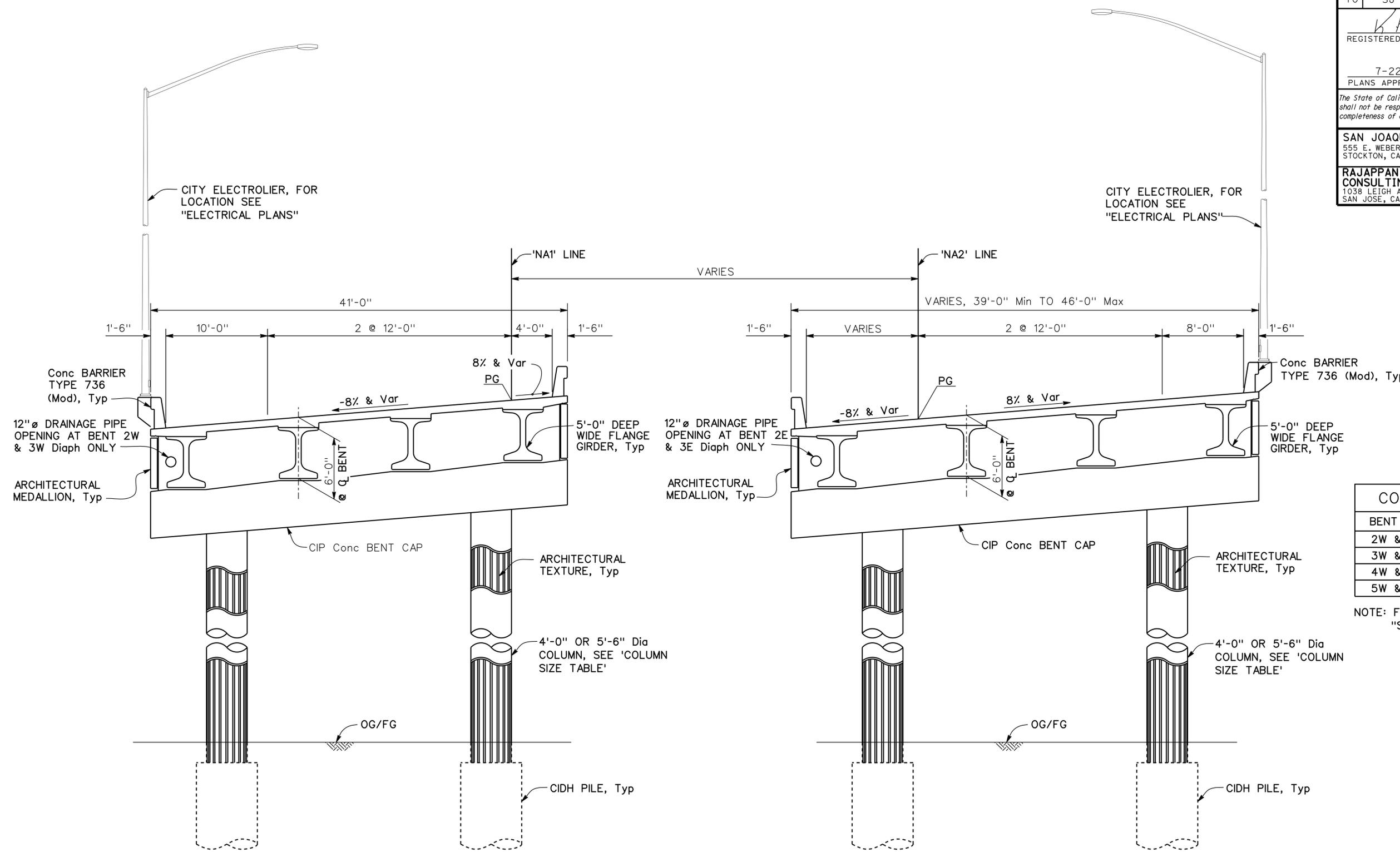
DESIGN OVERSIGHT <i>Reza Erfanian</i> 5-10-13 SIGN OFF DATE	DESIGN	BY P. SHINN	CHECKED N. VO / S. SHI	LOAD & RESISTANCE FACTOR DESIGN	LIVE LOADING: HL93 W/"LOW-BOY"; PERMIT DESIGN VEHICLE	PREPARED FOR THE <b>STATE OF CALIFORNIA</b> DEPARTMENT OF TRANSPORTATION	BRIDGE NO.	<b>SR4 CROSSTOWN VIADUCT</b> <b>GENERAL PLAN No. 1</b>		
	DETAILS	BY P. SHINN	CHECKED N. VO / S. SHI	LAYOUT	BY P. SHINN		CHECKED N. VO / S. SHI		29-0350	
	QUANTITIES	BY S. DESALEGN	CHECKED M. PHILIPS	SPECIFICATIONS	BY K. HARIRIAZ	PLANS AND SPECS COMPARED K. HARIRIAZ	POST MILES			
DESIGN GENERAL PLAN SHEET (ENGLISH) (REV.7/16/10)							UNIT: 1455 PROJECT NUMBER & PHASE: 10000002291 CONTRACT NO.: 10-0S1101	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES 8/18/11 6/08/12 9/04/12 1/27/12	SHEET 1 OF 111

USERNAME => s135318 DATE PLOTTED => 23-JUL-2013 TIME PLOTTED => 10:10

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	SJ	4,5	Var	342	486

REGISTERED CIVIL ENGINEER  
 11/27/12 DATE  
 7-22-13 PLANS APPROVAL DATE  
 KIANOUSH HARIRSAZ  
 No. C39591  
 Exp. 12/31/13  
 CIVIL  
 STATE OF CALIFORNIA

SAN JOAQUIN COUNCIL OF GOVERNMENTS  
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 SAN JOSE, CA 95126



BENT No.	COLUMN DIAMETER
2W & 2E	4'-0"
3W & 3E	4'-0"
4W & 4E	5'-6"
5W & 5E	5'-6"

NOTE: For bent designation, see "STRUCTURE PLAN" sheets.

BENT 2 THRU BENT 5  
**TYPICAL SECTION**  
 NO SCALE

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

 DESIGN/OVERSIGHT 5-10-13 SIGN OFF DATE	DESIGN BY P. SHINN	CHECKED N. VO / S. SHI	LOAD & RESISTANCE FACTOR DESIGN	LIVE LOADING: HL93 W/"LOW-BOY"; PERMIT DESIGN VEHICLE	PREPARED FOR THE <b>STATE OF CALIFORNIA</b> DEPARTMENT OF TRANSPORTATION	BRIDGE NO. 29-0350	<b>SR4 CROSSTOWN VIADUCT</b> <b>GENERAL PLAN No. 2</b>
	DETAILS BY P. SHINN	CHECKED N. VO / S. SHI	LAYOUT BY P. SHINN	CHECKED N. VO / S. SHI		PROJECT ENGINEER P. SHINN	
QUANTITIES BY S. DESALEGN	CHECKED M. PHILIPS	SPECIFICATIONS BY K. HARIRSAZ	PLANS AND SPECS COMPARED K. HARIRSAZ	UNIT: 1455	PROJECT NUMBER & PHASE: 10000002291	CONTRACT NO.: 10-0S1101	DISREGARD PRINTS BEARING EARLIER REVISION DATES REVISION DATES: 8/18/11, 6/08/12, 9/04/12, 11/27/12 SHEET 2 OF 111

DESIGN GENERAL PLAN SHEET (ENGLISH) (REV.7/16/10) ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3 FILE => 29-0350-a-gp02.dgn

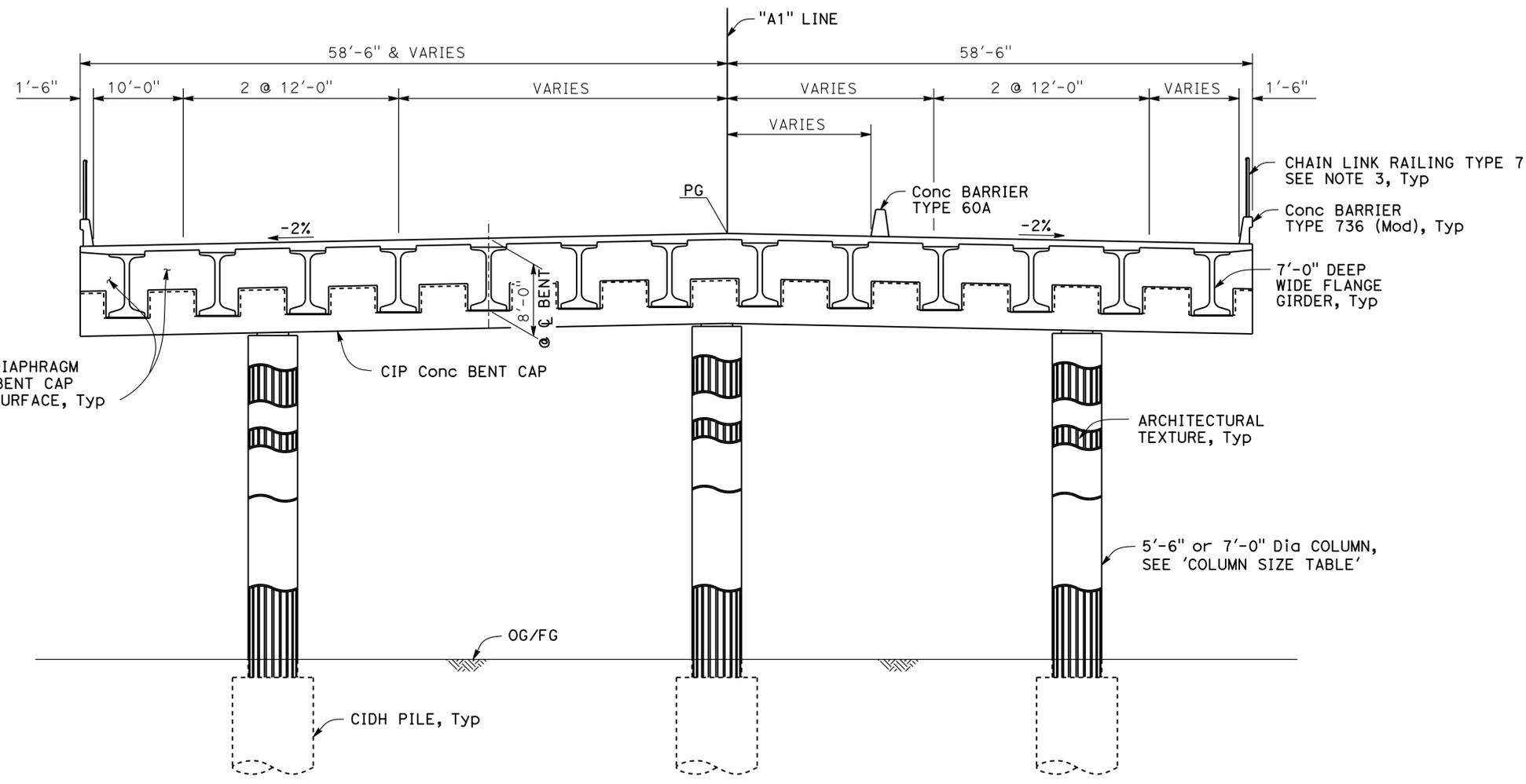
USERNAME => s135318 DATE PLOTTED => 23-JUL-2013 TIME PLOTTED => 10:10

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	SJ	4,5	Var	343	486

  
 REGISTERED CIVIL ENGINEER 11/27/12 DATE  
 7-22-13 PLANS APPROVAL DATE  


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 STOCKTON, CA 95202  
**RAJAPPAN & MEYER CONSULTING ENGINEERS, INC.**  
 1038 LEIGH AVE, SUITE 100  
 SAN JOSE, CA 95126



- NOTES:
1. Bent 6 shown, Bent 7 through Bent 9 similar except with two circular columns only.
  2. For bent designation, see "STRUCTURE PLAN" sheets.
  3. For limit of chain link railing type 7, see "STRUCTURE PLAN No. 3" sheet.

BENT No.	COLUMN DIAMETER
6	5'-6"
7	7'-0"
8	7'-0"
9	7'-0"

**BENT 6 THRU BENT 9**  
**TYPICAL SECTION**  
 NO SCALE

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

  
 DESIGN OVERSIGHT  
 5-10-13  
 SIGN OFF DATE

DESIGN	BY P. SHINN	CHECKED N. VO / S. SHI	LOAD & RESISTANCE FACTOR DESIGN	LIVE LOADING: HL93 W/"LOW-BOY"; PERMIT DESIGN VEHICLE
DETAILS	BY P. SHINN	CHECKED N. VO / S. SHI	LAYOUT	BY P. SHINN
QUANTITIES	BY S. DESALEGN	CHECKED M. PHILIPS	SPECIFICATIONS	BY K. HARIRSAZ

**PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION**  
 P. SHINN  
 PROJECT ENGINEER

BRIDGE NO.	29-0350
POST MILES	T14.83

**SR4 CROSSTOWN VIADUCT**  
**GENERAL PLAN No. 3**

DESIGN GENERAL PLAN SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



UNIT: 1455  
 PROJECT NUMBER & PHASE: 10000002291  
 CONTRACT NO.: 10-0S1101

DISREGARD PRINTS BEARING EARLIER REVISION DATES

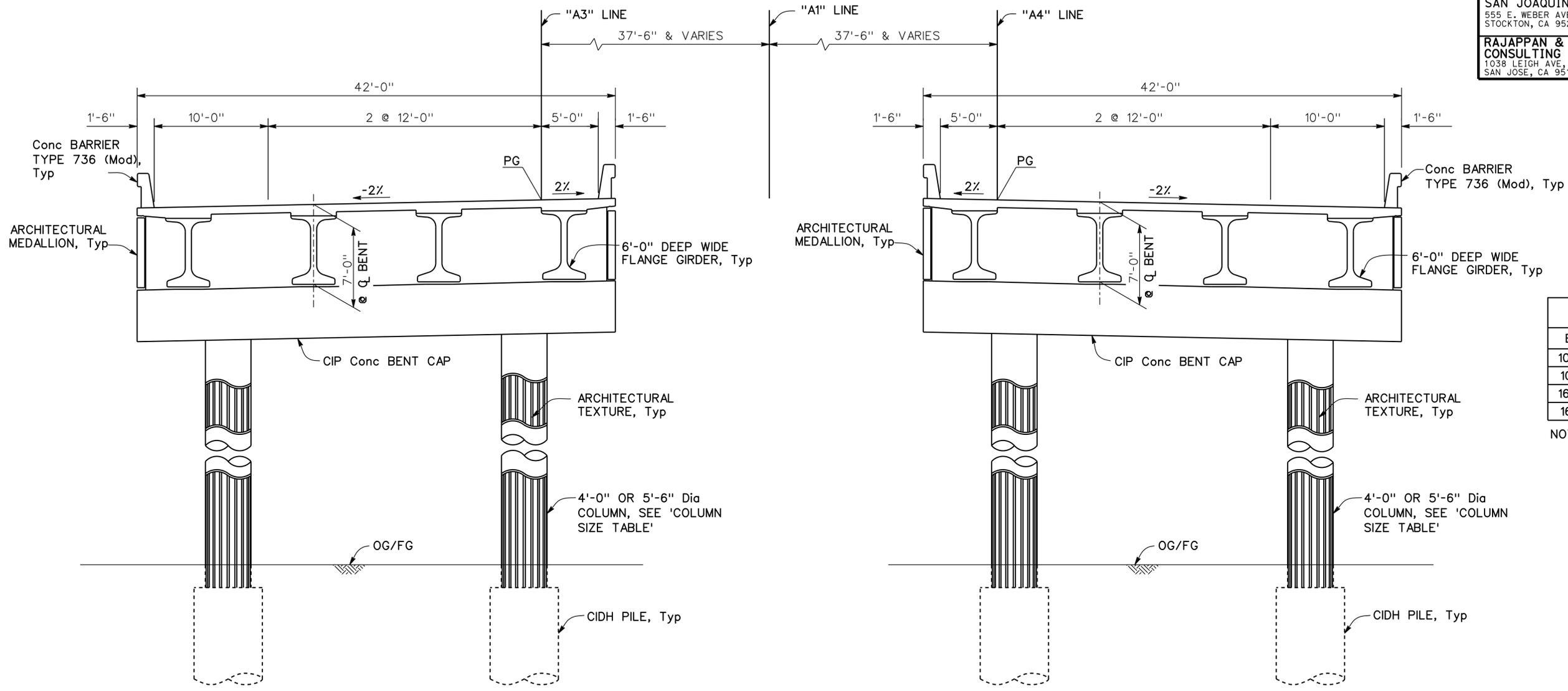
REVISION DATES	SHEET	OF
8/18/11 6/08/12 9/04/12 11/27/12	3	111

USERNAME => s135318 DATE PLOTTED => 23-JUL-2013 TIME PLOTTED => 10:11

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	SJ	4,5	Var	344	486

REGISTERED CIVIL ENGINEER *K. Harir* 11/27/12 DATE  
 PLANS APPROVAL DATE 7-22-13  
 REGISTERED PROFESSIONAL ENGINEER  
 KIANOUSH HARIRSAZ  
 No. C39591  
 Exp. 12/31/13  
 CIVIL  
 STATE OF CALIFORNIA

SAN JOAQUIN COUNCIL OF GOVERNMENTS  
 555 E. WEBER AVENUE  
 STOCKTON, CA 95202  
 RAJAPPAN & MEYER  
 CONSULTING ENGINEERS, INC.  
 1038 LEIGH AVE, SUITE 100  
 SAN JOSE, CA 95126



BENT No.	COLUMN DIAMETER
10W - 15W	5'-6"
10E - 15E	5'-6"
16W - 21W	4'-0"
16E - 21E	4'-0"

NOTE: For bent designation, see "STRUCTURE PLAN" sheets.

BENT 10 THRU BENT 21  
**TYPICAL SECTION**  
 NO SCALE

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

DESIGN OVERSIGHT *Reza Erfanian*  
 5-10-13  
 SIGN OFF DATE

DESIGN	BY P. SHINN	CHECKED N. VO / S. SHI	LOAD & RESISTANCE FACTOR DESIGN	LIVE LOADING: HL93 W/"LOW-BOY"; PERMIT DESIGN VEHICLE
DETAILS	BY P. SHINN	CHECKED N. VO / S. SHI	LAYOUT	BY P. SHINN
QUANTITIES	BY S. DESALEGN	CHECKED M. PHILIPS	SPECIFICATIONS	BY K. HARIRSAZ
				CHECKED N. VO / S. SHI
				PLANS AND COMPARED SPECS K. HARIRSAZ

PREPARED FOR THE  
**STATE OF CALIFORNIA**  
 DEPARTMENT OF TRANSPORTATION  
 P. SHINN  
 PROJECT ENGINEER

BRIDGE NO.	29-0350
POST MILES	T14.83

**SR4 CROSSTOWN VIADUCT**  
**GENERAL PLAN No. 4**

DESIGN GENERAL PLAN SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



UNIT: 1455  
 PROJECT NUMBER & PHASE: 10000002291  
 CONTRACT NO.: 10-0S1101

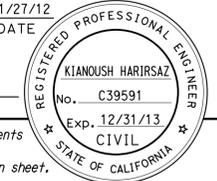
CONTRACT NO.: 10-0S1101

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
8/18/11 6/08/12 9/04/12 11/27/12	4	111

USERNAME => s135318 DATE PLOTTED => 23-JUL-2013 TIME PLOTTED => 10:11

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	SJ	4,5	Var	345	486

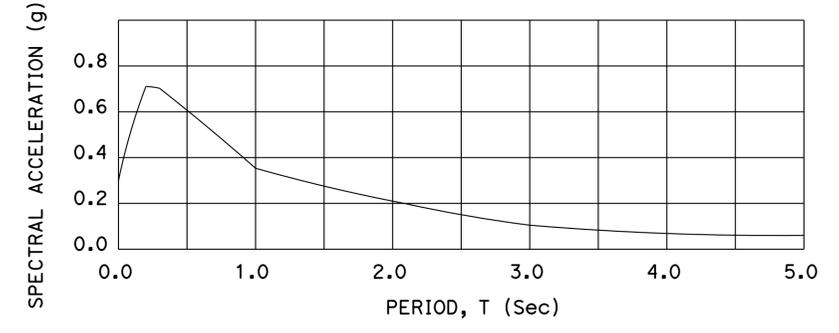
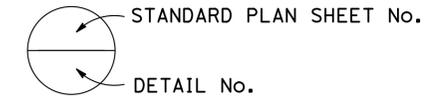
 11/27/12  
 REGISTERED CIVIL ENGINEER DATE  
 7-22-13  
 PLANS APPROVAL DATE  


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 STOCKTON, CA 95202  
**RAJAPPAN & MEYER CONSULTING ENGINEERS, INC.**  
 1038 LEIGH AVE, SUITE 100  
 SAN JOSE, CA 95126

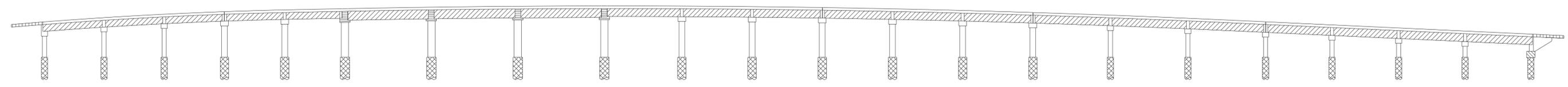
## GENERAL NOTES LOAD AND RESISTANCE FACTOR DESIGN

### STANDARD PLANS DATED 2010

- A10A ABBREVIATIONS (SHEET 1 OF 2)
- A10B ABBREVIATIONS (SHEET 2 OF 2)
- A10C LINES AND SYMBOLS (SHEET 1 OF 3)
- A10D LINES AND SYMBOLS (SHEET 2 OF 3)
- A10E LINES AND SYMBOLS (SHEET 3 OF 3)
- A10F LEGEND - SOIL (SHEET 1 OF 2)
- A10G LEGEND - SOIL (SHEET 2 OF 2)
- A62C LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL - BRIDGE
- A76A CONCRETE BARRIER TYPE 60
- B0-1 BRIDGE DETAILS
- B0-3 BRIDGE DETAILS
- B0-5 BRIDGE DETAILS
- B0-13 BRIDGE DETAILS
- B2-3 16" AND 24" CAST-IN-DRILLED-HOLE CONCRETE PILE
- B6-21 JOINT SEALS (MAXIMUM MOVEMENT RATING = 2")
- B7-1 BOX GIRDER DETAILS
- B7-7 DECK DRAIN - TYPE D-3
- B7-8 DECK DRAINAGE DETAILS
- B8-5 CAST-IN-PLACE PRESTRESSED GIRDER DETAILS
- B11-52 CHAIN LINK RAILING TYPE 7
- B11-56 CONCRETE BARRIER TYPE 736



- DESIGN:** AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4th EDITION AND THE CALTRANS AMENDMENTS, PREFACE DATED SEPTEMBER 2010; ABUTMENTS ARE DESIGNED USING THE SERVICE-I LIMIT STATE LOADS, AS PROVIDED IN THESE SPECIFICATIONS, AND THE WORKING STRESS DESIGN METHOD PROVIDED IN THE CALTRANS BRIDGE DESIGN SPECIFICATION (2000), DATED NOVEMBER 2003. GEOTECHNICAL DESIGN OF DEEP FOUNDATIONS, BRIDGE (Incl. BARRIER AND RAILING) DETAILS TAKEN FROM STANDARD PLANS 2010, STANDARD BRIDGE DETAILS XS SHEETS, Etc. ARE DESIGNED USING BRIDGE DESIGN SPECIFICATIONS ('96 AASHTO WITH REVISION BY CALTRANS)
- SEISMIC LOADING:** CALTRANS SEISMIC DESIGN CRITERIA (SDC), VERSION 1.6 DATED NOV, 2010
- DEAD LOAD:** INCLUDES 35 psf FOR FUTURE WEARING SURFACE  
 THE DECK DEAD LOAD BETWEEN THE GIRDERS HAS BEEN INCREASED BY A FACTOR OF 10 PERCENT TO ALLOW FOR THE USE OF STEEL DECK FORMS
- LIVE LOADING:** HL93 w/ "LOW-BOY" AND PERMIT DESIGN VEHICLE
- SEISMIC LOAD:** SOIL PROFILE:  $V_{S30} = 817$  ft/s  
 MOMENT MAGNITUDE:  $M_{max} = 6.7$   
 PEAK GROUND ACCELERATION:  $PGA = 0.32g$
- CONCRETE:**  $f_y = 60$  ksi  
 $f'_c = 4.0$  ksi  
 $n = 8$
- STRUCTURAL STEEL:** HIGH STRENGTH RESTRAINER,  $f_y = 120$  ksi
- PC/PS CONCRETE GIRDER :**
- SPAN 2 - SPAN 5 & SPAN 9 - SPAN 21 SEE "PRECAST GIRDER PRESTRESSING NOTES" ON "PC/PS CONCRETE GIRDER DETAILS No. 1" SHEET
  - SPAN 6 - SPAN 8 SEE "PRECAST GIRDER PRESTRESSING NOTES" ON "PC/PS CONCRETE GIRDER DETAILS No. 3" SHEET
- CIP CONCRETE:** SEE "BENT CAP PRESTRESSING NOTES" ON "BENT 6,7,8 & 9 DETAILS No. 2" SHEETS



-  Structural Concrete, Bridge (4.0 ksi @ 28 days)
-  Structural Concrete, Bridge Footing
-  Structural Concrete, Bridge (6.0 ksi @ 28 days)
-  Structural Concrete, Approach Slab
-  PC/PS Concrete Super Girder, see "GIRDER SCHEDULE" and "PC/PS CONCRETE GIRDER DETAILS No. 3" sheets for strength
-  Cast-in-Drilled-Hole Concrete Pile (4.0 ksi @ 28 days)

### CONCRETE STRENGTH AND TYPE LIMITS

NO SCALE

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

  
 DESIGN OVERSIGHT Reza Erfanian  
 5-10-13  
 SIGN OFF DATE

DESIGN	BY P. SHINN	CHECKED N. VO / S. SHI
DETAILS	BY P. SHINN	CHECKED N. VO / S. SHI
QUANTITIES	BY S. DESALEGN	CHECKED M. PHILIPS

**PREPARED FOR THE  
STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION**

P. SHINN  
 PROJECT ENGINEER

BRIDGE NO.	29-0350
POST MILES	T14.83

## SR4 CROSSTOWN VIADUCT INDEX TO PLANS No. 1

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



UNIT: 1455  
 PROJECT NUMBER & PHASE: 10000002291  
 CONTRACT NO.: 10-0S1101

CONTRACT NO.: 10-0S1101

REVISION DATES	SHEET	OF
8/18/11 6/08/12 9/07/12 1/27/13	5	111

USERNAME => s135318 DATE PLOTTED => 23-JUL-2013 TIME PLOTTED => 10:11

# INDEX TO BRIDGE PLANS

SHEET No.	TITLE	SHEET No.	TITLE
1.	GENERAL PLAN No. 1	57.	BENT 9 LAYOUT
2.	GENERAL PLAN No. 2	58.	BENT 9 DETAILS No. 1
3.	GENERAL PLAN No. 3	59.	BENT 9 DETAILS No. 2
4.	GENERAL PLAN No. 4	60.	BENT 6, 7, 8, 9 CIDH DETAILS
5.	INDEX TO PLANS No. 1	61.	BENT 7 & 8 RR COLUMN WALL DETAILS
6.	INDEX TO PLANS No. 2	62.	TYPICAL SECTION No. 1
7.	PILE DATA	63.	TYPICAL SECTION No. 2
8.	STRUCTURE PLAN No. 1	64.	TYPICAL SECTION No. 3
9.	STRUCTURE PLAN No. 2	65.	TYPICAL SECTION No. 4
10.	STRUCTURE PLAN No. 3	66.	GIRDER LAYOUT No. 1
11.	STRUCTURE PLAN No. 4	67.	GIRDER LAYOUT No. 2
12.	STRUCTURE PLAN No. 5	68.	GIRDER LAYOUT No. 3
13.	STRUCTURE PLAN No. 6	69.	GIRDER LAYOUT No. 4
14.	STRUCTURE PLAN No. 7	70.	GIRDER LAYOUT No. 5
15.	STRUCTURE PLAN No. 8	71.	GIRDER LAYOUT No. 6
16.	DECK CONTOURS No. 1	72.	GIRDER LAYOUT No. 7
17.	DECK CONTOURS No. 2	73.	GIRDER LAYOUT No. 8
18.	DECK CONTOURS No. 3	74.	GIRDER LAYOUT No. 9
19.	DECK CONTOURS No. 4	75.	GIRDER LAYOUT No. 10
20.	DECK CONTOURS No. 5	76.	GIRDER LAYOUT No. 11
21.	DECK CONTOURS No. 6	77.	GIRDER LAYOUT No. 12
22.	FOUNDATION PLAN No. 1	78.	GIRDER LAYOUT No. 13
23.	FOUNDATION PLAN No. 2	79.	GIRDER LAYOUT No. 14
24.	FOUNDATION PLAN No. 3	80.	DECK REINFORCEMENT
25.	FOUNDATION PLAN No. 4	81.	PC/PS CONCRETE GIRDER DETAILS No. 1
26.	FOUNDATION PLAN No. 5	82.	PC/PS CONCRETE GIRDER DETAILS No. 2
27.	FOUNDATION PLAN No. 6	83.	PC/PS CONCRETE GIRDER DETAILS No. 3
28.	ABUTMENT 1 LAYOUT	84.	PC/PS CONCRETE GIRDER DETAILS No. 4
29.	ABUTMENT 1 DETAILS No. 1	85.	GIRDER SCHEDULE No. 1
30.	ABUTMENT 1 DETAILS No. 2	86.	GIRDER SCHEDULE No. 2
31.	ABUTMENT 22 LAYOUT	87.	GIRDER SCHEDULE No. 3
32.	ABUTMENT 22 DETAILS No. 1	88.	GIRDER SCHEDULE No. 4
33.	ABUTMENT 22 DETAILS No. 2	89.	DECK DRAIN DETAILS No. 1
34.	ABUTMENT 22 DETAILS No. 3	90.	DECK DRAIN DETAILS No. 2
35.	ABUTMENT DETAILS	91.	DECK DRAIN DETAILS No. 3
36.	4'-0" DIAMETER COLUMN BENT LAYOUT	92.	JOINT SEAL ASSEMBLY (MAXIMUM MOVEMENT RATING = 4")
37.	4'-0" DIAMETER COLUMN BENT DETAILS No. 1	93.	STRUCTURE APPROACH TYPE N(30S)
38.	4'-0" DIAMETER COLUMN BENT DETAILS No. 2	94.	APPROACH SLAB DETAILS
39.	4'-0" DIAMETER COLUMN BENT DETAILS No. 3	95.	STRUCTURE APPROACH DRAINAGE DETAILS
40.	4'-0" DIAMETER COLUMN BENT DETAILS No. 4	96.	SLOPE PAVING - FULL SLOPE
41.	5'-6" DIAMETER COLUMN BENT LAYOUT	97.	ARCHITECTURAL DETAILS No. 1
42.	5'-6" DIAMETER COLUMN BENT DETAILS No. 1	98.	ARCHITECTURAL DETAILS No. 2
43.	5'-6" DIAMETER COLUMN BENT DETAILS No. 2	99.	ARCHITECTURAL DETAILS No. 3
44.	5'-6" DIAMETER COLUMN BENT DETAILS No. 3	100.	COLUMN PROTECTION DETAILS
45.	5'-6" DIAMETER COLUMN BENT DETAILS No. 4	101.	LOG OF TEST BORINGS 1 OF 10
46.	BENT DETAILS	102.	LOG OF TEST BORINGS 2 OF 10
47.	BENT 6 LAYOUT	103.	LOG OF TEST BORINGS 3 OF 10
48.	BENT 6 DETAILS No. 1	104.	LOG OF TEST BORINGS 4 OF 10
49.	BENT 6 DETAILS No. 2	105.	LOG OF TEST BORINGS 5 OF 10
50.	BENT 6 DETAILS No. 3	106.	LOG OF TEST BORINGS 6 OF 10
51.	BENT 7 LAYOUT	107.	LOG OF TEST BORINGS 7 OF 10
52.	BENT 7 DETAILS No. 1	108.	LOG OF TEST BORINGS 8 OF 10
53.	BENT 7 DETAILS No. 2	109.	LOG OF TEST BORINGS 9 OF 10
54.	BENT 8 LAYOUT	110.	LOG OF TEST BORINGS 10 OF 10
55.	BENT 8 DETAILS No. 1		
56.	BENT 8 DETAILS No. 2		

SR4 CROSSTOWN VIADUCT #29-0350  
QUANTITIES

STRUCTURE EXCAVATION (BRIDGE)	332	CY
STRUCTURE BACKFILL (BRIDGE)	220	CY
16" CAST-IN-DRILLED-HOLE CONCRETE PILING	200	LF
72" CAST-IN-DRILLED-HOLE CONCRETE PILING	3,474	LF
96" CAST-IN-DRILLED-HOLE CONCRETE PILING	2,858	LF
108" CAST-IN-DRILLED-HOLE CONCRETE PILING	1,205	LF
PRESTRESSING CAST-IN-PLACE CONCRETE	LUMP	SUM
STRUCTURAL CONCRETE, BRIDGE FOOTING	77	CY
STRUCTURAL CONCRETE, BRIDGE	14,500	CY
STRUCTURAL CONCRETE, APPROACH SLAB (TYPE N)	185	CY
ARCHITECTURAL TEXTURE (COLUMN)	2,940	SQFT
ARCHITECTURAL MEDALLION	64	EA
FURNISH PRECAST PRESTRESSED CONCRETE WIDE-FLANGE GIRDER (100'-110')	17	EA
FURNISH PRECAST PRESTRESSED CONCRETE WIDE-FLANGE GIRDER (110'-120')	23	EA
FURNISH PRECAST PRESTRESSED CONCRETE WIDE-FLANGE GIRDER (120'-130')	24	EA
FURNISH PRECAST PRESTRESSED CONCRETE WIDE-FLANGE GIRDER (130'-140')	40	EA
FURNISH PRECAST PRESTRESSED CONCRETE WIDE-FLANGE GIRDER (140'-150')	40	EA
FURNISH PRECAST PRESTRESSED CONCRETE WIDE-FLANGE GIRDER (150'-160')	39	EA
ERECT PRECAST PRESTRESSED CONCRETE GIRDER	183	EA
JOINT SEAL (MR 1 1/2")	82	LF
JOINT SEAL ASSEMBLY (MR 2 1/2")	88	LF
JOINT SEAL ASSEMBLY (MR 3 1/2")	248	LF
JOINT SEAL ASSEMBLY (MR 4")	168	LF
JOINT SEAL (MR 2")	84	LF
BAR REINFORCING STEEL (BRIDGE)	6,730,000	LB
HEADED BAR REINFORCEMENT	1,508	EA
SLOPE PAVING (CONCRETE)	42	CY
ISOLATION CASING	12,740	LB
MISCELLANEOUS METAL (RESTRAINER - BAR TYPE)	5,200	LB
BRIDGE DECK DRAINAGE SYSTEM	52,200	LB
CHAIN LINK RAILING (TYPE 7)	833	LF
CONCRETE BARRIER (TYPE 60A)	503	LF
CONCRETE BARRIER (TYPE 736 MODIFIED)	10,500	LF

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

*Reza Erfanian*  
DESIGN OVERSIGHT  
5-10-13  
SIGN OFF DATE

DESIGN	BY P. SHINN	CHECKED N. VO / S. SHI
DETAILS	BY P. SHINN	CHECKED N. VO / S. SHI
QUANTITIES	BY S. DESALEGN	CHECKED M. PHILIPS

**PREPARED FOR THE  
STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION**

P. SHINN  
PROJECT ENGINEER

BRIDGE NO.	29-0350
POST MILES	T14.83

## SR4 CROSSTOWN VIADUCT INDEX TO PLANS No. 2

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

0 1 2 3

UNIT: 1455  
PROJECT NUMBER & PHASE: 10000002291

CONTRACT NO.: 10-0S1101

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
8/18/11 8/08/12 9/04/12 11/27/12	6	111

FILE => 29-0350-a-i+p02.dgn

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	SJ	4,5	Var	346	486
<i>K. Ham</i>			11/27/12		
REGISTERED CIVIL ENGINEER			DATE		
7-22-13					
PLANS APPROVAL DATE					
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.</small>					
<b>SAN JOAQUIN COUNCIL OF GOVERNMENTS</b> 555 E. WEBER AVENUE STOCKTON, CA 95202					
<b>RAJAPPAN &amp; MEYER CONSULTING ENGINEERS, INC.</b> 1038 LEIGH AVE, SUITE 100 SAN JOSE, CA 95126					

USERNAME => s135318 DATE PLOTTED => 23-JUL-2013 TIME PLOTTED => 10:11

### PILE DATA TABLE - WEST VIADUCT

SUPPORT LOCATION	PILE TYPE	NOMINAL COMPRESSION RESISTANCE (Kips)	NOMINAL TENSION RESISTANCE (Kips)	SPECIFIED CUT-OFF ELEVATION (FEET)	DESIGN TIP ELEVATION (FEET)	SPECIFIED TIP ELEVATION (FEET)
Abut 1W	6' CIDH	1390	0	4	-46 (1), -86 (3)	-86 (3)
BENT 2W	6' CIDH	2780	0	4	-76 (1), -86 (3)	-86 (3)
BENT 3W	6' CIDH	2790	0	4	-76 (1), -86 (3)	-86 (3)
BENT 4W	8' CIDH	2570	0	-3	-67 (1), -86 (3)	-86 (3)
BENT 5W	8' CIDH	3360	0	-3	-78 (1), -86 (3)	-86 (3)
BENT 6	9' CIDH	6850	0	-2	-92 (1), -117 (3)	-117 (3)
BENT 7	9' CIDH	12400	0	0	-150 (1), -115 (3)	-150 (1)
BENT 8	9' CIDH	12150	0	4	-146 (1), -111 (3)	-146 (1)
BENT 9	9' CIDH	8760	0	4	-126 (1), -111 (3)	-126 (1)
BENT 10W	8' CIDH	3490	0	4	-69 (1), -86 (3)	-86 (3)
BENT 11W	8' CIDH	3290	0	4	-68 (1), -86 (3)	-86 (3)
BENT 12W	8' CIDH	2780	0	4	-62 (1), -86 (3)	-86 (3)
BENT 13W	8' CIDH	3310	0	4	-68 (1), -86 (3)	-86 (3)
BENT 14W	8' CIDH	3310	0	4	-68 (1), -86 (3)	-86 (3)
BENT 15W	8' CIDH	2820	0	4	-63 (1), -86 (3)	-86 (3)
BENT 16W	6' CIDH	3280	0	4	-84 (1), -86 (3)	-86 (3)
BENT 17W	6' CIDH	3290	0	4	-84 (1), -86 (3)	-86 (3)
BENT 18W	6' CIDH	2670	0	4	-74 (1), -86 (3)	-86 (3)
BENT 19W	6' CIDH	3330	0	4	-84 (1), -86 (3)	-86 (3)
BENT 20W	6' CIDH	2870	0	4	-77 (1), -86 (3)	-86 (3)
BENT 21W	6' CIDH	3030	0	2	-81 (1), -86 (3)	-86 (3)
Abut 22W	6' CIDH	1600	0	15	-40 (1), -45 (3)	-45 (3)

**NOTES:**

- Design tip elevation is controlled by the following demands: (1) Compression, (2) Tension, (3) Lateral and (4) Liquefaction.
- Design tip elevations for Bents 6, 7, 8, and 9 were estimated based on permanent casing for the upper 20 feet.
- Specified tip elevation shall not be raised unless allowed by the Geotechnical Engineer.
- Per direction of Structural Engineer, pile lengths based on lateral demand is considered by determining the depth of zero deflection multiplied by a factor of safety of 1.5.
- For 16" diameter CIDH concrete piles at Bent 7N and Bent 8S, see "BENT 7 & 8 RR COLUMN WALL DETAILS" sheet.

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

*Reza Erfanian*  
DESIGN OVERSIGHT  
12/19/12  
SIGN OFF DATE

DESIGN	BY P. SHINN	CHECKED N. VO / S. SHI
DETAILS	BY P. SHINN	CHECKED N. VO / S. SHI
QUANTITIES	BY S. DESALEGN	CHECKED M. PHILIPS

**PREPARED FOR THE  
STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION**

P. SHINN  
PROJECT ENGINEER

BRIDGE NO.  
29-0350  
POST MILES  
T14.83

**SR4 CROSSTOWN VIADUCT  
PILE DATA**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES  
FOR REDUCED PLANS

0 1 2 3

UNIT: 1455  
PROJECT NUMBER & PHASE: 10000002291  
CONTRACT NO.: 10-0S1101

CONTRACT NO.: 10-0S1101

DISREGARD PRINTS BEARING  
EARLIER REVISION DATES

REVISION DATES	SHEET	OF
8/16/11 6/08/12 9/04/12 11/27/12	7	111

FILE => 29-0350-b-pd.dgn

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	SJ	4,5	Var	347	486

*K. Ham*  
REGISTERED CIVIL ENGINEER 11/27/12 DATE  
7-22-13  
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
KIANOUSH HARIRSAZ  
No. C39591  
Exp. 12/31/13  
CIVIL  
STATE OF CALIFORNIA

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

SAN JOAQUIN COUNCIL OF GOVERNMENTS  
555 E. WEBER AVENUE  
STOCKTON, CA 95202

RAJAPPAN & MEYER  
CONSULTING ENGINEERS, INC.  
1038 LEIGH AVE, SUITE 100  
SAN JOSE, CA 95126

### PILE DATA TABLE - EAST VIADUCT

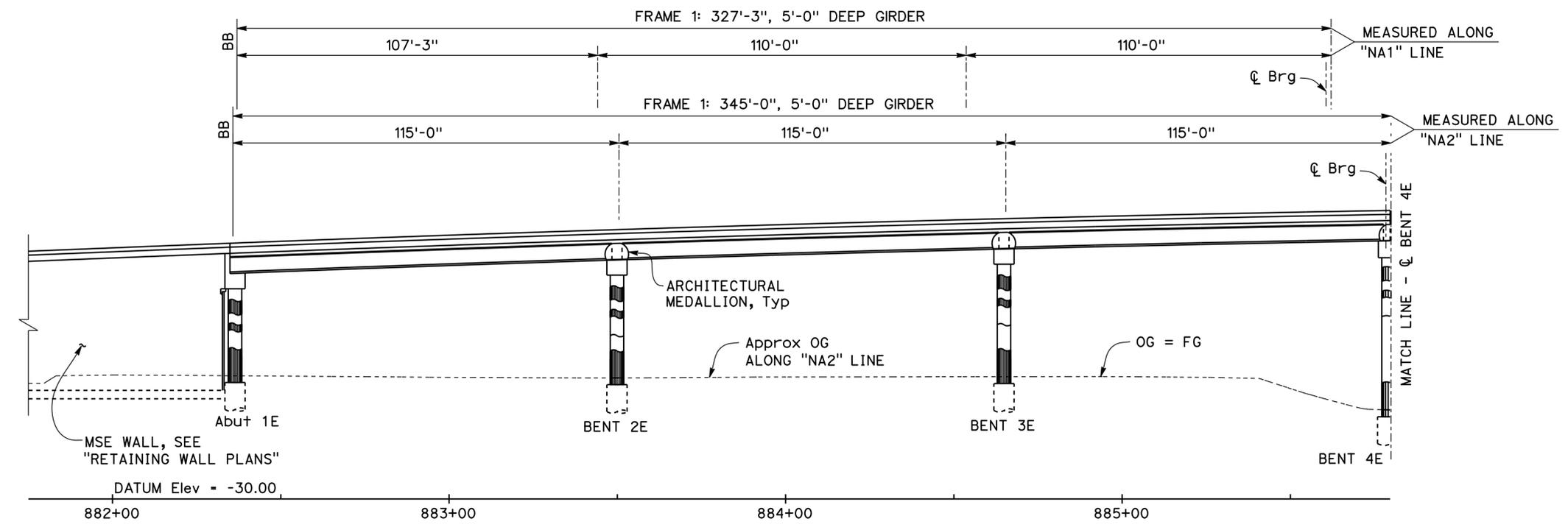
SUPPORT LOCATION	PILE TYPE	NOMINAL COMPRESSION RESISTANCE (Kips)	NOMINAL TENSION RESISTANCE (Kips)	SPECIFIED CUT-OFF ELEVATION (FEET)	DESIGN TIP ELEVATION (FEET)	SPECIFIED TIP ELEVATION (FEET)
Abut 1E	6' CIDH	1400	0	4	-46 (1), -86 (3)	-86 (3)
BENT 2E	6' CIDH	2960	0	4	-84 (1), -86 (3)	-86 (3)
BENT 3E	6' CIDH	3040	0	4	-84 (1), -86 (3)	-86 (3)
BENT 4E	8' CIDH	2930	0	-8	-78 (1), -98 (3)	-98 (3)
BENT 5E	8' CIDH	3500	0	-5	-83 (1), -98 (3)	-98 (3)
BENT 6	9' CIDH	6850	0	-2	-92 (1), -117 (3)	-117 (3)
BENT 7 (NOTE 5)	9' CIDH	12400	0	0	-150 (1), -115 (3)	-150 (1)
BENT 8 (NOTE 5)	9' CIDH	12150	0	4	-146 (1), -111 (3)	-146 (1)
BENT 9	9' CIDH	8760	0	4	-126 (1), -111 (3)	-126 (1)
BENT 10E	8' CIDH	3460	0	4	-72 (1), -86 (3)	-86 (3)
BENT 11E	8' CIDH	3260	0	4	-68 (1), -86 (3)	-86 (3)
BENT 12E	8' CIDH	2750	0	4	-62 (1), -86 (3)	-86 (3)
BENT 13E	8' CIDH	3280	0	4	-68 (1), -86 (3)	-86 (3)
BENT 14E	8' CIDH	3280	0	4	-68 (1), -86 (3)	-86 (3)
BENT 15E	8' CIDH	2790	0	4	-62 (1), -86 (3)	-86 (3)
BENT 16E	6' CIDH	3280	0	4	-84 (1), -86 (3)	-86 (3)
BENT 17E	6' CIDH	3290	0	4	-84 (1), -86 (3)	-86 (3)
BENT 18E	6' CIDH	2550	0	4	-71 (1), -86 (3)	-86 (3)
BENT 19E	6' CIDH	3010	0	4	-80 (1), -86 (3)	-86 (3)
BENT 20E	6' CIDH	2720	0	4	-76 (1), -86 (3)	-86 (3)
BENT 21E	6' CIDH	3020	0	2	-82 (1), -86 (3)	-86 (3)
Abut 22E	6' CIDH	1570	0	16	-40 (1), -45 (3)	-45 (3)

USERNAME => s135318 DATE PLOTTED => 23-JUL-2013 TIME PLOTTED => 10:11

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	SJ	4,5	Var	348	486

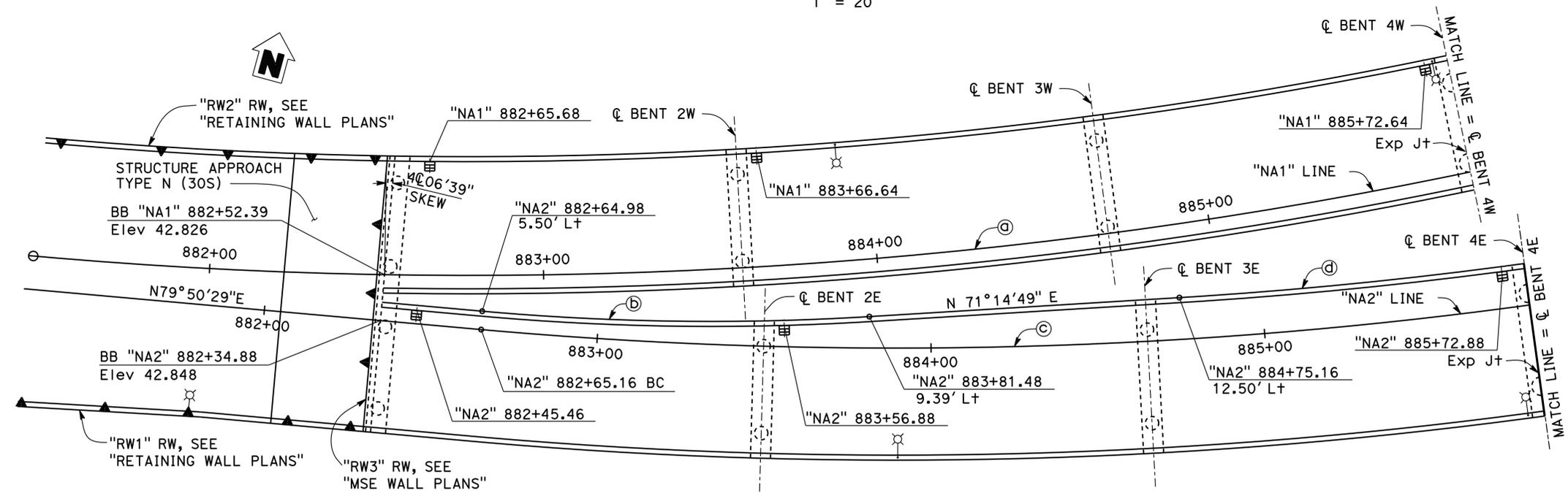
REGISTERED CIVIL ENGINEER  
 K. Ham  
 11/27/12 DATE  
 7-22-13 PLANS APPROVAL DATE  
 REGISTERED PROFESSIONAL ENGINEER  
 KIANOUSH HARIRSAZ  
 No. C39591  
 Exp. 12/31/13  
 CIVIL  
 STATE OF CALIFORNIA

SAN JOAQUIN COUNCIL OF GOVERNMENTS  
 555 E. WEBER AVENUE  
 STOCKTON, CA 95202  
 RAJAPPAN & MEYER  
 CONSULTING ENGINEERS, INC.  
 1038 LEIGH AVE, SUITE 100  
 SAN JOSE, CA 95126



NOTE: EASTBOUND ELEVATION SHOWN, WESTBOUND SIMILAR.

**ELEVATION**  
1" = 20'



**PLAN**  
1" = 20'

CURVE No.	R	Δ	T	L
a	1468.00'	21°59'21"	285.20'	563.39'
b	773.50'	8°35'40"	58.12'	116.03'
c	1400.00'	26°51'29"	334.28'	656.27'
d	1387.50'	13°39'28"	166.16'	330.74'

- LEGEND:
- ▣ Indicates deck drainage inlet
  - ▲ Indicates Retaining Wall
  - ⊗ Indicates city electrolier.  
For location see "ELECTRICAL PLAN".

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

DESIGN OVERSIGHT  
 Reza Erfanian  
 12/19/12  
 SIGN OFF DATE

DESIGN	BY P. SHINN	CHECKED N. VO / S. SHI
DETAILS	BY P. SHINN	CHECKED N. VO / S. SHI
QUANTITIES	BY S. DESALEGN	CHECKED M. PHILIPS

PREPARED FOR THE  
**STATE OF CALIFORNIA**  
 DEPARTMENT OF TRANSPORTATION

P. SHINN  
 PROJECT ENGINEER  
 BRIDGE NO. 29-0350  
 POST MILES T14.83

**SR4 CROSSTOWN VIADUCT**  
**STRUCTURE PLAN No. 1**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



UNIT: 1455  
 PROJECT NUMBER & PHASE: 10000002291  
 CONTRACT NO.: 10-0S1101

CONTRACT NO.: 10-0S1101

REVISION DATES	SHEET	OF
8/16/11, 6/08/12, 9/04/12, 11/27/12	8	111

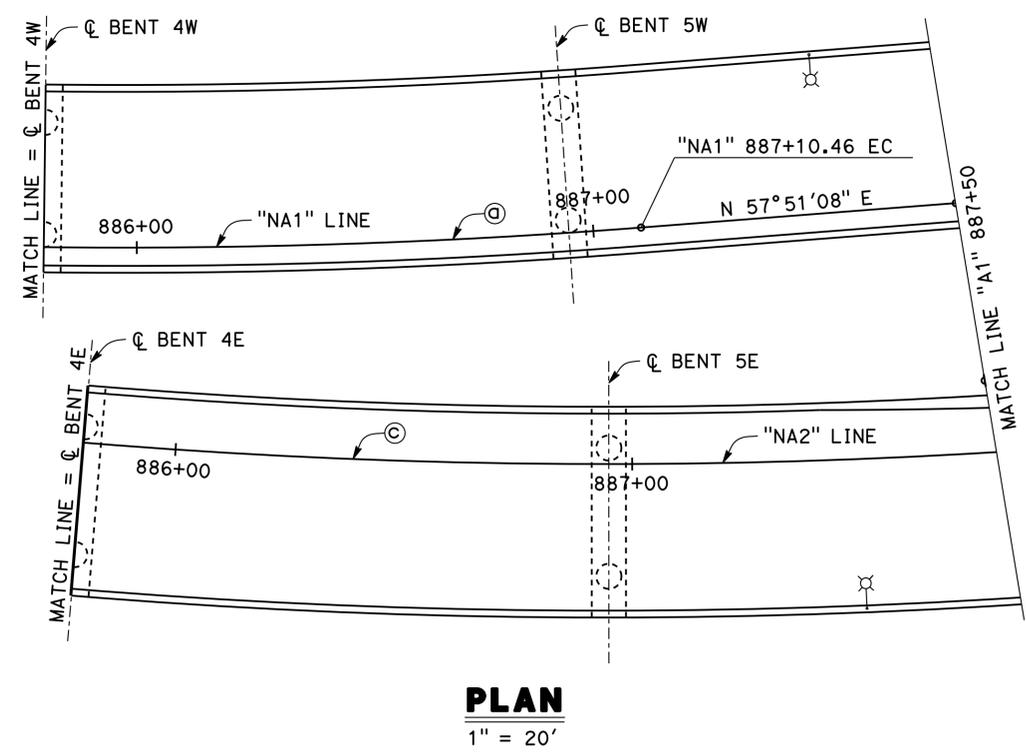
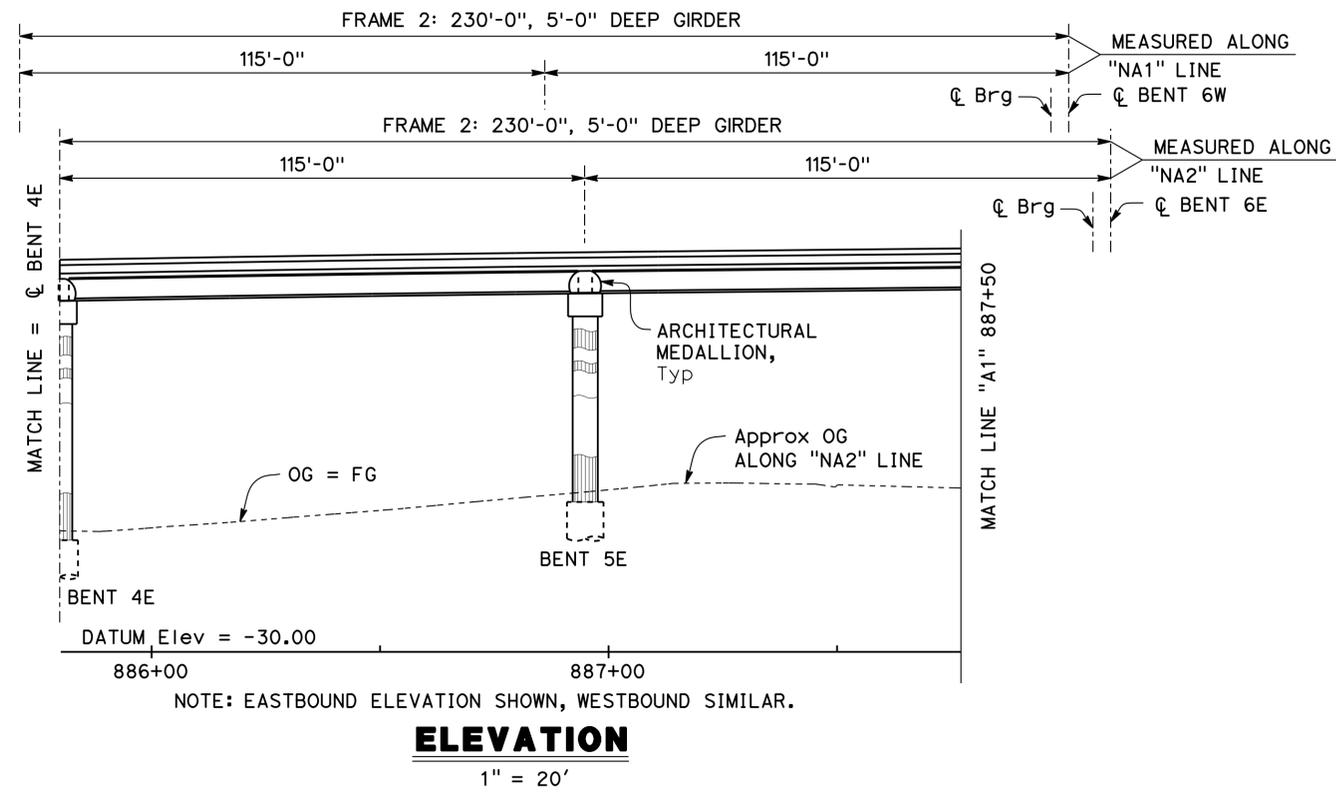
USERNAME => s135318 DATE PLOTTED => 23-JUL-2013 TIME PLOTTED => 10:11

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	SJ	4,5	Var	349	486

REGISTERED CIVIL ENGINEER *K. Hamy* 11/27/12 DATE  
 7-22-13 PLANS APPROVAL DATE  
 REGISTERED PROFESSIONAL ENGINEER  
 KIANOUSH HARRISAZ  
 No. C39591  
 Exp. 12/31/13  
 CIVIL  
 STATE OF CALIFORNIA

*The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.*

SAN JOAQUIN COUNCIL OF GOVERNMENTS  
 555 E. WEBER AVENUE  
 STOCKTON, CA 95202  
 RAJAPPAN & MEYER  
 CONSULTING ENGINEERS, INC.  
 1038 LEIGH AVE, SUITE 100  
 SAN JOSE, CA 95126



CURVE No.	R	D	T	L
⊙	1468.00'	21° 59' 21"	285.20'	563.39'
⊙	1400.00'	26° 51' 29"	334.28'	656.27'

**LEGEND:**  
 Indicates city electrolier.  
 For location see "ELECTRICAL PLAN".

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

DESIGN OVERSIGHT *Reza Erfanian*  
 12/19/12  
 SIGN OFF DATE

DESIGN	BY P. SHINN	CHECKED N. VO / S. SHI
DETAILS	BY P. SHINN	CHECKED N. VO / S. SHI
QUANTITIES	BY S. DESALEGN	CHECKED M. PHILIPS

**PREPARED FOR THE  
 STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION**

P. SHINN  
 PROJECT ENGINEER

BRIDGE NO.	29-0350
POST MILES	T14.83

**SR4 CROSSTOWN VIADUCT  
 STRUCTURE PLAN No. 2**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



UNIT: 1455  
 PROJECT NUMBER & PHASE: 10000002291

CONTRACT NO.: 10-0S1101

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
8/18/11 6/08/12 11/27/12	9	111

USERNAME => s135318 DATE PLOTTED => 23-JUL-2013 TIME PLOTTED => 10:11

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	SJ	4,5	Var	350	486

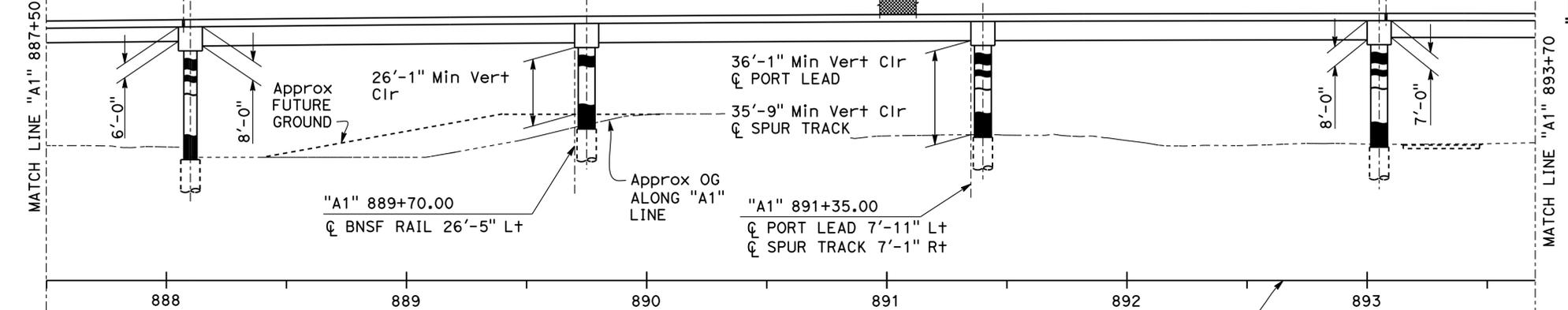
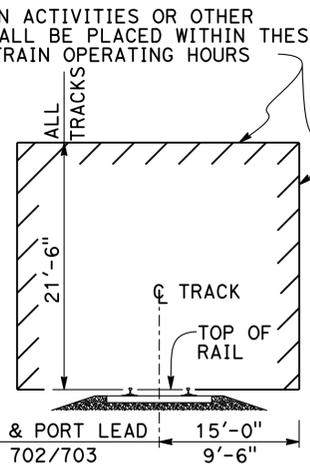
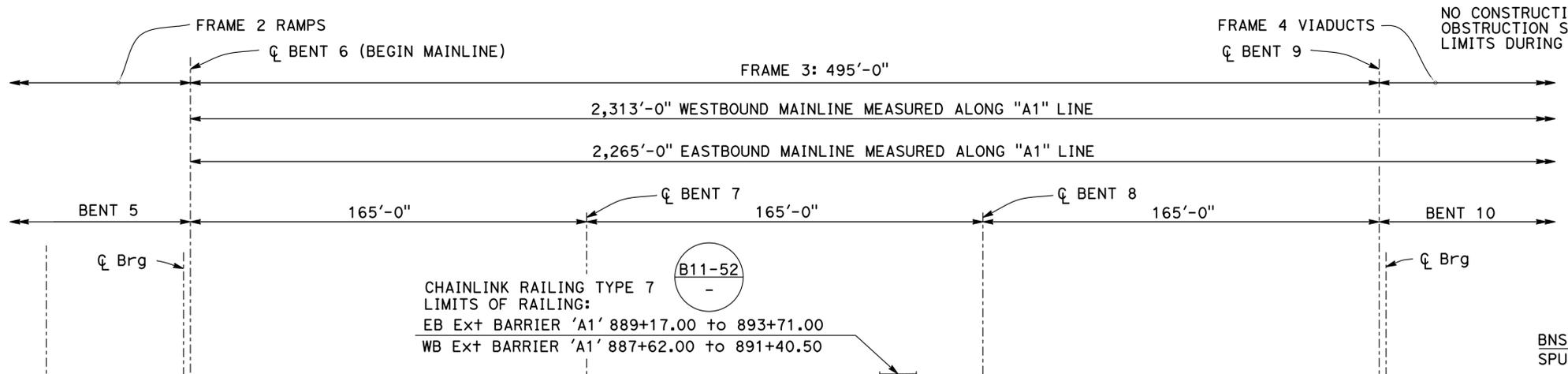
REGISTERED CIVIL ENGINEER DATE 11/27/12  
 SIEW W. CHEE  
 No. C41906  
 Exp. 03/31/14  
 CIVIL  
 STATE OF CALIFORNIA

7-22-13  
 PLANS APPROVAL DATE

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

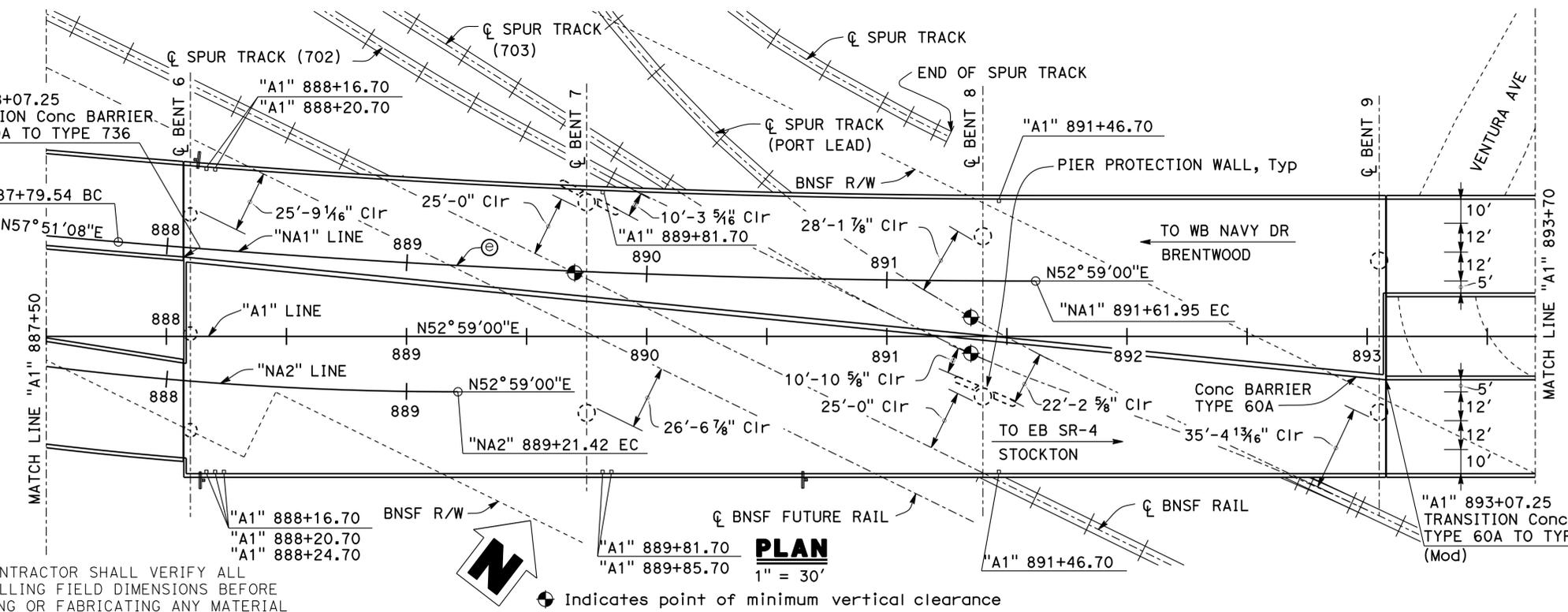
SAN JOAQUIN COUNCIL OF GOVERNMENTS  
 555 E. WEBER AVENUE  
 STOCKTON, CA 95202

T. Y. LIN INTERNATIONAL CONSULTING ENGINEERS, INC.  
 TWO HARRISON STREET, SUITE 500  
 SAN FRANCISCO, CA 94105



CURVE No.	R	Δ	T	L
①	4500.00'	4°52'08"	191.32'	382.41'

**ELEVATION**  
 1" = 30'  
 DATUM Elev = -50.00



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



⊙ Indicates point of minimum vertical clearance  
 1" = 30'

**MINIMUM CONSTRUCTION CLEARANCE ENVELOPE**  
 (NORMAL TO RAILROAD)

**RAILROAD GENERAL NOTES**

- Railroad requires review and approval of all submittals for shoring, demolition, erection and falsework. No work shall be allowed prior to written railroad approval. Allow a minimum of four weeks for the review and approval of each submittal unless specified otherwise in the contract special provisions. Specific conditions or complex scope of submittals may substantially increase the time for review.
- The proposed grade separation project shall not increase the quantity and/or characteristics of the flow in the railroad's ditches and/or drainage structures.
- The elevation of the existing top-of-rail profile shall be verified before beginning construction. All discrepancies shall be brought to the railroad authority for approval prior to beginning any construction activities.
- The contractor must submit a proposed method of erosion and sediment control within the railroad right-of-way and have the method approved by the railroad.
- All shoring systems that impact the railroad's operations and/or supports the railroad's embankment shall be designed and constructed per current Railroad Guidelines for Temporary Shoring.
- All erection over the railroad right-of-way shall be designed such that there is no interruption to the railroad's normal operation. Any train traffic interruption shall require prior railroad approval in writing.
- All construction phases that may impact the railroad's normal operation shall be designed to cause no interruption to the railroad operation. Any train traffic interruption closure shall require prior railroad approval in writing.
- All falsework clearances shall comply with the minimum construction clearance envelope.
- All permanent clearances shall be verified prior to completion of the project.
- For all railroad coordination during construction refer to the railroad's special provisions within the Contract Special Provisions documents and the approved Construction and Maintenance (C & M) Agreement.
- Tracks are shown in their realigned positions prior to structure construction. Relocation of tracks will be by BNSF.

- ⊙ Indicates deck drain, see "DECK DRAIN DETAILS No.1" SHEET
- ⊣ Indicates barrier mounted sign, see "ROAD PLANS"

BNSF Indicates Burlington Northern and Santa Fe Railroad

DESIGN OVERSIGHT  
 Reza Erfanian  
 5-10-13  
 SIGN OFF DATE

DESIGN	BY P. SHINN	CHECKED C. HARRINGTON
DETAILS	BY T. KOONS	CHECKED C. HARRINGTON
QUANTITIES	BY M. LEWIS	CHECKED C. HARRINGTON

PREPARED FOR THE  
**STATE OF CALIFORNIA**  
 DEPARTMENT OF TRANSPORTATION

S. CHEE  
 PROJECT ENGINEER

BRIDGE NO.	29-0350
POST MILES	T14.83

**SR4 CROSTOWN VIADUCT**  
**STRUCTURE PLAN No. 3**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

UNIT: PROJECT NUMBER & PHASE: 10000002291

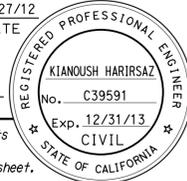
CONTRACT NO.: 10-0S1101

REVISION DATES	SHEET	OF
8/18/11, 6/08/12, 9/12/12/12/12	10	111

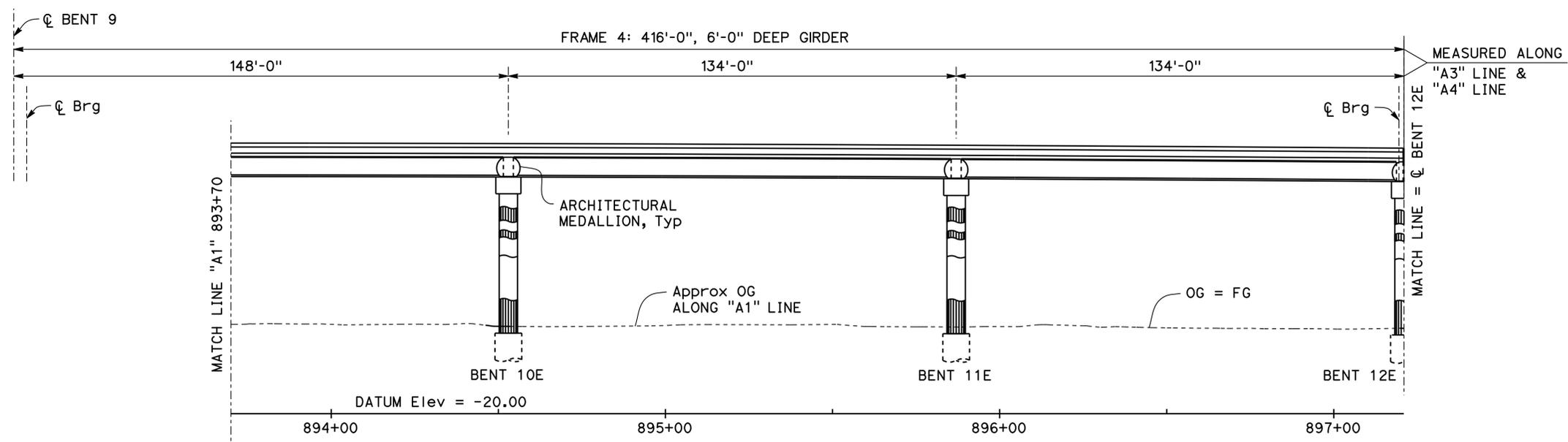
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USERNAME => s135318 DATE PLOTTED => 23-JUL-2013 TIME PLOTTED => 10:11

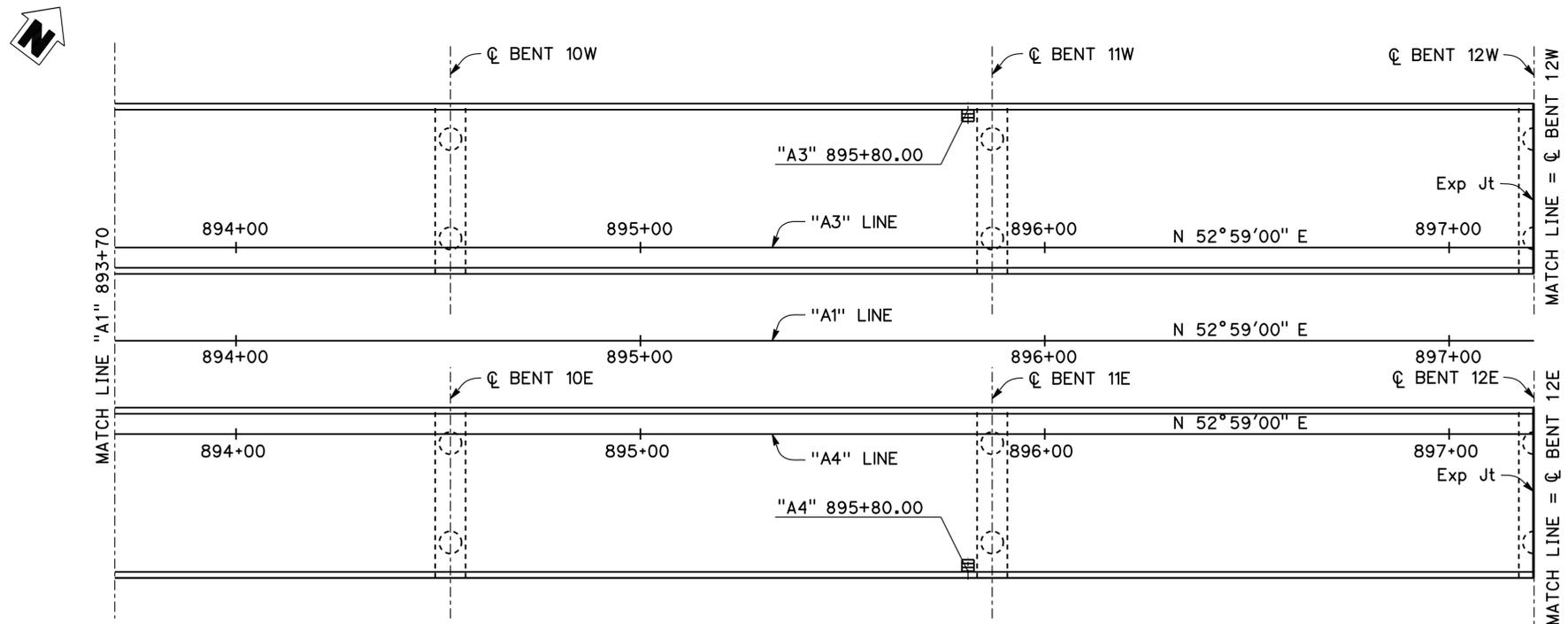
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	SJ	4,5	Var	351	486


  
 REGISTERED CIVIL ENGINEER DATE 11/27/12
   
 PLANS APPROVAL DATE 7-22-13
   
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**SAN JOAQUIN COUNCIL OF GOVERNMENTS**  
 555 E. WEBER AVENUE  
 STOCKTON, CA 95202  
**RAJAPPAN & MEYER CONSULTING ENGINEERS, INC.**  
 1038 LEIGH AVE, SUITE 100  
 SAN JOSE, CA 95126



**ELEVATION**  
1" = 20'



**PLAN**  
1" = 20'

**LEGEND:**  
 Indicates deck drainage inlet

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

DESIGN OVERSIGHT   
 Reza Erfanian  
 5-10-13  
 SIGN OFF DATE

DESIGN	BY P. SHINN	CHECKED N. VO / S. SHI
DETAILS	BY P. SHINN	CHECKED N. VO / S. SHI
QUANTITIES	BY S. DESALEGN	CHECKED M. PHILIPS

**PREPARED FOR THE STATE OF CALIFORNIA**  
 DEPARTMENT OF TRANSPORTATION

P. SHINN  
 PROJECT ENGINEER

BRIDGE NO.	29-0350
POST MILES	T14.83

**SR4 CROSSTOWN VIADUCT**  
**STRUCTURE PLAN No. 4**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



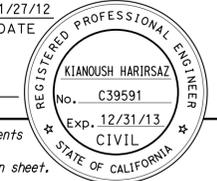
UNIT: 1455  
 PROJECT NUMBER & PHASE: 10000002291  
 CONTRACT NO.: 10-0S1101

CONTRACT NO.: 10-0S1101

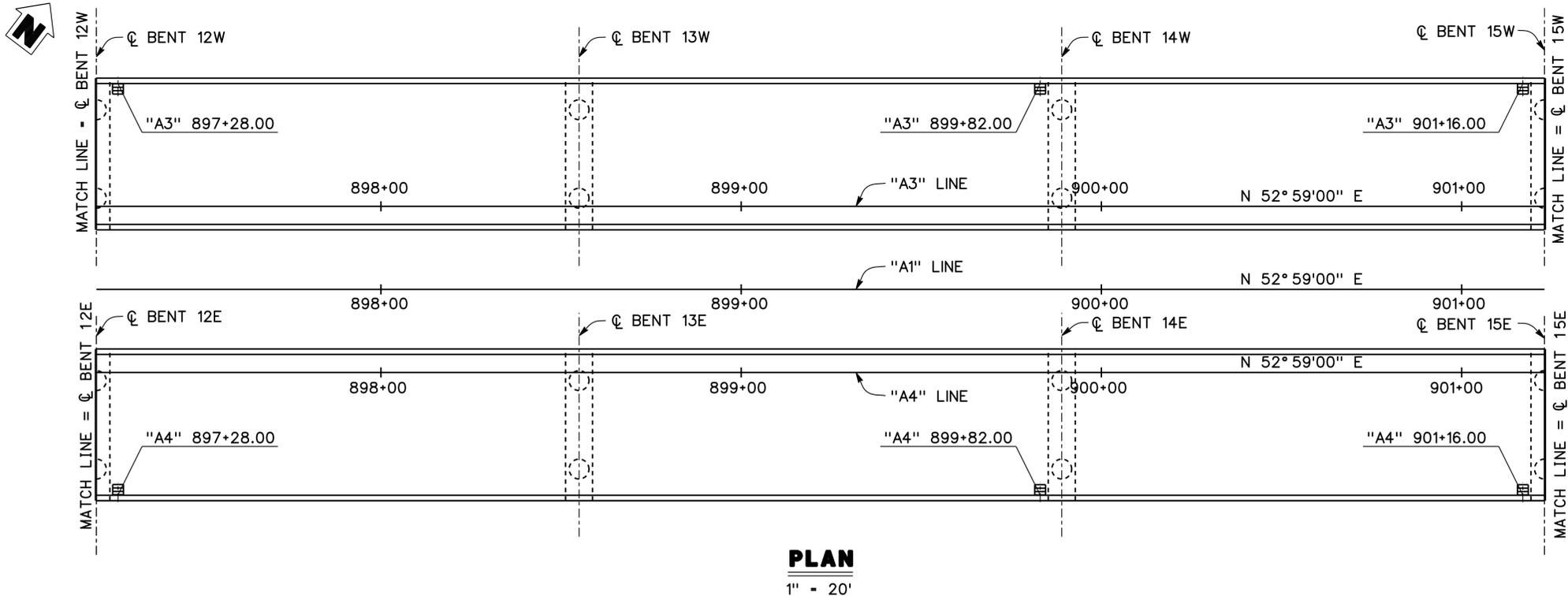
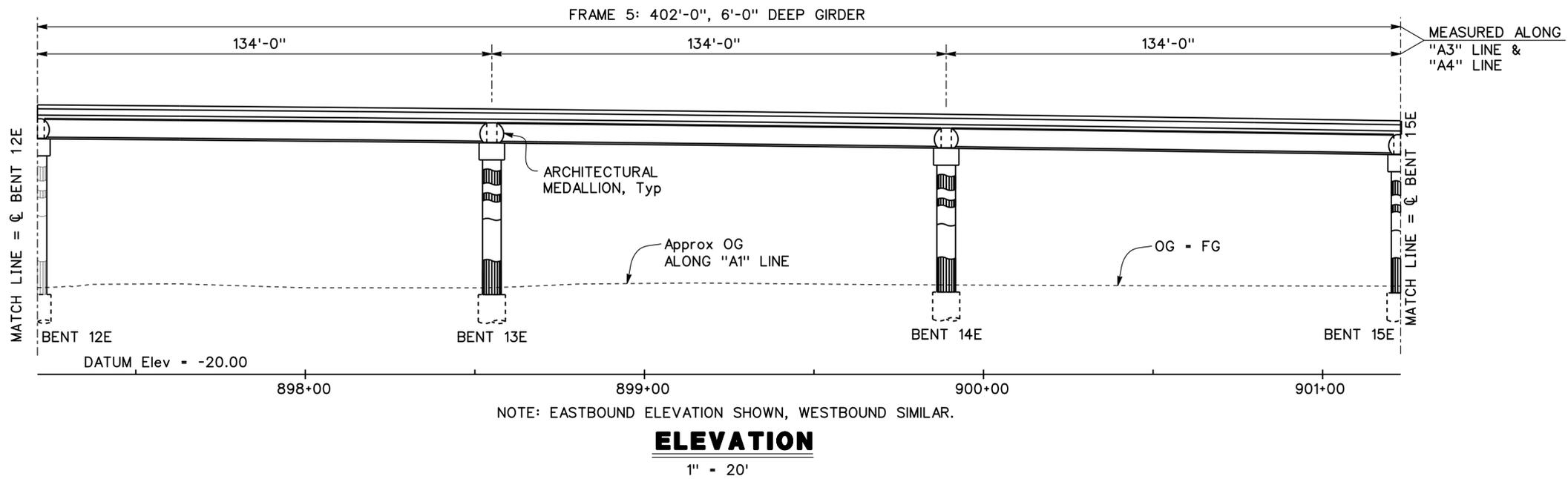
REVISION DATES	SHEET	OF
8/16/11 6/08/12 9/04/12 1/27/13	11	111

USERNAME => s135318 DATE PLOTTED => 23-JUL-2013 TIME PLOTTED => 10:12

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	SJ	4,5	Var	352	486

  
 REGISTERED CIVIL ENGINEER 11/27/12 DATE  
 7-22-13  
 PLANS APPROVAL DATE  


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 SAN JOAQUIN COUNCIL OF GOVERNMENTS  
 555 E. WEBER AVENUE  
 STOCKTON, CA 95202  
 RAJAPPAN & MEYER CONSULTING ENGINEERS, INC.  
 1038 LEIGH AVE, SUITE 100  
 SAN JOSE, CA 95126



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

DESIGN OVERSIGHT  
 Reza Erfanian  
 12/19/12  
 SIGN OFF DATE

DESIGN	BY P. SHINN	CHECKED N. VO / S. SHI
DETAILS	BY P. SHINN	CHECKED N. VO / S. SHI
QUANTITIES	BY S. DESALEGN	CHECKED M. PHILIPS

PREPARED FOR THE  
 STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

P. SHINN  
 PROJECT ENGINEER

BRIDGE NO.	29-0350
POST MILES	T14.83

**SR4 CROSSTOWN VIADUCT**  
**STRUCTURE PLAN No. 5**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



UNIT: 1455  
 PROJECT NUMBER & PHASE: 10000002291  
 CONTRACT NO.: 10-0S1101

CONTRACT NO.: 10-0S1101

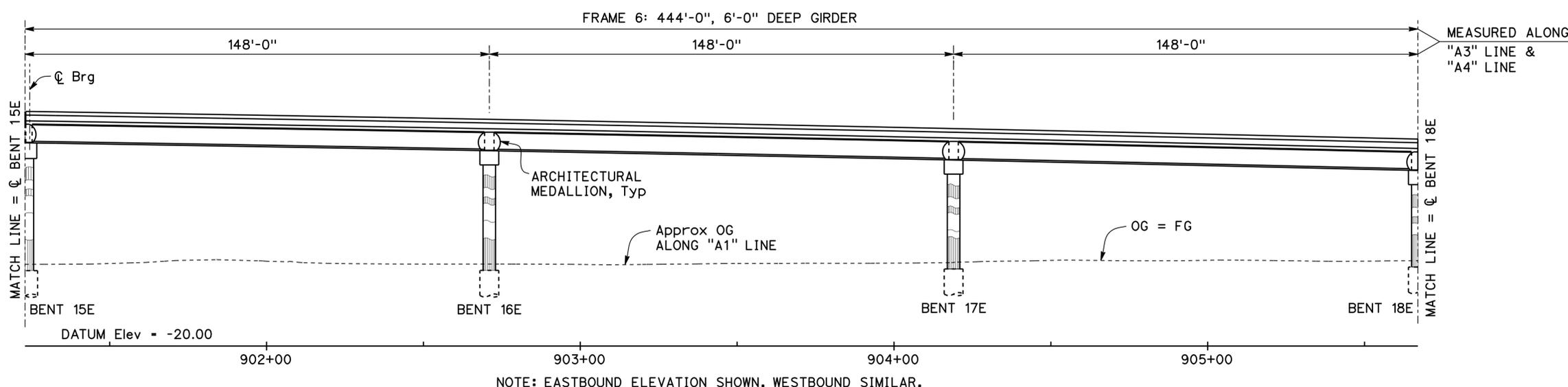
DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES 8/18/11 6/08/12 9/04/12 11/27/12	SHEET 12	OF 111
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USERNAME => s135318 DATE PLOTTED => 23-JUL-2013 TIME PLOTTED => 10:12

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	SJ	4,5	Var	353	486

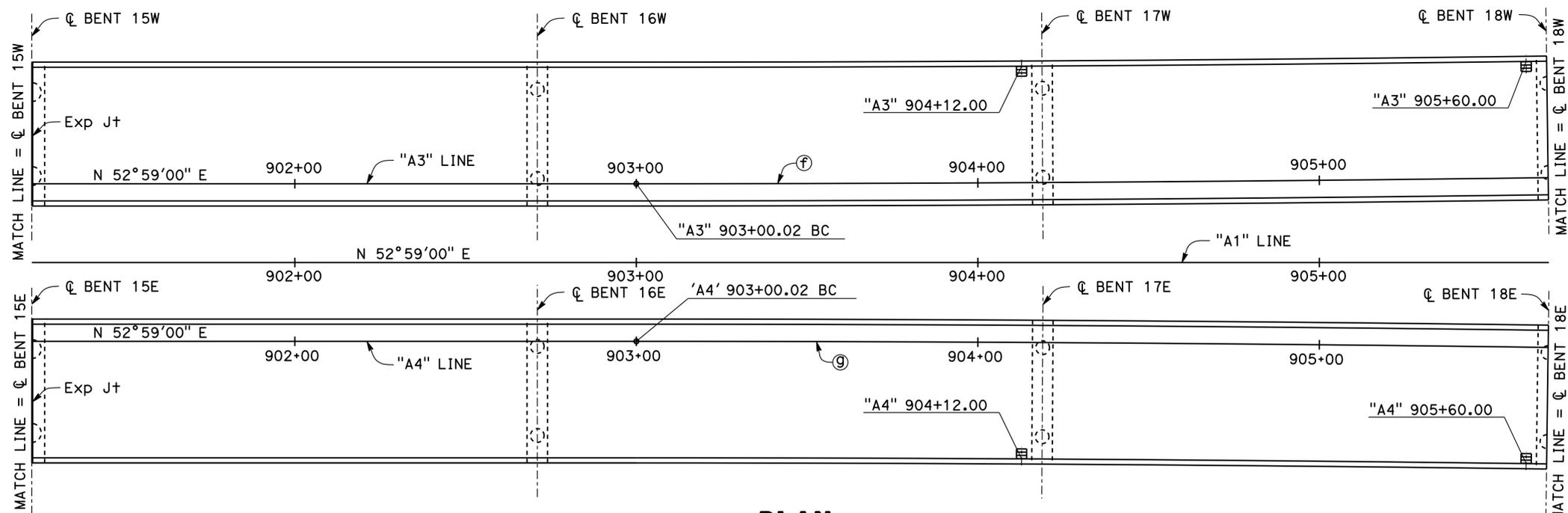

  
 REGISTERED CIVIL ENGINEER DATE 11/27/12
   
 7-22-13 PLANS APPROVAL DATE
   
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SAN JOAQUIN COUNCIL OF GOVERNMENTS
   
 555 E. WEBER AVENUE
   
 STOCKTON, CA 95202
   
**RAJAPPAN & MEYER**
  
**CONSULTING ENGINEERS, INC.**
  
 1038 LEIGH AVE, SUITE 100
   
 SAN JOSE, CA 95126



NOTE: EASTBOUND ELEVATION SHOWN, WESTBOUND SIMILAR.

**ELEVATION**  
1" = 20'



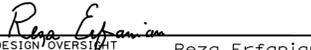
**PLAN**  
1" = 20'

CURVE DATA

CURVE No.	R	Δ	T	L
ⓕ	20000.00'	1°08'45"	199.98'	399.95'
ⓐ	20000.00'	1°08'45"	199.98'	399.95'

LEGEND:  
 Indicates deck drainage inlet

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

  
 DESIGN/OVERSIGHT Reza Erfanian  
 5-10-13  
 SIGN OFF DATE

DESIGN	BY P. SHINN	CHECKED N. VO / S. SHI
DETAILS	BY P. SHINN	CHECKED N. VO / S. SHI
QUANTITIES	BY S. DESALEGN	CHECKED M. PHILIPS

**PREPARED FOR THE**  
**STATE OF CALIFORNIA**  
**DEPARTMENT OF TRANSPORTATION**

P. SHINN  
 PROJECT ENGINEER

BRIDGE NO.	29-0350
POST MILES	T14.83

**SR4 CROSSTOWN VIADUCT**  
**STRUCTURE PLAN No. 6**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



UNIT: 1455  
 PROJECT NUMBER & PHASE: 10000002291

CONTRACT NO.: 10-0S1101

DISREGARD PRINTS BEARING EARLIER REVISION DATES

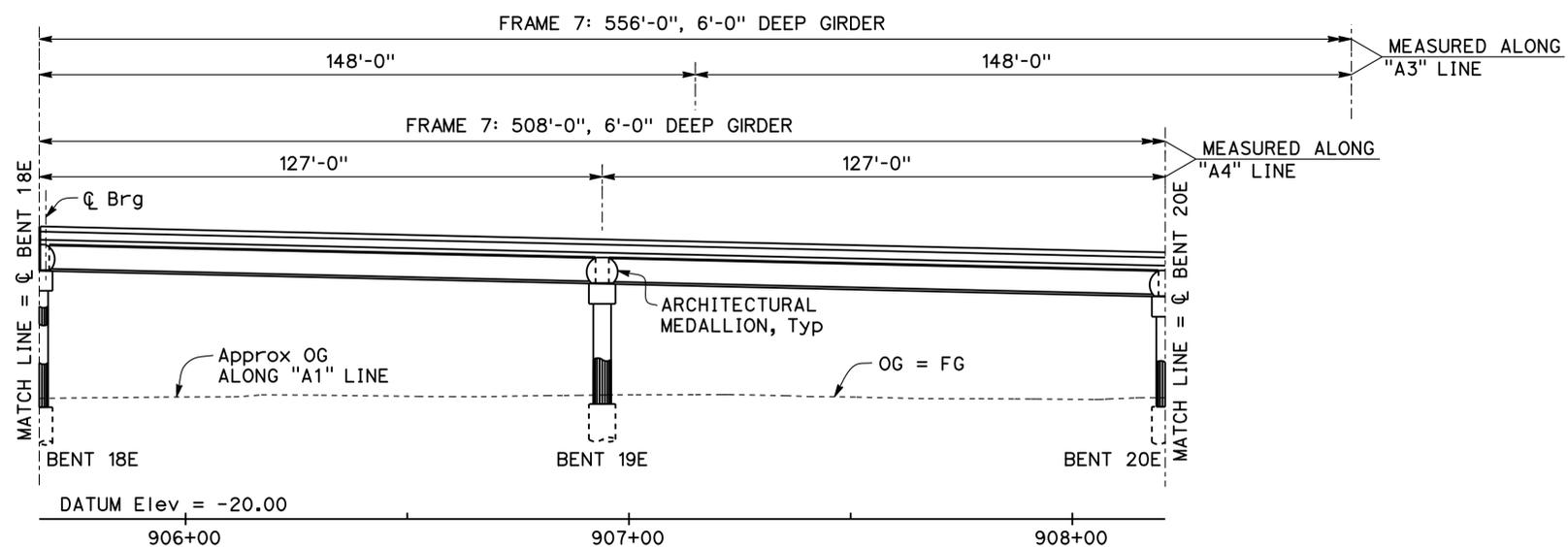
REVISION DATES	SHEET	OF
8/18/11 6/08/12 9/07/12 1/27/13	13	111

USERNAME => s135318 DATE PLOTTED => 23-JUL-2013 TIME PLOTTED => 10:12

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	SJ	4,5	Var	354	486

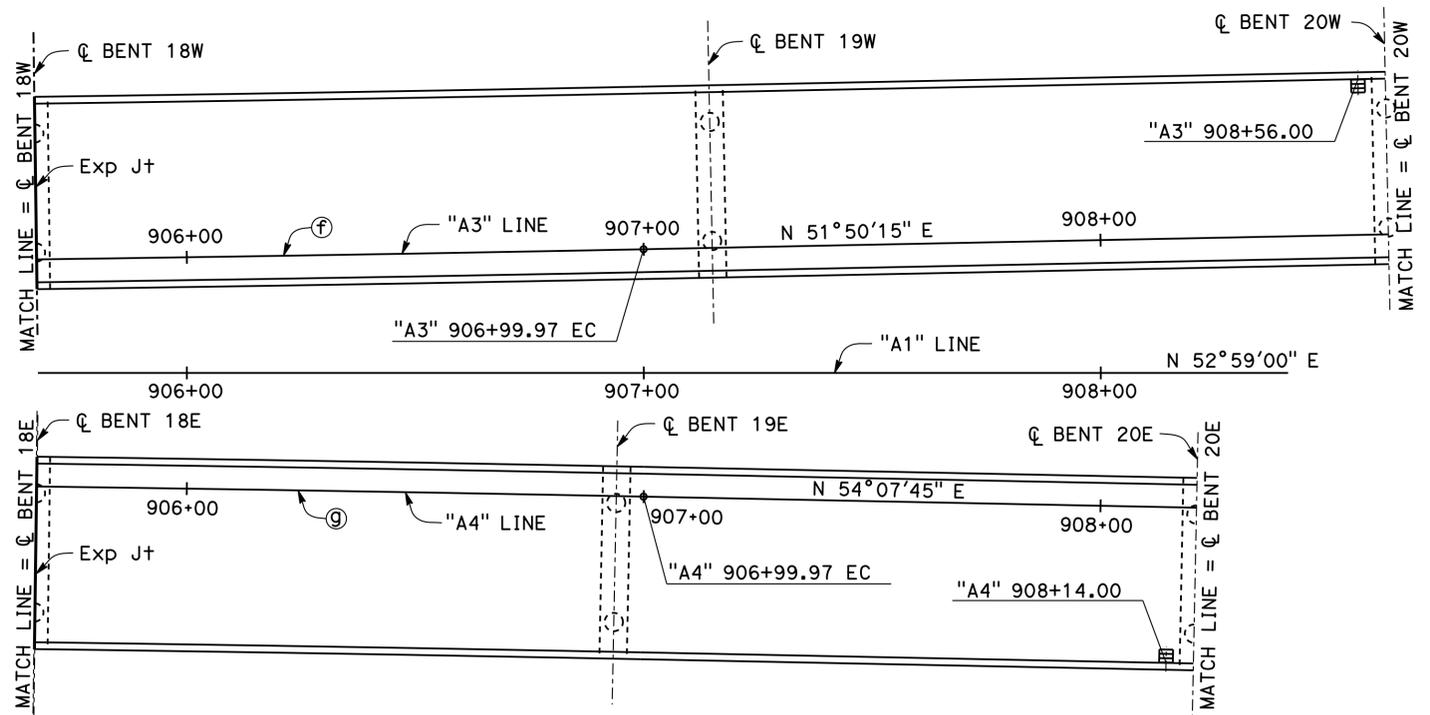
REGISTERED CIVIL ENGINEER *K. Ham* 11/27/12 DATE  
 PLANS APPROVAL DATE 7-22-13  
 REGISTERED PROFESSIONAL ENGINEER  
 KIANOUSH HARIRSAZ  
 No. C39591  
 Exp. 12/31/13  
 CIVIL  
 STATE OF CALIFORNIA

SAN JOAQUIN COUNCIL OF GOVERNMENTS  
 555 E. WEBER AVENUE  
 STOCKTON, CA 95202  
 RAJAPPAN & MEYER  
 CONSULTING ENGINEERS, INC.  
 1038 LEIGH AVE, SUITE 100  
 SAN JOSE, CA 95126



NOTE: EASTBOUND ELEVATION SHOWN, WESTBOUND SIMILAR.

**ELEVATION**  
1" = 20'



**PLAN**  
1" = 20'

CURVE No.	R	Δ	T	L
Ⓣ	20000.00'	1°08'45"	199.98'	399.95'
Ⓢ	20000.00'	1°08'45"	199.98'	399.95'

LEGEND:  
 Indicates deck drainage inlet

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

DESIGN OVERSIGHT *Reza Erfanian*  
 Reza Erfanian  
 12/19/12  
 SIGN OFF DATE

DESIGN	BY P. SHINN	CHECKED N. VO / S. SHI
DETAILS	BY P. SHINN	CHECKED N. VO / S. SHI
QUANTITIES	BY S. DESALEGN	CHECKED M. PHILIPS

PREPARED FOR THE  
**STATE OF CALIFORNIA**  
 DEPARTMENT OF TRANSPORTATION

P. SHINN  
 PROJECT ENGINEER

BRIDGE NO.	29-0350
POST MILES	T14.83

**SR4 CROSSTOWN VIADUCT**  
**STRUCTURE PLAN No. 7**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



UNIT: 1455  
 PROJECT NUMBER & PHASE: 10000002291  
 CONTRACT NO.: 10-0S1101

CONTRACT NO.: 10-0S1101

DISREGARD PRINTS BEARING EARLIER REVISION DATES

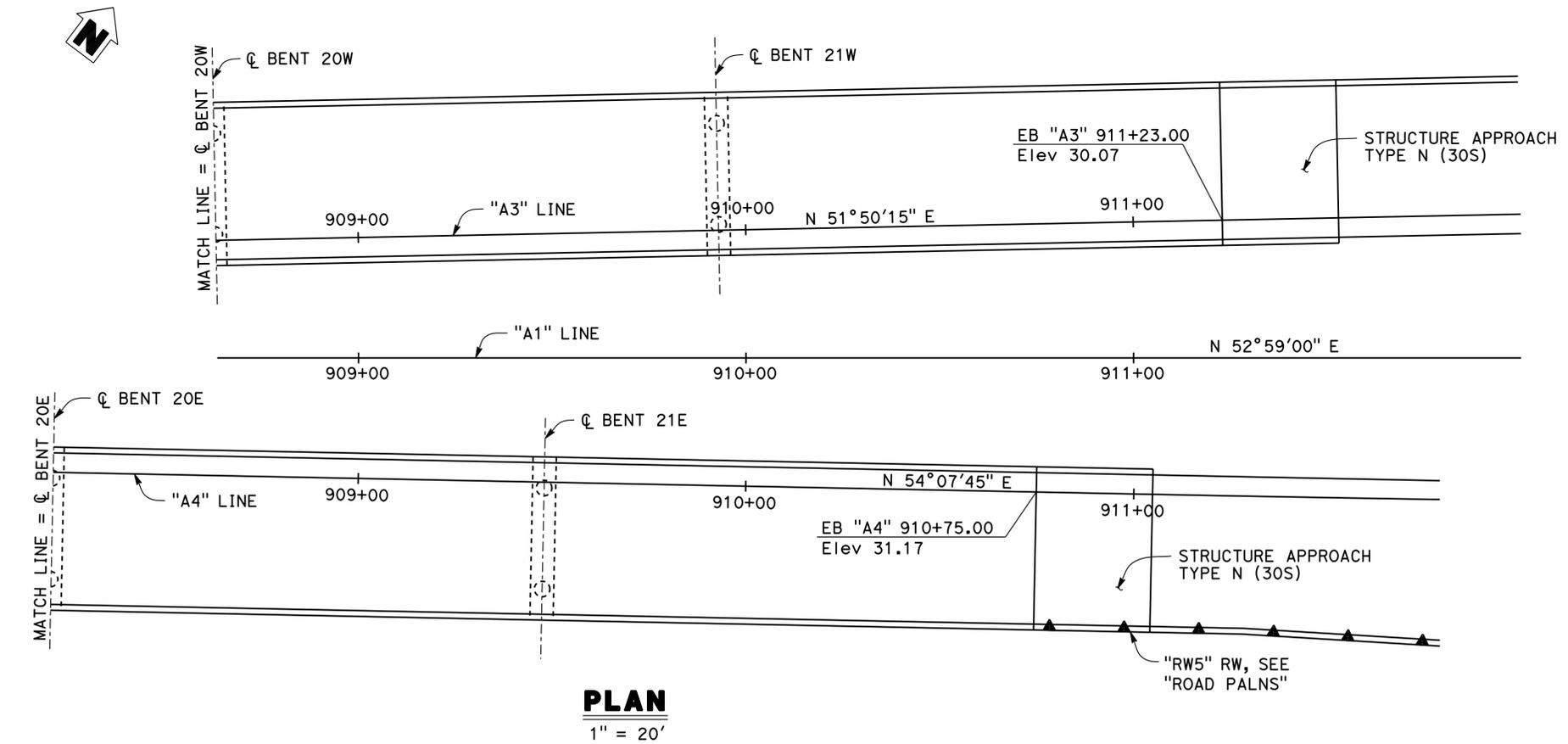
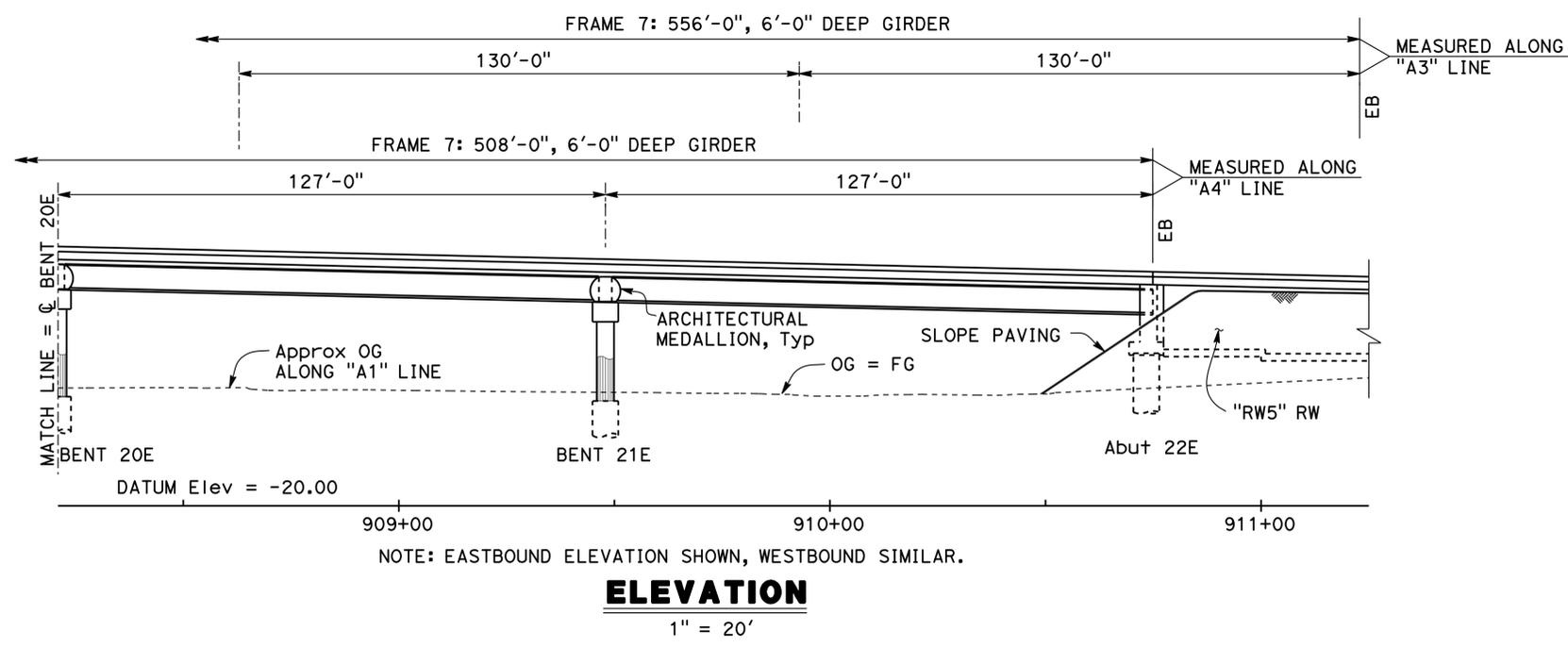
REVISION DATES	SHEET	OF
8/16/11 6/08/12 9/04/12 11/27/12	14	111

USERNAME => s135318 DATE PLOTTED => 23-JUL-2013 TIME PLOTTED => 10:12

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	SJ	4,5	Var	355	486

REGISTERED CIVIL ENGINEER *K. Ham* DATE 11/27/12  
 PLANS APPROVAL DATE 7-22-13  
 REGISTERED PROFESSIONAL ENGINEER  
 KIANOUSH HARIRSAZ  
 No. C39591  
 Exp. 12/31/13  
 CIVIL  
 STATE OF CALIFORNIA

SAN JOAQUIN COUNCIL OF GOVERNMENTS  
 555 E. WEBER AVENUE  
 STOCKTON, CA 95202  
 RAJAPPAN & MEYER  
 CONSULTING ENGINEERS, INC.  
 1038 LEIGH AVE, SUITE 100  
 SAN JOSE, CA 95126



**LEGEND:**  
 Indicates deck drainage inlet

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

DESIGN OVERSIGHT *Reza Erfanian*  
 Reza Erfanian  
 5-10-13  
 SIGN OFF DATE

DESIGN	BY P. SHINN	CHECKED N. VO / S. SHI
DETAILS	BY P. SHINN	CHECKED N. VO / S. SHI
QUANTITIES	BY S. DESALEGN	CHECKED M. PHILIPS

**PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION**  
 P. SHINN  
 PROJECT ENGINEER

BRIDGE NO.	29-0350
POST MILES	T14.83

**SR4 CROSSTOWN VIADUCT**  
**STRUCTURE PLAN No. 8**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



UNIT: 1455  
 PROJECT NUMBER & PHASE: 10000002291  
 CONTRACT NO.: 10-0S1101

CONTRACT NO.: 10-0S1101

REVISION DATES	SHEET	OF
8/18/11 6/08/12 9/07/12 1/27/13	15	111

DISREGARD PRINTS BEARING EARLIER REVISION DATES

FILE => 29-0350-c-sp08.dgn

USERNAME => s135318 DATE PLOTTED => 23-JUL-2013 TIME PLOTTED => 10:12

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	SJ	4,5	Var	356	486

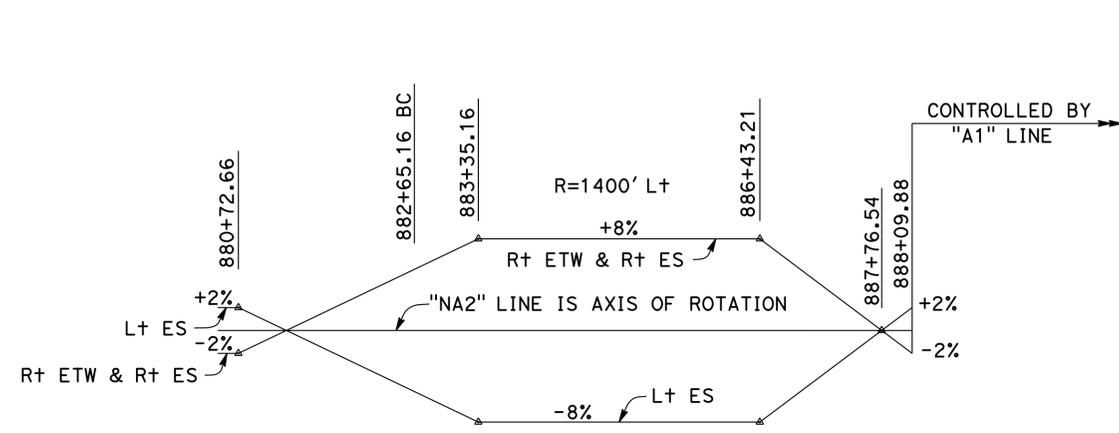
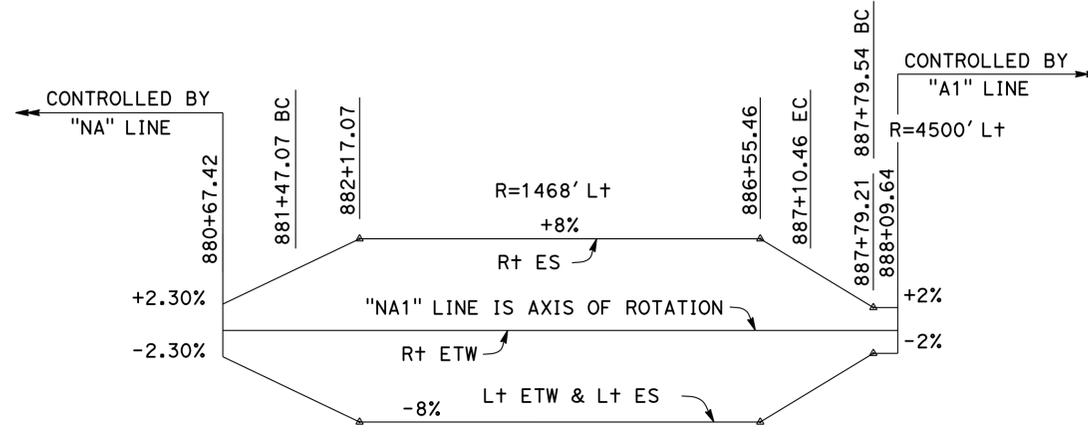
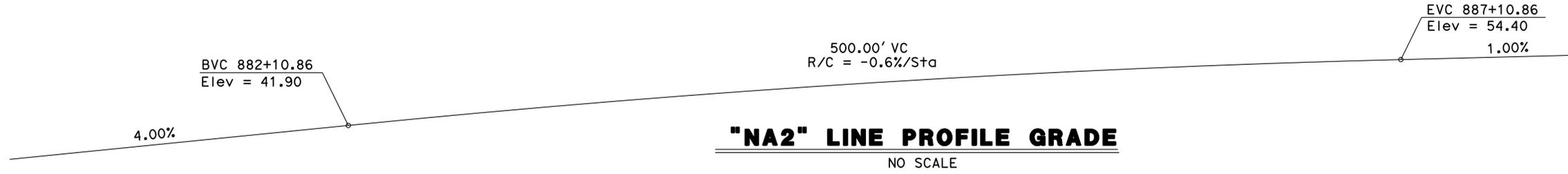
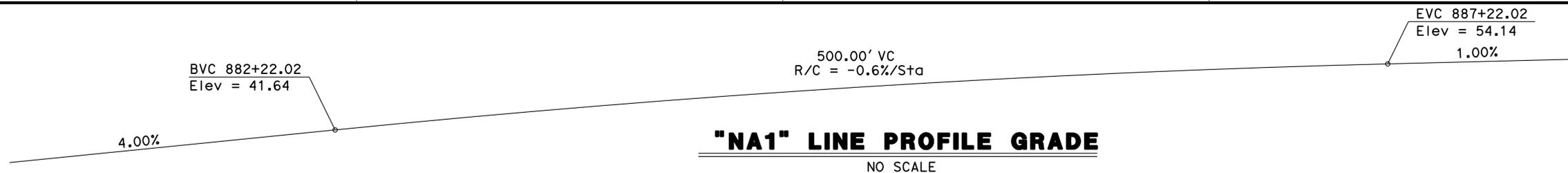
<i>K. Ham</i> REGISTERED CIVIL ENGINEER	11/27/12 DATE
7-22-13 PLANS APPROVAL DATE	

REGISTERED PROFESSIONAL ENGINEER  
KIANOUSH HARIRSAZ  
No. C39591  
Exp. 12/31/13  
CIVIL  
STATE OF CALIFORNIA

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SAN JOAQUIN COUNCIL OF GOVERNMENTS  
555 E. WEBER AVENUE  
STOCKTON, CA 95202

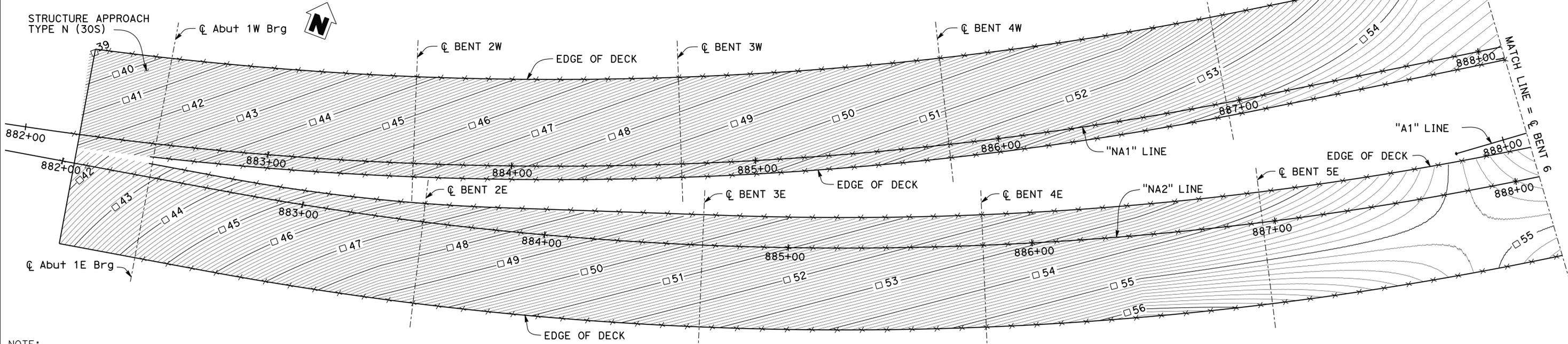
RAJAPPAN & MEYER  
CONSULTING ENGINEERS, INC.  
1038 LEIGH AVE, SUITE 100  
SAN JOSE, CA 95126



- NOTES:
- Indicates even foot contour.
  - × Indicates 10 ft intervals measured along "NA1" line & "NA2" line.
  - Contour interval = 0.1 ft.
  - Contours do not include camber or falsework settlement.

**"NA1" LINE SUPERELEVATION**  
NO SCALE

**"NA2" LINE SUPERELEVATION**  
NO SCALE



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

**PLAN**  
1" = 20'

*Reza Erfanian*  
DESIGN OVERSIGHT  
12/19/12  
SIGN OFF DATE

DESIGN	BY P. SHINN	CHECKED N. VO / S. SHI
DETAILS	BY P. SHINN	CHECKED N. VO / S. SHI
QUANTITIES	BY S. DESALEGN	CHECKED M. PHILIPS

PREPARED FOR THE  
**STATE OF CALIFORNIA**  
DEPARTMENT OF TRANSPORTATION

P. SHINN  
PROJECT ENGINEER

BRIDGE NO.	29-0350
POST MILES	T14.83

**SR4 CROSSTOWN VIADUCT**  
**DECK CONTOURS No. 1**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

0 1 2 3

UNIT: 1455  
PROJECT NUMBER & PHASE: 10000002291

CONTRACT NO.: 10-0S1101

DISREGARD PRINTS BEARING EARLIER REVISION DATES

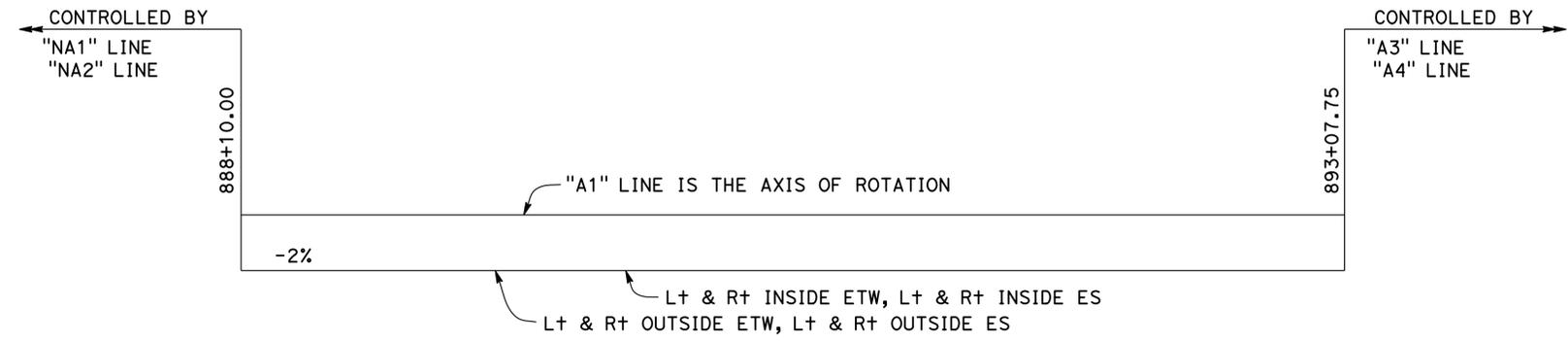
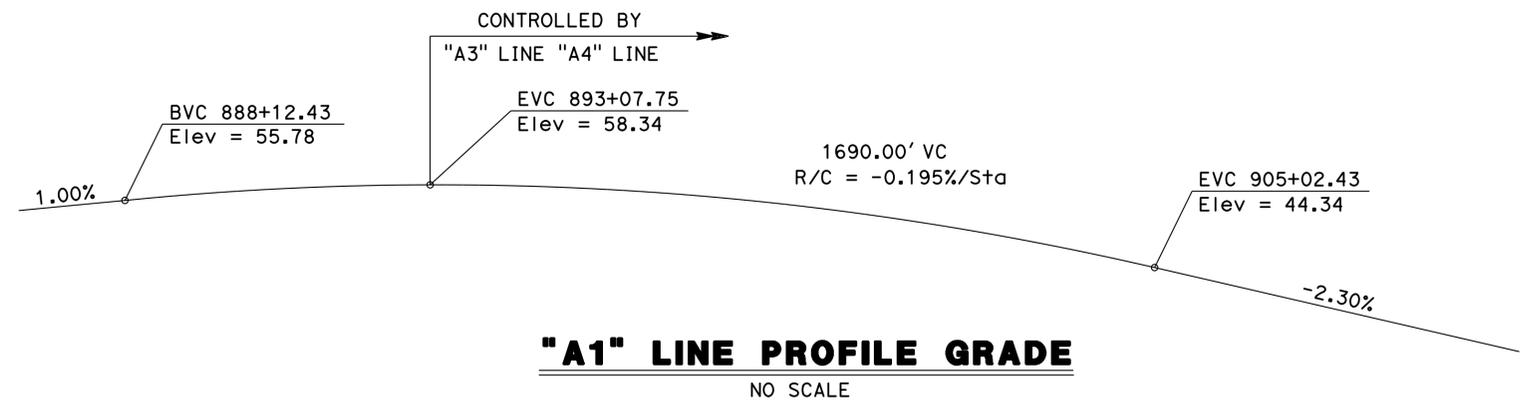
REVISION DATES	SHEET	OF
8/18/11 6/08/12 9/07/12 1/27/13	16	111

USERNAME => s135318 DATE PLOTTED => 23-JUL-2013 TIME PLOTTED => 10:12

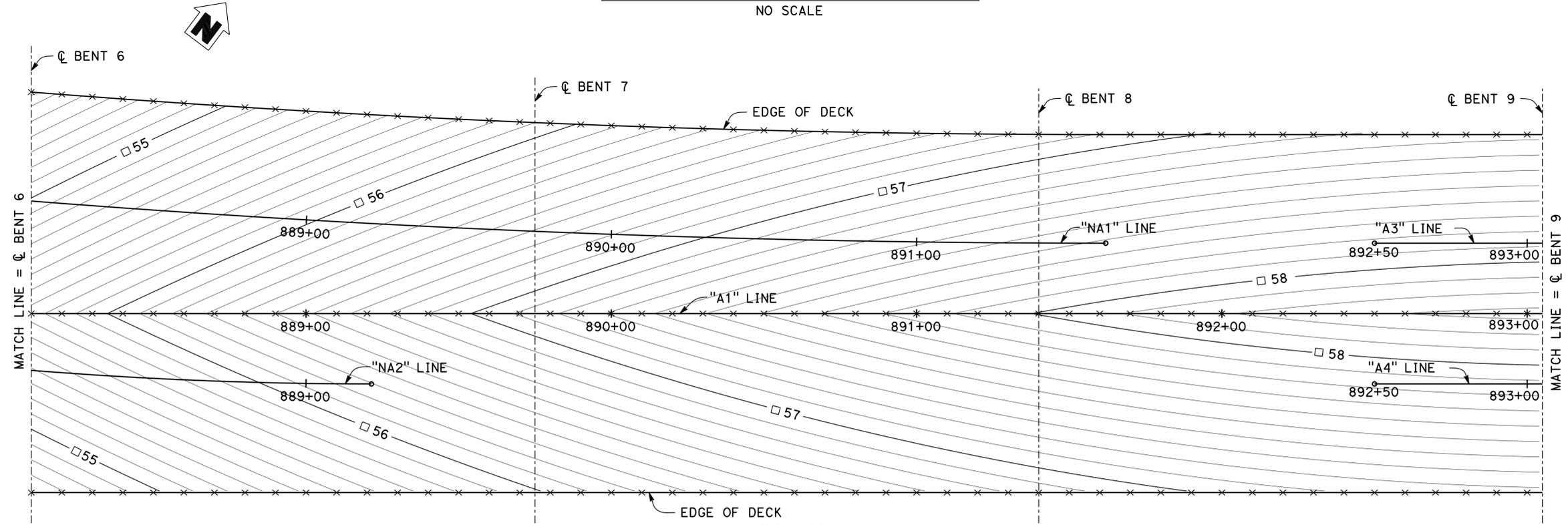
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	SJ	4,5	Var	357	486

REGISTERED CIVIL ENGINEER *K. Ham* 11/27/12 DATE  
 PLANS APPROVAL DATE 7-22-13  
 REGISTERED PROFESSIONAL ENGINEER  
 KIANOUSH HARIRSAZ  
 No. C39591  
 Exp. 12/31/13  
 CIVIL  
 STATE OF CALIFORNIA

SAN JOAQUIN COUNCIL OF GOVERNMENTS  
 555 E. WEBER AVENUE  
 STOCKTON, CA 95202  
 RAJAPPAN & MEYER  
 CONSULTING ENGINEERS, INC.  
 1038 LEIGH AVE, SUITE 100  
 SAN JOSE, CA 95126



- NOTES:
- Indicates even foot contour.
  - × Indicates 10 ft intervals measured along "A1" line.
  - Contour interval = 0.1 ft.
  - Contours do not include camber or falsework settlement.



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

DESIGN OVERSIGHT *Reza Erfanian*  
 12/19/12  
 SIGN OFF DATE

DESIGN	BY P. SHINN	CHECKED N. VO / S. SHI
DETAILS	BY P. SHINN	CHECKED N. VO / S. SHI
QUANTITIES	BY S. DESALEGN	CHECKED M. PHILIPS

PREPARED FOR THE  
**STATE OF CALIFORNIA**  
 DEPARTMENT OF TRANSPORTATION  
 P. SHINN  
 PROJECT ENGINEER

BRIDGE NO.	29-0350
POST MILES	T14.83

**SR4 CROSSTOWN VIADUCT**  
**DECK CONTOURS No. 2**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



UNIT: 1455  
 PROJECT NUMBER & PHASE: 10000002291  
 CONTRACT NO.: 10-0S1101

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
8/18/11 6/08/12 9/07/12 1/27/13	17	111

USERNAME => s135318 DATE PLOTTED => 23-JUL-2013 TIME PLOTTED => 10:12

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	SJ	4,5	Var	358	486

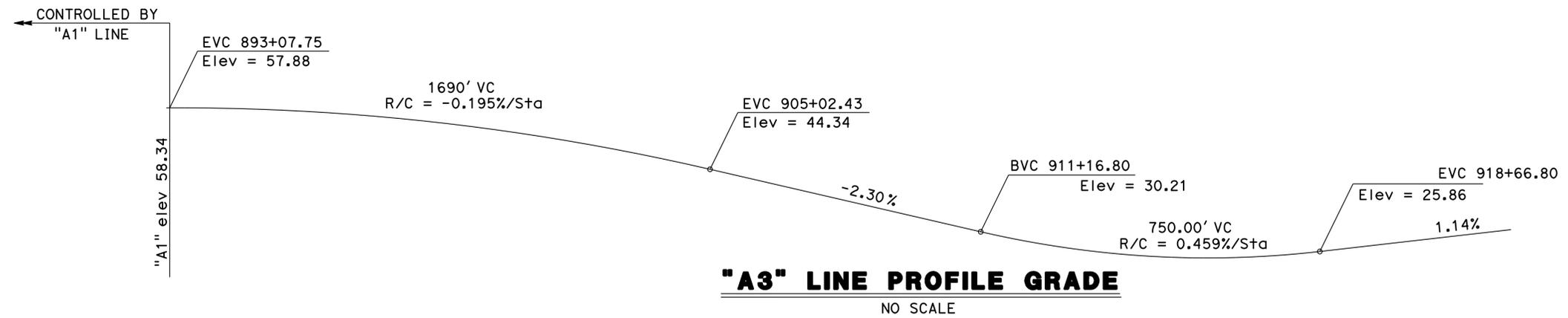
REGISTERED CIVIL ENGINEER  
 KIANOUSH HARIRSAZ  
 No. C39591  
 Exp. 12/31/13  
 CIVIL  
 STATE OF CALIFORNIA

11/27/12 DATE  
 7-22-13 PLANS APPROVAL DATE

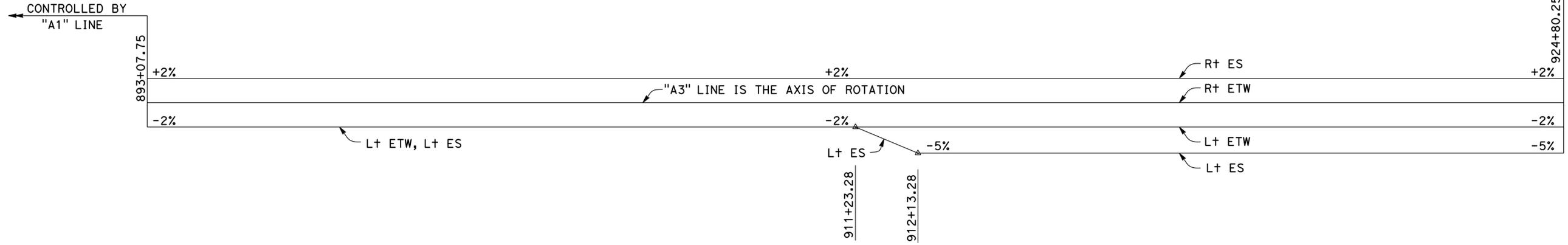
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SAN JOAQUIN COUNCIL OF GOVERNMENTS  
 555 E. WEBER AVENUE  
 STOCKTON, CA 95202

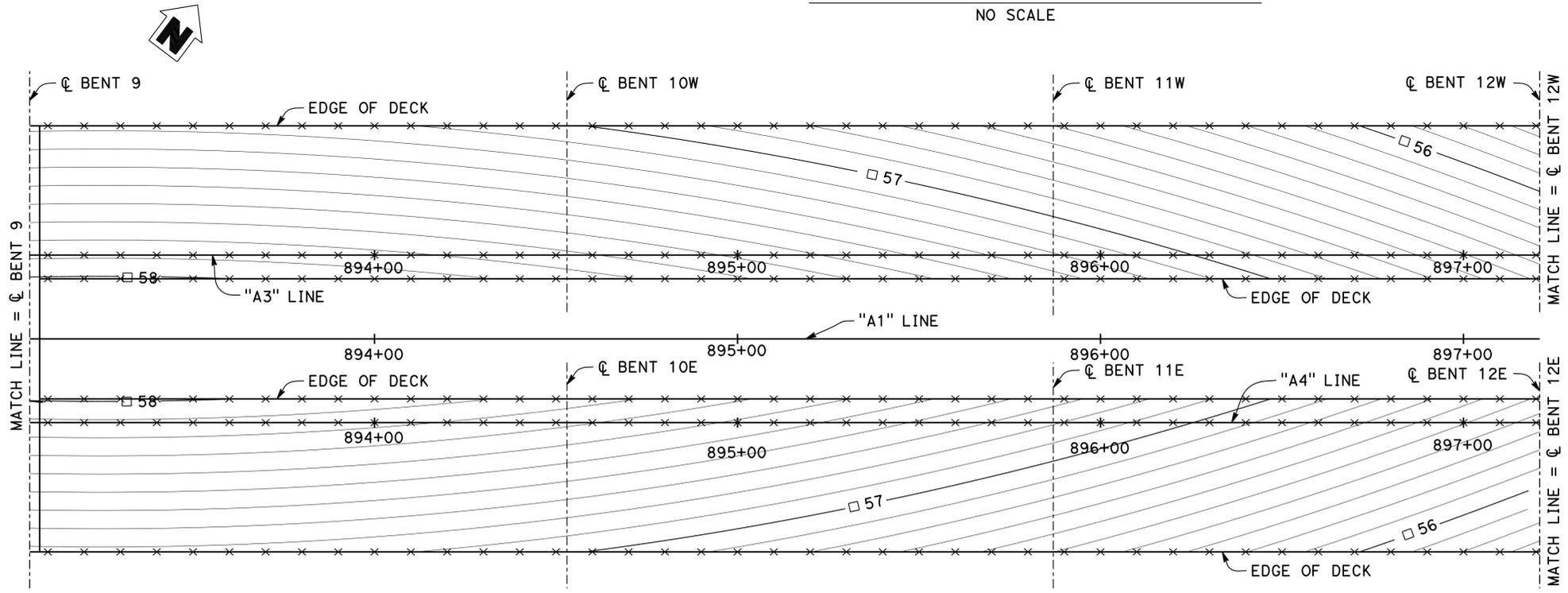
RAJAPPAN & MEYER  
 CONSULTING ENGINEERS, INC.  
 1038 LEIGH AVE, SUITE 100  
 SAN JOSE, CA 95126



**"A3" LINE PROFILE GRADE**  
 NO SCALE



**"A3" LINE SUPERELEVATION**  
 NO SCALE



**PLAN**  
 1" = 20'

- NOTES:
- Indicates even foot contour.
  - x Indicates 10 ft intervals measured along "A3" line & "A4" line.
  - Contour interval = 0.1 ft.
  - Contours do not include camber or falsework settlement.

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

DESIGN OVERSIGHT  
 Reza Erfanian  
 12/19/12  
 SIGN OFF DATE

DESIGN	BY P. SHINN	CHECKED N. VO / S. SHI
DETAILS	BY P. SHINN	CHECKED N. VO / S. SHI
QUANTITIES	BY S. DESALEGN	CHECKED M. PHILIPS

PREPARED FOR THE  
**STATE OF CALIFORNIA**  
 DEPARTMENT OF TRANSPORTATION

P. SHINN  
 PROJECT ENGINEER

BRIDGE NO.	29-0350
POST MILES	T14.83

**SR4 CROSSTOWN VIADUCT**  
**DECK CONTOURS No. 3**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



UNIT: 1455  
 PROJECT NUMBER & PHASE: 10000002291

CONTRACT NO.: 10-0S1101

DISREGARD PRINTS BEARING EARLIER REVISION DATES

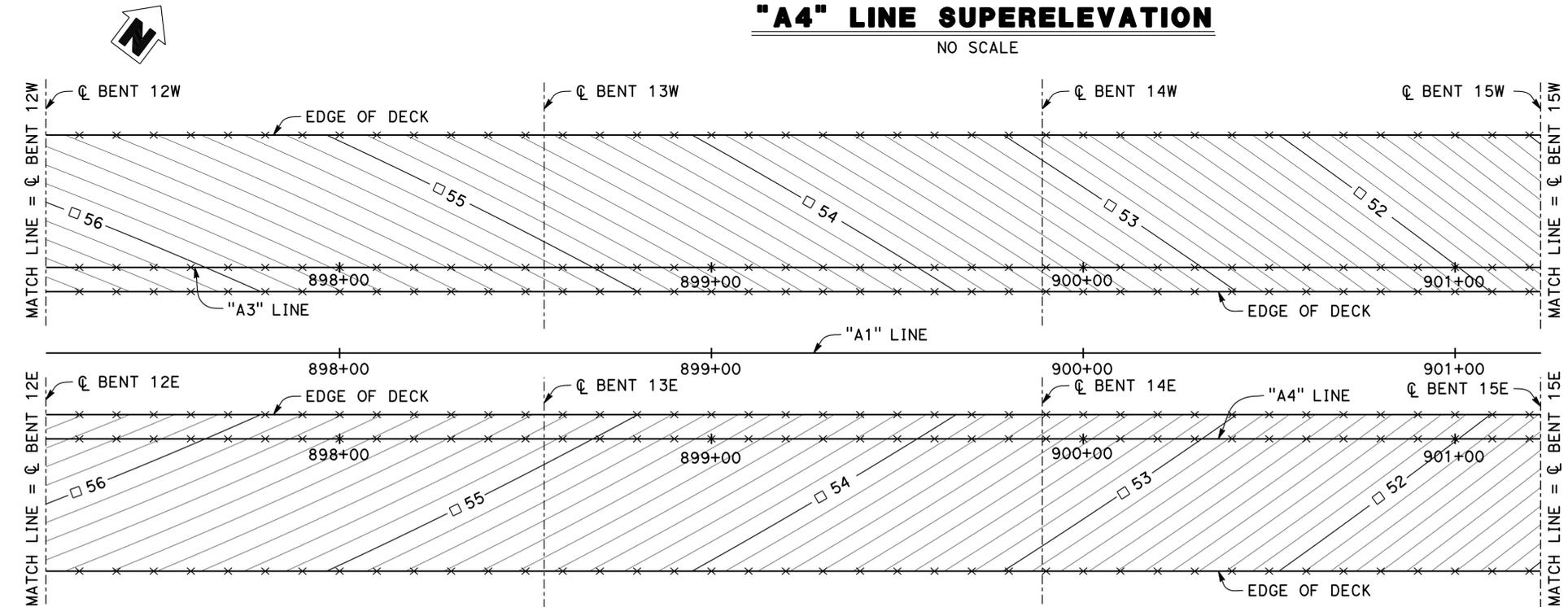
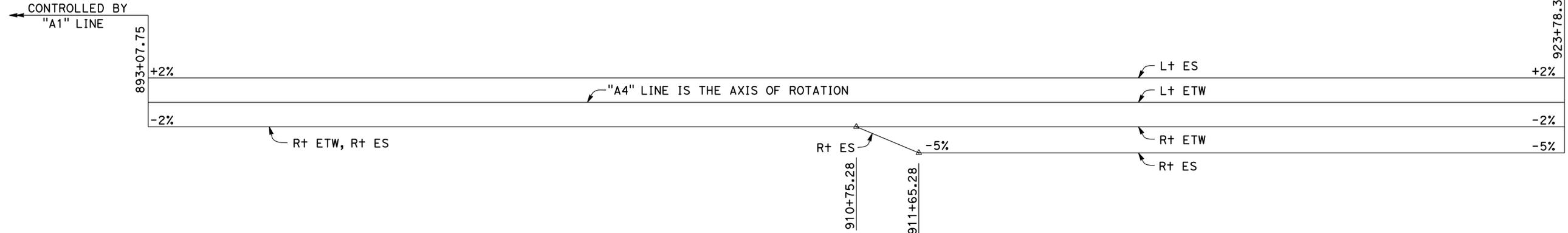
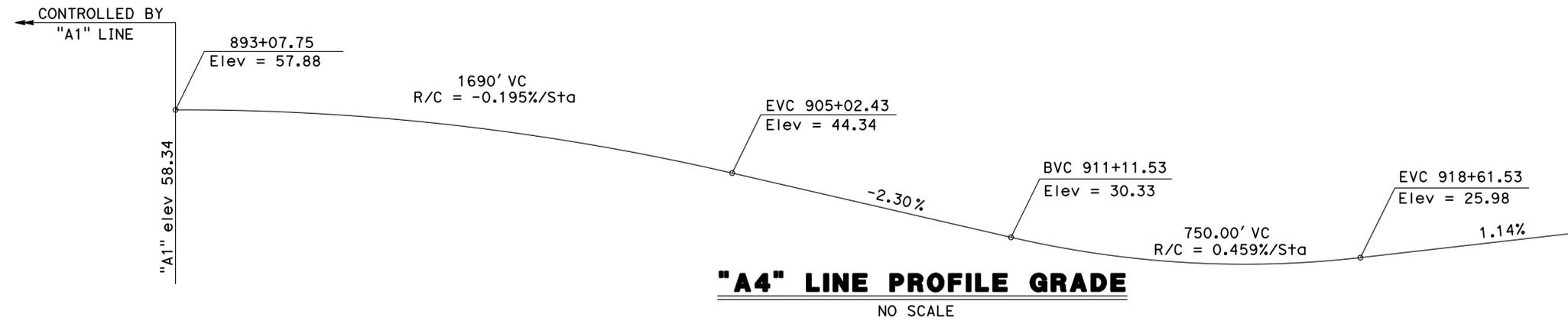
REVISION DATES	SHEET	OF
8/16/11, 6/08/12, 9/07/12, 11/27/12	18	111

USERNAME => s135318 DATE PLOTTED => 23-JUL-2013 TIME PLOTTED => 10:13

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	SJ	4,5	Var	359	486

REGISTERED CIVIL ENGINEER  
 DATE 11/27/12  
 PLANS APPROVAL DATE 7-22-13  
 KIANOUSH HARIRSAZ  
 No. C39591  
 Exp. 12/31/13  
 CIVIL  
 STATE OF CALIFORNIA

SAN JOAQUIN COUNCIL OF GOVERNMENTS  
 555 E. WEBER AVENUE  
 STOCKTON, CA 95202  
 RAJAPPAN & MEYER  
 CONSULTING ENGINEERS, INC.  
 1038 LEIGH AVE, SUITE 100  
 SAN JOSE, CA 95126



- NOTES:
- Indicates even foot contour.
  - × Indicates 10 ft intervals measured along "A3" line & "A4" line.
  - Contour interval = 0.1 ft.
  - Contours do not include camber or falsework settlement.

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

DESIGN OVERSIGHT  
 Reza Erfanian  
 12/19/12  
 SIGN OFF DATE

DESIGN	BY P. SHINN	CHECKED N. VO / S. SHI
DETAILS	BY P. SHINN	CHECKED N. VO / S. SHI
QUANTITIES	BY S. DESALEGN	CHECKED M. PHILIPS

PREPARED FOR THE  
 STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

P. SHINN  
 PROJECT ENGINEER

BRIDGE NO.	29-0350
POST MILES	T14.83

**SR4 CROSSTOWN VIADUCT**  
**DECK CONTOURS No. 4**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



UNIT: 1455  
 PROJECT NUMBER & PHASE: 10000002291  
 CONTRACT NO.: 10-0S1101

CONTRACT NO.: 10-0S1101

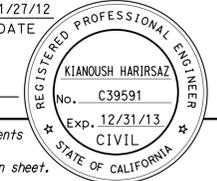
REVISION DATES	SHEET	OF
8/18/11 6/08/12 9/04/12 11/27/12	19	111

DISREGARD PRINTS BEARING EARLIER REVISION DATES

FILE => 29-0350-d-dc04.dgn

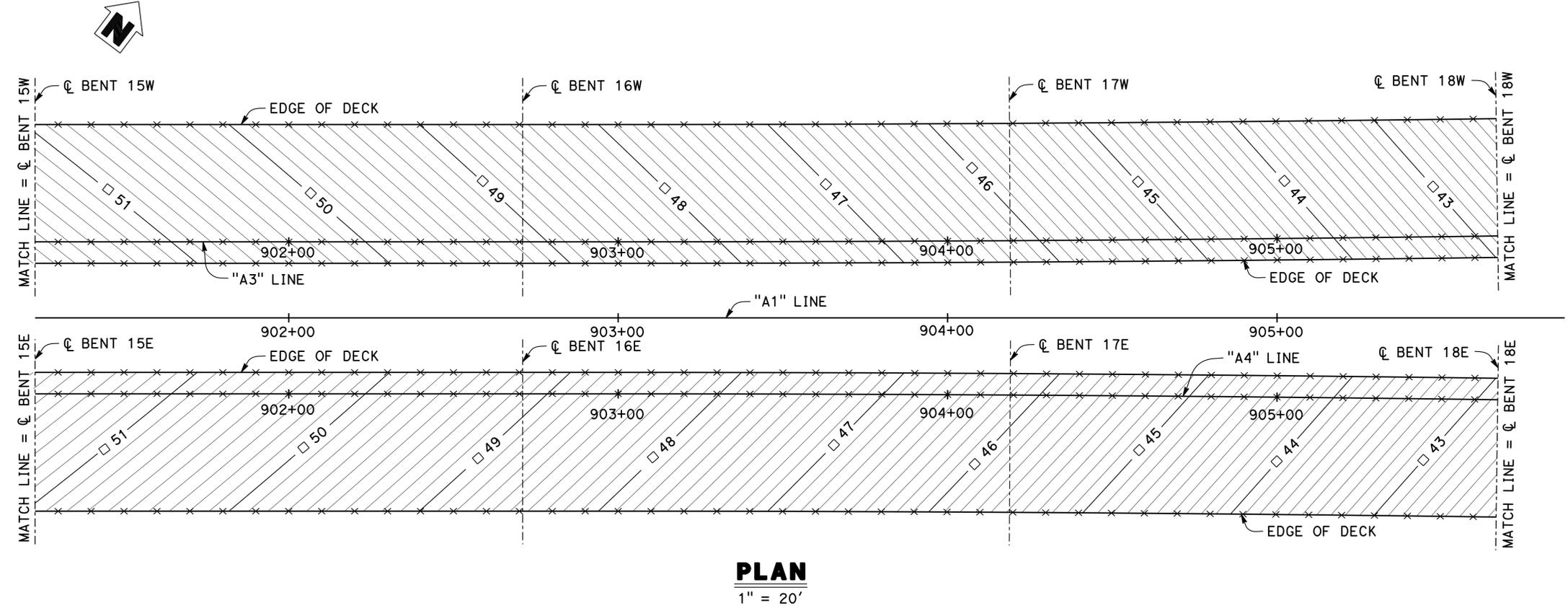
USERNAME => s135318 DATE PLOTTED => 23-JUL-2013 TIME PLOTTED => 10:13

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	SJ	4,5	Var	360	486

  
 REGISTERED CIVIL ENGINEER 11/27/12 DATE  
 7-22-13  
 PLANS APPROVAL DATE  


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 SAN JOAQUIN COUNCIL OF GOVERNMENTS  
 555 E. WEBER AVENUE  
 STOCKTON, CA 95202  
 RAJAPPAN & MEYER CONSULTING ENGINEERS, INC.  
 1038 LEIGH AVE, SUITE 100  
 SAN JOSE, CA 95126

- NOTES:
- Indicates even foot contour.
  - × Indicates 10 ft intervals measured along "A3" line & "A4" line.
  - Contour interval = 0.1 ft.
  - Contours do not include camber or falsework settlement.



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

  
 DESIGN OVERSIGHT Reza Erfanian  
 12/19/12  
 SIGN OFF DATE

DESIGN	BY P. SHINN	CHECKED N. VO / S. SHI
DETAILS	BY P. SHINN	CHECKED N. VO / S. SHI
QUANTITIES	BY S. DESALEGN	CHECKED M. PHILIPS

PREPARED FOR THE  
**STATE OF CALIFORNIA**  
 DEPARTMENT OF TRANSPORTATION

P. SHINN PROJECT ENGINEER	BRIDGE NO. 29-0350
	POST MILES T14.83

**SR4 CROSSTOWN VIADUCT**  
**DECK CONTOURS No. 5**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



UNIT: 1455  
 PROJECT NUMBER & PHASE: 10000002291  
 CONTRACT NO.: 10-0S1101

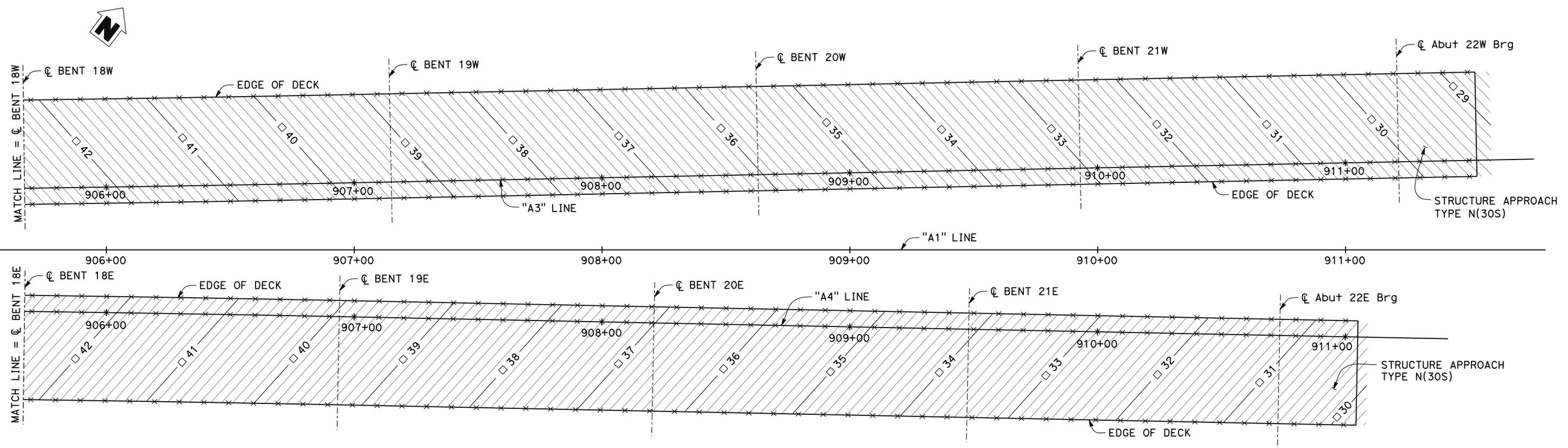
DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET 20	OF 111
	8/18/11 6/08/12 9/04/12 1/27/12		

USERNAME => s135318 DATE PLOTTED => 23-JUL-2013 TIME PLOTTED => 10:13

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	SJ	4,5	Var	361	486

REGISTERED CIVIL ENGINEER *K. Ham* 11/27/12 DATE  
 PLANS APPROVAL DATE 7-22-13  
 REGISTERED PROFESSIONAL ENGINEER  
 KIANOUSH HARIRSAZ  
 No. C39591  
 Exp. 12/31/13  
 CIVIL  
 STATE OF CALIFORNIA  
 The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

SAN JOAQUIN COUNCIL OF GOVERNMENTS  
 555 E. WEBER AVENUE  
 STOCKTON, CA 95202  
 RAJAPPAN & MEYER  
 CONSULTING ENGINEERS, INC.  
 1038 LEIGH AVE, SUITE 100  
 SAN JOSE, CA 95126



**PLAN**  
1" = 20'

- NOTES:
- Indicates even foot contour.
  - × Indicates 10 ft intervals measured along "A3" line & "A4" line.
  - Contour interval = 0.1 ft.
  - Contours do not include camber or falsework settlement.

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

DESIGN OVERSIGHT *Reza Erfanian*  
 12/19/12  
 SIGN OFF DATE

DESIGN	BY P. SHINN	CHECKED N. VO / S. SHI
DETAILS	BY P. SHINN	CHECKED N. VO / S. SHI
QUANTITIES	BY S. DESALEGN	CHECKED M. PHILIPS

PREPARED FOR THE  
**STATE OF CALIFORNIA**  
 DEPARTMENT OF TRANSPORTATION

P. SHINN  
 PROJECT ENGINEER

BRIDGE NO.	29-0350
POST MILES	T14.83

**SR4 CROSSTOWN VIADUCT**  
**DECK CONTOURS No. 6**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



UNIT: 1455  
 PROJECT NUMBER & PHASE: 10000002291

CONTRACT NO.: 10-0S1101

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
8/18/11 6/08/12 9/04/12 1/27/12	21	111

USERNAME => s128843 DATE PLOTTED => 23-JUL-2013 TIME PLOTTED => 09:35

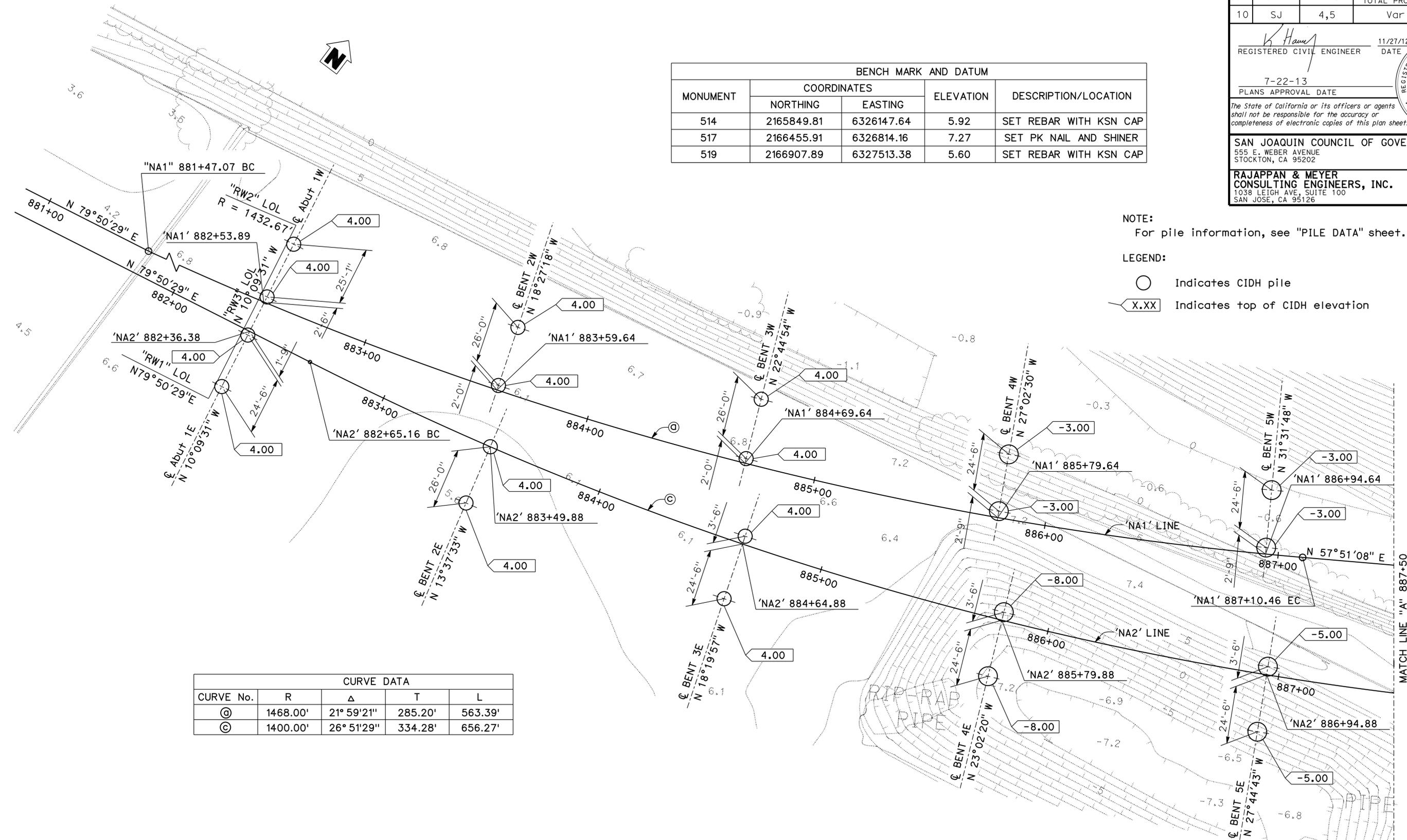
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	SJ	4,5	Var	362	486

REGISTERED CIVIL ENGINEER  
 11/27/12 DATE  
 7-22-13 PLANS APPROVAL DATE  
 KIANOUSH HARIRSAZ  
 No. C39591  
 Exp. 12/31/13  
 CIVIL  
 STATE OF CALIFORNIA

SAN JOAQUIN COUNCIL OF GOVERNMENTS  
 555 E. WEBER AVENUE  
 STOCKTON, CA 95202  
 RAJAPPAN & MEYER  
 CONSULTING ENGINEERS, INC.  
 1038 LEIGH AVE, SUITE 100  
 SAN JOSE, CA 95126

MONUMENT	COORDINATES		ELEVATION	DESCRIPTION/LOCATION
	NORTHING	EASTING		
514	2165849.81	6326147.64	5.92	SET REBAR WITH KSN CAP
517	2166455.91	6326814.16	7.27	SET PK NAIL AND SHINER
519	2166907.89	6327513.38	5.60	SET REBAR WITH KSN CAP

NOTE:  
 For pile information, see "PILE DATA" sheet.  
 LEGEND:  
 ○ Indicates CIDH pile  
 X.XX Indicates top of CIDH elevation



CURVE DATA				
CURVE No.	R	Δ	T	L
⊙	1468.00'	21° 59' 21"	285.20'	563.39'
⊙	1400.00'	26° 51' 29"	334.28'	656.27'

**FOUNDATION PLAN**  
 1" = 20'

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

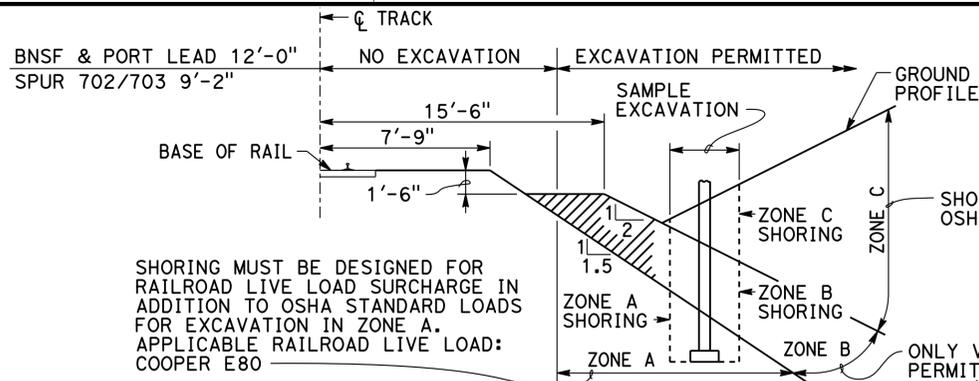
9/04/12  
 GEOTECHNICAL PROFESSIONAL APPROVAL DATE  
 Cal Han

DESIGN OVERSIGHT Reza Erfanian 5-10-13 SIGN OFF DATE	SCALE: X	VERT. DATUM X	HORZ. DATUM X	DESIGN BY P. SHINN	CHECKED N. VO / S. SHI	PREPARED FOR THE <b>STATE OF CALIFORNIA</b> DEPARTMENT OF TRANSPORTATION	BRIDGE NO. 29-0350	<b>SR4 CROSSTOWN VIADUCT</b> <b>FOUNDATION PLAN No. 1</b>
	PHOTOGRAMMETRY AS OF: X	ALIGNMENT TIES X	QUANTITIES BY S. DESALEGN	CHECKED N. VO / S. SHI	PROJECT ENGINEER P. SHINN		POST MILES T14.83	
SURVEYED BY X FIELD CHECKED BY X	DRAFTED BY X	CHECKED BY X	ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	UNIT: 1455 PROJECT NUMBER & PHASE: 10000002291 CONTRACT NO.: 10-0S1101	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES 8/16/11 6/08/13 9/04/12 11/27/12	SHEET 22 OF 111	

USERNAME => s128843 DATE PLOTTED => 23-JUL-2013 TIME PLOTTED => 09:35

**GENERAL SHORING NOTES**

1. All dimensions are measured perpendicular to C Track.
2. Prior to commencing any work, the contractor shall submit, for approval by the Railroad, detailed plans indicating the nature and extent of the track protection shoring proposed. The contractor shall install the temporary shoring system per the approved plans. Design of the temporary shoring system to comply with current "RAILROAD GUIDELINES FOR TEMPORARY SHORING".
3. For excavations which encroach into Zone A or B, shoring plans shall be accompanied by design calculations. Plans and calculations must be signed and stamped by a Professional Engineer registered in the state of California.



SHORING MUST BE DESIGNED FOR RAILROAD LIVE LOAD SURCHARGE IN ADDITION TO OSHA STANDARD LOADS FOR EXCAVATION IN ZONE A. APPLICABLE RAILROAD LIVE LOAD: COOPER E80

ONLY VERTICAL SHORING WILL BE PERMITTED FOR EXCAVATION IN THIS ZONE (NO SLOPING CUTS). SHORING TO COMPLY WITH OSHA REQUIREMENTS.

**GENERAL EXCAVATION ZONES**

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	SJ	4,5	Var	363	486

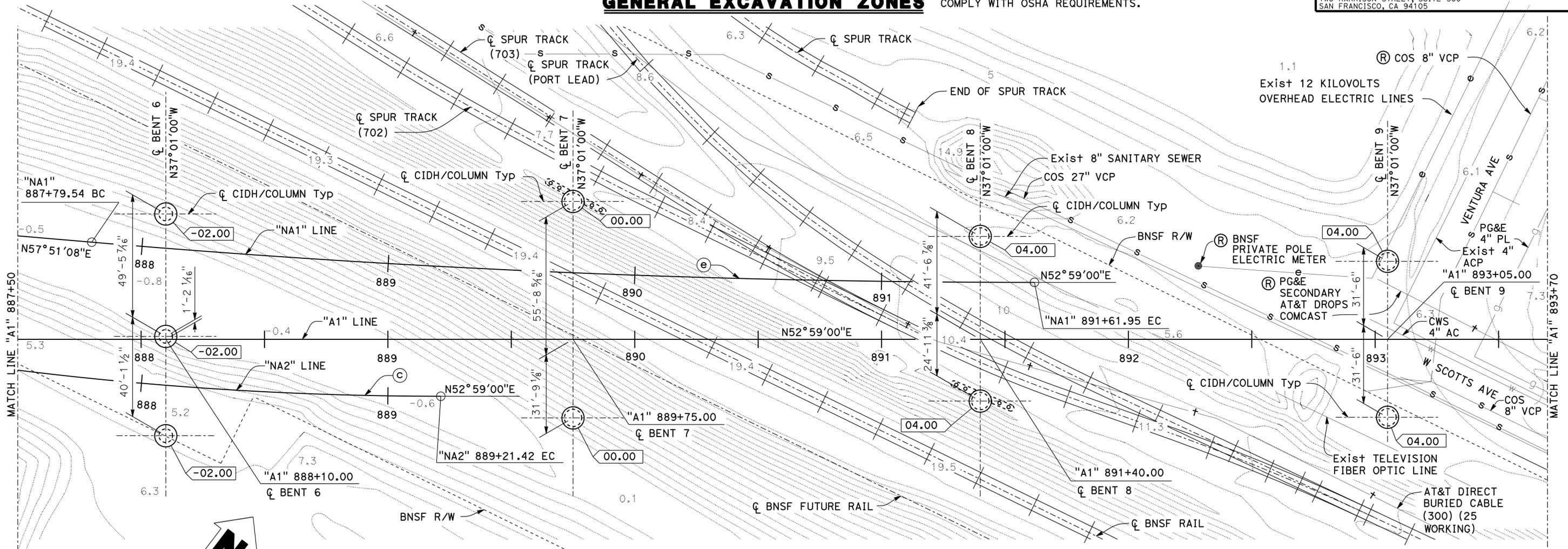
REGISTERED CIVIL ENGINEER DATE 11/27/12

7-22-13 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER SIEW W. CHEE No. C41906 Exp. 03/31/14 CIVIL STATE OF CALIFORNIA

SAN JOAQUIN COUNCIL OF GOVERNMENTS  
555 E. WEBER AVENUE  
STOCKTON, CA 95202

T. Y. LIN INTERNATIONAL CONSULTING ENGINEERS, INC.  
TWO HARRISON STREET, SUITE 500  
SAN FRANCISCO, CA 94105



**PLAN**  
1"=20'

- Indicates 108" CIDH concrete pile
- ⊙ Indicates column supported on CIDH
- Indicates 16" CIDH concrete pile
- ⌒ Indicates top of CIDH elevation
- STL Steel pipe
- JP Joint pole
- e— Exist electrical
- w— Exist water
- W— New water
- s— Exist sewer
- g— Exist natural gas
- G— New natural gas
- t— Exist telephone
- e,tv,t— Exist electrical, television, telephone
- Ⓡ Proposed utility relocation
- BNSF Indicates Burlington Northern and Santa Fe Railroad

**CURVE DATA**

CURVE No.	RADIUS	Δ	TANGENT	LENGTH
Ⓢ	1,400'	26° 51' 29"	334.28'	656.26'
Ⓣ	4,500'	4° 52' 08"	191.32'	382.41'

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

DESIGN OVERSIGHT Reza Erfanian	SCALE: X	VERT. DATUM X	HORZ. DATUM X	DESIGN BY M. LEWIS	CHECKED C. HARRINGTON	PREPARED FOR THE <b>STATE OF CALIFORNIA</b> DEPARTMENT OF TRANSPORTATION	BRIDGE NO. 29-0350	<b>SR4 CROSTOWN VIADUCT</b> <b>FOUNDATION PLAN No. 2</b>
5-10-13 SIGN OFF DATE	PHOTOGRAMMETRY AS OF: X	ALIGNMENT TIES X	DETAILS BY T. KOONS	CHECKED C. HARRINGTON	S. CHEE PROJECT ENGINEER		POST MILES T14.83	
FOUNDATION PLAN SHEET (ENGLISH) (REV.7/16/10)	SURVEYED BY X	DRAFTED BY X	QUANTITIES BY M. LEWIS	CHECKED C. HARRINGTON	UNIT: PROJECT NUMBER & PHASE: 10000002291		CONTRACT NO.: 10-0S1101	

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

DISREGARD PRINTS BEARING EARLIER REVISION DATES

FILE => 29-0350-e-fdp102.dgn

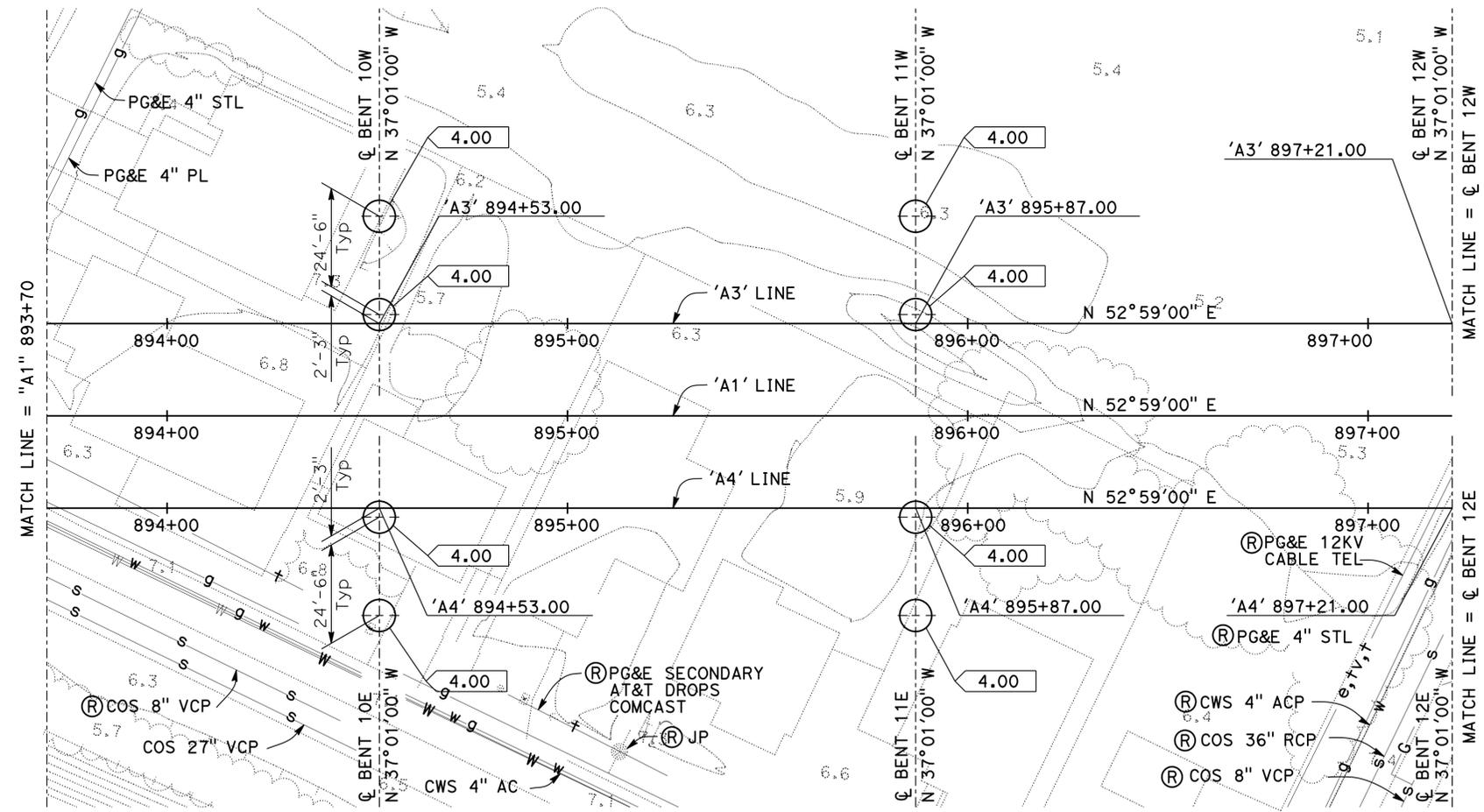
11/27/12  
SIEW W. CHEE  
REGISTERED PROFESSIONAL ENGINEER  
APPROVAL DATE

TIME PLOTTED => 09:35  
DATE PLOTTED => 23-JUL-2013  
USERNAME => s128843

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	SJ	4,5	Var	364	486

REGISTERED CIVIL ENGINEER *K. Ham* 11/27/12 DATE  
 PLANS APPROVAL DATE 7-22-13  
 REGISTERED PROFESSIONAL ENGINEER  
 KIANOUSH HARIRSAZ  
 No. C39591  
 Exp. 12/31/13  
 CIVIL  
 STATE OF CALIFORNIA

SAN JOAQUIN COUNCIL OF GOVERNMENTS  
 555 E. WEBER AVENUE  
 STOCKTON, CA 95202  
 RAJAPPAN & MEYER  
 CONSULTING ENGINEERS, INC.  
 1038 LEIGH AVE, SUITE 100  
 SAN JOSE, CA 95126



- NOTES:
- Contractor shall verify all existing utilities before excavation and construction.
  - For pile information, see "PILE DATA" sheet.

- LEGEND:
- Indicates CIDH pile
  - X.XX Indicates top of CIDH elevation
  - Ⓡ PROPOSED UTILITY RELOCATION
  - e Exist electrical
  - w Exist water
  - W New water
  - s Exist sewer
  - g Exist natural gas
  - G New natural gas
  - t Exist telephone
  - e,t,v,t Exist electrical, television, telephone
  - STL Steel pipe
  - JP Joint pole
  - PL Plastic pipe
  - AC Asbestos concrete pile

**FOUNDATION PLAN**  
1" = 20'

9/04/12 APPROVAL DATE  
 GEOTECHNICAL PROFESSIONAL  
 Reza Erfanfar

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

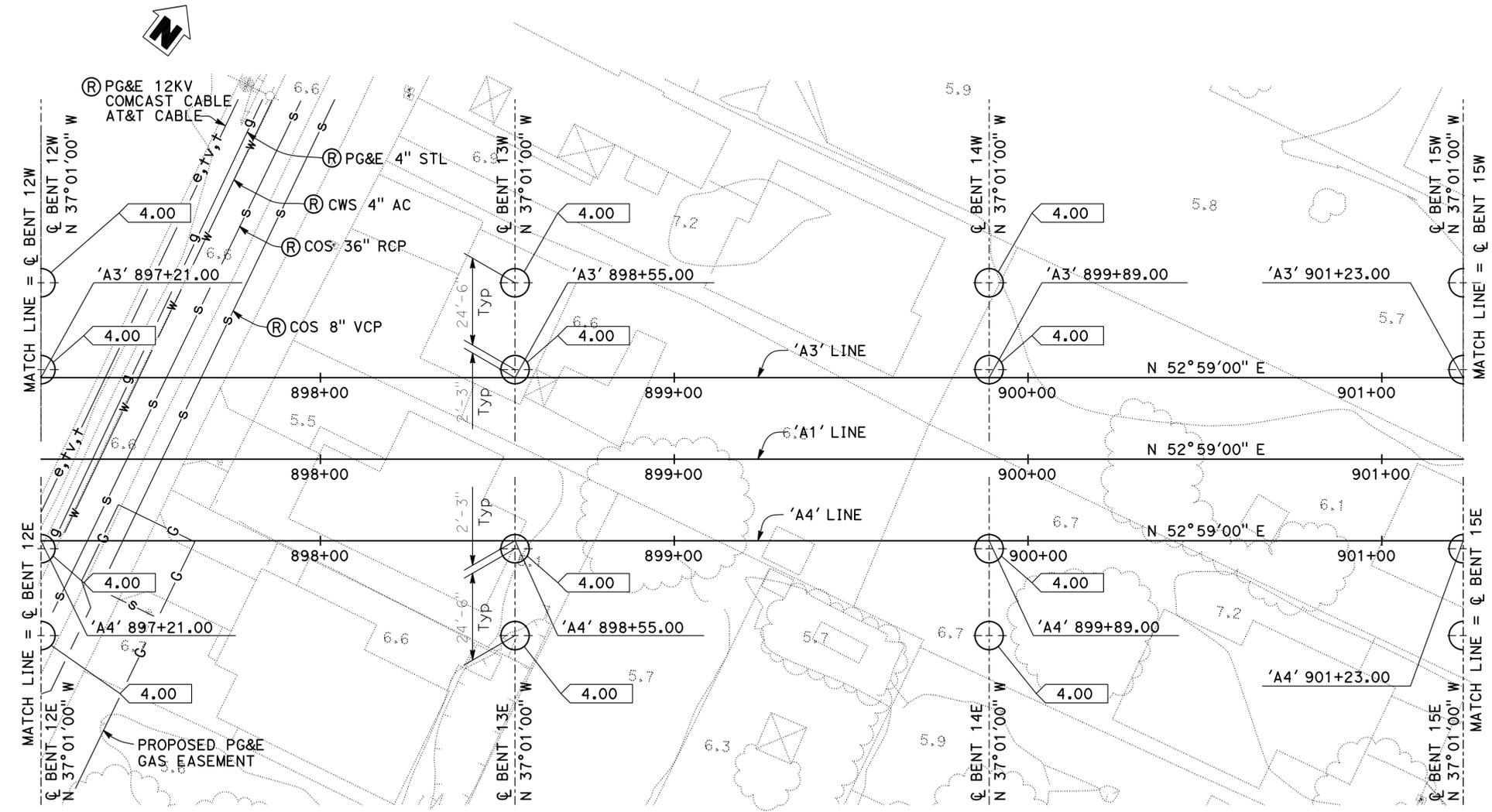
DESIGN OVERSIGHT Reza Erfanfar 12/19/12 SIGN OFF DATE	SCALE: X PHOTOGRAMMETRY AS OF: X SURVEYED BY X FIELD CHECKED BY X	VERT. DATUM X ALIGNMENT TIES X DRAFTED BY X CHECKED BY X	HORZ. DATUM X	DESIGN BY P. SHINN DETAILS BY P. SHINN QUANTITIES BY S. DESALEGN	CHECKED N. VO / S. SHI CHECKED N. VO / S. SHI CHECKED M. PHILIPS	PREPARED FOR THE <b>STATE OF CALIFORNIA</b> DEPARTMENT OF TRANSPORTATION	P. SHINN PROJECT ENGINEER	BRIDGE NO. 29-0350 POST MILES T14.83	<b>SR4 CROSTOWN VIADUCT</b> <b>FOUNDATION PLAN No. 3</b>	REVISION DATES 8/16/11 6/08/12 9/04/12 1/27/12	SHEET 24 OF 111
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USER NAME => s128843 DATE PLOTTED => 23-JUL-2013 TIME PLOTTED => 09:35

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	SJ	4,5	Var	365	486

REGISTERED CIVIL ENGINEER *K. Ham* 11/27/12 DATE  
 PLANS APPROVAL DATE 7-22-13  
 REGISTERED PROFESSIONAL ENGINEER  
 KIANOUSH HARIRSAZ  
 No. C39591  
 Exp. 12/31/13  
 CIVIL  
 STATE OF CALIFORNIA

SAN JOAQUIN COUNCIL OF GOVERNMENTS  
 555 E. WEBER AVENUE  
 STOCKTON, CA 95202  
 RAJAPPAN & MEYER  
 CONSULTING ENGINEERS, INC.  
 1038 LEIGH AVE, SUITE 100  
 SAN JOSE, CA 95126



- NOTES:
- Contractor shall verify all existing utilities before excavation and construction.
  - For pile information, see "PILE DATA" sheet.

- LEGEND:
- Indicates CIDH pile
  - X.XX Indicates top of CIDH elevation
  - Ⓡ PROPOSED UTILITY RELOCATION
  - e Exist electrical
  - w Exist water
  - W New water
  - s Exist sewer
  - g Exist natural gas
  - G New natural gas
  - t Exist telephone
  - e,tv,t+ Exist electrical, television, telephone
  - STL Steel pipe
  - JP Joint pole
  - PL Plastic pipe
  - AC Asbestos concrete pile

**FOUNDATION PLAN**  
1" = 20'

9/04/12  
 GEOTECHNICAL PROFESSIONAL APPROVAL DATE  
 Reza Erfanian

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

DESIGN BY P. SHINN	CHECKED N. VO / S. SHI	<b>PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION</b>	BRIDGE NO. 29-0350	<b>SR4 CROSTOWN VIADUCT FOUNDATION PLAN No. 4</b>
DETAILS BY P. SHINN	CHECKED N. VO / S. SHI		POST MILES T14.83	
QUANTITIES BY S. DESALEGN	CHECKED M. PHILIPS			
SCALE: X	VERT. DATUM X	HORZ. DATUM X	UNIT: 1455	CONTRACT NO.: 10-0S1101
PHOTOGRAMMETRY AS OF: X	ALIGNMENT TIES X		PROJECT NUMBER & PHASE: 10000002291	DISREGARD PRINTS BEARING EARLIER REVISION DATES
SURVEYED BY X	DRAFTED BY X		FILE => 29-0350-e-fdp104.dgn	REVISION DATES: 8/16/11, 6/08/12, 9/04/12, 1/27/13
FIELD CHECKED BY X	CHECKED BY X			SHEET 25 OF 111

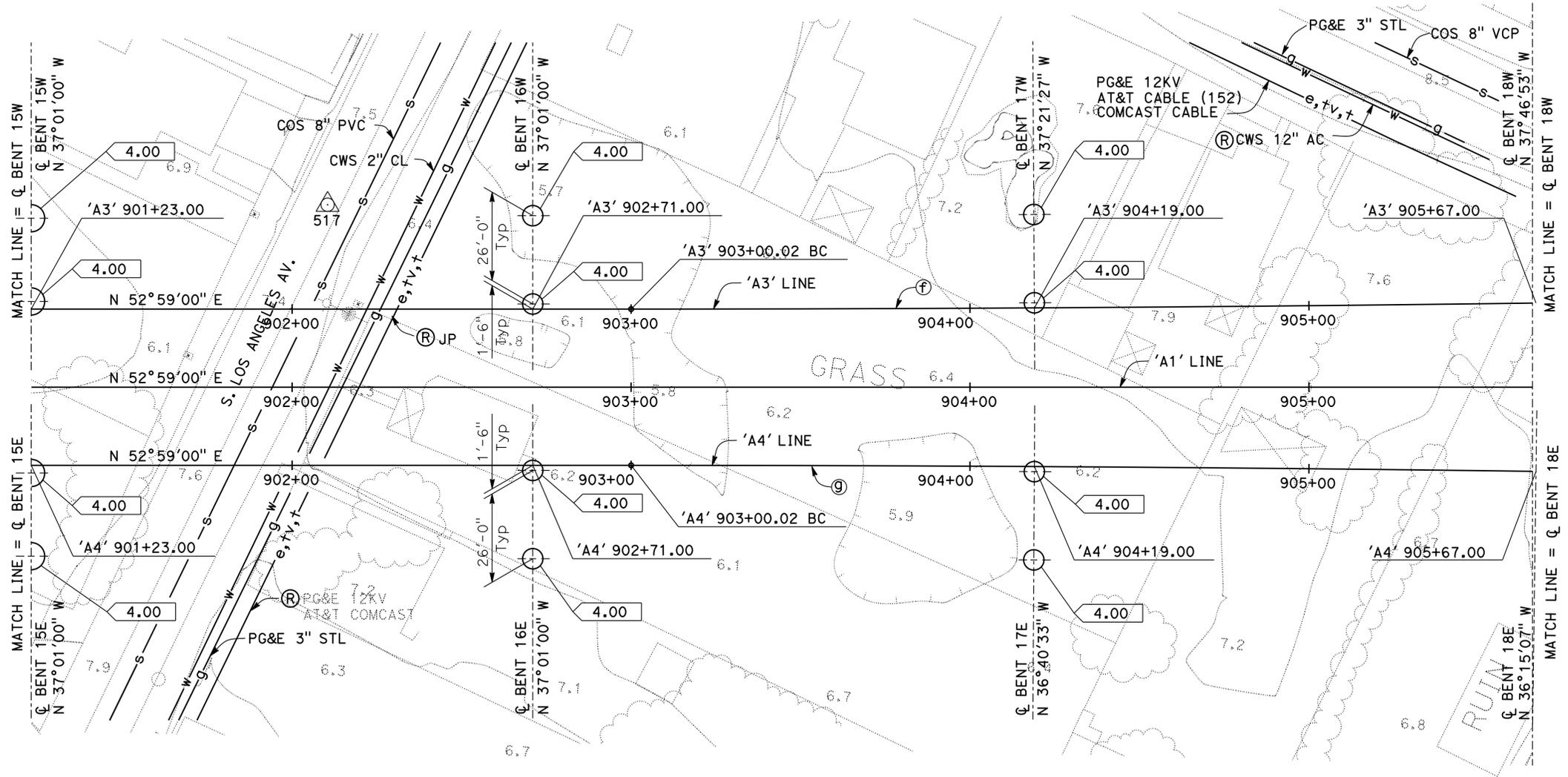
USERNAME => s128843 DATE PLOTTED => 23-JUL-2013 TIME PLOTTED => 09:35

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	SJ	4,5	Var	366	486

REGISTERED CIVIL ENGINEER *K. Ham* 11/27/12 DATE  
 7-22-13 PLANS APPROVAL DATE  
 REGISTERED PROFESSIONAL ENGINEER  
 KIANOUSH HARIRSAZ  
 No. C39591  
 Exp. 12/31/13  
 CIVIL  
 STATE OF CALIFORNIA

SAN JOAQUIN COUNCIL OF GOVERNMENTS  
 555 E. WEBER AVENUE  
 STOCKTON, CA 95202  
 RAJAPPAN & MEYER  
 CONSULTING ENGINEERS, INC.  
 1038 LEIGH AVE, SUITE 100  
 SAN JOSE, CA 95126

CURVE No.	R	∇	T	L
Ⓣ	20000.00'	1° 08' 45"	199.98'	399.95'
Ⓤ	20000.00'	1° 08' 45"	199.98'	399.95'



- NOTES:**
- Contractor shall verify all existing utilities before excavation and construction.
  - For pile information, see "PILE DATA" sheet.
- LEGEND:**
- Indicates CIDH pile
  - X.XX Indicates top of CIDH elevation
  - Ⓡ Proposed utility relocation
  - e— Exist electrical
  - w— Exist water
  - W— New water
  - s— Exist sewer
  - g— Exist natural gas
  - G— New natural gas
  - t— Exist telephone
  - e,tv,t- Exist electrical, television, telephone
  - STL Steel pipe
  - JP Joint pole
  - PL Plastic pipe
  - AC Asbestos concrete pile

**FOUNDATION PLAN**  
1" = 20'

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

9/04/12  
 SEOTECHNICAL PROFESSIONAL APPROVAL DATE  
*Reza Erfanian*

DESIGN BY P. SHINN	CHECKED N. VO / S. SHI	<b>PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION</b>	BRIDGE NO. 29-0350	<b>SR4 CROSTOWN VIADUCT FOUNDATION PLAN No. 5</b>
DETAILS BY P. SHINN	CHECKED N. VO / S. SHI		POST MILES T14.83	
QUANTITIES BY S. DESALEGN	CHECKED M. PHILIPS			
SCALE: X	VERT. DATUM X	HORZ. DATUM X	UNIT: 1455	CONTRACT NO.: 10-0S1101
PHOTOGRAMMETRY AS OF: X	ALIGNMENT TIES X		PROJECT NUMBER & PHASE: 10000002291	DISREGARD PRINTS BEARING EARLIER REVISION DATES
SURVEYED BY X	DRAFTED BY X		FILE => 29-0350-e-fdpi05.dgn	REVISION DATES
12/19/12 SIGN OFF DATE	FIELD CHECKED BY X			8/18/11 6/08/12 9/04/12 11/27/12
FOUNDATION PLAN SHEET (ENGLISH) (REV.7/16/10)			ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	SHEET 26 OF 111

USERNAME => s128843 DATE PLOTTED => 23-JUL-2013 TIME PLOTTED => 09:35

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	SJ	4,5	Var	367	486

REGISTERED CIVIL ENGINEER  
 12/27/12 DATE  
 7-22-13 PLANS APPROVAL DATE  
 KIANOUSH HARIRSAZ  
 No. C39591  
 Exp. 12/31/13  
 CIVIL  
 STATE OF CALIFORNIA

SAN JOAQUIN COUNCIL OF GOVERNMENTS  
 555 E. WEBER AVENUE  
 STOCKTON, CA 95202  
 RAJAPPAN & MEYER  
 CONSULTING ENGINEERS, INC.  
 1038 LEIGH AVE, SUITE 100  
 SAN JOSE, CA 95126

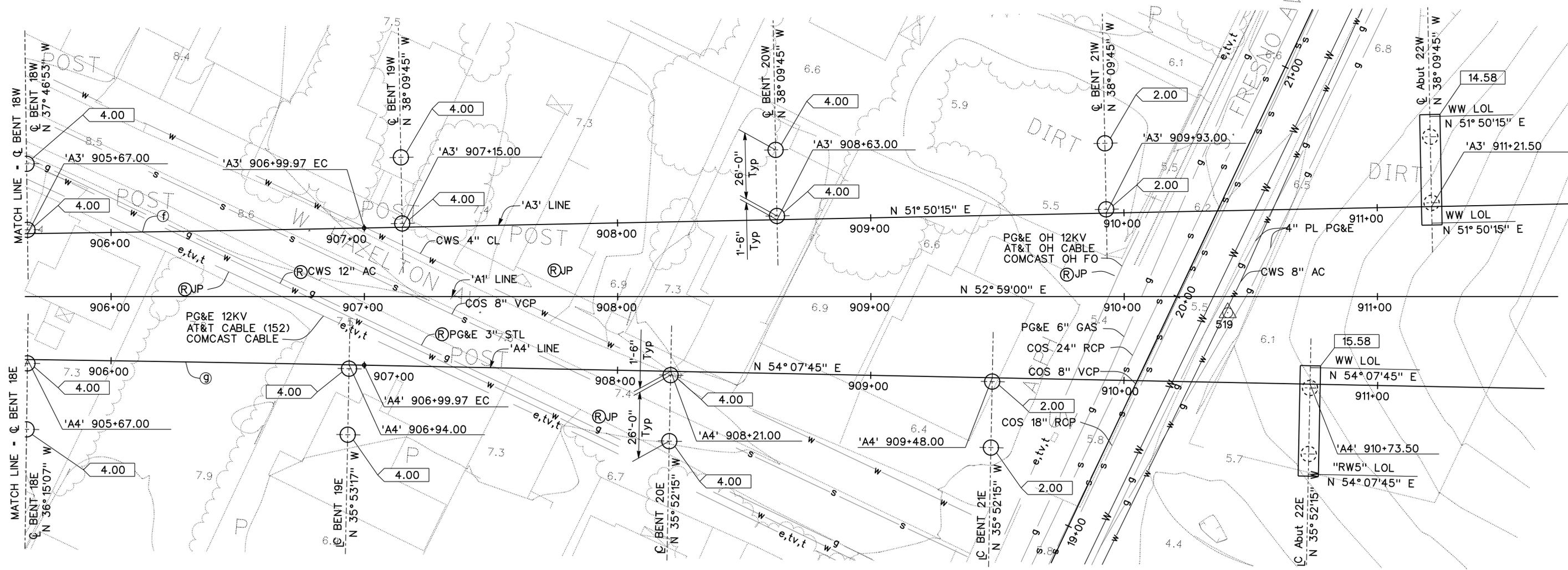
- NOTES:
- Contractor shall verify all existing utilities before excavation and construction.
  - For pile information, see "PILE DATA" sheet.

LEGEND:

- Indicates CIDH pile
- X.XX Indicates top of CIDH elevation
- X.XX Indicates bottom of footing elevation
- Ⓡ PROPOSED UTILITY RELOCATION
- e — Exist electrical
- w — Exist water
- W — New water
- s — Exist sewer
- g — Exist natural gas
- G — New natural gas
- t — Exist telephone
- e,tv,t — Exist electrical, television, telephone
- STL Steel pipe
- JP Joint pole
- PL Plastic pipe
- AC Asbestos concrete pile

CURVE DATA

CURVE No.	R	Δ	T	L
①	20000.00'	1° 08' 45"	199.98'	399.95'
②	20000.00'	1° 08' 45"	199.98'	399.95'



**FOUNDATION PLAN**

1" = 20'

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

11/27/12 APPROVAL DATE  
 GEOTECHNICAL PROFESSIONAL  
 Cal Han

DESIGN OVERSIGHT Reza Erfanian 12/19/12 SIGN OFF DATE	SCALE: X	VERT. DATUM X	HORZ. DATUM X	DESIGN BY P. SHINN	CHECKED N. VO / S. SHI	PREPARED FOR THE <b>STATE OF CALIFORNIA</b> DEPARTMENT OF TRANSPORTATION	BRIDGE NO. 29-0350	<b>SR4 CROSSTOWN VIADUCT</b> <b>FOUNDATION PLAN No. 6</b>	
	PHOTOGRAMMETRY AS OF: X	ALIGNMENT TIES X	DETAILS BY P. SHINN	CHECKED N. VO / S. SHI	PROJECT ENGINEER P. SHINN		POST MILES T14.83		
	SURVEYED BY X	DRAFTED BY X	QUANTITIES BY S. DESALEGN	CHECKED M. PHILIPS					
	FIELD CHECKED BY X	CHECKED BY X							
FOUNDATION PLAN SHEET (ENGLISH) (REV.7/16/10)				ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		UNIT: 1455 PROJECT NUMBER & PHASE: 10000002291	CONTRACT NO.: 10-0S1101	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES 8/18/11 6/08/12 9/04/12 11/27/12 SHEET 27 OF 111

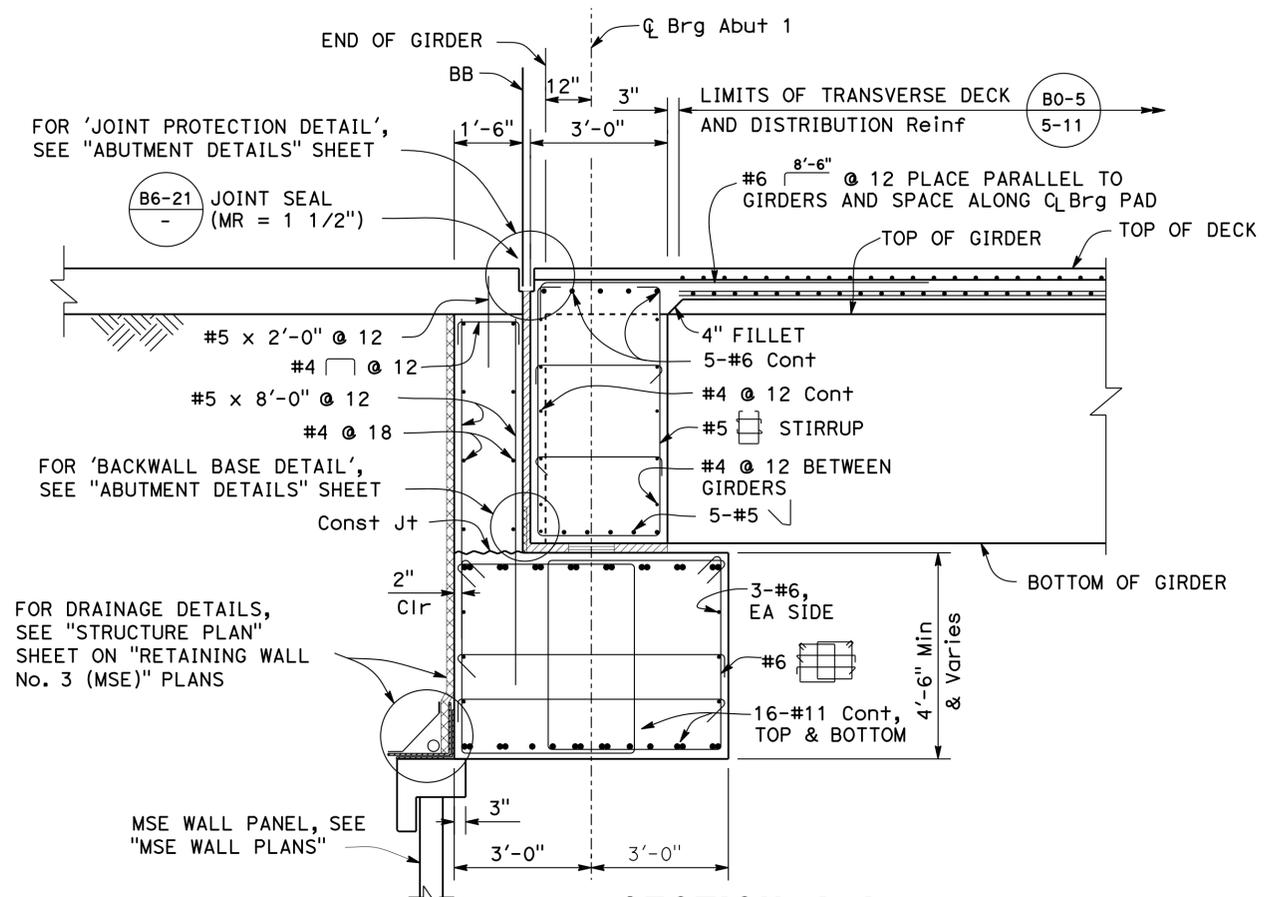
USERNAME => s128843 DATE PLOTTED => 23-JUL-2013 TIME PLOTTED => 09:35



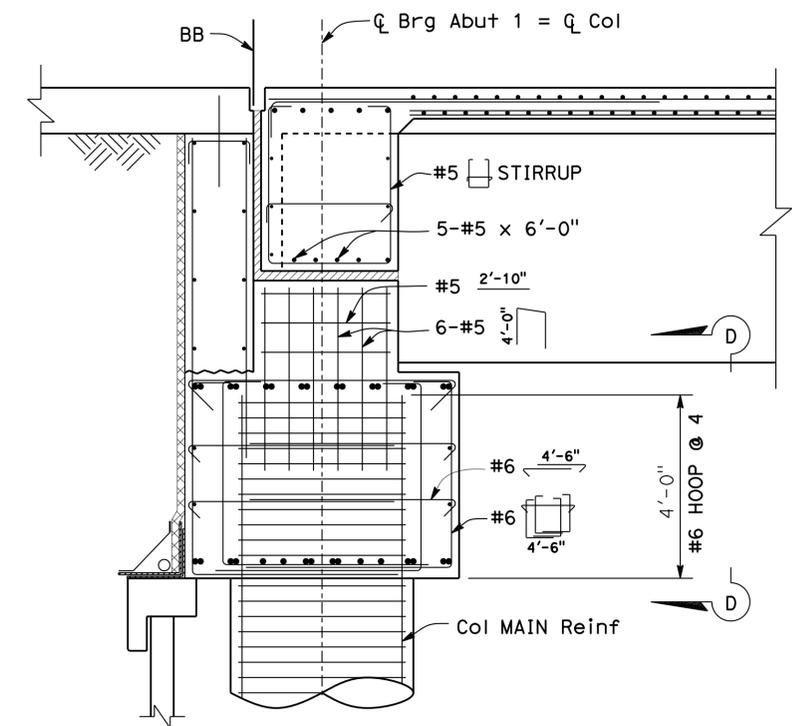
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	SJ	4,5	Var	369	486


  
 REGISTERED CIVIL ENGINEER DATE 11/27/12
   
 PLANS APPROVAL DATE 7-22-13
   
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

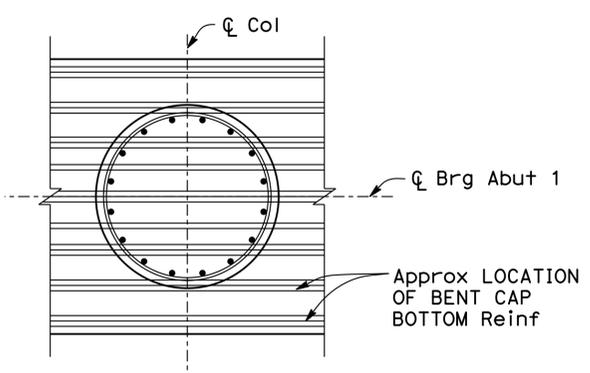
**SAN JOAQUIN COUNCIL OF GOVERNMENTS**
  
 555 E. WEBER AVENUE
   
 STOCKTON, CA 95202
   
**RAJAPPAN & MEYER CONSULTING ENGINEERS, INC.**
  
 1038 LEIGH AVE, SUITE 100
   
 SAN JOSE, CA 95126



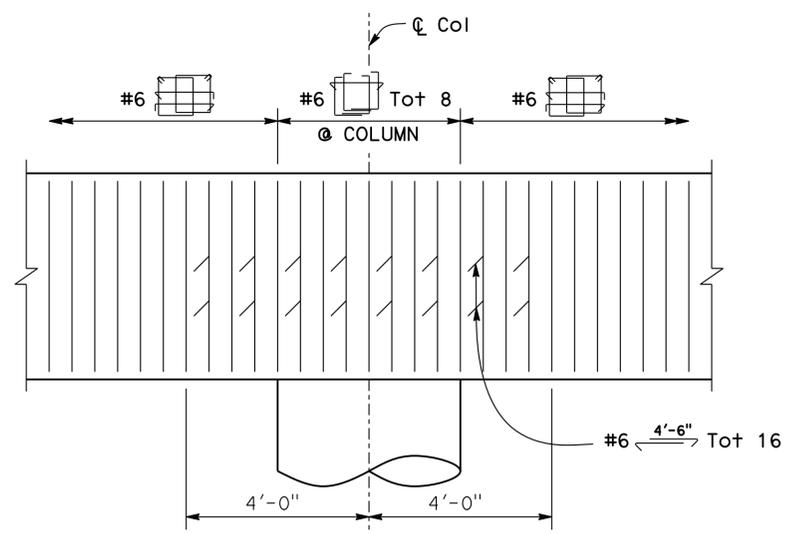
**SECTION A-A**  
1/2" = 1'-0"



NOTE: For details not shown, see 'SECTION A-A'  
**SECTION B-B**  
1/2" = 1'-0"



**SECTION C-C**  
1/2" = 1'-0"



(Typical patterns of stirrups and horizontal cross ties at columns)  
**VIEW D-D**  
1/2" = 1'-0"

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

  
 DESIGN OVERSIGHT Reza Erfanian  
 12/19/12  
 SIGN OFF DATE

DESIGN	BY P. SHINN	CHECKED N. VO / S. SHI
DETAILS	BY P. SHINN	CHECKED N. VO / S. SHI
QUANTITIES	BY S. DESALEGN	CHECKED M. PHILIPS

**PREPARED FOR THE STATE OF CALIFORNIA**  
 DEPARTMENT OF TRANSPORTATION

P. SHINN  
 PROJECT ENGINEER

BRIDGE NO.	29-0350
POST MILES	T14.83

**SR4 CROSSTOWN VIADUCT**  
**ABUTMENT 1 DETAILS No. 1**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

0 1 2 3

UNIT: 1455  
PROJECT NUMBER & PHASE: 10000002291

CONTRACT NO.: 10-0S1101

REVISION DATES	SHEET	OF
8/18/11 6/08/12 9/04/12 11/27/12	29	111

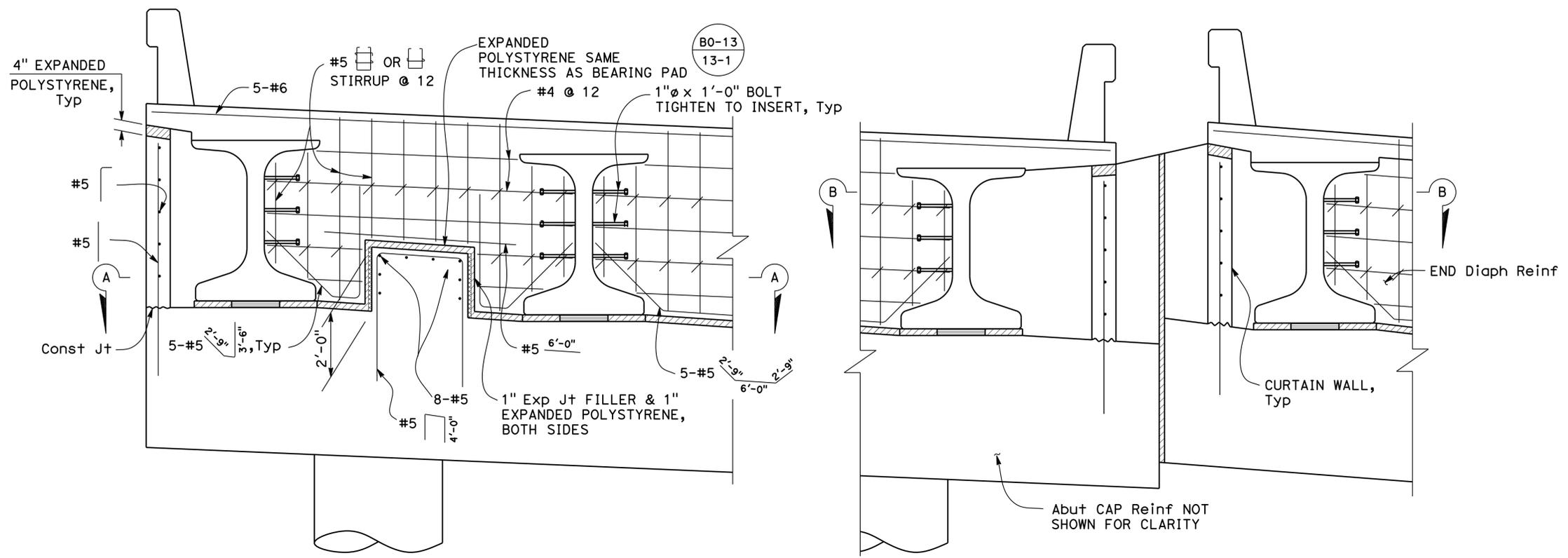
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USERNAME => s128843 DATE PLOTTED => 23-JUL-2013 TIME PLOTTED => 09:35

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
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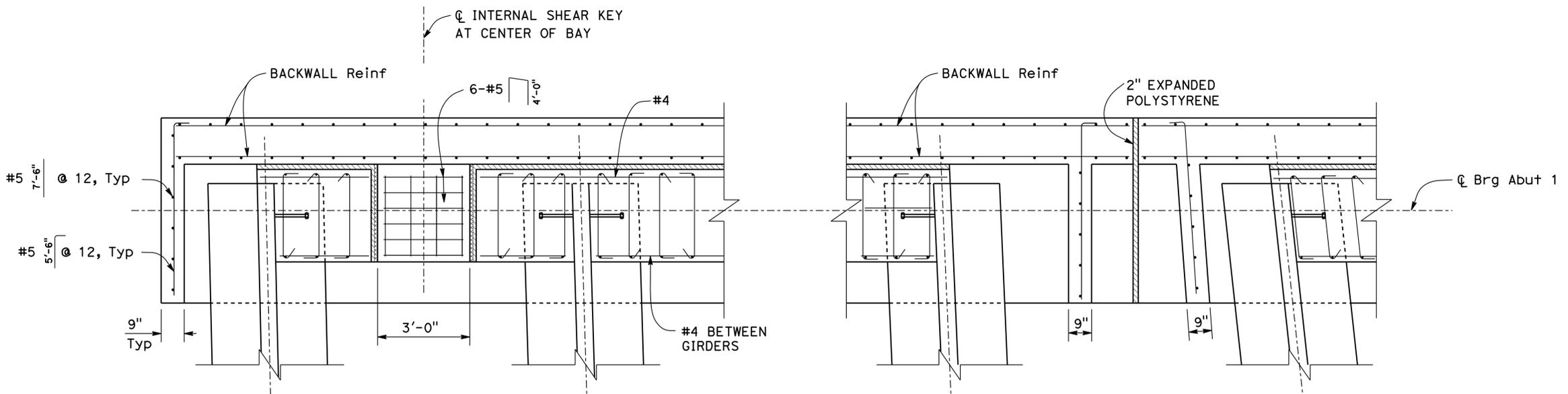
REGISTERED CIVIL ENGINEER  
 K. Ham  
 11/27/12 DATE  
 7-22-13  
 PLANS APPROVAL DATE  
 REGISTERED PROFESSIONAL ENGINEER  
 KIANOUSH HARIRSAZ  
 No. C39591  
 Exp. 12/31/13  
 CIVIL  
 STATE OF CALIFORNIA

SAN JOAQUIN COUNCIL OF GOVERNMENTS  
 555 E. WEBER AVENUE  
 STOCKTON, CA 95202  
 RAJAPPAN & MEYER  
 CONSULTING ENGINEERS, INC.  
 1038 LEIGH AVE, SUITE 100  
 SAN JOSE, CA 95126



**PART ELEVATION**

1/2" = 1'-0"



**SECTION A-A**

1/2" = 1'-0"

**SECTION B-B**

1/2" = 1'-0"

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

Reza Erfanian  
 DESIGN OVERSIGHT  
 12/19/12  
 SIGN OFF DATE

DESIGN	BY P. SHINN	CHECKED N. VO / S. SHI
DETAILS	BY P. SHINN	CHECKED N. VO / S. SHI
QUANTITIES	BY S. DESALEGN	CHECKED M. PHILIPS

PREPARED FOR THE  
 STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

P. SHINN PROJECT ENGINEER	BRIDGE NO. 29-0350
	POST MILES T14.83

**SR4 CROSSTOWN VIADUCT**  
**ABUTMENT 1 DETAILS No. 2**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



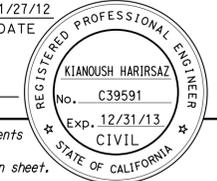
UNIT: 1455  
 PROJECT NUMBER & PHASE: 10000002291  
 CONTRACT NO.: 10-0S1101

DISREGARD PRINTS BEARING EARLIER REVISION DATES

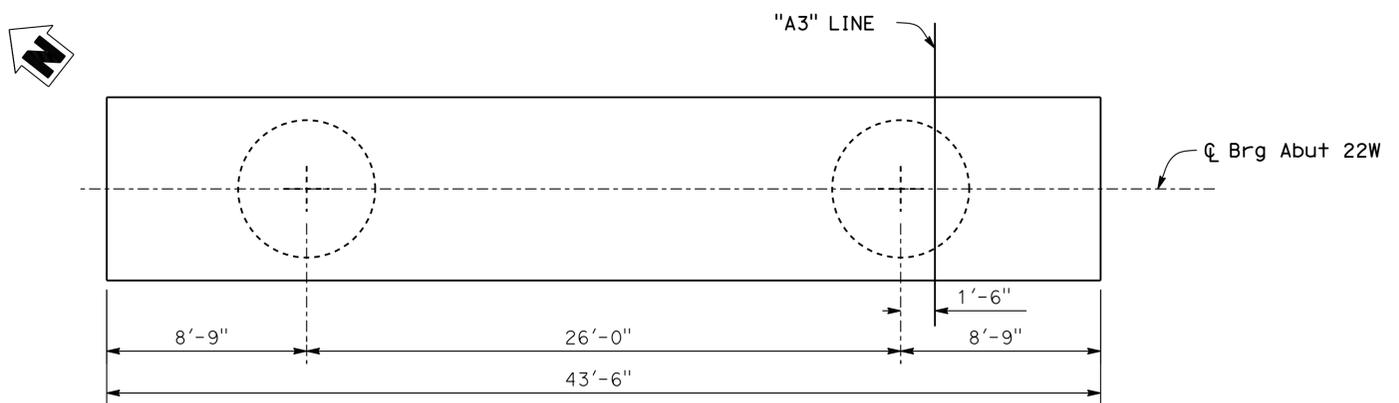
REVISION DATES	SHEET	OF
8/18/11 6/08/12 9/04/12 11/27/12	30	111

USERNAME => s128843 DATE PLOTTED => 23-JUL-2013 TIME PLOTTED => 09:35

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	SJ	4,5	Var	371	486

  
 REGISTERED CIVIL ENGINEER 11/27/12 DATE  
 7-22-13 PLANS APPROVAL DATE  


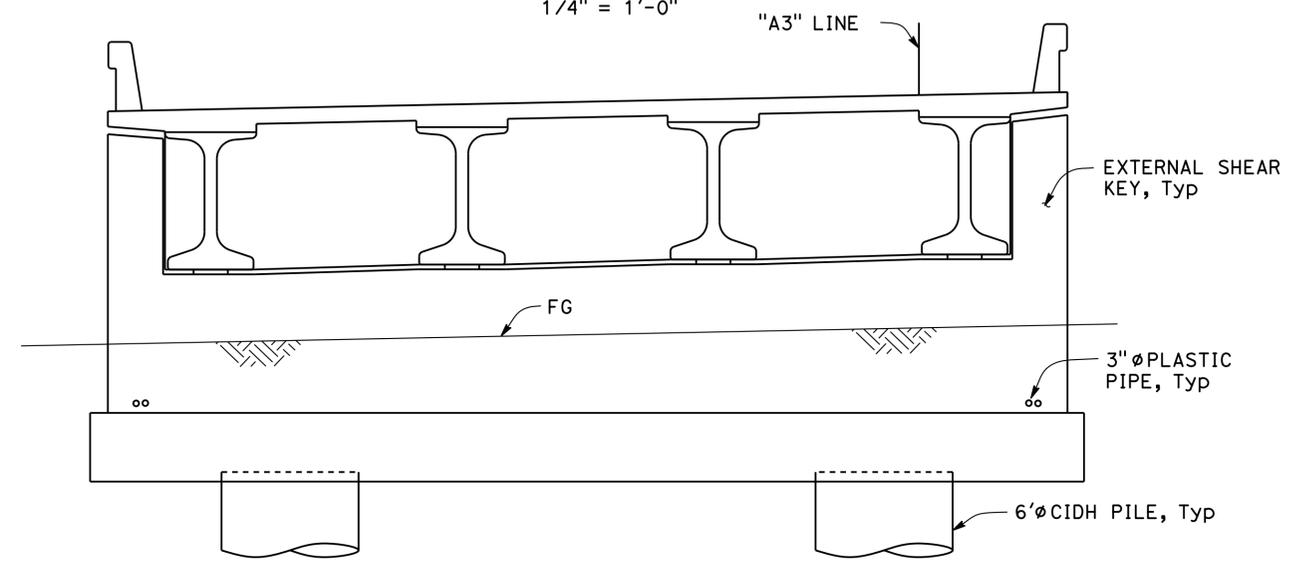
SAN JOAQUIN COUNCIL OF GOVERNMENTS  
 555 E. WEBER AVENUE  
 STOCKTON, CA 95202  
**RAJAPPAN & MEYER CONSULTING ENGINEERS, INC.**  
 1038 LEIGH AVE, SUITE 100  
 SAN JOSE, CA 95126



(ABUTMENT 22W SHOWN, ABUTMENT 22E SIMILAR)

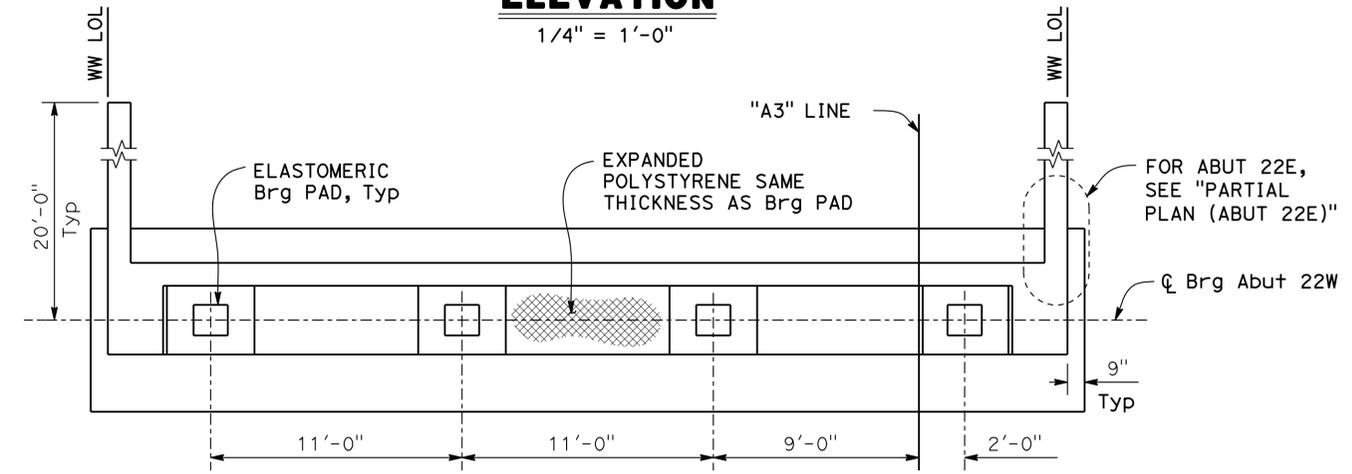
**FOOTING PLAN**

1/4" = 1'-0"



**ELEVATION**

1/4" = 1'-0"



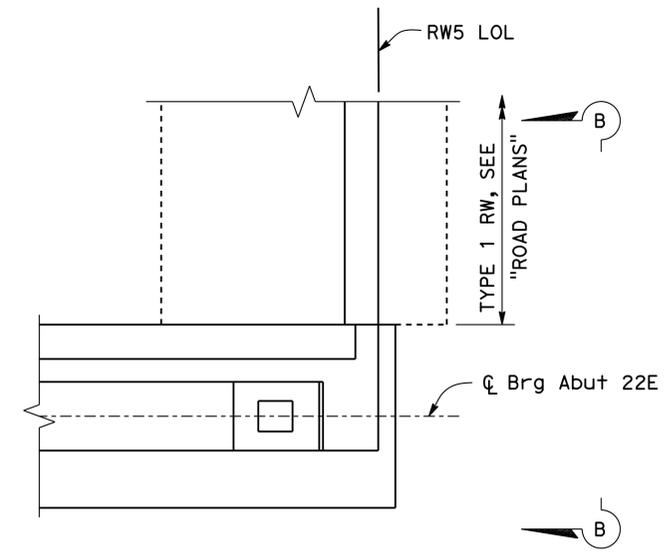
(ABUTMENT 22W SHOWN, ABUTMENT 22E SIMILAR EXCEPT AS NOTED)

**PLAN**

1/4" = 1'-0"

**NOTES:**

1. For "TYPICAL SECTION", see "ABUTMENT 22 DETAILS No. 1" sheet.
2. For wingwall details and "VIEW B-B", see "ABUTMENT 22 DETAILS No. 3" sheet.
3. For bearing pad details, see "ABUTMENT DETAILS" sheet.



**PARTIAL PLAN (ABUT 22E)**

1/4" = 1'-0"

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

  
 DESIGN OVERSIGHT Reza Erfanian  
 12/19/12  
 SIGN OFF DATE

DESIGN	BY P. SHINN	CHECKED N. VO / S. SHI
DETAILS	BY P. SHINN	CHECKED N. VO / S. SHI
QUANTITIES	BY S. DESALEGN	CHECKED M. PHILIPS

**PREPARED FOR THE STATE OF CALIFORNIA**  
 DEPARTMENT OF TRANSPORTATION

P. SHINN  
 PROJECT ENGINEER

BRIDGE NO.	29-0350
POST MILES	T14.83

**SR4 CROSSTOWN VIADUCT**  
**ABUTMENT 22 LAYOUT**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

UNIT: PROJECT NUMBER & PHASE: 1455 10000002291

CONTRACT NO.: 10-0S1101

REVISION DATES	SHEET	OF
8/18/11 6/08/12 9/04/12 1/27/12	31	111

USERNAME => s128843 DATE PLOTTED => 23-JUL-2013 TIME PLOTTED => 09:35

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	SJ	4,5	Var	372	486

REGISTERED CIVIL ENGINEER  
 KIANOUSH HARIRSAZ  
 No. C39591  
 Exp. 12/31/13  
 CIVIL  
 STATE OF CALIFORNIA

11/27/12 DATE  
 7-22-13 PLANS APPROVAL DATE

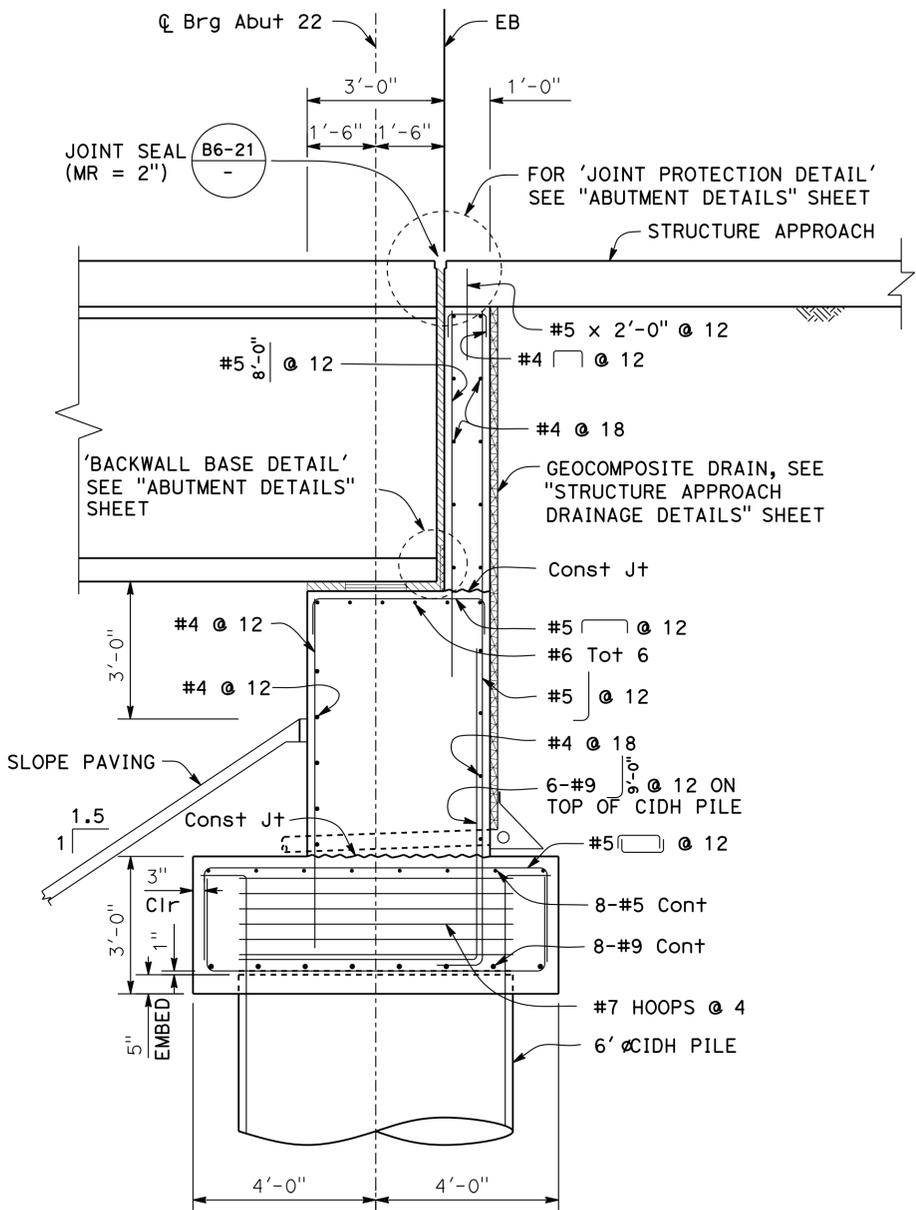
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SAN JOAQUIN COUNCIL OF GOVERNMENTS  
 555 E. WEBER AVENUE  
 STOCKTON, CA 95202

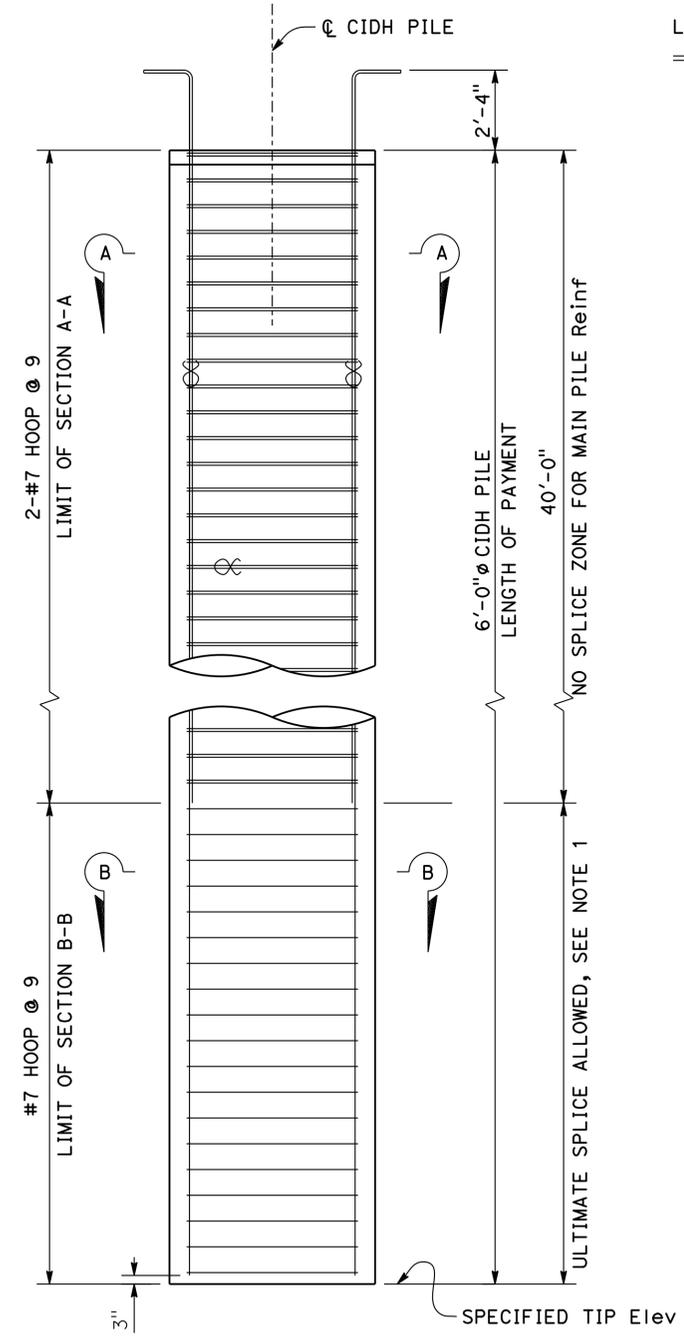
RAJAPPAN & MEYER CONSULTING ENGINEERS, INC.  
 1038 LEIGH AVE, SUITE 100  
 SAN JOSE, CA 95126

- NOTES:
- Only staggered Ultimate Butt Splice are allowed in main pile reinforcement in this zone.
  - All hoops are Ultimate Butt Splice.

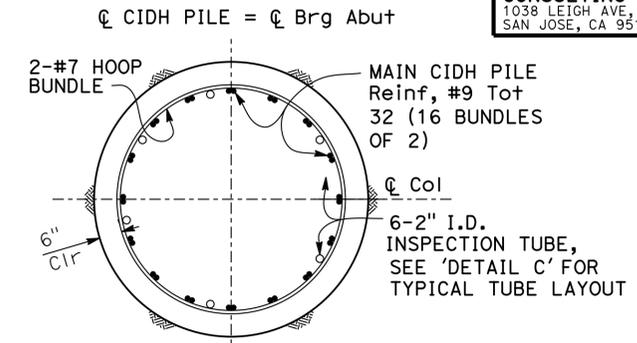
LEGEND:  
 Indicates bundled bars



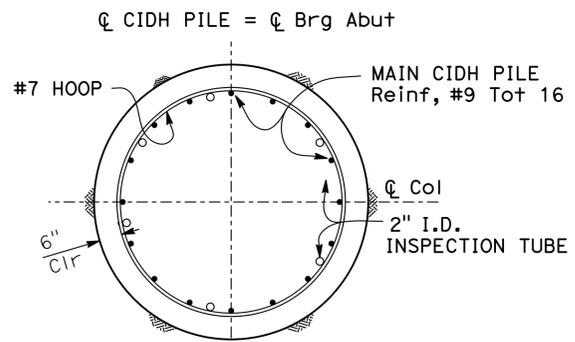
**TYPICAL SECTION**  
 1/2" = 1'-0"



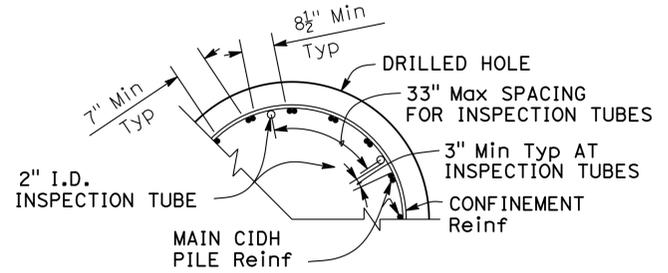
**PILE ELEVATION**  
 NO SCALE



**SECTION A-A**  
 1/2" = 1'-0"



**SECTION B-B**  
 1/2" = 1'-0"



**DETAIL C**  
 1/2" = 1'-0"

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

DESIGN OVERSIGHT  
 Reza Erfanian  
 12/19/12  
 SIGN OFF DATE

DESIGN	BY P. SHINN	CHECKED N. VO / S. SHI
DETAILS	BY P. SHINN	CHECKED N. VO / S. SHI
QUANTITIES	BY S. DESALEGN	CHECKED M. PHILIPS

PREPARED FOR THE  
**STATE OF CALIFORNIA**  
 DEPARTMENT OF TRANSPORTATION

P. SHINN  
 PROJECT ENGINEER

BRIDGE NO.	29-0350
POST MILES	T14.83

**SR4 CROSSTOWN VIADUCT**  
**ABUTMENT 22 DETAILS No. 1**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



UNIT: 1455  
 PROJECT NUMBER & PHASE: 10000002291

CONTRACT NO.: 10-0S1101

REVISION DATES	SHEET	OF
8/18/11 6/08/12 9/04/12 11/27/12	32	111

FILE => 29-0350-f-a22d101.dgn

USERNAME => s128843 DATE PLOTTED => 23-JUL-2013 TIME PLOTTED => 09:35

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	SJ	4,5	Var	373	486

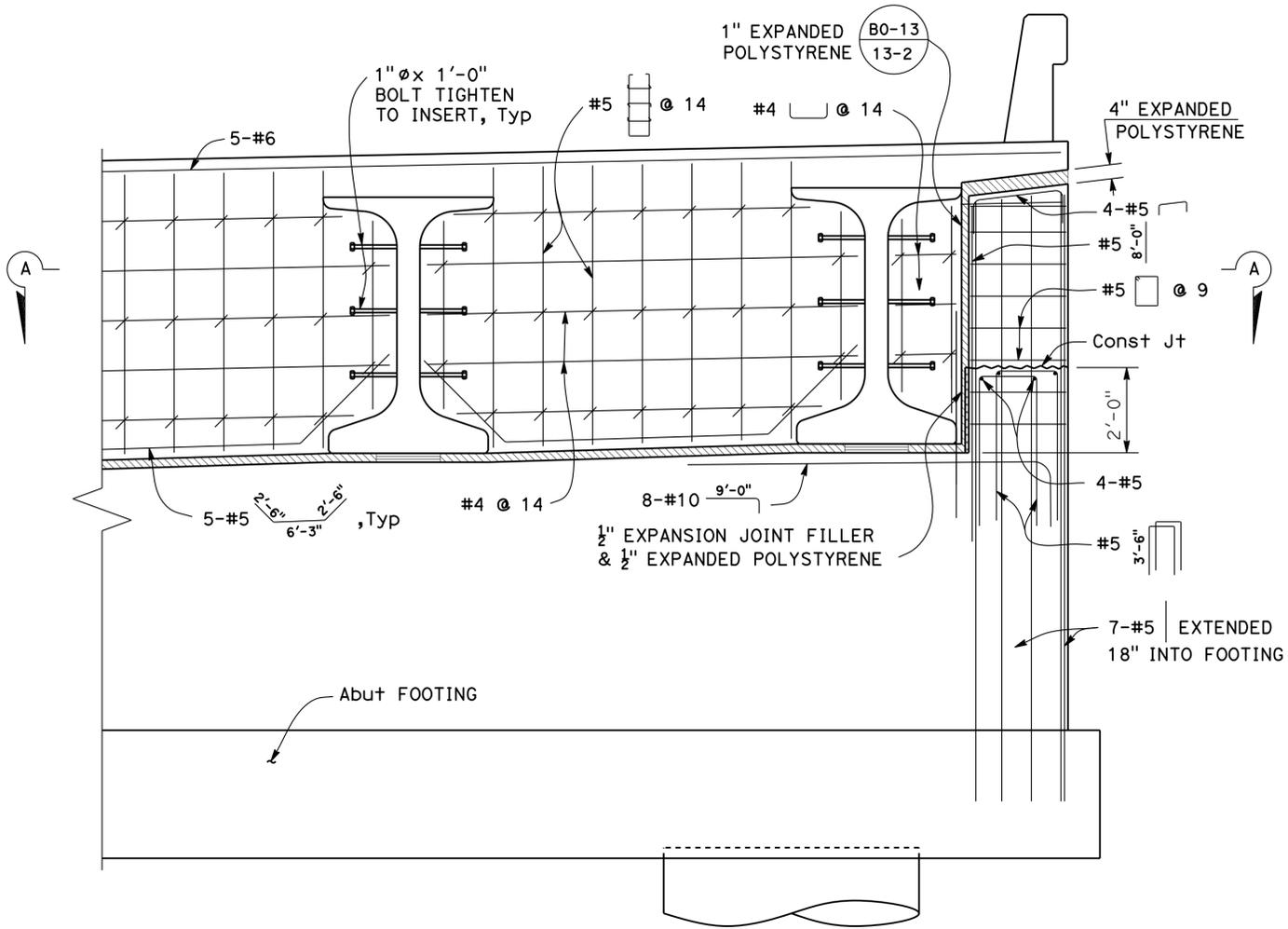
REGISTERED CIVIL ENGINEER  
 KIANOUSH HARIRSAZ  
 No. C39591  
 Exp. 12/31/13  
 CIVIL  
 STATE OF CALIFORNIA

11/27/12 DATE  
 7-22-13 PLANS APPROVAL DATE

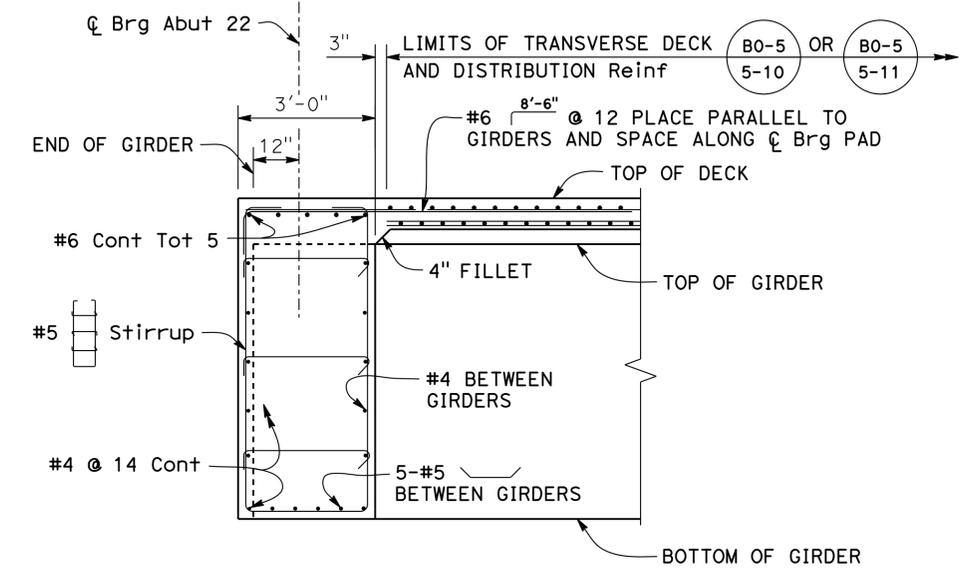
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SAN JOAQUIN COUNCIL OF GOVERNMENTS  
 555 E. WEBER AVENUE  
 STOCKTON, CA 95202

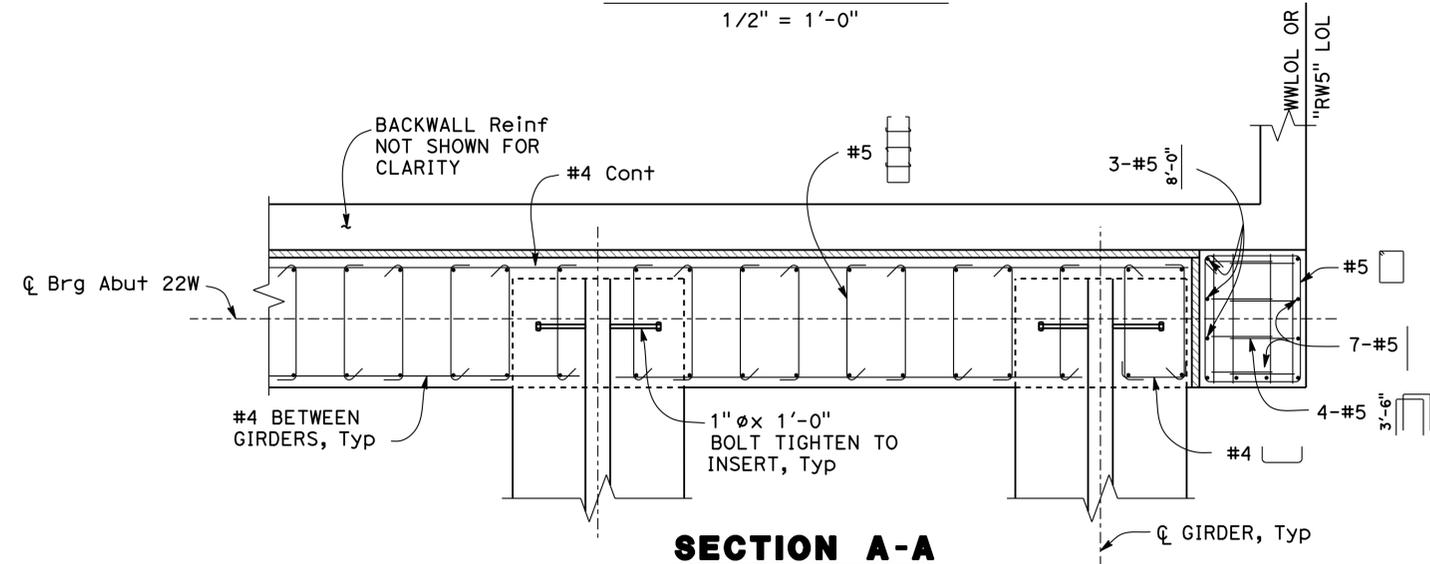
RAJAPPAN & MEYER  
 CONSULTING ENGINEERS, INC.  
 1038 LEIGH AVE, SUITE 100  
 SAN JOSE, CA 95126



**PART ELEVATION**  
1/2" = 1'-0"



**END DIAPHRAGM DETAILS**  
1/2" = 1'-0"



**SECTION A-A**  
1/2" = 1'-0"

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

DESIGN OVERSIGHT  
 Reza Erfanian  
 12/19/12  
 SIGN OFF DATE

DESIGN	BY P. SHINN	CHECKED N. VO / S. SHI
DETAILS	BY P. SHINN	CHECKED N. VO / S. SHI
QUANTITIES	BY S. DESALEGN	CHECKED M. PHILIPS

PREPARED FOR THE  
 STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

P. SHINN  
 PROJECT ENGINEER

BRIDGE NO.	29-0350
POST MILES	T14.83

**SR4 CROSSTOWN VIADUCT**  
**ABUTMENT 22 DETAILS No. 2**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

UNIT: 1455  
 PROJECT NUMBER & PHASE: 10000002291  
 CONTRACT NO.: 10-0S1101

DISREGARD PRINTS BEARING EARLIER REVISION DATES

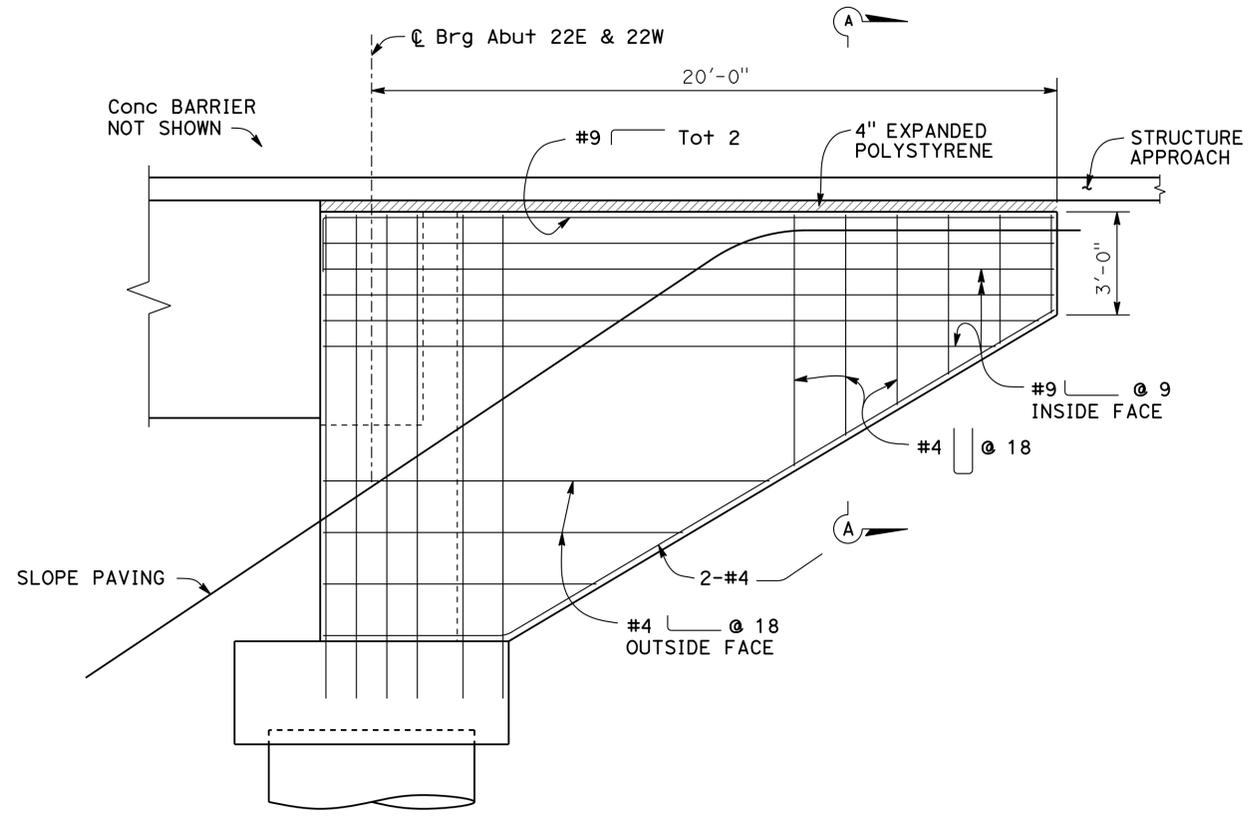
REVISION DATES	SHEET	OF
8/18/11 6/08/12 9/04/12 11/27/12	33	111

USERNAME => s128843 DATE PLOTTED => 23-JUL-2013 TIME PLOTTED => 09:35

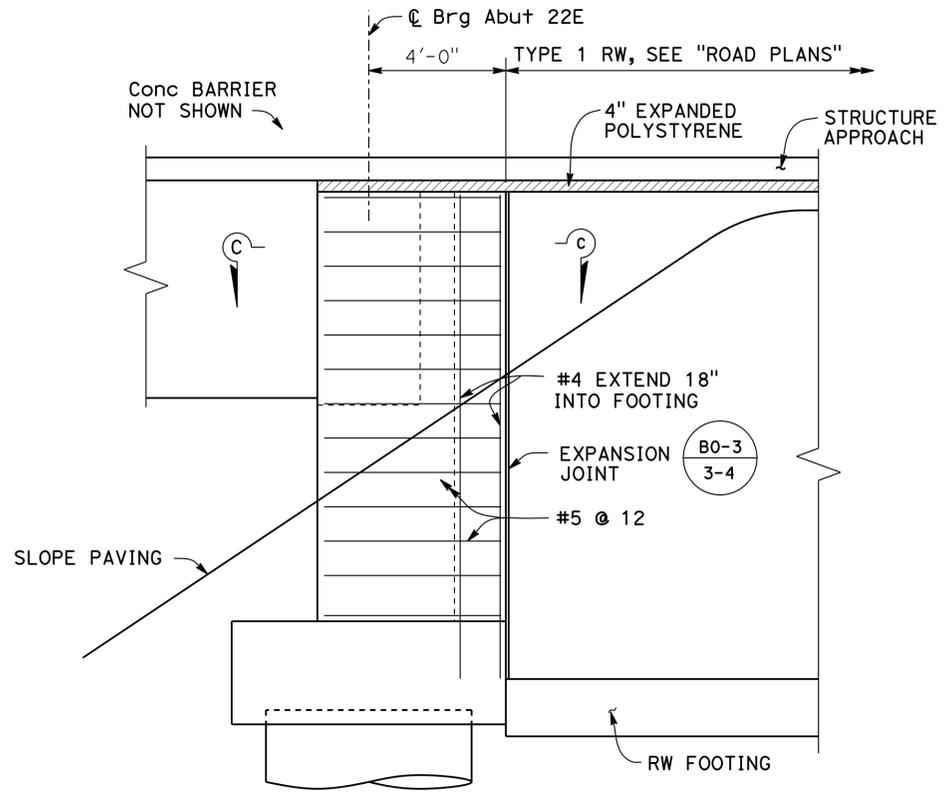
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	SJ	4,5	Var	374	486

REGISTERED CIVIL ENGINEER  
 K. Hamy  
 11/27/12 DATE  
 7-22-13 PLANS APPROVAL DATE  
 REGISTERED PROFESSIONAL ENGINEER  
 KIANOUSH HARIRSAZ  
 No. C39591  
 Exp. 12/31/13  
 CIVIL  
 STATE OF CALIFORNIA

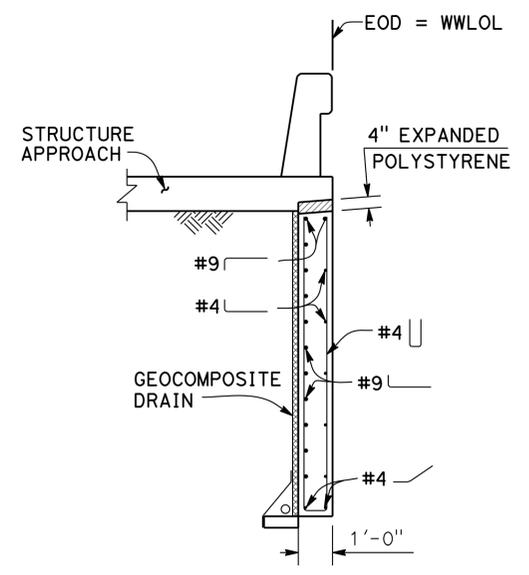
SAN JOAQUIN COUNCIL OF GOVERNMENTS  
 555 E. WEBER AVENUE  
 STOCKTON, CA 95202  
 RAJAPPAN & MEYER  
 CONSULTING ENGINEERS, INC.  
 1038 LEIGH AVE, SUITE 100  
 SAN JOSE, CA 95126



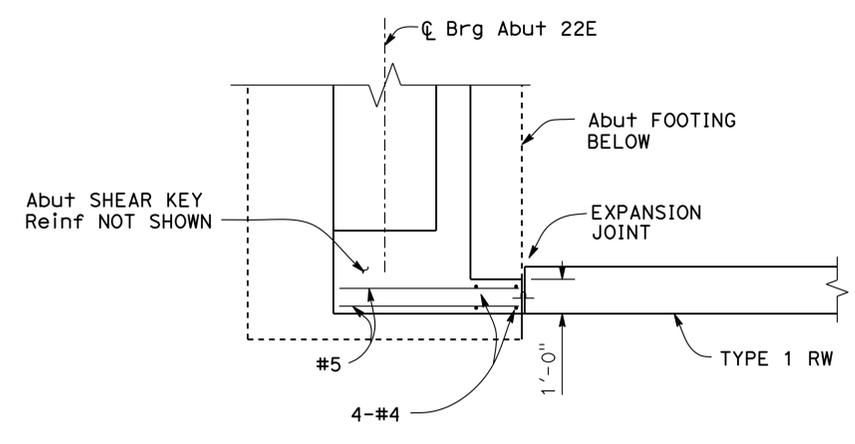
**WINGWALL ELEVATION** (B0-1)  
3/8" = 1'-0"



**VIEW B-B**  
3/8" = 1'-0"



**SECTION A-A**  
3/8" = 1'-0"



**SECTION C-C**  
3/8" = 1'-0"

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

DESIGN OVERSIGHT  
 Reza Erfanian  
 12/19/12  
 SIGN OFF DATE

DESIGN	BY P. SHINN	CHECKED N. VO / S. SHI
DETAILS	BY P. SHINN	CHECKED N. VO / S. SHI
QUANTITIES	BY S. DESALEGN	CHECKED M. PHILIPS

PREPARED FOR THE  
 STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
 P. SHINN  
 PROJECT ENGINEER

BRIDGE NO.	29-0350
POST MILES	T14.83

**SR4 CROSSTOWN VIADUCT**  
**ABUTMENT 22 DETAILS No. 3**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



UNIT: 1455  
 PROJECT NUMBER & PHASE: 10000002291  
 CONTRACT NO.: 10-0S1101

CONTRACT NO.: 10-0S1101

DISREGARD PRINTS BEARING EARLIER REVISION DATES

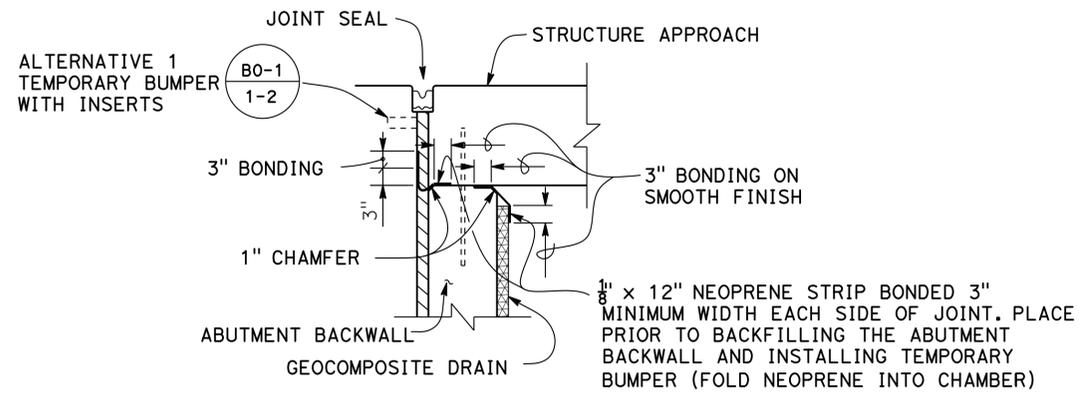
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USERNAME => s128843 DATE PLOTTED => 23-JUL-2013 TIME PLOTTED => 09:36

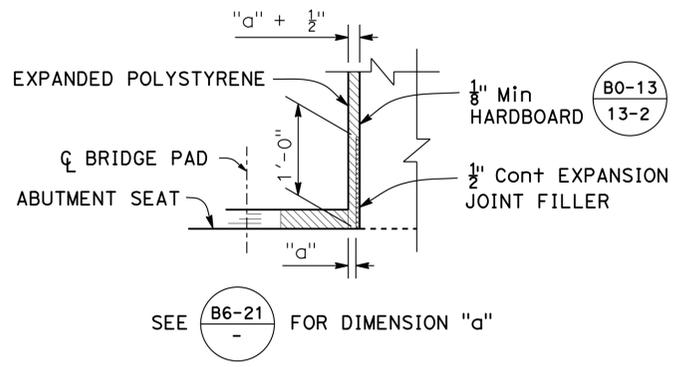
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	SJ	4,5	Var	375	486

REGISTERED CIVIL ENGINEER *K. Hamy* 11/27/12 DATE  
 PLANS APPROVAL DATE 7-22-13  
 KIANOUSH HARIRSAZ  
 No. C39591  
 Exp. 12/31/13  
 CIVIL  
 STATE OF CALIFORNIA

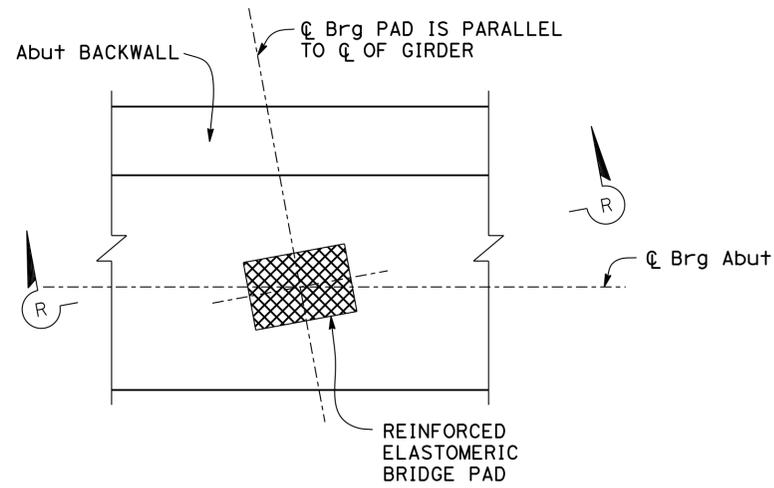
SAN JOAQUIN COUNCIL OF GOVERNMENTS  
 555 E. WEBER AVENUE  
 STOCKTON, CA 95202  
 RAJAPPAN & MEYER  
 CONSULTING ENGINEERS, INC.  
 1038 LEIGH AVE, SUITE 100  
 SAN JOSE, CA 95126



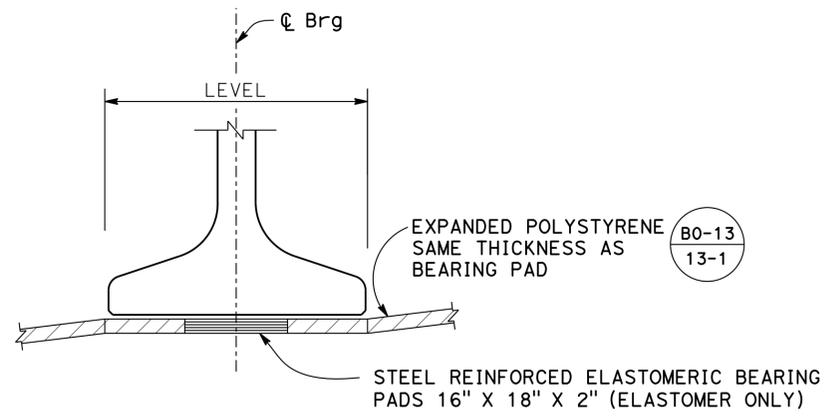
**JOINT PROTECTION DETAIL**  
NO SCALE



**BACKWALL BASE DETAIL**  
NO SCALE



**PLAN**



**SECTION R-R**

**BEARING PAD DETAIL**  
3/4" = 1'-0"

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

DESIGN OVERSIGHT *Reza Erfanian*  
 12/19/12  
 SIGN OFF DATE

DESIGN	BY P. SHINN	CHECKED N. VO / S. SHI
DETAILS	BY P. SHINN	CHECKED N. VO / S. SHI
QUANTITIES	BY S. DESALEGN	CHECKED M. PHILIPS

PREPARED FOR THE  
**STATE OF CALIFORNIA**  
 DEPARTMENT OF TRANSPORTATION  
 P. SHINN  
 PROJECT ENGINEER

BRIDGE NO.	29-0350
POST MILES	T14.83

**SR4 CROSSTOWN VIADUCT  
ABUTMENT DETAILS**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



UNIT: 1455  
 PROJECT NUMBER & PHASE: 10000002291  
 FILE => 29-0350-f-adt.dgn

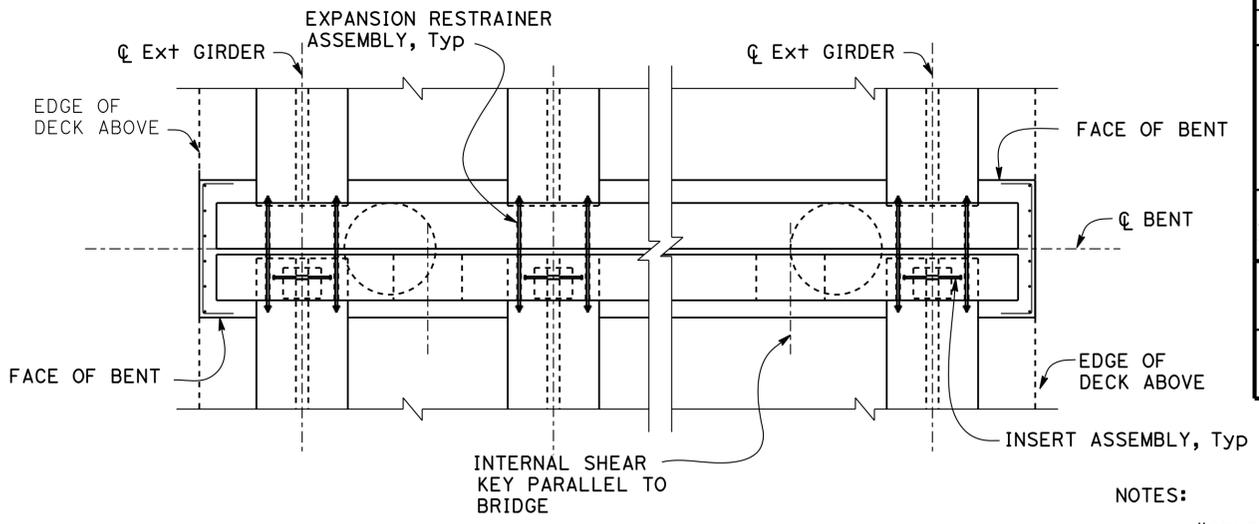
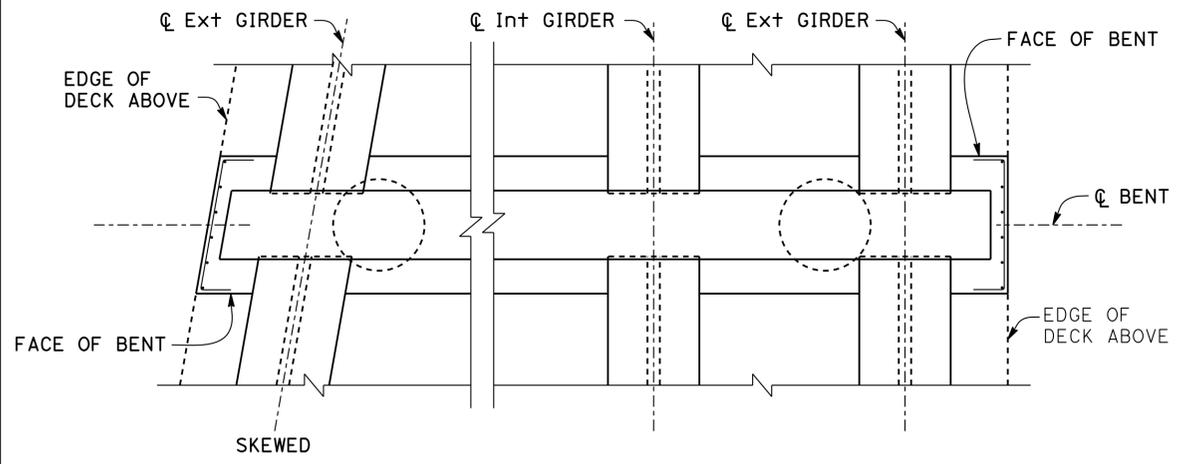
CONTRACT NO.: 10-0S1101

DISREGARD PRINTS BEARING EARLIER REVISION DATES

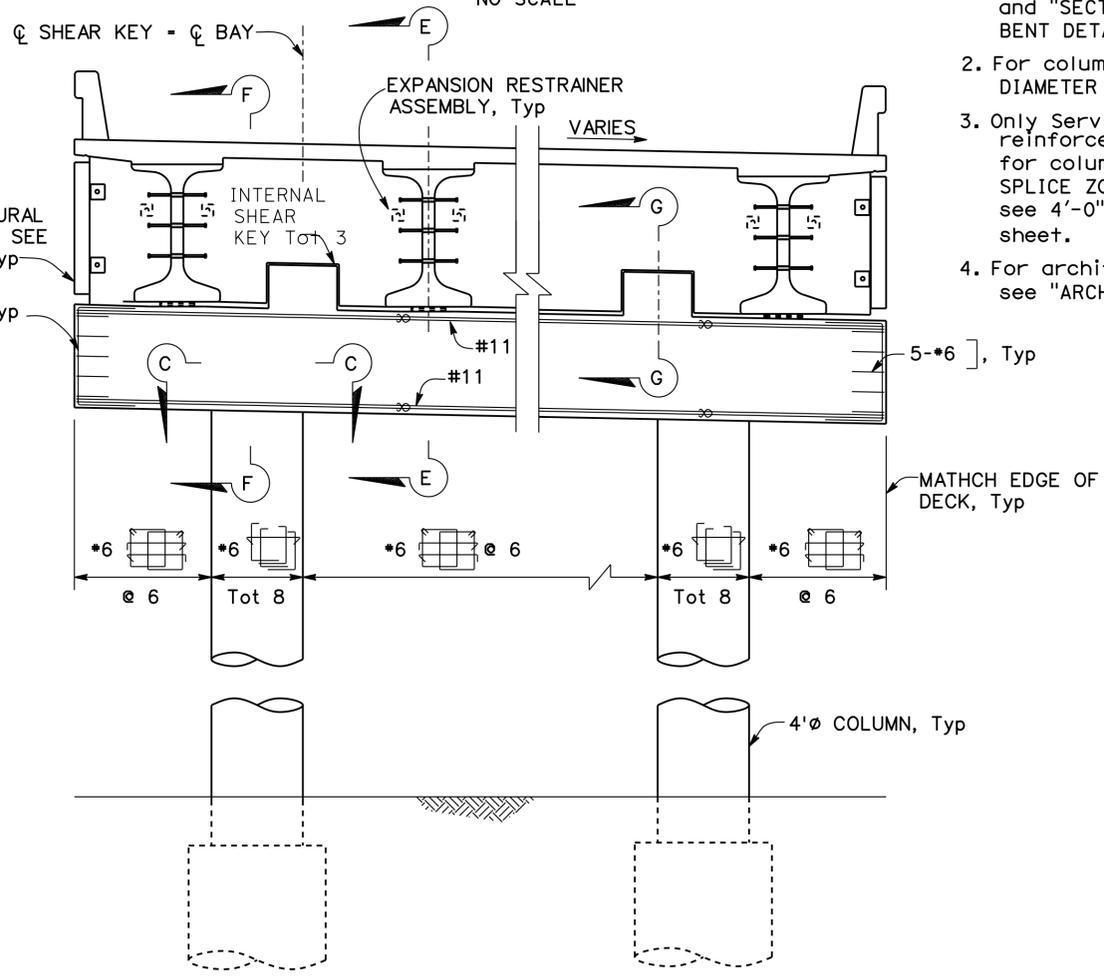
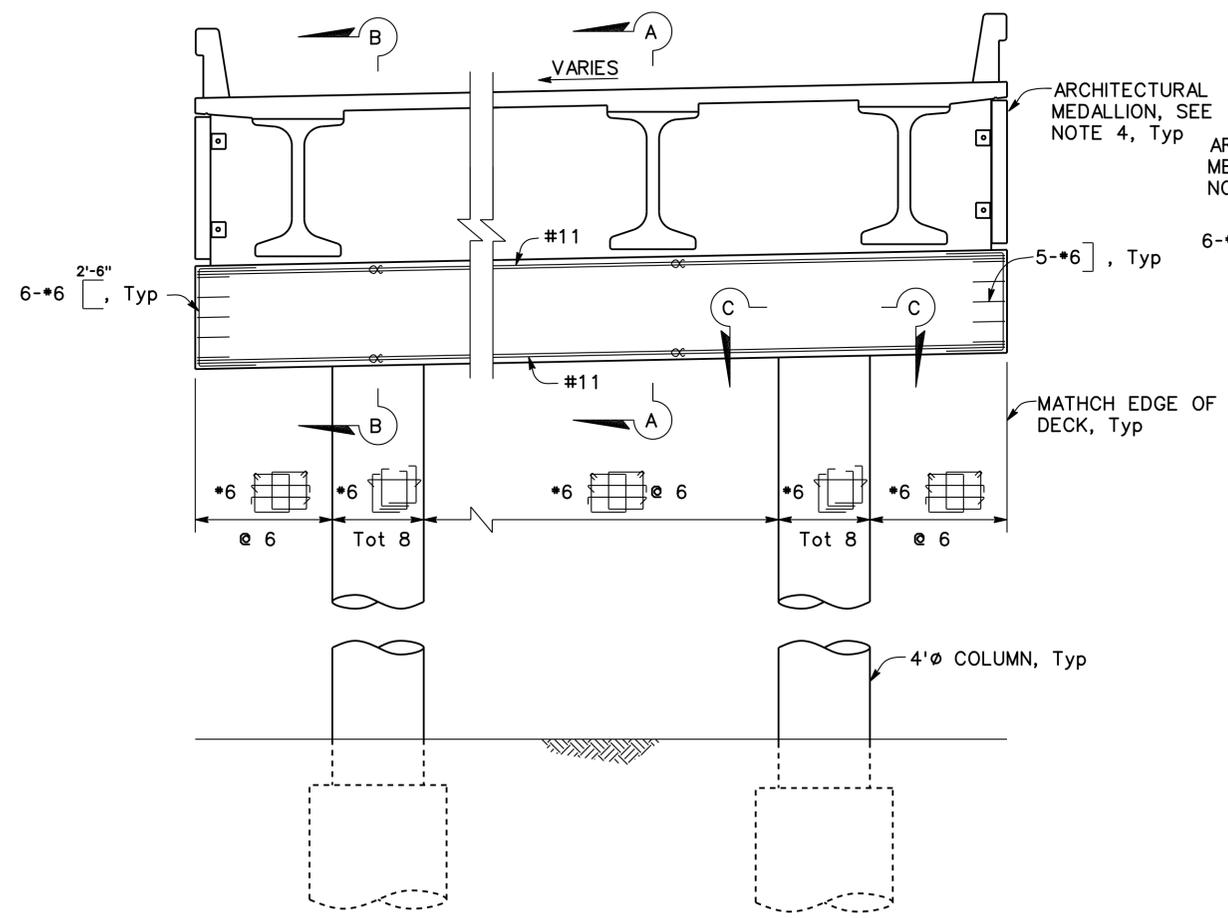
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8/18/11 6/08/12 9/04/12 11/27/12	35	111

USERNAME => s128843 DATE PLOTTED => 23-JUL-2013 TIME PLOTTED => 09:36

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
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				11/27/12	
REGISTERED CIVIL ENGINEER				DATE	
7-22-13				PLANS APPROVAL DATE	
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.					
SAN JOAQUIN COUNCIL OF GOVERNMENTS 555 E. WEBER AVENUE STOCKTON, CA 95202					
RAJAPPAN & MEYER CONSULTING ENGINEERS, INC. 1038 LEIGH AVE., SUITE 100 SAN JOSE, CA 95126					



- NOTES:
- For "SECTION A-A", "SECTION B-B" and "SECTION C-C", see "4'-0" DIAMETER COLUMN BENT DETAILS No. 2" sheet. For "SECTION E-E", "SECTION F-F" and "SECTION G-G" see "4'-0" DIAMETER COLUMN BENT DETAILS No. 3" sheet.
  - For column and CIDH pile details, see "4'-0" DIAMETER COLUMN BENT DETAILS No. 1" sheet.
  - Only Service Splice is allowed for bent cap main reinforcement. Only Ultimate Splice is allowed for column main reinforcement in outside of "NO SPLICE ZONE", for location of "NO SPLICE ZONE", see 4'-0" DIAMETER COLUMN BENT DETAILS No. 1" sheet.
  - For architectural medallion "ANCHORAGE DETAILS", see "ARCHITECTURAL DETAILS No. 3" sheet.



LEGEND:  
∞ Indicates bundle bars

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

DESIGN OVERSIGHT  
Reza Erfanian  
5-10-13  
SIGN OFF DATE

DESIGN	BY P. SHINN	CHECKED N. VO / S. SHI
DETAILS	BY P. SHINN	CHECKED N. VO / S. SHI
QUANTITIES	BY S. DESALEGN	CHECKED M. PHILIPS

PREPARED FOR THE  
STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

P. SHINN  
PROJECT ENGINEER

BRIDGE NO.	29-0350
POST MILES	T14.83

SR4 CROSSTOWN VIADUCT  
4'-0" DIAMETER COLUMN BENT LAYOUT

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



UNIT: 1455  
PROJECT NUMBER & PHASE: 10000002291

CONTRACT NO.: 10-0S1101

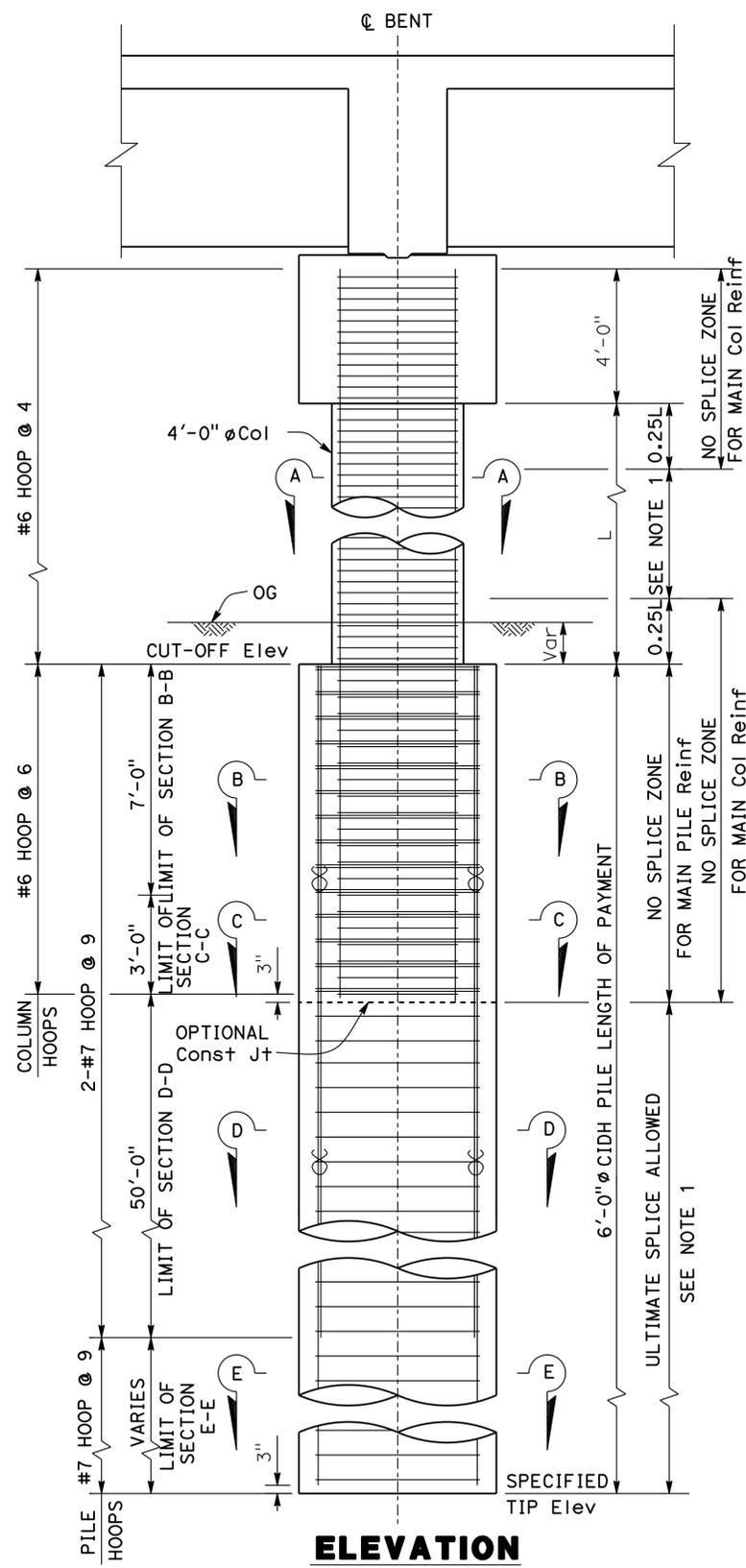
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8/16/11 6/08/12 9/04/12 11/27/12	36	111

DISREGARD PRINTS BEARING EARLIER REVISION DATES

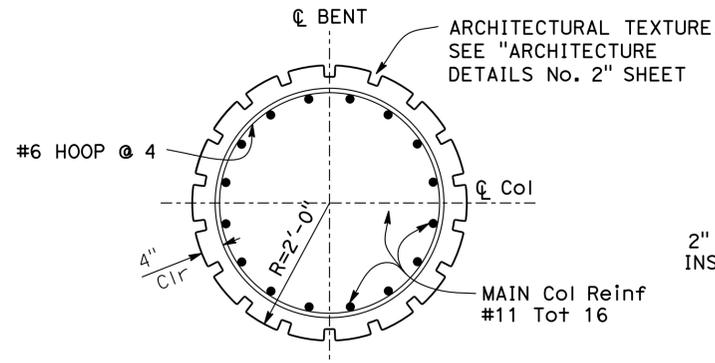
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USERNAME => s128843 DATE PLOTTED => 23-JUL-2013 TIME PLOTTED => 09:36

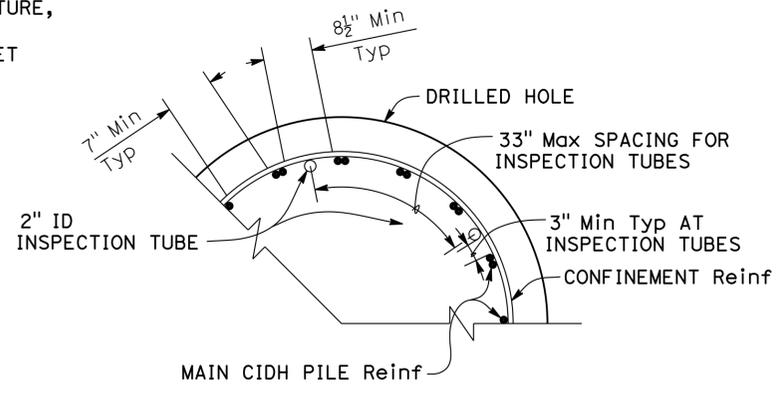
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10	SJ	4,5	Var	377	486
REGISTERED CIVIL ENGINEER			DATE	11/27/12	
7-22-13			PLANS APPROVAL DATE		
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SAN JOAQUIN COUNCIL OF GOVERNMENTS 555 E. WEBER AVENUE STOCKTON, CA 95202					
RAJAPPAN & MEYER CONSULTING ENGINEERS, INC. 1038 LEIGH AVE, SUITE 100 SAN JOSE, CA 95126					



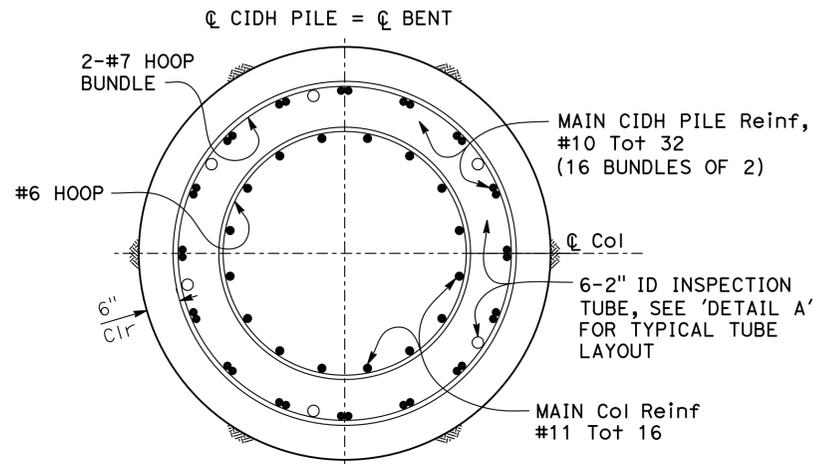
**ELEVATION**  
NO SCALE



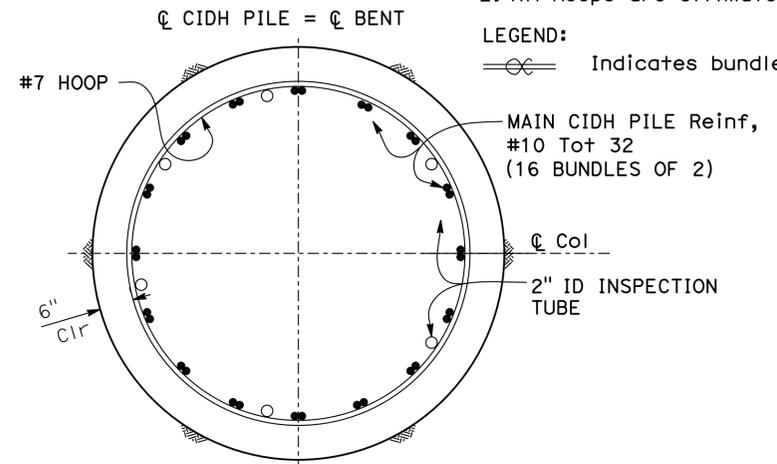
**SECTION A-A**  
3/4" = 1'-0"



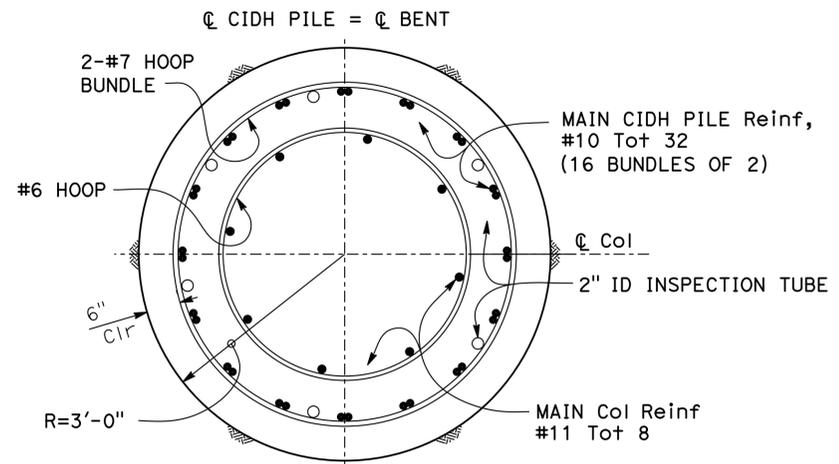
**DETAIL A**  
3/4" = 1'-0"



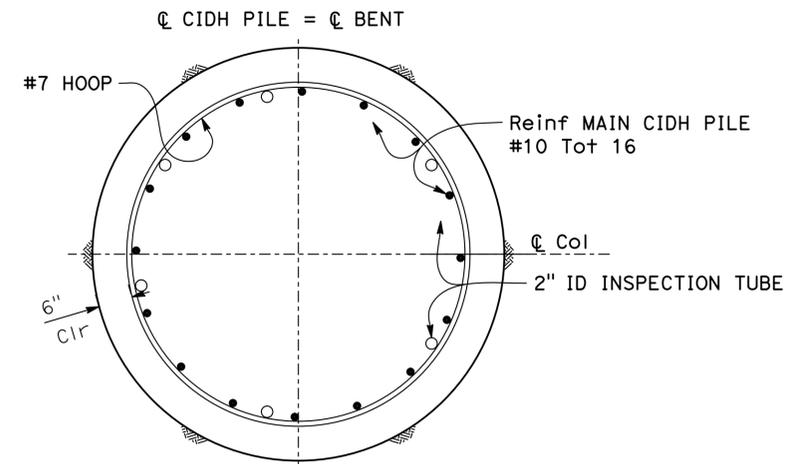
**SECTION B-B**  
3/4" = 1'-0"



**SECTION D-D**  
3/4" = 1'-0"



**SECTION C-C**  
3/4" = 1'-0"



**SECTION E-E**  
3/4" = 1'-0"

- NOTES:
- Only staggered Ultimate Butt Splice are allowed in main column reinforcement and main pile reinforcement in this zone.
  - All hoops are Ultimate Butt Splice.

LEGEND:  
 Indicates bundled bars

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

DESIGN OVERSIGHT  
 Reza Erfanian  
 12/19/12  
 SIGN OFF DATE

DESIGN	BY P. SHINN	CHECKED N. VO / S. SHI
DETAILS	BY P. SHINN	CHECKED N. VO / S. SHI
QUANTITIES	BY S. DESALEGN	CHECKED M. PHILIPS

PREPARED FOR THE  
**STATE OF CALIFORNIA**  
 DEPARTMENT OF TRANSPORTATION

P. SHINN  
 PROJECT ENGINEER

BRIDGE NO.	29-0350
POST MILES	T14.83

**SR4 CROSSTOWN VIADUCT**  
**4'-0" DIAMETER COLUMN BENT DETAILS No. 1**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

UNIT: 1455  
 PROJECT NUMBER & PHASE: 10000002291

CONTRACT NO.: 10-0S1101

REVISION DATES	SHEET	OF
8/18/11 6/08/12 11/27/12	37	111

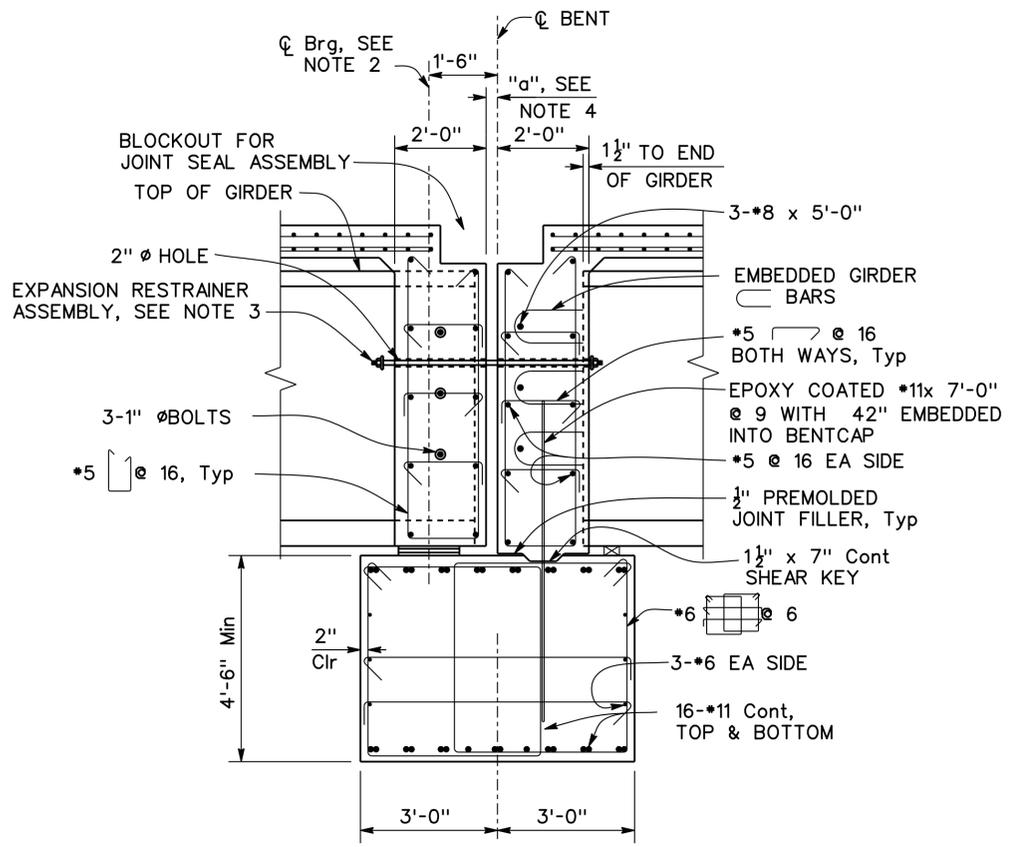
USERNAME => s128843 DATE PLOTTED => 23-JUL-2013 TIME PLOTTED => 09:36



DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
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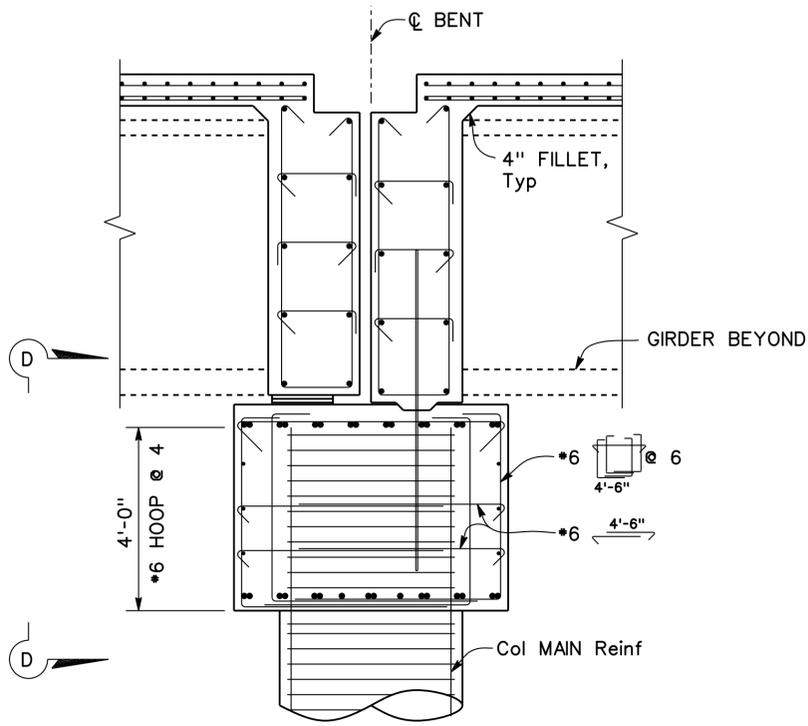
REGISTERED CIVIL ENGINEER  
 11/27/12 DATE  
 7-22-13 PLANS APPROVAL DATE  
 KIANOUSH HARIRSAZ  
 No. C39591  
 Exp. 12/31/13  
 CIVIL  
 STATE OF CALIFORNIA

SAN JOAQUIN COUNCIL OF GOVERNMENTS  
 555 E. WEBER AVENUE  
 STOCKTON, CA 95202  
 RAJAPPAN & MEYER  
 CONSULTING ENGINEERS, INC.  
 1038 LEIGH AVE, SUITE 100  
 SAN JOSE, CA 95126



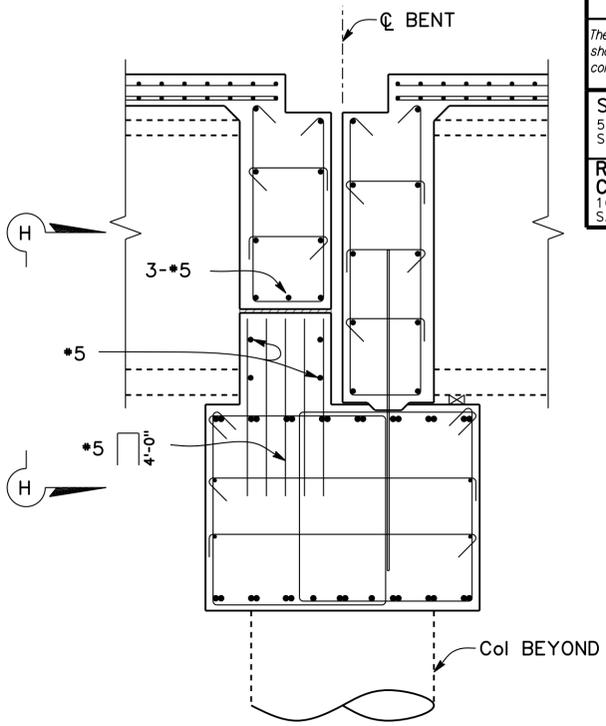
Note: Section at 6' depth girder shown, at 5' deep girder similar.

**SECTION E-E**  
1/2" - 1'-0"



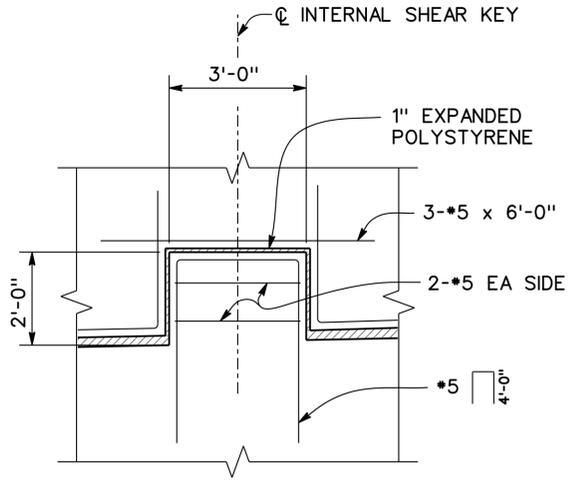
NOTE: For details not shown, see 'SECTION E-E'

**SECTION F-F**  
1/2" - 1'-0"

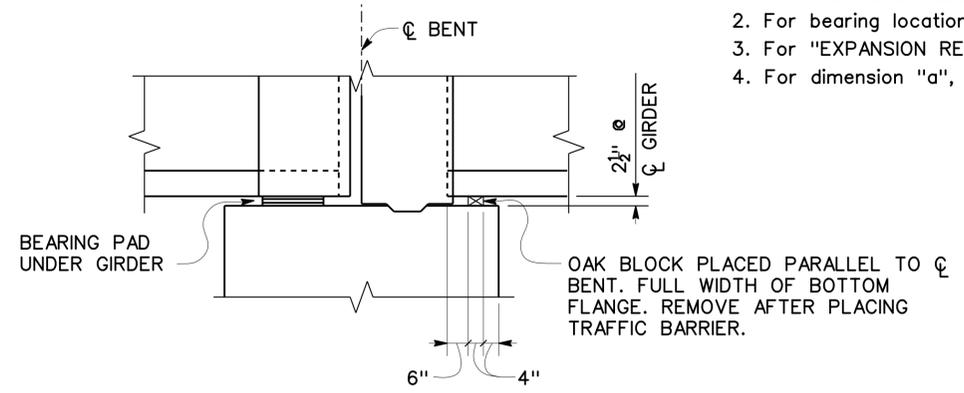


NOTE: For details not shown, see 'SECTION E-E'

**SECTION G-G**  
1/2" - 1'-0"



**VIEW H-H**  
1/2" - 1'-0"



**OAK BLOCK DETAILS**  
1/2" - 1'-0"

- NOTES:
1. For "VIEW D-D" see "4'-0" DIAMETER COLUMN AT BENT DETAILS No. 2" sheet.
  2. For bearing locations, see "STRUCTURE PLAN" sheets.
  3. For "EXPANSION RESTRAINER ASSEMBLY", see "BENT DETAILS" sheet.
  4. For dimension "a", see "JOINT SEAL ASSEMBLY" sheet.

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

DESIGN OVERSIGHT  
 Reza Erfanian  
 12/19/12  
 SIGN OFF DATE

DESIGN	BY P. SHINN	CHECKED N. VO / S. SHI
DETAILS	BY P. SHINN	CHECKED N. VO / S. SHI
QUANTITIES	BY S. DESALEGN	CHECKED M. PHILIPS

PREPARED FOR THE  
 STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
 P. SHINN  
 PROJECT ENGINEER

BRIDGE NO.	29-0350
POST MILES	T14.83

**SR4 CROSSTOWN VIADUCT**  
**4'-0" DIAMETER COLUMN BENT DETAILS No. 3**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES  
 FOR REDUCED PLANS

0 1 2 3

UNIT: 1455  
 PROJECT NUMBER & PHASE: 10000002291

CONTRACT NO.: 10-0S1101

DISREGARD PRINTS BEARING  
 EARLIER REVISION DATES

REVISION DATES	SHEET	OF
8/18/11 6/08/12 9/04/12 11/27/12	39	111

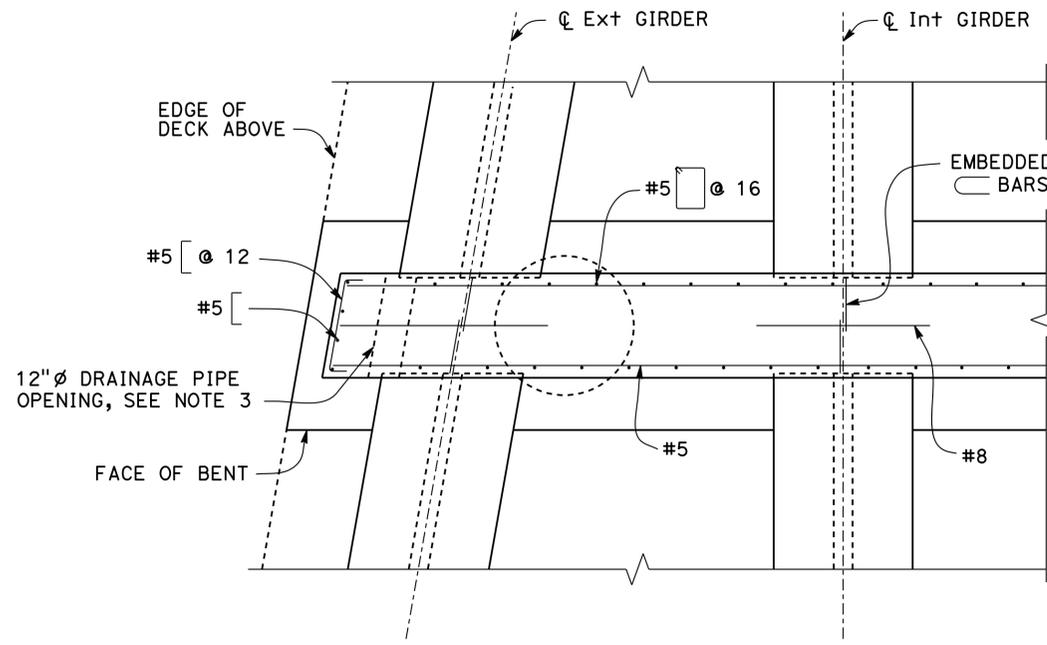
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USERNAME => s128843 DATE PLOTTED => 23-JUL-2013 TIME PLOTTED => 09:36

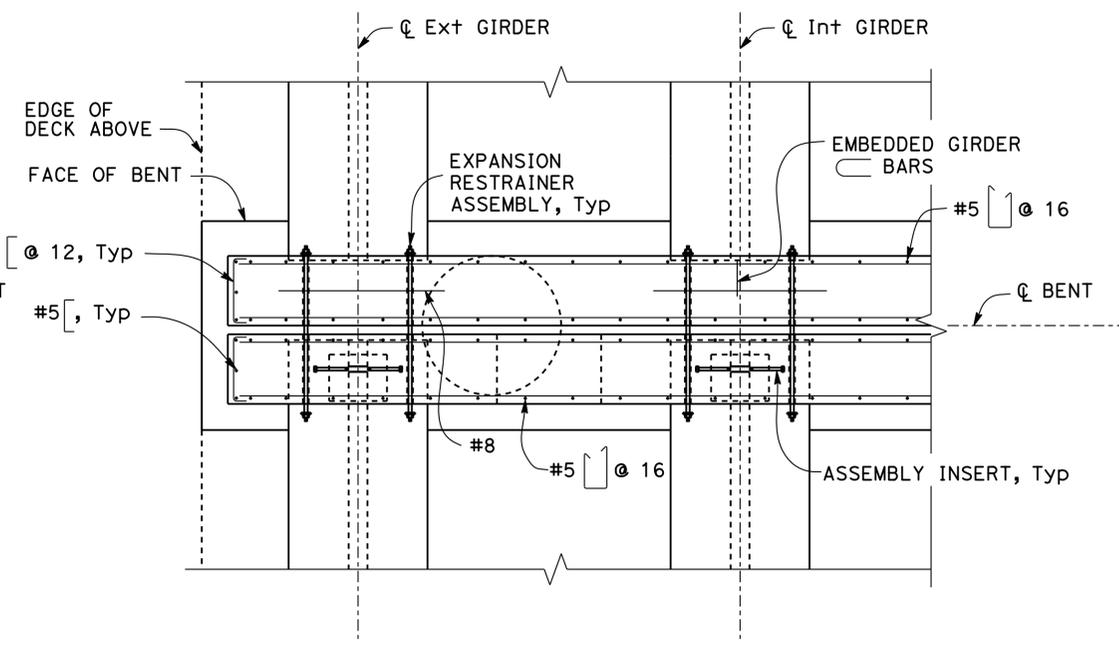
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	SJ	4,5	Var	380	486


  
 REGISTERED CIVIL ENGINEER DATE 11/27/12
   
 7-22-13 PLANS APPROVAL DATE
   
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SAN JOAQUIN COUNCIL OF GOVERNMENTS
   
 555 E. WEBER AVENUE
   
 STOCKTON, CA 95202
   
**RAJAPPAN & MEYER**
  
**CONSULTING ENGINEERS, INC.**
  
 1038 LEIGH AVE, SUITE 100
   
 SAN JOSE, CA 95126

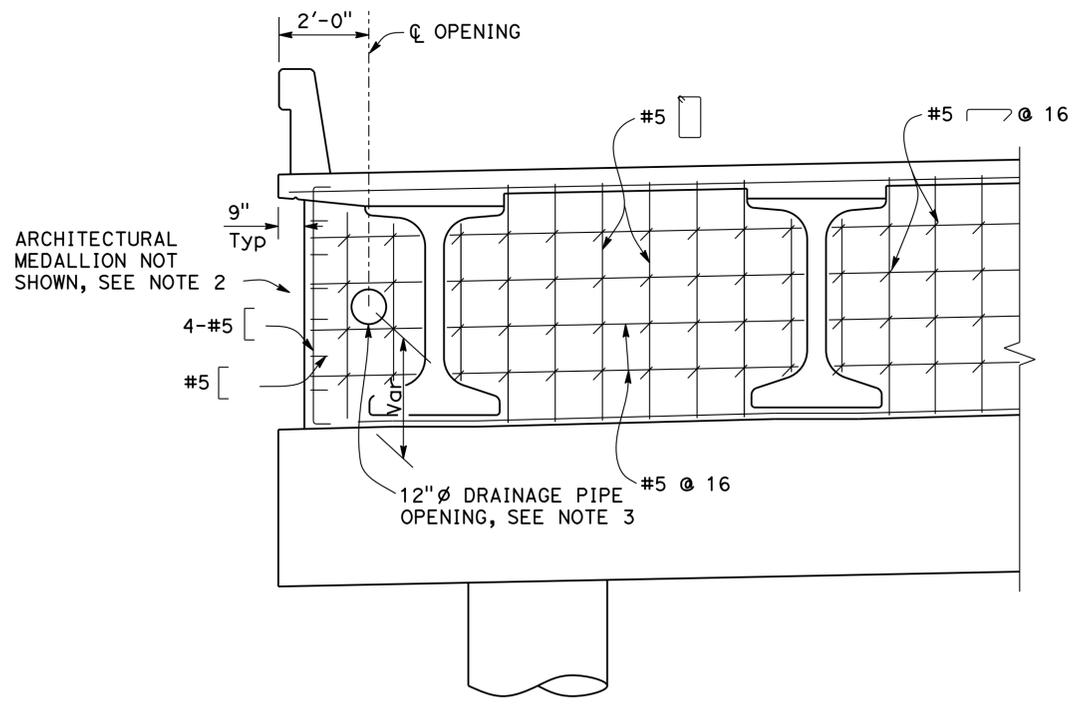


**PLAN**  
NO SCALE

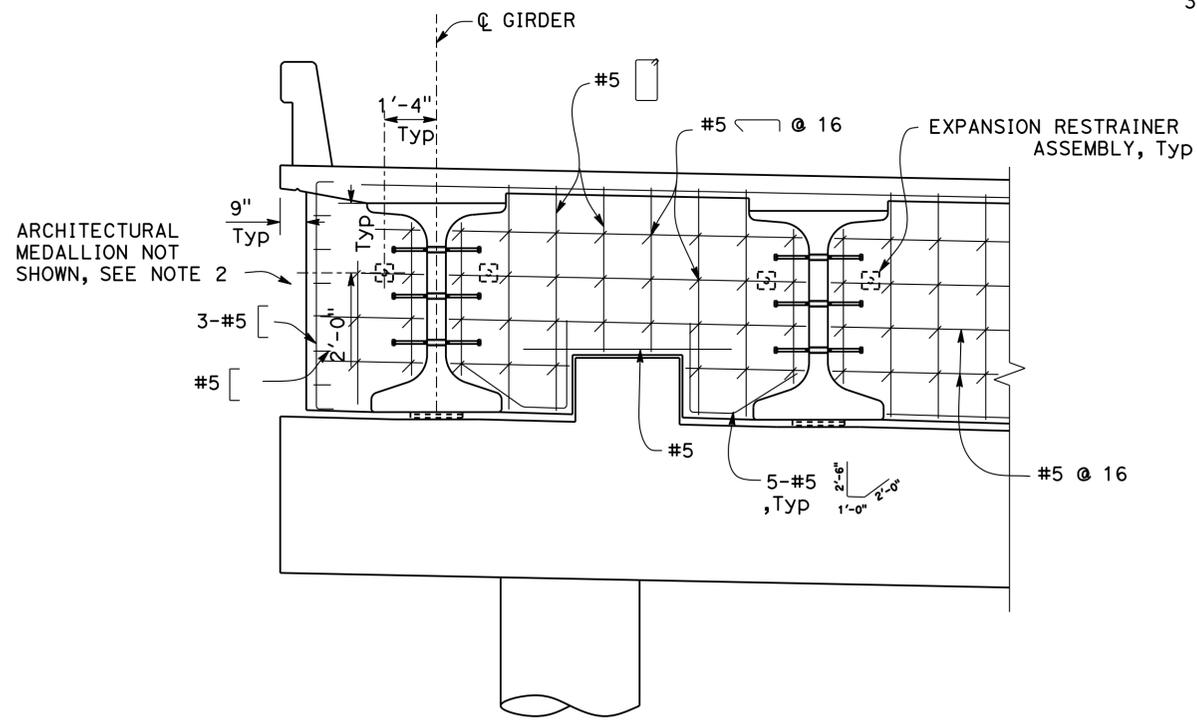


**PLAN (WITH EXPANSION JOINT)**  
NO SCALE

- NOTES:
1. For "EXPANSION RESTRAINER ASSEMBLY", see "BENT DETAILS" sheet.
  2. For architectural medallion "ANCHORAGE DETAILS", see "ARCHITECTURAL DETAILS No. 3" sheet.
  3. Opening occur at north side of Bent 2W, Bent 3W, Bent 2E and Bent 3E only



**ELEVATION**  
NO SCALE



**ELEVATION (WITH EXPANSION JOINT)**  
NO SCALE

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

Reza Erfanian  
 DESIGN OVERSIGHT  
 5-10-13  
 SIGN OFF DATE

DESIGN	BY P. SHINN	CHECKED N. VO / S. SHI
DETAILS	BY P. SHINN	CHECKED N. VO / S. SHI
QUANTITIES	BY S. DESALEGN	CHECKED M. PHILIPS

PREPARED FOR THE  
**STATE OF CALIFORNIA**  
 DEPARTMENT OF TRANSPORTATION

P. SHINN  
 PROJECT ENGINEER

BRIDGE NO.	29-0350
POST MILES	T14.83

**SR4 CROSSTOWN VIADUCT**  
**4'-0" DIAMETER COLUMN BENT DETAILS No. 4**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



UNIT: 1455  
 PROJECT NUMBER & PHASE: 10000002291

CONTRACT NO.: 10-0S1101

REVISION DATES	SHEET	OF
8/16/11 6/08/12 9/04/12 1/27/13	40	111

DISREGARD PRINTS BEARING EARLIER REVISION DATES

FILE => 29-0350-h-b01d104.dgn

USERNAME => s128843 DATE PLOTTED => 23-JUL-2013 TIME PLOTTED => 09:36

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	SJ	4,5	Var	381	486

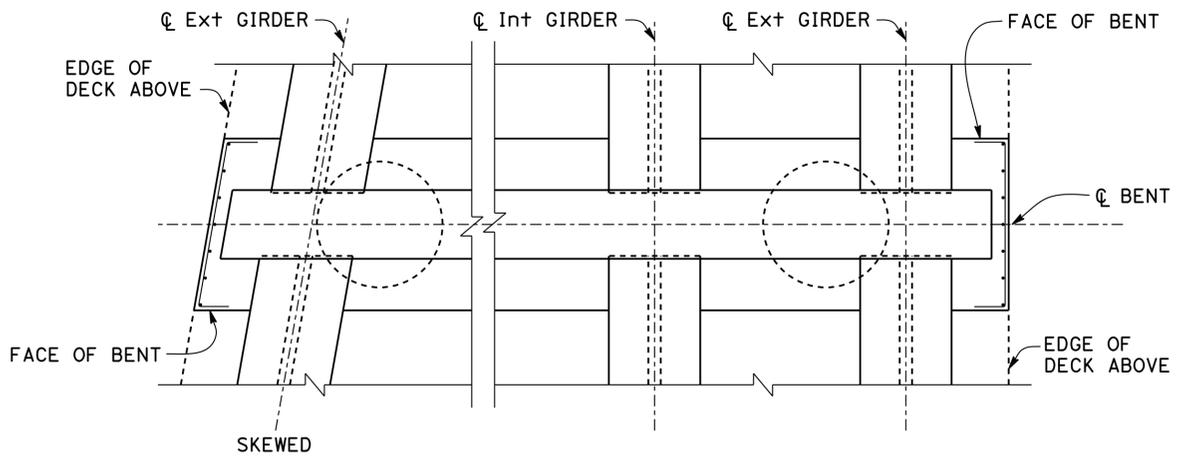
<i>K. Ham</i>	11/27/12
REGISTERED CIVIL ENGINEER	DATE
7-22-13	
PLANS APPROVAL DATE	

REGISTERED PROFESSIONAL ENGINEER  
 KIANOUSH HARRISAZ  
 No. C39591  
 Exp. 12/31/13  
 CIVIL  
 STATE OF CALIFORNIA

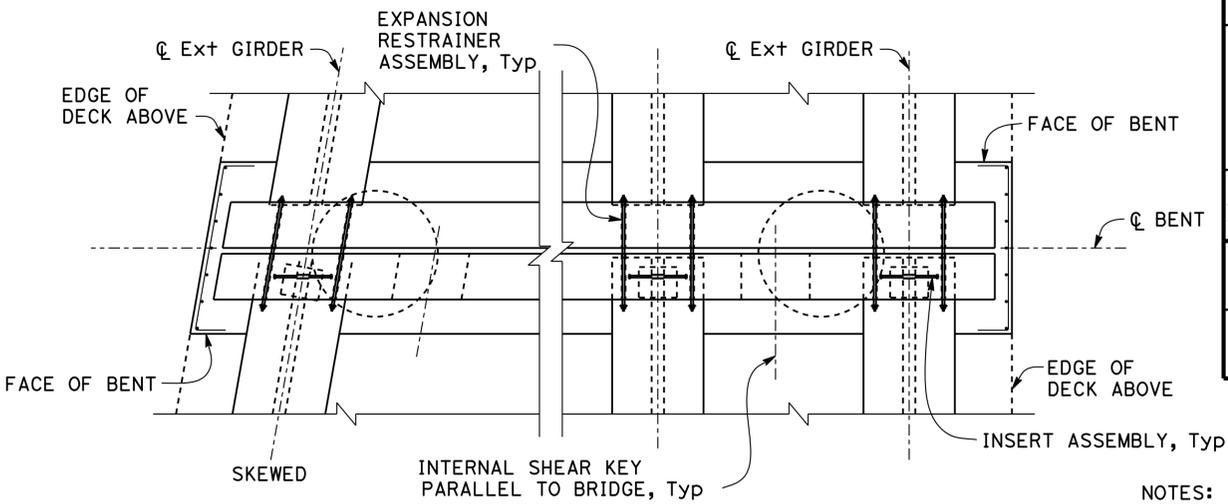
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SAN JOAQUIN COUNCIL OF GOVERNMENTS  
 555 E. WEBER AVENUE  
 STOCKTON, CA 95202

RAJAPPAN & MEYER  
 CONSULTING ENGINEERS, INC.  
 1038 LEIGH AVE, SUITE 100  
 SAN JOSE, CA 95126

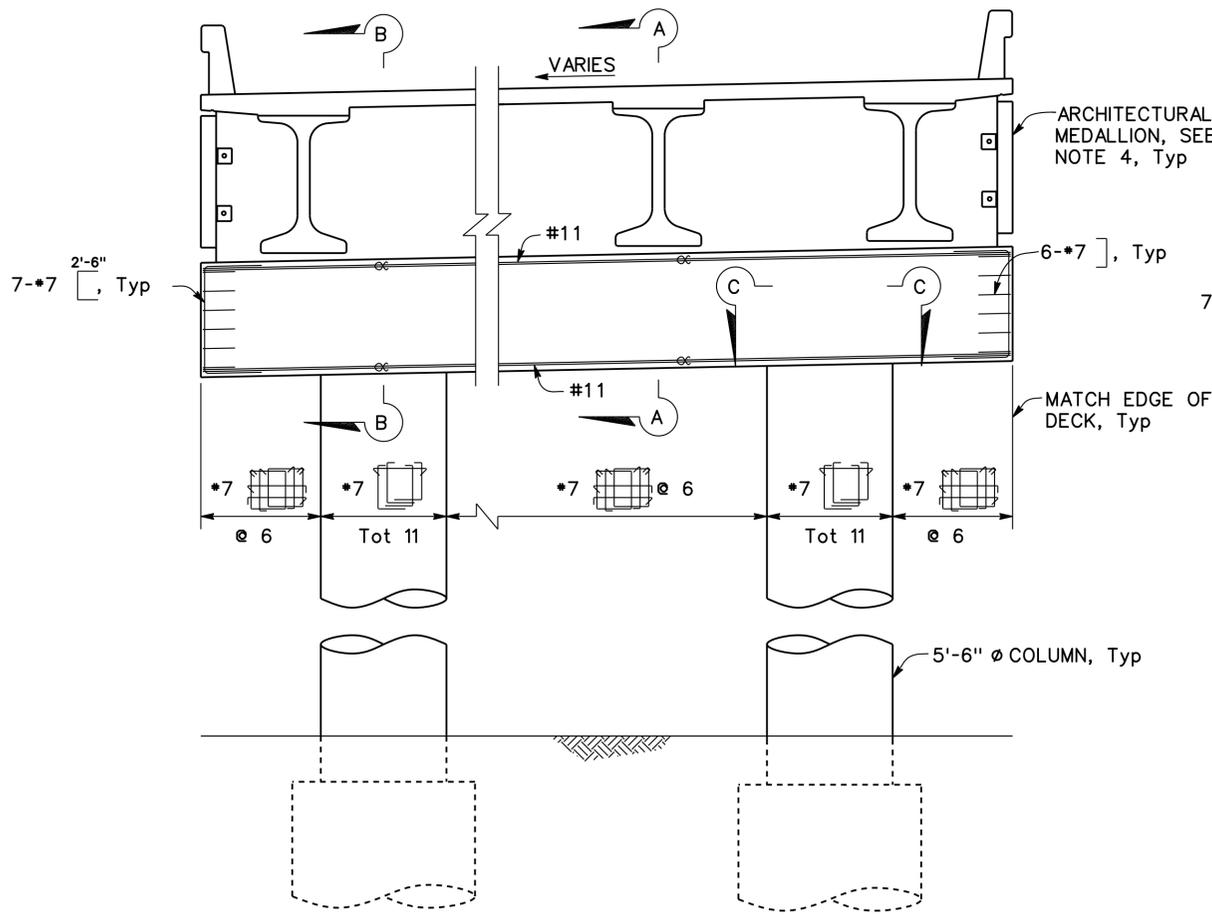


**PLAN**  
NO SCALE

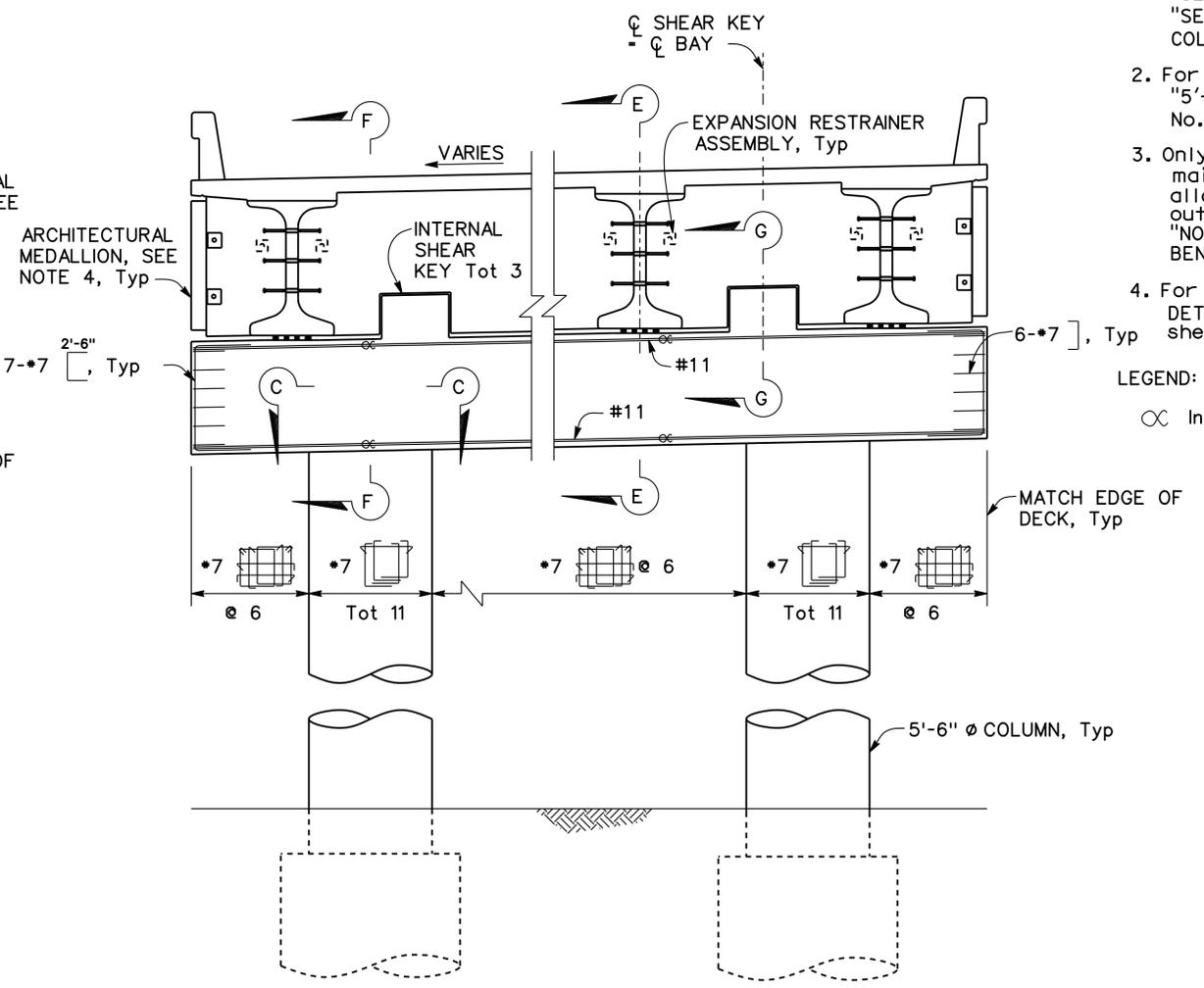


**PLAN (WITH EXPANSION JOINT)**  
NO SCALE

- NOTES:
- For "SECTION A-A", "SECTION B-B", and "SECTION C-C", see "5'-6" DIAMETER COLUMN BENT DETAILS No. 2" sheet. For "SECTION E-E", "SECTION F-F", and "SECTION G-G", see "5'-6" DIAMETER COLUMN BENT DETAILS No. 3" sheet.
  - For column and CIDH pile details, see "5'-6" DIAMETER COLUMN BENT DETAILS No. 1" sheet.
  - Only Service Splice is allowed for bent cap main reinforcement. Only Ultimate Splice is allowed for column main reinforcement in outside of "NO SPLICE ZONE", for location of "NO SPLICE ZONE", see "5'-0" DIAMETER COLUMN BENT DETAILS No. 1" sheet
  - For architectural medallion "ANCHORAGE DETAILS", see "ARCHITECTURAL DETAILS No. 3" sheet.



**ELEVATION**  
NO SCALE



**ELEVATION (WITH EXPANSION JOINT)**  
NO SCALE

LEGEND:  
 ∞ Indicates bundle bars

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

*Reza Erfanian*  
 DESIGN OVERSIGHT  
 5-10-13  
 SIGN OFF DATE

DESIGN	BY P. SHINN	CHECKED N. VO / S. SHI
DETAILS	BY P. SHINN	CHECKED N. VO / S. SHI
QUANTITIES	BY S. DESALEGN	CHECKED M. PHILIPS

PREPARED FOR THE  
 STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

P. SHINN  
 PROJECT ENGINEER

BRIDGE NO.	29-0350
POST MILES	T14.83

**SR4 CROSSTOWN VIADUCT**  
**5'-6" DIAMETER COLUMN BENT LAYOUT**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



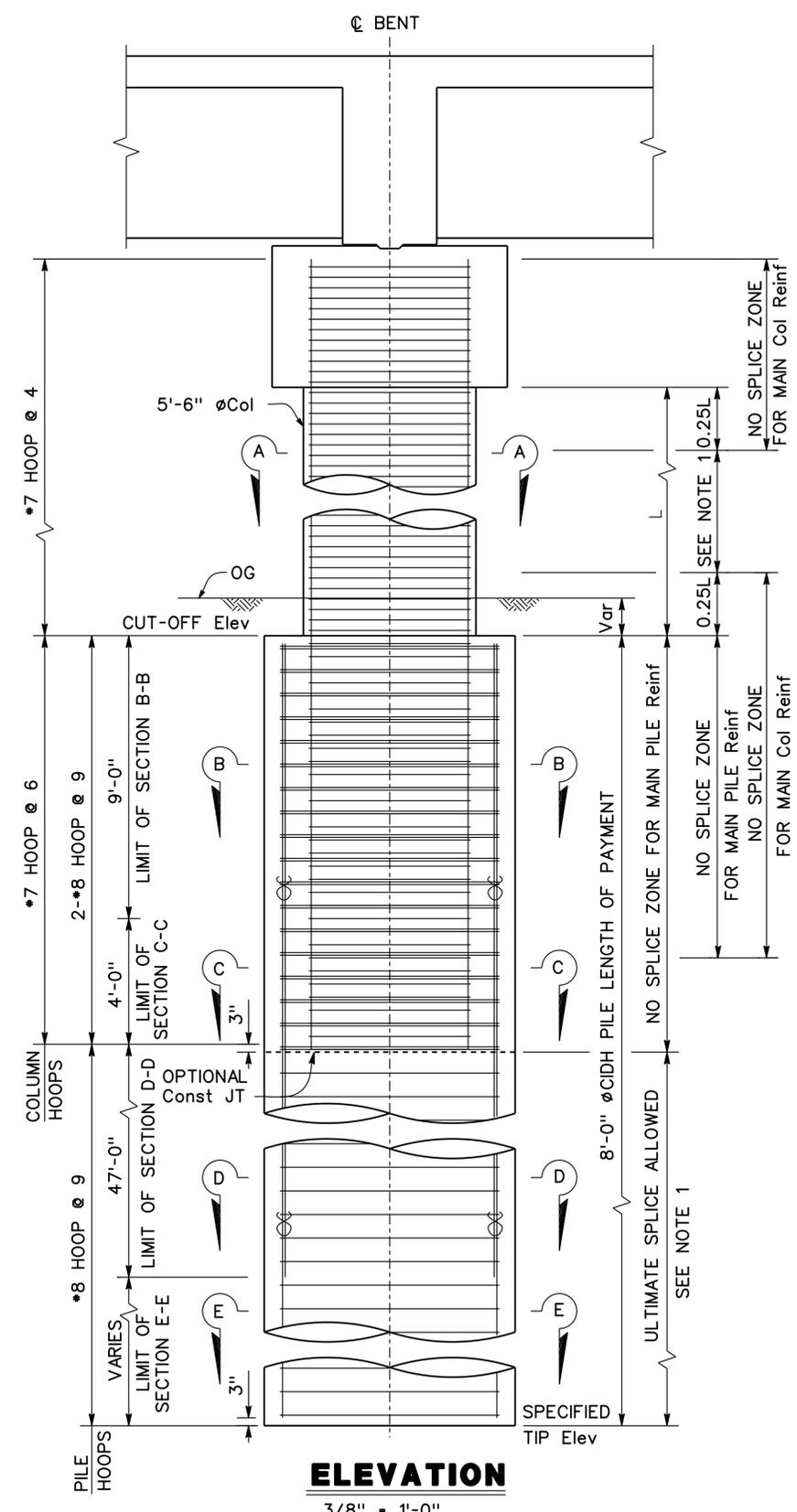
UNIT: 1455  
 PROJECT NUMBER & PHASE: 10000002291

CONTRACT NO.: 10-0S1101

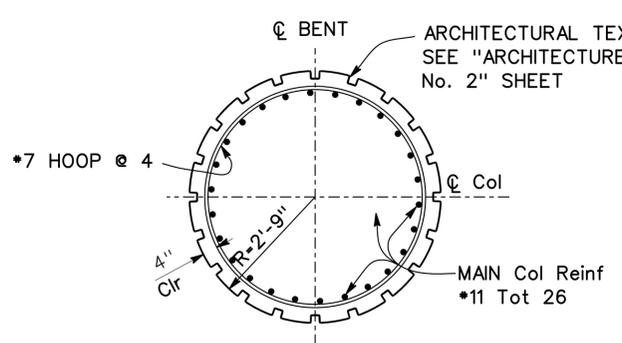
DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET	OF
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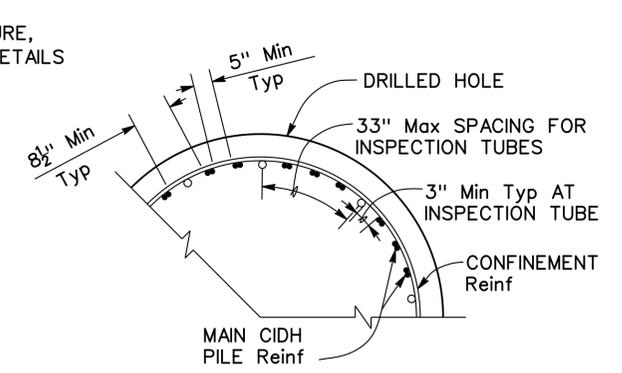
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	SJ	4,5	Var	382	486
 REGISTERED CIVIL ENGINEER			11/27/12 DATE	 REGISTERED PROFESSIONAL ENGINEER No. C39591 Exp. 12/31/13 CIVIL STATE OF CALIFORNIA	
PLANS APPROVAL DATE 7-22-13					
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SAN JOAQUIN COUNCIL OF GOVERNMENTS 555 E. WEBER AVENUE STOCKTON, CA 95202					
RAJAPPAN & MEYER CONSULTING ENGINEERS, INC. 1038 LEIGH AVE, SUITE 100 SAN JOSE, CA 95126					



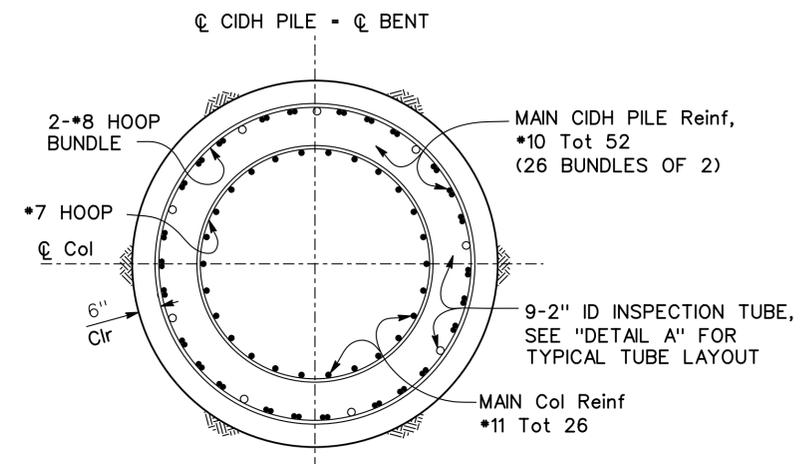
**ELEVATION**  
3/8" = 1'-0"



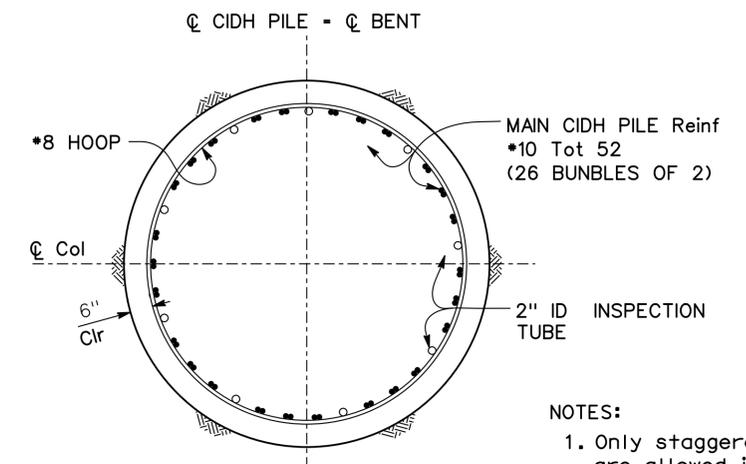
**SECTION A-A**  
1/2" = 1'-0"



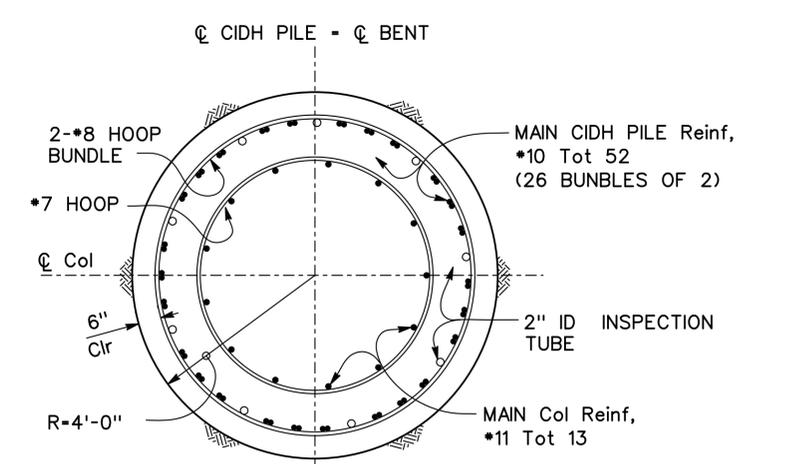
**DETAIL A**  
1/2" = 1'-0"



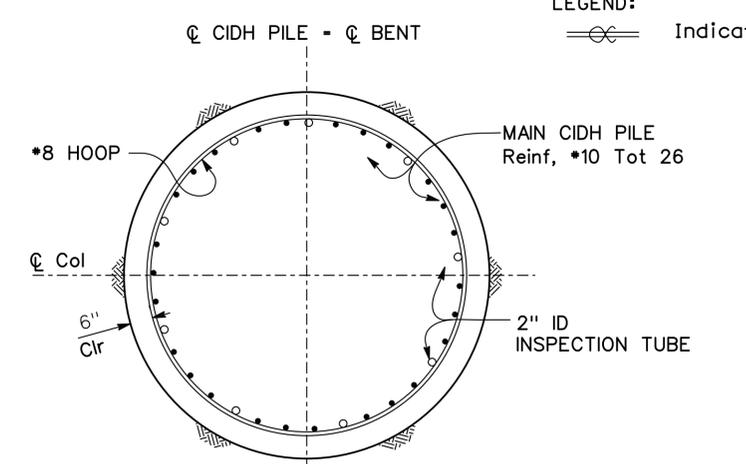
**SECTION B-B**  
1/2" = 1'-0"



**SECTION D-D**  
1/2" = 1'-0"



**SECTION C-C**  
1/2" = 1'-0"



**SECTION E-E**  
1/2" = 1'-0"

- NOTES:
- Only staggered Ultimate Butt Splice are allowed in main col reinf and main pile reinf in this zone.
  - All hoops are Ultimate Butt Splice.
- LEGEND:
-  Indicates bundled bars

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

DESIGN OVERSIGHT  
*Reza Erfanian*  
Reza Erfanian  
12/19/12  
SIGN OFF DATE

DESIGN	BY P. SHINN	CHECKED N. VO / S. SHI
DETAILS	BY P. SHINN	CHECKED N. VO / S. SHI
QUANTITIES	BY S. DESALEGN	CHECKED M. PHILIPS

PREPARED FOR THE  
**STATE OF CALIFORNIA**  
DEPARTMENT OF TRANSPORTATION

P. SHINN  
PROJECT ENGINEER

BRIDGE NO.	29-0350
POST MILES	T14.83

**SR4 CROSSTOWN VIADUCT**  
**5'-6" DIAMETER COLUMN BENT DETAILS No. 1**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

0 1 2 3

UNIT: 1455  
PROJECT NUMBER & PHASE: 10000002291

CONTRACT NO.: 10-0S1101

REVISION DATES	SHEET	OF
8/16/11 6/08/12 9/04/12 1/27/13	42	111

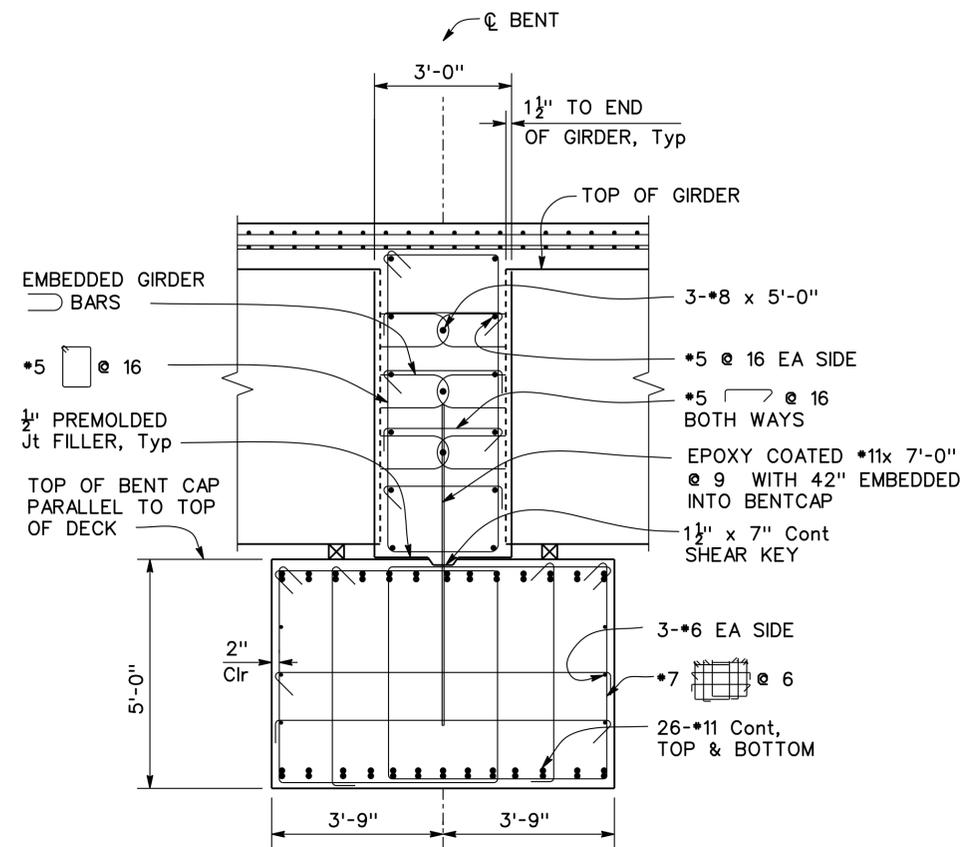
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USERNAME => s123631 DATE PLOTTED => 23-JUL-2013 TIME PLOTTED => 10:49

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
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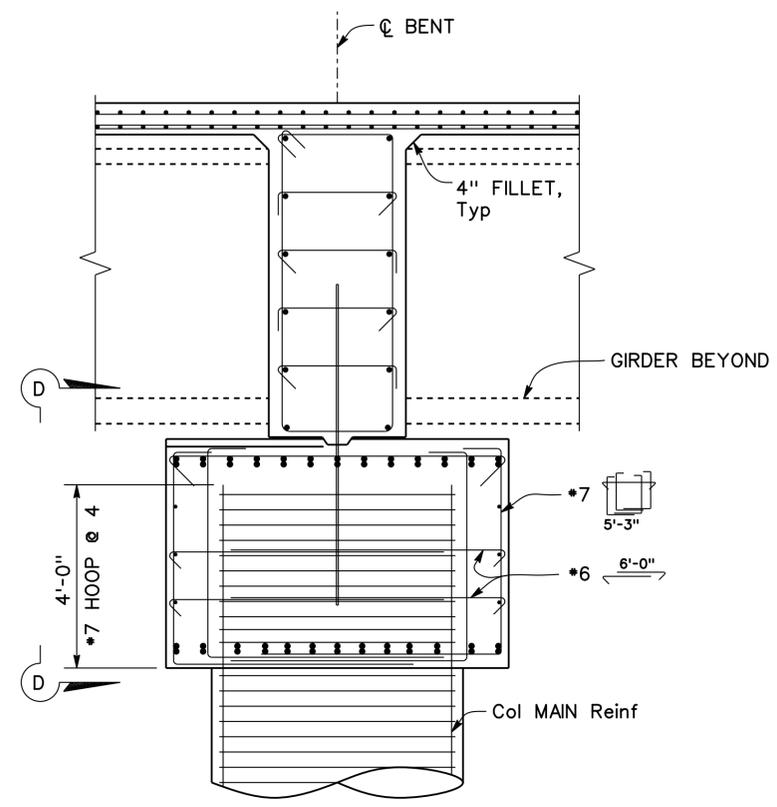

  
 REGISTERED CIVIL ENGINEER 11/27/12 DATE
   
 7-22-13
   
 PLANS APPROVAL DATE

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**SAN JOAQUIN COUNCIL OF GOVERNMENTS**
  
 555 E. WEBER AVENUE
   
 STOCKTON, CA 95202
   
**RAJAPPAN & MEYER CONSULTING ENGINEERS, INC.**
  
 1038 LEIGH AVE, SUITE 100
   
 SAN JOSE, CA 95126



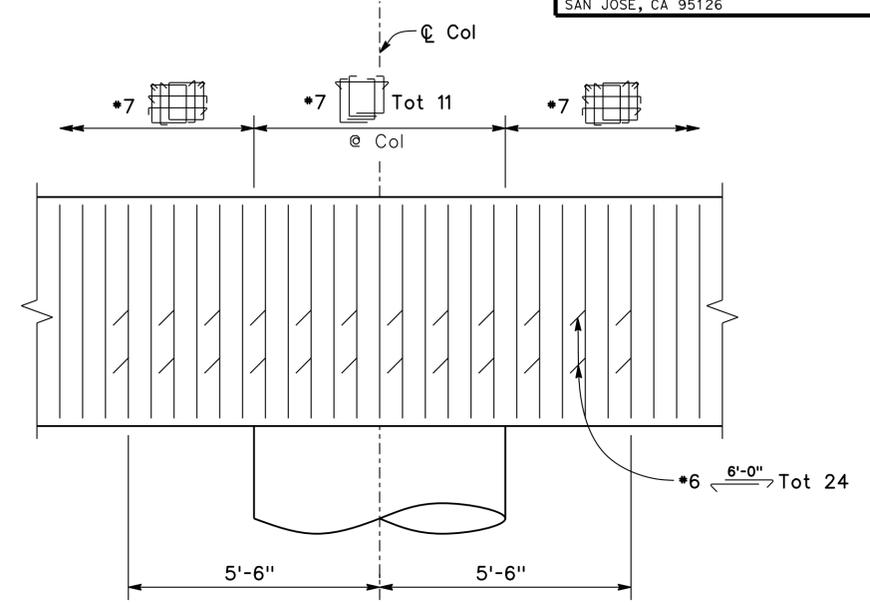
Note: 6' deep girder section shown, 5' deep girder similar

**SECTION A-A**  
1/2" = 1'-0"



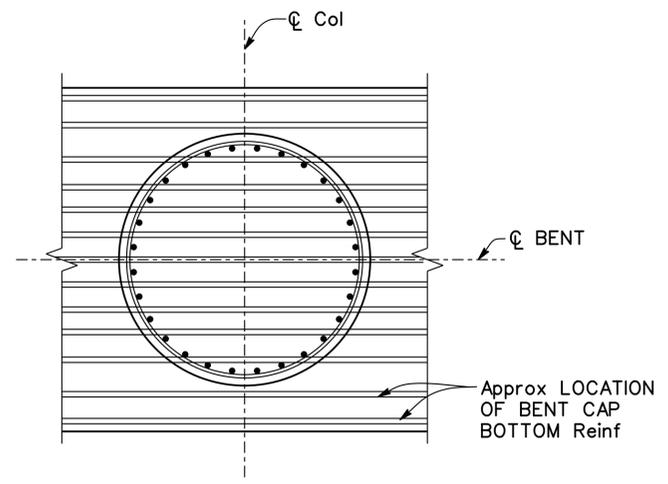
NOTE: For details not shown, see 'SECTION A-A'

**SECTION B-B**  
1/2" = 1'-0"

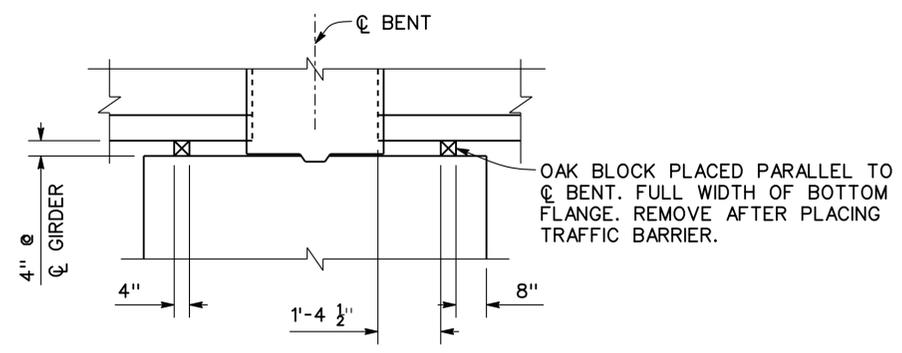


(Typical patterns of stirrups and horizontal cross ties at Cols)

**VIEW D-D**  
1/2" = 1'-0"



**SECTION C-C**  
1/2" = 1'-0"



**OAK BLOCK DETAILS**  
1/2" = 1'-0"

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

  
 DESIGN OVERSIGHT Reza Erfanian  
 12/19/12  
 SIGN OFF DATE

DESIGN	BY P. SHINN	CHECKED N. VO / S. SHI
DETAILS	BY P. SHINN	CHECKED N. VO / S. SHI
QUANTITIES	BY S. DESALEGN	CHECKED M. PHILIPS

**PREPARED FOR THE STATE OF CALIFORNIA**  
 DEPARTMENT OF TRANSPORTATION

P. SHINN  
 PROJECT ENGINEER

BRIDGE NO.	29-0350
POST MILES	T14.83

**SR4 CROSSTOWN VIADUCT**  
**5'-6" DIAMETER COLUMN BENT DETAILS No. 2**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



UNIT: 1455  
 PROJECT NUMBER & PHASE: 10000002291

CONTRACT NO.: 10-0S1101

DISREGARD PRINTS BEARING EARLIER REVISION DATES

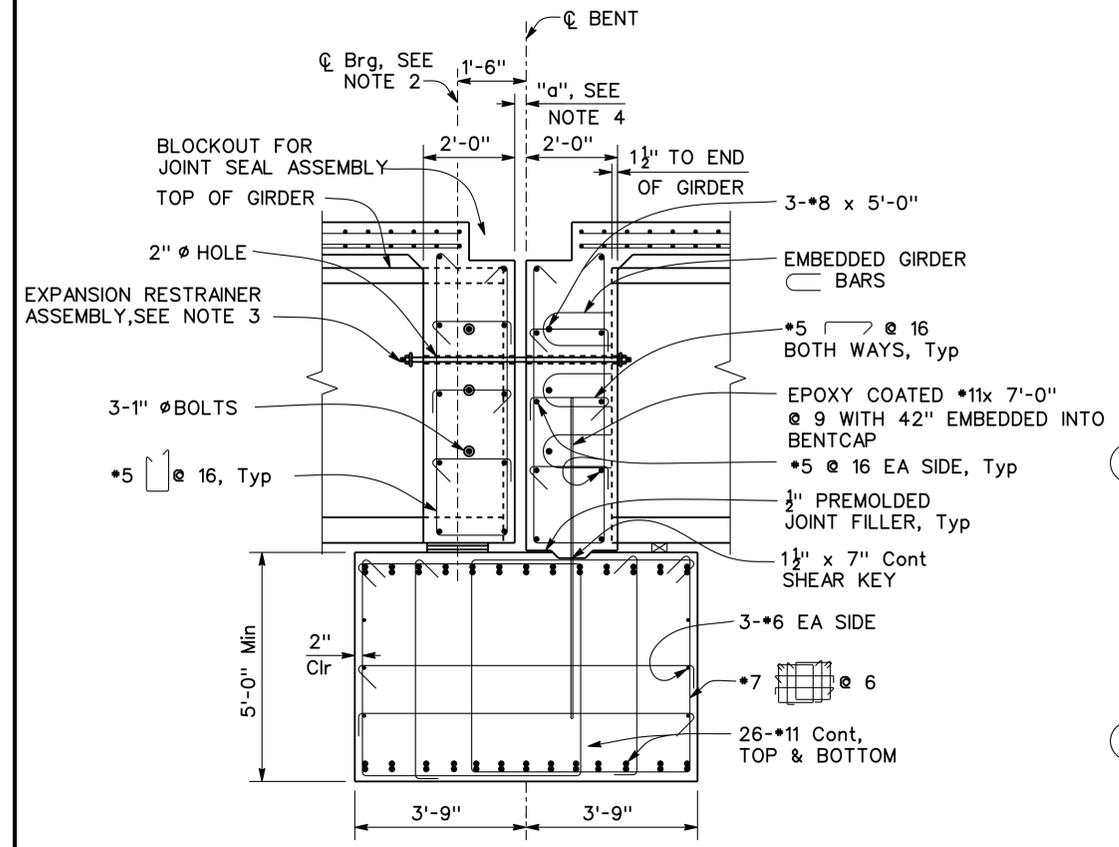
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USERNAME => s123631 DATE PLOTTED => 23-JUL-2013 TIME PLOTTED => 10:49

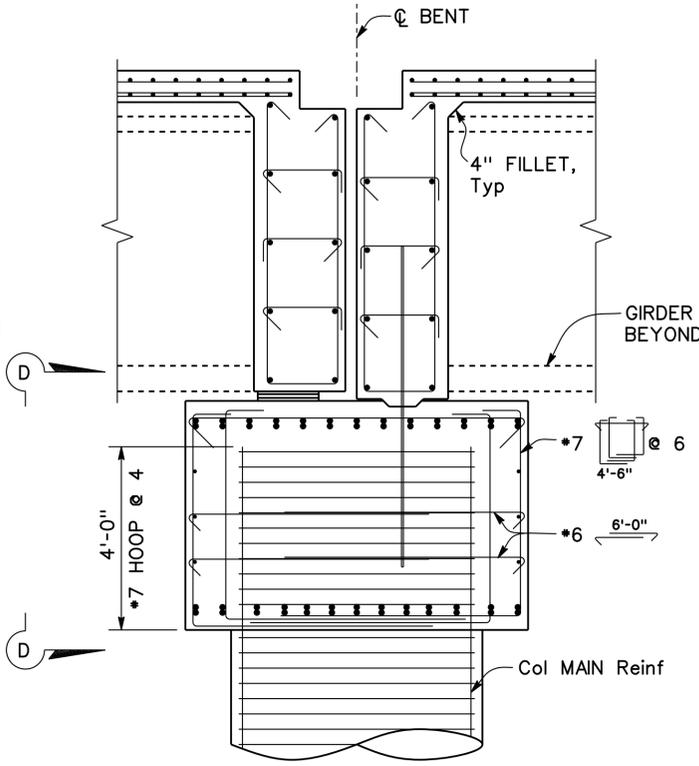
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	SJ	4,5	Var	384	486

REGISTERED CIVIL ENGINEER  
 11/27/12 DATE  
 7-22-13 PLANS APPROVAL DATE  
 KIANOUSH HARIRSAZ  
 No. C39591  
 Exp. 12/31/13  
 CIVIL  
 STATE OF CALIFORNIA

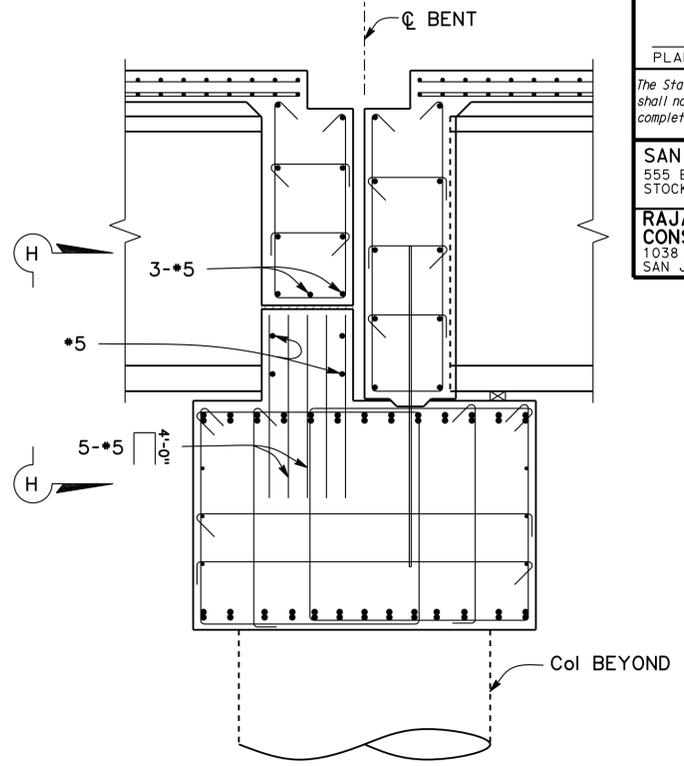
SAN JOAQUIN COUNCIL OF GOVERNMENTS  
 555 E. WEBER AVENUE  
 STOCKTON, CA 95202  
 RAJAPPAN & MEYER  
 CONSULTING ENGINEERS, INC.  
 1038 LEIGH AVE, SUITE 100  
 SAN JOSE, CA 95126



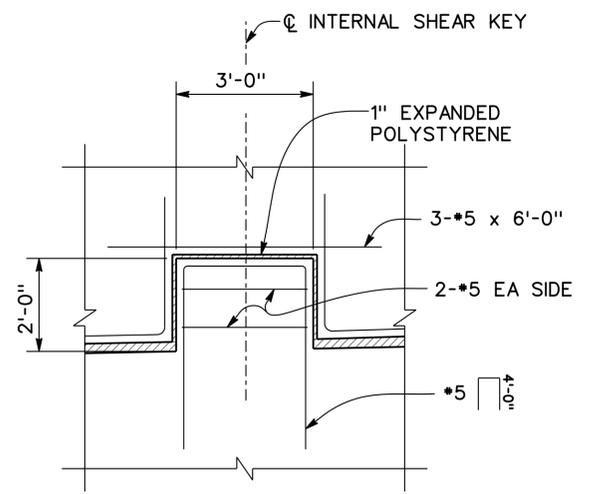
**SECTION E-E**  
 1/2" = 1'-0"



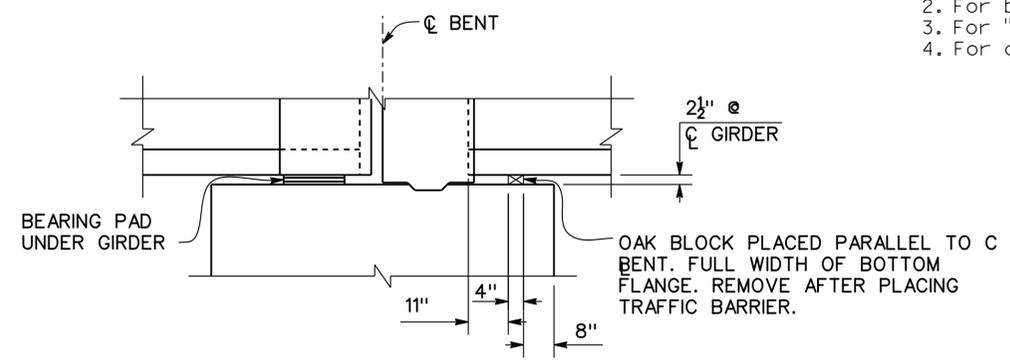
**SECTION F-F**  
 1/2" = 1'-0"



**SECTION G-G**  
 1/2" = 1'-0"



**VIEW H-H**  
 1/2" = 1'-0"



**OAK BLOCK DETAILS**  
 1/2" = 1'-0"

- NOTES:
1. For "VIEW D-D" see "5'-6" DIAMETER COLUMN AT BENT DETAILS No. 2" sheet.
  2. For bearing locations, see "STRUCTURE PLAN" sheets.
  3. For "EXPANSION RESTRAINER ASSEMBLY", see "BENT DETAILS" sheet.
  4. For dimension "d", see "JOINT SEAL ASSEMBLY" sheet.

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

DESIGN OVERSIGHT  
 Reza Erfanian  
 12/19/12  
 SIGN OFF DATE

DESIGN	BY P. SHINN	CHECKED N. VO / S. SHI
DETAILS	BY P. SHINN	CHECKED N. VO / S. SHI
QUANTITIES	BY S. DESALEGN	CHECKED M. PHILIPS

PREPARED FOR THE  
**STATE OF CALIFORNIA**  
 DEPARTMENT OF TRANSPORTATION  
 P. SHINN  
 PROJECT ENGINEER

BRIDGE NO.	29-0350	<b>SR4 CROSTOWN VIADUCT</b>
POST MILES	T14.83	
<b>5'-6" DIAMETER COLUMN BENT DETAILS No. 3</b>		

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



UNIT: 1455  
 PROJECT NUMBER & PHASE: 10000002291  
 CONTRACT NO.: 10-0S1101

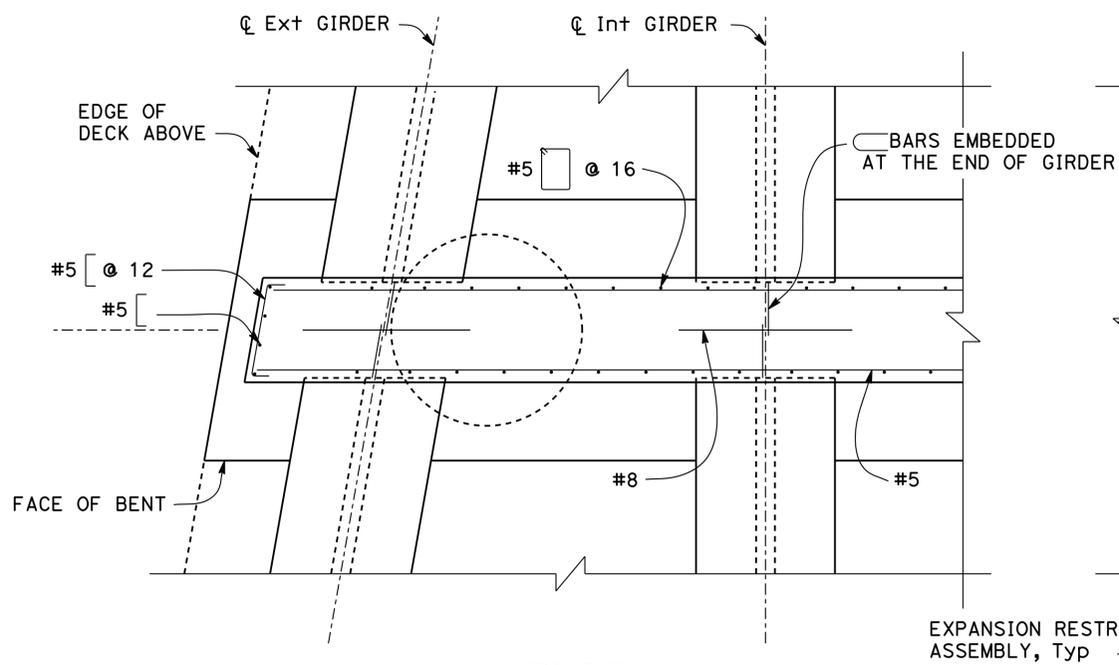
DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET 44	OF 111
	8/18/11, 6/08/12, 9/04/12, 11/27/12		

USERNAME => s123631 DATE PLOTTED => 23-JUL-2013 TIME PLOTTED => 10:49

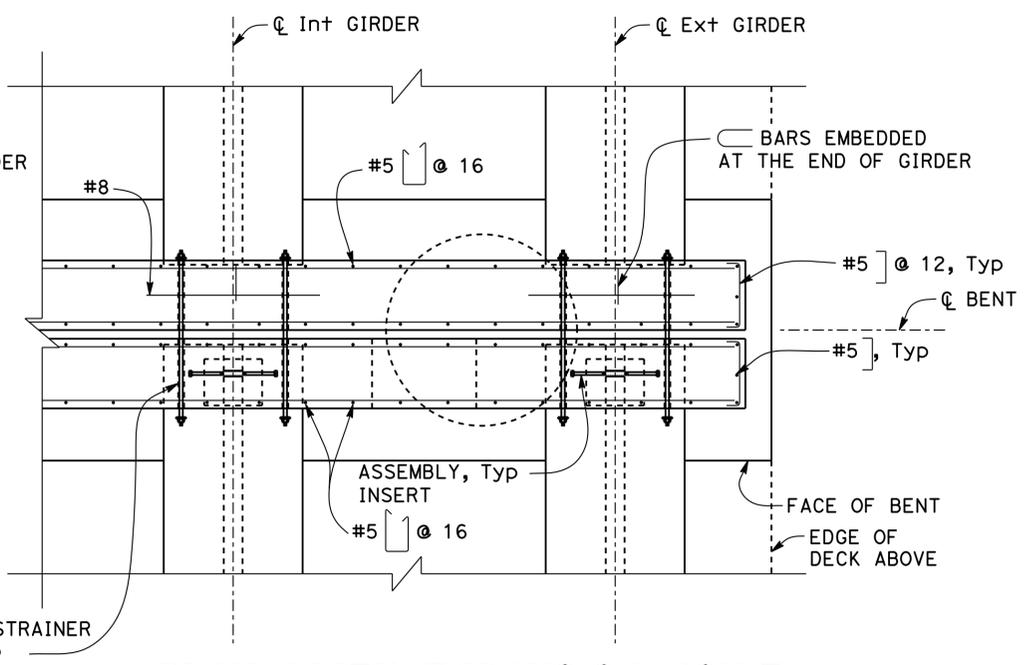
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	SJ	4,5	Var	385	486


  
 REGISTERED CIVIL ENGINEER 11/27/12 DATE
   
 7-22-13 PLANS APPROVAL DATE

SAN JOAQUIN COUNCIL OF GOVERNMENTS
   
 555 E. WEBER AVENUE
   
 STOCKTON, CA 95202
   
**RAJAPPAN & MEYER**
  
**CONSULTING ENGINEERS, INC.**
  
 1038 LEIGH AVE, SUITE 100
   
 SAN JOSE, CA 95126

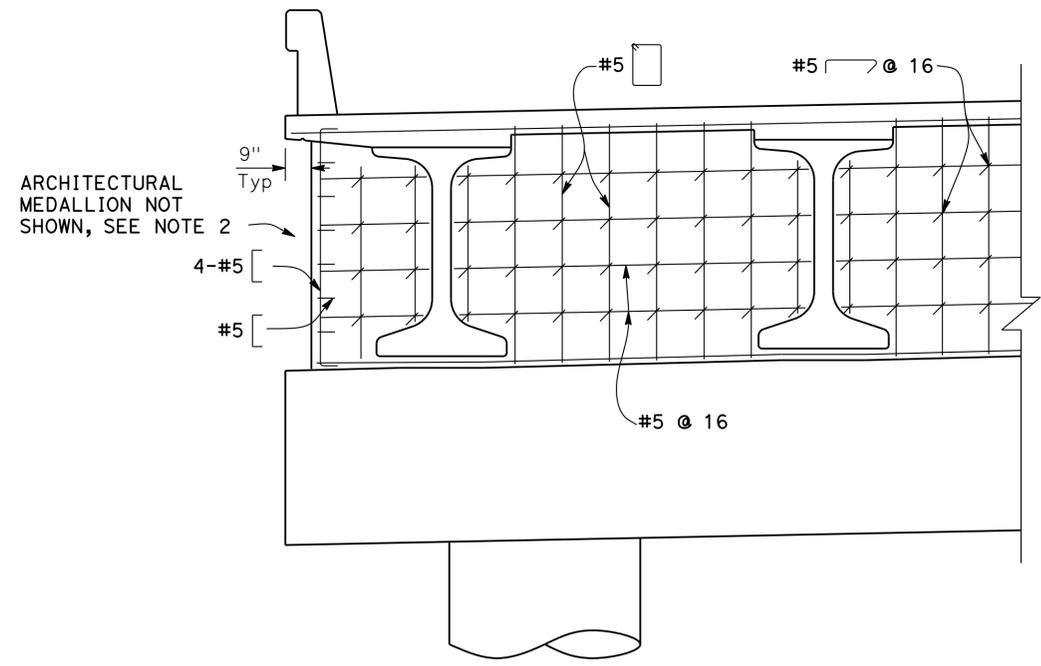


**PLAN**  
NO SCALE

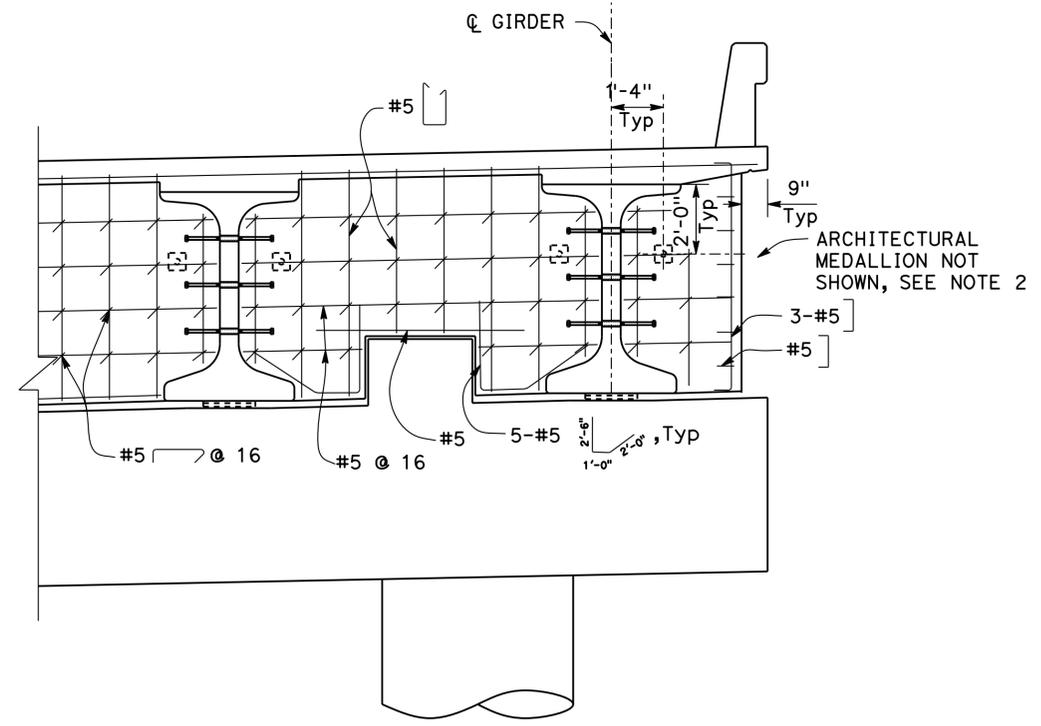


**PLAN (WITH EXPANSION JOINT)**  
NO SCALE

- NOTES:
1. For "EXPANSION RESTRAINER ASSEMBLY", see "BENT DETAILS" sheet.
  2. For architectural medallion "ANCHORAGE DETAILS", see "ARCHITECTURAL DETAILS No.3" sheet.



**ELEVATION**  
NO SCALE



**ELEVATION (WITH EXPANSION JOINT)**  
NO SCALE

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

  
 DESIGN OVERSIGHT Reza Erfanian  
 12/19/12  
 SIGN OFF DATE

DESIGN	BY P. SHINN	CHECKED P. SHINN S. SHI
DETAILS	BY P. SHINN	CHECKED P. SHINN S. SHI
QUANTITIES	BY S. DESALEGN	CHECKED M. PHILIPS

PREPARED FOR THE  
**STATE OF CALIFORNIA**  
 DEPARTMENT OF TRANSPORTATION

P. SHINN  
 PROJECT ENGINEER

BRIDGE NO.	29-0350
POST MILES	T14.83

**SR4 CROSSTOWN VIADUCT**  
**5'-6" DIAMETER COLUMN BENT DETAILS No. 4**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



UNIT: 1455  
 PROJECT NUMBER & PHASE: 10000002291  
 CONTRACT NO.: 10-0S1101

DISREGARD PRINTS BEARING EARLIER REVISION DATES

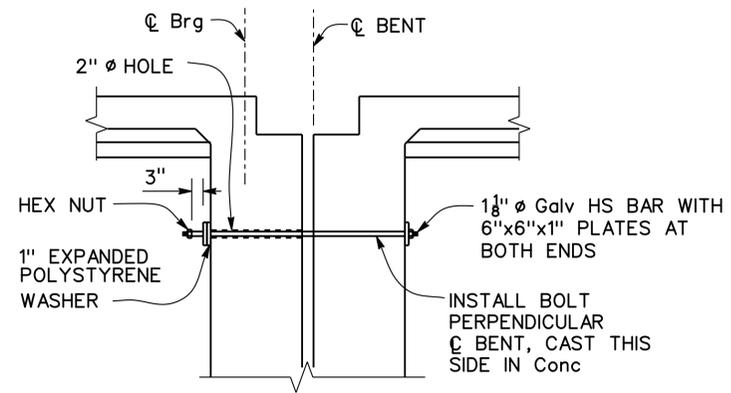
REVISION DATES	SHEET	OF
8/18/11 6/08/12 9/04/12 11/27/12	45	111

USERNAME => s123631 DATE PLOTTED => 23-JUL-2013 TIME PLOTTED => 10:49

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
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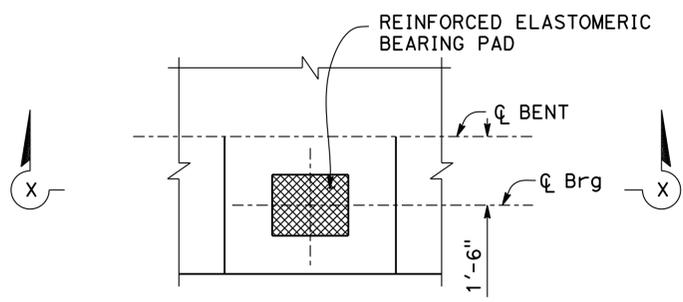
  
 REGISTERED CIVIL ENGINEER 11/27/12 DATE  
 7-22-13  
 PLANS APPROVAL DATE  


SAN JOAQUIN COUNCIL OF GOVERNMENTS  
 555 E. WEBER AVENUE  
 STOCKTON, CA 95202  
**RAJAPPAN & MEYER CONSULTING ENGINEERS, INC.**  
 1038 LEIGH AVE, SUITE 100  
 SAN JOSE, CA 95126



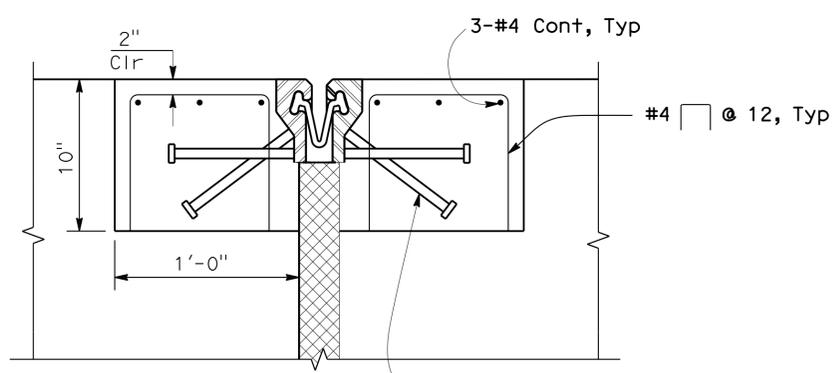
**EXPANSION RESTRAINER ASSEMBLY**

1/2" = 1'-0"



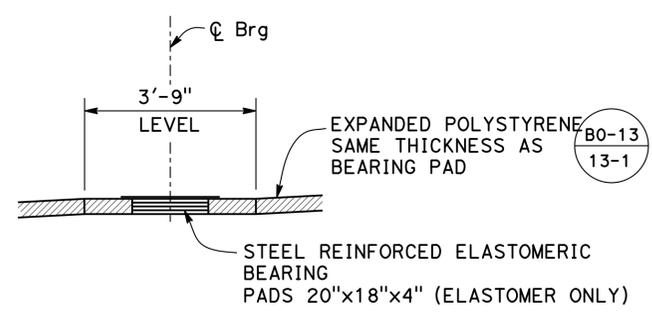
**ELASTOMERIC BEARING PAD DETAIL**

1/2" = 1'-0"



**BLOCKOUT REINFORCEMENT DETAILS**

NO SCALE



**SECTION X-X**

1/2" = 1'-0"

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

  
 DESIGN OVERSIGHT Reza Erfanian  
 12/19/12  
 SIGN OFF DATE

DESIGN	BY P. SHINN	CHECKED N. VO / S. SHI
DETAILS	BY P. SHINN	CHECKED N. VO / S. SHI
QUANTITIES	BY S. DESALEGN	CHECKED M. PHILIPS

**PREPARED FOR THE STATE OF CALIFORNIA**  
 DEPARTMENT OF TRANSPORTATION

P. SHINN  
 PROJECT ENGINEER

BRIDGE NO.	29-0350
POST MILES	T14.83

**SR4 CROSSTOWN VIADUCT**  
**BENT DETAILS**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



UNIT: 1455  
 PROJECT NUMBER & PHASE: 10000002291

CONTRACT NO.: 10-0S1101

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
8/18/11 6/08/12 9/04/12 11/27/12	46	111

USERNAME => s123631 DATE PLOTTED => 23-JUL-2013 TIME PLOTTED => 10:49

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
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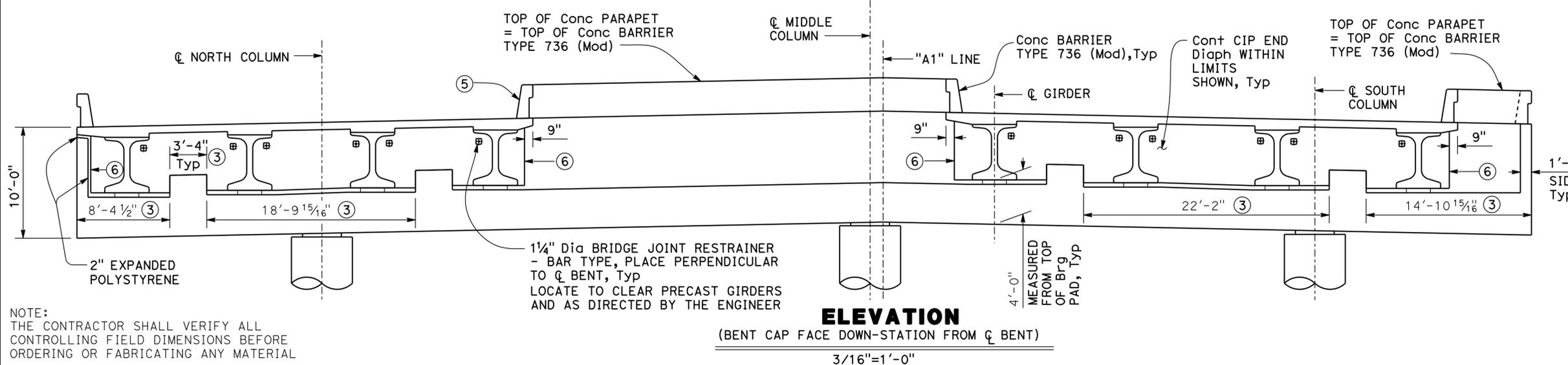
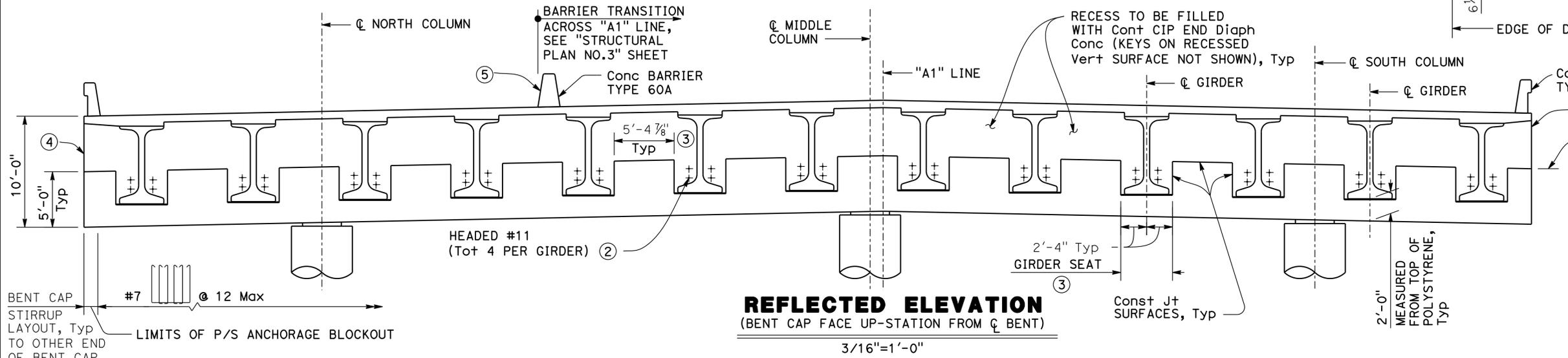
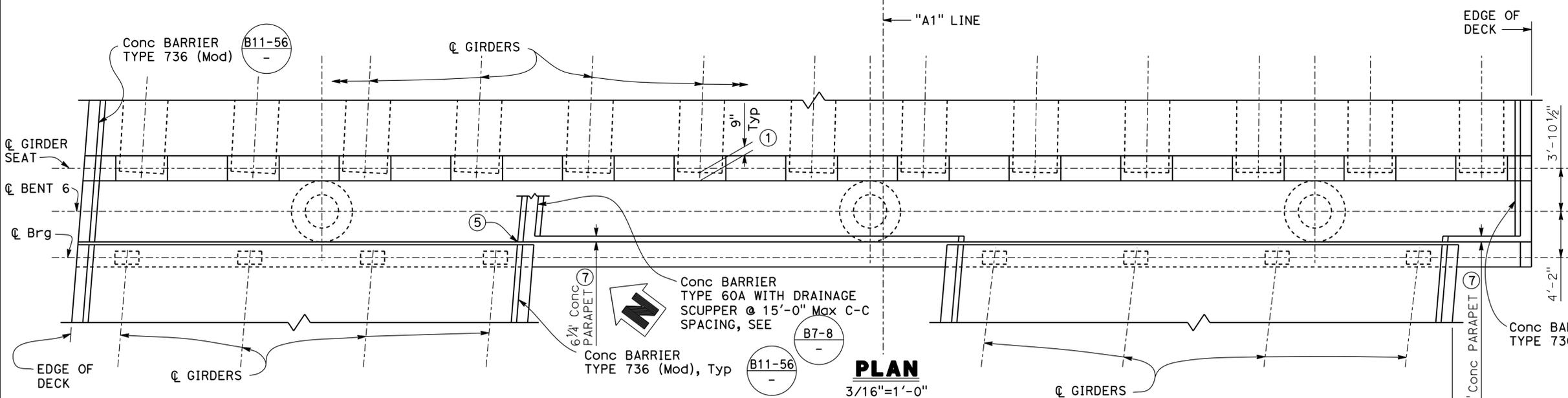
REGISTERED CIVIL ENGINEER DATE 11/27/12  
 SIEW W. CHEE  
 No. C41906  
 Exp. 03/31/14  
 CIVIL  
 STATE OF CALIFORNIA

7-22-13  
 PLANS APPROVAL DATE

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T. Y. LIN INTERNATIONAL CONSULTING ENGINEERS, INC.  
 TWO HARRISON STREET, SUITE 500  
 SAN FRANCISCO, CA 94105



- ① Equal end distance on both ends of each girder, Typ
- ② Place headed #11's as close as possible to girder web & bottom flange. Locations may be adjusted as needed and as approved by the Engineer
- ③ Dimensions measured along respective  $\bar{C}$  Brg/ $\bar{C}$  Girder Seat
- ④ Limits of bent cap (CIP end diaphragm) = Edge of deck
- ⑤ Traffic face of Conc barrier types 60A & 736 to match
- ⑥ Limits of CIP end diaphragm at expansion span
- ⑦ Conc parapet reinforcement similar to Conc barrier type 60A

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

DESIGN OVERSIGHT  
 Reza Erfanian  
 X2/19/12  
 SIGN OFF DATE

DESIGN	BY M. LEWIS	CHECKED C. HARRINGTON
DETAILS	BY T. KOONS	CHECKED C. HARRINGTON
QUANTITIES	BY M. LEWIS	CHECKED C. HARRINGTON

PREPARED FOR THE  
 STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

S. CHEE PROJECT ENGINEER	BRIDGE NO. 29-0350
	POST MILES T14.83

SR4 CROSTOWN VIADUCT  
 BENT 6 LAYOUT

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

UNIT: PROJECT NUMBER & PHASE: 1455 10000002291

CONTRACT NO.: 10-0S1101

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
8/1/11 6/20/12 3/21/12 11/21/12	47	111

FILE => 29-0350-h-b06\_lo.dgn

USERNAME => s123631 DATE PLOTTED => 23-JUL-2013 TIME PLOTTED => 10:49

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
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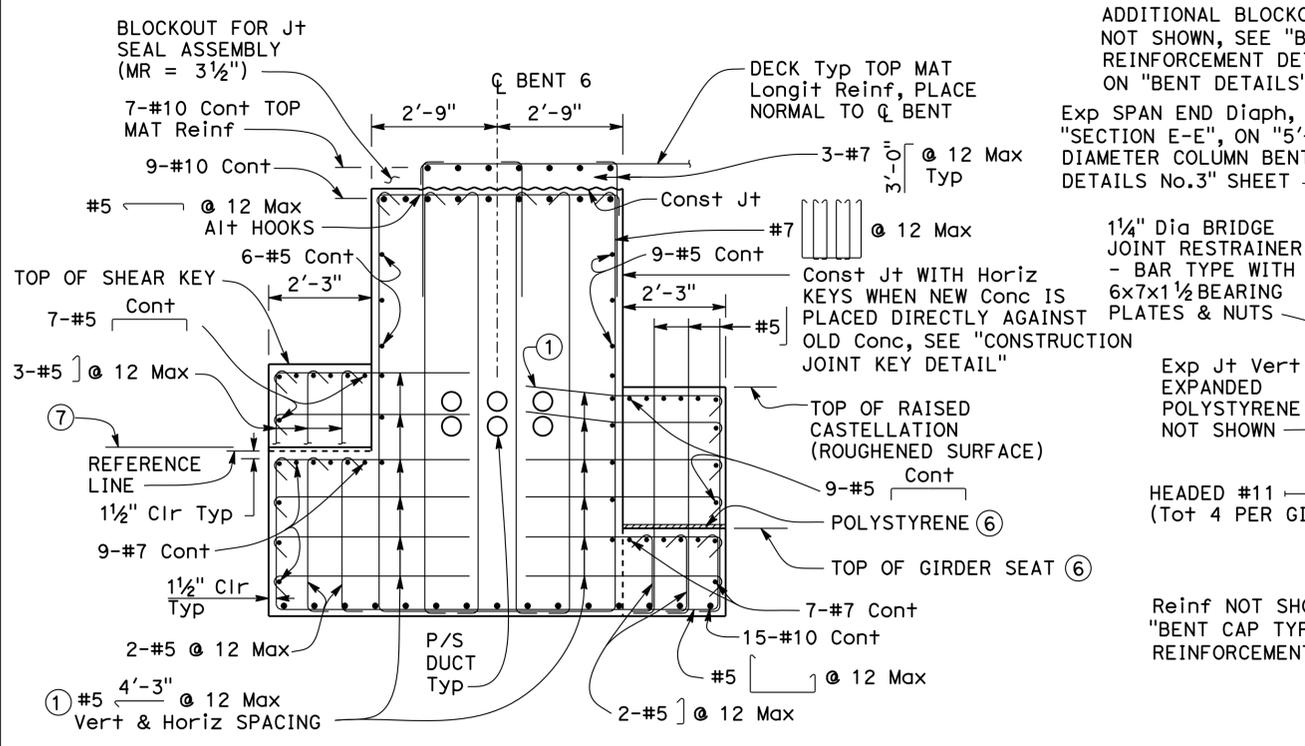
REGISTERED CIVIL ENGINEER	DATE
11/27/12	
7-22-13	PLANS APPROVAL DATE

SAN JOAQUIN COUNCIL OF GOVERNMENTS
555 E. WEBER AVENUE
STOCKTON, CA 95202

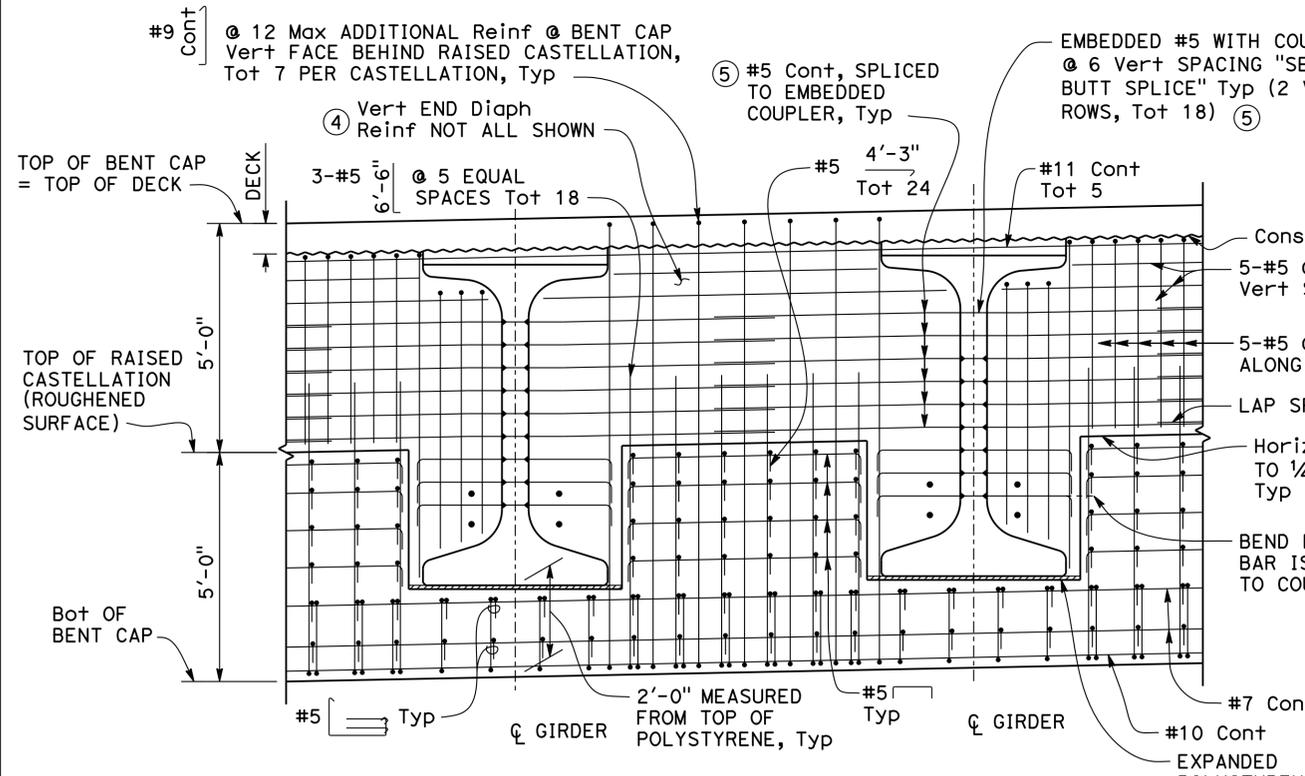
  

T. Y. LIN INTERNATIONAL CONSULTING ENGINEERS, INC.
TWO HARRISON STREET, SUITE 500
SAN FRANCISCO, CA 94105



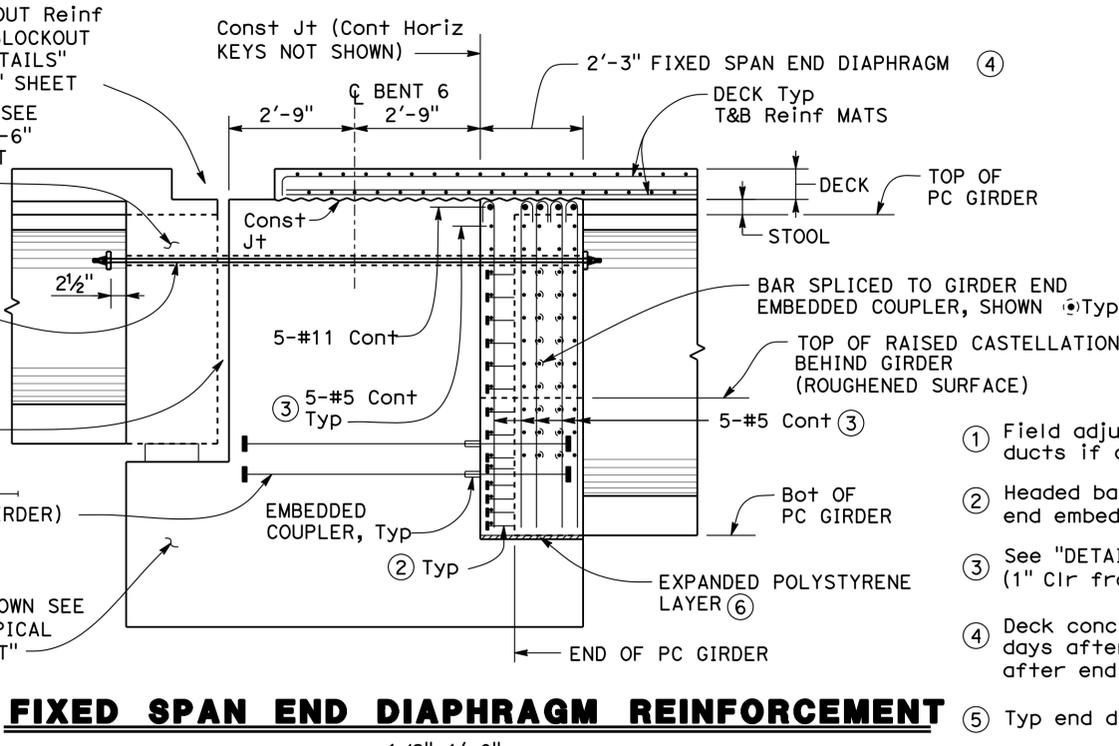
**BENT CAP TYPICAL REINFORCEMENT**

1/2"=1'-0"



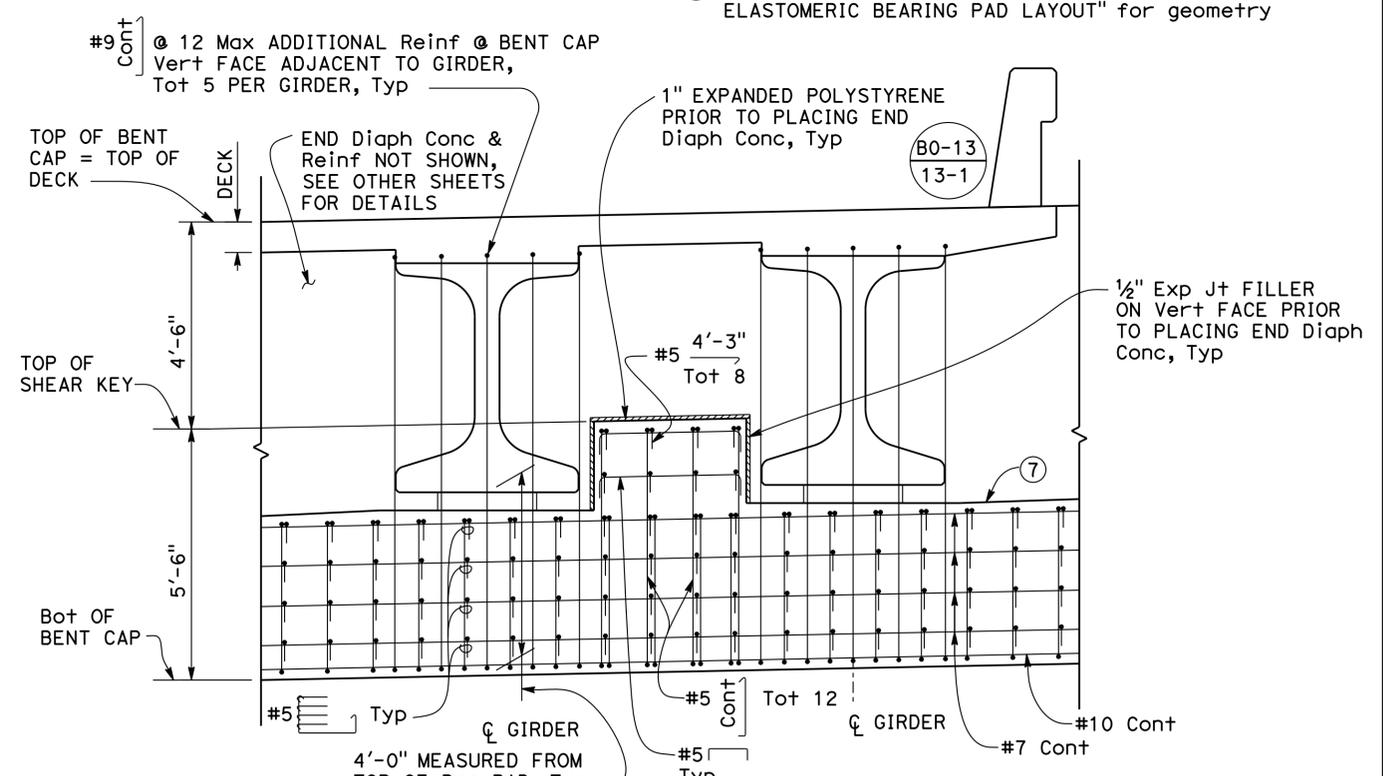
**DETAIL 1 (UPSTATION FIXED SPAN)**

1/2"=1'-0"



**FIXED SPAN END DIAPHRAGM REINFORCEMENT**

1/2"=1'-0"



**DETAIL 2 (DOWNSTATION EXPANSION SPAN)**

1/2"=1'-0"

- ① Field adjust horizontal ties to clear prestressing ducts if conflict occurs, Typ
- ② Headed bar reinforcement spliced to girder end embedded coupler, "service butt splice" Typ
- ③ See "DETAIL 1" for termination of Cont Reinf (1" Clr from hardened face of concrete)
- ④ Deck concrete shall be placed no less than five days after placing end diaphragm concrete and after end diaphragm concrete has gained minimum f'c
- ⑤ Typ end diaphragm Reinf
- ⑥ Place 1" thick polystyrene on entire level girder seat surface prior to erecting girder
- ⑦ Top of bent cap girder seat, see "EXPANSION SPAN ELASTOMERIC BEARING PAD LAYOUT" for geometry

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

DESIGN OVERSIGHT  
Reza Erfanian  
5-10-13  
SIGN OFF DATE

DESIGN	BY M. LEWIS	CHECKED C. HARRINGTON
DETAILS	BY T. KOONS	CHECKED C. HARRINGTON
QUANTITIES	BY M. LEWIS	CHECKED C. HARRINGTON

PREPARED FOR THE  
STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

S. CHEE  
PROJECT ENGINEER  
BRIDGE NO. 29-0350  
POST MILES T14.83

**SR4 CROSSTOWN VIADUCT  
BENT 6 DETAILS No. 1**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

UNIT: PROJECT NUMBER & PHASE: 1455 10000002291

CONTRACT NO.: 10-0S1101

REVISION DATES	SHEET	OF
8/18/11 6/08/12 9/04/12 11/27/12	48	111

FILE => 29-0350-h-b06d101.dgn

USERNAME => s123631 DATE PLOTTED => 23-JUL-2013 TIME PLOTTED => 10:50

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
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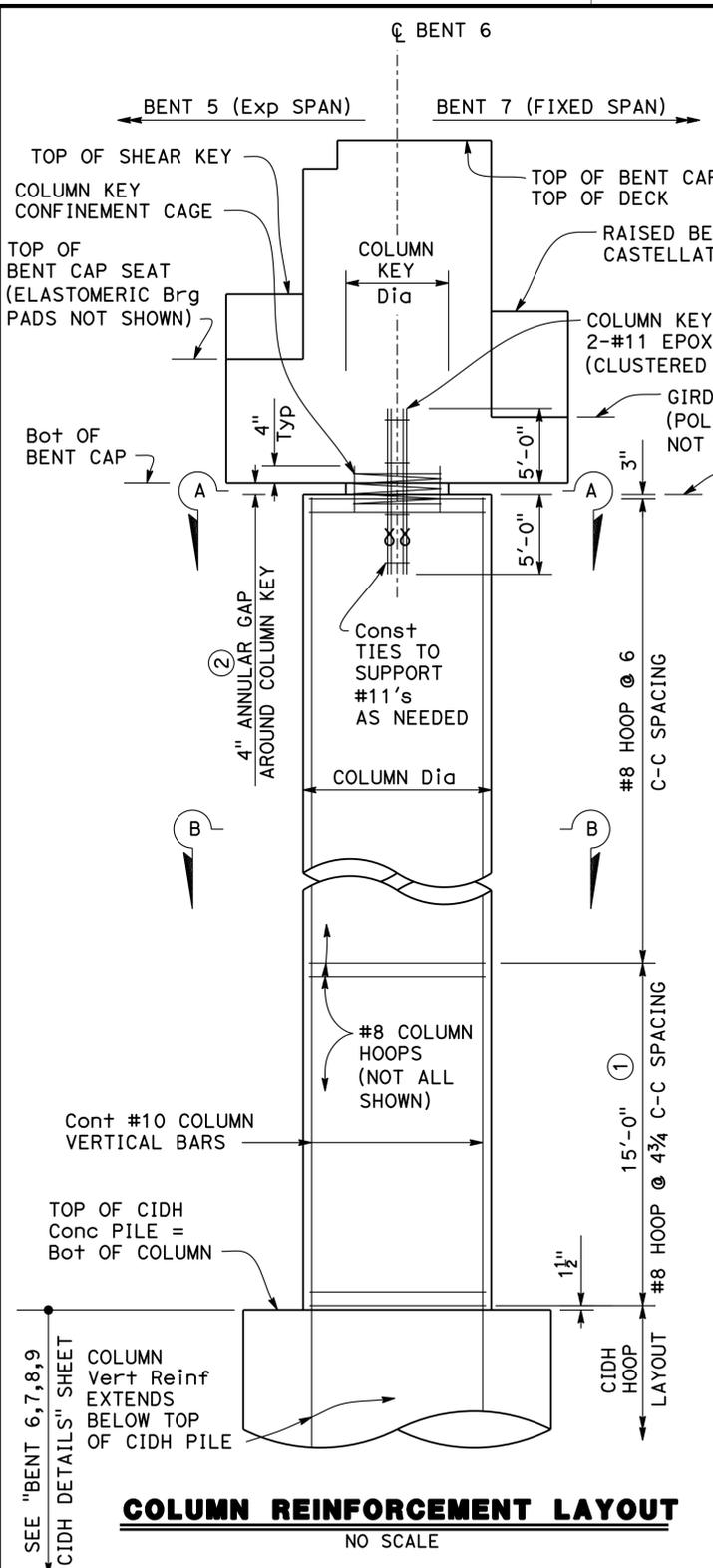
REGISTERED CIVIL ENGINEER	DATE 11/27/12
7-22-13	PLANS APPROVAL DATE

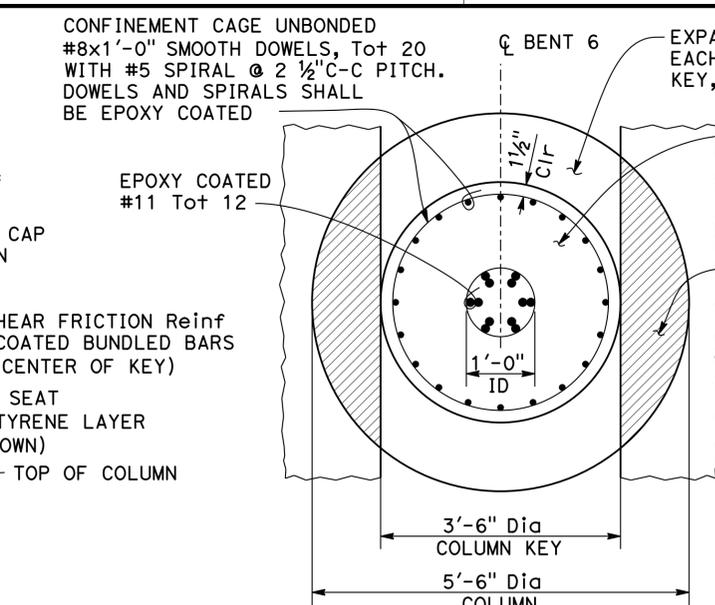
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555 E. WEBER AVENUE  
STOCKTON, CA 95202

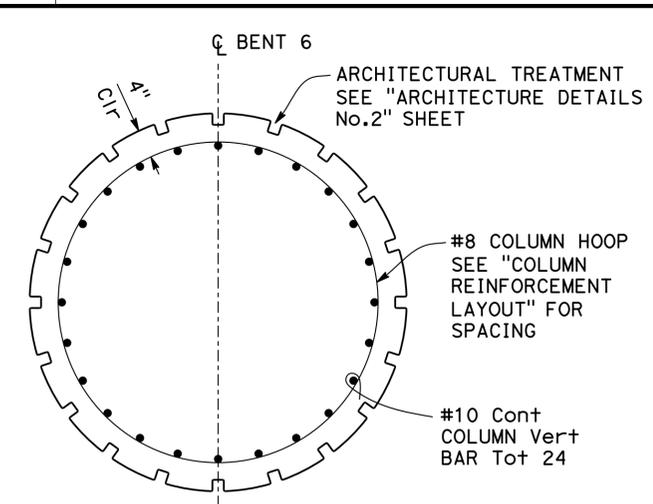
T. Y. LIN INTERNATIONAL CONSULTING ENGINEERS, INC.  
TWO HARRISON STREET, SUITE 500  
SAN FRANCISCO, CA 94105



**COLUMN REINFORCEMENT LAYOUT**  
NO SCALE



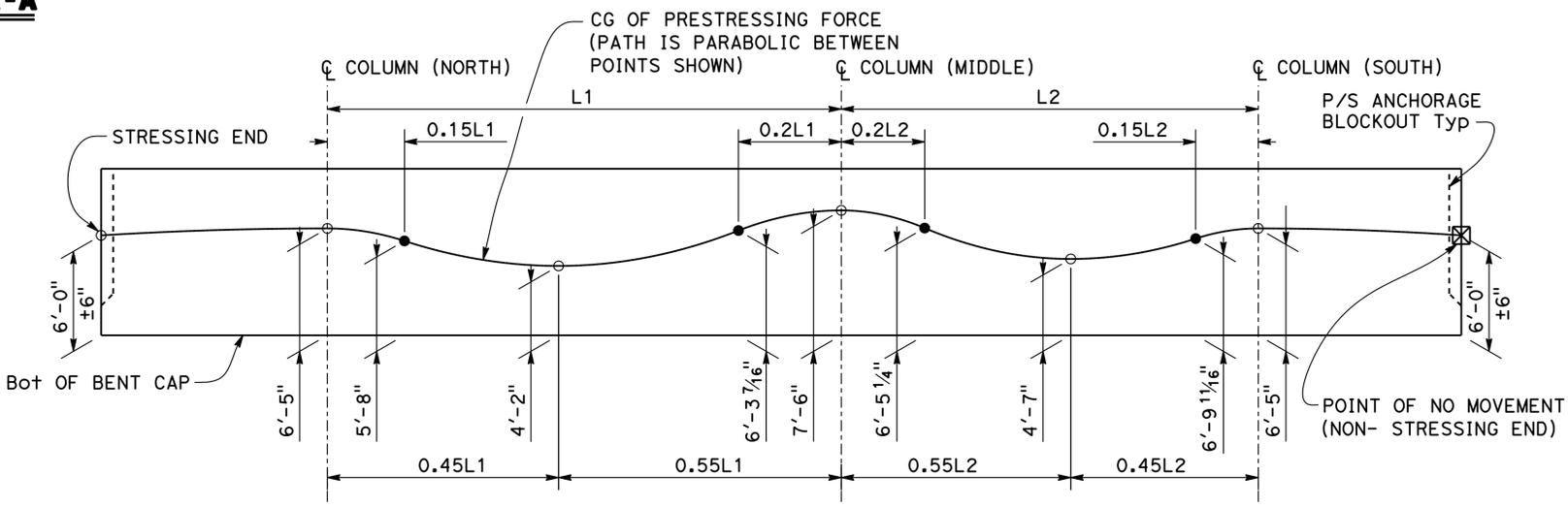
**SECTION A-A**  
3/4"=1'-0"



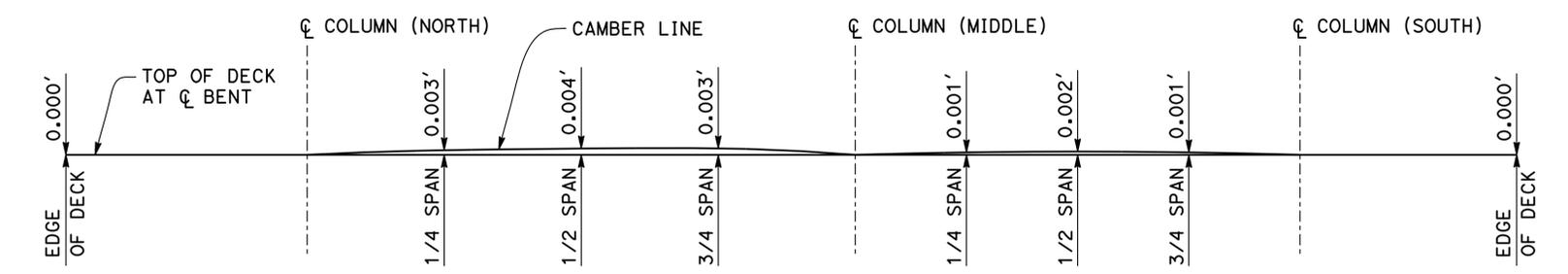
**SECTION B-B**  
3/4"=1'-0"

**BENT CAP PRESTRESSING NOTES**

270 KSI LOW RELAXATION STRANDS  
 CONCRETE:  $f'c = 6,000$  PSI @ 28 DAYS  
 $f'ci = 4,500$  PSI @ TIME OF INITIAL STRESSING  
 $P_{final} = 7,000$  KIPS  
 $P_{initial} = 3,500$  KIPS  
 DESIGN BASED ON  $\mu = 0.2$ ,  $K = 0.0000$   
 ANCHOR SET =  $\frac{3}{8}$ "  
 PRESTRESS FORCE SHALL BE DISTRIBUTED SYMMETRICALLY ABOUT  $\bar{C}$  BENT  
 $P_{initial}$  SHALL BE APPLIED ON BENT CAP PRIOR TO ERECTING PC GIRDERS.  $P_{final}$  SHALL BE APPLIED ON BENT CAP AFTER CONSTRUCTING END DIAPHRAGM, PRIOR TO CASTING DECK CONCRETE  
 AT NO TIME DURING STRESSING OPERATIONS SHALL MORE THAN ONE TENDON FORCE BE APPLIED ECCENTRICALLY ABOUT  $\bar{C}$  BENT  
 BAR REINFORCING INTERFERING WITH PRESTRESSING TENDON ALIGNMENT SHALL BE ADJUSTED, AS APPROVED BY THE ENGINEER  
 MINIMUM CLEARANCE BETWEEN PRESTRESSING DUCTS SHALL BE  $1\frac{1}{2}$ "  
 MINIMUM CONCRETE EDGE DISTANCE FOR P/S BEARING PLATE IS 3"  
 CONTRACTOR SHALL SUBMIT ELONGATION CALCULATIONS BASED ON INITIAL STRESS AT  $\square = 0.768$  TIMES JACKING STRESS



**POST-TENSIONING PROFILE**  
NO SCALE



**CAMBER DIAGRAM**  
NO SCALE

- ⊗ Indicates bundled bars
- ① Vertical bar splice is not permitted within limits shown ("no splice zone"). Outside of "no splice zone", vertical bar splice shall be "ultimate butt splice"
- ② 4" gap created by removing polystyrene/HDPE shims after construction. Rigidly shim gap prior to erecting precast girders, See "SECTION A-A". Remove rigid shims after deck concrete has reached required strength

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

DESIGN OVERSIGHT  
Reza Erfanian  
12/19/12  
SIGN OFF DATE

DESIGN	BY M. LEWIS	CHECKED C. HARRINGTON
DETAILS	BY T. KOONS	CHECKED C. HARRINGTON
QUANTITIES	BY M. LEWIS	CHECKED C. HARRINGTON

PREPARED FOR THE  
STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

S. CHEE  
PROJECT ENGINEER

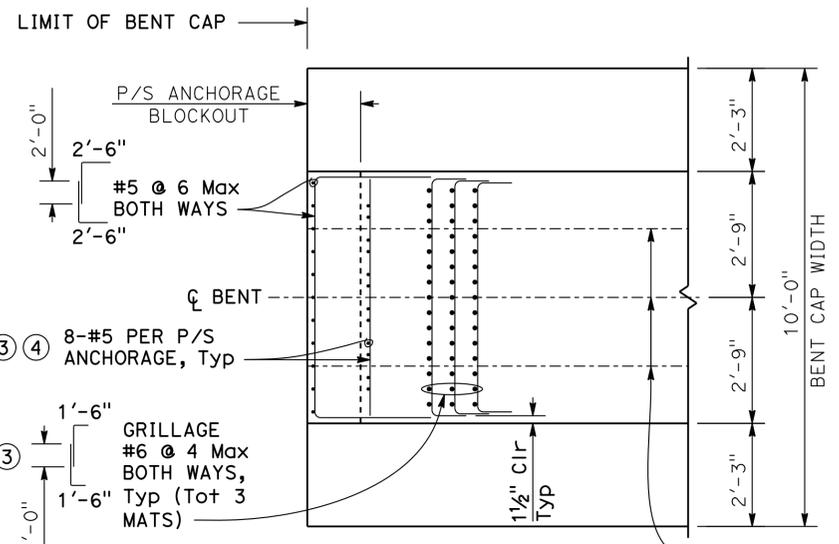
BRIDGE NO.	29-0350
POST MILES	T14.83

**SR4 CROSTOWN VIADUCT**  
**BENT 6 DETAILS No. 2**

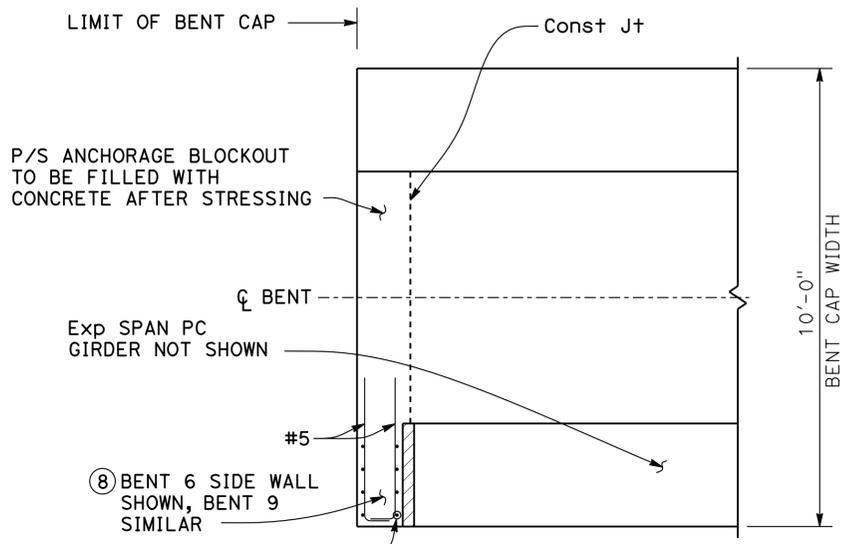
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DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
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REGISTERED CIVIL ENGINEER			DATE	11/27/12	
7-22-13			PLANS APPROVAL DATE	SIEW W. CHEE	
No. C41906			Exp. 03/31/14	CIVIL	
STATE OF CALIFORNIA					
SAN JOAQUIN COUNCIL OF GOVERNMENTS					
555 E. WEBER AVENUE STOCKTON, CA 95202					
T. Y. LIN INTERNATIONAL CONSULTING ENGINEERS, INC.					
TWO HARRISON STREET, SUITE 500 SAN FRANCISCO, CA 94105					

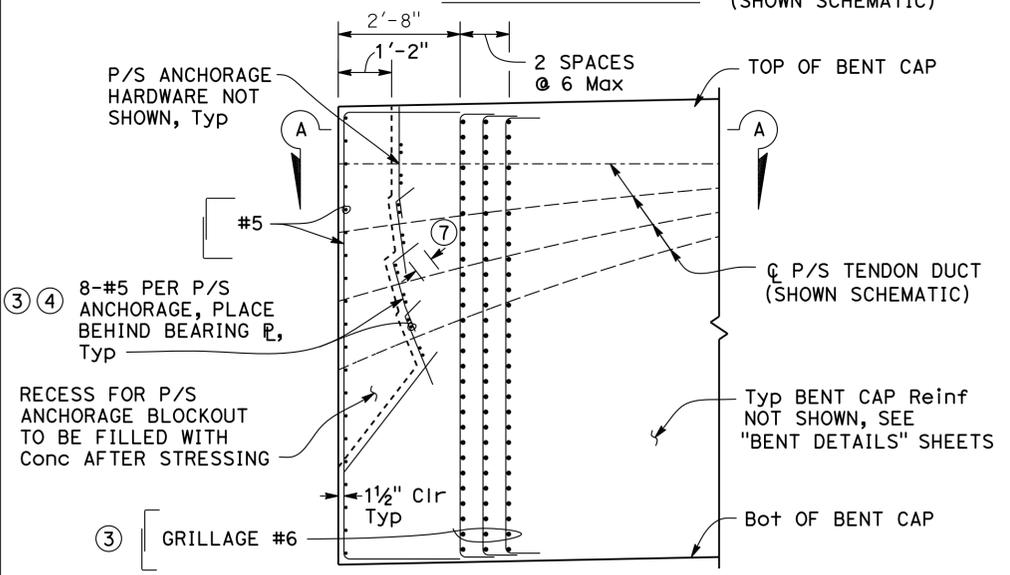
- Polystyrene to be removed after casting end diaphragm concrete
- Vertical polystyrene to be placed prior to casting end diaphragm concrete
- Adjust reinforcement as necessary to clear P/S tendon ducts and hardware
- Place reinforcement 1" clear from P/S anchorage
- See  $\frac{B8-5}{-}$  for details not shown
- 14" X 26" steel reinforced elastomeric Brg pad, Tot elastomer thickness = 4", Typ
- 6" Typ extension measured from reinforcement intersection point
- Side wall concrete to be placed at the same time as pouring back P/S anchorage breakout



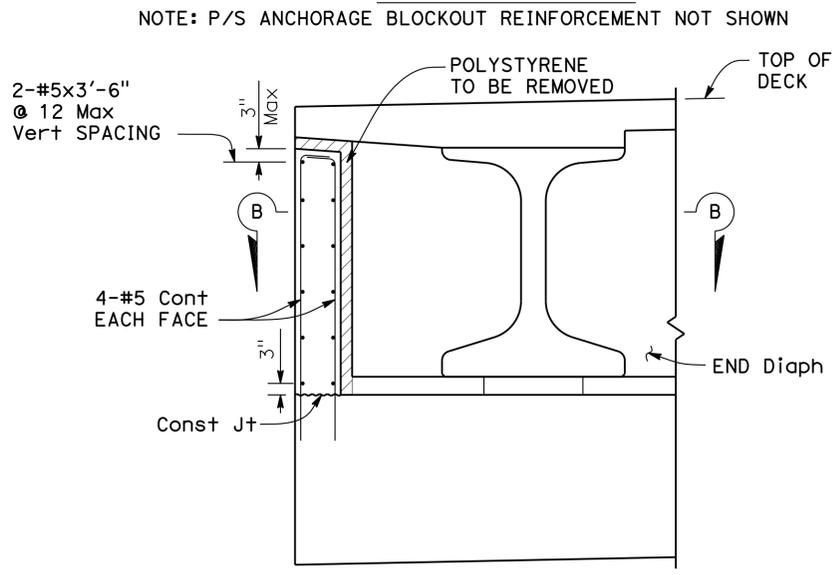
**SECTION A-A**  
P/S TENDON DUCT (SHOWN SCHEMATIC)



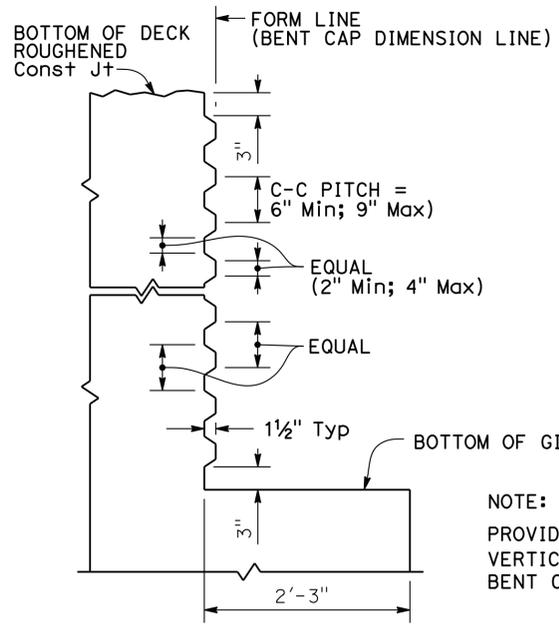
**SECTION B-B**



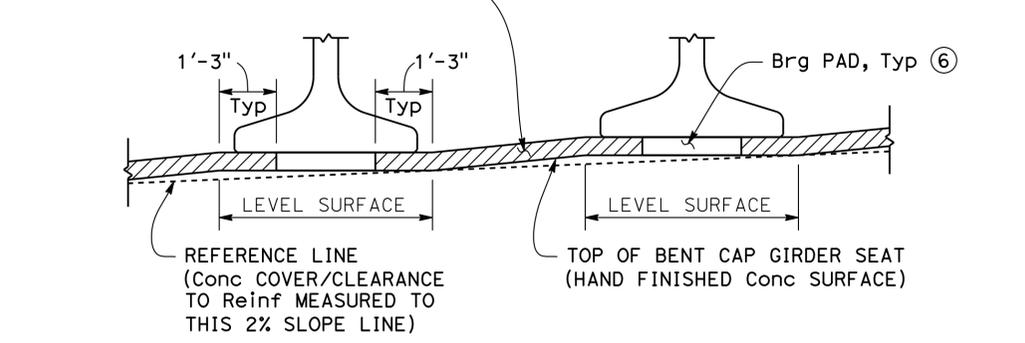
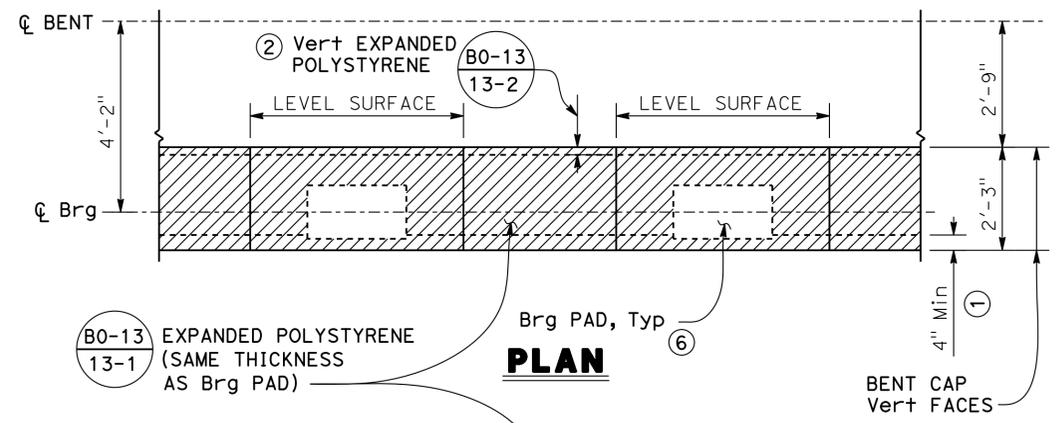
**PART ELEVATION**  
**ADDITIONAL P/S END ANCHORAGE REINFORCEMENT**  
1/2"=1'-0"



**PART ELEVATION**  
**BENT CAP SIDE WALL DETAILS**  
1/2"=1'-0"



**CONSTRUCTION JOINT KEY DETAIL**  
1"=1'-0"



**PART ELEVATION**  
**EXPANSION SPAN ELASTOMERIC BEARING PAD LAYOUT**  
1/2"=1'-0"

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

NOTES:  
1. DETAILS SHOWN FOR BENT 6 SIDE WALL AT NORTH EDGE OF DECK (SIDE WALL AT SOUTH EDGE OF DECK SIMILAR)  
2. SEE "BENT LAYOUT" SHEETS FOR LOCATIONS OF SIDE WALLS ON EXPANSION SPAN (BENTS 6 & 9)

DESIGN OVERSIGHT  
Reza Erfanian  
2/19/12  
SIGN OFF DATE

DESIGN	BY M. LEWIS	CHECKED C. HARRINGTON
DETAILS	BY T. KOONS	CHECKED C. HARRINGTON
QUANTITIES	BY M. LEWIS	CHECKED C. HARRINGTON

PREPARED FOR THE  
STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

S. CHEE  
PROJECT ENGINEER  
BRIDGE NO. 29-0350  
POST MILES T14.83

**SR4 CROSTOWN VIADUCT**  
**BENT 6 DETAILS No. 3**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

UNIT: 1455  
PROJECT NUMBER & PHASE: 10000002291

CONTRACT NO.: 10-0S1101

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET 50	OF 111
8/10/11	6/20/12	3/11/12

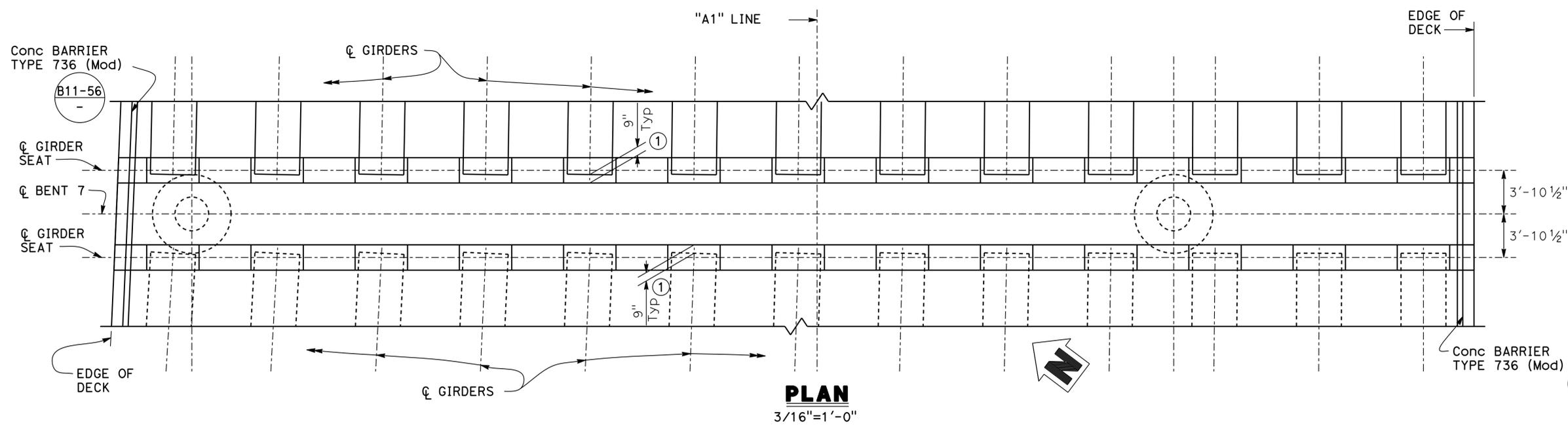
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USERNAME => s123631 DATE PLOTTED => 23-JUL-2013 TIME PLOTTED => 10:50

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	SJ	4,5	Var	391	486

REGISTERED CIVIL ENGINEER DATE 11/27/12  
 SIEW W. CHEE  
 No. C41906  
 Exp. 03/31/14  
 CIVIL  
 STATE OF CALIFORNIA

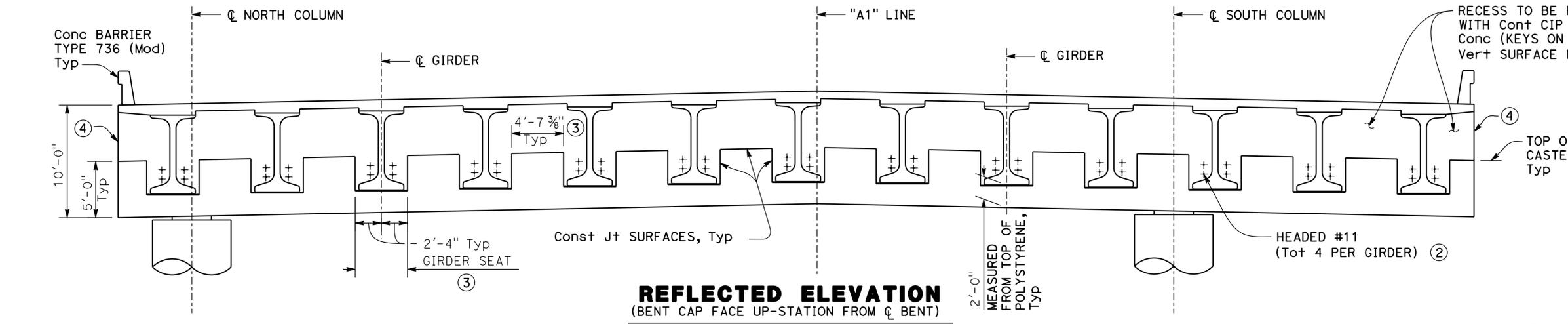
SAN JOAQUIN COUNCIL OF GOVERNMENTS  
 555 E. WEBER AVENUE  
 STOCKTON, CA 95202  
 T. Y. LIN INTERNATIONAL CONSULTING ENGINEERS, INC.  
 TWO HARRISON STREET, SUITE 500  
 SAN FRANCISCO, CA 94105



**PLAN**

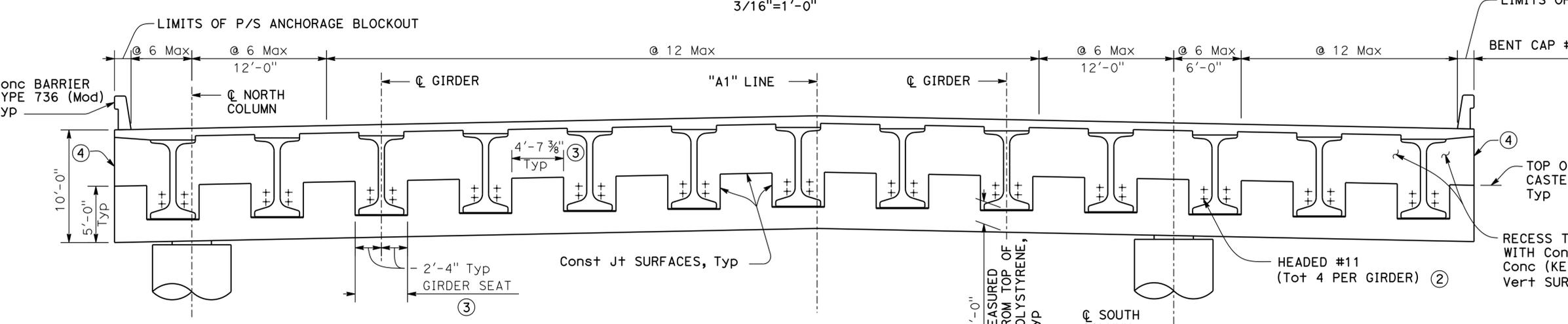
3/16"=1'-0"

- ① Equal end distance on both ends of each girder, Typ
- ② Place headed #11's as close as possible to girder web & bottom flange. Locations may be adjusted as needed and as approved by the Engineer
- ③ Dimensions measured along respective  $\phi$  Girder Seat
- ④ Limits of bent cap (CIP end diaphragm) = Edge of deck



**REFLECTED ELEVATION**  
(BENT CAP FACE UP-STATION FROM  $\phi$  BENT)

3/16"=1'-0"



**ELEVATION**

(BENT CAP FACE DOWN-STATION FROM  $\phi$  BENT)

3/16"=1'-0"

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

DESIGN OVERSIGHT  
 Reza Erfanian  
 X2/19/12  
 SIGN OFF DATE

DESIGN	BY M. LEWIS	CHECKED C. HARRINGTON
DETAILS	BY T. KOONS	CHECKED C. HARRINGTON
QUANTITIES	BY M. LEWIS	CHECKED C. HARRINGTON

PREPARED FOR THE  
 STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

S. CHEE  
 PROJECT ENGINEER

BRIDGE NO.	29-0350
POST MILES	T14.83

**SR4 CROSTOWN VIADUCT**  
**BENT 7 LAYOUT**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



UNIT: 1455  
 PROJECT NUMBER & PHASE: 10000002291

CONTRACT NO.: 10-0S1101

DISREGARD PRINTS BEARING EARLIER REVISION DATES

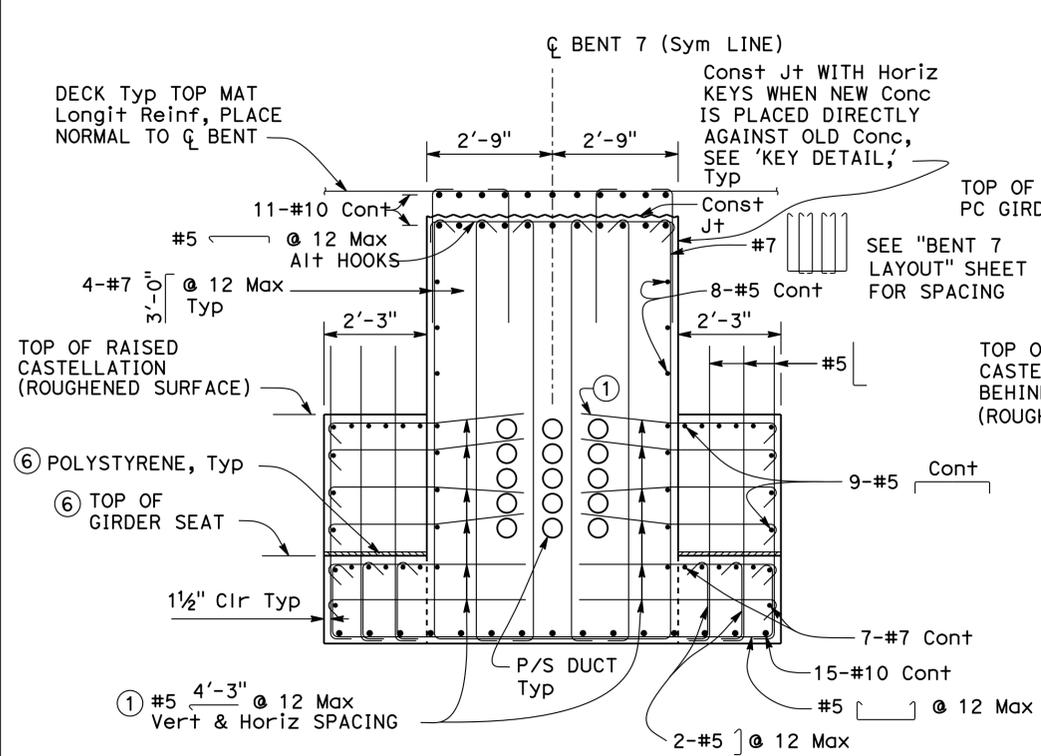
REVISION DATES	SHEET	OF
8/10/11	51	111

USERNAME => s123631 DATE PLOTTED => 23-JUL-2013 TIME PLOTTED => 10:50

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
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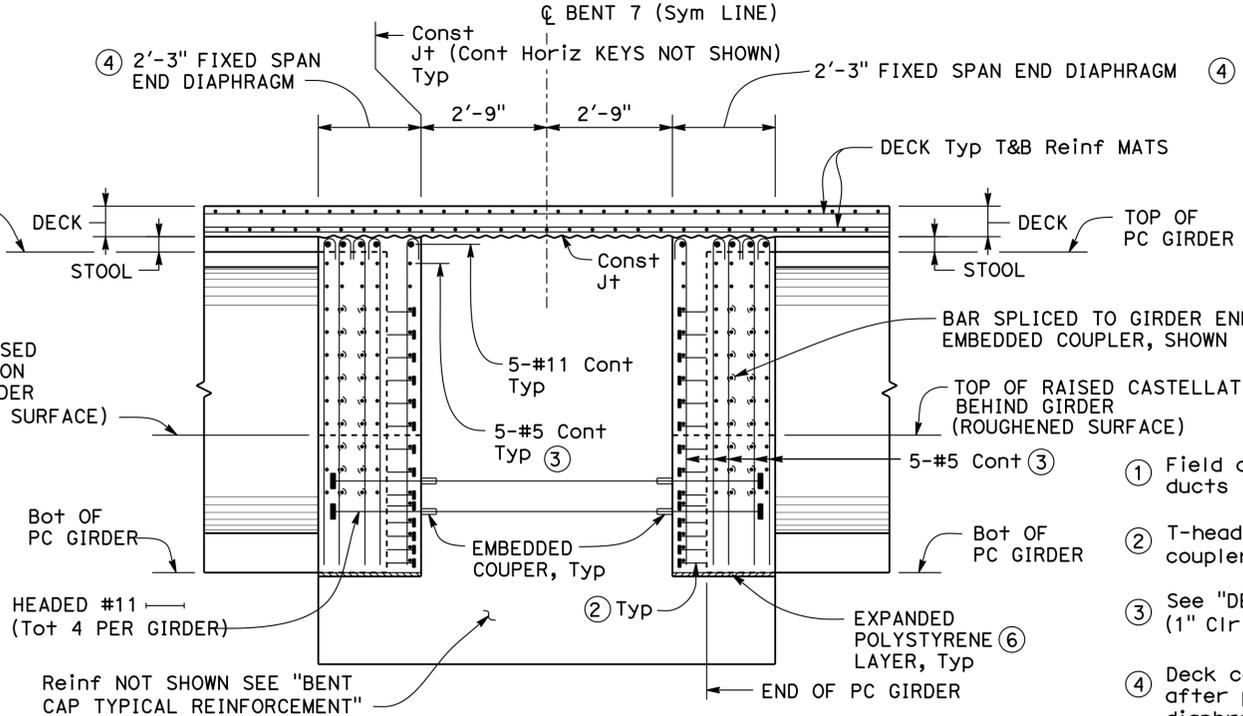
11/27/12  
 REGISTERED CIVIL ENGINEER DATE  
 7-22-13  
 PLANS APPROVAL DATE  
 The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.  
 REGISTERED PROFESSIONAL ENGINEER  
 SIEW W. CHEE  
 No. C41906  
 Exp. 03/31/14  
 CIVIL  
 STATE OF CALIFORNIA

SAN JOAQUIN COUNCIL OF GOVERNMENTS  
 555 E. WEBER AVENUE  
 STOCKTON, CA 95202  
 T. Y. LIN INTERNATIONAL  
 CONSULTING ENGINEERS, INC.  
 TWO HARRISON STREET, SUITE 500  
 SAN FRANCISCO, CA 94105



**BENT CAP TYPICAL REINFORCEMENT**

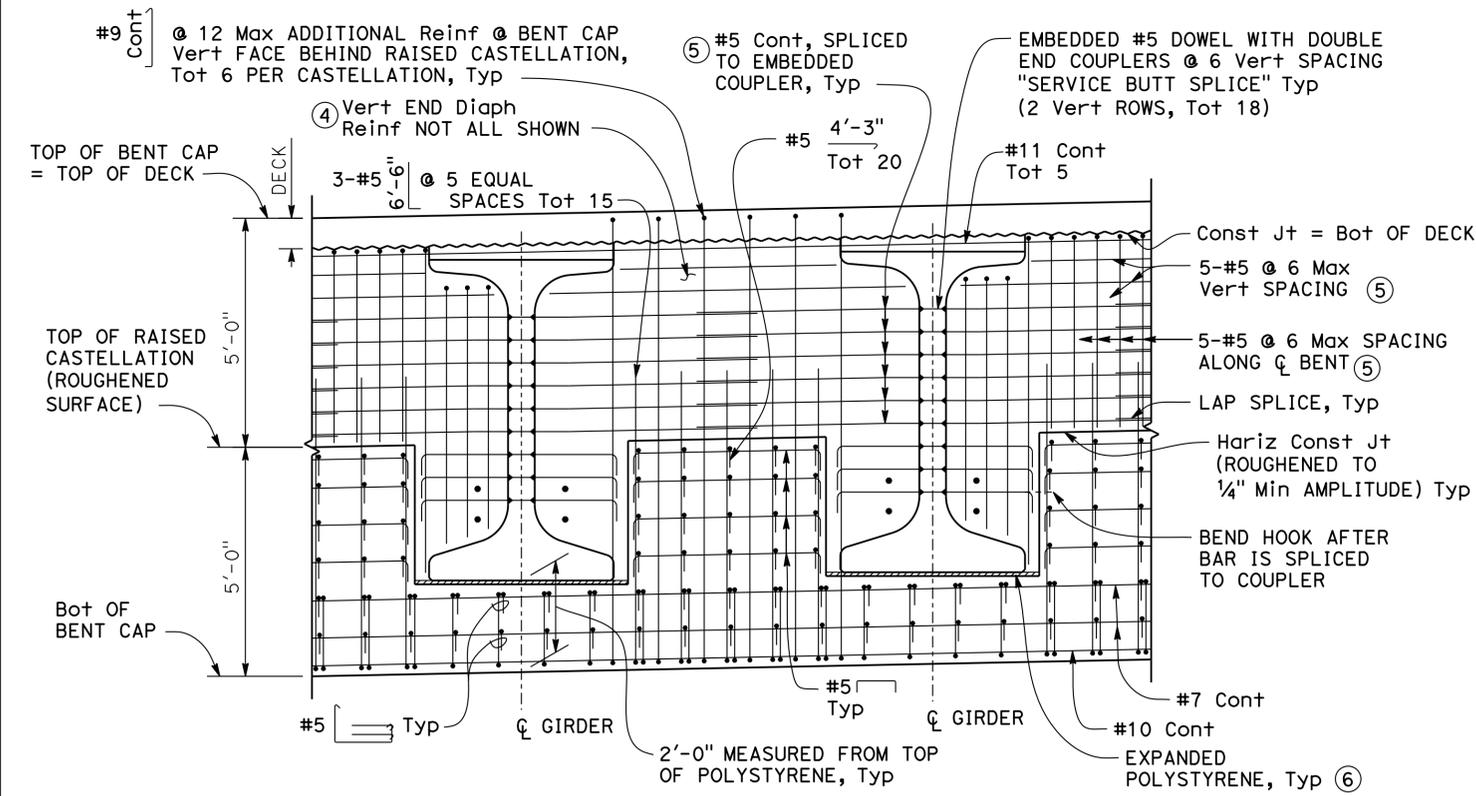
1/2"=1'-0"



**FIXED SPAN END DIAPHRAGM REINFORCEMENT**

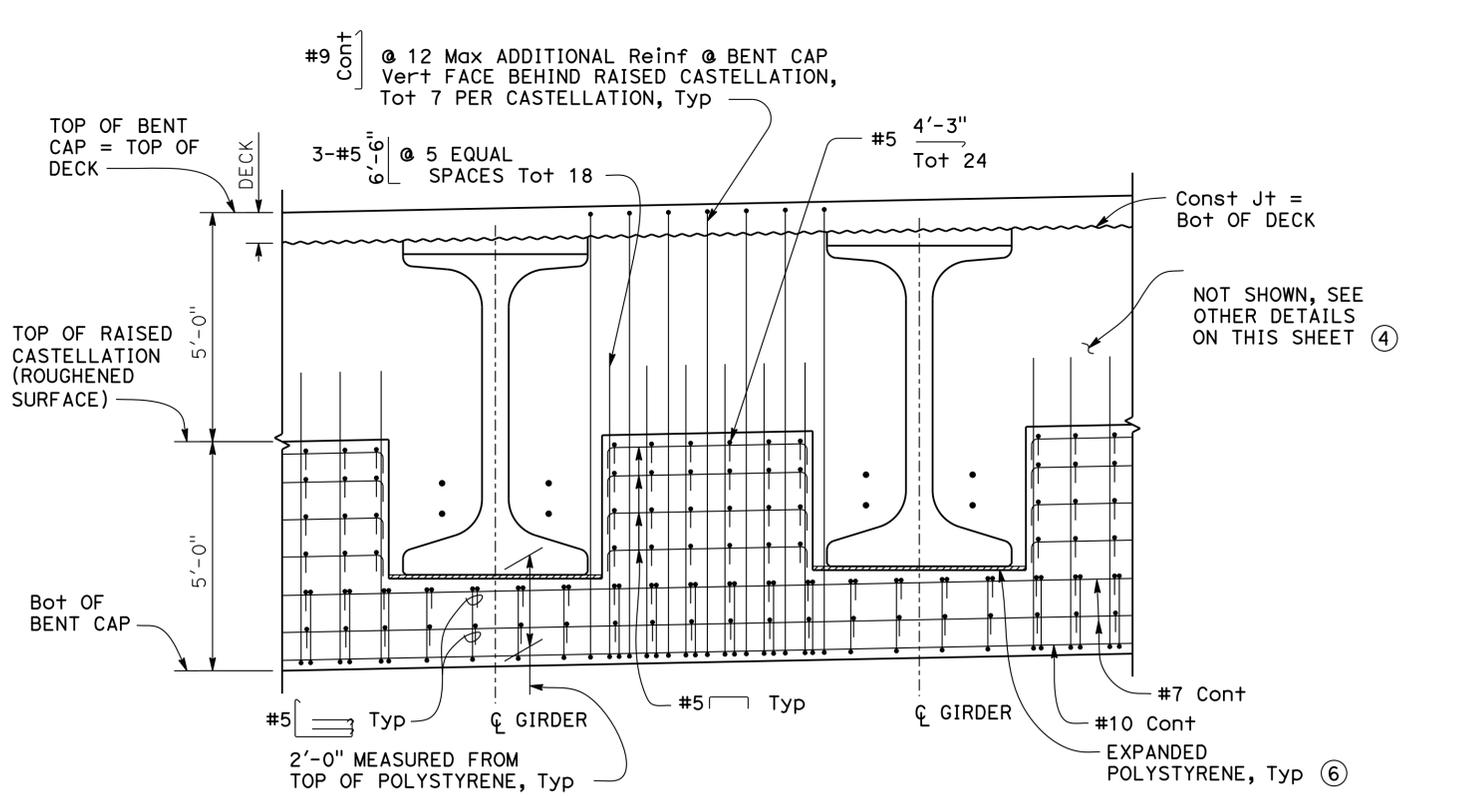
1/2"=1'-0"

- ① Field adjust horizontal ties to clear prestressing ducts if conflict occurs, Typ
- ② T-head dowel spliced to girder end embedded coupler, "service butt splice" Typ
- ③ See "DETAIL 1" for termination of Cont Reinf (1" Cir from hardened face of concrete)
- ④ Deck concrete shall be placed no less than five days after placing end diaphragm concrete and after end diaphragm concrete has gained minimum f'c
- ⑤ Typ end diaphragm Reinf
- ⑥ Place 1" thick polystyrene on entire level girder seat surface prior to erecting girder



**DETAIL 1 (UPSTATION FIXED SPAN)**

1/2"=1'-0"



**DETAIL 2 (DOWNSTATION FIXED SPAN)**

1/2"=1'-0"

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

DESIGN OVERSIGHT  
 Reza Erfanian  
 12/19/12  
 SIGN OFF DATE

DESIGN	BY M. LEWIS	CHECKED C. HARRINGTON
DETAILS	BY T. KOONS	CHECKED C. HARRINGTON
QUANTITIES	BY M. LEWIS	CHECKED C. HARRINGTON

PREPARED FOR THE  
 STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

S. CHEE  
 PROJECT ENGINEER

BRIDGE NO.	29-0350
POST MILES	T14.83

**SR4 CROSTOWN VIADUCT**  
**BENT 7 DETAILS No. 1**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

UNIT: 1455  
 PROJECT NUMBER & PHASE: 10000002291  
 CONTRACT NO.: 10-0S1101

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
8/11/11 10/27/12 3/11/12 11/21/12	52	111

USERNAME => s123631 DATE PLOTTED => 23-JUL-2013 TIME PLOTTED => 10:50

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	SJ	4,5	Var	393	486

REGISTERED CIVIL ENGINEER	11/27/12	DATE
7-22-13		PLANS APPROVAL DATE

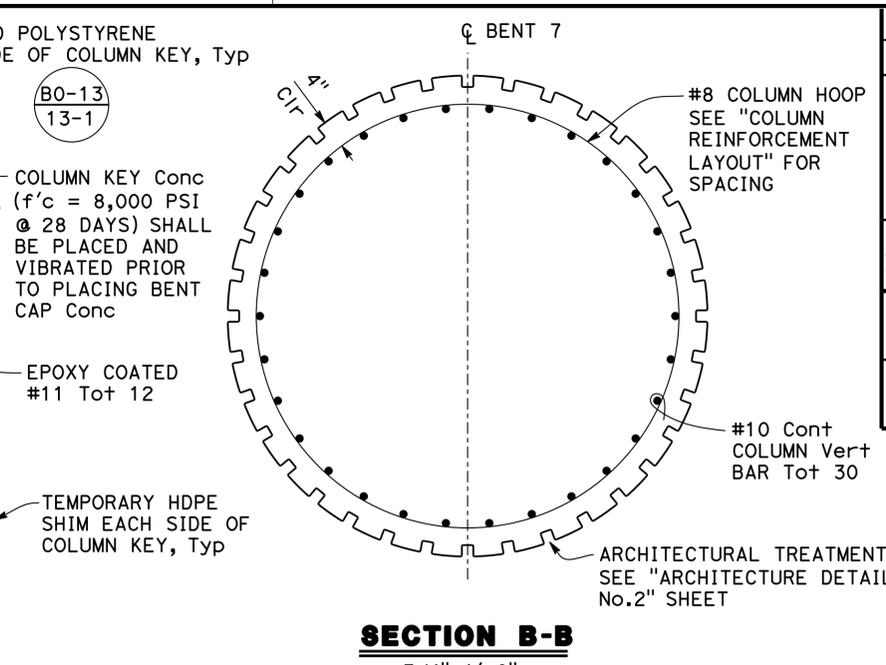
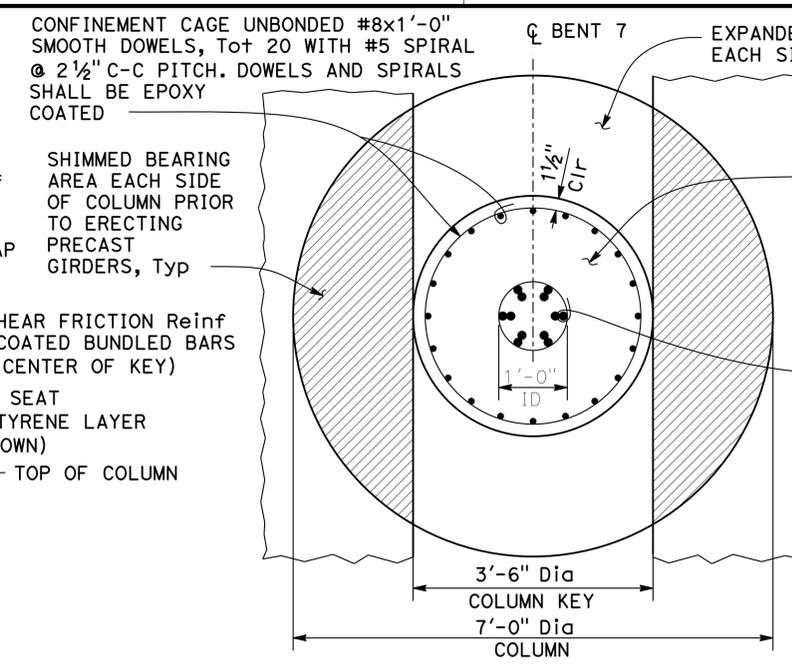
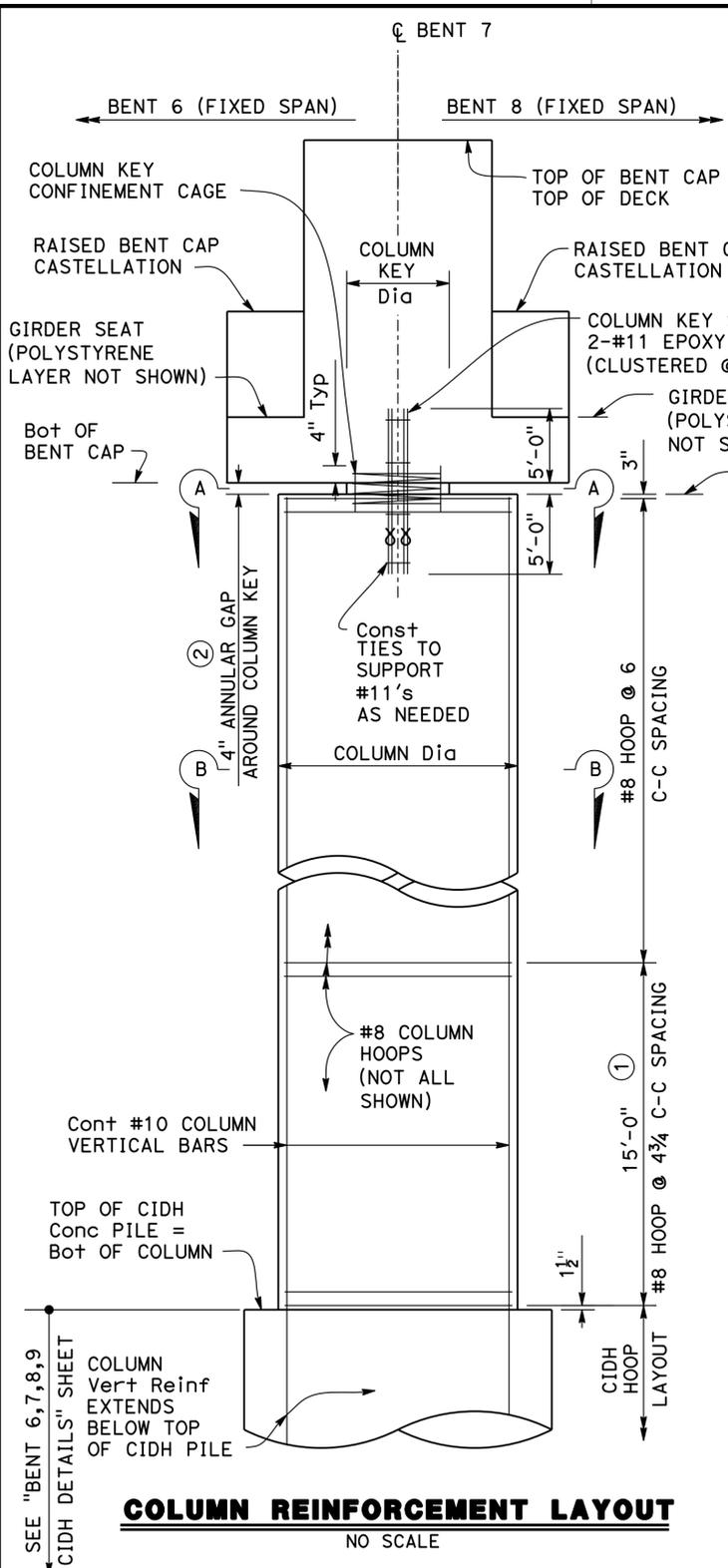
  

REGISTERED PROFESSIONAL ENGINEER	SIEW W. CHEE
No. C41906	Exp. 03/31/14
STATE OF CALIFORNIA	

SAN JOAQUIN COUNCIL OF GOVERNMENTS  
555 E. WEBER AVENUE  
STOCKTON, CA 95202

T. Y. LIN INTERNATIONAL CONSULTING ENGINEERS, INC.  
TWO HARRISON STREET, SUITE 500  
SAN FRANCISCO, CA 94105



**BENT CAP PRESTRESSING NOTES**

270 KSI LOW RELAXATION STRANDS

CONCRETE:  $f'c = 6,000$  PSI @ 28 DAYS  
 $f'ci = 4,500$  PSI @ TIME OF INITIAL STRESSING

$P_{final} = 17,200$  KIPS  
 $P_{initial} = 8,600$  KIPS  
DESIGN BASED ON  $\mu = 0.2$ ,  $K = 0.0000$   
ANCHOR SET =  $3/8$ "

PRESTRESS FORCE SHALL BE DISTRIBUTED SYMMETRICALLY ABOUT  $C_L$  BENT

$P_{initial}$  SHALL BE APPLIED ON BENT CAP PRIOR TO ERECTING PC GIRDERS.  $P_{final}$  SHALL BE APPLIED ON BENT CAP AFTER CONSTRUCTING END DIAPHRAGM, PRIOR TO CASTING DECK CONCRETE

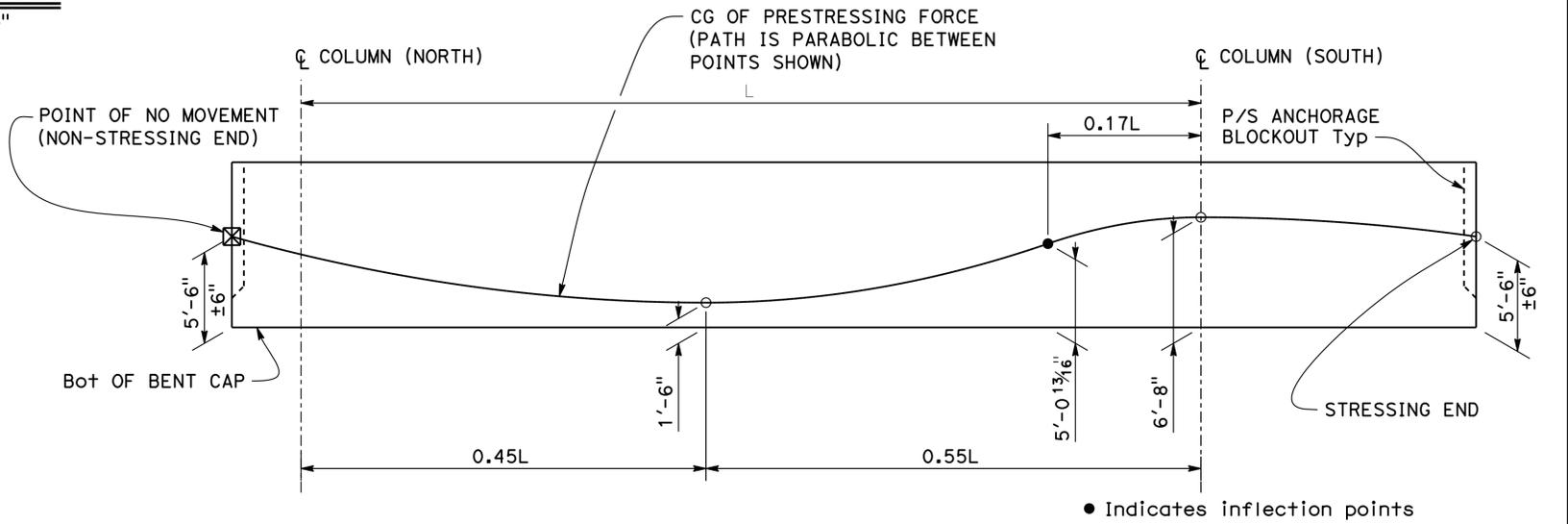
AT NO TIME DURING STRESSING OPERATIONS SHALL MORE THAN ONE TENDON FORCE BE APPLIED ECCENTRICALLY ABOUT  $C_L$  BENT

BAR REINFORCING INTERFERING WITH PRESTRESSING TENDON ALIGNMENT SHALL BE ADJUSTED, AS APPROVED BY THE ENGINEER

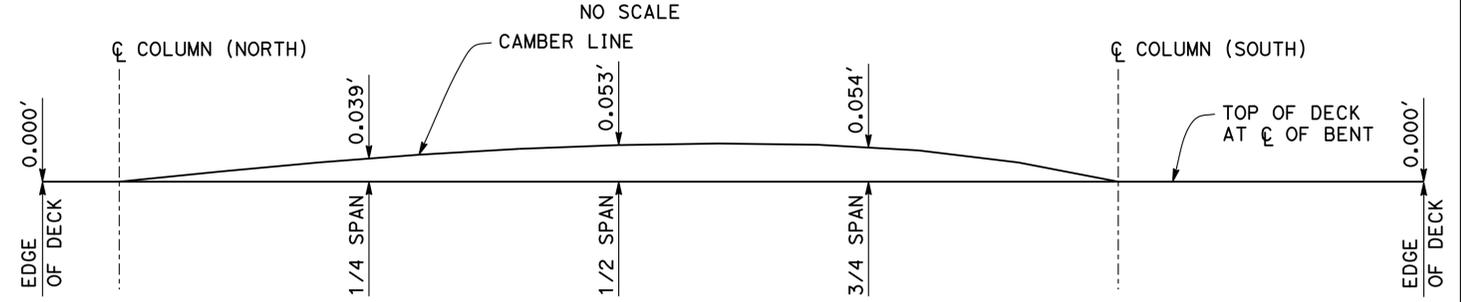
MINIMUM CLEARANCE BETWEEN PRESTRESSING DUCTS SHALL BE  $1 1/2$ "

MINIMUM CONCRETE EDGE DISTANCE FOR P/S BEARING PLATE IS 3"

CONTRACTOR SHALL SUBMIT ELONGATION CALCULATIONS BASED ON INITIAL STRESS AT  $\sigma = 0.816$  TIMES JACKING STRESS



**POST-TENSIONING PROFILE**



**CAMBER DIAGRAM**

- Ø Indicates bundled bars
- ① Vertical bar splice is not permitted within limits shown ("no splice zone"). Outside of "no splice zone", vertical bar splice shall be "ultimate butt splice"
- ② 4" gap created by removing polystyrene/HDPE shims after construction. Rigidly shim gap prior to erecting precast girders, See "SECTION A-A". Remove rigid shims after deck concrete has reached required strength

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

DESIGN OVERSIGHT  
*Reza Erfanian*  
12/19/12  
SIGN OFF DATE

DESIGN	BY M. LEWIS	CHECKED C. HARRINGTON
DETAILS	BY T. KOONS	CHECKED C. HARRINGTON
QUANTITIES	BY M. LEWIS	CHECKED C. HARRINGTON

PREPARED FOR THE  
**STATE OF CALIFORNIA**  
DEPARTMENT OF TRANSPORTATION

P. SHINN  
PROJECT ENGINEER

BRIDGE NO.	29-0350
POST MILES	T14.83

**SR4 CROSSTOWN VIADUCT**  
**BENT 7 DETAILS No. 2**

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	SJ	4,5	Var	394	486

REGISTERED CIVIL ENGINEER DATE 11/27/12  
 SIEW W. CHEE  
 No. C41906  
 Exp. 03/31/14  
 CIVIL  
 STATE OF CALIFORNIA

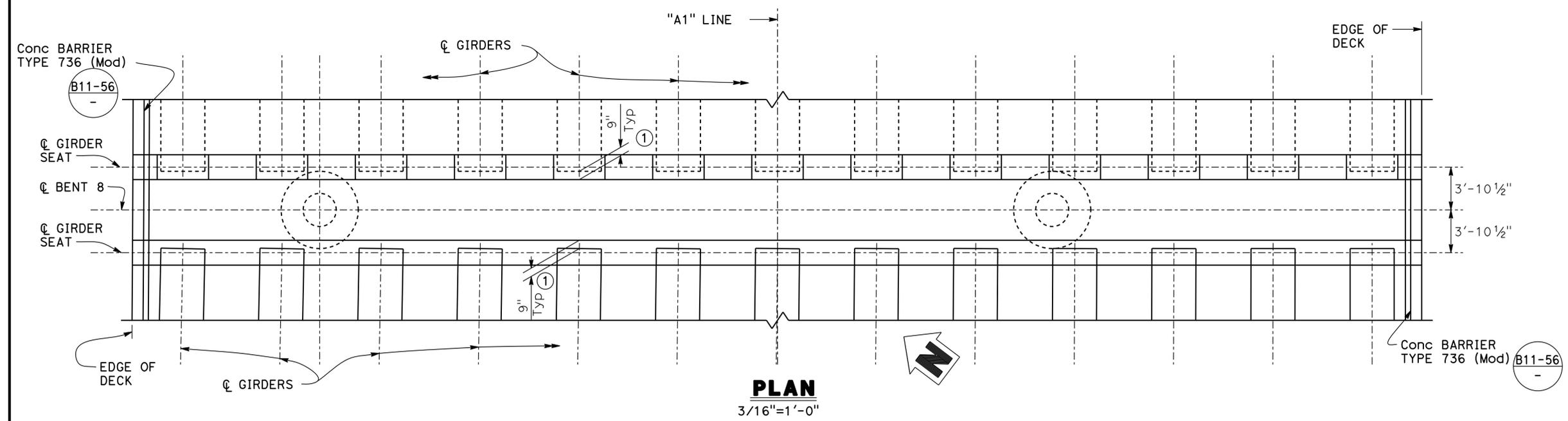
7-22-13  
 PLANS APPROVAL DATE

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

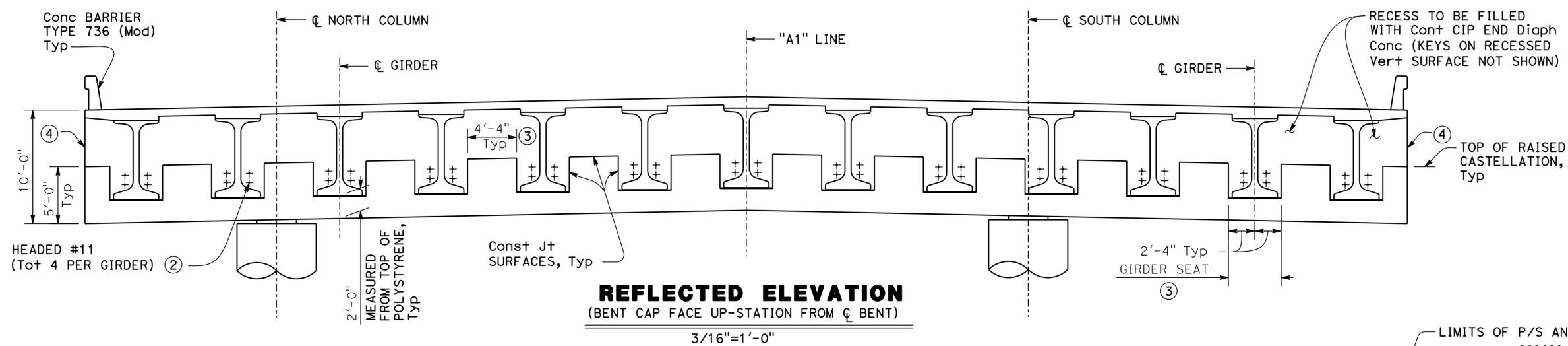
SAN JOAQUIN COUNCIL OF GOVERNMENTS  
 555 E. WEBER AVENUE  
 STOCKTON, CA 95202

T. Y. LIN INTERNATIONAL CONSULTING ENGINEERS, INC.  
 TWO HARRISON STREET, SUITE 500  
 SAN FRANCISCO, CA 94105

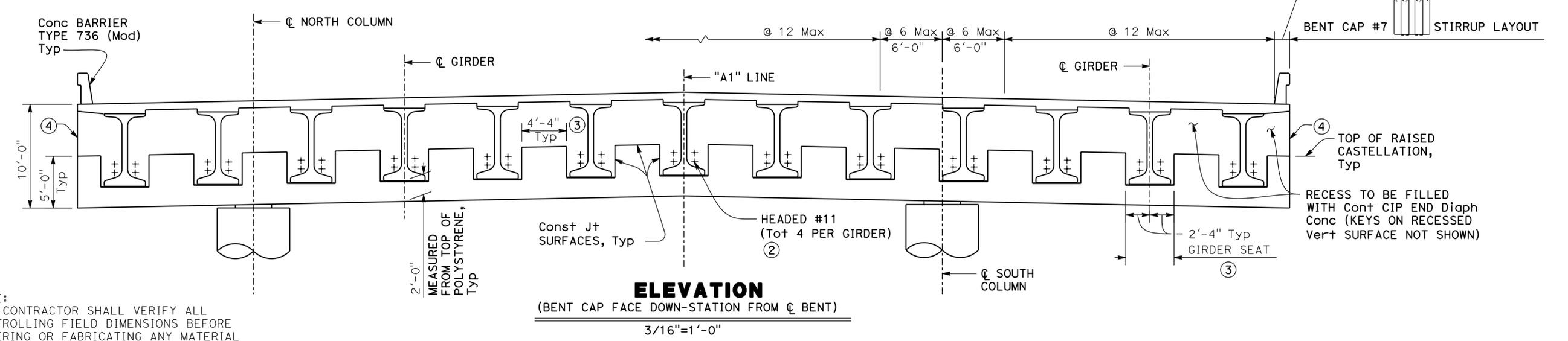
- Equal end distance on both ends of each girder, Typ
- Place headed #11's as close as possible to girder web & bottom flange. Locations may be adjusted as needed and as approved by the Engineer
- Dimensions measured along respective  $\phi$  Girder Seat
- Limits of bent cap (CIP end diaphragm) = Edge of deck



**PLAN**  
 3/16"=1'-0"



**REFLECTED ELEVATION**  
 (BENT CAP FACE UP-STATION FROM  $\phi$  BENT)  
 3/16"=1'-0"



**ELEVATION**  
 (BENT CAP FACE DOWN-STATION FROM  $\phi$  BENT)  
 3/16"=1'-0"

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

DESIGN OVERSIGHT  
 Reza Erfanian  
 12/19/12  
 SIGN OFF DATE

DESIGN	BY M. LEWIS	CHECKED C. HARRINGTON
DETAILS	BY T. KOONS	CHECKED C. HARRINGTON
QUANTITIES	BY M. LEWIS	CHECKED C. HARRINGTON

PREPARED FOR THE  
**STATE OF CALIFORNIA**  
 DEPARTMENT OF TRANSPORTATION

S. CHEE  
 PROJECT ENGINEER

BRIDGE NO.	29-0350
POST MILES	T14.83

**SR4 CROSTOWN VIADUCT**  
**BENT 8 LAYOUT**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



UNIT: 1455  
 PROJECT NUMBER & PHASE: 10000002291  
 CONTRACT NO.: 10-0S1101

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
8/10/11 6/20/12 3/21/12 11/27/12	54	111

USERNAME => s123631 DATE PLOTTED => 23-JUL-2013 TIME PLOTTED => 10:50



DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	SJ	4,5	Var	396	486

REGISTERED CIVIL ENGINEER	11/27/12	DATE
7-22-13	PLANS APPROVAL DATE	

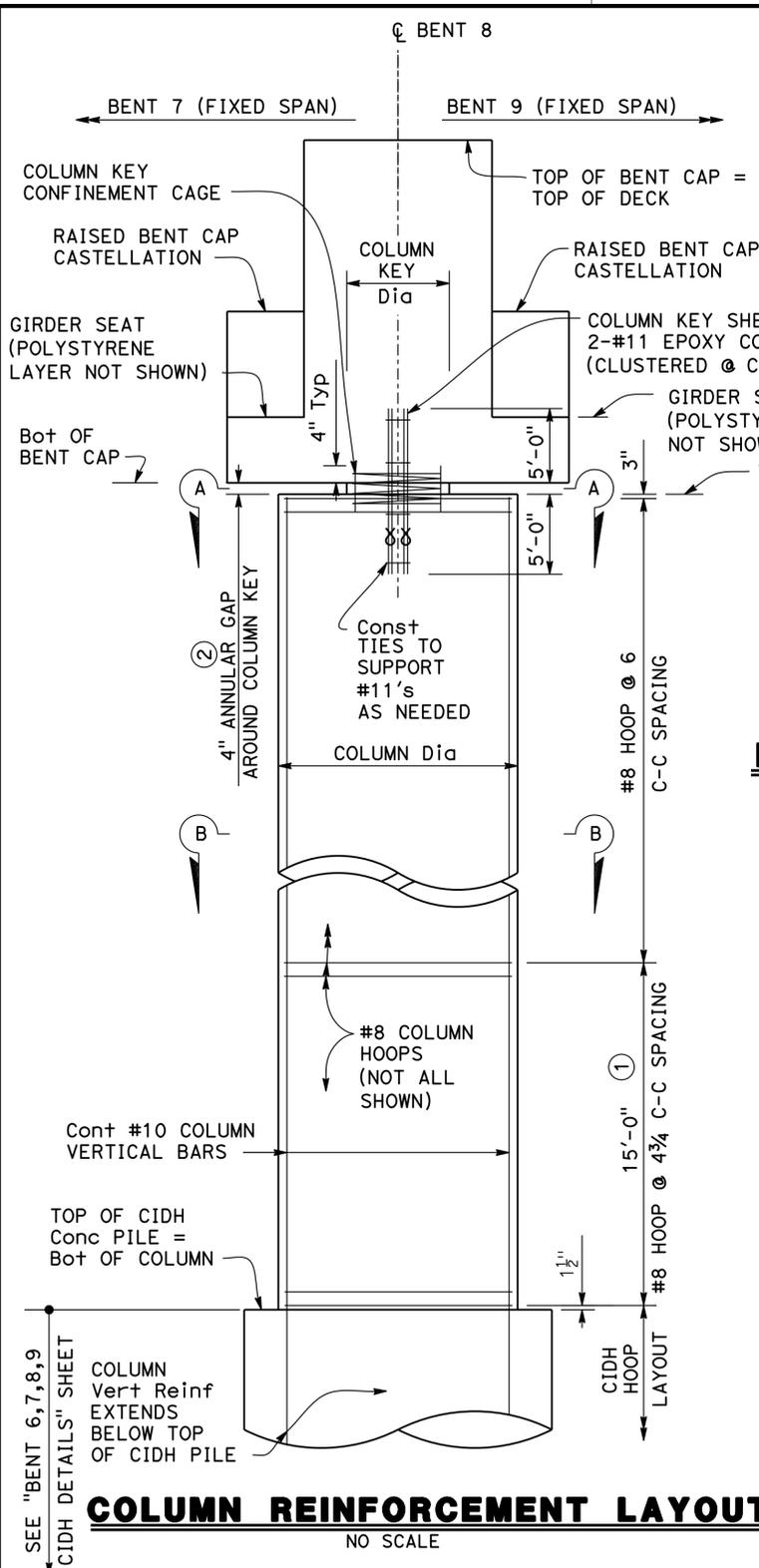
  

REGISTERED PROFESSIONAL ENGINEER  
SIEW W. CHEE  
No. C41906  
Exp. 03/31/14  
CIVIL  
STATE OF CALIFORNIA

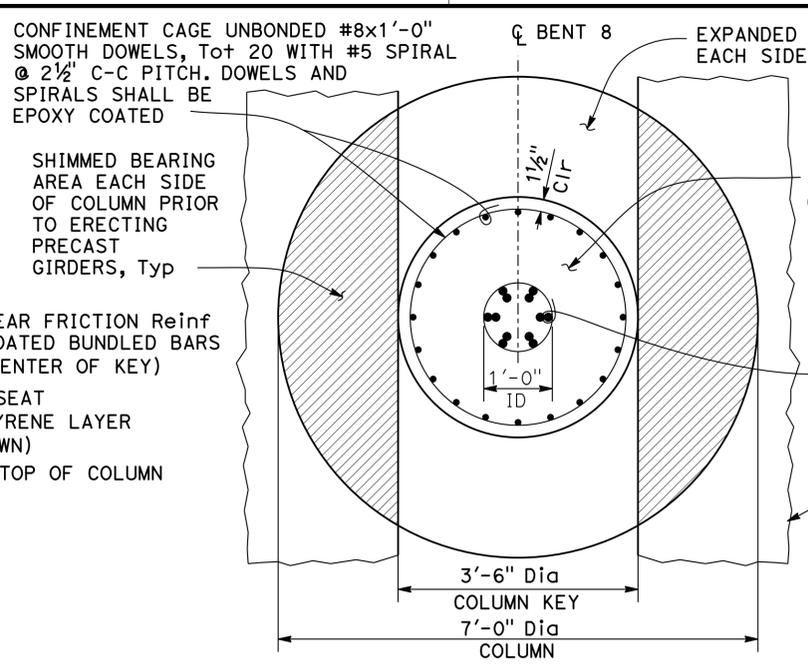
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

SAN JOAQUIN COUNCIL OF GOVERNMENTS  
555 E. WEBER AVENUE  
STOCKTON, CA 95202

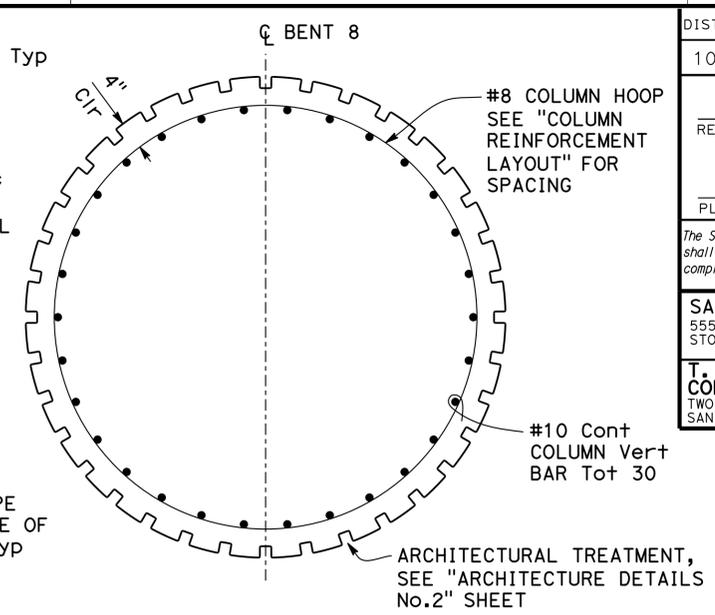
T. Y. LIN INTERNATIONAL CONSULTING ENGINEERS, INC.  
TWO HARRISON STREET, SUITE 500  
SAN FRANCISCO, CA 94105



**COLUMN REINFORCEMENT LAYOUT**  
NO SCALE



**SECTION A-A**  
3/4"=1'-0"



**SECTION B-B**  
3/4"=1'-0"

**BENT CAP PRESTRESSING NOTES**

270 KSI LOW RELAXATION STRANDS  
 CONCRETE:  $f'c = 6,000$  PSI @ 28 DAYS  
 $f'ci = 4,500$  PSI @ TIME OF INITIAL STRESSING

$P_{final} = 17,700$  KIPS  
 $P_{initial} = 8,900$  KIPS  
 DESIGN BASED ON  $\mu = 0.2$ ,  $K = 0.0000$   
 ANCHOR SET =  $3/8$ "

PRESTRESS FORCE SHALL BE DISTRIBUTED SYMMETRICALLY ABOUT  $C_L$  BENT

$P_{initial}$  SHALL BE APPLIED ON BENT CAP PRIOR TO ERECTING PC GIRDERS.  $P_{final}$  SHALL BE APPLIED ON BENT CAP AFTER CONSTRUCTING END DIAPHRAGM, PRIOR TO CASTING DECK CONCRETE

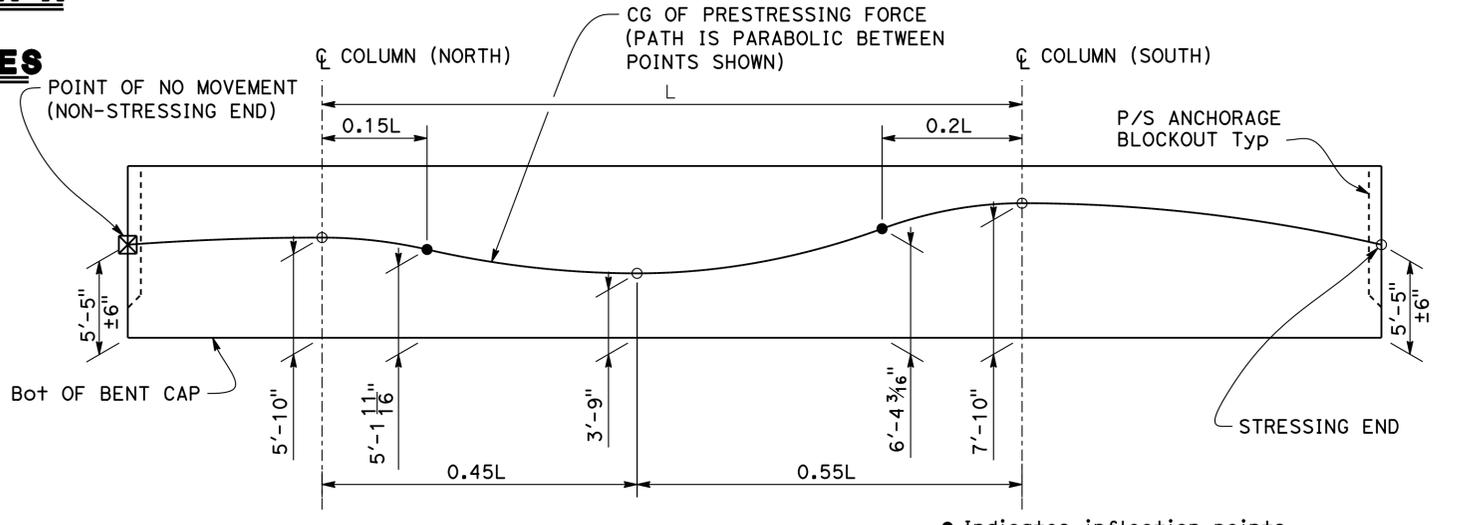
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BAR REINFORCING INTERFERING WITH PRESTRESSING TENDON ALIGNMENT SHALL BE ADJUSTED, AS APPROVED BY THE ENGINEER

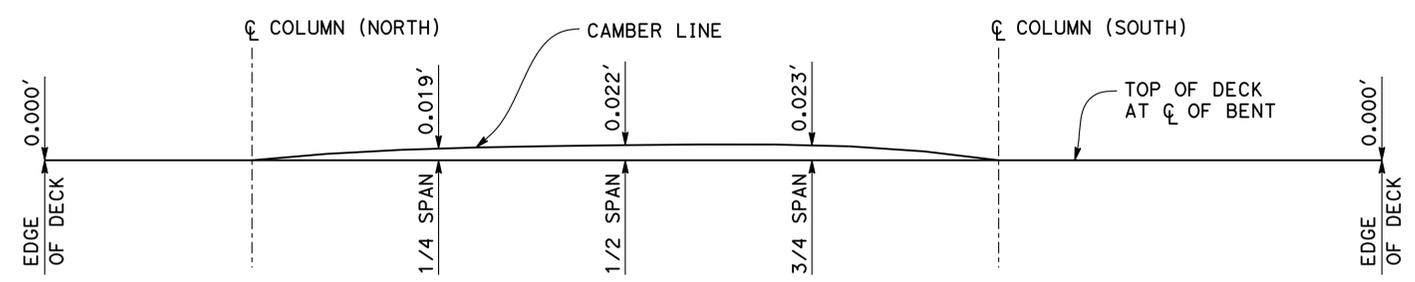
MINIMUM CLEARANCE BETWEEN PRESTRESSING DUCTS SHALL BE  $1 1/2$ "

MINIMUM CONCRETE EDGE DISTANCE FOR P/S BEARING PLATE IS 3"

CONTRACTOR SHALL SUBMIT ELONGATION CALCULATIONS BASED ON INITIAL STRESS AT  $\sigma = 0.840$  TIMES JACKING STRESS



**POST-TENSIONING PROFILE**  
NO SCALE



**CAMBER DIAGRAM**  
NO SCALE

- ⊗ Indicates bundled bars
- ① Vertical bar splice is not permitted within limits shown ("no splice zone"). Outside of "no splice zone", vertical bar splice shall be "ultimate butt splice"
- ② 4" gap created by removing polystyrene/HDPE shims after construction. Rigidly shim gap prior to erecting precast girders, See "SECTION A-A". Remove rigid shims after deck concrete has reached required strength

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

DESIGN OVERSIGHT  
Reza Erfanian  
12/19/12  
SIGN OFF DATE

DESIGN	BY M. LEWIS	CHECKED C. HARRINGTON
DETAILS	BY T. KOONS	CHECKED C. HARRINGTON
QUANTITIES	BY M. LEWIS	CHECKED C. HARRINGTON

PREPARED FOR THE  
STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

S. CHEE  
PROJECT ENGINEER

BRIDGE NO.	29-0350
POST MILES	T14.83

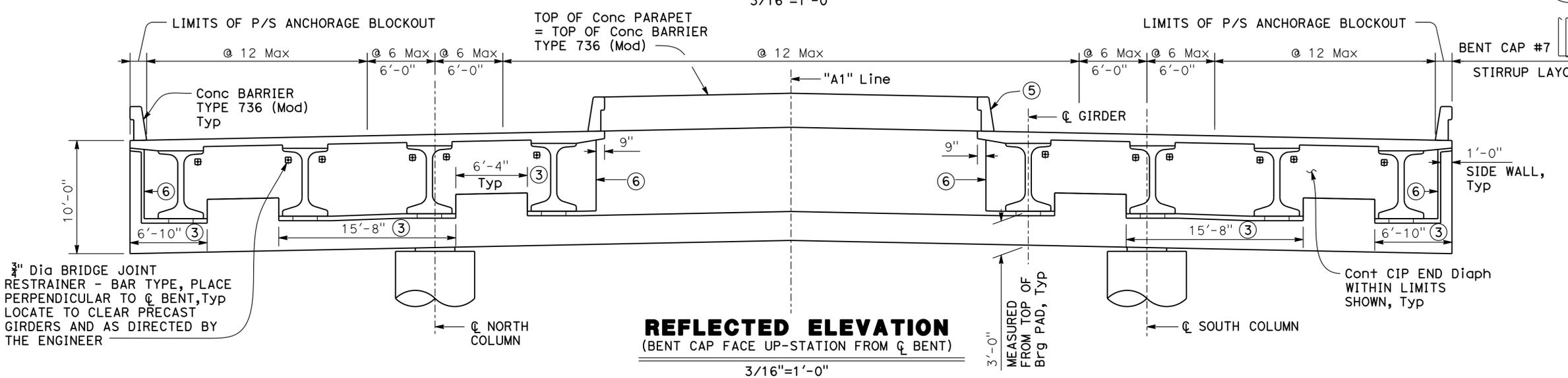
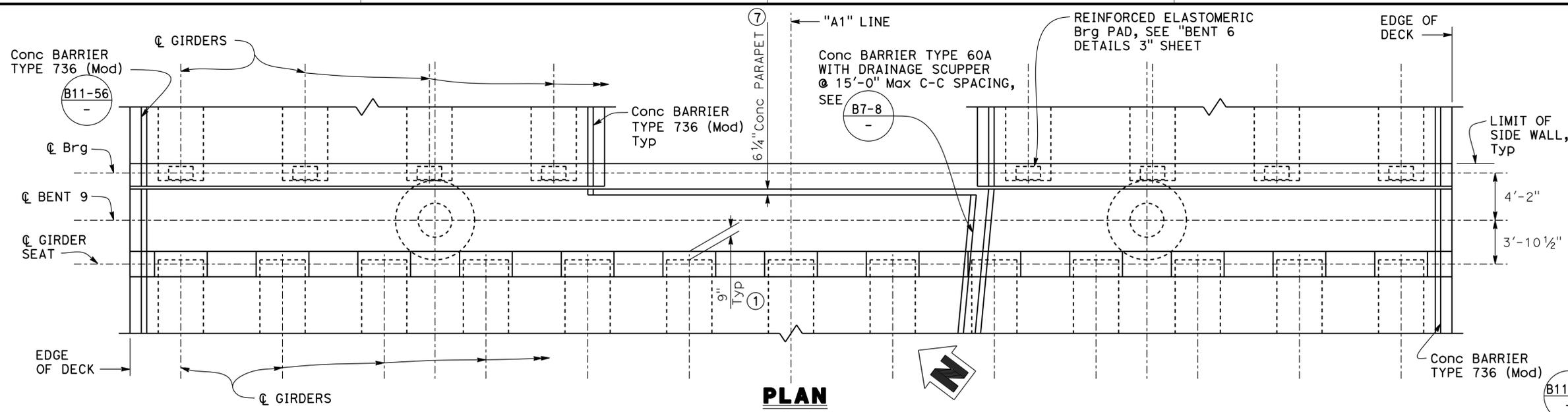
**SR4 CROSTOWN VIADUCT**  
**BENT 8 DETAILS No. 2**

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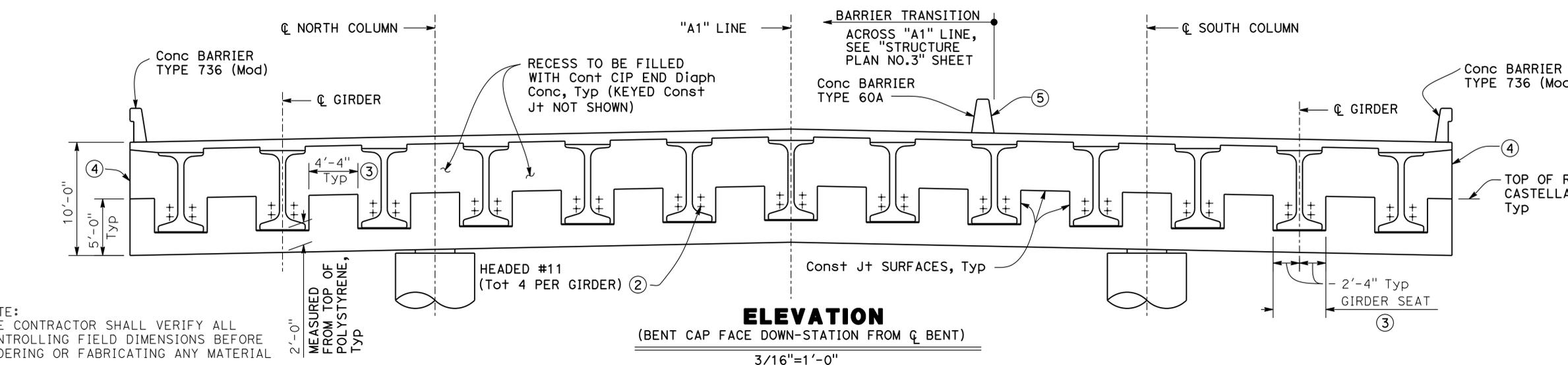
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REGISTERED CIVIL ENGINEER DATE 11/27/12  
 PLANS APPROVAL DATE 7-22-13  
 SIEW W. CHEE  
 No. C41906  
 Exp. 03/31/14  
 CIVIL  
 STATE OF CALIFORNIA

SAN JOAQUIN COUNCIL OF GOVERNMENTS  
 555 E. WEBER AVENUE  
 STOCKTON, CA 95202  
 T. Y. LIN INTERNATIONAL  
 CONSULTING ENGINEERS, INC.  
 TWO HARRISON STREET, SUITE 500  
 SAN FRANCISCO, CA 94105



- 1 Equal end distance on both ends of each girder, Typ
- 2 Place headed #11's as close as possible to girder web & bottom flange. Locations may be adjusted as needed and as approved by the Engineer
- 3 Dimensions measured along respective CL Brg/CL Girder Seat
- 4 Limits of bent cap (CIP end diaphragm) = Edge of deck
- 5 Traffic face of Conc barrier types 60A & 736 to match
- 6 Limits of CIP end diaphragm at expansion span
- 7 Conc parapet reinforcement similar to concrete barrier type 60A



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PREPARED FOR THE  
 STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

S. CHEE  
 PROJECT ENGINEER

BRIDGE NO.	29-0350
POST MILES	T14.83

**SR4 CROSTOWN VIADUCT  
 BENT 9 LAYOUT**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



UNIT: 1455  
 PROJECT NUMBER & PHASE: 10000002291  
 CONTRACT NO.: 10-0S1101

CONTRACT NO.: 10-0S1101

REVISION DATES	SHEET 57 OF 111
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USERNAME => s123631 DATE PLOTTED => 23-JUL-2013 TIME PLOTTED => 10:51

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
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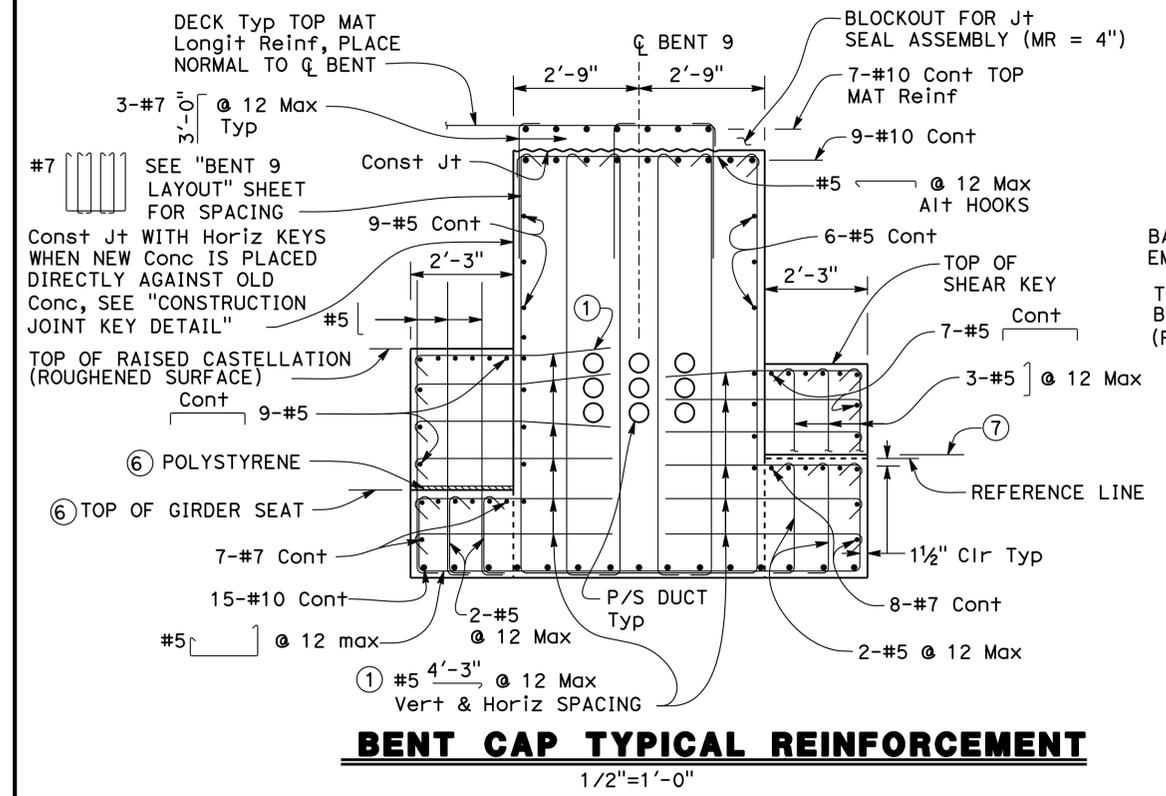
  

REGISTERED CIVIL ENGINEER	11/27/12	
PLANS APPROVAL DATE	7-22-13	
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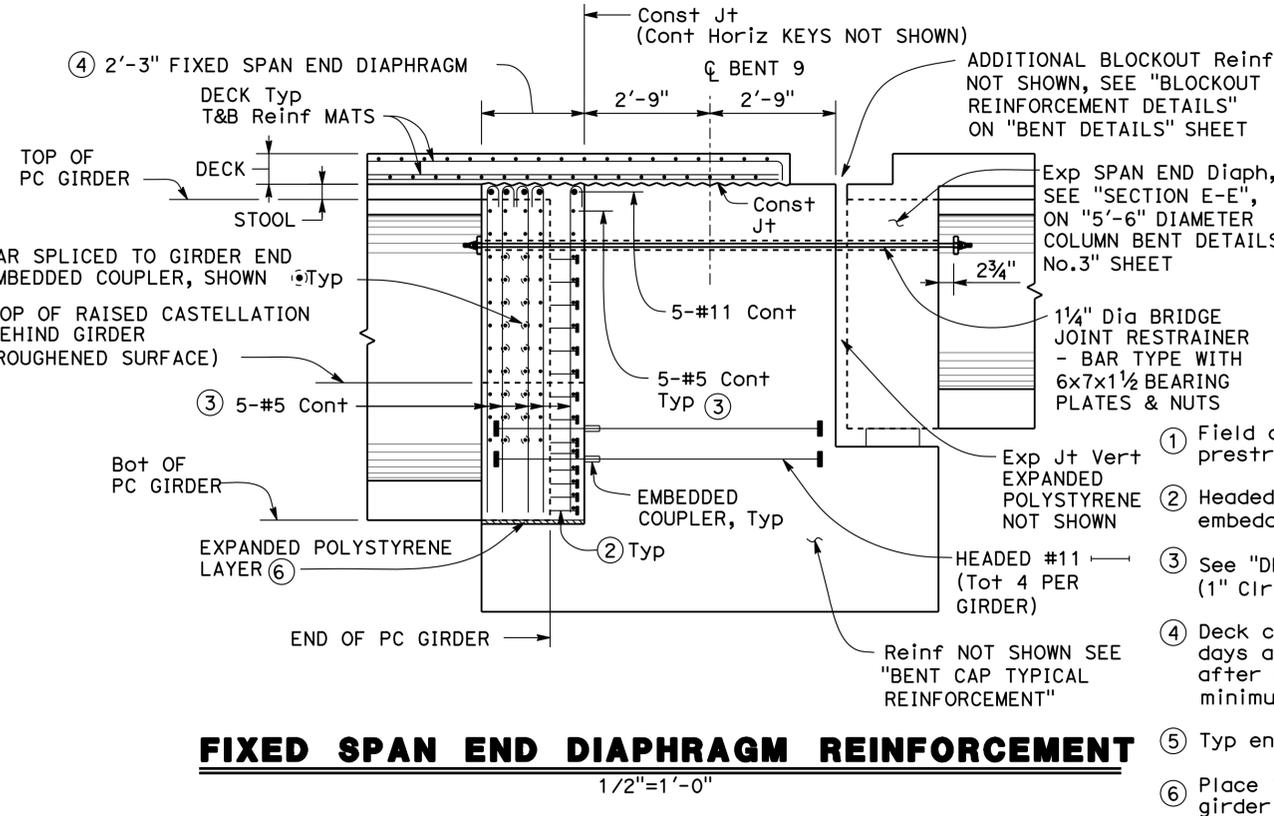
SAN JOAQUIN COUNCIL OF GOVERNMENTS  
 555 E. WEBER AVENUE  
 STOCKTON, CA 95202

T. Y. LIN INTERNATIONAL CONSULTING ENGINEERS, INC.  
 TWO HARRISON STREET, SUITE 500  
 SAN FRANCISCO, CA 94105



**BENT CAP TYPICAL REINFORCEMENT**

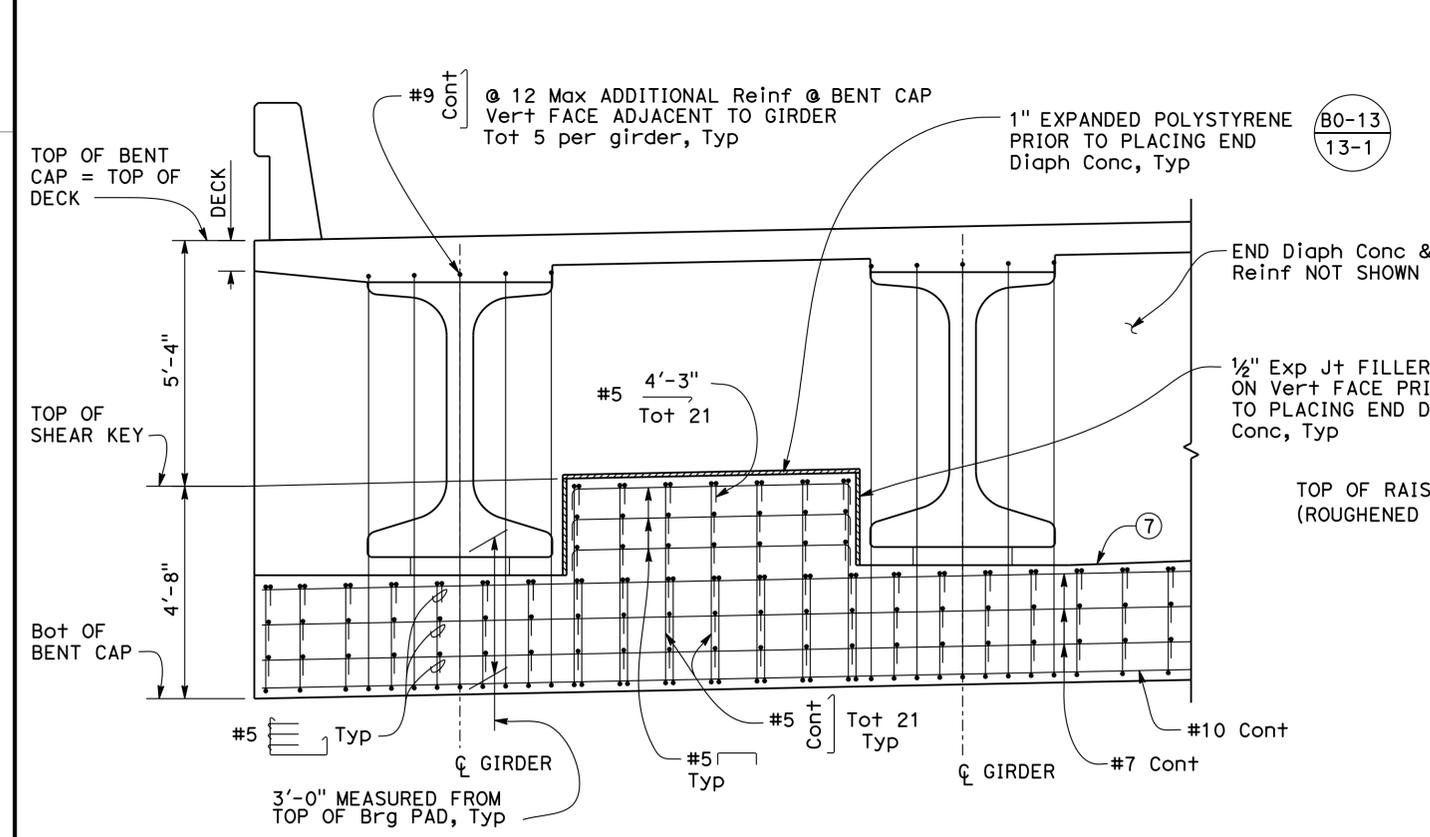
1/2"=1'-0"



**FIXED SPAN END DIAPHRAGM REINFORCEMENT**

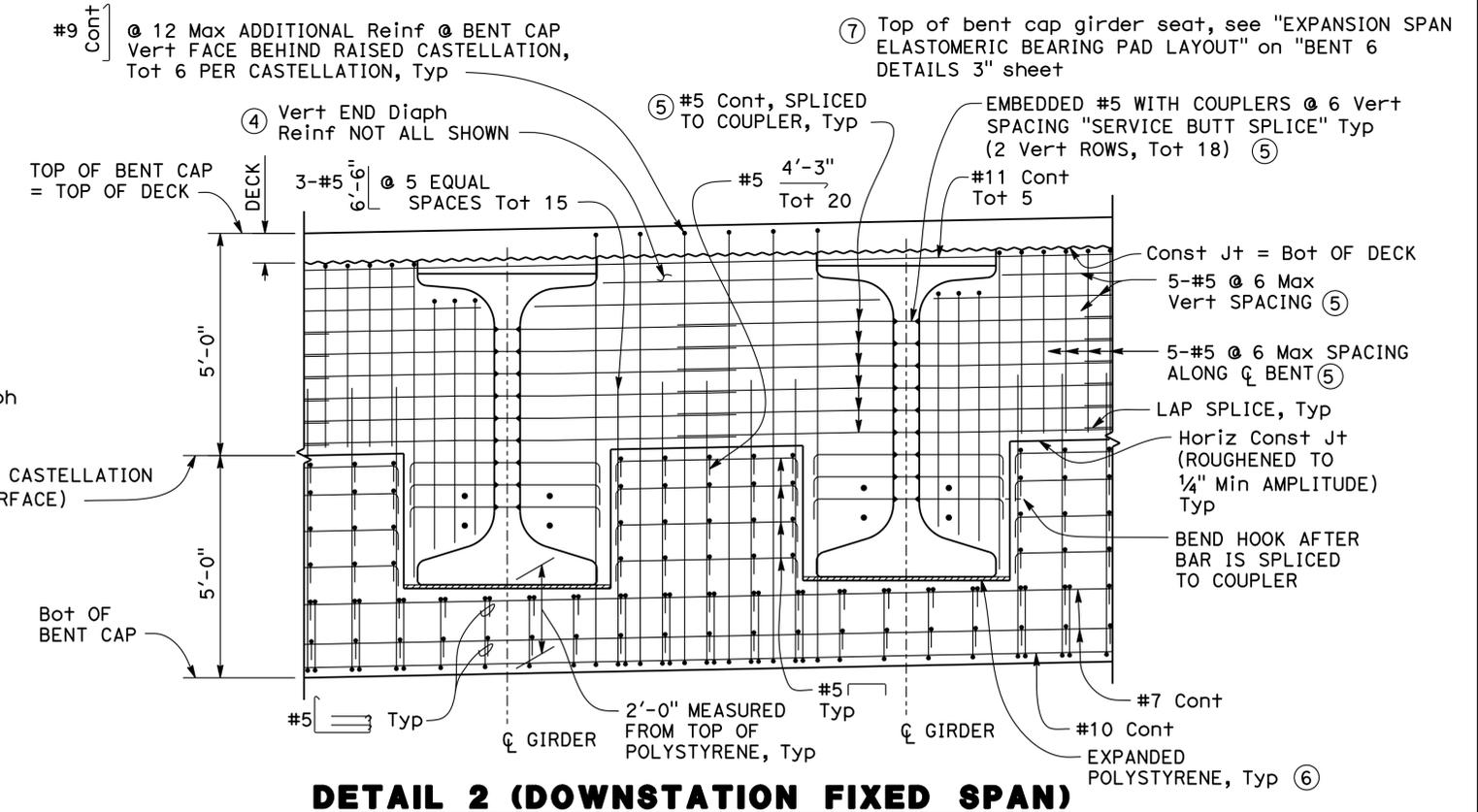
1/2"=1'-0"

- 1 Field adjust horizontal ties to clear prestressing ducts if conflict occurs, Typ
- 2 Headed bar reinforcement spliced to girder end embedded coupler, "service butt splice" Typ
- 3 See "DETAIL 2" for termination of Cont Reinf (1" Cir from hardened face of concrete)
- 4 Deck concrete shall be placed no less than five days after placing end diaphragm concrete and after end diaphragm concrete has gained minimum f'c
- 5 Typ end diaphragm Reinf
- 6 Place 1" thick polystyrene on entire level girder seat surface prior to erecting girder
- 7 Top of bent cap girder seat, see "EXPANSION SPAN ELASTOMERIC BEARING PAD LAYOUT" on "BENT 6 DETAILS 3" sheet



**DETAIL 1 (UPSTATION EXPANSION SPAN)**

1/2"=1'-0"



**DETAIL 2 (DOWNSTATION FIXED SPAN)**

1/2"=1'-0"

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 BRIDGE NO. 29-0350  
 POST MILES T14.83

**SR4 CROSSTOWN VIADUCT**  
**BENT 9 DETAILS No. 1**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

UNIT: PROJECT NUMBER & PHASE: 1455 10000002291

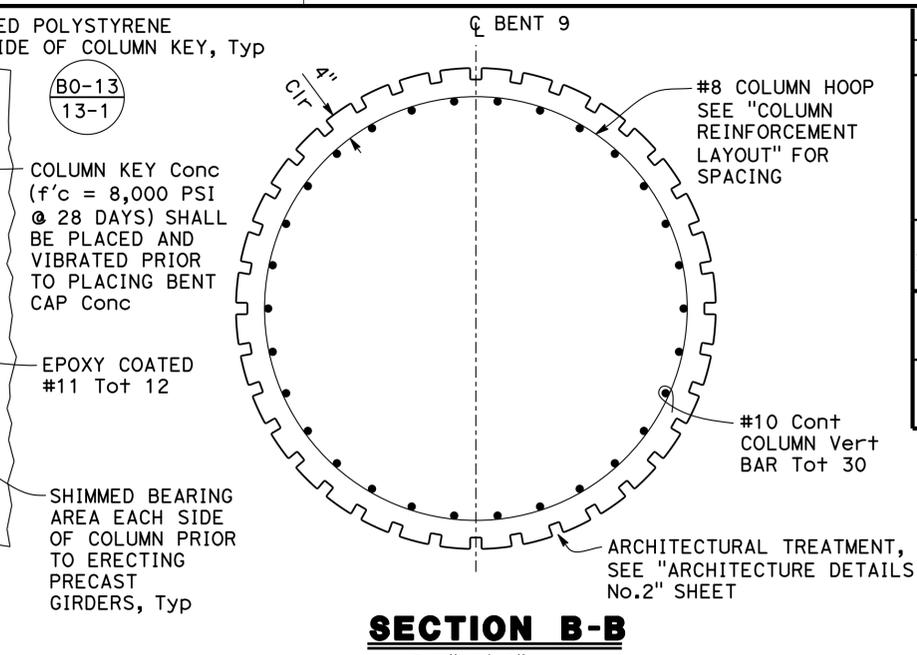
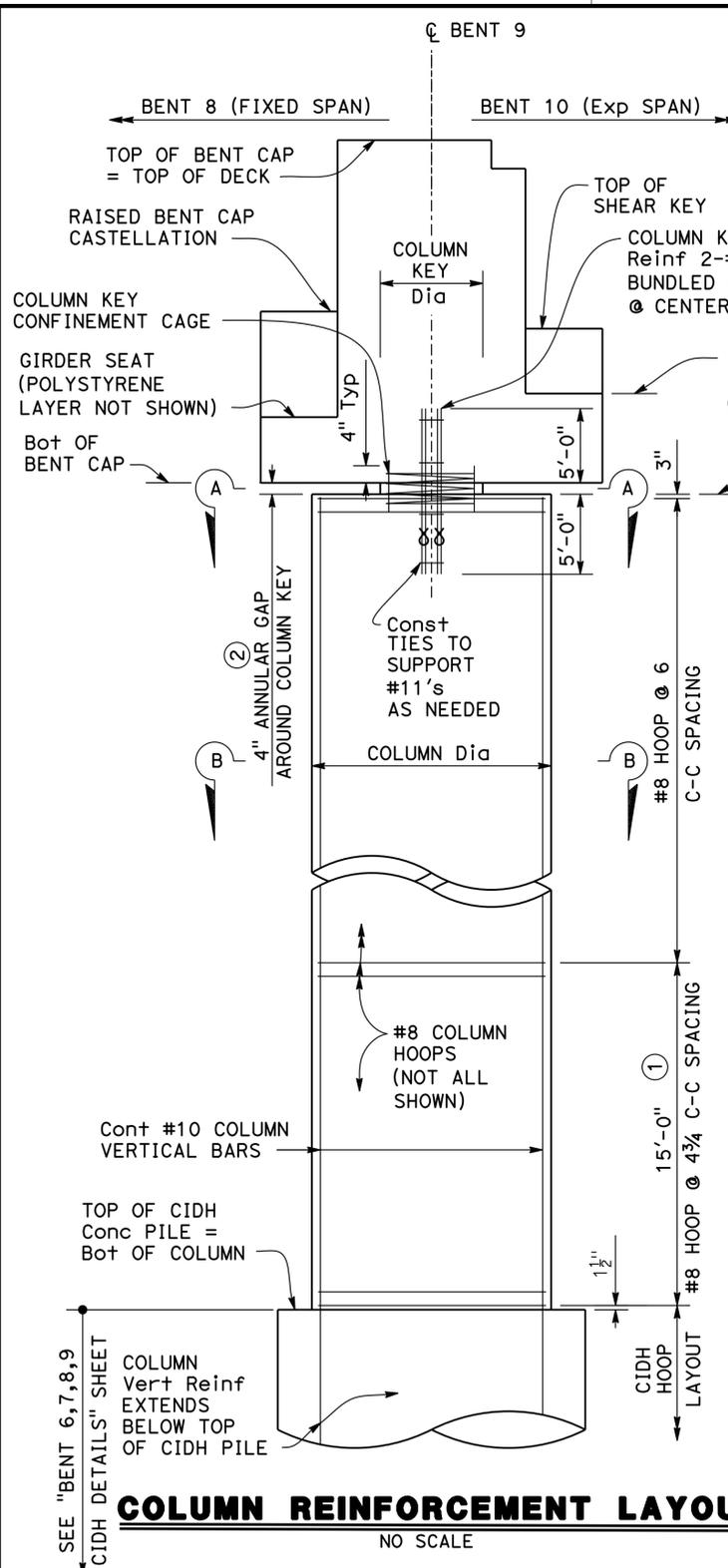
CONTRACT NO.: 10-0S1101

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET 58	OF 111
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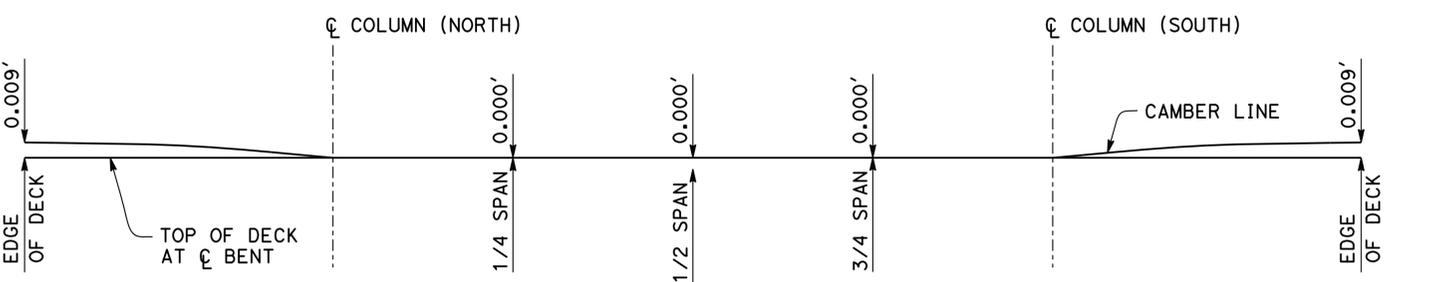
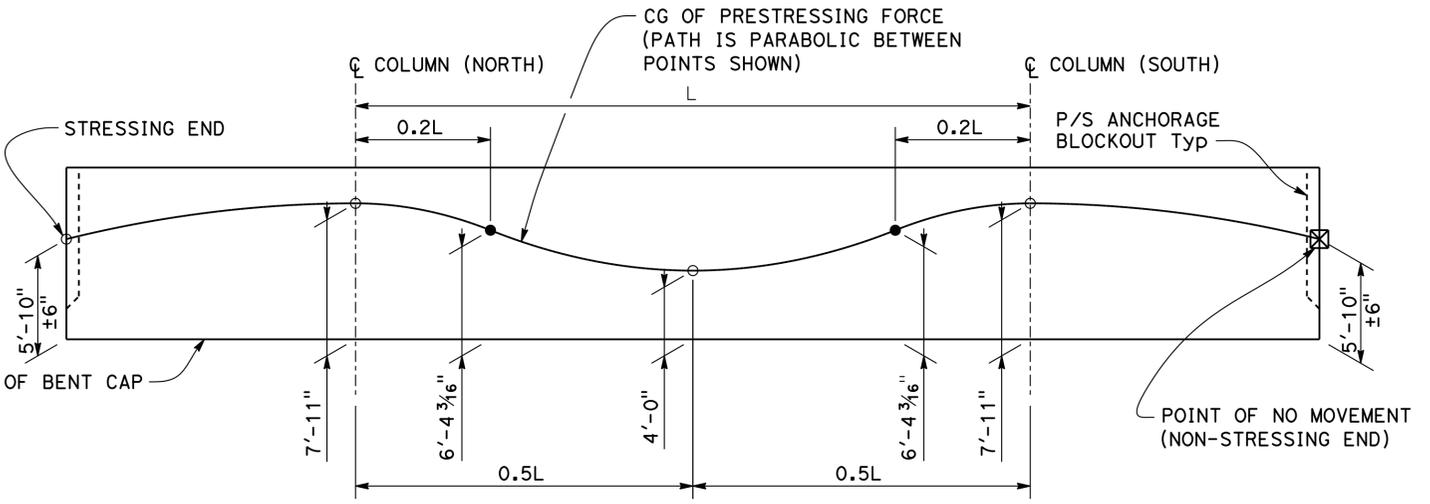
USERNAME => s123631 DATE PLOTTED => 23-JUL-2013 TIME PLOTTED => 10:51

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	SJ	4,5	Var	399	486
REGISTERED CIVIL ENGINEER			DATE	11/27/12	
7-22-13			PLANS APPROVAL DATE		
REGISTERED PROFESSIONAL ENGINEER SIEW W. CHEE No. C41906 Exp. 03/31/14 CIVIL STATE OF CALIFORNIA					
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SAN JOAQUIN COUNCIL OF GOVERNMENTS 555 E. WEBER AVENUE STOCKTON, CA 95202					
T. Y. LIN INTERNATIONAL CONSULTING ENGINEERS, INC. TWO HARRISON STREET, SUITE 500 SAN FRANCISCO, CA 94105					



**BENT CAP PRESTRESSING NOTES**

270 KSI LOW RELAXATION STRANDS  
 CONCRETE: f'c = 6,000 PSI @ 28 DAYS  
 f'ci = 4,500 PSI @ TIME OF INITIAL STRESSING  
 Pfinal = 8,700 KIPS  
 Pinitial = 4,400 KIPS  
 DESIGN BASED ON μ = 0.2, K = 0.0000  
 ANCHOR SET = 3/8"  
 PRESTRESS FORCE SHALL BE DISTRIBUTED SYMMETRICALLY ABOUT CL BENT  
 Pinitial SHALL BE APPLIED ON BENT CAP PRIOR TO ERECTING PC GIRDERS. Pfinal SHALL BE APPLIED ON BENT CAP AFTER CONSTRUCTING END DIAPHRAGM, PRIOR TO CASTING DECK CONCRETE  
 AT NO TIME DURING STRESSING OPERATIONS SHALL MORE THAN ONE TENDON FORCE BE APPLIED ECCENTRICALLY ABOUT CL BENT  
 BAR REINFORCING INTERFERING WITH PRESTRESSING TENDON ALIGNMENT SHALL BE ADJUSTED, AS APPROVED BY THE ENGINEER  
 MINIMUM CLEARANCE BETWEEN PRESTRESSING DUCTS SHALL BE 1 1/2"  
 MINIMUM CONCRETE EDGE DISTANCE FOR P/S BEARING PLATE IS 3"  
 CONTRACTOR SHALL SUBMIT ELONGATION CALCULATIONS BASED ON INITIAL STRESS AT ☒ = 0.785 TIMES JACKING STRESS



NOTE: CAMBER DOES NOT INCLUDE ALLOWANCE FOR FALSEWORK SETTLEMENT

**CAMBER DIAGRAM**

- ☒ Indicates bundled bars
- ① Vertical bar splice is not permitted within limits shown ("no splice zone"). Outside of "no splice zone", vertical bar splice shall be "ultimate butt splice"
- ② 4" gap created by removing polystyrene/HDPE shims after construction. Rigidly shim gap prior to erecting precast girders, See "SECTION A-A". Remove rigid shims after deck concrete has reached required strength

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

DESIGN OVERSIGHT  
 Reza Erfanian  
 12/19/12  
 SIGN OFF DATE

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 STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

S. CHEE  
 PROJECT ENGINEER  
 BRIDGE NO. 29-0350  
 POST MILES T14.83

**SR4 CROSSTOWN VIADUCT**  
**BENT 9 DETAILS No. 2**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

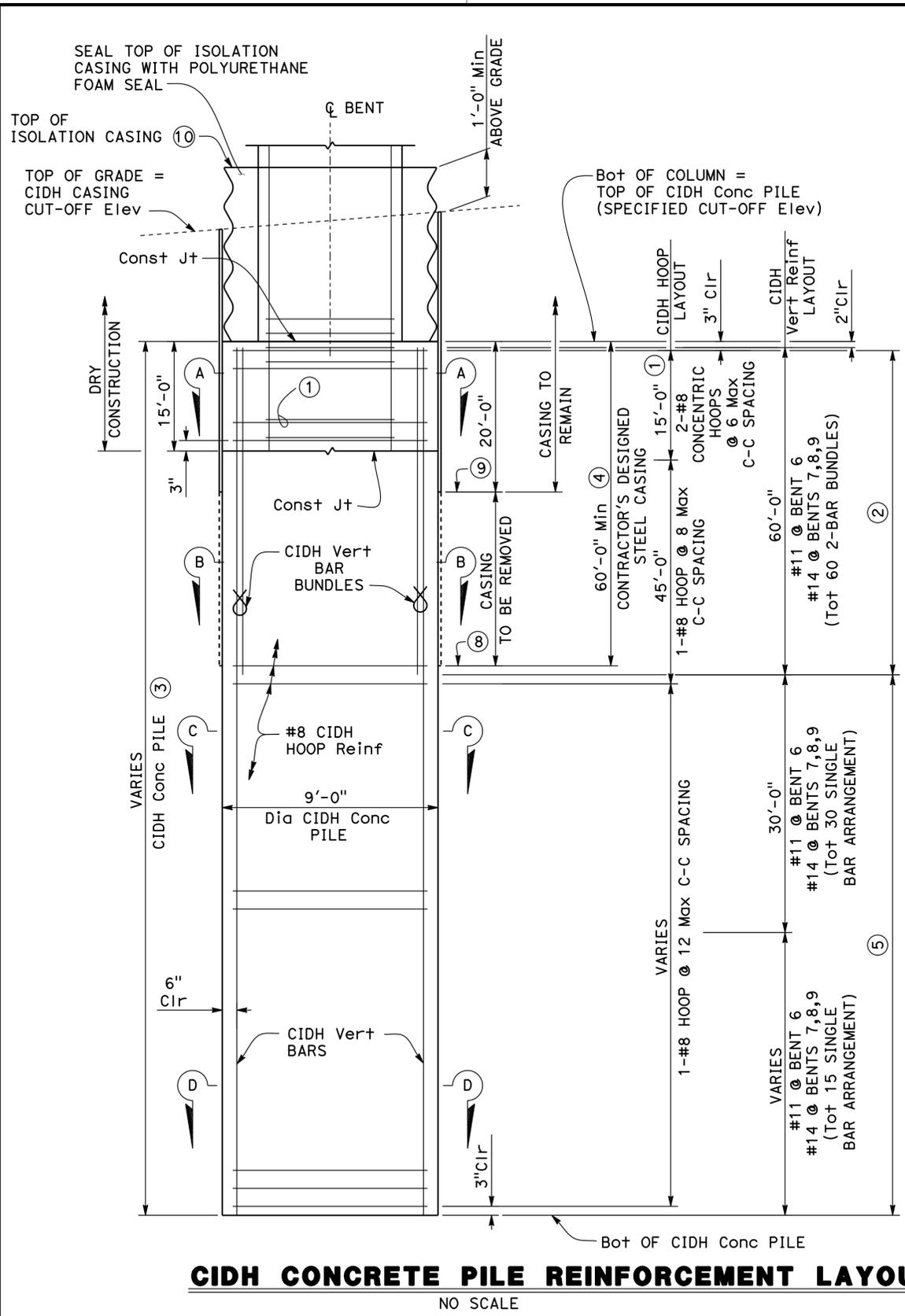
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

UNIT: 1455  
 PROJECT NUMBER & PHASE: 10000002291  
 CONTRACT NO.: 10-0S1101

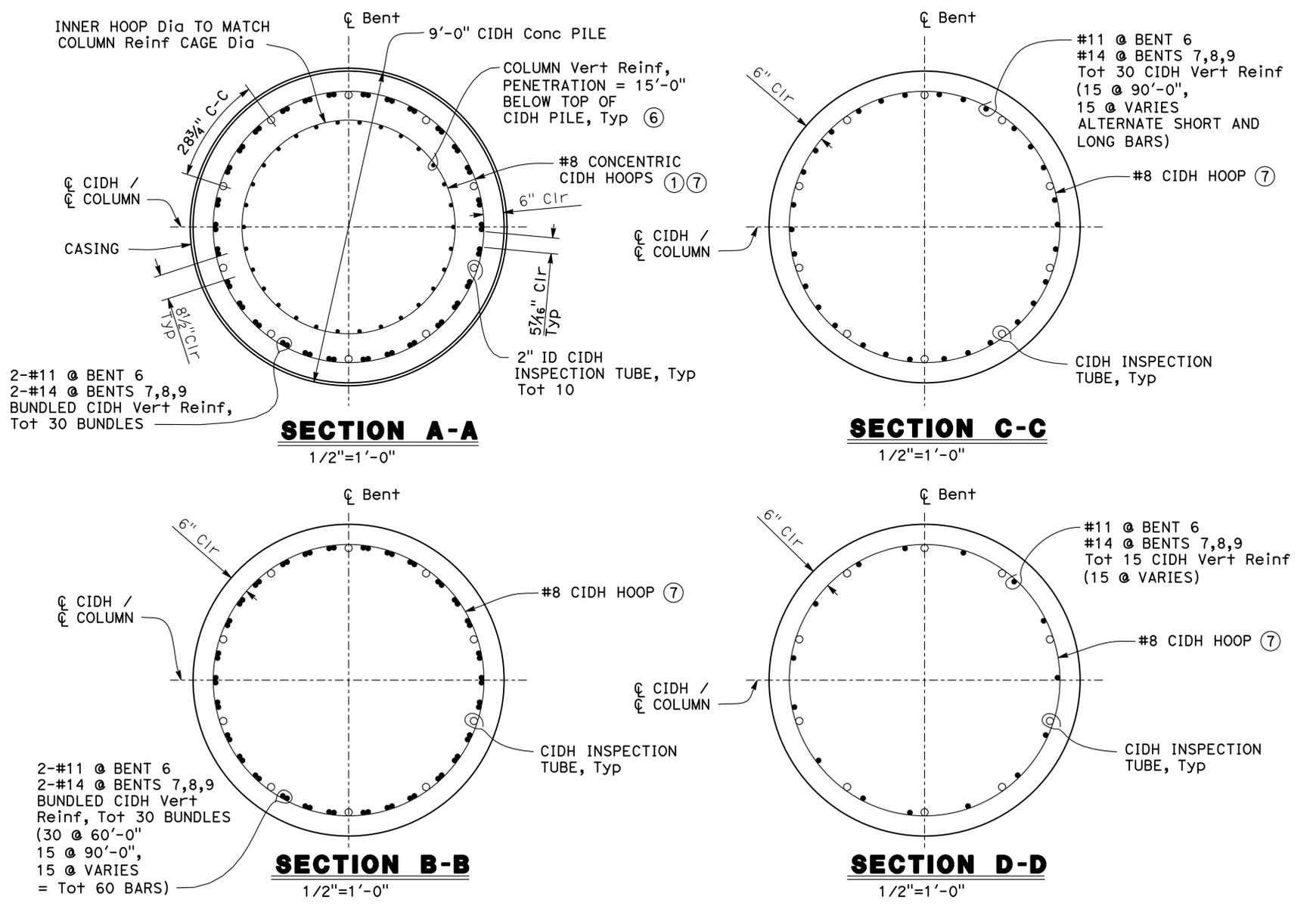
DISREGARD PRINTS BEARING EARLIER REVISION DATES  
 REVISION DATES: 8/18/11, 6/08/12, 9/04/12, 11/27/12  
 SHEET 59 OF 111

USERNAME => s123631 DATE PLOTTED => 23-JUL-2013 TIME PLOTTED => 10:51

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	SJ	4,5	Var	400	486
			11/24/12		
REGISTERED CIVIL ENGINEER			DATE		
7-22-13			PLANS APPROVAL DATE		
REGISTERED PROFESSIONAL ENGINEER SIEW W. CHEE No. C41906 Exp. 03/31/14 CIVIL STATE OF CALIFORNIA					
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SAN JOAQUIN COUNCIL OF GOVERNMENTS 555 E. WEBER AVENUE STOCKTON, CA 95202					
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- At each spacing location, inner and outer concentric hoops shall coincide
  - Vertical bar splice is not permitted within limits shown ("no splice zone")
  - Wet excavation is anticipated during CIDH construction due to high groundwater table. Polymer slurry shall be used inside drilled hole. Unsupported drilled hole is not permitted
  - Contractor's designed steel casing shall have adequate rigidity to stabilize CIDH excavation and prevent displacement of RR tracks during Const. Casing shall be smooth wall and 1/2" Min thickness. Impact hammer shall not be used
  - Splices in vertical reinforcement shall be "ultimate butt splice". Lap splices are not permitted
  - Column vertical Reinf shown for Bents 7,8,9 (Bent 6 similar)
  - See "CIDH CONCRETE PILE REINFORCEMENT LAYOUT" for hoop spacing
  - Casing temporary tip Elev
  - Casing permanent tip Elev
  - Install zinc coated corrugated steel pipe (8 gage minimum wall thickness) isolation casing as shown. Secure tightly inside CIDH casing
- ⊗ Indicates bundled bars



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S. CHEE  
PROJECT ENGINEER

BRIDGE NO.  
29-0350  
POST MILES  
T14.83

SR4 CROSTOWN VIADUCT  
BENT 6, 7, 8, 9 CIDH DETAILS

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

0 1 2 3

UNIT: 1455  
PROJECT NUMBER & PHASE: 10000002291

CONTRACT NO.: 10-0S1101

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
8/10/11 6/20/12 3/10/12 11/21/12	60	111

FILE => 29-0350-h-bcidh.dgn

USERNAME => s123631 DATE PLOTTED => 23-JUL-2013 TIME PLOTTED => 10:51